

# LoRa Certification Test Report

## LoRa EU Certification EU V1.5

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Tested Model Name	:	LoRaMac
Tested Device Name	:	NucleoL476-EU868
Test Equipment	:	RWC5020A
Test Begin Date	:	14.02.2019 14:06:44
Test Finish Date	:	14.02.2019 16:31:25
Total Tested Time	:	02:19:42



## LORA CERTIFICATION TEST SUMMARY(EU V1.5)

ITEMS	VERDICT	SUB VERDICT
<b>1 Test Mode Activation</b>	<b>PASS</b>	
1.1 Test Mode Activation		PASS
<b>2 Test Application Functionality</b>	<b>PASS</b>	
2.1 Test Echo Service		PASS
2.2 Test Downlink Counter		PASS
<b>3 Over The Air Activation</b>	<b>PASS</b>	
3.1 Over The Air Activation		PASS
<b>4 Packet Error Rate RX2 default DR</b>	<b>PASS</b>	
4.1 Packet Error Rate		PASS
<b>5 Cryptography</b>	<b>PASS</b>	
5.1 AES Encryption		PASS
5.2 Invalid Message Integrity Code		PASS
<b>6 Downlink Window Timing</b>	<b>PASS</b>	
6.1 Test RX1 Downlink at +20us		PASS
6.2 Test RX2 Downlink at +20us		PASS
6.3 Test RX1 Downlink at -20us		PASS
6.4 Test RX2 Downlink at -20us		PASS
<b>7 Frame Sequence Number</b>	<b>PASS</b>	
7.1 Uplink Sequence Number is Incrementing		PASS
7.2 End node Rejects a Frame with Decreasing Sequence Counter		PASS
<b>8 DevStatusReq MAC Command</b>	<b>PASS</b>	
8.1 DevStatusReq MAC Command		PASS
<b>9 MAC Commands</b>	<b>PASS</b>	
9.1 MAC Commands		PASS
<b>10 NewChannelReq MAC command</b>	<b>PASS</b>	
10.1 Try to modify read-only default channels, try to remove CH 0-2		PASS
10.2 Adding Multiple Channels		PASS
10.3 Removing Multiple Channels		PASS
10.4 Addition of a Single Channel		PASS
10.5 Removal of a Single Channel		PASS
<b>11 DChannelReq MAC command</b>	<b>PASS</b>	
11.1 DChannel Request		PASS
11.2 DChannel Request with Invalid Parameters		PASS
<b>12 Confirmed packets</b>	<b>PASS</b>	
12.1 Test Confirmed Uplink		PASS
12.2 Test Uplink Retransmission		PASS
12.3 Test Unconfirmed Uplink		PASS
12.4 Test Confirmed Downlink		PASS
12.5 Test Downlink Retransmission		PASS
<b>13 RXParameterSetupReq MAC command</b>	<b>PASS</b>	
13.1 RX Parameter Setup Request		PASS
<b>14 RXTimingSetupReq MAC command</b>	<b>PASS</b>	

14.1 RX Timing Setup Request		PASS
<b>15 LinkADRReq MAC command</b>	<b>PASS</b>	
15.1 Test ADR bit		PASS
15.2 Test TX Power		PASS
15.3 Required Datarate SF12BW125		PASS
15.4 Required Datarate SF11BW125		PASS
15.5 Required Datarate SF10BW125		PASS
15.6 Required Datarate SF9BW125		PASS
15.7 Required Datarate SF8BW125		PASS
15.8 Required Datarate SF7BW125		PASS
15.9 Optional Datarate SF7BW250		PASS
15.10 Optional Datarate FSK50		PASS
15.11 Channel Mask		PASS
15.12 Redundancy		PASS
15.13 ADR AckReq		PASS
15.14 Successful ADR Cmd Block		PASS
15.15 Unsuccessful ADR Cmd Block		PASS
<b>16 Packet error rate RX1 Window</b>	<b>PASS</b>	
16.1 Test Packet error rate for SF7BW125 using RX1 window		PASS
16.2 Test packet error rate for SF8BW125 using RX1 window		PASS
16.3 Test Packet error rate for SF9BW125 using RX1 window		PASS
16.4 Test Packet error rate for SF10BW125 using RX1 window		PASS
16.5 Test Packet error rate for SF11BW125 using RX1 window		PASS
16.6 Test Packet error rate for SF12BW125 using RX1 window		PASS
16.7 Test Packet error rate for SF7BW250 using RX1 window (Optional)		PASS
16.8 Test Packet error rate for FSK50 using RX1 window (Optional)		PASS
<b>17 Packet error rate RX2 Window</b>	<b>PASS</b>	
17.1 Test Packet error rate for SF7BW125 using RX2 window		PASS
17.2 Test Packet error rate for SF8BW125 using RX2 window		PASS
17.3 Test packet error rate for SF9BW125 using RX2 window		PASS
17.4 Test Packet error rate for SF10BW125 using RX2 window		PASS
17.5 Test Packet error rate for SF11BW125 using RX2 window		PASS
17.6 Test Packet error rate for SF7BW250 using RX2 window (Optional)		PASS
17.7 Test Packet error rate for FSK50 using RX2 window (Optional)		PASS

# Tested result including link messages (NucleoL476-EU868)

## 1 Test Mode Activation

### 1.1 Test Mode Activation

[ TEST PURPOSE ]  
Enter Test Mode  
: 1.1 Test Mode Activation

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS	
BU	0	0	12	125	-1.4	REF	-	----	0	0	-	0	-	---	-	1482	Join-request	Nonce=0001	
00	00	00	00	00	00	00	00	59	6F	50	5F	59	32	50	0A	01	00	30 37 71 76	
KD	0	0	12	125	-36.0	----	5	----	0	0	0	-	0	---	-	1155	Join-accept		
RX1DRoffset=0,RXDelay=1,RX2DR=0																			
20	EE	6A	60	00	00	00	00	6B	3A	D1	00	00	01	F0	6E	28	30		
BU	2	0	12	125	-1.4	151s	-	0001	1	0	-	0	-	0	002	U	1155	DataUp	ByteLen=1
40	6B	3A	D1	00	80	01	00	02	00	BD	40	6C	C5						
[Test Mode Enabling]																			
KD	2	0	12	125	-36.0	----	1	0000	1	0	0	-	-	224	U	1155	ActivateTM		
60	6B	3A	D1	00	80	00	00	E0	01	01	01	01	DC	B0	35	56			
BU	2	0	12	125	-1.4	5.47s	-	0002	1	0	-	0	-	0	224	U	1155	DlCounter(0)	Cnt=0
40	6B	3A	D1	00	80	02	00	E0	00	00	23	65	54	E0					
BU	2	0	12	125	-1.4	5.01s	-	0003	1	0	-	0	-	0	224	U	1155	DlCounter(0)	Cnt=0
40	6B	3A	D1	00	80	03	00	E0	00	00	5C	AE	58	97					
BU	1	0	12	125	-1.3	5.01s	-	0004	1	0	-	0	-	0	224	U	1155	DlCounter(0)	Cnt=0
40	6B	3A	D1	00	80	04	00	E0	00	00	19	8C	AD	32					
BU	2	0	12	125	-1.4	5.01s	-	0005	1	0	-	0	-	0	224	U	1155	DlCounter(0)	Cnt=0
40	6B	3A	D1	00	80	05	00	E0	00	00	60	EA	20	BA					
BU	0	0	12	125	-1.4	5.01s	-	0006	1	0	-	0	-	0	224	U	1155	DlCounter(0)	Cnt=0
40	6B	3A	D1	00	80	06	00	E0	00	00	E8	CE	9D	19					
BU	0	0	12	125	-1.4	5.01s	-	0007	1	0	-	0	-	0	224	U	1155	DlCounter(0)	Cnt=0
40	6B	3A	D1	00	80	07	00	E0	00	00	61	91	D5	B2					

[ TEST RESULT ]

[VERDICT]  
PASS

[REASON]  
Test Mode Activated successfully

[Elapsed Time] 00:04:31

## 2 Test Application Functionality

### 2.1 Test Echo Service

[ TEST PURPOSE ]  
To verify basic test application functionality  
: 2.1 Test Echo Service

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS	
BU	1	0	12	125	-1.4	5.01s	-	0009	1	0	-	0	-	0	224	U	1155	DlCounter(0)	Cnt=0
40	6B	3A	D1	00	80	09	00	E0	00	00	F2	7E	79	ED					
[Test Echo Service]																			

```

BU 1 0 12 125 -1.4 5.01s - 000A 1 0 - 0 0 224 U 1155 DlCounter(0) Cnt=0
40 6B 3A D1 00 80 0A 00 E0 00 00 AC E9 F1 3E
KD 1 0 12 125 -36.0 ---- 1 0001 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3
60 6B 3A D1 00 80 01 00 E0 04 01 02 03 E4 8D CA 2A
BU 1 0 12 125 -1.4 5.17s - 000B 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS
40 6B 3A D1 00 80 0B 00 E0 04 02 03 04 0F 55 5D AE

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT sent correct EchoResponse

[Elapsed Time] 00:00:19

## 2.2 Test Downlink Counter

[ TEST PURPOSE ]

To verify basic test application functionality  
: 2.2 Test Downlink Counter

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	GMD	CNTS
BU	2	0	12	125	-1.4	5.01s	-	000D	1	0	-	0	0	224	U	1155	DlCounter(1)	Cnt=1
40 6B 3A D1 00 80 0D 00 E0 00 01 B1 80 7E C3																		
[Test Downlink Counter]																		
BU	1	0	12	125	-1.4	5.01s	-	000E	1	0	-	0	0	224	U	1155	DlCounter(1)	Cnt=1
40 6B 3A D1 00 80 0E 00 E0 00 01 4B 34 18 73																		
KD	1	0	12	125	-36.0	----	1	0002	1	0	0	-	-	224	U	1155	UnconfirmedFrame	
60 6B 3A D1 00 80 02 00 E0 03 FB 55 5A 13																		
BU	1	0	12	125	-1.3	5.01s	-	000F	1	0	-	0	0	224	U	1155	DlCounter(2)	Cnt=2
40 6B 3A D1 00 80 0F 00 E0 00 02 F8 76 95 D5																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT increased a downlink counter value correctly

[Elapsed Time] 00:00:19

## 3 Over The Air Activation

### 3.1 Over The Air Activation

[ TEST PURPOSE ]

To test over the air activation  
: 3.1 Over The Air Activation



```

KD R2 0 12 125 -36.0 ---- 5 ---- 0 0 0 - 0 --- - 1155 Join-accept
RX1DROffset=0,RXDelay=1,RX2DR=0
20 A4 AF 40 00 00 00 6B 3A D1 00 00 01 97 90 A2 CC
BU 3 0 12 125 -1.4 12.7s - 0001 1 0 - 0 0 002 U 1155 DataJp          Bytelen=1
40 6B 3A D1 00 80 01 00 02 00 59 30 C2 6F
KD 3 0 12 125 -36.0 ---- 1 0000 1 0 0 - - 224 U 1155 ActivateTM
60 6B 3A D1 00 80 00 00 E0 01 01 01 01 10 7F C6 75
BU 0 0 12 125 -1.4 5.50s - 0002 1 0 - 0 0 224 U 1155 DlCounter(0)      Cnt=0
40 6B 3A D1 00 80 02 00 E0 00 00 C2 CA 3D A1
KD 0 0 12 125 -36.0 ---- 1 0001 1 0 0 - - 224 U 1155 EchoRequest      EchoLen=3
60 6B 3A D1 00 80 01 00 E0 04 01 02 03 4E 3A B4 05
BU 2 0 12 125 -1.4 5.17s - 0003 1 0 - 0 0 224 U 1318 EchoResponse      Echo PASS
40 6B 3A D1 00 80 03 00 E0 04 02 03 04 68 C1 CB 2F
KD R2 0 12 125 -36.0 ---- 1 0002 1 0 0 - - 224 U 1155 EchoRequest      EchoLen=3
60 6B 3A D1 00 80 02 00 E0 04 01 02 03 F9 C1 D8 39
BU 2 0 12 125 -1.4 5.01s - 0004 1 0 - 0 0 224 U 1318 EchoResponse      Echo PASS
40 6B 3A D1 00 80 04 00 E0 04 02 03 04 83 17 78 7C

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT accepted Join-accept messages with various parameters

[Elapsed Time] 00:15:03

## 4 Packet Error Rate RX2 default DR

### 4.1 Packet Error Rate

[ TEST PURPOSE ]

To measure downlink packet error rate for RX2 using SF12BW125

: 4.1 Packet Error Rate

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	1	0	12	125	-1.4	5.01s	-	0006	1	0	-	0	0	224	U	1155	DlCounter(2)	Cnt=2
40 6B 3A D1 00 80 06 00 E0 00 02 B5 91 6B 67																		
[Test packet error rate for RX2 window, Loop 60 times]																		
BU	2	0	12	125	-1.4	5.01s	-	0007	1	0	-	0	0	224	U	1155	DlCounter(2)	Cnt=2
40 6B 3A D1 00 80 07 00 E0 00 02 8F 7C B6 CD																		
KD	R2	0	12	125	-30.0	----	1	0003	1	0	0	-	-	224	U	1155	UnconfirmedFrame	
60 6B 3A D1 00 80 03 00 E0 03 19 E3 8A C9																		
BU	3	0	12	125	-1.3	5.01s	-	0008	1	0	-	0	0	224	U	1155	DlCounter(3)	Cnt=3
40 6B 3A D1 00 80 08 00 E0 00 03 48 E3 26 3C																		
-> PER Testing 1 over 60																		
KD	R2	0	12	125	-30.0	----	1	0004	1	0	0	-	-	224	U	1155	UnconfirmedFrame	
60 6B 3A D1 00 80 04 00 E0 03 95 34 D8 B8																		
BU	0	0	12	125	-1.4	5.01s	-	0009	1	0	-	0	0	224	U	1155	DlCounter(4)	Cnt=4
40 6B 3A D1 00 80 09 00 E0 00 04 01 36 D8 2B																		
-> PER Testing 2 over 60																		
KD	R2	0	12	125	-30.0	----	1	0005	1	0	0	-	-	224	U	1155	UnconfirmedFrame	
60 6B 3A D1 00 80 05 00 E0 03 F4 66 4D 4B																		
BU	1	0	12	125	-1.4	5.01s	-	000A	1	0	-	0	0	224	U	1155	DlCounter(5)	Cnt=5
40 6B 3A D1 00 80 0A 00 E0 00 05 78 94 2E 79																		
-> PER Testing 3 over 60																		
KD	R2	0	12	125	-30.0	----	1	0006	1	0	0	-	-	224	U	1155	UnconfirmedFrame	
60 6B 3A D1 00 80 06 00 E0 03 EC E3 84 E8																		
BU	1	0	12	125	-1.4	5.01s	-	000B	1	0	-	0	0	224	U	1155	DlCounter(6)	Cnt=6
40 6B 3A D1 00 80 0B 00 E0 00 06 B0 36 16 05																		
-> PER Testing 4 over 60																		
KD	R2	0	12	125	-30.0	----	1	0007	1	0	0	-	-	224	U	1155	UnconfirmedFrame	
60 6B 3A D1 00 80 07 00 E0 03 90 71 03 66																		

```

BU 2 0 12 125 -1.4 5.01s - 000C 1 0 - 0 0 224 U 1155 DlCounter(7) Cnt=7
40 6B 3A D1 00 80 0C 00 E0 00 07 EA 3C 40 71
-> PER Testing 5 over 60
KD R2 0 12 125 -30.0 ---- 1 0008 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 08 00 E0 03 19 67 91 B6
BU 3 0 12 125 -1.4 5.01s - 000D 1 0 - 0 0 224 U 1155 DlCounter(8) Cnt=8
40 6B 3A D1 00 80 0D 00 E0 00 08 61 C6 34 F2
-> PER Testing 6 over 60
KD R2 0 12 125 -30.0 ---- 1 0009 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 09 00 E0 03 B1 89 F4 F1
BU 0 0 12 125 -1.4 5.01s - 000E 1 0 - 0 0 224 U 1155 DlCounter(9) Cnt=9
40 6B 3A D1 00 80 0E 00 E0 00 09 8A E2 88 80
-> PER Testing 7 over 60
KD R2 0 12 125 -30.0 ---- 1 000A 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 0A 00 E0 03 68 33 DD 52
BU 2 0 12 125 -1.4 5.01s - 000F 1 0 - 0 0 224 U 1155 DlCounter(10) Cnt=10
40 6B 3A D1 00 80 0F 00 E0 00 0A DD 73 24 F5
-> PER Testing 8 over 60
KD R2 0 12 125 -30.0 ---- 1 000B 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 0B 00 E0 03 93 9B 32 03
BU 2 0 12 125 -1.4 5.01s - 0010 1 0 - 0 0 224 U 1155 DlCounter(11) Cnt=11
40 6B 3A D1 00 80 10 00 E0 00 0B 51 BF D1 61
-> PER Testing 9 over 60
KD R2 0 12 125 -30.0 ---- 1 000C 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 0C 00 E0 03 72 F6 F7 C8
BU 3 0 12 125 -1.4 5.01s - 0011 1 0 - 0 0 224 U 1155 DlCounter(12) Cnt=12
40 6B 3A D1 00 80 11 00 E0 00 0C 80 B5 9A 2C
-> PER Testing 10 over 60
KD R2 0 12 125 -30.0 ---- 1 000D 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 0D 00 E0 03 46 6E AC 78
BU 0 0 12 125 -1.4 5.01s - 0012 1 0 - 0 0 224 U 1155 DlCounter(13) Cnt=13
40 6B 3A D1 00 80 12 00 E0 00 0D 69 A6 0F 63
-> PER Testing 11 over 60
KD R2 0 12 125 -30.0 ---- 1 000E 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 0E 00 E0 03 40 D5 88 07
BU 2 0 12 125 -1.4 5.01s - 0013 1 0 - 0 0 224 U 1155 DlCounter(14) Cnt=14
40 6B 3A D1 00 80 13 00 E0 00 0E 83 28 AA A3
-> PER Testing 12 over 60
KD R2 0 12 125 -30.0 ---- 1 000F 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 0F 00 E0 03 BB EC 7C F5
BU 2 0 12 125 -1.4 5.01s - 0014 1 0 - 0 0 224 U 1155 DlCounter(15) Cnt=15
40 6B 3A D1 00 80 14 00 E0 00 0F 41 91 45 1B
-> PER Testing 13 over 60
KD R2 0 12 125 -30.0 ---- 1 0010 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 10 00 E0 03 6D EB 9C FE
BU 3 0 12 125 -1.4 5.01s - 0015 1 0 - 0 0 224 U 1155 DlCounter(16) Cnt=16
40 6B 3A D1 00 80 15 00 E0 00 10 7E B1 F7 2B
-> PER Testing 14 over 60
KD R2 0 12 125 -30.0 ---- 1 0011 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 11 00 E0 03 DD 59 2D D9
BU 1 0 12 125 -1.4 5.01s - 0016 1 0 - 0 0 224 U 1155 DlCounter(17) Cnt=17
40 6B 3A D1 00 80 16 00 E0 00 11 3F 81 AA 56
-> PER Testing 15 over 60
KD R2 0 12 125 -30.0 ---- 1 0012 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 12 00 E0 03 08 DD 1F E1
BU 2 0 12 125 -1.4 5.01s - 0017 1 0 - 0 0 224 U 1155 DlCounter(18) Cnt=18
40 6B 3A D1 00 80 17 00 E0 00 12 B1 C4 78 0C
-> PER Testing 16 over 60
KD R2 0 12 125 -30.0 ---- 1 0013 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 13 00 E0 03 D7 BE 70 7B
BU 2 0 12 125 -1.4 5.01s - 0018 1 0 - 0 0 224 U 1155 DlCounter(19) Cnt=19
40 6B 3A D1 00 80 18 00 E0 00 13 9C 09 F0 26
-> PER Testing 17 over 60
KD R2 0 12 125 -30.0 ---- 1 0014 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 14 00 E0 03 8A 91 BC 3E
BU 3 0 12 125 -1.4 5.01s - 0019 1 0 - 0 0 224 U 1155 DlCounter(20) Cnt=20
40 6B 3A D1 00 80 19 00 E0 00 14 D3 5F E9 19
-> PER Testing 18 over 60
KD R2 0 12 125 -30.0 ---- 1 0015 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 15 00 E0 03 7D 71 E7 60
BU 0 0 12 125 -1.4 5.01s - 001A 1 0 - 0 0 224 U 1155 DlCounter(21) Cnt=21
40 6B 3A D1 00 80 1A 00 E0 00 15 78 0A 55 CA
-> PER Testing 19 over 60
KD R2 0 12 125 -30.0 ---- 1 0016 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 16 00 E0 03 3C 76 02 F6
BU 2 0 12 125 -1.4 5.01s - 001B 1 0 - 0 0 224 U 1155 DlCounter(22) Cnt=22
40 6B 3A D1 00 80 1B 00 E0 00 16 4F 31 02 82
-> PER Testing 20 over 60
KD R2 0 12 125 -30.0 ---- 1 0017 1 0 0 - - 224 U 1155 UnconfirmedFrame

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60 6B 3A D1 00 80 17 00 E0 03 E0 2C 73 E0
BU 2 0 12 125 -1.4 5.01s - 001C 1 0 - 0 0 224 U 1155 DlCounter(23) Cnt=23
40 6B 3A D1 00 80 1C 00 E0 00 17 1A 5D 96 6D
-> PER Testing 21 over 60
KD R2 0 12 125 -30.0 ---- 1 0018 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 18 00 E0 03 C1 20 80 2F
BU 3 0 12 125 -1.4 5.01s - 001D 1 0 - 0 0 224 U 1155 DlCounter(24) Cnt=24
40 6B 3A D1 00 80 1D 00 E0 00 18 4A 46 05 93
-> PER Testing 22 over 60
KD R2 0 12 125 -30.0 ---- 1 0019 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 19 00 E0 03 38 D1 CC 45
BU 1 0 12 125 -1.4 5.01s - 001E 1 0 - 0 0 224 U 1155 DlCounter(25) Cnt=25
40 6B 3A D1 00 80 1E 00 E0 00 19 9F 0F 4D D1
-> PER Testing 23 over 60
KD R2 0 12 125 -30.0 ---- 1 001A 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 1A 00 E0 03 57 E6 9A 34
BU 1 0 12 125 -1.4 5.01s - 001F 1 0 - 0 0 224 U 1155 DlCounter(26) Cnt=26
40 6B 3A D1 00 80 1F 00 E0 00 1A 23 27 D4 D9
-> PER Testing 24 over 60
KD R2 0 12 125 -30.0 ---- 1 001B 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 1B 00 E0 03 D5 E3 FC 88
BU 3 0 12 125 -1.4 5.01s - 0020 1 0 - 0 0 224 U 1155 DlCounter(27) Cnt=27
40 6B 3A D1 00 80 20 00 E0 00 1B E1 00 C0 6A
-> PER Testing 25 over 60
KD R2 0 12 125 -30.0 ---- 1 001C 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 1C 00 E0 03 C2 66 7A 09
BU 3 0 12 125 -1.4 5.01s - 0021 1 0 - 0 0 224 U 1155 DlCounter(28) Cnt=28
40 6B 3A D1 00 80 21 00 E0 00 1C 2E 3D 84 9B
-> PER Testing 26 over 60
KD R2 0 12 125 -30.0 ---- 1 001D 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 1D 00 E0 03 C4 1D 85 2D
BU 0 0 12 125 -1.4 5.01s - 0022 1 0 - 0 0 224 U 1155 DlCounter(29) Cnt=29
40 6B 3A D1 00 80 22 00 E0 00 1D BB B7 15 10
-> PER Testing 27 over 60
KD R2 0 12 125 -30.0 ---- 1 001E 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 1E 00 E0 03 A5 72 59 14
BU 1 0 12 125 -1.4 5.01s - 0023 1 0 - 0 0 224 U 1155 DlCounter(30) Cnt=30
40 6B 3A D1 00 80 23 00 E0 00 1E 74 2C CE ED
-> PER Testing 28 over 60
KD R2 0 12 125 -30.0 ---- 1 001F 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 1F 00 E0 03 D6 91 A7 95
BU 3 0 12 125 -1.4 5.01s - 0024 1 0 - 0 0 224 U 1155 DlCounter(31) Cnt=31
40 6B 3A D1 00 80 24 00 E0 00 1F 28 3D 28 D5
-> PER Testing 29 over 60
KD R2 0 12 125 -30.0 ---- 1 0020 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 20 00 E0 03 F6 AD AE FF
BU 3 0 12 125 -1.4 5.01s - 0025 1 0 - 0 0 224 U 1155 DlCounter(32) Cnt=32
40 6B 3A D1 00 80 25 00 E0 00 20 1F 32 1C 3A
-> PER Testing 30 over 60
KD R2 0 12 125 -30.0 ---- 1 0021 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 21 00 E0 03 56 7F 86 42
BU 1 0 12 125 -1.4 5.01s - 0026 1 0 - 0 0 224 U 1155 DlCounter(33) Cnt=33
40 6B 3A D1 00 80 26 00 E0 00 21 73 50 FB 75
-> PER Testing 31 over 60
KD R2 0 12 125 -30.0 ---- 1 0022 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 22 00 E0 03 5C BF 72 E4
BU 1 0 12 125 -1.4 5.01s - 0027 1 0 - 0 0 224 U 1155 DlCounter(34) Cnt=34
40 6B 3A D1 00 80 27 00 E0 00 22 3B E3 22 FF
-> PER Testing 32 over 60
KD R2 0 12 125 -30.0 ---- 1 0023 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 23 00 E0 03 B1 6C DD EF
BU 3 0 12 125 -1.4 5.01s - 0028 1 0 - 0 0 224 U 1155 DlCounter(35) Cnt=35
40 6B 3A D1 00 80 28 00 E0 00 23 38 D6 25 40
-> PER Testing 33 over 60
KD R2 0 12 125 -30.0 ---- 1 0024 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 24 00 E0 03 61 68 26 19
BU 0 0 12 125 -1.4 5.01s - 0029 1 0 - 0 0 224 U 1155 DlCounter(36) Cnt=36
40 6B 3A D1 00 80 29 00 E0 00 24 85 78 6C C5
-> PER Testing 34 over 60
KD R2 0 12 125 -30.0 ---- 1 0025 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 25 00 E0 03 96 6D 53 6A
BU 0 0 12 125 -1.4 5.01s - 002A 1 0 - 0 0 224 U 1155 DlCounter(37) Cnt=37
40 6B 3A D1 00 80 2A 00 E0 00 25 0B 15 98 25
-> PER Testing 35 over 60
KD R2 0 12 125 -30.0 ---- 1 0026 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 26 00 E0 03 16 73 91 1C
BU 1 0 12 125 -1.4 5.01s - 002B 1 0 - 0 0 224 U 1155 DlCounter(38) Cnt=38
40 6B 3A D1 00 80 2B 00 E0 00 26 1E 24 7E 26
-> PER Testing 36 over 60

```

```

KD R2 0 12 125 -30.0 ---- 1 0027 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 27 00 E0 03 60 3B F7 9A
BU 3 0 12 125 -1.4 5.01s - 002C 1 0 - 0 0 224 U 1155 DlCounter(39) Cnt=39
40 6B 3A D1 00 80 2C 00 E0 00 27 84 55 0E 43
-> PER Testing 37 over 60
KD R2 0 12 125 -30.0 ---- 1 0028 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 28 00 E0 03 A6 F7 C1 7A
BU 3 0 12 125 -1.4 5.01s - 002D 1 0 - 0 0 224 U 1155 DlCounter(40) Cnt=40
40 6B 3A D1 00 80 2D 00 E0 00 28 7F BE 5A A4
-> PER Testing 38 over 60
KD R2 0 12 125 -30.0 ---- 1 0029 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 29 00 E0 03 D0 7D EA C6
BU 0 0 12 125 -1.3 5.01s - 002E 1 0 - 0 0 224 U 1155 DlCounter(41) Cnt=41
40 6B 3A D1 00 80 2E 00 E0 00 29 81 0A 99 CF
-> PER Testing 39 over 60
KD R2 0 12 125 -30.0 ---- 1 002A 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 2A 00 E0 03 77 0B 5C 52
BU 2 0 12 125 -1.4 5.01s - 002F 1 0 - 0 0 224 U 1155 DlCounter(42) Cnt=42
40 6B 3A D1 00 80 2F 00 E0 00 2A 39 E3 1C 26
-> PER Testing 40 over 60
KD R2 0 12 125 -30.0 ---- 1 002B 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 2B 00 E0 03 FD 9F 28 DF
BU 2 0 12 125 -1.4 5.01s - 0030 1 0 - 0 0 224 U 1155 DlCounter(43) Cnt=43
40 6B 3A D1 00 80 30 00 E0 00 2B 44 95 D1 A0
-> PER Testing 41 over 60
KD R2 0 12 125 -30.0 ---- 1 002C 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 2C 00 E0 03 9C EF 09 6D
BU 3 0 12 125 -1.3 5.01s - 0031 1 0 - 0 0 224 U 1155 DlCounter(44) Cnt=44
40 6B 3A D1 00 80 31 00 E0 00 2C 8C BD 4F 90
-> PER Testing 42 over 60
KD R2 0 12 125 -30.0 ---- 1 002D 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 2D 00 E0 03 83 1B 50 9C
BU 1 0 12 125 -1.3 5.01s - 0032 1 0 - 0 0 224 U 1155 DlCounter(45) Cnt=45
40 6B 3A D1 00 80 32 00 E0 00 2D 96 F1 AE B5
-> PER Testing 43 over 60
KD R2 0 12 125 -30.0 ---- 1 002E 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 2E 00 E0 03 81 E2 31 E4
BU 1 0 12 125 -1.3 5.01s - 0033 1 0 - 0 0 224 U 1155 DlCounter(46) Cnt=46
40 6B 3A D1 00 80 33 00 E0 00 2E 97 93 92 46
-> PER Testing 44 over 60
KD R2 0 12 125 -30.0 ---- 1 002F 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 2F 00 E0 03 F5 67 2D 92
BU 2 0 12 125 -1.4 5.01s - 0034 1 0 - 0 0 224 U 1155 DlCounter(47) Cnt=47
40 6B 3A D1 00 80 34 00 E0 00 2F 86 A3 B6 26
-> PER Testing 45 over 60
KD R2 0 12 125 -30.0 ---- 1 0030 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 30 00 E0 03 66 AE FD F5
BU 0 0 12 125 -1.4 5.01s - 0035 1 0 - 0 0 224 U 1155 DlCounter(48) Cnt=48
40 6B 3A D1 00 80 35 00 E0 00 30 EA E3 65 B2
-> PER Testing 46 over 60
KD R2 0 12 125 -30.0 ---- 1 0031 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 31 00 E0 03 F8 A3 CD 58
BU 0 0 12 125 -1.4 5.01s - 0036 1 0 - 0 0 224 U 1155 DlCounter(49) Cnt=49
40 6B 3A D1 00 80 36 00 E0 00 31 D1 DF 63 A2
-> PER Testing 47 over 60
KD R2 0 12 125 -30.0 ---- 1 0032 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 32 00 E0 03 34 0D EF C6
BU 2 0 12 125 -1.4 5.01s - 0037 1 0 - 0 0 224 U 1155 DlCounter(50) Cnt=50
40 6B 3A D1 00 80 37 00 E0 00 32 23 78 4E 0F
-> PER Testing 48 over 60
KD R2 0 12 125 -30.0 ---- 1 0033 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 33 00 E0 03 3E EA 79 BA
BU 3 0 12 125 -1.4 5.01s - 0038 1 0 - 0 0 224 U 1155 DlCounter(51) Cnt=51
40 6B 3A D1 00 80 38 00 E0 00 33 6B 97 42 28
-> PER Testing 49 over 60
KD R2 0 12 125 -30.0 ---- 1 0034 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 34 00 E0 03 4A D4 A0 A7
BU 0 0 12 125 -1.4 5.01s - 0039 1 0 - 0 0 224 U 1155 DlCounter(52) Cnt=52
40 6B 3A D1 00 80 39 00 E0 00 34 8B 47 B3 08
-> PER Testing 50 over 60
KD R2 0 12 125 -30.0 ---- 1 0035 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 35 00 E0 03 E4 FD 05 F4
BU 0 0 12 125 -1.4 5.01s - 003A 1 0 - 0 0 224 U 1155 DlCounter(53) Cnt=53
40 6B 3A D1 00 80 3A 00 E0 00 35 83 AF 03 AF
-> PER Testing 51 over 60
KD R2 0 12 125 -30.0 ---- 1 0036 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 36 00 E0 03 45 1E 4A F0
BU 1 0 12 125 -1.4 5.01s - 003B 1 0 - 0 0 224 U 1155 DlCounter(54) Cnt=54
40 6B 3A D1 00 80 3B 00 E0 00 36 8F 94 E7 5B

```

```

-> PER Testing 52 over 60
KD R2 0 12 125 -30.0 ---- 1 0037 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 37 00 E0 03 D1 55 21 CE
BU 3 0 12 125 -1.4 5.01s - 003C 1 0 - 0 0 224 U 1155 DlCounter(55) Cnt=55
40 6B 3A D1 00 80 3C 00 E0 00 37 C4 83 B1 0B
-> PER Testing 53 over 60
KD R2 0 12 125 -30.0 ---- 1 0038 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 38 00 E0 03 0B 67 6E F6
BU 3 0 12 125 -1.4 5.01s - 003D 1 0 - 0 0 224 U 1155 DlCounter(56) Cnt=56
40 6B 3A D1 00 80 3D 00 E0 00 38 4B EE B4 62
-> PER Testing 54 over 60
KD R2 0 12 125 -30.0 ---- 1 0039 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 39 00 E0 03 35 5A C3 E9
BU 1 0 12 125 -1.4 5.01s - 003E 1 0 - 0 0 224 U 1155 DlCounter(57) Cnt=57
40 6B 3A D1 00 80 3E 00 E0 00 39 30 94 B8 C7
-> PER Testing 55 over 60
KD R2 0 12 125 -30.0 ---- 1 003A 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 3A 00 E0 03 EC 05 3E 57
BU 2 0 12 125 -1.3 5.01s - 003F 1 0 - 0 0 224 U 1155 DlCounter(58) Cnt=58
40 6B 3A D1 00 80 3F 00 E0 00 3A 6C 75 46 46
-> PER Testing 56 over 60
KD R2 0 12 125 -30.0 ---- 1 003B 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 3B 00 E0 03 65 A7 57 77
BU 2 0 12 125 -1.4 5.01s - 0040 1 0 - 0 0 224 U 1155 DlCounter(59) Cnt=59
40 6B 3A D1 00 80 40 00 E0 00 3B 2E A2 4F A1
-> PER Testing 57 over 60
KD R2 0 12 125 -30.0 ---- 1 003C 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 3C 00 E0 03 82 C3 B7 46
BU 0 0 12 125 -1.4 5.01s - 0041 1 0 - 0 0 224 U 1155 DlCounter(60) Cnt=60
40 6B 3A D1 00 80 41 00 E0 00 3C 2E 22 47 A3
-> PER Testing 58 over 60
KD R2 0 12 125 -30.0 ---- 1 003D 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 3D 00 E0 03 65 45 D6 49
BU 1 0 12 125 -1.4 5.01s - 0042 1 0 - 0 0 224 U 1155 DlCounter(61) Cnt=61
40 6B 3A D1 00 80 42 00 E0 00 3D C5 A5 E8 BB
-> PER Testing 59 over 60
KD R2 0 12 125 -30.0 ---- 1 003E 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 3E 00 E0 03 41 E6 A0 3B
BU 2 0 12 125 -1.4 5.01s - 0043 1 0 - 0 0 224 U 1155 DlCounter(62) Cnt=62
40 6B 3A D1 00 80 43 00 E0 00 3E 36 BB C4 7D
-> PER Testing 60 over 60

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

0 error(s) over60, PER=0.000 (Criteria:PER<=0.05)

[Elapsed Time] 00:05:14

## 5 Cryptography

### 5.1 AES Encryption

[ TEST PURPOSE ]

To test end node cryptography using 0x04 echo command  
: 5.1 AES Encryption

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	3	0	12	125	-1.4	5.01s	-	0045	1	0	-	0	0	224	U	1155	DlCounter(62)	Cnt=62
40 6B 3A D1 00 80 45 00 E0 00 3E A2 71 A0 F3																		

[AES Encryption]

```

BU 1 0 12 125 -1.3 5.01s - 0046 1 0 - 0 0 224 U 1155 DlCounter(62) Cnt=62
40 6B 3A D1 00 80 46 00 E0 00 3E C1 F9 AC 5B
KD 1 0 12 125 -36.0 ---- 1 003F 1 0 0 - - 224 U 1155 EchoRequest EchoLen=1
60 6B 3A D1 00 80 3F 00 E0 04 01 E9 19 22 38
BU 1 0 12 125 -1.4 5.01s - 0047 1 0 - 0 0 224 U 1155 EchoResponse Echo PASS
40 6B 3A D1 00 80 47 00 E0 04 02 82 D2 D8 9F
KD 1 0 12 125 -36.0 ---- 1 0040 1 0 0 - - 224 U 1155 EchoRequest EchoLen=2
60 6B 3A D1 00 80 40 00 E0 04 01 02 FA A1 FE 98
BU 2 0 12 125 -1.4 5.17s - 0048 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS
40 6B 3A D1 00 80 48 00 E0 04 02 03 73 E3 24 B3
KD 2 0 12 125 -36.0 ---- 1 0041 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3
60 6B 3A D1 00 80 41 00 E0 04 01 02 03 D2 9C A7 8C
BU 3 0 12 125 -1.4 5.01s - 0049 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS
40 6B 3A D1 00 80 49 00 E0 04 02 03 04 5B E5 2D 23
KD 3 0 12 125 -36.0 ---- 1 0042 1 0 0 - - 224 U 1318 EchoRequest EchoLen=4
60 6B 3A D1 00 80 42 00 E0 04 01 02 03 04 2D 05 91 23
BU 1 0 12 125 -1.3 5.01s - 004A 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS
40 6B 3A D1 00 80 4A 00 E0 04 02 03 04 05 45 41 E6 92
KD 1 0 12 125 -36.0 ---- 1 0043 1 0 0 - - 224 U 1318 EchoRequest EchoLen=5
60 6B 3A D1 00 80 43 00 E0 04 01 02 03 04 05 B6 62 75 99
BU 2 0 12 125 -1.4 5.01s - 004B 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS
40 6B 3A D1 00 80 4B 00 E0 04 02 03 04 05 06 E1 6F 97 76
KD 2 0 12 125 -36.0 ---- 1 0044 1 0 0 - - 224 U 1318 EchoRequest EchoLen=6
60 6B 3A D1 00 80 44 00 E0 04 01 02 03 04 05 06 67 CD 4C BC
BU 2 0 12 125 -1.3 5.01s - 004C 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS
40 6B 3A D1 00 80 4C 00 E0 04 02 03 04 05 06 07 6E 4B 57 BA
KD 2 0 12 125 -36.0 ---- 1 0045 1 0 0 - - 224 U 1318 EchoRequest EchoLen=7
60 6B 3A D1 00 80 45 00 E0 04 01 02 03 04 05 06 07 AF 3A F3 99
BU 3 0 12 125 -1.4 5.17s - 004D 1 0 - 0 0 224 U 1482 EchoResponse Echo PASS
40 6B 3A D1 00 80 4D 00 E0 04 02 03 04 05 06 07 08 B7 FD E4 A2
KD 3 0 12 125 -36.0 ---- 1 0046 1 0 0 - - 224 U 1318 EchoRequest EchoLen=8
60 6B 3A D1 00 80 46 00 E0 04 01 02 03 04 05 06 07 08 2B 47 49 71
BU 0 0 12 125 -1.4 5.01s - 004E 1 0 - 0 0 224 U 1482 EchoResponse Echo PASS
40 6B 3A D1 00 80 4E 00 E0 04 02 03 04 05 06 07 08 09 D0 50 FF F3
KD 0 0 12 125 -36.0 ---- 1 0047 1 0 0 - - 224 U 1482 EchoRequest EchoLen=9
60 6B 3A D1 00 80 47 00 E0 04 01 02 03 04 05 06 07 08 09 00 31 C2 2C
BU 1 0 12 125 -1.3 5.01s - 004F 1 0 - 0 0 224 U 1482 EchoResponse Echo PASS
40 6B 3A D1 00 80 4F 00 E0 04 02 03 04 05 06 07 08 09 0A 75 B9 3A 58
KD 1 0 12 125 -36.0 ---- 1 0048 1 0 0 - - 224 U 1482 EchoRequest EchoLen=10
60 6B 3A D1 00 80 48 00 E0 04 01 02 03 04 05 06 07 08 09 0A 5F CA 7D 44
BU 3 0 12 125 -1.4 5.01s - 0050 1 0 - 0 0 224 U 1482 EchoResponse Echo PASS
40 6B 3A D1 00 80 50 00 E0 04 02 03 04 05 06 07 08 09 0A 0B B5 76 7D 78
KD 3 0 12 125 -36.0 ---- 1 0049 1 0 0 - - 224 U 1482 EchoRequest EchoLen=11
60 6B 3A D1 00 80 49 00 E0 04 01 02 03 04 05 06 07 08 09 0A 0B D5 69 BC F3
BU 0 0 12 125 -1.4 5.01s - 0051 1 0 - 0 0 224 U 1482 EchoResponse Echo PASS
40 6B 3A D1 00 80 51 00 E0 04 02 03 04 05 06 07 08 09 0A 0B 0C 81 27 C8 CA
KD 0 0 12 125 -36.0 ---- 1 004A 1 0 0 - - 224 U 1482 EchoRequest EchoLen=12
60 6B 3A D1 00 80 4A 00 E0 04 01 02 03 04 05 06 07 08 09 0A 0B 0C 2F 2F F2 9B
BU 0 0 12 125 -1.3 5.17s - 0052 1 0 - 0 0 224 U 1646 EchoResponse Echo PASS
40 6B 3A D1 00 80 52 00 E0 04 02 03 04 05 06 07 08 09 0A 0B 0C 0D 65 40 30 74
KD 0 0 12 125 -36.0 ---- 1 004B 1 0 0 - - 224 U 1482 EchoRequest EchoLen=13
60 6B 3A D1 00 80 4B 00 E0 04 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0D C1 5D 88
BU 2 0 12 125 -1.4 5.01s - 0053 1 0 - 0 0 224 U 1646 EchoResponse Echo PASS
40 6B 3A D1 00 80 53 00 E0 04 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 47 50 B5 5D
KD 2 0 12 125 -36.0 ---- 1 004C 1 0 0 - - 224 U 1646 EchoRequest EchoLen=14
60 6B 3A D1 00 80 4C 00 E0 04 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E A4 27 F4 13
BU 2 0 12 125 -1.4 5.01s - 0054 1 0 - 0 0 224 U 1646 EchoResponse Echo PASS
40 6B 3A D1 00 80 54 00 E0 04 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 9B 50 CD D9
KD 2 0 12 125 -36.0 ---- 1 004D 1 0 0 - - 224 U 1646 EchoRequest EchoLen=15
60 6B 3A D1 00 80 4D 00 E0 04 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 21 03 51 8F
BU 0 0 12 125 -1.4 5.01s - 0055 1 0 - 0 0 224 U 1646 EchoResponse Echo PASS
40 6B 3A D1 00 80 55 00 E0 04 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 10 D3 53 F2 90
KD 0 0 12 125 -36.0 ---- 1 004E 1 0 0 - - 224 U 1646 EchoRequest EchoLen=16
60 6B 3A D1 00 80 4E 00 E0 04 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 10 E8 9E A2 9C
BU 0 0 12 125 -1.4 5.01s - 0056 1 0 - 0 0 224 U 1646 EchoResponse Echo PASS
40 6B 3A D1 00 80 56 00 E0 04 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 10 11 90 EF E4 E0
KD 0 0 12 125 -36.0 ---- 1 004F 1 0 0 - - 224 U 1646 EchoRequest EchoLen=17
60 6B 3A D1 00 80 4F 00 E0 04 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 10 11 F3 35 AD 27
BU 1 0 12 125 -1.3 5.17s - 0057 1 0 - 0 0 224 U 1810 EchoResponse Echo PASS
40 6B 3A D1 00 80 57 00 E0 04 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 10 11 12 7D 0E 5F 59
KD 1 0 12 125 -36.0 ---- 1 0050 1 0 0 - - 224 U 1646 EchoRequest EchoLen=18
60 6B 3A D1 00 80 50 00 E0 04 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 10 11 12 8F CD 79 18
BU 2 0 12 125 -1.4 5.01s - 0058 1 0 - 0 0 224 U 1810 EchoResponse Echo PASS
40 6B 3A D1 00 80 58 00 E0 04 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 10 11 12 13 28 62 A0 97

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT implemented AES Encryption correctly

[Elapsed Time] 00:01:43

## 5.2 Invalid Message Integrity Code

[ TEST PURPOSE ]

To test end node cryptography using 0x04 echo command  
: 5.2 Invalid Message Integrity Code

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	QMD	CNTS
BU	0	0	12	125	-1.4	5.01s	-	005A	1	0	-	0	0	224	U	1155	DlCounter(80)	Cnt=80
40 6B 3A D1 00 80 5A 00 E0 00 50 29 17 B6 20																		
[Invalid Message Integrity Code]																		
BU	1	0	12	125	-1.3	5.01s	-	005B	1	0	-	0	0	224	U	1155	DlCounter(80)	Cnt=80
40 6B 3A D1 00 80 5B 00 E0 00 50 63 5C E8 B1																		
KD	1	0	12	125	-36.0		----	1	0051	1	0	0	-	224	U	1155	EchoRequest	Invalid MIC
60 6B 3A D1 00 80 51 00 E0 04 01 02 03 00 00 00 00																		
BU	2	0	12	125	-1.4	5.01s	-	005C	1	0	-	0	0	224	U	1155	DlCounter(80)	Cnt=80
40 6B 3A D1 00 80 5C 00 E0 00 50 B0 46 E6 AF																		
-> Got a DownlinkCounter instead of EchoResponse																		
KD	2	0	12	125	-36.0		----	1	0052	1	0	0	-	224	U	1155	EchoRequest	Invalid MIC
60 6B 3A D1 00 80 52 00 E0 04 01 02 03 00 00 00 00																		
BU	0	0	12	125	-1.4	5.01s	-	005D	1	0	-	0	0	224	U	1155	DlCounter(80)	Cnt=80
40 6B 3A D1 00 80 5D 00 E0 00 50 BA DD 35 0C																		
-> Got a DownlinkCounter instead of EchoResponse																		
KD	0	0	12	125	-36.0		----	1	0053	1	0	0	-	224	U	1155	EchoRequest	Invalid MIC
60 6B 3A D1 00 80 53 00 E0 04 01 02 03 00 00 00 00																		
BU	1	0	12	125	-1.3	5.01s	-	005E	1	0	-	0	0	224	U	1155	DlCounter(80)	Cnt=80
40 6B 3A D1 00 80 5E 00 E0 00 50 6F DB 6C 58																		
-> Got a DownlinkCounter instead of EchoResponse																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT ignored invalid MIC packets correctly

[Elapsed Time] 00:00:27

## 6 Downlink Window Timing

### 6.1 Test RX1 Downlink at +20us

[ TEST PURPOSE ]

To test node's tolerance of donwlink window timing errors  
: 6.1 Test RX1 Downlink at +20us

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	2	0	12	125	-1.3	5.01s	-	0060	1	0	-	0	0	224	U	1155	DICounter(80)	Cnt=80
40 6B 3A D1 00 80 60 00 E0 00 50 00 E6 D9 2E																		
[Test RX1 downlink at +20 microseconds]																		
BU	3	0	12	125	-1.4	5.01s	-	0061	1	0	-	0	0	224	U	1155	DICounter(80)	Cnt=80
40 6B 3A D1 00 80 61 00 E0 00 50 00 C9 B0 46 B3																		
KD	3	0	12	125	-36.0	----	1	0054	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60 6B 3A D1 00 80 54 00 E0 04 01 02 03 F3 39 EF A2																		
BU	0	0	12	125	-1.4	5.17s	-	0062	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40 6B 3A D1 00 80 62 00 E0 04 02 03 04 6C E0 1B F9																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT received a downlink packet at +20us offset from nominal RX1 window

[Elapsed Time] 00:00:18

## 6.2 Test RX2 Downlink at +20us

[ TEST PURPOSE ]

To test node's tolerance of downlink window timing errors  
: 6.2 Test RX2 Downlink at +20us

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	2	0	12	125	-1.3	5.01s	-	0064	1	0	-	0	0	224	U	1155	DICounter(81)	Cnt=81
40 6B 3A D1 00 80 64 00 E0 00 51 BE C0 6D 95																		
[Test RX2 downlink at +20 microseconds]																		
BU	0	0	12	125	-1.4	5.01s	-	0065	1	0	-	0	0	224	U	1155	DICounter(81)	Cnt=81
40 6B 3A D1 00 80 65 00 E0 00 51 FA F4 72 76																		
KD	R2	0	12	125	-36.0	----	1	0055	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60 6B 3A D1 00 80 55 00 E0 04 01 02 03 0C BC D0 6E																		
BU	0	0	12	125	-1.4	5.17s	-	0066	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40 6B 3A D1 00 80 66 00 E0 04 02 03 04 0B DC 24 96																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT received a downlink packet at +20us offset from nominal RX2 window

[Elapsed Time] 00:00:19

## 6.3 Test RX1 Downlink at -20us

[ TEST PURPOSE ]

To test node's tolerance of downlink window timing errors

: 6.3 Test RX1 Downlink at -20us

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	2	0	12	125	-1.4	5.01s	-	0068	1	0	-	0	0	224	U	1155	DICounter(82)	Cnt=82
40 6B 3A D1 00 80 68 00 E0 00 52 78 00 79 33																		
[Test RX1 downlink at -20 microseconds]																		
BU	0	0	12	125	-1.3	5.01s	-	0069	1	0	-	0	0	224	U	1155	DICounter(82)	Cnt=82
40 6B 3A D1 00 80 69 00 E0 00 52 75 E0 E4 02																		
KD	0	0	12	125	-36.0	----	1	0056	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60 6B 3A D1 00 80 56 00 E0 04 01 02 03 F1 45 6A AF																		
BU	0	0	12	125	-1.4	5.17s	-	006A	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40 6B 3A D1 00 80 6A 00 E0 04 02 03 04 A4 F0 ED 18																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT received a downlink packet at -20us offset from nominal RX1 window

[Elapsed Time] 00:00:19

### 6.4 Test RX2 Downlink at -20us

[ TEST PURPOSE ]

To test node's tolerance of downlink window timing errors

: 6.4 Test RX2 Downlink at -20us

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	3	0	12	125	-1.4	5.01s	-	006C	1	0	-	0	0	224	U	1155	DICounter(83)	Cnt=83
40 6B 3A D1 00 80 6C 00 E0 00 53 8B F5 90 A0																		
[Test RX2 downlink at -20 microseconds]																		
BU	3	0	12	125	-1.3	5.01s	-	006D	1	0	-	0	0	224	U	1155	DICounter(83)	Cnt=83
40 6B 3A D1 00 80 6D 00 E0 00 53 28 ED 15 DB																		
KD	R2	0	12	125	-36.0	----	1	0057	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60 6B 3A D1 00 80 57 00 E0 04 01 02 03 11 6D F9 AF																		
BU	0	0	12	125	-1.4	5.17s	-	006E	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40 6B 3A D1 00 80 6E 00 E0 04 02 03 04 82 D7 9B FB																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT received a downlink packet at -20us offset from nominal RX2 window

[Elapsed Time] 00:00:19

## 7 Frame Sequence Number

### 7.1 Uplink Sequence Number is Incrementing

[ TEST PURPOSE ]

To test handling of sequence number in uplink and downlink

: 7.1 Uplink Sequence Number is Incrementing

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	QMD	CNTS
BU	0	0	12	125	-1.4	5.01s	-	0071	1	0	-	0	0	224	U	1155	DICounter(84)	Cnt=84
40 6B 3A D1 00 80 71 00 E0 00 54 B0 D2 5F 74																		
[Uplink sequence number is incrementing]																		
BU	1	0	12	125	-1.4	5.01s	-	0072	1	0	-	0	0	224	U	1155	DICounter(84)	Cnt=84
40 6B 3A D1 00 80 72 00 E0 00 54 5D 0E 02 26																		
BU	2	0	12	125	-1.4	5.01s	-	0073	1	0	-	0	0	224	U	1155	DICounter(84)	Cnt=84
40 6B 3A D1 00 80 73 00 E0 00 54 D7 9C 63 33																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT increased FCntUp correctly

[Elapsed Time] 00:00:18

## 7.2 End node Rejects a Frame with Decreasing Sequence Counter

[ TEST PURPOSE ]

To test handling of sequence number in uplink and downlink

: 7.2 End node Rejects a Frame with Decreasing Sequence Counter

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	QMD	CNTS
BU	0	0	12	125	-1.4	5.01s	-	0075	1	0	-	0	0	224	U	1155	DICounter(84)	Cnt=84
40 6B 3A D1 00 80 75 00 E0 00 54 04 69 32 5B																		
[EndDevice rejects a frame with decreasing sequence counter]																		
BU	1	0	12	125	-1.4	5.01s	-	0076	1	0	-	0	0	224	U	1155	DICounter(84)	Cnt=84
40 6B 3A D1 00 80 76 00 E0 00 54 BB 21 9F 29																		
KD	1	0	12	125	-36.0	----	1	0058	1	0	0	-	-	224	U	1155	UnconfirmedFrame	
60 6B 3A D1 00 80 58 00 E0 03 C2 01 43 87																		
BU	2	0	12	125	-1.4	5.01s	-	0077	1	0	-	0	0	224	U	1155	DICounter(85)	Cnt=85
40 6B 3A D1 00 80 77 00 E0 00 55 62 7B E5 79																		
KD	2	0	12	125	-36.0	----	1	0057	1	0	0	-	-	224	U	1155	UnconfirmedFrame	
60 6B 3A D1 00 80 57 00 E0 03 81 BD 9D B6																		
-> Sent a downlink packet with decreased FCnt																		
BU	2	0	12	125	-1.4	5.01s	-	0078	1	0	-	0	0	224	U	1155	DICounter(85)	Cnt=85
40 6B 3A D1 00 80 78 00 E0 00 55 D3 7D 46 E3																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT ignored a downlink packet with invalid FCntDown

[Elapsed Time] 00:00:25





[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT ignored invalid MAC Commands

[Elapsed Time] 00:00:21

## 10 NewChannelReq MAC command

### 10.1 Try to modify read-only default channels, try to remove CH 0-2

[ TEST PURPOSE ]

To check that the Add/Modify channel command of the LoRaWAN is properly implemented and that the new channel can be properly used with its configured frequency/datarate(s) : 10.1 Try to modify read-only default channels, try to remove CH 0-2

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	2	0	12	125	-1.4	5.01s	-	0083	1	0	-	0	0	224	U	1155	DlCounter(86)	Cnt=86
40 6B 3A D1 00 80 83 00 E0 00 56 2F 3D 82 C1																		
[Try to modify read-only default channels, try to remove Channels 0-2]																		
BU	3	0	12	125	-1.4	5.01s	-	0084	1	0	-	0	0	224	U	1155	DlCounter(86)	Cnt=86
40 6B 3A D1 00 80 84 00 E0 00 56 46 61 0F 6A																		
KD	3	0	12	125	-36.0	----	1	005C	1	0	0	-	-	000	C	1646	NewChannelReq	
f[0]=0.000,MaxDR=7,MinDR=0																		
KD																		
NewChannelReq																		
f[1]=0.000,MaxDR=7,MinDR=0																		
KD																		
NewChannelReq																		
f[2]=0.000,MaxDR=7,MinDR=0																		
A0 6B 3A D1 00 80 5C 00 00 07 00 00 00 00 70 07 01 00 00 00 70 07 02 00 00 00 70 4F 5D 2B EF																		
BU	0	0	12	125	-1.4	5.33s	-	0085	1	1	-	0	0	224	U	1482	{NewChannelAns}	Ch=0,DR=0
BU																		
{NewChannelAns}																		
Ch=0,DR=0																		
BU																		
{NewChannelAns}																		
Ch=0,DR=0																		
40 6B 3A D1 00 A6 85 00 07 00 07 00 07 00 E0 00 57 D9 90 89 B1																		
BU	0	0	12	125	-1.3	4.68s	-	0086	1	0	-	0	0	224	U	1155	DlCounter(87)	Cnt=87
40 6B 3A D1 00 80 86 00 E0 00 57 31 ED C8 0D																		
BU	2	0	12	125	-1.4	5.01s	-	0087	1	0	-	0	0	224	U	1155	DlCounter(87)	Cnt=87
40 6B 3A D1 00 80 87 00 E0 00 57 8A D7 22 25																		
BU	3	0	12	125	-1.3	5.01s	-	0088	1	0	-	0	0	224	U	1155	DlCounter(87)	Cnt=87
40 6B 3A D1 00 80 88 00 E0 00 57 66 88 C6 03																		
BU	3	0	12	125	-1.4	5.01s	-	0089	1	0	-	0	0	224	U	1155	DlCounter(87)	Cnt=87
40 6B 3A D1 00 80 89 00 E0 00 57 03 13 BB AF																		
BU	1	0	12	125	-1.4	5.01s	-	008A	1	0	-	0	0	224	U	1155	DlCounter(87)	Cnt=87
40 6B 3A D1 00 80 8A 00 E0 00 57 A6 D0 DF 30																		
-> Used all default channels																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT kept all default channels being used

[Elapsed Time] 00:00:44

## 10.2 Adding Multiple Channels

[ TEST PURPOSE ]

To check that the Add/Modify channel command of the LoRaWAN is properly implemented and that the new channel can be properly used with its configured frequency/datarate(s)  
: 10.2 Adding Multiple Channels

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	3	0	12	125	-1.3	5.01s	-	008C	1	0	-	0	0	224	U	1155	DlCounter(87)	Cnt=87
40 6B 3A D1 00 80 8C 00 E0 00 57 8C A3 FB E0																		
[Adding multiple channels]																		
BU	0	0	12	125	-1.4	5.01s	-	008D	1	0	-	0	0	224	U	1155	DlCounter(87)	Cnt=87
40 6B 3A D1 00 80 8D 00 E0 00 57 BC 96 6C 77																		
KD	0	0	12	125	-36.0		----	1	005D	1	0	0	-	000	C	1646	NewChannelReq	
f[3]=867.100,MaxDR=7,MinDR=0																		
KD																		
NewChannelReq																		
f[4]=867.300,MaxDR=7,MinDR=0																		
KD																		
NewChannelReq																		
f[5]=867.500,MaxDR=7,MinDR=0																		
A0 6B 3A D1 00 80 5D 00 00 07 03 18 4F 84 70 07 04 E8 56 84 70 07 05 B8 5E 84 70 0E 6D 37 F3																		
BU	4	0	12	125	-1.4	5.33s	-	008E	1	1	-	0	0	224	U	1482	{NewChannelAns}	Ch=1,DR=1
BU																		
{NewChannelAns}																		
Ch=1,DR=1																		
BU																		
{NewChannelAns}																		
Ch=1,DR=1																		
40 6B 3A D1 00 A6 8E 00 07 03 07 03 07 03 E0 00 58 62 AE E2 AA																		
BU	0	0	12	125	-1.4	4.68s	-	008F	1	0	-	0	0	224	U	1155	DlCounter(88)	Cnt=88
40 6B 3A D1 00 80 8F 00 E0 00 58 FF 9E 35 E7																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT accepted multiple MAC commands correctly

[Elapsed Time] 00:00:21

## 10.3 Removing Multiple Channels

[ TEST PURPOSE ]

To check that the Add/Modify channel command of the LoRaWAN is properly implemented and that the new channel can be properly used with its configured frequency/datarate(s)  
: 10.3 Removing Multiple Channels

