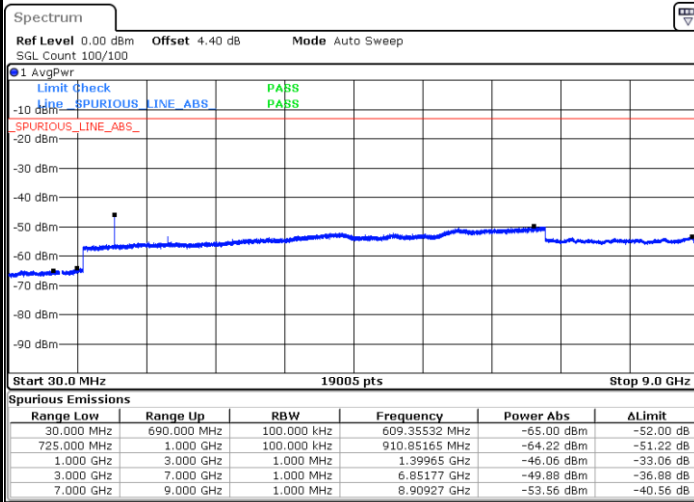




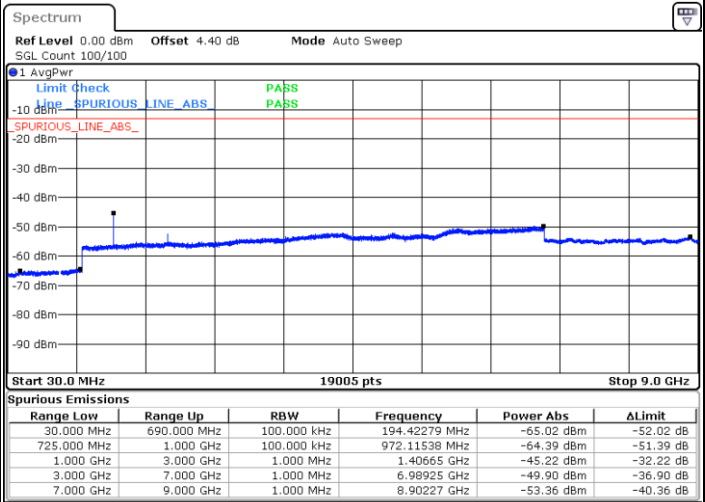
LTE Band 12 / 10MHz

Lowest Channel / 64QAM



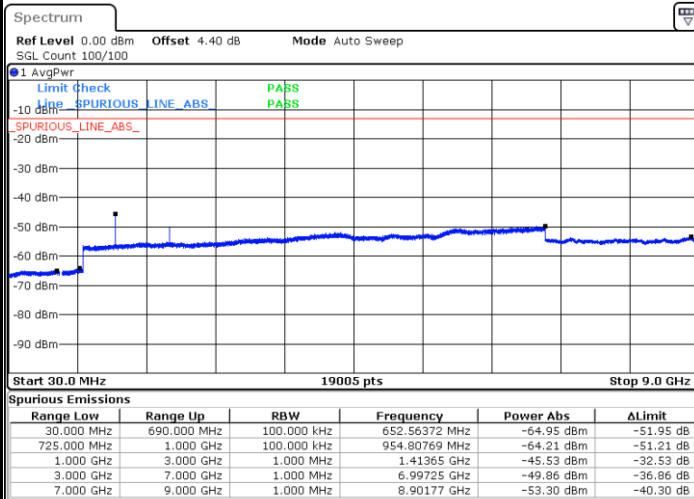
Date: 4 MAY 2020 17:13:03

Middle Channel / 64QAM



Date: 4 MAY 2020 17:13:57

Highest Channel / 64QAM



Date: 4 MAY 2020 17:14:50

**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	0.0007	PASS
40	Normal Voltage	0.0095	
30	Normal Voltage	0.0116	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0011	
0	Normal Voltage	0.0096	
-10	Normal Voltage	0.0008	
-20	Normal Voltage	0.0110	
-30	Normal Voltage	0.0102	
20	Maximum Voltage	0.0112	
20	Normal Voltage	0.0020	
20	Battery End Point	0.0140	

Note:

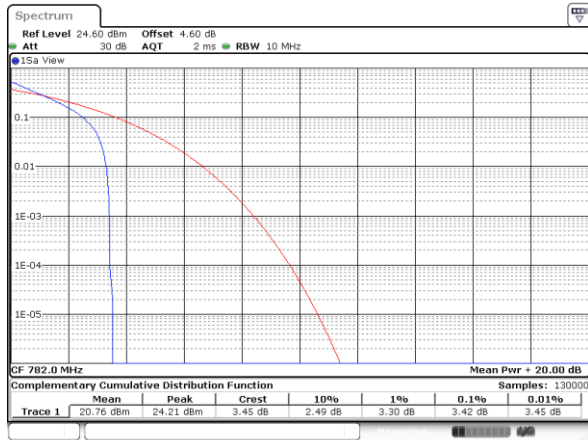
1. Normal Voltage =3.85V. ; Battery End Point (BEP) =3.6V. ; Maximum Voltage =4.4V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



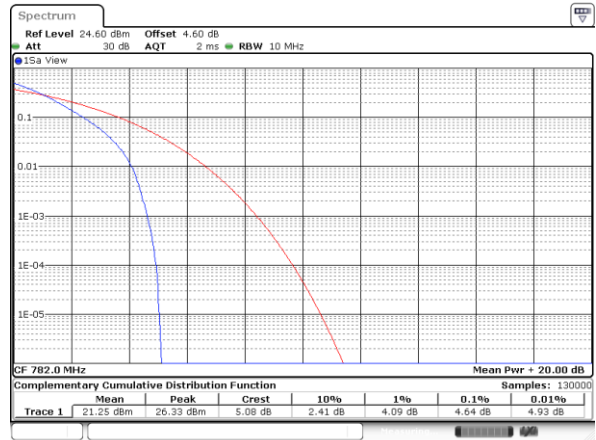
LTE Band 13

Peak-to-Average Ratio

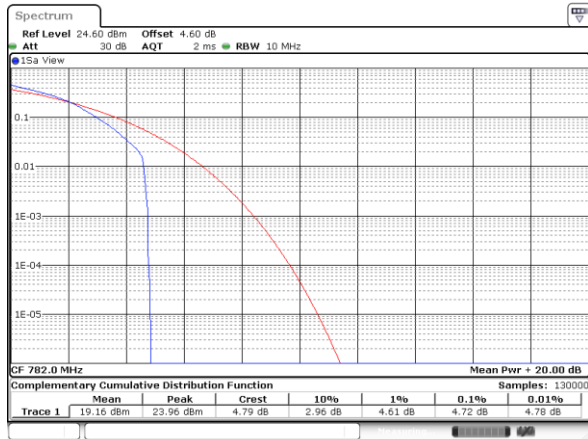
Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.42	4.64	4.72	5.57	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	4.70	5.54	-	-	
Highest CH	-	-	-	-	

LTE Band 13 / 10MHz / QPSK
Middle Channel / 1RB


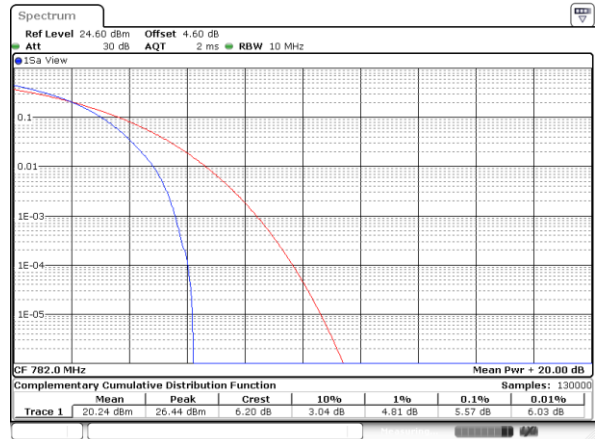
Date: 15 MAY 2020 03:06:17

Middle Channel / Full RB


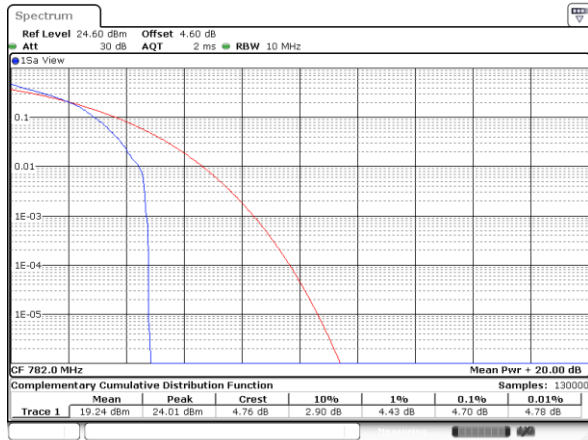
Date: 15 MAY 2020 03:06:28

LTE Band 13 / 10MHz / 16QAM
Middle Channel / 1RB


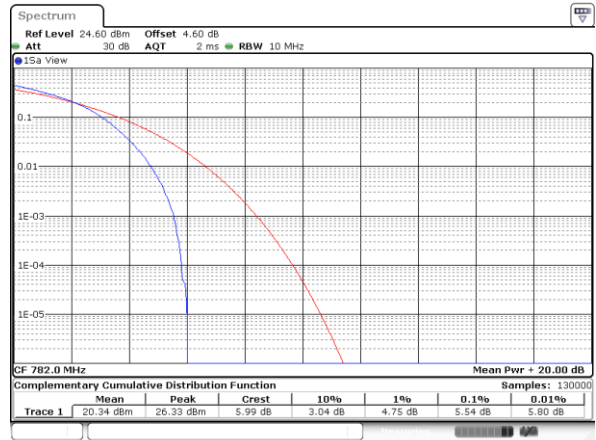
Date: 15 MAY 2020 03:06:07

Middle Channel / Full RB


Date: 15 MAY 2020 03:06:39

LTE Band 13 / 10MHz / 64QAM
Middle Channel / 1RB


Date: 15 MAY 2020 03:05:56

Middle Channel / Full RB


Date: 15 MAY 2020 03:06:50

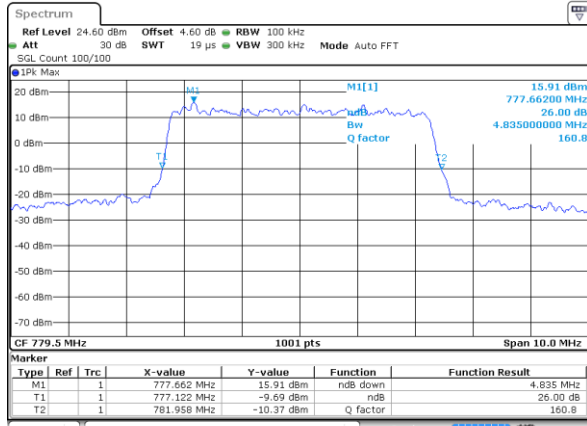
**26dB Bandwidth**

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	-	-	-	-	4.84	4.89	-	-	-	-	-	-
Middle CH	-	-	-	-	4.97	4.92	9.69	9.63	-	-	-	-
Highest CH	-	-	-	-	4.88	4.97	-	-	-	-	-	-
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	-	-	-	-	4.96	-	9.95	-	-	-	-	-
Highest CH	-	-	-	-	4.92	-	-	-	-	-	-	-

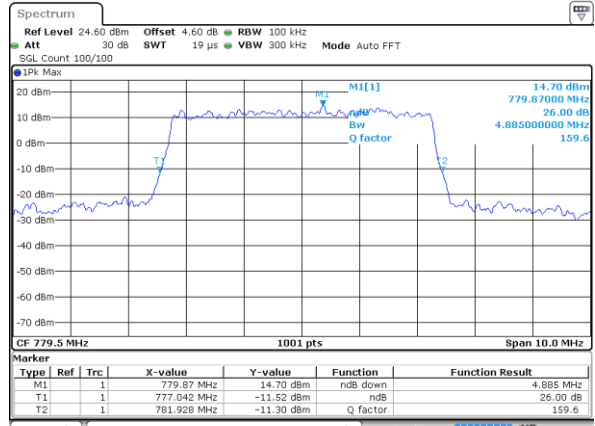


LTE Band 13

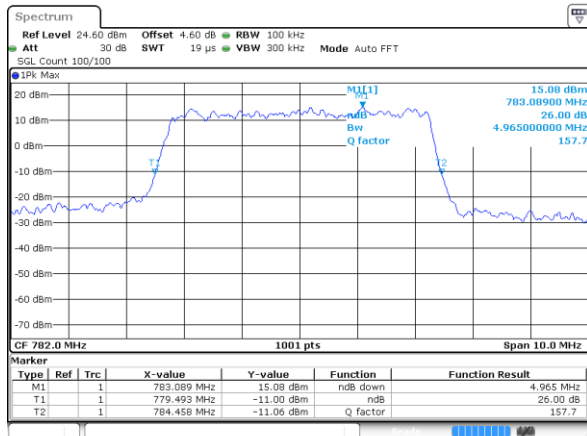
Lowest Channel / 5MHz / QPSK



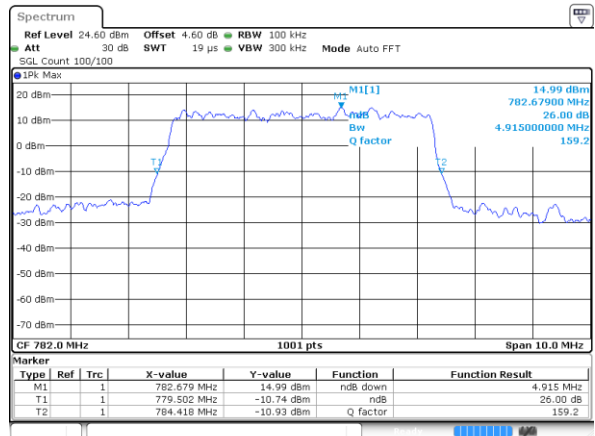
Lowest Channel / 5MHz / 16QAM



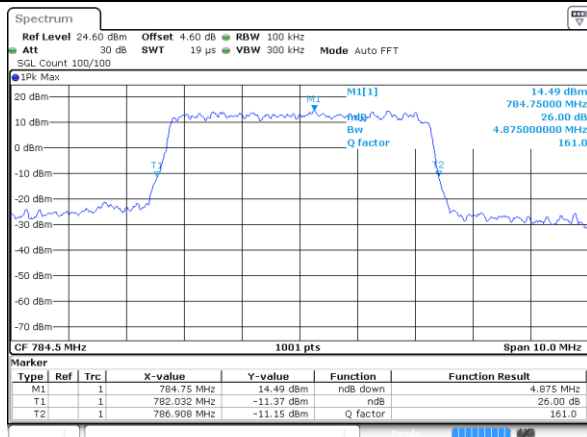
Middle Channel / 5MHz / QPSK



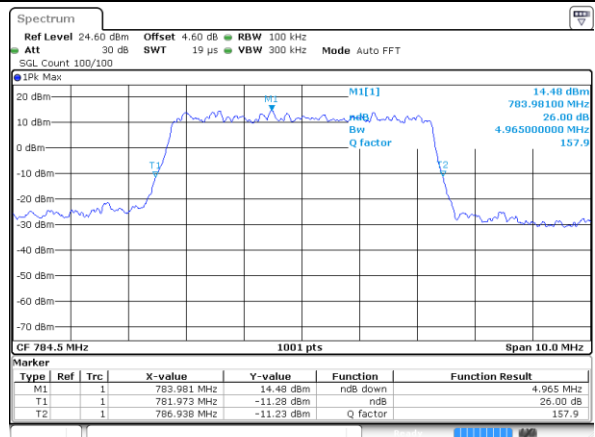
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



