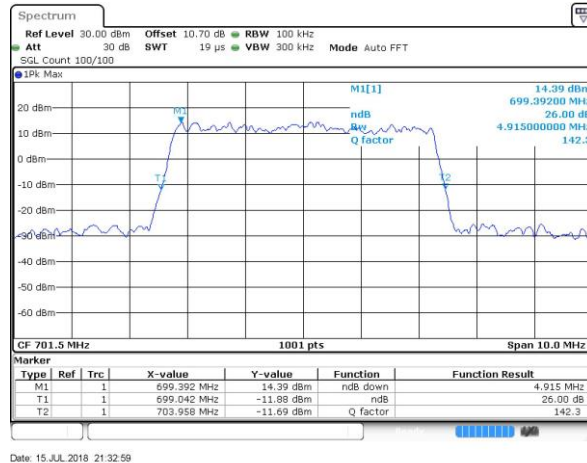


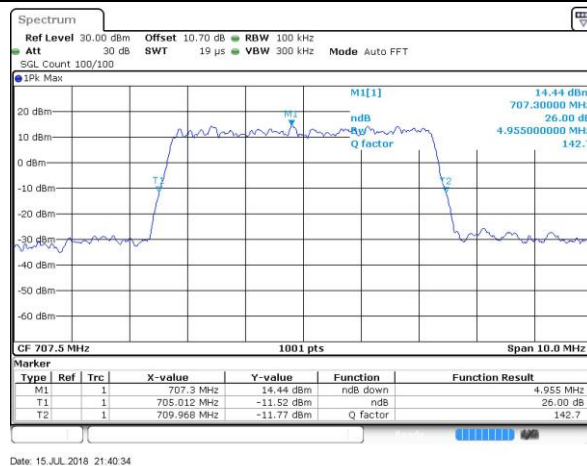


LTE Band 12

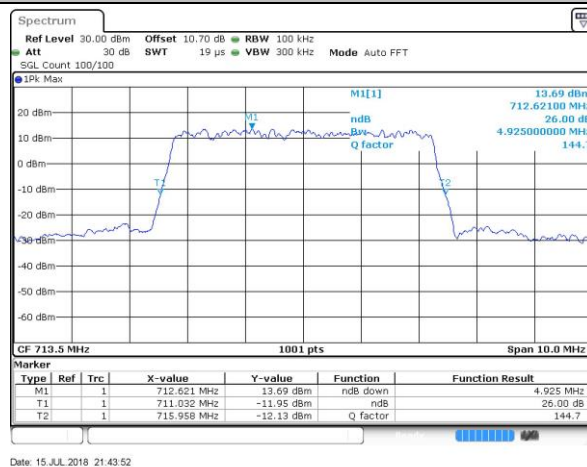
Lowest Channel / 5MHz / QPSK



Middle Channel / 5MHz / QPSK

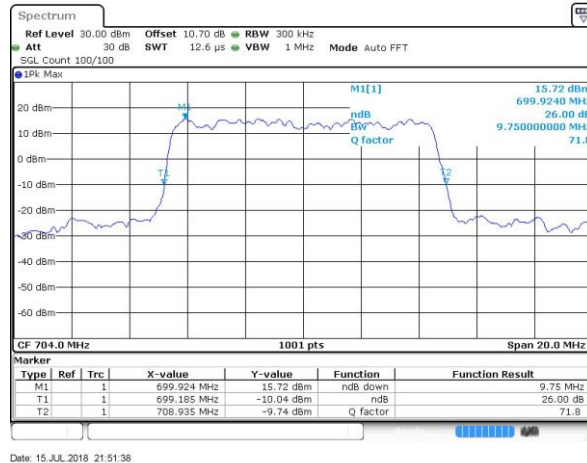


Highest Channel / 5MHz / QPSK

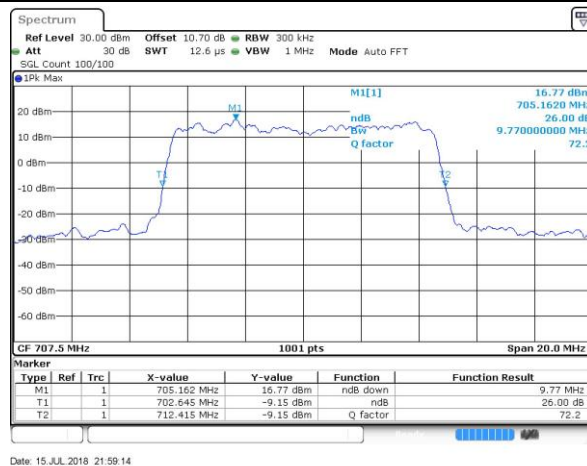


LTE Band 12

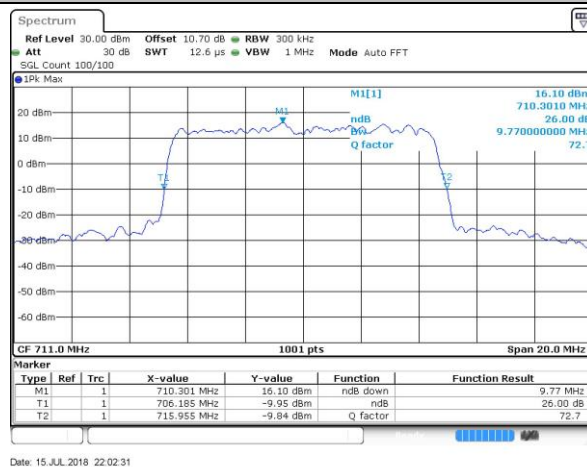
Lowest Channel / 10MHz / QPSK



Middle Channel / 10MHz / QPSK



Highest Channel / 10MHz / QPSK



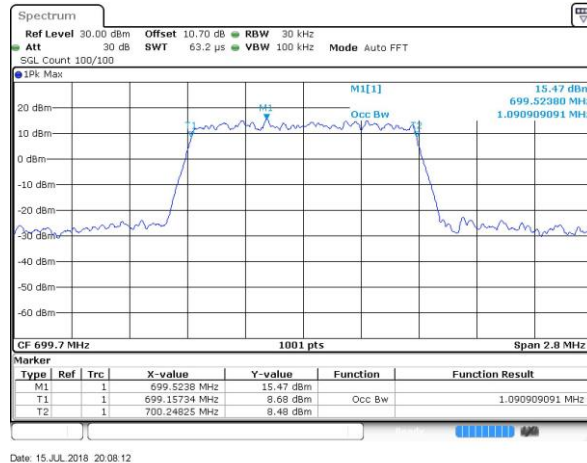
**Occupied Bandwidth**

Mode	LTE Band 12 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	-	2.72	-	4.50	-	9.03	-	-	-	-	-
Middle CH	1.09	-	2.70	-	4.48	-	9.05	-	-	-	-	-
Highest CH	1.09	-	2.72	-	4.48	-	8.99	-	-	-	-	-

