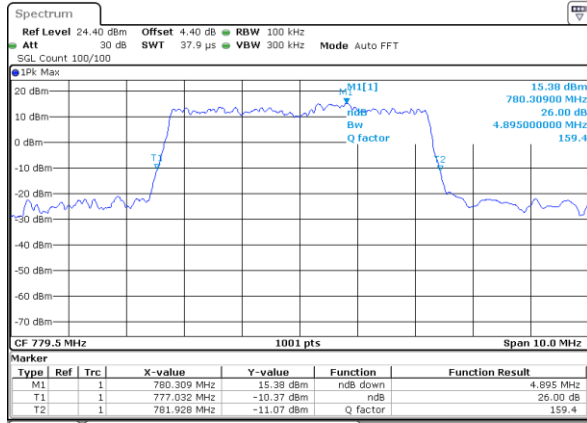


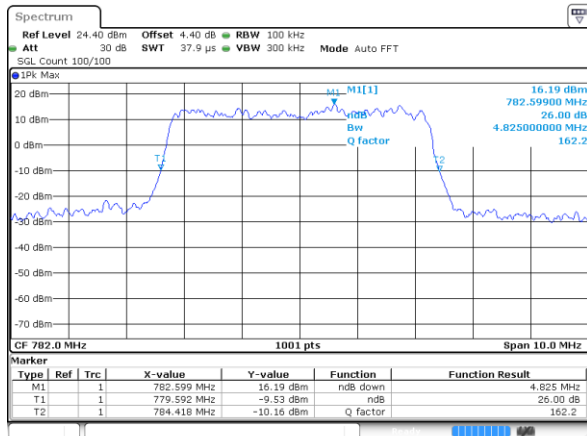


LTE Band 13

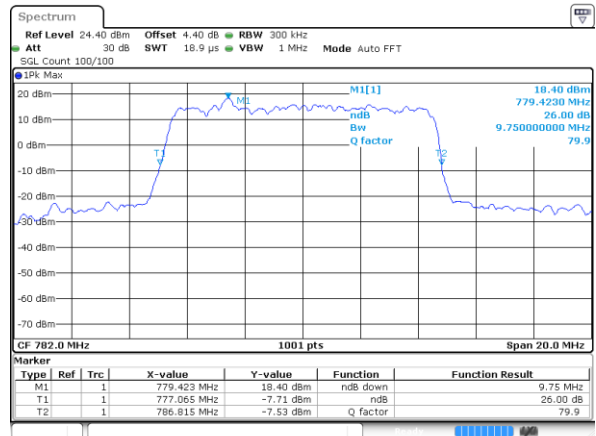
Lowest Channel / 5MHz / 64QAM



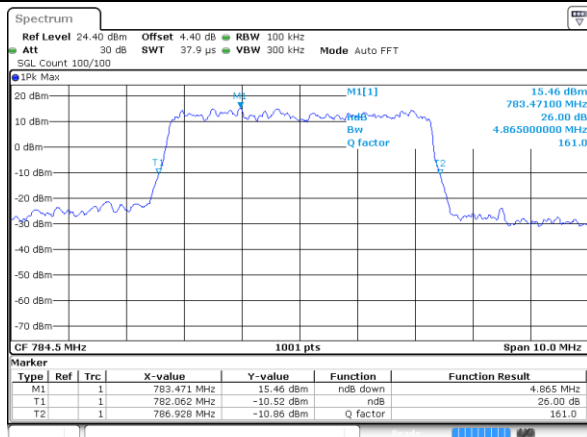
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



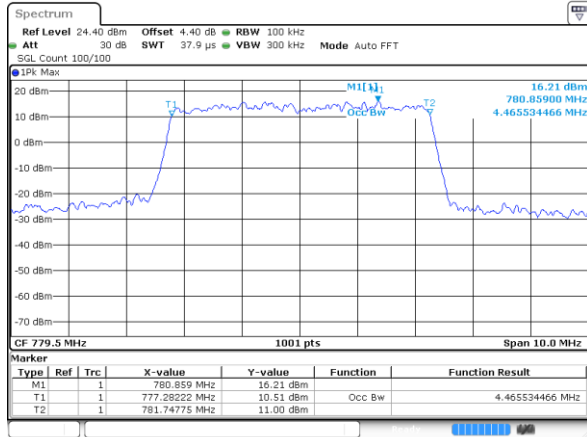
**Occupied Bandwidth**

Mode	LTE Band 13 : 99%OBW(MHz)			
BW	5MHz		10MHz	
Mod.	QPSK	16QAM	QPSK	16QAM
Lowest CH	4.466	4.486	-	-
Middle CH	4.476	4.486	9.031	9.051
Highest CH	4.496	4.476	-	-
Mode	LTE Band 13 : 99%OBW(MHz)			
BW	5MHz		10MHz	
Mod.	64QAM		64QAM	
Lowest CH	4.476		-	
Middle CH	4.486		9.051	
Highest CH	4.486		-	

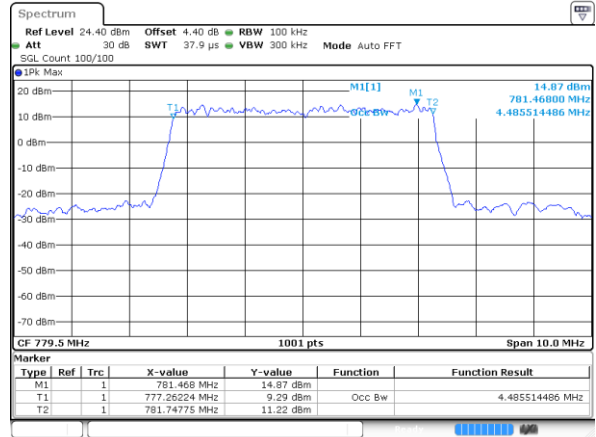


LTE Band 13

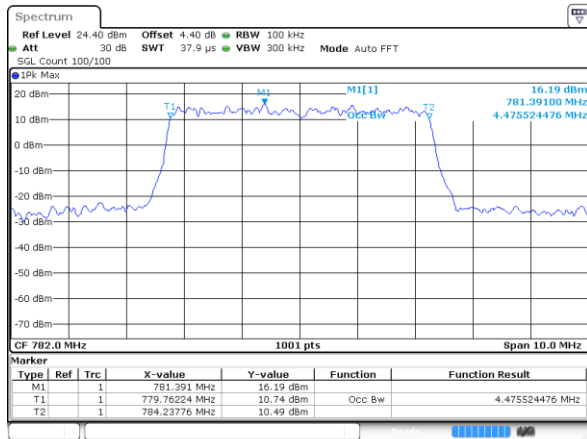
Lowest Channel / 5MHz / QPSK



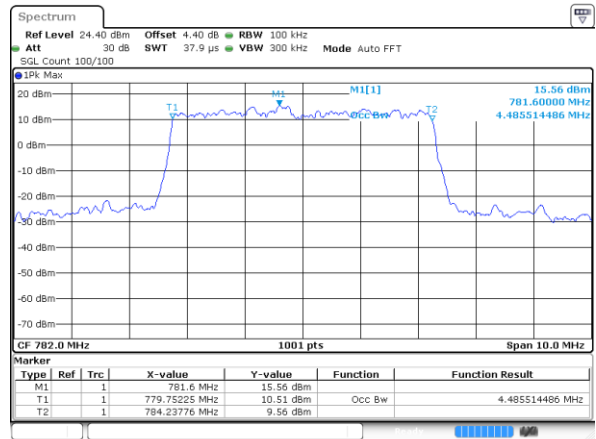
Lowest Channel / 5MHz / 16QAM



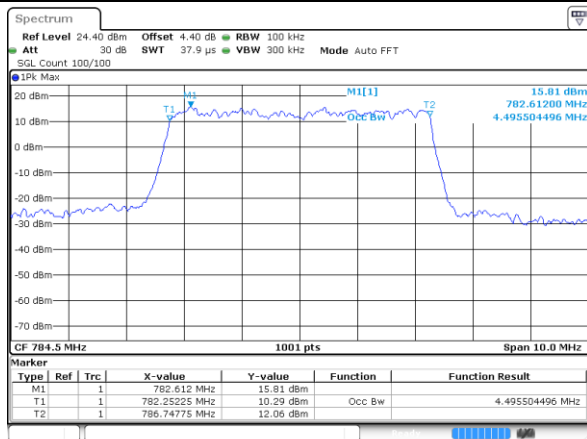
Middle Channel / 5MHz / QPSK



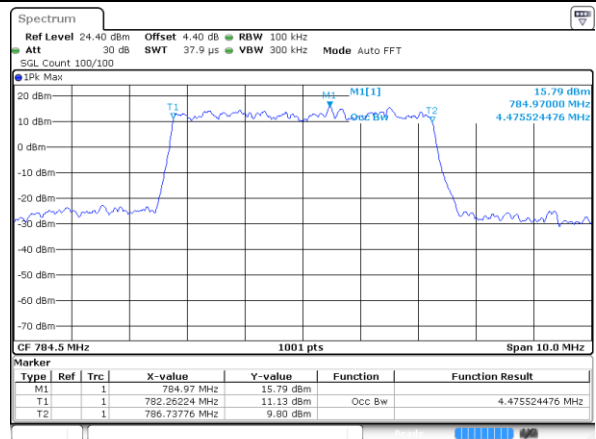
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



