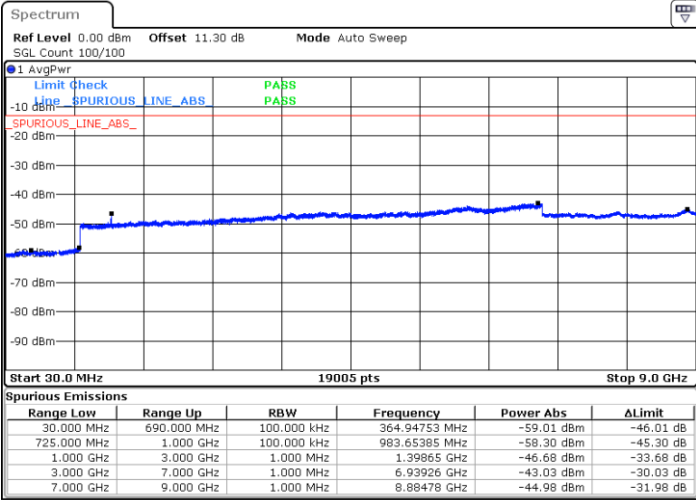




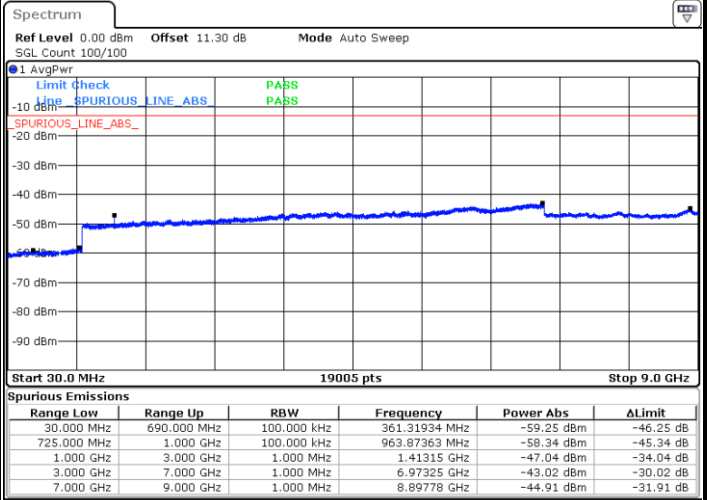
LTE Band 12 / 3MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

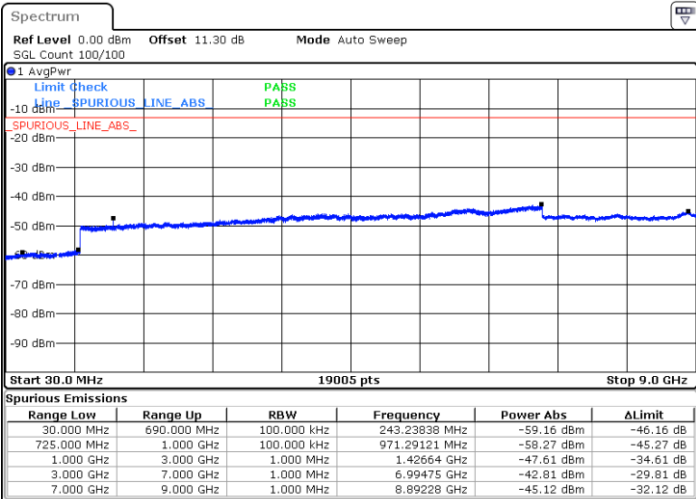


Date: 17.JUL.2020 01:25:17



Date: 17.JUL.2020 01:26:20

Highest Channel / 64QAM



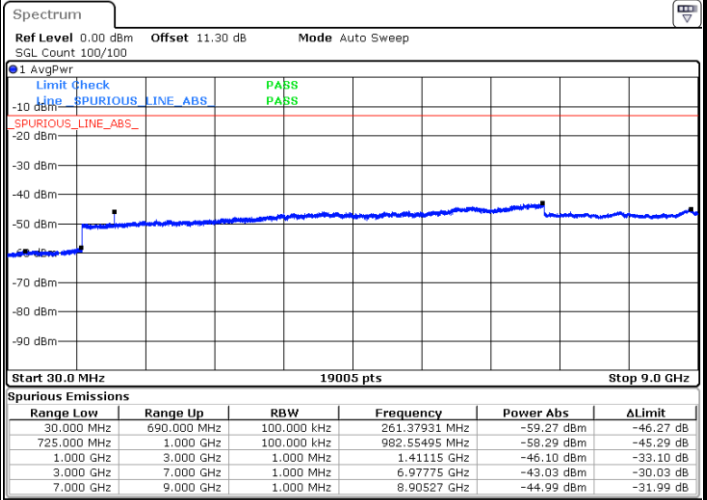
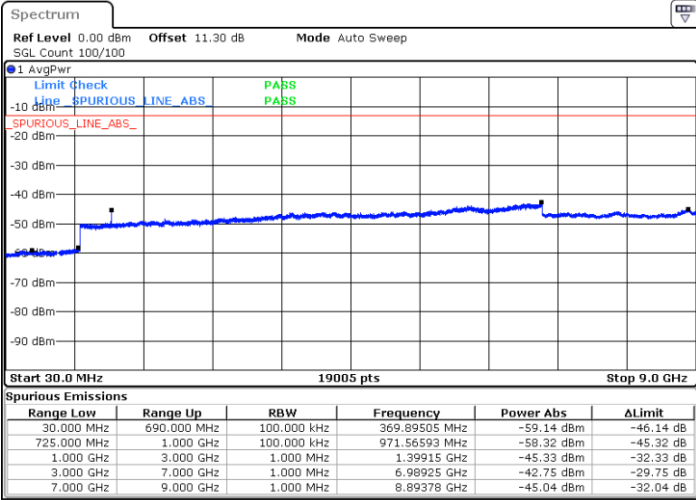
Date: 17.JUL.2020 01:29:26



LTE Band 12 / 5MHz

Lowest Channel / 64QAM

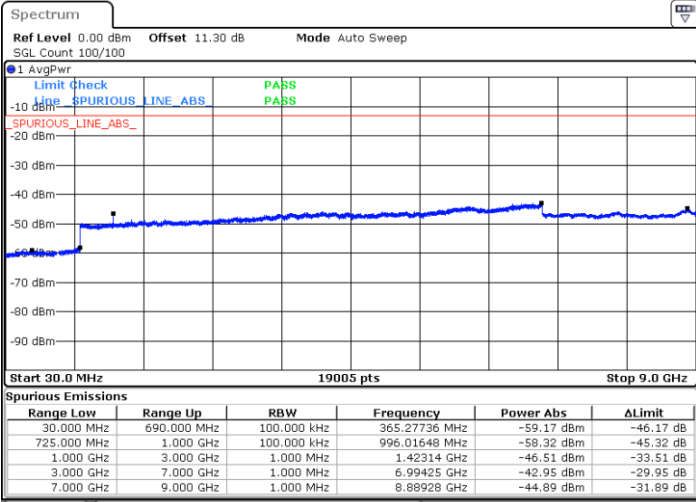
Middle Channel / 64QAM



Date: 17.JUL.2020 01:32:33

Date: 17.JUL.2020 01:33:36

Highest Channel / 64QAM



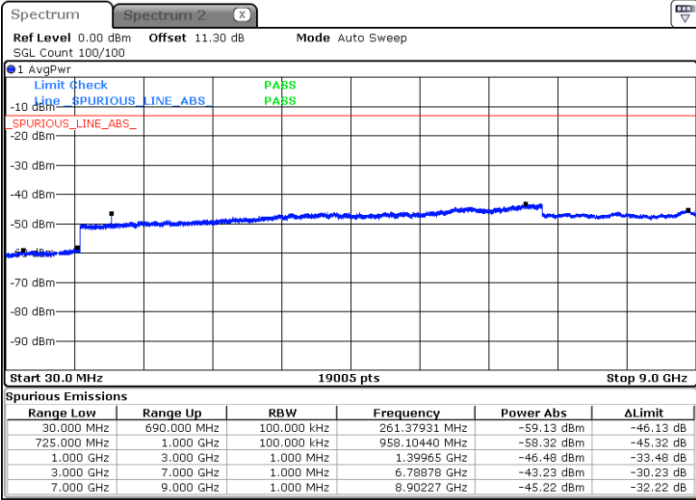
Date: 17.JUL.2020 01:36:43



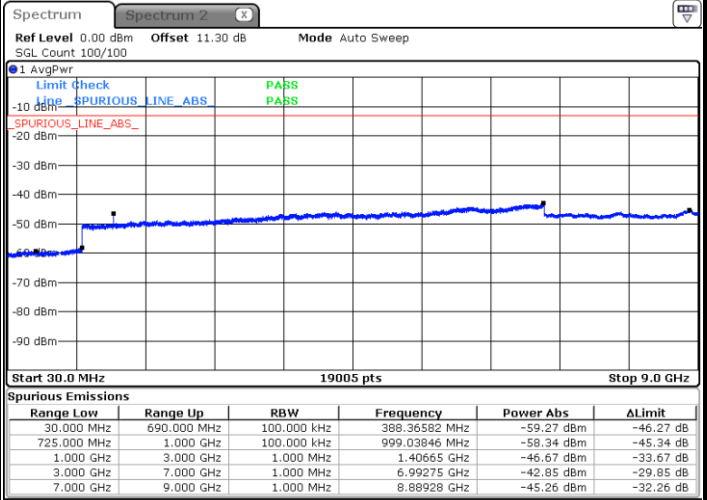
LTE Band 12 / 10MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

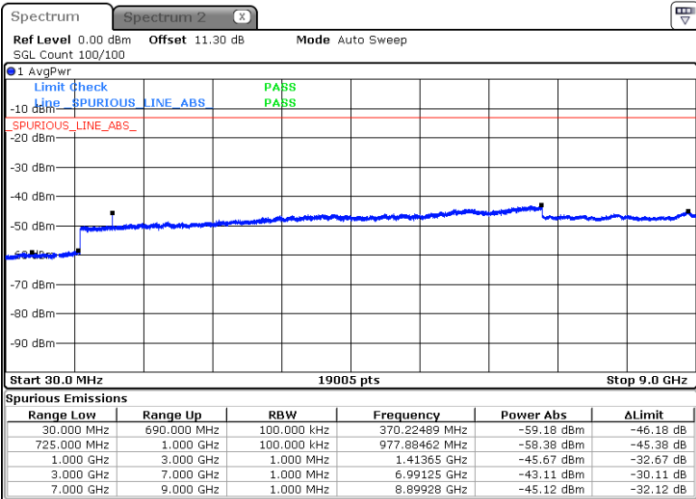


Date: 18 JUL 2020 01:28:20



Date: 18 JUL 2020 01:29:23

Highest Channel / 64QAM



Date: 18 JUL 2020 01:31:49



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	0.0065	PASS
40	Normal Voltage	0.0105	
30	Normal Voltage	0.0078	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0182	
0	Normal Voltage	0.0076	
-10	Normal Voltage	0.0034	
-20	Normal Voltage	0.0041	
-30	Normal Voltage	0.0139	
20	Maximum Voltage	0.0100	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0031	

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

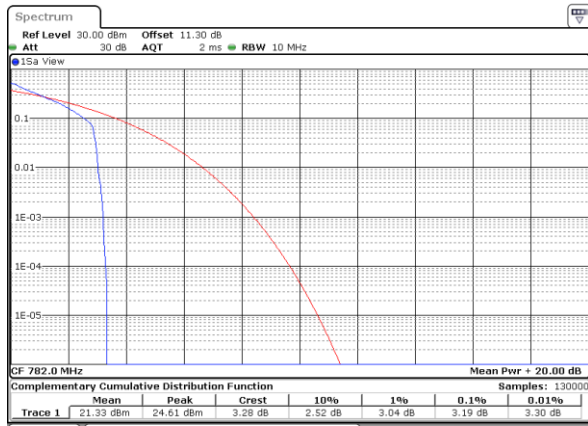
## Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.19	4.99	3.88	5.91	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	4.90	6.35	-	-	
Highest CH	-	-	-	-	



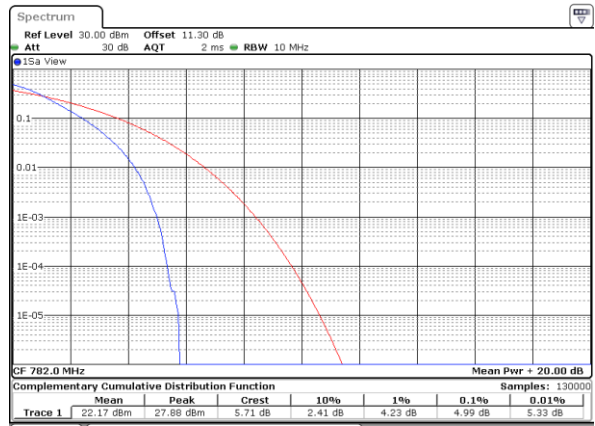
LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB



