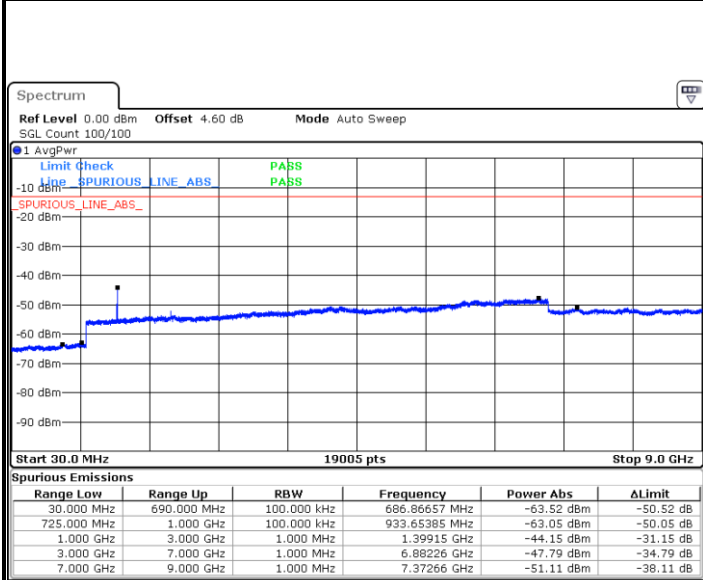




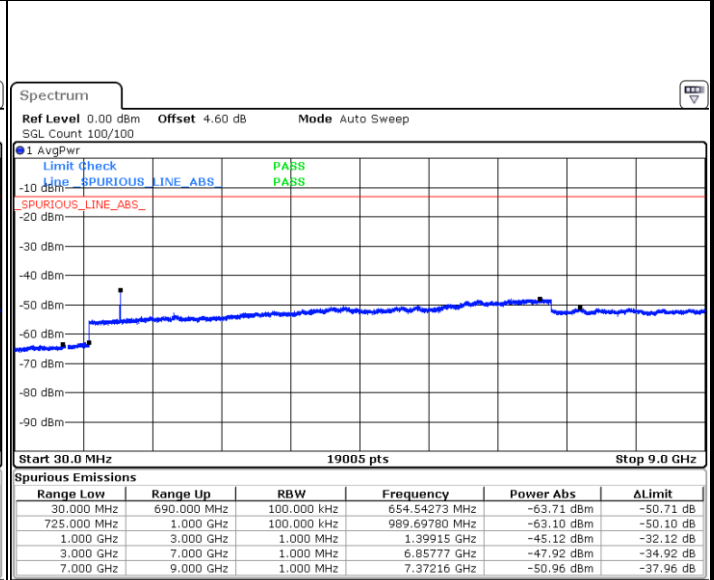
LTE Band 12 / 5MHz

Lowest Channel / QPSK



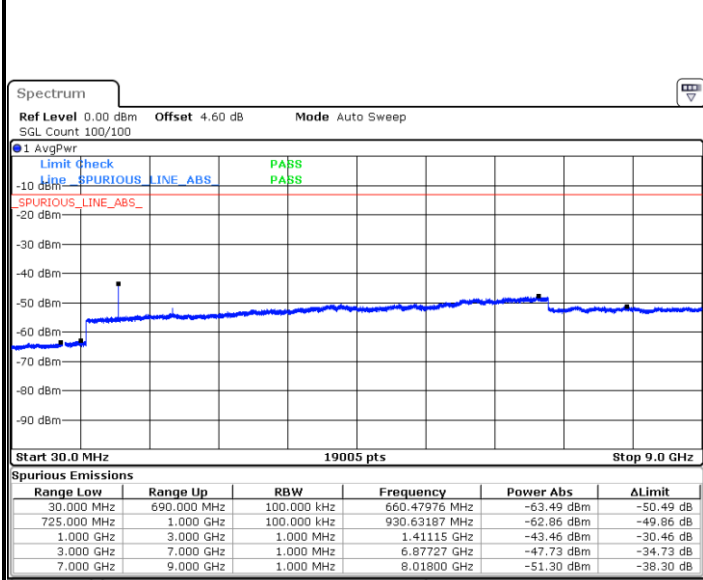
Date: 10 JUN.2020 22:52:55

Lowest Channel / 16QAM



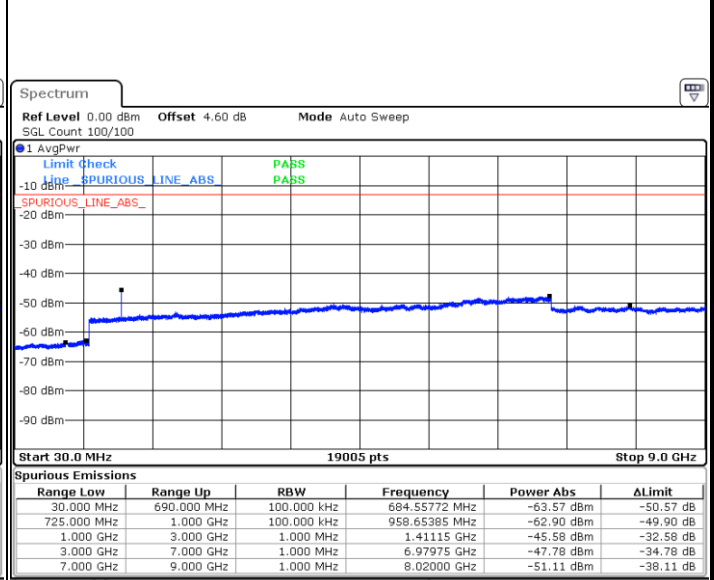