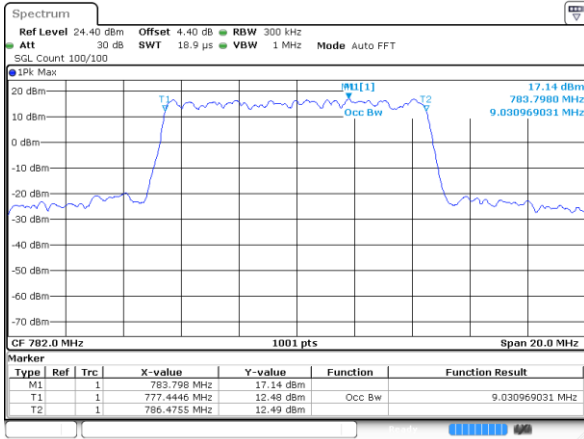
Highest Channel / 5MHz / 16QAM



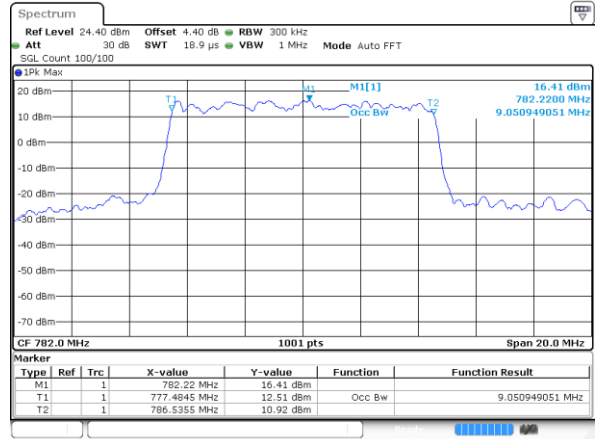


LTE Band 13

Middle Channel / 10MHz / QPSK



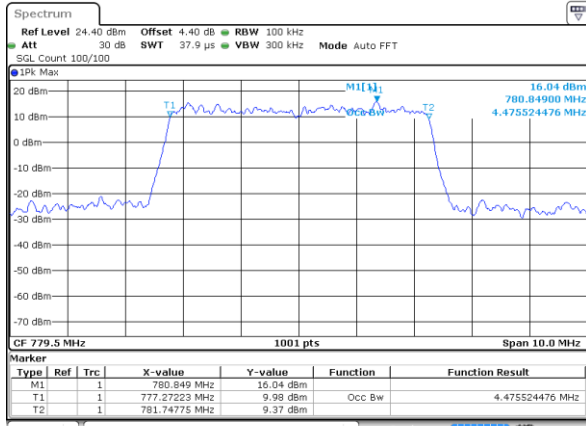
Middle Channel / 10MHz / 16QAM





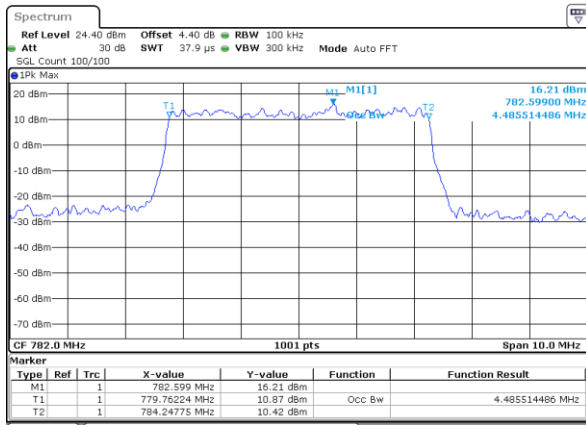
LTE Band 13

Lowest Channel / 5MHz / 64QAM



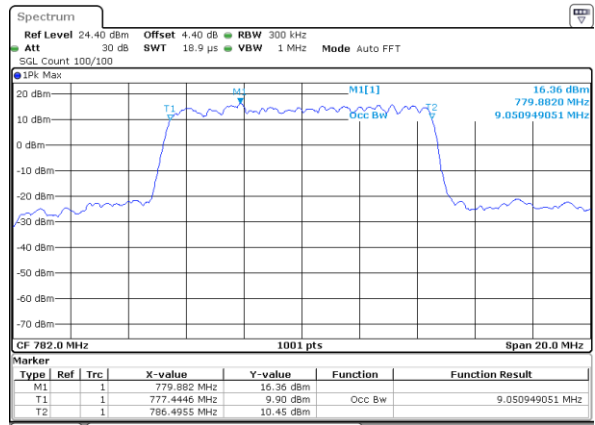
Date: 21 FEB 2020 23:20:21

Middle Channel / 5MHz / 64QAM



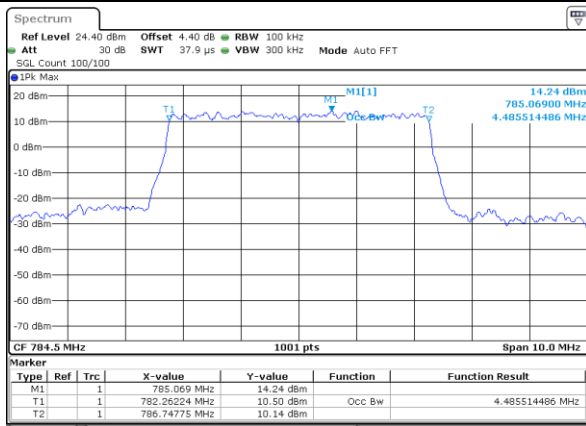
Date: 21 FEB 2020 23:20:31

Middle Channel / 10MHz / 64QAM



Date: 21 FEB 2020 23:30:36

Highest Channel / 5MHz / 64QAM



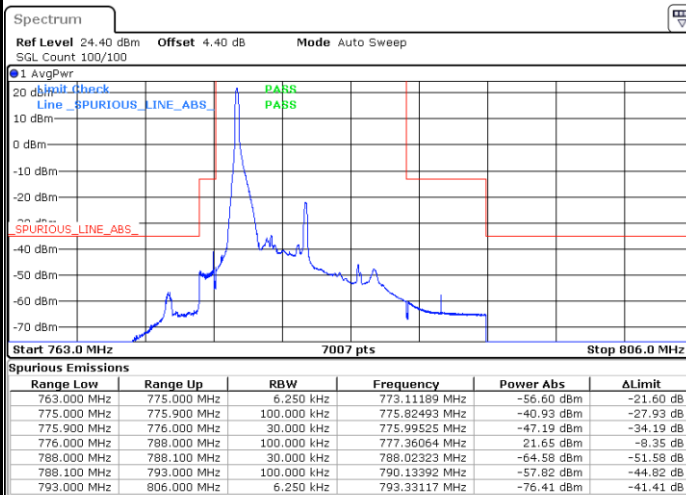
Date: 21 FEB 2020 23:20:41



Conducted Band Edge

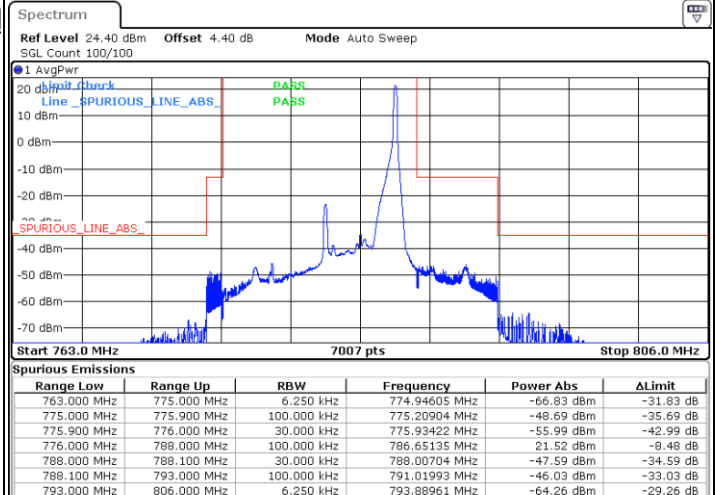
LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB



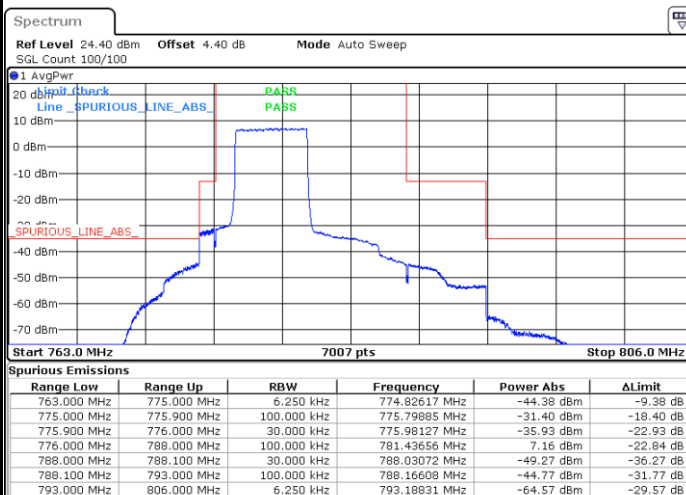
Date: 21 FEB 2020 22:52:12

Highest Band Edge / 1 RB



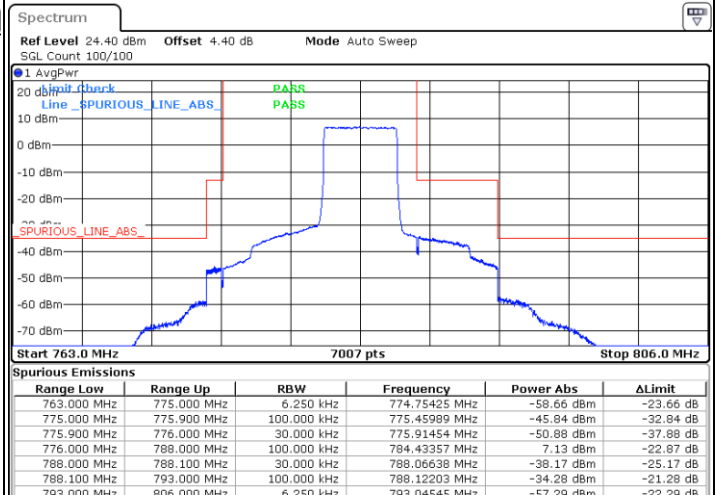
Date: 21 FEB 2020 23:03:40

Lowest Band Edge / Full RB



Date: 21 FEB 2020 22:50:33

Highest Band Edge / Full RB

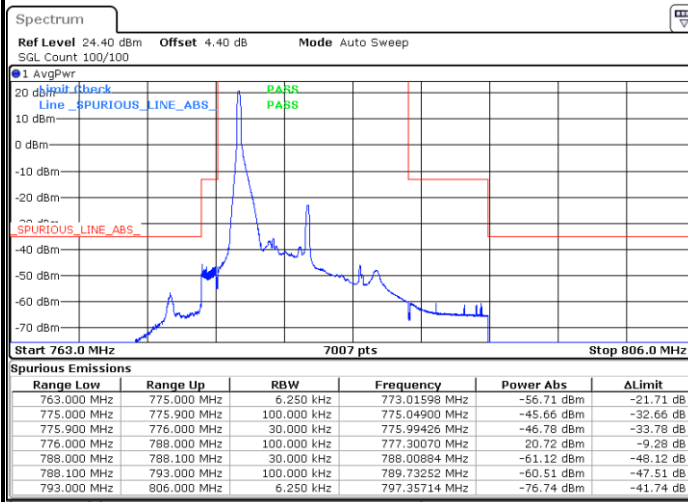


Date: 21 FEB 2020 23:02:01



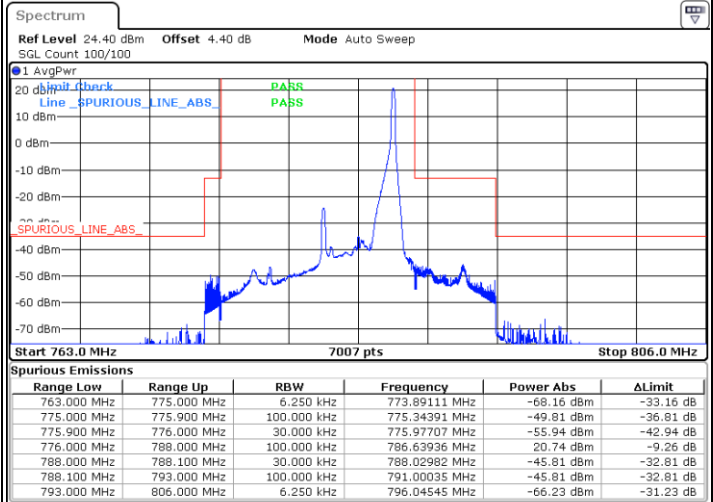
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB



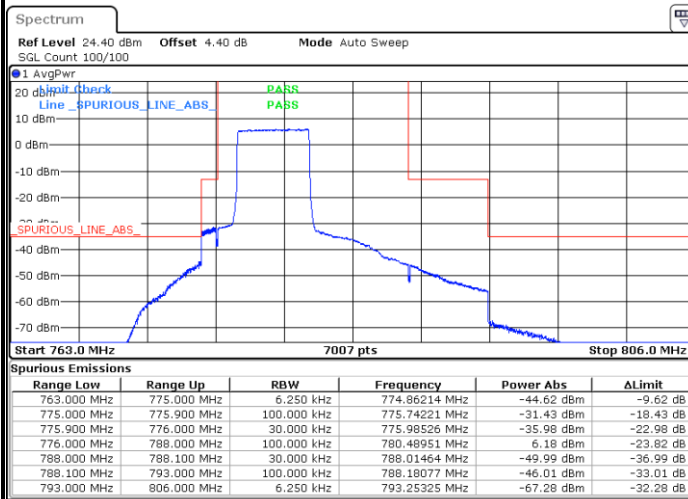
Date: 21 FEB 2020 22:53:50

Highest Band Edge / 1 RB



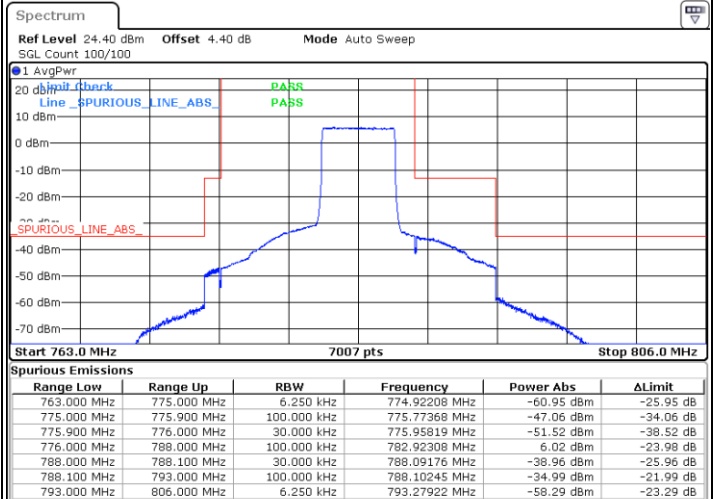
Date: 21 FEB 2020 23:05:19

Lowest Band Edge / Full RB



Date: 21 FEB 2020 22:48:54

Highest Band Edge / Full RB

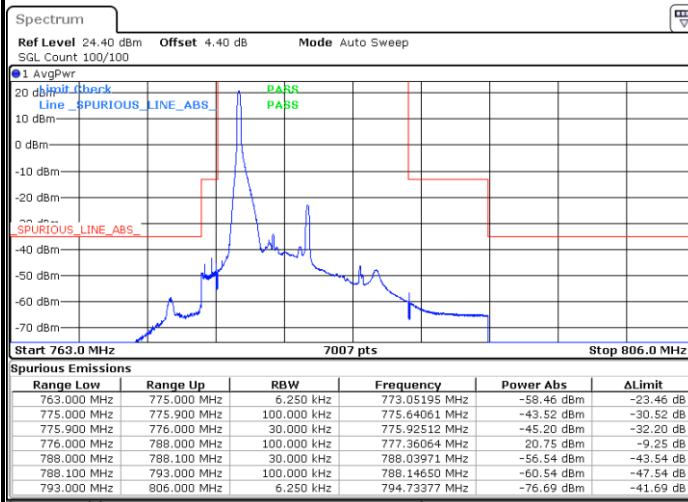


Date: 21 FEB 2020 23:00:22



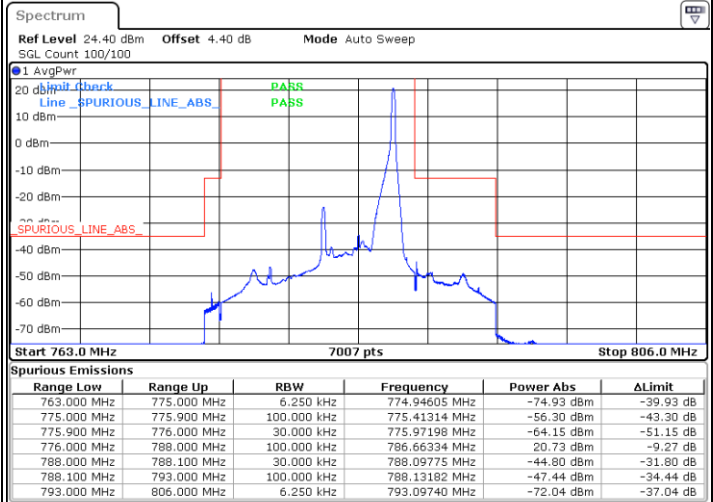
LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB