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	3	0	12	125	-1.3	5.01s	-	0091	1	0	-	0	0	224	U	1155	DlCounter(88)	Cnt=88
40 6B 3A D1 00 80 91 00 E0 00 58 F6 D1 39 87																		
[Removing multiple channels]																		
BU	1	0	12	125	-1.4	5.01s	-	0092	1	0	-	0	0	224	U	1155	DlCounter(88)	Cnt=88

```

40 6B 3A D1 00 80 92 00 E0 00 58 1D BC EC 39
KD 1 0 12 125 -36.0 ---- 1 005E 1 0 0 - - 000 C 1646 NewChannelReq
f[3]=0.000,MaxDR=7,MinDR=0

KD
f[4]=0.000,MaxDR=7,MinDR=0 NewChannelReq

KD
f[5]=0.000,MaxDR=7,MinDR=0 NewChannelReq
A0 6B 3A D1 00 80 5E 00 00 07 03 00 00 00 70 07 04 00 00 00 70 07 05 00 00 00 70 CC E6 45 99
BU 0 0 12 125 -1.4 5.33s - 0093 1 1 - 0 0 224 U 1482 {NewChannelAns} Ch=1,DR=1

BU
{NewChannelAns} Ch=1,DR=1

BU
{NewChannelAns} Ch=1,DR=1
40 6B 3A D1 00 A6 93 00 07 03 07 03 07 03 E0 00 59 B5 F7 2D EE

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT accepted multiple MAC commands correctly

[Elapsed Time] 00:00:21

## 10.4 Addition of a Single Channel

[ TEST PURPOSE ]

To check that the Add/Modify channel command of the LoRaWAN is properly implemented and that the new channel can be properly used with its configured frequency/datarate(s) : 10.4 Addition of a Single Channel

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS	
[Addition of a single channel]																			
BU	1	0	12	125	-1.4	10.1s	-	0096	1	0	-	0	0	224	U	1155	DICounter(89)	Cnt=89	
40 6B 3A D1 00 80 96 00 E0 00 59 24 CF 8A 67																			
KD	1	0	12	125	-36.0	----	1	005F	1	0	0	-	-	000	C	1318	NewChannelReq		
f[3]=867.100,MaxDR=7,MinDR=0																			
A0 6B 3A D1 00 80 5F 00 00 07 03 18 4F 84 70 FC 99 C6 51																			
BU	2	0	12	125	-1.4	5.17s	-	0097	1	1	-	0	0	224	U	1318	{NewChannelAns}	Ch=1,DR=1	
40 6B 3A D1 00 A2 97 00 07 03 E0 00 5A 77 C4 F7 8D																			
BU	2	0	12	125	-1.4	4.84s	-	0098	1	0	-	0	0	224	U	1155	DICounter(90)	Cnt=90	
40 6B 3A D1 00 80 98 00 E0 00 5A 42 62 2A 31																			
BU	3	0	12	125	-1.4	5.01s	-	0099	1	0	-	0	0	224	U	1155	DICounter(90)	Cnt=90	
40 6B 3A D1 00 80 99 00 E0 00 5A 5F 52 2E A7																			
-> Received a DownlinkCounter on the new channel																			

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT used the new channel added by New ChannelReq

[Elapsed Time] 00:00:27

## 10.5 Removal of a Single Channel

[ TEST PURPOSE ]

To check that the Add/Modify channel command of the LoRaWAN is properly implemented and that the new channel can be properly used with its configured frequency/datarate(s)  
: 10.5 Removal of a Single Channel

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	1	0	12	125	-1.4	5.01s	-	009B	1	0	-	0	0	224	U	1155	DlCounter(90)	Cnt=90
40 6B 3A D1 00 80 9B 00 E0 00 5A 39 65 97 1D																		
[Removal of a single channel]																		
BU	3	0	12	125	-1.4	5.01s	-	009C	1	0	-	0	0	224	U	1155	DlCounter(90)	Cnt=90
40 6B 3A D1 00 80 9C 00 E0 00 5A A9 E8 8A C1																		
KD	3	0	12	125	-36.0	----	1	0060	1	0	0	-	-	000	C	1318	NewChannelReq	
f[3]=0.000,MaxDR=7,MinDR=0																		
A0 6B 3A D1 00 80 60 00 00 07 03 00 00 00 70 DC 1D FD 93																		
BU	1	0	12	125	-1.4	5.17s	-	009D	1	1	-	0	0	224	U	1318	{NewChannelAns}	Ch=1,DR=1
40 6B 3A D1 00 A2 9D 00 07 03 E0 00 5B D6 6B 8E C5																		
-> Wait 20 packets to monitor channel usage																		
BU	2	0	12	125	-1.4	4.84s	-	009E	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 9E 00 E0 00 5B 61 4E 37 44																		
BU	0	0	12	125	-1.4	5.01s	-	009F	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 9F 00 E0 00 5B C6 B6 67 E4																		
BU	2	0	12	125	-1.4	5.01s	-	00A0	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 A0 00 E0 00 5B 5D E4 52 D9																		
BU	2	0	12	125	-1.3	5.01s	-	00A1	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 A1 00 E0 00 5B 98 1A 1A 1B																		
BU	1	0	12	125	-1.4	5.01s	-	00A2	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 A2 00 E0 00 5B 94 8A C7 C4																		
BU	0	0	12	125	-1.4	5.01s	-	00A3	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 A3 00 E0 00 5B 36 23 56 15																		
BU	1	0	12	125	-1.4	5.01s	-	00A4	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 A4 00 E0 00 5B 76 C7 C3 27																		
BU	0	0	12	125	-1.4	5.01s	-	00A5	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 A5 00 E0 00 5B 0C 21 63 05																		
BU	0	0	12	125	-1.3	5.01s	-	00A6	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 A6 00 E0 00 5B 0D B9 11 05																		
BU	2	0	12	125	-1.4	5.01s	-	00A7	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 A7 00 E0 00 5B A3 9C FA 4E																		
BU	0	0	12	125	-1.4	5.01s	-	00A8	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 A8 00 E0 00 5B 84 26 B1 82																		
BU	1	0	12	125	-1.3	5.01s	-	00A9	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 A9 00 E0 00 5B 59 FC 6F CC																		
BU	1	0	12	125	-1.4	5.01s	-	00AA	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 AA 00 E0 00 5B B2 53 9A 17																		
BU	1	0	12	125	-1.4	5.01s	-	00AB	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 AB 00 E0 00 5B 7C AC 4C 2B																		
BU	0	0	12	125	-1.4	5.01s	-	00AC	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 AC 00 E0 00 5B 06 FA 5C EB																		
BU	2	0	12	125	-1.4	5.01s	-	00AD	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 AD 00 E0 00 5B F2 AB C6 AA																		
BU	1	0	12	125	-1.4	5.01s	-	00AE	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 AE 00 E0 00 5B 1F B2 06 89																		
BU	1	0	12	125	-1.4	5.01s	-	00AF	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 AF 00 E0 00 5B 85 24 2E 6C																		
BU	1	0	12	125	-1.4	5.01s	-	00B0	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 B0 00 E0 00 5B 58 D0 17 C2																		
BU	1	0	12	125	-1.3	5.01s	-	00B1	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 B1 00 E0 00 5B 76 98 04 D7																		
BU	0	0	12	125	-1.4	5.01s	-	00B2	1	0	-	0	0	224	U	1155	DlCounter(91)	Cnt=91
40 6B 3A D1 00 80 B2 00 E0 00 5B C7 C4 69 3A																		
-> Received no DownlinkCounter on the removed channel																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT successfully removed the channel by New ChannelReq

[Elapsed Time] 00:02:03

## 11 DIChannelReq MAC command

### 11.1 DIChannel Request

[ TEST PURPOSE ]

To test New DL Freq in RX1 and Retransmission through Restored Frequency  
: 11.1 DIChannel Request

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	GMD	CNTS
BU	2	0	12	125	-1.3	5.01s	-	00B4	1	0	-	0	0	224	U	1155	DICounter(91)	Cnt=91
40 6B 3A D1 00 80 B4 00 E0 00 5B 92 C1 B0 36																		
[DIChannel Request]																		
BU	2	0	12	125	-1.3	5.01s	-	00B5	1	0	-	0	0	224	U	1155	DICounter(91)	Cnt=91
40 6B 3A D1 00 80 B5 00 E0 00 5B 10 11 89 AB																		
KD	2	0	12	125	-36.0	----	1	0061	1	0	0	-	-	000	C	1318	DIChannelReq	f[1]=868.500
A0 6B 3A D1 00 80 61 00 00 0A 01 C8 85 84 2A A8 65 E1																		
BU	1	0	12	125	-1.4	3.68s	-	00B6	1	1	-	0	0	224	U	1318	{DIChannelAns}	UL freq exist=1, Ch
freq ok=1																		
40 6B 3A D1 00 A2 B6 00 0A 03 E0 00 5C C0 64 2A BB																		
KD	1	0	12	125	-36.0	----	1	0062	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60 6B 3A D1 00 80 62 00 E0 04 01 02 03 62 B1 F8 C1																		
BU	2	0	12	125	-1.4	5.01s	-	00B7	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40 6B 3A D1 00 80 B7 00 E0 04 02 03 04 89 74 C6 F9																		
KD	2	0	12	125	-36.0	----	1	0063	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60 6B 3A D1 00 80 63 00 E0 04 01 02 03 8C AF 62 A8																		
BU	1	0	12	125	-1.4	5.01s	-	00B8	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40 6B 3A D1 00 80 B8 00 E0 04 02 03 04 02 27 32 0E																		
-> Received an EchoResponse on the modified channel																		
[Restore default downlink parameters]																		
KD	1	0	12	125	-36.0	----	1	0064	1	0	0	-	-	000	C	1318	DIChannelReq	f[1]=868.300
A0 6B 3A D1 00 80 64 00 00 0A 01 F8 7D 84 C3 F8 89 91																		
BU	0	0	12	125	-1.4	3.68s	-	00B9	1	1	-	0	0	224	U	1318	{DIChannelAns}	UL freq exist=1, Ch
freq ok=1																		
40 6B 3A D1 00 A2 B9 00 0A 03 E0 00 5F 12 08 36 6C																		
[Test reply retransmission]																		
BU	2	0	12	125	-1.4	3.56s	-	00BA	1	0	-	0	0	224	U	1318	{DIChannelAns}	UL freq exist=1, Ch
freq ok=1																		
40 6B 3A D1 00 82 BA 00 0A 03 E0 00 5F 4B F5 65 DD																		
-> EndDevice should retransmit DIChannelAns until getting a downlink packet																		
KD	2	0	12	125	-36.0	----	1	0065	1	0	0	-	-	224	U	1155	UnconfirmedFrame	
60 6B 3A D1 00 80 65 00 E0 03 BE 6E 9D 11																		
BU	2	0	12	125	-1.4	4.84s	-	00BB	1	0	-	0	0	224	U	1155	DICounter(96)	Cnt=96
40 6B 3A D1 00 80 BB 00 E0 00 60 E5 31 6F 92																		
-> EndDevice stopped retransmission of DIChannelAns																		
KD	2	0	12	125	-36.0	----	1	0066	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60 6B 3A D1 00 80 66 00 E0 04 01 02 03 C8 90 6B 80																		
BU	1	0	12	125	-1.4	5.17s	-	00BC	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40 6B 3A D1 00 80 BC 00 E0 04 02 03 04 41 55 3E 2D																		
-> Received an EchoResponse on the modified channel with restored settings																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT received a downlink packet successfully using modified DL channel

[Elapsed Time] 00:00:46

## 11.2 DLChannel Request with Invalid Parameters

[ TEST PURPOSE ]

To test New DL Freq in RX1 and Retransmission through Restored Frequency  
: 11.2 DLChannel Request with Invalid Parameters

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
[DLChannel Request with invalid parameters]																		
BU	0	0	12	125	-1.3	10.1s	-	00BF	1	0	-	0	0	224	U	1155	DLCounter(97)	Cnt=97
40	6B	3A	D1	00	80	BF	00	E0	00	61	55	D5	99	74				
KD	0	0	12	125	-36.0	----	1	0067	1	0	0	-	-	000	C	1318	DLChannelReq	f[1]=0.000
A0	6B	3A	D1	00	80	67	00	00	0A	01	00	00	00	80	55	D6	E4	
-> Sent DLChannelReq with invalid frequency value																		
BU	0	0	12	125	-1.3	3.68s	-	00C0	1	1	-	0	0	224	U	1318	{DLChannelAns}	UL freq exist=1, Ch
freq ok=0																		
40	6B	3A	D1	00	A2	C0	00	0A	02	E0	00	62	3B	38	6E	3F		
KD	0	0	12	125	-36.0	----	1	0068	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60	6B	3A	D1	00	80	68	00	E0	04	01	02	03	96	33	84	5D		
BU	1	0	12	125	-1.4	5.01s	-	00C1	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40	6B	3A	D1	00	80	C1	00	E0	04	02	03	04	85	34	1D	5B		
-> Received an EchoResponse on the modified channel with restored settings																		
KD	1	0	12	125	-36.0	----	1	0069	1	0	0	-	-	000	C	1318	DLChannelReq	f[3]=868.850
A0	6B	3A	D1	00	80	69	00	00	0A	03	74	93	84	0B	60	89	05	
-> Sent DLChannelReq with invalid channel index																		
BU	0	0	12	125	-1.3	3.68s	-	00C2	1	1	-	0	0	224	U	1318	{DLChannelAns}	UL freq exist=0, Ch
freq ok=1																		
40	6B	3A	D1	00	A2	C2	00	0A	01	E0	00	64	D0	B2	08	EA		
KD	0	0	12	125	-36.0	----	1	006A	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60	6B	3A	D1	00	80	6A	00	E0	04	01	02	03	14	D2	3B	B0		
BU	0	0	12	125	-1.4	5.01s	-	00C3	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40	6B	3A	D1	00	80	C3	00	E0	04	02	03	04	7C	B6	0F	85		
KD	0	0	12	125	-36.0	----	1	006B	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60	6B	3A	D1	00	80	6B	00	E0	04	01	02	03	FD	70	EB	B7		
BU	1	0	12	125	-1.4	5.01s	-	00C4	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40	6B	3A	D1	00	80	C4	00	E0	04	02	03	04	34	E0	9B	30		
KD	1	0	12	125	-36.0	----	1	006C	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60	6B	3A	D1	00	80	6C	00	E0	04	01	02	03	3E	51	E6	00		
BU	0	0	12	125	-1.3	5.01s	-	00C5	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40	6B	3A	D1	00	80	C5	00	E0	04	02	03	04	47	74	53	88		
KD	0	0	12	125	-36.0	----	1	006D	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60	6B	3A	D1	00	80	6D	00	E0	04	01	02	03	D2	42	5C	E3		
BU	1	0	12	125	-1.3	5.01s	-	00C6	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40	6B	3A	D1	00	80	C6	00	E0	04	02	03	04	2D	83	F6	41		
KD	1	0	12	125	-36.0	----	1	006E	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60	6B	3A	D1	00	80	6E	00	E0	04	01	02	03	22	CB	4B	77		
BU	2	0	12	125	-1.3	5.01s	-	00C7	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40	6B	3A	D1	00	80	C7	00	E0	04	02	03	04	06	94	13	24		
KD	2	0	12	125	-36.0	----	1	006F	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60	6B	3A	D1	00	80	6F	00	E0	04	01	02	03	F8	F6	01	9D		
BU	0	0	12	125	-1.4	5.01s	-	00C8	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40	6B	3A	D1	00	80	C8	00	E0	04	02	03	04	E2	4A	27	8C		
KD	0	0	12	125	-36.0	----	1	0070	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60	6B	3A	D1	00	80	70	00	E0	04	01	02	03	02	DC	34	0C		
BU	1	0	12	125	-1.4	5.01s	-	00C9	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40	6B	3A	D1	00	80	C9	00	E0	04	02	03	04	D1	D3	BF	C8		
KD	1	0	12	125	-36.0	----	1	0071	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60	6B	3A	D1	00	80	71	00	E0	04	01	02	03	B2	59	38	2C		
BU	2	0	12	125	-1.4	5.01s	-	00CA	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40	6B	3A	D1	00	80	CA	00	E0	04	02	03	04	99	56	C5	D2		
KD	2	0	12	125	-36.0	----	1	0072	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60	6B	3A	D1	00	80	72	00	E0	04	01	02	03	04	61	05	60		
BU	1	0	12	125	-1.4	5.01s	-	00CB	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40	6B	3A	D1	00	80	CB	00	E0	04	02	03	04	74	E0	D0	00		
KD	1	0	12	125	-36.0	----	1	0073	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60	6B	3A	D1	00	80	73	00	E0	04	01	02	03	A2	3A	10	09		
BU	2	0	12	125	-1.4	5.01s	-	00CC	1	0	-	0	0	224	U	1318	EchoResponse	Echo PASS
40	6B	3A	D1	00	80	CC	00	E0	04	02	03	04	70	00	89	A0		
KD	2	0	12	125	-36.0	----	1	0074	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3

60 6B 3A D1 00 80 74 00 E0 04 01 02 03 E0 88 17 79  
BU 2 0 12 125 -1.4 5.01s - 00CD 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 CD 00 E0 04 02 03 04 DB D9 E5 3A  
KD 2 0 12 125 -36.0 ---- 1 0075 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 75 00 E0 04 01 02 03 FA 1A 3C E7  
BU 0 0 12 125 -1.3 5.01s - 00CE 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 CE 00 E0 04 02 03 04 86 51 7C A4  
KD 0 0 12 125 -36.0 ---- 1 0076 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 76 00 E0 04 01 02 03 6B D1 F3 D2  
BU 1 0 12 125 -1.4 5.01s - 00CF 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 CF 00 E0 04 02 03 04 83 6D 5B 56  
KD 1 0 12 125 -36.0 ---- 1 0077 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 77 00 E0 04 01 02 03 A5 E2 D0 3F  
BU 0 0 12 125 -1.4 5.01s - 00D0 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 D0 00 E0 04 02 03 04 4D 8A 80 5E  
KD 0 0 12 125 -36.0 ---- 1 0078 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 78 00 E0 04 01 02 03 EA 24 09 48  
BU 1 0 12 125 -1.4 5.01s - 00D1 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 D1 00 E0 04 02 03 04 BD 2E 5F 29  
KD 1 0 12 125 -36.0 ---- 1 0079 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 79 00 E0 04 01 02 03 31 81 D6 45  
BU 2 0 12 125 -1.3 5.01s - 00D2 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 D2 00 E0 04 02 03 04 61 5A BC 79  
KD 2 0 12 125 -36.0 ---- 1 007A 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 7A 00 E0 04 01 02 03 36 0C A2 F0  
BU 2 0 12 125 -1.4 5.01s - 00D3 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 D3 00 E0 04 02 03 04 D2 74 F9 B6  
KD 2 0 12 125 -36.0 ---- 1 007B 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 7B 00 E0 04 01 02 03 F0 30 DC 93  
BU 2 0 12 125 -1.3 5.01s - 00D4 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 D4 00 E0 04 02 03 04 4E 54 3C EB  
KD 2 0 12 125 -36.0 ---- 1 007C 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 7C 00 E0 04 01 02 03 1D D0 9F D7  
BU 0 0 12 125 -1.3 5.01s - 00D5 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 D5 00 E0 04 02 03 04 07 3F 59 F2  
KD 0 0 12 125 -36.0 ---- 1 007D 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 7D 00 E0 04 01 02 03 F0 15 19 C9  
BU 0 0 12 125 -1.4 5.01s - 00D6 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 D6 00 E0 04 02 03 04 90 C6 32 BD  
KD 0 0 12 125 -36.0 ---- 1 007E 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 7E 00 E0 04 01 02 03 F4 ED 83 5C  
BU 0 0 12 125 -1.3 5.01s - 00D7 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 D7 00 E0 04 02 03 04 CE 41 36 4E  
KD 0 0 12 125 -36.0 ---- 1 007F 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 7F 00 E0 04 01 02 03 06 E5 30 AB  
BU 1 0 12 125 -1.4 5.01s - 00D8 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 D8 00 E0 04 02 03 04 39 BF 8C F7  
KD 1 0 12 125 -36.0 ---- 1 0080 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 80 00 E0 04 01 02 03 A0 AF E5 CD  
BU 1 0 12 125 -1.4 5.01s - 00D9 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 D9 00 E0 04 02 03 04 11 F9 BD 1D  
KD 1 0 12 125 -36.0 ---- 1 0081 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 81 00 E0 04 01 02 03 F9 A1 54 73  
BU 1 0 12 125 -1.4 5.01s - 00DA 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 DA 00 E0 04 02 03 04 78 4E 8E C0  
KD 1 0 12 125 -36.0 ---- 1 0082 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 82 00 E0 04 01 02 03 B9 0D 11 BB  
BU 2 0 12 125 -1.4 5.01s - 00DB 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 DB 00 E0 04 02 03 04 FA 7D 9B D9  
KD 2 0 12 125 -36.0 ---- 1 0083 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 83 00 E0 04 01 02 03 AF 18 87 96  
BU 2 0 12 125 -1.4 5.01s - 00DC 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 DC 00 E0 04 02 03 04 0C D4 76 2B  
KD 2 0 12 125 -36.0 ---- 1 0084 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 84 00 E0 04 01 02 03 FE 2A D7 6D  
BU 2 0 12 125 -1.4 5.01s - 00DD 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 DD 00 E0 04 02 03 04 61 A1 B9 10  
KD 2 0 12 125 -36.0 ---- 1 0085 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 85 00 E0 04 01 02 03 25 39 A0 37  
BU 1 0 12 125 -1.3 5.01s - 00DE 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 DE 00 E0 04 02 03 04 7F 0B 6B 61  
KD 1 0 12 125 -36.0 ---- 1 0086 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 86 00 E0 04 01 02 03 6D 4B CB 0F  
BU 0 0 12 125 -1.4 5.01s - 00DF 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 DF 00 E0 04 02 03 04 44 DD D1 4C  
KD 0 0 12 125 -36.0 ---- 1 0087 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3  
60 6B 3A D1 00 80 87 00 E0 04 01 02 03 C1 C0 FB E6  
BU 1 0 12 125 -1.4 5.01s - 00E0 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS  
40 6B 3A D1 00 80 E0 00 E0 04 02 03 04 48 F1 72 56



```

KD 1 0 12 125 -36.0 ---- 1 0088 1 0 0 - - 224 U 1155 EchoRequest EchoLen=3
60 6B 3A D1 00 80 88 00 E0 04 01 02 03 DD 26 F2 DF
BU 2 0 12 125 -1.4 5.01s - 00E1 1 0 - 0 0 224 U 1318 EchoResponse Echo PASS
40 6B 3A D1 00 80 E1 00 E0 04 02 03 04 87 0C 84 21

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT ignored DL channel request w ith invalid parameters

[Elapsed Time] 00:02:59

## 12 Confirmed packets

### 12.1 Test Confirmed Uplink

[ TEST PURPOSE ]

To test ACK bit handling in uplink and downlink  
: 12.1 Test Confirmed Uplink

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	QMD	CNTS		
BU	2	0	12	125	-1.3	5.01s	-	00E3	1	0	-	0	0	224	U	1155		DlCounter(131)	Cnt=131	
40 6B 3A D1 00 80 E3 00 E0 00 83 A9 3B 7B 0F																				
[Test confirmed uplink]																				
BU	1	0	12	125	-1.4	5.01s	-	00E4	1	0	-	0	0	224	U	1155		DlCounter(131)	Cnt=131	
40 6B 3A D1 00 80 E4 00 E0 00 83 7F 85 C2 1D																				
KD	1	0	12	125	-36.0		----	1	0089	1	0	0	-	-	224	U	1155		ConfirmedFrame	
60 6B 3A D1 00 80 89 00 E0 02 2C 58 FB FA																				
BU	0	0	12	125	-1.4	5.01s	-	00E5	1	0	-	0	0	224	C	1155		DlCounter(132)	Cnt=132	
80 6B 3A D1 00 80 E5 00 E0 00 84 5E 2A CD 0C																				
KD	0	0	12	125	-36.0		----	1	008A	1	1	0	-	-	000	U	991		NoPayload	
60 6B 3A D1 00 A0 8A 00 E1 73 C4 49																				

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT sent an uplink packet w ith message type ConfirmedUp

[Elapsed Time] 00:00:20

### 12.2 Test Uplink Retransmission

[ TEST PURPOSE ]

To test ACK bit handling in uplink and downlink  
: 12.2 Test Uplink Retransmission

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
[Test uplink retransmission]																		
BU	0	0	12	125	-1.4	10.8s	-	00E7	1	0	-	0	0	224	C	1155	DlCounter(134)	Cnt=134
80	6B	3A	D1	00	80	E7	00	E0	00	86	AD	61	2F	C4				
KD	0	0	12	125	-36.0		----	1	008C	1	1	0	-	-	224	U	1155	ConfirmedFrame
60	6B	3A	D1	00	A0	8C	00	E0	02	29	DE	F3	36					
BU	1	0	12	125	-1.4	4.29s	-	00E8	1	0	-	0	0	224	C	1155	DlCounter(135)	Cnt=135
80	6B	3A	D1	00	80	E8	00	E0	00	87	E3	A1	93	A6				
BU	0	0	12	125	-1.4	4.67s	-	00E8	1	0	-	0	0	224	C	1155	DlCounter(135)	Cnt=135
80	6B	3A	D1	00	80	E8	00	E0	00	87	E3	A1	93	A6				
-> Got retransmitted packet with the same FCnt																		
KD	0	0	12	125	-36.0		----	1	008D	1	1	0	-	-	000	U	991	NoPayload
60	6B	3A	D1	00	A0	8D	00	9D	69	0B	36							

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT retransmitted the uplink packet with message type ConfirmedUp

[Elapsed Time] 00:00:23

### 12.3 Test Unconfirmed Uplink

[ TEST PURPOSE ]

To test ACK bit handling in uplink and downlink

: 12.3 Test Unconfirmed Uplink

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	2	0	12	125	-1.4	5.01s	-	00EA	1	0	-	0	0	224	C	1155	DlCounter(137)	Cnt=137
80	6B	3A	D1	00	80	EA	00	E0	00	89	1D	9F	29	64				
KD	2	0	12	125	-36.0		----	1	008F	1	1	0	-	-	000	U	991	NoPayload
60	6B	3A	D1	00	A0	8F	00	ED	31	8E	3B							
[Set unconfirmed uplink]																		
BU	2	0	12	125	-1.4	5.01s	-	00EB	1	0	-	0	0	224	C	1155	DlCounter(138)	Cnt=138
80	6B	3A	D1	00	80	EB	00	E0	00	8A	6E	55	F8	B1				
KD	2	0	12	125	-36.0		----	1	0090	1	1	0	-	-	224	U	1155	UnconfirmedFrame
60	6B	3A	D1	00	A0	90	00	E0	03	3D	64	6B	C9					
BU	1	0	12	125	-1.4	5.01s	-	00EC	1	0	-	0	0	224	U	1155	DlCounter(139)	Cnt=139
40	6B	3A	D1	00	80	EC	00	E0	00	8B	1A	22	04	14				

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT accepted the Unconfirmed frames command

[Elapsed Time] 00:00:19

### 12.4 Test Confirmed Downlink

[ TEST PURPOSE ]  
 To test ACK bit handling in uplink and downlink  
 : 12.4 Test Confirmed Downlink

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	QMD	CNTS	
BU	1	0	12	125	-1.3	10.1s	-	00EF	1	0	-	0	0	224	U	1155	DlCounter(139)	Cnt=139	
40 6B 3A D1 00 80 EF 00 E0 00 8B C6 2D 0A 4F																			
[Test confirmed downlink]																			
BU	1	0	12	125	-1.3	5.01s	-	00F0	1	0	-	0	0	224	U	1155	DlCounter(139)	Cnt=139	
40 6B 3A D1 00 80 F0 00 E0 00 8B 26 FF 45 7C																			
KD	1	0	12	125	-36.0		----	1	0091	1	0	0	-	-	224	C	1155	UnconfirmedFrame	
A0 6B 3A D1 00 80 91 00 E0 03 3D 53 13 79																			
BU	0	0	12	125	-1.4	5.01s	-	00F1	1	1	-	0	0	224	U	1155	DlCounter(140)	Cnt=140	
40 6B 3A D1 00 A0 F1 00 E0 00 8C 73 74 E9 8D																			
-> ACK bit is set to 1																			

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT sent ACK to the downlink packet with message type ConfirmedDown

[Elapsed Time] 00:00:21

## 12.5 Test Downlink Retransmission

[ TEST PURPOSE ]  
 To test ACK bit handling in uplink and downlink  
 : 12.5 Test Downlink Retransmission

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	QMD	CNTS	
BU	1	0	12	125	-1.3	5.01s	-	00F3	1	0	-	0	0	224	U	1155	DlCounter(140)	Cnt=140	
40 6B 3A D1 00 80 F3 00 E0 00 8C F6 5B A2 7D																			
[Test downlink retransmission]																			
BU	2	0	12	125	-1.4	5.01s	-	00F4	1	0	-	0	0	224	U	1155	DlCounter(140)	Cnt=140	
40 6B 3A D1 00 80 F4 00 E0 00 8C 67 6C DE 4D																			
KD	2	0	12	125	-36.0		----	1	0092	1	0	0	-	-	224	C	1155	UnconfirmedFrame	
A0 6B 3A D1 00 80 92 00 E0 03 01 FC 02 3B																			
BU	2	0	12	125	-1.4	5.01s	-	00F5	1	1	-	0	0	224	U	1155	DlCounter(141)	Cnt=141	
40 6B 3A D1 00 A0 F5 00 E0 00 8D 98 48 78 C7																			
KD	2	0	12	125	-36.0		----	1	0092	1	0	0	-	-	224	C	1155	UnconfirmedFrame	
A0 6B 3A D1 00 80 92 00 E0 03 01 FC 02 3B																			
-> Sent a downlink packet with the same FCnt as retransmission																			
BU	0	0	12	125	-1.4	5.01s	-	00F6	1	1	-	0	0	224	U	1155	DlCounter(141)	Cnt=141	
40 6B 3A D1 00 A0 F6 00 E0 00 8D 0B 04 AA 9B																			

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT sent ACK to the retransmitted downlink packet with message type ConfirmedDown

[Elapsed Time] 00:00:23

## 13 RXParameterSetupReq MAC command

### 13.1 RX Parameter Setup Request

[ TEST PURPOSE ]

To test RXParamSetupReq command for setting downlink parameters  
: 13.1 RX Parameter Setup Request

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	1	0	12	125	-1.4	5.01s	-	00F8	1	0	-	0	0	224	U	1155	DlCounter(141)	Cnt=141
40 6B 3A D1 00 80 F8 00 E0 00 8D 28 08 0E EF																		
[Modify RX1 and RX2 downlink parameters]																		
BU	2	0	12	125	-1.4	5.01s	-	00F9	1	0	-	0	0	224	U	1155	DlCounter(141)	Cnt=141
40 6B 3A D1 00 80 F9 00 E0 00 8D D5 DC 48 E6																		
KD	2	0	12	125	-36.0		----	1	0093	1	0	0	-	000	C	1318	LinkADDRReq	
Pow=0, DR=2, Mask=0007h, MC=0, NbTrans=1																		
A0 6B 3A D1 00 80 93 00 00 03 20 07 00 01 B5 93 B1 D4																		
BU	2	2	10	125	-1.4	4.18s	-	00FA	1	1	-	0	0	224	U	329	{LinkADRAns}	Pow=1, DR=1, Mask=1
40 6B 3A D1 00 A2 FA 00 03 07 E0 00 8E C9 E3 44 7E																		
KD	2	2	10	125	-36.0		----	1	0094	1	0	0	-	000	C	329	RXParamSetReq	
RX1DROffset=2, RX2DR=2, RX2FREQ=868.700																		
A0 6B 3A D1 00 80 94 00 00 05 22 98 8D 84 AC 63 3C 14																		
-> Sent RXParamSetReq to modify RX1 and RX2 parameters																		
BU	2	2	10	125	-1.4	1.68s	-	00FB	1	1	-	0	0	224	U	329	{RXParamSetAns}	RX1DROffset=1,
RX2DR=1, CH=1																		
40 6B 3A D1 00 A2 FB 00 05 07 E0 00 8F D5 3E BC 56																		
KD	2	0	12	125	-36.0		----	1	0095	1	0	0	-	224	U	1155	EchoRequest	EchoLen=3
60 6B 3A D1 00 80 95 00 E0 04 01 02 03 F2 47 46 14																		
-> Sent Echo Request via RX1 to verify RX1 modification																		
BU	0	2	10	125	-1.4	5.01s	-	00FC	1	0	-	0	0	224	U	329	EchoResponse	Echo PASS
40 6B 3A D1 00 80 FC 00 E0 04 02 03 04 C1 D1 BC 52																		
KD	R2	2	10	125	-36.0		----	1	0096	1	0	0	-	224	U	329	EchoRequest	EchoLen=3
60 6B 3A D1 00 80 96 00 E0 04 01 02 03 B5 9D C9 40																		
-> Sent Echo Request via RX2 to verify RX2 modification																		
BU	0	2	10	125	-1.4	5.01s	-	00FD	1	0	-	0	0	224	U	329	EchoResponse	Echo PASS
40 6B 3A D1 00 80 FD 00 E0 04 02 03 04 AB 53 B6 4A																		
[Restore default downlink parameters]																		
KD	0	0	12	125	-36.0		----	1	0097	1	0	0	-	000	C	1318	RXParamSetReq	
RX1DROffset=0, RX2DR=0, RX2FREQ=869.525																		
A0 6B 3A D1 00 80 97 00 00 05 00 D2 AD 84 BF CB D0 D2																		
BU	0	2	10	125	-1.4	2.70s	-	00FE	1	1	-	0	0	224	U	329	{RXParamSetAns}	RX1DROffset=1,
RX2DR=1, CH=1																		
40 6B 3A D1 00 A2 FE 00 05 07 E0 00 92 D4 50 F5 0A																		
[Test reply retransmission]																		
-> Sent RXParamSetReq to restore default RX1 and RX2 parameters																		
BU	2	2	10	125	-1.4	2.57s	-	00FF	1	0	-	0	0	224	U	329	{RXParamSetAns}	RX1DROffset=1,
RX2DR=1, CH=1																		
40 6B 3A D1 00 82 FF 00 05 07 E0 00 92 5F 6D 50 21																		
-> EndDevice should retransmit RXParamSetupAns until getting a downlink packet																		
KD	2	2	10	125	-36.0		----	1	0098	1	0	0	-	224	U	288	UnconfirmedFrame	
60 6B 3A D1 00 80 98 00 E0 03 05 E2 16 60																		
BU	1	2	10	125	-1.4	5.01s	-	0100	1	0	-	0	0	224	U	329	DlCounter(147)	Cnt=147
40 6B 3A D1 00 80 00 01 E0 00 93 FD 5C 0A 43																		
KD	1	2	10	125	-36.0		----	1	0099	1	0	0	-	224	U	329	EchoRequest	EchoLen=3
60 6B 3A D1 00 80 99 00 E0 04 01 02 03 E9 41 9A 2F																		
-> Sent Echo Request via RX1 to verify RX1 default setting																		
BU	2	2	10	125	-1.4	5.01s	-	0101	1	0	-	0	0	224	U	329	EchoResponse	Echo PASS
40 6B 3A D1 00 80 01 01 E0 04 02 03 04 08 FB D0 D0																		
KD	R2	0	12	125	-36.0		----	1	009A	1	0	0	-	224	U	1155	EchoRequest	EchoLen=3
60 6B 3A D1 00 80 9A 00 E0 04 01 02 03 8F 9A 04 BA																		
-> Sent Echo Request via RX2 to verify RX2 default setting																		
BU	0	2	10	125	-1.4	5.01s	-	0102	1	0	-	0	0	224	U	329	EchoResponse	Echo PASS
40 6B 3A D1 00 80 02 01 E0 04 02 03 04 0E 09 68 EE																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]  
Downlink parameters with RXParamSetupReq were tested successfully

[Elapsed Time] 00:00:49

## 14 RXTimingSetupReq MAC command

### 14.1 RX Timing Setup Request

[ TEST PURPOSE ]  
To test downlink timing parameters  
: 14.1 RX Timing Setup Request

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS	
BU	2	2	10	125	-1.4	5.01s	-	0104	1	0	-	0	0	224	U	329	DlCounter(149)	Cnt=149	
40	6B	3A	D1	00	80	04	01	E0	00	95	0D	F4	34	C3					
[Modify RX1 and RX2 timing to X second delay]																			
BU	1	2	10	125	-1.4	5.01s	-	0105	1	0	-	0	0	224	U	329	DlCounter(149)	Cnt=149	
40	6B	3A	D1	00	80	05	01	E0	00	95	71	4E	EF	39					
KD	1	2	10	125	-36.0		----	1	009B	1	0	0	-	-	000	C	288	RXTimingSetReq	RXDelay=2
A0	6B	3A	D1	00	80	9B	00	00	08	02	3B	9A	55	37					
-> Sent RXTimingSetReq to modify RX1 and RX2 parameters																			
BU	1	2	10	125	-1.4	1.64s	-	0106	1	1	-	0	0	224	U	329	{RXTimingSetAns}		
40	6B	3A	D1	00	A1	06	01	08	E0	00	96	C9	A4	83	0E				
KD	1	2	10	125	-36.0		----	2	009C	1	0	0	-	-	224	U	329	EchoRequest	EchoLen=3
60	6B	3A	D1	00	80	9C	00	E0	04	01	02	03	CC	AD	DB	E8			
-> Sent Echo Request via RX1 to verify RX1 timing modification																			
BU	2	2	10	125	-1.4	5.01s	-	0107	1	0	-	0	0	224	U	329	EchoResponse	Echo PASS	
40	6B	3A	D1	00	80	07	01	E0	04	02	03	04	CA	CD	85	E3			
KD	R2	0	12	125	-36.0		----	2	009D	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60	6B	3A	D1	00	80	9D	00	E0	04	01	02	03	91	F7	30	E1			
-> Sent Echo Request via RX2 to verify RX2 timing modification																			
BU	1	2	10	125	-1.4	5.01s	-	0108	1	0	-	0	0	224	U	329	EchoResponse	Echo PASS	
40	6B	3A	D1	00	80	08	01	E0	04	02	03	04	AB	CA	22	C1			
[Restore default timing]																			
KD	1	2	10	125	-36.0		----	2	009E	1	0	0	-	-	000	C	288	RXTimingSetReq	RXDelay=1
A0	6B	3A	D1	00	80	9E	00	00	08	01	AD	AC	E1	AF					
BU	2	2	10	125	-1.4	2.64s	-	0109	1	1	-	0	0	224	U	329	{RXTimingSetAns}		
40	6B	3A	D1	00	A1	09	01	08	E0	00	99	29	0C	56	3D				
[Test reply retransmission]																			
-> Sent RXTimingSetReq to restore default RX1 and RX2 parameters																			
BU	1	2	10	125	-1.4	2.57s	-	010A	1	0	-	0	0	224	U	329	{RXTimingSetAns}		
40	6B	3A	D1	00	81	0A	01	08	E0	00	99	81	83	55	C7				
-> EndDevice should retransmit RXTimingSetAns until getting a downlink packet																			
KD	1	2	10	125	-36.0		----	1	009F	1	0	0	-	-	224	U	288	UnconfirmedFrame	
60	6B	3A	D1	00	80	9F	00	E0	03	5B	58	08	DF						
BU	1	2	10	125	-1.4	5.01s	-	010B	1	0	-	0	0	224	U	329	DlCounter(154)	Cnt=154	
40	6B	3A	D1	00	80	0B	01	E0	00	9A	C3	48	01	7C					
KD	1	2	10	125	-36.0		----	1	00A0	1	0	0	-	-	224	U	329	EchoRequest	EchoLen=3
60	6B	3A	D1	00	80	A0	00	E0	04	01	02	03	8F	5C	7D	FE			
-> Sent Echo Request via RX1 to verify RX1 default setting																			
BU	0	2	10	125	-1.4	5.01s	-	010C	1	0	-	0	0	224	U	329	EchoResponse	Echo PASS	
40	6B	3A	D1	00	80	0C	01	E0	04	02	03	04	75	32	CD	96			
KD	R2	0	12	125	-36.0		----	1	00A1	1	0	0	-	-	224	U	1155	EchoRequest	EchoLen=3
60	6B	3A	D1	00	80	A1	00	E0	04	01	02	03	09	A0	61	6A			
-> Sent Echo Request via RX2 to verify RX2 default setting																			
BU	0	2	10	125	-1.4	5.01s	-	010D	1	0	-	0	0	224	U	329	EchoResponse	Echo PASS	
40	6B	3A	D1	00	80	0D	01	E0	04	02	03	04	42	2F	12	65			

[ TEST RESULT ]

[VERDICT]  
PASS

[REASON]  
Downlink timing parameters with RXTimingSetupReq were tested successfully

[Elapsed Time] 00:00:44

## 15 LinkADRRReq MAC command

### 15.1 Test ADR bit

[ TEST PURPOSE ]  
To test adaptive data rate functionality  
: 15.1 Test ADR bit

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	0	2	10	125	-1.4	5.01s	-	010F	1	0	-	0	0	224	U	329	DlCounter(156)	Cnt=156
40 6B 3A D1 00 80 0F 01 E0 00 9C 06 62 D0 3E																		
[Test ADR bit]																		
BU	2	2	10	125	-1.4	5.01s	-	0110	1	0	-	0	0	224	U	329	DlCounter(156)	Cnt=156
40 6B 3A D1 00 80 10 01 E0 00 9C 9E 96 44 53																		
BU	0	2	10	125	-1.4	5.01s	-	0111	1	0	-	0	0	224	U	329	DlCounter(156)	Cnt=156
40 6B 3A D1 00 80 11 01 E0 00 9C 2C 74 BA 72																		

[ TEST RESULT ]

[VERDICT]  
PASS

[REASON]  
DUT set ADR bit to 1

[Elapsed Time] 00:00:17

### 15.2 Test TX Power

[ TEST PURPOSE ]  
To test adaptive data rate functionality  
: 15.2 Test TX Power

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	2	2	10	125	-1.4	10.1s	-	0113	1	0	-	0	0	224	U	329	DlCounter(156)	Cnt=156
40 6B 3A D1 00 80 13 01 E0 00 9C 6A B6 2F AA																		
[Test TX Power]																		
BU	0	2	10	125	-1.4	5.01s	-	0114	1	0	-	0	0	224	U	329	DlCounter(156)	Cnt=156
40 6B 3A D1 00 80 14 01 E0 00 9C 12 D0 27 6E																		
KD	0	2	10	125	-36.0	----	1	00A2	1	0	0	-	-	000	C	329	LinkADRRReq	
Pow=7,DR=0,Mask=0007h,MC=0,NbTrans=1																		
A0 6B 3A D1 00 80 A2 00 00 03 07 07 00 01 E9 25 3F 37																		
-> Set EndDevice to transmit packets using the minimum power																		
BU	0	0	12	125	-14.3	6.00s	-	0115	1	1	-	0	0	224	U	1318	{LinkADRAns}	Pow=1, DR=1, Mask=1
40 6B 3A D1 00 A2 15 01 03 07 E0 00 9D 1E FD 1C DE																		
BU	1	0	12	125	-14.4	4.84s	-	0116	1	0	-	0	0	224	U	1155	DlCounter(157)	Cnt=157
40 6B 3A D1 00 80 16 01 E0 00 9D 14 E3 87 CF																		

```

BU 1 0 12 125 -14.4 5.01s - 0117 1 0 - 0 0 224 U 1155 DlCounter(157) Cnt=157
40 6B 3A D1 00 80 17 01 E0 00 9D 7D 0F 13 3B
BU 0 0 12 125 -14.4 5.01s - 0118 1 0 - 0 0 224 U 1155 DlCounter(157) Cnt=157
40 6B 3A D1 00 80 18 01 E0 00 9D 47 DC 2C 0D
-> Measure the minimum power
KD 0 0 12 125 -36.0 ---- 1 00A3 1 0 0 - - 000 C 1318 LinkADRRReq
Pow=0,DR=0,Mask=0007h,MC=0,NbTrans=1
A0 6B 3A D1 00 80 A3 00 00 03 00 07 00 01 FB 1F 31 69
-> Set EndDevice to transmit packets using the maximum power
BU 0 0 12 125 -1.4 5.17s - 0119 1 1 - 0 0 224 U 1318 {LinkADRs} Pow=1, DR=1, Mask=1
40 6B 3A D1 00 A2 19 01 03 07 E0 00 9E 93 D6 B0 DC
BU 1 0 12 125 -1.4 4.84s - 011A 1 0 - 0 0 224 U 1155 DlCounter(158) Cnt=158
40 6B 3A D1 00 80 1A 01 E0 00 9E 31 A4 9B F1
BU 0 0 12 125 -1.4 5.01s - 011B 1 0 - 0 0 224 U 1155 DlCounter(158) Cnt=158
40 6B 3A D1 00 80 1B 01 E0 00 9E F7 FD 2A B7
BU 1 0 12 125 -1.3 5.01s - 011C 1 0 - 0 0 224 U 1155 DlCounter(158) Cnt=158
40 6B 3A D1 00 80 1C 01 E0 00 9E E3 24 FC 55
-> Measure the maximum power

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

MAX - MIN = 13.033333 dB, higher than 6 dB

[Elapsed Time] 00:00:56

### 15.3 Required Datarate SF12BW125

[ TEST PURPOSE ]

To test adaptive data rate functionality  
: 15.3 Required Datarate SF12BW125

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	1	0	12	125	-1.4	5.01s	-	011E	1	0	-	0	0	224	U	1155	DlCounter(158)	Cnt=158
40 6B 3A D1 00 80 1E 01 E0 00 9E DE F7 EB D9																		
[Required Data Rate SF12BW125]																		
BU	2	0	12	125	-1.4	5.01s	-	011F	1	0	-	0	0	224	U	1155	DlCounter(158)	Cnt=158
40 6B 3A D1 00 80 1F 01 E0 00 9E 17 C1 B3 B1																		
KD	2	0	12	125	-36.0		----	1	00A4	1	0	0	-	-	000	C	1318	LinkADRRReq
Pow=0,DR=0,Mask=0007h,MC=0,NbTrans=1																		
A0	6B	3A	D1	00	80	A4	00	00	03	00	07	00	01	1F	29	46	27	
BU	0	0	12	125	-1.4	5.17s	-	0120	1	1	-	0	0	224	U	1318	{LinkADRs}	Pow=1, DR=1, Mask=1
40 6B 3A D1 00 A2 20 01 03 07 E0 00 9F 1C EA 8A 51																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT accepted LinkADRRReq to set data rate to SF12BW125 correctly

[Elapsed Time] 00:00:19

## 15.4 Required Datarate SF11BW125

[ TEST PURPOSE ]

To test adaptive data rate functionality  
: 15.4 Required Datarate SF11BW125

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
[Required Data Rate SF11BW125]																		
BU	1	0	12	125	-1.4	10.1s	-	0123	1	0	-	0	0	224	U	1155	DlCounter(159)	Cnt=159
40 6B 3A D1 00 80 23 01 E0 00 9F 66 0B 3B 1A																		
KD	1	0	12	125	-36.0	----	1	00A5	1	0	0	-	-	000	C	1318	LinkADRRReq	
Pow=0,DR=1,Mask=0007h,MC=0,NbTrans=1																		
A0	6B	3A	D1	00	80	A5	00	00	03	10	07	00	01	CE	0E	31	B1	
BU	1	1	11	125	-1.4	4.51s	-	0124	1	1	-	0	0	224	U	659	{LinkADRAns}	Pow=1, DR=1, Mask=1
40 6B 3A D1 00 A2 24 01 03 07 E0 00 A0 B0 A3 0A 94																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT accepted LinkADRRReq to set data rate to SF11BW125 correctly

[Elapsed Time] 00:00:16

## 15.5 Required Datarate SF10BW125

[ TEST PURPOSE ]

To test adaptive data rate functionality  
: 15.5 Required Datarate SF10BW125

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	1	1	11	125	-1.4	5.01s	-	0126	1	0	-	0	0	224	U	659	DlCounter(160)	Cnt=160
40 6B 3A D1 00 80 26 01 E0 00 A0 F2 2D CD BF																		
[Required Data Rate SF10BW125]																		
BU	1	1	11	125	-1.4	5.01s	-	0127	1	0	-	0	0	224	U	659	DlCounter(160)	Cnt=160
40 6B 3A D1 00 80 27 01 E0 00 A0 97 49 00 E4																		
KD	1	1	11	125	-36.0	----	1	00A6	1	0	0	-	-	000	C	659	LinkADRRReq	
Pow=0,DR=2,Mask=0007h,MC=0,NbTrans=1																		
A0	6B	3A	D1	00	80	A6	00	00	03	20	07	00	01	72	DD	BA	22	
BU	1	2	10	125	-1.4	4.68s	-	0128	1	1	-	0	0	224	U	329	{LinkADRAns}	Pow=1, DR=1, Mask=1
40 6B 3A D1 00 A2 28 01 03 07 E0 00 A1 D1 70 40 A7																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT accepted LinkADRRReq to set data rate to SF10BW125 correctly

[Elapsed Time] 00:00:19



## 15.6 Required Datarate SF9BW125

[ TEST PURPOSE ]

To test adaptive data rate functionality  
: 15.6 Required Datarate SF9BW125

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	1	2	10	125	-1.4	5.01s	-	012A	1	0	-	0	0	224	U	329	DlCounter(161)	Cnt=161
40	6B	3A	D1	00	80	2A	01	E0	00	A1	3C	D8	A5	7E				

[Required Data Rate SF9BW125]

BU	0	2	10	125	-1.4	5.01s	-	012B	1	0	-	0	0	224	U	329	DlCounter(161)	Cnt=161
----	---	---	----	-----	------	-------	---	------	---	---	---	---	---	-----	---	-----	----------------	---------

40 6B 3A D1 00 80 2B 01 E0 00 A1 1E 46 54 50

KD 0 2 10 125 -36.0 ---- 1 00A7 1 0 0 - - 000 C 329 LinkADRRReq

Pow=0,DR=3,Mask=0007h,MC=0,NbTrans=1

A0 6B 3A D1 00 80 A7 00 00 03 30 07 00 01 74 E7 5B 4D

BU	2	3	9	125	-1.4	4.84s	-	012C	1	1	-	0	0	224	U	164	{LinkADRAns}	Pow=1, DR=1, Mask=1
----	---	---	---	-----	------	-------	---	------	---	---	---	---	---	-----	---	-----	--------------	---------------------

40 6B 3A D1 00 A2 2C 01 03 07 E0 00 A2 14 47 E3 47

BU	2	3	9	125	-1.4	5.01s	-	012D	1	0	-	0	0	224	U	164	DlCounter(162)	Cnt=162
----	---	---	---	-----	------	-------	---	------	---	---	---	---	---	-----	---	-----	----------------	---------

40 6B 3A D1 00 80 2D 01 E0 00 A2 EC C3 38 C2

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT accepted LinkADRRReq to set data rate to SF9BW125 correctly

[Elapsed Time] 00:00:20

## 15.7 Required Datarate SF8BW125

[ TEST PURPOSE ]

To test adaptive data rate functionality  
: 15.7 Required Datarate SF8BW125

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	1	3	9	125	-1.4	10.1s	-	012F	1	0	-	0	0	224	U	164	DlCounter(162)	Cnt=162
40	6B	3A	D1	00	80	2F	01	E0	00	A2	B6	58	2B	73				

[Required Data Rate SF8BW125]

BU	1	3	9	125	-1.4	5.01s	-	0130	1	0	-	0	0	224	U	164	DlCounter(162)	Cnt=162
----	---	---	---	-----	------	-------	---	------	---	---	---	---	---	-----	---	-----	----------------	---------

40 6B 3A D1 00 80 30 01 E0 00 A2 B0 84 83 12

KD 1 3 9 125 -36.0 ---- 1 00A8 1 0 0 - - 000 C 164 LinkADRRReq

Pow=0,DR=4,Mask=0007h,MC=0,NbTrans=1

A0 6B 3A D1 00 80 A8 00 00 03 40 07 00 01 65 C8 AF EA

BU	2	4	8	125	-1.4	4.93s	-	0131	1	1	-	0	0	224	U	92	{LinkADRAns}	Pow=1, DR=1, Mask=1
----	---	---	---	-----	------	-------	---	------	---	---	---	---	---	-----	---	----	--------------	---------------------

40 6B 3A D1 00 A2 31 01 03 07 E0 00 A3 2C 64 C4 1F

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT accepted LinkADRRReq to set data rate to SF8BW125 correctly

[Elapsed Time] 00:00:19

### 15.8 Required Datarate SF7BW125

[ TEST PURPOSE ]

To test adaptive data rate functionality  
: 15.8 Required Datarate SF7BW125

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS	
BU	1	4	8	125	-1.4	5.01s	-	0133	1	0	-	0	0	224	U	92	DICounter(163)	Cnt=163	
40 6B 3A D1 00 80 33 01 E0 00 A3 DE 9E D3 A7																			
[Required Data Rate SF7BW125]																			
BU	0	4	8	125	-1.4	5.01s	-	0134	1	0	-	0	0	224	U	92	DICounter(163)	Cnt=163	
40 6B 3A D1 00 80 34 01 E0 00 A3 28 28 2B 97																			
KD	0	4	8	125	-36.0		----	1	00A9	1	0	0	-	-	000	C	92	LinkADDRReq	
Pow=0, DR=5, Mask=0007h, MC=0, NbTrans=1																			
A0 6B 3A D1 00 80 A9 00 00 03 50 07 00 01 A7 B3 52 6F																			
BU	1	5	7	125	-1.4	4.97s	-	0135	1	1	-	0	0	224	U	51	{LinkADRAns}	Pow=1, DR=1, Mask=1	
40 6B 3A D1 00 A2 35 01 03 07 E0 00 A4 66 D4 17 6A																			

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT accepted LinkADDRReq to set data rate to SF7BW125 correctly

[Elapsed Time] 00:00:19

### 15.9 Optional Datarate SF7BW250

[ TEST PURPOSE ]

To test adaptive data rate functionality  
: 15.9 Optional Datarate SF7BW250

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS	
BU	1	5	7	125	-1.4	5.01s	-	0137	1	0	-	0	0	224	U	46	DICounter(164)	Cnt=164	
40 6B 3A D1 00 80 37 01 E0 00 A4 FF 56 54 8F																			
[Required Data Rate SF7BW250]																			
BU	0	5	7	125	-1.4	5.01s	-	0138	1	0	-	0	0	224	U	46	DICounter(164)	Cnt=164	
40 6B 3A D1 00 80 38 01 E0 00 A4 39 1F 8A 89																			
KD	0	5	7	125	-36.0		----	1	00AA	1	0	0	-	-	000	U	51	NewChannelReq	
f[4]=867.300, MaxDR=7, MinDR=0																			
60 6B 3A D1 00 80 AA 00 00 07 04 E8 56 84 70 1F A8 F2 F1																			
BU	4	5	7	125	-1.5	5.01s	-	0139	1	0	-	0	0	224	U	51	{NewChannelAns}	Ch=1, DR=1	
40 6B 3A D1 00 82 39 01 07 03 E0 00 A5 97 42 49 61																			
KD	4	5	7	125	-36.0		----	1	00AB	1	0	0	-	-	000	U	51	LinkADDRReq	
Pow=1, DR=6, Mask=0010h, MC=0, NbTrans=1																			
60 6B 3A D1 00 80 AB 00 00 03 61 10 00 01 D3 88 A3 3F																			
BU	4	6	7	250	-3.2	4.98s	-	013A	1	0	-	0	0	224	U	25	{LinkADRAns}	Pow=1, DR=1, Mask=1	
40 6B 3A D1 00 82 3A 01 03 07 E0 00 A6 D9 52 81 6F																			
KD	R2	0	12	125	-36.0		----	1	00AC	1	0	0	-	-	000	U	1318	LinkADDRReq	
Pow=0, DR=2, Mask=0007h, MC=0, NbTrans=1																			
60 6B 3A D1 00 80 AC 00 00 03 20 07 00 01 09 8C AD 45																			

BU 2 2 10 125 -1.4 5.31s - 013B 1 0 - 0 0 224 U 329 {LinkADRsAns} Pow=1, DR=1, Mask=1  
40 6B 3A D1 00 82 3B 01 03 07 E0 00 A7 CE 80 4E 55

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT accepted LinkADRRReq to set data rate to SF7BW250 correctly

[Elapsed Time] 00:00:28

## 15.10 Optional Datarate FSK50

[ TEST PURPOSE ]

To test adaptive data rate functionality  
: 15.10 Optional Datarate FSK50

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	1	2	10	125	-1.4	5.01s	-	013D	1	0	-	0	0	224	U	329	DlCounter(167)	Cnt=167
40 6B 3A D1 00 80 3D 01 E0 00 A7 11 98 F4 08																		
[Required Data Rate FSK50]																		
BU	2	2	10	125	-1.4	5.01s	-	013E	1	0	-	0	0	224	U	329	DlCounter(167)	Cnt=167
40 6B 3A D1 00 80 3E 01 E0 00 A7 7D 11 78 56																		
KD	2	2	10	125	-36.0	----	1	00AD	1	0	0	-	-	000	U	329	NewChannelReq	
f[4]=867.300,MaxDR=7,MinDR=0																		
60	6B	3A	D1	00	80	AD	00	00	07	04	E8	56	84	70	B7	10	15	58
BU	0	2	10	125	-1.4	5.01s	-	013F	1	0	-	0	0	224	U	329	{NewChannelAns}	Ch=1,DR=1
40 6B 3A D1 00 82 3F 01 07 03 E0 00 A8 08 BA 10 4F																		
KD	0	2	10	125	-36.0	----	1	00AE	1	0	0	-	-	000	U	329	LinkADRRReq	
Pow=1,DR=7,Mask=0010h,MC=0,NbTrans=1																		
60	6B	3A	D1	00	80	AE	00	00	03	71	10	00	01	B6	EA	FA	86	
BU	4	7	FSK	---	-3.2	4.68s	-	0140	1	0	-	0	0	224	U	5	{LinkADRsAns}	Pow=1, DR=1, Mask=1
40 6B 3A D1 00 82 40 01 03 07 E0 00 A9 53 F7 4F 73																		
KD	R2	0	12	125	-36.0	----	1	00AF	1	0	0	-	-	000	U	1318	LinkADRRReq	
Pow=0,DR=2,Mask=0007h,MC=0,NbTrans=1																		
60	6B	3A	D1	00	80	AF	00	00	03	20	07	00	01	35	48	F4	CD	
BU	0	2	10	125	-1.4	5.33s	-	0141	1	0	-	0	0	224	U	329	{LinkADRsAns}	Pow=1, DR=1, Mask=1
40 6B 3A D1 00 82 41 01 03 07 E0 00 AA CB 0A 16 A0																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT accepted LinkADRRReq to set data rate to FSK50 correctly

[Elapsed Time] 00:00:28

## 15.11 Channel Mask

[ TEST PURPOSE ]

To test adaptive data rate functionality  
 : 15.11 Channel Mask

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS	
BU	1	2	10	125	-1.4	5.01s	-	0143	1	0	-	0	0	224	U	329	DlCounter(170)	Cnt=170	
40 6B 3A D1 00 80 43 01 E0 00 AA 4A 2D ED 9A																			
[Channel Mask]																			
BU	2	2	10	125	-1.4	5.01s	-	0144	1	0	-	0	0	224	U	329	DlCounter(170)	Cnt=170	
40 6B 3A D1 00 80 44 01 E0 00 AA 74 2F 52 85																			
KD	2	2	10	125	-36.0		----	1	00B0	1	0	0	-	-	000	C	370	NewChannelReq	
f[3]=867.100,MaxDR=7,MinDR=0																			
KD LinkADRReq																			
Pow=0,DR=2,Mask=0007h,MC=0,NbTrans=1																			
A0 6B 3A D1 00 80 B0 00 00 07 03 18 4F 84 70 03 20 07 00 01 B4 18 89 8D																			
-> Add a new channel and disable it																			
BU	1	2	10	125	-1.4	5.01s	-	0145	1	1	-	0	0	224	U	329	{NewChannelAns}	Ch=1,DR=1	
BU {LinkADRAns} Pow=1, DR=1, Mask=1																			
40 6B 3A D1 00 A4 45 01 07 03 03 07 E0 00 AB 41 F8 8F 42																			
-> Wait 20 packets to monitor channel usage																			
BU	0	2	10	125	-1.4	5.01s	-	0146	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 46 01 E0 00 AB D2 7D 5E C1																			
BU	0	2	10	125	-1.4	5.01s	-	0147	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 47 01 E0 00 AB 04 DC A2 D5																			
BU	2	2	10	125	-1.4	5.01s	-	0148	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 48 01 E0 00 AB 50 FD FB EB																			
BU	1	2	10	125	-1.4	5.01s	-	0149	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 49 01 E0 00 AB 91 B2 03 35																			
BU	1	2	10	125	-1.4	5.01s	-	014A	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 4A 01 E0 00 AB DC 89 61 66																			
BU	1	2	10	125	-1.4	5.01s	-	014B	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 4B 01 E0 00 AB FA 37 E3 DF																			
BU	2	2	10	125	-1.4	10.1s	-	014D	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 4D 01 E0 00 AB F4 5A 38 B1																			
BU	2	2	10	125	-1.4	5.01s	-	014E	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 4E 01 E0 00 AB 3D 87 74 C2																			
BU	2	2	10	125	-1.4	5.01s	-	014F	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 4F 01 E0 00 AB 4D ED 1A BA																			
BU	2	2	10	125	-1.4	5.01s	-	0150	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 50 01 E0 00 AB C5 B6 E1 9B																			
BU	2	2	10	125	-1.4	5.01s	-	0151	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 51 01 E0 00 AB AD BC 05 00																			
BU	1	2	10	125	-1.4	5.01s	-	0152	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 52 01 E0 00 AB C4 41 B8 CC																			
BU	2	2	10	125	-1.4	5.01s	-	0153	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 53 01 E0 00 AB 66 82 E8 32																			
BU	1	2	10	125	-1.4	5.01s	-	0154	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 54 01 E0 00 AB 39 7F A2 BC																			
BU	2	2	10	125	-1.3	5.01s	-	0155	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 55 01 E0 00 AB C0 49 35 19																			
BU	1	2	10	125	-1.3	5.01s	-	0156	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 56 01 E0 00 AB 70 B6 E2 FE																			
BU	2	2	10	125	-1.4	5.01s	-	0157	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 57 01 E0 00 AB F8 EB 9D D1																			
BU	2	2	10	125	-1.4	5.01s	-	0158	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 58 01 E0 00 AB 24 37 C1 19																			
BU	1	2	10	125	-1.4	5.01s	-	0159	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 59 01 E0 00 AB C6 FC BA 76																			
BU	1	2	10	125	-1.4	5.01s	-	015A	1	0	-	0	0	224	U	329	DlCounter(171)	Cnt=171	
40 6B 3A D1 00 80 5A 01 E0 00 AB 00 7A 55 88																			
KD	1	2	10	125	-36.0		----	1	00B1	1	0	0	-	-	000	C	329	LinkADRReq	
Pow=0,DR=2,Mask=000Fh,MC=0,NbTrans=1																			
A0 6B 3A D1 00 80 B1 00 00 03 20 0F 00 01 43 4C 98 93																			
-> Enable the new channel																			
BU	0	2	10	125	-1.4	5.01s	-	015B	1	1	-	0	0	224	U	329	{LinkADRAns}	Pow=1, DR=1, Mask=1	
40 6B 3A D1 00 A2 5B 01 03 07 E0 00 AC DB 75 C8 D1																			
BU	1	2	10	125	-1.4	5.01s	-	015C	1	0	-	0	0	224	U	329	DlCounter(172)	Cnt=172	
40 6B 3A D1 00 80 5C 01 E0 00 AC 5A 29 F2 C2																			
BU	2	2	10	125	-1.4	5.01s	-	015D	1	0	-	0	0	224	U	329	DlCounter(172)	Cnt=172	
40 6B 3A D1 00 80 5D 01 E0 00 AC A5 BB 5A 15																			
BU	3	2	10	125	-1.4	5.01s	-	015E	1	0	-	0	0	224	U	329	DlCounter(172)	Cnt=172	
40 6B 3A D1 00 80 5E 01 E0 00 AC C2 55 43 25																			
-> Got a packet on the new channel																			
KD	3	2	10	125	-36.0		----	1	00B2	1	0	0	-	-	000	C	329	LinkADRReq	
Pow=0,DR=2,Mask=0000h,MC=0,NbTrans=1																			
A0 6B 3A D1 00 80 B2 00 00 03 20 00 00 01 F1 6F 49 69																			