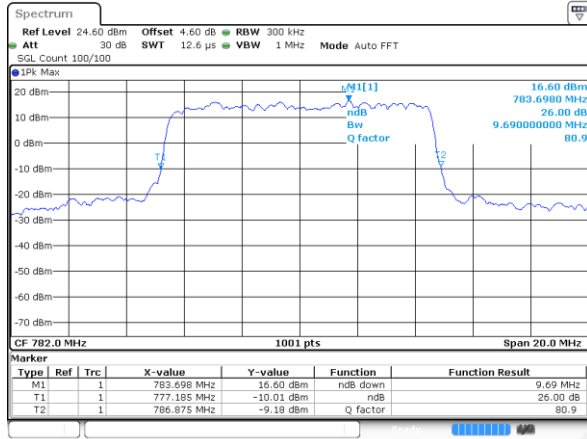
Highest Channel / 5MHz / 16QAM





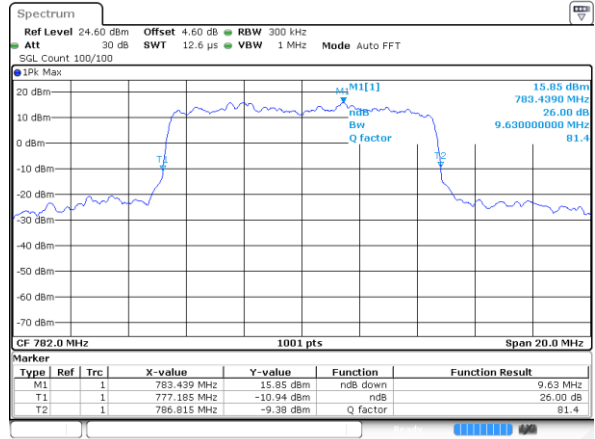
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 15 MAY 2020 02:39:16

Middle Channel / 10MHz / 16QAM

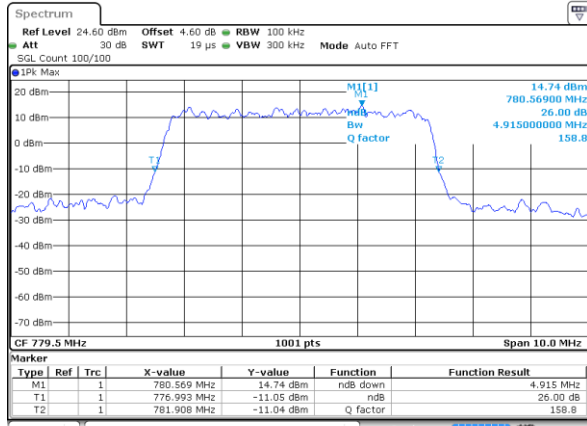


Date: 15 MAY 2020 02:39:06

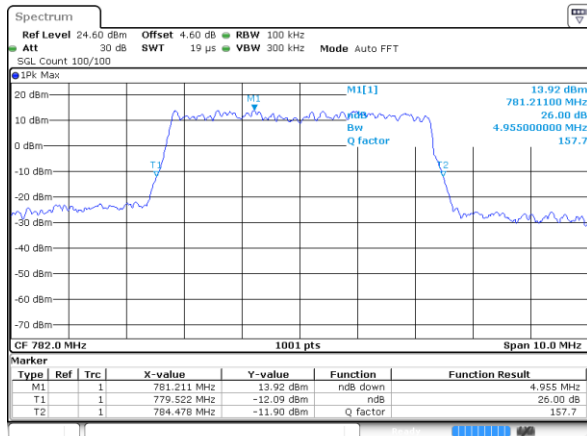


LTE Band 13

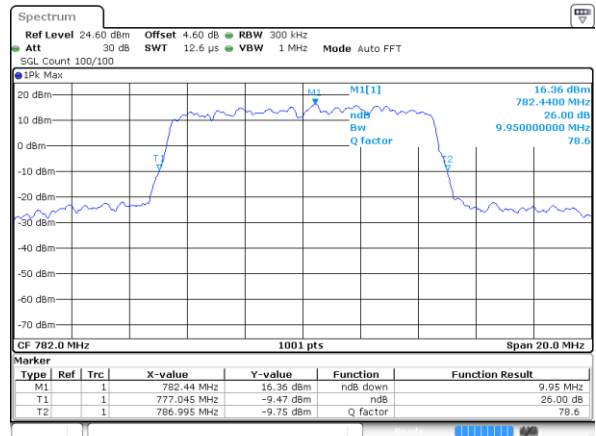
Lowest Channel / 5MHz / 64QAM



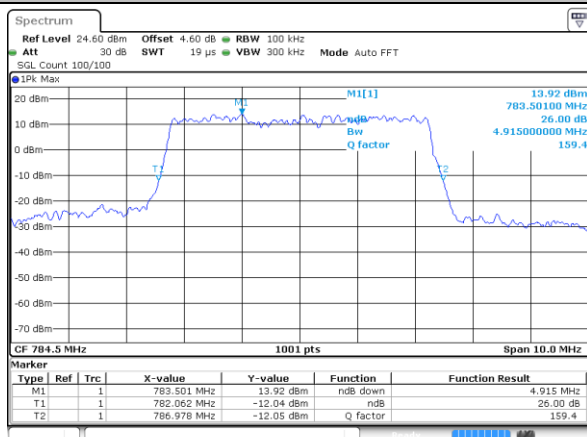
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



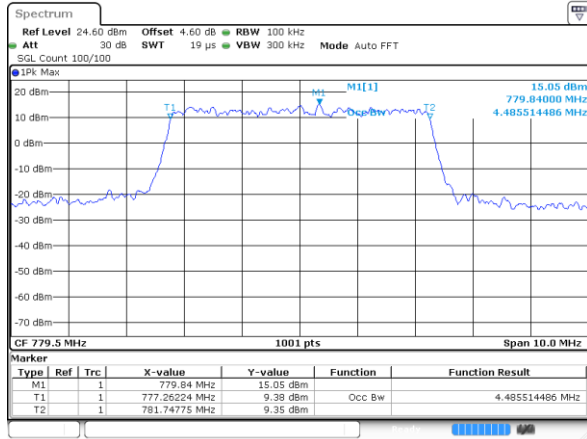
**Occupied Bandwidth**

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	-	-	-	-	4.49	4.48	-	-	-	-	-	-
Middle CH	-	-	-	-	4.49	4.50	8.97	9.03	-	-	-	-
Highest CH	-	-	-	-	4.48	4.49	-	-	-	-	-	-
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.50	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.50	-	8.95	-	-	-	-	-
Highest CH	-	-	-	-	4.47	-	-	-	-	-	-	-

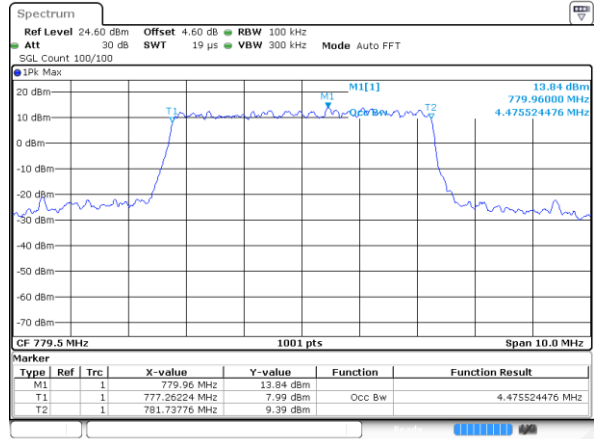


LTE Band 13

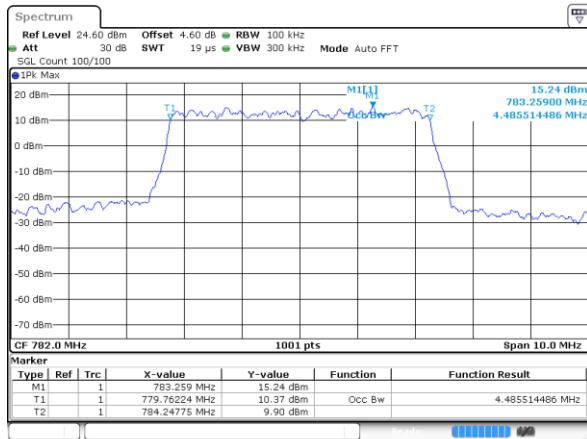
Lowest Channel / 5MHz / QPSK



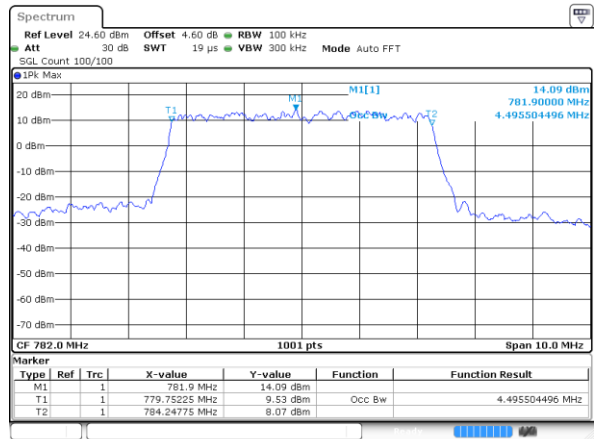
Lowest Channel / 5MHz / 16QAM



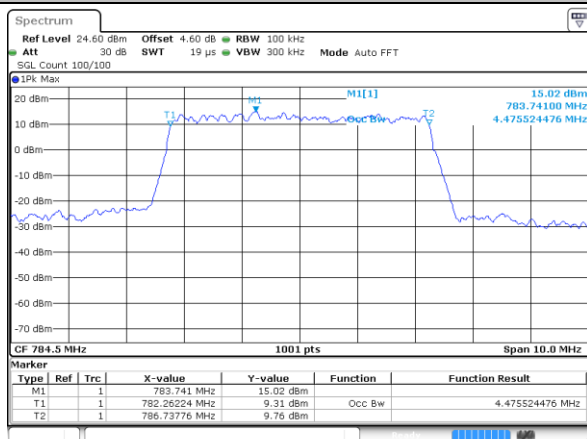
Middle Channel / 5MHz / QPSK



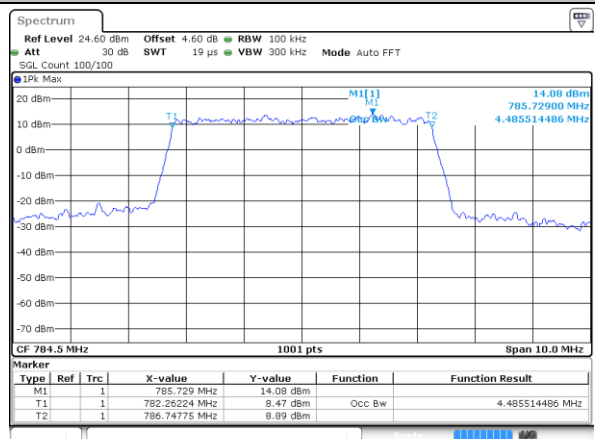
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



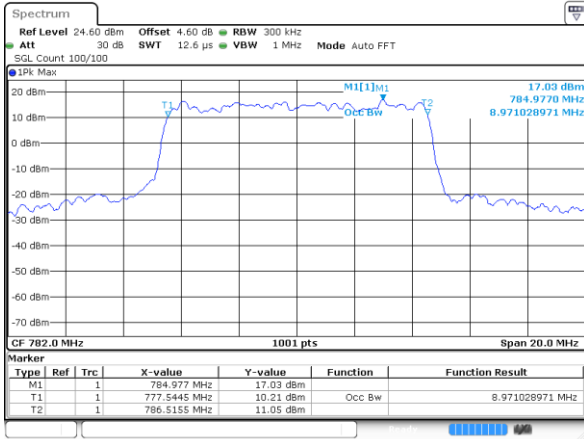
Highest Channel / 5MHz / 16QAM





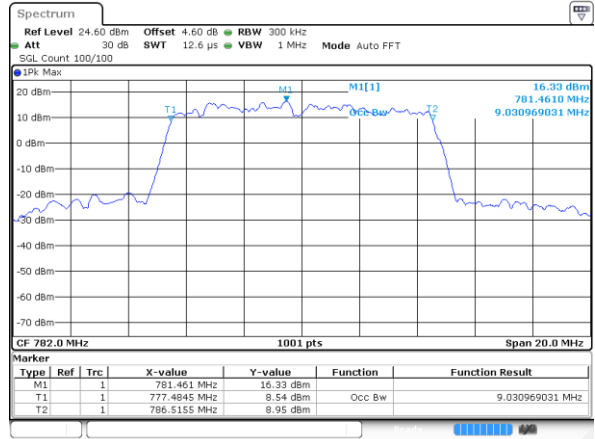
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 15 MAY 2020 02:39:26

