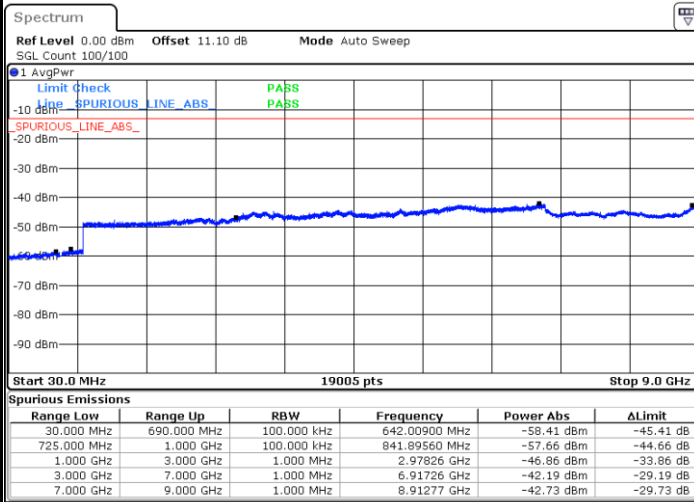




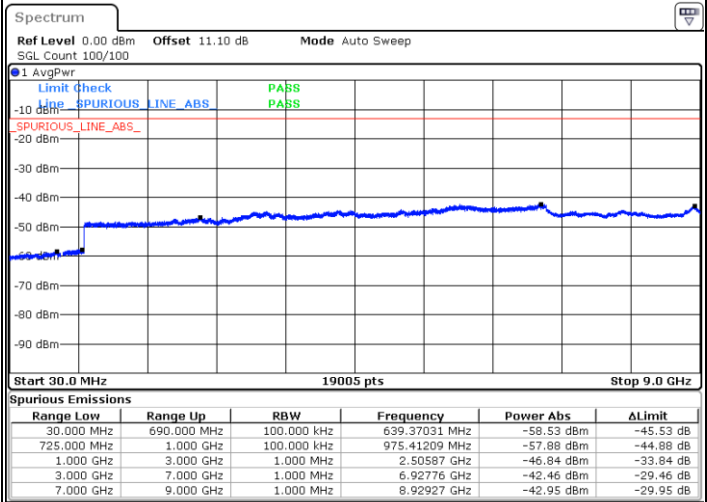
LTE Band 12 / 10MHz

Lowest Channel / 64QAM



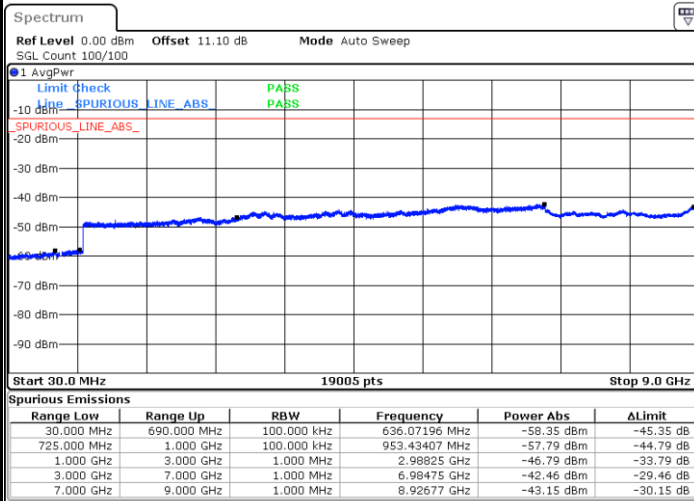
Date: 22.JUL.2020 15:47:25

Middle Channel / 64QAM



Date: 22.JUL.2020 15:48:45

Highest Channel / 64QAM



Date: 22.JUL.2020 15:52:09

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	0.0072	PASS
40	Normal Voltage	0.0010	
30	Normal Voltage	0.0167	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0006	
0	Normal Voltage	0.0119	
-10	Normal Voltage	0.0168	
-20	Normal Voltage	0.0037	
-30	Normal Voltage	0.0161	
20	Maximum Voltage	0.0007	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0033	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.65 V. ; Maximum Voltage =4.25 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

LTE Band 13

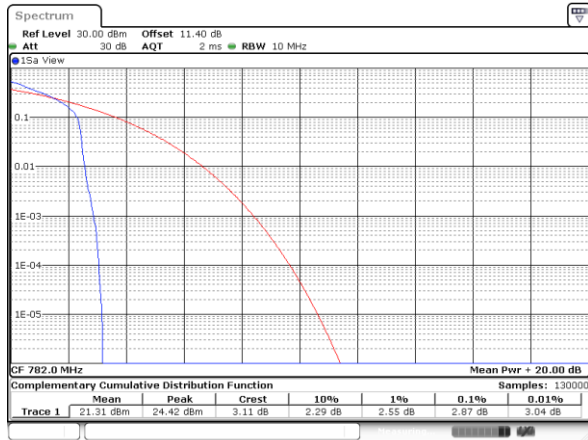
Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	2.87	4.84	3.57	5.74	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	4.43	6.17	-	-	
Highest CH	-	-	-	-	

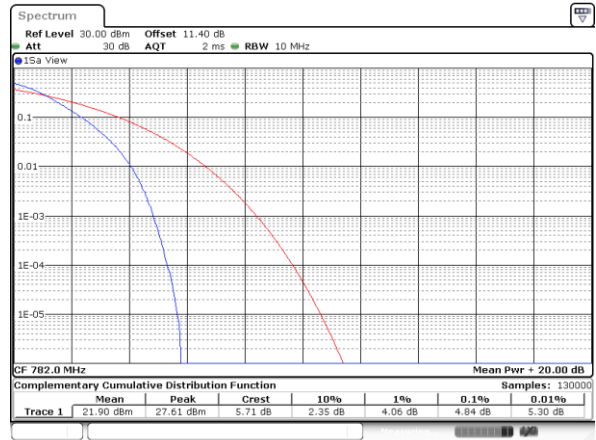


LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB

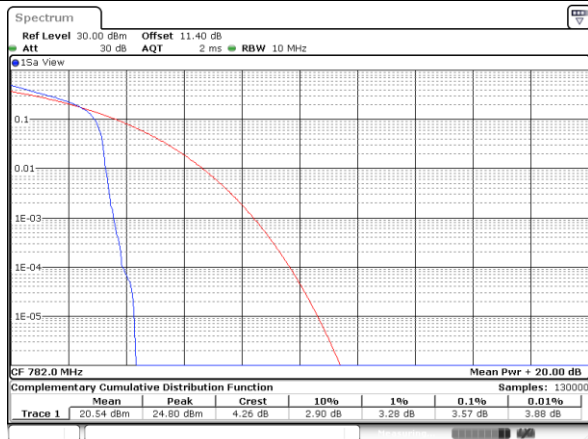


Middle Channel / Full RB

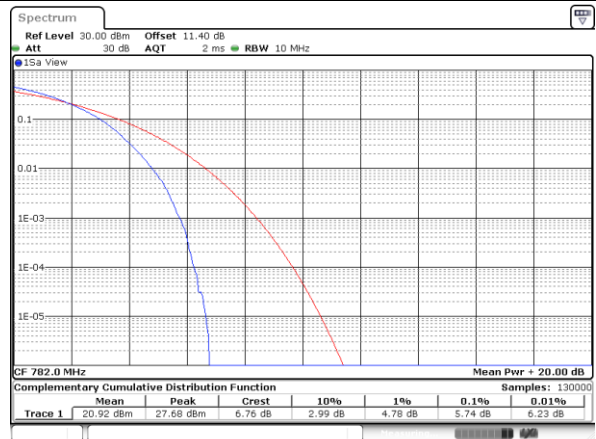


LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB

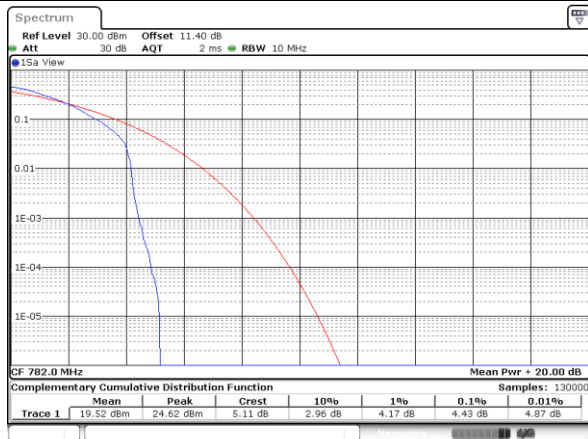


Middle Channel / Full RB

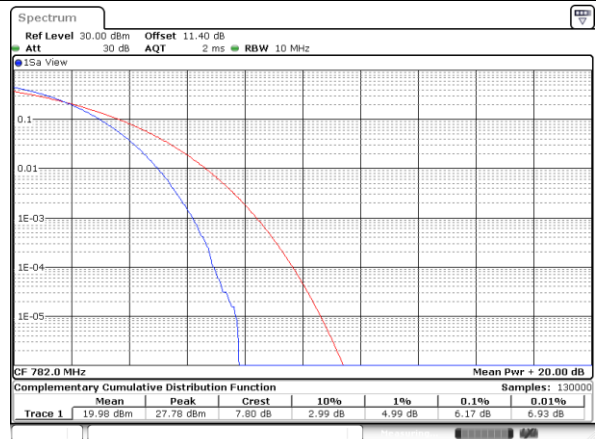


LTE Band 13 / 10MHz / 64QAM

Middle Channel / 1RB



Middle Channel / Full RB



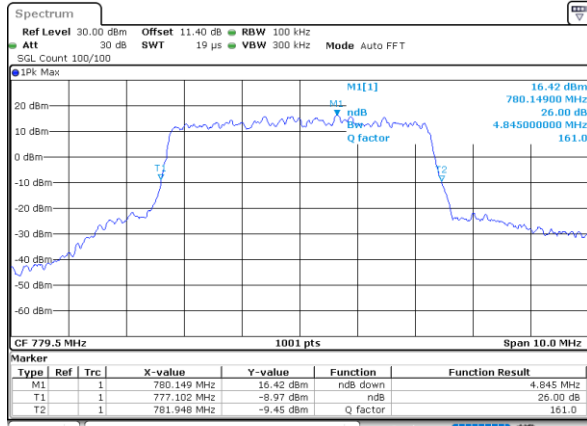
**26dB Bandwidth**

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	-	-	-	-	4.85	4.88	-	-	-	-	-	-
Middle CH	-	-	-	-	4.94	4.78	9.75	9.83	-	-	-	-
Highest CH	-	-	-	-	4.85	4.89	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.92	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.90	-	9.65	-	-	-	-	-
Highest CH	-	-	-	-	4.86	-	-	-	-	-	-	-

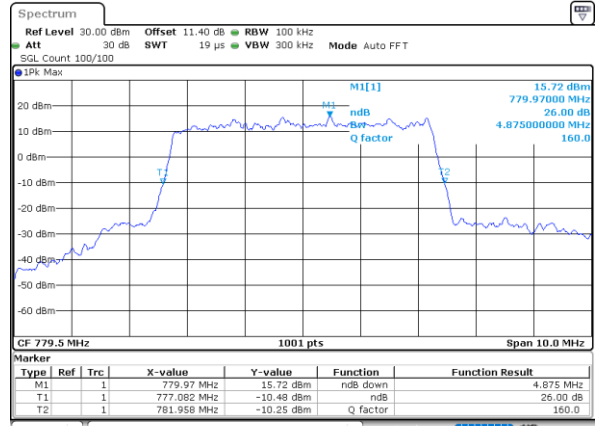


LTE Band 13

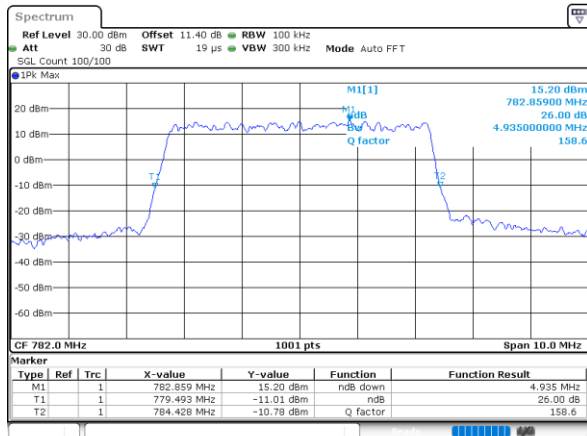
Lowest Channel / 5MHz / QPSK



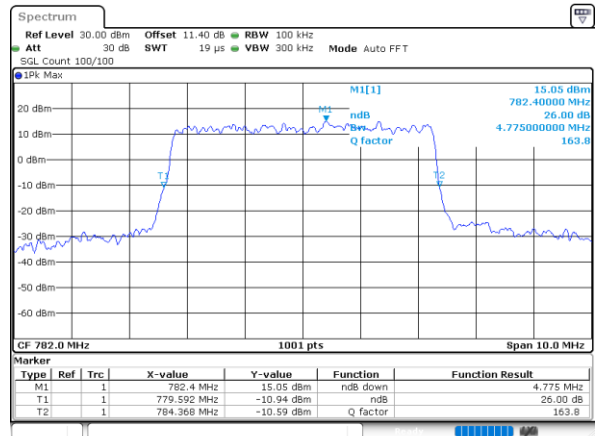
Lowest Channel / 5MHz / 16QAM



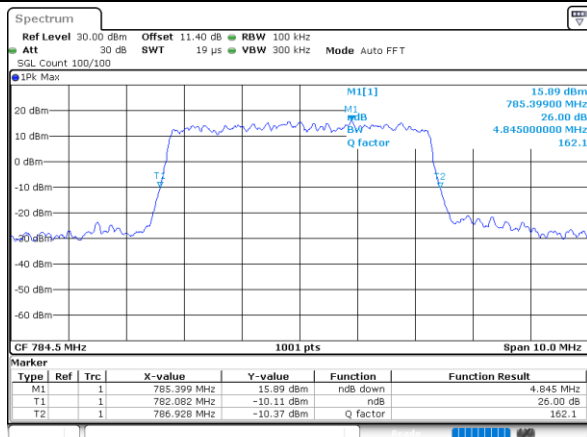
Middle Channel / 5MHz / QPSK



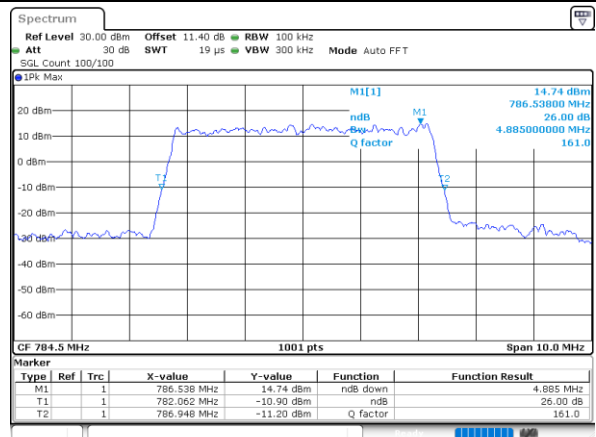
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