Date: 10 JUN.2020 22:53:50

Middle Channel / QPSK



Date: 10 JUN.2020 22:55:39

Middle Channel / 16QAM

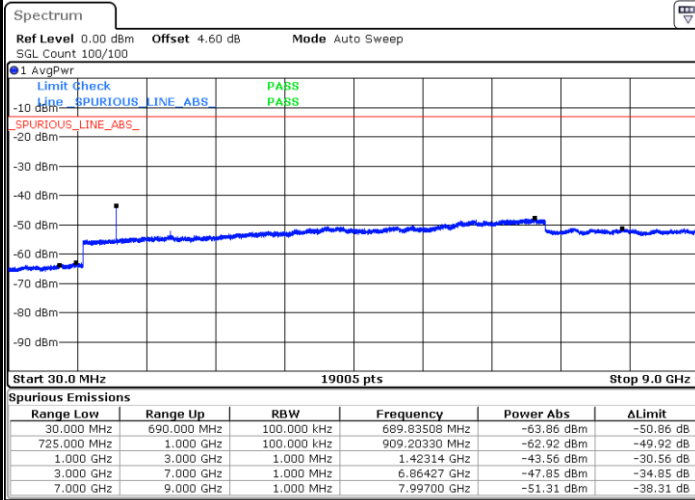


Date: 10 JUN.2020 22:54:44



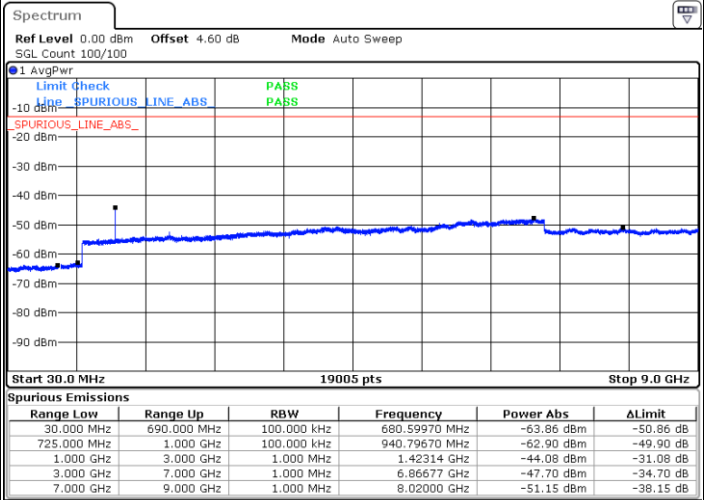
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 10 JUN.2020 22:56:33