Middle Channel / 10MHz / 16QAM

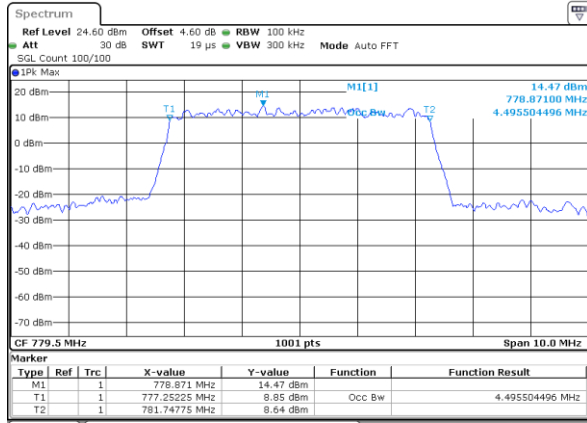


Date: 15 MAY 2020 02:39:36



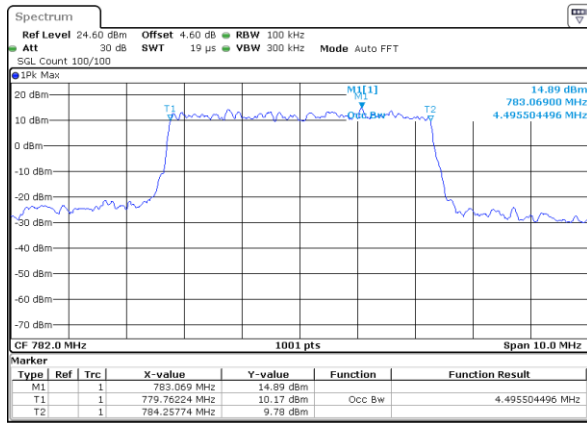
LTE Band 13

Lowest Channel / 5MHz / 64QAM



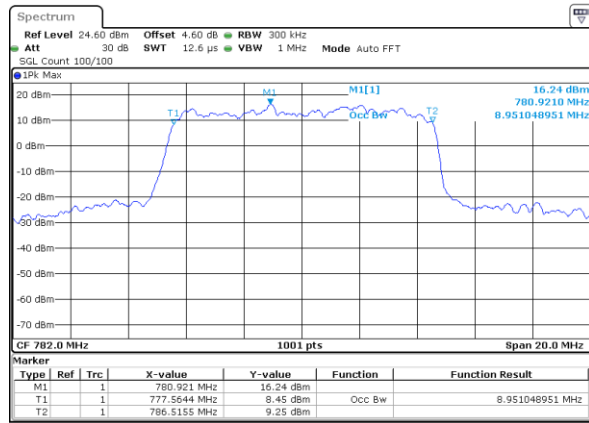
Date: 15 MAY 2020 02:49:31

Middle Channel / 5MHz / 64QAM



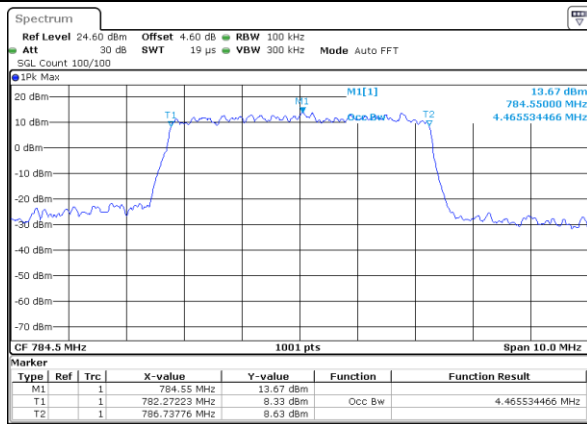
Date: 15 MAY 2020 02:49:41

Middle Channel / 10MHz / 64QAM

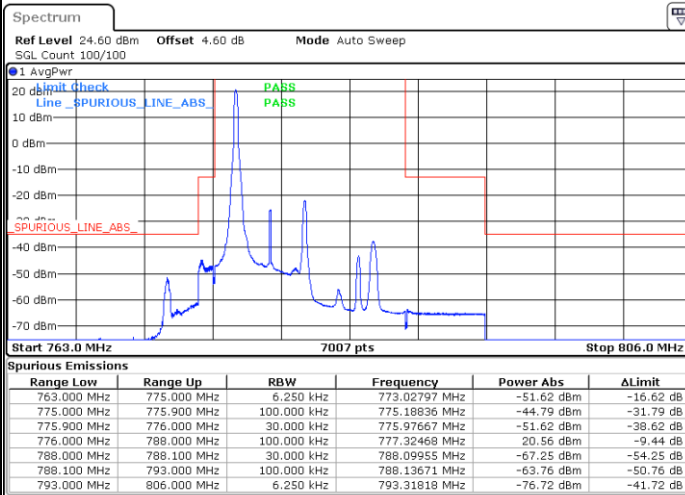
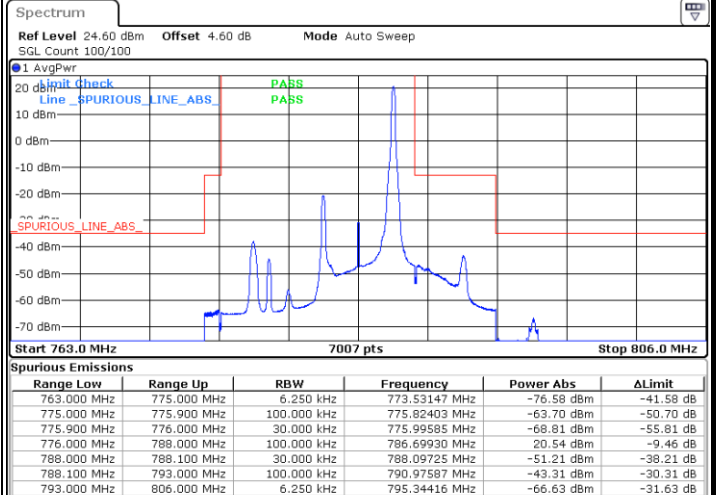
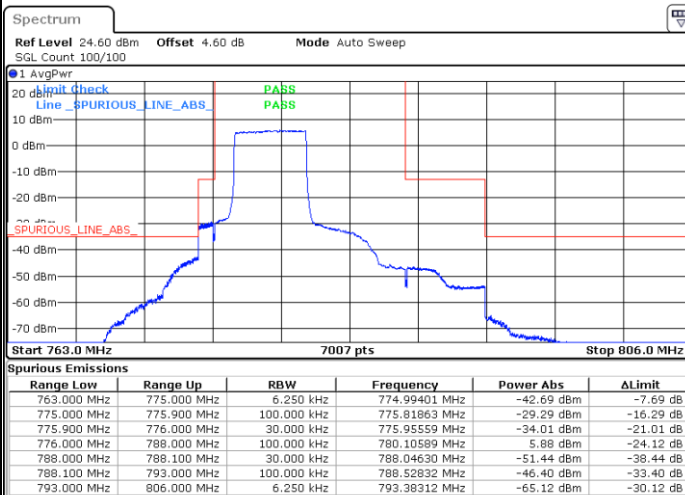
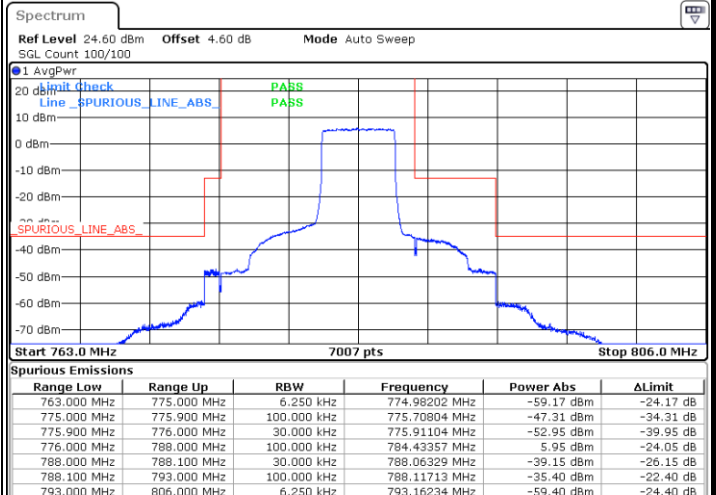


Date: 15 MAY 2020 02:59:43

Highest Channel / 5MHz / 64QAM



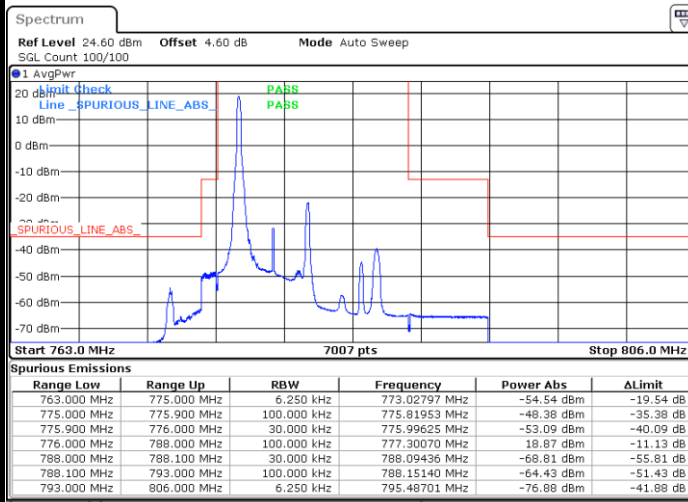
Date: 15 MAY 2020 02:49:51

**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**



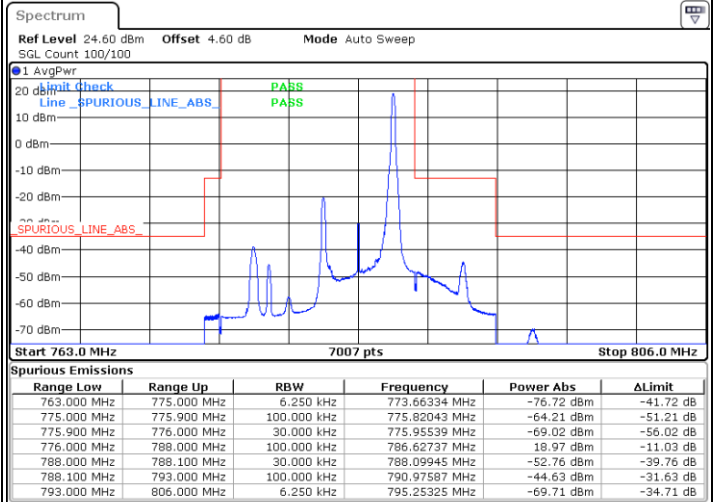
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB



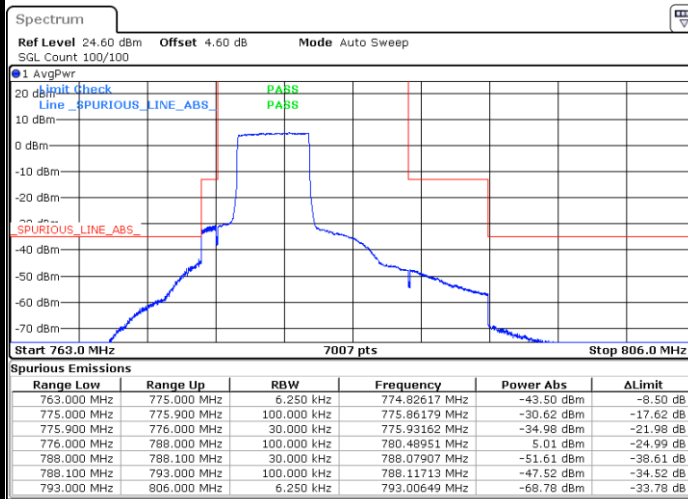
Date: 15 MAY 2020 02:23:54

Highest Band Edge / 1 RB



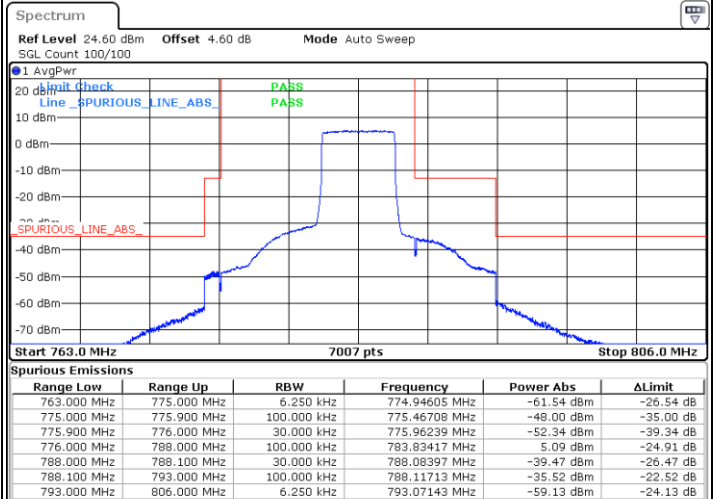
Date: 15 MAY 2020 02:35:20

Lowest Band Edge / Full RB



Date: 15 MAY 2020 02:19:02

Highest Band Edge / Full RB

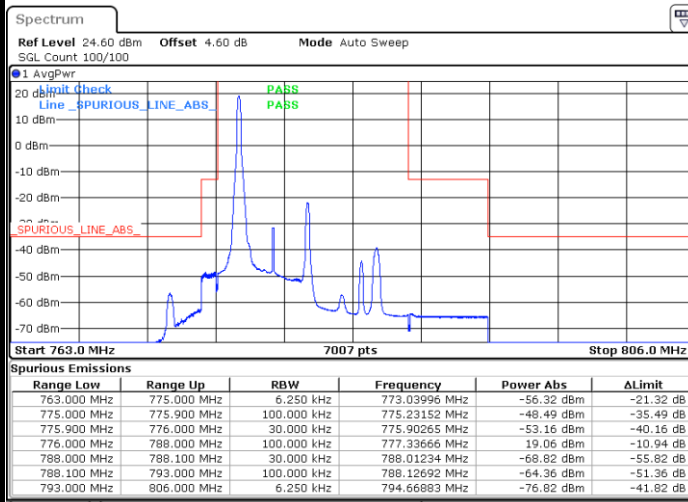


Date: 15 MAY 2020 02:30:28



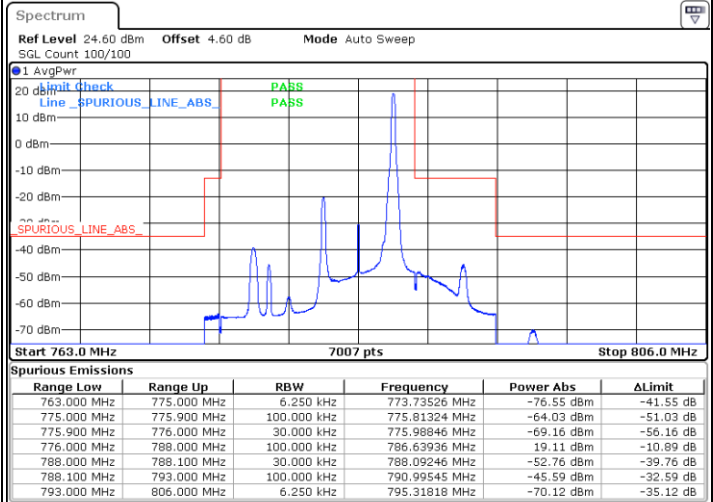
LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB