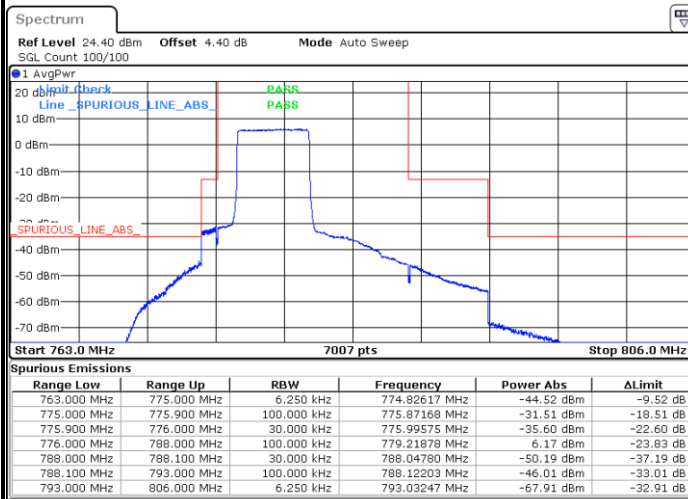
Date: 21.FEB.2020 23:22:49

Highest Band Edge / 1 RB



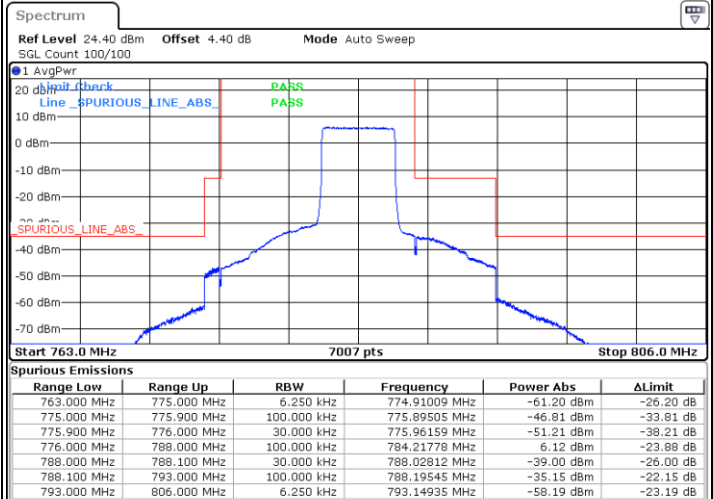
Date: 21.FEB.2020 23:27:46

Lowest Band Edge / Full RB



Date: 21.FEB.2020 23:24:28

Highest Band Edge / Full RB

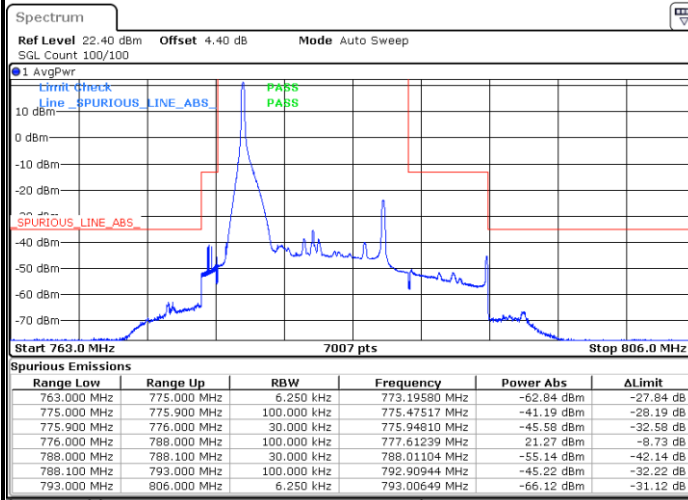


Date: 21.FEB.2020 23:26:07

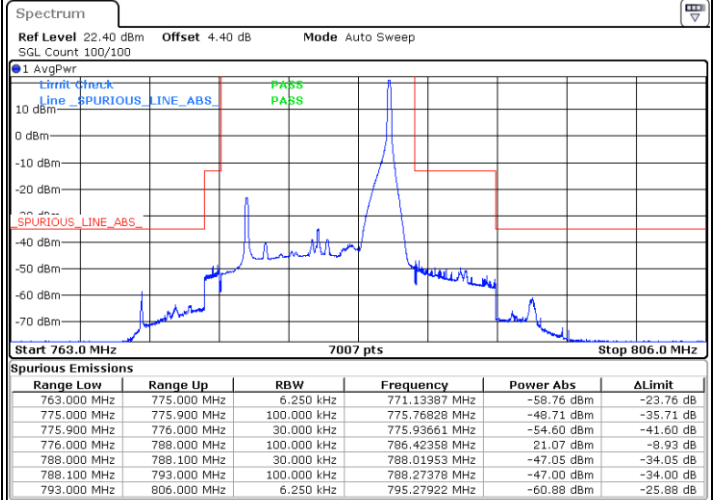


LTE Band 13 / 10MHz / QPSK

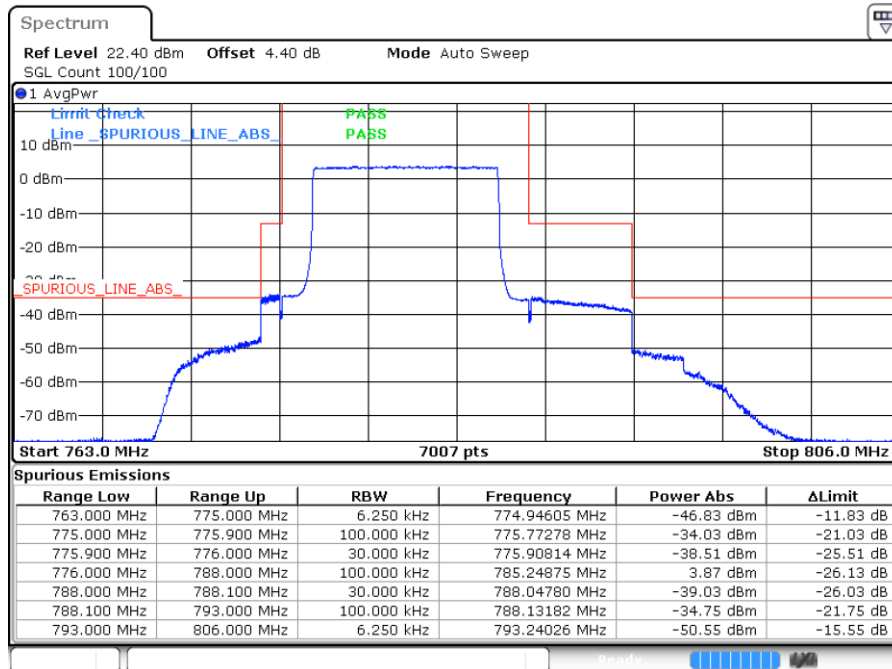
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



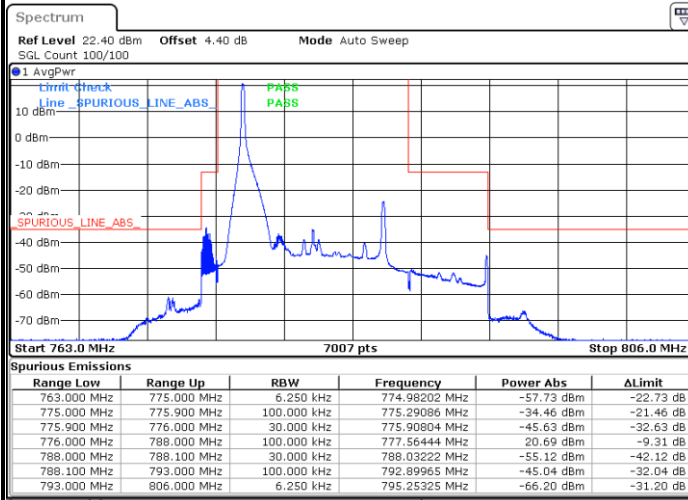
Band Edge / Full RB





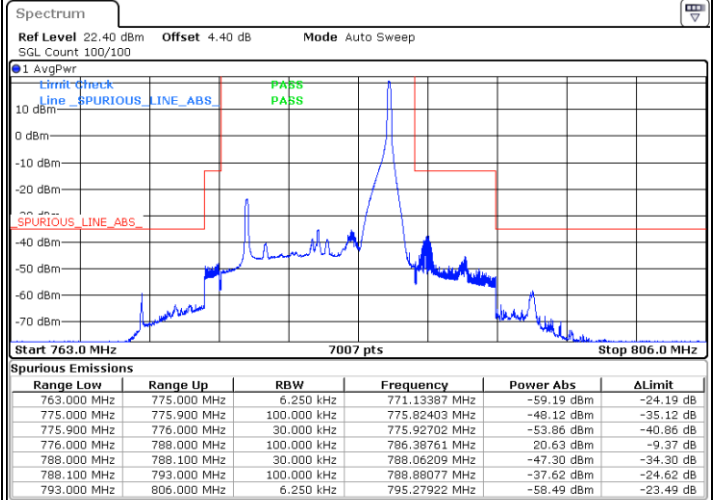
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



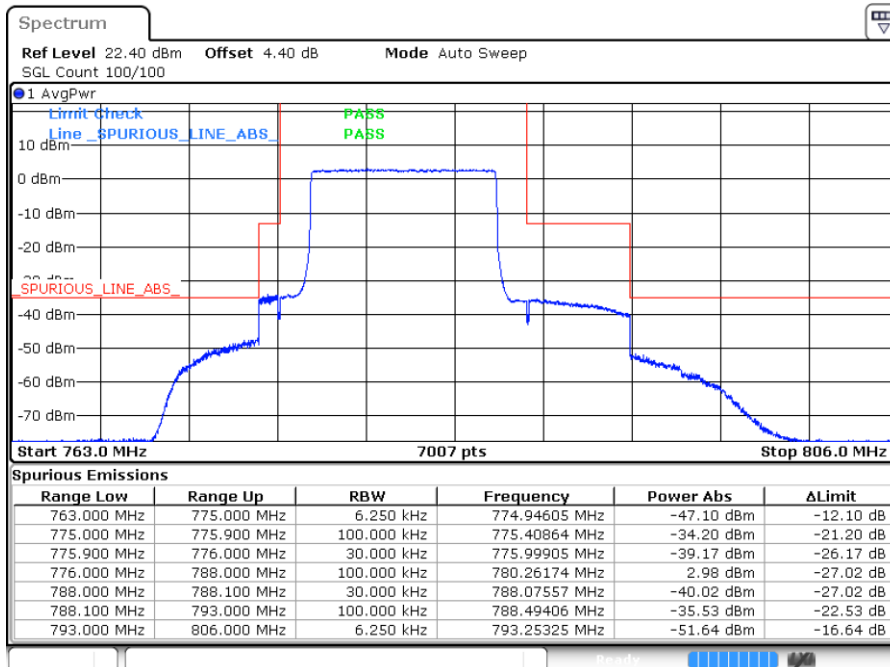
Date: 21.FEB.2020 23:11:11

Highest Band Edge / 1 RB



Date: 21.FEB.2020 23:17:46

Band Edge / Full RB

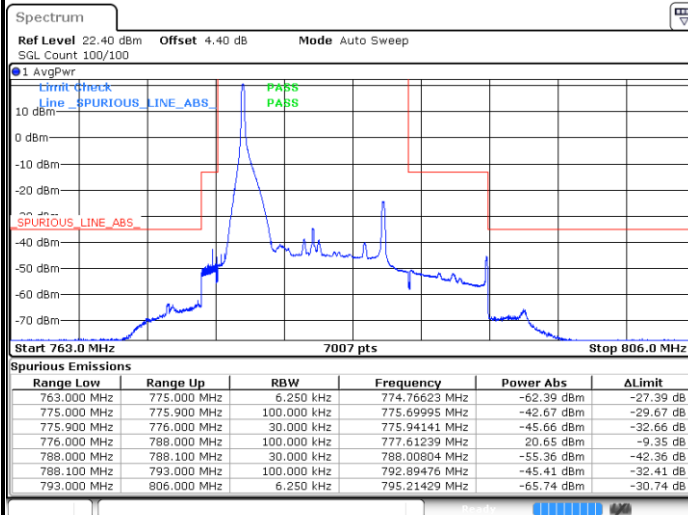


Date: 21.FEB.2020 23:16:07

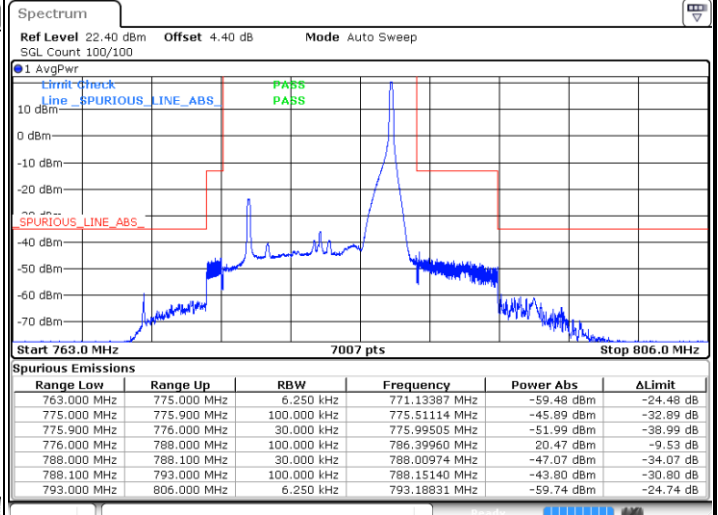


LTE Band 13 / 10MHz / 64QAM

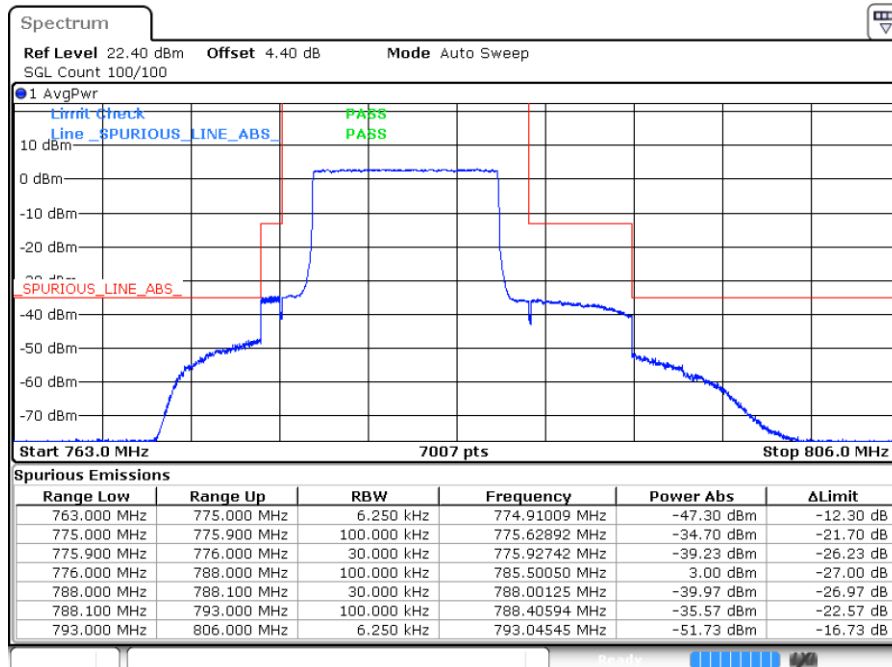
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Band Edge / Full RB