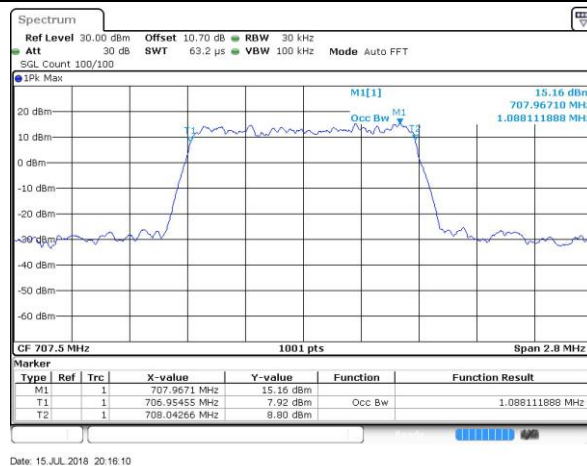


LTE Band 12

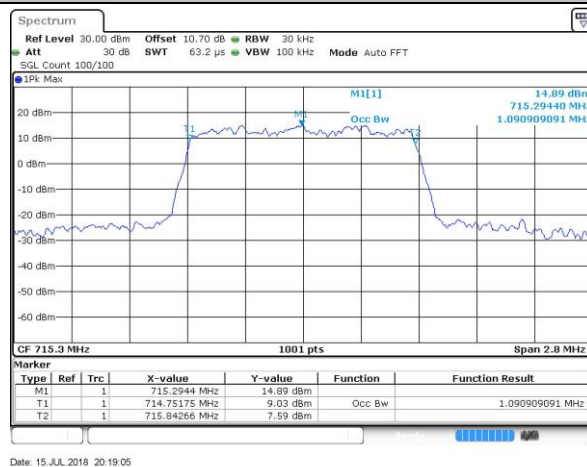
Lowest Channel / 1.4MHz / QPSK



Middle Channel / 1.4MHz / QPSK



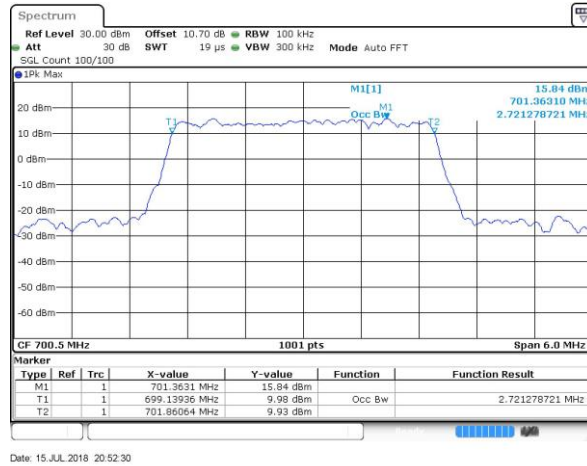
Highest Channel / 1.4MHz / QPSK



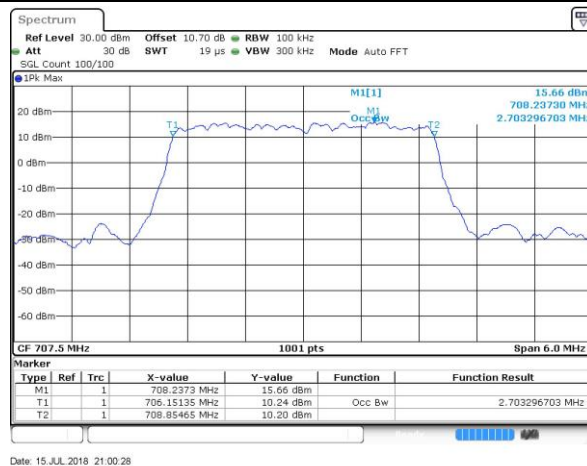


LTE Band 12

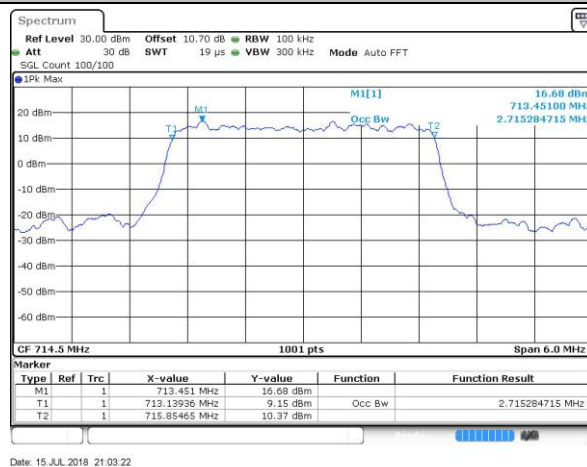
Lowest Channel / 3MHz / QPSK



Middle Channel / 3MHz / QPSK



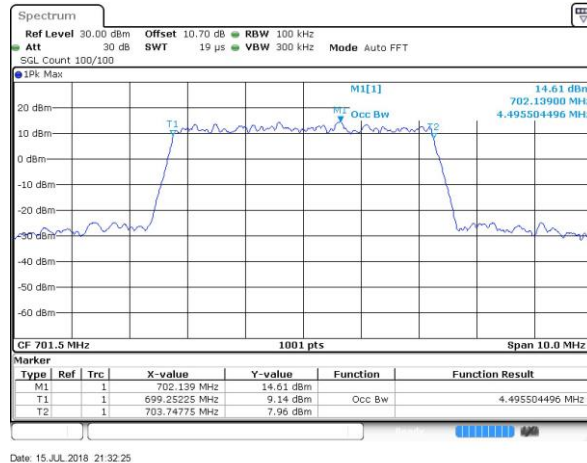
Highest Channel / 3MHz / QPSK



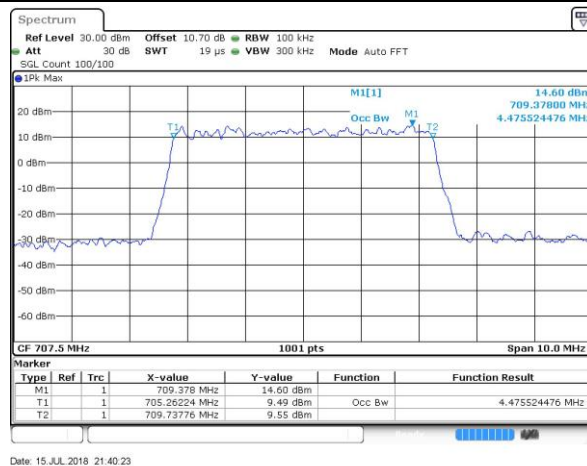


LTE Band 12

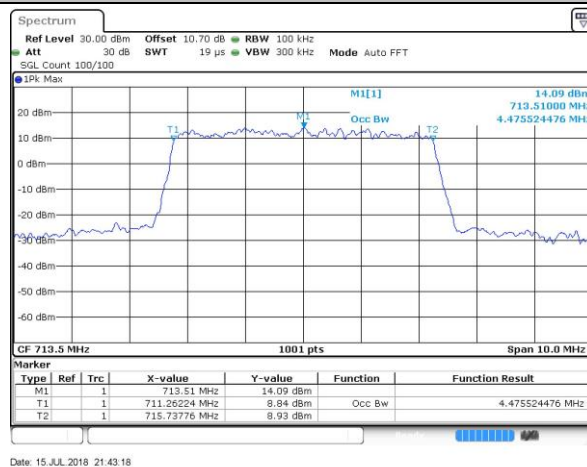
Lowest Channel / 5MHz / QPSK



Middle Channel / 5MHz / QPSK



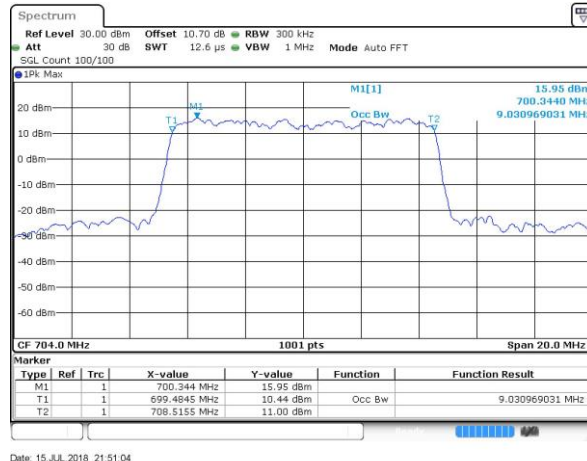
Highest Channel / 5MHz / QPSK



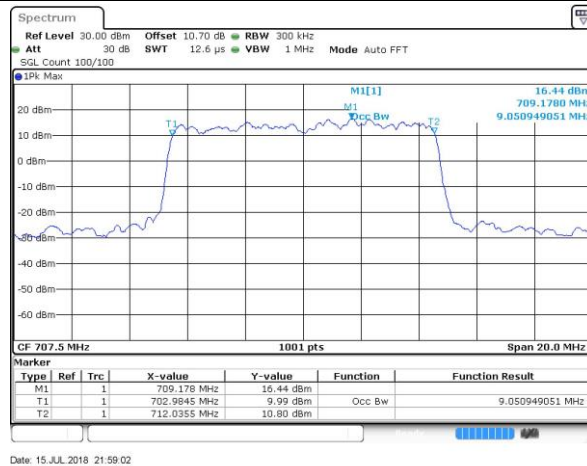


LTE Band 12

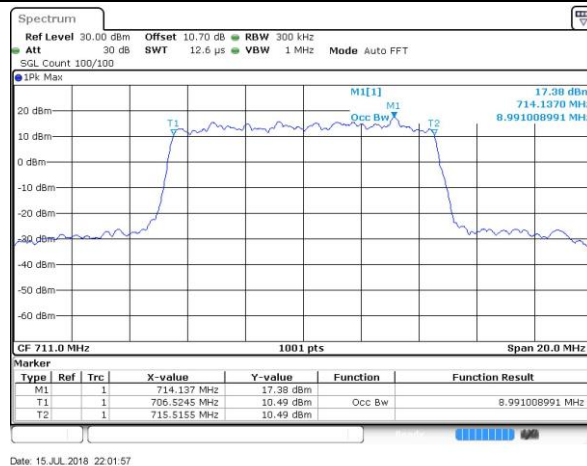
Lowest Channel / 10MHz / QPSK

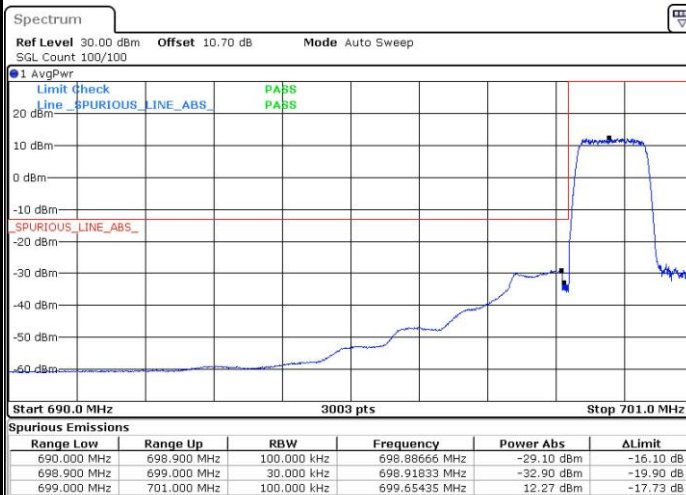


Middle Channel / 10MHz / QPSK



Highest Channel / 10MHz / QPSK

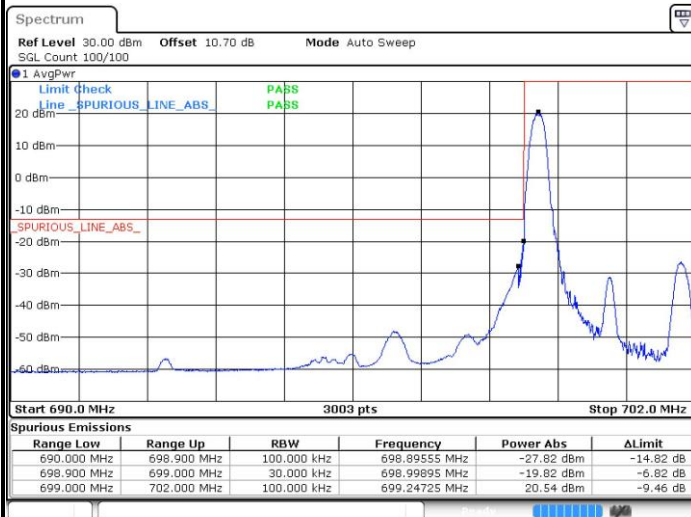


**Conducted Band Edge****LTE Band 12 / 1.4MHz / QPSK****Lowest Band Edge / 1 RB****Highest Band Edge / 1RB****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**