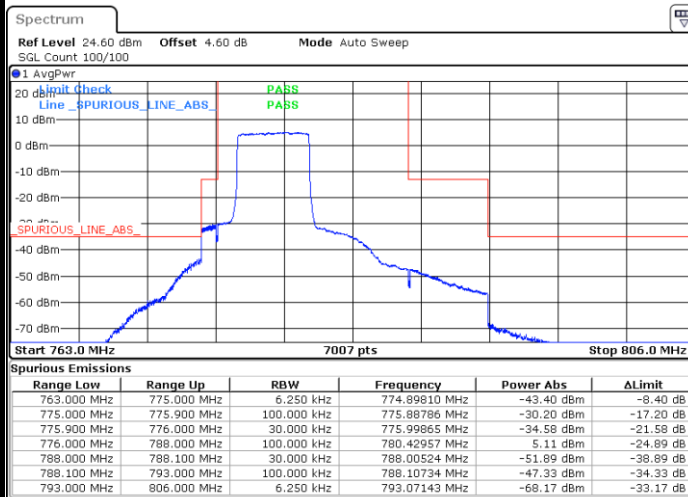
Date: 15 MAY 2020 02:51:59

Highest Band Edge / 1 RB



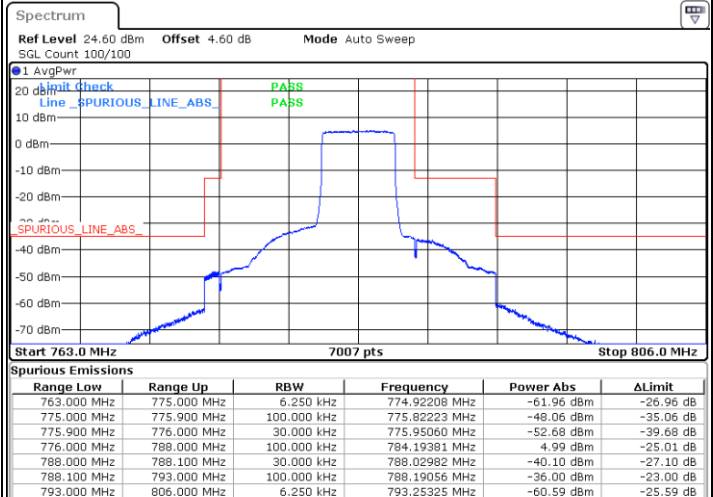
Date: 15 MAY 2020 02:56:51

Lowest Band Edge / Full RB



Date: 15 MAY 2020 02:53:36

Highest Band Edge / Full RB

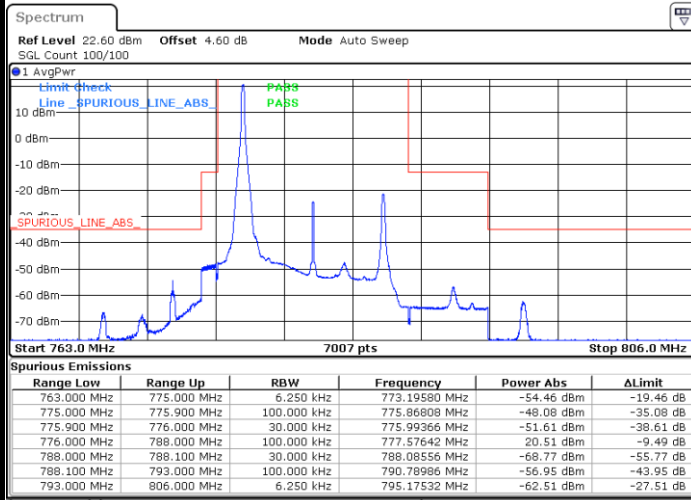


Date: 15 MAY 2020 02:55:14



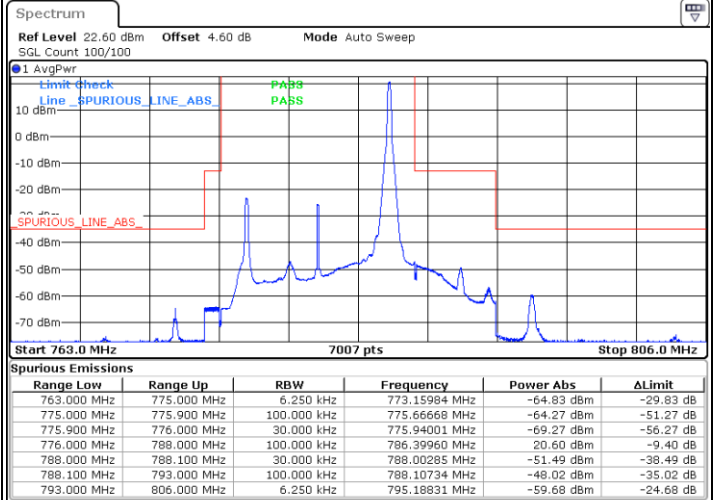
LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



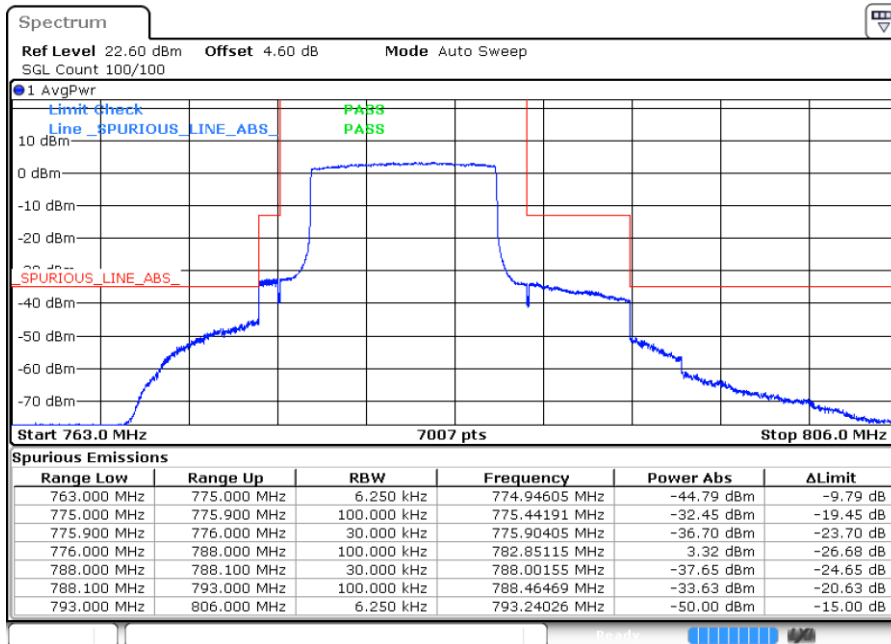
Date: 15.MAY.2020 02:42:52

Highest Band Edge / 1 RB



Date: 15.MAY.2020 02:49:22

Band Edge / Full RB

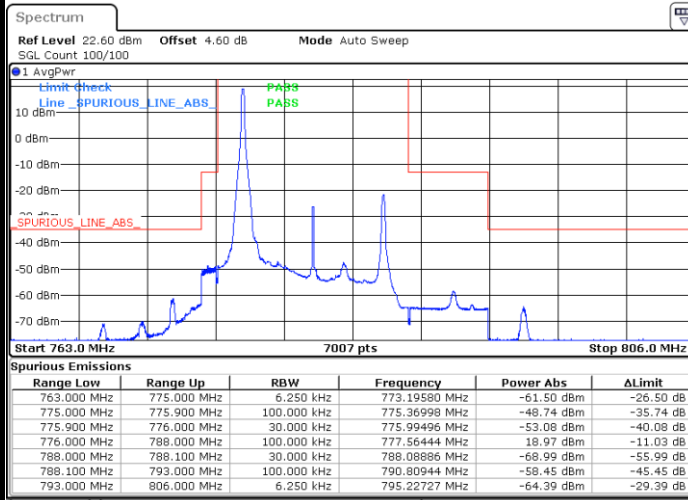


Date: 15.MAY.2020 02:44:29



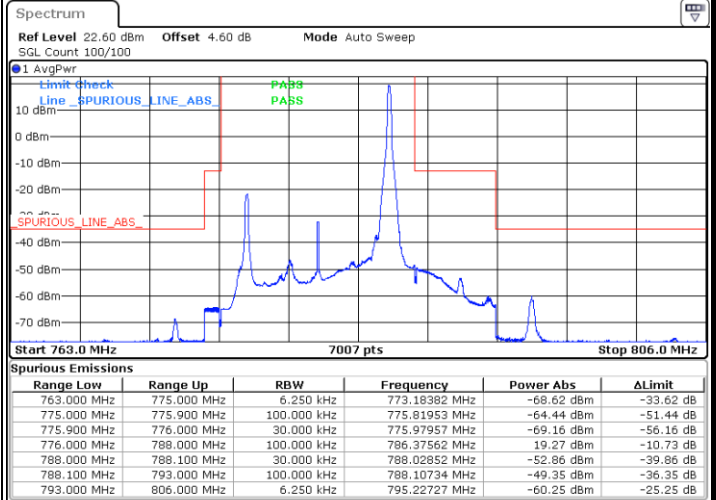
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



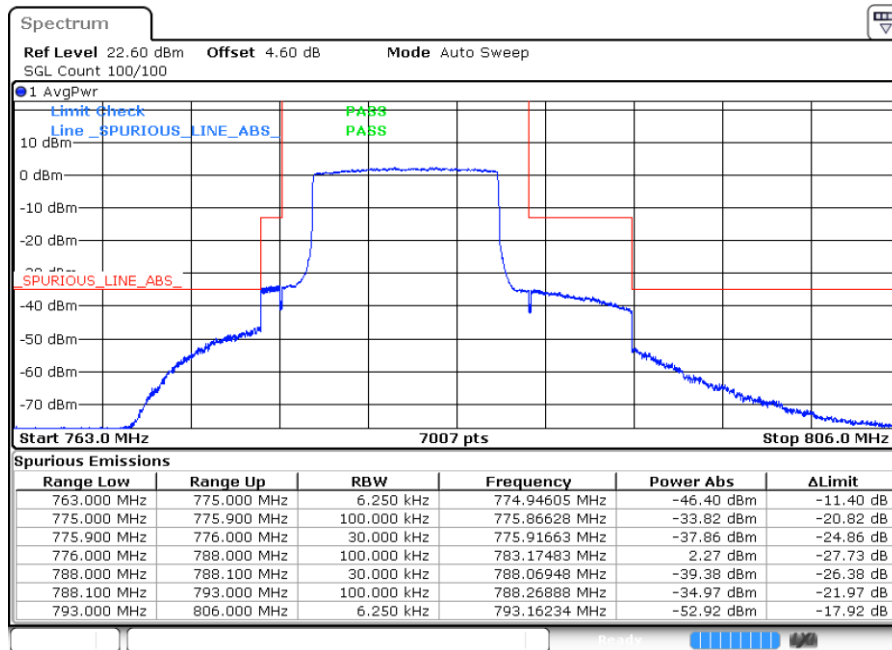
Date: 15.MAY.2020 02:41:14

Highest Band Edge / 1 RB



Date: 15.MAY.2020 02:47:44

Band Edge / Full RB

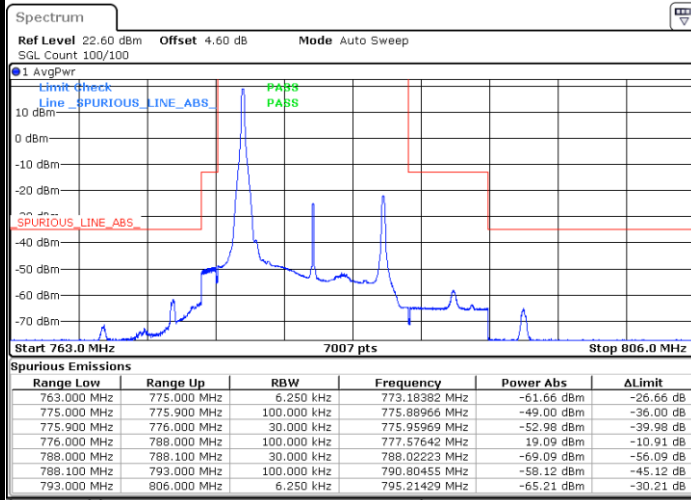


Date: 15.MAY.2020 02:46:07



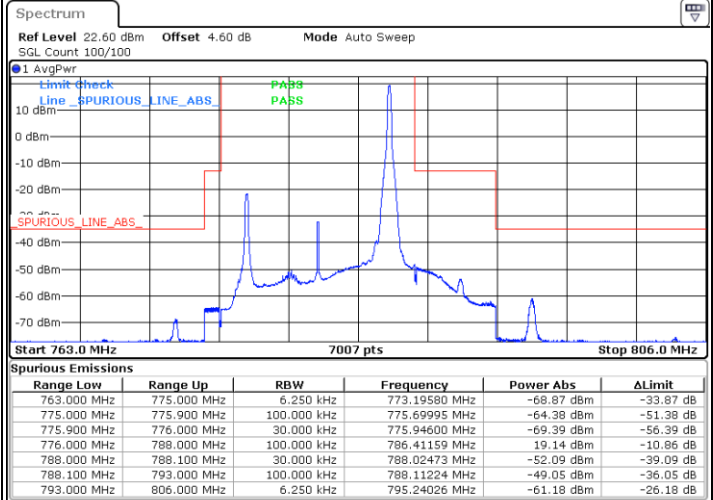
LTE Band 13 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