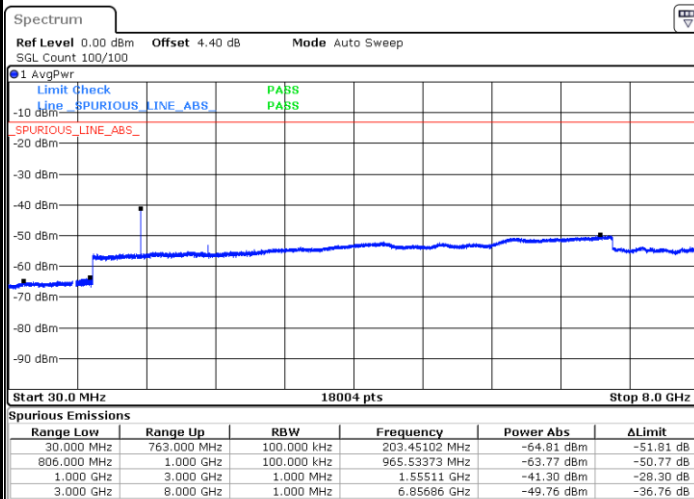




Conducted Spurious Emission

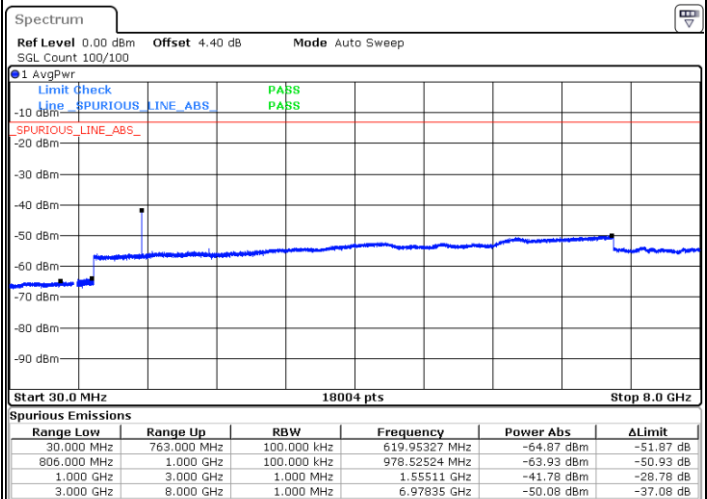
LTE Band 13 / 5MHz

Lowest Channel / QPSK



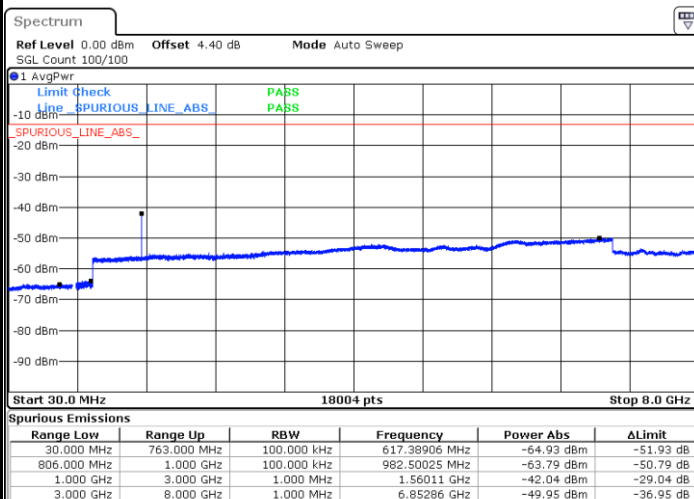
Date: 21 FEB 2020 22:55:38

Lowest Channel / 16QAM



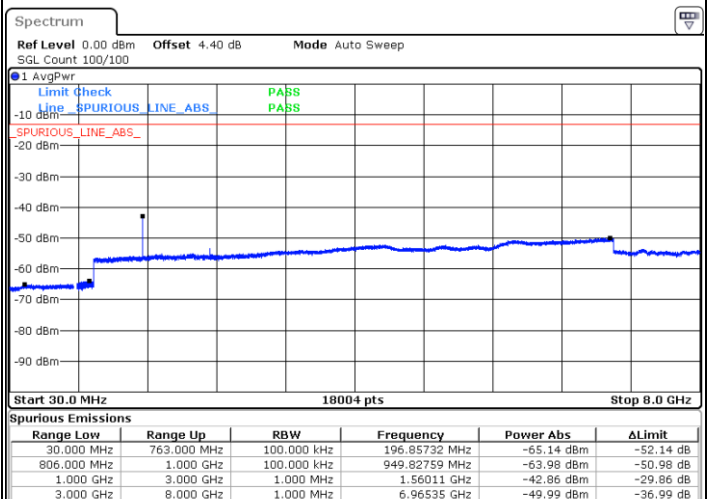
Date: 21 FEB 2020 22:54:44

Middle Channel / QPSK



Date: 21 FEB 2020 22:57:11

Middle Channel / 16QAM

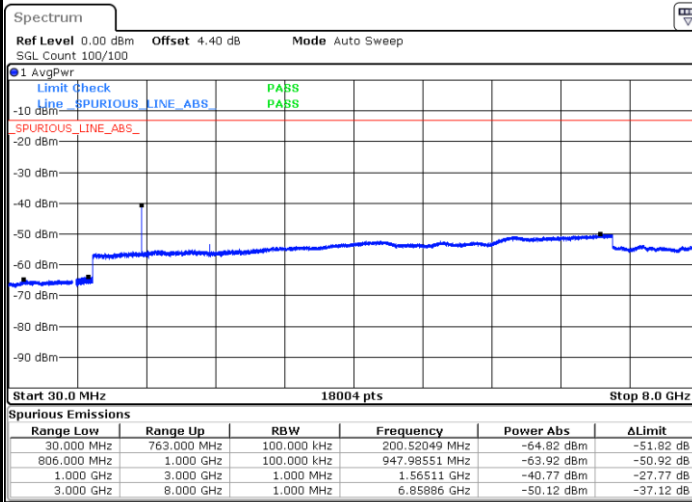


Date: 21 FEB 2020 22:58:04



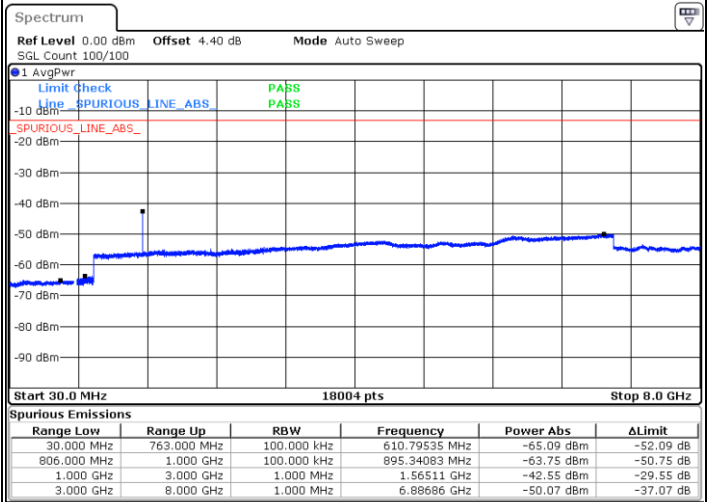
LTE Band 13 / 5MHz

Highest Channel / QPSK



Date: 21 FEB 2020 23:07:06

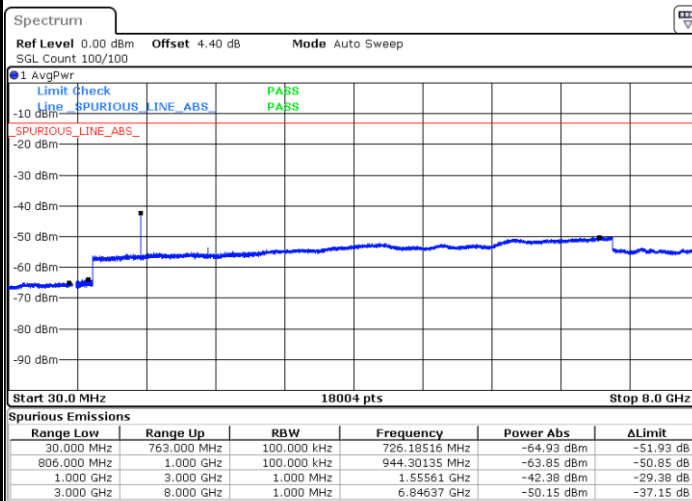
Highest Channel / 16QAM



Date: 21 FEB 2020 23:06:13

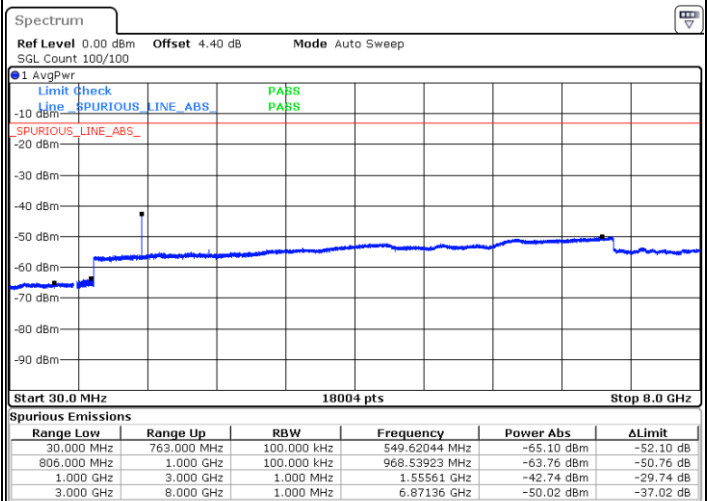
LTE Band 13 / 10MHz

Middle Channel / QPSK



Date: 21 FEB 2020 23:07:59

Middle Channel / 16QAM

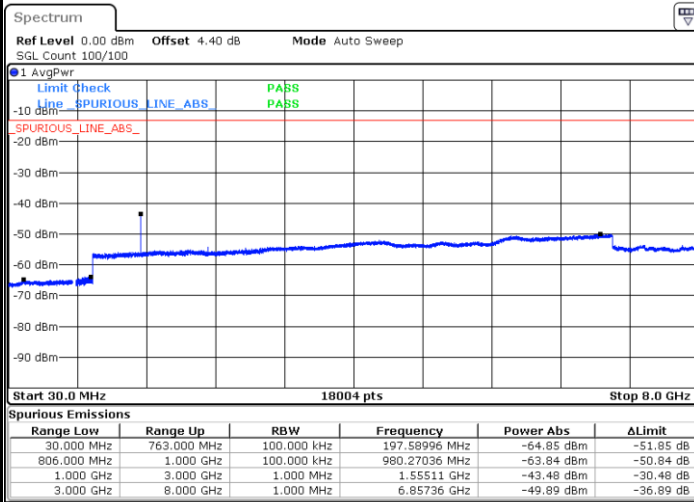


Date: 21 FEB 2020 23:08:53



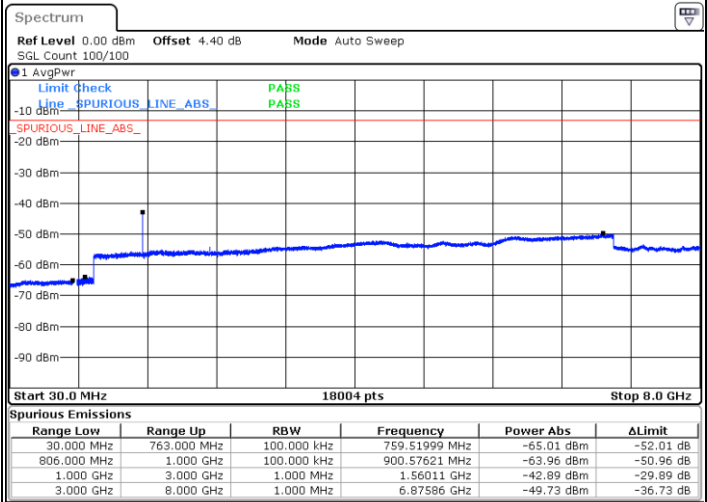
LTE Band 13 / 5MHz

Lowest Channel / 64QAM



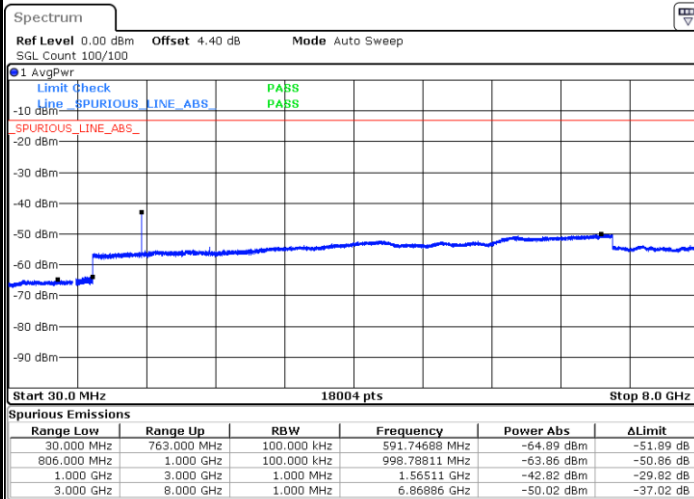
Date: 21 FEB 2020 23:28:40

Middle Channel / 64QAM

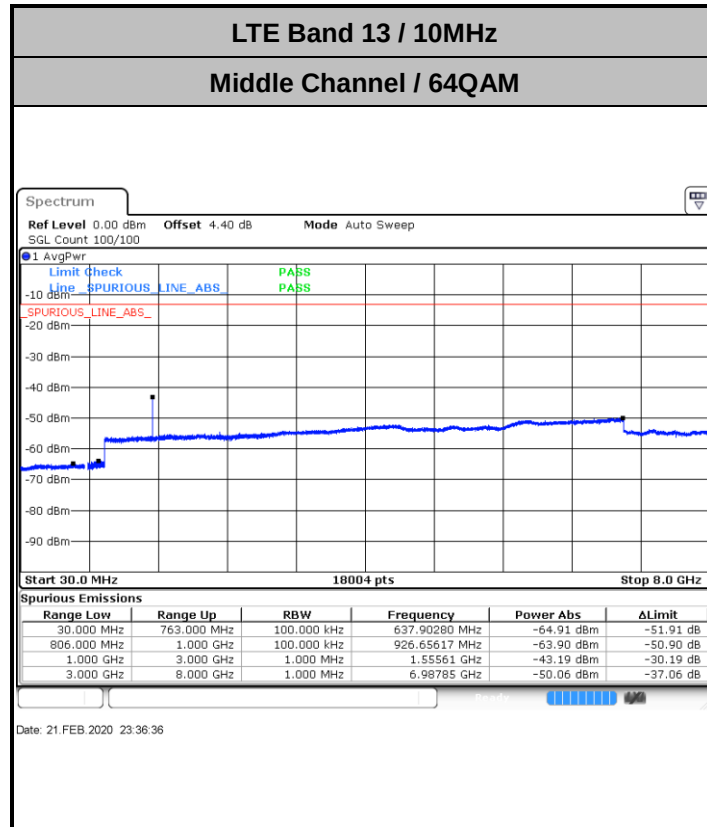


Date: 21 FEB 2020 23:29:33

Highest Channel / 64QAM



Date: 21 FEB 2020 23:30:26



**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	0.0003	
30	Normal Voltage	0.0056	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0000	
0	Normal Voltage	0.0019	
-10	Normal Voltage	0.0069	
-20	Normal Voltage	0.0012	
-30	Normal Voltage	0.0031	
20	Maximum Voltage	0.0066	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0003	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 38