```
-> Try to remove all channels
BU 0 2 10 125 -1.3 5.01s - 015F 1 1 - 0 0 224 U 329 {LinkADRs} Pow=1, DR=0, Mask=0
40 6B 3A D1 00 A2 5F 01 03 04 E0 00 AD 40 8D 0E 0F
```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT used channels according to the server's request correctly

[Elapsed Time] 00:02:29

## 15.12 Redundancy

[ TEST PURPOSE ]

To test adaptive data rate functionality  
: 15.12 Redundancy

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	3	2	10	125	-1.4	5.01s	-	0161	1	0	-	0	0	224	U	329	DICounter(173)	Cnt=173
40 6B 3A D1 00 80 61 01 E0 00 AD 9B 3D C8 BB																		
[Redundancy]																		
BU	3	2	10	125	-1.4	5.01s	-	0162	1	0	-	0	0	224	U	329	DICounter(173)	Cnt=173
40 6B 3A D1 00 80 62 01 E0 00 AD C7 15 51 34																		
KD	3	2	10	125	-36.0	----	1	00B3	1	0	0	-	-	224	U	288	UnconfirmedFrame	
60 6B 3A D1 00 80 B3 00 E0 03 1B 4D 02 D3																		
BU	0	2	10	125	-1.4	5.01s	-	0163	1	0	-	0	0	224	U	329	DICounter(174)	Cnt=174
40 6B 3A D1 00 80 63 01 E0 00 AE 1F B2 59 83																		
KD	0	2	10	125	-36.0	----	1	00B4	1	0	0	-	-	000	C	329	LinkADRRReq	
Pow=0,DR=2,Mask=0007h,MC=0,NbTrans=2																		
A0 6B 3A D1 00 80 B4 00 00 03 20 07 00 02 34 94 79 B7																		
-> Configure EndDevice to send each packet twice																		
BU	1	2	10	125	-1.4	5.01s	-	0164	1	1	-	0	0	224	U	329	{LinkADRs}	Pow=1, DR=1, Mask=1
40 6B 3A D1 00 A2 64 01 03 07 E0 00 AF F2 EA CE 9A																		
BU	0	2	10	125	-1.4	2.57s	-	0164	1	1	-	0	0	224	U	329	{LinkADRs}	Pow=1, DR=1, Mask=1
40 6B 3A D1 00 A2 64 01 03 07 E0 00 AF F2 EA CE 9A																		
BU	0	2	10	125	-1.4	7.44s	-	0165	1	0	-	0	0	224	U	329	DICounter(175)	Cnt=175
40 6B 3A D1 00 80 65 01 E0 00 AF 44 64 CC 64																		
BU	1	2	10	125	-1.4	2.57s	-	0165	1	0	-	0	0	224	U	329	DICounter(175)	Cnt=175
40 6B 3A D1 00 80 65 01 E0 00 AF 44 64 CC 64																		
-> Got the same packet as previous																		
BU	1	2	10	125	-1.4	7.44s	-	0166	1	0	-	0	0	224	U	329	DICounter(175)	Cnt=175
40 6B 3A D1 00 80 66 01 E0 00 AF 90 7B AF 9E																		
KD	1	2	10	125	-36.0	----	1	00B5	1	0	0	-	-	000	C	329	LinkADRRReq	
Pow=0,DR=2,Mask=0007h,MC=0,NbTrans=1																		
A0 6B 3A D1 00 80 B5 00 00 03 20 07 00 01 BD 64 83 C6																		
-> Restore defaults																		
BU	1	2	10	125	-1.4	5.01s	-	0167	1	1	-	0	0	224	U	329	{LinkADRs}	Pow=1, DR=1, Mask=1
40 6B 3A D1 00 A2 67 01 03 07 E0 00 B0 49 D4 B8 9D																		

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT retransmitted the uplink packet with message type UnconfirmedUp according to NbTrans

[Elapsed Time] 00:00:49

## 15.13 ADRackReq

[ TEST PURPOSE ]

To test adaptive data rate functionality  
: 15.13 ADRackReq

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS	
BU	1	2	10	125	-1.3	5.01s	-	0169	1	0	-	0	0	224	U	329	DlCounter(176)	Cnt=176	
40 6B 3A D1 00 80 69 01 E0 00 B0 C2 E4 B2 D3																			
[ADRAckReq]																			
BU	1	2	10	125	-1.4	5.01s	-	016A	1	0	-	0	0	224	U	329	DlCounter(176)	Cnt=176	
40 6B 3A D1 00 80 6A 01 E0 00 B0 82 F1 D9 E5																			
KD	1	2	10	125	-36.0	----	1	00B6	1	0	0	-	-	224	U	288	UnconfirmedFrame		
60 6B 3A D1 00 80 B6 00 E0 03 8D C9 E8 38																			
BU	2	2	10	125	-1.4	5.01s	-	016B	1	0	-	0	0	224	U	329	DlCounter(177)	Cnt=177	
40 6B 3A D1 00 80 6B 01 E0 00 B1 B6 99 70 8E																			
KD	2	2	10	125	-36.0	----	1	00B7	1	0	0	-	-	000	C	329	LinkADRReq		
Pow=0,DR=5,Mask=0007h,MC=0,NbTrans=1																			
A0	6B	3A	D1	00	80	B7	00	00	03	50	07	00	01	81	86	81	E0		
BU	0	5	7	125	-1.4	4.73s	-	016C	1	1	-	0	0	224	U	51	{LinkADRAns}	Pow=1, DR=1, Mask=1	
40 6B 3A D1 00 A2 6C 01 03 07 E0 00 B2 69 0B 0E DF																			
-> Wait for 62 (+/-2) uplink packets (ADR_ACK_LIMIT)																			
BU	1	5	7	125	-1.4	5.00s	-	016D	1	0	-	0	0	224	U	46	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 80 6D 01 E0 00 B2 EC 72 DF 38																			
-> ADR ACK Req testing 2 over 64																			
BU	1	5	7	125	-1.4	5.01s	-	016E	1	0	-	0	0	224	U	46	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 80 6E 01 E0 00 B2 94 08 24 38																			
-> ADR ACK Req testing 3 over 64																			
BU	1	5	7	125	-1.4	5.01s	-	016F	1	0	-	0	0	224	U	46	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 80 6F 01 E0 00 B2 BD F0 3C E7																			
-> ADR ACK Req testing 4 over 64																			
BU	0	5	7	125	-1.4	5.01s	-	0170	1	0	-	0	0	224	U	46	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 80 70 01 E0 00 B2 FD ED 87 A4																			
-> ADR ACK Req testing 5 over 64																			
BU	2	5	7	125	-1.4	5.01s	-	0171	1	0	-	0	0	224	U	46	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 80 71 01 E0 00 B2 9A 97 46 92																			
-> ADR ACK Req testing 6 over 64																			
BU	0	5	7	125	-1.4	5.01s	-	0172	1	0	-	0	0	224	U	46	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 80 72 01 E0 00 B2 78 9B F9 B5																			
-> ADR ACK Req testing 7 over 64																			
BU	0	5	7	125	-1.4	5.01s	-	0173	1	0	-	0	0	224	U	46	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 80 73 01 E0 00 B2 69 36 72 17																			
-> ADR ACK Req testing 8 over 64																			
BU	0	5	7	125	-1.4	5.01s	-	0174	1	0	-	0	0	224	U	46	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 80 74 01 E0 00 B2 C1 FD 68 9C																			
-> ADR ACK Req testing 9 over 64																			
BU	2	5	7	125	-1.4	5.01s	-	0175	1	0	-	0	0	224	U	46	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 80 75 01 E0 00 B2 45 6F AE B5																			
-> ADR ACK Req testing 10 over 64																			
BU	0	5	7	125	-1.4	5.01s	-	0176	1	0	-	0	0	224	U	46	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 80 76 01 E0 00 B2 5D 25 0F EC																			
-> ADR ACK Req testing 11 over 64																			
BU	0	5	7	125	-1.4	5.01s	-	0177	1	0	-	0	0	224	U	46	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 80 77 01 E0 00 B2 F1 D1 6D BB																			
-> ADR ACK Req testing 12 over 64																			
BU	2	5	7	125	-1.4	5.01s	-	0178	1	0	-	0	0	224	U	46	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 80 78 01 E0 00 B2 75 0E 4A 9C																			
-> ADR ACK Req testing 13 over 64																			
BU	1	5	7	125	-1.4	5.01s	-	0179	1	0	-	0	0	224	U	46	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 80 79 01 E0 00 B2 46 0B 1D B5																			
-> ADR ACK Req testing 14 over 64																			
BU	1	5	7	125	-1.4	5.01s	-	017A	1	0	-	0	0	224	U	46	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 80 7A 01 E0 00 B2 13 38 74 01																			
-> ADR ACK Req testing 15 over 64																			
BU	0	5	7	125	-1.4	5.01s	-	017B	1	0	-	0	0	224	U	46	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 80 7B 01 E0 00 B2 7C AE FE 44																			
-> ADR ACK Req testing 16 over 64																			
BU	0	5	7	125	-1.4	5.01s	-	017C	1	0	-	0	0	224	U	46	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 80 7C 01 E0 00 B2 10 AA CD 52																			

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-> ADR ACK Req testing 17 over 64
BU 2 5 7 125 -1.4 5.01s - 017D 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 7D 01 E0 00 B2 3F 39 3F C1
-> ADR ACK Req testing 18 over 64
BU 1 5 7 125 -1.4 5.01s - 017E 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 7E 01 E0 00 B2 DC 3B 86 73
-> ADR ACK Req testing 19 over 64
BU 0 5 7 125 -1.4 5.01s - 017F 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 7F 01 E0 00 B2 58 B0 38 F8
-> ADR ACK Req testing 20 over 64
BU 0 5 7 125 -1.4 5.01s - 0180 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 80 01 E0 00 B2 46 E2 E9 87
-> ADR ACK Req testing 21 over 64
BU 1 5 7 125 -1.4 5.01s - 0181 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 81 01 E0 00 B2 A9 F5 7F 09
-> ADR ACK Req testing 22 over 64
BU 1 5 7 125 -1.4 5.01s - 0182 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 82 01 E0 00 B2 42 81 06 2B
-> ADR ACK Req testing 23 over 64
BU 1 5 7 125 -1.4 5.01s - 0183 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 83 01 E0 00 B2 28 3C C1 E2
-> ADR ACK Req testing 24 over 64
BU 2 5 7 125 -1.4 5.01s - 0184 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 84 01 E0 00 B2 26 9B F5 EA
-> ADR ACK Req testing 25 over 64
BU 2 5 7 125 -1.4 5.01s - 0185 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 85 01 E0 00 B2 C3 F7 CF F2
-> ADR ACK Req testing 26 over 64
BU 0 5 7 125 -1.4 5.01s - 0186 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 86 01 E0 00 B2 CC 57 0B 85
-> ADR ACK Req testing 27 over 64
BU 2 5 7 125 -1.4 5.01s - 0187 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 87 01 E0 00 B2 E4 2A D5 9A
-> ADR ACK Req testing 28 over 64
BU 2 5 7 125 -1.4 5.01s - 0188 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 88 01 E0 00 B2 72 F9 B9 09
-> ADR ACK Req testing 29 over 64
BU 0 5 7 125 -1.5 5.01s - 0189 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 89 01 E0 00 B2 79 87 47 C4
-> ADR ACK Req testing 30 over 64
BU 2 5 7 125 -1.5 5.01s - 018A 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 8A 01 E0 00 B2 0D 92 5E 75
-> ADR ACK Req testing 31 over 64
BU 2 5 7 125 -1.5 5.01s - 018B 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 8B 01 E0 00 B2 22 4F 4A 85
-> ADR ACK Req testing 32 over 64
BU 2 5 7 125 -1.4 5.01s - 018C 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 8C 01 E0 00 B2 DA E8 5D B0
-> ADR ACK Req testing 33 over 64
BU 2 5 7 125 -1.5 5.01s - 018D 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 8D 01 E0 00 B2 A0 9C D2 97
-> ADR ACK Req testing 34 over 64
BU 2 5 7 125 -1.4 5.01s - 018E 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 8E 01 E0 00 B2 84 12 D6 87
-> ADR ACK Req testing 35 over 64
BU 0 5 7 125 -1.4 5.01s - 018F 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 8F 01 E0 00 B2 99 DF 67 D0
-> ADR ACK Req testing 36 over 64
BU 0 5 7 125 -1.4 5.01s - 0190 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 90 01 E0 00 B2 C1 40 AA 10
-> ADR ACK Req testing 37 over 64
BU 2 5 7 125 -1.4 5.01s - 0191 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 91 01 E0 00 B2 7F 9A 95 28
-> ADR ACK Req testing 38 over 64
BU 0 5 7 125 -1.4 5.01s - 0192 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 92 01 E0 00 B2 2F 33 B8 3B
-> ADR ACK Req testing 39 over 64
BU 0 5 7 125 -1.4 5.01s - 0193 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 93 01 E0 00 B2 D6 F1 3C 25
-> ADR ACK Req testing 40 over 64
BU 2 5 7 125 -1.4 5.01s - 0194 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 94 01 E0 00 B2 4F 30 D4 80
-> ADR ACK Req testing 41 over 64
BU 0 5 7 125 -1.4 5.01s - 0195 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 95 01 E0 00 B2 E2 F4 36 9F
-> ADR ACK Req testing 42 over 64
BU 2 5 7 125 -1.4 5.01s - 0196 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 80 96 01 E0 00 B2 0F C3 8F 1B
-> ADR ACK Req testing 43 over 64

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BU 0 5 7 125 -1.4 5.01s - 0197 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 44 over 64
BU 1 5 7 125 -1.4 5.01s - 0198 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 45 over 64
BU 2 5 7 125 -1.4 5.01s - 0199 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 46 over 64
BU 1 5 7 125 -1.4 5.01s - 019A 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 47 over 64
BU 2 5 7 125 -1.4 5.01s - 019B 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 48 over 64
BU 0 5 7 125 -1.4 5.01s - 019C 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 49 over 64
BU 0 5 7 125 -1.4 5.01s - 019D 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 50 over 64
BU 2 5 7 125 -1.4 5.01s - 019E 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 51 over 64
BU 0 5 7 125 -1.4 5.01s - 019F 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 52 over 64
BU 0 5 7 125 -1.5 5.01s - 01A0 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 53 over 64
BU 2 5 7 125 -1.5 5.01s - 01A1 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 54 over 64
BU 2 5 7 125 -1.4 5.01s - 01A2 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 55 over 64
BU 1 5 7 125 -1.4 5.01s - 01A3 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 56 over 64
BU 0 5 7 125 -1.4 5.01s - 01A4 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 57 over 64
BU 1 5 7 125 -1.4 5.01s - 01A5 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 58 over 64
BU 0 5 7 125 -1.4 5.01s - 01A6 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 59 over 64
BU 0 5 7 125 -1.4 5.01s - 01A7 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 60 over 64
BU 0 5 7 125 -1.4 5.01s - 01A8 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 61 over 64
BU 1 5 7 125 -1.5 5.01s - 01A9 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 62 over 64
BU 2 5 7 125 -1.4 5.01s - 01AA 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 63 over 64
BU 0 5 7 125 -1.4 5.01s - 01AB 1 0 - 0 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 64 over 64
-> Got 64 packets with SF7 and ADR_ACK_LIMIT
-> Wait for 32 (+/-2) uplink packets (SF7, ADR_ACK_DELAY)
BU 1 5 7 125 -1.4 5.01s - 01AC 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
BU 2 5 7 125 -1.5 5.01s - 01AD 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 2 over 32
BU 2 5 7 125 -1.4 5.01s - 01AE 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 3 over 32
BU 2 5 7 125 -1.4 5.01s - 01AF 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 4 over 32
BU 2 5 7 125 -1.4 5.01s - 01B0 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
-> ADR ACK Req testing 5 over 32

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BU 0 5 7 125 -1.5 5.01s - 01B1 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 B1 01 E0 00 B2 C8 4E B3 F0
-> ADR ACK Req testing 6 over 32
BU 1 5 7 125 -1.4 5.01s - 01B2 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 B2 01 E0 00 B2 61 CC F5 7C
-> ADR ACK Req testing 7 over 32
BU 0 5 7 125 -1.4 5.01s - 01B3 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 B3 01 E0 00 B2 65 19 13 E5
-> ADR ACK Req testing 8 over 32
BU 0 5 7 125 -1.4 5.01s - 01B4 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 B4 01 E0 00 B2 B0 DD 73 8F
-> ADR ACK Req testing 9 over 32
BU 0 5 7 125 -1.5 5.01s - 01B5 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 B5 01 E0 00 B2 D3 8D A2 C9
-> ADR ACK Req testing 10 over 32
BU 1 5 7 125 -1.5 5.01s - 01B6 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 B6 01 E0 00 B2 EA 24 B8 49
-> ADR ACK Req testing 11 over 32
BU 2 5 7 125 -1.4 5.01s - 01B7 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 B7 01 E0 00 B2 1F 33 CD D4
-> ADR ACK Req testing 12 over 32
BU 1 5 7 125 -1.4 5.01s - 01B8 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 B8 01 E0 00 B2 B3 C0 FA A7
-> ADR ACK Req testing 13 over 32
BU 0 5 7 125 -1.5 5.01s - 01B9 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 B9 01 E0 00 B2 C1 97 19 55
-> ADR ACK Req testing 14 over 32
BU 1 5 7 125 -1.4 5.01s - 01BA 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 BA 01 E0 00 B2 6D 23 05 D0
-> ADR ACK Req testing 15 over 32
BU 2 5 7 125 -1.4 5.01s - 01BB 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 BB 01 E0 00 B2 6A 69 29 33
-> ADR ACK Req testing 16 over 32
BU 1 5 7 125 -1.4 5.01s - 01BC 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 BC 01 E0 00 B2 B5 A1 2E 70
-> ADR ACK Req testing 17 over 32
BU 2 5 7 125 -1.3 5.01s - 01BD 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 BD 01 E0 00 B2 16 1B 4B FA
-> ADR ACK Req testing 18 over 32
BU 1 5 7 125 -1.4 5.01s - 01BE 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 BE 01 E0 00 B2 16 14 54 61
-> ADR ACK Req testing 19 over 32
BU 1 5 7 125 -1.4 5.01s - 01BF 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 BF 01 E0 00 B2 9A EA 25 CB
-> ADR ACK Req testing 20 over 32
BU 2 5 7 125 -1.4 5.01s - 01C0 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 C0 01 E0 00 B2 C5 19 E8 82
-> ADR ACK Req testing 21 over 32
BU 1 5 7 125 -1.4 5.01s - 01C1 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 C1 01 E0 00 B2 8D F8 73 AE
-> ADR ACK Req testing 22 over 32
BU 0 5 7 125 -1.4 5.01s - 01C2 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 C2 01 E0 00 B2 7A 65 8F 79
-> ADR ACK Req testing 23 over 32
BU 1 5 7 125 -1.4 5.01s - 01C3 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 C3 01 E0 00 B2 EF 1C 49 5E
-> ADR ACK Req testing 24 over 32
BU 1 5 7 125 -1.4 5.01s - 01C4 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 C4 01 E0 00 B2 20 CC 4F 19
-> ADR ACK Req testing 25 over 32
BU 0 5 7 125 -1.4 5.01s - 01C5 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 C5 01 E0 00 B2 AF C7 B3 9B
-> ADR ACK Req testing 26 over 32
BU 0 5 7 125 -1.4 5.01s - 01C6 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 C6 01 E0 00 B2 89 57 9A 1C
-> ADR ACK Req testing 27 over 32
BU 2 5 7 125 -1.4 5.01s - 01C7 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 C7 01 E0 00 B2 DD 4F 88 66
-> ADR ACK Req testing 28 over 32
BU 2 5 7 125 -1.4 5.01s - 01C8 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 C8 01 E0 00 B2 4D E1 E9 2A
-> ADR ACK Req testing 29 over 32
BU 2 5 7 125 -1.5 5.01s - 01C9 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 C9 01 E0 00 B2 F1 E2 13 62
-> ADR ACK Req testing 30 over 32
BU 0 5 7 125 -1.4 5.01s - 01CA 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 CA 01 E0 00 B2 D1 5D 94 67
-> ADR ACK Req testing 31 over 32
BU 1 5 7 125 -1.5 5.01s - 01CB 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178

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40 6B 3A D1 00 C0 CB 01 E0 00 B2 CE 3E B2 2E
-> ADR ACK Req testing 32 over 32
BU 0 5 7 125 -1.4 5.01s - 01CC 1 0 - 1 0 224 U 46 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 CC 01 E0 00 B2 F8 F9 EB 42
-> ADR ACK Req testing 33 over 32
-> Got 33 packets with SF7 and ADR_ACK_DELAY
-> Wait for 32 (+/-2) uplink packets (SF8, ADR_ACK_DELAY)
BU 2 4 8 125 -1.5 5.05s - 01CD 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 CD 01 E0 00 B2 6E A3 BE 0C
BU 2 4 8 125 -1.4 5.01s - 01CE 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 CE 01 E0 00 B2 C0 8F 0F 18
-> ADR ACK Req testing 2 over 32
BU 1 4 8 125 -1.4 5.01s - 01CF 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 CF 01 E0 00 B2 01 2F E3 1A
-> ADR ACK Req testing 3 over 32
BU 1 4 8 125 -1.4 5.01s - 01D0 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 D0 01 E0 00 B2 0A 5C C8 2B
-> ADR ACK Req testing 4 over 32
BU 0 4 8 125 -1.4 5.01s - 01D1 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 D1 01 E0 00 B2 C3 35 40 11
-> ADR ACK Req testing 5 over 32
BU 0 4 8 125 -1.3 5.01s - 01D2 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 D2 01 E0 00 B2 84 F1 B0 31
-> ADR ACK Req testing 6 over 32
BU 1 4 8 125 -1.4 5.01s - 01D3 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 D3 01 E0 00 B2 51 04 05 AD
-> ADR ACK Req testing 7 over 32
BU 0 4 8 125 -1.4 10.1s - 01D5 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 D5 01 E0 00 B2 FB 3E 22 86
-> ADR ACK Req testing 8 over 32
BU 0 4 8 125 -1.4 5.01s - 01D6 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 D6 01 E0 00 B2 56 D5 29 1A
-> ADR ACK Req testing 9 over 32
BU 1 4 8 125 -1.4 5.01s - 01D7 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 D7 01 E0 00 B2 50 CD B5 0A
-> ADR ACK Req testing 10 over 32
BU 2 4 8 125 -1.4 5.01s - 01D8 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 D8 01 E0 00 B2 40 5E 52 99
-> ADR ACK Req testing 11 over 32
BU 1 4 8 125 -1.4 5.01s - 01D9 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 D9 01 E0 00 B2 5E E7 EC 59
-> ADR ACK Req testing 12 over 32
BU 0 4 8 125 -1.4 5.01s - 01DA 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 DA 01 E0 00 B2 31 87 7E 84
-> ADR ACK Req testing 13 over 32
BU 0 4 8 125 -1.4 5.01s - 01DB 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 DB 01 E0 00 B2 5E CA 36 3D
-> ADR ACK Req testing 14 over 32
BU 2 4 8 125 -1.4 5.01s - 01DC 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 DC 01 E0 00 B2 89 30 AE CC
-> ADR ACK Req testing 15 over 32
BU 2 4 8 125 -1.4 5.01s - 01DD 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 DD 01 E0 00 B2 22 9A 77 83
-> ADR ACK Req testing 16 over 32
BU 2 4 8 125 -1.4 5.01s - 01DE 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 DE 01 E0 00 B2 55 55 8E F8
-> ADR ACK Req testing 17 over 32
BU 0 4 8 125 -1.4 5.01s - 01DF 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 DF 01 E0 00 B2 A8 2B B9 8B
-> ADR ACK Req testing 18 over 32
BU 1 4 8 125 -1.4 5.01s - 01E0 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 E0 01 E0 00 B2 1B 15 CE A3
-> ADR ACK Req testing 19 over 32
BU 2 4 8 125 -1.4 5.01s - 01E1 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 E1 01 E0 00 B2 51 66 9B 46
-> ADR ACK Req testing 20 over 32
BU 1 4 8 125 -1.4 5.01s - 01E2 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 E2 01 E0 00 B2 23 C8 2B 9F
-> ADR ACK Req testing 21 over 32
BU 1 4 8 125 -1.4 5.01s - 01E3 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 E3 01 E0 00 B2 D5 7C 90 17
-> ADR ACK Req testing 22 over 32
BU 0 4 8 125 -1.4 5.01s - 01E4 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 E4 01 E0 00 B2 DF BE F4 C7
-> ADR ACK Req testing 23 over 32
BU 0 4 8 125 -1.4 5.01s - 01E5 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 E5 01 E0 00 B2 93 0D 15 5F
-> ADR ACK Req testing 24 over 32
BU 1 4 8 125 -1.4 5.01s - 01E6 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178

```

```

40 6B 3A D1 00 C0 E6 01 E0 00 B2 38 DF 54 C5
-> ADR ACK Req testing 25 over 32
BU 0 4 8 125 -1.4 5.01s - 01E7 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 E7 01 E0 00 B2 B3 49 1F E8
-> ADR ACK Req testing 26 over 32
BU 0 4 8 125 -1.4 5.01s - 01E8 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 E8 01 E0 00 B2 17 9C 2B F4
-> ADR ACK Req testing 27 over 32
BU 0 4 8 125 -1.4 5.01s - 01E9 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 E9 01 E0 00 B2 A8 FD 6D 00
-> ADR ACK Req testing 28 over 32
BU 1 4 8 125 -1.4 5.01s - 01EA 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 EA 01 E0 00 B2 98 15 87 14
-> ADR ACK Req testing 29 over 32
BU 1 4 8 125 -1.4 5.01s - 01EB 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 EB 01 E0 00 B2 87 70 EE EE
-> ADR ACK Req testing 30 over 32
BU 2 4 8 125 -1.4 5.01s - 01EC 1 0 - 1 0 224 U 92 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 EC 01 E0 00 B2 BA 78 CD 3F
-> ADR ACK Req testing 31 over 32
-> Got 31 packets with SF8 and ADR_ACK_DELAY
BU 2 3 9 125 -1.4 5.08s - 01ED 1 0 - 1 0 224 U 164 DlCounter(178) Cnt=178
40 6B 3A D1 00 C0 ED 01 E0 00 B2 4C 56 FD AB

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT sw itched its data rate for uplink correctly

[Elapsed Time] 00:11:07

## 15.14 Successful ADR Cmd Block

[ TEST PURPOSE ]

To test adaptive data rate functionality  
: 15.14 Successful ADR Cmd Block

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS	
BU	1	3	9	125	-1.4	5.01s	-	01EF	1	0	-	1	0	224	U	164	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 C0 EF 01 E0 00 B2 A4 3D C6 6C																			
[Optional successful LinkADRReq commands block]																			
BU	0	3	9	125	-1.4	5.01s	-	01F0	1	0	-	1	0	224	U	164	DlCounter(178)	Cnt=178	
40 6B 3A D1 00 C0 F0 01 E0 00 B2 92 75 EF EF																			
KD	0	3	9	125	-36.0	----	1	00B8	1	0	0	-	-	224	U	144	UnconfirmedFrame		
60 6B 3A D1 00 80 B8 00 E0 03 52 D6 63 A9																			
BU	2	3	9	125	-1.5	5.01s	-	01F1	1	0	-	0	0	224	U	164	DlCounter(179)	Cnt=179	
40 6B 3A D1 00 80 F1 01 E0 00 B3 5F 59 2D 1E																			
KD	2	3	9	125	-36.0	----	1	00B9	1	0	0	-	-	000	C	205	LinkADRReq		

Pow=0, DR=2, Mask=0000h, MC=0, NbTrans=1

KD

LinkADRReq

Pow=3, DR=4, Mask=0003h, MC=0, NbTrans=1

KD

LinkADRReq

Pow=0, DR=3, Mask=0000h, MC=6, NbTrans=1

A0 6B 3A D1 00 80 B9 00 00 03 20 00 00 01 03 43 03 00 01 03 30 00 00 61 48 25 DE 7D

-> Enable all channels and change to SF9BW125

BU 1 3 9 125 -1.4 5.03s - 01F2 1 1 - 0 0 224 U 185 {LinkADRAns} Pow=1, DR=1, Mask=1

BU {LinkADRAns} Pow=1, DR=1, Mask=1

BU {LinkADRAns} Pow=1, DR=1, Mask=1

```

40 6B 3A D1 00 A6 F2 01 03 07 03 07 03 07 E0 00 B4 3F 98 F8 09
BU 0 3 9 125 -1.4 4.99s - 01F3 1 0 - 0 0 224 U 164 DlCounter(180) Cnt=180
40 6B 3A D1 00 80 F3 01 E0 00 B4 FE 7F CD 69
BU 4 3 9 125 -1.4 5.01s - 01F4 1 0 - 0 0 224 U 164 DlCounter(180) Cnt=180
40 6B 3A D1 00 80 F4 01 E0 00 B4 2A 3F 40 C3
BU 2 3 9 125 -1.4 5.01s - 01F5 1 0 - 0 0 224 U 164 DlCounter(180) Cnt=180
40 6B 3A D1 00 80 F5 01 E0 00 B4 C9 7E F6 93
BU 2 3 9 125 -1.4 5.01s - 01F6 1 0 - 0 0 224 U 164 DlCounter(180) Cnt=180
40 6B 3A D1 00 80 F6 01 E0 00 B4 BB 23 34 A3
BU 0 3 9 125 -1.4 5.01s - 01F7 1 0 - 0 0 224 U 164 DlCounter(180) Cnt=180
40 6B 3A D1 00 80 F7 01 E0 00 B4 05 20 06 70
BU 1 3 9 125 -1.4 5.01s - 01F8 1 0 - 0 0 224 U 164 DlCounter(180) Cnt=180
40 6B 3A D1 00 80 F8 01 E0 00 B4 09 93 01 58
-> Got packets on all default channels

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT used all default channels w ith correct DR by accepting LinkADRRReq block

[Elapsed Time] 00:00:53

## 15.15 Unsuccessful ADR Cmd Block

[ TEST PURPOSE ]

To test adaptive data rate functionality

: 15.15 Unsuccessful ADR Cmd Block

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS	
BU	2	3	9	125	-1.4	5.01s	-	01FA	1	0	-	0	0	224	U	164	DlCounter(180)	Cnt=180	
40 6B 3A D1 00 80 FA 01 E0 00 B4 1E C6 72 C5																			
[Optional unsuccessful LinkADRRReq commands block]																			
BU	1	3	9	125	-1.4	5.01s	-	01FB	1	0	-	0	0	224	U	164	DlCounter(180)	Cnt=180	
40 6B 3A D1 00 80 FB 01 E0 00 B4 A9 27 C1 BA																			
KD	1	3	9	125	-36.0	----	1	00BA	1	0	0	-	-	224	U	144	UnconfirmedFrame		
60 6B 3A D1 00 80 BA 00 E0 03 82 A5 87 42																			
BU	3	3	9	125	-1.4	5.01s	-	01FC	1	0	-	0	0	224	U	164	DlCounter(181)	Cnt=181	
40 6B 3A D1 00 80 FC 01 E0 00 B5 81 DD 71 89																			
KD	3	3	9	125	-36.0	----	1	00BB	1	0	0	-	-	000	C	185	LinkADRRReq		

Pow=3,DR=4,Mask=0007h,MC=0,NbTrans=1

KD

LinkADRRReq

Pow=3,DR=4,Mask=0000h,MC=0,NbTrans=1

A0 6B 3A D1 00 80 BB 00 00 03 43 07 00 01 03 43 00 00 01 22 B3 D6 EC

-> Disable all channels

BU 3 3 9 125 -1.4 5.03s - 01FD 1 1 - 0 0 224 U 185 {LinkADRAns} Pow=1, DR=0, Mask=0

BU

{LinkADRAns}

Pow=1, DR=0, Mask=0

40 6B 3A D1 00 A4 FD 01 03 04 03 04 E0 00 B6 EC 23 20 C8

BU 4 3 9 125 -1.4 4.99s - 01FE 1 0 - 0 0 224 U 164 DlCounter(182) Cnt=182

40 6B 3A D1 00 80 FE 01 E0 00 B6 C8 CB 6B 67

BU 2 3 9 125 -1.4 5.01s - 01FF 1 0 - 0 0 224 U 164 DlCounter(182) Cnt=182

40 6B 3A D1 00 80 FF 01 E0 00 B6 11 9E 22 D9

BU 1 3 9 125 -1.4 5.01s - 0200 1 0 - 0 0 224 U 164 DlCounter(182) Cnt=182

40 6B 3A D1 00 80 00 02 E0 00 B6 46 59 D7 48

BU 4 3 9 125 -1.4 5.01s - 0201 1 0 - 0 0 224 U 164 DlCounter(182) Cnt=182

40 6B 3A D1 00 80 01 02 E0 00 B6 A6 9A C3 6D

BU 4 3 9 125 -1.4 5.01s - 0202 1 0 - 0 0 224 U 164 DlCounter(182) Cnt=182

40 6B 3A D1 00 80 02 02 E0 00 B6 17 57 36 54

BU 0 3 9 125 -1.4 5.01s - 0203 1 0 - 0 0 224 U 164 DlCounter(182) Cnt=182

40 6B 3A D1 00 80 03 02 E0 00 B6 37 72 54 1A

-> Got packets on all default channels

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

DUT used all default channels with correct DR by ignoring invalid LinkADRRReq block

[Elapsed Time] 00:00:55

## 16 Packet error rate RX1 Window

### 16.1 Test Packet error rate for SF7BW125 using RX1 window

[ TEST PURPOSE ]

To measure downlink packet error rate for RX1 window using all spreading factors  
: 16.1 Test Packet error rate for SF7BW125 using RX1 window

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS	
BU	2	3	9	125	-1.4	10.1s	-	0206	1	0	-	0	0	224	U	164	DlCounter(182)	Cnt=182	
40 6B 3A D1 00 80 06 02 E0 00 B6 97 14 AB 75																			
[Test packet error rate for SF7BW125 using RX1 window]																			
BU	0	3	9	125	-1.4	5.01s	-	0207	1	0	-	0	0	224	U	164	DlCounter(182)	Cnt=182	
40 6B 3A D1 00 80 07 02 E0 00 B6 9A D9 BA DE																			
KD	0	3	9	125	-36.0		----	1	00BC	1	0	0	-	-	000	C	164	LinkADRRReq	
Pow=0,DR=5,Mask=0007h,MC=0,NbTrans=1																			
A0	6B	3A	D1	00	80	BC	00	00	03	50	07	00	01	C7	41	0E	D9		
BU	2	5	7	125	-1.5	4.89s	-	0208	1	1	-	0	0	224	U	51	{LinkADRAns}	Pow=1, DR=1, Mask=1	
40 6B 3A D1 00 A2 08 02 03 07 E0 00 B7 9B 93 5C A7																			
KD	R2	0	12	125	-30.0		----	1	00BD	1	0	0	-	-	224	U	1155	UnconfirmedFrame	
60 6B 3A D1 00 80 BD 00 E0 03 0A 09 9D 24																			
BU	2	5	7	125	-1.4	5.00s	-	0209	1	0	-	0	0	224	U	46	DlCounter(184)	Cnt=184	
40 6B 3A D1 00 80 09 02 E0 00 B8 E5 26 EA B9																			
KD	2	5	7	125	-30.0		----	1	00BE	1	0	0	-	-	224	U	41	UnconfirmedFrame	
60 6B 3A D1 00 80 BE 00 E0 03 72 62 C9 62																			
BU	0	5	7	125	-1.4	5.01s	-	020A	1	0	-	0	0	224	U	46	DlCounter(185)	Cnt=185	
40 6B 3A D1 00 80 0A 02 E0 00 B9 B9 C0 2C 83																			
-> PER Testing 1 over 60																			
KD	0	5	7	125	-30.0		----	1	00BF	1	0	0	-	-	224	U	41	UnconfirmedFrame	
60 6B 3A D1 00 80 BF 00 E0 03 30 DC C2 B1																			
BU	2	5	7	125	-1.5	5.01s	-	020B	1	0	-	0	0	224	U	46	DlCounter(186)	Cnt=186	
40 6B 3A D1 00 80 0B 02 E0 00 BA 01 BA 27 92																			
-> PER Testing 2 over 60																			
KD	2	5	7	125	-30.0		----	1	00C0	1	0	0	-	-	224	U	41	UnconfirmedFrame	
60 6B 3A D1 00 80 C0 00 E0 03 AE CE CF 24																			
BU	0	5	7	125	-1.5	5.01s	-	020C	1	0	-	0	0	224	U	46	DlCounter(187)	Cnt=187	
40 6B 3A D1 00 80 0C 02 E0 00 BB 64 F2 AD 5D																			
-> PER Testing 3 over 60																			
KD	0	5	7	125	-30.0		----	1	00C1	1	0	0	-	-	224	U	41	UnconfirmedFrame	
60 6B 3A D1 00 80 C1 00 E0 03 CA 08 3A FB																			
BU	1	5	7	125	-1.4	5.01s	-	020D	1	0	-	0	0	224	U	46	DlCounter(188)	Cnt=188	
40 6B 3A D1 00 80 0D 02 E0 00 BC 26 9E 7B F8																			
-> PER Testing 4 over 60																			
KD	1	5	7	125	-30.0		----	1	00C2	1	0	0	-	-	224	U	41	UnconfirmedFrame	
60 6B 3A D1 00 80 C2 00 E0 03 DB CB 81 9E																			
BU	0	5	7	125	-1.4	5.01s	-	020E	1	0	-	0	0	224	U	46	DlCounter(189)	Cnt=189	
40 6B 3A D1 00 80 0E 02 E0 00 BD 6C A7 09 C5																			
-> PER Testing 5 over 60																			
KD	0	5	7	125	-30.0		----	1	00C3	1	0	0	-	-	224	U	41	UnconfirmedFrame	
60 6B 3A D1 00 80 C3 00 E0 03 29 70 37 2C																			
BU	1	5	7	125	-1.5	5.01s	-	020F	1	0	-	0	0	224	U	46	DlCounter(190)	Cnt=190	
40 6B 3A D1 00 80 0F 02 E0 00 BE 60 DB AA 7D																			
-> PER Testing 6 over 60																			

```

KD 1 5 7 125 -30.0 ---- 1 00C4 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 C4 00 E0 03 70 DD EB 4B
BU 0 5 7 125 -1.4 5.01s - 0210 1 0 - 0 0 224 U 46 DlCounter(191) Cnt=191
40 6B 3A D1 00 80 10 02 E0 00 BF 71 81 73 69
-> PER Testing 7 over 60
KD 0 5 7 125 -30.0 ---- 1 00C5 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 C5 00 E0 03 45 EB 67 BC
-> PER Testing 8 over 60
KD 2 5 7 125 -30.0 ---- 1 00C6 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 C6 00 E0 03 6A 58 10 FE
BU 1 5 7 125 -1.5 5.01s - 0212 1 0 - 0 0 224 U 46 DlCounter(193) Cnt=193
40 6B 3A D1 00 80 12 02 E0 00 C1 49 6F FA 53
-> PER Testing 9 over 60
KD 1 5 7 125 -30.0 ---- 1 00C7 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 C7 00 E0 03 67 DF 68 4B
BU 0 5 7 125 -1.5 5.01s - 0213 1 0 - 0 0 224 U 46 DlCounter(194) Cnt=194
40 6B 3A D1 00 80 13 02 E0 00 C2 25 31 89 84
-> PER Testing 10 over 60
KD 0 5 7 125 -30.0 ---- 1 00C8 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 C8 00 E0 03 A9 D7 22 A8
BU 1 5 7 125 -1.4 5.01s - 0214 1 0 - 0 0 224 U 46 DlCounter(195) Cnt=195
40 6B 3A D1 00 80 14 02 E0 00 C3 2F 4F D2 06
-> PER Testing 11 over 60
KD 1 5 7 125 -30.0 ---- 1 00C9 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 C9 00 E0 03 91 22 18 C5
BU 1 5 7 125 -1.4 5.01s - 0215 1 0 - 0 0 224 U 46 DlCounter(196) Cnt=196
40 6B 3A D1 00 80 15 02 E0 00 C4 75 A3 D7 75
-> PER Testing 12 over 60
KD 1 5 7 125 -30.0 ---- 1 00CA 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 CA 00 E0 03 C7 E0 D1 9F
BU 0 5 7 125 -1.5 5.01s - 0216 1 0 - 0 0 224 U 46 DlCounter(197) Cnt=197
40 6B 3A D1 00 80 16 02 E0 00 C5 EB 2B 13 12
-> PER Testing 13 over 60
KD 0 5 7 125 -30.0 ---- 1 00CB 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 CB 00 E0 03 9D 29 4D C9
BU 1 5 7 125 -1.4 10.1s - 0218 1 0 - 0 0 224 U 46 DlCounter(198) Cnt=198
40 6B 3A D1 00 80 18 02 E0 00 C6 24 57 F2 32
-> PER Testing 14 over 60
KD 1 5 7 125 -30.0 ---- 1 00CC 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 CC 00 E0 03 29 BF E3 2E
BU 0 5 7 125 -1.4 5.01s - 0219 1 0 - 0 0 224 U 46 DlCounter(199) Cnt=199
40 6B 3A D1 00 80 19 02 E0 00 C7 8C 3F 18 11
-> PER Testing 15 over 60
KD 0 5 7 125 -30.0 ---- 1 00CD 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 CD 00 E0 03 56 14 26 04
BU 1 5 7 125 -1.5 5.01s - 021A 1 0 - 0 0 224 U 46 DlCounter(200) Cnt=200
40 6B 3A D1 00 80 1A 02 E0 00 C8 AA AC B4 6B
-> PER Testing 16 over 60
KD 1 5 7 125 -30.0 ---- 1 00CE 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 CE 00 E0 03 D8 C9 EF 0F
BU 1 5 7 125 -1.5 5.01s - 021B 1 0 - 0 0 224 U 46 DlCounter(201) Cnt=201
40 6B 3A D1 00 80 1B 02 E0 00 C9 B1 C7 B8 10
-> PER Testing 17 over 60
KD 1 5 7 125 -30.0 ---- 1 00CF 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 CF 00 E0 03 2E E8 2F 02
BU 0 5 7 125 -1.4 5.01s - 021C 1 0 - 0 0 224 U 46 DlCounter(202) Cnt=202
40 6B 3A D1 00 80 1C 02 E0 00 CA 13 A1 08 FC
-> PER Testing 18 over 60
KD 0 5 7 125 -30.0 ---- 1 00D0 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D0 00 E0 03 47 0A 90 CF
BU 2 5 7 125 -1.4 5.01s - 021D 1 0 - 0 0 224 U 46 DlCounter(203) Cnt=203
40 6B 3A D1 00 80 1D 02 E0 00 CB 52 0F A8 76
-> PER Testing 19 over 60
KD 2 5 7 125 -30.0 ---- 1 00D1 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D1 00 E0 03 C9 9E 87 F1
BU 1 5 7 125 -1.4 5.01s - 021E 1 0 - 0 0 224 U 46 DlCounter(204) Cnt=204
40 6B 3A D1 00 80 1E 02 E0 00 CC EE C4 32 53
-> PER Testing 20 over 60
KD 1 5 7 125 -30.0 ---- 1 00D2 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D2 00 E0 03 CD EB 65 F9
BU 2 5 7 125 -1.5 5.01s - 021F 1 0 - 0 0 224 U 46 DlCounter(205) Cnt=205
40 6B 3A D1 00 80 1F 02 E0 00 CD DE 63 38 10
-> PER Testing 21 over 60
KD 2 5 7 125 -30.0 ---- 1 00D3 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D3 00 E0 03 1E 27 51 AB
BU 1 5 7 125 -1.4 5.01s - 0220 1 0 - 0 0 224 U 46 DlCounter(206) Cnt=206
40 6B 3A D1 00 80 20 02 E0 00 CE DD AB C8 E3
-> PER Testing 22 over 60
KD 1 5 7 125 -30.0 ---- 1 00D4 1 0 0 - - 224 U 41 UnconfirmedFrame

```

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60 6B 3A D1 00 80 D4 00 E0 03 53 45 E4 B1
BU 1 5 7 125 -1.4 5.01s - 0221 1 0 - 0 0 224 U 46 DlCounter(207) Cnt=207
40 6B 3A D1 00 80 21 02 E0 00 CF 0A 3A 2A 46
-> PER Testing 23 over 60
KD 1 5 7 125 -30.0 ---- 1 00D5 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D5 00 E0 03 62 5E 4E FD
BU 2 5 7 125 -1.4 5.01s - 0222 1 0 - 0 0 224 U 46 DlCounter(208) Cnt=208
40 6B 3A D1 00 80 22 02 E0 00 D0 CB 74 D1 45
-> PER Testing 24 over 60
KD 2 5 7 125 -30.0 ---- 1 00D6 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D6 00 E0 03 41 25 24 9A
BU 2 5 7 125 -1.5 5.01s - 0223 1 0 - 0 0 224 U 46 DlCounter(209) Cnt=209
40 6B 3A D1 00 80 23 02 E0 00 D1 EA 92 F4 03
-> PER Testing 25 over 60
KD 2 5 7 125 -30.0 ---- 1 00D7 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D7 00 E0 03 B9 5F 92 C2
BU 2 5 7 125 -1.5 5.01s - 0224 1 0 - 0 0 224 U 46 DlCounter(210) Cnt=210
40 6B 3A D1 00 80 24 02 E0 00 D2 A4 D5 B7 74
-> PER Testing 26 over 60
KD 2 5 7 125 -30.0 ---- 1 00D8 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D8 00 E0 03 D6 FF 2F 67
BU 0 5 7 125 -1.4 5.01s - 0225 1 0 - 0 0 224 U 46 DlCounter(211) Cnt=211
40 6B 3A D1 00 80 25 02 E0 00 D3 F2 41 28 63
-> PER Testing 27 over 60
KD 0 5 7 125 -30.0 ---- 1 00D9 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D9 00 E0 03 40 B9 5C 28
BU 1 5 7 125 -1.4 5.01s - 0226 1 0 - 0 0 224 U 46 DlCounter(212) Cnt=212
40 6B 3A D1 00 80 26 02 E0 00 D4 B3 0A 2C A9
-> PER Testing 28 over 60
KD 1 5 7 125 -30.0 ---- 1 00DA 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 DA 00 E0 03 93 2A 28 6E
BU 2 5 7 125 -1.4 5.01s - 0227 1 0 - 0 0 224 U 46 DlCounter(213) Cnt=213
40 6B 3A D1 00 80 27 02 E0 00 D5 D4 99 59 8B
-> PER Testing 29 over 60
KD 2 5 7 125 -30.0 ---- 1 00DB 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 DB 00 E0 03 7B 5C FF F9
BU 2 5 7 125 -1.5 5.01s - 0228 1 0 - 0 0 224 U 46 DlCounter(214) Cnt=214
40 6B 3A D1 00 80 28 02 E0 00 D6 20 E1 75 DA
-> PER Testing 30 over 60
KD 2 5 7 125 -30.0 ---- 1 00DC 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 DC 00 E0 03 AD 2A 93 44
BU 0 5 7 125 -1.4 5.01s - 0229 1 0 - 0 0 224 U 46 DlCounter(215) Cnt=215
40 6B 3A D1 00 80 29 02 E0 00 D7 AF 16 AB 87
-> PER Testing 31 over 60
KD 0 5 7 125 -30.0 ---- 1 00DD 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 DD 00 E0 03 FF FA 3D 84
BU 1 5 7 125 -1.4 5.01s - 022A 1 0 - 0 0 224 U 46 DlCounter(216) Cnt=216
40 6B 3A D1 00 80 2A 02 E0 00 D8 1D 43 80 51
-> PER Testing 32 over 60
KD 1 5 7 125 -30.0 ---- 1 00DE 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 DE 00 E0 03 2F C9 A6 01
BU 1 5 7 125 -1.4 5.01s - 022B 1 0 - 0 0 224 U 46 DlCounter(217) Cnt=217
40 6B 3A D1 00 80 2B 02 E0 00 D9 1F 45 7F 56
-> PER Testing 33 over 60
KD 1 5 7 125 -30.0 ---- 1 00DF 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 DF 00 E0 03 42 BA 2C 25
BU 2 5 7 125 -1.4 5.01s - 022C 1 0 - 0 0 224 U 46 DlCounter(218) Cnt=218
40 6B 3A D1 00 80 2C 02 E0 00 DA AD 4D E8 01
-> PER Testing 34 over 60
KD 2 5 7 125 -30.0 ---- 1 00E0 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E0 00 E0 03 5D 9C F5 BB
BU 2 5 7 125 -1.4 5.01s - 022D 1 0 - 0 0 224 U 46 DlCounter(219) Cnt=219
40 6B 3A D1 00 80 2D 02 E0 00 DB AB A6 C1 48
-> PER Testing 35 over 60
KD 2 5 7 125 -30.0 ---- 1 00E1 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E1 00 E0 03 E2 0C 4E 8A
BU 0 5 7 125 -1.4 5.01s - 022E 1 0 - 0 0 224 U 46 DlCounter(220) Cnt=220
40 6B 3A D1 00 80 2E 02 E0 00 DC B9 0D A7 EF
-> PER Testing 36 over 60
KD 0 5 7 125 -30.0 ---- 1 00E2 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E2 00 E0 03 52 21 BA CD
BU 0 5 7 125 -1.4 5.01s - 022F 1 0 - 0 0 224 U 46 DlCounter(221) Cnt=221
40 6B 3A D1 00 80 2F 02 E0 00 DD F1 4A 74 40
-> PER Testing 37 over 60
KD 0 5 7 125 -30.0 ---- 1 00E3 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E3 00 E0 03 17 F9 87 4A
BU 2 5 7 125 -1.4 5.01s - 0230 1 0 - 0 0 224 U 46 DlCounter(222) Cnt=222
40 6B 3A D1 00 80 30 02 E0 00 DE A8 CA 29 EB
-> PER Testing 38 over 60

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KD 2 5 7 125 -30.0 ---- 1 00E4 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E4 00 E0 03 00 0F 45 84
BU 0 5 7 125 -1.4 5.01s - 0231 1 0 - 0 0 224 U 46 DlCounter(223) Cnt=223
40 6B 3A D1 00 80 31 02 E0 00 DF F0 59 6B 17
-> PER Testing 39 over 60
KD 0 5 7 125 -30.0 ---- 1 00E5 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E5 00 E0 03 05 70 33 CC
BU 1 5 7 125 -1.5 5.01s - 0232 1 0 - 0 0 224 U 46 DlCounter(224) Cnt=224
40 6B 3A D1 00 80 32 02 E0 00 E0 20 CA 4F FD
-> PER Testing 40 over 60
KD 1 5 7 125 -30.0 ---- 1 00E6 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E6 00 E0 03 0E 92 66 14
BU 2 5 7 125 -1.4 5.01s - 0233 1 0 - 0 0 224 U 46 DlCounter(225) Cnt=225
40 6B 3A D1 00 80 33 02 E0 00 E1 CC 4C EA 35
-> PER Testing 41 over 60
KD 2 5 7 125 -30.0 ---- 1 00E7 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E7 00 E0 03 0F DC 4D 60
BU 2 5 7 125 -1.4 5.01s - 0234 1 0 - 0 0 224 U 46 DlCounter(226) Cnt=226
40 6B 3A D1 00 80 34 02 E0 00 E2 6C 86 80 4D
-> PER Testing 42 over 60
KD 2 5 7 125 -30.0 ---- 1 00E8 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E8 00 E0 03 43 F0 4E 09
BU 0 5 7 125 -1.5 5.01s - 0235 1 0 - 0 0 224 U 46 DlCounter(227) Cnt=227
40 6B 3A D1 00 80 35 02 E0 00 E3 17 D1 FC 8C
-> PER Testing 43 over 60
KD 0 5 7 125 -30.0 ---- 1 00E9 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E9 00 E0 03 8E F5 10 49
BU 1 5 7 125 -1.4 5.01s - 0236 1 0 - 0 0 224 U 46 DlCounter(228) Cnt=228
40 6B 3A D1 00 80 36 02 E0 00 E4 5B 6A 67 7A
-> PER Testing 44 over 60
KD 1 5 7 125 -30.0 ---- 1 00EA 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 EA 00 E0 03 7D 0B 4D 19
BU 0 5 7 125 -1.5 5.01s - 0237 1 0 - 0 0 224 U 46 DlCounter(229) Cnt=229
40 6B 3A D1 00 80 37 02 E0 00 E5 8D E3 D3 12
-> PER Testing 45 over 60
KD 0 5 7 125 -30.0 ---- 1 00EB 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 EB 00 E0 03 85 3F 41 20
BU 2 5 7 125 -1.4 5.01s - 0238 1 0 - 0 0 224 U 46 DlCounter(230) Cnt=230
40 6B 3A D1 00 80 38 02 E0 00 E6 74 07 C0 90
-> PER Testing 46 over 60
KD 2 5 7 125 -30.0 ---- 1 00EC 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 EC 00 E0 03 B7 AA 31 07
BU 0 5 7 125 -1.4 5.01s - 0239 1 0 - 0 0 224 U 46 DlCounter(231) Cnt=231
40 6B 3A D1 00 80 39 02 E0 00 E7 E1 7D C9 99
-> PER Testing 47 over 60
KD 0 5 7 125 -30.0 ---- 1 00ED 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 ED 00 E0 03 56 B5 12 14
BU 1 5 7 125 -1.4 5.01s - 023A 1 0 - 0 0 224 U 46 DlCounter(232) Cnt=232
40 6B 3A D1 00 80 3A 02 E0 00 E8 02 0D 4D BB
-> PER Testing 48 over 60
KD 1 5 7 125 -30.0 ---- 1 00EE 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 EE 00 E0 03 FD E6 B7 A6
BU 2 5 7 125 -1.5 5.01s - 023B 1 0 - 0 0 224 U 46 DlCounter(233) Cnt=233
40 6B 3A D1 00 80 3B 02 E0 00 E9 3F 2F 8D 0E
-> PER Testing 49 over 60
KD 2 5 7 125 -30.0 ---- 1 00EF 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 EF 00 E0 03 DA 95 5C 68
BU 0 5 7 125 -1.4 5.01s - 023C 1 0 - 0 0 224 U 46 DlCounter(234) Cnt=234
40 6B 3A D1 00 80 3C 02 E0 00 EA C2 94 46 A6
-> PER Testing 50 over 60
KD 0 5 7 125 -30.0 ---- 1 00F0 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 F0 00 E0 03 4F 4F 4C 30
BU 1 5 7 125 -1.5 5.01s - 023D 1 0 - 0 0 224 U 46 DlCounter(235) Cnt=235
40 6B 3A D1 00 80 3D 02 E0 00 EB 8C 69 77 65
-> PER Testing 51 over 60
KD 1 5 7 125 -30.0 ---- 1 00F1 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 F1 00 E0 03 79 79 B6 A6
BU 1 5 7 125 -1.4 5.01s - 023E 1 0 - 0 0 224 U 46 DlCounter(236) Cnt=236
40 6B 3A D1 00 80 3E 02 E0 00 EC 19 25 DA 16
-> PER Testing 52 over 60
KD 1 5 7 125 -30.0 ---- 1 00F2 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 F2 00 E0 03 13 FB 5D DE
BU 0 5 7 125 -1.4 5.01s - 023F 1 0 - 0 0 224 U 46 DlCounter(237) Cnt=237
40 6B 3A D1 00 80 3F 02 E0 00 ED 01 40 34 22
-> PER Testing 53 over 60
KD 0 5 7 125 -30.0 ---- 1 00F3 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 F3 00 E0 03 A8 EF 89 C4
BU 1 5 7 125 -1.4 5.01s - 0240 1 0 - 0 0 224 U 46 DlCounter(238) Cnt=238
40 6B 3A D1 00 80 40 02 E0 00 EE 1F 7F 8D AF

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-> PER Testing 54 over 60
KD 1 5 7 125 -30.0 ---- 1 00F4 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 F4 00 E0 03 4B C5 58 4E
BU 1 5 7 125 -1.4 5.01s - 0241 1 0 - 0 0 224 U 46 DlCounter(239) Cnt=239
40 6B 3A D1 00 80 41 02 E0 00 EF 50 E3 B3 91
-> PER Testing 55 over 60
KD 1 5 7 125 -30.0 ---- 1 00F5 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 F5 00 E0 03 DF 0F 11 AF
BU 1 5 7 125 -1.5 5.01s - 0242 1 0 - 0 0 224 U 46 DlCounter(240) Cnt=240
40 6B 3A D1 00 80 42 02 E0 00 F0 CE 07 19 18
-> PER Testing 56 over 60
KD 1 5 7 125 -30.0 ---- 1 00F6 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 F6 00 E0 03 7F 76 FE F8
BU 2 5 7 125 -1.4 5.01s - 0243 1 0 - 0 0 224 U 46 DlCounter(241) Cnt=241
40 6B 3A D1 00 80 43 02 E0 00 F1 EE BB 71 3D
-> PER Testing 57 over 60
KD 2 5 7 125 -30.0 ---- 1 00F7 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 F7 00 E0 03 2A B5 68 21
BU 2 5 7 125 -1.4 5.01s - 0244 1 0 - 0 0 224 U 46 DlCounter(242) Cnt=242
40 6B 3A D1 00 80 44 02 E0 00 F2 9D 46 AC 95
-> PER Testing 58 over 60
KD 2 5 7 125 -30.0 ---- 1 00F8 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 F8 00 E0 03 6A 84 2E 87
BU 0 5 7 125 -1.4 5.01s - 0245 1 0 - 0 0 224 U 46 DlCounter(243) Cnt=243
40 6B 3A D1 00 80 45 02 E0 00 F3 64 0C 0C 08
-> PER Testing 59 over 60
KD 0 5 7 125 -30.0 ---- 1 00F9 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 F9 00 E0 03 B6 7F 3E A6
BU 1 5 7 125 -1.4 5.01s - 0246 1 0 - 0 0 224 U 46 DlCounter(244) Cnt=244
40 6B 3A D1 00 80 46 02 E0 00 F4 72 62 01 0C
-> PER Testing 60 over 60

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

0 error(s) over60, PER=0.000 (Criteria:PER<=0.05)

[Elapsed Time] 00:05:32

## 16.2 Test packet error rate for SF8BW125 using RX1 window

[ TEST PURPOSE ]

To measure downlink packet error rate for RX1 window using all spreading factors  
: 16.2 Test packet error rate for SF8BW125 using RX1 window

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	QMD	CNTS	
BU	2	5	7	125	-1.5	5.01s	-	0248	1	0	-	0	0	224	U	46		DlCounter(244)	Cnt=244
40 6B 3A D1 00 80 48 02 E0 00 F4 4C C6 CF 90																			
BU	0	5	7	125	-1.4	5.01s	-	0249	1	0	-	0	0	224	U	46		DlCounter(244)	Cnt=244
40 6B 3A D1 00 80 49 02 E0 00 F4 9E 6C CD 3A																			
[Test packet error rate for SF8BW125 using RX1 window]																			
BU	1	5	7	125	-1.4	5.01s	-	024A	1	0	-	0	0	224	U	46		DlCounter(244)	Cnt=244
40 6B 3A D1 00 80 4A 02 E0 00 F4 20 79 96 B4																			
KD	1	5	7	125	-36.0		----	1	00FA	1	0	0	-	000	C	51		LinkADRRReq	
Pow=0,DR=4,Mask=0007h,MC=0,NbTrans=1																			
A0 6B 3A D1 00 80 FA 00 00 03 40 07 00 01 B9 EA A2 EA																			
BU	1	4	8	125	-1.4	5.05s	-	024B	1	1	-	0	0	224	U	92		{LinkADRAns}	Pow=1, DR=1, Mask=1
40 6B 3A D1 00 A2 4B 02 03 07 E0 00 F5 45 9E AE 95																			
KD	R2	0	12	125	-30.0		----	1	00FB	1	0	0	-	224	U	1155		UnconfirmedFrame	
60 6B 3A D1 00 80 FB 00 E0 03 E9 6E 02 88																			
BU	1	4	8	125	-1.4	5.01s	-	024C	1	0	-	0	0	224	U	92		DlCounter(246)	Cnt=246
40 6B 3A D1 00 80 4C 02 E0 00 F6 9B 82 62 44																			

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KD 1 4 8 125 -30.0 ---- 1 00FC 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 FC 00 E0 03 45 E2 BA BE
BU 1 4 8 125 -1.4 5.01s - 024D 1 0 - 0 0 224 U 92 DlCounter(247) Cnt=247
40 6B 3A D1 00 80 4D 02 E0 00 F7 4B 30 23 B6
-> PER Testing 1 over 60
KD 1 4 8 125 -30.0 ---- 1 00FD 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 FD 00 E0 03 E7 8E 9E 86
BU 2 4 8 125 -1.4 5.01s - 024E 1 0 - 0 0 224 U 92 DlCounter(248) Cnt=248
40 6B 3A D1 00 80 4E 02 E0 00 F8 2B AC FC E9
-> PER Testing 2 over 60
KD 2 4 8 125 -30.0 ---- 1 00FE 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 FE 00 E0 03 5E 26 98 27
BU 1 4 8 125 -1.4 5.01s - 024F 1 0 - 0 0 224 U 92 DlCounter(249) Cnt=249
40 6B 3A D1 00 80 4F 02 E0 00 F9 2A CE B0 67
-> PER Testing 3 over 60
KD 1 4 8 125 -30.0 ---- 1 00FF 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 FF 00 E0 03 6D 6D A2 A7
BU 1 4 8 125 -1.4 5.01s - 0250 1 0 - 0 0 224 U 92 DlCounter(250) Cnt=250
40 6B 3A D1 00 80 50 02 E0 00 FA E4 BC 91 D7
-> PER Testing 4 over 60
KD 1 4 8 125 -30.0 ---- 1 0100 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 00 01 E0 03 94 69 77 7C
BU 0 4 8 125 -1.4 5.01s - 0251 1 0 - 0 0 224 U 92 DlCounter(251) Cnt=251
40 6B 3A D1 00 80 51 02 E0 00 FB E8 E2 1F 31
-> PER Testing 5 over 60
KD 0 4 8 125 -30.0 ---- 1 0101 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 01 01 E0 03 2B A6 DE 16
BU 1 4 8 125 -1.4 5.01s - 0252 1 0 - 0 0 224 U 92 DlCounter(252) Cnt=252
40 6B 3A D1 00 80 52 02 E0 00 FC 42 C9 E9 9C
-> PER Testing 6 over 60
KD 1 4 8 125 -30.0 ---- 1 0102 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 02 01 E0 03 F6 FB D9 5F
BU 1 4 8 125 -1.5 5.01s - 0253 1 0 - 0 0 224 U 92 DlCounter(253) Cnt=253
40 6B 3A D1 00 80 53 02 E0 00 FD B2 D2 76 E9
-> PER Testing 7 over 60
KD 1 4 8 125 -30.0 ---- 1 0103 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 03 01 E0 03 C6 47 D8 F6
BU 1 4 8 125 -1.4 5.01s - 0254 1 0 - 0 0 224 U 92 DlCounter(254) Cnt=254
40 6B 3A D1 00 80 54 02 E0 00 FE 53 DF B0 E8
-> PER Testing 8 over 60
KD 1 4 8 125 -30.0 ---- 1 0104 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 04 01 E0 03 81 B1 1D DD
BU 0 4 8 125 -1.4 5.01s - 0255 1 0 - 0 0 224 U 92 DlCounter(255) Cnt=255
40 6B 3A D1 00 80 55 02 E0 00 FF E6 F3 28 E6
-> PER Testing 9 over 60
KD 0 4 8 125 -30.0 ---- 1 0105 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 05 01 E0 03 6A E5 F9 43
BU 2 4 8 125 -1.4 5.01s - 0256 1 0 - 0 0 224 U 92 DlCounter(256) Cnt=256
40 6B 3A D1 00 80 56 02 E0 01 00 EB CD 3D 9F
-> PER Testing 10 over 60
KD 2 4 8 125 -30.0 ---- 1 0106 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 06 01 E0 03 FB A4 6B EB
BU 2 4 8 125 -1.4 5.01s - 0257 1 0 - 0 0 224 U 92 DlCounter(257) Cnt=257
40 6B 3A D1 00 80 57 02 E0 01 01 0E ED 3C 03
-> PER Testing 11 over 60
KD 2 4 8 125 -30.0 ---- 1 0107 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 07 01 E0 03 2B FB 6C 4C
BU 2 4 8 125 -1.4 5.01s - 0258 1 0 - 0 0 224 U 92 DlCounter(258) Cnt=258
40 6B 3A D1 00 80 58 02 E0 01 02 DA 45 4D F7
-> PER Testing 12 over 60
KD 2 4 8 125 -30.0 ---- 1 0108 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 08 01 E0 03 FD DC C5 EF
BU 2 4 8 125 -1.4 5.01s - 0259 1 0 - 0 0 224 U 92 DlCounter(259) Cnt=259
40 6B 3A D1 00 80 59 02 E0 01 03 B9 08 AA B3
-> PER Testing 13 over 60
KD 2 4 8 125 -30.0 ---- 1 0109 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 09 01 E0 03 A7 BB 8A D6
BU 0 4 8 125 -1.4 5.01s - 025A 1 0 - 0 0 224 U 92 DlCounter(260) Cnt=260
40 6B 3A D1 00 80 5A 02 E0 01 04 DE 26 B1 AC
-> PER Testing 14 over 60
KD 0 4 8 125 -30.0 ---- 1 010A 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 0A 01 E0 03 6C FB 3A E5
BU 2 4 8 125 -1.4 5.01s - 025B 1 0 - 0 0 224 U 92 DlCounter(261) Cnt=261
40 6B 3A D1 00 80 5B 02 E0 01 05 A8 F4 6B DE
-> PER Testing 15 over 60
KD 2 4 8 125 -30.0 ---- 1 010B 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 0B 01 E0 03 87 49 42 C2
BU 0 4 8 125 -1.4 5.01s - 025C 1 0 - 0 0 224 U 92 DlCounter(262) Cnt=262
40 6B 3A D1 00 80 5C 02 E0 01 06 9C 5A 6A 27

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-> PER Testing 16 over 60
KD 0 4 8 125 -30.0 ---- 1 010C 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 0C 01 E0 03 CA 99 73 50
BU 2 4 8 125 -1.4 5.01s - 025D 1 0 - 0 0 224 U 92 DlCounter(263) Cnt=263
40 6B 3A D1 00 80 5D 02 E0 01 07 09 9D 29 3E
-> PER Testing 17 over 60
KD 2 4 8 125 -30.0 ---- 1 010D 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 0D 01 E0 03 B4 48 3C 4B
BU 2 4 8 125 -1.4 5.01s - 025E 1 0 - 0 0 224 U 92 DlCounter(264) Cnt=264
40 6B 3A D1 00 80 5E 02 E0 01 08 00 D6 F0 44
-> PER Testing 18 over 60
KD 2 4 8 125 -30.0 ---- 1 010E 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 0E 01 E0 03 20 07 A0 24
BU 2 4 8 125 -1.4 5.01s - 025F 1 0 - 0 0 224 U 92 DlCounter(265) Cnt=265
40 6B 3A D1 00 80 5F 02 E0 01 09 0F 10 CD B8
-> PER Testing 19 over 60
KD 2 4 8 125 -30.0 ---- 1 010F 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 0F 01 E0 03 20 D1 6C 6D
BU 0 4 8 125 -1.4 5.01s - 0260 1 0 - 0 0 224 U 92 DlCounter(266) Cnt=266
40 6B 3A D1 00 80 60 02 E0 01 0A AB 2A A9 0B
-> PER Testing 20 over 60
KD 0 4 8 125 -30.0 ---- 1 0110 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 10 01 E0 03 F9 62 C6 3B
BU 1 4 8 125 -1.4 5.01s - 0261 1 0 - 0 0 224 U 92 DlCounter(267) Cnt=267
40 6B 3A D1 00 80 61 02 E0 01 0B 2F 91 A7 00
-> PER Testing 21 over 60
KD 1 4 8 125 -30.0 ---- 1 0111 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 11 01 E0 03 92 FB 30 85
BU 2 4 8 125 -1.4 5.01s - 0262 1 0 - 0 0 224 U 92 DlCounter(268) Cnt=268
40 6B 3A D1 00 80 62 02 E0 01 0C D4 FE 3F 29
-> PER Testing 22 over 60
KD 2 4 8 125 -30.0 ---- 1 0112 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 12 01 E0 03 03 BB 5D 36
BU 1 4 8 125 -1.4 5.01s - 0263 1 0 - 0 0 224 U 92 DlCounter(269) Cnt=269
40 6B 3A D1 00 80 63 02 E0 01 0D AA D8 99 C9
-> PER Testing 23 over 60
KD 1 4 8 125 -30.0 ---- 1 0113 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 13 01 E0 03 76 5F 99 B8
BU 1 4 8 125 -1.4 5.01s - 0264 1 0 - 0 0 224 U 92 DlCounter(270) Cnt=270
40 6B 3A D1 00 80 64 02 E0 01 0E 9B D7 9D 10
-> PER Testing 24 over 60
KD 1 4 8 125 -30.0 ---- 1 0114 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 14 01 E0 03 70 DB 03 D8
BU 1 4 8 125 -1.4 5.01s - 0265 1 0 - 0 0 224 U 92 DlCounter(271) Cnt=271
40 6B 3A D1 00 80 65 02 E0 01 0F D5 0A 09 37
-> PER Testing 25 over 60
KD 1 4 8 125 -30.0 ---- 1 0115 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 15 01 E0 03 F8 9D 49 2C
BU 1 4 8 125 -1.4 5.01s - 0266 1 0 - 0 0 224 U 92 DlCounter(272) Cnt=272
40 6B 3A D1 00 80 66 02 E0 01 10 9D BF EC C4
-> PER Testing 26 over 60
KD 1 4 8 125 -30.0 ---- 1 0116 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 16 01 E0 03 A4 26 D0 1D
BU 1 4 8 125 -1.4 5.01s - 0267 1 0 - 0 0 224 U 92 DlCounter(273) Cnt=273
40 6B 3A D1 00 80 67 02 E0 01 11 E6 AB 31 92
-> PER Testing 27 over 60
KD 1 4 8 125 -30.0 ---- 1 0117 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 17 01 E0 03 84 9F B6 8C
BU 2 4 8 125 -1.4 5.01s - 0268 1 0 - 0 0 224 U 92 DlCounter(274) Cnt=274
40 6B 3A D1 00 80 68 02 E0 01 12 AD BE E2 F0
-> PER Testing 28 over 60
KD 2 4 8 125 -30.0 ---- 1 0118 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 18 01 E0 03 D8 7F 86 A3
BU 2 4 8 125 -1.4 5.01s - 0269 1 0 - 0 0 224 U 92 DlCounter(275) Cnt=275
40 6B 3A D1 00 80 69 02 E0 01 13 47 F5 F2 C4
-> PER Testing 29 over 60
KD 2 4 8 125 -30.0 ---- 1 0119 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 19 01 E0 03 73 66 D9 D5
BU 1 4 8 125 -1.4 5.01s - 026A 1 0 - 0 0 224 U 92 DlCounter(276) Cnt=276
40 6B 3A D1 00 80 6A 02 E0 01 14 EF 58 44 C1
-> PER Testing 30 over 60
KD 1 4 8 125 -30.0 ---- 1 011A 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 1A 01 E0 03 7D 9B 3E 7F
BU 1 4 8 125 -1.4 5.01s - 026B 1 0 - 0 0 224 U 92 DlCounter(277) Cnt=277
40 6B 3A D1 00 80 6B 02 E0 01 15 82 B9 00 F6
-> PER Testing 31 over 60
KD 1 4 8 125 -30.0 ---- 1 011B 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 1B 01 E0 03 CD 3C 64 63
BU 0 4 8 125 -1.4 5.01s - 026C 1 0 - 0 0 224 U 92 DlCounter(278) Cnt=278

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40 6B 3A D1 00 80 6C 02 E0 01 16 C2 36 3D 93
-> PER Testing 32 over 60
KD 0 4 8 125 -30.0 ---- 1 011C 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 1C 01 E0 03 6D DF 19 0D
BU 0 4 8 125 -1.4 5.01s - 026D 1 0 - 0 0 224 U 92 DlCounter(279) Cnt=279
40 6B 3A D1 00 80 6D 02 E0 01 17 84 AC E3 D5
-> PER Testing 33 over 60
KD 0 4 8 125 -30.0 ---- 1 011D 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 1D 01 E0 03 1B 3F DB F4
BU 0 4 8 125 -1.4 5.01s - 026E 1 0 - 0 0 224 U 92 DlCounter(280) Cnt=280
40 6B 3A D1 00 80 6E 02 E0 01 18 E3 5E 3A 79
-> PER Testing 34 over 60
KD 0 4 8 125 -30.0 ---- 1 011E 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 1E 01 E0 03 27 D7 EF 1F
BU 1 4 8 125 -1.4 5.01s - 026F 1 0 - 0 0 224 U 92 DlCounter(281) Cnt=281
40 6B 3A D1 00 80 6F 02 E0 01 19 4C 8E 2D 6F
-> PER Testing 35 over 60
KD 1 4 8 125 -30.0 ---- 1 011F 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 1F 01 E0 03 26 19 D9 3E
BU 2 4 8 125 -1.5 5.01s - 0270 1 0 - 0 0 224 U 92 DlCounter(282) Cnt=282
40 6B 3A D1 00 80 70 02 E0 01 1A 03 83 81 A2
-> PER Testing 36 over 60
KD 2 4 8 125 -30.0 ---- 1 0120 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 20 01 E0 03 3C 8A 88 B9
BU 2 4 8 125 -1.4 5.01s - 0271 1 0 - 0 0 224 U 92 DlCounter(283) Cnt=283
40 6B 3A D1 00 80 71 02 E0 01 1B 32 88 E3 56
-> PER Testing 37 over 60
KD 2 4 8 125 -30.0 ---- 1 0121 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 21 01 E0 03 79 38 AF D7
BU 0 4 8 125 -1.4 5.01s - 0272 1 0 - 0 0 224 U 92 DlCounter(284) Cnt=284
40 6B 3A D1 00 80 72 02 E0 01 1C 26 DD CB 63
-> PER Testing 38 over 60
KD 0 4 8 125 -30.0 ---- 1 0122 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 22 01 E0 03 C4 C0 B5 65
BU 1 4 8 125 -1.4 5.01s - 0273 1 0 - 0 0 224 U 92 DlCounter(285) Cnt=285
40 6B 3A D1 00 80 73 02 E0 01 1D 29 9C 40 4B
-> PER Testing 39 over 60
KD 1 4 8 125 -30.0 ---- 1 0123 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 23 01 E0 03 A8 00 C1 94
BU 0 4 8 125 -1.4 5.01s - 0274 1 0 - 0 0 224 U 92 DlCounter(286) Cnt=286
40 6B 3A D1 00 80 74 02 E0 01 1E 12 C8 0F 42
-> PER Testing 40 over 60
KD 0 4 8 125 -30.0 ---- 1 0124 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 24 01 E0 03 C6 5D C7 73
BU 2 4 8 125 -1.4 5.01s - 0275 1 0 - 0 0 224 U 92 DlCounter(287) Cnt=287
40 6B 3A D1 00 80 75 02 E0 01 1F 25 54 67 E4
-> PER Testing 41 over 60
KD 2 4 8 125 -30.0 ---- 1 0125 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 25 01 E0 03 F8 A5 58 6A
BU 1 4 8 125 -1.4 5.01s - 0276 1 0 - 0 0 224 U 92 DlCounter(288) Cnt=288
40 6B 3A D1 00 80 76 02 E0 01 20 4B 02 79 0F
-> PER Testing 42 over 60
KD 1 4 8 125 -30.0 ---- 1 0126 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 26 01 E0 03 BA FB A8 92
BU 1 4 8 125 -1.4 5.01s - 0277 1 0 - 0 0 224 U 92 DlCounter(289) Cnt=289
40 6B 3A D1 00 80 77 02 E0 01 21 D3 78 A9 C8
-> PER Testing 43 over 60
KD 1 4 8 125 -30.0 ---- 1 0127 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 27 01 E0 03 C1 F9 FD 1F
BU 1 4 8 125 -1.4 5.01s - 0278 1 0 - 0 0 224 U 92 DlCounter(290) Cnt=290
40 6B 3A D1 00 80 78 02 E0 01 22 B9 AD 67 91
-> PER Testing 44 over 60
KD 1 4 8 125 -30.0 ---- 1 0128 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 28 01 E0 03 0E F1 A4 33
BU 0 4 8 125 -1.5 5.01s - 0279 1 0 - 0 0 224 U 92 DlCounter(291) Cnt=291
40 6B 3A D1 00 80 79 02 E0 01 23 B5 19 47 79
-> PER Testing 45 over 60
KD 0 4 8 125 -30.0 ---- 1 0129 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 29 01 E0 03 47 D2 4F 94
BU 2 4 8 125 -1.4 5.01s - 027A 1 0 - 0 0 224 U 92 DlCounter(292) Cnt=292
40 6B 3A D1 00 80 7A 02 E0 01 24 09 ED 59 D9
-> PER Testing 46 over 60
KD 2 4 8 125 -30.0 ---- 1 012A 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 2A 01 E0 03 28 D8 72 5C
BU 1 4 8 125 -1.4 5.01s - 027B 1 0 - 0 0 224 U 92 DlCounter(293) Cnt=293
40 6B 3A D1 00 80 7B 02 E0 01 25 7F 88 B1 AA
-> PER Testing 47 over 60
KD 1 4 8 125 -30.0 ---- 1 012B 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 2B 01 E0 03 14 92 70 0A