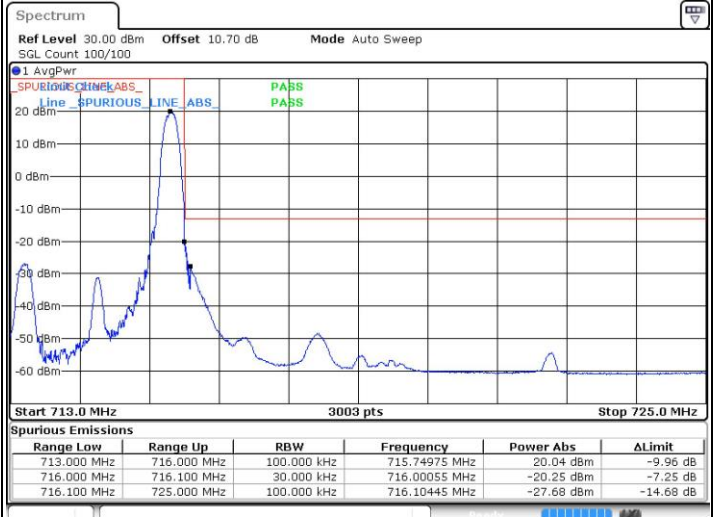


LTE Band 12 / 3MHz / QPSK

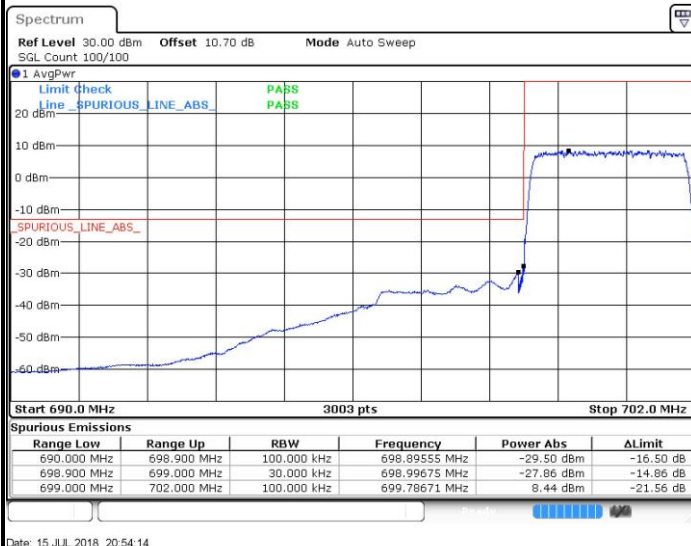
Lowest Band Edge / 1RB



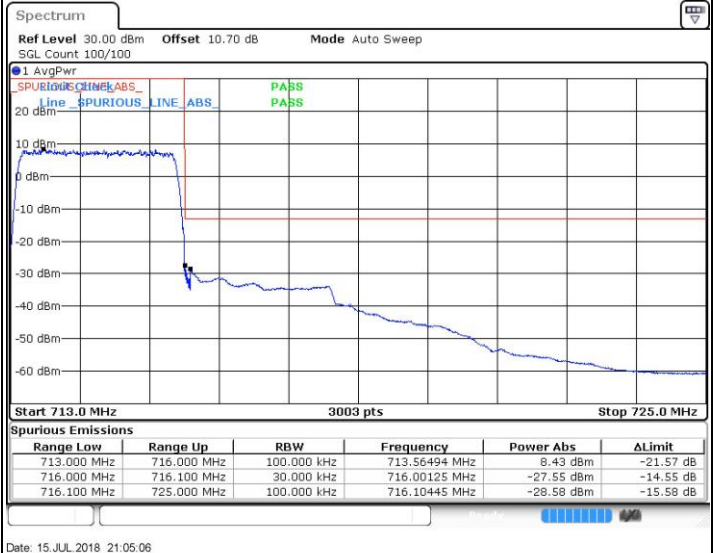
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



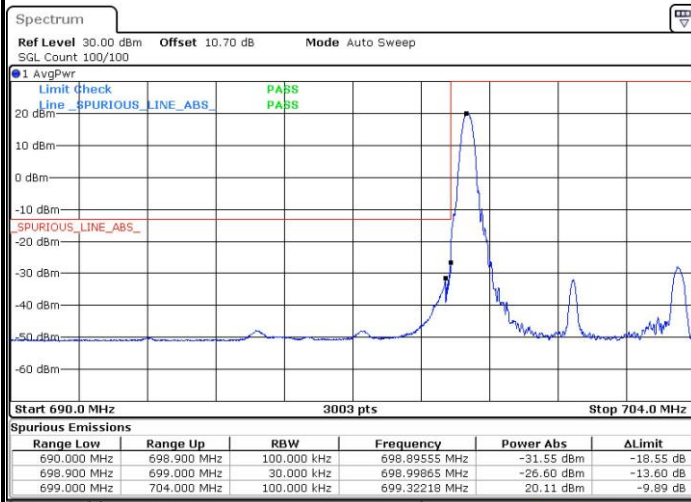
Highest Band Edge / Full RB



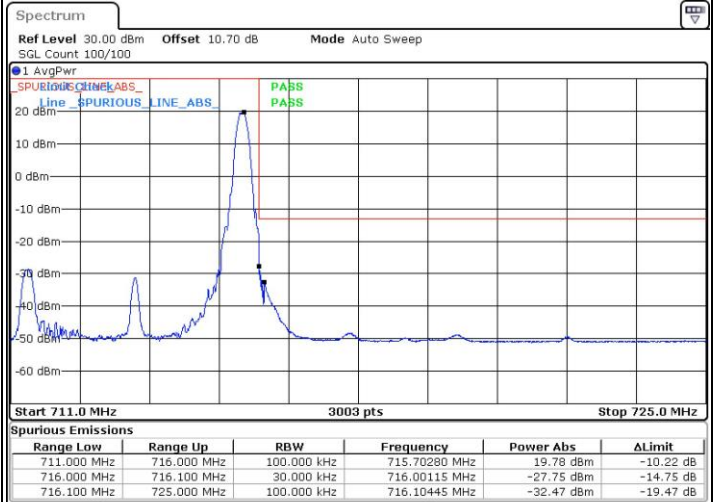


LTE Band 12 / 5MHz / QPSK

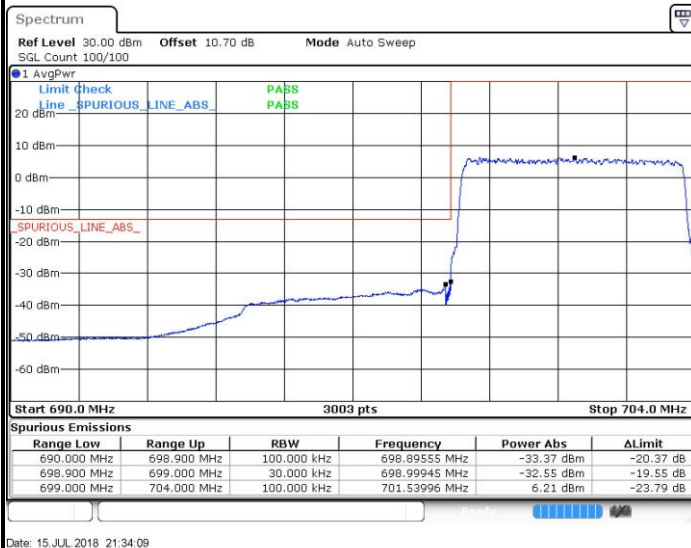
Lowest Band Edge / 1 RB



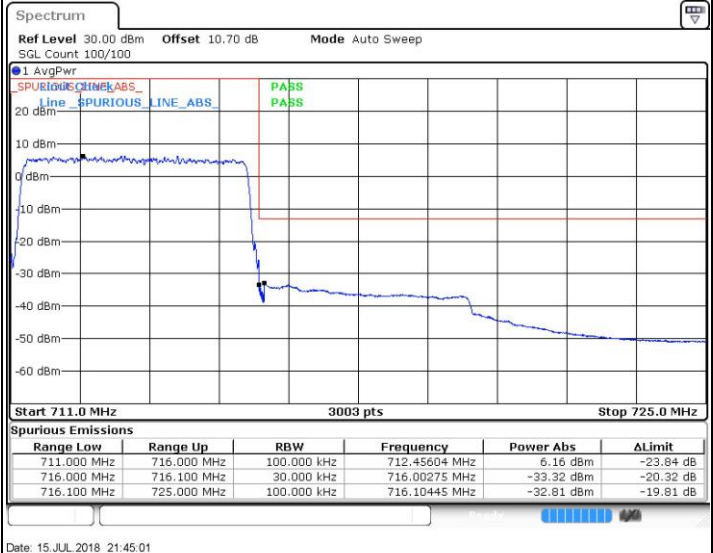
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