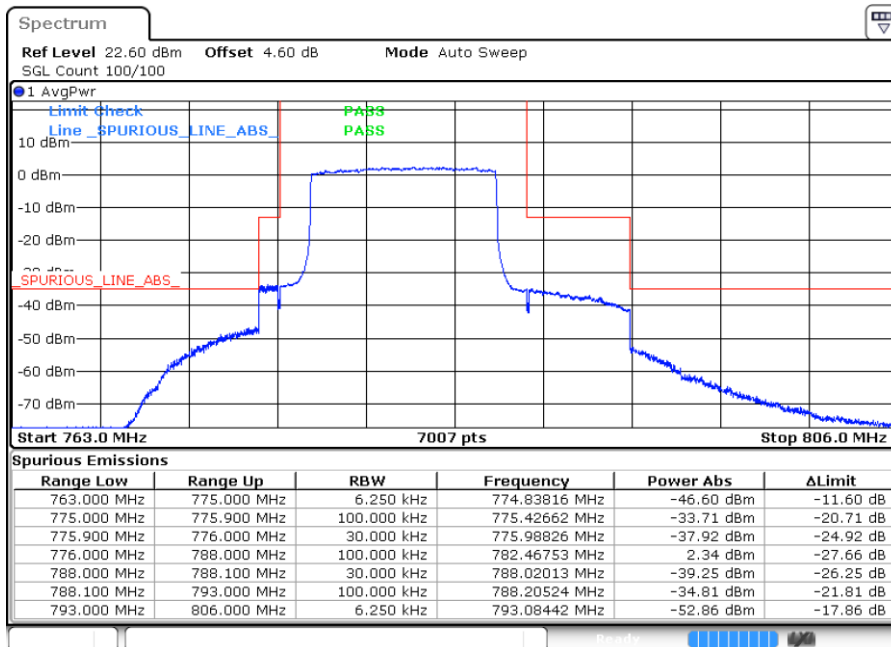
Date: 15.MAY.2020 03:01:31

Highest Band Edge / 1 RB



Date: 15.MAY.2020 03:03:09

Band Edge / Full RB



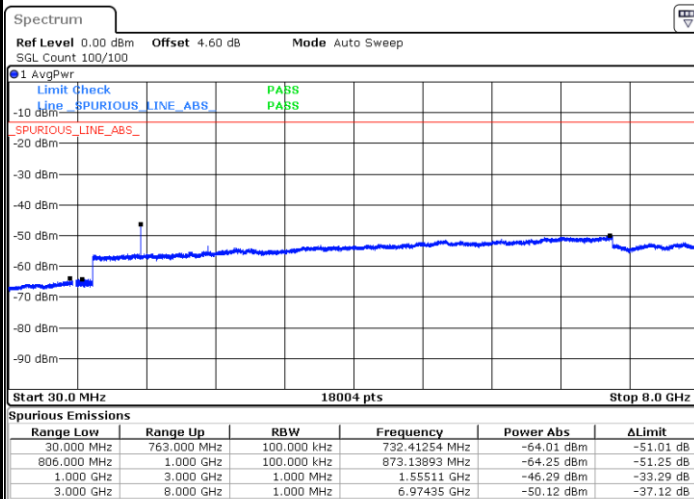
Date: 15.MAY.2020 03:04:46



Conducted Spurious Emission

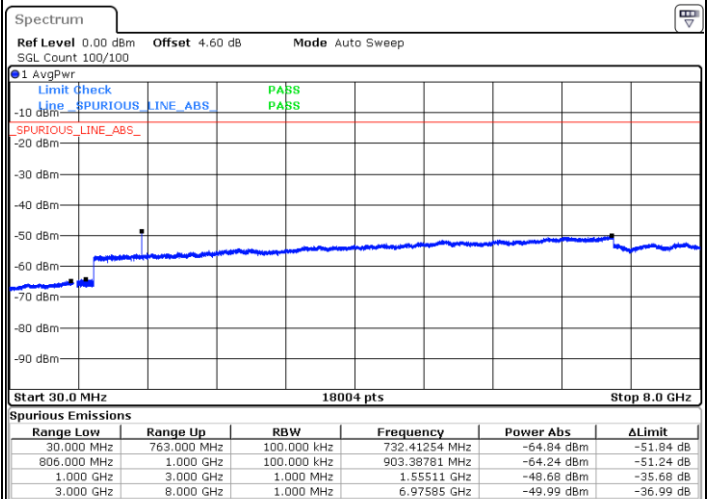
LTE Band 13 / 5MHz

Lowest Channel / QPSK



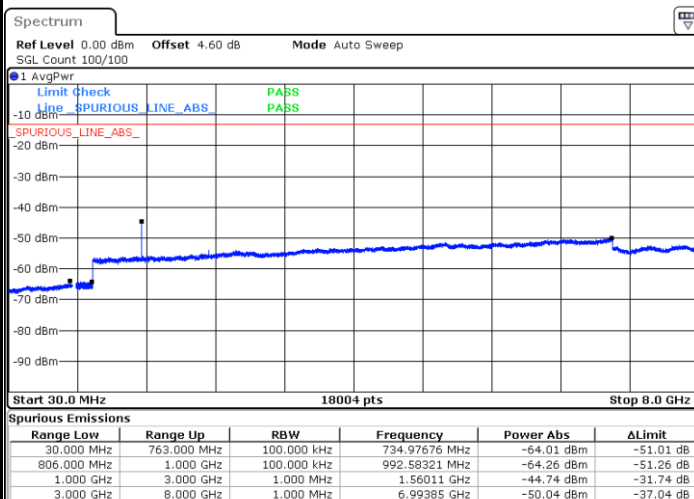
Date: 15 MAY 2020 02:25:41

Lowest Channel / 16QAM



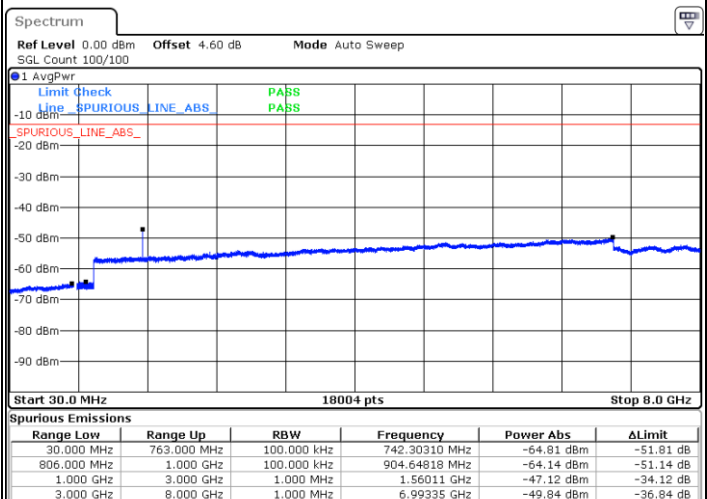
Date: 15 MAY 2020 02:24:47

Middle Channel / QPSK



Date: 15 MAY 2020 02:27:15

Middle Channel / 16QAM

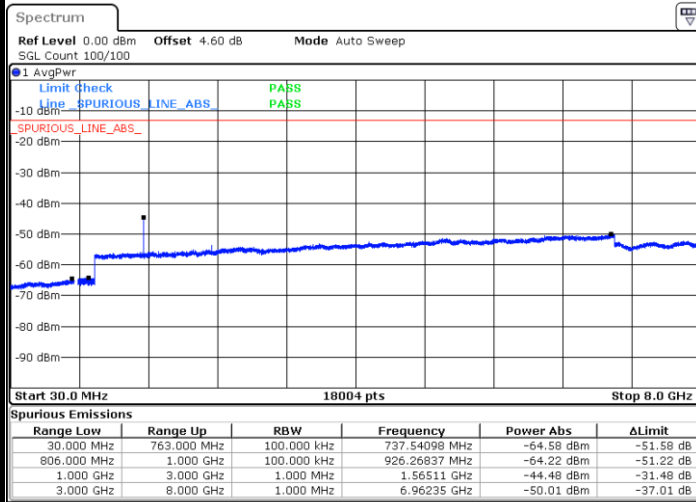


Date: 15 MAY 2020 02:28:09



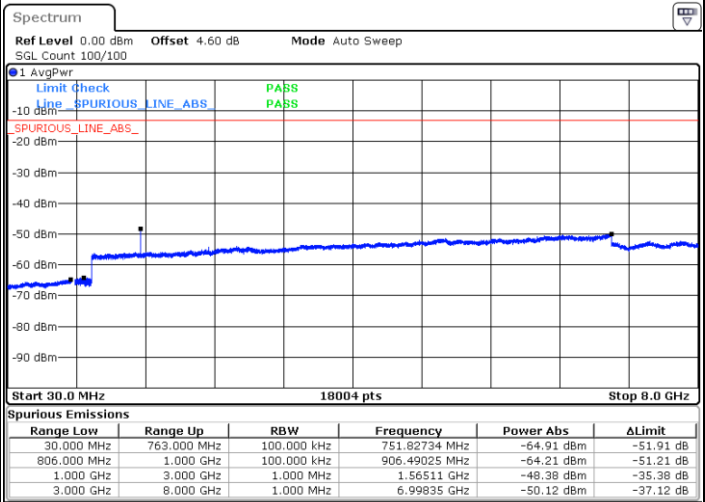
LTE Band 13 / 5MHz

Highest Channel / QPSK



Date: 15 MAY 2020 02:37:08

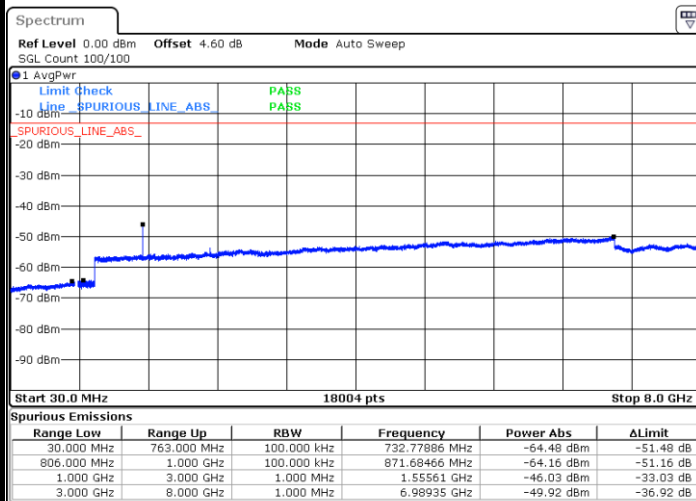
Highest Channel / 16QAM



Date: 15 MAY 2020 02:36:14

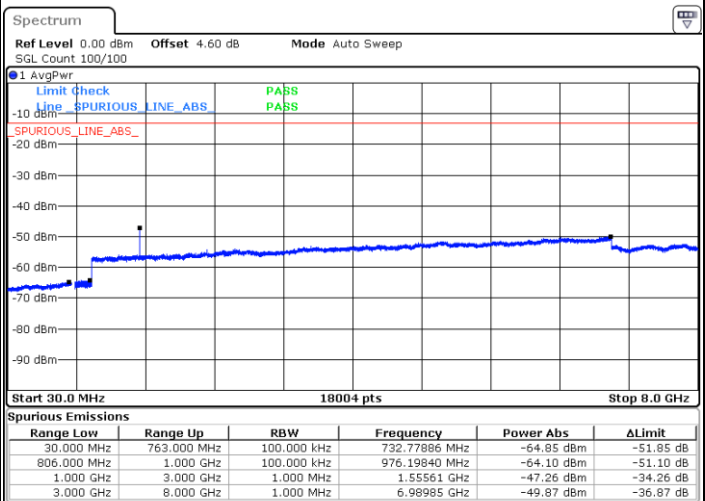
LTE Band 13 / 10MHz

Middle Channel / QPSK



Date: 15 MAY 2020 02:38:02

Middle Channel / 16QAM

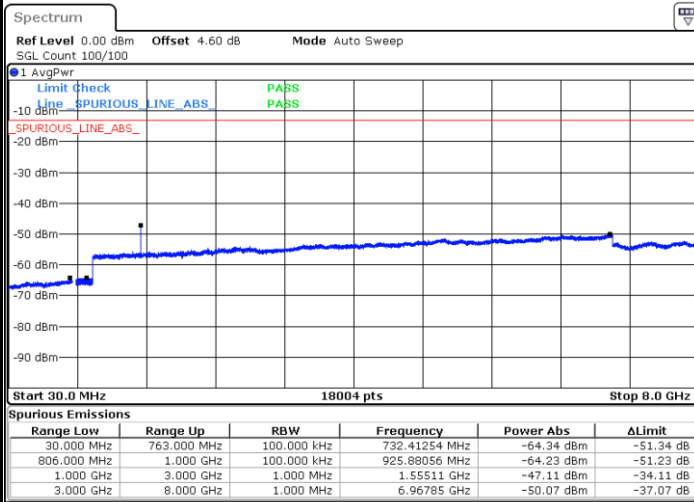


Date: 15 MAY 2020 02:38:56



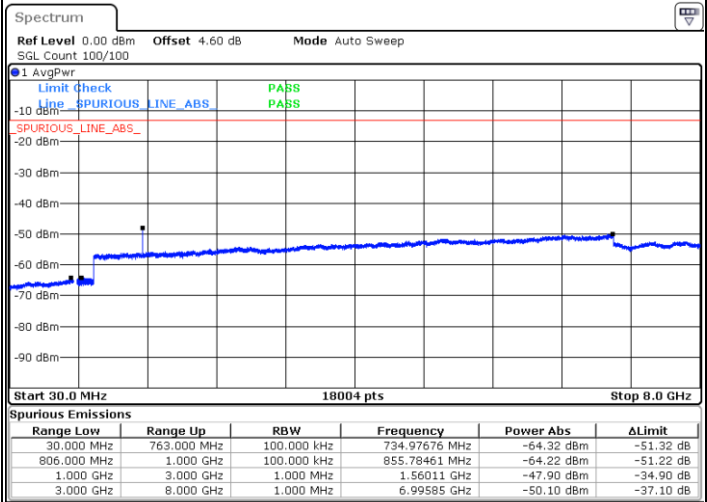
LTE Band 13 / 5MHz

Lowest Channel / 64QAM