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BU 2 4 8 125 -1.4 5.01s - 027C 1 0 - 0 0 224 U 92 DlCounter(294) Cnt=294
40 6B 3A D1 00 80 7C 02 E0 01 26 6C 1C E5 09
-> PER Testing 48 over 60
KD 2 4 8 125 -30.0 ---- 1 012C 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 2C 01 E0 03 F2 9F E9 06
BU 2 4 8 125 -1.4 5.01s - 027D 1 0 - 0 0 224 U 92 DlCounter(295) Cnt=295
40 6B 3A D1 00 80 7D 02 E0 01 27 B9 C1 A0 44
-> PER Testing 49 over 60
KD 2 4 8 125 -30.0 ---- 1 012D 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 2D 01 E0 03 DE 57 1D 06
BU 0 4 8 125 -1.5 5.01s - 027E 1 0 - 0 0 224 U 92 DlCounter(296) Cnt=296
40 6B 3A D1 00 80 7E 02 E0 01 28 C5 5A 03 22
-> PER Testing 50 over 60
KD 0 4 8 125 -30.0 ---- 1 012E 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 2E 01 E0 03 F3 0D 69 07
BU 1 4 8 125 -1.4 5.01s - 027F 1 0 - 0 0 224 U 92 DlCounter(297) Cnt=297
40 6B 3A D1 00 80 7F 02 E0 01 29 7C E1 12 9E
-> PER Testing 51 over 60
KD 1 4 8 125 -30.0 ---- 1 012F 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 2F 01 E0 03 7D 71 5F 5F
BU 2 4 8 125 -1.4 5.01s - 0280 1 0 - 0 0 224 U 92 DlCounter(298) Cnt=298
40 6B 3A D1 00 80 80 02 E0 01 2A 13 54 42 BB
-> PER Testing 52 over 60
KD 2 4 8 125 -30.0 ---- 1 0130 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 30 01 E0 03 1E DE B5 06
BU 0 4 8 125 -1.4 5.01s - 0281 1 0 - 0 0 224 U 92 DlCounter(299) Cnt=299
40 6B 3A D1 00 80 81 02 E0 01 2B 9C 53 12 A2
-> PER Testing 53 over 60
KD 0 4 8 125 -30.0 ---- 1 0131 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 31 01 E0 03 B9 C7 7C 38
BU 1 4 8 125 -1.4 5.01s - 0282 1 0 - 0 0 224 U 92 DlCounter(300) Cnt=300
40 6B 3A D1 00 80 82 02 E0 01 2C 1D 6C F3 DD
-> PER Testing 54 over 60
KD 1 4 8 125 -30.0 ---- 1 0132 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 32 01 E0 03 5F BD FC D2
BU 2 4 8 125 -1.4 5.01s - 0283 1 0 - 0 0 224 U 92 DlCounter(301) Cnt=301
40 6B 3A D1 00 80 83 02 E0 01 2D 26 EF 3B 04
-> PER Testing 55 over 60
KD 2 4 8 125 -30.0 ---- 1 0133 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 33 01 E0 03 81 52 5E D0
BU 0 4 8 125 -1.5 5.01s - 0284 1 0 - 0 0 224 U 92 DlCounter(302) Cnt=302
40 6B 3A D1 00 80 84 02 E0 01 2E FE CA 7F 13
-> PER Testing 56 over 60
KD 0 4 8 125 -30.0 ---- 1 0134 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 34 01 E0 03 B0 95 60 C0
BU 2 4 8 125 -1.4 5.01s - 0285 1 0 - 0 0 224 U 92 DlCounter(303) Cnt=303
40 6B 3A D1 00 80 85 02 E0 01 2F 1D 4E D1 C9
-> PER Testing 57 over 60
KD 2 4 8 125 -30.0 ---- 1 0135 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 35 01 E0 03 16 07 BC D2
BU 1 4 8 125 -1.4 5.01s - 0286 1 0 - 0 0 224 U 92 DlCounter(304) Cnt=304
40 6B 3A D1 00 80 86 02 E0 01 30 97 0A B1 B9
-> PER Testing 58 over 60
KD 1 4 8 125 -30.0 ---- 1 0136 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 36 01 E0 03 29 7E 51 78
BU 0 4 8 125 -1.4 5.01s - 0287 1 0 - 0 0 224 U 92 DlCounter(305) Cnt=305
40 6B 3A D1 00 80 87 02 E0 01 31 FF 9A 0B 31
-> PER Testing 59 over 60
KD 0 4 8 125 -30.0 ---- 1 0137 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 37 01 E0 03 43 43 F9 26
BU 1 4 8 125 -1.5 5.01s - 0288 1 0 - 0 0 224 U 92 DlCounter(306) Cnt=306
40 6B 3A D1 00 80 88 02 E0 01 32 81 7A 26 C4
-> PER Testing 60 over 60

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

0 error(s) over60, PER=0.000 (Criteria:PER<=0.05)

[Elapsed Time] 00:05:26

## 16.3 Test Packet error rate for SF9BW125 using RX1 window

[ TEST PURPOSE ]

To measure downlink packet error rate for RX1 window using all spreading factors  
 : 16.3 Test Packet error rate for SF9BW125 using RX1 window

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS	
BU	1	4	8	125	-1.4	5.01s	-	028A	1	0	-	0	0	224	U	92	DlCounter(306)	Cnt=306	
40 6B 3A D1 00 80 8A 02 E0 01 32 9E 02 55 2B																			
[Test packet error rate for SF9BW125 using RX1 window]																			
BU	2	4	8	125	-1.5	5.01s	-	028B	1	0	-	0	0	224	U	92	DlCounter(306)	Cnt=306	
40 6B 3A D1 00 80 8B 02 E0 01 32 05 A0 BF 50																			
KD	2	4	8	125	-36.0		----	1	0138	1	0	0	-	-	000	C	92	LinkADRReq	
Pow=0,DR=3,Mask=0007h,MC=0,NbTrans=1																			
A0 6B 3A D1 00 80 38 01 00 03 30 07 00 01 7F 44 7D E7																			
BU	1	3	9	125	-1.4	5.08s	-	028C	1	1	-	0	0	224	U	164	{LinkADRs}	Pow=1, DR=1, Mask=1	
40 6B 3A D1 00 A2 8C 02 03 07 E0 01 33 69 85 78 A8																			
KD	R2	0	12	125	-30.0		----	1	0139	1	0	0	-	-	224	U	1155	UnconfirmedFrame	
60 6B 3A D1 00 80 39 01 E0 03 7B 2C ED 3E																			
BU	1	3	9	125	-1.4	5.01s	-	028D	1	0	-	0	0	224	U	164	DlCounter(308)	Cnt=308	
40 6B 3A D1 00 80 8D 02 E0 01 34 4B 10 2D 25																			
KD	1	3	9	125	-30.0		----	1	013A	1	0	0	-	-	224	U	144	UnconfirmedFrame	
60 6B 3A D1 00 80 3A 01 E0 03 AA DA 8C 54																			
BU	2	3	9	125	-1.4	5.01s	-	028E	1	0	-	0	0	224	U	164	DlCounter(309)	Cnt=309	
40 6B 3A D1 00 80 8E 02 E0 01 35 6C 56 57 C0																			
-> PER Testing 1 over 60																			
KD	2	3	9	125	-30.0		----	1	013B	1	0	0	-	-	224	U	144	UnconfirmedFrame	
60 6B 3A D1 00 80 3B 01 E0 03 05 F3 16 B4																			
BU	2	3	9	125	-1.4	5.01s	-	028F	1	0	-	0	0	224	U	164	DlCounter(310)	Cnt=310	
40 6B 3A D1 00 80 8F 02 E0 01 36 4F 38 D4 39																			
-> PER Testing 2 over 60																			
KD	2	3	9	125	-30.0		----	1	013C	1	0	0	-	-	224	U	144	UnconfirmedFrame	
60 6B 3A D1 00 80 3C 01 E0 03 73 17 B2 05																			
BU	1	3	9	125	-1.4	5.01s	-	0290	1	0	-	0	0	224	U	164	DlCounter(311)	Cnt=311	
40 6B 3A D1 00 80 90 02 E0 01 37 F0 55 5B 51																			
-> PER Testing 3 over 60																			
KD	1	3	9	125	-30.0		----	1	013D	1	0	0	-	-	224	U	144	UnconfirmedFrame	
60 6B 3A D1 00 80 3D 01 E0 03 CD 21 34 2B																			
BU	0	3	9	125	-1.4	5.01s	-	0291	1	0	-	0	0	224	U	164	DlCounter(312)	Cnt=312	
40 6B 3A D1 00 80 91 02 E0 01 38 7C 84 7D B8																			
-> PER Testing 4 over 60																			
KD	0	3	9	125	-30.0		----	1	013E	1	0	0	-	-	224	U	144	UnconfirmedFrame	
60 6B 3A D1 00 80 3E 01 E0 03 88 7D DE 8E																			
BU	0	3	9	125	-1.4	5.01s	-	0292	1	0	-	0	0	224	U	164	DlCounter(313)	Cnt=313	
40 6B 3A D1 00 80 92 02 E0 01 39 EB CA F6 16																			
-> PER Testing 5 over 60																			
KD	0	3	9	125	-30.0		----	1	013F	1	0	0	-	-	224	U	144	UnconfirmedFrame	
60 6B 3A D1 00 80 3F 01 E0 03 01 2C 40 88																			
BU	0	3	9	125	-1.4	5.01s	-	0293	1	0	-	0	0	224	U	164	DlCounter(314)	Cnt=314	
40 6B 3A D1 00 80 93 02 E0 01 3A FE A5 D6 7C																			
-> PER Testing 6 over 60																			
KD	0	3	9	125	-30.0		----	1	0140	1	0	0	-	-	224	U	144	UnconfirmedFrame	
60 6B 3A D1 00 80 40 01 E0 03 AF 44 7A 21																			
BU	0	3	9	125	-1.4	5.01s	-	0294	1	0	-	0	0	224	U	164	DlCounter(315)	Cnt=315	
40 6B 3A D1 00 80 94 02 E0 01 3B 1B EE 7D 53																			
-> PER Testing 7 over 60																			
KD	0	3	9	125	-30.0		----	1	0141	1	0	0	-	-	224	U	144	UnconfirmedFrame	
60 6B 3A D1 00 80 41 01 E0 03 15 D4 D9 61																			
BU	1	3	9	125	-1.4	5.01s	-	0295	1	0	-	0	0	224	U	164	DlCounter(316)	Cnt=316	
40 6B 3A D1 00 80 95 02 E0 01 3C A2 77 6B 53																			
-> PER Testing 8 over 60																			
KD	1	3	9	125	-30.0		----	1	0142	1	0	0	-	-	224	U	144	UnconfirmedFrame	
60 6B 3A D1 00 80 42 01 E0 03 92 1E 85 5F																			
BU	0	3	9	125	-1.4	5.01s	-	0296	1	0	-	0	0	224	U	164	DlCounter(317)	Cnt=317	
40 6B 3A D1 00 80 96 02 E0 01 3D C7 B2 81 41																			
-> PER Testing 9 over 60																			
KD	0	3	9	125	-30.0		----	1	0143	1	0	0	-	-	224	U	144	UnconfirmedFrame	
60 6B 3A D1 00 80 43 01 E0 03 CA B5 0D B3																			
BU	0	3	9	125	-1.4	5.01s	-	0297	1	0	-	0	0	224	U	164	DlCounter(318)	Cnt=318	
40 6B 3A D1 00 80 97 02 E0 01 3E 56 3E 97 35																			

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-> PER Testing 10 over 60
KD 0 3 9 125 -30.0 ---- 1 0144 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 44 01 E0 03 82 24 1B AE
BU 2 3 9 125 -1.4 5.01s - 0298 1 0 - 0 0 224 U 164 DlCounter(319) Cnt=319
40 6B 3A D1 00 80 98 02 E0 01 3F 34 C5 1E 5B
-> PER Testing 11 over 60
KD 2 3 9 125 -30.0 ---- 1 0145 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 45 01 E0 03 C1 9F 64 79
BU 1 3 9 125 -1.3 5.01s - 0299 1 0 - 0 0 224 U 164 DlCounter(320) Cnt=320
40 6B 3A D1 00 80 99 02 E0 01 40 7A 2D 5B 21
-> PER Testing 12 over 60
KD 1 3 9 125 -30.0 ---- 1 0146 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 46 01 E0 03 6A D8 2F 31
BU 0 3 9 125 -1.4 5.01s - 029A 1 0 - 0 0 224 U 164 DlCounter(321) Cnt=321
40 6B 3A D1 00 80 9A 02 E0 01 41 BE A6 D0 68
-> PER Testing 13 over 60
KD 0 3 9 125 -30.0 ---- 1 0147 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 47 01 E0 03 2B A7 C2 D3
BU 0 3 9 125 -1.4 5.01s - 029B 1 0 - 0 0 224 U 164 DlCounter(322) Cnt=322
40 6B 3A D1 00 80 9B 02 E0 01 42 54 A0 7F 60
-> PER Testing 14 over 60
KD 0 3 9 125 -30.0 ---- 1 0148 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 48 01 E0 03 0E 74 33 8B
BU 2 3 9 125 -1.4 5.01s - 029C 1 0 - 0 0 224 U 164 DlCounter(323) Cnt=323
40 6B 3A D1 00 80 9C 02 E0 01 43 AD 1F 10 20
-> PER Testing 15 over 60
KD 2 3 9 125 -30.0 ---- 1 0149 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 49 01 E0 03 09 34 4B 57
BU 2 3 9 125 -1.4 5.01s - 029D 1 0 - 0 0 224 U 164 DlCounter(324) Cnt=324
40 6B 3A D1 00 80 9D 02 E0 01 44 B2 AB 70 77
-> PER Testing 16 over 60
KD 2 3 9 125 -30.0 ---- 1 014A 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 4A 01 E0 03 20 EC C2 71
BU 2 3 9 125 -1.4 5.01s - 029E 1 0 - 0 0 224 U 164 DlCounter(325) Cnt=325
40 6B 3A D1 00 80 9E 02 E0 01 45 48 99 08 2F
-> PER Testing 17 over 60
KD 2 3 9 125 -30.0 ---- 1 014B 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 4B 01 E0 03 5C 07 CA BB
BU 1 3 9 125 -1.4 5.01s - 029F 1 0 - 0 0 224 U 164 DlCounter(326) Cnt=326
40 6B 3A D1 00 80 9F 02 E0 01 46 59 4D 88 1B
-> PER Testing 18 over 60
KD 1 3 9 125 -30.0 ---- 1 014C 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 4C 01 E0 03 6E 7A 91 2C
BU 2 3 9 125 -1.4 5.01s - 02A0 1 0 - 0 0 224 U 164 DlCounter(327) Cnt=327
40 6B 3A D1 00 80 A0 02 E0 01 47 68 A2 BC 0D
-> PER Testing 19 over 60
KD 2 3 9 125 -30.0 ---- 1 014D 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 4D 01 E0 03 06 81 E1 C6
BU 2 3 9 125 -1.4 5.01s - 02A1 1 0 - 0 0 224 U 164 DlCounter(328) Cnt=328
40 6B 3A D1 00 80 A1 02 E0 01 48 92 31 2B 7D
-> PER Testing 20 over 60
KD 2 3 9 125 -30.0 ---- 1 014E 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 4E 01 E0 03 6F 4B DA 92
BU 2 3 9 125 -1.4 5.01s - 02A2 1 0 - 0 0 224 U 164 DlCounter(329) Cnt=329
40 6B 3A D1 00 80 A2 02 E0 01 49 27 97 D8 D1
-> PER Testing 21 over 60
KD 2 3 9 125 -30.0 ---- 1 014F 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 4F 01 E0 03 65 27 A2 74
BU 1 3 9 125 -1.4 5.01s - 02A3 1 0 - 0 0 224 U 164 DlCounter(330) Cnt=330
40 6B 3A D1 00 80 A3 02 E0 01 4A 7C C4 E1 22
-> PER Testing 22 over 60
KD 1 3 9 125 -30.0 ---- 1 0150 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 50 01 E0 03 1D D2 FB 23
BU 2 3 9 125 -1.4 5.01s - 02A4 1 0 - 0 0 224 U 164 DlCounter(331) Cnt=331
40 6B 3A D1 00 80 A4 02 E0 01 4B 37 45 A1 B1
-> PER Testing 23 over 60
KD 2 3 9 125 -30.0 ---- 1 0151 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 51 01 E0 03 1C 05 47 8B
BU 2 3 9 125 -1.4 5.01s - 02A5 1 0 - 0 0 224 U 164 DlCounter(332) Cnt=332
40 6B 3A D1 00 80 A5 02 E0 01 4C 00 05 50 A0
-> PER Testing 24 over 60
KD 2 3 9 125 -30.0 ---- 1 0152 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 52 01 E0 03 17 F4 E3 AB
BU 1 3 9 125 -1.4 5.01s - 02A6 1 0 - 0 0 224 U 164 DlCounter(333) Cnt=333
40 6B 3A D1 00 80 A6 02 E0 01 4D 03 DA CD 91
-> PER Testing 25 over 60
KD 1 3 9 125 -30.0 ---- 1 0153 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 53 01 E0 03 3C 7E C3 86
BU 2 3 9 125 -1.4 5.01s - 02A7 1 0 - 0 0 224 U 164 DlCounter(334) Cnt=334

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40 6B 3A D1 00 80 A7 02 E0 01 4E F0 BD 23 6A
-> PER Testing 26 over 60
KD 2 3 9 125 -30.0 ---- 1 0154 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 54 01 E0 03 07 1B ED E4
BU 0 3 9 125 -1.4 5.01s - 02A8 1 0 - 0 0 224 U 164 DlCounter(335) Cnt=335
40 6B 3A D1 00 80 A8 02 E0 01 4F 8D 0E 5C CF
-> PER Testing 27 over 60
KD 0 3 9 125 -30.0 ---- 1 0155 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 55 01 E0 03 A0 8B 14 7D
BU 1 3 9 125 -1.4 5.01s - 02A9 1 0 - 0 0 224 U 164 DlCounter(336) Cnt=336
40 6B 3A D1 00 80 A9 02 E0 01 50 06 3D 3A F4
-> PER Testing 28 over 60
KD 1 3 9 125 -30.0 ---- 1 0156 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 56 01 E0 03 F7 BB DF 73
BU 2 3 9 125 -1.4 5.01s - 02AA 1 0 - 0 0 224 U 164 DlCounter(337) Cnt=337
40 6B 3A D1 00 80 AA 02 E0 01 51 A1 78 1C DE
-> PER Testing 29 over 60
KD 2 3 9 125 -30.0 ---- 1 0157 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 57 01 E0 03 6F E4 5B F8
BU 0 3 9 125 -1.4 5.01s - 02AB 1 0 - 0 0 224 U 164 DlCounter(338) Cnt=338
40 6B 3A D1 00 80 AB 02 E0 01 52 F8 14 59 C2
-> PER Testing 30 over 60
KD 0 3 9 125 -30.0 ---- 1 0158 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 58 01 E0 03 C3 5B 88 49
BU 0 3 9 125 -1.4 5.01s - 02AC 1 0 - 0 0 224 U 164 DlCounter(339) Cnt=339
40 6B 3A D1 00 80 AC 02 E0 01 53 35 1A 6D 34
-> PER Testing 31 over 60
KD 0 3 9 125 -30.0 ---- 1 0159 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 59 01 E0 03 B2 12 56 0D
BU 2 3 9 125 -1.4 5.01s - 02AD 1 0 - 0 0 224 U 164 DlCounter(340) Cnt=340
40 6B 3A D1 00 80 AD 02 E0 01 54 98 61 93 DB
-> PER Testing 32 over 60
KD 2 3 9 125 -30.0 ---- 1 015A 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 5A 01 E0 03 9D DC 69 5F
BU 2 3 9 125 -1.4 5.01s - 02AE 1 0 - 0 0 224 U 164 DlCounter(341) Cnt=341
40 6B 3A D1 00 80 AE 02 E0 01 55 EF 71 4C FB
-> PER Testing 33 over 60
KD 2 3 9 125 -30.0 ---- 1 015B 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 5B 01 E0 03 31 45 08 CD
BU 2 3 9 125 -1.4 5.01s - 02AF 1 0 - 0 0 224 U 164 DlCounter(342) Cnt=342
40 6B 3A D1 00 80 AF 02 E0 01 56 CF 34 CA 81
-> PER Testing 34 over 60
KD 2 3 9 125 -30.0 ---- 1 015C 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 5C 01 E0 03 78 74 48 4E
BU 2 3 9 125 -1.4 5.01s - 02B0 1 0 - 0 0 224 U 164 DlCounter(343) Cnt=343
40 6B 3A D1 00 80 B0 02 E0 01 57 DC 5E F0 E5
-> PER Testing 35 over 60
KD 2 3 9 125 -30.0 ---- 1 015D 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 5D 01 E0 03 0D 8E 1A 80
BU 1 3 9 125 -1.4 5.01s - 02B1 1 0 - 0 0 224 U 164 DlCounter(344) Cnt=344
40 6B 3A D1 00 80 B1 02 E0 01 58 FA 46 78 EF
-> PER Testing 36 over 60
KD 1 3 9 125 -30.0 ---- 1 015E 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 5E 01 E0 03 FD 5C 12 11
BU 0 3 9 125 -1.4 5.01s - 02B2 1 0 - 0 0 224 U 164 DlCounter(345) Cnt=345
40 6B 3A D1 00 80 B2 02 E0 01 59 F9 5E CE 3C
-> PER Testing 37 over 60
KD 0 3 9 125 -30.0 ---- 1 015F 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 5F 01 E0 03 41 1C B4 BD
BU 0 3 9 125 -1.4 5.01s - 02B3 1 0 - 0 0 224 U 164 DlCounter(346) Cnt=346
40 6B 3A D1 00 80 B3 02 E0 01 5A D3 9C 63 30
-> PER Testing 38 over 60
KD 0 3 9 125 -30.0 ---- 1 0160 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 60 01 E0 03 71 B4 3D 6B
BU 0 3 9 125 -1.4 5.01s - 02B4 1 0 - 0 0 224 U 164 DlCounter(347) Cnt=347
40 6B 3A D1 00 80 B4 02 E0 01 5B FC 69 33 28
-> PER Testing 39 over 60
KD 0 3 9 125 -30.0 ---- 1 0161 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 61 01 E0 03 27 CC 32 48
BU 1 3 9 125 -1.4 5.01s - 02B5 1 0 - 0 0 224 U 164 DlCounter(348) Cnt=348
40 6B 3A D1 00 80 B5 02 E0 01 5C 2A 79 37 2D
-> PER Testing 40 over 60
KD 1 3 9 125 -30.0 ---- 1 0162 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 62 01 E0 03 57 80 9D EC
BU 2 3 9 125 -1.4 5.01s - 02B6 1 0 - 0 0 224 U 164 DlCounter(349) Cnt=349
40 6B 3A D1 00 80 B6 02 E0 01 5D ED 8F 2F 9B
-> PER Testing 41 over 60
KD 2 3 9 125 -30.0 ---- 1 0163 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 63 01 E0 03 CA A1 15 48

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BU 2 3 9 125 -1.4 5.01s - 02B7 1 0 - 0 0 224 U 164 DlCounter(350) Cnt=350
40 6B 3A D1 00 80 B7 02 E0 01 5E 47 3C 1B 7F
-> PER Testing 42 over 60
KD 2 3 9 125 -30.0 ---- 1 0164 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 64 01 E0 03 58 DE 13 8A
BU 1 3 9 125 -1.4 5.01s - 02B8 1 0 - 0 0 224 U 164 DlCounter(351) Cnt=351
40 6B 3A D1 00 80 B8 02 E0 01 5F 2A 6A BF 43
-> PER Testing 43 over 60
KD 1 3 9 125 -30.0 ---- 1 0165 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 65 01 E0 03 DE BC D2 33
BU 0 3 9 125 -1.5 5.01s - 02B9 1 0 - 0 0 224 U 164 DlCounter(352) Cnt=352
40 6B 3A D1 00 80 B9 02 E0 01 60 4B C6 E2 DA
-> PER Testing 44 over 60
KD 0 3 9 125 -30.0 ---- 1 0166 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 66 01 E0 03 05 3D AF 13
BU 1 3 9 125 -1.4 5.01s - 02BA 1 0 - 0 0 224 U 164 DlCounter(353) Cnt=353
40 6B 3A D1 00 80 BA 02 E0 01 61 DD C1 CD 6B
-> PER Testing 45 over 60
KD 1 3 9 125 -30.0 ---- 1 0167 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 67 01 E0 03 43 8A 4C 9C
BU 1 3 9 125 -1.4 5.01s - 02BB 1 0 - 0 0 224 U 164 DlCounter(354) Cnt=354
40 6B 3A D1 00 80 BB 02 E0 01 62 77 22 E9 99
-> PER Testing 46 over 60
KD 1 3 9 125 -30.0 ---- 1 0168 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 68 01 E0 03 56 46 78 0D
BU 0 3 9 125 -1.4 5.01s - 02BC 1 0 - 0 0 224 U 164 DlCounter(355) Cnt=355
40 6B 3A D1 00 80 BC 02 E0 01 63 44 03 7F B2
-> PER Testing 47 over 60
KD 0 3 9 125 -30.0 ---- 1 0169 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 69 01 E0 03 0D FF 9A 37
BU 2 3 9 125 -1.4 5.01s - 02BD 1 0 - 0 0 224 U 164 DlCounter(356) Cnt=356
40 6B 3A D1 00 80 BD 02 E0 01 64 35 C3 26 EE
-> PER Testing 48 over 60
KD 2 3 9 125 -30.0 ---- 1 016A 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 6A 01 E0 03 EE 65 6D 34
BU 1 3 9 125 -1.4 5.01s - 02BE 1 0 - 0 0 224 U 164 DlCounter(357) Cnt=357
40 6B 3A D1 00 80 BE 02 E0 01 65 07 64 FB 34
-> PER Testing 49 over 60
KD 1 3 9 125 -30.0 ---- 1 016B 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 6B 01 E0 03 AA 34 30 3D
BU 1 3 9 125 -1.4 5.01s - 02BF 1 0 - 0 0 224 U 164 DlCounter(358) Cnt=358
40 6B 3A D1 00 80 BF 02 E0 01 66 7F 3B B5 8C
-> PER Testing 50 over 60
KD 1 3 9 125 -30.0 ---- 1 016C 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 6C 01 E0 03 5C F5 1B B0
BU 0 3 9 125 -1.4 5.01s - 02C0 1 0 - 0 0 224 U 164 DlCounter(359) Cnt=359
40 6B 3A D1 00 80 C0 02 E0 01 67 92 00 F6 34
-> PER Testing 51 over 60
KD 0 3 9 125 -30.0 ---- 1 016D 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 6D 01 E0 03 03 5F F0 E6
BU 0 3 9 125 -1.4 5.01s - 02C1 1 0 - 0 0 224 U 164 DlCounter(360) Cnt=360
40 6B 3A D1 00 80 C1 02 E0 01 68 77 51 7C 8F
-> PER Testing 52 over 60
KD 0 3 9 125 -30.0 ---- 1 016E 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 6E 01 E0 03 ED CD 47 2D
BU 2 3 9 125 -1.4 5.01s - 02C2 1 0 - 0 0 224 U 164 DlCounter(361) Cnt=361
40 6B 3A D1 00 80 C2 02 E0 01 69 F1 57 98 F3
-> PER Testing 53 over 60
KD 2 3 9 125 -30.0 ---- 1 016F 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 6F 01 E0 03 28 D5 65 7D
BU 1 3 9 125 -1.4 5.01s - 02C3 1 0 - 0 0 224 U 164 DlCounter(362) Cnt=362
40 6B 3A D1 00 80 C3 02 E0 01 6A 5E 8C 2D A5
-> PER Testing 54 over 60
KD 1 3 9 125 -30.0 ---- 1 0170 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 70 01 E0 03 B1 1D C6 A2
BU 1 3 9 125 -1.4 5.01s - 02C4 1 0 - 0 0 224 U 164 DlCounter(363) Cnt=363
40 6B 3A D1 00 80 C4 02 E0 01 6B 11 D8 18 29
-> PER Testing 55 over 60
KD 1 3 9 125 -30.0 ---- 1 0171 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 71 01 E0 03 30 55 CD 99
BU 0 3 9 125 -1.4 5.01s - 02C5 1 0 - 0 0 224 U 164 DlCounter(364) Cnt=364
40 6B 3A D1 00 80 C5 02 E0 01 6C 49 A7 E4 EB
-> PER Testing 56 over 60
KD 0 3 9 125 -30.0 ---- 1 0172 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 72 01 E0 03 49 4B C6 ED
BU 2 3 9 125 -1.4 5.01s - 02C6 1 0 - 0 0 224 U 164 DlCounter(365) Cnt=365
40 6B 3A D1 00 80 C6 02 E0 01 6D 70 0F 7D 79
-> PER Testing 57 over 60
KD 2 3 9 125 -30.0 ---- 1 0173 1 0 0 - - 224 U 144 UnconfirmedFrame

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60 6B 3A D1 00 80 73 01 E0 03 BB A6 17 56
BU 0 3 9 125 -1.4 5.01s - 02C7 1 0 - 0 0 224 U 164 DlCounter(366) Cnt=366
40 6B 3A D1 00 80 C7 02 E0 01 6E 89 AB 96 0C
-> PER Testing 58 over 60
KD 0 3 9 125 -30.0 ---- 1 0174 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 74 01 E0 03 A5 DB 36 15
BU 0 3 9 125 -1.4 5.01s - 02C8 1 0 - 0 0 224 U 164 DlCounter(367) Cnt=367
40 6B 3A D1 00 80 C8 02 E0 01 6F 30 FC 22 B7
-> PER Testing 59 over 60
KD 0 3 9 125 -30.0 ---- 1 0175 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 75 01 E0 03 B2 BF 69 C6
BU 1 3 9 125 -1.4 5.01s - 02C9 1 0 - 0 0 224 U 164 DlCounter(368) Cnt=368
40 6B 3A D1 00 80 C9 02 E0 01 70 1E 1F 26 55
-> PER Testing 60 over 60

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

0 error(s) over 60, PER=0.000 (Criteria:PER<=0.05)

[Elapsed Time] 00:05:23

## 16.4 Test Packet error rate for SF10BW125 using RX1 window

[ TEST PURPOSE ]

To measure downlink packet error rate for RX1 window using all spreading factors  
: 16.4 Test Packet error rate for SF10BW125 using RX1 window

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	GMD	CNTS	
BU	2	3	9	125	-1.4	5.01s	-	02CB	1	0	-	0	0	224	U	164	DlCounter(368)	Cnt=368	
40 6B 3A D1 00 80 CB 02 E0 01 70 B1 C4 DB 08																			
[Test packet error rate for SF10BW125 using RX1 window]																			
BU	1	3	9	125	-1.4	5.01s	-	02CC	1	0	-	0	0	224	U	164	DlCounter(368)	Cnt=368	
40 6B 3A D1 00 80 CC 02 E0 01 70 86 95 BD 6B																			
KD	1	3	9	125	-36.0	----	1	0176	1	0	0	-	-	000	C	164	LinkADRReq		
Pow=0, DR=2, Mask=0007h, MC=0, NbTrans=1																			
A0	6B	3A	D1	00	80	76	01	00	03	20	07	00	01	ED	A7	12	78		
BU	2	2	10	125	-1.4	5.17s	-	02CD	1	1	-	0	0	224	U	329	{LinkADRAns}	Pow=1, DR=1, Mask=1	
40 6B 3A D1 00 A2 CD 02 03 07 E0 01 71 86 21 06 80																			
KD	R2	0	12	125	-30.0	----	1	0177	1	0	0	-	-	224	U	1155	UnconfirmedFrame		
60 6B 3A D1 00 80 77 01 E0 03 23 88 F7 03																			
BU	0	2	10	125	-1.4	5.01s	-	02CE	1	0	-	0	0	224	U	329	DlCounter(370)	Cnt=370	
40 6B 3A D1 00 80 CE 02 E0 01 72 16 E2 91 3C																			
KD	0	2	10	125	-30.0	----	1	0178	1	0	0	-	-	224	U	288	UnconfirmedFrame		
60 6B 3A D1 00 80 78 01 E0 03 94 21 D2 02																			
BU	1	2	10	125	-1.4	5.01s	-	02CF	1	0	-	0	0	224	U	329	DlCounter(371)	Cnt=371	
40 6B 3A D1 00 80 CF 02 E0 01 73 B1 25 03 9E																			
-> PER Testing 1 over 60																			
KD	1	2	10	125	-30.0	----	1	0179	1	0	0	-	-	224	U	288	UnconfirmedFrame		
60 6B 3A D1 00 80 79 01 E0 03 5B 1F BD F7																			
BU	1	2	10	125	-1.4	5.01s	-	02D0	1	0	-	0	0	224	U	329	DlCounter(372)	Cnt=372	
40 6B 3A D1 00 80 D0 02 E0 01 74 16 5A 72 EE																			
-> PER Testing 2 over 60																			
KD	1	2	10	125	-30.0	----	1	017A	1	0	0	-	-	224	U	288	UnconfirmedFrame		
60 6B 3A D1 00 80 7A 01 E0 03 F6 FD E9 2B																			
BU	2	2	10	125	-1.4	5.01s	-	02D1	1	0	-	0	0	224	U	329	DlCounter(373)	Cnt=373	
40 6B 3A D1 00 80 D1 02 E0 01 75 F0 FA AE C0																			
-> PER Testing 3 over 60																			
KD	2	2	10	125	-30.0	----	1	017B	1	0	0	-	-	224	U	288	UnconfirmedFrame		
60 6B 3A D1 00 80 7B 01 E0 03 A4 E2 F7 C2																			
BU	2	2	10	125	-1.4	5.01s	-	02D2	1	0	-	0	0	224	U	329	DlCounter(374)	Cnt=374	
40 6B 3A D1 00 80 D2 02 E0 01 76 87 AB D9 3E																			

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-> PER Testing 4 over 60
KD 2 2 10 125 -30.0 ---- 1 017C 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 7C 01 E0 03 8E DE E3 07
BU 2 2 10 125 -1.4 5.01s - 02D3 1 0 - 0 0 224 U 329 DlCounter(375) Cnt=375
40 6B 3A D1 00 80 D3 02 E0 01 77 46 3F D5 14
-> PER Testing 5 over 60
KD 2 2 10 125 -30.0 ---- 1 017D 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 7D 01 E0 03 04 77 FB 9F
BU 1 2 10 125 -1.4 5.01s - 02D4 1 0 - 0 0 224 U 329 DlCounter(376) Cnt=376
40 6B 3A D1 00 80 D4 02 E0 01 78 A4 25 EB 20
-> PER Testing 6 over 60
KD 1 2 10 125 -30.0 ---- 1 017E 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 7E 01 E0 03 60 28 1C A7
BU 1 2 10 125 -1.4 5.01s - 02D5 1 0 - 0 0 224 U 329 DlCounter(377) Cnt=377
40 6B 3A D1 00 80 D5 02 E0 01 79 86 63 0A A7
-> PER Testing 7 over 60
KD 1 2 10 125 -30.0 ---- 1 017F 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 7F 01 E0 03 DE 7A DA D9
BU 2 2 10 125 -1.4 5.01s - 02D6 1 0 - 0 0 224 U 329 DlCounter(378) Cnt=378
40 6B 3A D1 00 80 D6 02 E0 01 7A 15 AA A0 CC
-> PER Testing 8 over 60
KD 2 2 10 125 -30.0 ---- 1 0180 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 80 01 E0 03 B4 27 CD 80
BU 1 2 10 125 -1.4 5.01s - 02D7 1 0 - 0 0 224 U 329 DlCounter(379) Cnt=379
40 6B 3A D1 00 80 D7 02 E0 01 7B EF 21 D2 17
-> PER Testing 9 over 60
KD 1 2 10 125 -30.0 ---- 1 0181 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 81 01 E0 03 06 16 B7 29
BU 2 2 10 125 -1.4 5.01s - 02D8 1 0 - 0 0 224 U 329 DlCounter(380) Cnt=380
40 6B 3A D1 00 80 D8 02 E0 01 7C 88 56 8E 64
-> PER Testing 10 over 60
KD 2 2 10 125 -30.0 ---- 1 0182 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 82 01 E0 03 80 98 EA FF
BU 2 2 10 125 -1.4 5.01s - 02D9 1 0 - 0 0 224 U 329 DlCounter(381) Cnt=381
40 6B 3A D1 00 80 D9 02 E0 01 7D A5 DE 05 4C
-> PER Testing 11 over 60
KD 2 2 10 125 -30.0 ---- 1 0183 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 83 01 E0 03 36 C5 3F C4
BU 1 2 10 125 -1.4 5.01s - 02DA 1 0 - 0 0 224 U 329 DlCounter(382) Cnt=382
40 6B 3A D1 00 80 DA 02 E0 01 7E 45 37 E7 15
-> PER Testing 12 over 60
KD 1 2 10 125 -30.0 ---- 1 0184 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 84 01 E0 03 49 B2 8C 6B
BU 2 2 10 125 -1.4 5.01s - 02DB 1 0 - 0 0 224 U 329 DlCounter(383) Cnt=383
40 6B 3A D1 00 80 DB 02 E0 01 7F 2E EF 8E AA
-> PER Testing 13 over 60
KD 2 2 10 125 -30.0 ---- 1 0185 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 85 01 E0 03 01 CA 0D 61
BU 0 2 10 125 -1.4 5.01s - 02DC 1 0 - 0 0 224 U 329 DlCounter(384) Cnt=384
40 6B 3A D1 00 80 DC 02 E0 01 80 7D 00 1E A7
-> PER Testing 14 over 60
KD 0 2 10 125 -30.0 ---- 1 0186 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 86 01 E0 03 61 79 39 6F
BU 1 2 10 125 -1.4 5.01s - 02DD 1 0 - 0 0 224 U 329 DlCounter(385) Cnt=385
40 6B 3A D1 00 80 DD 02 E0 01 81 AE 2F BA 7A
-> PER Testing 15 over 60
KD 1 2 10 125 -30.0 ---- 1 0187 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 87 01 E0 03 BE 39 50 39
BU 0 2 10 125 -1.4 5.01s - 02DE 1 0 - 0 0 224 U 329 DlCounter(386) Cnt=386
40 6B 3A D1 00 80 DE 02 E0 01 82 0C B5 E8 51
-> PER Testing 16 over 60
KD 0 2 10 125 -30.0 ---- 1 0188 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 88 01 E0 03 CB 5A 6E 76
BU 1 2 10 125 -1.4 5.01s - 02DF 1 0 - 0 0 224 U 329 DlCounter(387) Cnt=387
40 6B 3A D1 00 80 DF 02 E0 01 83 84 3F 98 E7
-> PER Testing 17 over 60
KD 1 2 10 125 -30.0 ---- 1 0189 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 89 01 E0 03 B9 81 AA B4
BU 0 2 10 125 -1.4 5.01s - 02E0 1 0 - 0 0 224 U 329 DlCounter(388) Cnt=388
40 6B 3A D1 00 80 E0 02 E0 01 84 ED E6 96 06
-> PER Testing 18 over 60
KD 0 2 10 125 -30.0 ---- 1 018A 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 8A 01 E0 03 F1 DB 0C E3
BU 0 2 10 125 -1.4 5.01s - 02E1 1 0 - 0 0 224 U 329 DlCounter(389) Cnt=389
40 6B 3A D1 00 80 E1 02 E0 01 85 EF C4 98 29
-> PER Testing 19 over 60
KD 0 2 10 125 -30.0 ---- 1 018B 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 8B 01 E0 03 07 08 13 43
BU 0 2 10 125 -1.4 5.01s - 02E2 1 0 - 0 0 224 U 329 DlCounter(390) Cnt=390

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40 6B 3A D1 00 80 E2 02 E0 01 86 38 74 D6 92
-> PER Testing 20 over 60
KD 0 2 10 125 -30.0 ---- 1 018C 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 8C 01 E0 03 81 DF 40 8D
BU 2 2 10 125 -1.4 5.01s - 02E3 1 0 - 0 0 224 U 329 DlCounter(391) Cnt=391
40 6B 3A D1 00 80 E3 02 E0 01 87 00 C1 E5 09
-> PER Testing 21 over 60
KD 2 2 10 125 -30.0 ---- 1 018D 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 8D 01 E0 03 E1 53 31 A3
BU 0 2 10 125 -1.4 5.01s - 02E4 1 0 - 0 0 224 U 329 DlCounter(392) Cnt=392
40 6B 3A D1 00 80 E4 02 E0 01 88 7A 66 11 21
-> PER Testing 22 over 60
KD 0 2 10 125 -30.0 ---- 1 018E 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 8E 01 E0 03 18 42 F8 45
BU 2 2 10 125 -1.4 5.01s - 02E5 1 0 - 0 0 224 U 329 DlCounter(393) Cnt=393
40 6B 3A D1 00 80 E5 02 E0 01 89 3E F2 5D FF
-> PER Testing 23 over 60
KD 2 2 10 125 -30.0 ---- 1 018F 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 8F 01 E0 03 E8 37 DF CE
BU 0 2 10 125 -1.4 5.01s - 02E6 1 0 - 0 0 224 U 329 DlCounter(394) Cnt=394
40 6B 3A D1 00 80 E6 02 E0 01 8A 82 EA D3 BB
-> PER Testing 24 over 60
KD 0 2 10 125 -30.0 ---- 1 0190 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 90 01 E0 03 4D 8A 2D 5C
BU 0 2 10 125 -1.4 5.01s - 02E7 1 0 - 0 0 224 U 329 DlCounter(395) Cnt=395
40 6B 3A D1 00 80 E7 02 E0 01 8B 9F 56 CC E9
-> PER Testing 25 over 60
KD 0 2 10 125 -30.0 ---- 1 0191 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 91 01 E0 03 8C DC A8 CC
BU 2 2 10 125 -1.4 5.01s - 02E8 1 0 - 0 0 224 U 329 DlCounter(396) Cnt=396
40 6B 3A D1 00 80 E8 02 E0 01 8C D8 CC CE BB
-> PER Testing 26 over 60
KD 2 2 10 125 -30.0 ---- 1 0192 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 92 01 E0 03 8C 15 B7 ED
BU 0 2 10 125 -1.4 5.01s - 02E9 1 0 - 0 0 224 U 329 DlCounter(397) Cnt=397
40 6B 3A D1 00 80 E9 02 E0 01 8D 48 78 BA 54
-> PER Testing 27 over 60
KD 0 2 10 125 -30.0 ---- 1 0193 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 93 01 E0 03 CE 61 12 60
BU 2 2 10 125 -1.4 5.01s - 02EA 1 0 - 0 0 224 U 329 DlCounter(398) Cnt=398
40 6B 3A D1 00 80 EA 02 E0 01 8E 39 37 1D 08
-> PER Testing 28 over 60
KD 2 2 10 125 -30.0 ---- 1 0194 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 94 01 E0 03 57 79 79 8F
BU 1 2 10 125 -1.4 5.01s - 02EB 1 0 - 0 0 224 U 329 DlCounter(399) Cnt=399
40 6B 3A D1 00 80 EB 02 E0 01 8F A6 4D 25 62
-> PER Testing 29 over 60
KD 1 2 10 125 -30.0 ---- 1 0195 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 95 01 E0 03 7F 9C 8A 90
BU 2 2 10 125 -1.4 5.01s - 02EC 1 0 - 0 0 224 U 329 DlCounter(400) Cnt=400
40 6B 3A D1 00 80 EC 02 E0 01 90 CF 0A 07 93
-> PER Testing 30 over 60
KD 2 2 10 125 -30.0 ---- 1 0196 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 96 01 E0 03 79 97 62 C1
BU 0 2 10 125 -1.4 5.01s - 02ED 1 0 - 0 0 224 U 329 DlCounter(401) Cnt=401
40 6B 3A D1 00 80 ED 02 E0 01 91 5A 78 09 A6
-> PER Testing 31 over 60
KD 0 2 10 125 -30.0 ---- 1 0197 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 97 01 E0 03 7A 04 0A 65
BU 1 2 10 125 -1.4 5.01s - 02EE 1 0 - 0 0 224 U 329 DlCounter(402) Cnt=402
40 6B 3A D1 00 80 EE 02 E0 01 92 82 6F C1 BE
-> PER Testing 32 over 60
KD 1 2 10 125 -30.0 ---- 1 0198 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 98 01 E0 03 5A 3B 3D 8D
BU 0 2 10 125 -1.4 5.01s - 02EF 1 0 - 0 0 224 U 329 DlCounter(403) Cnt=403
40 6B 3A D1 00 80 EF 02 E0 01 93 C6 2C 04 9D
-> PER Testing 33 over 60
KD 0 2 10 125 -30.0 ---- 1 0199 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 99 01 E0 03 78 50 89 57
BU 1 2 10 125 -1.4 5.01s - 02F0 1 0 - 0 0 224 U 329 DlCounter(404) Cnt=404
40 6B 3A D1 00 80 F0 02 E0 01 94 F4 17 66 C9
-> PER Testing 34 over 60
KD 1 2 10 125 -30.0 ---- 1 019A 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 9A 01 E0 03 A3 24 3C 31
BU 1 2 10 125 -1.4 5.01s - 02F1 1 0 - 0 0 224 U 329 DlCounter(405) Cnt=405
40 6B 3A D1 00 80 F1 02 E0 01 95 03 00 DB E3
-> PER Testing 35 over 60
KD 1 2 10 125 -30.0 ---- 1 019B 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 9B 01 E0 03 85 C8 83 40

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BU 1 2 10 125 -1.4 5.01s - 02F2 1 0 - 0 0 224 U 329 DlCounter(406) Cnt=406
40 6B 3A D1 00 80 F2 02 E0 01 96 AD AD B0 4A
-> PER Testing 36 over 60
KD 1 2 10 125 -30.0 ---- 1 019C 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 9C 01 E0 03 8E 21 90 E6
BU 2 2 10 125 -1.4 5.01s - 02F3 1 0 - 0 0 224 U 329 DlCounter(407) Cnt=407
40 6B 3A D1 00 80 F3 02 E0 01 97 E3 40 53 AC
-> PER Testing 37 over 60
KD 2 2 10 125 -30.0 ---- 1 019D 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 9D 01 E0 03 59 C0 1A 72
BU 0 2 10 125 -1.4 5.01s - 02F4 1 0 - 0 0 224 U 329 DlCounter(408) Cnt=408
40 6B 3A D1 00 80 F4 02 E0 01 98 00 49 6B 3C
-> PER Testing 38 over 60
KD 0 2 10 125 -30.0 ---- 1 019E 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 9E 01 E0 03 89 E9 BE 2B
BU 2 2 10 125 -1.4 5.01s - 02F5 1 0 - 0 0 224 U 329 DlCounter(409) Cnt=409
40 6B 3A D1 00 80 F5 02 E0 01 99 3E FD 01 B9
-> PER Testing 39 over 60
KD 2 2 10 125 -30.0 ---- 1 019F 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 9F 01 E0 03 AD FC 4E 33
BU 1 2 10 125 -1.4 5.01s - 02F6 1 0 - 0 0 224 U 329 DlCounter(410) Cnt=410
40 6B 3A D1 00 80 F6 02 E0 01 9A FF D3 D4 43
-> PER Testing 40 over 60
KD 1 2 10 125 -30.0 ---- 1 01A0 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A0 01 E0 03 0C AB 57 1C
BU 2 2 10 125 -1.4 5.01s - 02F7 1 0 - 0 0 224 U 329 DlCounter(411) Cnt=411
40 6B 3A D1 00 80 F7 02 E0 01 9B 94 2A 7A 33
-> PER Testing 41 over 60
KD 2 2 10 125 -30.0 ---- 1 01A1 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A1 01 E0 03 0E B0 EA D1
BU 0 2 10 125 -1.4 5.01s - 02F8 1 0 - 0 0 224 U 329 DlCounter(412) Cnt=412
40 6B 3A D1 00 80 F8 02 E0 01 9C C4 64 A0 2D
-> PER Testing 42 over 60
KD 0 2 10 125 -30.0 ---- 1 01A2 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A2 01 E0 03 A2 55 BA BD
BU 1 2 10 125 -1.4 5.01s - 02F9 1 0 - 0 0 224 U 329 DlCounter(413) Cnt=413
40 6B 3A D1 00 80 F9 02 E0 01 9D 25 55 25 B6
-> PER Testing 43 over 60
KD 1 2 10 125 -30.0 ---- 1 01A3 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A3 01 E0 03 ED AC FE 0D
BU 0 2 10 125 -1.4 5.01s - 02FA 1 0 - 0 0 224 U 329 DlCounter(414) Cnt=414
40 6B 3A D1 00 80 FA 02 E0 01 9E 11 EF 5C B0
-> PER Testing 44 over 60
KD 0 2 10 125 -30.0 ---- 1 01A4 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A4 01 E0 03 C0 B3 F0 6D
BU 2 2 10 125 -1.4 5.01s - 02FB 1 0 - 0 0 224 U 329 DlCounter(415) Cnt=415
40 6B 3A D1 00 80 FB 02 E0 01 9F 4A E4 00 AC
-> PER Testing 45 over 60
KD 2 2 10 125 -30.0 ---- 1 01A5 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A5 01 E0 03 92 E0 F2 FC
BU 0 2 10 125 -1.4 5.01s - 02FC 1 0 - 0 0 224 U 329 DlCounter(416) Cnt=416
40 6B 3A D1 00 80 FC 02 E0 01 A0 5A 21 37 91
-> PER Testing 46 over 60
KD 0 2 10 125 -30.0 ---- 1 01A6 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A6 01 E0 03 A1 BC A2 9A
BU 2 2 10 125 -1.4 5.01s - 02FD 1 0 - 0 0 224 U 329 DlCounter(417) Cnt=417
40 6B 3A D1 00 80 FD 02 E0 01 A1 8E EF 07 5D
-> PER Testing 47 over 60
KD 2 2 10 125 -30.0 ---- 1 01A7 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A7 01 E0 03 B5 02 15 99
BU 2 2 10 125 -1.4 5.01s - 02FE 1 0 - 0 0 224 U 329 DlCounter(418) Cnt=418
40 6B 3A D1 00 80 FE 02 E0 01 A2 41 21 12 B4
-> PER Testing 48 over 60
KD 2 2 10 125 -30.0 ---- 1 01A8 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A8 01 E0 03 8B 26 E1 0B
BU 2 2 10 125 -1.4 5.01s - 02FF 1 0 - 0 0 224 U 329 DlCounter(419) Cnt=419
40 6B 3A D1 00 80 FF 02 E0 01 A3 07 1D D1 28
-> PER Testing 49 over 60
KD 2 2 10 125 -30.0 ---- 1 01A9 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A9 01 E0 03 C8 5C B6 7C
BU 2 2 10 125 -1.4 5.01s - 0300 1 0 - 0 0 224 U 329 DlCounter(420) Cnt=420
40 6B 3A D1 00 80 00 03 E0 01 A4 3A 90 F6 13
-> PER Testing 50 over 60
KD 2 2 10 125 -30.0 ---- 1 01AA 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 AA 01 E0 03 AA BA 38 FF
BU 2 2 10 125 -1.4 5.01s - 0301 1 0 - 0 0 224 U 329 DlCounter(421) Cnt=421
40 6B 3A D1 00 80 01 03 E0 01 A5 8F 7F ED 48
-> PER Testing 51 over 60
KD 2 2 10 125 -30.0 ---- 1 01AB 1 0 0 - - 224 U 288 UnconfirmedFrame

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60 6B 3A D1 00 80 AB 01 E0 03 ED 28 E3 02
BU 0 2 10 125 -1.4 5.01s - 0302 1 0 - 0 0 224 U 329 DlCounter(422) Cnt=422
40 6B 3A D1 00 80 02 03 E0 01 A6 BC FA 8F EA
-> PER Testing 52 over 60
KD 0 2 10 125 -30.0 ---- 1 01AC 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 AC 01 E0 03 D8 BA D0 E8
BU 1 2 10 125 -1.4 5.01s - 0303 1 0 - 0 0 224 U 329 DlCounter(423) Cnt=423
40 6B 3A D1 00 80 03 03 E0 01 A7 EE B8 C2 75
-> PER Testing 53 over 60
KD 1 2 10 125 -30.0 ---- 1 01AD 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 AD 01 E0 03 EF 95 6B C8
BU 0 2 10 125 -1.4 5.01s - 0304 1 0 - 0 0 224 U 329 DlCounter(424) Cnt=424
40 6B 3A D1 00 80 04 03 E0 01 A8 19 56 DF E0
-> PER Testing 54 over 60
KD 0 2 10 125 -30.0 ---- 1 01AE 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 AE 01 E0 03 8C 64 86 FF
BU 0 2 10 125 -1.4 5.01s - 0305 1 0 - 0 0 224 U 329 DlCounter(425) Cnt=425
40 6B 3A D1 00 80 05 03 E0 01 A9 74 51 6C 67
-> PER Testing 55 over 60
KD 0 2 10 125 -30.0 ---- 1 01AF 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 AF 01 E0 03 8A 1B 83 58
BU 0 2 10 125 -1.4 5.01s - 0306 1 0 - 0 0 224 U 329 DlCounter(426) Cnt=426
40 6B 3A D1 00 80 06 03 E0 01 AA 70 8E 24 67
-> PER Testing 56 over 60
KD 0 2 10 125 -30.0 ---- 1 01B0 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 B0 01 E0 03 66 9F 7A D6
BU 2 2 10 125 -1.4 5.01s - 0307 1 0 - 0 0 224 U 329 DlCounter(427) Cnt=427
40 6B 3A D1 00 80 07 03 E0 01 AB 7D DC 5C 57
-> PER Testing 57 over 60
KD 2 2 10 125 -30.0 ---- 1 01B1 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 B1 01 E0 03 2D 21 C8 83
BU 2 2 10 125 -1.4 5.01s - 0308 1 0 - 0 0 224 U 329 DlCounter(428) Cnt=428
40 6B 3A D1 00 80 08 03 E0 01 AC EA 72 8F 50
-> PER Testing 58 over 60
KD 2 2 10 125 -30.0 ---- 1 01B2 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 B2 01 E0 03 31 EA 18 F5
BU 1 2 10 125 -1.4 5.01s - 0309 1 0 - 0 0 224 U 329 DlCounter(429) Cnt=429
40 6B 3A D1 00 80 09 03 E0 01 AD AA E5 09 6F
-> PER Testing 59 over 60
KD 1 2 10 125 -30.0 ---- 1 01B3 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 B3 01 E0 03 09 E3 42 0C
BU 1 2 10 125 -1.4 5.01s - 030A 1 0 - 0 0 224 U 329 DlCounter(430) Cnt=430
40 6B 3A D1 00 80 0A 03 E0 01 AE F6 88 40 94
-> PER Testing 60 over 60

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

0 error(s) over60, PER=0.000 (Criteria:PER<=0.05)

[Elapsed Time] 00:05:24

### 16.5 Test Packet error rate for SF11BW125 using RX1 window

[ TEST PURPOSE ]

To measure downlink packet error rate for RX1 window using all spreading factors  
: 16.5 Test Packet error rate for SF11BW125 using RX1 window