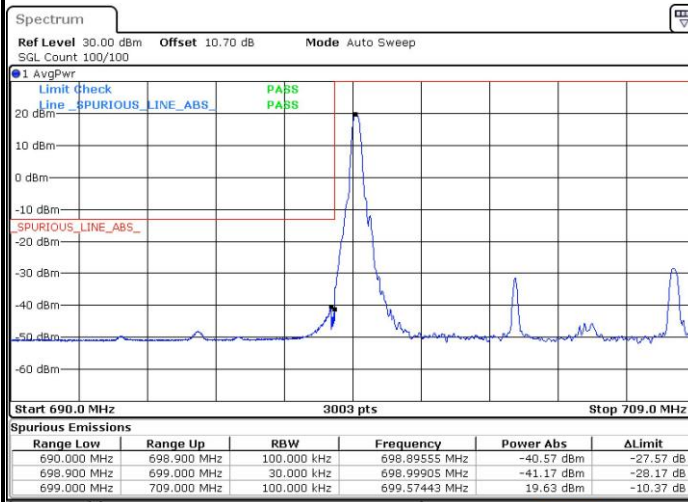
Highest Band Edge / Full RB



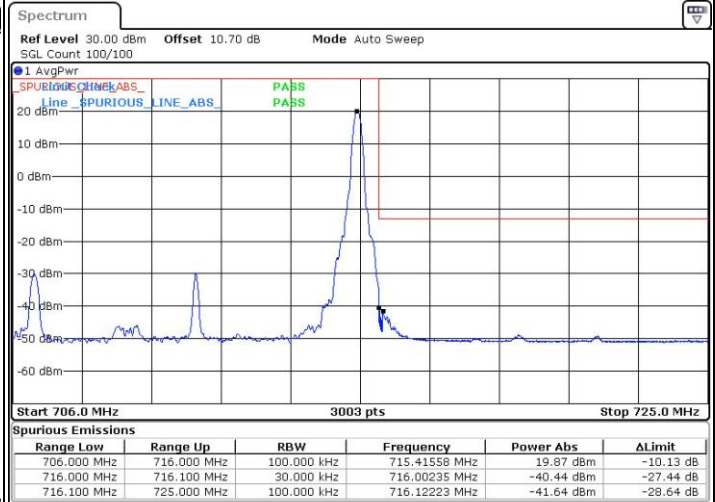


LTE Band 12 / 10MHz / QPSK

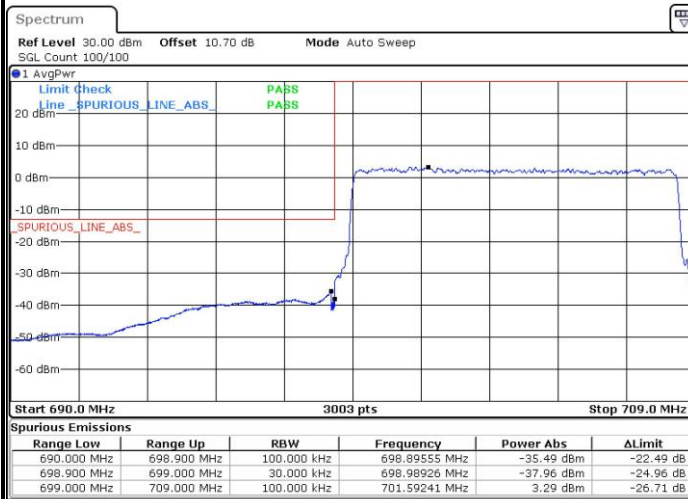
Lowest Band Edge / 1 RB



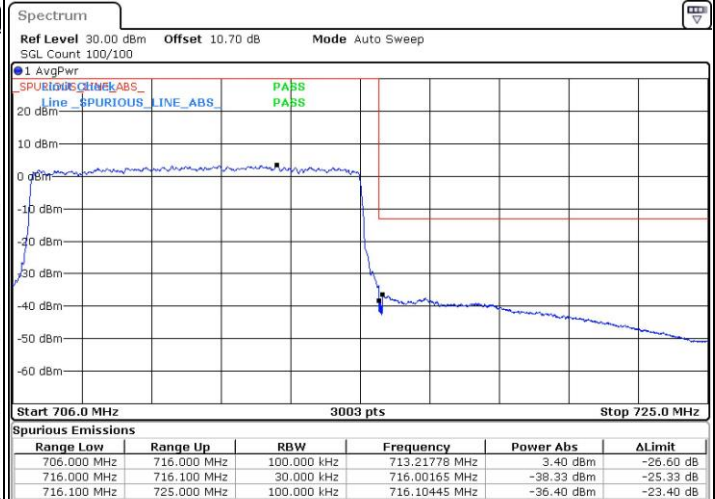
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