Date: 17 JUL 2020 00:41:51

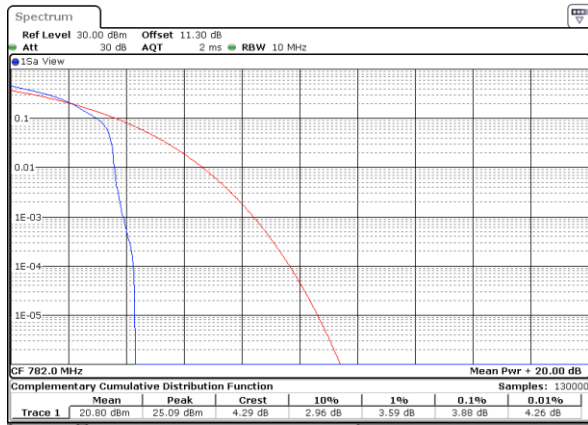
Middle Channel / Full RB



Date: 17 JUL 2020 00:43:20

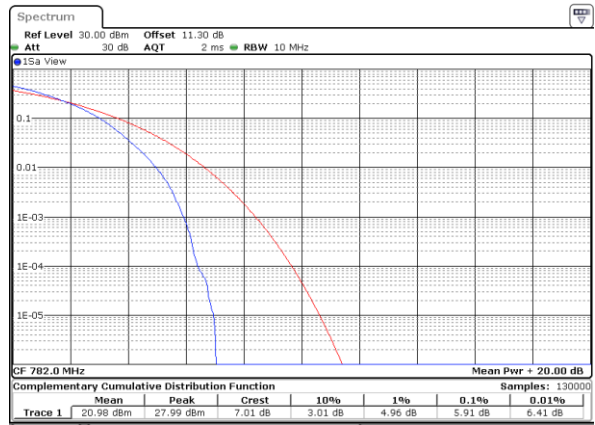
LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB



Date: 17 JUL 2020 00:41:21

Middle Channel / Full RB



Date: 17 JUL 2020 00:41:35

LTE Band 13 / 10MHz / 64QAM

Middle Channel / 1RB



Date: 17 JUL 2020 00:40:13

Middle Channel / Full RB



Date: 17 JUL 2020 00:41:10



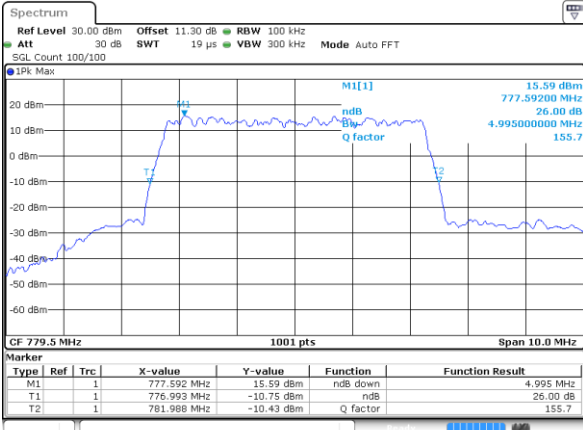
**26dB Bandwidth**

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	-	-	-	-	5.00	4.88	-	-	-	-	-	-
Middle CH	-	-	-	-	4.95	4.90	9.83	9.81	-	-	-	-
Highest CH	-	-	-	-	4.91	4.93	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.90	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.94	-	9.85	-	-	-	-	-
Highest CH	-	-	-	-	4.90	-	-	-	-	-	-	-



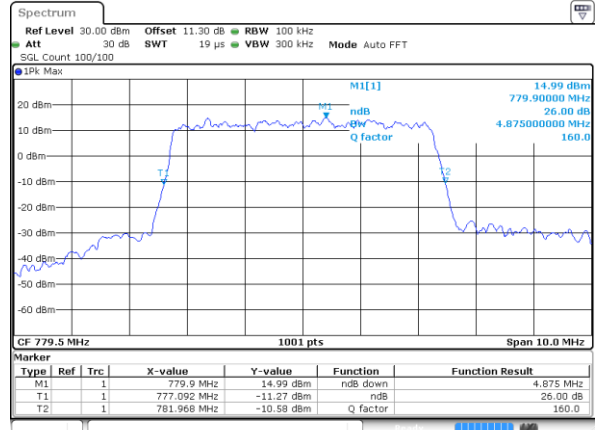
LTE Band 13

Lowest Channel / 5MHz / QPSK



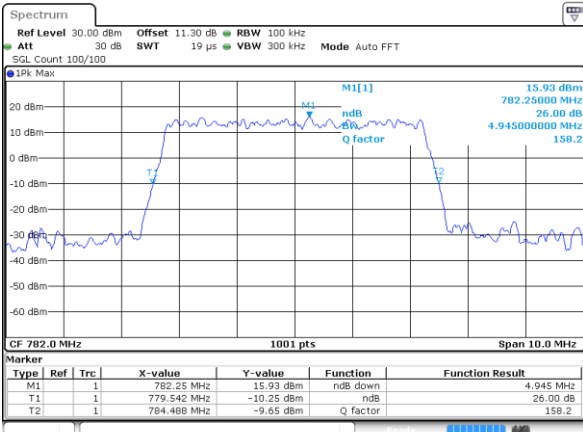
Date: 16 JUL 2020 23:52:12

Lowest Channel / 5MHz / 16QAM



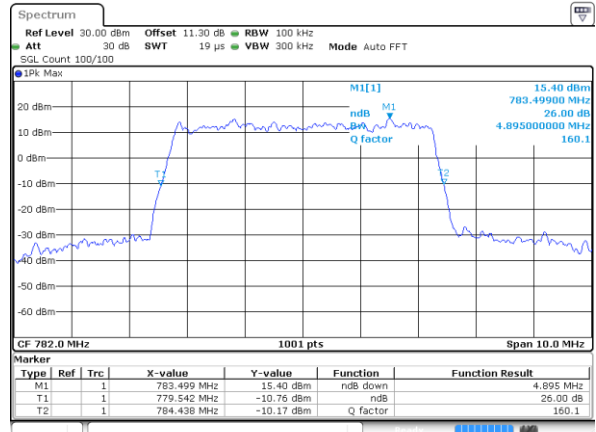
Date: 16 JUL 2020 23:52:00

Middle Channel / 5MHz / QPSK



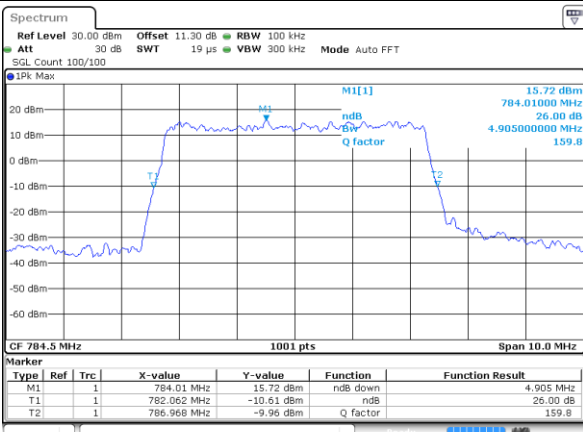
Date: 17 JUL 2020 00:01:50

Middle Channel / 5MHz / 16QAM



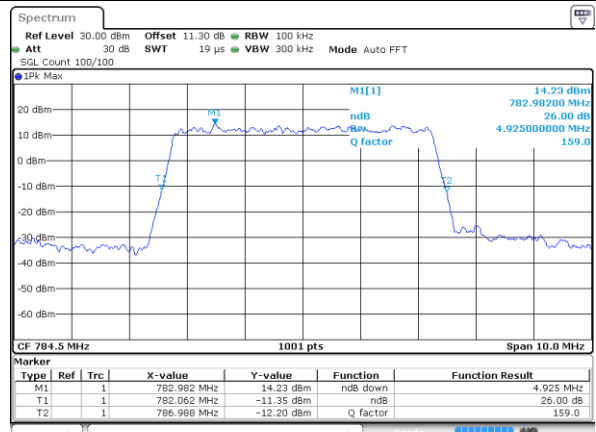
Date: 17 JUL 2020 00:02:02

Highest Channel / 5MHz / QPSK



Date: 17 JUL 2020 00:03:14

Highest Channel / 5MHz / 16QAM



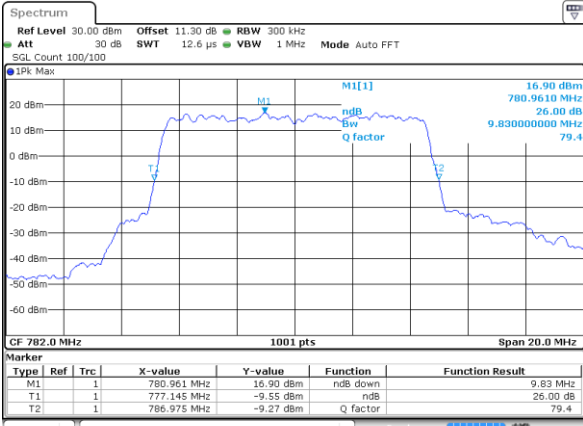
Date: 17 JUL 2020 00:03:02





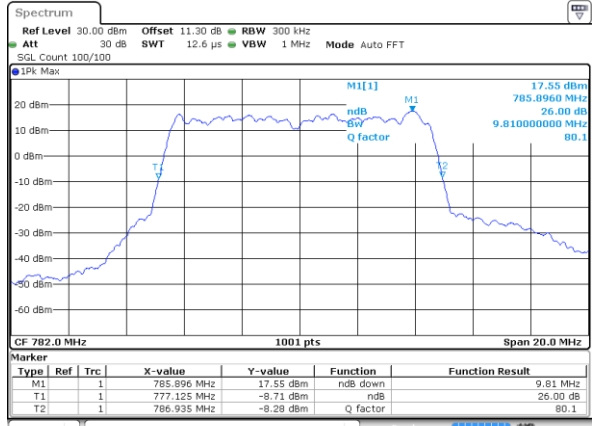
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 17 JUL 2020 00:22:00

Middle Channel / 10MHz / 16QAM

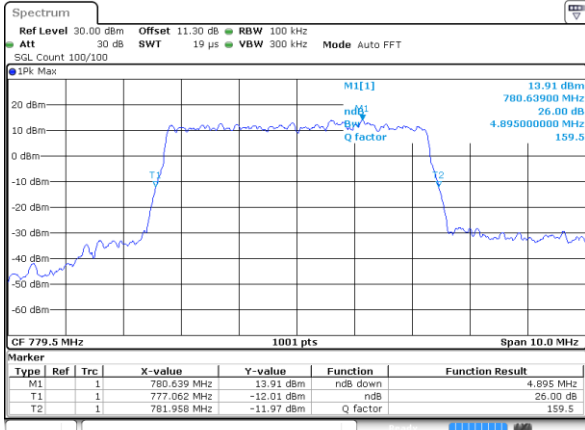


Date: 17 JUL 2020 00:21:49



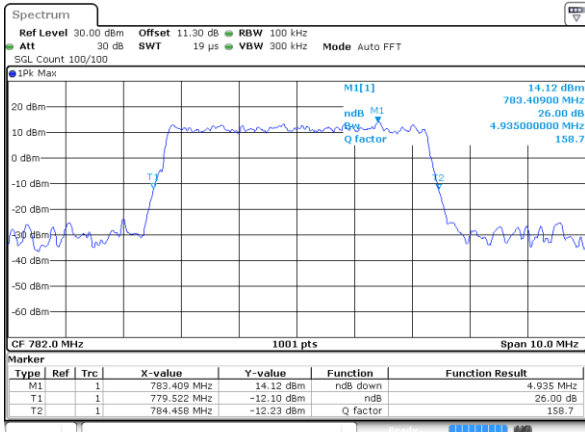
LTE Band 13

Lowest Channel / 5MHz / 64QAM



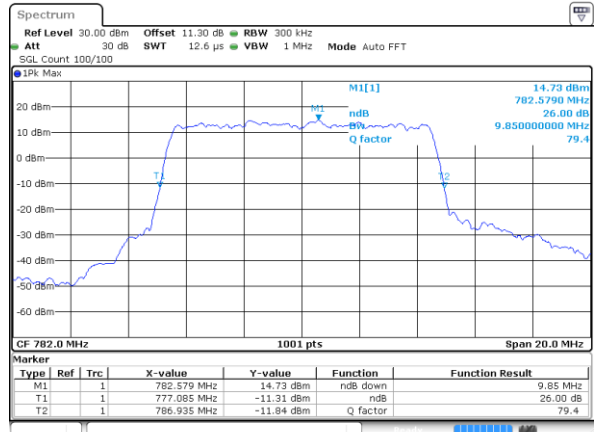
Date: 17 JUL 2020 00:11:42

Middle Channel / 5MHz / 64QAM



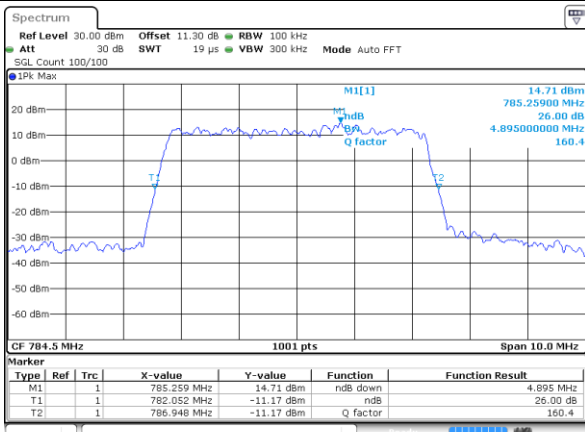
Date: 17 JUL 2020 00:16:36

Middle Channel / 10MHz / 64QAM



Date: 17 JUL 2020 00:33:46

Highest Channel / 5MHz / 64QAM



Date: 17 JUL 2020 00:17:12



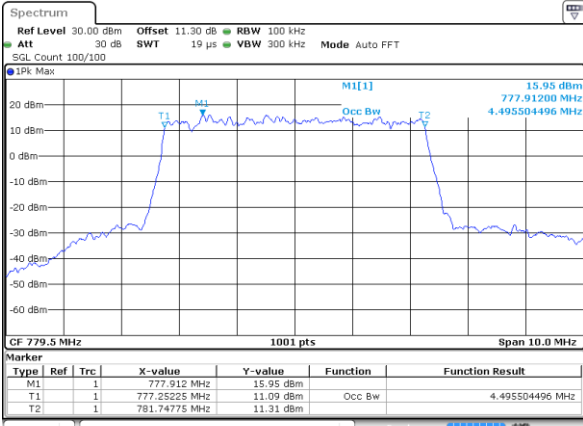
**Occupied Bandwidth**

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	-	-	-	-	4.50	4.50	-	-	-	-	-	-
Middle CH	-	-	-	-	4.49	4.50	9.01	8.99	-	-	-	-
Highest CH	-	-	-	-	4.48	4.51	-	-	-	-	-	-
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.48	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.48	-	9.05	-	-	-	-	-
Highest CH	-	-	-	-	4.50	-	-	-	-	-	-	-