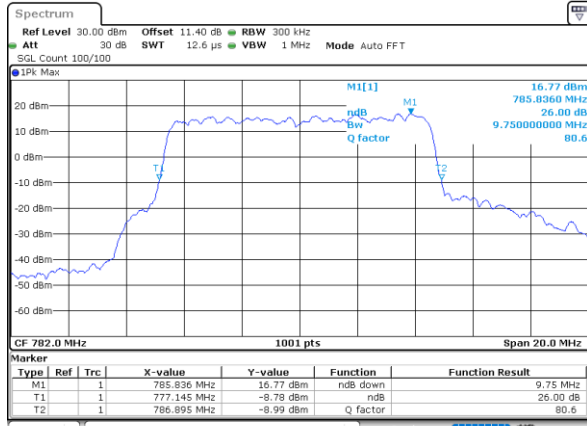
Highest Channel / 5MHz / 16QAM





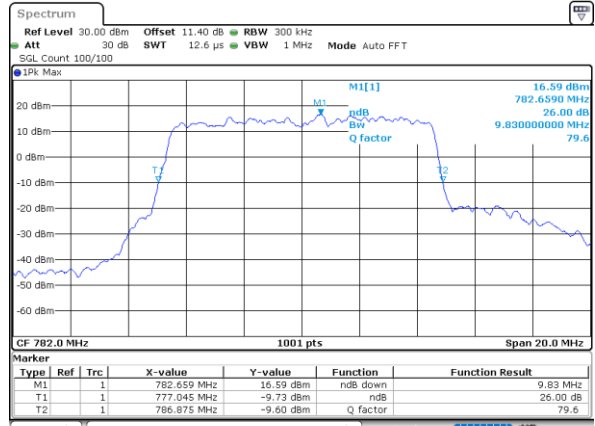
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 21.JUL.2020 16:50:47

Middle Channel / 10MHz / 16QAM

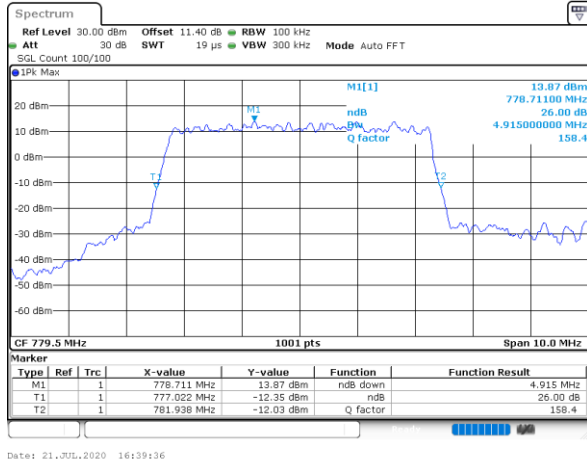


Date: 21.JUL.2020 16:50:36

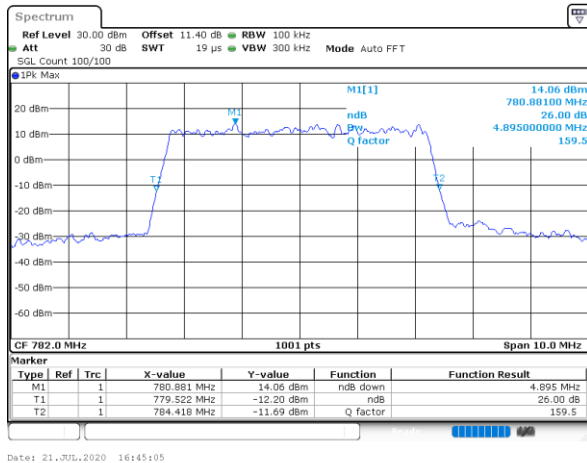


LTE Band 13

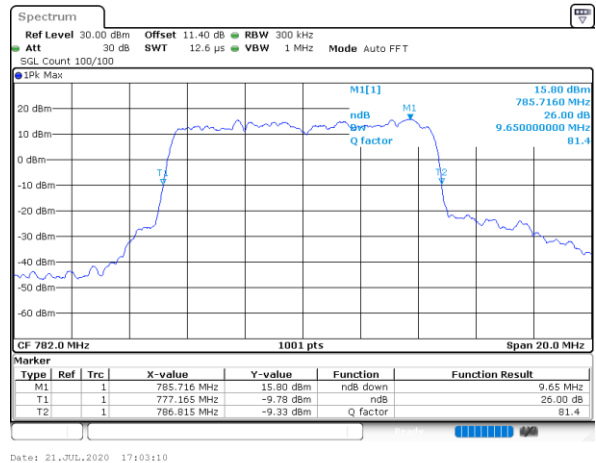
Lowest Channel / 5MHz / 64QAM



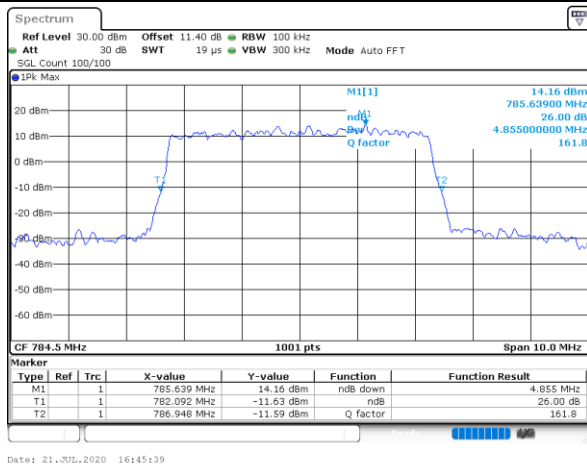
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



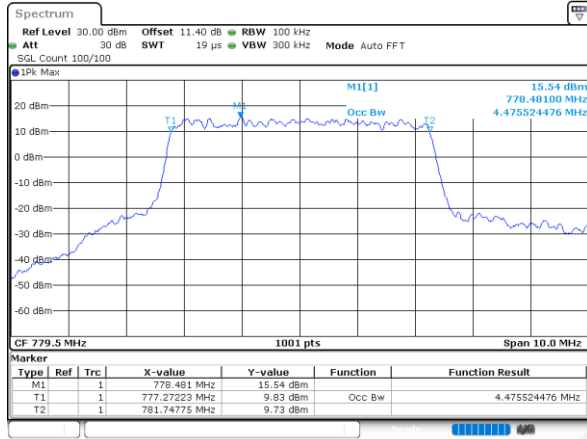
**Occupied Bandwidth**

Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.48	4.48	-	-	-	-	-	-
Middle CH	-	-	-	-	4.49	4.49	9.01	8.97	-	-	-	-
Highest CH	-	-	-	-	4.48	4.47	-	-	-	-	-	-
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.49	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.48	-	9.01	-	-	-	-	-
Highest CH	-	-	-	-	4.49	-	-	-	-	-	-	-

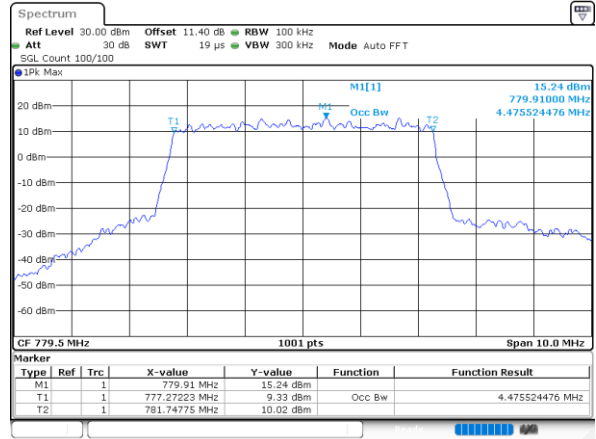


LTE Band 13

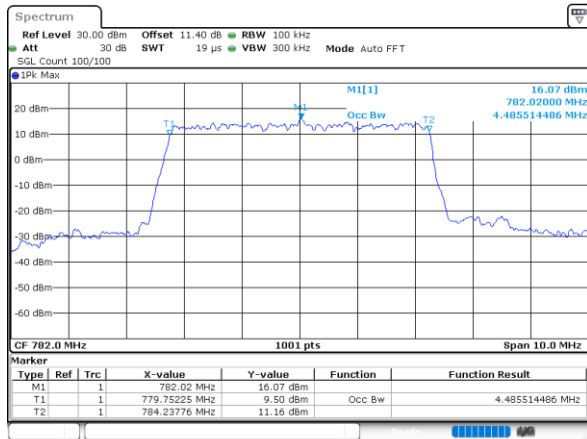
Lowest Channel / 5MHz / QPSK



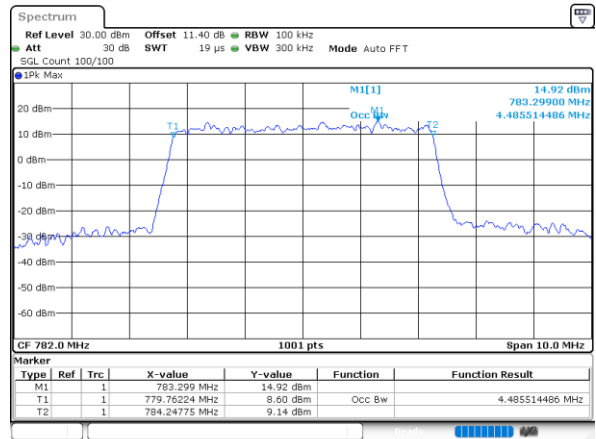
Lowest Channel / 5MHz / 16QAM



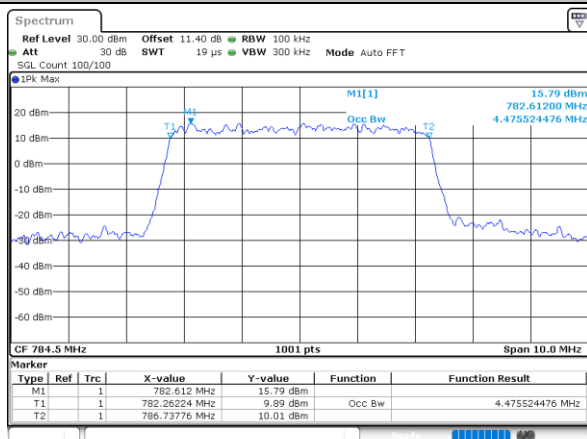
Middle Channel / 5MHz / QPSK



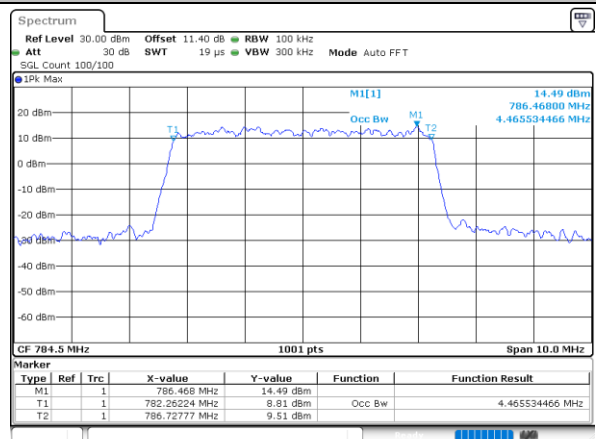
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



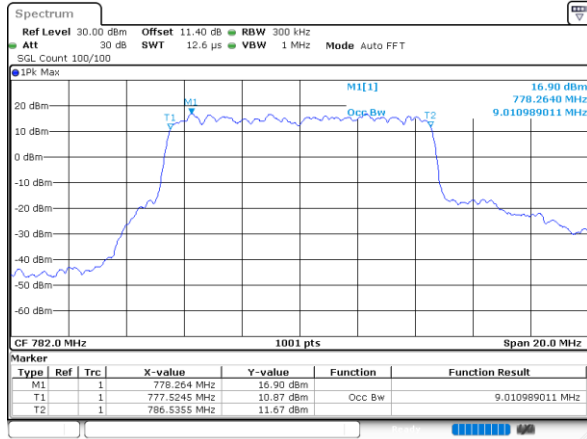
Highest Channel / 5MHz / 16QAM





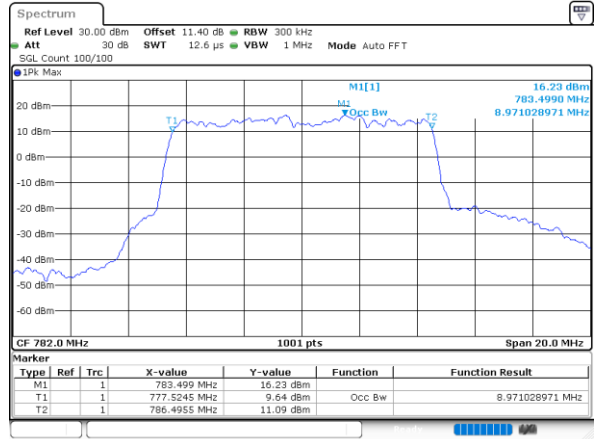
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 21.JUL.2020 16:50:13