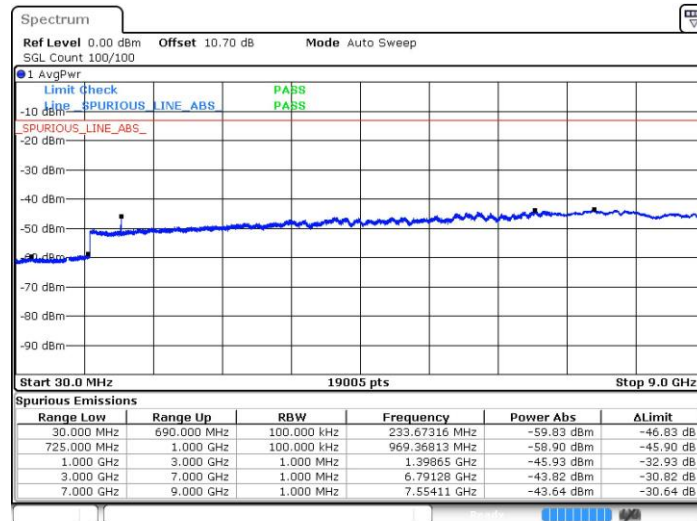




Conducted Spurious Emission

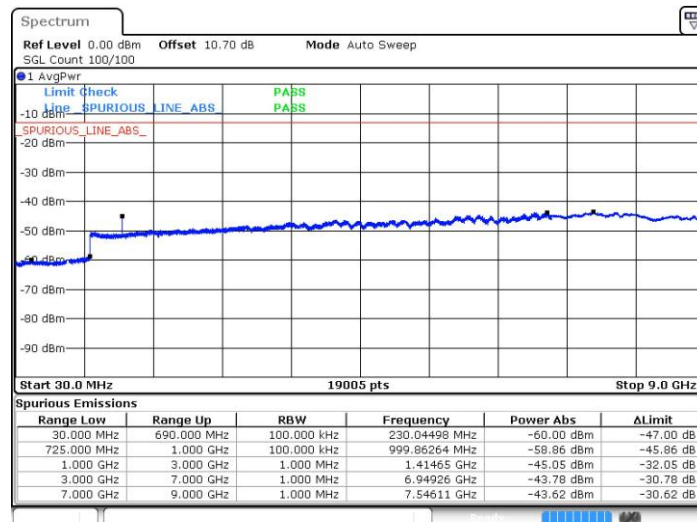
LTE Band 12 / 1.4MHz

Lowest Channel / QPSK



Date: 15 JUL 2018 20:14:37

Middle Channel / QPSK

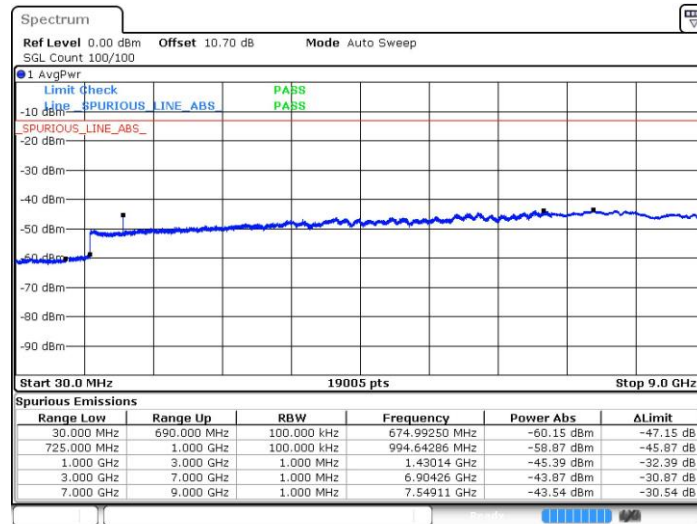


Date: 15 JUL 2018 20:18:53



LTE Band 12 / 1.4MHz

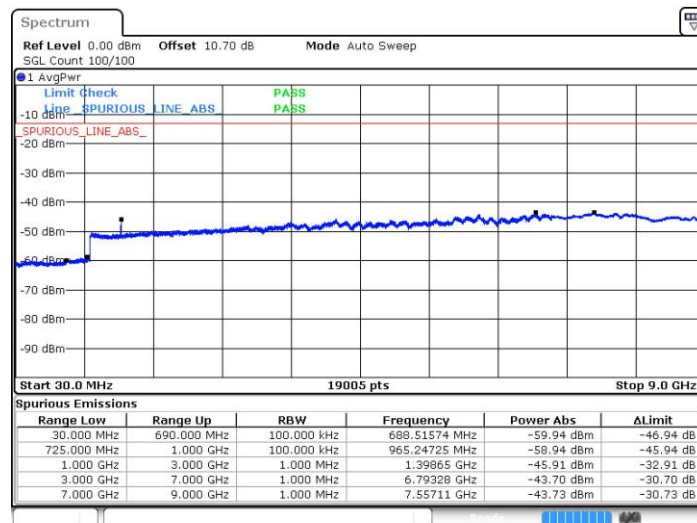
Highest Channel / QPSK



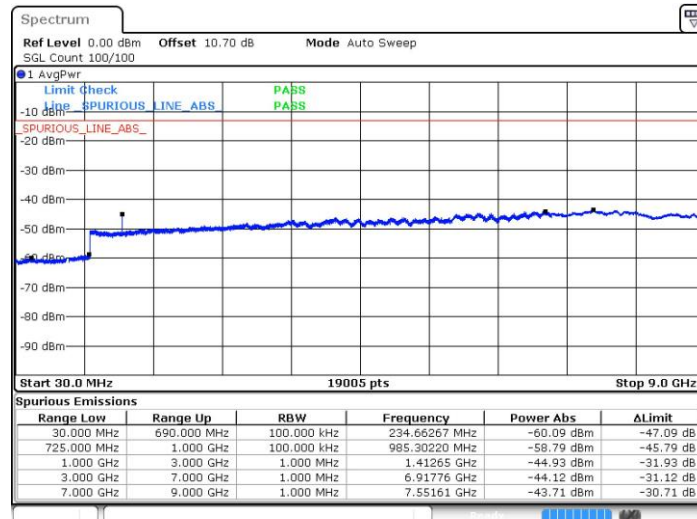
Date: 15 JUL 2018 20:25:29

LTE Band 12 / 3MHz

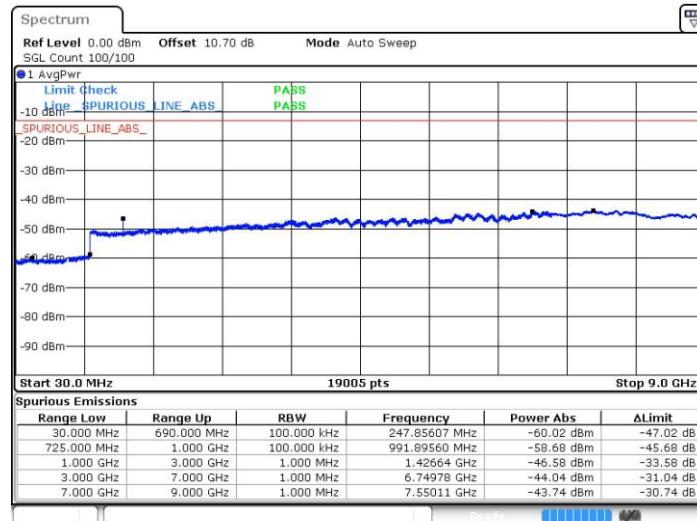
Lowest Channel / QPSK



Date: 15 JUL 2018 20:58:55

LTE Band 12 / 3MHz
Middle Channel / QPSK


Date: 15 JUL 2018 21:03:11

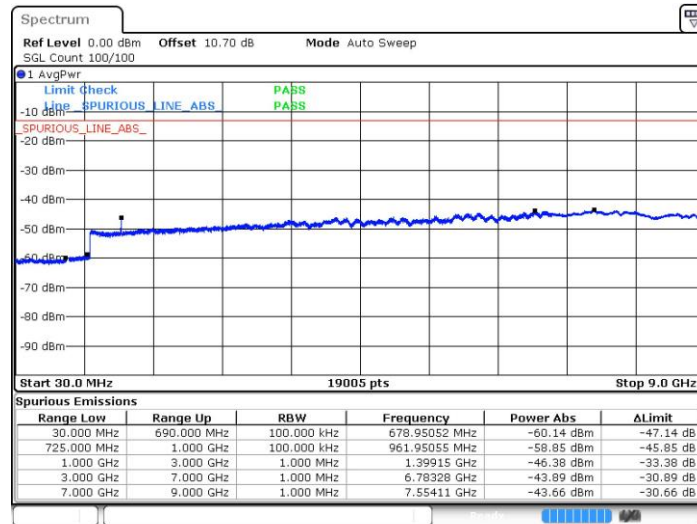
Highest Channel / QPSK


Date: 15 JUL 2018 21:09:47

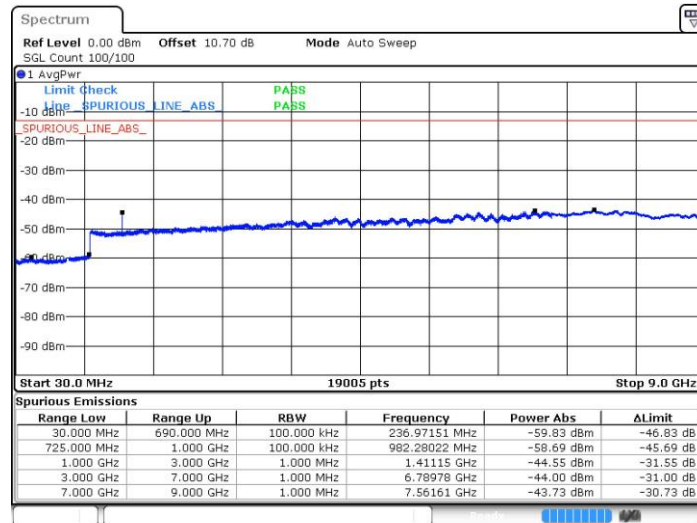


LTE Band 12 / 5MHz

Lowest Channel / QPSK



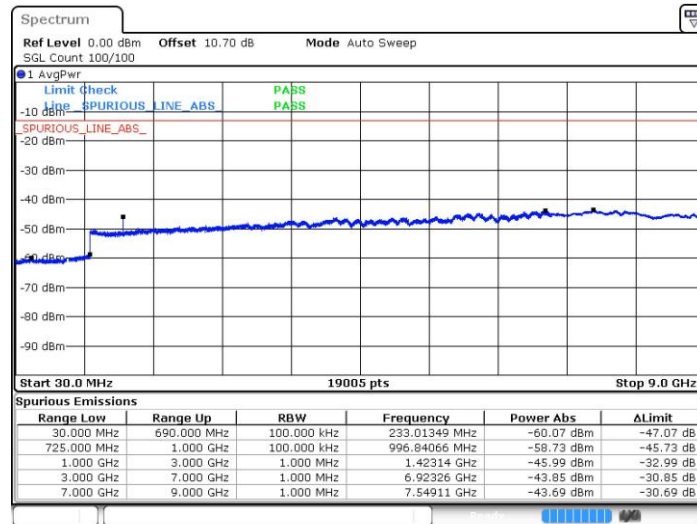
Middle Channel / QPSK





LTE Band 12 / 5MHz

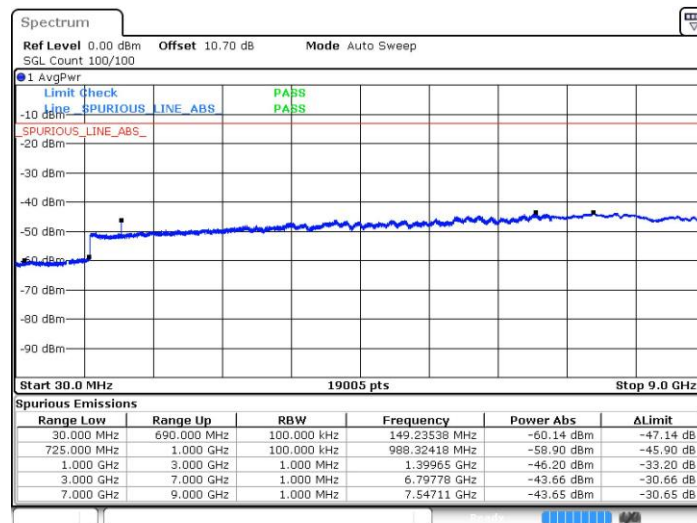
Highest Channel / QPSK



Date: 15 JUL 2018 21:50:53

LTE Band 12 / 10MHz

Lowest Channel / QPSK

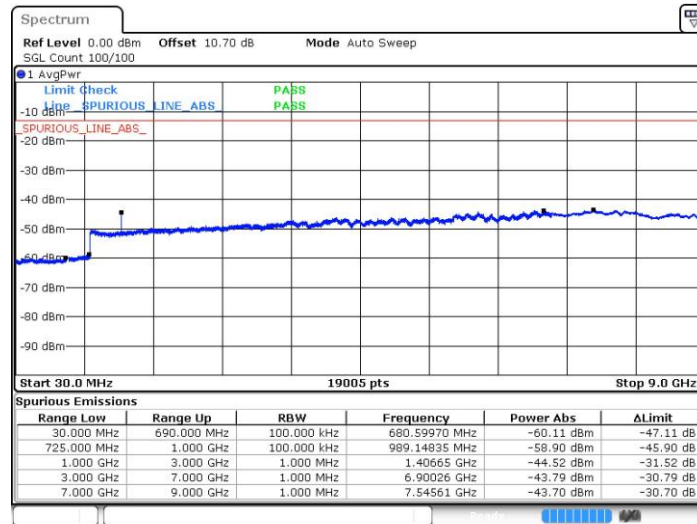


Date: 15 JUL 2018 21:57:29



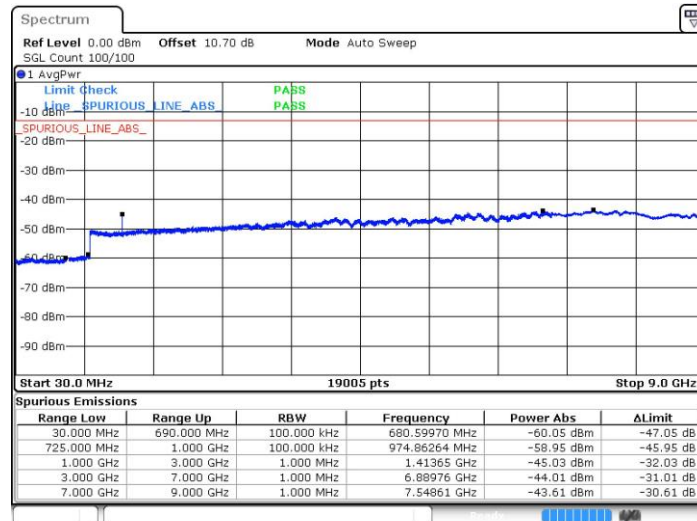
LTE Band 12 / 10MHz

Middle Channel / QPSK



Date: 15 JUL 2018 22:01:46

Highest Channel / QPSK



Date: 15 JUL 2018 22:08:22

Frequency Stability

Test Conditions		LTE Band 12 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0006	PASS
40	Normal Voltage	0.0013	
30	Normal Voltage	0.0014	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0141	
0	Normal Voltage	0.0065	
-10	Normal Voltage	0.0061	
-20	Normal Voltage	0.0018	
-30	Normal Voltage	0.0007	
20	Maximum Voltage	0.0047	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0065	