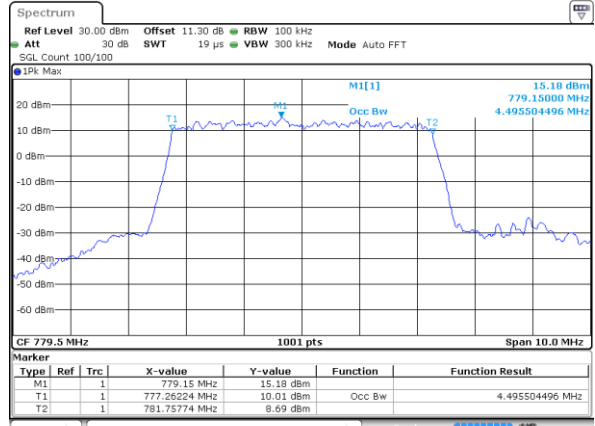
LTE Band 13

Lowest Channel / 5MHz / QPSK



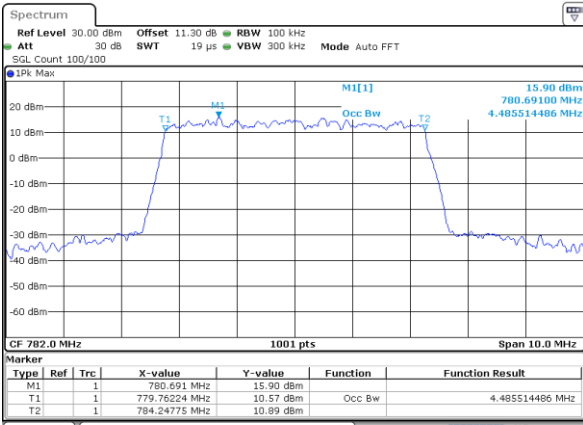
Date: 16 JUL 2020 23:51:35

Lowest Channel / 5MHz / 16QAM



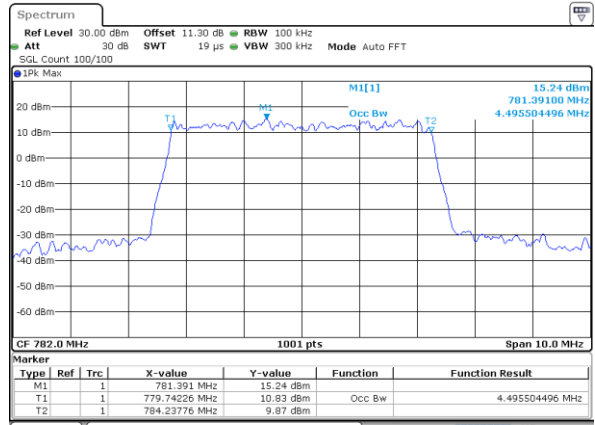
Date: 16 JUL 2020 23:51:48

Middle Channel / 5MHz / QPSK



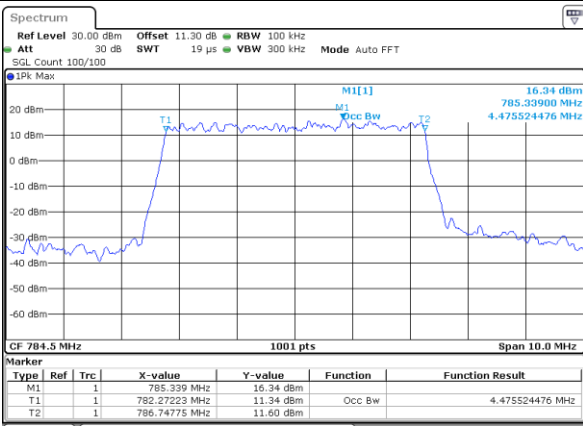
Date: 17 JUL 2020 00:02:26

Middle Channel / 5MHz / 16QAM



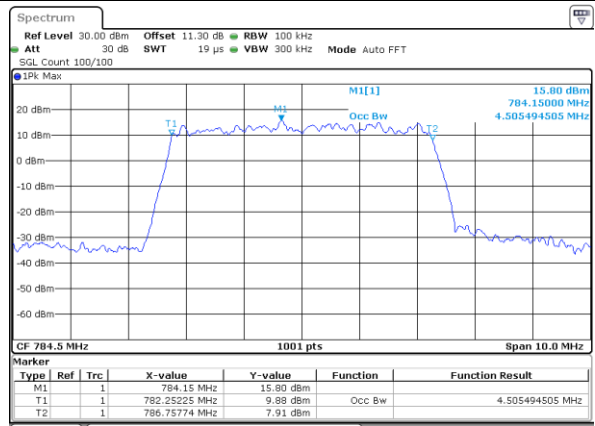
Date: 17 JUL 2020 00:02:14

Highest Channel / 5MHz / QPSK



Date: 17 JUL 2020 00:02:37

Highest Channel / 5MHz / 16QAM

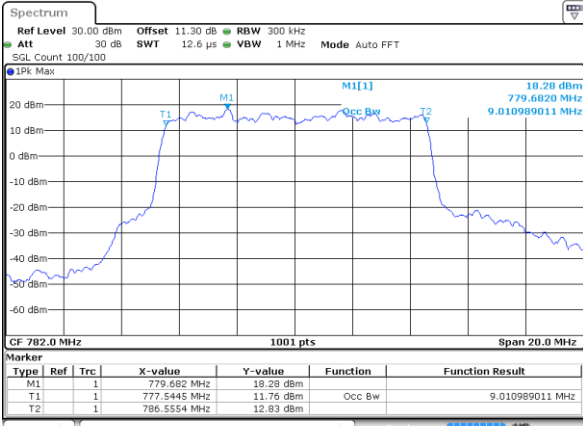


Date: 17 JUL 2020 00:02:50



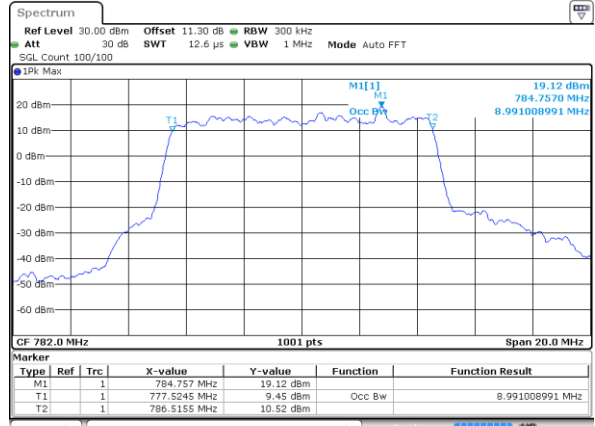
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 17 JUL 2020 00:21:26

Middle Channel / 10MHz / 16QAM

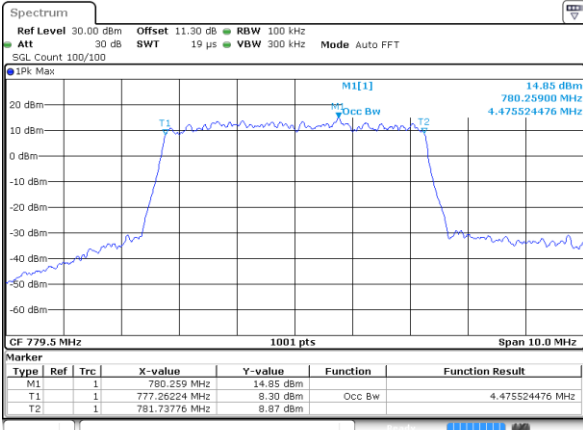


Date: 17 JUL 2020 00:21:37



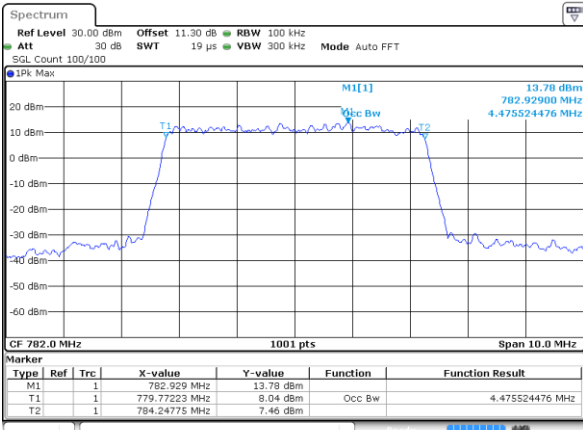
LTE Band 13

Lowest Channel / 5MHz / 64QAM



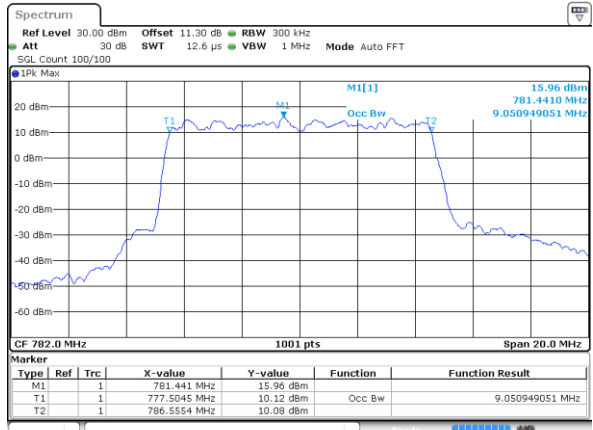
Date: 17 JUL 2020 00:11:30

Middle Channel / 5MHz / 64QAM



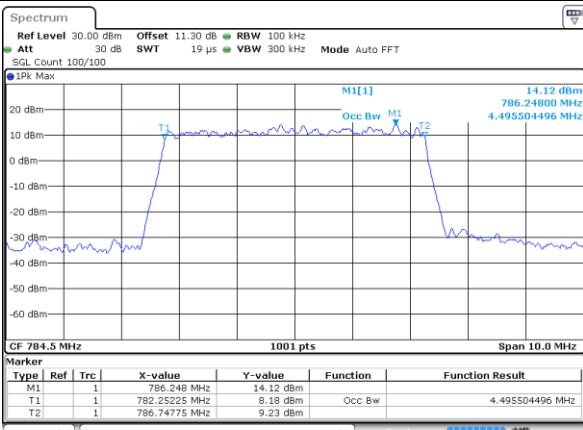
Date: 17 JUL 2020 00:16:48

Middle Channel / 10MHz / 64QAM



Date: 17 JUL 2020 00:33:34

Highest Channel / 5MHz / 64QAM



Date: 17 JUL 2020 00:17:00

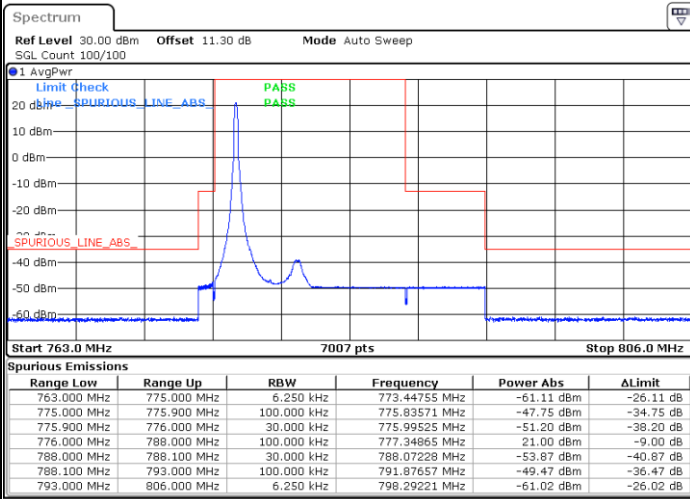


Conducted Band Edge

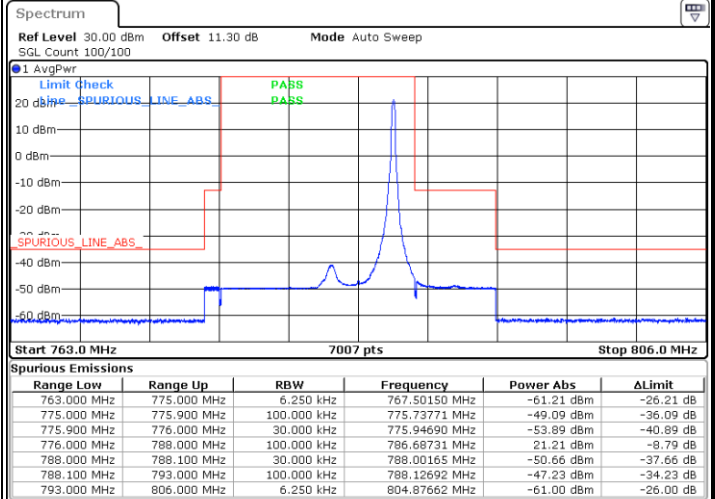
LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