[ LINK MESSAGE ]

```

L CH DR SF BW Pow Time DEL FCNT Adr Ack FP AAR B Port M Dwell CMD CNTS
[Test packet error rate for SF11BW125 using RX1 window]
BU 1 2 10 125 -1.4 10.1s - 030D 1 0 - 0 0 224 U 329 DlCounter(430) Cnt=430
40 6B 3A D1 00 80 0D 03 E0 01 AE 7B 4F A5 B1

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KD 1 2 10 125 -36.0 ---- 1 01B4 1 0 0 - - 000 C 329 LinkADRRReq
Pow=0,DR=1,Mask=0007h,MC=0,NbTrans=1
A0 6B 3A D1 00 80 B4 01 00 03 10 07 00 01 8D 0E D2 AC
BU 2 1 11 125 -1.4 5.34s - 030E 1 1 - 0 0 224 U 659 {LinkADRRans} Pow=1, DR=1, Mask=1
40 6B 3A D1 00 A2 0E 03 03 07 E0 01 AF 00 6B 7A 45
KD R2 0 12 125 -30.0 ---- 1 01B5 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 B5 01 E0 03 DD 79 7C 58
BU 0 1 11 125 -1.4 5.01s - 030F 1 0 - 0 0 224 U 659 DlCounter(432) Cnt=432
40 6B 3A D1 00 80 0F 03 E0 01 B0 0B 12 3E 9C
KD 0 1 11 125 -30.0 ---- 1 01B6 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 B6 01 E0 03 B0 9C AD FA
BU 1 1 11 125 -1.4 5.01s - 0310 1 0 - 0 0 224 U 659 DlCounter(433) Cnt=433
40 6B 3A D1 00 80 10 03 E0 01 B1 5A D1 E6 14
-> PER Testing 1 over 60
KD 1 1 11 125 -30.0 ---- 1 01B7 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 B7 01 E0 03 1C 20 BC D2
BU 1 1 11 125 -1.4 5.01s - 0311 1 0 - 0 0 224 U 659 DlCounter(434) Cnt=434
40 6B 3A D1 00 80 11 03 E0 01 B2 E4 F0 05 6B
-> PER Testing 2 over 60
KD 1 1 11 125 -30.0 ---- 1 01B8 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 B8 01 E0 03 7D 01 9D 5D
BU 0 1 11 125 -1.4 5.01s - 0312 1 0 - 0 0 224 U 659 DlCounter(435) Cnt=435
40 6B 3A D1 00 80 12 03 E0 01 B3 DE 1B FC 12
-> PER Testing 3 over 60
KD 0 1 11 125 -30.0 ---- 1 01B9 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 B9 01 E0 03 A7 10 07 B0
BU 0 1 11 125 -1.4 5.01s - 0313 1 0 - 0 0 224 U 659 DlCounter(436) Cnt=436
40 6B 3A D1 00 80 13 03 E0 01 B4 18 DA E4 2B
-> PER Testing 4 over 60
KD 0 1 11 125 -30.0 ---- 1 01BA 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 BA 01 E0 03 DE 3D E5 7C
BU 0 1 11 125 -1.4 5.01s - 0314 1 0 - 0 0 224 U 659 DlCounter(437) Cnt=437
40 6B 3A D1 00 80 14 03 E0 01 B5 7A 85 77 39
-> PER Testing 5 over 60
KD 0 1 11 125 -30.0 ---- 1 01BB 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 BB 01 E0 03 82 07 67 65
BU 0 1 11 125 -1.4 5.01s - 0315 1 0 - 0 0 224 U 659 DlCounter(438) Cnt=438
40 6B 3A D1 00 80 15 03 E0 01 B6 65 AA 7D 7A
-> PER Testing 6 over 60
KD 0 1 11 125 -30.0 ---- 1 01BC 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 BC 01 E0 03 CE 01 B9 69
BU 1 1 11 125 -1.4 5.01s - 0316 1 0 - 0 0 224 U 659 DlCounter(439) Cnt=439
40 6B 3A D1 00 80 16 03 E0 01 B7 B6 DD 50 35
-> PER Testing 7 over 60
KD 1 1 11 125 -30.0 ---- 1 01BD 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 BD 01 E0 03 30 54 D3 CE
BU 0 1 11 125 -1.4 5.01s - 0317 1 0 - 0 0 224 U 659 DlCounter(440) Cnt=440
40 6B 3A D1 00 80 17 03 E0 01 B8 D0 62 62 92
-> PER Testing 8 over 60
KD 0 1 11 125 -30.0 ---- 1 01BE 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 BE 01 E0 03 D7 75 E4 C0
BU 1 1 11 125 -1.4 5.01s - 0318 1 0 - 0 0 224 U 659 DlCounter(441) Cnt=441
40 6B 3A D1 00 80 18 03 E0 01 B9 11 E4 85 AE
-> PER Testing 9 over 60
KD 1 1 11 125 -30.0 ---- 1 01BF 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 BF 01 E0 03 E5 BA 5E 01
BU 0 1 11 125 -1.4 5.01s - 0319 1 0 - 0 0 224 U 659 DlCounter(442) Cnt=442
40 6B 3A D1 00 80 19 03 E0 01 BA 23 69 E3 44
-> PER Testing 10 over 60
KD 0 1 11 125 -30.0 ---- 1 01C0 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C0 01 E0 03 A9 E0 F6 25
BU 1 1 11 125 -1.4 5.01s - 031A 1 0 - 0 0 224 U 659 DlCounter(443) Cnt=443
40 6B 3A D1 00 80 1A 03 E0 01 BB 55 6B B2 76
-> PER Testing 11 over 60
KD 1 1 11 125 -30.0 ---- 1 01C1 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C1 01 E0 03 74 68 88 45
BU 1 1 11 125 -1.4 5.01s - 031B 1 0 - 0 0 224 U 659 DlCounter(444) Cnt=444
40 6B 3A D1 00 80 1B 03 E0 01 BC 06 5F BE C8
-> PER Testing 12 over 60
KD 1 1 11 125 -30.0 ---- 1 01C2 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C2 01 E0 03 A9 20 8B FC
BU 2 1 11 125 -1.4 5.01s - 031C 1 0 - 0 0 224 U 659 DlCounter(445) Cnt=445
40 6B 3A D1 00 80 1C 03 E0 01 BD 81 83 CA E9
-> PER Testing 13 over 60
KD 2 1 11 125 -30.0 ---- 1 01C3 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C3 01 E0 03 33 FD 02 1A
BU 2 1 11 125 -1.4 5.01s - 031D 1 0 - 0 0 224 U 659 DlCounter(446) Cnt=446
40 6B 3A D1 00 80 1D 03 E0 01 BE F1 CE E0 E8
-> PER Testing 14 over 60

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KD 2 1 11 125 -30.0 ---- 1 01C4 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C4 01 E0 03 D3 7D 58 C7
BU 1 1 11 125 -1.4 5.01s - 031E 1 0 - 0 0 224 U 659 DlCounter(447) Cnt=447
40 6B 3A D1 00 80 1E 03 E0 01 BF F1 9D 71 15
-> PER Testing 15 over 60
KD 1 1 11 125 -30.0 ---- 1 01C5 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C5 01 E0 03 62 DE 18 76
BU 2 1 11 125 -1.4 5.01s - 031F 1 0 - 0 0 224 U 659 DlCounter(448) Cnt=448
40 6B 3A D1 00 80 1F 03 E0 01 C0 FF 49 15 4E
-> PER Testing 16 over 60
KD 2 1 11 125 -30.0 ---- 1 01C6 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C6 01 E0 03 DB BF DE 8C
BU 1 1 11 125 -1.4 5.01s - 0320 1 0 - 0 0 224 U 659 DlCounter(449) Cnt=449
40 6B 3A D1 00 80 20 03 E0 01 C1 DC 80 5E 6D
-> PER Testing 17 over 60
KD 1 1 11 125 -30.0 ---- 1 01C7 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C7 01 E0 03 8D F8 00 3B
BU 0 1 11 125 -1.4 5.01s - 0321 1 0 - 0 0 224 U 659 DlCounter(450) Cnt=450
40 6B 3A D1 00 80 21 03 E0 01 C2 83 C8 D3 2F
-> PER Testing 18 over 60
KD 0 1 11 125 -30.0 ---- 1 01C8 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C8 01 E0 03 00 B9 BC 1C
BU 2 1 11 125 -1.4 5.01s - 0322 1 0 - 0 0 224 U 659 DlCounter(451) Cnt=451
40 6B 3A D1 00 80 22 03 E0 01 C3 0E 58 1A F2
-> PER Testing 19 over 60
KD 2 1 11 125 -30.0 ---- 1 01C9 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C9 01 E0 03 CE F0 25 81
BU 1 1 11 125 -1.3 5.01s - 0323 1 0 - 0 0 224 U 659 DlCounter(452) Cnt=452
40 6B 3A D1 00 80 23 03 E0 01 C4 EB 84 9B 06
-> PER Testing 20 over 60
KD 1 1 11 125 -30.0 ---- 1 01CA 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 CA 01 E0 03 78 97 4A FB
BU 1 1 11 125 -1.3 5.01s - 0324 1 0 - 0 0 224 U 659 DlCounter(453) Cnt=453
40 6B 3A D1 00 80 24 03 E0 01 C5 11 C4 C7 7E
-> PER Testing 21 over 60
KD 1 1 11 125 -30.0 ---- 1 01CB 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 CB 01 E0 03 F4 C3 4A B7
BU 2 1 11 125 -1.4 5.01s - 0325 1 0 - 0 0 224 U 659 DlCounter(454) Cnt=454
40 6B 3A D1 00 80 25 03 E0 01 C6 BC 42 D6 CA
-> PER Testing 22 over 60
KD 2 1 11 125 -30.0 ---- 1 01CC 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 CC 01 E0 03 3C B5 C9 2A
BU 0 1 11 125 -1.4 5.01s - 0326 1 0 - 0 0 224 U 659 DlCounter(455) Cnt=455
40 6B 3A D1 00 80 26 03 E0 01 C7 47 06 A6 46
-> PER Testing 23 over 60
KD 0 1 11 125 -30.0 ---- 1 01CD 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 CD 01 E0 03 D8 37 EE 5F
BU 0 1 11 125 -1.4 5.01s - 0327 1 0 - 0 0 224 U 659 DlCounter(456) Cnt=456
40 6B 3A D1 00 80 27 03 E0 01 C8 7E A7 62 71
-> PER Testing 24 over 60
KD 0 1 11 125 -30.0 ---- 1 01CE 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 CE 01 E0 03 F0 BA DA 40
BU 1 1 11 125 -1.4 5.01s - 0328 1 0 - 0 0 224 U 659 DlCounter(457) Cnt=457
40 6B 3A D1 00 80 28 03 E0 01 C9 BD EF 58 97
-> PER Testing 25 over 60
KD 1 1 11 125 -30.0 ---- 1 01CF 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 CF 01 E0 03 B2 6F CD 56
BU 2 1 11 125 -1.4 5.01s - 0329 1 0 - 0 0 224 U 659 DlCounter(458) Cnt=458
40 6B 3A D1 00 80 29 03 E0 01 CA AF D9 06 02
-> PER Testing 26 over 60
KD 2 1 11 125 -30.0 ---- 1 01D0 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D0 01 E0 03 15 65 89 3F
BU 1 1 11 125 -1.4 5.01s - 032A 1 0 - 0 0 224 U 659 DlCounter(459) Cnt=459
40 6B 3A D1 00 80 2A 03 E0 01 CB 0F 95 58 85
-> PER Testing 27 over 60
KD 1 1 11 125 -30.0 ---- 1 01D1 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D1 01 E0 03 C0 30 2D A0
BU 2 1 11 125 -1.4 5.01s - 032B 1 0 - 0 0 224 U 659 DlCounter(460) Cnt=460
40 6B 3A D1 00 80 2B 03 E0 01 CC 1B EE E1 75
-> PER Testing 28 over 60
KD 2 1 11 125 -30.0 ---- 1 01D2 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D2 01 E0 03 5D 8C A1 14
BU 1 1 11 125 -1.4 5.01s - 032C 1 0 - 0 0 224 U 659 DlCounter(461) Cnt=461
40 6B 3A D1 00 80 2C 03 E0 01 CD D4 D9 BF 4F
-> PER Testing 29 over 60
KD 1 1 11 125 -30.0 ---- 1 01D3 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D3 01 E0 03 0A B8 28 F1
BU 2 1 11 125 -1.4 5.01s - 032D 1 0 - 0 0 224 U 659 DlCounter(462) Cnt=462
40 6B 3A D1 00 80 2D 03 E0 01 CE C5 48 40 49

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-> PER Testing 30 over 60
KD 2 1 11 125 -30.0 ---- 1 01D4 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D4 01 E0 03 2A 77 71 F6
BU 0 1 11 125 -1.4 5.01s - 032E 1 0 - 0 0 224 U 659 DlCounter(463) Cnt=463
40 6B 3A D1 00 80 2E 03 E0 01 CF F5 E8 49 C1
-> PER Testing 31 over 60
KD 0 1 11 125 -30.0 ---- 1 01D5 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D5 01 E0 03 88 B4 F1 75
BU 2 1 11 125 -1.4 5.01s - 032F 1 0 - 0 0 224 U 659 DlCounter(464) Cnt=464
40 6B 3A D1 00 80 2F 03 E0 01 D0 D6 BB 55 E5
-> PER Testing 32 over 60
KD 2 1 11 125 -30.0 ---- 1 01D6 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D6 01 E0 03 D5 29 07 8A
BU 2 1 11 125 -1.4 5.01s - 0330 1 0 - 0 0 224 U 659 DlCounter(465) Cnt=465
40 6B 3A D1 00 80 30 03 E0 01 D1 F2 E7 94 34
-> PER Testing 33 over 60
KD 2 1 11 125 -30.0 ---- 1 01D7 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D7 01 E0 03 68 48 41 ED
BU 1 1 11 125 -1.4 5.01s - 0331 1 0 - 0 0 224 U 659 DlCounter(466) Cnt=466
40 6B 3A D1 00 80 31 03 E0 01 D2 FD BD CD DB
-> PER Testing 34 over 60
KD 1 1 11 125 -30.0 ---- 1 01D8 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D8 01 E0 03 E5 32 FC F2
BU 1 1 11 125 -1.4 5.01s - 0332 1 0 - 0 0 224 U 659 DlCounter(467) Cnt=467
40 6B 3A D1 00 80 32 03 E0 01 D3 92 61 C9 8B
-> PER Testing 35 over 60
KD 1 1 11 125 -30.0 ---- 1 01D9 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D9 01 E0 03 75 16 A6 98
BU 2 1 11 125 -1.4 5.01s - 0333 1 0 - 0 0 224 U 659 DlCounter(468) Cnt=468
40 6B 3A D1 00 80 33 03 E0 01 D4 29 77 B5 9A
-> PER Testing 36 over 60
KD 2 1 11 125 -30.0 ---- 1 01DA 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 DA 01 E0 03 51 2F 18 04
BU 1 1 11 125 -1.4 5.01s - 0334 1 0 - 0 0 224 U 659 DlCounter(469) Cnt=469
40 6B 3A D1 00 80 34 03 E0 01 D5 E1 57 EF 45
-> PER Testing 37 over 60
KD 1 1 11 125 -30.0 ---- 1 01DB 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 DB 01 E0 03 C9 97 68 99
BU 2 1 11 125 -1.4 5.01s - 0335 1 0 - 0 0 224 U 659 DlCounter(470) Cnt=470
40 6B 3A D1 00 80 35 03 E0 01 D6 CD A9 B9 10
-> PER Testing 38 over 60
KD 2 1 11 125 -30.0 ---- 1 01DC 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 DC 01 E0 03 62 4B EC 20
BU 0 1 11 125 -1.4 5.01s - 0336 1 0 - 0 0 224 U 659 DlCounter(471) Cnt=471
40 6B 3A D1 00 80 36 03 E0 01 D7 7B E2 5F E5
-> PER Testing 39 over 60
KD 0 1 11 125 -30.0 ---- 1 01DD 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 DD 01 E0 03 53 2C DC CE
BU 0 1 11 125 -1.4 5.01s - 0337 1 0 - 0 0 224 U 659 DlCounter(472) Cnt=472
40 6B 3A D1 00 80 37 03 E0 01 D8 E1 73 D1 B9
-> PER Testing 40 over 60
KD 0 1 11 125 -30.0 ---- 1 01DE 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 DE 01 E0 03 13 CE 52 60
BU 1 1 11 125 -1.4 5.01s - 0338 1 0 - 0 0 224 U 659 DlCounter(473) Cnt=473
40 6B 3A D1 00 80 38 03 E0 01 D9 A1 BC C2 8D
-> PER Testing 41 over 60
KD 1 1 11 125 -30.0 ---- 1 01DF 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 DF 01 E0 03 DA 4A E1 8D
BU 1 1 11 125 -1.4 5.01s - 0339 1 0 - 0 0 224 U 659 DlCounter(474) Cnt=474
40 6B 3A D1 00 80 39 03 E0 01 DA 1A 2D 6C 55
-> PER Testing 42 over 60
KD 1 1 11 125 -30.0 ---- 1 01E0 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 E0 01 E0 03 87 24 1F 4D
BU 2 1 11 125 -1.4 5.01s - 033A 1 0 - 0 0 224 U 659 DlCounter(475) Cnt=475
40 6B 3A D1 00 80 3A 03 E0 01 DB 43 AB 9C 52
-> PER Testing 43 over 60
KD 2 1 11 125 -30.0 ---- 1 01E1 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 E1 01 E0 03 DC 30 02 E7
BU 2 1 11 125 -1.4 5.01s - 033B 1 0 - 0 0 224 U 659 DlCounter(476) Cnt=476
40 6B 3A D1 00 80 3B 03 E0 01 DC 0B F3 F0 D9
-> PER Testing 44 over 60
KD 2 1 11 125 -30.0 ---- 1 01E2 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 E2 01 E0 03 16 86 91 AB
BU 2 1 11 125 -1.4 5.01s - 033C 1 0 - 0 0 224 U 659 DlCounter(477) Cnt=477
40 6B 3A D1 00 80 3C 03 E0 01 DD E8 10 3E 8F
-> PER Testing 45 over 60
KD 2 1 11 125 -30.0 ---- 1 01E3 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 E3 01 E0 03 75 A0 25 EF
BU 1 1 11 125 -1.4 5.01s - 033D 1 0 - 0 0 224 U 659 DlCounter(478) Cnt=478

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40 6B 3A D1 00 80 3D 03 E0 01 DE DC 8F EF B6
-> PER Testing 46 over 60
KD 1 1 11 125 -30.0 ---- 1 01E4 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 E4 01 E0 03 5C 43 69 0C
BU 2 1 11 125 -1.4 5.01s - 033E 1 0 - 0 0 224 U 659 DlCounter(479) Cnt=479
40 6B 3A D1 00 80 3E 03 E0 01 DF 6E B5 11 A5
-> PER Testing 47 over 60
KD 2 1 11 125 -30.0 ---- 1 01E5 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 E5 01 E0 03 C9 B4 19 06
BU 0 1 11 125 -1.4 5.01s - 033F 1 0 - 0 0 224 U 659 DlCounter(480) Cnt=480
40 6B 3A D1 00 80 3F 03 E0 01 E0 A0 C6 2E 01
-> PER Testing 48 over 60
KD 0 1 11 125 -30.0 ---- 1 01E6 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 E6 01 E0 03 24 4A 61 96
BU 0 1 11 125 -1.4 5.01s - 0340 1 0 - 0 0 224 U 659 DlCounter(481) Cnt=481
40 6B 3A D1 00 80 40 03 E0 01 E1 7B 43 3F 80
-> PER Testing 49 over 60
KD 0 1 11 125 -30.0 ---- 1 01E7 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 E7 01 E0 03 1C F4 F1 7F
BU 2 1 11 125 -1.4 5.01s - 0341 1 0 - 0 0 224 U 659 DlCounter(482) Cnt=482
40 6B 3A D1 00 80 41 03 E0 01 E2 C1 36 07 FE
-> PER Testing 50 over 60
KD 2 1 11 125 -30.0 ---- 1 01E8 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 E8 01 E0 03 AE 66 3D ED
BU 2 1 11 125 -1.4 5.01s - 0342 1 0 - 0 0 224 U 659 DlCounter(483) Cnt=483
40 6B 3A D1 00 80 42 03 E0 01 E3 A5 C3 3C C3
-> PER Testing 51 over 60
KD 2 1 11 125 -30.0 ---- 1 01E9 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 E9 01 E0 03 5F 16 FB 69
BU 0 1 11 125 -1.4 5.01s - 0343 1 0 - 0 0 224 U 659 DlCounter(484) Cnt=484
40 6B 3A D1 00 80 43 03 E0 01 E4 DD 11 0F 7A
-> PER Testing 52 over 60
KD 0 1 11 125 -30.0 ---- 1 01EA 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 EA 01 E0 03 93 07 35 17
BU 2 1 11 125 -1.4 5.01s - 0344 1 0 - 0 0 224 U 659 DlCounter(485) Cnt=485
40 6B 3A D1 00 80 44 03 E0 01 E5 DF CD 2E 32
-> PER Testing 53 over 60
KD 2 1 11 125 -30.0 ---- 1 01EB 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 EB 01 E0 03 0E F4 B8 E2
BU 0 1 11 125 -1.4 5.01s - 0345 1 0 - 0 0 224 U 659 DlCounter(486) Cnt=486
40 6B 3A D1 00 80 45 03 E0 01 E6 03 9F E8 F2
-> PER Testing 54 over 60
KD 0 1 11 125 -30.0 ---- 1 01EC 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 EC 01 E0 03 6A 9B F8 25
BU 1 1 11 125 -1.4 5.01s - 0346 1 0 - 0 0 224 U 659 DlCounter(487) Cnt=487
40 6B 3A D1 00 80 46 03 E0 01 E7 B7 9C A1 7F
-> PER Testing 55 over 60
KD 1 1 11 125 -30.0 ---- 1 01ED 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 ED 01 E0 03 DC F4 3E 55
BU 2 1 11 125 -1.4 5.01s - 0347 1 0 - 0 0 224 U 659 DlCounter(488) Cnt=488
40 6B 3A D1 00 80 47 03 E0 01 E8 CD 02 48 D3
-> PER Testing 56 over 60
KD 2 1 11 125 -30.0 ---- 1 01EE 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 EE 01 E0 03 0C 71 10 C6
BU 0 1 11 125 -1.4 5.01s - 0348 1 0 - 0 0 224 U 659 DlCounter(489) Cnt=489
40 6B 3A D1 00 80 48 03 E0 01 E9 E9 8A DC 26
-> PER Testing 57 over 60
KD 0 1 11 125 -30.0 ---- 1 01EF 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 EF 01 E0 03 26 50 00 59
BU 1 1 11 125 -1.4 5.01s - 0349 1 0 - 0 0 224 U 659 DlCounter(490) Cnt=490
40 6B 3A D1 00 80 49 03 E0 01 EA F5 3C 06 6B
-> PER Testing 58 over 60
KD 1 1 11 125 -30.0 ---- 1 01F0 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 F0 01 E0 03 64 89 17 B3
BU 0 1 11 125 -1.4 5.01s - 034A 1 0 - 0 0 224 U 659 DlCounter(491) Cnt=491
40 6B 3A D1 00 80 4A 03 E0 01 EB 65 59 77 E5
-> PER Testing 59 over 60
KD 0 1 11 125 -30.0 ---- 1 01F1 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 F1 01 E0 03 55 03 B8 91
BU 1 1 11 125 -1.4 5.01s - 034B 1 0 - 0 0 224 U 659 DlCounter(492) Cnt=492
40 6B 3A D1 00 80 4B 03 E0 01 EC CD 77 13 5A
-> PER Testing 60 over 60

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]  
0 error(s) over60, PER=0.000 (Criteria:PER<=0.05)

[Elapsed Time] 00:05:23

### 16.6 Test Packet error rate for SF12BW125 using RX1 window

[ TEST PURPOSE ]

To measure downlink packet error rate for RX1 window using all spreading factors  
: 16.6 Test Packet error rate for SF12BW125 using RX1 window

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	0	1	11	125	-1.4	5.01s	-	034D	1	0	0	0	0	224	U	659	DlCounter(492)	Cnt=492
40 6B 3A D1 00 80 4D 03 E0 01 EC C1 0D 4E 25																		
[Test packet error rate for SF12BW125 using RX1 window]																		
BU	0	1	11	125	-1.4	5.01s	-	034E	1	0	0	0	0	224	U	659	DlCounter(492)	Cnt=492
40 6B 3A D1 00 80 4E 03 E0 01 EC 2F 5C 83 75																		
KD	0	1	11	125	-36.0		----	1	01F2	1	0	0	-	-	000	C	659	LinkADRReq
Pow=0,DR=0,Mask=0007h,MC=0,NbTrans=1																		
A0	6B	3A	D1	00	80	F2	01	00	03	00	07	00	01	5A	A7	4C	77	
BU	2	0	12	125	-1.4	5.67s	-	034F	1	1	0	0	0	224	U	1318	{LinkADRAns}	Pow=1, DR=1, Mask=1
40 6B 3A D1 00 A2 4F 03 03 07 E0 01 ED 59 9E 40 9F																		
KD	R2	0	12	125	-30.0		----	1	01F3	1	0	0	-	-	224	U	1155	UnconfirmedFrame
60 6B 3A D1 00 80 F3 01 E0 03 7E BE 4F 20																		
BU	2	0	12	125	-1.4	4.84s	-	0350	1	0	0	0	0	224	U	1155	DlCounter(494)	Cnt=494
40 6B 3A D1 00 80 50 03 E0 01 EE 86 F9 08 01																		
KD	2	0	12	125	-30.0		----	1	01F4	1	0	0	-	-	224	U	1155	UnconfirmedFrame
60 6B 3A D1 00 80 F4 01 E0 03 AC 07 AA 52																		
BU	0	0	12	125	-1.4	5.01s	-	0351	1	0	0	0	0	224	U	1155	DlCounter(495)	Cnt=495
40 6B 3A D1 00 80 51 03 E0 01 EF FC B1 F2 DF																		
-> PER Testing 1 over 60																		
KD	0	0	12	125	-30.0		----	1	01F5	1	0	0	-	-	224	U	1155	UnconfirmedFrame
60 6B 3A D1 00 80 F5 01 E0 03 24 92 44 25																		
BU	2	0	12	125	-1.4	5.01s	-	0352	1	0	0	0	0	224	U	1155	DlCounter(496)	Cnt=496
40 6B 3A D1 00 80 52 03 E0 01 F0 52 68 3D 92																		
-> PER Testing 2 over 60																		
KD	2	0	12	125	-30.0		----	1	01F6	1	0	0	-	-	224	U	1155	UnconfirmedFrame
60 6B 3A D1 00 80 F6 01 E0 03 47 A0 F5 CD																		
BU	0	0	12	125	-1.4	5.01s	-	0353	1	0	0	0	0	224	U	1155	DlCounter(497)	Cnt=497
40 6B 3A D1 00 80 53 03 E0 01 F1 9F F4 CC 54																		
-> PER Testing 3 over 60																		
KD	0	0	12	125	-30.0		----	1	01F7	1	0	0	-	-	224	U	1155	UnconfirmedFrame
60 6B 3A D1 00 80 F7 01 E0 03 5D 99 90 33																		
BU	1	0	12	125	-1.4	5.01s	-	0354	1	0	0	0	0	224	U	1155	DlCounter(498)	Cnt=498
40 6B 3A D1 00 80 54 03 E0 01 F2 F6 32 A2 99																		
-> PER Testing 4 over 60																		
KD	1	0	12	125	-30.0		----	1	01F8	1	0	0	-	-	224	U	1155	UnconfirmedFrame
60 6B 3A D1 00 80 F8 01 E0 03 87 55 56 A1																		
BU	0	0	12	125	-1.4	5.01s	-	0355	1	0	0	0	0	224	U	1155	DlCounter(499)	Cnt=499
40 6B 3A D1 00 80 55 03 E0 01 F3 D4 54 D7 A2																		
-> PER Testing 5 over 60																		
KD	0	0	12	125	-30.0		----	1	01F9	1	0	0	-	-	224	U	1155	UnconfirmedFrame
60 6B 3A D1 00 80 F9 01 E0 03 69 DA E8 D2																		
BU	0	0	12	125	-1.4	5.01s	-	0356	1	0	0	0	0	224	U	1155	DlCounter(500)	Cnt=500
40 6B 3A D1 00 80 56 03 E0 01 F4 0E 0C 45 0F																		
-> PER Testing 6 over 60																		
KD	0	0	12	125	-30.0		----	1	01FA	1	0	0	-	-	224	U	1155	UnconfirmedFrame
60 6B 3A D1 00 80 FA 01 E0 03 C0 51 7D AE																		
BU	2	0	12	125	-1.4	5.01s	-	0357	1	0	0	0	0	224	U	1155	DlCounter(501)	Cnt=501
40 6B 3A D1 00 80 57 03 E0 01 F5 03 18 54 19																		
-> PER Testing 7 over 60																		
KD	2	0	12	125	-30.0		----	1	01FB	1	0	0	-	-	224	U	1155	UnconfirmedFrame
60 6B 3A D1 00 80 FB 01 E0 03 B7 FF 84 CB																		
BU	0	0	12	125	-1.4	5.01s	-	0358	1	0	0	0	0	224	U	1155	DlCounter(502)	Cnt=502
40 6B 3A D1 00 80 58 03 E0 01 F6 58 3B CC 55																		
-> PER Testing 8 over 60																		

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KD 0 0 12 125 -30.0 ---- 1 01FC 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 FC 01 E0 03 AF AB F9 AA
BU 0 0 12 125 -1.4 5.01s - 0359 1 0 - 0 0 224 U 1155 DlCounter(503) Cnt=503
40 6B 3A D1 00 80 59 03 E0 01 F7 FF DC A5 83
-> PER Testing 9 over 60
KD 0 0 12 125 -30.0 ---- 1 01FD 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 FD 01 E0 03 56 22 6B 33
BU 1 0 12 125 -1.4 5.01s - 035A 1 0 - 0 0 224 U 1155 DlCounter(504) Cnt=504
40 6B 3A D1 00 80 5A 03 E0 01 F8 F5 2C F8 D1
-> PER Testing 10 over 60
KD 1 0 12 125 -30.0 ---- 1 01FE 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 FE 01 E0 03 43 32 99 E4
BU 0 0 12 125 -1.4 5.01s - 035B 1 0 - 0 0 224 U 1155 DlCounter(505) Cnt=505
40 6B 3A D1 00 80 5B 03 E0 01 F9 3C EF D5 BB
-> PER Testing 11 over 60
KD 0 0 12 125 -30.0 ---- 1 01FF 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 FF 01 E0 03 0B 82 22 BF
BU 2 0 12 125 -1.3 5.01s - 035C 1 0 - 0 0 224 U 1155 DlCounter(506) Cnt=506
40 6B 3A D1 00 80 5C 03 E0 01 FA 4C 57 64 5D
-> PER Testing 12 over 60
KD 2 0 12 125 -30.0 ---- 1 0200 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 00 02 E0 03 6B A2 3F BE
BU 0 0 12 125 -1.4 5.01s - 035D 1 0 - 0 0 224 U 1155 DlCounter(507) Cnt=507
40 6B 3A D1 00 80 5D 03 E0 01 FB F9 E1 5F 5C
-> PER Testing 13 over 60
KD 0 0 12 125 -30.0 ---- 1 0201 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 01 02 E0 03 6F 7F BE DD
BU 1 0 12 125 -1.4 5.01s - 035E 1 0 - 0 0 224 U 1155 DlCounter(508) Cnt=508
40 6B 3A D1 00 80 5E 03 E0 01 FC 38 38 66 00
-> PER Testing 14 over 60
KD 1 0 12 125 -30.0 ---- 1 0202 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 02 02 E0 03 96 65 71 47
BU 2 0 12 125 -1.4 5.01s - 035F 1 0 - 0 0 224 U 1155 DlCounter(509) Cnt=509
40 6B 3A D1 00 80 5F 03 E0 01 FD 02 EE DD C8
-> PER Testing 15 over 60
KD 2 0 12 125 -30.0 ---- 1 0203 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 03 02 E0 03 37 26 94 DC
BU 0 0 12 125 -1.4 5.01s - 0360 1 0 - 0 0 224 U 1155 DlCounter(510) Cnt=510
40 6B 3A D1 00 80 60 03 E0 01 FE 6E 40 21 3D
-> PER Testing 16 over 60
KD 0 0 12 125 -30.0 ---- 1 0204 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 04 02 E0 03 91 7E F0 B5
BU 1 0 12 125 -1.4 5.01s - 0361 1 0 - 0 0 224 U 1155 DlCounter(511) Cnt=511
40 6B 3A D1 00 80 61 03 E0 01 FF B3 38 EB A4
-> PER Testing 17 over 60
KD 1 0 12 125 -30.0 ---- 1 0205 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 05 02 E0 03 E6 5D A5 63
BU 0 0 12 125 -1.4 5.01s - 0362 1 0 - 0 0 224 U 1155 DlCounter(512) Cnt=512
40 6B 3A D1 00 80 62 03 E0 02 00 11 D3 9B 9D
-> PER Testing 18 over 60
KD 0 0 12 125 -30.0 ---- 1 0206 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 06 02 E0 03 A3 8D 4F 94
BU 0 0 12 125 -1.4 5.01s - 0363 1 0 - 0 0 224 U 1155 DlCounter(513) Cnt=513
40 6B 3A D1 00 80 63 03 E0 02 01 3C 34 44 9A
-> PER Testing 19 over 60
KD 0 0 12 125 -30.0 ---- 1 0207 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 07 02 E0 03 51 F5 BD A1
BU 0 0 12 125 -1.4 5.01s - 0364 1 0 - 0 0 224 U 1155 DlCounter(514) Cnt=514
40 6B 3A D1 00 80 64 03 E0 02 02 A5 DE 89 2C
-> PER Testing 20 over 60
KD 0 0 12 125 -30.0 ---- 1 0208 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 08 02 E0 03 C1 80 17 6B
BU 0 0 12 125 -1.4 5.01s - 0365 1 0 - 0 0 224 U 1155 DlCounter(515) Cnt=515
40 6B 3A D1 00 80 65 03 E0 02 03 B7 B5 09 CC
-> PER Testing 21 over 60
KD 0 0 12 125 -30.0 ---- 1 0209 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 09 02 E0 03 1C 8D FE E3
BU 2 0 12 125 -1.4 5.01s - 0366 1 0 - 0 0 224 U 1155 DlCounter(516) Cnt=516
40 6B 3A D1 00 80 66 03 E0 02 04 5A 4D A6 CC
-> PER Testing 22 over 60
KD 2 0 12 125 -30.0 ---- 1 020A 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 0A 02 E0 03 A3 61 49 1D
BU 2 0 12 125 -1.4 5.01s - 0367 1 0 - 0 0 224 U 1155 DlCounter(517) Cnt=517
40 6B 3A D1 00 80 67 03 E0 02 05 59 F9 1B 50
-> PER Testing 23 over 60
KD 2 0 12 125 -30.0 ---- 1 020B 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 0B 02 E0 03 D9 0B E3 58
BU 1 0 12 125 -1.4 5.01s - 0368 1 0 - 0 0 224 U 1155 DlCounter(518) Cnt=518
40 6B 3A D1 00 80 68 03 E0 02 06 14 4E F8 64

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-> PER Testing 24 over 60
KD 1 0 12 125 -30.0 ---- 1 020C 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 0C 02 E0 03 D5 C0 C8 DA
BU 2 0 12 125 -1.4 5.01s - 0369 1 0 - 0 0 224 U 1155 DlCounter(519) Cnt=519
40 6B 3A D1 00 80 69 03 E0 02 07 E0 2D CB 9E
-> PER Testing 25 over 60
KD 2 0 12 125 -30.0 ---- 1 020D 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 0D 02 E0 03 67 66 49 76
BU 0 0 12 125 -1.4 5.01s - 036A 1 0 - 0 0 224 U 1155 DlCounter(520) Cnt=520
40 6B 3A D1 00 80 6A 03 E0 02 08 01 8F B6 27
-> PER Testing 26 over 60
KD 0 0 12 125 -30.0 ---- 1 020E 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 0E 02 E0 03 76 EE A7 55
BU 0 0 12 125 -1.4 5.01s - 036B 1 0 - 0 0 224 U 1155 DlCounter(521) Cnt=521
40 6B 3A D1 00 80 6B 03 E0 02 09 68 2B FF 12
-> PER Testing 27 over 60
KD 0 0 12 125 -30.0 ---- 1 020F 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 0F 02 E0 03 AA 23 CF 27
BU 1 0 12 125 -1.4 5.01s - 036C 1 0 - 0 0 224 U 1155 DlCounter(522) Cnt=522
40 6B 3A D1 00 80 6C 03 E0 02 0A 9A 06 B5 72
-> PER Testing 28 over 60
KD 1 0 12 125 -30.0 ---- 1 0210 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 10 02 E0 03 3D 74 E6 6A
BU 1 0 12 125 -1.4 5.01s - 036D 1 0 - 0 0 224 U 1155 DlCounter(523) Cnt=523
40 6B 3A D1 00 80 6D 03 E0 02 0B 09 29 94 30
-> PER Testing 29 over 60
KD 1 0 12 125 -30.0 ---- 1 0211 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 11 02 E0 03 15 F0 1D CB
BU 1 0 12 125 -1.4 5.01s - 036E 1 0 - 0 0 224 U 1155 DlCounter(524) Cnt=524
40 6B 3A D1 00 80 6E 03 E0 02 0C E6 1B F2 28
-> PER Testing 30 over 60
KD 1 0 12 125 -30.0 ---- 1 0212 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 12 02 E0 03 12 8B EF 50
BU 2 0 12 125 -1.4 5.01s - 036F 1 0 - 0 0 224 U 1155 DlCounter(525) Cnt=525
40 6B 3A D1 00 80 6F 03 E0 02 0D 6A 40 42 3B
-> PER Testing 31 over 60
KD 2 0 12 125 -30.0 ---- 1 0213 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 13 02 E0 03 95 7E 3E 4B
BU 0 0 12 125 -1.3 5.01s - 0370 1 0 - 0 0 224 U 1155 DlCounter(526) Cnt=526
40 6B 3A D1 00 80 70 03 E0 02 0E 24 07 F1 8A
-> PER Testing 32 over 60
KD 0 0 12 125 -30.0 ---- 1 0214 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 14 02 E0 03 5B F2 BF 7E
BU 1 0 12 125 -1.4 5.01s - 0371 1 0 - 0 0 224 U 1155 DlCounter(527) Cnt=527
40 6B 3A D1 00 80 71 03 E0 02 0F 4D 8D 2A B0
-> PER Testing 33 over 60
KD 1 0 12 125 -30.0 ---- 1 0215 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 15 02 E0 03 8B 23 42 E3
BU 1 0 12 125 -1.4 5.01s - 0372 1 0 - 0 0 224 U 1155 DlCounter(528) Cnt=528
40 6B 3A D1 00 80 72 03 E0 02 10 C2 EA 0B E1
-> PER Testing 34 over 60
KD 1 0 12 125 -30.0 ---- 1 0216 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 16 02 E0 03 10 37 2C 4E
BU 2 0 12 125 -1.4 5.01s - 0373 1 0 - 0 0 224 U 1155 DlCounter(529) Cnt=529
40 6B 3A D1 00 80 73 03 E0 02 11 1B 4B C0 05
-> PER Testing 35 over 60
KD 2 0 12 125 -30.0 ---- 1 0217 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 17 02 E0 03 EE 51 12 ED
BU 1 0 12 125 -1.4 5.01s - 0374 1 0 - 0 0 224 U 1155 DlCounter(530) Cnt=530
40 6B 3A D1 00 80 74 03 E0 02 12 F3 5B 02 70
-> PER Testing 36 over 60
KD 1 0 12 125 -30.0 ---- 1 0218 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 18 02 E0 03 3E A1 84 AA
BU 1 0 12 125 -1.4 5.01s - 0375 1 0 - 0 0 224 U 1155 DlCounter(531) Cnt=531
40 6B 3A D1 00 80 75 03 E0 02 13 8A 05 97 9F
-> PER Testing 37 over 60
KD 1 0 12 125 -30.0 ---- 1 0219 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 19 02 E0 03 61 26 B2 0D
BU 1 0 12 125 -1.4 5.01s - 0376 1 0 - 0 0 224 U 1155 DlCounter(532) Cnt=532
40 6B 3A D1 00 80 76 03 E0 02 14 71 36 80 82
-> PER Testing 38 over 60
KD 1 0 12 125 -30.0 ---- 1 021A 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 1A 02 E0 03 D1 1C 82 B8
BU 1 0 12 125 -1.4 5.01s - 0377 1 0 - 0 0 224 U 1155 DlCounter(533) Cnt=533
40 6B 3A D1 00 80 77 03 E0 02 15 E5 87 D4 EB
-> PER Testing 39 over 60
KD 1 0 12 125 -30.0 ---- 1 021B 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 1B 02 E0 03 3B 8B CA 58
BU 1 0 12 125 -1.4 5.01s - 0378 1 0 - 0 0 224 U 1155 DlCounter(534) Cnt=534

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40 6B 3A D1 00 80 78 03 E0 02 16 89 20 E4 17
-> PER Testing 40 over 60
KD 1 0 12 125 -30.0 ---- 1 021C 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 1C 02 E0 03 7F 7F 5D 32
BU 0 0 12 125 -1.4 5.01s - 0379 1 0 - 0 0 224 U 1155 DlCounter(535) Cnt=535
40 6B 3A D1 00 80 79 03 E0 02 17 01 BA E7 5B
-> PER Testing 41 over 60
KD 0 0 12 125 -30.0 ---- 1 021D 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 1D 02 E0 03 C2 C8 AA 75
BU 2 0 12 125 -1.4 5.01s - 037A 1 0 - 0 0 224 U 1155 DlCounter(536) Cnt=536
40 6B 3A D1 00 80 7A 03 E0 02 18 E8 99 29 AA
-> PER Testing 42 over 60
KD 2 0 12 125 -30.0 ---- 1 021E 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 1E 02 E0 03 30 5E 50 AE
BU 1 0 12 125 -1.4 5.01s - 037B 1 0 - 0 0 224 U 1155 DlCounter(537) Cnt=537
40 6B 3A D1 00 80 7B 03 E0 02 19 93 4A 1F 18
-> PER Testing 43 over 60
KD 1 0 12 125 -30.0 ---- 1 021F 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 1F 02 E0 03 65 34 FC 81
BU 1 0 12 125 -1.4 5.01s - 037C 1 0 - 0 0 224 U 1155 DlCounter(538) Cnt=538
40 6B 3A D1 00 80 7C 03 E0 02 1A C1 31 9C A8
-> PER Testing 44 over 60
KD 1 0 12 125 -30.0 ---- 1 0220 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 20 02 E0 03 91 C0 30 9D
BU 0 0 12 125 -1.4 5.01s - 037D 1 0 - 0 0 224 U 1155 DlCounter(539) Cnt=539
40 6B 3A D1 00 80 7D 03 E0 02 1B 5E 6C EB 82
-> PER Testing 45 over 60
KD 0 0 12 125 -30.0 ---- 1 0221 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 21 02 E0 03 2E C2 44 21
BU 0 0 12 125 -1.4 5.01s - 037E 1 0 - 0 0 224 U 1155 DlCounter(540) Cnt=540
40 6B 3A D1 00 80 7E 03 E0 02 1C CA E0 09 01
-> PER Testing 46 over 60
RU 0 0 12 125 -1.4 5.01s - 037F 1 0 - 0 0 224 U 1155 DlCounter(540) Cnt=540
40 6B 3A D1 00 80 7F 03 E0 02 1C 83 44 B4 0A
-> PER Testing 47 over 60
KD 0 0 12 125 -30.0 ---- 1 0223 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 23 02 E0 03 17 3D 32 73
BU 1 0 12 125 -1.4 5.01s - 0380 1 0 - 0 0 224 U 1155 DlCounter(541) Cnt=541
40 6B 3A D1 00 80 80 03 E0 02 1D BB 2A A7 51
-> PER Testing 48 over 60
KD 1 0 12 125 -30.0 ---- 1 0224 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 24 02 E0 03 C6 AA DA 3D
BU 2 0 12 125 -1.4 5.01s - 0381 1 0 - 0 0 224 U 1155 DlCounter(542) Cnt=542
40 6B 3A D1 00 80 81 03 E0 02 1E 49 1C 9B F4
-> PER Testing 49 over 60
KD 2 0 12 125 -30.0 ---- 1 0225 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 25 02 E0 03 DB E8 03 0D
BU 1 0 12 125 -1.4 5.01s - 0382 1 0 - 0 0 224 U 1155 DlCounter(543) Cnt=543
40 6B 3A D1 00 80 82 03 E0 02 1F 63 E3 32 BE
-> PER Testing 50 over 60
KD 1 0 12 125 -30.0 ---- 1 0226 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 26 02 E0 03 76 8E B8 77
BU 1 0 12 125 -1.4 5.01s - 0383 1 0 - 0 0 224 U 1155 DlCounter(544) Cnt=544
40 6B 3A D1 00 80 83 03 E0 02 20 F8 57 89 92
-> PER Testing 51 over 60
KD 1 0 12 125 -30.0 ---- 1 0227 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 27 02 E0 03 4B EC D9 AE
BU 0 0 12 125 -1.4 5.01s - 0384 1 0 - 0 0 224 U 1155 DlCounter(545) Cnt=545
40 6B 3A D1 00 80 84 03 E0 02 21 1E 3D 9A 17
-> PER Testing 52 over 60
KD 0 0 12 125 -30.0 ---- 1 0228 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 28 02 E0 03 20 43 75 A1
BU 1 0 12 125 -1.4 5.01s - 0385 1 0 - 0 0 224 U 1155 DlCounter(546) Cnt=546
40 6B 3A D1 00 80 85 03 E0 02 22 B5 F5 4C A3
-> PER Testing 53 over 60
KD 1 0 12 125 -30.0 ---- 1 0229 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 29 02 E0 03 9F 77 76 7F
BU 0 0 12 125 -1.4 5.01s - 0386 1 0 - 0 0 224 U 1155 DlCounter(547) Cnt=547
40 6B 3A D1 00 80 86 03 E0 02 23 E3 C6 92 A3
-> PER Testing 54 over 60
KD 0 0 12 125 -30.0 ---- 1 022A 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 2A 02 E0 03 D5 D0 43 D5
BU 2 0 12 125 -1.3 5.01s - 0387 1 0 - 0 0 224 U 1155 DlCounter(548) Cnt=548
40 6B 3A D1 00 80 87 03 E0 02 24 E7 12 12 A4
-> PER Testing 55 over 60
KD 2 0 12 125 -30.0 ---- 1 022B 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 2B 02 E0 03 43 29 E4 FF
BU 2 0 12 125 -1.4 5.01s - 0388 1 0 - 0 0 224 U 1155 DlCounter(549) Cnt=549
40 6B 3A D1 00 80 88 03 E0 02 25 7A 2D D2 2B

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-> PER Testing 56 over 60
KD 2 0 12 125 -30.0 ---- 1 022C 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 2C 02 E0 03 E9 FD 9E 83
BU 0 0 12 125 -1.4 5.01s - 0389 1 0 - 0 0 224 U 1155 DlCounter(550) Cnt=550
40 6B 3A D1 00 80 89 03 E0 02 26 91 8A 01 53
-> PER Testing 57 over 60
KD 0 0 12 125 -30.0 ---- 1 022D 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 2D 02 E0 03 79 28 3B 6C
BU 1 0 12 125 -1.4 5.01s - 038A 1 0 - 0 0 224 U 1155 DlCounter(551) Cnt=551
40 6B 3A D1 00 80 8A 03 E0 02 27 06 65 CE A7
-> PER Testing 58 over 60
KD 1 0 12 125 -30.0 ---- 1 022E 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 2E 02 E0 03 5C 0F D8 85
BU 2 0 12 125 -1.3 5.01s - 038B 1 0 - 0 0 224 U 1155 DlCounter(552) Cnt=552
40 6B 3A D1 00 80 8B 03 E0 02 28 28 3C A1 3A
-> PER Testing 59 over 60
KD 2 0 12 125 -30.0 ---- 1 022F 1 0 0 - - 224 U 1155 UnconfirmedFrame
60 6B 3A D1 00 80 2F 02 E0 03 C3 CF B3 B1
BU 1 0 12 125 -1.4 5.01s - 038C 1 0 - 0 0 224 U 1155 DlCounter(553) Cnt=553
40 6B 3A D1 00 80 8C 03 E0 02 29 FD B7 A9 67
-> PER Testing 60 over 60

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

1 error(s) over60, PER=0.017 (Criteria:PER<=0.05)

[Elapsed Time] 00:05:24

## 16.7 Test Packet error rate for SF7BW250 using RX1 window (Optional)

[ TEST PURPOSE ]

To measure downlink packet error rate for RX1 window using all spreading factors  
: 16.7 Test Packet error rate for SF7BW250 using RX1 window (Optional)

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	2	0	12	125	-1.4	10.1s	-	038F	1	0	-	0	0	224	U	1155	DlCounter(553)	Cnt=553
40 6B 3A D1 00 80 8F 03 E0 02 29 23 01 30 5B																		
[Test packet error rate for SF7BW250 using RX1 window]																		
BU	1	0	12	125	-1.4	5.01s	-	0390	1	0	-	0	0	224	U	1155	DlCounter(553)	Cnt=553
40 6B 3A D1 00 80 90 03 E0 02 29 42 A9 1A A5																		
KD	1	0	12	125	-36.0	----	1	0230	1	0	0	-	-	000	U	1318	NewChannelReq	
f[4]=867.300,MaxDR=7,MinDR=0																		
60 6B 3A D1 00 80 30 02 00 07 04 E8 56 84 70 3C 14 D1 F8																		
BU	1	0	12	125	-1.4	5.17s	-	0391	1	0	-	0	0	224	U	1318	{NewChannelAns}	Ch=1,DR=1
40 6B 3A D1 00 82 91 03 07 03 E0 02 2A D7 84 0F 7B																		
KD	1	0	12	125	-36.0	----	1	0231	1	0	0	-	-	000	C	1318	LinkADRRReq	
Pow=0,DR=6,Mask=0010h,MC=0,NbTrans=1																		
A0 6B 3A D1 00 80 31 02 00 03 60 10 00 01 D4 49 B9 5C																		
BU	4	6	7	250	-1.5	3.71s	-	0392	1	1	-	0	0	224	U	25	{LinkADRAns}	Pow=1, DR=1, Mask=1
40 6B 3A D1 00 A2 92 03 03 07 E0 02 2B 5A 33 24 E3																		
KD	R2	0	12	125	-30.0	----	1	0232	1	0	0	-	-	224	U	1155	UnconfirmedFrame	
60 6B 3A D1 00 80 32 02 E0 03 38 A6 1F E9																		
BU	4	6	7	250	-1.4	5.00s	-	0393	1	0	-	0	0	224	U	23	DlCounter(556)	Cnt=556
40 6B 3A D1 00 80 93 03 E0 02 2C B0 D4 7B 88																		
KD	4	6	7	250	-30.0	----	1	0233	1	0	0	-	-	224	U	20	UnconfirmedFrame	
60 6B 3A D1 00 80 33 02 E0 03 AB 1E 50 96																		
BU	4	6	7	250	-1.5	5.01s	-	0394	1	0	-	0	0	224	U	23	DlCounter(557)	Cnt=557
40 6B 3A D1 00 80 94 03 E0 02 2D 02 1A 69 9D																		
-> PER Testing 1 over 60																		
KD	4	6	7	250	-30.0	----	1	0234	1	0	0	-	-	224	U	20	UnconfirmedFrame	
60 6B 3A D1 00 80 34 02 E0 03 15 B5 F6 4B																		

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BU 4 6 7 250 -1.4 5.01s - 0395 1 0 - 0 0 224 U 23 DlCounter(558) Cnt=558
40 6B 3A D1 00 80 95 03 E0 02 2E 1E 11 47 B4
-> PER Testing 2 over 60
BU 4 6 7 250 -1.4 5.01s - 0396 1 0 - 0 0 224 U 23 DlCounter(559) Cnt=559
40 6B 3A D1 00 80 96 03 E0 02 2F 44 6F 1B 60
-> PER Testing 3 over 60
KD 4 6 7 250 -30.0 ---- 1 0236 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 36 02 E0 03 78 4A B8 72
BU 4 6 7 250 -1.4 5.01s - 0397 1 0 - 0 0 224 U 23 DlCounter(560) Cnt=560
40 6B 3A D1 00 80 97 03 E0 02 30 AB 69 9F 9D
-> PER Testing 4 over 60
KD 4 6 7 250 -30.0 ---- 1 0237 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 37 02 E0 03 8B 09 C6 9A
BU 4 6 7 250 -1.4 5.01s - 0398 1 0 - 0 0 224 U 23 DlCounter(561) Cnt=561
40 6B 3A D1 00 80 98 03 E0 02 31 79 89 6A 1D
-> PER Testing 5 over 60
KD 4 6 7 250 -30.0 ---- 1 0238 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 38 02 E0 03 37 C0 6F A5
BU 4 6 7 250 -1.5 5.01s - 0399 1 0 - 0 0 224 U 23 DlCounter(562) Cnt=562
40 6B 3A D1 00 80 99 03 E0 02 32 D3 45 DA D2
-> PER Testing 6 over 60
KD 4 6 7 250 -30.0 ---- 1 0239 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 39 02 E0 03 F0 D7 F9 17
BU 4 6 7 250 -1.4 5.01s - 039A 1 0 - 0 0 224 U 23 DlCounter(563) Cnt=563
40 6B 3A D1 00 80 9A 03 E0 02 33 05 71 86 75
-> PER Testing 7 over 60
KD 4 6 7 250 -30.0 ---- 1 023A 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 3A 02 E0 03 D0 D9 BD 64
BU 4 6 7 250 -1.4 5.01s - 039B 1 0 - 0 0 224 U 23 DlCounter(564) Cnt=564
40 6B 3A D1 00 80 9B 03 E0 02 34 71 72 46 AC
-> PER Testing 8 over 60
KD 4 6 7 250 -30.0 ---- 1 023B 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 3B 02 E0 03 50 CD A9 B2
BU 4 6 7 250 -1.5 5.01s - 039C 1 0 - 0 0 224 U 23 DlCounter(565) Cnt=565
40 6B 3A D1 00 80 9C 03 E0 02 35 BD 25 C1 F1
-> PER Testing 9 over 60
KD 4 6 7 250 -30.0 ---- 1 023C 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 3C 02 E0 03 62 F9 DC E2
BU 4 6 7 250 -1.4 5.01s - 039D 1 0 - 0 0 224 U 23 DlCounter(566) Cnt=566
40 6B 3A D1 00 80 9D 03 E0 02 36 6C 9E 1C 89
-> PER Testing 10 over 60
KD 4 6 7 250 -30.0 ---- 1 023D 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 3D 02 E0 03 A4 B3 48 CB
BU 4 6 7 250 -1.4 5.01s - 039E 1 0 - 0 0 224 U 23 DlCounter(567) Cnt=567
40 6B 3A D1 00 80 9E 03 E0 02 37 3A 38 0F E2
-> PER Testing 11 over 60
KD 4 6 7 250 -30.0 ---- 1 023E 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 3E 02 E0 03 B7 0B B3 91
BU 4 6 7 250 -1.4 5.01s - 039F 1 0 - 0 0 224 U 23 DlCounter(568) Cnt=568
40 6B 3A D1 00 80 9F 03 E0 02 38 3D 6D 37 BF
-> PER Testing 12 over 60
KD 4 6 7 250 -30.0 ---- 1 023F 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 3F 02 E0 03 1E 3E B7 AE
BU 4 6 7 250 -1.4 5.01s - 03A0 1 0 - 0 0 224 U 23 DlCounter(569) Cnt=569
40 6B 3A D1 00 80 A0 03 E0 02 39 9F B8 02 6F
-> PER Testing 13 over 60
KD 4 6 7 250 -30.0 ---- 1 0240 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 40 02 E0 03 8C 65 21 BD
BU 4 6 7 250 -1.4 5.01s - 03A1 1 0 - 0 0 224 U 23 DlCounter(570) Cnt=570
40 6B 3A D1 00 80 A1 03 E0 02 3A FD 5C 38 72
-> PER Testing 14 over 60
KD 4 6 7 250 -30.0 ---- 1 0241 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 41 02 E0 03 B9 C4 F8 59
BU 4 6 7 250 -1.4 5.01s - 03A2 1 0 - 0 0 224 U 23 DlCounter(571) Cnt=571
40 6B 3A D1 00 80 A2 03 E0 02 3B A0 79 02 11
-> PER Testing 15 over 60
KD 4 6 7 250 -30.0 ---- 1 0242 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 42 02 E0 03 52 0B 5F ED
BU 4 6 7 250 -1.5 5.01s - 03A3 1 0 - 0 0 224 U 23 DlCounter(572) Cnt=572
40 6B 3A D1 00 80 A3 03 E0 02 3C C9 C4 B8 5F
-> PER Testing 16 over 60
KD 4 6 7 250 -30.0 ---- 1 0243 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 43 02 E0 03 FE F3 1A 67
BU 4 6 7 250 -1.4 5.01s - 03A4 1 0 - 0 0 224 U 23 DlCounter(573) Cnt=573
40 6B 3A D1 00 80 A4 03 E0 02 3D EF E6 95 BF
-> PER Testing 17 over 60
KD 4 6 7 250 -30.0 ---- 1 0244 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 44 02 E0 03 3C 6F CF FD
BU 4 6 7 250 -1.4 5.01s - 03A5 1 0 - 0 0 224 U 23 DlCounter(574) Cnt=574

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40 6B 3A D1 00 80 A5 03 E0 02 3E DA 4F D8 78
-> PER Testing 18 over 60
KD 4 6 7 250 -30.0 ---- 1 0245 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 45 02 E0 03 29 1E C0 18
BU 4 6 7 250 -1.4 5.01s - 03A6 1 0 - 0 0 224 U 23 DlCounter(575) Cnt=575
40 6B 3A D1 00 80 A6 03 E0 02 3F 60 94 71 7A
-> PER Testing 19 over 60
KD 4 6 7 250 -30.0 ---- 1 0246 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 46 02 E0 03 CF 8A 41 FE
BU 4 6 7 250 -1.4 5.01s - 03A7 1 0 - 0 0 224 U 23 DlCounter(576) Cnt=576
40 6B 3A D1 00 80 A7 03 E0 02 40 06 DE 05 58
-> PER Testing 20 over 60
KD 4 6 7 250 -30.0 ---- 1 0247 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 47 02 E0 03 53 82 0F 6A
BU 4 6 7 250 -1.4 5.01s - 03A8 1 0 - 0 0 224 U 23 DlCounter(577) Cnt=577
40 6B 3A D1 00 80 A8 03 E0 02 41 1E 1D A9 15
-> PER Testing 21 over 60
KD 4 6 7 250 -30.0 ---- 1 0248 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 48 02 E0 03 E7 5E ED 8B
BU 4 6 7 250 -1.4 5.01s - 03A9 1 0 - 0 0 224 U 23 DlCounter(578) Cnt=578
40 6B 3A D1 00 80 A9 03 E0 02 42 2E B8 67 65
-> PER Testing 22 over 60
KD 4 6 7 250 -30.0 ---- 1 0249 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 49 02 E0 03 70 27 26 7A
BU 4 6 7 250 -1.4 5.01s - 03AA 1 0 - 0 0 224 U 23 DlCounter(579) Cnt=579
40 6B 3A D1 00 80 AA 03 E0 02 43 64 80 2E 01
-> PER Testing 23 over 60
KD 4 6 7 250 -30.0 ---- 1 024A 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 4A 02 E0 03 A0 32 13 FE
BU 4 6 7 250 -1.4 5.01s - 03AB 1 0 - 0 0 224 U 23 DlCounter(580) Cnt=580
40 6B 3A D1 00 80 AB 03 E0 02 44 E7 45 C2 51
-> PER Testing 24 over 60
KD 4 6 7 250 -30.0 ---- 1 024B 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 4B 02 E0 03 8A 7C 0F 92
BU 4 6 7 250 -1.4 5.01s - 03AC 1 0 - 0 0 224 U 23 DlCounter(581) Cnt=581
40 6B 3A D1 00 80 AC 03 E0 02 45 0B 38 75 97
-> PER Testing 25 over 60
KD 4 6 7 250 -30.0 ---- 1 024C 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 4C 02 E0 03 9A BF 91 0E
BU 4 6 7 250 -1.4 5.01s - 03AD 1 0 - 0 0 224 U 23 DlCounter(582) Cnt=582
40 6B 3A D1 00 80 AD 03 E0 02 46 29 4A 9B 2F
-> PER Testing 26 over 60
KD 4 6 7 250 -30.0 ---- 1 024D 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 4D 02 E0 03 1A 38 AF 29
BU 4 6 7 250 -1.4 5.01s - 03AE 1 0 - 0 0 224 U 23 DlCounter(583) Cnt=583
40 6B 3A D1 00 80 AE 03 E0 02 47 B4 E3 64 17
-> PER Testing 27 over 60
KD 4 6 7 250 -30.0 ---- 1 024E 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 4E 02 E0 03 A4 B2 22 BC
BU 4 6 7 250 -1.4 5.01s - 03AF 1 0 - 0 0 224 U 23 DlCounter(584) Cnt=584
40 6B 3A D1 00 80 AF 03 E0 02 48 3C 1C EF E3
-> PER Testing 28 over 60
KD 4 6 7 250 -30.0 ---- 1 024F 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 4F 02 E0 03 59 D1 E7 85
BU 4 6 7 250 -1.5 5.01s - 03B0 1 0 - 0 0 224 U 23 DlCounter(585) Cnt=585
40 6B 3A D1 00 80 B0 03 E0 02 49 2F D7 8B 48
-> PER Testing 29 over 60
KD 4 6 7 250 -30.0 ---- 1 0250 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 50 02 E0 03 4F EF 35 53
BU 4 6 7 250 -1.5 5.01s - 03B1 1 0 - 0 0 224 U 23 DlCounter(586) Cnt=586
40 6B 3A D1 00 80 B1 03 E0 02 4A 50 42 98 F3
-> PER Testing 30 over 60
KD 4 6 7 250 -30.0 ---- 1 0251 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 51 02 E0 03 3A 13 3B 8E
BU 4 6 7 250 -1.5 5.01s - 03B2 1 0 - 0 0 224 U 23 DlCounter(587) Cnt=587
40 6B 3A D1 00 80 B2 03 E0 02 4B 81 EA 95 29
-> PER Testing 31 over 60
KD 4 6 7 250 -30.0 ---- 1 0252 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 52 02 E0 03 6C E7 7C 09
BU 4 6 7 250 -1.5 5.01s - 03B3 1 0 - 0 0 224 U 23 DlCounter(588) Cnt=588
40 6B 3A D1 00 80 B3 03 E0 02 4C 2E 72 AF 37
-> PER Testing 32 over 60
KD 4 6 7 250 -30.0 ---- 1 0253 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 53 02 E0 03 EE 6B 2A 98
BU 4 6 7 250 -1.5 5.01s - 03B4 1 0 - 0 0 224 U 23 DlCounter(589) Cnt=589
40 6B 3A D1 00 80 B4 03 E0 02 4D 17 D7 F9 1B
-> PER Testing 33 over 60
KD 4 6 7 250 -30.0 ---- 1 0254 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 54 02 E0 03 51 FF B6 ED

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BU 4 6 7 250 -1.4 5.01s - 03B5 1 0 - 0 0 224 U 23 DlCounter(590) Cnt=590
40 6B 3A D1 00 80 B5 03 E0 02 4E 52 1F C5 1A
-> PER Testing 34 over 60
KD 4 6 7 250 -30.0 ---- 1 0255 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 55 02 E0 03 4B 64 98 F8
BU 4 6 7 250 -1.5 5.01s - 03B6 1 0 - 0 0 224 U 23 DlCounter(591) Cnt=591
40 6B 3A D1 00 80 B6 03 E0 02 4F 38 3D 38 EC
-> PER Testing 35 over 60
KD 4 6 7 250 -30.0 ---- 1 0256 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 56 02 E0 03 B4 CF 65 62
BU 4 6 7 250 -1.4 5.01s - 03B7 1 0 - 0 0 224 U 23 DlCounter(592) Cnt=592
40 6B 3A D1 00 80 B7 03 E0 02 50 EF 61 5B AC
-> PER Testing 36 over 60
KD 4 6 7 250 -30.0 ---- 1 0257 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 57 02 E0 03 9C 21 2D 8F
BU 4 6 7 250 -1.4 5.01s - 03B8 1 0 - 0 0 224 U 23 DlCounter(593) Cnt=593
40 6B 3A D1 00 80 B8 03 E0 02 51 82 15 41 20
-> PER Testing 37 over 60
KD 4 6 7 250 -30.0 ---- 1 0258 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 58 02 E0 03 D7 C8 F6 A2
BU 4 6 7 250 -1.4 5.01s - 03B9 1 0 - 0 0 224 U 23 DlCounter(594) Cnt=594
40 6B 3A D1 00 80 B9 03 E0 02 52 3A 63 B9 3D
-> PER Testing 38 over 60
KD 4 6 7 250 -30.0 ---- 1 0259 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 59 02 E0 03 69 33 07 4A
BU 4 6 7 250 -1.5 5.01s - 03BA 1 0 - 0 0 224 U 23 DlCounter(595) Cnt=595
40 6B 3A D1 00 80 BA 03 E0 02 53 4E 32 34 29
-> PER Testing 39 over 60
KD 4 6 7 250 -30.0 ---- 1 025A 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 5A 02 E0 03 DC C6 34 05
BU 4 6 7 250 -1.4 5.01s - 03BB 1 0 - 0 0 224 U 23 DlCounter(596) Cnt=596
40 6B 3A D1 00 80 BB 03 E0 02 54 6A F1 E4 2F
-> PER Testing 40 over 60
KD 4 6 7 250 -30.0 ---- 1 025B 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 5B 02 E0 03 3D 44 2B B9
BU 4 6 7 250 -1.4 5.01s - 03BC 1 0 - 0 0 224 U 23 DlCounter(597) Cnt=597
40 6B 3A D1 00 80 BC 03 E0 02 55 D5 19 02 AD
-> PER Testing 41 over 60
KD 4 6 7 250 -30.0 ---- 1 025C 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 5C 02 E0 03 40 44 F8 3B
BU 4 6 7 250 -1.5 5.01s - 03BD 1 0 - 0 0 224 U 23 DlCounter(598) Cnt=598
40 6B 3A D1 00 80 BD 03 E0 02 56 1D 97 CD 76
-> PER Testing 42 over 60
KD 4 6 7 250 -30.0 ---- 1 025D 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 5D 02 E0 03 73 0D 6A 7C
BU 4 6 7 250 -1.4 5.01s - 03BE 1 0 - 0 0 224 U 23 DlCounter(599) Cnt=599
40 6B 3A D1 00 80 BE 03 E0 02 57 3D F1 F1 63
-> PER Testing 43 over 60
KD 4 6 7 250 -30.0 ---- 1 025E 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 5E 02 E0 03 24 E2 FA 52
BU 4 6 7 250 -1.4 5.01s - 03BF 1 0 - 0 0 224 U 23 DlCounter(600) Cnt=600
40 6B 3A D1 00 80 BF 03 E0 02 58 C2 DA 3F BB
-> PER Testing 44 over 60
KD 4 6 7 250 -30.0 ---- 1 025F 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 5F 02 E0 03 02 FC 84 BB
BU 4 6 7 250 -1.4 5.01s - 03C0 1 0 - 0 0 224 U 23 DlCounter(601) Cnt=601
40 6B 3A D1 00 80 C0 03 E0 02 59 FA BE E0 8E
-> PER Testing 45 over 60
KD 4 6 7 250 -30.0 ---- 1 0260 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 60 02 E0 03 77 F5 27 D5
BU 4 6 7 250 -1.4 5.01s - 03C1 1 0 - 0 0 224 U 23 DlCounter(602) Cnt=602
40 6B 3A D1 00 80 C1 03 E0 02 5A BF 4F CF DE
-> PER Testing 46 over 60
KD 4 6 7 250 -30.0 ---- 1 0261 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 61 02 E0 03 37 3C 1B B6
BU 4 6 7 250 -1.4 5.01s - 03C2 1 0 - 0 0 224 U 23 DlCounter(603) Cnt=603
40 6B 3A D1 00 80 C2 03 E0 02 5B 90 72 6E F2
-> PER Testing 47 over 60
KD 4 6 7 250 -30.0 ---- 1 0262 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 62 02 E0 03 5A 04 F8 9C
BU 4 6 7 250 -1.4 5.01s - 03C3 1 0 - 0 0 224 U 23 DlCounter(604) Cnt=604
40 6B 3A D1 00 80 C3 03 E0 02 5C DB 59 2F C5
-> PER Testing 48 over 60
KD 4 6 7 250 -30.0 ---- 1 0263 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 63 02 E0 03 D3 9F 47 8C
BU 4 6 7 250 -1.4 5.01s - 03C4 1 0 - 0 0 224 U 23 DlCounter(605) Cnt=605
40 6B 3A D1 00 80 C4 03 E0 02 5D B4 6B 95 83
-> PER Testing 49 over 60
KD 4 6 7 250 -30.0 ---- 1 0264 1 0 0 - - 224 U 20 UnconfirmedFrame

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60 6B 3A D1 00 80 64 02 E0 03 14 B0 18 3A
BU 4 6 7 250 -1.4 5.01s - 03C5 1 0 - 0 0 224 U 23 DlCounter(606) Cnt=606
40 6B 3A D1 00 80 C5 03 E0 02 5E 21 DA 2D B9
-> PER Testing 50 over 60
KD 4 6 7 250 -30.0 ---- 1 0265 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 65 02 E0 03 C4 CB CF DB
BU 4 6 7 250 -1.4 5.01s - 03C6 1 0 - 0 0 224 U 23 DlCounter(607) Cnt=607
40 6B 3A D1 00 80 C6 03 E0 02 5F 99 7F 5A DB
-> PER Testing 51 over 60
KD 4 6 7 250 -30.0 ---- 1 0266 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 66 02 E0 03 18 4D 86 1D
BU 4 6 7 250 -1.4 5.01s - 03C7 1 0 - 0 0 224 U 23 DlCounter(608) Cnt=608
40 6B 3A D1 00 80 C7 03 E0 02 60 8F E5 F5 AF
-> PER Testing 52 over 60
KD 4 6 7 250 -30.0 ---- 1 0267 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 67 02 E0 03 61 75 B7 0B
BU 4 6 7 250 -1.5 5.01s - 03C8 1 0 - 0 0 224 U 23 DlCounter(609) Cnt=609
40 6B 3A D1 00 80 C8 03 E0 02 61 16 89 FC 21
-> PER Testing 53 over 60
KD 4 6 7 250 -30.0 ---- 1 0268 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 68 02 E0 03 45 E6 81 66
BU 4 6 7 250 -1.4 5.01s - 03C9 1 0 - 0 0 224 U 23 DlCounter(610) Cnt=610
40 6B 3A D1 00 80 C9 03 E0 02 62 3E 59 09 C9
-> PER Testing 54 over 60
KD 4 6 7 250 -30.0 ---- 1 0269 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 69 02 E0 03 AD 41 BA B0
BU 4 6 7 250 -1.5 5.01s - 03CA 1 0 - 0 0 224 U 23 DlCounter(611) Cnt=611
40 6B 3A D1 00 80 CA 03 E0 02 63 71 F8 92 07
-> PER Testing 55 over 60
KD 4 6 7 250 -30.0 ---- 1 026A 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 6A 02 E0 03 5E A9 96 FA
BU 4 6 7 250 -1.4 5.01s - 03CB 1 0 - 0 0 224 U 23 DlCounter(612) Cnt=612
40 6B 3A D1 00 80 CB 03 E0 02 64 00 9F DD 2C
-> PER Testing 56 over 60
KD 4 6 7 250 -30.0 ---- 1 026B 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 6B 02 E0 03 E5 6A A6 D0
BU 4 6 7 250 -1.4 5.01s - 03CC 1 0 - 0 0 224 U 23 DlCounter(613) Cnt=613
40 6B 3A D1 00 80 CC 03 E0 02 65 E8 76 4A C9
-> PER Testing 57 over 60
KD 4 6 7 250 -30.0 ---- 1 026C 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 6C 02 E0 03 A3 32 DF 06
BU 4 6 7 250 -1.4 5.01s - 03CD 1 0 - 0 0 224 U 23 DlCounter(614) Cnt=614
40 6B 3A D1 00 80 CD 03 E0 02 66 B3 80 C2 52
-> PER Testing 58 over 60
KD 4 6 7 250 -30.0 ---- 1 026D 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 6D 02 E0 03 75 B9 29 E7
BU 4 6 7 250 -1.4 5.01s - 03CE 1 0 - 0 0 224 U 23 DlCounter(615) Cnt=615
40 6B 3A D1 00 80 CE 03 E0 02 67 8A A9 68 88
-> PER Testing 59 over 60
KD 4 6 7 250 -30.0 ---- 1 026E 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 6E 02 E0 03 B8 F0 6E AD
BU 4 6 7 250 -1.4 5.01s - 03CF 1 0 - 0 0 224 U 23 DlCounter(616) Cnt=616
40 6B 3A D1 00 80 CF 03 E0 02 68 F1 08 EE 2C
-> PER Testing 60 over 60
KD R2 0 12 125 -30.0 ---- 1 026F 1 0 0 - - 000 U 1318 LinkADRRReq
Pow=0,DR=2,Mask=0007h,MC=0,NbTrans=1
60 6B 3A D1 00 80 6F 02 00 03 20 07 00 01 5A 3F A4 33
BU 1 2 10 125 -1.4 5.31s - 03D0 1 0 - 0 0 224 U 329 {LinkADRRans} Pow=1, DR=1, Mask=1
40 6B 3A D1 00 82 D0 03 03 07 E0 02 69 0D 71 1E E7

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

0 error(s) over60, PER=0.000 (Criteria:PER<=0.05)

[Elapsed Time] 00:05:35

## 16.8 Test Packet error rate for FSK50 using RX1 window (Optional)

[ TEST PURPOSE ]

To measure downlink packet error rate for RX1 window using all spreading factors  
 : 16.8 Test Packet error rate for FSK50 using RX1 window (Optional)

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	1	2	10	125	-1.4	5.01s	-	03D2	1	0	-	0	0	224	U	329	DICounter(617)	Cnt=617
40 6B 3A D1 00 80 D2 03 E0 02 69 4C 12 E0 15																		
[Test packet error rate for FSK50 using RX1 window]																		
BU	0	2	10	125	-1.4	5.01s	-	03D3	1	0	-	0	0	224	U	329	DICounter(617)	Cnt=617
40 6B 3A D1 00 80 D3 03 E0 02 69 35 41 7F EA																		
KD	0	2	10	125	-36.0		----	1	0270	1	0	0	-	000	U	329	NewChannelReq	
f[4]=867.300,MaxDR=7,MinDR=0																		
60 6B 3A D1 00 80 70 02 00 07 04 E8 56 84 70 52 A7 17 02																		
BU	0	2	10	125	-1.4	5.01s	-	03D4	1	0	-	0	0	224	U	329	{NewChannelAns}	Ch=1,DR=1
40 6B 3A D1 00 82 D4 03 07 03 E0 02 6A AC 0B 1D CE																		
KD	0	2	10	125	-36.0		----	1	0271	1	0	0	-	000	C	329	LinkADRReq	
Pow=0,DR=7,Mask=0010h,MC=0,NbTrans=1																		
A0 6B 3A D1 00 80 71 02 00 03 70 10 00 01 D0 D4 C0 18																		
BU	4	7	FSK	---	-1.4	4.68s	-	03D5	1	1	-	0	0	224	U	5	{LinkADRAns}	Pow=1, DR=1, Mask=1
40 6B 3A D1 00 A2 D5 03 03 07 E0 02 6B 22 C6 9D 52																		
KD	R2	0	12	125	-30.0		----	1	0272	1	0	0	-	224	U	1155	UnconfirmedFrame	
60 6B 3A D1 00 80 72 02 E0 03 81 F3 D0 50																		
BU	4	7	FSK	---	-1.5	5.01s	-	03D6	1	0	-	0	0	224	U	5	DICounter(620)	Cnt=620
40 6B 3A D1 00 80 D6 03 E0 02 6C 03 C3 57 E1																		
KD	4	7	FSK	---	-30.0		----	1	0273	1	0	0	-	224	U	5	UnconfirmedFrame	
60 6B 3A D1 00 80 73 02 E0 03 CD 31 8D 8E																		
BU	4	7	FSK	---	-1.5	5.01s	-	03D7	1	0	-	0	0	224	U	5	DICounter(621)	Cnt=621
40 6B 3A D1 00 80 D7 03 E0 02 6D 6A 32 F0 E4																		
-> PER Testing 1 over 60																		
KD	4	7	FSK	---	-30.0		----	1	0274	1	0	0	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 74 02 E0 03 81 29 42 80																		
BU	4	7	FSK	---	-1.5	5.01s	-	03D8	1	0	-	0	0	224	U	5	DICounter(622)	Cnt=622
40 6B 3A D1 00 80 D8 03 E0 02 6E BC 61 2E 0F																		
-> PER Testing 2 over 60																		
KD	4	7	FSK	---	-30.0		----	1	0275	1	0	0	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 75 02 E0 03 FC 5B 97 2B																		
BU	4	7	FSK	---	-1.5	5.01s	-	03D9	1	0	-	0	0	224	U	5	DICounter(623)	Cnt=623
40 6B 3A D1 00 80 D9 03 E0 02 6F 37 1D 7D B1																		
-> PER Testing 3 over 60																		
KD	4	7	FSK	---	-30.0		----	1	0276	1	0	0	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 76 02 E0 03 0C BC B2 78																		
BU	4	7	FSK	---	-1.4	5.01s	-	03DA	1	0	-	0	0	224	U	5	DICounter(624)	Cnt=624
40 6B 3A D1 00 80 DA 03 E0 02 70 E2 6C 62 4B																		
-> PER Testing 4 over 60																		
KD	4	7	FSK	---	-30.0		----	1	0277	1	0	0	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 77 02 E0 03 B2 0C 40 D1																		
BU	4	7	FSK	---	-1.5	5.01s	-	03DB	1	0	-	0	0	224	U	5	DICounter(625)	Cnt=625
40 6B 3A D1 00 80 DB 03 E0 02 71 D4 96 A1 A8																		
-> PER Testing 5 over 60																		
KD	4	7	FSK	---	-30.0		----	1	0278	1	0	0	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 78 02 E0 03 57 49 98 DA																		
BU	4	7	FSK	---	-1.5	5.01s	-	03DC	1	0	-	0	0	224	U	5	DICounter(626)	Cnt=626
40 6B 3A D1 00 80 DC 03 E0 02 72 EA DE 0A 5D																		
-> PER Testing 6 over 60																		
KD	4	7	FSK	---	-30.0		----	1	0279	1	0	0	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 79 02 E0 03 AA F3 85 44																		
BU	4	7	FSK	---	-1.4	5.01s	-	03DD	1	0	-	0	0	224	U	5	DICounter(627)	Cnt=627
40 6B 3A D1 00 80 DD 03 E0 02 73 90 7B AA A3																		
-> PER Testing 7 over 60																		
KD	4	7	FSK	---	-30.0		----	1	027A	1	0	0	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 7A 02 E0 03 59 80 8C 0E																		
BU	4	7	FSK	---	-1.5	5.01s	-	03DE	1	0	-	0	0	224	U	5	DICounter(628)	Cnt=628
40 6B 3A D1 00 80 DE 03 E0 02 74 A1 9F 07 4D																		
-> PER Testing 8 over 60																		
KD	4	7	FSK	---	-30.0		----	1	027B	1	0	0	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 7B 02 E0 03 1B 70 5B 28																		
BU	4	7	FSK	---	-1.4	5.01s	-	03DF	1	0	-	0	0	224	U	5	DICounter(629)	Cnt=629
40 6B 3A D1 00 80 DF 03 E0 02 75 D3 00 15 26																		
-> PER Testing 9 over 60																		
KD	4	7	FSK	---	-30.0		----	1	027C	1	0	0	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 7C 02 E0 03 40 6D A0 42																		
BU	4	7	FSK	---	-1.5	5.01s	-	03E0	1	0	-	0	0	224	U	5	DICounter(630)	Cnt=630

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40 6B 3A D1 00 80 E0 03 E0 02 76 5A DE 7C 87
-> PER Testing 10 over 60
KD 4 7 FSK --- -30.0 ---- 1 027D 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 7D 02 E0 03 9E EB 2E 32
BU 4 7 FSK --- -1.5 5.01s - 03E1 1 0 - 0 0 224 U 5 DlCounter(631) Cnt=631
40 6B 3A D1 00 80 E1 03 E0 02 77 C0 A7 83 4E
-> PER Testing 11 over 60
KD 4 7 FSK --- -30.0 ---- 1 027E 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 7E 02 E0 03 90 E3 5F F3
BU 4 7 FSK --- -1.4 5.01s - 03E2 1 0 - 0 0 224 U 5 DlCounter(632) Cnt=632
40 6B 3A D1 00 80 E2 03 E0 02 78 E3 9C 83 39
-> PER Testing 12 over 60
KD 4 7 FSK --- -30.0 ---- 1 027F 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 7F 02 E0 03 EF 3B BF 97
BU 4 7 FSK --- -1.5 5.01s - 03E3 1 0 - 0 0 224 U 5 DlCounter(633) Cnt=633
40 6B 3A D1 00 80 E3 03 E0 02 79 76 1F 11 5B
-> PER Testing 13 over 60
KD 4 7 FSK --- -30.0 ---- 1 0280 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 80 02 E0 03 29 EA 80 00
BU 4 7 FSK --- -1.5 5.01s - 03E4 1 0 - 0 0 224 U 5 DlCounter(634) Cnt=634
40 6B 3A D1 00 80 E4 03 E0 02 7A E0 D9 AA A1
-> PER Testing 14 over 60
KD 4 7 FSK --- -30.0 ---- 1 0281 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 81 02 E0 03 01 64 98 21
BU 4 7 FSK --- -1.5 5.01s - 03E5 1 0 - 0 0 224 U 5 DlCounter(635) Cnt=635
40 6B 3A D1 00 80 E5 03 E0 02 7B D4 46 58 49
-> PER Testing 15 over 60
KD 4 7 FSK --- -30.0 ---- 1 0282 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 82 02 E0 03 9E 80 F8 FF
BU 4 7 FSK --- -1.5 5.01s - 03E6 1 0 - 0 0 224 U 5 DlCounter(636) Cnt=636
40 6B 3A D1 00 80 E6 03 E0 02 7C 2D 1C FD AB
-> PER Testing 16 over 60
KD 4 7 FSK --- -30.0 ---- 1 0283 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 83 02 E0 03 9D 49 EB BA
BU 4 7 FSK --- -1.5 5.01s - 03E7 1 0 - 0 0 224 U 5 DlCounter(637) Cnt=637