Middle Channel / 10MHz / 16QAM

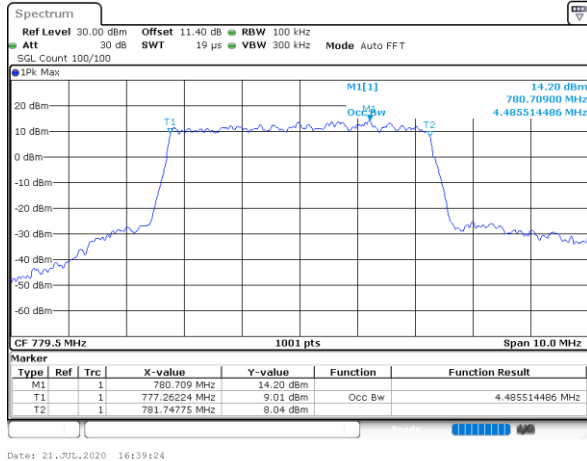


Date: 21.JUL.2020 16:50:25

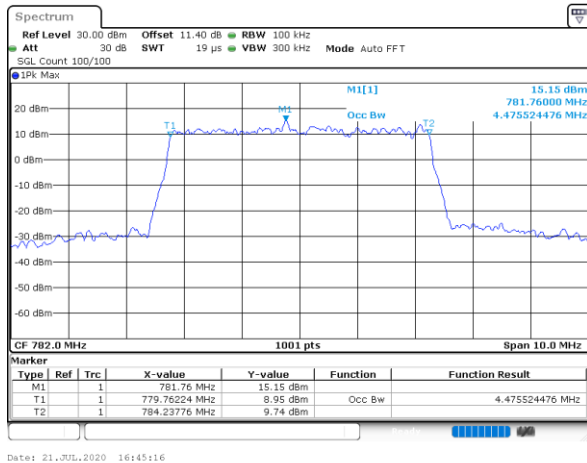


LTE Band 13

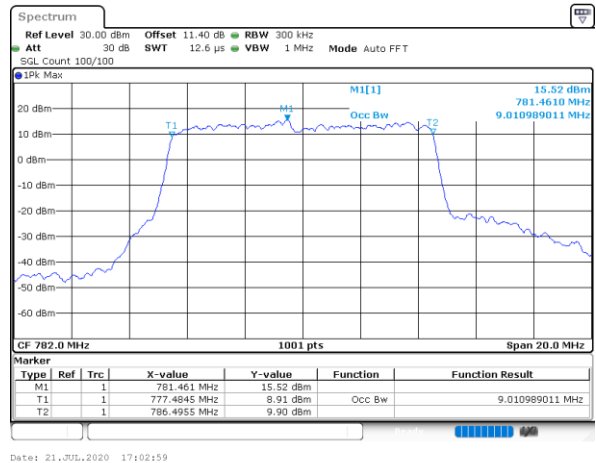
Lowest Channel / 5MHz / 64QAM



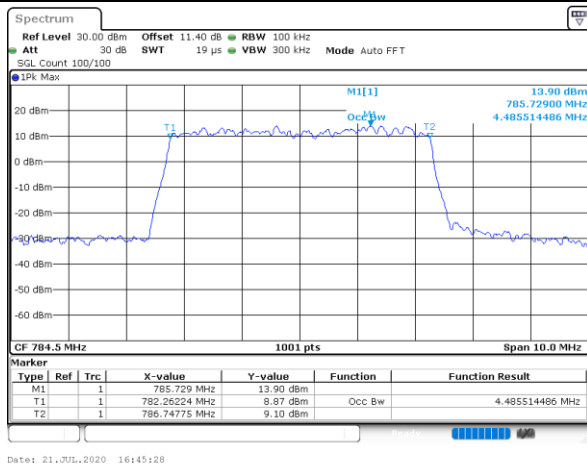
Middle Channel / 5MHz / 64QAM

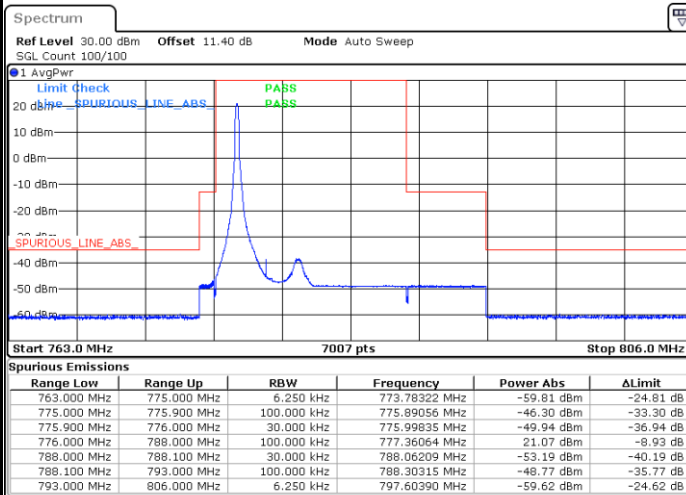
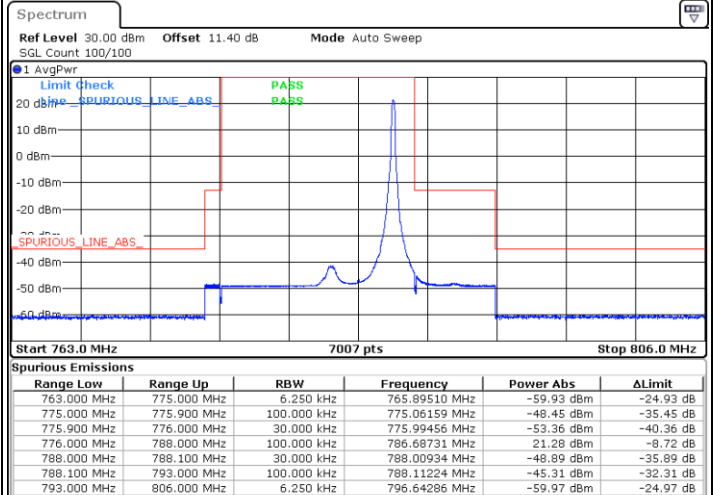
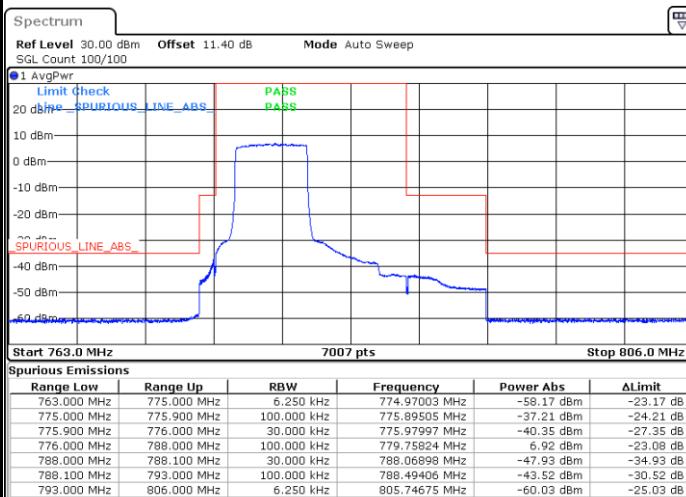
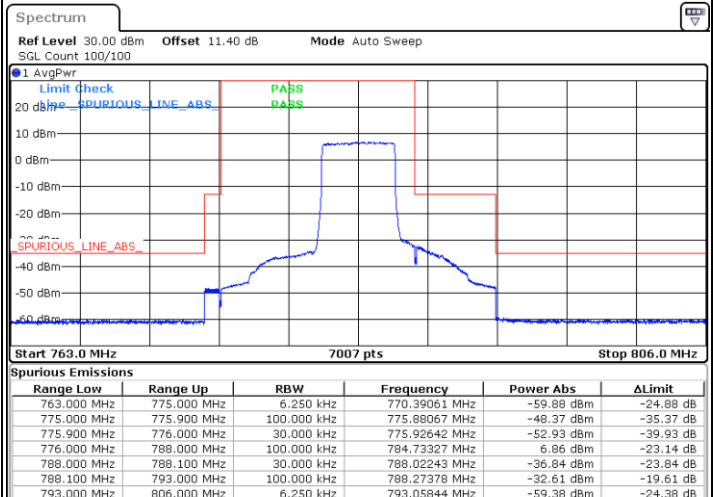


Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

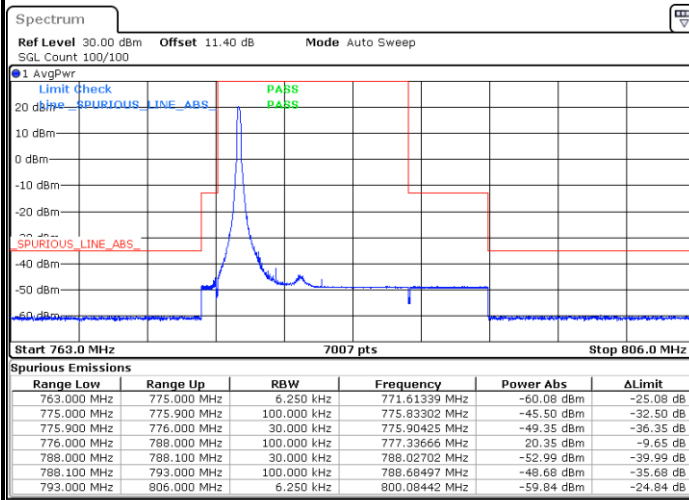


**Conducted Band Edge****LTE Band 13 / 5MHz / QPSK****Lowest Band Edge / 1 RB****Highest Band Edge / 1 RB****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**



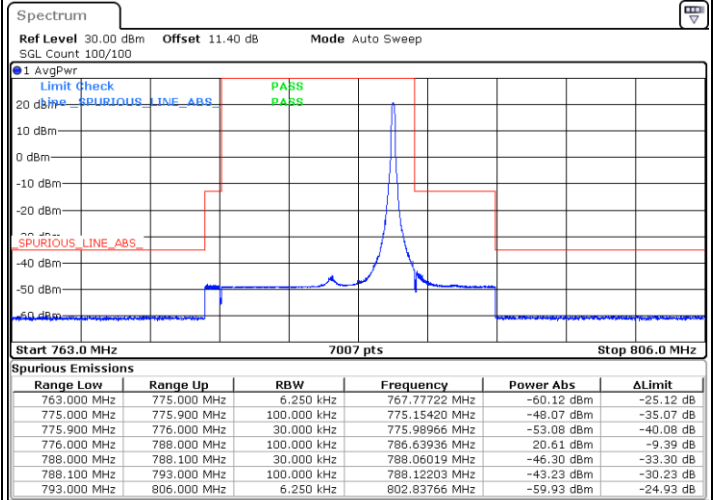
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB



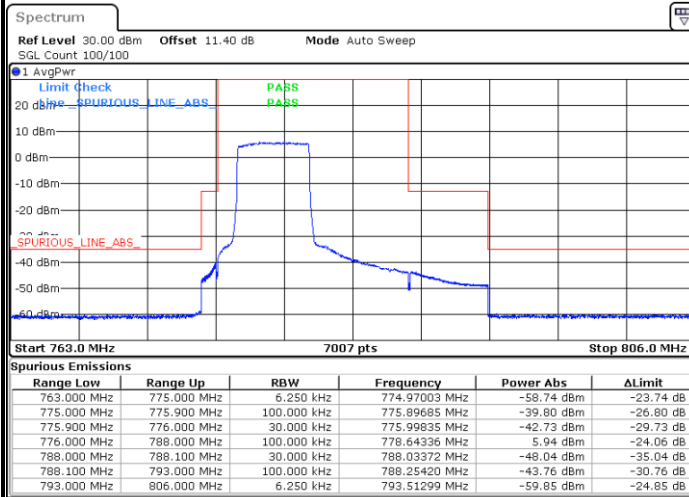
Date: 21.JUL.2020 16:23:26

Highest Band Edge / 1 RB



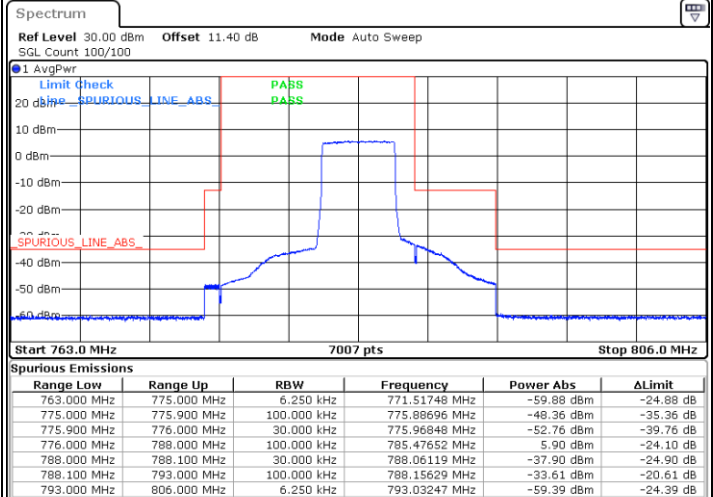
Date: 21.JUL.2020 16:35:34

Lowest Band Edge / Full RB



Date: 21.JUL.2020 16:21:44

Highest Band Edge / Full RB

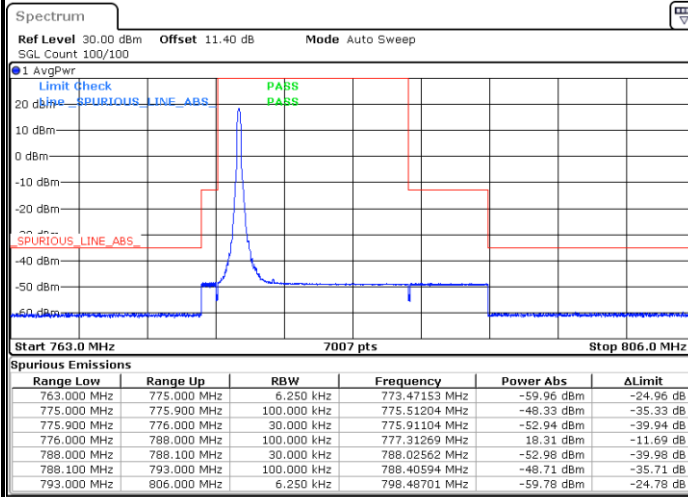


Date: 21.JUL.2020 16:33:52



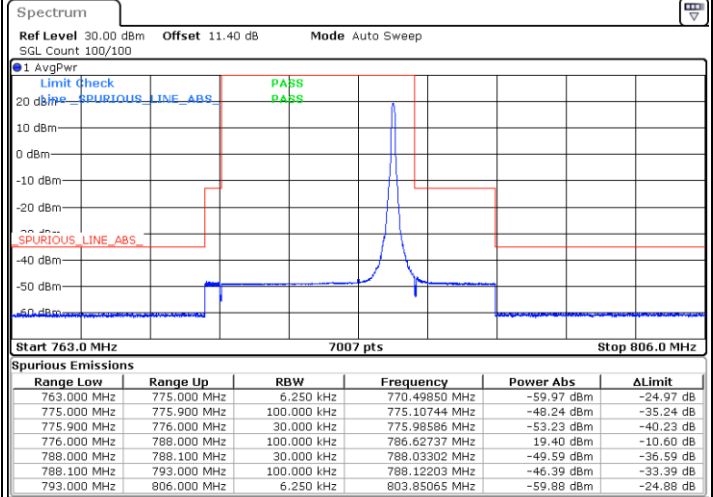
LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB



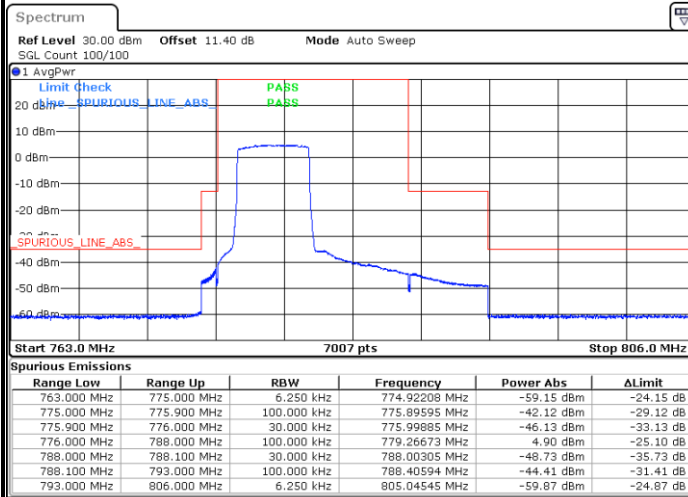
Date: 21.JUL.2020 16:42:57

Highest Band Edge / 1 RB



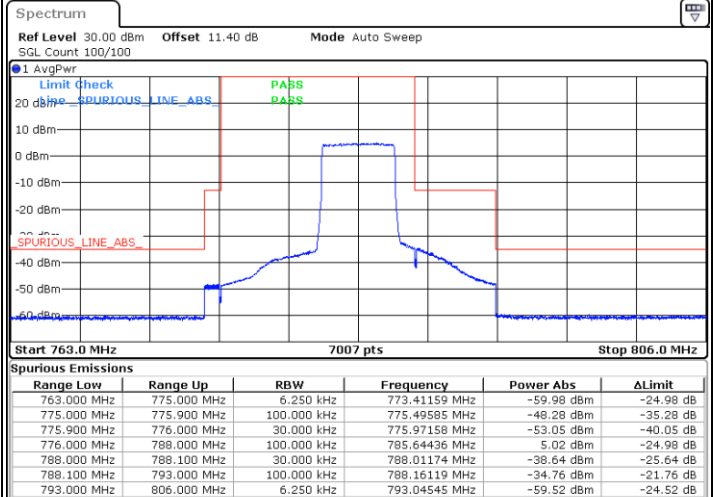
Date: 21.JUL.2020 16:49:01

Lowest Band Edge / Full RB



Date: 21.JUL.2020 16:41:16

Highest Band Edge / Full RB

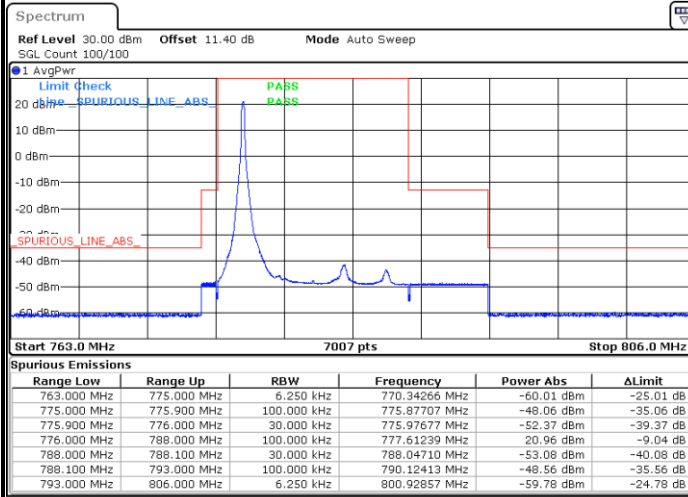


Date: 21.JUL.2020 16:47:19



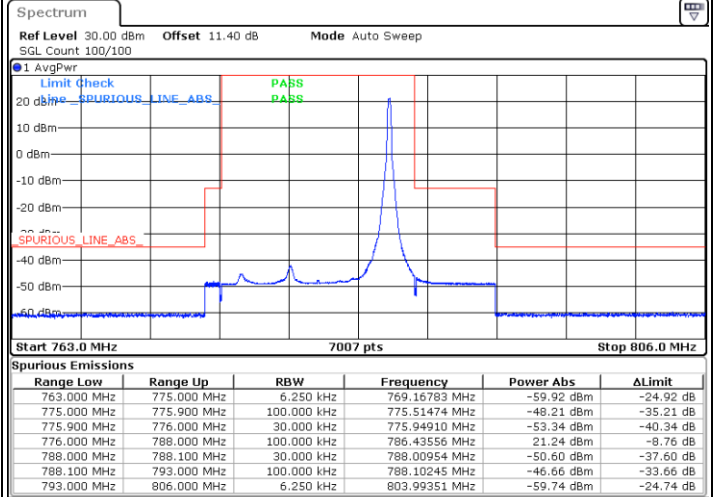
LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



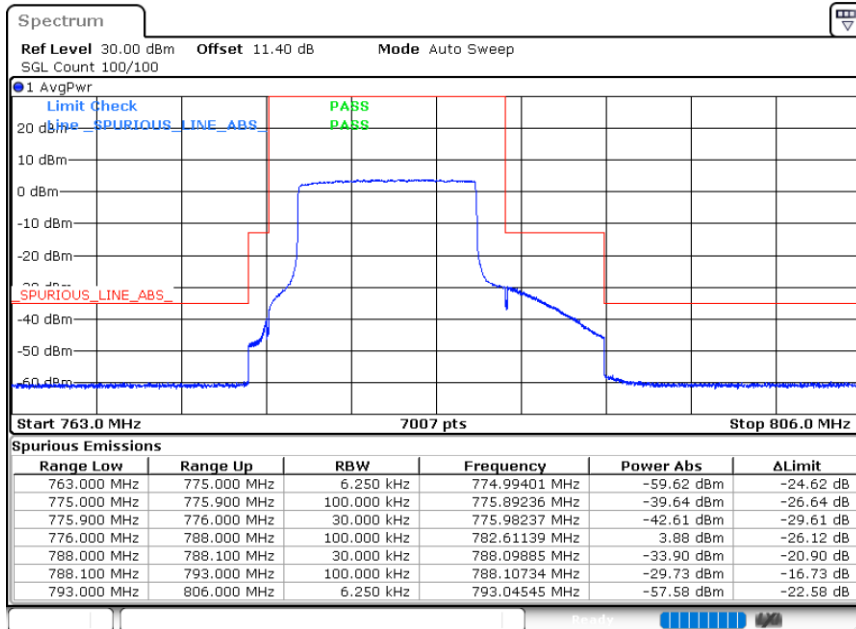
Date: 21.JUL.2020 16:57:30

Highest Band Edge / 1 RB



Date: 21.JUL.2020 16:59:11

Band Edge / Full RB

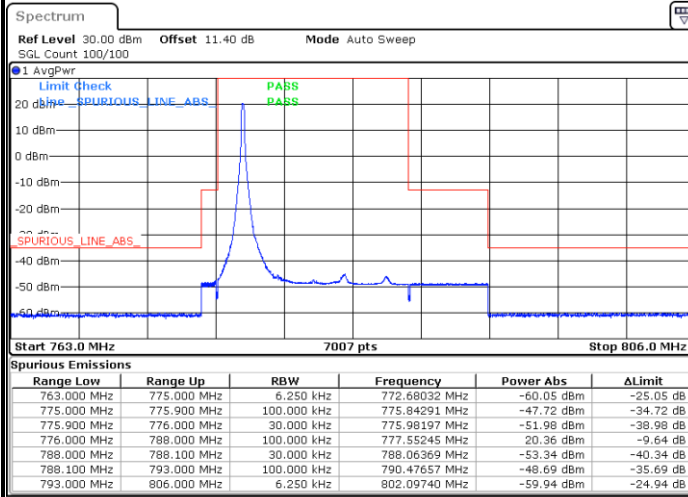


Date: 21.JUL.2020 16:52:27



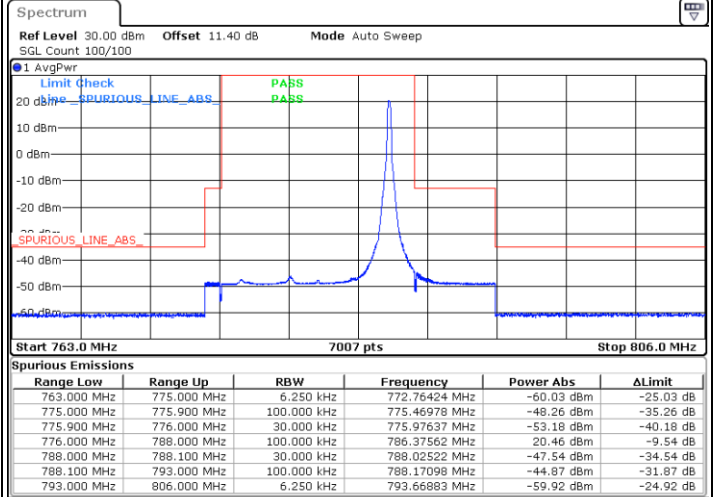
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