Note:

1. Normal Voltage =12.0 V. ; Battery End Point (BEP) =10.8 V. ; Maximum Voltage =13.2 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

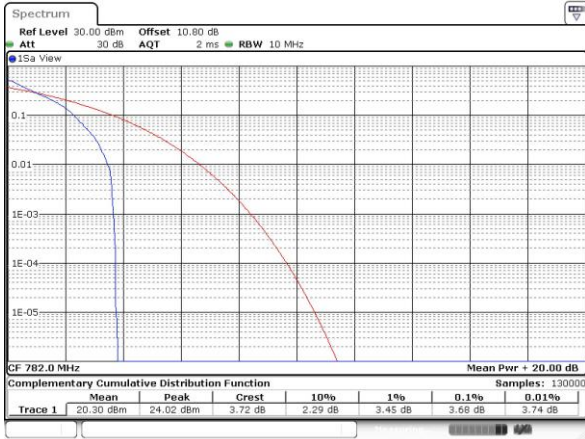
**LTE Band 13****Peak-to-Average Ratio**

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.68	4.75	-	-	
Highest CH	-	-	-	-	

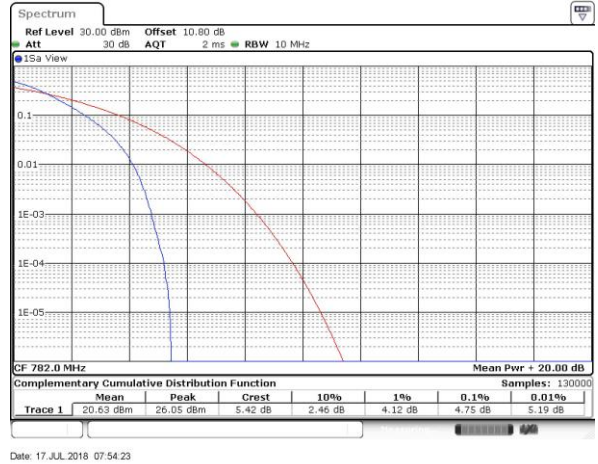


LTE Band 13 / 10MHz / QPSK

Middle Channel/ 1RB



Middle Channel / Full RB



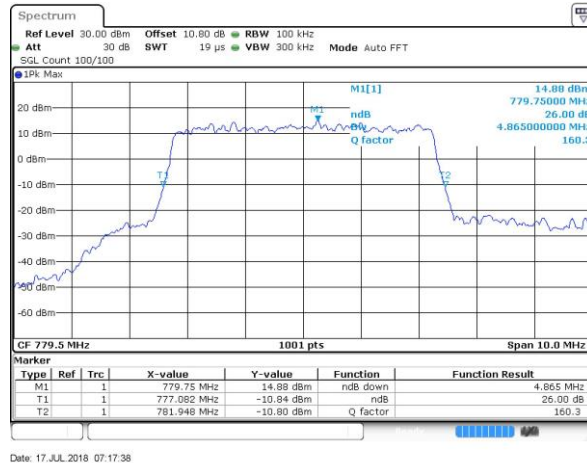
**26dB Bandwidth**

Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.87	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.89	-	9.77	-	-	-	-	-
Highest CH	-	-	-	-	4.93	-	-	-	-	-	-	-

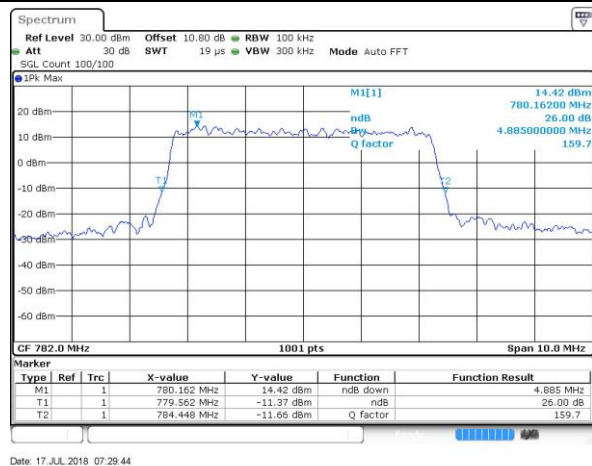


LTE Band 13

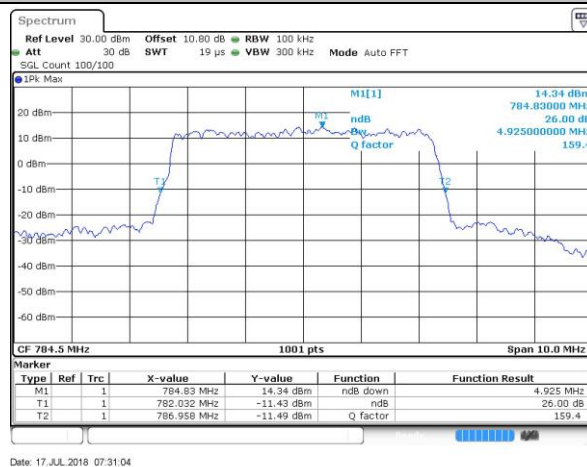
Lowest Channel / 5MHz / QPSK



Middle Channel / 5MHz / QPSK



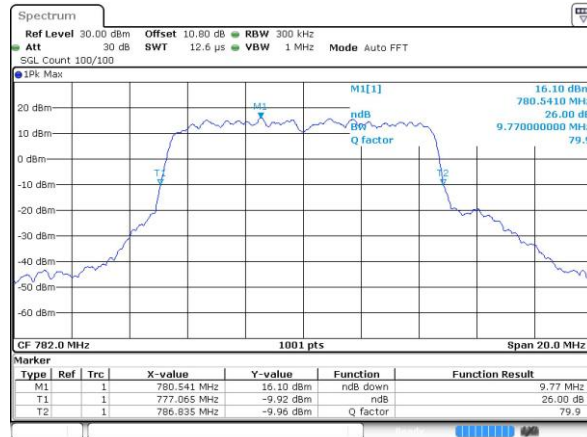
Highest Channel / 5MHz / QPSK





LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 17 JUL 2018 07:40:50



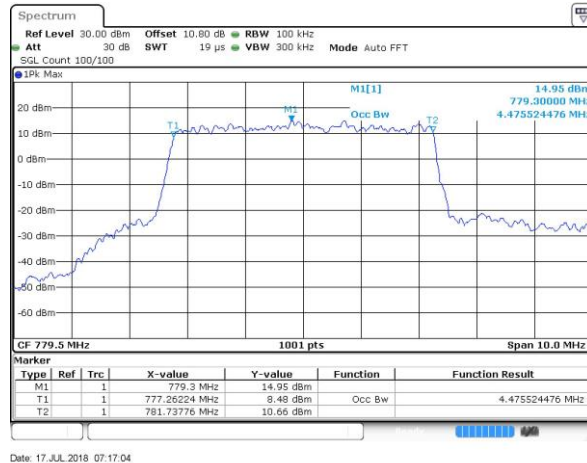
Occupied Bandwidth

Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.48	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.51	-	9.05	-	-	-	-	-
Highest CH	-	-	-	-	4.50	-	-	-	-	-	-	-