40 6B 3A D1 00 80 E7 03 E0 02 7D 38 3A 40 22
-> PER Testing 17 over 60
KD 4 7 FSK --- -30.0 ---- 1 0284 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 84 02 E0 03 F5 62 DA 1A
BU 4 7 FSK --- -1.5 5.01s - 03E8 1 0 - 0 0 224 U 5 DlCounter(638) Cnt=638
40 6B 3A D1 00 80 E8 03 E0 02 7E 9A DB AC EE
-> PER Testing 18 over 60
KD 4 7 FSK --- -30.0 ---- 1 0285 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 85 02 E0 03 03 D3 07 A9
BU 4 7 FSK --- -1.5 5.01s - 03E9 1 0 - 0 0 224 U 5 DlCounter(639) Cnt=639
40 6B 3A D1 00 80 E9 03 E0 02 7F 88 D3 E1 B1
-> PER Testing 19 over 60
KD 4 7 FSK --- -30.0 ---- 1 0286 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 86 02 E0 03 74 38 6F B5
BU 4 7 FSK --- -1.5 5.01s - 03EA 1 0 - 0 0 224 U 5 DlCounter(640) Cnt=640
40 6B 3A D1 00 80 EA 03 E0 02 80 82 04 06 67
-> PER Testing 20 over 60
KD 4 7 FSK --- -30.0 ---- 1 0287 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 87 02 E0 03 D5 10 04 05
BU 4 7 FSK --- -1.5 5.01s - 03EB 1 0 - 0 0 224 U 5 DlCounter(641) Cnt=641
40 6B 3A D1 00 80 EB 03 E0 02 81 31 92 45 F6
-> PER Testing 21 over 60
KD 4 7 FSK --- -30.0 ---- 1 0288 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 88 02 E0 03 7A C2 F2 44
BU 4 7 FSK --- -1.4 5.01s - 03EC 1 0 - 0 0 224 U 5 DlCounter(642) Cnt=642
40 6B 3A D1 00 80 EC 03 E0 02 82 11 E6 10 2C
-> PER Testing 22 over 60
KD 4 7 FSK --- -30.0 ---- 1 0289 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 89 02 E0 03 4D 26 6C 24
BU 4 7 FSK --- -1.4 5.01s - 03ED 1 0 - 0 0 224 U 5 DlCounter(643) Cnt=643
40 6B 3A D1 00 80 ED 03 E0 02 83 AD ED 8F 52
-> PER Testing 23 over 60
KD 4 7 FSK --- -30.0 ---- 1 028A 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 8A 02 E0 03 2F 37 80 68
BU 4 7 FSK --- -1.4 5.01s - 03EE 1 0 - 0 0 224 U 5 DlCounter(644) Cnt=644
40 6B 3A D1 00 80 EE 03 E0 02 84 AC FE 84 18
-> PER Testing 24 over 60
KD 4 7 FSK --- -30.0 ---- 1 028B 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 8B 02 E0 03 3E E8 65 A3
BU 4 7 FSK --- -1.4 5.01s - 03EF 1 0 - 0 0 224 U 5 DlCounter(645) Cnt=645
40 6B 3A D1 00 80 EF 03 E0 02 85 B9 BE 18 0A
-> PER Testing 25 over 60
KD 4 7 FSK --- -30.0 ---- 1 028C 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 8C 02 E0 03 D4 6D 29 E8

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BU 4 7 FSK --- -1.4 5.01s - 03F0 1 0 - 0 0 224 U 5 DlCounter(646) Cnt=646
40 6B 3A D1 00 80 F0 03 E0 02 86 90 33 8C 5A
-> PER Testing 26 over 60
KD 4 7 FSK --- -30.0 ---- 1 028D 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 8D 02 E0 03 86 A3 8E ED
BU 4 7 FSK --- -1.5 5.01s - 03F1 1 0 - 0 0 224 U 5 DlCounter(647) Cnt=647
40 6B 3A D1 00 80 F1 03 E0 02 87 0E A8 01 2C
-> PER Testing 27 over 60
KD 4 7 FSK --- -30.0 ---- 1 028E 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 8E 02 E0 03 C3 05 FF D6
BU 4 7 FSK --- -1.5 5.01s - 03F2 1 0 - 0 0 224 U 5 DlCounter(648) Cnt=648
40 6B 3A D1 00 80 F2 03 E0 02 88 F1 A0 F1 9E
-> PER Testing 28 over 60
KD 4 7 FSK --- -30.0 ---- 1 028F 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 8F 02 E0 03 C2 C0 7C 83
BU 4 7 FSK --- -1.5 5.01s - 03F3 1 0 - 0 0 224 U 5 DlCounter(649) Cnt=649
40 6B 3A D1 00 80 F3 03 E0 02 89 9E 17 5F F4
-> PER Testing 29 over 60
KD 4 7 FSK --- -30.0 ---- 1 0290 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 90 02 E0 03 FB EF 1D 91
BU 4 7 FSK --- -1.5 5.01s - 03F4 1 0 - 0 0 224 U 5 DlCounter(650) Cnt=650
40 6B 3A D1 00 80 F4 03 E0 02 8A B1 E6 11 F2
-> PER Testing 30 over 60
KD 4 7 FSK --- -30.0 ---- 1 0291 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 91 02 E0 03 95 D8 CC 3C
BU 4 7 FSK --- -1.5 5.01s - 03F5 1 0 - 0 0 224 U 5 DlCounter(651) Cnt=651
40 6B 3A D1 00 80 F5 03 E0 02 8B 65 40 72 E5
-> PER Testing 31 over 60
KD 4 7 FSK --- -30.0 ---- 1 0292 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 92 02 E0 03 AB DD 23 CA
BU 4 7 FSK --- -1.5 5.01s - 03F6 1 0 - 0 0 224 U 5 DlCounter(652) Cnt=652
40 6B 3A D1 00 80 F6 03 E0 02 8C 7E 56 C3 CD
-> PER Testing 32 over 60
KD 4 7 FSK --- -30.0 ---- 1 0293 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 93 02 E0 03 BC 2D A5 10
BU 4 7 FSK --- -1.5 5.01s - 03F7 1 0 - 0 0 224 U 5 DlCounter(653) Cnt=653
40 6B 3A D1 00 80 F7 03 E0 02 8D D7 A9 14 A1
-> PER Testing 33 over 60
KD 4 7 FSK --- -30.0 ---- 1 0294 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 94 02 E0 03 0C 2A 89 D7
BU 4 7 FSK --- -1.5 5.01s - 03F8 1 0 - 0 0 224 U 5 DlCounter(654) Cnt=654
40 6B 3A D1 00 80 F8 03 E0 02 8E 5B 13 27 FE
-> PER Testing 34 over 60
KD 4 7 FSK --- -30.0 ---- 1 0295 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 95 02 E0 03 1A C8 A5 55
BU 4 7 FSK --- -1.5 5.01s - 03F9 1 0 - 0 0 224 U 5 DlCounter(655) Cnt=655
40 6B 3A D1 00 80 F9 03 E0 02 8F 29 78 D8 E4
-> PER Testing 35 over 60
KD 4 7 FSK --- -30.0 ---- 1 0296 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 96 02 E0 03 E7 D5 24 43
BU 4 7 FSK --- -1.5 5.01s - 03FA 1 0 - 0 0 224 U 5 DlCounter(656) Cnt=656
40 6B 3A D1 00 80 FA 03 E0 02 90 91 BE 77 1F
-> PER Testing 36 over 60
KD 4 7 FSK --- -30.0 ---- 1 0297 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 97 02 E0 03 7F A8 C4 B5
BU 4 7 FSK --- -1.5 5.01s - 03FB 1 0 - 0 0 224 U 5 DlCounter(657) Cnt=657
40 6B 3A D1 00 80 FB 03 E0 02 91 82 82 F6 CF
-> PER Testing 37 over 60
KD 4 7 FSK --- -30.0 ---- 1 0298 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 98 02 E0 03 EB F0 6A 98
BU 4 7 FSK --- -1.5 5.01s - 03FC 1 0 - 0 0 224 U 5 DlCounter(658) Cnt=658
40 6B 3A D1 00 80 FC 03 E0 02 92 EF 84 50 49
-> PER Testing 38 over 60
KD 4 7 FSK --- -30.0 ---- 1 0299 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 99 02 E0 03 87 9F 24 A7
BU 4 7 FSK --- -1.3 5.01s - 03FD 1 0 - 0 0 224 U 5 DlCounter(659) Cnt=659
40 6B 3A D1 00 80 FD 03 E0 02 93 52 E5 11 58
-> PER Testing 39 over 60
KD 4 7 FSK --- -30.0 ---- 1 029A 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 9A 02 E0 03 71 46 2E 8A
BU 4 7 FSK --- -1.4 5.01s - 03FE 1 0 - 0 0 224 U 5 DlCounter(660) Cnt=660
40 6B 3A D1 00 80 FE 03 E0 02 94 91 F4 BA 8C
-> PER Testing 40 over 60
KD 4 7 FSK --- -30.0 ---- 1 029B 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 9B 02 E0 03 0B C5 96 DA
BU 4 7 FSK --- -1.5 5.01s - 03FF 1 0 - 0 0 224 U 5 DlCounter(661) Cnt=661
40 6B 3A D1 00 80 FF 03 E0 02 95 0E E2 C5 D6
-> PER Testing 41 over 60
KD 4 7 FSK --- -30.0 ---- 1 029C 1 0 0 - - 224 U 4 UnconfirmedFrame

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60 6B 3A D1 00 80 9C 02 E0 03 B1 38 A6 6C
BU 4 7 FSK --- -1.5 5.01s - 0400 1 0 - 0 0 224 U 5 DlCounter(662) Cnt=662
40 6B 3A D1 00 80 00 04 E0 02 96 7C 86 60 3C
-> PER Testing 42 over 60
KD 4 7 FSK --- -30.0 ---- 1 029D 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 9D 02 E0 03 12 58 EB 5E
BU 4 7 FSK --- -1.5 5.01s - 0401 1 0 - 0 0 224 U 5 DlCounter(663) Cnt=663
40 6B 3A D1 00 80 01 04 E0 02 97 C8 3D DE 96
-> PER Testing 43 over 60
KD 4 7 FSK --- -30.0 ---- 1 029E 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 9E 02 E0 03 87 63 4D 61
BU 4 7 FSK --- -1.5 5.01s - 0402 1 0 - 0 0 224 U 5 DlCounter(664) Cnt=664
40 6B 3A D1 00 80 02 04 E0 02 98 82 50 26 DD
-> PER Testing 44 over 60
KD 4 7 FSK --- -30.0 ---- 1 029F 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 9F 02 E0 03 53 3F AC 07
BU 4 7 FSK --- -1.5 5.01s - 0403 1 0 - 0 0 224 U 5 DlCounter(665) Cnt=665
40 6B 3A D1 00 80 03 04 E0 02 99 EB 89 51 FB
-> PER Testing 45 over 60
KD 4 7 FSK --- -30.0 ---- 1 02A0 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 A0 02 E0 03 35 DC C2 A9
BU 4 7 FSK --- -1.5 5.01s - 0404 1 0 - 0 0 224 U 5 DlCounter(666) Cnt=666
40 6B 3A D1 00 80 04 04 E0 02 9A 04 A4 27 23
-> PER Testing 46 over 60
KD 4 7 FSK --- -30.0 ---- 1 02A1 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 A1 02 E0 03 D1 42 D9 DA
BU 4 7 FSK --- -1.5 5.01s - 0405 1 0 - 0 0 224 U 5 DlCounter(667) Cnt=667
40 6B 3A D1 00 80 05 04 E0 02 9B ED 2F E2 60
-> PER Testing 47 over 60
KD 4 7 FSK --- -30.0 ---- 1 02A2 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 A2 02 E0 03 85 FD 59 89
BU 4 7 FSK --- -1.5 5.01s - 0406 1 0 - 0 0 224 U 5 DlCounter(668) Cnt=668
40 6B 3A D1 00 80 06 04 E0 02 9C C2 7F ED B4
-> PER Testing 48 over 60
KD 4 7 FSK --- -30.0 ---- 1 02A3 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 A3 02 E0 03 8B 4C 13 AA
BU 4 7 FSK --- -1.5 5.01s - 0407 1 0 - 0 0 224 U 5 DlCounter(669) Cnt=669
40 6B 3A D1 00 80 07 04 E0 02 9D 2E 38 78 B7
-> PER Testing 49 over 60
KD 4 7 FSK --- -30.0 ---- 1 02A4 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 A4 02 E0 03 1E F1 C1 4D
BU 4 7 FSK --- -1.5 5.01s - 0408 1 0 - 0 0 224 U 5 DlCounter(670) Cnt=670
40 6B 3A D1 00 80 08 04 E0 02 9E 77 F0 89 F0
-> PER Testing 50 over 60
KD 4 7 FSK --- -30.0 ---- 1 02A5 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 A5 02 E0 03 ED E9 4F BC
BU 4 7 FSK --- -1.5 5.01s - 0409 1 0 - 0 0 224 U 5 DlCounter(671) Cnt=671
40 6B 3A D1 00 80 09 04 E0 02 9F D3 28 EF FB
-> PER Testing 51 over 60
KD 4 7 FSK --- -30.0 ---- 1 02A6 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 A6 02 E0 03 32 C0 A0 24
BU 4 7 FSK --- -1.5 5.01s - 040A 1 0 - 0 0 224 U 5 DlCounter(672) Cnt=672
40 6B 3A D1 00 80 0A 04 E0 02 A0 78 79 A7 0A
-> PER Testing 52 over 60
KD 4 7 FSK --- -30.0 ---- 1 02A7 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 A7 02 E0 03 16 8A 9C 4D
BU 4 7 FSK --- -1.4 5.01s - 040B 1 0 - 0 0 224 U 5 DlCounter(673) Cnt=673
40 6B 3A D1 00 80 0B 04 E0 02 A1 A7 80 85 DA
-> PER Testing 53 over 60
KD 4 7 FSK --- -30.0 ---- 1 02A8 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 A8 02 E0 03 B0 48 C6 EB
BU 4 7 FSK --- -1.5 5.01s - 040C 1 0 - 0 0 224 U 5 DlCounter(674) Cnt=674
40 6B 3A D1 00 80 0C 04 E0 02 A2 A1 9B 98 6D
-> PER Testing 54 over 60
KD 4 7 FSK --- -30.0 ---- 1 02A9 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 A9 02 E0 03 FD 78 50 6C
BU 4 7 FSK --- -1.5 5.01s - 040D 1 0 - 0 0 224 U 5 DlCounter(675) Cnt=675
40 6B 3A D1 00 80 0D 04 E0 02 A3 84 12 8A 83
-> PER Testing 55 over 60
KD 4 7 FSK --- -30.0 ---- 1 02AA 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 AA 02 E0 03 C6 7A 5B ED
BU 4 7 FSK --- -1.5 5.01s - 040E 1 0 - 0 0 224 U 5 DlCounter(676) Cnt=676
40 6B 3A D1 00 80 0E 04 E0 02 A4 D5 01 BD C1
-> PER Testing 56 over 60
KD 4 7 FSK --- -30.0 ---- 1 02AB 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 AB 02 E0 03 51 AD D3 E3
BU 4 7 FSK --- -1.5 5.01s - 040F 1 0 - 0 0 224 U 5 DlCounter(677) Cnt=677
40 6B 3A D1 00 80 0F 04 E0 02 A5 15 1A C6 F2
-> PER Testing 57 over 60

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KD 4 7 FSK --- -30.0 ---- 1 02AC 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 AC 02 E0 03 E6 3E 5B 7C
BU 4 7 FSK --- -1.5 5.01s - 0410 1 0 - 0 0 224 U 5 DlCounter(678) Cnt=678
40 6B 3A D1 00 80 10 04 E0 02 A6 65 6A 9B 53
-> PER Testing 58 over 60
KD 4 7 FSK --- -30.0 ---- 1 02AD 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 AD 02 E0 03 0C D2 9A C3
BU 4 7 FSK --- -1.5 5.01s - 0411 1 0 - 0 0 224 U 5 DlCounter(679) Cnt=679
40 6B 3A D1 00 80 11 04 E0 02 A7 3D BB BF 4B
-> PER Testing 59 over 60
KD 4 7 FSK --- -30.0 ---- 1 02AE 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 AE 02 E0 03 9D 89 29 9B
BU 4 7 FSK --- -1.5 5.01s - 0412 1 0 - 0 0 224 U 5 DlCounter(680) Cnt=680
40 6B 3A D1 00 80 12 04 E0 02 A8 B6 7C 85 FA
-> PER Testing 60 over 60
KD R2 0 12 125 -30.0 ---- 1 02AF 1 0 0 - - 000 U 1220 LinkADRRReq
Pow=0,DR=2,Mask=0007h,MC=0,NbTrans=1
60 6B 3A D1 00 80 AF 02 00 03 20 07 00 01 3F 9C EE C1
BU 2 2 10 125 -1.4 5.33s - 0413 1 0 - 0 0 224 U 329 {LinkADRRAns} Pow=1, DR=1, Mask=1
40 6B 3A D1 00 82 13 04 03 07 E0 02 A9 55 7B 82 54

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

0 error(s) over 60, PER=0.000 (Criteria:PER<=0.05)

[Elapsed Time] 00:05:35

## 17 Packet error rate RX2 Window

### 17.1 Test Packet error rate for SF7BW125 using RX2 window

[ TEST PURPOSE ]

To measure downlink packet error rate for RX2 window using all spreading factors  
: 17.1 Test Packet error rate for SF7BW125 using RX2 window

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	QMD	CNTS
BU	2	2	10	125	-1.4	5.01s	-	0415	1	0	-	0	0	224	U	329	DlCounter(681)	Cnt=681
40 6B 3A D1 00 80 15 04 E0 02 A9 8E B5 CE DA																		
[Test packet error rate for SF7BW125 using RX2 window]																		
BU	1	2	10	125	-1.4	5.01s	-	0416	1	0	-	0	0	224	U	329	DlCounter(681)	Cnt=681
40 6B 3A D1 00 80 16 04 E0 02 A9 41 C2 E9 E5																		
KD	1	2	10	125	-36.0	----	1	02B0	1	0	0	-	-	000	C	329	RXParamSetReq	
RX1DROffset=0,RX2DR=5,RX2FREQ=869.525																		
A0 6B 3A D1 00 80 B0 02 00 05 05 D2 AD 84 CB 88 E4 98																		
BU	0	2	10	125	-1.4	1.68s	-	0417	1	1	-	0	0	224	U	329	{RXParamSetAns}	RX1DROffset=1,
RX2DR=1, CH=1																		
40 6B 3A D1 00 A2 17 04 05 07 E0 02 AA 25 7E A3 2B																		
KD	0	2	10	125	-30.0	----	1	02B1	1	0	0	-	-	224	U	288	UnconfirmedFrame	
60 6B 3A D1 00 80 B1 02 E0 03 9F 0D 08 D5																		
BU	2	2	10	125	-1.4	5.01s	-	0418	1	0	-	0	0	224	U	329	DlCounter(683)	Cnt=683
40 6B 3A D1 00 80 18 04 E0 02 AB 5D 19 E3 03																		
KD	R2	5	7	125	-30.0	----	1	02B2	1	0	0	-	-	224	U	41	UnconfirmedFrame	
60 6B 3A D1 00 80 B2 02 E0 03 EC F3 EF 69																		
BU	1	2	10	125	-1.4	5.01s	-	0419	1	0	-	0	0	224	U	329	DlCounter(684)	Cnt=684
40 6B 3A D1 00 80 19 04 E0 02 AC 90 16 91 C4																		
-> PER Testing 1 over 60																		
KD	R2	5	7	125	-30.0	----	1	02B3	1	0	0	-	-	224	U	41	UnconfirmedFrame	
60 6B 3A D1 00 80 B3 02 E0 03 BF 9D 3E 33																		
BU	0	2	10	125	-1.4	5.01s	-	041A	1	0	-	0	0	224	U	329	DlCounter(685)	Cnt=685
40 6B 3A D1 00 80 1A 04 E0 02 AD 1E 39 C3 4D																		



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-> PER Testing 2 over 60
KD R2 5 7 125 -30.0 ---- 1 02B4 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 B4 02 E0 03 DA FE C6 5C
BU 1 2 10 125 -1.4 5.01s - 041B 1 0 - 0 0 224 U 329 DlCounter(686) Cnt=686
40 6B 3A D1 00 80 1B 04 E0 02 AE B7 19 2A 38
-> PER Testing 3 over 60
KD R2 5 7 125 -30.0 ---- 1 02B5 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 B5 02 E0 03 57 A2 4B 3C
BU 1 2 10 125 -1.4 5.01s - 041C 1 0 - 0 0 224 U 329 DlCounter(687) Cnt=687
40 6B 3A D1 00 80 1C 04 E0 02 AF 41 AF 44 ED
-> PER Testing 4 over 60
KD R2 5 7 125 -30.0 ---- 1 02B6 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 B6 02 E0 03 FF D8 F0 FC
BU 0 2 10 125 -1.4 5.01s - 041D 1 0 - 0 0 224 U 329 DlCounter(688) Cnt=688
40 6B 3A D1 00 80 1D 04 E0 02 B0 23 12 06 B6
-> PER Testing 5 over 60
KD R2 5 7 125 -30.0 ---- 1 02B7 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 B7 02 E0 03 B2 B3 30 12
BU 2 2 10 125 -1.4 5.01s - 041E 1 0 - 0 0 224 U 329 DlCounter(689) Cnt=689
40 6B 3A D1 00 80 1E 04 E0 02 B1 FD F1 2C 78
-> PER Testing 6 over 60
KD R2 5 7 125 -30.0 ---- 1 02B8 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 B8 02 E0 03 A8 E7 22 5E
BU 2 2 10 125 -1.4 5.01s - 041F 1 0 - 0 0 224 U 329 DlCounter(690) Cnt=690
40 6B 3A D1 00 80 1F 04 E0 02 B2 1D F2 49 F6
-> PER Testing 7 over 60
KD R2 5 7 125 -30.0 ---- 1 02B9 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 B9 02 E0 03 54 F4 30 C5
BU 1 2 10 125 -1.4 5.01s - 0420 1 0 - 0 0 224 U 329 DlCounter(691) Cnt=691
40 6B 3A D1 00 80 20 04 E0 02 B3 3A 6C 70 89
-> PER Testing 8 over 60
KD R2 5 7 125 -30.0 ---- 1 02BA 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 BA 02 E0 03 A9 89 DF 21
BU 2 2 10 125 -1.4 5.01s - 0421 1 0 - 0 0 224 U 329 DlCounter(692) Cnt=692
40 6B 3A D1 00 80 21 04 E0 02 B4 BC FE A6 E9
-> PER Testing 9 over 60
KD R2 5 7 125 -30.0 ---- 1 02BB 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 BB 02 E0 03 81 97 D1 91
BU 2 2 10 125 -1.4 5.01s - 0422 1 0 - 0 0 224 U 329 DlCounter(693) Cnt=693
40 6B 3A D1 00 80 22 04 E0 02 B5 FD B2 7C 23
-> PER Testing 10 over 60
KD R2 5 7 125 -30.0 ---- 1 02BC 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 BC 02 E0 03 8F 2A 9B A6
BU 1 2 10 125 -1.4 5.01s - 0423 1 0 - 0 0 224 U 329 DlCounter(694) Cnt=694
40 6B 3A D1 00 80 23 04 E0 02 B6 B3 D7 55 A9
-> PER Testing 11 over 60
KD R2 5 7 125 -30.0 ---- 1 02BD 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 BD 02 E0 03 28 9B 78 D5
BU 1 2 10 125 -1.4 5.01s - 0424 1 0 - 0 0 224 U 329 DlCounter(695) Cnt=695
40 6B 3A D1 00 80 24 04 E0 02 B7 8B 52 58 D0
-> PER Testing 12 over 60
KD R2 5 7 125 -30.0 ---- 1 02BE 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 BE 02 E0 03 11 34 5C 49
BU 1 2 10 125 -1.4 5.01s - 0425 1 0 - 0 0 224 U 329 DlCounter(696) Cnt=696
40 6B 3A D1 00 80 25 04 E0 02 B8 3C ED 86 38
-> PER Testing 13 over 60
KD R2 5 7 125 -30.0 ---- 1 02BF 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 BF 02 E0 03 D3 F7 F8 30
BU 1 2 10 125 -1.4 5.01s - 0426 1 0 - 0 0 224 U 329 DlCounter(697) Cnt=697
40 6B 3A D1 00 80 26 04 E0 02 B9 80 4F C0 50
-> PER Testing 14 over 60
KD R2 5 7 125 -30.0 ---- 1 02C0 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 C0 02 E0 03 1F 8D E4 AC
BU 2 2 10 125 -1.4 5.01s - 0427 1 0 - 0 0 224 U 329 DlCounter(698) Cnt=698
40 6B 3A D1 00 80 27 04 E0 02 BA 96 1E 30 60
-> PER Testing 15 over 60
KD R2 5 7 125 -30.0 ---- 1 02C1 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 C1 02 E0 03 59 8D A8 70
BU 0 2 10 125 -1.4 5.01s - 0428 1 0 - 0 0 224 U 329 DlCounter(699) Cnt=699
40 6B 3A D1 00 80 28 04 E0 02 BB 84 D6 5A B2
-> PER Testing 16 over 60
KD R2 5 7 125 -30.0 ---- 1 02C2 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 C2 02 E0 03 8C E8 77 CB
BU 2 2 10 125 -1.4 5.01s - 0429 1 0 - 0 0 224 U 329 DlCounter(700) Cnt=700
40 6B 3A D1 00 80 29 04 E0 02 BC 82 BC 33 60
-> PER Testing 17 over 60
KD R2 5 7 125 -30.0 ---- 1 02C3 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 C3 02 E0 03 23 AC 6A 07
BU 0 2 10 125 -1.4 5.01s - 042A 1 0 - 0 0 224 U 329 DlCounter(701) Cnt=701

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40 6B 3A D1 00 80 2A 04 E0 02 BD 52 43 D9 68
-> PER Testing 18 over 60
KD R2 5 7 125 -30.0 ---- 1 02C4 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 C4 02 E0 03 9D 31 69 F3
BU 1 2 10 125 -1.4 5.01s - 042B 1 0 - 0 0 224 U 329 DlCounter(702) Cnt=702
40 6B 3A D1 00 80 2B 04 E0 02 BE FD 11 4C B3
-> PER Testing 19 over 60
KD R2 5 7 125 -30.0 ---- 1 02C5 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 C5 02 E0 03 3A 6B B2 53
BU 2 2 10 125 -1.3 5.01s - 042C 1 0 - 0 0 224 U 329 DlCounter(703) Cnt=703
40 6B 3A D1 00 80 2C 04 E0 02 BF 68 84 11 1A
-> PER Testing 20 over 60
KD R2 5 7 125 -30.0 ---- 1 02C6 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 C6 02 E0 03 A8 74 6E D8
BU 2 2 10 125 -1.4 5.01s - 042D 1 0 - 0 0 224 U 329 DlCounter(704) Cnt=704
40 6B 3A D1 00 80 2D 04 E0 02 C0 3D 88 D6 8C
-> PER Testing 21 over 60
KD R2 5 7 125 -30.0 ---- 1 02C7 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 C7 02 E0 03 BD 88 29 1A
BU 2 2 10 125 -1.4 5.01s - 042E 1 0 - 0 0 224 U 329 DlCounter(705) Cnt=705
40 6B 3A D1 00 80 2E 04 E0 02 C1 60 F6 B5 5D
-> PER Testing 22 over 60
KD R2 5 7 125 -30.0 ---- 1 02C8 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 C8 02 E0 03 03 26 1F 3A
BU 1 2 10 125 -1.4 5.01s - 042F 1 0 - 0 0 224 U 329 DlCounter(706) Cnt=706
40 6B 3A D1 00 80 2F 04 E0 02 C2 CD AC C7 E2
-> PER Testing 23 over 60
KD R2 5 7 125 -30.0 ---- 1 02C9 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 C9 02 E0 03 7F 74 F6 F4
BU 0 2 10 125 -1.4 5.01s - 0430 1 0 - 0 0 224 U 329 DlCounter(707) Cnt=707
40 6B 3A D1 00 80 30 04 E0 02 C3 17 FF ED 8B
-> PER Testing 24 over 60
KD R2 5 7 125 -30.0 ---- 1 02CA 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 CA 02 E0 03 E5 3B D1 55
BU 2 2 10 125 -1.4 5.01s - 0431 1 0 - 0 0 224 U 329 DlCounter(708) Cnt=708
40 6B 3A D1 00 80 31 04 E0 02 C4 F7 51 AA 3A
-> PER Testing 25 over 60
KD R2 5 7 125 -30.0 ---- 1 02CB 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 CB 02 E0 03 E0 61 B5 20
BU 2 2 10 125 -1.4 5.01s - 0432 1 0 - 0 0 224 U 329 DlCounter(709) Cnt=709
40 6B 3A D1 00 80 32 04 E0 02 C5 60 B5 F2 73
-> PER Testing 26 over 60
KD R2 5 7 125 -30.0 ---- 1 02CC 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 CC 02 E0 03 62 15 40 B7
BU 2 2 10 125 -1.3 5.01s - 0433 1 0 - 0 0 224 U 329 DlCounter(710) Cnt=710
40 6B 3A D1 00 80 33 04 E0 02 C6 DE 5C 05 E5
-> PER Testing 27 over 60
KD R2 5 7 125 -30.0 ---- 1 02CD 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 CD 02 E0 03 77 8E BD 0E
BU 0 2 10 125 -1.4 5.01s - 0434 1 0 - 0 0 224 U 329 DlCounter(711) Cnt=711
40 6B 3A D1 00 80 34 04 E0 02 C7 B9 D1 B8 E2
-> PER Testing 28 over 60
KD R2 5 7 125 -30.0 ---- 1 02CE 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 CE 02 E0 03 EC 39 DA BE
BU 2 2 10 125 -1.4 5.01s - 0435 1 0 - 0 0 224 U 329 DlCounter(712) Cnt=712
40 6B 3A D1 00 80 35 04 E0 02 C8 64 B9 6D 69
-> PER Testing 29 over 60
KD R2 5 7 125 -30.0 ---- 1 02CF 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 CF 02 E0 03 D5 B7 95 B5
BU 0 2 10 125 -1.4 5.01s - 0436 1 0 - 0 0 224 U 329 DlCounter(713) Cnt=713
40 6B 3A D1 00 80 36 04 E0 02 C9 33 9B A8 9D
-> PER Testing 30 over 60
KD R2 5 7 125 -30.0 ---- 1 02D0 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D0 02 E0 03 70 FE 7E 93
BU 2 2 10 125 -1.4 5.01s - 0437 1 0 - 0 0 224 U 329 DlCounter(714) Cnt=714
40 6B 3A D1 00 80 37 04 E0 02 CA B1 E7 37 AC
-> PER Testing 31 over 60
KD R2 5 7 125 -30.0 ---- 1 02D1 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D1 02 E0 03 29 8E 15 66
BU 0 2 10 125 -1.4 5.01s - 0438 1 0 - 0 0 224 U 329 DlCounter(715) Cnt=715
40 6B 3A D1 00 80 38 04 E0 02 CB 34 F0 2B FA
-> PER Testing 32 over 60
KD R2 5 7 125 -30.0 ---- 1 02D2 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D2 02 E0 03 3A 25 49 3C
BU 1 2 10 125 -1.4 5.01s - 0439 1 0 - 0 0 224 U 329 DlCounter(716) Cnt=716
40 6B 3A D1 00 80 39 04 E0 02 CC B3 D0 E4 B2
-> PER Testing 33 over 60
KD R2 5 7 125 -30.0 ---- 1 02D3 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D3 02 E0 03 1B 42 FF FF

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BU 0 2 10 125 -1.4 5.01s - 043A 1 0 - 0 0 224 U 329 DlCounter(717) Cnt=717
40 6B 3A D1 00 80 3A 04 E0 02 CD BB 5B F3 12
-> PER Testing 34 over 60
KD R2 5 7 125 -30.0 ---- 1 02D4 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D4 02 E0 03 D6 9D 04 E7
BU 1 2 10 125 -1.4 5.01s - 043B 1 0 - 0 0 224 U 329 DlCounter(718) Cnt=718
40 6B 3A D1 00 80 3B 04 E0 02 CE 10 6B 11 BC
-> PER Testing 35 over 60
KD R2 5 7 125 -30.0 ---- 1 02D5 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D5 02 E0 03 9A AA 3C 69
BU 1 2 10 125 -1.4 5.01s - 043C 1 0 - 0 0 224 U 329 DlCounter(719) Cnt=719
40 6B 3A D1 00 80 3C 04 E0 02 CF 6F 9A 02 E2
-> PER Testing 36 over 60
KD R2 5 7 125 -30.0 ---- 1 02D6 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D6 02 E0 03 BE 29 79 AC
BU 2 2 10 125 -1.4 5.01s - 043D 1 0 - 0 0 224 U 329 DlCounter(720) Cnt=720
40 6B 3A D1 00 80 3D 04 E0 02 D0 D7 5D ED 79
-> PER Testing 37 over 60
KD R2 5 7 125 -30.0 ---- 1 02D7 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D7 02 E0 03 29 02 D7 43
BU 1 2 10 125 -1.4 5.01s - 043E 1 0 - 0 0 224 U 329 DlCounter(721) Cnt=721
40 6B 3A D1 00 80 3E 04 E0 02 D1 A6 AF A1 E4
-> PER Testing 38 over 60
KD R2 5 7 125 -30.0 ---- 1 02D8 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D8 02 E0 03 4C 2A B5 19
BU 2 2 10 125 -1.4 5.01s - 043F 1 0 - 0 0 224 U 329 DlCounter(722) Cnt=722
40 6B 3A D1 00 80 3F 04 E0 02 D2 A9 1A 21 93
-> PER Testing 39 over 60
KD R2 5 7 125 -30.0 ---- 1 02D9 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 D9 02 E0 03 8A 74 59 A4
BU 2 2 10 125 -1.4 5.01s - 0440 1 0 - 0 0 224 U 329 DlCounter(723) Cnt=723
40 6B 3A D1 00 80 40 04 E0 02 D3 E5 15 9B 07
-> PER Testing 40 over 60
KD R2 5 7 125 -30.0 ---- 1 02DA 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 DA 02 E0 03 8A D8 B1 E7
BU 1 2 10 125 -1.4 5.01s - 0441 1 0 - 0 0 224 U 329 DlCounter(724) Cnt=724
40 6B 3A D1 00 80 41 04 E0 02 D4 47 B5 F3 18
-> PER Testing 41 over 60
KD R2 5 7 125 -30.0 ---- 1 02DB 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 DB 02 E0 03 90 AB 3D 8A
BU 0 2 10 125 -1.4 5.01s - 0442 1 0 - 0 0 224 U 329 DlCounter(725) Cnt=725
40 6B 3A D1 00 80 42 04 E0 02 D5 B8 C2 19 2A
-> PER Testing 42 over 60
KD R2 5 7 125 -30.0 ---- 1 02DC 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 DC 02 E0 03 C8 69 78 33
BU 2 2 10 125 -1.4 5.01s - 0443 1 0 - 0 0 224 U 329 DlCounter(726) Cnt=726
40 6B 3A D1 00 80 43 04 E0 02 D6 47 D4 F5 72
KD R2 5 7 125 -30.0 ---- 1 02DD 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 DD 02 E0 03 D6 CB 67 53
BU 2 2 10 125 -1.3 5.01s - 0444 1 0 - 0 0 224 U 329 DlCounter(727) Cnt=727
40 6B 3A D1 00 80 44 04 E0 02 D7 8B 00 23 66
-> PER Testing 44 over 60
KD R2 5 7 125 -30.0 ---- 1 02DE 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 DE 02 E0 03 72 DB C1 05
BU 0 2 10 125 -1.4 5.01s - 0445 1 0 - 0 0 224 U 329 DlCounter(728) Cnt=728
40 6B 3A D1 00 80 45 04 E0 02 D8 D7 BC 76 28
-> PER Testing 45 over 60
KD R2 5 7 125 -30.0 ---- 1 02DF 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 DF 02 E0 03 F6 1F 01 6A
BU 0 2 10 125 -1.4 5.01s - 0446 1 0 - 0 0 224 U 329 DlCounter(729) Cnt=729
40 6B 3A D1 00 80 46 04 E0 02 D9 25 2E 6D DC
-> PER Testing 46 over 60
KD R2 5 7 125 -30.0 ---- 1 02E0 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E0 02 E0 03 5D A9 5B B1
BU 0 2 10 125 -1.4 5.01s - 0447 1 0 - 0 0 224 U 329 DlCounter(730) Cnt=730
40 6B 3A D1 00 80 47 04 E0 02 DA 1F 82 21 F3
-> PER Testing 47 over 60
KD R2 5 7 125 -30.0 ---- 1 02E1 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E1 02 E0 03 F1 2D 8C 31
BU 0 2 10 125 -1.4 5.01s - 0448 1 0 - 0 0 224 U 329 DlCounter(731) Cnt=731
40 6B 3A D1 00 80 48 04 E0 02 DB AA A4 C4 C3
-> PER Testing 48 over 60
KD R2 5 7 125 -30.0 ---- 1 02E2 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E2 02 E0 03 F0 52 1E 14
BU 1 2 10 125 -1.4 5.01s - 0449 1 0 - 0 0 224 U 329 DlCounter(732) Cnt=732
40 6B 3A D1 00 80 49 04 E0 02 DC 8E 6E 30 09
-> PER Testing 49 over 60
KD R2 5 7 125 -30.0 ---- 1 02E3 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E3 02 E0 03 4D A1 0E F3

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BU 1 2 10 125 -1.4 5.01s - 044A 1 0 - 0 0 224 U 329 DlCounter(733) Cnt=733
40 6B 3A D1 00 80 4A 04 E0 02 DD 34 D2 8C 5C
-> PER Testing 50 over 60
KD R2 5 7 125 -30.0 ---- 1 02E4 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E4 02 E0 03 D0 F7 EE 06
BU 0 2 10 125 -1.4 5.01s - 044B 1 0 - 0 0 224 U 329 DlCounter(734) Cnt=734
40 6B 3A D1 00 80 4B 04 E0 02 DE 19 1A 06 BA
-> PER Testing 51 over 60
KD R2 5 7 125 -30.0 ---- 1 02E5 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E5 02 E0 03 B9 10 F0 BE
BU 1 2 10 125 -1.4 5.01s - 044C 1 0 - 0 0 224 U 329 DlCounter(735) Cnt=735
40 6B 3A D1 00 80 4C 04 E0 02 DF 68 1D 0E E5
-> PER Testing 52 over 60
KD R2 5 7 125 -30.0 ---- 1 02E6 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E6 02 E0 03 41 4F FA 3B
BU 1 2 10 125 -1.4 5.01s - 044D 1 0 - 0 0 224 U 329 DlCounter(736) Cnt=736
40 6B 3A D1 00 80 4D 04 E0 02 E0 D5 32 7B 4D
-> PER Testing 53 over 60
KD R2 5 7 125 -30.0 ---- 1 02E7 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E7 02 E0 03 BA 53 C0 B1
BU 2 2 10 125 -1.4 5.01s - 044E 1 0 - 0 0 224 U 329 DlCounter(737) Cnt=737
40 6B 3A D1 00 80 4E 04 E0 02 E1 99 C4 9E 7B
-> PER Testing 54 over 60
KD R2 5 7 125 -30.0 ---- 1 02E8 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E8 02 E0 03 99 80 78 D9
BU 1 2 10 125 -1.4 5.01s - 044F 1 0 - 0 0 224 U 329 DlCounter(738) Cnt=738
40 6B 3A D1 00 80 4F 04 E0 02 E2 51 0B C6 69
-> PER Testing 55 over 60
KD R2 5 7 125 -30.0 ---- 1 02E9 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 E9 02 E0 03 40 1C 33 78
BU 2 2 10 125 -1.4 5.01s - 0450 1 0 - 0 0 224 U 329 DlCounter(739) Cnt=739
40 6B 3A D1 00 80 50 04 E0 02 E3 F2 1D CD 39
-> PER Testing 56 over 60
KD R2 5 7 125 -30.0 ---- 1 02EA 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 EA 02 E0 03 CB 07 92 92
BU 0 2 10 125 -1.4 5.01s - 0451 1 0 - 0 0 224 U 329 DlCounter(740) Cnt=740
40 6B 3A D1 00 80 51 04 E0 02 E4 25 56 25 DA
-> PER Testing 57 over 60
KD R2 5 7 125 -30.0 ---- 1 02EB 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 EB 02 E0 03 68 72 5C 6B
BU 0 2 10 125 -1.4 5.01s - 0452 1 0 - 0 0 224 U 329 DlCounter(741) Cnt=741
40 6B 3A D1 00 80 52 04 E0 02 E5 D7 17 14 D4
-> PER Testing 58 over 60
KD R2 5 7 125 -30.0 ---- 1 02EC 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 EC 02 E0 03 51 BB EC E0
BU 1 2 10 125 -1.4 5.01s - 0453 1 0 - 0 0 224 U 329 DlCounter(742) Cnt=742
40 6B 3A D1 00 80 53 04 E0 02 E6 79 65 46 7A
-> PER Testing 59 over 60
KD R2 5 7 125 -30.0 ---- 1 02ED 1 0 0 - - 224 U 41 UnconfirmedFrame
60 6B 3A D1 00 80 ED 02 E0 03 C3 1B 21 46
BU 0 2 10 125 -1.4 5.01s - 0454 1 0 - 0 0 224 U 329 DlCounter(743) Cnt=743
40 6B 3A D1 00 80 54 04 E0 02 E7 03 FC 25 AF
-> PER Testing 60 over 60

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

0 error(s) over60, PER=0.000 (Criteria:PER<=0.05)

[Elapsed Time] 00:05:20

## 17.2 Test Packet error rate for SF8BW125 using RX2 window

[ TEST PURPOSE ]

To measure downlink packet error rate for RX2 window using all spreading factors  
 : 17.2 Test Packet error rate for SF8BW125 using RX2 window

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	0	2	10	125	-1.4	5.01s	-	0456	1	0	-	0	0	224	U	329	DICounter(743)	Cnt=743
40 6B 3A D1 00 80 56 04 E0 02 E7 6D 70 CE F6																		
[Test packet error rate for SF8BW125 using RX2 window]																		
BU	2	2	10	125	-1.4	5.01s	-	0457	1	0	-	0	0	224	U	329	DICounter(743)	Cnt=743
40 6B 3A D1 00 80 57 04 E0 02 E7 15 F4 44 06																		
KD	2	2	10	125	-36.0		----	02EE	1	0	0	-	-	000	C	329	RXParamSetReq	
RX1DROffset=0, RX2DR=4, RX2FREQ=869.525																		
A0 6B 3A D1 00 80 EE 02 00 05 04 D2 AD 84 D4 7E B7 45																		
BU	2	2	10	125	-1.4	1.68s	-	0458	1	1	-	0	0	224	U	329	{RXParamSetAns}	RX1DROffset=1,
RX2DR=1, CH=1																		
40 6B 3A D1 00 A2 58 04 05 07 E0 02 E8 38 E5 4A 73																		
KD	2	2	10	125	-30.0		----	02EF	1	0	0	-	-	224	U	288	UnconfirmedFrame	
60 6B 3A D1 00 80 EF 02 E0 03 64 1F 4D 83																		
BU	2	2	10	125	-1.3	5.01s	-	0459	1	0	-	0	0	224	U	329	DICounter(745)	Cnt=745
40 6B 3A D1 00 80 59 04 E0 02 E9 1F A6 ED 16																		
KD	R2	4	8	125	-30.0		----	02F0	1	0	0	-	-	224	U	82	UnconfirmedFrame	
60 6B 3A D1 00 80 F0 02 E0 03 26 7E E4 31																		
BU	2	2	10	125	-1.4	5.01s	-	045A	1	0	-	0	0	224	U	329	DICounter(746)	Cnt=746
40 6B 3A D1 00 80 5A 04 E0 02 EA 6C 2B 3B 79																		
-> PER Testing 1 over 60																		
KD	R2	4	8	125	-30.0		----	02F1	1	0	0	-	-	224	U	82	UnconfirmedFrame	
60 6B 3A D1 00 80 F1 02 E0 03 E8 7B 1D 61																		
BU	0	2	10	125	-1.3	5.01s	-	045B	1	0	-	0	0	224	U	329	DICounter(747)	Cnt=747
40 6B 3A D1 00 80 5B 04 E0 02 EB 72 F6 61 C7																		
-> PER Testing 2 over 60																		
KD	R2	4	8	125	-30.0		----	02F2	1	0	0	-	-	224	U	82	UnconfirmedFrame	
60 6B 3A D1 00 80 F2 02 E0 03 B5 B5 83 0D																		
BU	2	2	10	125	-1.4	5.01s	-	045C	1	0	-	0	0	224	U	329	DICounter(748)	Cnt=748
40 6B 3A D1 00 80 5C 04 E0 02 EC 6C F2 0D BF																		
-> PER Testing 3 over 60																		
KD	R2	4	8	125	-30.0		----	02F3	1	0	0	-	-	224	U	82	UnconfirmedFrame	
60 6B 3A D1 00 80 F3 02 E0 03 0D 0D EA 54																		
BU	1	2	10	125	-1.4	5.01s	-	045D	1	0	-	0	0	224	U	329	DICounter(749)	Cnt=749
40 6B 3A D1 00 80 5D 04 E0 02 ED 3C C3 FF 68																		
-> PER Testing 4 over 60																		
KD	R2	4	8	125	-30.0		----	02F4	1	0	0	-	-	224	U	82	UnconfirmedFrame	
60 6B 3A D1 00 80 F4 02 E0 03 20 EB 0D 21																		
BU	0	2	10	125	-1.4	5.01s	-	045E	1	0	-	0	0	224	U	329	DICounter(750)	Cnt=750
40 6B 3A D1 00 80 5E 04 E0 02 EE C6 F0 1B 9F																		
-> PER Testing 5 over 60																		
KD	R2	4	8	125	-30.0		----	02F5	1	0	0	-	-	224	U	82	UnconfirmedFrame	
60 6B 3A D1 00 80 F5 02 E0 03 47 43 6A D2																		
BU	1	2	10	125	-1.4	5.01s	-	045F	1	0	-	0	0	224	U	329	DICounter(751)	Cnt=751
40 6B 3A D1 00 80 5F 04 E0 02 EF 27 99 08 B1																		
-> PER Testing 6 over 60																		
KD	R2	4	8	125	-30.0		----	02F6	1	0	0	-	-	224	U	82	UnconfirmedFrame	
60 6B 3A D1 00 80 F6 02 E0 03 61 68 25 AE																		
BU	1	2	10	125	-1.4	5.01s	-	0460	1	0	-	0	0	224	U	329	DICounter(752)	Cnt=752
40 6B 3A D1 00 80 60 04 E0 02 F0 60 18 B8 6A																		
-> PER Testing 7 over 60																		
KD	R2	4	8	125	-30.0		----	02F7	1	0	0	-	-	224	U	82	UnconfirmedFrame	
60 6B 3A D1 00 80 F7 02 E0 03 C6 B6 07 69																		
BU	2	2	10	125	-1.4	5.01s	-	0461	1	0	-	0	0	224	U	329	DICounter(753)	Cnt=753
40 6B 3A D1 00 80 61 04 E0 02 F1 92 F3 1D 59																		
-> PER Testing 8 over 60																		
KD	R2	4	8	125	-30.0		----	02F8	1	0	0	-	-	224	U	82	UnconfirmedFrame	
60 6B 3A D1 00 80 F8 02 E0 03 5D 7A A6 7B																		
BU	1	2	10	125	-1.4	5.01s	-	0462	1	0	-	0	0	224	U	329	DICounter(754)	Cnt=754
40 6B 3A D1 00 80 62 04 E0 02 F2 24 0D 9A BE																		
-> PER Testing 9 over 60																		
KD	R2	4	8	125	-30.0		----	02F9	1	0	0	-	-	224	U	82	UnconfirmedFrame	
60 6B 3A D1 00 80 F9 02 E0 03 59 EE 96 B4																		
BU	1	2	10	125	-1.4	5.01s	-	0463	1	0	-	0	0	224	U	329	DICounter(755)	Cnt=755
40 6B 3A D1 00 80 63 04 E0 02 F3 EB 91 C9 3C																		
-> PER Testing 10 over 60																		
KD	R2	4	8	125	-30.0		----	02FA	1	0	0	-	-	224	U	82	UnconfirmedFrame	
60 6B 3A D1 00 80 FA 02 E0 03 22 3F 95 63																		
BU	1	2	10	125	-1.4	5.01s	-	0464	1	0	-	0	0	224	U	329	DICounter(756)	Cnt=756
40 6B 3A D1 00 80 64 04 E0 02 F4 5F 21 4D DA																		
-> PER Testing 11 over 60																		
KD	R2	4	8	125	-30.0		----	02FB	1	0	0	-	-	224	U	82	UnconfirmedFrame	
60 6B 3A D1 00 80 FB 02 E0 03 82 C8 67 5E																		
BU	0	2	10	125	-1.4	5.01s	-	0465	1	0	-	0	0	224	U	329	DICounter(757)	Cnt=757

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40 6B 3A D1 00 80 65 04 E0 02 F5 A9 0D 51 3A
-> PER Testing 12 over 60
KD R2 4 8 125 -30.0 ---- 1 02FC 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 FC 02 E0 03 AB 60 6A C3
BU 0 2 10 125 -1.4 5.01s - 0466 1 0 - 0 0 224 U 329 DlCounter(758) Cnt=758
40 6B 3A D1 00 80 66 04 E0 02 F6 CE CC B8 08
-> PER Testing 13 over 60
KD R2 4 8 125 -30.0 ---- 1 02FD 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 FD 02 E0 03 AB 3C DB A4
BU 0 2 10 125 -1.4 5.01s - 0467 1 0 - 0 0 224 U 329 DlCounter(759) Cnt=759
40 6B 3A D1 00 80 67 04 E0 02 F7 07 E9 D0 9A
-> PER Testing 14 over 60
KD R2 4 8 125 -30.0 ---- 1 02FE 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 FE 02 E0 03 4A 82 7C 57
BU 1 2 10 125 -1.4 5.01s - 0468 1 0 - 0 0 224 U 329 DlCounter(760) Cnt=760
40 6B 3A D1 00 80 68 04 E0 02 F8 46 00 72 4D
-> PER Testing 15 over 60
KD R2 4 8 125 -30.0 ---- 1 02FF 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 FF 02 E0 03 DF 5B E3 47
BU 1 2 10 125 -1.4 5.01s - 0469 1 0 - 0 0 224 U 329 DlCounter(761) Cnt=761
40 6B 3A D1 00 80 69 04 E0 02 F9 B5 C8 8A 13
-> PER Testing 16 over 60
KD R2 4 8 125 -30.0 ---- 1 0300 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 00 03 E0 03 F1 37 CB DD
BU 1 2 10 125 -1.4 5.01s - 046A 1 0 - 0 0 224 U 329 DlCounter(762) Cnt=762
40 6B 3A D1 00 80 6A 04 E0 02 FA C1 72 69 CD
-> PER Testing 17 over 60
KD R2 4 8 125 -30.0 ---- 1 0301 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 01 03 E0 03 34 30 87 03
BU 1 2 10 125 -1.4 5.01s - 046B 1 0 - 0 0 224 U 329 DlCounter(763) Cnt=763
40 6B 3A D1 00 80 6B 04 E0 02 FB 68 76 D3 83
-> PER Testing 18 over 60
KD R2 4 8 125 -30.0 ---- 1 0302 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 02 03 E0 03 87 48 1A 49
BU 0 2 10 125 -1.4 5.01s - 046C 1 0 - 0 0 224 U 329 DlCounter(764) Cnt=764
40 6B 3A D1 00 80 6C 04 E0 02 FC C0 E1 2F 04
-> PER Testing 19 over 60
KD R2 4 8 125 -30.0 ---- 1 0303 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 03 03 E0 03 5F 3D 1A 61
BU 1 2 10 125 -1.4 5.01s - 046D 1 0 - 0 0 224 U 329 DlCounter(765) Cnt=765
40 6B 3A D1 00 80 6D 04 E0 02 FD B5 1D 78 64
-> PER Testing 20 over 60
KD R2 4 8 125 -30.0 ---- 1 0304 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 04 03 E0 03 7C E9 BF 92
BU 0 2 10 125 -1.4 5.01s - 046E 1 0 - 0 0 224 U 329 DlCounter(766) Cnt=766
40 6B 3A D1 00 80 6E 04 E0 02 FE 40 19 3C F1
-> PER Testing 21 over 60
KD R2 4 8 125 -30.0 ---- 1 0305 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 05 03 E0 03 21 99 37 C3
BU 0 2 10 125 -1.4 5.01s - 046F 1 0 - 0 0 224 U 329 DlCounter(767) Cnt=767
40 6B 3A D1 00 80 6F 04 E0 02 FF 42 46 BD A9
-> PER Testing 22 over 60
KD R2 4 8 125 -30.0 ---- 1 0306 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 06 03 E0 03 B2 E0 D3 69
BU 1 2 10 125 -1.3 5.01s - 0470 1 0 - 0 0 224 U 329 DlCounter(768) Cnt=768
40 6B 3A D1 00 80 70 04 E0 03 00 E8 73 62 91
-> PER Testing 23 over 60
KD R2 4 8 125 -30.0 ---- 1 0307 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 07 03 E0 03 EC D0 8D 92
BU 0 2 10 125 -1.4 5.01s - 0471 1 0 - 0 0 224 U 329 DlCounter(769) Cnt=769
40 6B 3A D1 00 80 71 04 E0 03 01 24 EA 4D 55
-> PER Testing 24 over 60
KD R2 4 8 125 -30.0 ---- 1 0308 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 08 03 E0 03 2C EE 6D 2C
BU 0 2 10 125 -1.4 5.01s - 0472 1 0 - 0 0 224 U 329 DlCounter(770) Cnt=770
40 6B 3A D1 00 80 72 04 E0 03 02 A2 BC 9F F6
-> PER Testing 25 over 60
KD R2 4 8 125 -30.0 ---- 1 0309 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 09 03 E0 03 CC D8 1D 52
BU 2 2 10 125 -1.4 5.01s - 0473 1 0 - 0 0 224 U 329 DlCounter(771) Cnt=771
40 6B 3A D1 00 80 73 04 E0 03 03 2E 6C 17 61
-> PER Testing 26 over 60
KD R2 4 8 125 -30.0 ---- 1 030A 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 0A 03 E0 03 76 DD 21 90
BU 1 2 10 125 -1.3 5.01s - 0474 1 0 - 0 0 224 U 329 DlCounter(772) Cnt=772
40 6B 3A D1 00 80 74 04 E0 03 04 CE BE B3 FB
-> PER Testing 27 over 60
KD R2 4 8 125 -30.0 ---- 1 030B 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 0B 03 E0 03 9E 2C 18 A2

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BU 0 2 10 125 -1.4 5.01s - 0475 1 0 - 0 0 224 U 329 DlCounter(773) Cnt=773
40 6B 3A D1 00 80 75 04 E0 03 05 BF 04 07 87
-> PER Testing 28 over 60
KD R2 4 8 125 -30.0 ---- 1 030C 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 0C 03 E0 03 4F 7C B5 53
BU 2 2 10 125 -1.4 5.01s - 0476 1 0 - 0 0 224 U 329 DlCounter(774) Cnt=774
40 6B 3A D1 00 80 76 04 E0 03 06 15 EA 00 5A
-> PER Testing 29 over 60
KD R2 4 8 125 -30.0 ---- 1 030D 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 0D 03 E0 03 7D E8 C7 D8
BU 1 2 10 125 -1.4 5.01s - 0477 1 0 - 0 0 224 U 329 DlCounter(775) Cnt=775
40 6B 3A D1 00 80 77 04 E0 03 07 1C 99 84 C0
-> PER Testing 30 over 60
KD R2 4 8 125 -30.0 ---- 1 030E 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 0E 03 E0 03 D2 E8 10 04
BU 1 2 10 125 -1.4 5.01s - 0478 1 0 - 0 0 224 U 329 DlCounter(776) Cnt=776
40 6B 3A D1 00 80 78 04 E0 03 08 9E 1B 83 77
-> PER Testing 31 over 60
KD R2 4 8 125 -30.0 ---- 1 030F 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 0F 03 E0 03 FD 76 E8 B1
BU 2 2 10 125 -1.4 5.01s - 0479 1 0 - 0 0 224 U 329 DlCounter(777) Cnt=777
40 6B 3A D1 00 80 79 04 E0 03 09 D1 8E 88 9D
-> PER Testing 32 over 60
KD R2 4 8 125 -30.0 ---- 1 0310 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 10 03 E0 03 E7 B6 AA 57
BU 2 2 10 125 -1.4 5.01s - 047A 1 0 - 0 0 224 U 329 DlCounter(778) Cnt=778
40 6B 3A D1 00 80 7A 04 E0 03 0A 2F 4F 38 DC
-> PER Testing 33 over 60
KD R2 4 8 125 -30.0 ---- 1 0311 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 11 03 E0 03 1E E6 04 D3
BU 2 2 10 125 -1.4 5.01s - 047B 1 0 - 0 0 224 U 329 DlCounter(779) Cnt=779
40 6B 3A D1 00 80 7B 04 E0 03 0B A3 73 CB D3
-> PER Testing 34 over 60
KD R2 4 8 125 -30.0 ---- 1 0312 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 12 03 E0 03 46 10 A3 58
BU 2 2 10 125 -1.4 5.01s - 047C 1 0 - 0 0 224 U 329 DlCounter(780) Cnt=780
40 6B 3A D1 00 80 7C 04 E0 03 0C 93 88 01 5F
-> PER Testing 35 over 60
KD R2 4 8 125 -30.0 ---- 1 0313 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 13 03 E0 03 D6 1A 2B 96
BU 1 2 10 125 -1.4 5.01s - 047D 1 0 - 0 0 224 U 329 DlCounter(781) Cnt=781
40 6B 3A D1 00 80 7D 04 E0 03 0D 47 36 F6 FD
-> PER Testing 36 over 60
KD R2 4 8 125 -30.0 ---- 1 0314 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 14 03 E0 03 0A A6 C4 57
BU 1 2 10 125 -1.4 5.01s - 047E 1 0 - 0 0 224 U 329 DlCounter(782) Cnt=782
40 6B 3A D1 00 80 7E 04 E0 03 0E D9 25 9A B7
-> PER Testing 37 over 60
KD R2 4 8 125 -30.0 ---- 1 0315 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 15 03 E0 03 55 89 7C BA
BU 0 2 10 125 -1.3 5.01s - 047F 1 0 - 0 0 224 U 329 DlCounter(783) Cnt=783
40 6B 3A D1 00 80 7F 04 E0 03 0F 2C 1A 91 53
-> PER Testing 38 over 60
KD R2 4 8 125 -30.0 ---- 1 0316 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 16 03 E0 03 BD 75 6E 68
BU 2 2 10 125 -1.3 5.01s - 0480 1 0 - 0 0 224 U 329 DlCounter(784) Cnt=784
40 6B 3A D1 00 80 80 04 E0 03 10 97 6B 9C 5B
-> PER Testing 39 over 60
KD R2 4 8 125 -30.0 ---- 1 0317 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 17 03 E0 03 58 C9 F4 8E
BU 2 2 10 125 -1.4 5.01s - 0481 1 0 - 0 0 224 U 329 DlCounter(785) Cnt=785
40 6B 3A D1 00 80 81 04 E0 03 11 41 32 BF B8
-> PER Testing 40 over 60
KD R2 4 8 125 -30.0 ---- 1 0318 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 18 03 E0 03 3F 99 CC B2
BU 2 2 10 125 -1.4 5.01s - 0482 1 0 - 0 0 224 U 329 DlCounter(786) Cnt=786
40 6B 3A D1 00 80 82 04 E0 03 12 48 DD 8C E8
-> PER Testing 41 over 60
KD R2 4 8 125 -30.0 ---- 1 0319 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 19 03 E0 03 3A 20 39 9D
BU 1 2 10 125 -1.3 5.01s - 0483 1 0 - 0 0 224 U 329 DlCounter(787) Cnt=787
40 6B 3A D1 00 80 83 04 E0 03 13 5C C9 33 1A
-> PER Testing 42 over 60
KD R2 4 8 125 -30.0 ---- 1 031A 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 1A 03 E0 03 F4 20 DE 93
BU 2 2 10 125 -1.4 5.01s - 0484 1 0 - 0 0 224 U 329 DlCounter(788) Cnt=788
40 6B 3A D1 00 80 84 04 E0 03 14 25 50 0A 6F
-> PER Testing 43 over 60
KD R2 4 8 125 -30.0 ---- 1 031B 1 0 0 - - 224 U 82 UnconfirmedFrame

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60 6B 3A D1 00 80 1B 03 E0 03 B2 4B 48 6B
BU 0 2 10 125 -1.4 5.01s - 0485 1 0 - 0 0 224 U 329 DlCounter(789) Cnt=789
40 6B 3A D1 00 80 85 04 E0 03 15 86 2E 02 49
-> PER Testing 44 over 60
KD R2 4 8 125 -30.0 ---- 1 031C 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 1C 03 E0 03 5F 6E DF D3
BU 2 2 10 125 -1.4 5.01s - 0486 1 0 - 0 0 224 U 329 DlCounter(790) Cnt=790
40 6B 3A D1 00 80 86 04 E0 03 16 27 59 89 24
-> PER Testing 45 over 60
KD R2 4 8 125 -30.0 ---- 1 031D 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 1D 03 E0 03 10 CC 4A 34
BU 2 2 10 125 -1.4 5.01s - 0487 1 0 - 0 0 224 U 329 DlCounter(791) Cnt=791
40 6B 3A D1 00 80 87 04 E0 03 17 15 43 A4 ED
-> PER Testing 46 over 60
KD R2 4 8 125 -30.0 ---- 1 031E 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 1E 03 E0 03 49 DD 46 B4
BU 1 2 10 125 -1.4 5.01s - 0488 1 0 - 0 0 224 U 329 DlCounter(792) Cnt=792
40 6B 3A D1 00 80 88 04 E0 03 18 07 CC 50 E7
-> PER Testing 47 over 60
KD R2 4 8 125 -30.0 ---- 1 031F 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 1F 03 E0 03 37 70 7B B5
BU 2 2 10 125 -1.4 5.01s - 0489 1 0 - 0 0 224 U 329 DlCounter(793) Cnt=793
40 6B 3A D1 00 80 89 04 E0 03 19 A1 CC 35 5B
-> PER Testing 48 over 60
KD R2 4 8 125 -30.0 ---- 1 0320 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 20 03 E0 03 B3 82 6F 04
BU 1 2 10 125 -1.4 5.01s - 048A 1 0 - 0 0 224 U 329 DlCounter(794) Cnt=794
40 6B 3A D1 00 80 8A 04 E0 03 1A 05 1A 20 58
-> PER Testing 49 over 60
KD R2 4 8 125 -30.0 ---- 1 0321 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 21 03 E0 03 51 9E C5 7B
BU 1 2 10 125 -1.4 5.01s - 048B 1 0 - 0 0 224 U 329 DlCounter(795) Cnt=795
40 6B 3A D1 00 80 8B 04 E0 03 1B FA 62 5D 95
-> PER Testing 50 over 60
KD R2 4 8 125 -30.0 ---- 1 0322 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 22 03 E0 03 0C 02 D4 26
BU 1 2 10 125 -1.4 5.01s - 048C 1 0 - 0 0 224 U 329 DlCounter(796) Cnt=796
40 6B 3A D1 00 80 8C 04 E0 03 1C 07 01 AC 1A
-> PER Testing 51 over 60
KD R2 4 8 125 -30.0 ---- 1 0323 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 23 03 E0 03 EA 34 37 EE
BU 0 2 10 125 -1.4 5.01s - 048D 1 0 - 0 0 224 U 329 DlCounter(797) Cnt=797
40 6B 3A D1 00 80 8D 04 E0 03 1D 35 70 85 F6
-> PER Testing 52 over 60
KD R2 4 8 125 -30.0 ---- 1 0324 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 24 03 E0 03 8B 99 24 5F
BU 0 2 10 125 -1.4 5.01s - 048E 1 0 - 0 0 224 U 329 DlCounter(798) Cnt=798
40 6B 3A D1 00 80 8E 04 E0 03 1E 93 C4 42 68
-> PER Testing 53 over 60
KD R2 4 8 125 -30.0 ---- 1 0325 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 25 03 E0 03 BA 47 E5 81
BU 1 2 10 125 -1.4 5.01s - 048F 1 0 - 0 0 224 U 329 DlCounter(799) Cnt=799
40 6B 3A D1 00 80 8F 04 E0 03 1F 3F 33 C4 18
-> PER Testing 54 over 60
KD R2 4 8 125 -30.0 ---- 1 0326 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 26 03 E0 03 08 45 B6 ED
BU 0 2 10 125 -1.4 5.01s - 0490 1 0 - 0 0 224 U 329 DlCounter(800) Cnt=800
40 6B 3A D1 00 80 90 04 E0 03 20 BA EC 03 7C
-> PER Testing 55 over 60
KD R2 4 8 125 -30.0 ---- 1 0327 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 27 03 E0 03 27 1D C9 28
BU 0 2 10 125 -1.4 5.01s - 0491 1 0 - 0 0 224 U 329 DlCounter(801) Cnt=801
40 6B 3A D1 00 80 91 04 E0 03 21 F6 A8 09 3C
-> PER Testing 56 over 60
KD R2 4 8 125 -30.0 ---- 1 0328 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 28 03 E0 03 BE 7D AB D1
BU 0 2 10 125 -1.4 5.01s - 0492 1 0 - 0 0 224 U 329 DlCounter(802) Cnt=802
40 6B 3A D1 00 80 92 04 E0 03 22 C3 71 DE 2D
-> PER Testing 57 over 60
KD R2 4 8 125 -30.0 ---- 1 0329 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 29 03 E0 03 54 5E 36 F1
BU 1 2 10 125 -1.4 5.01s - 0493 1 0 - 0 0 224 U 329 DlCounter(803) Cnt=803
40 6B 3A D1 00 80 93 04 E0 03 23 58 FC AB 90
-> PER Testing 58 over 60
KD R2 4 8 125 -30.0 ---- 1 032A 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 2A 03 E0 03 D5 9A B9 0F
BU 0 2 10 125 -1.4 5.01s - 0494 1 0 - 0 0 224 U 329 DlCounter(804) Cnt=804
40 6B 3A D1 00 80 94 04 E0 03 24 A8 D0 BF 61
-> PER Testing 59 over 60

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KD R2 4 8 125 -30.0 ---- 1 032B 1 0 0 - - 224 U 82 UnconfirmedFrame
60 6B 3A D1 00 80 2B 03 E0 03 27 53 6A 7B
BU 2 2 10 125 -1.4 5.01s - 0495 1 0 - 0 0 224 U 329 DlCounter(805) Cnt=805
40 6B 3A D1 00 80 95 04 E0 03 25 2C F1 76 A1
-> PER Testing 60 over 60

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

0 error(s) over 60, PER=0.000 (Criteria:PER<=0.05)

[Elapsed Time] 00:05:19

### 17.3 Test packet error rate for SF9BW125 using RX2 window

[ TEST PURPOSE ]

To measure downlink packet error rate for RX2 window using all spreading factors  
: 17.3 Test packet error rate for SF9BW125 using RX2 window

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	2	2	10	125	-1.4	5.01s	-	0497	1	0	-	0	0	224	U	329	DlCounter(805)	Cnt=805
40 6B 3A D1 00 80 97 04 E0 03 25 0C 43 0E 1E																		
[Test packet error rate for SF9BW125 using RX2 window]																		
BU	2	2	10	125	-1.4	5.01s	-	0498	1	0	-	0	0	224	U	329	DlCounter(805)	Cnt=805
40 6B 3A D1 00 80 98 04 E0 03 25 62 5B 3E 5D																		
KD	2	2	10	125	-36.0	----	1	032C	1	0	0	-	-	000	C	329	RXParamSetReq	
RX1DROffset=0, RX2DR=3, RX2FREQ=869.525																		
A0	6B	3A	D1	00	80	2C	03	00	05	03	D2	AD	84	3E	17	F8	D6	
BU	0	2	10	125	-1.4	1.68s	-	0499	1	1	-	0	0	224	U	329	{RXParamSetAns}	RX1DROffset=1,
RX2DR=1, CH=1																		
40 6B 3A D1 00 A2 99 04 05 07 E0 03 26 DF 12 EE DC																		
KD	0	2	10	125	-30.0	----	1	032D	1	0	0	-	-	224	U	288	UnconfirmedFrame	
60 6B 3A D1 00 80 2D 03 E0 03 85 3A 35 66																		
BU	0	2	10	125	-1.4	5.01s	-	049A	1	0	-	0	0	224	U	329	DlCounter(807)	Cnt=807
40 6B 3A D1 00 80 9A 04 E0 03 27 63 32 6C BE																		
KD	R2	3	9	125	-30.0	----	1	032E	1	0	0	-	-	224	U	144	UnconfirmedFrame	
60 6B 3A D1 00 80 2E 03 E0 03 A9 CC 03 F4																		
BU	2	2	10	125	-1.4	5.01s	-	049B	1	0	-	0	0	224	U	329	DlCounter(808)	Cnt=808
40 6B 3A D1 00 80 9B 04 E0 03 28 26 1D E4 AE																		
-> PER Testing 1 over 60																		
KD	R2	3	9	125	-30.0	----	1	032F	1	0	0	-	-	224	U	144	UnconfirmedFrame	
60 6B 3A D1 00 80 2F 03 E0 03 08 EB 74 DE																		
BU	0	2	10	125	-1.4	5.01s	-	049C	1	0	-	0	0	224	U	329	DlCounter(809)	Cnt=809
40 6B 3A D1 00 80 9C 04 E0 03 29 71 37 F6 91																		
-> PER Testing 2 over 60																		
KD	R2	3	9	125	-30.0	----	1	0330	1	0	0	-	-	224	U	144	UnconfirmedFrame	
60 6B 3A D1 00 80 30 03 E0 03 C0 74 BD 27																		
BU	2	2	10	125	-1.4	5.01s	-	049D	1	0	-	0	0	224	U	329	DlCounter(810)	Cnt=810
40 6B 3A D1 00 80 9D 04 E0 03 2A 7A 40 C7 B2																		
-> PER Testing 3 over 60																		
KD	R2	3	9	125	-30.0	----	1	0331	1	0	0	-	-	224	U	144	UnconfirmedFrame	
60 6B 3A D1 00 80 31 03 E0 03 A8 56 2A 70																		
BU	2	2	10	125	-1.4	5.01s	-	049E	1	0	-	0	0	224	U	329	DlCounter(811)	Cnt=811
40 6B 3A D1 00 80 9E 04 E0 03 2B 00 48 20 1A																		
-> PER Testing 4 over 60																		
KD	R2	3	9	125	-30.0	----	1	0332	1	0	0	-	-	224	U	144	UnconfirmedFrame	
60 6B 3A D1 00 80 32 03 E0 03 24 0A 83 25																		
BU	2	2	10	125	-1.4	5.01s	-	049F	1	0	-	0	0	224	U	329	DlCounter(812)	Cnt=812
40 6B 3A D1 00 80 9F 04 E0 03 2C AD 2C 14 7B																		
-> PER Testing 5 over 60																		
KD	R2	3	9	125	-30.0	----	1	0333	1	0	0	-	-	224	U	144	UnconfirmedFrame	
60 6B 3A D1 00 80 33 03 E0 03 58 1D 52 31																		

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BU 0 2 10 125 -1.4 5.01s - 04A0 1 0 - 0 0 224 U 329 DlCounter(813) Cnt=813
40 6B 3A D1 00 80 A0 04 E0 03 2D 32 ED 35 74
-> PER Testing 6 over 60
KD R2 3 9 125 -30.0 ---- 1 0334 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 34 03 E0 03 DD 55 88 DD
BU 0 2 10 125 -1.4 5.01s - 04A1 1 0 - 0 0 224 U 329 DlCounter(814) Cnt=814
40 6B 3A D1 00 80 A1 04 E0 03 2E 88 04 7C 09
-> PER Testing 7 over 60
KD R2 3 9 125 -30.0 ---- 1 0335 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 35 03 E0 03 C8 DB 39 B0
BU 2 2 10 125 -1.4 5.01s - 04A2 1 0 - 0 0 224 U 329 DlCounter(815) Cnt=815
40 6B 3A D1 00 80 A2 04 E0 03 2F 30 CF 01 E8
-> PER Testing 8 over 60
KD R2 3 9 125 -30.0 ---- 1 0336 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 36 03 E0 03 AE B8 EC E9
BU 2 2 10 125 -1.4 5.01s - 04A3 1 0 - 0 0 224 U 329 DlCounter(816) Cnt=816
40 6B 3A D1 00 80 A3 04 E0 03 30 50 F1 1F 23
-> PER Testing 9 over 60
KD R2 3 9 125 -30.0 ---- 1 0337 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 37 03 E0 03 55 35 60 06
BU 2 2 10 125 -1.4 5.01s - 04A4 1 0 - 0 0 224 U 329 DlCounter(817) Cnt=817
40 6B 3A D1 00 80 A4 04 E0 03 31 CD CB C8 71
-> PER Testing 10 over 60
KD R2 3 9 125 -30.0 ---- 1 0338 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 38 03 E0 03 1B 19 2C F9
BU 1 2 10 125 -1.4 5.01s - 04A5 1 0 - 0 0 224 U 329 DlCounter(818) Cnt=818
40 6B 3A D1 00 80 A5 04 E0 03 32 CB DE 31 9F
-> PER Testing 11 over 60
KD R2 3 9 125 -30.0 ---- 1 0339 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 39 03 E0 03 EA 80 53 FC
BU 2 2 10 125 -1.4 5.01s - 04A6 1 0 - 0 0 224 U 329 DlCounter(819) Cnt=819
40 6B 3A D1 00 80 A6 04 E0 03 33 97 5B A8 2F
-> PER Testing 12 over 60
KD R2 3 9 125 -30.0 ---- 1 033A 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 3A 03 E0 03 8D 0F B1 65
BU 1 2 10 125 -1.4 5.01s - 04A7 1 0 - 0 0 224 U 329 DlCounter(820) Cnt=820
40 6B 3A D1 00 80 A7 04 E0 03 34 6C 5A A9 06
-> PER Testing 13 over 60
KD R2 3 9 125 -30.0 ---- 1 033B 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 3B 03 E0 03 C8 83 E4 CA
BU 2 2 10 125 -1.4 5.01s - 04A8 1 0 - 0 0 224 U 329 DlCounter(821) Cnt=821
40 6B 3A D1 00 80 A8 04 E0 03 35 A1 D3 7F 0D
-> PER Testing 14 over 60
KD R2 3 9 125 -30.0 ---- 1 033C 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 3C 03 E0 03 38 09 3C 1C
BU 2 2 10 125 -1.4 5.01s - 04A9 1 0 - 0 0 224 U 329 DlCounter(822) Cnt=822
40 6B 3A D1 00 80 A9 04 E0 03 36 8C 25 FE DF
-> PER Testing 15 over 60
KD R2 3 9 125 -30.0 ---- 1 033D 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 3D 03 E0 03 48 BB 2F A0
BU 0 2 10 125 -1.4 5.01s - 04AA 1 0 - 0 0 224 U 329 DlCounter(823) Cnt=823
40 6B 3A D1 00 80 AA 04 E0 03 37 45 A9 07 9F
-> PER Testing 16 over 60
KD R2 3 9 125 -30.0 ---- 1 033E 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 3E 03 E0 03 68 26 8D 86
BU 1 2 10 125 -1.4 5.01s - 04AB 1 0 - 0 0 224 U 329 DlCounter(824) Cnt=824
40 6B 3A D1 00 80 AB 04 E0 03 38 67 6B 47 E3
-> PER Testing 17 over 60
KD R2 3 9 125 -30.0 ---- 1 033F 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 3F 03 E0 03 96 F6 69 2C
BU 1 2 10 125 -1.4 5.01s - 04AC 1 0 - 0 0 224 U 329 DlCounter(825) Cnt=825
40 6B 3A D1 00 80 AC 04 E0 03 39 67 D7 66 32
-> PER Testing 18 over 60
KD R2 3 9 125 -30.0 ---- 1 0340 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 40 03 E0 03 D2 4E 3A 20
BU 1 2 10 125 -1.4 5.01s - 04AD 1 0 - 0 0 224 U 329 DlCounter(826) Cnt=826
40 6B 3A D1 00 80 AD 04 E0 03 3A F8 59 1D 8D
-> PER Testing 19 over 60
KD R2 3 9 125 -30.0 ---- 1 0341 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 41 03 E0 03 14 DD 55 14
BU 1 2 10 125 -1.4 5.01s - 04AE 1 0 - 0 0 224 U 329 DlCounter(827) Cnt=827
40 6B 3A D1 00 80 AE 04 E0 03 3B E5 2D FC CE
-> PER Testing 20 over 60
KD R2 3 9 125 -30.0 ---- 1 0342 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 42 03 E0 03 E7 21 BC AD
BU 0 2 10 125 -1.4 5.01s - 04AF 1 0 - 0 0 224 U 329 DlCounter(828) Cnt=828
40 6B 3A D1 00 80 AF 04 E0 03 3C 98 B4 A2 C9
-> PER Testing 21 over 60
KD R2 3 9 125 -30.0 ---- 1 0343 1 0 0 - - 224 U 144 UnconfirmedFrame

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60 6B 3A D1 00 80 43 03 E0 03 29 83 BA 95
BU 2 2 10 125 -1.4 5.01s - 04B0 1 0 - 0 0 224 U 329 DlCounter(829) Cnt=829
40 6B 3A D1 00 80 B0 04 E0 03 3D C6 2A 7B 6E
-> PER Testing 22 over 60
KD R2 3 9 125 -30.0 ---- 1 0344 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 44 03 E0 03 5C B4 AD 51
BU 0 2 10 125 -1.4 5.01s - 04B1 1 0 - 0 0 224 U 329 DlCounter(830) Cnt=830
40 6B 3A D1 00 80 B1 04 E0 03 3E A4 2C EC 63
-> PER Testing 23 over 60
KD R2 3 9 125 -30.0 ---- 1 0345 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 45 03 E0 03 7D 0D 4C 0B
BU 1 2 10 125 -1.4 5.01s - 04B2 1 0 - 0 0 224 U 329 DlCounter(831) Cnt=831
40 6B 3A D1 00 80 B2 04 E0 03 3F 3F A8 F2 34
-> PER Testing 24 over 60
KD R2 3 9 125 -30.0 ---- 1 0346 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 46 03 E0 03 08 5D 31 A0
BU 1 2 10 125 -1.4 5.01s - 04B3 1 0 - 0 0 224 U 329 DlCounter(832) Cnt=832
40 6B 3A D1 00 80 B3 04 E0 03 40 A7 F8 C5 DB
-> PER Testing 25 over 60
KD R2 3 9 125 -30.0 ---- 1 0347 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 47 03 E0 03 29 FC 7D 37
BU 0 2 10 125 -1.4 5.01s - 04B4 1 0 - 0 0 224 U 329 DlCounter(833) Cnt=833
40 6B 3A D1 00 80 B4 04 E0 03 41 AD 24 8E 53
-> PER Testing 26 over 60
KD R2 3 9 125 -30.0 ---- 1 0348 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 48 03 E0 03 2F B3 08 94
BU 1 2 10 125 -1.4 5.01s - 04B5 1 0 - 0 0 224 U 329 DlCounter(834) Cnt=834
40 6B 3A D1 00 80 B5 04 E0 03 42 5D 79 EC 05
-> PER Testing 27 over 60
KD R2 3 9 125 -30.0 ---- 1 0349 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 49 03 E0 03 C5 AE C6 EC
BU 0 2 10 125 -1.4 5.01s - 04B6 1 0 - 0 0 224 U 329 DlCounter(835) Cnt=835
40 6B 3A D1 00 80 B6 04 E0 03 43 B1 9D F6 D1
-> PER Testing 28 over 60
KD R2 3 9 125 -30.0 ---- 1 034A 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 4A 03 E0 03 C4 56 C3 0C
BU 0 2 10 125 -1.4 5.01s - 04B7 1 0 - 0 0 224 U 329 DlCounter(836) Cnt=836
40 6B 3A D1 00 80 B7 04 E0 03 44 82 8E 61 99
-> PER Testing 29 over 60
KD R2 3 9 125 -30.0 ---- 1 034B 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 4B 03 E0 03 7C F3 AB A7
BU 2 2 10 125 -1.4 5.01s - 04B8 1 0 - 0 0 224 U 329 DlCounter(837) Cnt=837
40 6B 3A D1 00 80 B8 04 E0 03 45 F1 3E 9F C7
-> PER Testing 30 over 60
KD R2 3 9 125 -30.0 ---- 1 034C 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 4C 03 E0 03 A7 83 A1 A9
BU 0 2 10 125 -1.4 5.01s - 04B9 1 0 - 0 0 224 U 329 DlCounter(838) Cnt=838
40 6B 3A D1 00 80 B9 04 E0 03 46 55 4A 59 5F
-> PER Testing 31 over 60
KD R2 3 9 125 -30.0 ---- 1 034D 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 4D 03 E0 03 B8 C6 85 6A
BU 0 2 10 125 -1.4 5.01s - 04BA 1 0 - 0 0 224 U 329 DlCounter(839) Cnt=839
40 6B 3A D1 00 80 BA 04 E0 03 47 09 57 EA 75
-> PER Testing 32 over 60
KD R2 3 9 125 -30.0 ---- 1 034E 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 4E 03 E0 03 7D AB DA 46
BU 1 2 10 125 -1.4 5.01s - 04BB 1 0 - 0 0 224 U 329 DlCounter(840) Cnt=840
40 6B 3A D1 00 80 BB 04 E0 03 48 53 28 B1 7C
-> PER Testing 33 over 60
KD R2 3 9 125 -30.0 ---- 1 034F 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 4F 03 E0 03 AA 57 DB 63
BU 0 2 10 125 -1.4 5.01s - 04BC 1 0 - 0 0 224 U 329 DlCounter(841) Cnt=841
40 6B 3A D1 00 80 BC 04 E0 03 49 D5 73 22 A8
-> PER Testing 34 over 60
KD R2 3 9 125 -30.0 ---- 1 0350 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 50 03 E0 03 C0 58 A9 10
BU 1 2 10 125 -1.4 5.01s - 04BD 1 0 - 0 0 224 U 329 DlCounter(842) Cnt=842
40 6B 3A D1 00 80 BD 04 E0 03 4A 29 1A 0E 4B
-> PER Testing 35 over 60
KD R2 3 9 125 -30.0 ---- 1 0351 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 51 03 E0 03 92 B3 95 01
BU 0 2 10 125 -1.4 5.01s - 04BE 1 0 - 0 0 224 U 329 DlCounter(843) Cnt=843
40 6B 3A D1 00 80 BE 04 E0 03 4B D2 A0 FD 19
-> PER Testing 36 over 60
KD R2 3 9 125 -30.0 ---- 1 0352 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 52 03 E0 03 D1 3D 1F 8F
BU 0 2 10 125 -1.4 5.01s - 04BF 1 0 - 0 0 224 U 329 DlCounter(844) Cnt=844
40 6B 3A D1 00 80 BF 04 E0 03 4C 1D A3 97 D5
-> PER Testing 37 over 60

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KD R2 3 9 125 -30.0 ---- 1 0353 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 53 03 E0 03 EB E9 14 9C