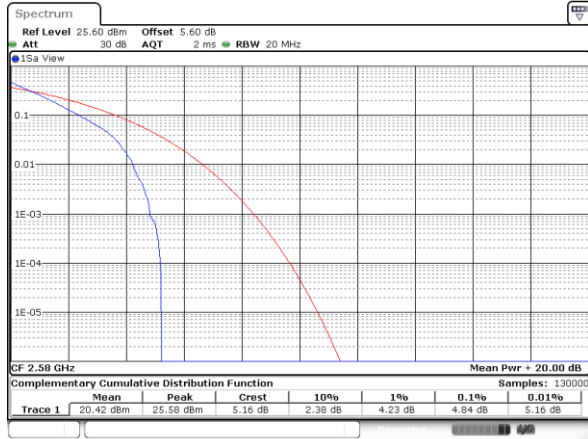
Peak-to-Average Ratio

Mode	LTE Band 38 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.84	6.84	5.42	6.12	PASS
Middle CH	4.81	5.28	6.17	6.14	
Highest CH	4.84	6.32	5.94	6.14	
Mode	LTE Band 38 / 20MHz				
Mod.	64QAM		-		Limit: 13dB
RB Size	1RB	Full RB	-	-	Result
Lowest CH	5.91	6.38	-	-	PASS
Middle CH	6.55	6.35	-	-	
Highest CH	5.97	6.41	-	-	

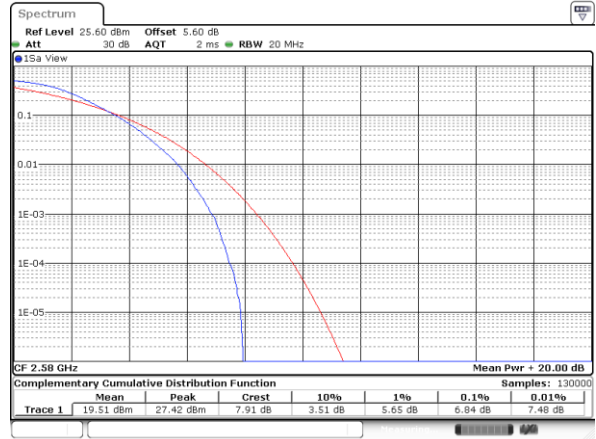


LTE Band 38 / 20MHz / QPSK

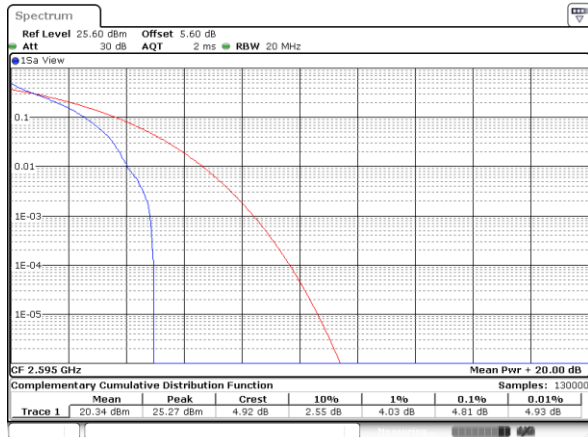
Lowest Channel / 1RB



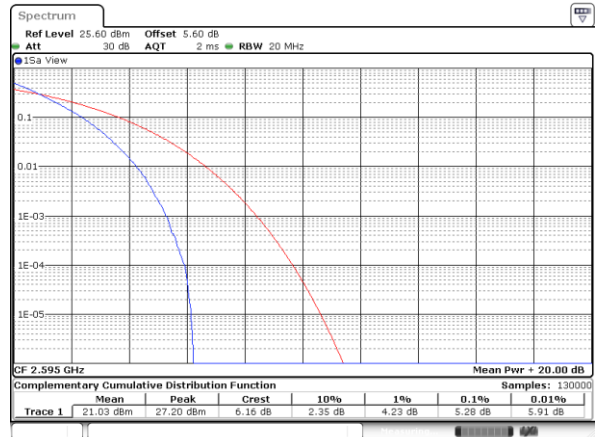
Lowest Channel / Full RB



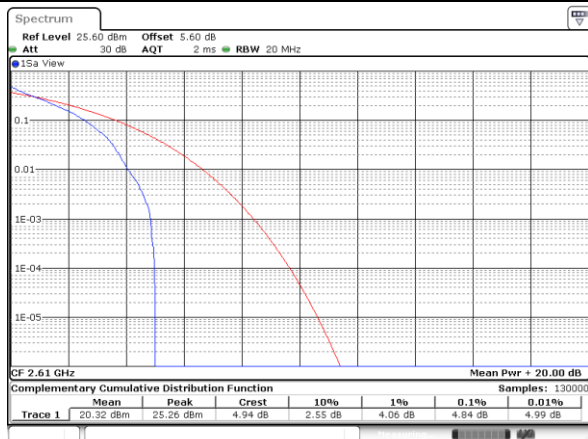
Middle Channel / 1RB



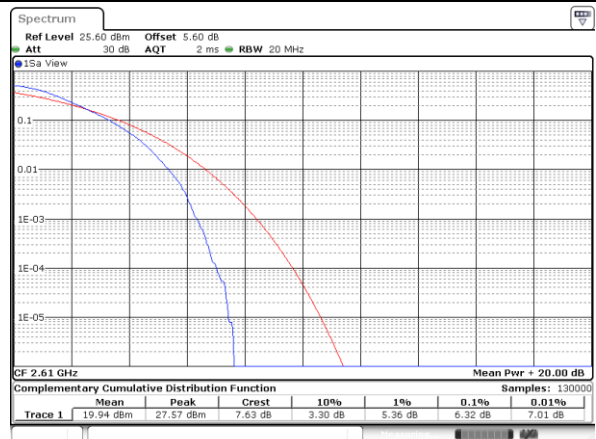
Middle Channel / Full RB



Highest Channel / 1RB

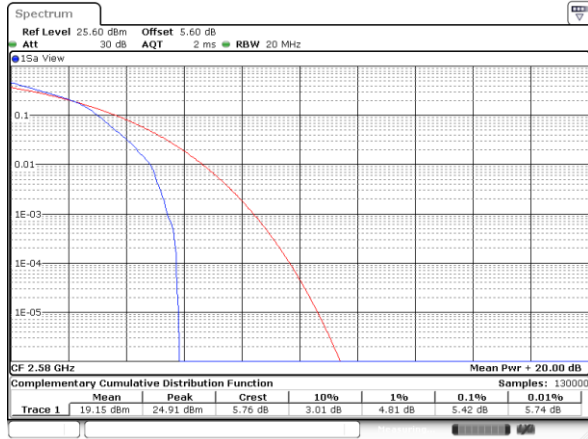


Highest Channel / Full RB

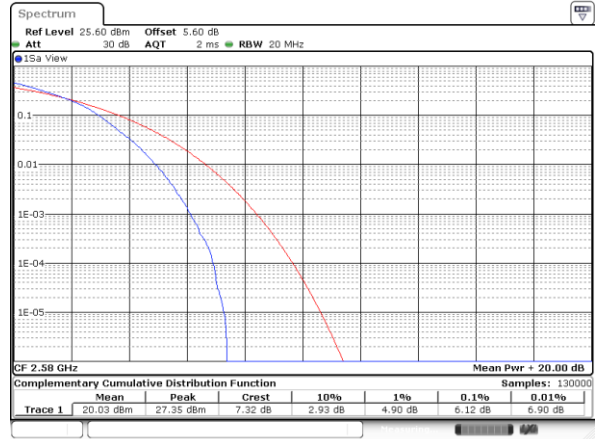


LTE Band 38 / 20MHz / 16QAM

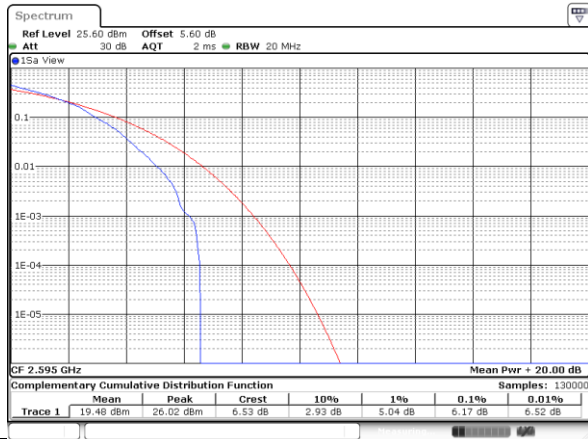
Lowest Channel / 1RB



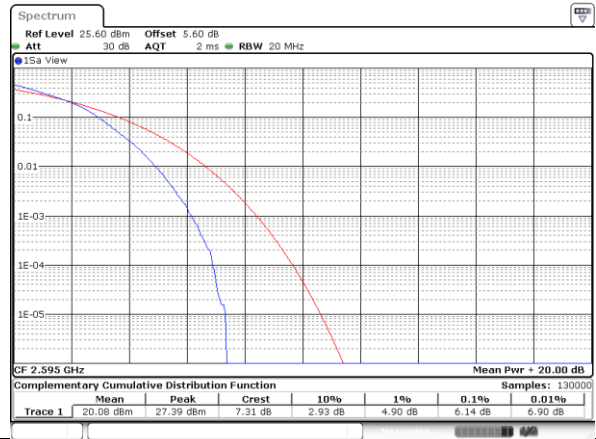
Lowest Channel / Full RB



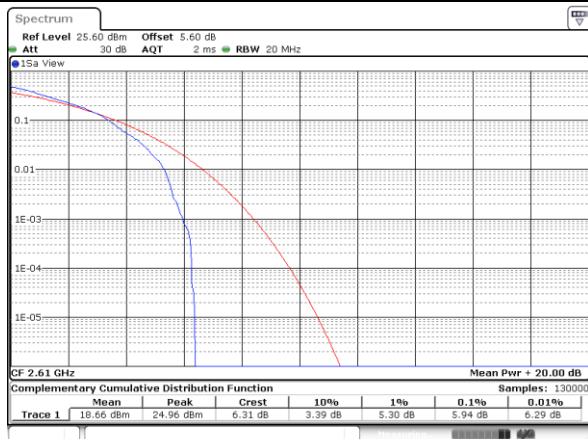
Middle Channel / 1RB



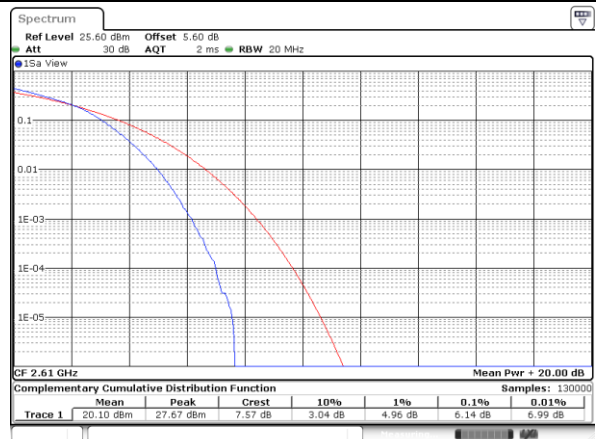
Middle Channel / Full RB



Highest Channel / 1RB

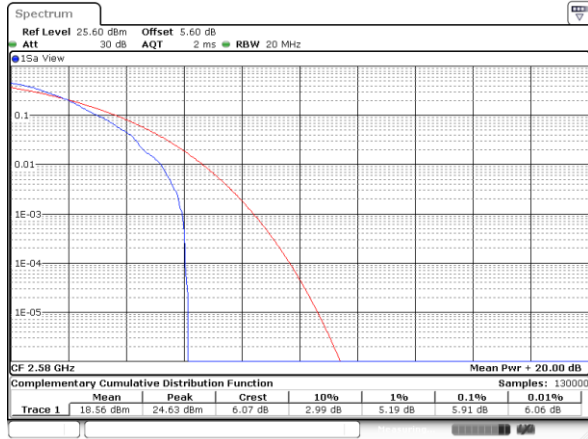


Highest Channel / Full RB

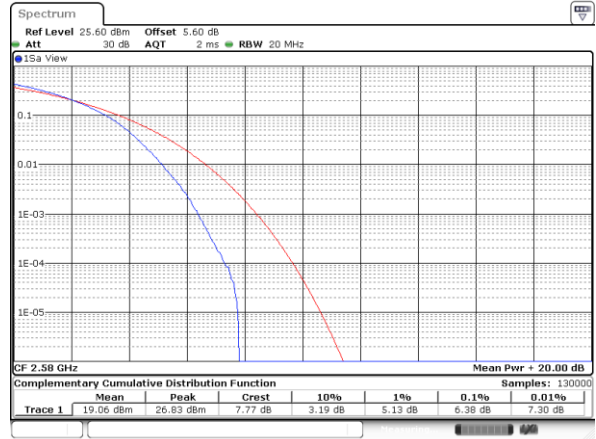


LTE Band 38 / 20MHz / 64QAM

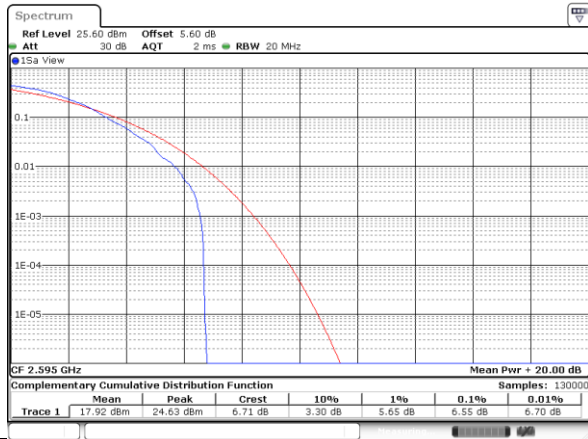
Lowest Channel / 1RB



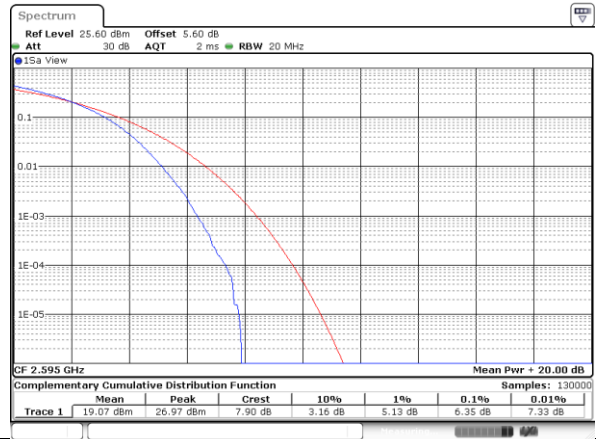
Lowest Channel / Full RB



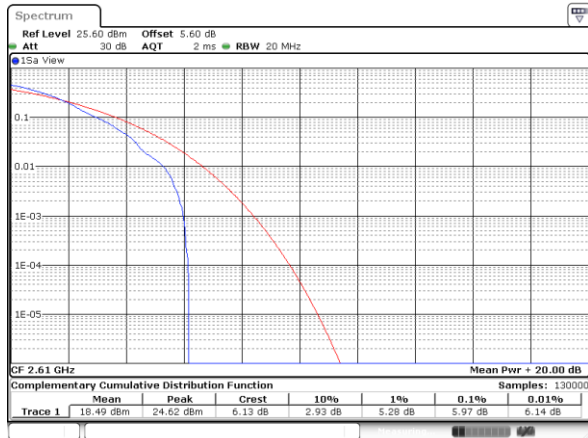
Middle Channel / 1RB



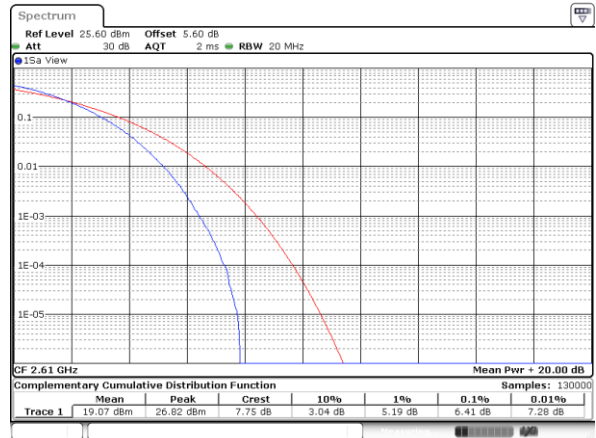
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB