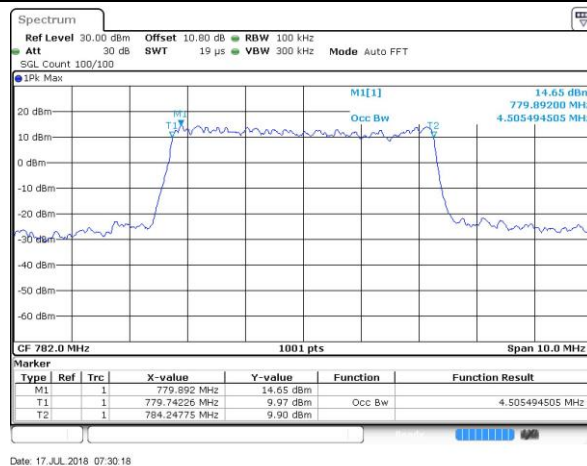


LTE Band 13

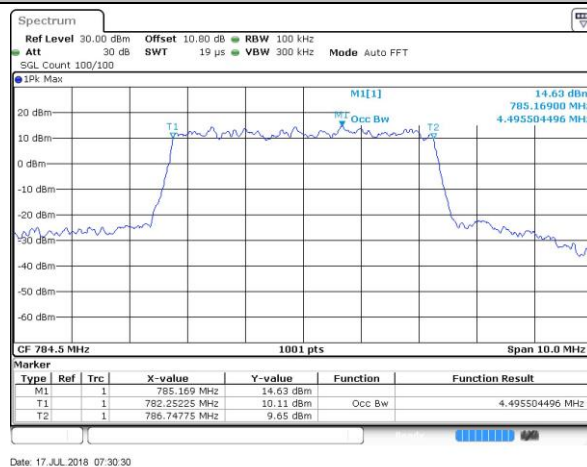
Lowest Channel / 5MHz / QPSK



Middle Channel / 5MHz / QPSK



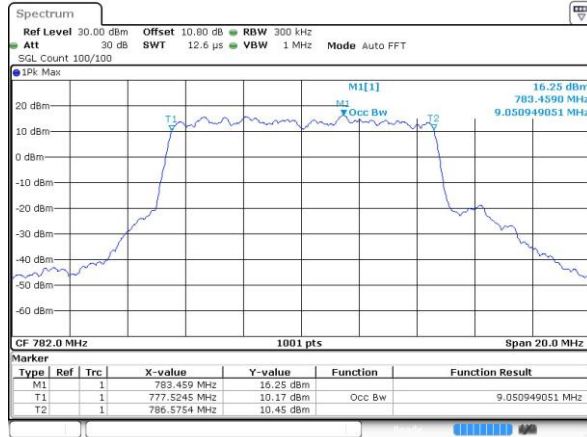
Highest Channel / 5MHz / QPSK



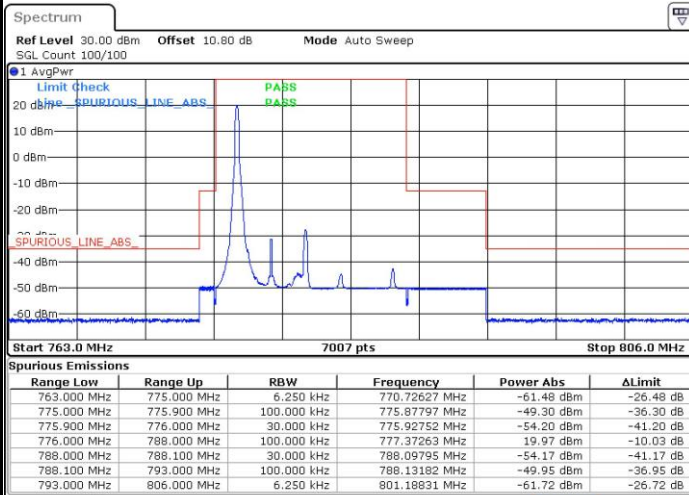


LTE Band 13

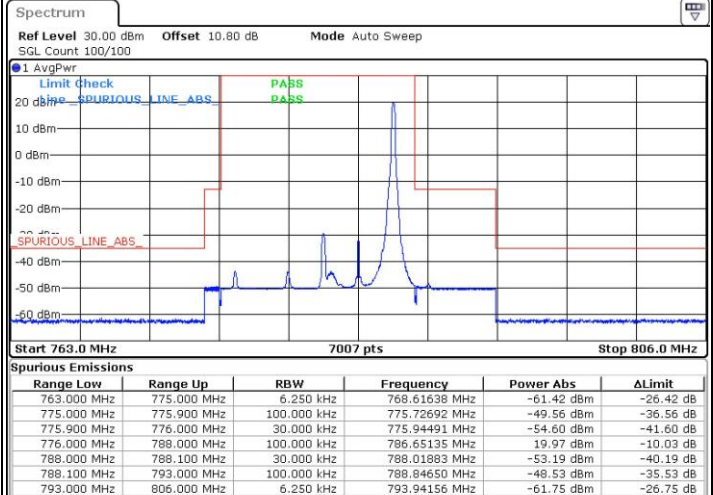
Middle Channel / 10MHz / QPSK



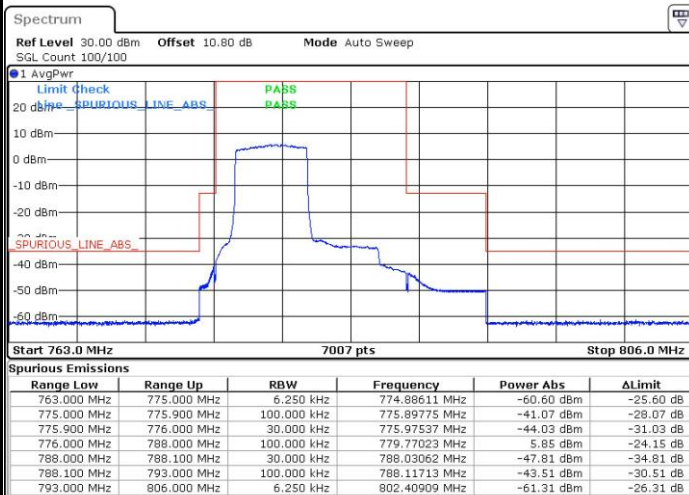
Date: 17 JUL 2018 07:40:16

**Conducted Band Edge****LTE Band 13 / 5MHz / QPSK****Lowest Band Edge / 1 RB**

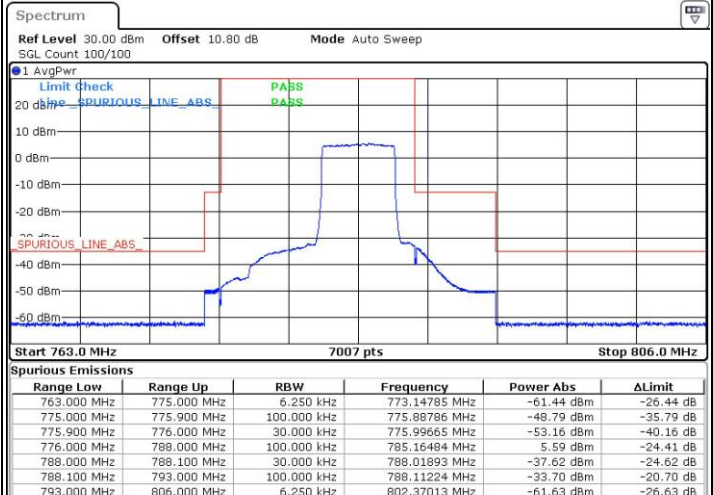
Date: 17 JUL 2018 08:01:19

Highest Band Edge / 1 RB

Date: 17 JUL 2018 08:08:00

Lowest Band Edge / Full RB

Date: 17 JUL 2018 07:56:18

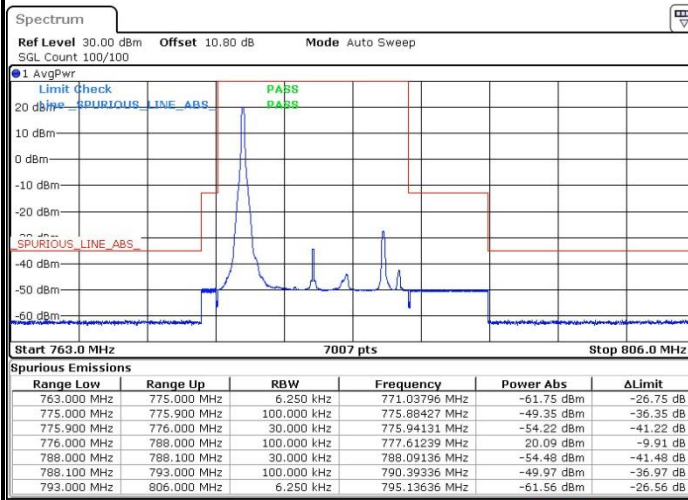
Highest Band Edge / Full RB

Date: 17 JUL 2018 08:02:59



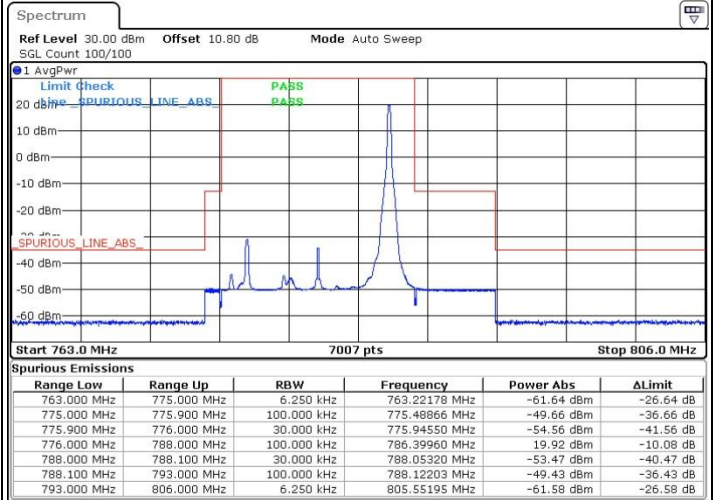
LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