BU 0 2 10 125 -1.4 5.01s - 04C0 1 0 - 0 0 224 U 329 DlCounter(845) Cnt=845
40 6B 3A D1 00 80 C0 04 E0 03 4D F0 67 83 D9
-> PER Testing 38 over 60
KD R2 3 9 125 -30.0 ---- 1 0354 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 54 03 E0 03 C3 F3 43 71
BU 0 2 10 125 -1.4 5.01s - 04C1 1 0 - 0 0 224 U 329 DlCounter(846) Cnt=846
40 6B 3A D1 00 80 C1 04 E0 03 4E 68 0A AD 45
-> PER Testing 39 over 60
KD R2 3 9 125 -30.0 ---- 1 0355 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 55 03 E0 03 21 44 FF 76
BU 2 2 10 125 -1.4 5.01s - 04C2 1 0 - 0 0 224 U 329 DlCounter(847) Cnt=847
40 6B 3A D1 00 80 C2 04 E0 03 4F 45 9C 15 02
-> PER Testing 40 over 60
KD R2 3 9 125 -30.0 ---- 1 0356 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 56 03 E0 03 21 60 CA 31
BU 1 2 10 125 -1.4 5.01s - 04C3 1 0 - 0 0 224 U 329 DlCounter(848) Cnt=848
40 6B 3A D1 00 80 C3 04 E0 03 50 EA C6 DB A0
-> PER Testing 41 over 60
KD R2 3 9 125 -30.0 ---- 1 0357 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 57 03 E0 03 21 A3 72 CE
BU 0 2 10 125 -1.4 5.01s - 04C4 1 0 - 0 0 224 U 329 DlCounter(849) Cnt=849
40 6B 3A D1 00 80 C4 04 E0 03 51 76 6D 1D 40
-> PER Testing 42 over 60
KD R2 3 9 125 -30.0 ---- 1 0358 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 58 03 E0 03 5D 00 ED 7F
BU 0 2 10 125 -1.4 5.01s - 04C5 1 0 - 0 0 224 U 329 DlCounter(850) Cnt=850
40 6B 3A D1 00 80 C5 04 E0 03 52 08 EB 2E 8E
-> PER Testing 43 over 60
KD R2 3 9 125 -30.0 ---- 1 0359 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 59 03 E0 03 31 D6 A0 FF
BU 0 2 10 125 -1.3 5.01s - 04C6 1 0 - 0 0 224 U 329 DlCounter(851) Cnt=851
40 6B 3A D1 00 80 C6 04 E0 03 53 C6 1B 67 58
-> PER Testing 44 over 60
KD R2 3 9 125 -30.0 ---- 1 035A 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 5A 03 E0 03 C0 D3 A8 57
BU 0 2 10 125 -1.4 5.01s - 04C7 1 0 - 0 0 224 U 329 DlCounter(852) Cnt=852
40 6B 3A D1 00 80 C7 04 E0 03 54 7E EE 98 F1
-> PER Testing 45 over 60
KD R2 3 9 125 -30.0 ---- 1 035B 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 5B 03 E0 03 9B 1F D9 A1
BU 2 2 10 125 -1.4 5.01s - 04C8 1 0 - 0 0 224 U 329 DlCounter(853) Cnt=853
40 6B 3A D1 00 80 C8 04 E0 03 55 7E B6 41 E5
-> PER Testing 46 over 60
KD R2 3 9 125 -30.0 ---- 1 035C 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 5C 03 E0 03 02 51 3F 7F
BU 0 2 10 125 -1.4 5.01s - 04C9 1 0 - 0 0 224 U 329 DlCounter(854) Cnt=854
40 6B 3A D1 00 80 C9 04 E0 03 56 B9 1E 4E D7
-> PER Testing 47 over 60
KD R2 3 9 125 -30.0 ---- 1 035D 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 5D 03 E0 03 A5 93 39 0E
BU 0 2 10 125 -1.4 5.01s - 04CA 1 0 - 0 0 224 U 329 DlCounter(855) Cnt=855
40 6B 3A D1 00 80 CA 04 E0 03 57 52 9F F6 B2
-> PER Testing 48 over 60
KD R2 3 9 125 -30.0 ---- 1 035E 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 5E 03 E0 03 46 A8 56 C6
BU 0 2 10 125 -1.4 5.01s - 04CB 1 0 - 0 0 224 U 329 DlCounter(856) Cnt=856
40 6B 3A D1 00 80 CB 04 E0 03 58 C8 7B 03 7F
-> PER Testing 49 over 60
KD R2 3 9 125 -30.0 ---- 1 035F 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 5F 03 E0 03 DE FF EE D4
BU 0 2 10 125 -1.4 5.01s - 04CC 1 0 - 0 0 224 U 329 DlCounter(857) Cnt=857
40 6B 3A D1 00 80 CC 04 E0 03 59 CC 0A 87 D9
-> PER Testing 50 over 60
KD R2 3 9 125 -30.0 ---- 1 0360 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 60 03 E0 03 5F 01 C2 F9
BU 0 2 10 125 -1.4 5.01s - 04CD 1 0 - 0 0 224 U 329 DlCounter(858) Cnt=858
40 6B 3A D1 00 80 CD 04 E0 03 5A 5D 0C F8 E5
-> PER Testing 51 over 60
KD R2 3 9 125 -30.0 ---- 1 0361 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 61 03 E0 03 FC 05 59 EF
BU 2 2 10 125 -1.4 5.01s - 04CE 1 0 - 0 0 224 U 329 DlCounter(859) Cnt=859
40 6B 3A D1 00 80 CE 04 E0 03 5B 86 0E 3C 1A
-> PER Testing 52 over 60
KD R2 3 9 125 -30.0 ---- 1 0362 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 62 03 E0 03 72 62 BB DC
BU 1 2 10 125 -1.4 5.01s - 04CF 1 0 - 0 0 224 U 329 DlCounter(860) Cnt=860
40 6B 3A D1 00 80 CF 04 E0 03 5C 35 7C 1D E7

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-> PER Testing 53 over 60
KD R2 3 9 125 -30.0 ---- 1 0363 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 63 03 E0 03 2F 92 D5 03
BU 0 2 10 125 -1.4 5.01s - 04D0 1 0 - 0 0 224 U 329 DlCounter(861) Cnt=861
40 6B 3A D1 00 80 D0 04 E0 03 5D DC 2B C7 D4
-> PER Testing 54 over 60
KD R2 3 9 125 -30.0 ---- 1 0364 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 64 03 E0 03 A8 34 24 7C
BU 1 2 10 125 -1.4 5.01s - 04D1 1 0 - 0 0 224 U 329 DlCounter(862) Cnt=862
40 6B 3A D1 00 80 D1 04 E0 03 5E 6A B0 97 F7
-> PER Testing 55 over 60
KD R2 3 9 125 -30.0 ---- 1 0365 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 65 03 E0 03 B5 96 AD 63
BU 1 2 10 125 -1.4 5.01s - 04D2 1 0 - 0 0 224 U 329 DlCounter(863) Cnt=863
40 6B 3A D1 00 80 D2 04 E0 03 5F E7 90 52 1A
-> PER Testing 56 over 60
KD R2 3 9 125 -30.0 ---- 1 0366 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 66 03 E0 03 7B 7A AB DA
BU 0 2 10 125 -1.4 5.01s - 04D3 1 0 - 0 0 224 U 329 DlCounter(864) Cnt=864
40 6B 3A D1 00 80 D3 04 E0 03 60 98 28 17 F7
-> PER Testing 57 over 60
KD R2 3 9 125 -30.0 ---- 1 0367 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 67 03 E0 03 1A DE 0B 7D
BU 2 2 10 125 -1.4 5.01s - 04D4 1 0 - 0 0 224 U 329 DlCounter(865) Cnt=865
40 6B 3A D1 00 80 D4 04 E0 03 61 3F 8F 12 1D
-> PER Testing 58 over 60
KD R2 3 9 125 -30.0 ---- 1 0368 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 68 03 E0 03 6E 80 01 93
BU 1 2 10 125 -1.4 5.01s - 04D5 1 0 - 0 0 224 U 329 DlCounter(866) Cnt=866
40 6B 3A D1 00 80 D5 04 E0 03 62 DD 61 C5 5F
-> PER Testing 59 over 60
KD R2 3 9 125 -30.0 ---- 1 0369 1 0 0 - - 224 U 144 UnconfirmedFrame
60 6B 3A D1 00 80 69 03 E0 03 DE CF B7 07
BU 2 2 10 125 -1.4 5.01s - 04D6 1 0 - 0 0 224 U 329 DlCounter(867) Cnt=867
40 6B 3A D1 00 80 D6 04 E0 03 63 A7 93 80 8C
-> PER Testing 60 over 60

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

0 error(s) over 60, PER=0.000 (Criteria:PER<=0.05)

[Elapsed Time] 00:05:21

### 17.4 Test Packet error rate for SF10BW125 using RX2 window

[ TEST PURPOSE ]

To measure downlink packet error rate for RX2 window using all spreading factors  
: 17.4 Test Packet error rate for SF10BW125 using RX2 window

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	2	2	10	125	-1.4	10.1s	-	04D9	1	0	-	0	0	224	U	329	DlCounter(867)	Cnt=867
40 6B 3A D1 00 80 D9 04 E0 03 63 06 86 4D 5B																		
[Test packet error rate for SF10BW125 using RX2 window]																		
BU	1	2	10	125	-1.4	5.01s	-	04DA	1	0	-	0	0	224	U	329	DlCounter(867)	Cnt=867
40 6B 3A D1 00 80 DA 04 E0 03 63 2A A3 51 98																		
KD	1	2	10	125	-36.0	----	1	036A	1	0	0	-	-	000	C	329	RXParamSetReq	
RX1DROffset=0, RX2DR=2, RX2FREQ=869.525																		
A0	6B	3A	D1	00	80	6A	03	00	05	02	D2	AD	84	3E	9B	D0	AD	
BU	2	2	10	125	-1.4	1.68s	-	04DB	1	1	-	0	0	224	U	329	{RXParamSetAns}	RX1DROffset=1,
RX2DR=1, CH=1																		
40 6B 3A D1 00 A2 DB 04 05 07 E0 03 64 B8 17 87 7E																		

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KD 2 2 10 125 -30.0 ---- 1 036B 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 6B 03 E0 03 02 7F F7 D2
BU 0 2 10 125 -1.4 5.01s - 04DC 1 0 - 0 0 224 U 329 DlCounter(869) Cnt=869
40 6B 3A D1 00 80 DC 04 E0 03 65 86 47 10 E7
KD R2 2 10 125 -30.0 ---- 1 036C 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 6C 03 E0 03 56 BC 15 82
BU 1 2 10 125 -1.4 5.01s - 04DD 1 0 - 0 0 224 U 329 DlCounter(870) Cnt=870
40 6B 3A D1 00 80 DD 04 E0 03 66 92 05 17 7E
-> PER Testing 1 over 60
KD R2 2 10 125 -30.0 ---- 1 036D 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 6D 03 E0 03 F0 45 74 3C
BU 1 2 10 125 -1.3 5.01s - 04DE 1 0 - 0 0 224 U 329 DlCounter(871) Cnt=871
40 6B 3A D1 00 80 DE 04 E0 03 67 DA 51 D7 34
-> PER Testing 2 over 60
KD R2 2 10 125 -30.0 ---- 1 036E 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 6E 03 E0 03 E7 EC AC 22
BU 2 2 10 125 -1.4 5.01s - 04DF 1 0 - 0 0 224 U 329 DlCounter(872) Cnt=872
40 6B 3A D1 00 80 DF 04 E0 03 68 A0 DC 6B 73
-> PER Testing 3 over 60
KD R2 2 10 125 -30.0 ---- 1 036F 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 6F 03 E0 03 85 62 DC 2E
BU 1 2 10 125 -1.4 5.01s - 04E0 1 0 - 0 0 224 U 329 DlCounter(873) Cnt=873
40 6B 3A D1 00 80 E0 04 E0 03 69 19 96 3E D1
-> PER Testing 4 over 60
KD R2 2 10 125 -30.0 ---- 1 0370 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 70 03 E0 03 A1 B8 D4 3C
BU 1 2 10 125 -1.3 5.01s - 04E1 1 0 - 0 0 224 U 329 DlCounter(874) Cnt=874
40 6B 3A D1 00 80 E1 04 E0 03 6A BF 9A A6 E2
-> PER Testing 5 over 60
KD R2 2 10 125 -30.0 ---- 1 0371 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 71 03 E0 03 84 1A 98 A3
BU 0 2 10 125 -1.4 5.01s - 04E2 1 0 - 0 0 224 U 329 DlCounter(875) Cnt=875
40 6B 3A D1 00 80 E2 04 E0 03 6B 88 66 05 4A
-> PER Testing 6 over 60
KD R2 2 10 125 -30.0 ---- 1 0372 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 72 03 E0 03 E1 AE 74 D4
BU 2 2 10 125 -1.4 5.01s - 04E3 1 0 - 0 0 224 U 329 DlCounter(876) Cnt=876
40 6B 3A D1 00 80 E3 04 E0 03 6C 52 FD FC 7C
-> PER Testing 7 over 60
KD R2 2 10 125 -30.0 ---- 1 0373 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 73 03 E0 03 61 EB 17 C4
BU 2 2 10 125 -1.4 5.01s - 04E4 1 0 - 0 0 224 U 329 DlCounter(877) Cnt=877
40 6B 3A D1 00 80 E4 04 E0 03 6D 9A 9F DD 66
-> PER Testing 8 over 60
KD R2 2 10 125 -30.0 ---- 1 0374 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 74 03 E0 03 94 35 29 5C
BU 0 2 10 125 -1.3 5.01s - 04E5 1 0 - 0 0 224 U 329 DlCounter(878) Cnt=878
40 6B 3A D1 00 80 E5 04 E0 03 6E BB 14 61 97
-> PER Testing 9 over 60
KD R2 2 10 125 -30.0 ---- 1 0375 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 75 03 E0 03 5C 13 EE DC
BU 0 2 10 125 -1.4 5.01s - 04E6 1 0 - 0 0 224 U 329 DlCounter(879) Cnt=879
40 6B 3A D1 00 80 E6 04 E0 03 6F 82 09 02 24
-> PER Testing 10 over 60
KD R2 2 10 125 -30.0 ---- 1 0376 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 76 03 E0 03 CD 8C 2C D6
BU 1 2 10 125 -1.3 5.01s - 04E7 1 0 - 0 0 224 U 329 DlCounter(880) Cnt=880
40 6B 3A D1 00 80 E7 04 E0 03 70 13 81 04 35
-> PER Testing 11 over 60
KD R2 2 10 125 -30.0 ---- 1 0377 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 77 03 E0 03 49 00 0E 14
BU 2 2 10 125 -1.4 5.01s - 04E8 1 0 - 0 0 224 U 329 DlCounter(881) Cnt=881
40 6B 3A D1 00 80 E8 04 E0 03 71 D1 5F 82 06
-> PER Testing 12 over 60
KD R2 2 10 125 -30.0 ---- 1 0378 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 78 03 E0 03 48 D9 14 84
BU 1 2 10 125 -1.4 5.01s - 04E9 1 0 - 0 0 224 U 329 DlCounter(882) Cnt=882
40 6B 3A D1 00 80 E9 04 E0 03 72 39 9F D4 0F
-> PER Testing 13 over 60
KD R2 2 10 125 -30.0 ---- 1 0379 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 79 03 E0 03 31 4A 68 B6
BU 0 2 10 125 -1.4 5.01s - 04EA 1 0 - 0 0 224 U 329 DlCounter(883) Cnt=883
40 6B 3A D1 00 80 EA 04 E0 03 73 70 C7 78 B9
-> PER Testing 14 over 60
KD R2 2 10 125 -30.0 ---- 1 037A 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 7A 03 E0 03 9B A4 F4 DF
BU 0 2 10 125 -1.4 5.01s - 04EB 1 0 - 0 0 224 U 329 DlCounter(884) Cnt=884
40 6B 3A D1 00 80 EB 04 E0 03 74 38 D0 9F 37
-> PER Testing 15 over 60

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KD R2 2 10 125 -30.0 ---- 1 037B 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 7B 03 E0 03 36 0F A8 D2
BU 2 2 10 125 -1.4 5.01s - 04EC 1 0 - 0 0 224 U 329 DlCounter(885) Cnt=885
40 6B 3A D1 00 80 EC 04 E0 03 75 72 A8 02 F3
-> PER Testing 16 over 60
KD R2 2 10 125 -30.0 ---- 1 037C 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 7C 03 E0 03 13 2F B0 C8
BU 0 2 10 125 -1.4 5.01s - 04ED 1 0 - 0 0 224 U 329 DlCounter(886) Cnt=886
40 6B 3A D1 00 80 ED 04 E0 03 76 E7 81 44 39
-> PER Testing 17 over 60
KD R2 2 10 125 -30.0 ---- 1 037D 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 7D 03 E0 03 DE 82 B0 42
BU 1 2 10 125 -1.3 5.01s - 04EE 1 0 - 0 0 224 U 329 DlCounter(887) Cnt=887
40 6B 3A D1 00 80 EE 04 E0 03 77 D2 99 7C 50
-> PER Testing 18 over 60
KD R2 2 10 125 -30.0 ---- 1 037E 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 7E 03 E0 03 F9 1B 32 F2
BU 1 2 10 125 -1.4 5.01s - 04EF 1 0 - 0 0 224 U 329 DlCounter(888) Cnt=888
40 6B 3A D1 00 80 EF 04 E0 03 78 03 3B 28 7F
-> PER Testing 19 over 60
KD R2 2 10 125 -30.0 ---- 1 037F 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 7F 03 E0 03 98 F0 F7 9F
BU 0 2 10 125 -1.4 5.01s - 04F0 1 0 - 0 0 224 U 329 DlCounter(889) Cnt=889
40 6B 3A D1 00 80 F0 04 E0 03 79 2F 49 FF 19
-> PER Testing 20 over 60
KD R2 2 10 125 -30.0 ---- 1 0380 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 80 03 E0 03 3E 84 AD 31
BU 2 2 10 125 -1.4 5.01s - 04F1 1 0 - 0 0 224 U 329 DlCounter(890) Cnt=890
40 6B 3A D1 00 80 F1 04 E0 03 7A 11 F1 49 41
-> PER Testing 21 over 60
KD R2 2 10 125 -30.0 ---- 1 0381 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 81 03 E0 03 E5 A0 CC D8
BU 2 2 10 125 -1.4 5.01s - 04F2 1 0 - 0 0 224 U 329 DlCounter(891) Cnt=891
40 6B 3A D1 00 80 F2 04 E0 03 7B 85 16 40 09
-> PER Testing 22 over 60
KD R2 2 10 125 -30.0 ---- 1 0382 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 82 03 E0 03 FB 71 7B B7
BU 1 2 10 125 -1.4 5.01s - 04F3 1 0 - 0 0 224 U 329 DlCounter(892) Cnt=892
40 6B 3A D1 00 80 F3 04 E0 03 7C 8D 37 51 3F
-> PER Testing 23 over 60
KD R2 2 10 125 -30.0 ---- 1 0383 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 83 03 E0 03 90 70 7E 22
BU 2 2 10 125 -1.4 5.01s - 04F4 1 0 - 0 0 224 U 329 DlCounter(893) Cnt=893
40 6B 3A D1 00 80 F4 04 E0 03 7D 60 38 3B E4
-> PER Testing 24 over 60
KD R2 2 10 125 -30.0 ---- 1 0384 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 84 03 E0 03 38 F9 E1 FE
BU 0 2 10 125 -1.4 5.01s - 04F5 1 0 - 0 0 224 U 329 DlCounter(894) Cnt=894
40 6B 3A D1 00 80 F5 04 E0 03 7E 64 39 94 D5
-> PER Testing 25 over 60
KD R2 2 10 125 -30.0 ---- 1 0385 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 85 03 E0 03 B9 28 BA 53
BU 1 2 10 125 -1.4 5.01s - 04F6 1 0 - 0 0 224 U 329 DlCounter(895) Cnt=895
40 6B 3A D1 00 80 F6 04 E0 03 7F 9A 83 CE 5A
-> PER Testing 26 over 60
KD R2 2 10 125 -30.0 ---- 1 0386 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 86 03 E0 03 23 4B EF 4F
BU 2 2 10 125 -1.4 5.01s - 04F7 1 0 - 0 0 224 U 329 DlCounter(896) Cnt=896
40 6B 3A D1 00 80 F7 04 E0 03 80 19 A2 54 7E
-> PER Testing 27 over 60
KD R2 2 10 125 -30.0 ---- 1 0387 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 87 03 E0 03 46 BD DE 94
BU 0 2 10 125 -1.4 5.01s - 04F8 1 0 - 0 0 224 U 329 DlCounter(897) Cnt=897
40 6B 3A D1 00 80 F8 04 E0 03 81 AA 8E 32 6E
-> PER Testing 28 over 60
KD R2 2 10 125 -30.0 ---- 1 0388 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 88 03 E0 03 22 9B 1A 8A
BU 1 2 10 125 -1.4 5.01s - 04F9 1 0 - 0 0 224 U 329 DlCounter(898) Cnt=898
40 6B 3A D1 00 80 F9 04 E0 03 82 9E 60 45 61
-> PER Testing 29 over 60
KD R2 2 10 125 -30.0 ---- 1 0389 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 89 03 E0 03 9E 9E A6 BC
BU 2 2 10 125 -1.3 5.01s - 04FA 1 0 - 0 0 224 U 329 DlCounter(899) Cnt=899
40 6B 3A D1 00 80 FA 04 E0 03 83 01 06 0C CE
-> PER Testing 30 over 60
KD R2 2 10 125 -30.0 ---- 1 038A 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 8A 03 E0 03 9A 92 C7 86
BU 0 2 10 125 -1.4 5.01s - 04FB 1 0 - 0 0 224 U 329 DlCounter(900) Cnt=900
40 6B 3A D1 00 80 FB 04 E0 03 84 B0 E9 F4 95

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-> PER Testing 31 over 60
KD R2 2 10 125 -30.0 ---- 1 038B 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 8B 03 E0 03 A2 7A B3 E0
BU 1 2 10 125 -1.3 5.01s - 04FC 1 0 - 0 0 224 U 329 DlCounter(901) Cnt=901
40 6B 3A D1 00 80 FC 04 E0 03 85 25 94 76 84
-> PER Testing 32 over 60
KD R2 2 10 125 -30.0 ---- 1 038C 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 8C 03 E0 03 8D 94 27 EF
BU 0 2 10 125 -1.4 5.01s - 04FD 1 0 - 0 0 224 U 329 DlCounter(902) Cnt=902
40 6B 3A D1 00 80 FD 04 E0 03 86 5B 67 46 44
-> PER Testing 33 over 60
KD R2 2 10 125 -30.0 ---- 1 038D 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 8D 03 E0 03 38 CD 9F D8
BU 2 2 10 125 -1.4 5.01s - 04FE 1 0 - 0 0 224 U 329 DlCounter(903) Cnt=903
40 6B 3A D1 00 80 FE 04 E0 03 87 C7 2A 90 72
-> PER Testing 34 over 60
KD R2 2 10 125 -30.0 ---- 1 038E 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 8E 03 E0 03 68 C2 31 ED
BU 0 2 10 125 -1.3 5.01s - 04FF 1 0 - 0 0 224 U 329 DlCounter(904) Cnt=904
40 6B 3A D1 00 80 FF 04 E0 03 88 7C 03 8D E8
-> PER Testing 35 over 60
KD R2 2 10 125 -30.0 ---- 1 038F 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 8F 03 E0 03 52 E2 25 1F
BU 2 2 10 125 -1.4 5.01s - 0500 1 0 - 0 0 224 U 329 DlCounter(905) Cnt=905
40 6B 3A D1 00 80 00 05 E0 03 89 8A F4 80 CB
-> PER Testing 36 over 60
KD R2 2 10 125 -30.0 ---- 1 0390 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 90 03 E0 03 20 B6 51 1A
BU 2 2 10 125 -1.3 5.01s - 0501 1 0 - 0 0 224 U 329 DlCounter(906) Cnt=906
40 6B 3A D1 00 80 01 05 E0 03 8A 71 7F 4A BD
-> PER Testing 37 over 60
KD R2 2 10 125 -30.0 ---- 1 0391 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 91 03 E0 03 D7 88 AD 05
BU 0 2 10 125 -1.4 5.01s - 0502 1 0 - 0 0 224 U 329 DlCounter(907) Cnt=907
40 6B 3A D1 00 80 02 05 E0 03 8B 4C 63 22 96
-> PER Testing 38 over 60
KD R2 2 10 125 -30.0 ---- 1 0392 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 92 03 E0 03 10 78 64 94
BU 1 2 10 125 -1.3 5.01s - 0503 1 0 - 0 0 224 U 329 DlCounter(908) Cnt=908
40 6B 3A D1 00 80 03 05 E0 03 8C 60 35 C0 49
-> PER Testing 39 over 60
KD R2 2 10 125 -30.0 ---- 1 0393 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 93 03 E0 03 E4 0B 97 15
BU 2 2 10 125 -1.4 5.01s - 0504 1 0 - 0 0 224 U 329 DlCounter(909) Cnt=909
40 6B 3A D1 00 80 04 05 E0 03 8D D9 71 CF 67
-> PER Testing 40 over 60
KD R2 2 10 125 -30.0 ---- 1 0394 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 94 03 E0 03 FF BC 72 15
BU 0 2 10 125 -1.4 5.01s - 0505 1 0 - 0 0 224 U 329 DlCounter(910) Cnt=910
40 6B 3A D1 00 80 05 05 E0 03 8E C1 52 81 88
-> PER Testing 41 over 60
KD R2 2 10 125 -30.0 ---- 1 0395 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 95 03 E0 03 30 B1 30 65
BU 1 2 10 125 -1.4 5.01s - 0506 1 0 - 0 0 224 U 329 DlCounter(911) Cnt=911
40 6B 3A D1 00 80 06 05 E0 03 8F 0E 66 43 11
-> PER Testing 42 over 60
KD R2 2 10 125 -30.0 ---- 1 0396 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 96 03 E0 03 81 A5 0D 15
BU 2 2 10 125 -1.4 5.01s - 0507 1 0 - 0 0 224 U 329 DlCounter(912) Cnt=912
40 6B 3A D1 00 80 07 05 E0 03 90 34 F2 01 E9
-> PER Testing 43 over 60
KD R2 2 10 125 -30.0 ---- 1 0397 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 97 03 E0 03 0E 38 A1 C3
BU 0 2 10 125 -1.4 5.01s - 0508 1 0 - 0 0 224 U 329 DlCounter(913) Cnt=913
40 6B 3A D1 00 80 08 05 E0 03 91 BE A9 1A C4
-> PER Testing 44 over 60
KD R2 2 10 125 -30.0 ---- 1 0398 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 98 03 E0 03 C3 44 7A BB
BU 2 2 10 125 -1.3 5.01s - 0509 1 0 - 0 0 224 U 329 DlCounter(914) Cnt=914
40 6B 3A D1 00 80 09 05 E0 03 92 55 4C 79 1F
-> PER Testing 45 over 60
KD R2 2 10 125 -30.0 ---- 1 0399 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 99 03 E0 03 78 D9 24 20
BU 1 2 10 125 -1.4 5.01s - 050A 1 0 - 0 0 224 U 329 DlCounter(915) Cnt=915
40 6B 3A D1 00 80 0A 05 E0 03 93 B4 2B E2 D0
-> PER Testing 46 over 60
KD R2 2 10 125 -30.0 ---- 1 039A 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 9A 03 E0 03 12 3A 7C F9
BU 0 2 10 125 -1.4 5.01s - 050B 1 0 - 0 0 224 U 329 DlCounter(916) Cnt=916

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40 6B 3A D1 00 80 0B 05 E0 03 94 BD 52 80 B2
-> PER Testing 47 over 60
KD R2 2 10 125 -30.0 ---- 1 039B 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 9B 03 E0 03 CA D2 2A 92
BU 2 2 10 125 -1.3 5.01s - 050C 1 0 - 0 0 224 U 329 DlCounter(917) Cnt=917
40 6B 3A D1 00 80 0C 05 E0 03 95 54 41 44 91
-> PER Testing 48 over 60
KD R2 2 10 125 -30.0 ---- 1 039C 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 9C 03 E0 03 F9 8B A5 55
BU 1 2 10 125 -1.4 5.01s - 050D 1 0 - 0 0 224 U 329 DlCounter(918) Cnt=918
40 6B 3A D1 00 80 0D 05 E0 03 96 80 FF 0B C3
-> PER Testing 49 over 60
KD R2 2 10 125 -30.0 ---- 1 039D 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 9D 03 E0 03 5E E0 AE 8D
BU 0 2 10 125 -1.3 5.01s - 050E 1 0 - 0 0 224 U 329 DlCounter(919) Cnt=919
40 6B 3A D1 00 80 0E 05 E0 03 97 EA 8F 42 03
-> PER Testing 50 over 60
KD R2 2 10 125 -30.0 ---- 1 039E 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 9E 03 E0 03 AE 87 70 E7
BU 1 2 10 125 -1.3 5.01s - 050F 1 0 - 0 0 224 U 329 DlCounter(920) Cnt=920
40 6B 3A D1 00 80 0F 05 E0 03 98 D1 A3 CC DC
-> PER Testing 51 over 60
KD R2 2 10 125 -30.0 ---- 1 039F 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 9F 03 E0 03 C3 14 54 B8
BU 2 2 10 125 -1.4 5.01s - 0510 1 0 - 0 0 224 U 329 DlCounter(921) Cnt=921
40 6B 3A D1 00 80 10 05 E0 03 99 95 D2 67 24
-> PER Testing 52 over 60
KD R2 2 10 125 -30.0 ---- 1 03A0 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A0 03 E0 03 F8 B5 1E 23
BU 2 2 10 125 -1.4 5.01s - 0511 1 0 - 0 0 224 U 329 DlCounter(922) Cnt=922
40 6B 3A D1 00 80 11 05 E0 03 9A 7F DE 09 CF
-> PER Testing 53 over 60
KD R2 2 10 125 -30.0 ---- 1 03A1 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A1 03 E0 03 0C 80 02 C0
BU 1 2 10 125 -1.3 5.01s - 0512 1 0 - 0 0 224 U 329 DlCounter(923) Cnt=923
40 6B 3A D1 00 80 12 05 E0 03 9B 9E 19 84 DE
-> PER Testing 54 over 60
KD R2 2 10 125 -30.0 ---- 1 03A2 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A2 03 E0 03 53 13 93 82
BU 2 2 10 125 -1.4 5.01s - 0513 1 0 - 0 0 224 U 329 DlCounter(924) Cnt=924
40 6B 3A D1 00 80 13 05 E0 03 9C 2B CC DE 48
-> PER Testing 55 over 60
KD R2 2 10 125 -30.0 ---- 1 03A3 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A3 03 E0 03 A0 92 62 05
BU 2 2 10 125 -1.4 5.01s - 0514 1 0 - 0 0 224 U 329 DlCounter(925) Cnt=925
40 6B 3A D1 00 80 14 05 E0 03 9D 95 B8 50 80
-> PER Testing 56 over 60
KD R2 2 10 125 -30.0 ---- 1 03A4 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A4 03 E0 03 C5 80 08 ED
BU 2 2 10 125 -1.3 5.01s - 0515 1 0 - 0 0 224 U 329 DlCounter(926) Cnt=926
40 6B 3A D1 00 80 15 05 E0 03 9E 97 CA C7 F0
-> PER Testing 57 over 60
KD R2 2 10 125 -30.0 ---- 1 03A5 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A5 03 E0 03 F2 C8 86 28
BU 0 2 10 125 -1.3 5.01s - 0516 1 0 - 0 0 224 U 329 DlCounter(927) Cnt=927
40 6B 3A D1 00 80 16 05 E0 03 9F 73 2F C1 4C
-> PER Testing 58 over 60
KD R2 2 10 125 -30.0 ---- 1 03A6 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A6 03 E0 03 60 6B 8C 74
BU 0 2 10 125 -1.4 5.01s - 0517 1 0 - 0 0 224 U 329 DlCounter(928) Cnt=928
40 6B 3A D1 00 80 17 05 E0 03 A0 35 28 65 81
-> PER Testing 59 over 60
KD R2 2 10 125 -30.0 ---- 1 03A7 1 0 0 - - 224 U 288 UnconfirmedFrame
60 6B 3A D1 00 80 A7 03 E0 03 C9 EA 54 2F
BU 1 2 10 125 -1.4 5.01s - 0518 1 0 - 0 0 224 U 329 DlCounter(929) Cnt=929
40 6B 3A D1 00 80 18 05 E0 03 A1 A4 D9 A0 DE
-> PER Testing 60 over 60

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[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

0 error(s) over60, PER=0.000 (Criteria:PER<=0.05)

[Elapsed Time] 00:05:24

17.5 Test Packet error rate for SF11BW125 using RX2 window

[ TEST PURPOSE ]

To measure downlink packet error rate for RX2 window using all spreading factors  
: 17.5 Test Packet error rate for SF11BW125 using RX2 window

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	1	2	10	125	-1.4	5.01s	-	051A	1	0	-	0	0	224	U	329	DICounter(929)	Cnt=929
40	6B	3A	D1	00	80	1A	05	E0	03	A1	60	92	02	5A				
[Test packet error rate for SF11BW125 using RX2 window]																		
BU	1	2	10	125	-1.4	5.01s	-	051B	1	0	-	0	0	224	U	329	DICounter(929)	Cnt=929
40	6B	3A	D1	00	80	1B	05	E0	03	A1	EB	82	8D	88				
KD	1	2	10	125	-36.0		----	1	03A8	1	0	0	-	000	C	329	RXParamSetReq	
RX1DROffset=0, RX2DR=1, RX2FREQ=869.525																		
A0	6B	3A	D1	00	80	A8	03	00	05	01	D2	AD	84	1A	7E	13	83	
BU	0	2	10	125	-1.4	1.68s	-	051C	1	1	-	0	0	224	U	329	{RXParamSetAns}	RX1DROffset=1, CH=1
40	6B	3A	D1	00	A2	1C	05	05	07	E0	03	A2	4E	DC	15	5B		
KD	0	2	10	125	-30.0		----	1	03A9	1	0	0	-	224	U	288	UnconfirmedFrame	
60	6B	3A	D1	00	80	A9	03	E0	03	C5	E0	36	DD					
BU	2	2	10	125	-1.4	5.01s	-	051D	1	0	-	0	0	224	U	329	DICounter(931)	Cnt=931
40	6B	3A	D1	00	80	1D	05	E0	03	A3	1A	BD	85	FE				
KD	R2	1	11	125	-30.0		----	1	03AA	1	0	0	-	224	U	577	UnconfirmedFrame	
60	6B	3A	D1	00	80	AA	03	E0	03	7F	90	2F	D6					
BU	2	2	10	125	-1.3	5.01s	-	051E	1	0	-	0	0	224	U	329	DICounter(932)	Cnt=932
40	6B	3A	D1	00	80	1E	05	E0	03	A4	D0	CA	FF	D5				
-> PER Testing 1 over 60																		
KD	R2	1	11	125	-30.0		----	1	03AB	1	0	0	-	224	U	577	UnconfirmedFrame	
60	6B	3A	D1	00	80	AB	03	E0	03	02	8C	C4	45					
BU	2	2	10	125	-1.4	5.01s	-	051F	1	0	-	0	0	224	U	329	DICounter(933)	Cnt=933
40	6B	3A	D1	00	80	1F	05	E0	03	A5	2A	4E	D1	0C				
-> PER Testing 2 over 60																		
KD	R2	1	11	125	-30.0		----	1	03AC	1	0	0	-	224	U	577	UnconfirmedFrame	
60	6B	3A	D1	00	80	AC	03	E0	03	09	C4	1B	CF					
BU	0	2	10	125	-1.4	5.01s	-	0520	1	0	-	0	0	224	U	329	DICounter(934)	Cnt=934
40	6B	3A	D1	00	80	20	05	E0	03	A6	5D	16	C0	14				
-> PER Testing 3 over 60																		
KD	R2	1	11	125	-30.0		----	1	03AD	1	0	0	-	224	U	577	UnconfirmedFrame	
60	6B	3A	D1	00	80	AD	03	E0	03	29	1B	2A	CB					
BU	1	2	10	125	-1.4	5.01s	-	0521	1	0	-	0	0	224	U	329	DICounter(935)	Cnt=935
40	6B	3A	D1	00	80	21	05	E0	03	A7	84	CB	46	F2				
-> PER Testing 4 over 60																		
KD	R2	1	11	125	-30.0		----	1	03AE	1	0	0	-	224	U	577	UnconfirmedFrame	
60	6B	3A	D1	00	80	AE	03	E0	03	54	04	29	E7					
BU	1	2	10	125	-1.4	5.01s	-	0522	1	0	-	0	0	224	U	329	DICounter(936)	Cnt=936
40	6B	3A	D1	00	80	22	05	E0	03	A8	BE	6E	43	A9				
-> PER Testing 5 over 60																		
KD	R2	1	11	125	-30.0		----	1	03AF	1	0	0	-	224	U	577	UnconfirmedFrame	
60	6B	3A	D1	00	80	AF	03	E0	03	FB	99	96	E5					
BU	0	2	10	125	-1.4	5.01s	-	0523	1	0	-	0	0	224	U	329	DICounter(937)	Cnt=937
40	6B	3A	D1	00	80	23	05	E0	03	A9	BF	75	BF	71				
-> PER Testing 6 over 60																		
KD	R2	1	11	125	-30.0		----	1	03B0	1	0	0	-	224	U	577	UnconfirmedFrame	
60	6B	3A	D1	00	80	B0	03	E0	03	67	36	40	E0					
BU	0	2	10	125	-1.4	5.01s	-	0524	1	0	-	0	0	224	U	329	DICounter(938)	Cnt=938
40	6B	3A	D1	00	80	24	05	E0	03	AA	22	84	4B	D1				
-> PER Testing 7 over 60																		
KD	R2	1	11	125	-30.0		----	1	03B1	1	0	0	-	224	U	577	UnconfirmedFrame	
60	6B	3A	D1	00	80	B1	03	E0	03	FE	1C	DE	1C					
BU	1	2	10	125	-1.4	5.01s	-	0525	1	0	-	0	0	224	U	329	DICounter(939)	Cnt=939
40	6B	3A	D1	00	80	25	05	E0	03	AB	D5	6E	55	CA				
-> PER Testing 8 over 60																		
KD	R2	1	11	125	-30.0		----	1	03B2	1	0	0	-	224	U	577	UnconfirmedFrame	
60	6B	3A	D1	00	80	B2	03	E0	03	4E	71	BC	88					
BU	2	2	10	125	-1.4	5.01s	-	0526	1	0	-	0	0	224	U	329	DICounter(940)	Cnt=940
40	6B	3A	D1	00	80	26	05	E0	03	AC	EC	11	B4	51				

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-> PER Testing 9 over 60
KD R2 1 11 125 -30.0 ---- 1 03B3 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 B3 03 E0 03 F5 95 44 6F
BU 1 2 10 125 -1.4 5.01s - 0527 1 0 - 0 0 224 U 329 DlCounter(941) Cnt=941
40 6B 3A D1 00 80 27 05 E0 03 AD 40 74 B6 DC
-> PER Testing 10 over 60
KD R2 1 11 125 -30.0 ---- 1 03B4 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 B4 03 E0 03 4E 61 11 B5
BU 2 2 10 125 -1.4 5.01s - 0528 1 0 - 0 0 224 U 329 DlCounter(942) Cnt=942
40 6B 3A D1 00 80 28 05 E0 03 AE A6 11 FC C0
-> PER Testing 11 over 60
KD R2 1 11 125 -30.0 ---- 1 03B5 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 B5 03 E0 03 70 94 11 00
BU 2 2 10 125 -1.4 5.01s - 0529 1 0 - 0 0 224 U 329 DlCounter(943) Cnt=943
40 6B 3A D1 00 80 29 05 E0 03 AF D8 E1 3B 62
-> PER Testing 12 over 60
KD R2 1 11 125 -30.0 ---- 1 03B6 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 B6 03 E0 03 83 D1 08 3F
BU 1 2 10 125 -1.4 5.01s - 052A 1 0 - 0 0 224 U 329 DlCounter(944) Cnt=944
40 6B 3A D1 00 80 2A 05 E0 03 B0 CD 1C 6C 8B
-> PER Testing 13 over 60
KD R2 1 11 125 -30.0 ---- 1 03B7 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 B7 03 E0 03 45 78 07 2B
BU 1 2 10 125 -1.4 5.01s - 052B 1 0 - 0 0 224 U 329 DlCounter(945) Cnt=945
40 6B 3A D1 00 80 2B 05 E0 03 B1 AD E5 3D 26
-> PER Testing 14 over 60
KD R2 1 11 125 -30.0 ---- 1 03B8 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 B8 03 E0 03 6D 46 F7 32
BU 0 2 10 125 -1.4 5.01s - 052C 1 0 - 0 0 224 U 329 DlCounter(946) Cnt=946
40 6B 3A D1 00 80 2C 05 E0 03 B2 00 F0 41 92
-> PER Testing 15 over 60
KD R2 1 11 125 -30.0 ---- 1 03B9 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 B9 03 E0 03 42 4F 40 45
BU 1 2 10 125 -1.4 5.01s - 052D 1 0 - 0 0 224 U 329 DlCounter(947) Cnt=947
40 6B 3A D1 00 80 2D 05 E0 03 B3 EA AA 0A 2E
-> PER Testing 16 over 60
KD R2 1 11 125 -30.0 ---- 1 03BA 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 BA 03 E0 03 6B 80 DA D6
BU 0 2 10 125 -1.3 5.01s - 052E 1 0 - 0 0 224 U 329 DlCounter(948) Cnt=948
40 6B 3A D1 00 80 2E 05 E0 03 B4 FF E6 14 FC
-> PER Testing 17 over 60
KD R2 1 11 125 -30.0 ---- 1 03BB 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 BB 03 E0 03 C0 DC 47 E9
BU 1 2 10 125 -1.4 5.01s - 052F 1 0 - 0 0 224 U 329 DlCounter(949) Cnt=949
40 6B 3A D1 00 80 2F 05 E0 03 B5 1B EE 6B CF
-> PER Testing 18 over 60
KD R2 1 11 125 -30.0 ---- 1 03BC 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 BC 03 E0 03 AF B6 FD 78
BU 0 2 10 125 -1.4 5.01s - 0530 1 0 - 0 0 224 U 329 DlCounter(950) Cnt=950
40 6B 3A D1 00 80 30 05 E0 03 B6 8F 2F 67 58
-> PER Testing 19 over 60
KD R2 1 11 125 -30.0 ---- 1 03BD 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 BD 03 E0 03 DD 27 1A A3
BU 1 2 10 125 -1.4 5.01s - 0531 1 0 - 0 0 224 U 329 DlCounter(951) Cnt=951
40 6B 3A D1 00 80 31 05 E0 03 B7 8D B3 9B 89
-> PER Testing 20 over 60
KD R2 1 11 125 -30.0 ---- 1 03BE 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 BE 03 E0 03 5B 1D 54 DB
BU 2 2 10 125 -1.4 5.01s - 0532 1 0 - 0 0 224 U 329 DlCounter(952) Cnt=952
40 6B 3A D1 00 80 32 05 E0 03 B8 05 1B 11 A3
-> PER Testing 21 over 60
KD R2 1 11 125 -30.0 ---- 1 03BF 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 BF 03 E0 03 EF 7C D5 57
BU 1 2 10 125 -1.4 5.01s - 0533 1 0 - 0 0 224 U 329 DlCounter(953) Cnt=953
40 6B 3A D1 00 80 33 05 E0 03 B9 C1 78 74 2B
-> PER Testing 22 over 60
KD R2 1 11 125 -30.0 ---- 1 03C0 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C0 03 E0 03 54 07 C3 82
BU 2 2 10 125 -1.4 5.01s - 0534 1 0 - 0 0 224 U 329 DlCounter(954) Cnt=954
40 6B 3A D1 00 80 34 05 E0 03 BA 95 02 B5 E5
-> PER Testing 23 over 60
KD R2 1 11 125 -30.0 ---- 1 03C1 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C1 03 E0 03 85 14 E6 A7
BU 1 2 10 125 -1.4 5.01s - 0535 1 0 - 0 0 224 U 329 DlCounter(955) Cnt=955
40 6B 3A D1 00 80 35 05 E0 03 BB D3 D0 6E 50
-> PER Testing 24 over 60
KD R2 1 11 125 -30.0 ---- 1 03C2 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C2 03 E0 03 94 2E 23 67
BU 0 2 10 125 -1.4 5.01s - 0536 1 0 - 0 0 224 U 329 DlCounter(956) Cnt=956

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40 6B 3A D1 00 80 36 05 E0 03 BC 90 32 DE FD
-> PER Testing 25 over 60
KD R2 1 11 125 -30.0 ---- 1 03C3 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C3 03 E0 03 14 9F 10 D2
BU 1 2 10 125 -1.4 5.01s - 0537 1 0 - 0 0 224 U 329 DlCounter(957) Cnt=957
40 6B 3A D1 00 80 37 05 E0 03 BD DD 05 83 53
-> PER Testing 26 over 60
KD R2 1 11 125 -30.0 ---- 1 03C4 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C4 03 E0 03 ED 78 09 30
BU 2 2 10 125 -1.4 5.01s - 0538 1 0 - 0 0 224 U 329 DlCounter(958) Cnt=958
40 6B 3A D1 00 80 38 05 E0 03 BE 7C 86 BC 59
-> PER Testing 27 over 60
KD R2 1 11 125 -30.0 ---- 1 03C5 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C5 03 E0 03 1B 8E 2E 28
BU 2 2 10 125 -1.4 5.01s - 0539 1 0 - 0 0 224 U 329 DlCounter(959) Cnt=959
40 6B 3A D1 00 80 39 05 E0 03 BF 2B F6 2D 78
-> PER Testing 28 over 60
KD R2 1 11 125 -30.0 ---- 1 03C6 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C6 03 E0 03 97 0F 38 8A
BU 0 2 10 125 -1.4 5.01s - 053A 1 0 - 0 0 224 U 329 DlCounter(960) Cnt=960
40 6B 3A D1 00 80 3A 05 E0 03 C0 4C D3 F8 CB
-> PER Testing 29 over 60
KD R2 1 11 125 -30.0 ---- 1 03C7 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C7 03 E0 03 99 2B 63 69
BU 2 2 10 125 -1.4 5.01s - 053B 1 0 - 0 0 224 U 329 DlCounter(961) Cnt=961
40 6B 3A D1 00 80 3B 05 E0 03 C1 12 7E D1 57
-> PER Testing 30 over 60
KD R2 1 11 125 -30.0 ---- 1 03C8 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C8 03 E0 03 BC 74 00 12
BU 2 2 10 125 -1.3 5.01s - 053C 1 0 - 0 0 224 U 329 DlCounter(962) Cnt=962
40 6B 3A D1 00 80 3C 05 E0 03 C2 50 78 BB 8F
-> PER Testing 31 over 60
KD R2 1 11 125 -30.0 ---- 1 03C9 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 C9 03 E0 03 6F 2C 90 23
BU 0 2 10 125 -1.4 5.01s - 053D 1 0 - 0 0 224 U 329 DlCounter(963) Cnt=963
40 6B 3A D1 00 80 3D 05 E0 03 C3 75 3E A5 DE
-> PER Testing 32 over 60
KD R2 1 11 125 -30.0 ---- 1 03CA 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 CA 03 E0 03 A8 00 DB CD
BU 2 2 10 125 -1.4 5.01s - 053E 1 0 - 0 0 224 U 329 DlCounter(964) Cnt=964
40 6B 3A D1 00 80 3E 05 E0 03 C4 3E C9 A8 6B
-> PER Testing 33 over 60
KD R2 1 11 125 -30.0 ---- 1 03CB 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 CB 03 E0 03 B7 0E 78 E0
BU 0 2 10 125 -1.3 5.01s - 053F 1 0 - 0 0 224 U 329 DlCounter(965) Cnt=965
40 6B 3A D1 00 80 3F 05 E0 03 C5 A0 F2 EF 64
-> PER Testing 34 over 60
KD R2 1 11 125 -30.0 ---- 1 03CC 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 CC 03 E0 03 A8 EA 5A 9A
BU 1 2 10 125 -1.4 5.01s - 0540 1 0 - 0 0 224 U 329 DlCounter(966) Cnt=966
40 6B 3A D1 00 80 40 05 E0 03 C6 F8 EA 72 1B
-> PER Testing 35 over 60
KD R2 1 11 125 -30.0 ---- 1 03CD 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 CD 03 E0 03 13 4B 4E 6F
BU 0 2 10 125 -1.4 5.01s - 0541 1 0 - 0 0 224 U 329 DlCounter(967) Cnt=967
40 6B 3A D1 00 80 41 05 E0 03 C7 D2 6E DF 91
-> PER Testing 36 over 60
KD R2 1 11 125 -30.0 ---- 1 03CE 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 CE 03 E0 03 FF 80 48 80
BU 1 2 10 125 -1.4 5.01s - 0542 1 0 - 0 0 224 U 329 DlCounter(968) Cnt=968
40 6B 3A D1 00 80 42 05 E0 03 C8 94 1E 10 B1
-> PER Testing 37 over 60
KD R2 1 11 125 -30.0 ---- 1 03CF 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 CF 03 E0 03 89 42 CB 71
BU 1 2 10 125 -1.4 5.01s - 0543 1 0 - 0 0 224 U 329 DlCounter(969) Cnt=969
40 6B 3A D1 00 80 43 05 E0 03 C9 B5 F8 BB BD
-> PER Testing 38 over 60
KD R2 1 11 125 -30.0 ---- 1 03D0 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D0 03 E0 03 AC F9 06 6B
BU 0 2 10 125 -1.4 5.01s - 0544 1 0 - 0 0 224 U 329 DlCounter(970) Cnt=970
40 6B 3A D1 00 80 44 05 E0 03 CA 4A 5A 92 B9
-> PER Testing 39 over 60
KD R2 1 11 125 -30.0 ---- 1 03D1 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D1 03 E0 03 A5 0F F8 09
BU 1 2 10 125 -1.4 5.01s - 0545 1 0 - 0 0 224 U 329 DlCounter(971) Cnt=971
40 6B 3A D1 00 80 45 05 E0 03 CB CA 56 7C 12
-> PER Testing 40 over 60
KD R2 1 11 125 -30.0 ---- 1 03D2 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D2 03 E0 03 07 78 7C 29

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BU 2 2 10 125 -1.4 5.01s - 0546 1 0 - 0 0 224 U 329 DlCounter(972) Cnt=972
40 6B 3A D1 00 80 46 05 E0 03 CC 29 C3 BD 9D
-> PER Testing 41 over 60
KD R2 1 11 125 -30.0 ---- 1 03D3 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D3 03 E0 03 85 8D DB 2B
BU 1 2 10 125 -1.4 5.01s - 0547 1 0 - 0 0 224 U 329 DlCounter(973) Cnt=973
40 6B 3A D1 00 80 47 05 E0 03 CD 0A C0 C2 82
-> PER Testing 42 over 60
KD R2 1 11 125 -30.0 ---- 1 03D4 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D4 03 E0 03 74 33 76 56
BU 0 2 10 125 -1.4 5.01s - 0548 1 0 - 0 0 224 U 329 DlCounter(974) Cnt=974
40 6B 3A D1 00 80 48 05 E0 03 CE 9E 45 51 A0
-> PER Testing 43 over 60
KD R2 1 11 125 -30.0 ---- 1 03D5 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D5 03 E0 03 C3 D6 EE 10
BU 1 2 10 125 -1.4 5.01s - 0549 1 0 - 0 0 224 U 329 DlCounter(975) Cnt=975
40 6B 3A D1 00 80 49 05 E0 03 CF 6A 28 1B 1D
-> PER Testing 44 over 60
KD R2 1 11 125 -30.0 ---- 1 03D6 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D6 03 E0 03 FE BB 06 CF
BU 1 2 10 125 -1.4 5.01s - 054A 1 0 - 0 0 224 U 329 DlCounter(976) Cnt=976
40 6B 3A D1 00 80 4A 05 E0 03 D0 C6 0D 28 78
-> PER Testing 45 over 60
KD R2 1 11 125 -30.0 ---- 1 03D7 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D7 03 E0 03 1D C9 1F 07
BU 2 2 10 125 -1.4 5.01s - 054B 1 0 - 0 0 224 U 329 DlCounter(977) Cnt=977
40 6B 3A D1 00 80 4B 05 E0 03 D1 6E 5A DE DA
-> PER Testing 46 over 60
KD R2 1 11 125 -30.0 ---- 1 03D8 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D8 03 E0 03 A9 35 5D C1
BU 2 2 10 125 -1.4 5.01s - 054C 1 0 - 0 0 224 U 329 DlCounter(978) Cnt=978
40 6B 3A D1 00 80 4C 05 E0 03 D2 B2 CC FE AE
-> PER Testing 47 over 60
KD R2 1 11 125 -30.0 ---- 1 03D9 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 D9 03 E0 03 76 06 EA 19
BU 0 2 10 125 -1.4 5.01s - 054D 1 0 - 0 0 224 U 329 DlCounter(979) Cnt=979
40 6B 3A D1 00 80 4D 05 E0 03 D3 19 5F C8 D6
-> PER Testing 48 over 60
KD R2 1 11 125 -30.0 ---- 1 03DA 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 DA 03 E0 03 6D DE D0 67
BU 0 2 10 125 -1.4 5.01s - 054E 1 0 - 0 0 224 U 329 DlCounter(980) Cnt=980
40 6B 3A D1 00 80 4E 05 E0 03 D4 81 90 34 2D
-> PER Testing 49 over 60
KD R2 1 11 125 -30.0 ---- 1 03DB 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 DB 03 E0 03 06 6D EC AC
BU 2 2 10 125 -1.4 5.01s - 054F 1 0 - 0 0 224 U 329 DlCounter(981) Cnt=981
40 6B 3A D1 00 80 4F 05 E0 03 D5 D2 45 3B EC
-> PER Testing 50 over 60
KD R2 1 11 125 -30.0 ---- 1 03DC 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 DC 03 E0 03 85 D3 D1 05
BU 2 2 10 125 -1.4 5.01s - 0550 1 0 - 0 0 224 U 329 DlCounter(982) Cnt=982
40 6B 3A D1 00 80 50 05 E0 03 D6 A7 27 D0 F8
-> PER Testing 51 over 60
KD R2 1 11 125 -30.0 ---- 1 03DD 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 DD 03 E0 03 0A CA 98 74
BU 1 2 10 125 -1.4 5.01s - 0551 1 0 - 0 0 224 U 329 DlCounter(983) Cnt=983
40 6B 3A D1 00 80 51 05 E0 03 D7 BA D8 85 DA
-> PER Testing 52 over 60
KD R2 1 11 125 -30.0 ---- 1 03DE 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 DE 03 E0 03 79 2A E5 A9
BU 0 2 10 125 -1.4 5.01s - 0552 1 0 - 0 0 224 U 329 DlCounter(984) Cnt=984
40 6B 3A D1 00 80 52 05 E0 03 D8 84 B5 2F 94
-> PER Testing 53 over 60
KD R2 1 11 125 -30.0 ---- 1 03DF 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 DF 03 E0 03 E3 99 94 63
BU 0 2 10 125 -1.4 5.01s - 0553 1 0 - 0 0 224 U 329 DlCounter(985) Cnt=985
40 6B 3A D1 00 80 53 05 E0 03 D9 96 18 AD 5C
-> PER Testing 54 over 60
KD R2 1 11 125 -30.0 ---- 1 03E0 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 E0 03 E0 03 6C DD F3 CC
BU 1 2 10 125 -1.4 5.01s - 0554 1 0 - 0 0 224 U 329 DlCounter(986) Cnt=986
40 6B 3A D1 00 80 54 05 E0 03 DA 16 7A 5B 96
-> PER Testing 55 over 60
KD R2 1 11 125 -30.0 ---- 1 03E1 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 E1 03 E0 03 09 31 3E E4
BU 1 2 10 125 -1.4 5.01s - 0555 1 0 - 0 0 224 U 329 DlCounter(987) Cnt=987
40 6B 3A D1 00 80 55 05 E0 03 DB 2B 8A 2A 2D
-> PER Testing 56 over 60
KD R2 1 11 125 -30.0 ---- 1 03E2 1 0 0 - - 224 U 577 UnconfirmedFrame

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60 6B 3A D1 00 80 E2 03 E0 03 3C EE 5D 85
BU 2 2 10 125 -1.4 5.01s - 0556 1 0 - 0 0 224 U 329 DlCounter(988) Cnt=988
40 6B 3A D1 00 80 56 05 E0 03 DC F7 FC 01 0B
-> PER Testing 57 over 60
KD R2 1 11 125 -30.0 ---- 1 03E3 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 E3 03 E0 03 0F 51 CE 7D
BU 0 2 10 125 -1.4 5.01s - 0557 1 0 - 0 0 224 U 329 DlCounter(989) Cnt=989
40 6B 3A D1 00 80 57 05 E0 03 DD 13 22 7E 7D
-> PER Testing 58 over 60
KD R2 1 11 125 -30.0 ---- 1 03E4 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 E4 03 E0 03 DA FD 82 78
BU 2 2 10 125 -1.4 5.01s - 0558 1 0 - 0 0 224 U 329 DlCounter(990) Cnt=990
40 6B 3A D1 00 80 58 05 E0 03 DE D6 46 F7 A3
-> PER Testing 59 over 60
KD R2 1 11 125 -30.0 ---- 1 03E5 1 0 0 - - 224 U 577 UnconfirmedFrame
60 6B 3A D1 00 80 E5 03 E0 03 0D 0A CA 84
BU 2 2 10 125 -1.4 5.01s - 0559 1 0 - 0 0 224 U 329 DlCounter(991) Cnt=991
40 6B 3A D1 00 80 59 05 E0 03 DF 95 44 65 3F
-> PER Testing 60 over 60

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

0 error(s) over 60, PER=0.000 (Criteria:PER<=0.05)

[Elapsed Time] 00:05:19

### 17.6 Test Packet error rate for SF7BW250 using RX2 window (Optional)

[ TEST PURPOSE ]

To measure downlink packet error rate for RX2 window using all spreading factors  
: 17.6 Test Packet error rate for SF7BW250 using RX2 window (Optional)

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	CMD	CNTS
BU	1	2	10	125	-1.4	5.01s	-	055B	1	0	-	0	0	224	U	329	DlCounter(991)	Cnt=991
40 6B 3A D1 00 80 5B 05 E0 03 DF EF A2 5A 05																		
[Test packet error rate for SF7BW250 using RX2 window]																		
BU	1	2	10	125	-1.3	5.01s	-	055C	1	0	-	0	0	224	U	329	DlCounter(991)	Cnt=991
40 6B 3A D1 00 80 5C 05 E0 03 DF A7 F2 ED 70																		
KD	1	2	10	125	-36.0	----	1	03E6	1	0	0	-	-	000	C	329	RXParamSetReq	
RX1DROffset=0, RX2DR=6, RX2FREQ=869.525																		
A0 6B 3A D1 00 80 E6 03 00 05 06 D2 AD 84 78 E4 8D A2																		
BU	0	2	10	125	-1.4	1.68s	-	055D	1	1	-	0	0	224	U	329	{RXParamSetAns}	RX1DROffset=1,
RX2DR=1, CH=1																		
40 6B 3A D1 00 A2 5D 05 05 07 E0 03 E0 A6 20 99 C6																		
KD	0	2	10	125	-30.0	----	1	03E7	1	0	0	-	-	224	U	288	UnconfirmedFrame	
60 6B 3A D1 00 80 E7 03 E0 03 3C F7 81 0B																		
BU	1	2	10	125	-1.4	5.01s	-	055E	1	0	-	0	0	224	U	329	DlCounter(993)	Cnt=993
40 6B 3A D1 00 80 5E 05 E0 03 E1 34 E9 70 CE																		
KD	R2	6	7	250	-30.0	----	1	03E8	1	0	0	-	-	224	U	20	UnconfirmedFrame	
60 6B 3A D1 00 80 E8 03 E0 03 6A 30 FB AB																		
BU	1	2	10	125	-1.4	5.01s	-	055F	1	0	-	0	0	224	U	329	DlCounter(994)	Cnt=994
40 6B 3A D1 00 80 5F 05 E0 03 E2 72 04 A1 92																		
-> PER Testing 1 over 60																		
KD	R2	6	7	250	-30.0	----	1	03E9	1	0	0	-	-	224	U	20	UnconfirmedFrame	
60 6B 3A D1 00 80 E9 03 E0 03 A8 96 7B E2																		
BU	0	2	10	125	-1.4	5.01s	-	0560	1	0	-	0	0	224	U	329	DlCounter(995)	Cnt=995
40 6B 3A D1 00 80 60 05 E0 03 E3 54 BD 79 00																		
-> PER Testing 2 over 60																		
KD	R2	6	7	250	-30.0	----	1	03EA	1	0	0	-	-	224	U	20	UnconfirmedFrame	
60 6B 3A D1 00 80 EA 03 E0 03 74 2D CF 26																		
BU	0	2	10	125	-1.4	5.01s	-	0561	1	0	-	0	0	224	U	329	DlCounter(996)	Cnt=996

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40 6B 3A D1 00 80 61 05 E0 03 E4 AD 82 E9 45
-> PER Testing 3 over 60
KD R2 6 7 250 -30.0 ---- 1 03EB 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 EB 03 E0 03 B6 01 76 0E
BU 0 2 10 125 -1.4 5.01s - 0562 1 0 - 0 0 224 U 329 DlCounter(997) Cnt=997
40 6B 3A D1 00 80 62 05 E0 03 E5 79 85 F1 A2
-> PER Testing 4 over 60
KD R2 6 7 250 -30.0 ---- 1 03EC 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 EC 03 E0 03 1E 14 BD 18
BU 0 2 10 125 -1.4 5.01s - 0563 1 0 - 0 0 224 U 329 DlCounter(998) Cnt=998
40 6B 3A D1 00 80 63 05 E0 03 E6 60 D3 B6 87
-> PER Testing 5 over 60
KD R2 6 7 250 -30.0 ---- 1 03ED 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 ED 03 E0 03 53 FE 5E 84
BU 0 2 10 125 -1.4 5.01s - 0564 1 0 - 0 0 224 U 329 DlCounter(999) Cnt=999
40 6B 3A D1 00 80 64 05 E0 03 E7 C6 5A C3 D2
-> PER Testing 6 over 60
KD R2 6 7 250 -30.0 ---- 1 03EE 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 EE 03 E0 03 64 95 BF 20
BU 0 2 10 125 -1.4 5.01s - 0565 1 0 - 0 0 224 U 329 DlCounter(1000) Cnt=1000
40 6B 3A D1 00 80 65 05 E0 03 E8 0A 58 08 A3
-> PER Testing 7 over 60
KD R2 6 7 250 -30.0 ---- 1 03EF 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 EF 03 E0 03 24 B5 92 3A
BU 0 2 10 125 -1.4 5.01s - 0566 1 0 - 0 0 224 U 329 DlCounter(1001) Cnt=1001
40 6B 3A D1 00 80 66 05 E0 03 E9 11 FD E2 11
-> PER Testing 8 over 60
KD R2 6 7 250 -30.0 ---- 1 03F0 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 F0 03 E0 03 A7 E4 26 53
BU 1 2 10 125 -1.4 5.01s - 0567 1 0 - 0 0 224 U 329 DlCounter(1002) Cnt=1002
40 6B 3A D1 00 80 67 05 E0 03 EA E9 CB 4E 56
-> PER Testing 9 over 60
KD R2 6 7 250 -30.0 ---- 1 03F1 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 F1 03 E0 03 99 CC 80 E3
BU 2 2 10 125 -1.4 5.01s - 0568 1 0 - 0 0 224 U 329 DlCounter(1003) Cnt=1003
40 6B 3A D1 00 80 68 05 E0 03 EB 8B 20 42 DF
-> PER Testing 10 over 60
KD R2 6 7 250 -30.0 ---- 1 03F2 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 F2 03 E0 03 28 83 1F 61
BU 0 2 10 125 -1.4 5.01s - 0569 1 0 - 0 0 224 U 329 DlCounter(1004) Cnt=1004
40 6B 3A D1 00 80 69 05 E0 03 EC 4A A1 73 FE
-> PER Testing 11 over 60
KD R2 6 7 250 -30.0 ---- 1 03F3 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 F3 03 E0 03 DE C1 E6 27
BU 1 2 10 125 -1.4 5.01s - 056A 1 0 - 0 0 224 U 329 DlCounter(1005) Cnt=1005
40 6B 3A D1 00 80 6A 05 E0 03 ED D0 5C 1C D8
-> PER Testing 12 over 60
KD R2 6 7 250 -30.0 ---- 1 03F4 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 F4 03 E0 03 C9 EA 2D 48
BU 2 2 10 125 -1.4 5.01s - 056B 1 0 - 0 0 224 U 329 DlCounter(1006) Cnt=1006
40 6B 3A D1 00 80 6B 05 E0 03 EE 32 59 31 B9
-> PER Testing 13 over 60
KD R2 6 7 250 -30.0 ---- 1 03F5 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 F5 03 E0 03 15 D0 BF A5
BU 2 2 10 125 -1.4 5.01s - 056C 1 0 - 0 0 224 U 329 DlCounter(1007) Cnt=1007
40 6B 3A D1 00 80 6C 05 E0 03 EF 63 11 3C 31
-> PER Testing 14 over 60
KD R2 6 7 250 -30.0 ---- 1 03F6 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 F6 03 E0 03 AE 3D FB 62
BU 2 2 10 125 -1.4 5.01s - 056D 1 0 - 0 0 224 U 329 DlCounter(1008) Cnt=1008
40 6B 3A D1 00 80 6D 05 E0 03 F0 45 2D 90 7E
-> PER Testing 15 over 60
KD R2 6 7 250 -30.0 ---- 1 03F7 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 F7 03 E0 03 56 E3 64 F9
BU 0 2 10 125 -1.4 5.01s - 056E 1 0 - 0 0 224 U 329 DlCounter(1009) Cnt=1009
40 6B 3A D1 00 80 6E 05 E0 03 F1 B3 F2 3F 6F
-> PER Testing 16 over 60
KD R2 6 7 250 -30.0 ---- 1 03F8 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 F8 03 E0 03 8E 8D D7 C4
BU 2 2 10 125 -1.4 5.01s - 056F 1 0 - 0 0 224 U 329 DlCounter(1010) Cnt=1010
40 6B 3A D1 00 80 6F 05 E0 03 F2 AB AB CA 79
-> PER Testing 17 over 60
KD R2 6 7 250 -30.0 ---- 1 03F9 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 F9 03 E0 03 77 58 CA BD
BU 2 2 10 125 -1.4 5.01s - 0570 1 0 - 0 0 224 U 329 DlCounter(1011) Cnt=1011
40 6B 3A D1 00 80 70 05 E0 03 F3 C3 F0 24 E1
-> PER Testing 18 over 60
KD R2 6 7 250 -30.0 ---- 1 03FA 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 FA 03 E0 03 D1 E6 51 E7

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BU 0 2 10 125 -1.4 5.01s - 0571 1 0 - 0 0 224 U 329 DlCounter(1012) Cnt=1012
40 6B 3A D1 00 80 71 05 E0 03 F4 21 42 D1 4D
-> PER Testing 19 over 60
KD R2 6 7 250 -30.0 ---- 1 03FB 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 FB 03 E0 03 EA 49 4B 9A
BU 0 2 10 125 -1.4 5.01s - 0572 1 0 - 0 0 224 U 329 DlCounter(1013) Cnt=1013
40 6B 3A D1 00 80 72 05 E0 03 F5 49 DD 75 FD
-> PER Testing 20 over 60
KD R2 6 7 250 -30.0 ---- 1 03FC 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 FC 03 E0 03 83 5D 59 15
BU 1 2 10 125 -1.4 5.01s - 0573 1 0 - 0 0 224 U 329 DlCounter(1014) Cnt=1014
40 6B 3A D1 00 80 73 05 E0 03 F6 02 4A 82 D9
-> PER Testing 21 over 60
KD R2 6 7 250 -30.0 ---- 1 03FD 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 FD 03 E0 03 52 DC 99 B5
BU 0 2 10 125 -1.4 5.01s - 0574 1 0 - 0 0 224 U 329 DlCounter(1015) Cnt=1015
40 6B 3A D1 00 80 74 05 E0 03 F7 90 E9 DF 24
-> PER Testing 22 over 60
KD R2 6 7 250 -30.0 ---- 1 03FE 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 FE 03 E0 03 74 33 96 84
BU 1 2 10 125 -1.4 5.01s - 0575 1 0 - 0 0 224 U 329 DlCounter(1016) Cnt=1016
40 6B 3A D1 00 80 75 05 E0 03 F8 7A 1D 17 72
-> PER Testing 23 over 60
KD R2 6 7 250 -30.0 ---- 1 03FF 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 FF 03 E0 03 4F 21 17 29
BU 0 2 10 125 -1.4 5.01s - 0576 1 0 - 0 0 224 U 329 DlCounter(1017) Cnt=1017
40 6B 3A D1 00 80 76 05 E0 03 F9 36 CE 35 9F
-> PER Testing 24 over 60
KD R2 6 7 250 -30.0 ---- 1 0400 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 00 04 E0 03 42 8A 13 C8
BU 0 2 10 125 -1.4 5.01s - 0577 1 0 - 0 0 224 U 329 DlCounter(1018) Cnt=1018
40 6B 3A D1 00 80 77 05 E0 03 FA 17 D8 90 74
-> PER Testing 25 over 60
KD R2 6 7 250 -30.0 ---- 1 0401 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 01 04 E0 03 E5 85 77 20
BU 0 2 10 125 -1.4 5.01s - 0578 1 0 - 0 0 224 U 329 DlCounter(1019) Cnt=1019
40 6B 3A D1 00 80 78 05 E0 03 FB 48 0B 50 1C
-> PER Testing 26 over 60
KD R2 6 7 250 -30.0 ---- 1 0402 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 02 04 E0 03 4C EC E6 2E
BU 0 2 10 125 -1.4 5.01s - 0579 1 0 - 0 0 224 U 329 DlCounter(1020) Cnt=1020
40 6B 3A D1 00 80 79 05 E0 03 FC 61 2A F8 A5
-> PER Testing 27 over 60
KD R2 6 7 250 -30.0 ---- 1 0403 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 03 04 E0 03 B7 6E 1D 34
BU 2 2 10 125 -1.4 5.01s - 057A 1 0 - 0 0 224 U 329 DlCounter(1021) Cnt=1021
40 6B 3A D1 00 80 7A 05 E0 03 FD 70 9D 69 BA
-> PER Testing 28 over 60
KD R2 6 7 250 -30.0 ---- 1 0404 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 04 04 E0 03 13 AE C0 FA
BU 2 2 10 125 -1.4 5.01s - 057B 1 0 - 0 0 224 U 329 DlCounter(1022) Cnt=1022
40 6B 3A D1 00 80 7B 05 E0 03 FE 9B 42 58 1E
-> PER Testing 29 over 60
KD R2 6 7 250 -30.0 ---- 1 0405 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 05 04 E0 03 D5 E2 C6 47
BU 0 2 10 125 -1.4 5.01s - 057C 1 0 - 0 0 224 U 329 DlCounter(1023) Cnt=1023
40 6B 3A D1 00 80 7C 05 E0 03 FF 98 C7 D8 9B
-> PER Testing 30 over 60
KD R2 6 7 250 -30.0 ---- 1 0406 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 06 04 E0 03 2C 9C F0 9F
BU 2 2 10 125 -1.4 5.01s - 057D 1 0 - 0 0 224 U 329 DlCounter(1024) Cnt=1024
40 6B 3A D1 00 80 7D 05 E0 04 00 E5 BB 06 69
-> PER Testing 31 over 60
KD R2 6 7 250 -30.0 ---- 1 0407 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 07 04 E0 03 C3 E0 B8 66
BU 1 2 10 125 -1.4 5.01s - 057E 1 0 - 0 0 224 U 329 DlCounter(1025) Cnt=1025
40 6B 3A D1 00 80 7E 05 E0 04 01 F7 96 B8 1E
-> PER Testing 32 over 60
KD R2 6 7 250 -30.0 ---- 1 0408 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 08 04 E0 03 DC B7 71 4D
BU 1 2 10 125 -1.4 5.01s - 057F 1 0 - 0 0 224 U 329 DlCounter(1026) Cnt=1026
40 6B 3A D1 00 80 7F 05 E0 04 02 06 4B 90 66
-> PER Testing 33 over 60
KD R2 6 7 250 -30.0 ---- 1 0409 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 09 04 E0 03 FB F9 42 38
BU 0 2 10 125 -1.4 5.01s - 0580 1 0 - 0 0 224 U 329 DlCounter(1027) Cnt=1027
40 6B 3A D1 00 80 80 05 E0 04 03 B6 9D 39 AC
-> PER Testing 34 over 60
KD R2 6 7 250 -30.0 ---- 1 040A 1 0 0 - - 224 U 20 UnconfirmedFrame

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60 6B 3A D1 00 80 0A 04 E0 03 1F D6 10 B7
BU 2 2 10 125 -1.4 5.01s - 0581 1 0 - 0 0 224 U 329 DlCounter(1028) Cnt=1028
40 6B 3A D1 00 80 81 05 E0 04 04 02 9C C7 56
-> PER Testing 35 over 60
KD R2 6 7 250 -30.0 ---- 1 040B 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 0B 04 E0 03 68 29 81 72
BU 2 2 10 125 -1.4 5.01s - 0582 1 0 - 0 0 224 U 329 DlCounter(1029) Cnt=1029
40 6B 3A D1 00 80 82 05 E0 04 05 9C D6 8B 83
-> PER Testing 36 over 60
KD R2 6 7 250 -30.0 ---- 1 040C 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 0C 04 E0 03 96 C7 01 BF
BU 1 2 10 125 -1.4 5.01s - 0583 1 0 - 0 0 224 U 329 DlCounter(1030) Cnt=1030
40 6B 3A D1 00 80 83 05 E0 04 06 0A 6A FB FB
-> PER Testing 37 over 60
KD R2 6 7 250 -30.0 ---- 1 040D 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 0D 04 E0 03 74 DE BF C1
BU 0 2 10 125 -1.4 5.01s - 0584 1 0 - 0 0 224 U 329 DlCounter(1031) Cnt=1031
40 6B 3A D1 00 80 84 05 E0 04 07 C9 A3 4B 9B
-> PER Testing 38 over 60
KD R2 6 7 250 -30.0 ---- 1 040E 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 0E 04 E0 03 EE 6E 83 04
BU 0 2 10 125 -1.4 5.01s - 0585 1 0 - 0 0 224 U 329 DlCounter(1032) Cnt=1032
40 6B 3A D1 00 80 85 05 E0 04 08 B7 0D CC D5
-> PER Testing 39 over 60
KD R2 6 7 250 -30.0 ---- 1 040F 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 0F 04 E0 03 B5 22 9D 86
BU 1 2 10 125 -1.4 5.01s - 0586 1 0 - 0 0 224 U 329 DlCounter(1033) Cnt=1033
40 6B 3A D1 00 80 86 05 E0 04 09 57 DE 5C D0
-> PER Testing 40 over 60
KD R2 6 7 250 -30.0 ---- 1 0410 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 10 04 E0 03 EC 44 60 7D
BU 1 2 10 125 -1.4 5.01s - 0587 1 0 - 0 0 224 U 329 DlCounter(1034) Cnt=1034
40 6B 3A D1 00 80 87 05 E0 04 0A 0A E2 7A EB
-> PER Testing 41 over 60
KD R2 6 7 250 -30.0 ---- 1 0411 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 11 04 E0 03 35 C6 DF 2E
BU 1 2 10 125 -1.4 5.01s - 0588 1 0 - 0 0 224 U 329 DlCounter(1035) Cnt=1035
40 6B 3A D1 00 80 88 05 E0 04 0B C3 4A 2A 0C
-> PER Testing 42 over 60
KD R2 6 7 250 -30.0 ---- 1 0412 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 12 04 E0 03 0E 53 8A 91
BU 2 2 10 125 -1.4 5.01s - 0589 1 0 - 0 0 224 U 329 DlCounter(1036) Cnt=1036
40 6B 3A D1 00 80 89 05 E0 04 0C 46 95 85 93
-> PER Testing 43 over 60
KD R2 6 7 250 -30.0 ---- 1 0413 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 13 04 E0 03 10 11 B0 CF
BU 0 2 10 125 -1.4 5.01s - 058A 1 0 - 0 0 224 U 329 DlCounter(1037) Cnt=1037
40 6B 3A D1 00 80 8A 05 E0 04 0D 65 6B 7A CB
-> PER Testing 44 over 60
KD R2 6 7 250 -30.0 ---- 1 0414 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 14 04 E0 03 3D 35 8A 87
BU 0 2 10 125 -1.4 5.01s - 058B 1 0 - 0 0 224 U 329 DlCounter(1038) Cnt=1038
40 6B 3A D1 00 80 8B 05 E0 04 0E AA A2 A4 97
-> PER Testing 45 over 60
KD R2 6 7 250 -30.0 ---- 1 0415 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 15 04 E0 03 41 C6 FB 0B
BU 2 2 10 125 -1.4 5.01s - 058C 1 0 - 0 0 224 U 329 DlCounter(1039) Cnt=1039
40 6B 3A D1 00 80 8C 05 E0 04 0F 22 64 71 6D
-> PER Testing 46 over 60
KD R2 6 7 250 -30.0 ---- 1 0416 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 16 04 E0 03 21 A5 68 6E
BU 0 2 10 125 -1.3 5.01s - 058D 1 0 - 0 0 224 U 329 DlCounter(1040) Cnt=1040
40 6B 3A D1 00 80 8D 05 E0 04 10 37 9D 30 25
-> PER Testing 47 over 60
KD R2 6 7 250 -30.0 ---- 1 0417 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 17 04 E0 03 9D 61 A9 47
BU 2 2 10 125 -1.4 5.01s - 058E 1 0 - 0 0 224 U 329 DlCounter(1041) Cnt=1041
40 6B 3A D1 00 80 8E 05 E0 04 11 DF 02 76 22
-> PER Testing 48 over 60
KD R2 6 7 250 -30.0 ---- 1 0418 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 18 04 E0 03 7B D1 4C B9
BU 2 2 10 125 -1.4 5.01s - 058F 1 0 - 0 0 224 U 329 DlCounter(1042) Cnt=1042
40 6B 3A D1 00 80 8F 05 E0 04 12 E0 3C AE 65
-> PER Testing 49 over 60
KD R2 6 7 250 -30.0 ---- 1 0419 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 19 04 E0 03 E8 DD D1 AB
BU 1 2 10 125 -1.4 5.01s - 0590 1 0 - 0 0 224 U 329 DlCounter(1043) Cnt=1043
40 6B 3A D1 00 80 90 05 E0 04 13 37 53 B9 6D
-> PER Testing 50 over 60

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KD R2 6 7 250 -30.0 ---- 1 041A 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 1A 04 E0 03 FC DF 5A C7
BU 1 2 10 125 -1.4 5.01s - 0591 1 0 - 0 0 224 U 329 DlCounter(1044) Cnt=1044
40 6B 3A D1 00 80 91 05 E0 04 14 1A FA C4 3F
-> PER Testing 51 over 60
KD R2 6 7 250 -30.0 ---- 1 041B 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 1B 04 E0 03 25 71 30 C9
BU 2 2 10 125 -1.4 5.01s - 0592 1 0 - 0 0 224 U 329 DlCounter(1045) Cnt=1045
40 6B 3A D1 00 80 92 05 E0 04 15 D5 EB 01 68
-> PER Testing 52 over 60
KD R2 6 7 250 -30.0 ---- 1 041C 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 1C 04 E0 03 DE 1F AC 2A
BU 1 2 10 125 -1.4 5.01s - 0593 1 0 - 0 0 224 U 329 DlCounter(1046) Cnt=1046
40 6B 3A D1 00 80 93 05 E0 04 16 E2 48 07 4D
-> PER Testing 53 over 60
KD R2 6 7 250 -30.0 ---- 1 041D 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 1D 04 E0 03 15 FC 8A 27
BU 2 2 10 125 -1.4 5.01s - 0594 1 0 - 0 0 224 U 329 DlCounter(1047) Cnt=1047
40 6B 3A D1 00 80 94 05 E0 04 17 87 06 2E 4E
-> PER Testing 54 over 60
KD R2 6 7 250 -30.0 ---- 1 041E 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 1E 04 E0 03 02 C2 A4 F1
BU 1 2 10 125 -1.4 5.01s - 0595 1 0 - 0 0 224 U 329 DlCounter(1048) Cnt=1048
40 6B 3A D1 00 80 95 05 E0 04 18 AE 5B 1B 06
-> PER Testing 55 over 60
KD R2 6 7 250 -30.0 ---- 1 041F 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 1F 04 E0 03 A3 1F CA 03
BU 0 2 10 125 -1.4 5.01s - 0596 1 0 - 0 0 224 U 329 DlCounter(1049) Cnt=1049
40 6B 3A D1 00 80 96 05 E0 04 19 2C FB 4F F2
-> PER Testing 56 over 60
KD R2 6 7 250 -30.0 ---- 1 0420 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 20 04 E0 03 F6 CB 1D DE
BU 0 2 10 125 -1.4 5.01s - 0597 1 0 - 0 0 224 U 329 DlCounter(1050) Cnt=1050
40 6B 3A D1 00 80 97 05 E0 04 1A 90 DF A0 2C
-> PER Testing 57 over 60
KD R2 6 7 250 -30.0 ---- 1 0421 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 21 04 E0 03 2E A9 55 DD
BU 1 2 10 125 -1.4 5.01s - 0598 1 0 - 0 0 224 U 329 DlCounter(1051) Cnt=1051
40 6B 3A D1 00 80 98 05 E0 04 1B 95 13 FF E0
-> PER Testing 58 over 60
KD R2 6 7 250 -30.0 ---- 1 0422 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 22 04 E0 03 C0 94 EC 56
BU 2 2 10 125 -1.4 5.01s - 0599 1 0 - 0 0 224 U 329 DlCounter(1052) Cnt=1052
40 6B 3A D1 00 80 99 05 E0 04 1C AE D8 69 C5
-> PER Testing 59 over 60
KD R2 6 7 250 -30.0 ---- 1 0423 1 0 0 - - 224 U 20 UnconfirmedFrame
60 6B 3A D1 00 80 23 04 E0 03 8C 36 BA 41
BU 2 2 10 125 -1.4 5.01s - 059A 1 0 - 0 0 224 U 329 DlCounter(1053) Cnt=1053
40 6B 3A D1 00 80 9A 05 E0 04 1D 21 79 CC 56
-> PER Testing 60 over 60
KD 2 2 10 125 -30.0 ---- 1 0424 1 0 0 - - 000 U 329 RXParamSetReq
RX1DROffset=0, RX2DR=0, RX2FREQ=869.525
60 6B 3A D1 00 80 24 04 00 05 00 D2 AD 84 B7 69 F7 C6
BU 2 2 10 125 -1.4 1.68s - 059B 1 0 - 0 0 224 U 329 {RXParamSetAns} RX1DROffset=1,
RX2DR=1, CH=1
40 6B 3A D1 00 82 9B 05 05 07 E0 04 1E CC AC 7E 97
KD 2 2 10 125 -36.0 ---- 1 0425 1 0 0 - - 000 U 288 NoPayload
60 6B 3A D1 00 80 25 04 0B AD D0 8E