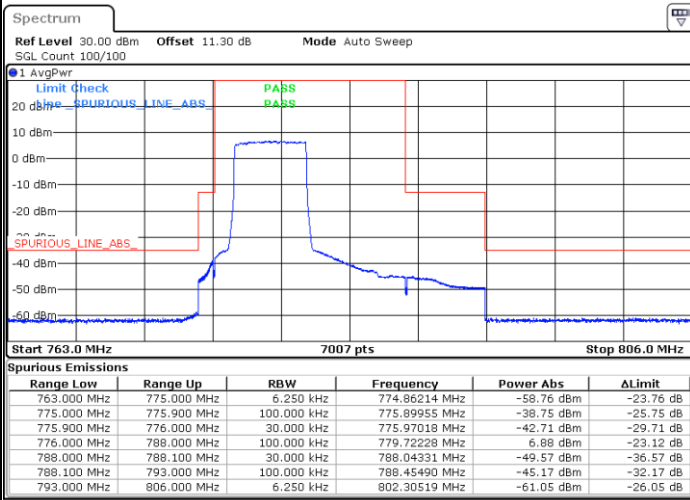
Date: 16 JUL 2020 23:58:57



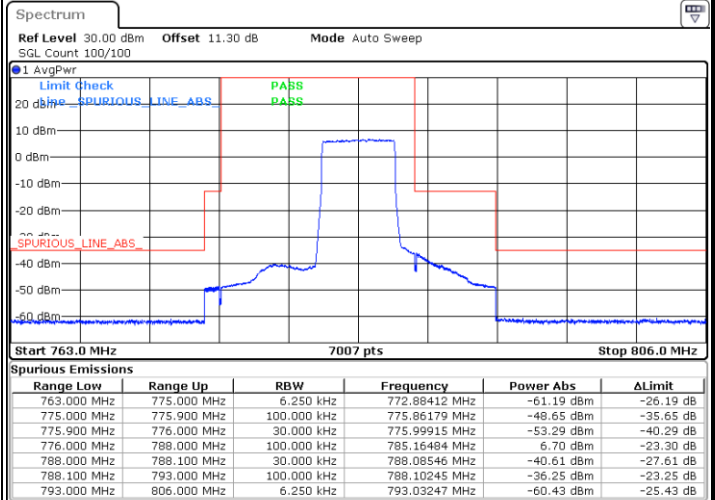
Date: 17 JUL 2020 00:09:56

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 16 JUL 2020 23:53:52



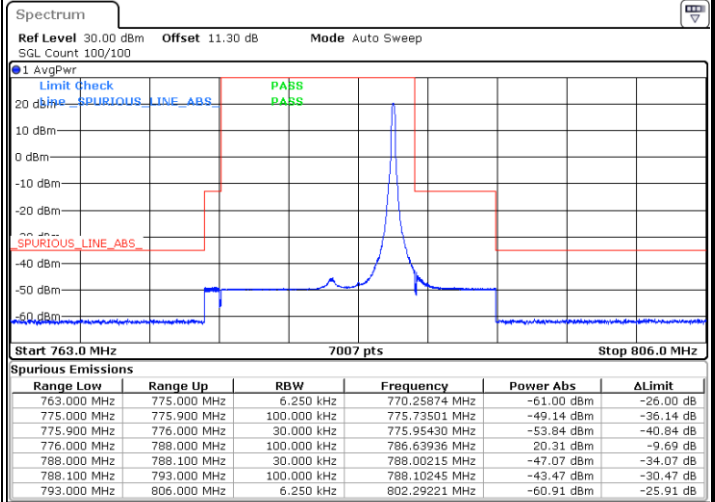
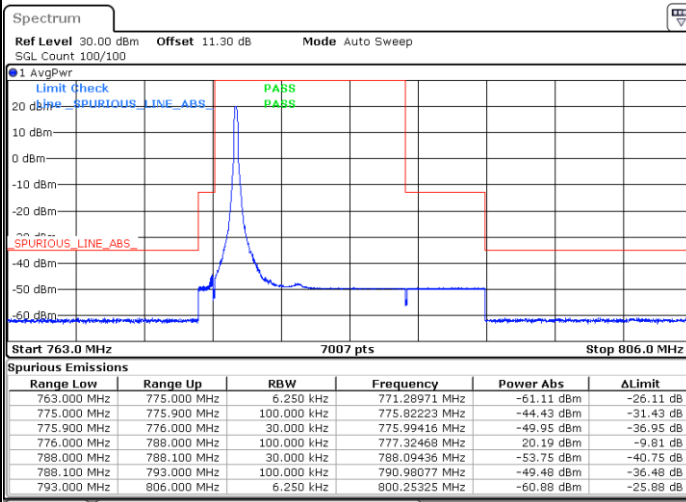
Date: 17 JUL 2020 00:04:54



LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

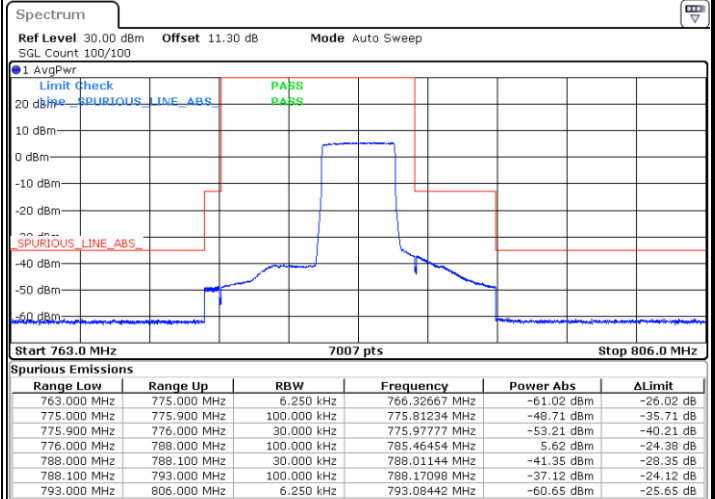
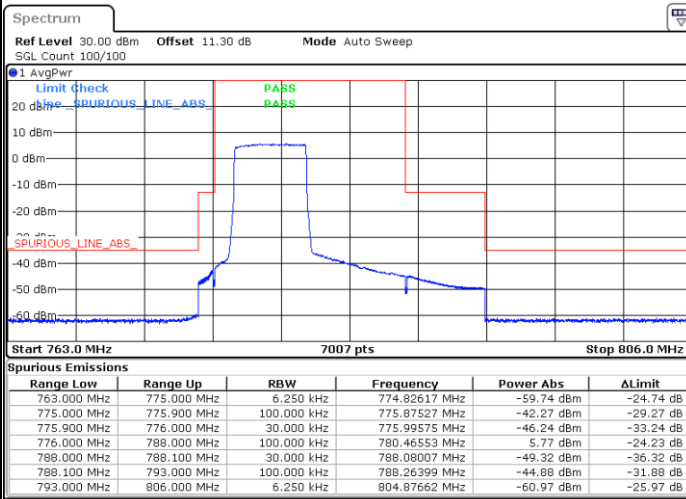


Date: 16 JUL 2020 23:57:14

Date: 17 JUL 2020 00:08:16

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 16 JUL 2020 23:55:33

Date: 17 JUL 2020 00:06:35

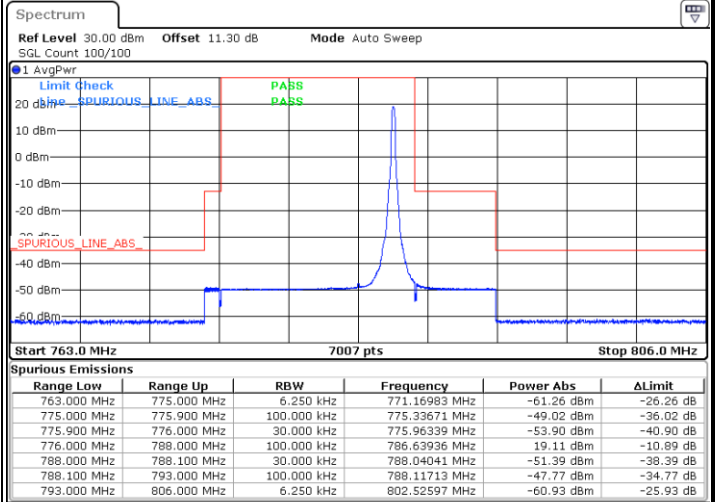
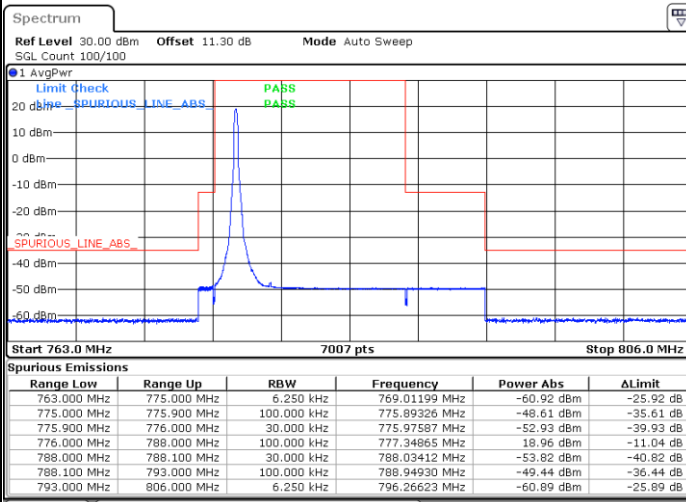




LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

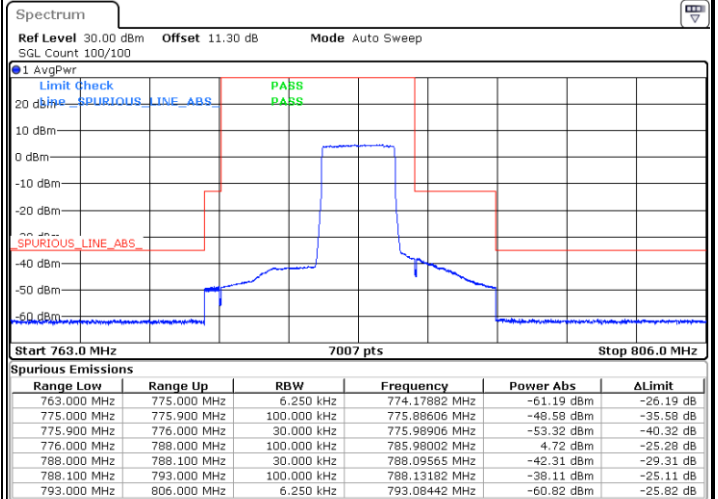
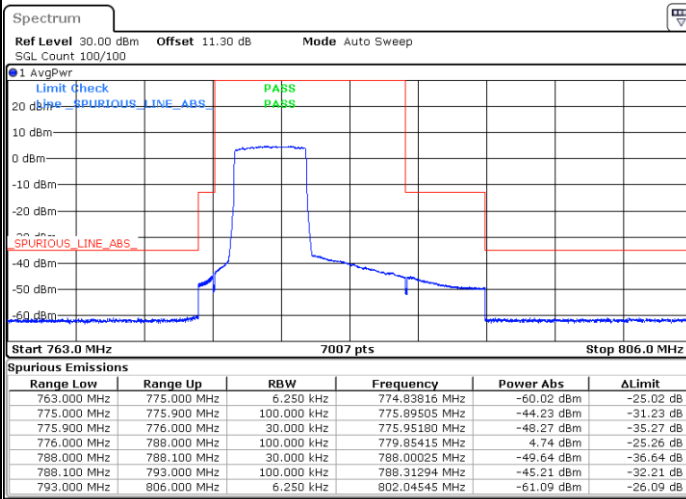