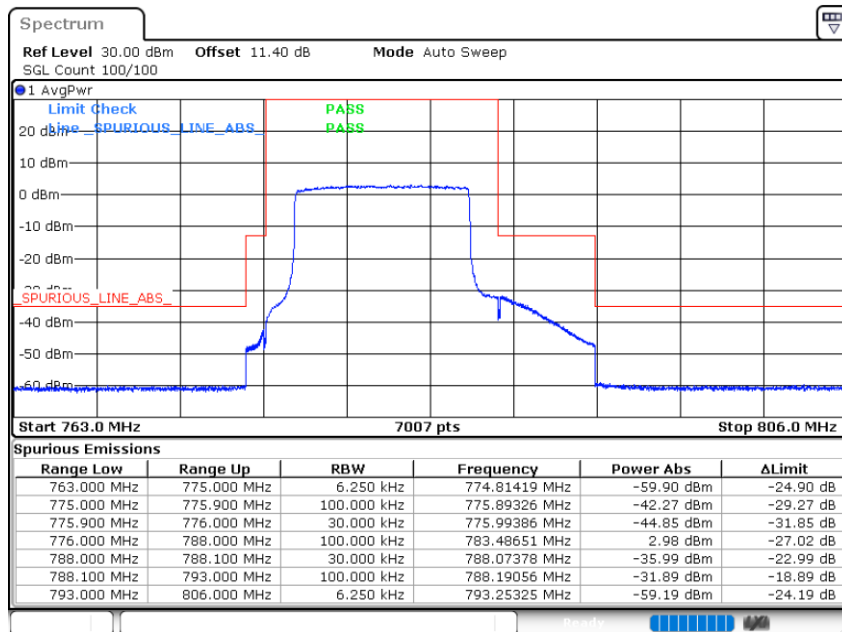
Date: 21.JUL.2020 16:55:49

Highest Band Edge / 1 RB



Date: 21.JUL.2020 17:00:52

Band Edge / Full RB

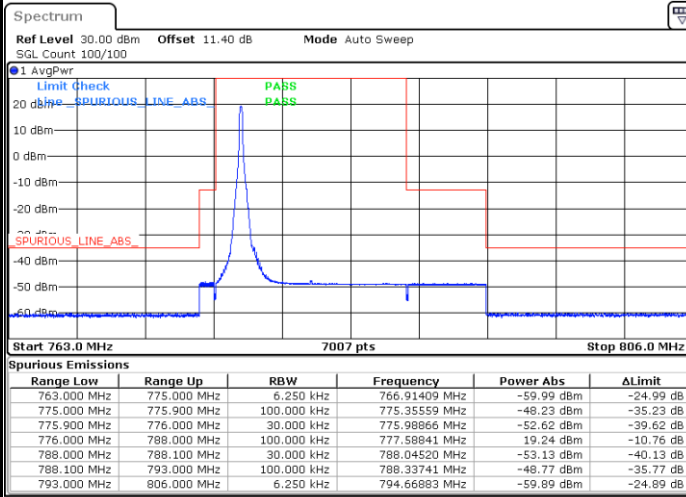


Date: 21.JUL.2020 16:54:08



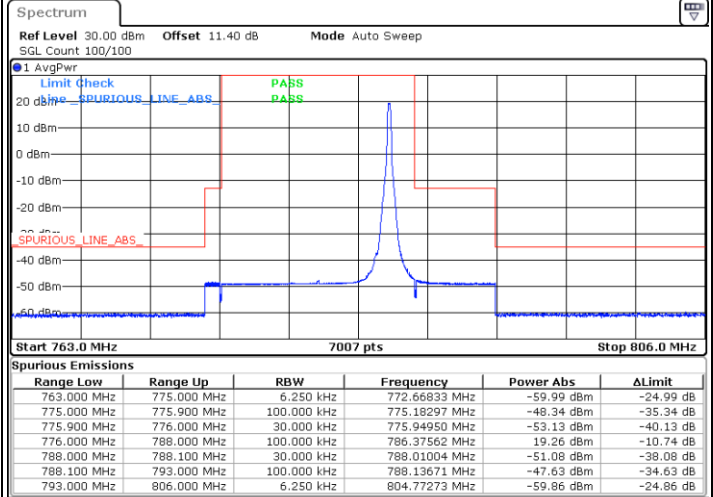
LTE Band 13 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



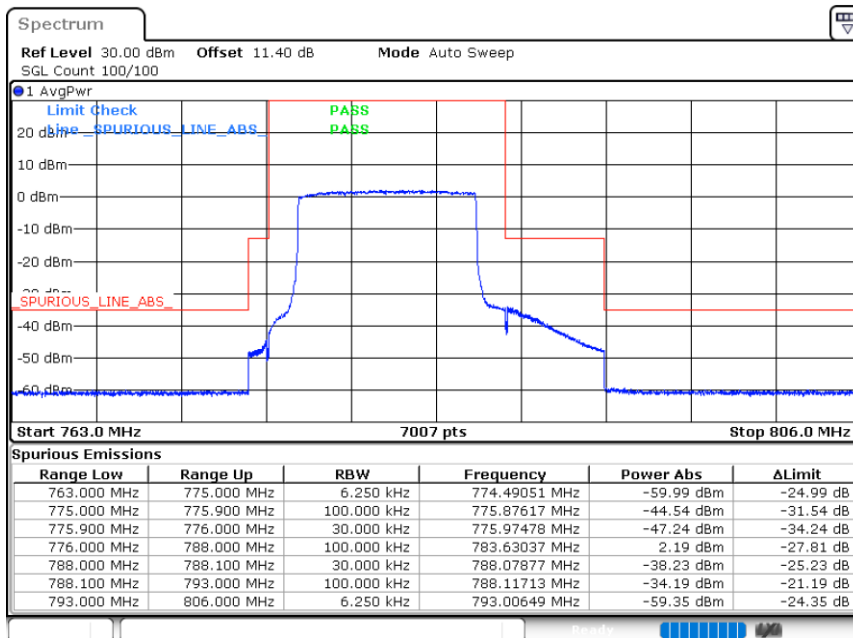
Date: 21.JUL.2020 17:06:31

Highest Band Edge / 1 RB

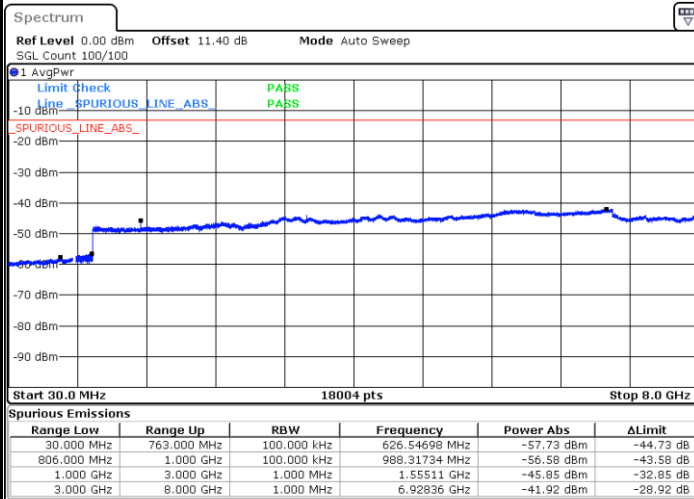
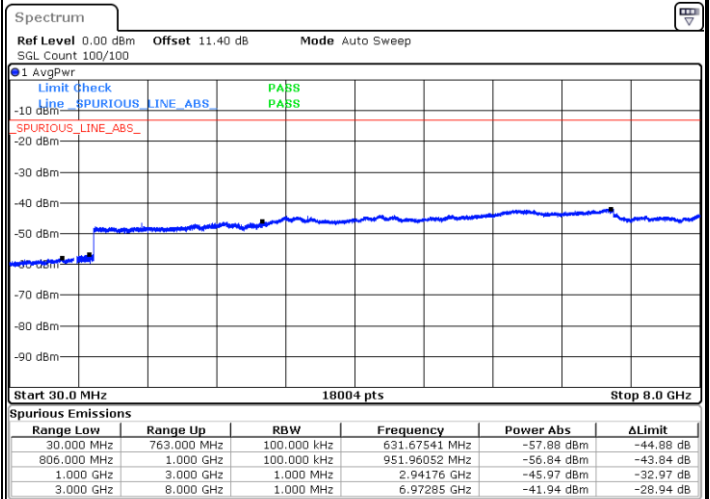
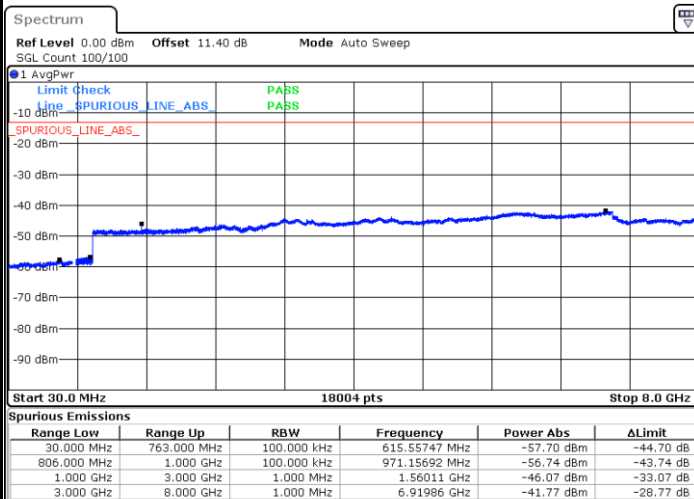
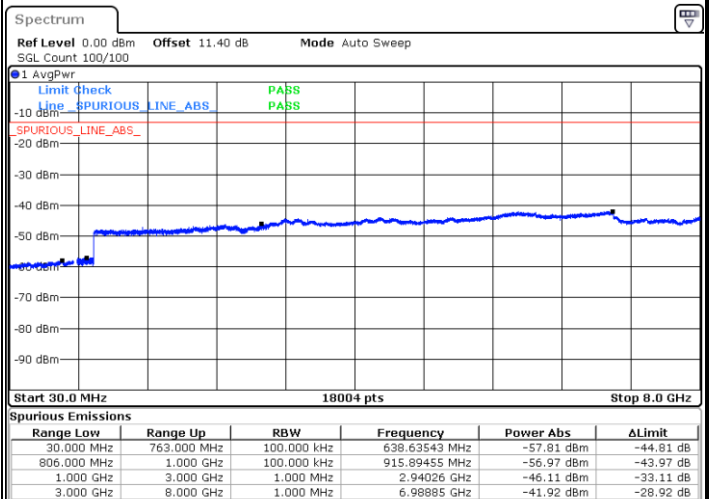


Date: 21.JUL.2020 17:08:12

Band Edge / Full RB



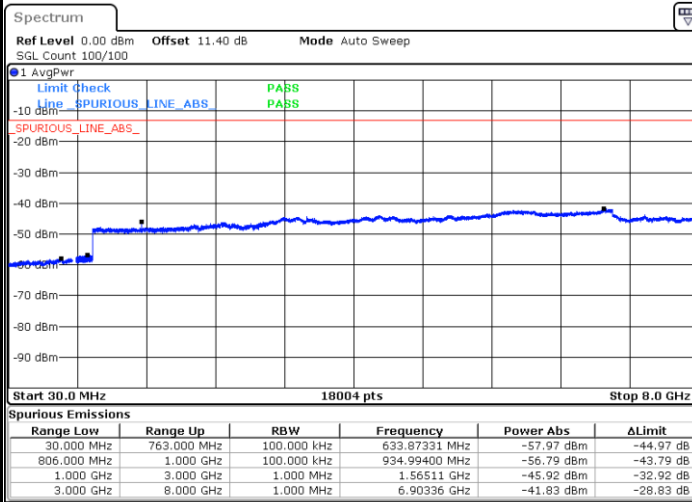
Date: 21.JUL.2020 17:04:49

**Conducted Spurious Emission****LTE Band 13 / 5MHz****Lowest Channel / QPSK****Lowest Channel / 16QAM****Middle Channel / QPSK****Middle Channel / 16QAM**