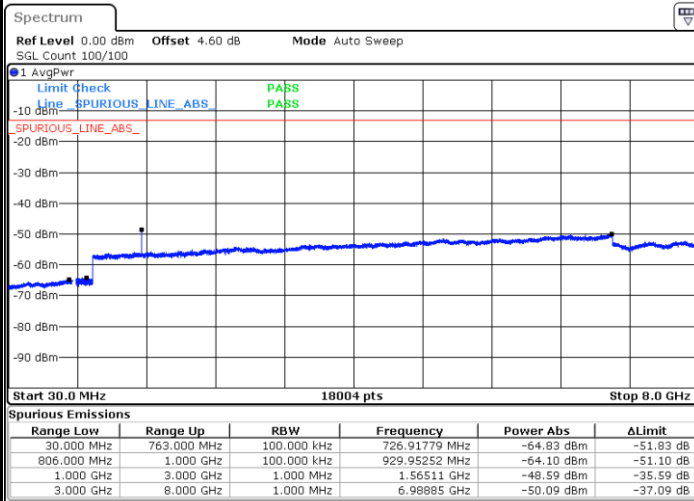
Date: 15 MAY 2020 02:57:45

Middle Channel / 64QAM



Date: 15 MAY 2020 02:58:39

Highest Channel / 64QAM

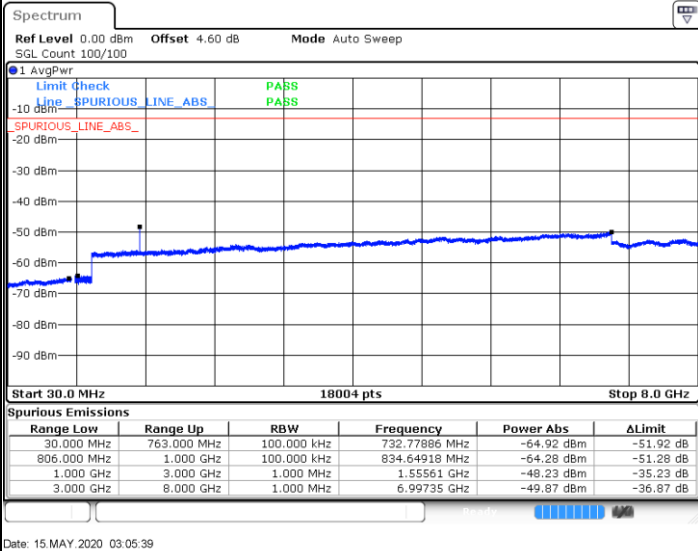


Date: 15 MAY 2020 02:59:33



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	0.0046	PASS
40	Normal Voltage	0.0024	
30	Normal Voltage	0.0016	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0020	
0	Normal Voltage	0.0012	
-10	Normal Voltage	0.0028	
-20	Normal Voltage	0.0021	
-30	Normal Voltage	0.0013	
20	Maximum Voltage	0.0034	
20	Normal Voltage	0.0022	
20	Battery End Point	0.0011	

Note:

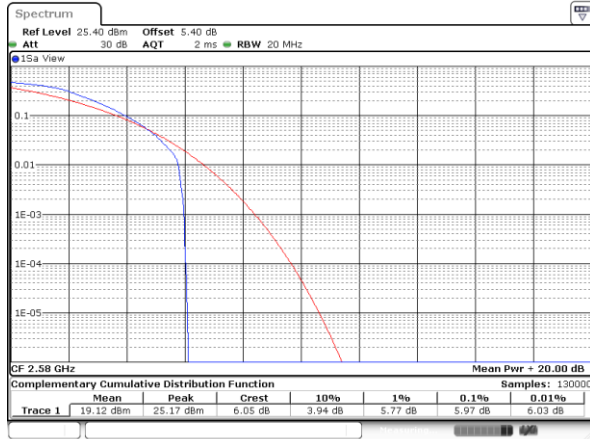
1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.6V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



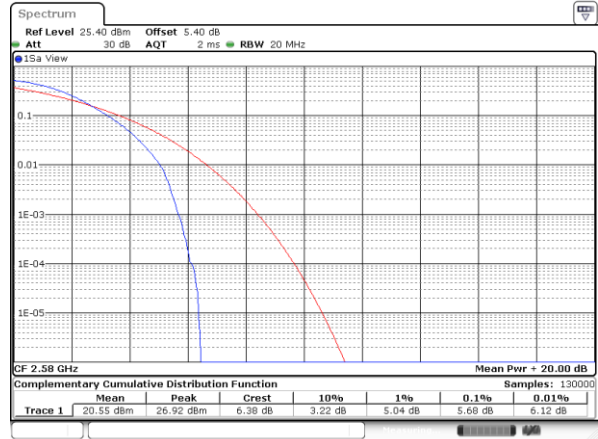
LTE Band 38

Peak-to-Average Ratio

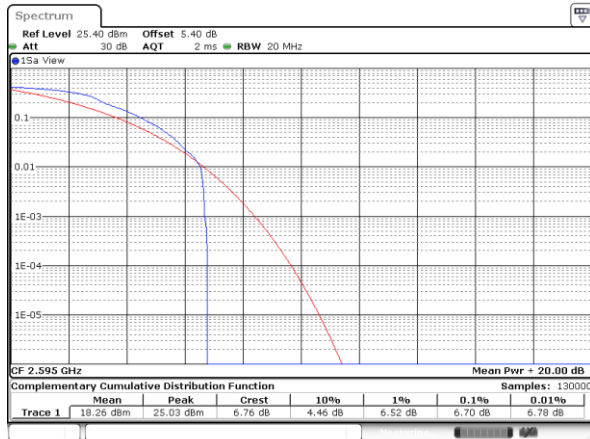
Mode	LTE Band 38 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	5.97	5.68	5.45	5.83	PASS
Middle CH	6.70	5.01	6.75	6.26	
Highest CH	6.70	5.45	5.68	5.74	
Mode	LTE Band 38 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.35	6.93	-	-	PASS
Middle CH	6.26	7.07	-	-	
Highest CH	6.35	6.23	-	-	