Date: 17 JUL 2020 00:15:04

Date: 17 JUL 2020 00:20:33

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 17 JUL 2020 00:13:23

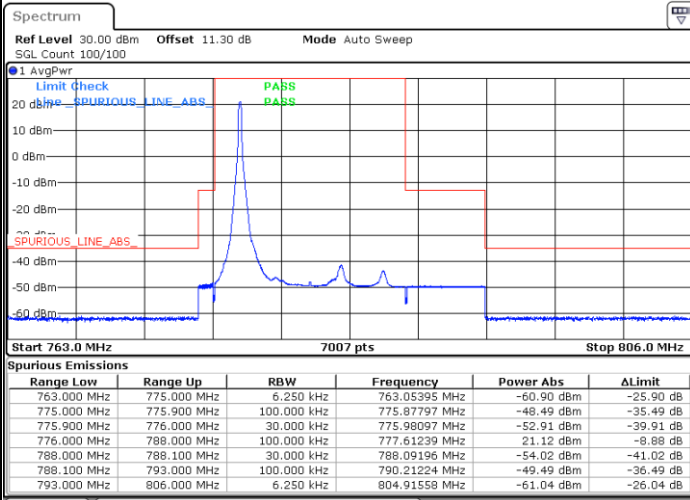
Date: 17 JUL 2020 00:18:52



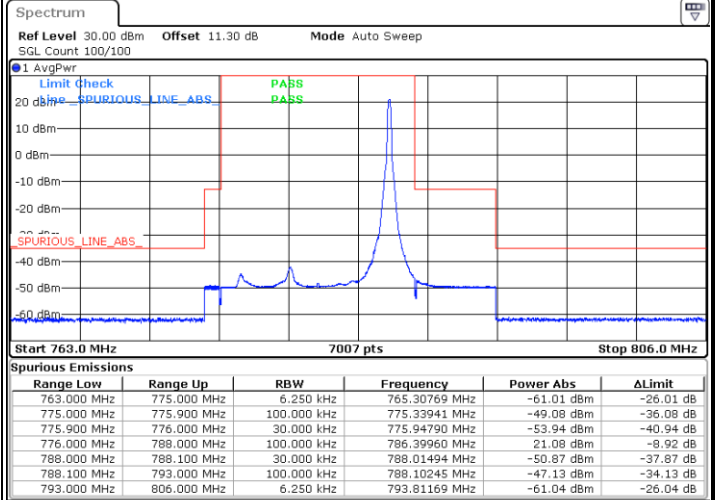
LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

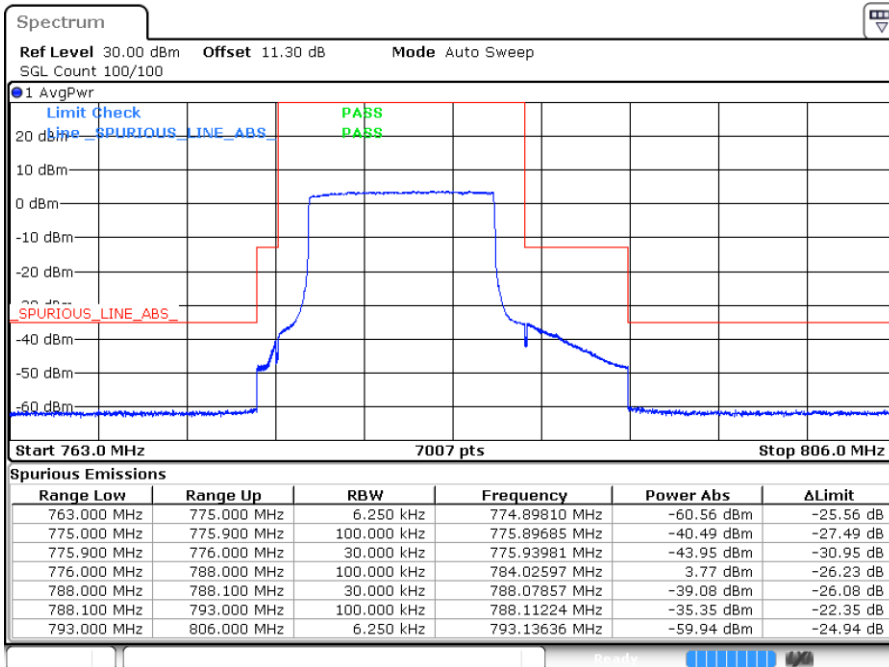


Date: 17 JUL 2020 00:28:40



Date: 17 JUL 2020 00:30:21

Band Edge / Full RB



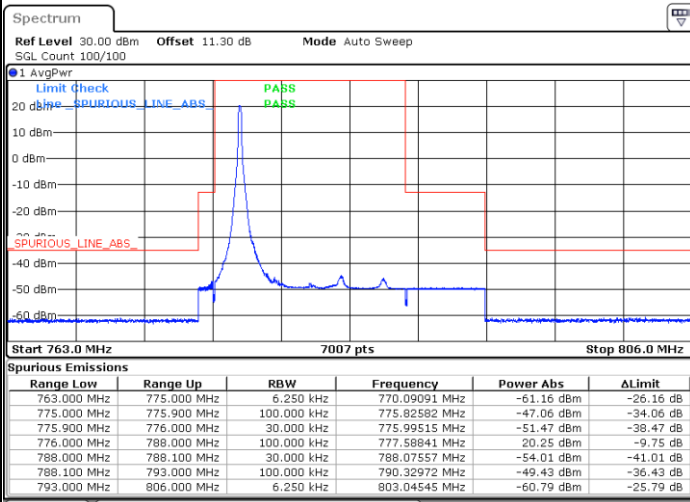
Date: 17 JUL 2020 00:23:40



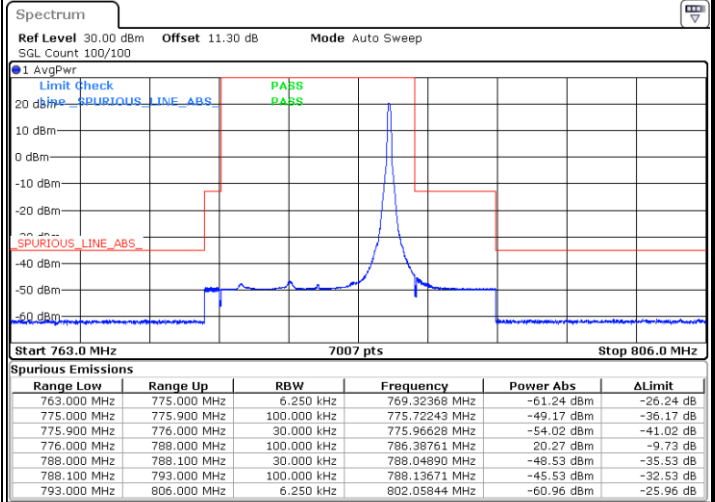
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

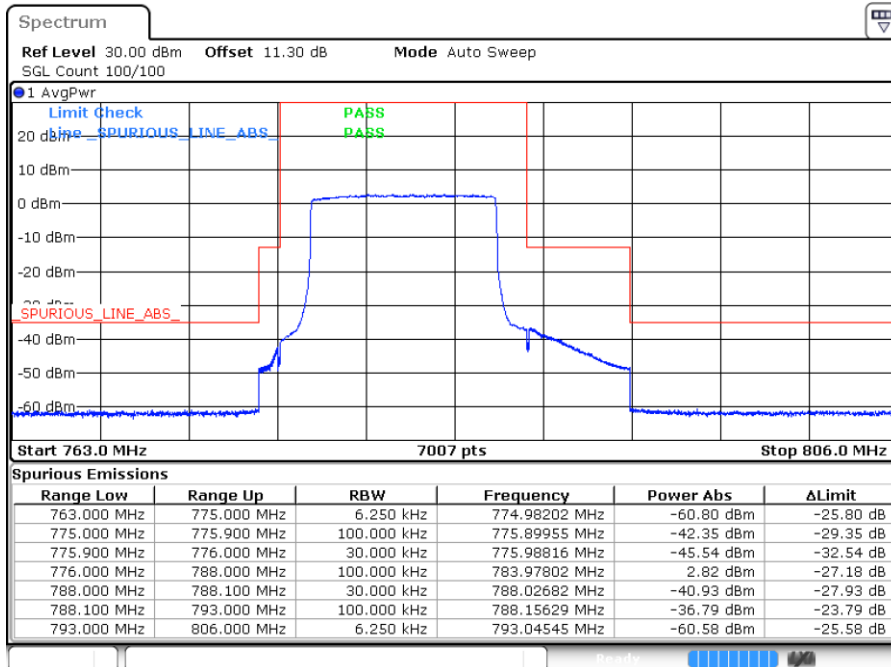


Date: 17 JUL 2020 00:27:00



Date: 17 JUL 2020 00:32:01

Band Edge / Full RB

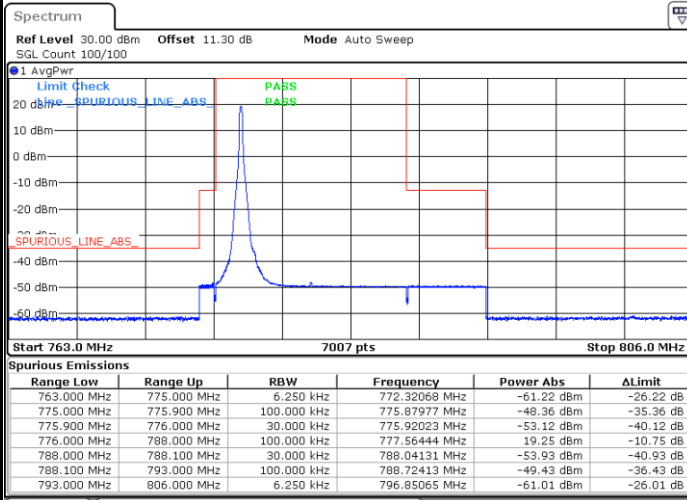


Date: 17 JUL 2020 00:25:20



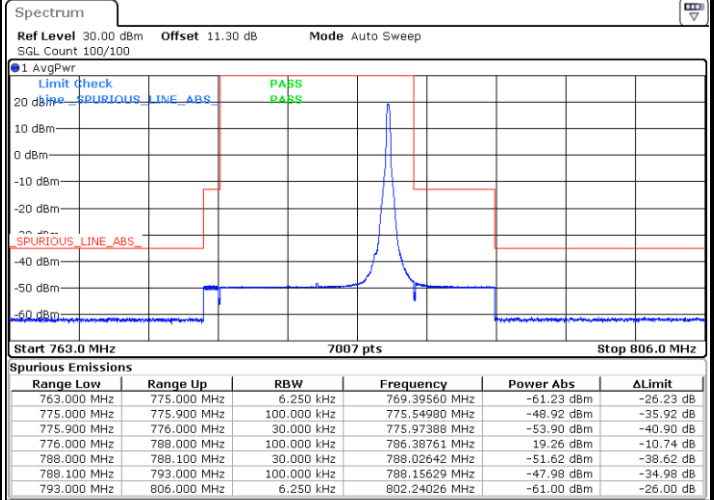
LTE Band 13 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