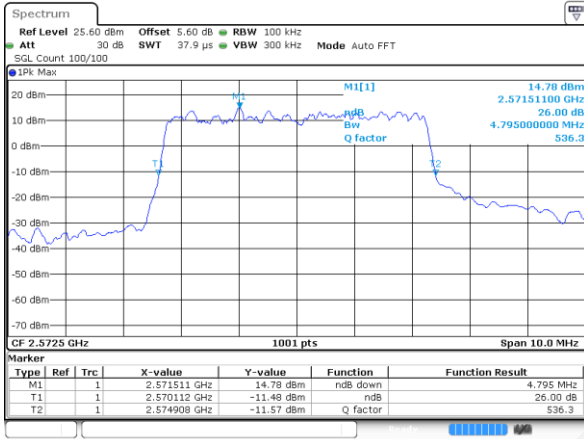
**26dB Bandwidth**

Mode	LTE Band 38 : 26dB BW(MHz)							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	4.795	4.845	9.67	9.71	14.296	14.116	20.22	20.42
Middle CH	4.845	4.855	9.77	9.89	14.266	14.356	20.22	20.10
Highest CH	4.825	4.875	9.73	9.63	14.146	14.176	20.22	20.22
Mode	LTE Band 38 : 26dB BW(MHz)							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM	
Lowest CH	4.825		10.47		14.176		20.06	
Middle CH	4.795		9.73		14.146		20.10	
Highest CH	4.865		9.73		14.266		20.06	

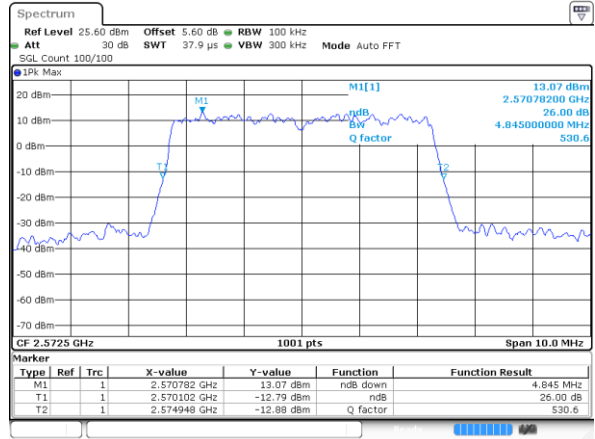


LTE Band 38

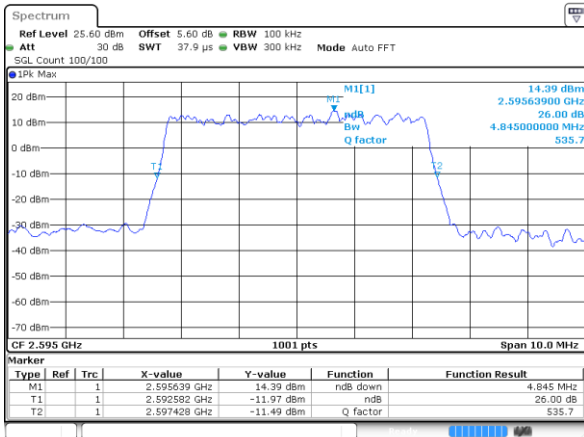
Lowest Channel / 5MHz / QPSK



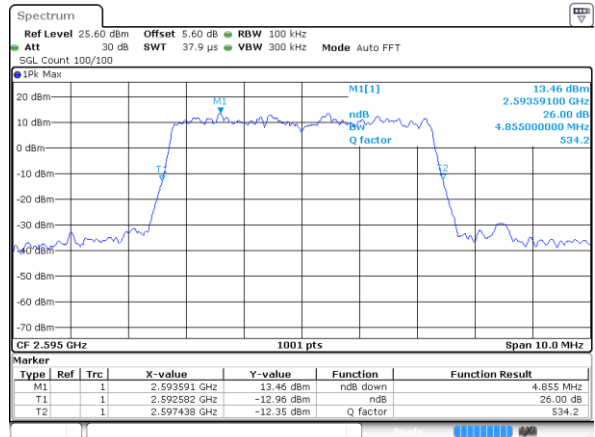
Lowest Channel / 5MHz / 16QAM



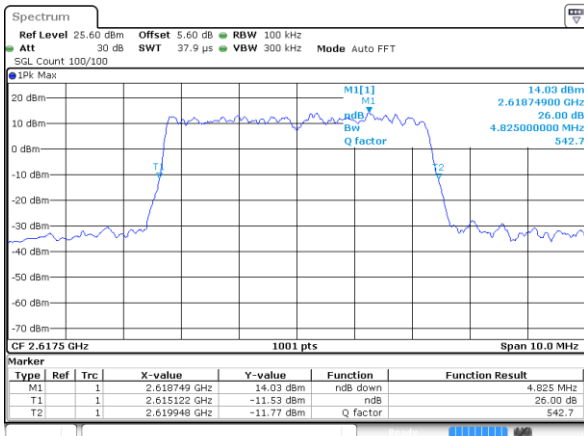
Middle Channel / 5MHz / QPSK



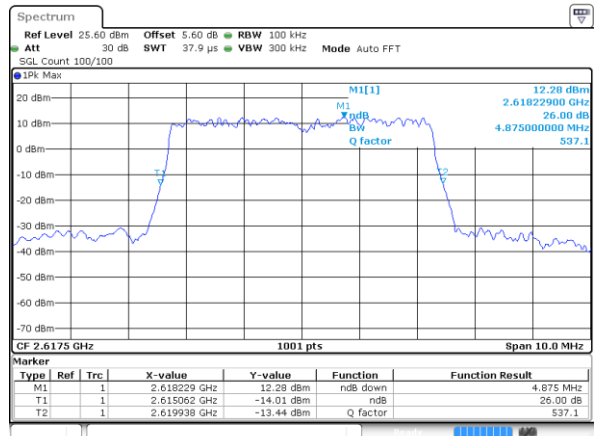
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



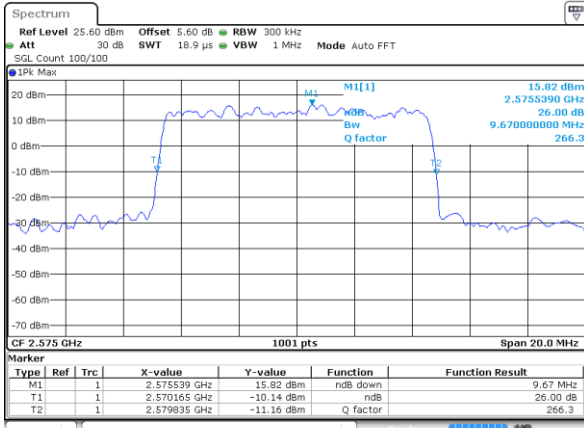
Highest Channel / 5MHz / 16QAM



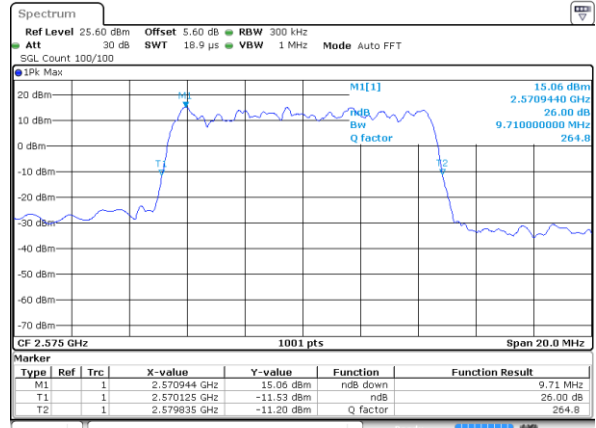


LTE Band 38

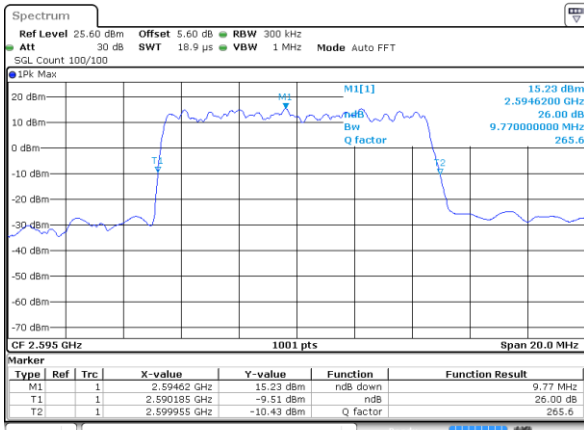
Lowest Channel / 10MHz / QPSK



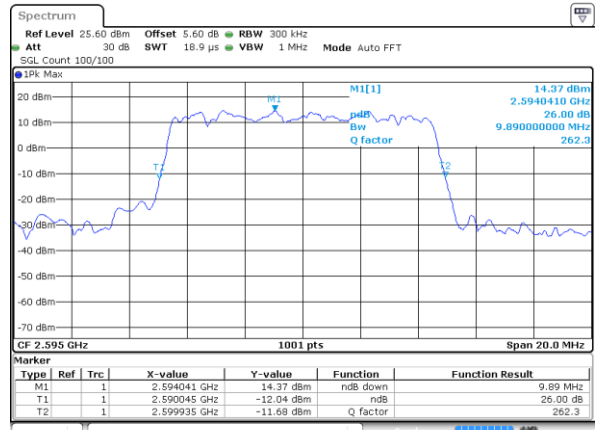
Lowest Channel / 10MHz / 16QAM



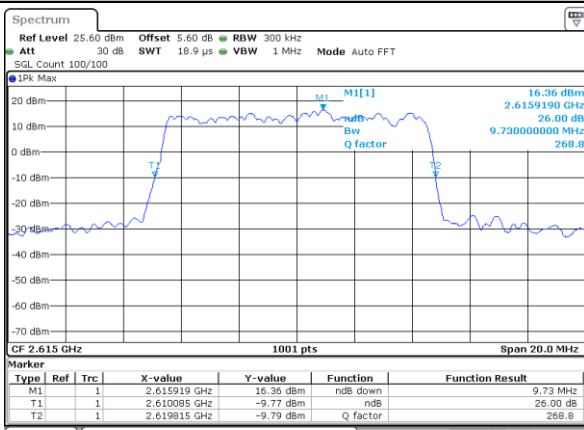
Middle Channel / 10MHz / QPSK



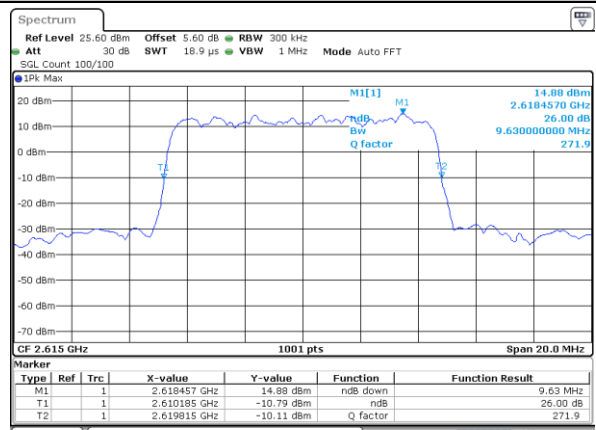
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK



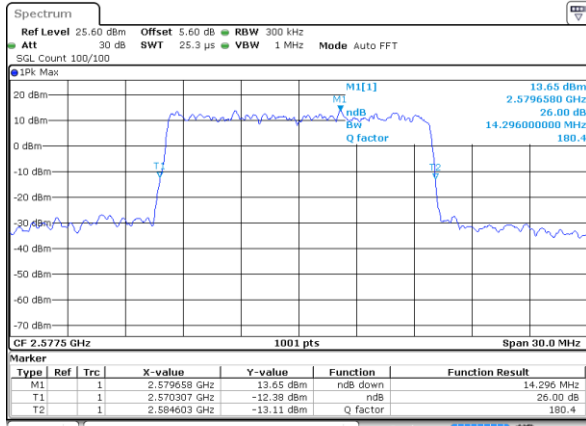
Highest Channel / 10MHz / 16QAM



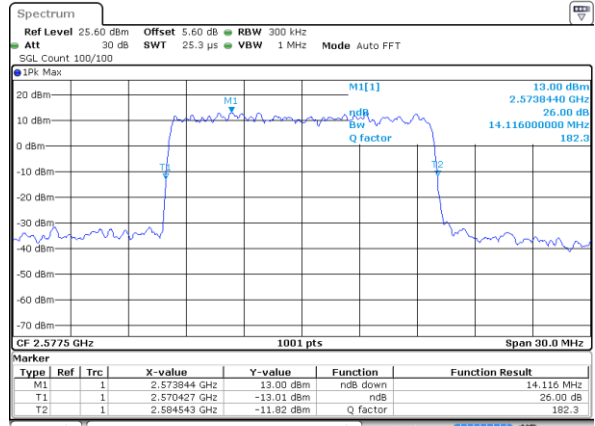


LTE Band 38

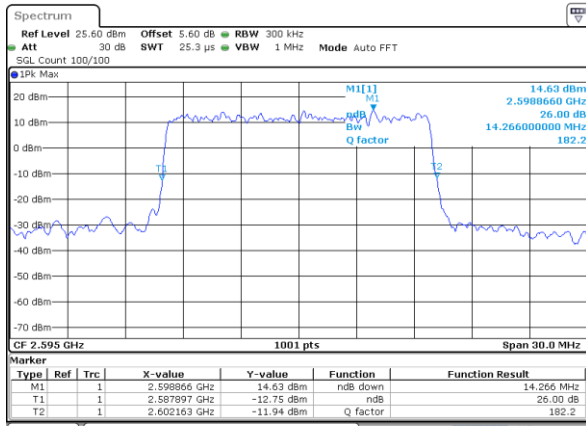
Lowest Channel / 15MHz / QPSK



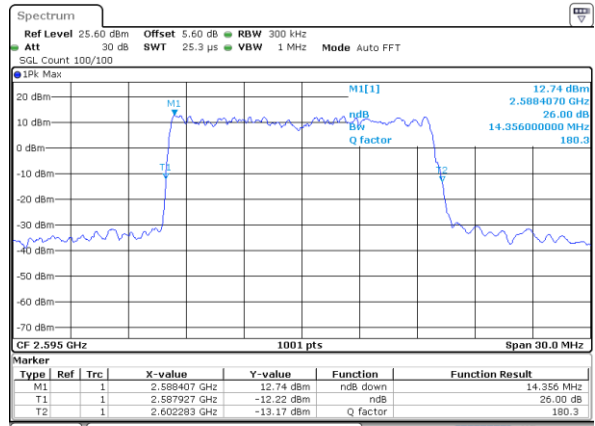
Lowest Channel / 15MHz / 16QAM



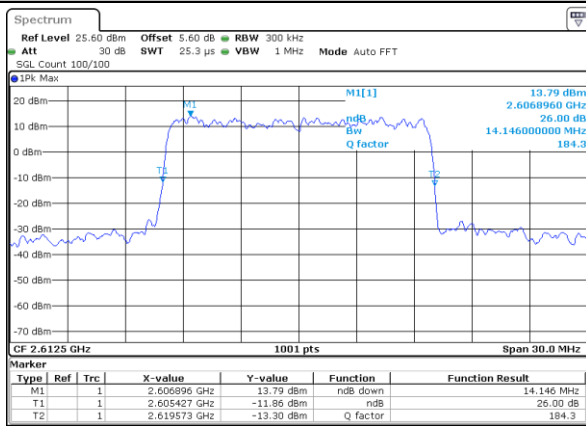
Middle Channel / 15MHz / QPSK



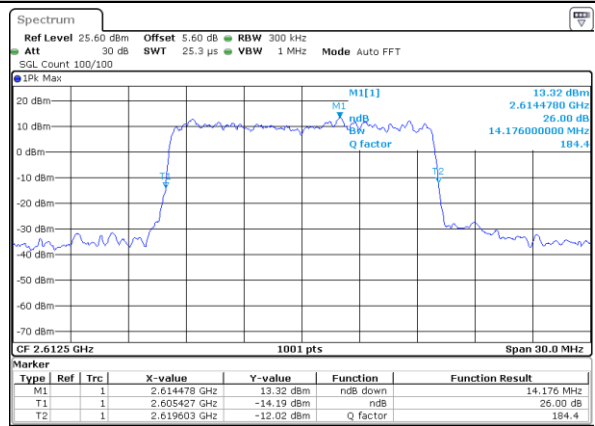
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK



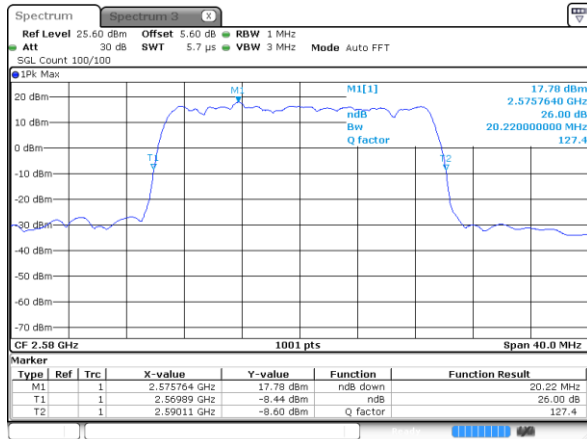
Highest Channel / 15MHz / 16QAM



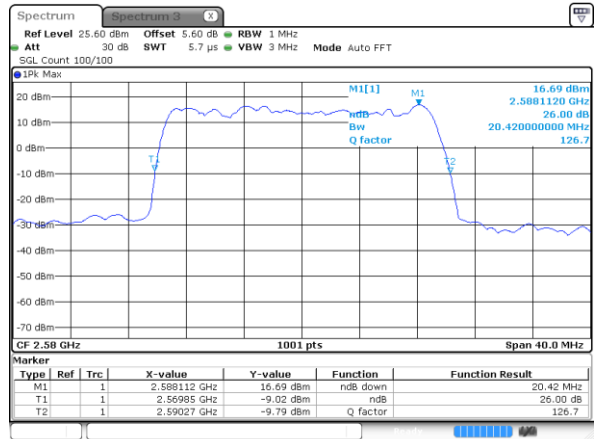


LTE Band 38

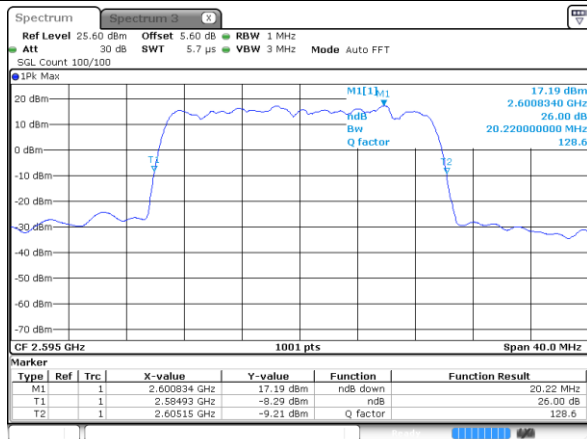
Lowest Channel / 20MHz / QPSK



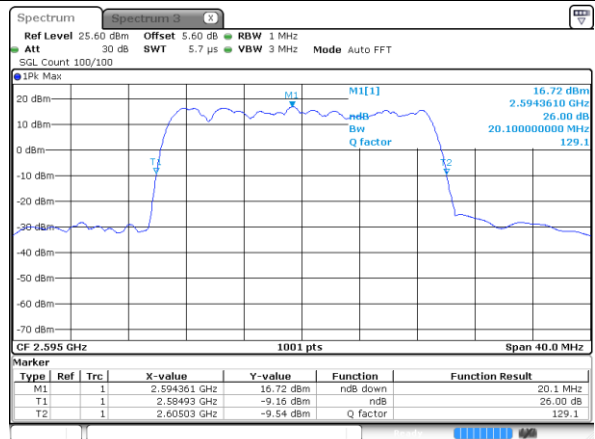
Lowest Channel / 20MHz / 16QAM



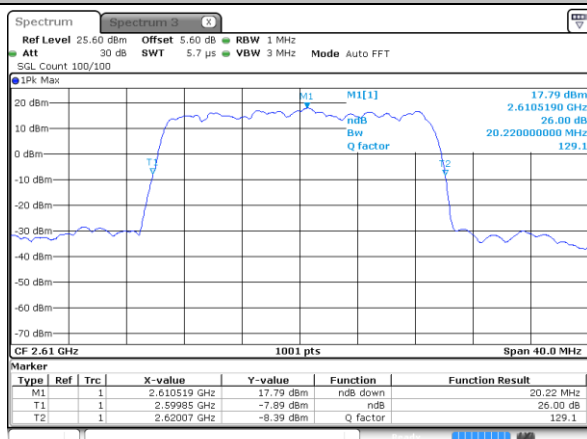
Middle Channel / 20MHz / QPSK



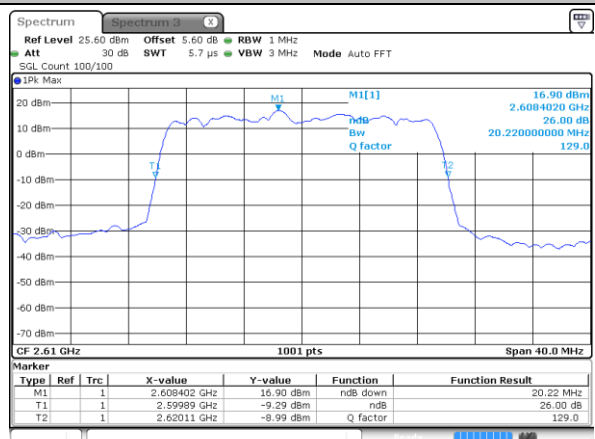
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



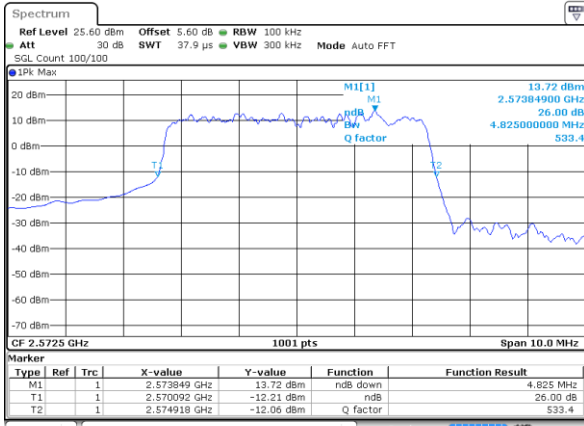
Highest Channel / 20MHz / 16QAM



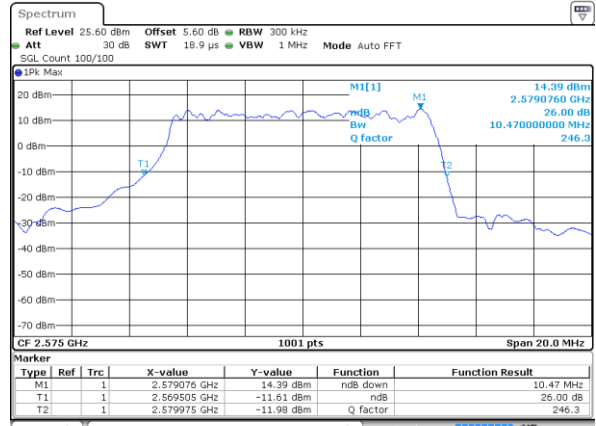


LTE Band 38

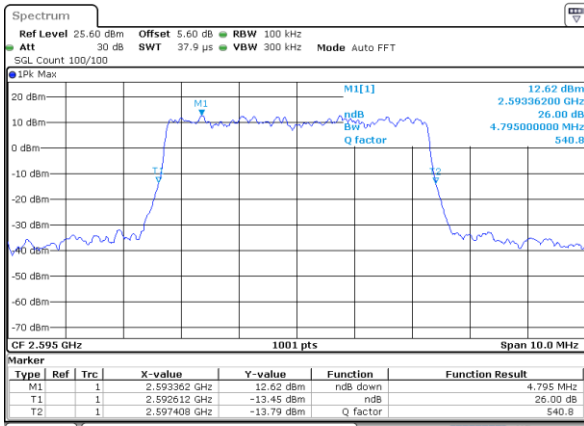
Lowest Channel / 5MHz / 64QAM



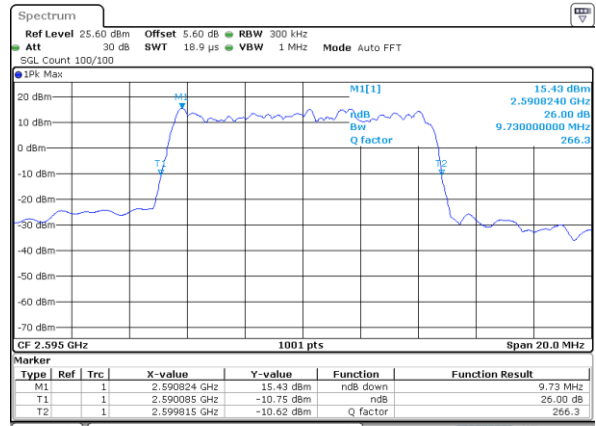
Lowest Channel / 10MHz / 64QAM



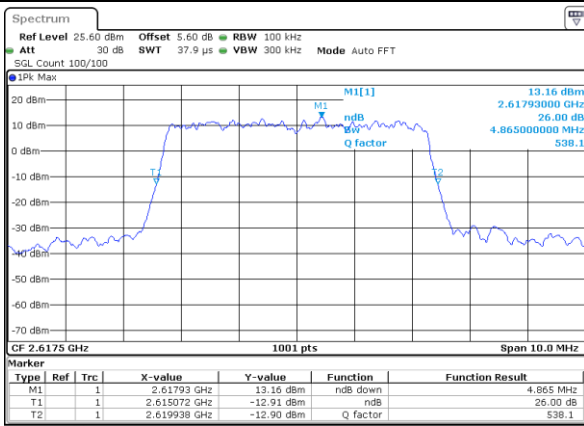
Middle Channel / 5MHz / 64QAM



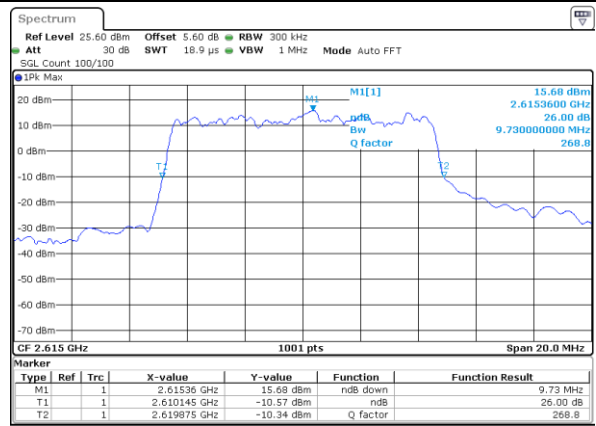
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