LTE Band 38 / 20MHz / QPSK
Lowest Channel / 1RB


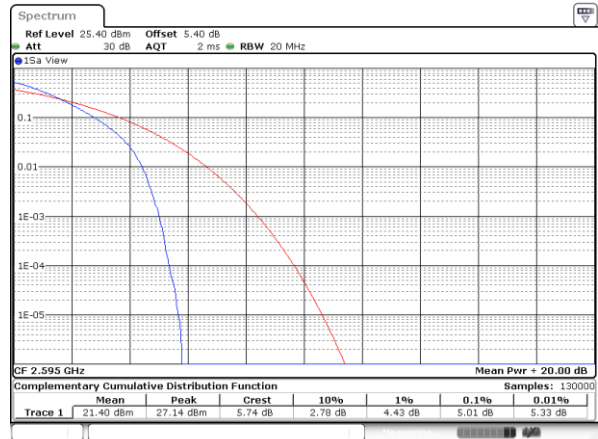
Date: 13 MAY 2020 03:07:31

Lowest Channel / Full RB


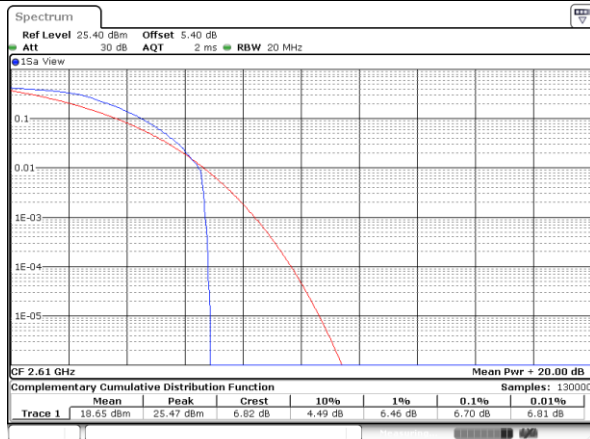
Date: 13 MAY 2020 03:07:46

Middle Channel / 1RB


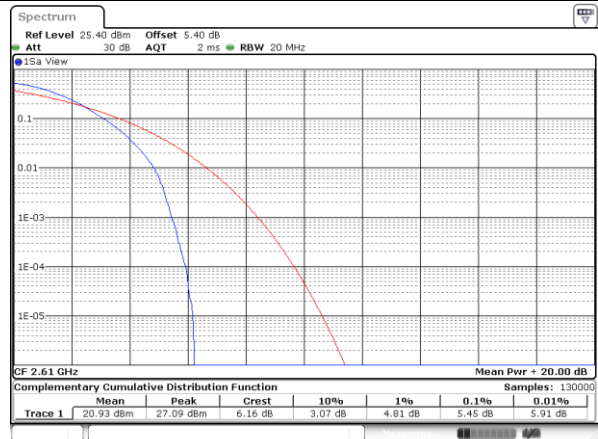
Date: 13 MAY 2020 03:08:03

Middle Channel / Full RB


Date: 13 MAY 2020 03:08:21

Highest Channel / 1RB


Date: 13 MAY 2020 03:08:36

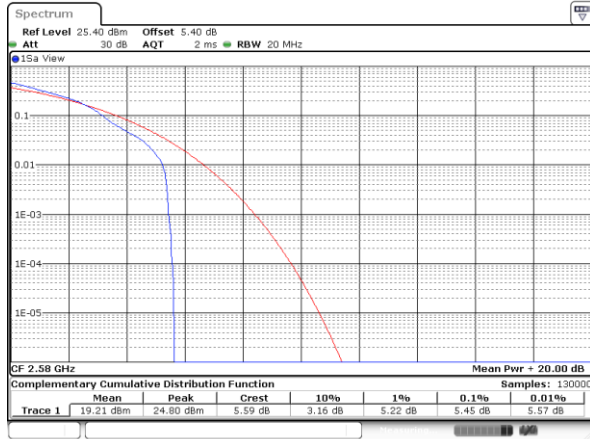
Highest Channel / Full RB


Date: 13 MAY 2020 03:08:48

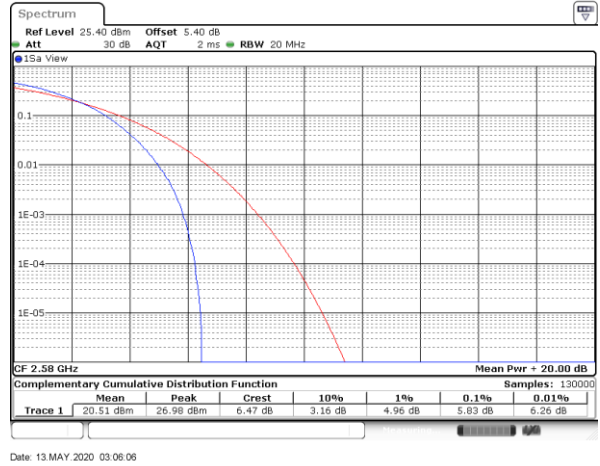


LTE Band 38 / 20MHz / 16QAM

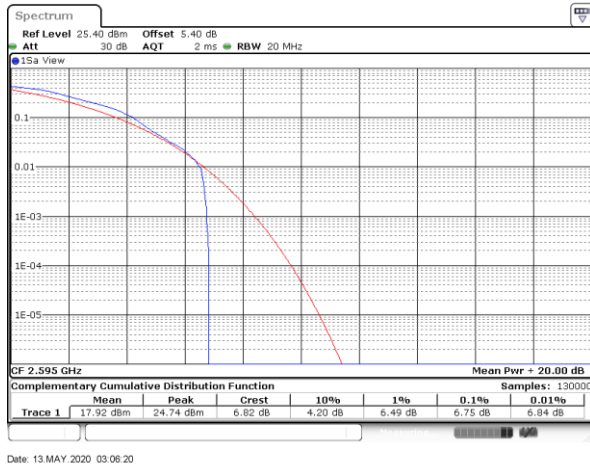
Lowest Channel / 1RB



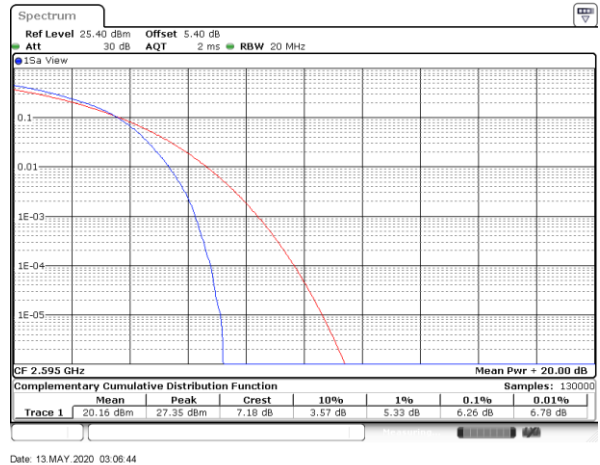
Lowest Channel / Full RB



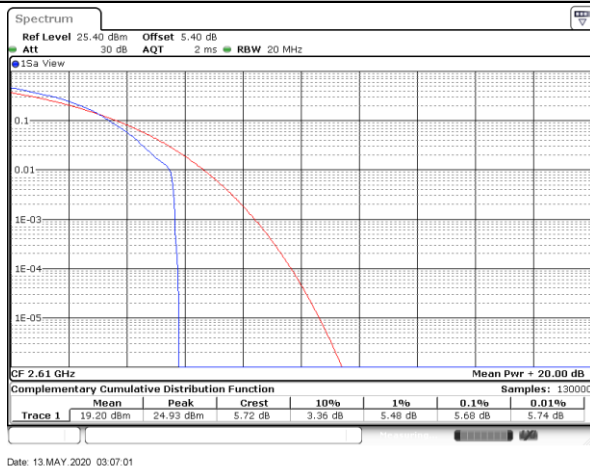
Middle Channel / 1RB



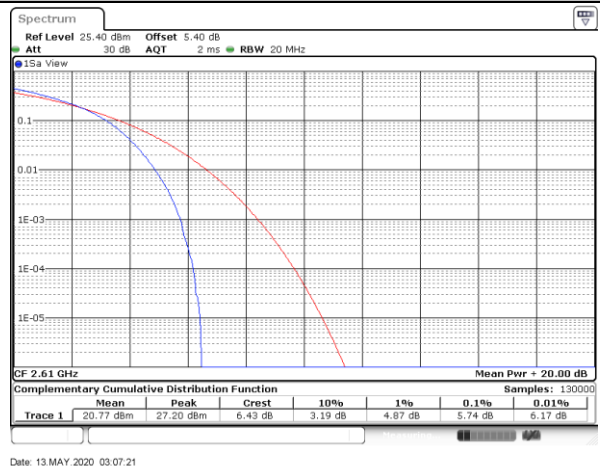
Middle Channel / Full RB

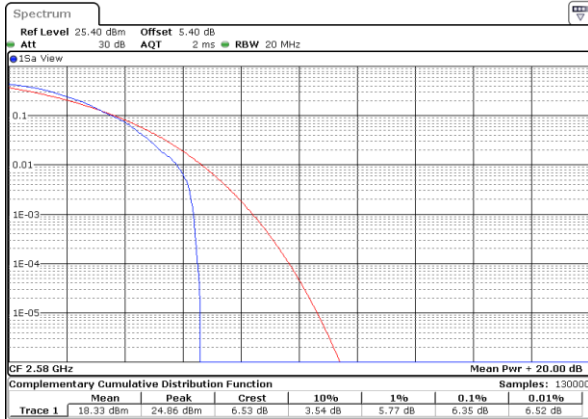


Highest Channel / 1RB



Highest Channel / Full RB

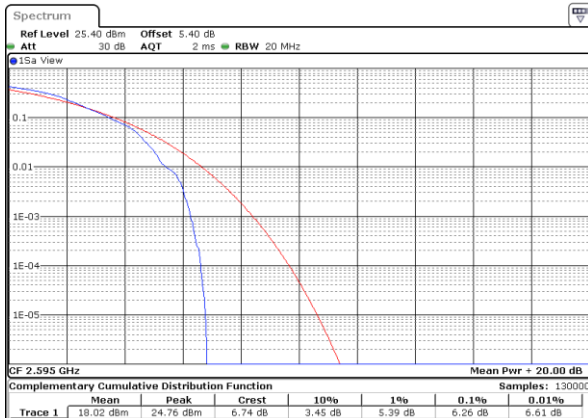


LTE Band 38 / 20MHz / 64QAM
Lowest Channel / 1RB


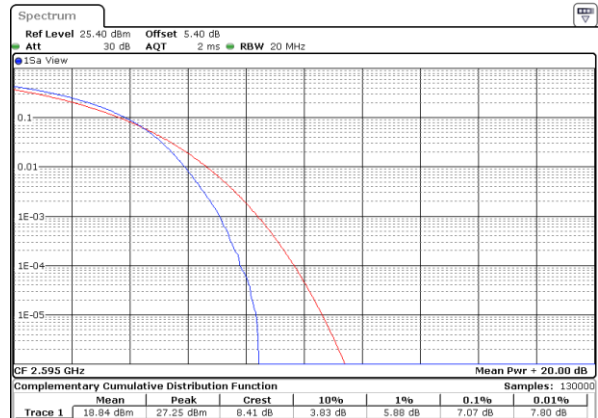
Date: 13 MAY 2020 03:09:47

Lowest Channel / Full RB

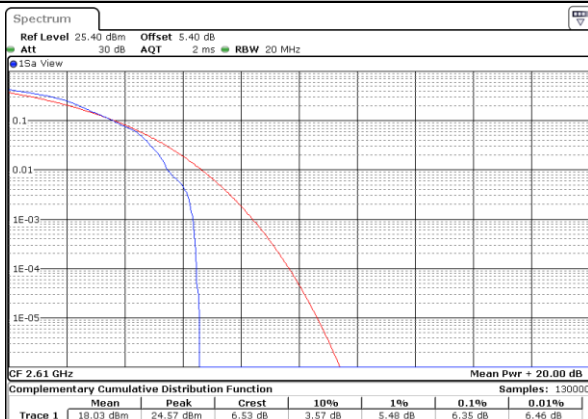

Date: 13 MAY 2020 03:09:24

Middle Channel / 1RB


Date: 13 MAY 2020 03:10:28

Middle Channel / Full RB


Date: 13 MAY 2020 03:10:52

Highest Channel / 1RB


Date: 13 MAY 2020 03:11:29

Highest Channel / Full RB


Date: 13 MAY 2020 03:11:17

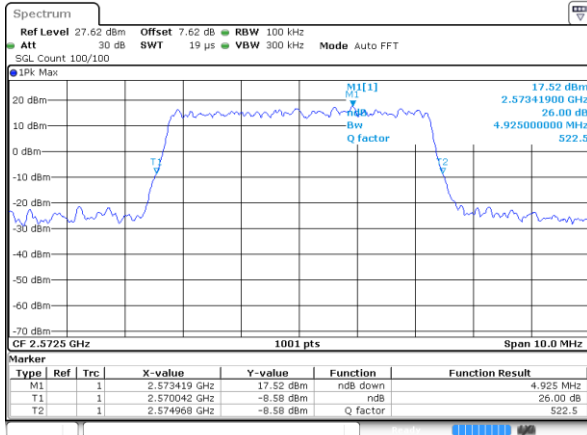
**26dB Bandwidth**

Mode	LTE Band 38 : 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	-	-	-	-	4.93	4.87	9.69	9.71	14.36	14.42	19.98	20.14
Middle CH	-	-	-	-	4.95	4.94	9.79	9.83	14.54	14.33	20.06	19.98
Highest CH	-	-	-	-	4.87	4.91	9.63	9.67	14.15	14.33	20.10	20.06
Mode	LTE Band 38 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.90	-	9.65	-	14.27	-	20.26	-
Middle CH	-	-	-	-	4.94	-	9.65	-	14.27	-	20.18	-
Highest CH	-	-	-	-	4.84	-	9.85	-	14.27	-	20.02	-

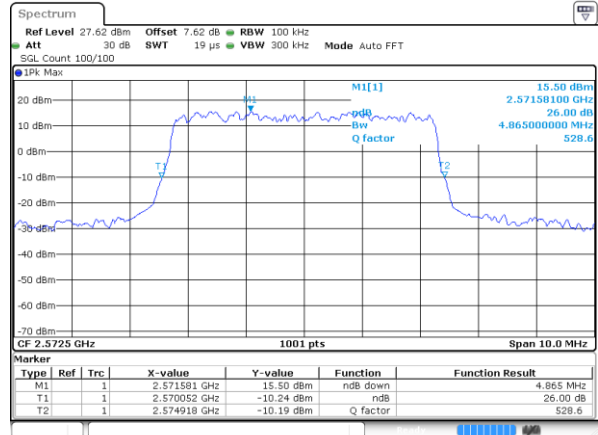


LTE Band 38

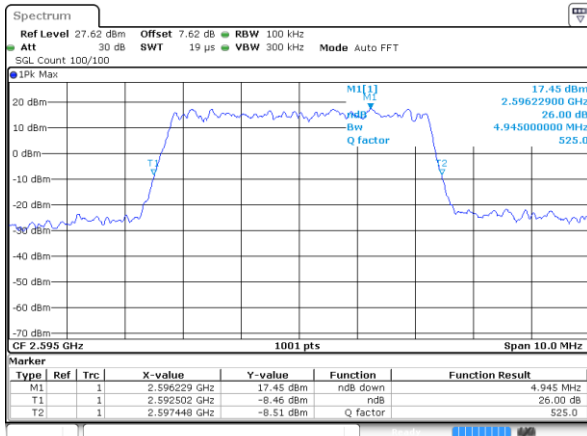
Lowest Channel / 5MHz / QPSK



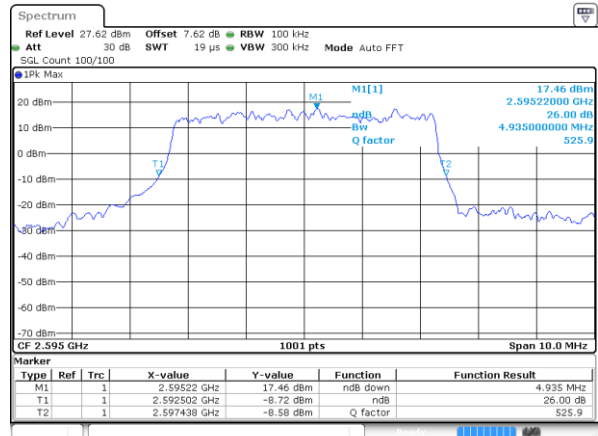
Lowest Channel / 5MHz / 16QAM



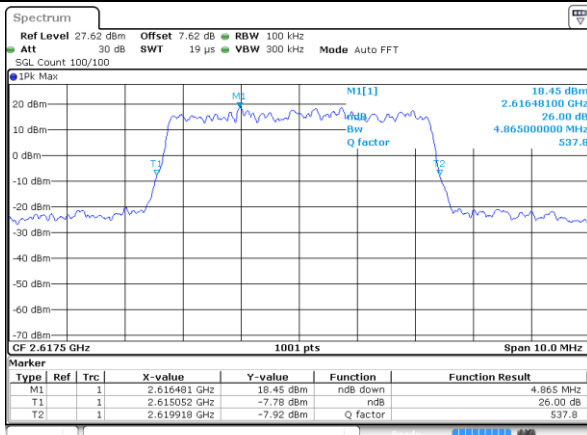
Middle Channel / 5MHz / QPSK



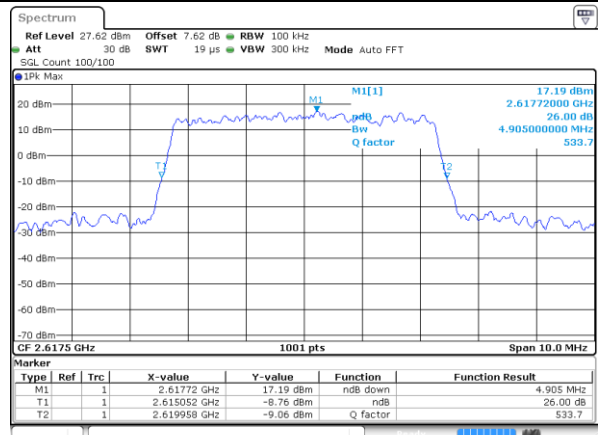
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