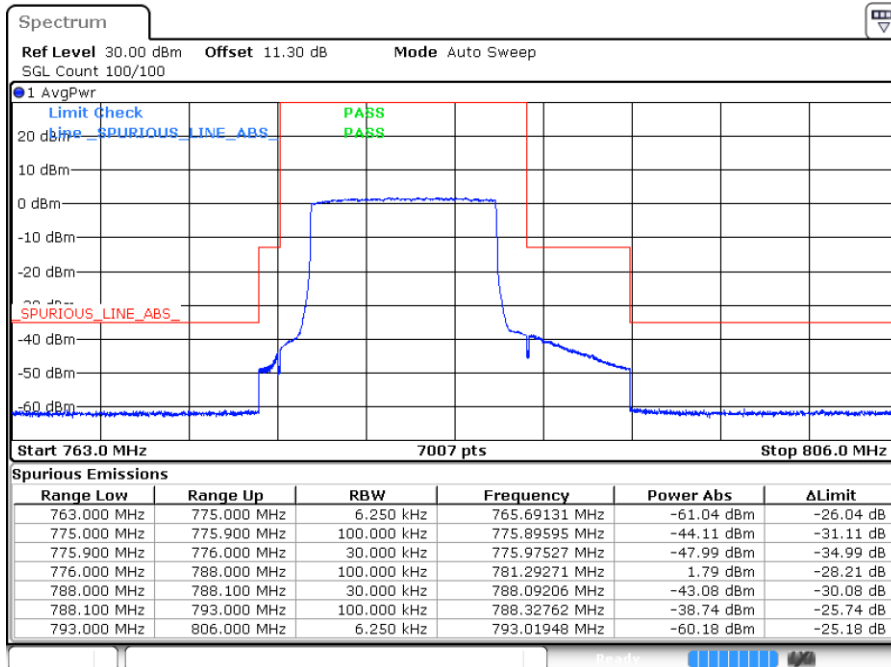
Date: 17 JUL 2020 00:37:07

Highest Band Edge / 1 RB



Date: 17 JUL 2020 00:38:47

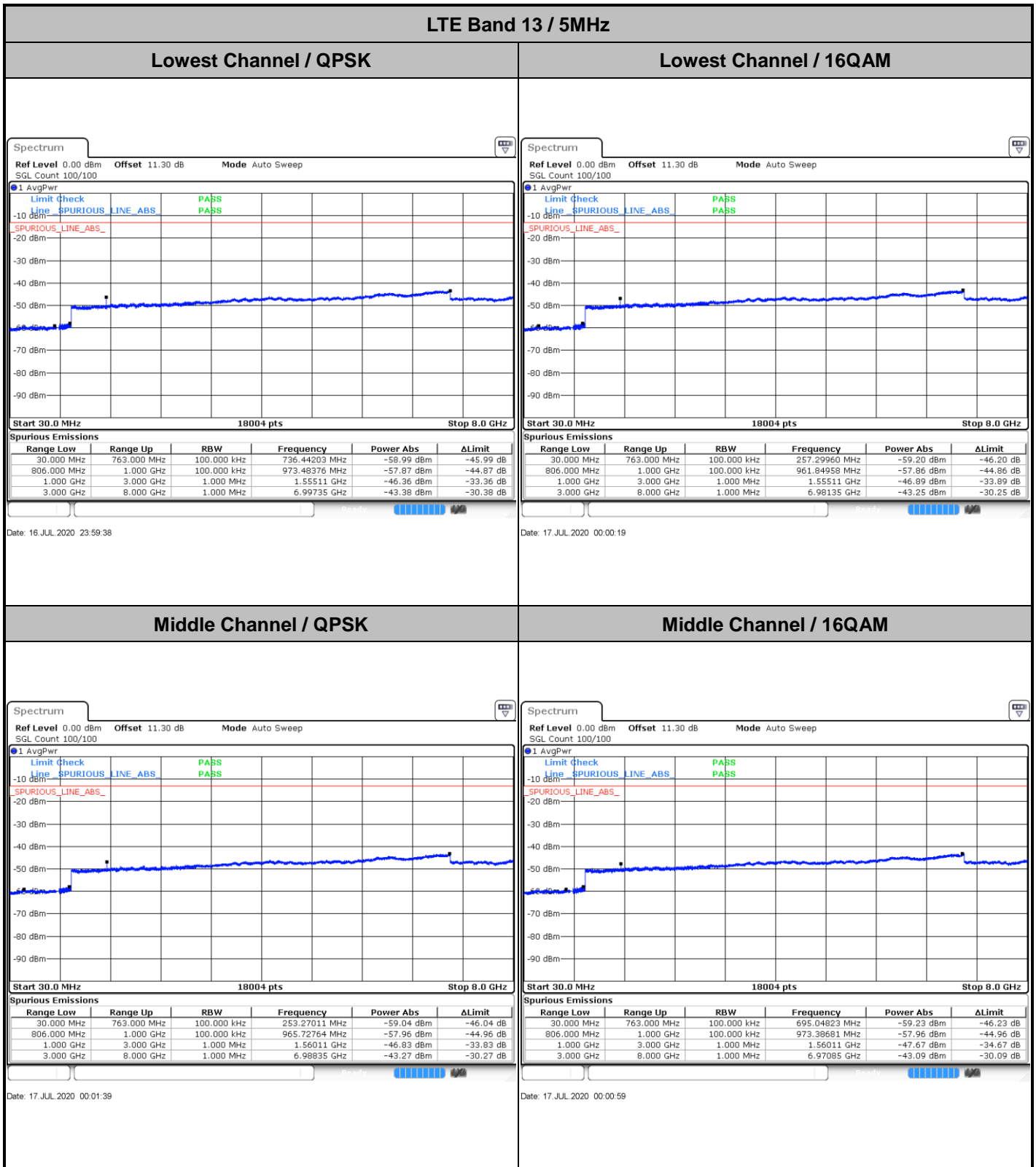
Band Edge / Full RB



Date: 17 JUL 2020 00:35:27



# Conducted Spurious Emission

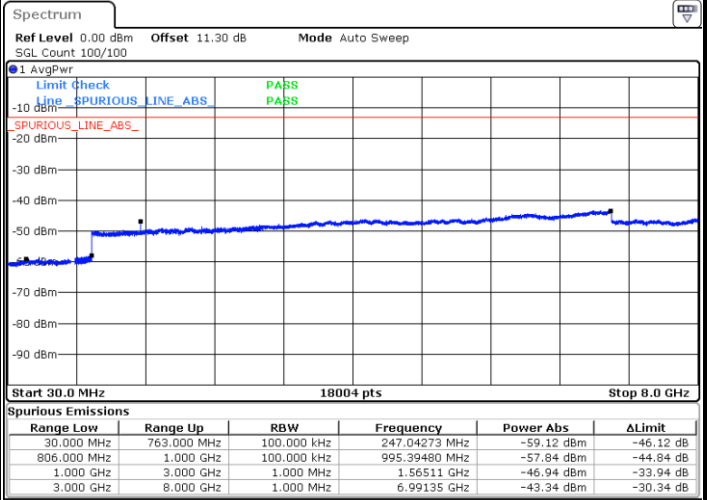
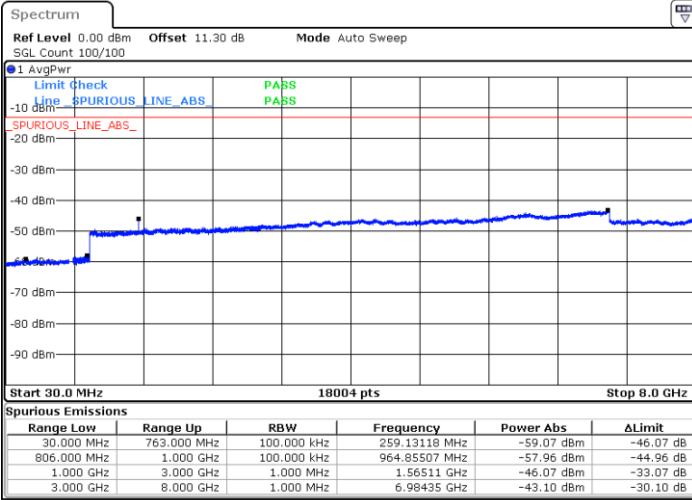




LTE Band 13 / 5MHz

Highest Channel / QPSK

Highest Channel / 16QAM



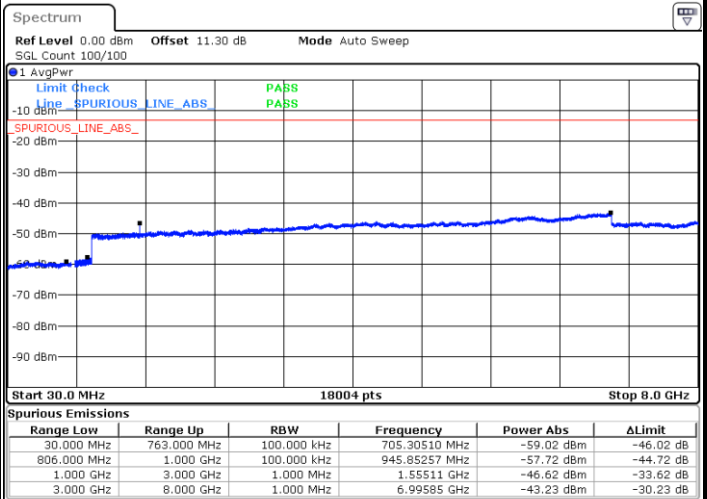
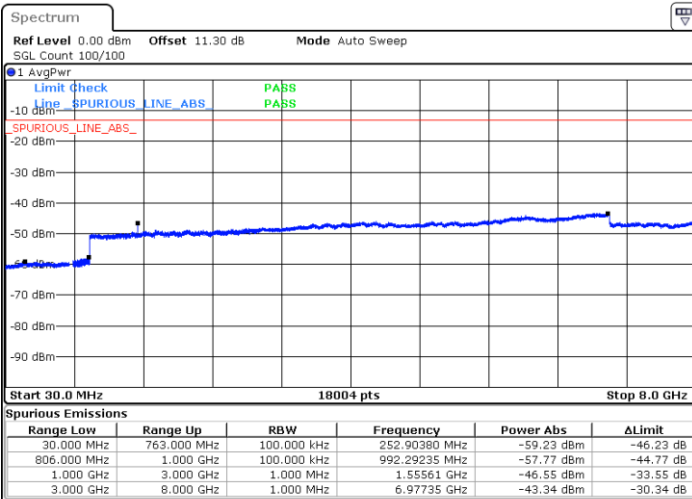
Date: 17.JUL.2020 00:10:38

Date: 17.JUL.2020 00:11:18

LTE Band 13 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 17.JUL.2020 00:33:23

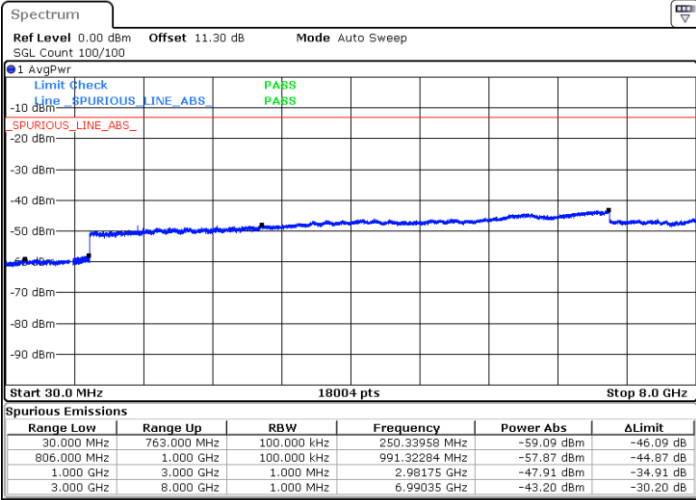
Date: 17.JUL.2020 00:32:42



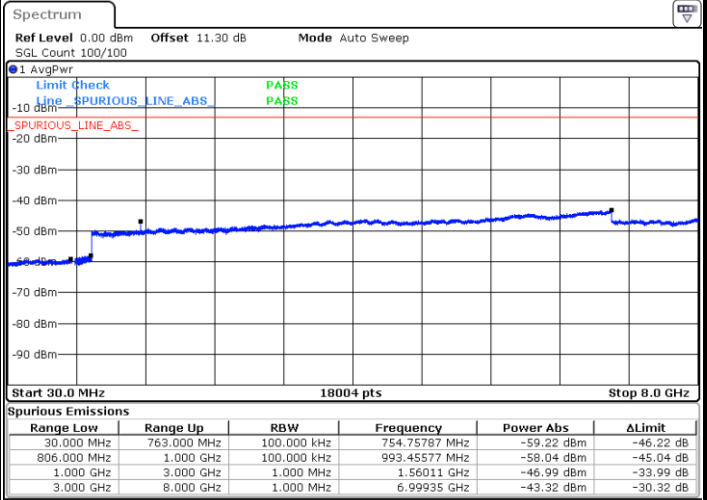
LTE Band 13 / 5MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

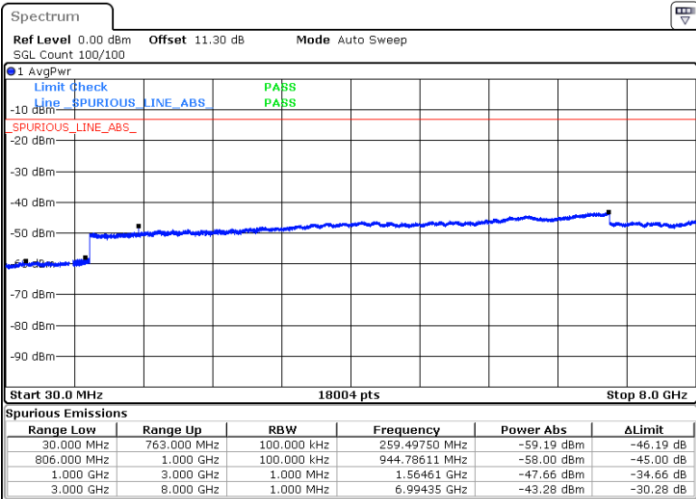


Date: 17.JUL.2020 00:15:45



Date: 17.JUL.2020 00:16:25

Highest Channel / 64QAM

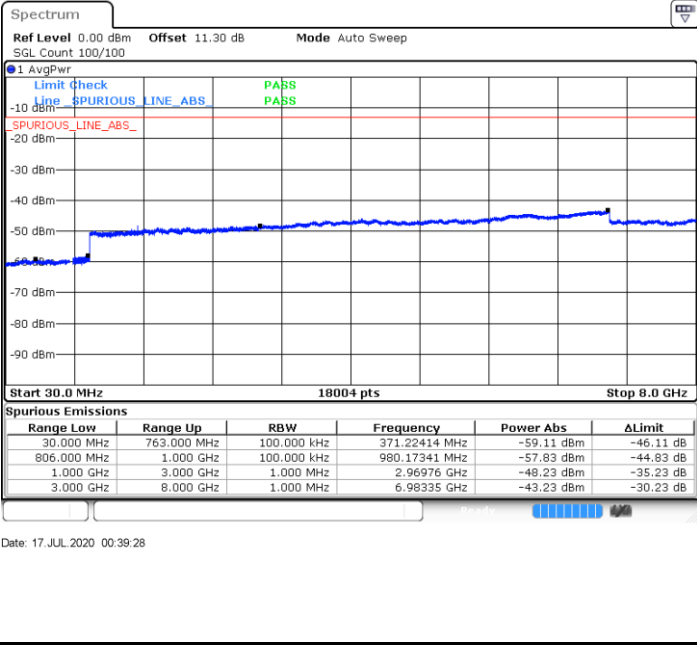


Date: 17.JUL.2020 00:21:14



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	0.0196	PASS
40	Normal Voltage	0.0086	
30	Normal Voltage	0.0000	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0124	
0	Normal Voltage	0.0155	
-10	Normal Voltage	0.0054	
-20	Normal Voltage	0.0248	
-30	Normal Voltage	0.0004	
20	Maximum Voltage	0.0084	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0097	