```

[ TEST RESULT ]

[VERDICT]

PASS

[REASON]

0 error(s) over60, PER=0.000 (Criteria:PER<=0.05)

[Elapsed Time] 00:05:24

### 17.7 Test Packet error rate for FSK50 using RX2 window (Optional)

[ TEST PURPOSE ]

To measure downlink packet error rate for RX2 window using all spreading factors  
 : 17.7 Test Packet error rate for FSK50 using RX2 window (Optional)

[ LINK MESSAGE ]

L	CH	DR	SF	BW	Pow	Time	DEL	FCNT	Adr	Ack	FP	AAR	B	Port	M	Dwell	QMD	CNTS	
BU	1	2	10	125	-1.4	10.1s	-	059E	1	0	-	0	0	224	U	329	DICounter(1055)	Cnt=1055	
40 6B 3A D1 00 80 9E 05 E0 04 1F 9F 79 69 85																			
[Test packet error rate for FSK50 using RX2 window]																			
BU	0	2	10	125	-1.4	5.01s	-	059F	1	0	-	0	0	224	U	329	DICounter(1055)	Cnt=1055	
40 6B 3A D1 00 80 9F 05 E0 04 1F AA B6 8C 39																			
KD	0	2	10	125	-36.0		----	1	0426	1	0	0	-	-	000	C	329	RXParamSetReq	
RX1DROffset=0,RX2DR=7,RX2FREQ=869.525																			
A0 6B 3A D1 00 80 26 04 00 05 07 D2 AD 84 06 5A 80 93																			
BU	1	2	10	125	-1.4	1.68s	-	05A0	1	1	-	0	0	224	U	329	{RXParamSetAns}	RX1DROffset=1,	
RX2DR=1, CH=1																			
40	6B	3A	D1	00	A2	05	05	07	E0	04	20	78	86	6D	A1				
KD	1	2	10	125	-30.0		----	1	0427	1	0	0	-	-	224	U	288	UnconfirmedFrame	
60 6B 3A D1 00 80 27 04 E0 03 60 7D A2 8B																			
BU	1	2	10	125	-1.4	5.01s	-	05A1	1	0	-	0	0	224	U	329	DICounter(1057)	Cnt=1057	
40 6B 3A D1 00 80 A1 05 E0 04 21 E0 CB 78 0D																			
KD	R2	7	FSK	---	-30.0		----	1	0428	1	0	0	-	-	224	U	5	UnconfirmedFrame	
60 6B 3A D1 00 80 28 04 E0 03 E9 A3 37 9C																			
BU	0	2	10	125	-1.4	5.01s	-	05A2	1	0	-	0	0	224	U	329	DICounter(1058)	Cnt=1058	
40 6B 3A D1 00 80 A2 05 E0 04 22 4B E2 91 5B																			
-> PER Testing 1 over 60																			
KD	R2	7	FSK	---	-30.0		----	1	0429	1	0	0	-	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 29 04 E0 03 E1 FB 54 A7																			
BU	2	2	10	125	-1.4	5.01s	-	05A3	1	0	-	0	0	224	U	329	DICounter(1059)	Cnt=1059	
40 6B 3A D1 00 80 A3 05 E0 04 23 BA A5 0E 61																			
-> PER Testing 2 over 60																			
KD	R2	7	FSK	---	-30.0		----	1	042A	1	0	0	-	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 2A 04 E0 03 1C FE E3 A6																			
BU	1	2	10	125	-1.4	5.01s	-	05A4	1	0	-	0	0	224	U	329	DICounter(1060)	Cnt=1060	
40 6B 3A D1 00 80 A4 05 E0 04 24 1F B9 2E 66																			
-> PER Testing 3 over 60																			
KD	R2	7	FSK	---	-30.0		----	1	042B	1	0	0	-	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 2B 04 E0 03 DF 3B 3D 61																			
BU	2	2	10	125	-1.4	5.01s	-	05A5	1	0	-	0	0	224	U	329	DICounter(1061)	Cnt=1061	
40 6B 3A D1 00 80 A5 05 E0 04 25 27 A8 7D 0B																			
-> PER Testing 4 over 60																			
KD	R2	7	FSK	---	-30.0		----	1	042C	1	0	0	-	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 2C 04 E0 03 0C 83 67 07																			
BU	0	2	10	125	-1.4	5.01s	-	05A6	1	0	-	0	0	224	U	329	DICounter(1062)	Cnt=1062	
40 6B 3A D1 00 80 A6 05 E0 04 26 35 2C 4A 19																			
-> PER Testing 5 over 60																			
KD	R2	7	FSK	---	-30.0		----	1	042D	1	0	0	-	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 2D 04 E0 03 71 9C 09 DD																			
BU	0	2	10	125	-1.4	5.01s	-	05A7	1	0	-	0	0	224	U	329	DICounter(1063)	Cnt=1063	
40 6B 3A D1 00 80 A7 05 E0 04 27 40 66 F3 6C																			
-> PER Testing 6 over 60																			
KD	R2	7	FSK	---	-30.0		----	1	042E	1	0	0	-	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 2E 04 E0 03 D6 09 3D 6D																			
BU	2	2	10	125	-1.4	5.01s	-	05A8	1	0	-	0	0	224	U	329	DICounter(1064)	Cnt=1064	
40 6B 3A D1 00 80 A8 05 E0 04 28 AF 62 01 11																			
-> PER Testing 7 over 60																			
KD	R2	7	FSK	---	-30.0		----	1	042F	1	0	0	-	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 2F 04 E0 03 17 ED 28 32																			
BU	2	2	10	125	-1.3	5.01s	-	05A9	1	0	-	0	0	224	U	329	DICounter(1065)	Cnt=1065	
40 6B 3A D1 00 80 A9 05 E0 04 29 86 2C 91 64																			
-> PER Testing 8 over 60																			
KD	R2	7	FSK	---	-30.0		----	1	0430	1	0	0	-	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 30 04 E0 03 51 97 0D 26																			
BU	1	2	10	125	-1.4	5.01s	-	05AA	1	0	-	0	0	224	U	329	DICounter(1066)	Cnt=1066	
40 6B 3A D1 00 80 AA 05 E0 04 2A 96 6E C7 44																			
-> PER Testing 9 over 60																			
KD	R2	7	FSK	---	-30.0		----	1	0431	1	0	0	-	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 31 04 E0 03 83 C2 2C 05																			
BU	0	2	10	125	-1.4	5.01s	-	05AB	1	0	-	0	0	224	U	329	DICounter(1067)	Cnt=1067	
40 6B 3A D1 00 80 AB 05 E0 04 2B 95 77 CF 14																			
-> PER Testing 10 over 60																			
KD	R2	7	FSK	---	-30.0		----	1	0432	1	0	0	-	-	224	U	4	UnconfirmedFrame	
60 6B 3A D1 00 80 32 04 E0 03 AE A8 64 AD																			
BU	0	2	10	125	-1.4	5.01s	-	05AC	1	0	-	0	0	224	U	329	DICounter(1068)	Cnt=1068	

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40 6B 3A D1 00 80 AC 05 E0 04 2C C6 81 7A 91
-> PER Testing 11 over 60
KD R2 7 FSK --- -30.0 ---- 1 0433 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 33 04 E0 03 ED 3F 8A 98
BU 2 2 10 125 -1.4 5.01s - 05AD 1 0 - 0 0 224 U 329 DlCounter(1069) Cnt=1069
40 6B 3A D1 00 80 AD 05 E0 04 2D 57 A7 AD CE
-> PER Testing 12 over 60
KD R2 7 FSK --- -30.0 ---- 1 0434 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 34 04 E0 03 2F 59 87 02
BU 1 2 10 125 -1.4 5.01s - 05AE 1 0 - 0 0 224 U 329 DlCounter(1070) Cnt=1070
40 6B 3A D1 00 80 AE 05 E0 04 2E 9E 11 F2 51
-> PER Testing 13 over 60
KD R2 7 FSK --- -30.0 ---- 1 0435 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 35 04 E0 03 BF FE DD BD
BU 0 2 10 125 -1.4 5.01s - 05AF 1 0 - 0 0 224 U 329 DlCounter(1071) Cnt=1071
40 6B 3A D1 00 80 AF 05 E0 04 2F 41 76 C6 55
-> PER Testing 14 over 60
KD R2 7 FSK --- -30.0 ---- 1 0436 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 36 04 E0 03 E1 B2 A6 E6
BU 0 2 10 125 -1.4 5.01s - 05B0 1 0 - 0 0 224 U 329 DlCounter(1072) Cnt=1072
40 6B 3A D1 00 80 B0 05 E0 04 30 BD BE 23 ED
-> PER Testing 15 over 60
KD R2 7 FSK --- -30.0 ---- 1 0437 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 37 04 E0 03 2F 76 96 85
BU 1 2 10 125 -1.3 5.01s - 05B1 1 0 - 0 0 224 U 329 DlCounter(1073) Cnt=1073
40 6B 3A D1 00 80 B1 05 E0 04 31 79 3F 60 8E
-> PER Testing 16 over 60
KD R2 7 FSK --- -30.0 ---- 1 0438 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 38 04 E0 03 F8 2E F7 0E
BU 2 2 10 125 -1.4 5.01s - 05B2 1 0 - 0 0 224 U 329 DlCounter(1074) Cnt=1074
40 6B 3A D1 00 80 B2 05 E0 04 32 C4 32 1E 5B
-> PER Testing 17 over 60
KD R2 7 FSK --- -30.0 ---- 1 0439 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 39 04 E0 03 9A B5 F2 A1
BU 0 2 10 125 -1.4 5.01s - 05B3 1 0 - 0 0 224 U 329 DlCounter(1075) Cnt=1075
40 6B 3A D1 00 80 B3 05 E0 04 33 6D 2E A8 85
-> PER Testing 18 over 60
KD R2 7 FSK --- -30.0 ---- 1 043A 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 3A 04 E0 03 B2 EB 1F B1
BU 1 2 10 125 -1.4 5.01s - 05B4 1 0 - 0 0 224 U 329 DlCounter(1076) Cnt=1076
40 6B 3A D1 00 80 B4 05 E0 04 34 1D 62 DF 9A
-> PER Testing 19 over 60
KD R2 7 FSK --- -30.0 ---- 1 043B 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 3B 04 E0 03 BA F5 2E E2
BU 2 2 10 125 -1.4 5.01s - 05B5 1 0 - 0 0 224 U 329 DlCounter(1077) Cnt=1077
40 6B 3A D1 00 80 B5 05 E0 04 35 E8 B5 76 41
-> PER Testing 20 over 60
KD R2 7 FSK --- -30.0 ---- 1 043C 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 3C 04 E0 03 1B 0A C3 82
BU 2 2 10 125 -1.4 5.01s - 05B6 1 0 - 0 0 224 U 329 DlCounter(1078) Cnt=1078
40 6B 3A D1 00 80 B6 05 E0 04 36 6A 99 00 66
-> PER Testing 21 over 60
KD R2 7 FSK --- -30.0 ---- 1 043D 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 3D 04 E0 03 0C B1 B1 7E
BU 1 2 10 125 -1.4 5.01s - 05B7 1 0 - 0 0 224 U 329 DlCounter(1079) Cnt=1079
40 6B 3A D1 00 80 B7 05 E0 04 37 43 C6 AA F3
-> PER Testing 22 over 60
KD R2 7 FSK --- -30.0 ---- 1 043E 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 3E 04 E0 03 FA 27 6B D1
BU 2 2 10 125 -1.4 5.01s - 05B8 1 0 - 0 0 224 U 329 DlCounter(1080) Cnt=1080
40 6B 3A D1 00 80 B8 05 E0 04 38 D9 C2 E9 19
-> PER Testing 23 over 60
KD R2 7 FSK --- -30.0 ---- 1 043F 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 3F 04 E0 03 BD A1 69 52
BU 0 2 10 125 -1.4 5.01s - 05B9 1 0 - 0 0 224 U 329 DlCounter(1081) Cnt=1081
40 6B 3A D1 00 80 B9 05 E0 04 39 7E 5C 31 A9
-> PER Testing 24 over 60
KD R2 7 FSK --- -30.0 ---- 1 0440 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 40 04 E0 03 37 71 9A 12
BU 0 2 10 125 -1.4 5.01s - 05BA 1 0 - 0 0 224 U 329 DlCounter(1082) Cnt=1082
40 6B 3A D1 00 80 BA 05 E0 04 3A 77 AF B0 05
-> PER Testing 25 over 60
KD R2 7 FSK --- -30.0 ---- 1 0441 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 41 04 E0 03 AE 1C A6 8A
BU 1 2 10 125 -1.4 5.01s - 05BB 1 0 - 0 0 224 U 329 DlCounter(1083) Cnt=1083
40 6B 3A D1 00 80 BB 05 E0 04 3B EA 0C B4 85
-> PER Testing 26 over 60
KD R2 7 FSK --- -30.0 ---- 1 0442 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 42 04 E0 03 49 37 5A C0

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BU 1 2 10 125 -1.4 5.01s - 05BC 1 0 - 0 0 224 U 329 DlCounter(1084) Cnt=1084
40 6B 3A D1 00 80 BC 05 E0 04 3C 7D 6F 95 B1
-> PER Testing 27 over 60
KD R2 7 FSK --- -30.0 ---- 1 0443 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 43 04 E0 03 25 28 B6 F1
BU 0 2 10 125 -1.4 5.01s - 05BD 1 0 - 0 0 224 U 329 DlCounter(1085) Cnt=1085
40 6B 3A D1 00 80 BD 05 E0 04 3D 70 1A 54 BC
-> PER Testing 28 over 60
KD R2 7 FSK --- -30.0 ---- 1 0444 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 44 04 E0 03 FB FE DB 00
BU 1 2 10 125 -1.4 5.01s - 05BE 1 0 - 0 0 224 U 329 DlCounter(1086) Cnt=1086
40 6B 3A D1 00 80 BE 05 E0 04 3E 9A 6E 6F FD
-> PER Testing 29 over 60
KD R2 7 FSK --- -30.0 ---- 1 0445 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 45 04 E0 03 22 9E B1 8D
BU 1 2 10 125 -1.4 5.01s - 05BF 1 0 - 0 0 224 U 329 DlCounter(1087) Cnt=1087
40 6B 3A D1 00 80 BF 05 E0 04 3F 2E 3B 13 AA
-> PER Testing 30 over 60
KD R2 7 FSK --- -30.0 ---- 1 0446 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 46 04 E0 03 CB BF EF 1D
BU 0 2 10 125 -1.4 5.01s - 05C0 1 0 - 0 0 224 U 329 DlCounter(1088) Cnt=1088
40 6B 3A D1 00 80 C0 05 E0 04 40 19 33 4D 4C
-> PER Testing 31 over 60
KD R2 7 FSK --- -30.0 ---- 1 0447 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 47 04 E0 03 79 EB 4C BC
BU 1 2 10 125 -1.4 5.01s - 05C1 1 0 - 0 0 224 U 329 DlCounter(1089) Cnt=1089
40 6B 3A D1 00 80 C1 05 E0 04 41 84 2B 08 12
-> PER Testing 32 over 60
KD R2 7 FSK --- -30.0 ---- 1 0448 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 48 04 E0 03 7D F8 5A 1D
BU 1 2 10 125 -1.4 5.01s - 05C2 1 0 - 0 0 224 U 329 DlCounter(1090) Cnt=1090
40 6B 3A D1 00 80 C2 05 E0 04 42 0A 7C 05 27
-> PER Testing 33 over 60
KD R2 7 FSK --- -30.0 ---- 1 0449 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 49 04 E0 03 11 88 18 07
BU 1 2 10 125 -1.4 5.01s - 05C3 1 0 - 0 0 224 U 329 DlCounter(1091) Cnt=1091
40 6B 3A D1 00 80 C3 05 E0 04 43 A6 66 A1 1E
-> PER Testing 34 over 60
KD R2 7 FSK --- -30.0 ---- 1 044A 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 4A 04 E0 03 94 46 5A 33
BU 1 2 10 125 -1.3 5.01s - 05C4 1 0 - 0 0 224 U 329 DlCounter(1092) Cnt=1092
40 6B 3A D1 00 80 C4 05 E0 04 44 87 BB 1F 72
-> PER Testing 35 over 60
KD R2 7 FSK --- -30.0 ---- 1 044B 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 4B 04 E0 03 2E 36 7A AE
BU 2 2 10 125 -1.4 5.01s - 05C5 1 0 - 0 0 224 U 329 DlCounter(1093) Cnt=1093
40 6B 3A D1 00 80 C5 05 E0 04 45 50 09 A6 83
-> PER Testing 36 over 60
KD R2 7 FSK --- -30.0 ---- 1 044C 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 4C 04 E0 03 6C 84 BD B0
BU 1 2 10 125 -1.4 5.01s - 05C6 1 0 - 0 0 224 U 329 DlCounter(1094) Cnt=1094
40 6B 3A D1 00 80 C6 05 E0 04 46 B4 75 C4 4A
-> PER Testing 37 over 60
KD R2 7 FSK --- -30.0 ---- 1 044D 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 4D 04 E0 03 F6 E6 8B 1C
BU 1 2 10 125 -1.3 5.01s - 05C7 1 0 - 0 0 224 U 329 DlCounter(1095) Cnt=1095
40 6B 3A D1 00 80 C7 05 E0 04 47 7F 2E B7 5D
-> PER Testing 38 over 60
KD R2 7 FSK --- -30.0 ---- 1 044E 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 4E 04 E0 03 35 6D 24 5A
BU 0 2 10 125 -1.4 5.01s - 05C8 1 0 - 0 0 224 U 329 DlCounter(1096) Cnt=1096
40 6B 3A D1 00 80 C8 05 E0 04 48 DA 0F 43 B4
-> PER Testing 39 over 60
KD R2 7 FSK --- -30.0 ---- 1 044F 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 4F 04 E0 03 A8 54 93 DD
BU 0 2 10 125 -1.4 5.01s - 05C9 1 0 - 0 0 224 U 329 DlCounter(1097) Cnt=1097
40 6B 3A D1 00 80 C9 05 E0 04 49 A1 FF F8 B6
-> PER Testing 40 over 60
KD R2 7 FSK --- -30.0 ---- 1 0450 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 50 04 E0 03 C1 0A 7A 31
BU 0 2 10 125 -1.4 5.01s - 05CA 1 0 - 0 0 224 U 329 DlCounter(1098) Cnt=1098
40 6B 3A D1 00 80 CA 05 E0 04 4A 24 8C 7E 4C
-> PER Testing 41 over 60
KD R2 7 FSK --- -30.0 ---- 1 0451 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 51 04 E0 03 22 73 7D 7A
BU 2 2 10 125 -1.4 5.01s - 05CB 1 0 - 0 0 224 U 329 DlCounter(1099) Cnt=1099
40 6B 3A D1 00 80 CB 05 E0 04 4B A1 82 50 BC
-> PER Testing 42 over 60
KD R2 7 FSK --- -30.0 ---- 1 0452 1 0 0 - - 224 U 4 UnconfirmedFrame

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60 6B 3A D1 00 80 52 04 E0 03 84 8F DA 68
BU 1 2 10 125 -1.4 5.01s - 05CC 1 0 - 0 0 224 U 329 DlCounter(1100) Cnt=1100
40 6B 3A D1 00 80 CC 05 E0 04 4C CF C1 C3 C2
-> PER Testing 43 over 60
KD R2 7 FSK --- -30.0 ---- 1 0453 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 53 04 E0 03 6C 55 5D B3
BU 1 2 10 125 -1.4 5.01s - 05CD 1 0 - 0 0 224 U 329 DlCounter(1101) Cnt=1101
40 6B 3A D1 00 80 CD 05 E0 04 4D 3C 65 E9 67
-> PER Testing 44 over 60
KD R2 7 FSK --- -30.0 ---- 1 0454 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 54 04 E0 03 50 E8 41 03
BU 2 2 10 125 -1.4 5.01s - 05CE 1 0 - 0 0 224 U 329 DlCounter(1102) Cnt=1102
40 6B 3A D1 00 80 CE 05 E0 04 4E 56 BA 7E BD
-> PER Testing 45 over 60
KD R2 7 FSK --- -30.0 ---- 1 0455 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 55 04 E0 03 12 9D 8F 7C
BU 0 2 10 125 -1.4 5.01s - 05CF 1 0 - 0 0 224 U 329 DlCounter(1103) Cnt=1103
40 6B 3A D1 00 80 CF 05 E0 04 4F DC 2C 12 CF
-> PER Testing 46 over 60
KD R2 7 FSK --- -30.0 ---- 1 0456 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 56 04 E0 03 C8 2F F7 05
BU 1 2 10 125 -1.4 5.01s - 05D0 1 0 - 0 0 224 U 329 DlCounter(1104) Cnt=1104
40 6B 3A D1 00 80 D0 05 E0 04 50 DE CF 29 B2
-> PER Testing 47 over 60
KD R2 7 FSK --- -30.0 ---- 1 0457 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 57 04 E0 03 60 39 99 02
BU 1 2 10 125 -1.4 5.01s - 05D1 1 0 - 0 0 224 U 329 DlCounter(1105) Cnt=1105
40 6B 3A D1 00 80 D1 05 E0 04 51 87 3F 00 61
-> PER Testing 48 over 60
KD R2 7 FSK --- -30.0 ---- 1 0458 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 58 04 E0 03 FD 84 87 4A
BU 2 2 10 125 -1.4 5.01s - 05D2 1 0 - 0 0 224 U 329 DlCounter(1106) Cnt=1106
40 6B 3A D1 00 80 D2 05 E0 04 52 61 E2 50 6C
-> PER Testing 49 over 60
KD R2 7 FSK --- -30.0 ---- 1 0459 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 59 04 E0 03 60 6C 05 80
BU 0 2 10 125 -1.4 5.01s - 05D3 1 0 - 0 0 224 U 329 DlCounter(1107) Cnt=1107
40 6B 3A D1 00 80 D3 05 E0 04 53 0D D5 A8 45
-> PER Testing 50 over 60
KD R2 7 FSK --- -30.0 ---- 1 045A 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 5A 04 E0 03 1C C3 54 E9
BU 2 2 10 125 -1.4 5.01s - 05D4 1 0 - 0 0 224 U 329 DlCounter(1108) Cnt=1108
40 6B 3A D1 00 80 D4 05 E0 04 54 BF 81 05 98
-> PER Testing 51 over 60
KD R2 7 FSK --- -30.0 ---- 1 045B 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 5B 04 E0 03 3C 86 63 35
BU 0 2 10 125 -1.3 5.01s - 05D5 1 0 - 0 0 224 U 329 DlCounter(1109) Cnt=1109
40 6B 3A D1 00 80 D5 05 E0 04 55 2C 2B 1F F7
-> PER Testing 52 over 60
KD R2 7 FSK --- -30.0 ---- 1 045C 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 5C 04 E0 03 9C 13 C5 1D
BU 1 2 10 125 -1.4 5.01s - 05D6 1 0 - 0 0 224 U 329 DlCounter(1110) Cnt=1110
40 6B 3A D1 00 80 D6 05 E0 04 56 19 08 AC 99
-> PER Testing 53 over 60
KD R2 7 FSK --- -30.0 ---- 1 045D 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 5D 04 E0 03 9B BE 36 D6
BU 1 2 10 125 -1.4 5.01s - 05D7 1 0 - 0 0 224 U 329 DlCounter(1111) Cnt=1111
40 6B 3A D1 00 80 D7 05 E0 04 57 63 0C 4E 33
-> PER Testing 54 over 60
KD R2 7 FSK --- -30.0 ---- 1 045E 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 5E 04 E0 03 B4 F8 95 A3
BU 1 2 10 125 -1.4 5.01s - 05D8 1 0 - 0 0 224 U 329 DlCounter(1112) Cnt=1112
40 6B 3A D1 00 80 D8 05 E0 04 58 78 5D 27 FB
-> PER Testing 55 over 60
KD R2 7 FSK --- -30.0 ---- 1 045F 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 5F 04 E0 03 D4 8A 24 D4
BU 2 2 10 125 -1.4 5.01s - 05D9 1 0 - 0 0 224 U 329 DlCounter(1113) Cnt=1113
40 6B 3A D1 00 80 D9 05 E0 04 59 05 8C E4 84
-> PER Testing 56 over 60
KD R2 7 FSK --- -30.0 ---- 1 0460 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 60 04 E0 03 C0 07 80 4B
BU 1 2 10 125 -1.4 5.01s - 05DA 1 0 - 0 0 224 U 329 DlCounter(1114) Cnt=1114
40 6B 3A D1 00 80 DA 05 E0 04 5A 8A D4 E2 A9
-> PER Testing 57 over 60
KD R2 7 FSK --- -30.0 ---- 1 0461 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 61 04 E0 03 BE 76 01 20
BU 0 2 10 125 -1.4 5.01s - 05DB 1 0 - 0 0 224 U 329 DlCounter(1115) Cnt=1115
40 6B 3A D1 00 80 DB 05 E0 04 5B 49 76 6A 90
-> PER Testing 58 over 60

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KD R2 7 FSK --- -30.0 ---- 1 0462 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 62 04 E0 03 B5 BA 3D AE
BU 1 2 10 125 -1.4 5.01s - 05DC 1 0 - 0 0 224 U 329 DlCounter(1116) Cnt=1116
40 6B 3A D1 00 80 DC 05 E0 04 5C 37 F5 8E A6
-> PER Testing 59 over 60
KD R2 7 FSK --- -30.0 ---- 1 0463 1 0 0 - - 224 U 4 UnconfirmedFrame
60 6B 3A D1 00 80 63 04 E0 03 00 3F 36 27
BU 2 2 10 125 -1.4 5.01s - 05DD 1 0 - 0 0 224 U 329 DlCounter(1117) Cnt=1117
40 6B 3A D1 00 80 DD 05 E0 04 5D 58 CF D3 27
-> PER Testing 60 over 60
KD 2 2 10 125 -30.0 ---- 1 0464 1 0 0 - - 000 U 305 RXParamSetReq
RX1DRoffset=0,RX2DR=0,RX2FREQ=869.525
60 6B 3A D1 00 80 64 04 00 05 00 D2 AD 84 9E 29 D8 15
BU 1 2 10 125 -1.4 1.68s - 05DE 1 0 - 0 0 224 U 329 {RXParamSetAns} RX1DRoffset=1,
RX2DR=1, CH=1
40 6B 3A D1 00 82 DE 05 05 07 E0 04 5E 11 53 D2 D5
KD 1 2 10 125 -36.0 ---- 1 0465 1 0 0 - - 000 U 288 NoPayload
60 6B 3A D1 00 80 65 04 ED 7E 41 8F

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[ TEST RESULT ]

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[VERDICT]

PASS

[REASON]

0 error(s) over60, PER=0.000 (Criteria:PER<=0.05)

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[Elapsed Time] 00:05:26