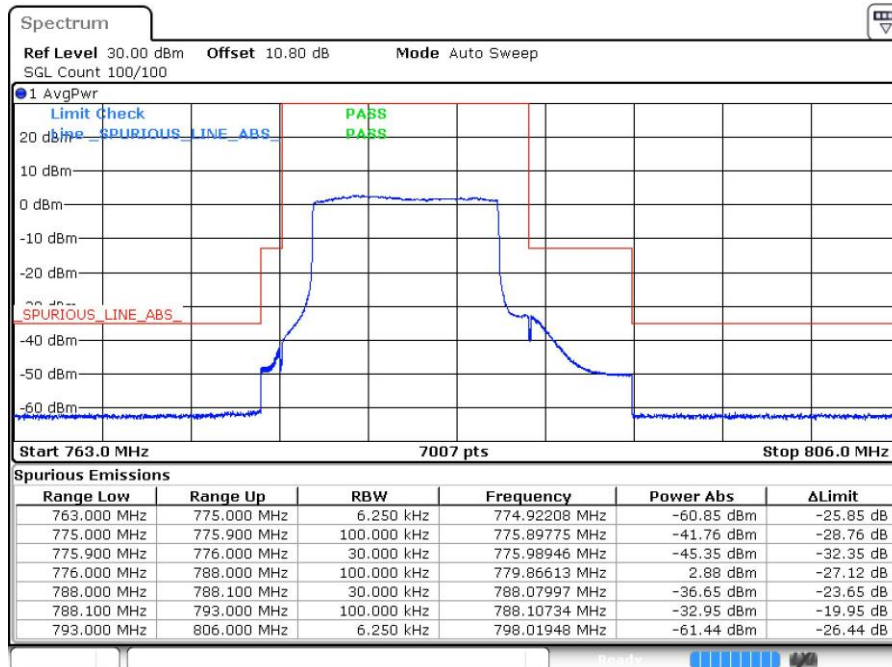
Date: 17.JUL 2018 08:14:41

Highest Band Edge / 1 RB



Date: 17.JUL 2018 08:16:21

Band Edge / Full RB



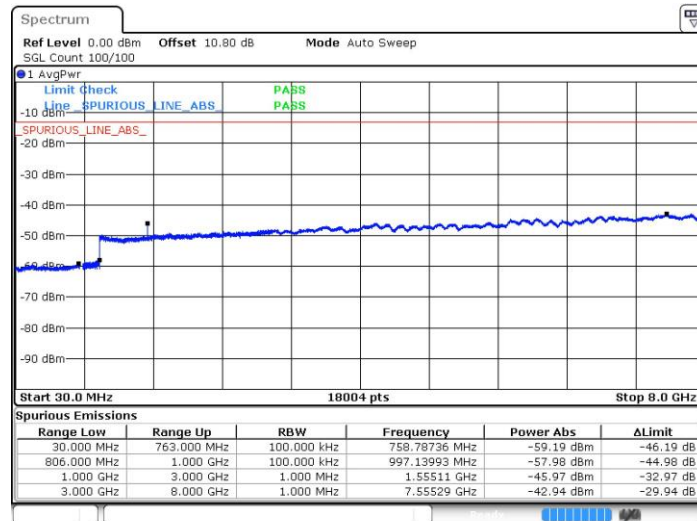
Date: 17.JUL 2018 08:09:40



Conducted Spurious Emission

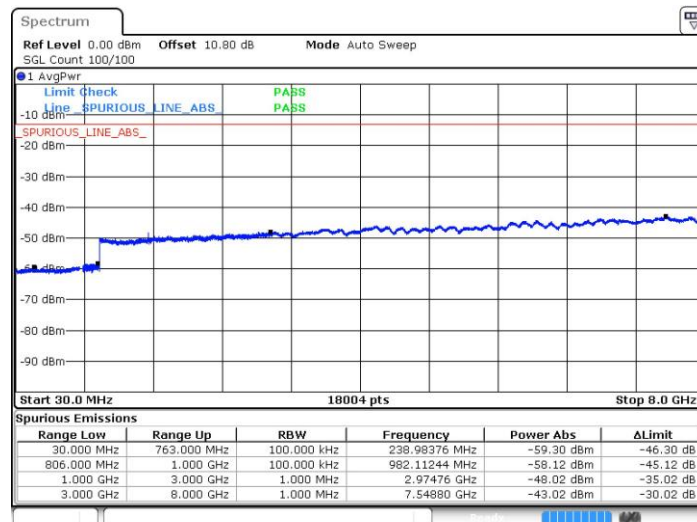
LTE Band 13 / 5MHz

Lowest Channel / QPSK



Date: 17 JUL 2018 07:26:03

Middle Channel / QPSK

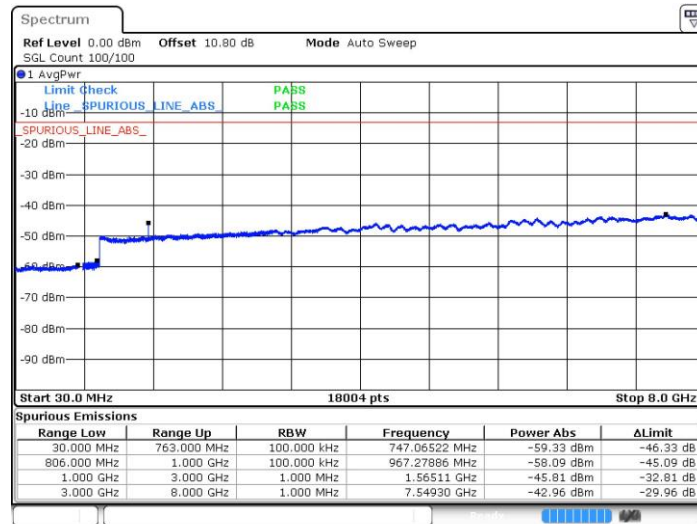


Date: 17 JUL 2018 07:29:33



LTE Band 13 / 5MHz

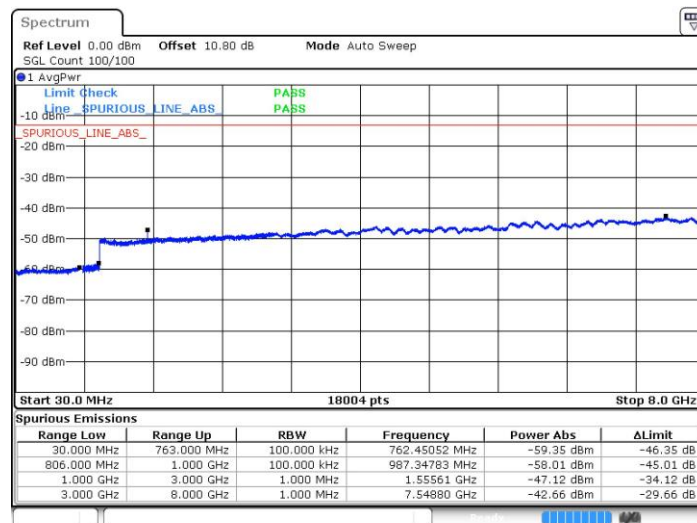
Highest Channel / QPSK



Date: 17 JUL 2018 07:38:55

LTE Band 13 / 10MHz

Middle Channel / QPSK



Date: 17 JUL 2018 07:53:12

Frequency Stability

Test Conditions		LTE Band 13 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0064	PASS
40	Normal Voltage	0.0051	
30	Normal Voltage	0.0014	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0008	
0	Normal Voltage	0.0004	
-10	Normal Voltage	0.0009	
-20	Normal Voltage	0.0005	
-30	Normal Voltage	0.0009	
20	Maximum Voltage	0.0001	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0070	

Note:

1. Normal Voltage =12.0 V. ; Battery End Point (BEP) =10.8 V. ; Maximum Voltage =13.2 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

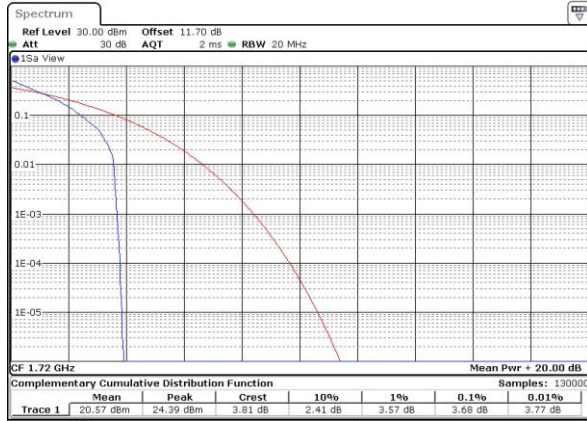
**LTE Band 66****Peak-to-Average Ratio**

Mode	LTE Band 66 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.68	4.46	-	-	PASS
Middle CH	4.06	4.58	-	-	
Highest CH	3.13	4.43	-	-	

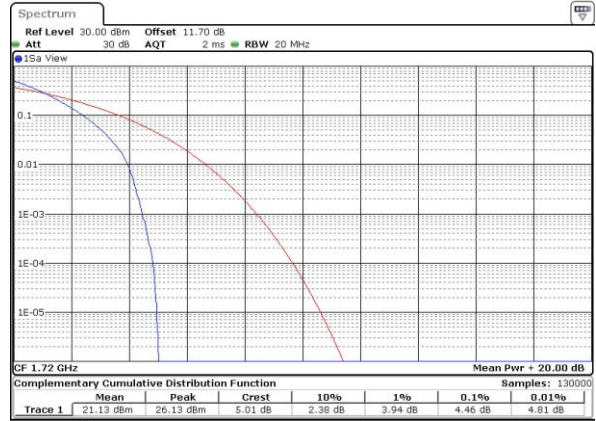


LTE Band 66 / 20MHz / QPSK

Lowest Channel / 1RB



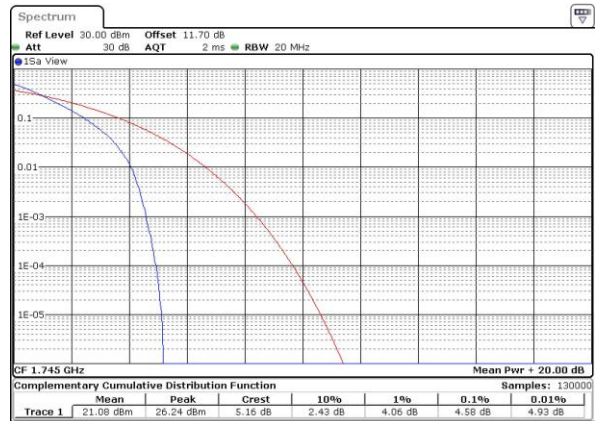
Lowest Channel / Full RB



Middle Channel / 1RB



Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB