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 66

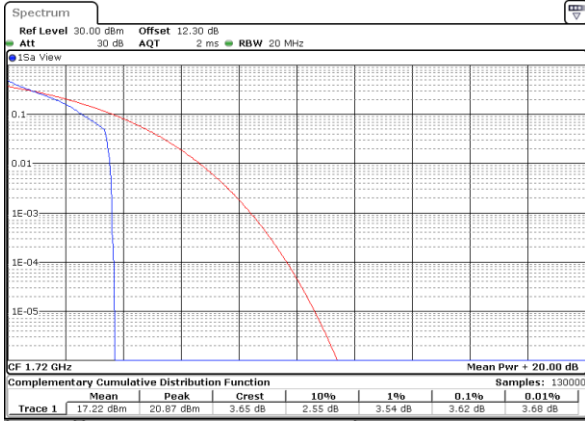
## Peak-to-Average Ratio

Mode	LTE Band 66 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.62	5.07	4.17	5.83	PASS
Middle CH	3.83	5.10	5.57	5.83	
Highest CH	3.36	5.48	4.87	6.06	
Mode	LTE Band 66 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.49	6.52	-	-	PASS
Middle CH	7.07	6.55	-	-	
Highest CH	6.43	6.52	-	-	



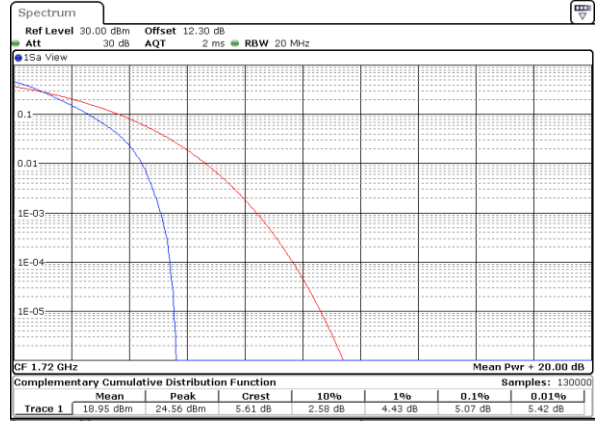
LTE Band 66 / 20MHz / QPSK

Lowest Channel / 1RB



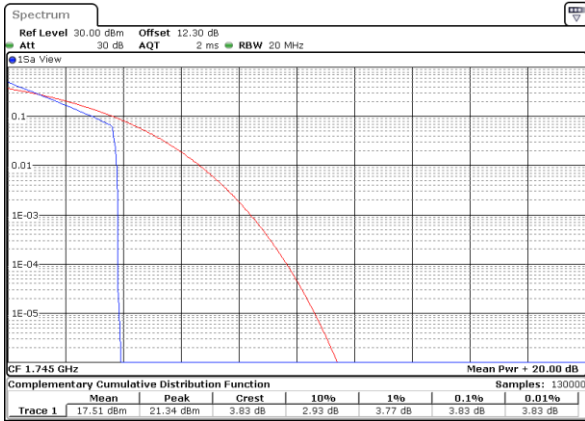
Date: 22 JUL 2020 16:50:25

Lowest Channel / Full RB



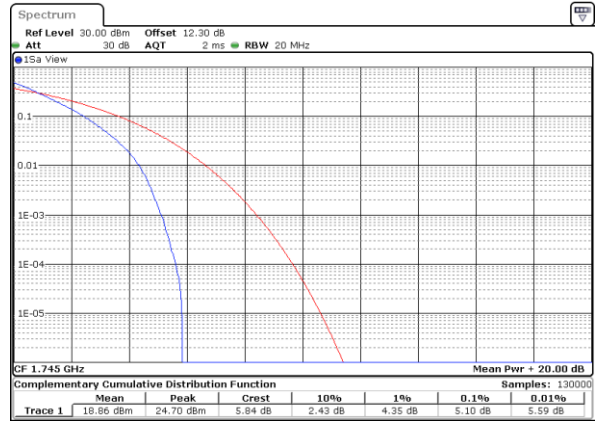
Date: 22 JUL 2020 16:50:40

Middle Channel / 1RB



Date: 22 JUL 2020 16:50:51

Middle Channel / Full RB



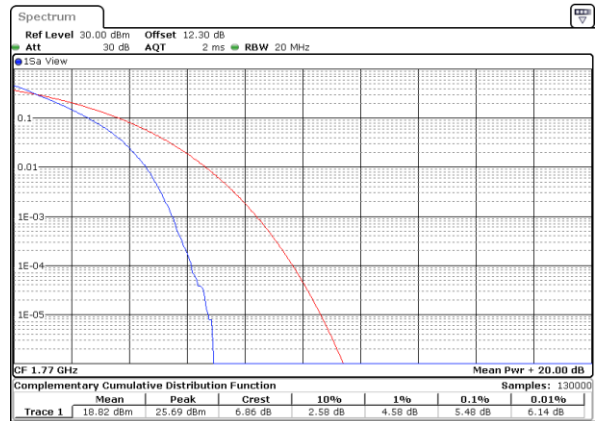
Date: 22 JUL 2020 16:51:02

Highest Channel / 1RB



Date: 22 JUL 2020 16:51:13

Highest Channel / Full RB

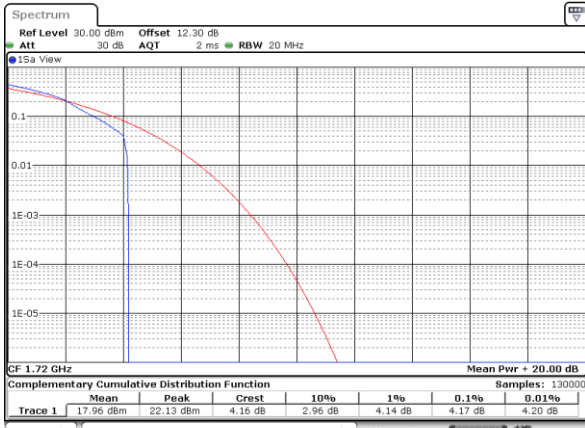


Date: 22 JUL 2020 16:51:24



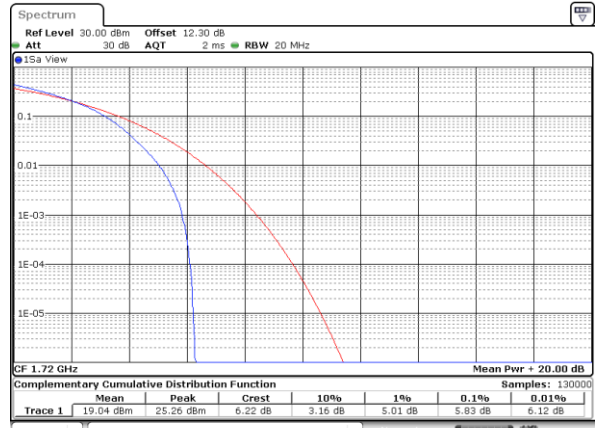
LTE Band 66 / 20MHz / 16QAM

Lowest Channel / 1RB



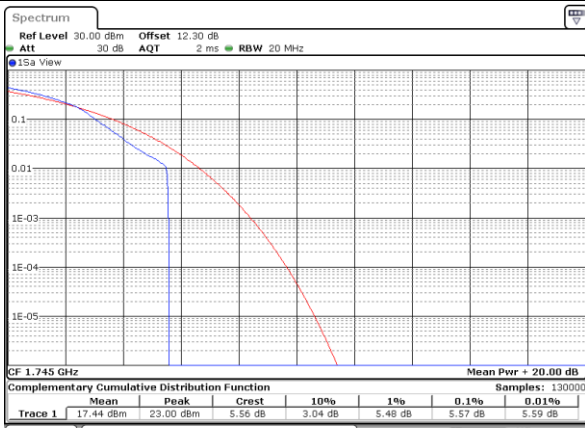
Date: 22 JUL 2020 16:49:10

Lowest Channel / Full RB



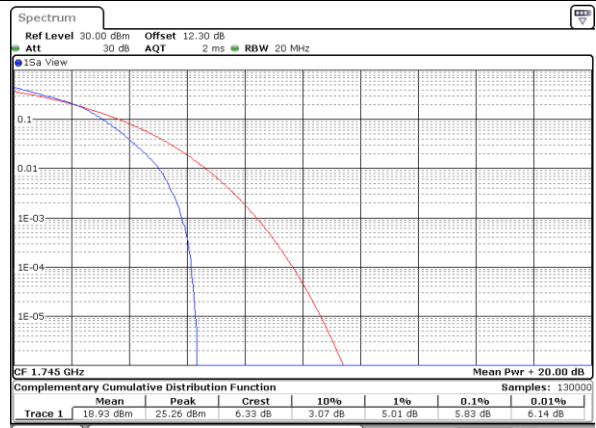
Date: 22 JUL 2020 16:49:21

Middle Channel / 1RB



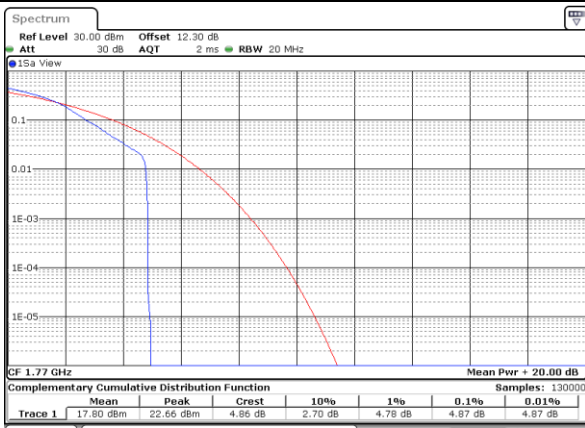
Date: 22 JUL 2020 16:49:33

Middle Channel / Full RB



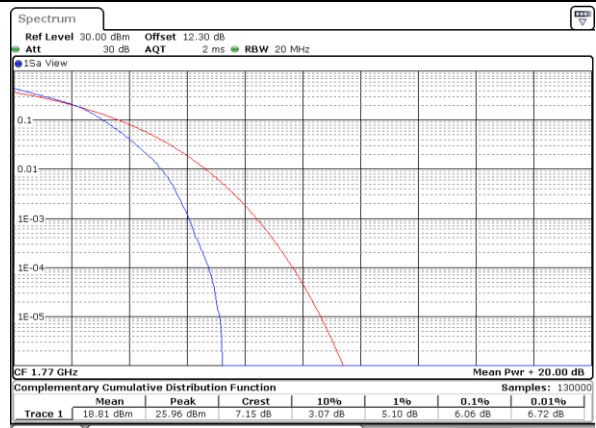
Date: 22 JUL 2020 16:49:51

Highest Channel / 1RB



Date: 22 JUL 2020 16:50:02

Highest Channel / Full RB

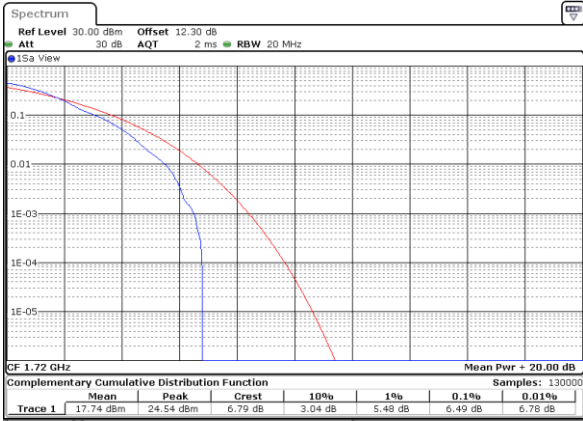


Date: 22 JUL 2020 16:50:14



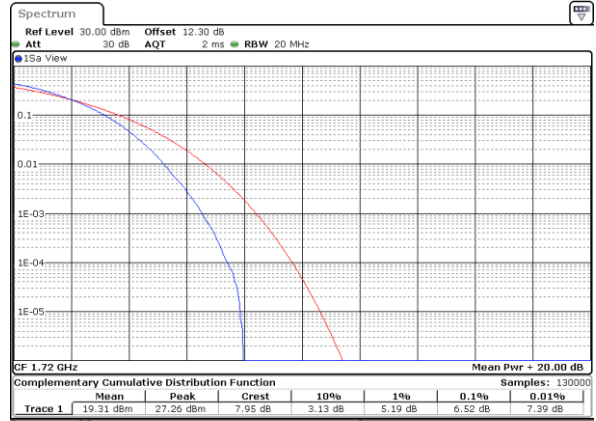
LTE Band 66 / 20MHz / 64QAM

Lowest Channel / 1RB



Date: 5 AUG 2020 06:36:35

Lowest Channel / Full RB



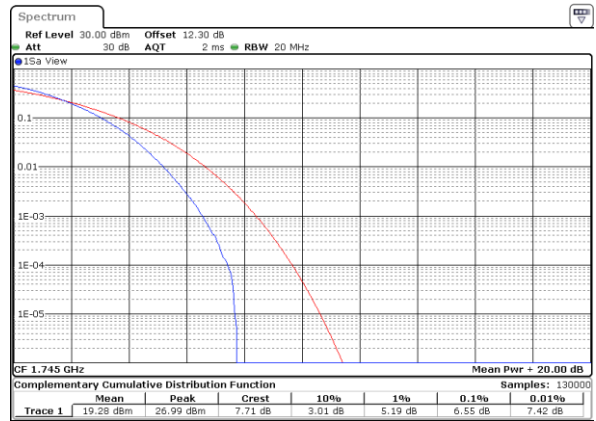
Date: 5 AUG 2020 06:37:26

Middle Channel / 1RB



Date: 5 AUG 2020 06:37:39

Middle Channel / Full RB



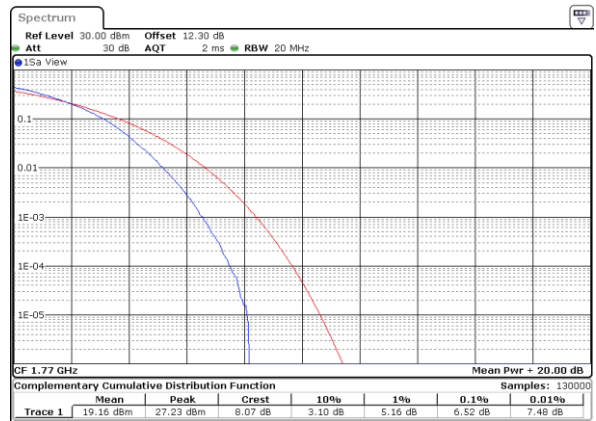