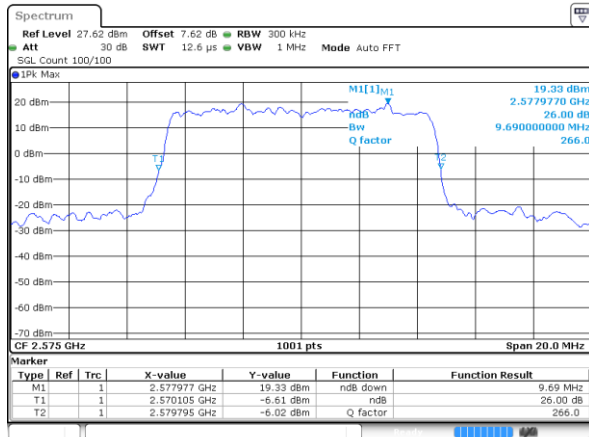
Highest Channel / 5MHz / 16QAM





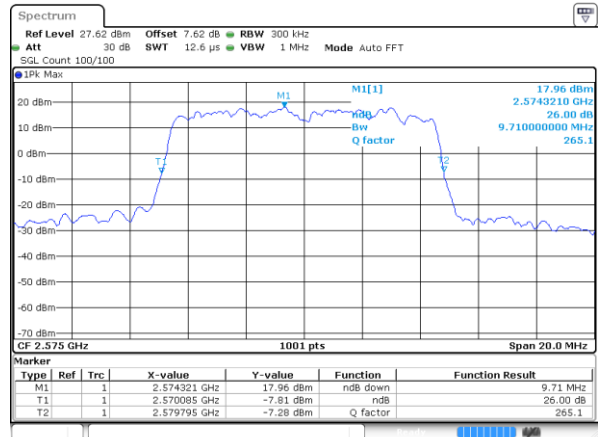
LTE Band 38

Lowest Channel / 10MHz / QPSK



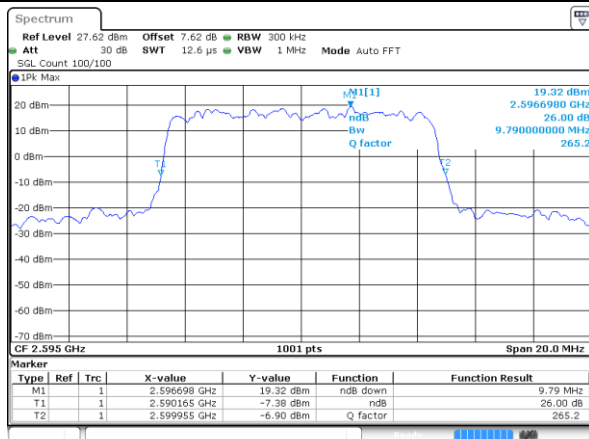
Date: 13 MAY 2020 04:50:32

Lowest Channel / 10MHz / 16QAM



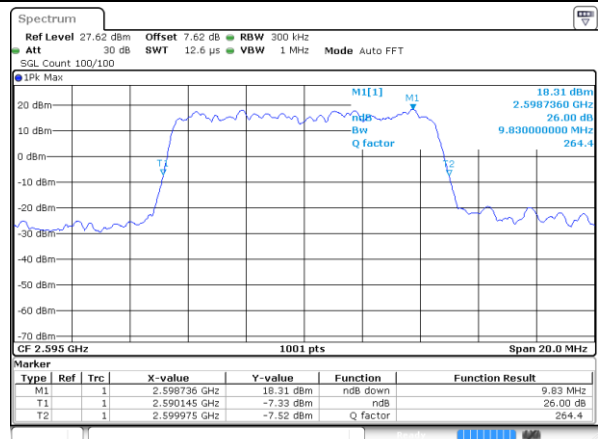
Date: 13 MAY 2020 04:50:42

Middle Channel / 10MHz / QPSK



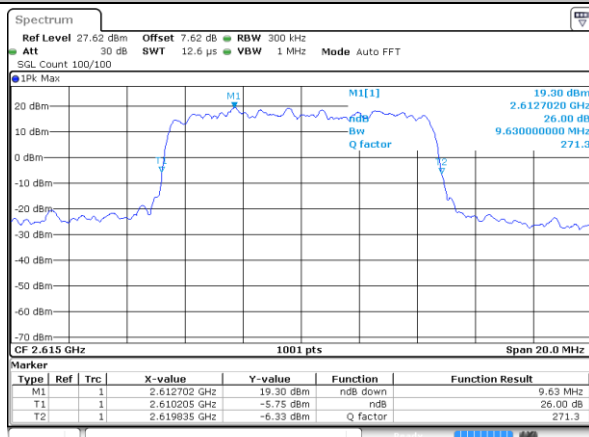
Date: 13 MAY 2020 04:51:11

Middle Channel / 10MHz / 16QAM



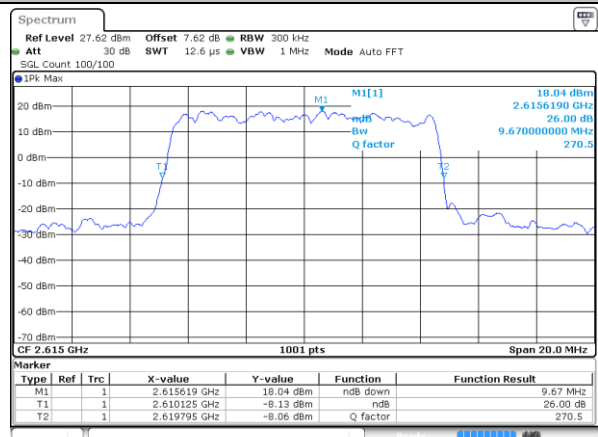
Date: 13 MAY 2020 04:51:21

Highest Channel / 10MHz / QPSK



Date: 13 MAY 2020 04:51:51

Highest Channel / 10MHz / 16QAM

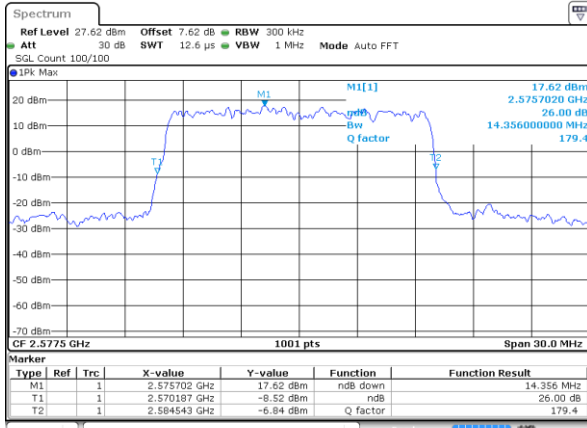


Date: 13 MAY 2020 04:52:01



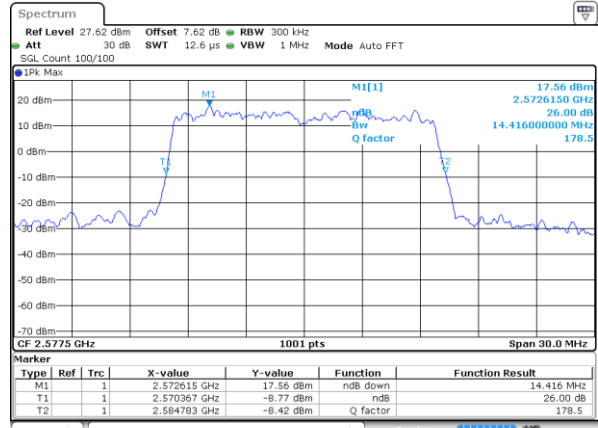
LTE Band 38

Lowest Channel / 15MHz / QPSK



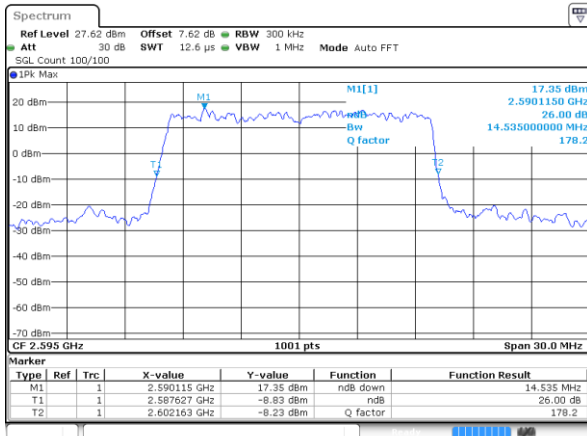
Date: 13 MAY 2020 04:52:30

Lowest Channel / 15MHz / 16QAM



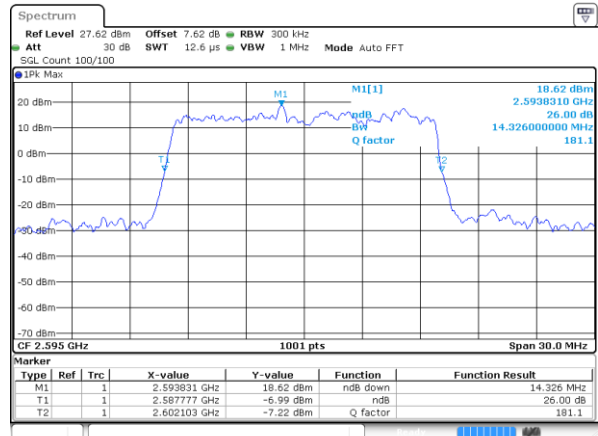
Date: 13 MAY 2020 04:52:40

Middle Channel / 15MHz / QPSK



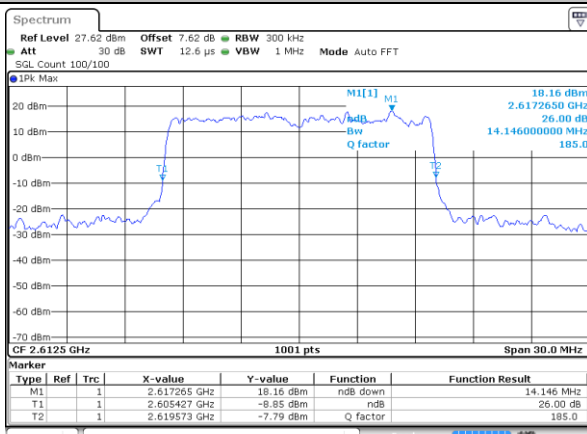
Date: 13 MAY 2020 04:53:10

Middle Channel / 15MHz / 16QAM



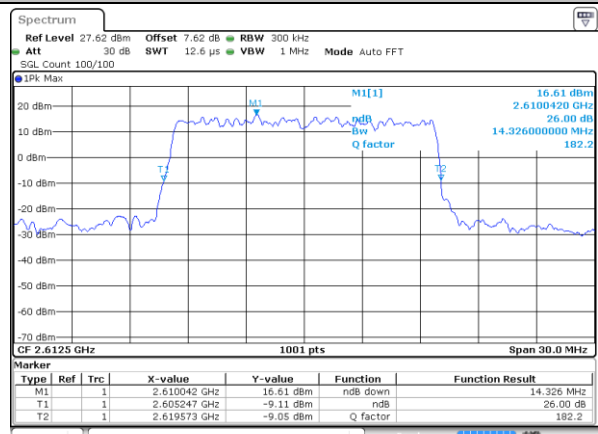
Date: 13 MAY 2020 04:53:20

Highest Channel / 15MHz / QPSK



Date: 13 MAY 2020 04:53:49

Highest Channel / 15MHz / 16QAM

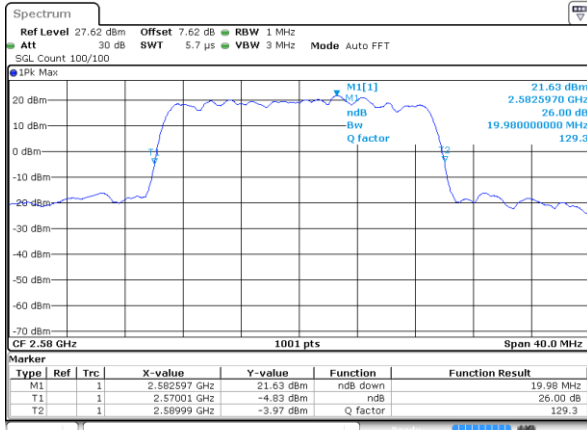


Date: 13 MAY 2020 04:53:59

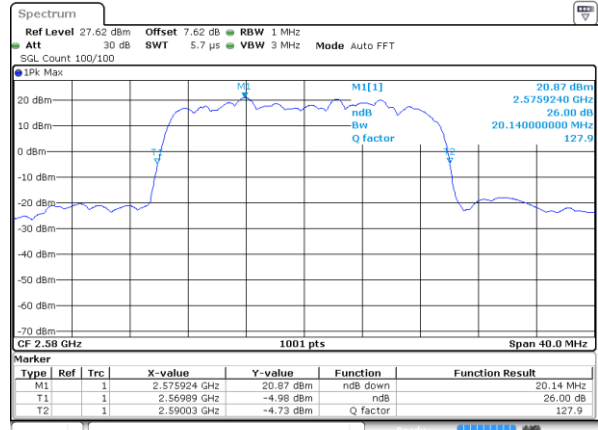


LTE Band 38

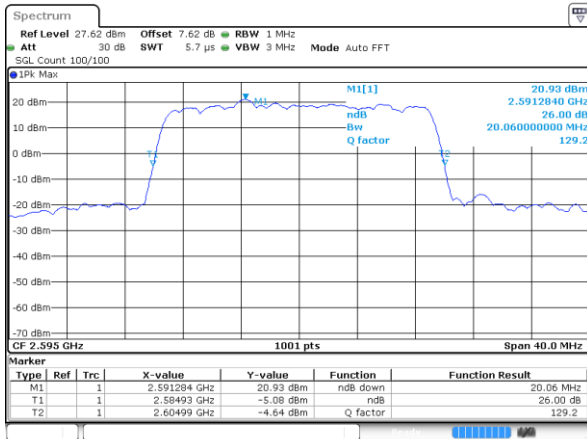
Lowest Channel / 20MHz / QPSK



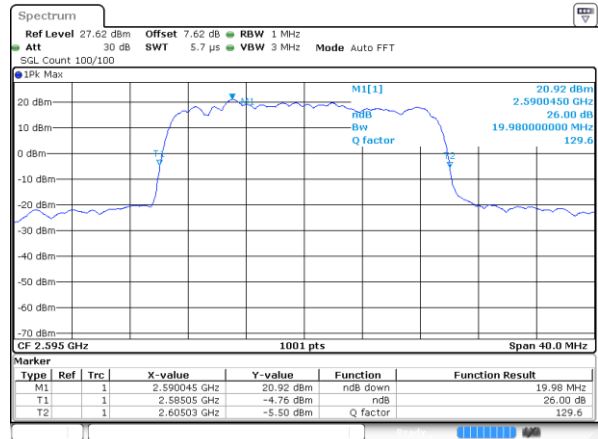
Lowest Channel / 20MHz / 16QAM



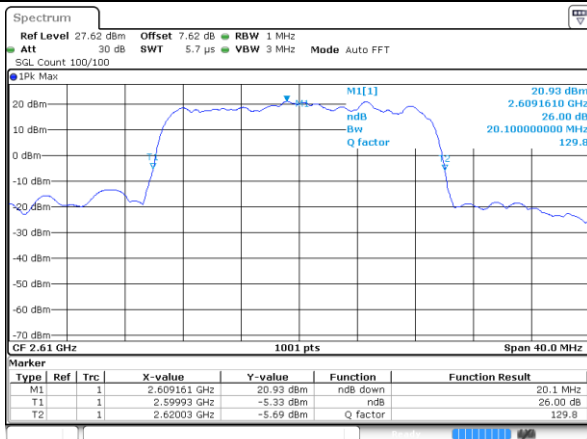
Middle Channel / 20MHz / QPSK



Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



Highest Channel / 20MHz / 16QAM