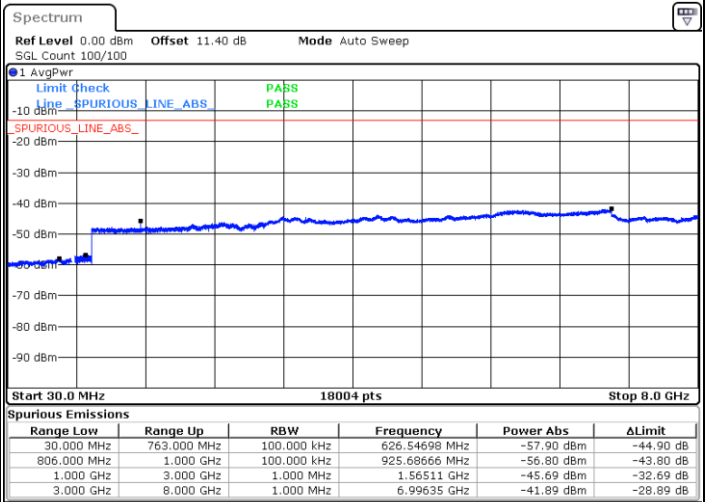
LTE Band 13 / 5MHz

Highest Channel / QPSK



Date: 21.JUL.2020 16:38:12

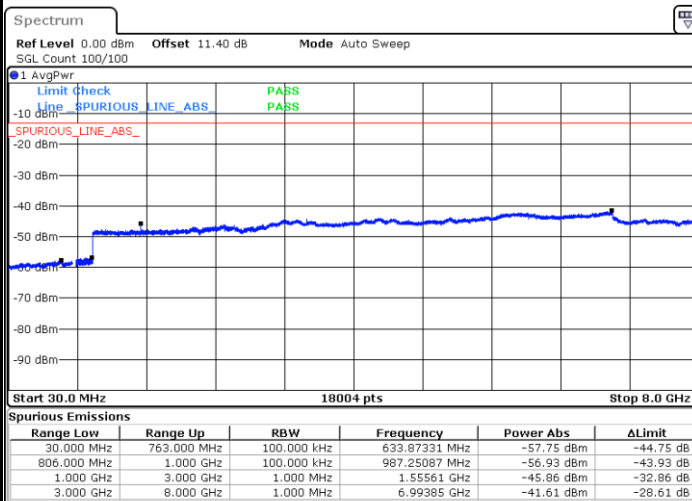
Highest Channel / 16QAM



Date: 21.JUL.2020 16:39:10

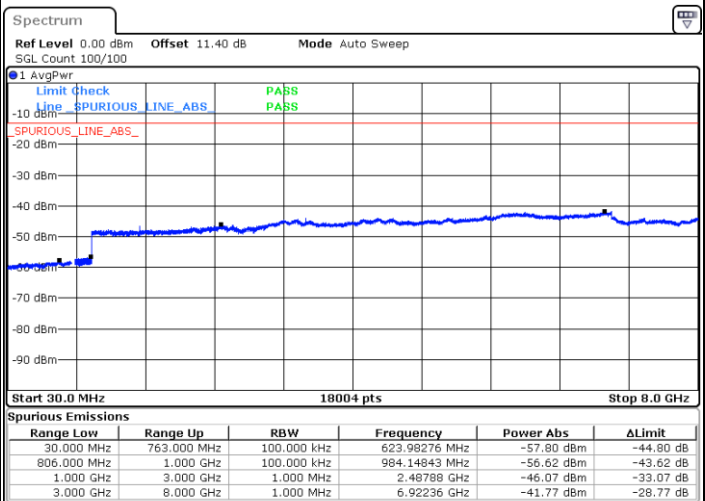
LTE Band 13 / 10MHz

Middle Channel / QPSK



Date: 21.JUL.2020 17:02:45

Middle Channel / 16QAM

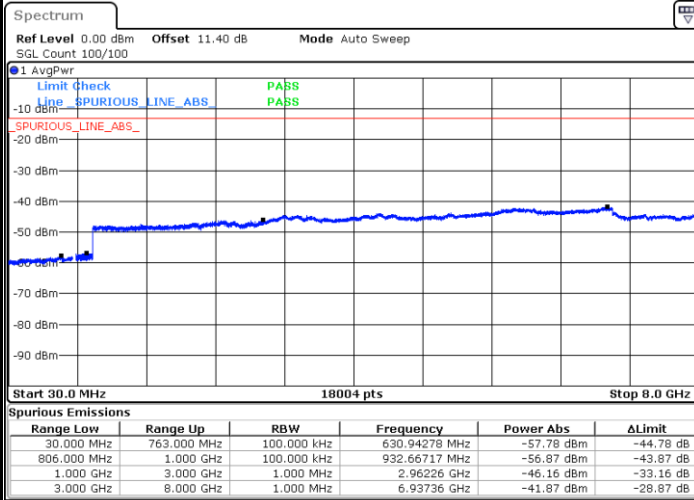


Date: 21.JUL.2020 17:01:48



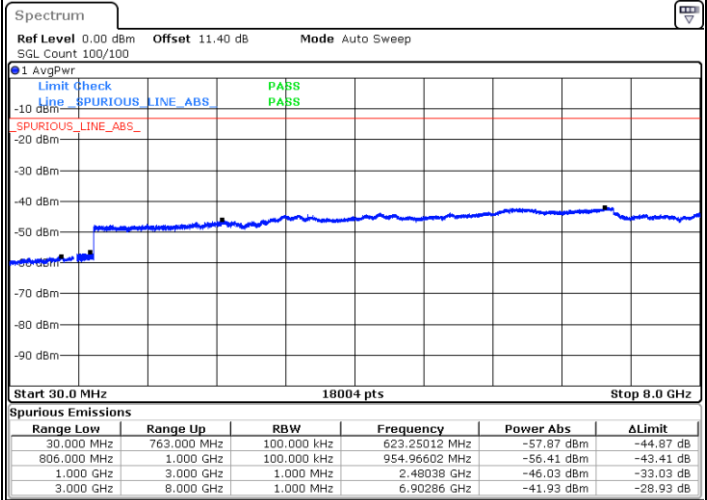
LTE Band 13 / 5MHz

Lowest Channel / 64QAM



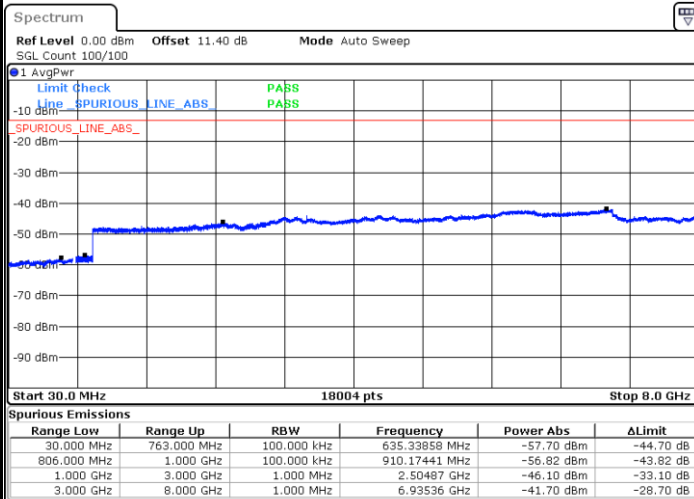
Date: 21.JUL.2020 16:43:54

Middle Channel / 64QAM



Date: 21.JUL.2020 16:44:51

Highest Channel / 64QAM

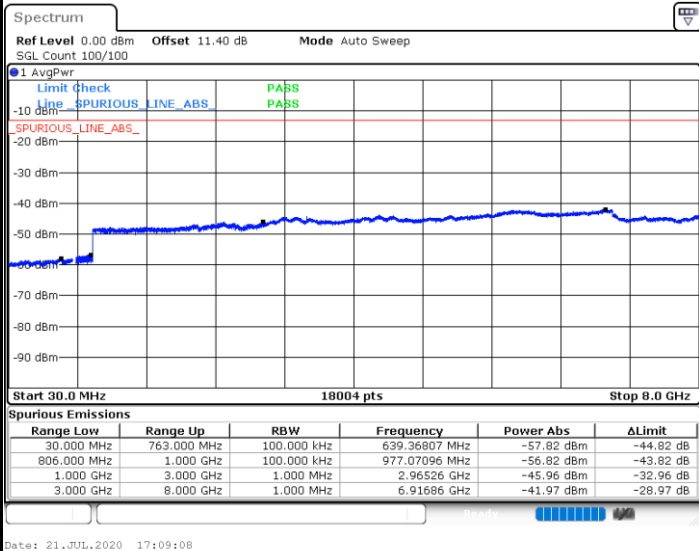


Date: 21.JUL.2020 16:49:58



LTE Band 13 / 10MHz

Middle Channel / 64QAM



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	0.0042	PASS
40	Normal Voltage	0.0152	
30	Normal Voltage	0.0013	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0013	
0	Normal Voltage	0.0009	
-10	Normal Voltage	0.0052	
-20	Normal Voltage	0.0013	
-30	Normal Voltage	0.0046	
20	Maximum Voltage	0.0097	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0029	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.65 V. ; Maximum Voltage =4.25 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 41

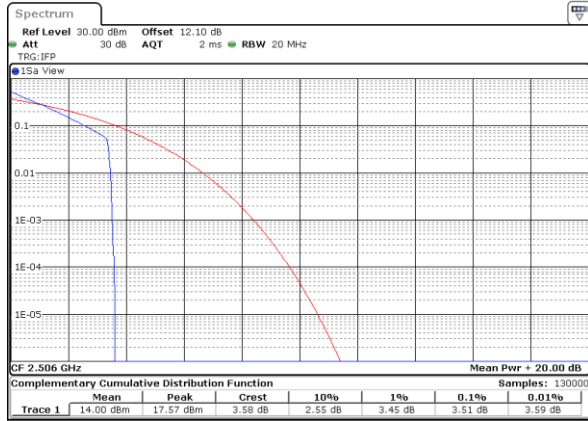
Peak-to-Average Ratio

Mode	LTE Band 41 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.51	4.93	5.39	5.65	PASS
Middle CH	3.59	4.72	4.81	5.94	
Highest CH	4.00	4.61	5.01	5.97	
Mode	LTE Band 41 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.78	6.58	-	-	PASS
Middle CH	6.67	6.58	-	-	
Highest CH	6.99	6.49	-	-	