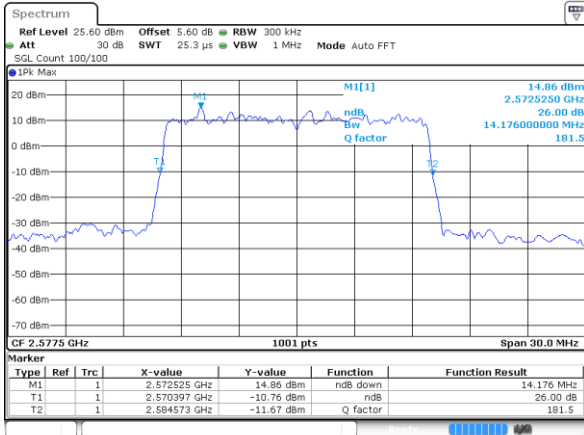
Highest Channel / 10MHz / 64QAM



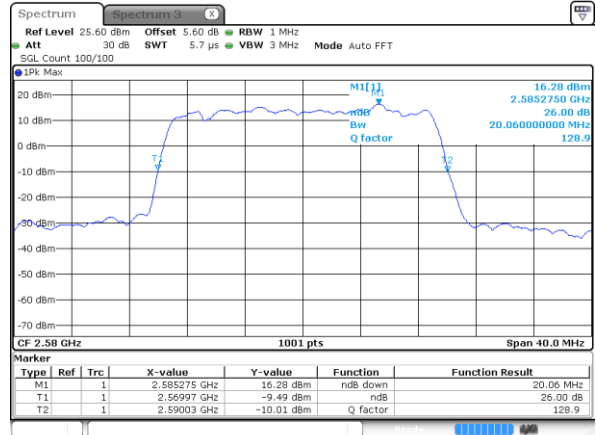


LTE Band 38

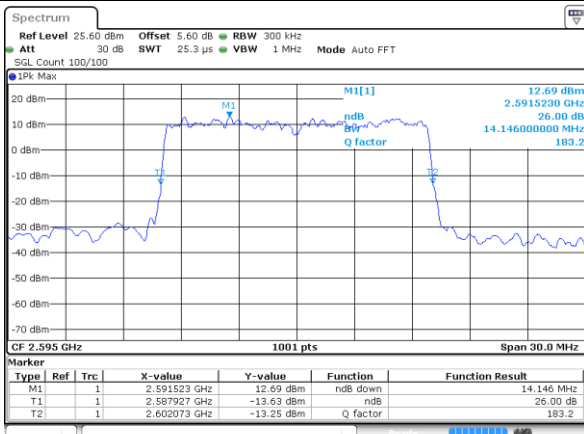
Lowest Channel / 15MHz / 64QAM



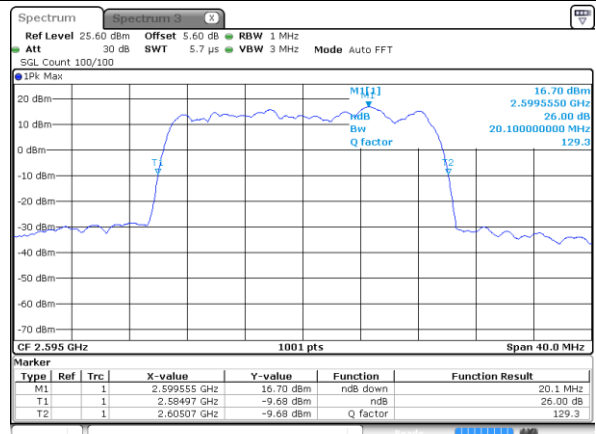
Lowest Channel / 20MHz / 64QAM



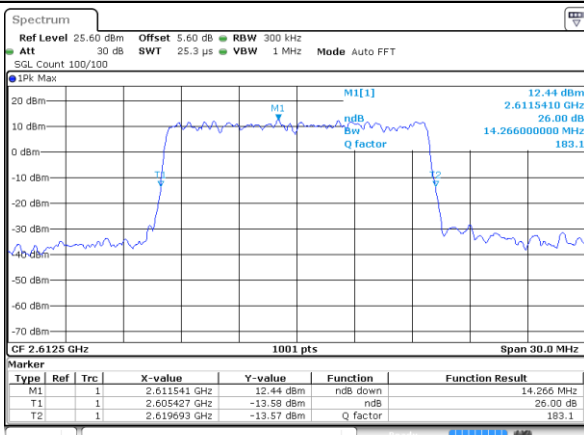
Middle Channel / 15MHz / 64QAM



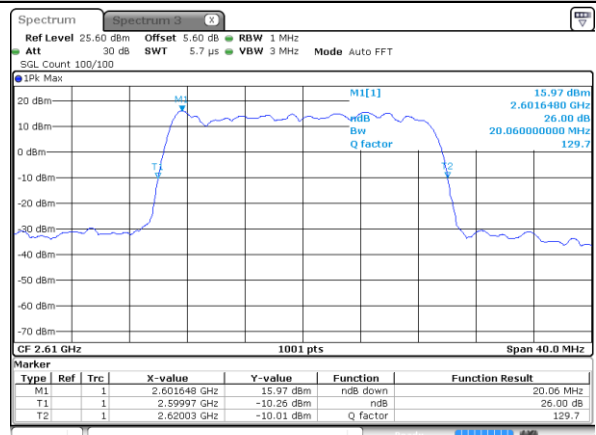
Middle Channel / 20MHz / 64QAM



Highest Channel / 15MHz / 64QAM



Highest Channel / 20MHz / 64QAM



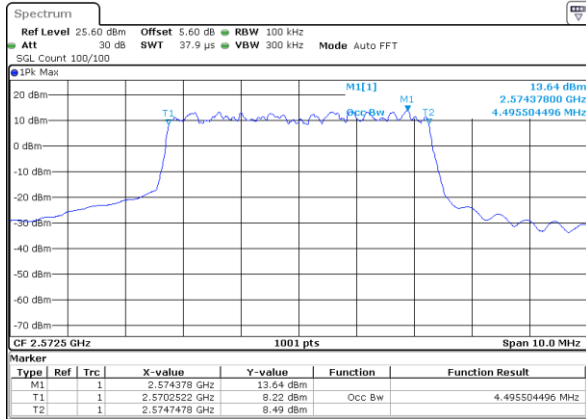
**Occupied Bandwidth**

Mode	LTE Band 38 : 99%OBW(MHz)							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	4.496	4.505	9.011	9.031	13.457	13.427	18.182	18.302
Middle CH	4.466	4.466	9.011	9.031	13.457	13.457	18.422	18.422
Highest CH	4.486	4.486	9.051	9.111	13.457	13.427	18.382	18.342
Mode	LTE Band 38 : 99%OBW(MHz)							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM	
Lowest CH	4.486		9.011		13.457		18.382	
Middle CH	4.466		9.031		13.397		18.501	
Highest CH	4.496		8.971		13.516		18.462	

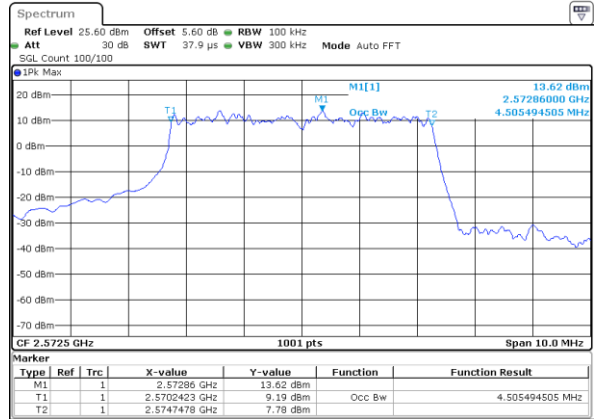


LTE Band 38

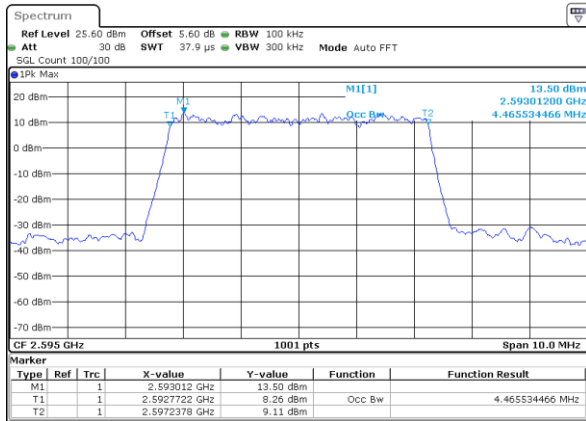
Lowest Channel / 5MHz / QPSK



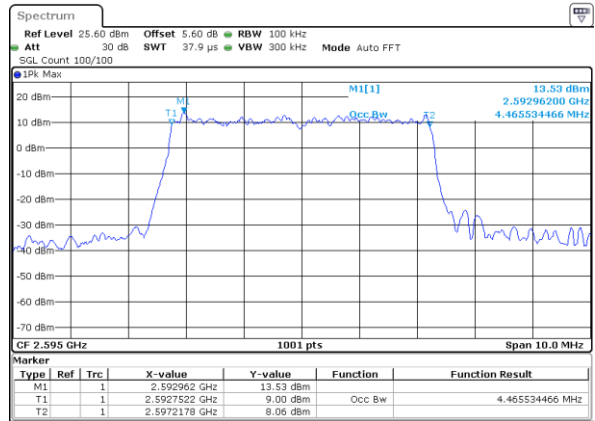
Lowest Channel / 5MHz / 16QAM



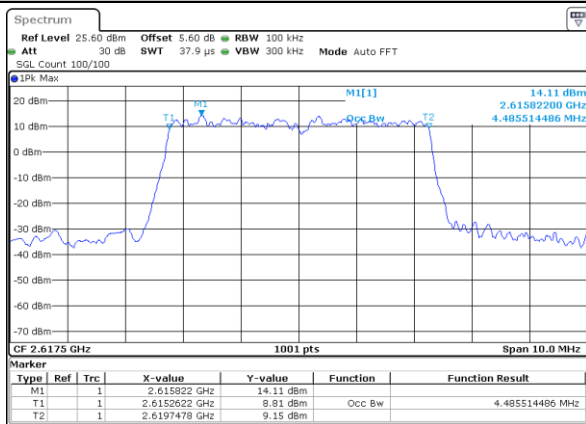
Middle Channel / 5MHz / QPSK



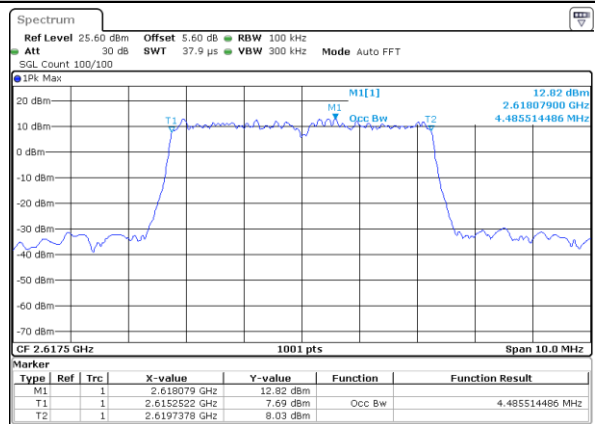
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



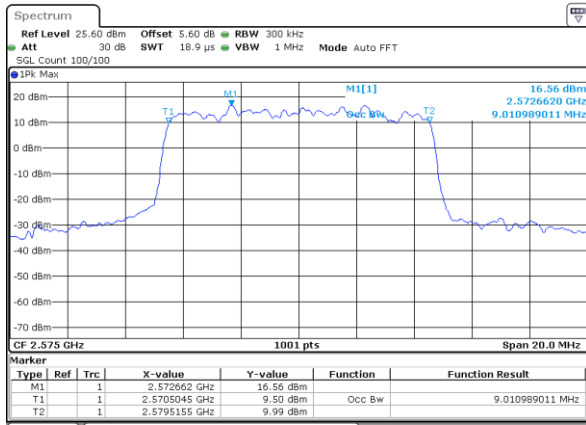
Highest Channel / 5MHz / 16QAM



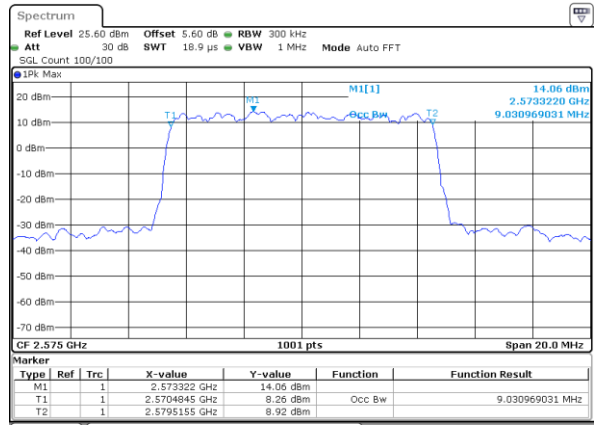


LTE Band 38

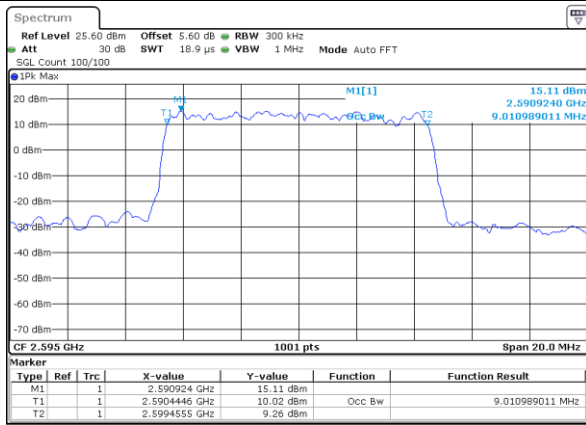
Lowest Channel / 10MHz / QPSK



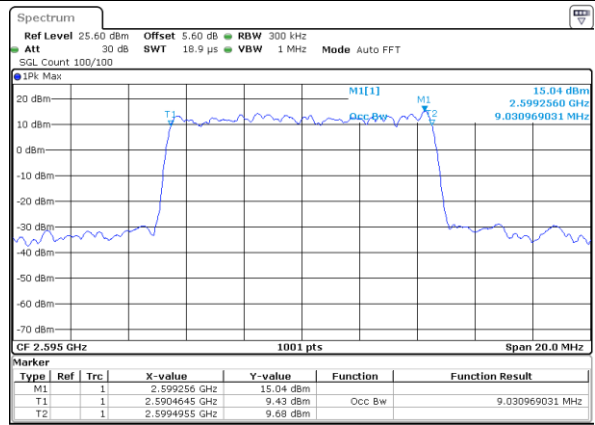
Lowest Channel / 10MHz / 16QAM



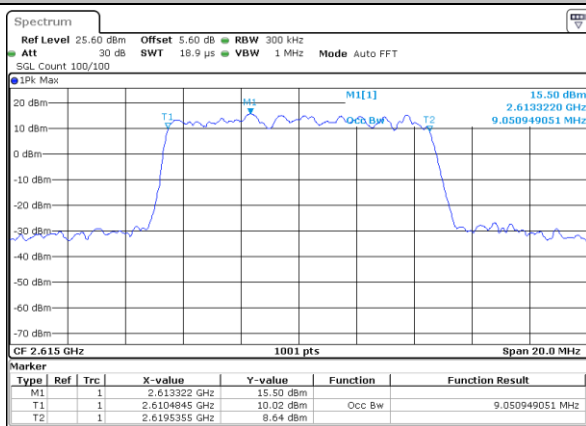
Middle Channel / 10MHz / QPSK



Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK



Highest Channel / 10MHz / 16QAM