Date: 5 AUG 2020 06:37:57

Highest Channel / 1RB



Date: 5 AUG 2020 06:38:08

Highest Channel / Full RB



Date: 5 AUG 2020 06:38:21



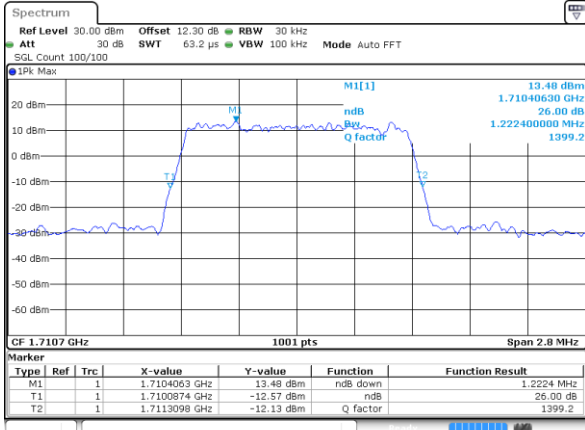
26dB Bandwidth

Mode	LTE Band 66 : 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	1.22	1.23	3.05	3.05	4.91	4.92	9.85	9.73	14.48	14.24	19.14	19.18
Middle CH	1.22	1.22	3.02	3.01	4.91	4.95	9.71	9.63	14.39	14.45	19.38	19.10
Highest CH	1.22	1.23	3.00	3.06	4.97	4.94	9.75	9.75	14.36	14.33	19.06	18.98
Mode	LTE Band 66 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.22	-	3.02	-	4.84	-	9.73	-	14.42	-	19.14	-
Middle CH	1.23	-	3.04	-	4.99	-	9.93	-	14.45	-	18.98	-
Highest CH	1.22	-	2.97	-	4.85	-	9.69	-	14.48	-	19.14	-



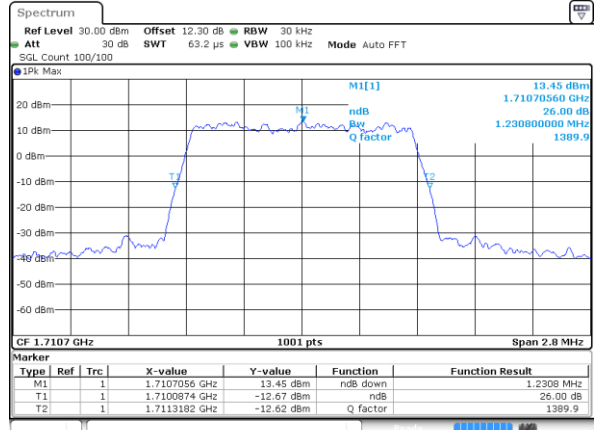
LTE Band 66

Lowest Channel / 1.4MHz / QPSK



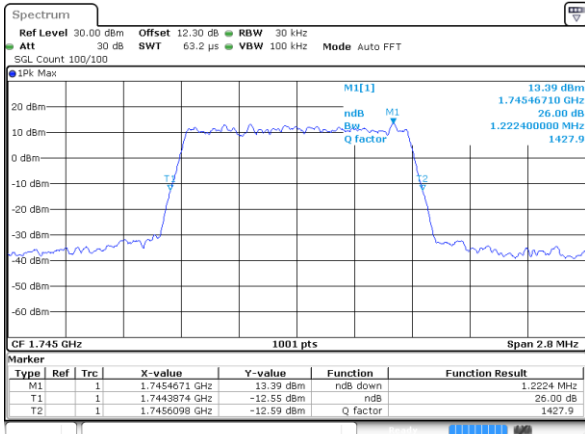
Date: 22 JUL 2020 16:34:32

Lowest Channel / 1.4MHz / 16QAM



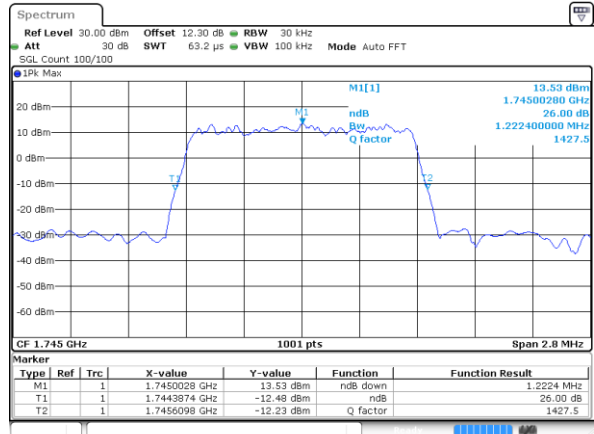
Date: 22 JUL 2020 16:34:44

Middle Channel / 1.4MHz / QPSK



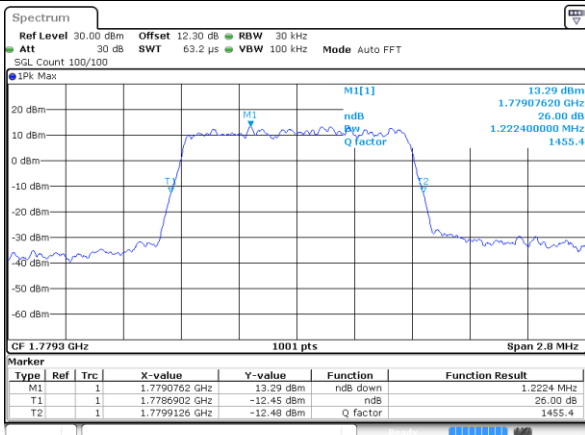
Date: 22 JUL 2020 16:35:21

Middle Channel / 1.4MHz / 16QAM



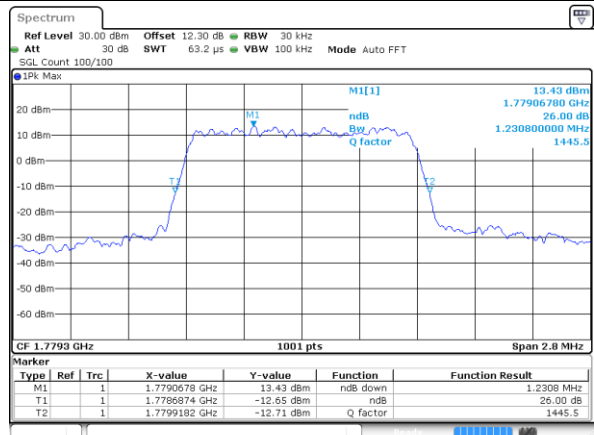
Date: 22 JUL 2020 16:35:33

Highest Channel / 1.4MHz / QPSK



Date: 22 JUL 2020 16:36:10

Highest Channel / 1.4MHz / 16QAM

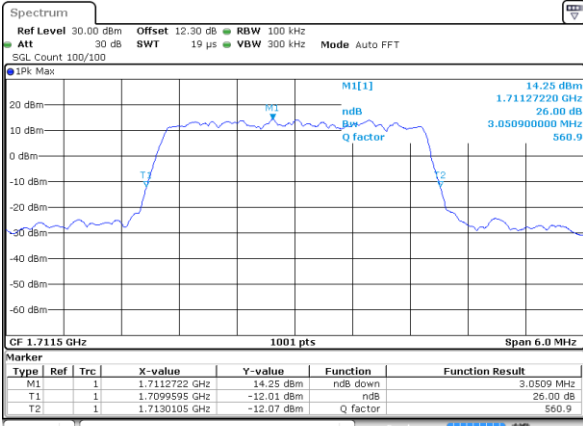


Date: 22 JUL 2020 16:36:22



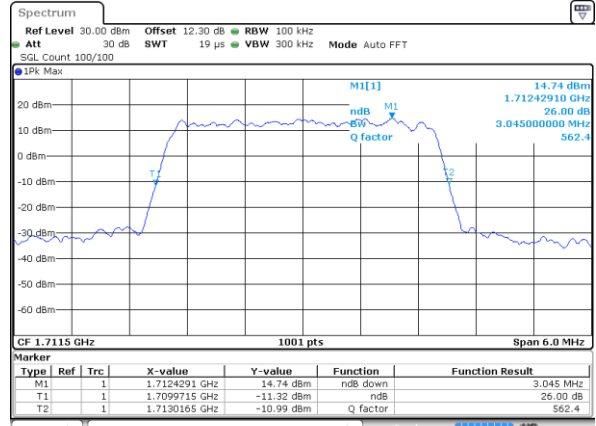
LTE Band 66

Lowest Channel / 3MHz / QPSK



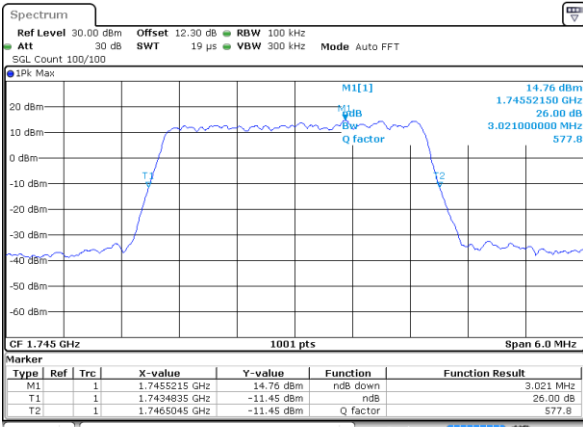
Date: 22 JUL 2020 16:37:00

Lowest Channel / 3MHz / 16QAM



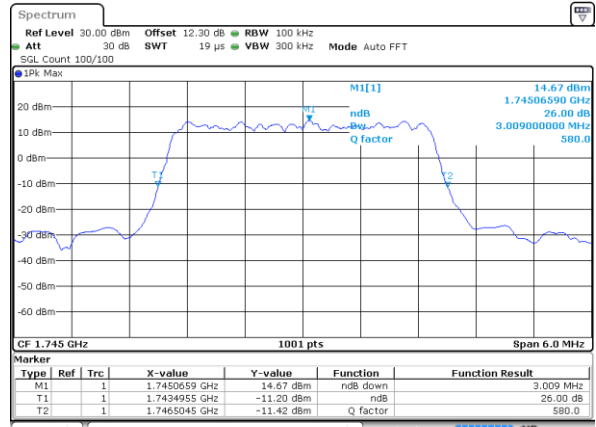
Date: 22 JUL 2020 16:37:12

Middle Channel / 3MHz / QPSK



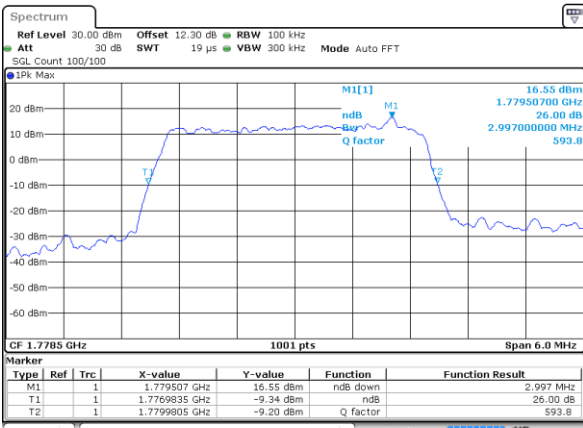
Date: 22 JUL 2020 16:37:49

Middle Channel / 3MHz / 16QAM



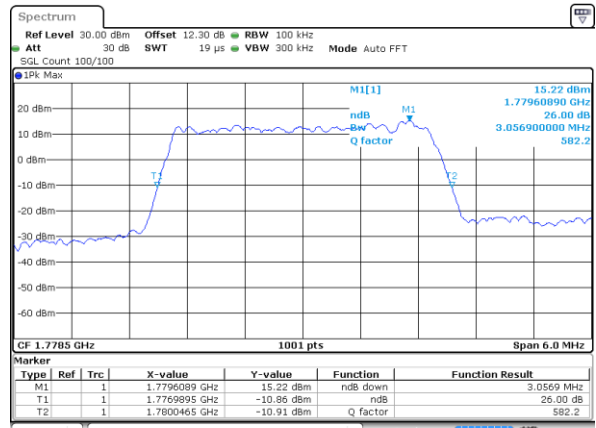
Date: 22 JUL 2020 16:38:01

Highest Channel / 3MHz / QPSK



Date: 22 JUL 2020 16:38:37

Highest Channel / 3MHz / 16QAM



Date: 22 JUL 2020 16:38:50