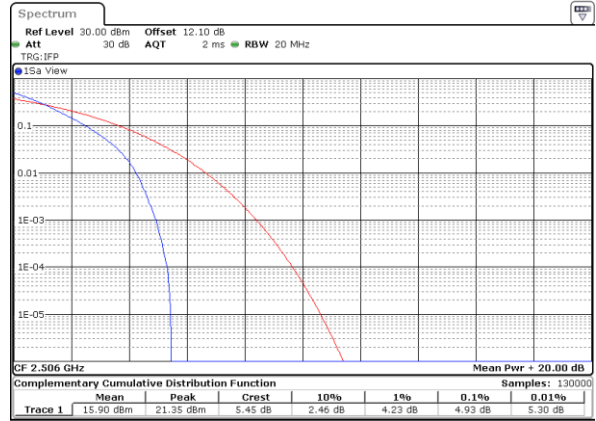


LTE Band 41 / 20MHz / QPSK

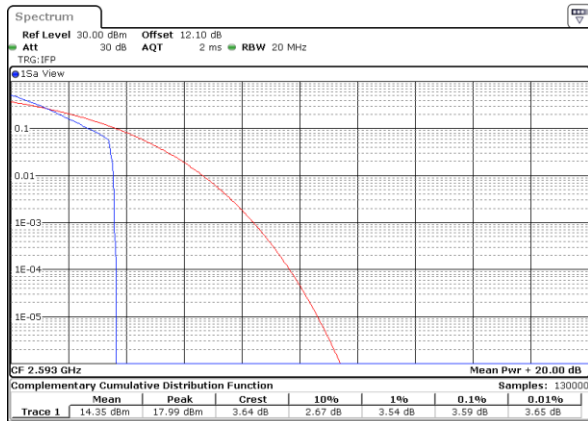
Lowest Channel / 1RB



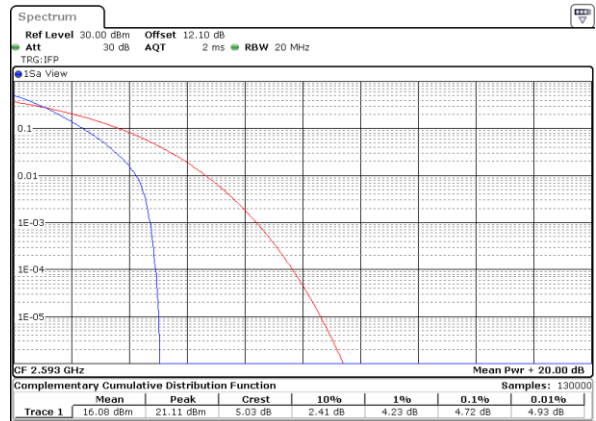
Lowest Channel / Full RB



Middle Channel / 1RB



Middle Channel / Full RB



Highest Channel / 1RB



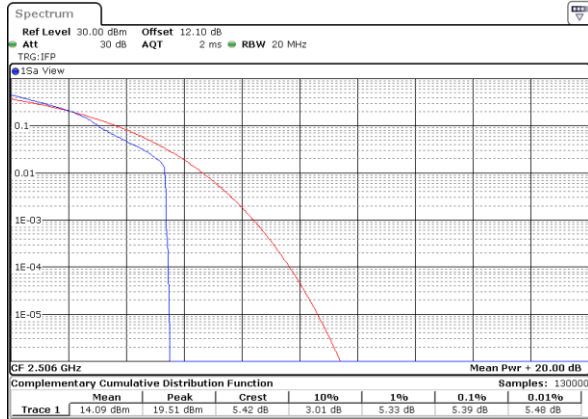
Highest Channel / Full RB



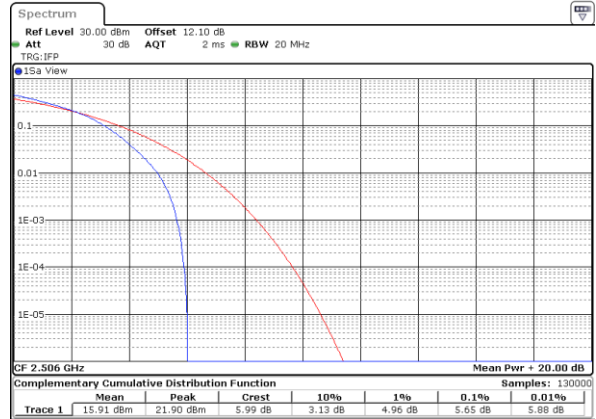


LTE Band 41 / 20MHz / 16QAM

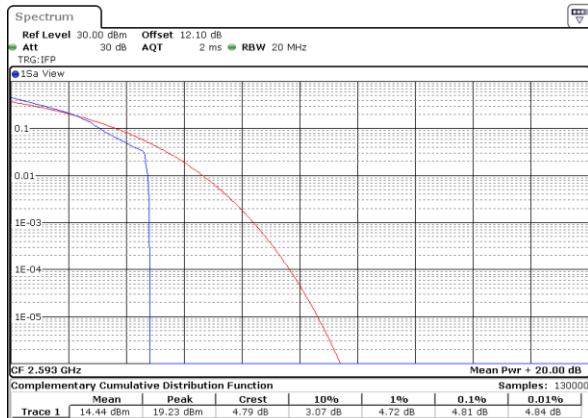
Lowest Channel / 1RB



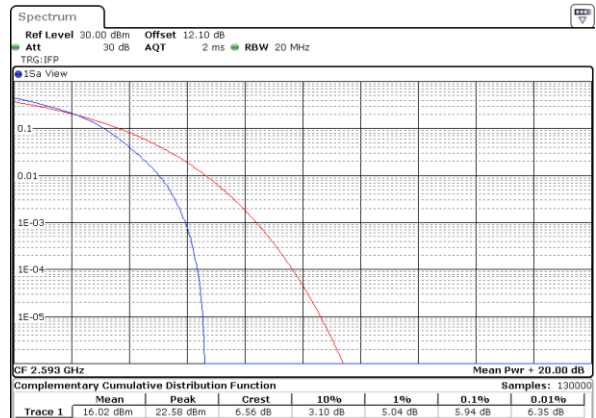
Lowest Channel / Full RB



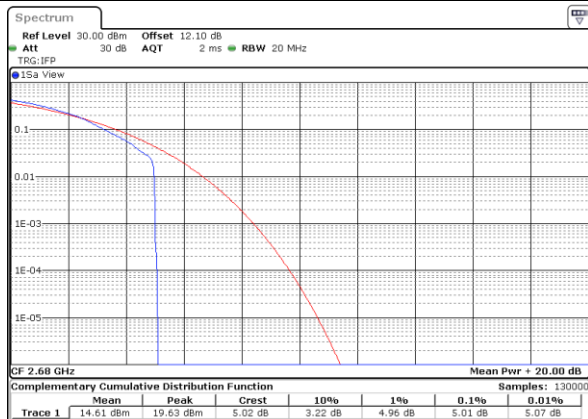
Middle Channel / 1RB



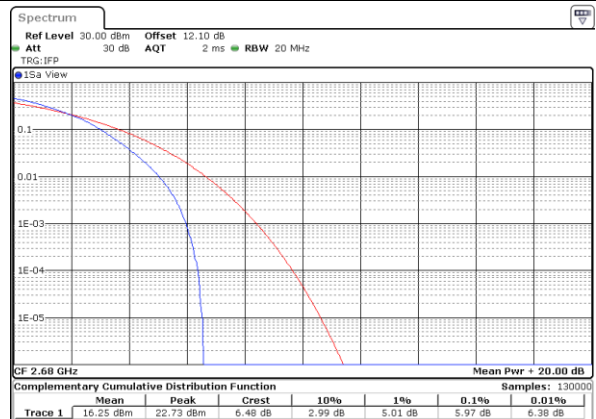
Middle Channel / Full RB



Highest Channel / 1RB



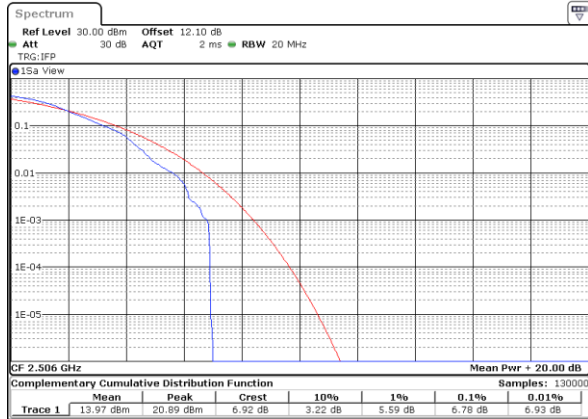
Highest Channel / Full RB



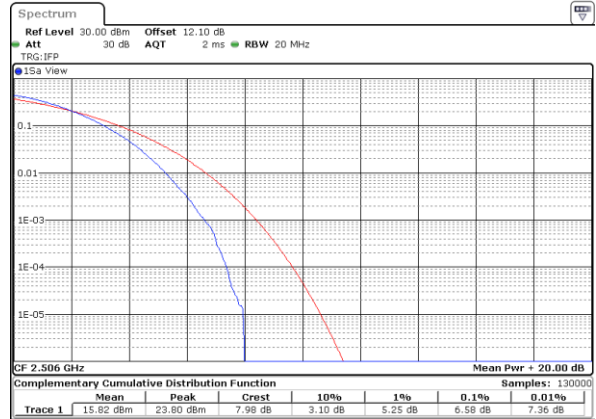


LTE Band 41 / 20MHz / 64QAM

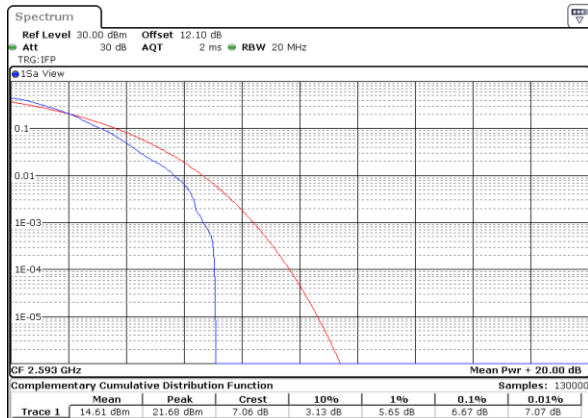
Lowest Channel / 1RB



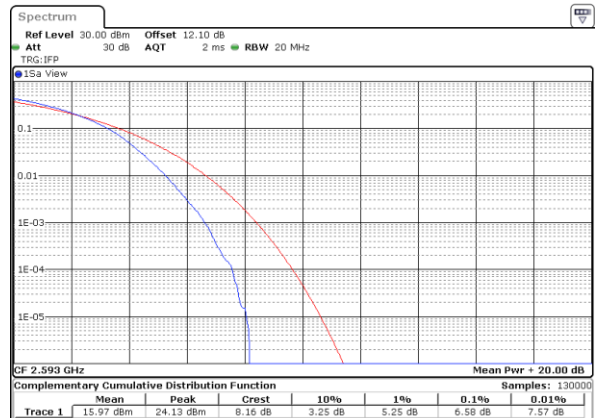
Lowest Channel / Full RB



Middle Channel / 1RB



Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB



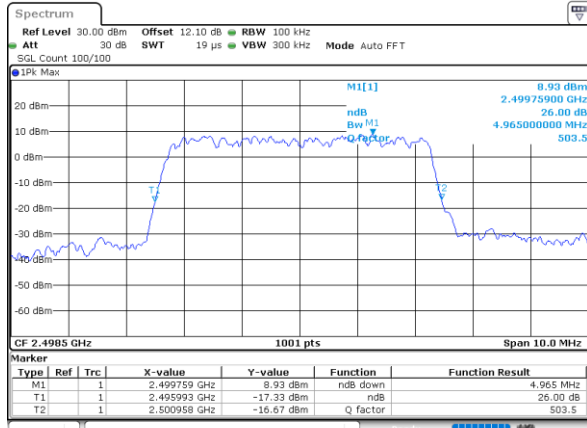
**26dB Bandwidth**

Mode	LTE Band 41 : 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	-	-	-	-	4.97	4.80	9.61	9.73	14.33	14.36	18.94	18.66
Middle CH	-	-	-	-	4.88	4.91	9.63	9.79	14.21	14.36	18.94	19.10
Highest CH	-	-	-	-	4.83	4.85	9.65	9.59	14.30	14.36	18.94	18.98
Mode	LTE Band 41 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.85	-	9.67	-	14.12	-	18.70	-
Middle CH	-	-	-	-	4.88	-	9.65	-	14.24	-	19.06	-
Highest CH	-	-	-	-	4.83	-	9.63	-	14.12	-	18.62	-

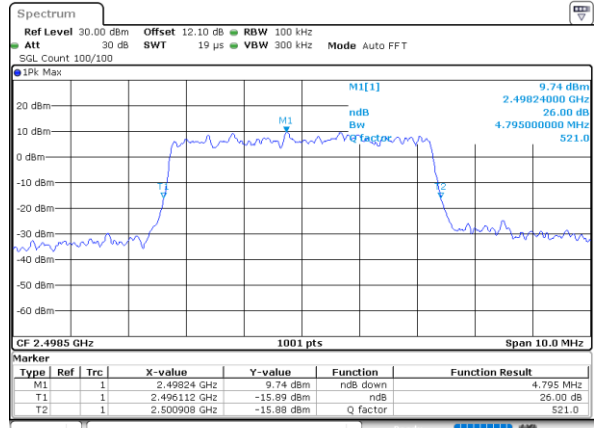


LTE Band 41

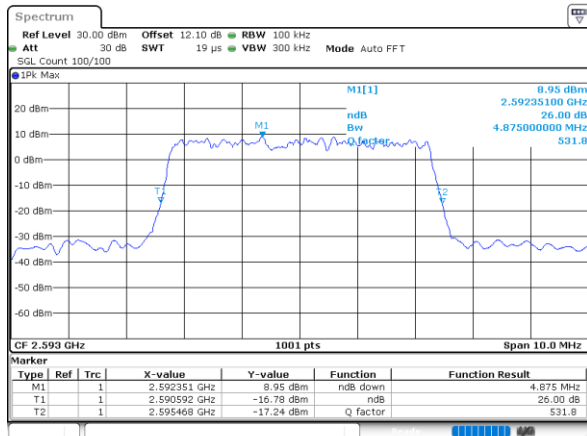
Lowest Channel / 5MHz / QPSK



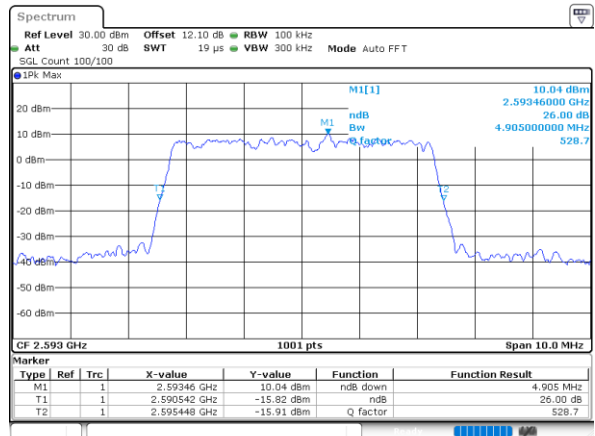
Lowest Channel / 5MHz / 16QAM



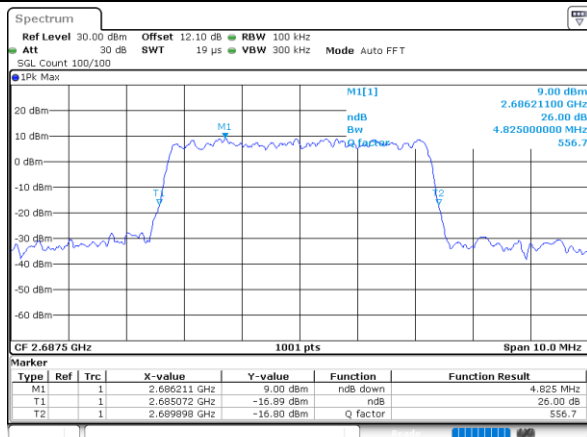
Middle Channel / 5MHz / QPSK



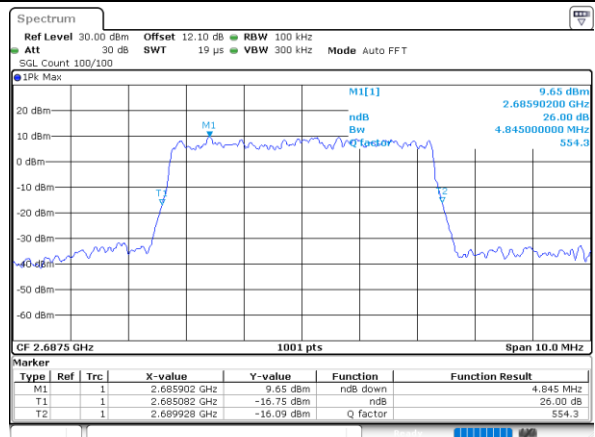
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



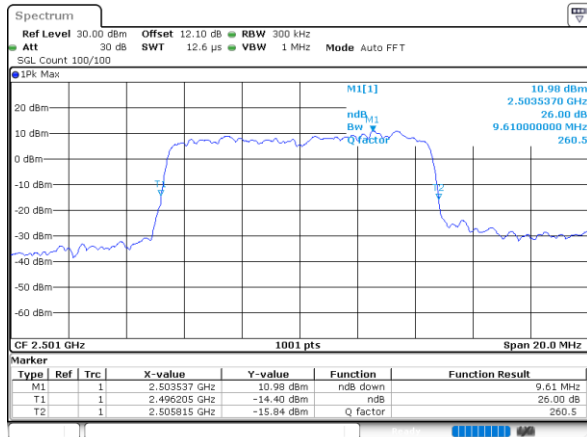
Highest Channel / 5MHz / 16QAM





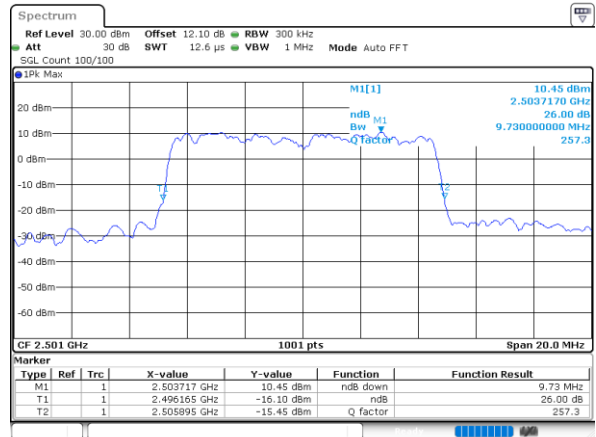
LTE Band 41

Lowest Channel / 10MHz / QPSK



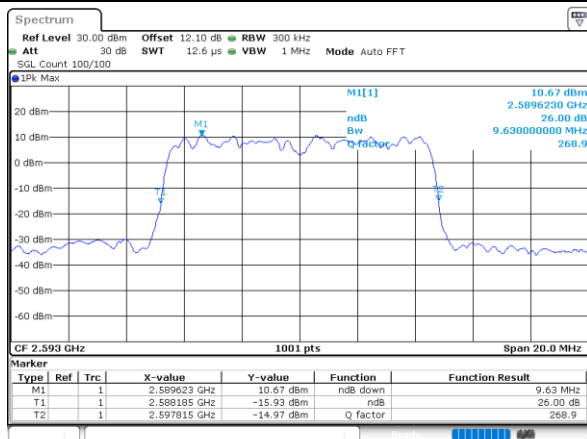
Date: 22.JUL.2020 13:51:36

Lowest Channel / 10MHz / 16QAM



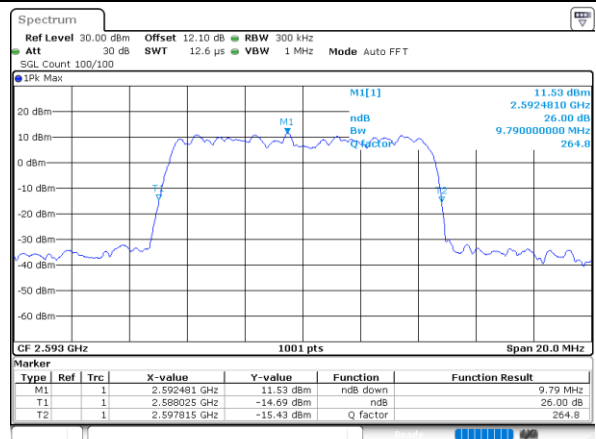
Date: 22.JUL.2020 13:51:48

Middle Channel / 10MHz / QPSK



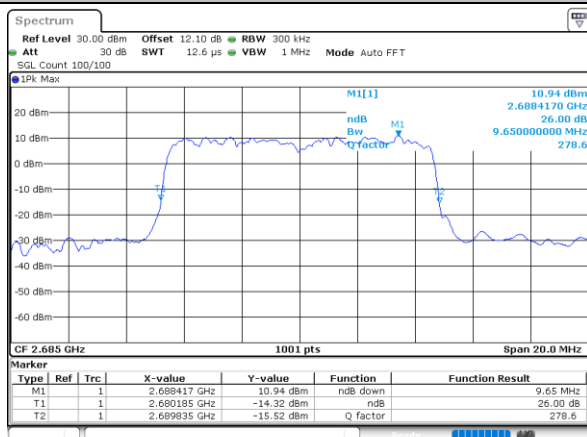
Date: 22.JUL.2020 13:52:23

Middle Channel / 10MHz / 16QAM



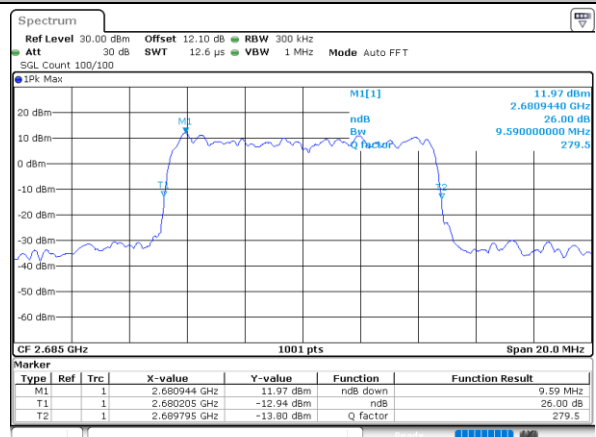
Date: 22.JUL.2020 13:52:34

Highest Channel / 10MHz / QPSK



Date: 22.JUL.2020 13:53:10

Highest Channel / 10MHz / 16QAM

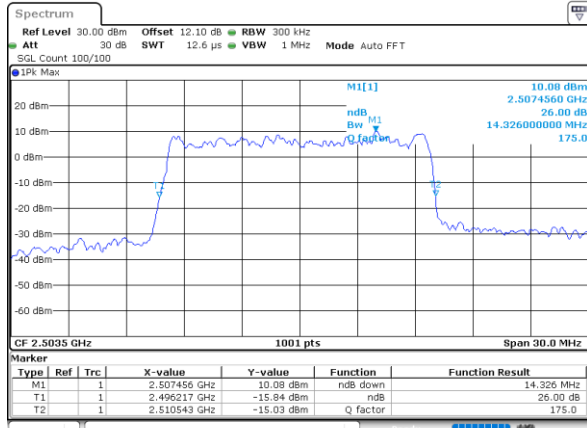


Date: 22.JUL.2020 13:53:21



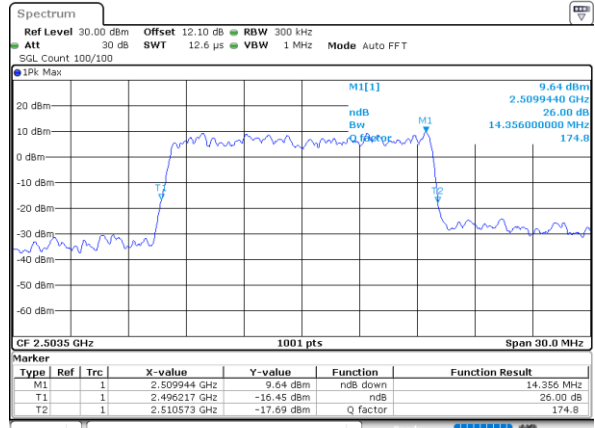
LTE Band 41

Lowest Channel / 15MHz / QPSK



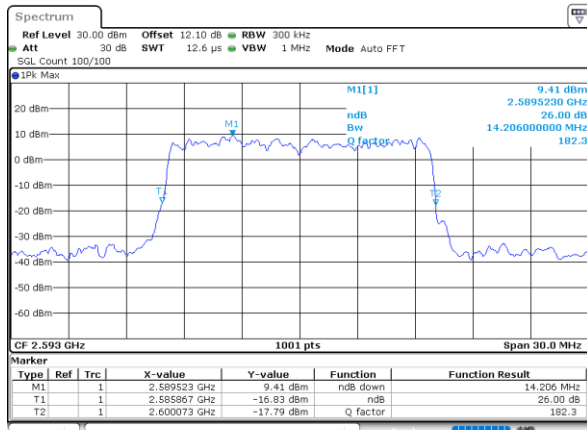
Date: 22.JUL.2020 13:53:50

Lowest Channel / 15MHz / 16QAM



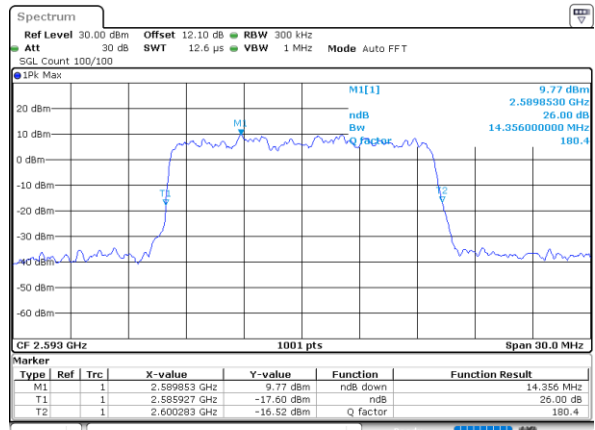
Date: 22.JUL.2020 13:54:10

Middle Channel / 15MHz / QPSK



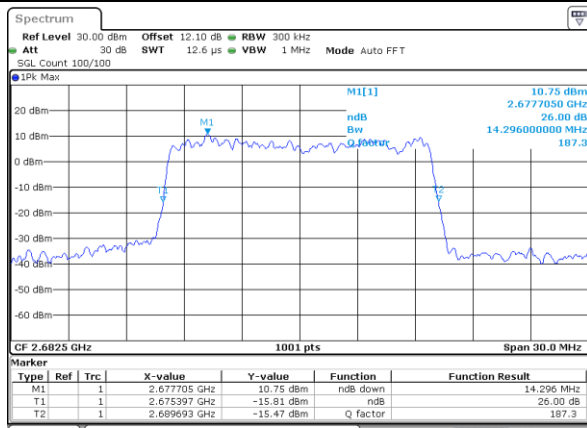
Date: 22.JUL.2020 13:54:44

Middle Channel / 15MHz / 16QAM



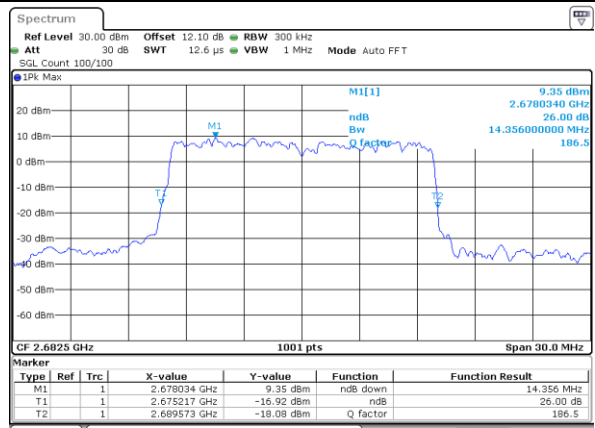
Date: 22.JUL.2020 13:54:56

Highest Channel / 15MHz / QPSK



Date: 22.JUL.2020 13:55:31

Highest Channel / 15MHz / 16QAM

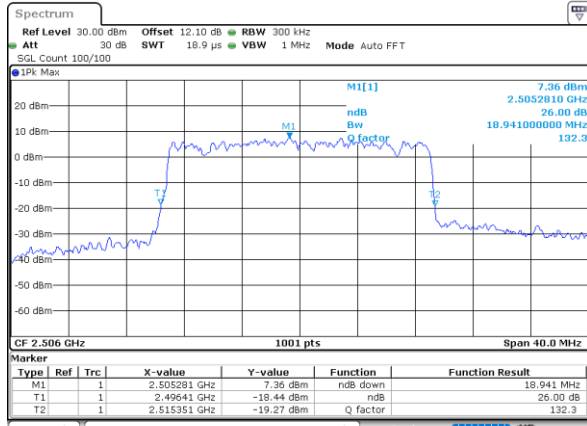


Date: 22.JUL.2020 13:55:43



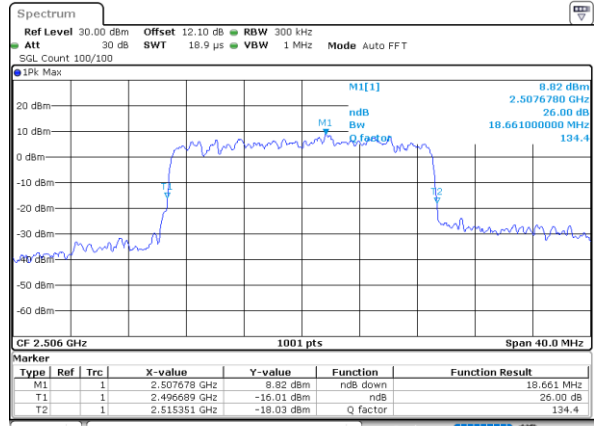
LTE Band 41

Lowest Channel / 20MHz / QPSK



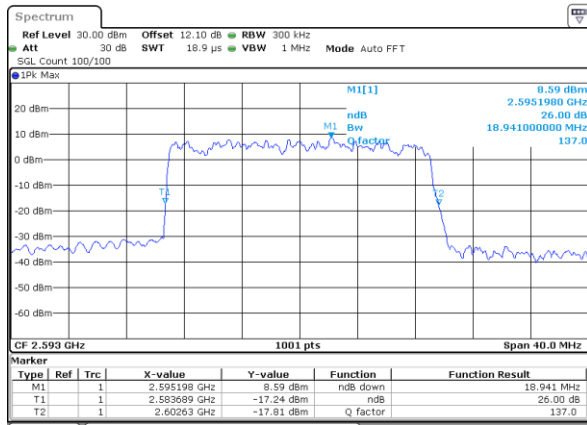
Date: 22_JUL_2020 13:56:20

Lowest Channel / 20MHz / 16QAM



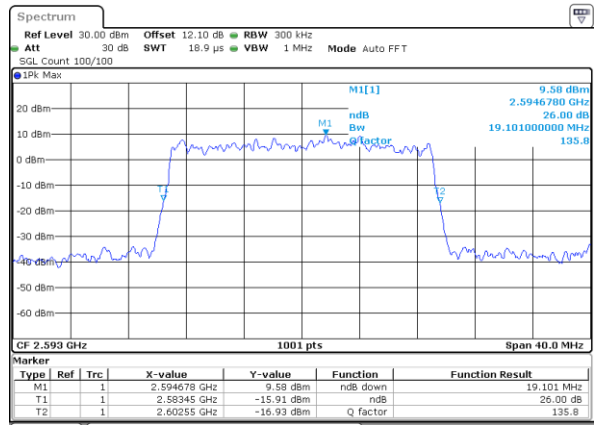
Date: 22_JUL_2020 13:56:132

Middle Channel / 20MHz / QPSK



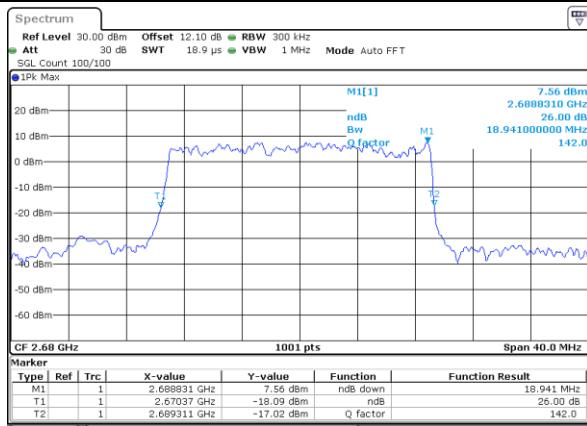
Date: 22_JUL_2020 13:57:06

Middle Channel / 20MHz / 16QAM



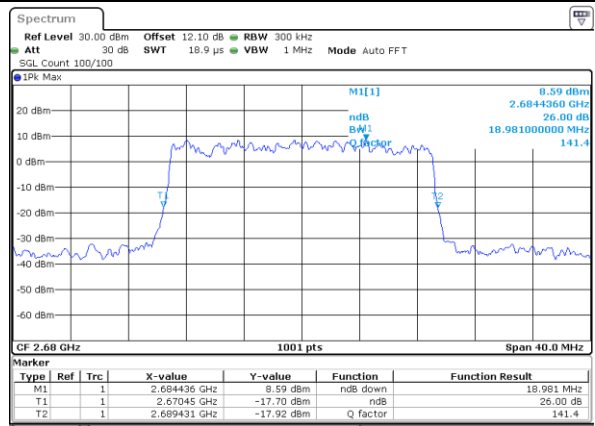
Date: 22_JUL_2020 13:57:17

Highest Channel / 20MHz / QPSK



Date: 22_JUL_2020 13:57:53

Highest Channel / 20MHz / 16QAM



Date: 22_JUL_2020 13:58:05