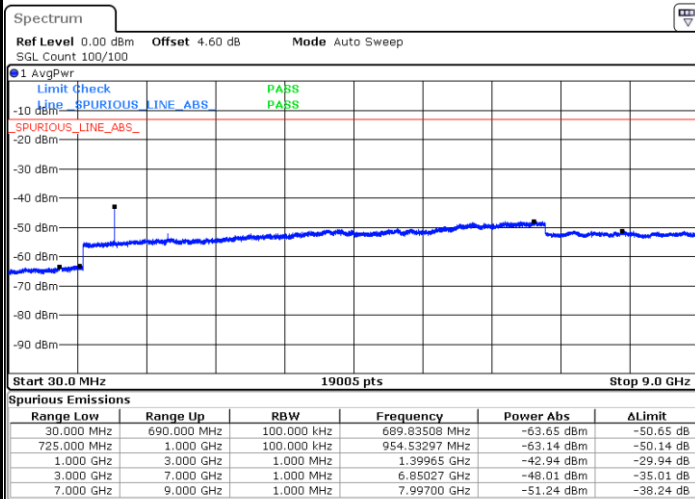
Highest Channel / 16QAM



Date: 10 JUN.2020 22:57:28

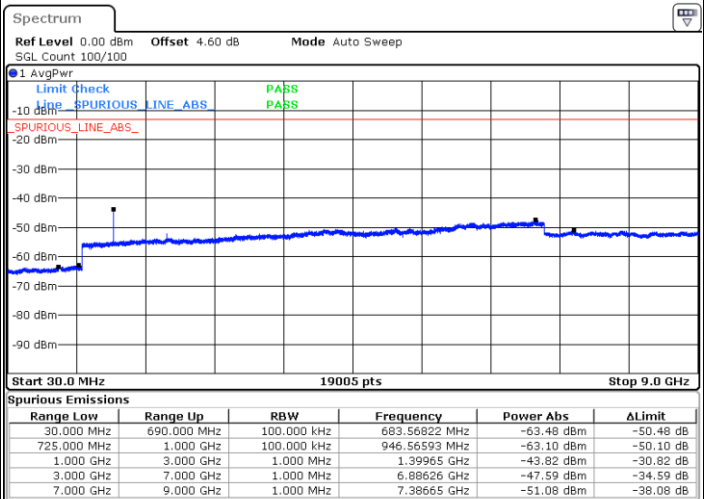
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 10 JUN.2020 23:09:24

Lowest Channel / 16QAM

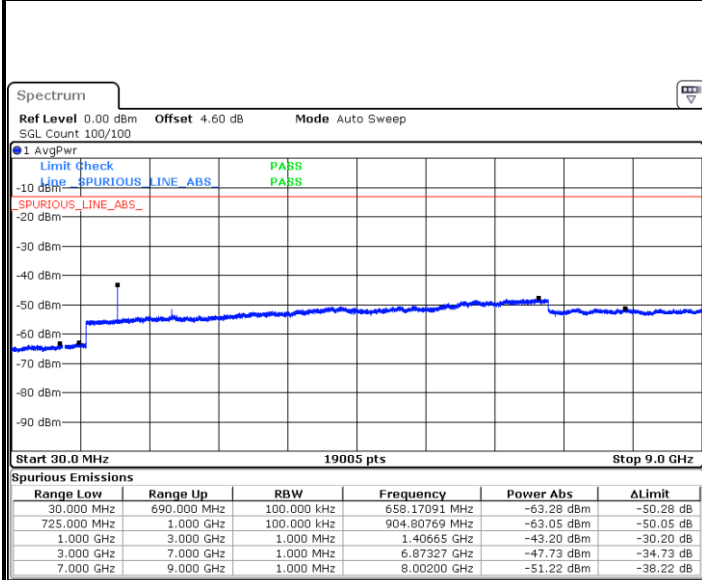


Date: 10 JUN.2020 23:10:18



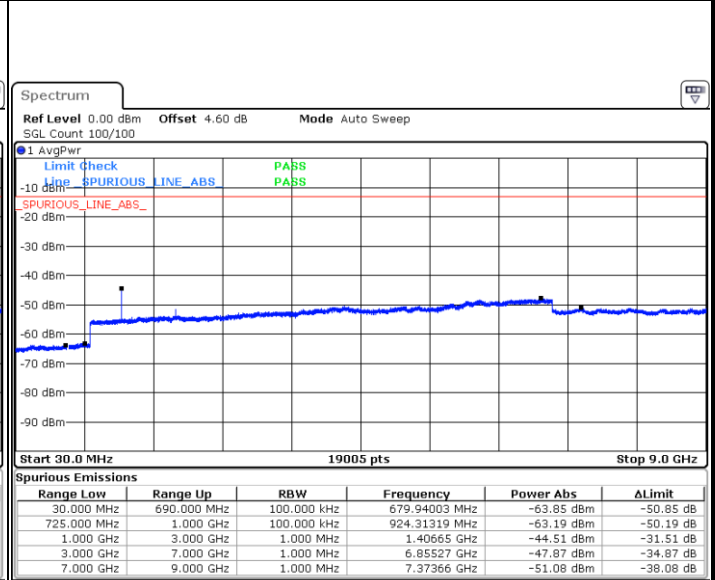
LTE Band 12 / 10MHz

Middle Channel / QPSK



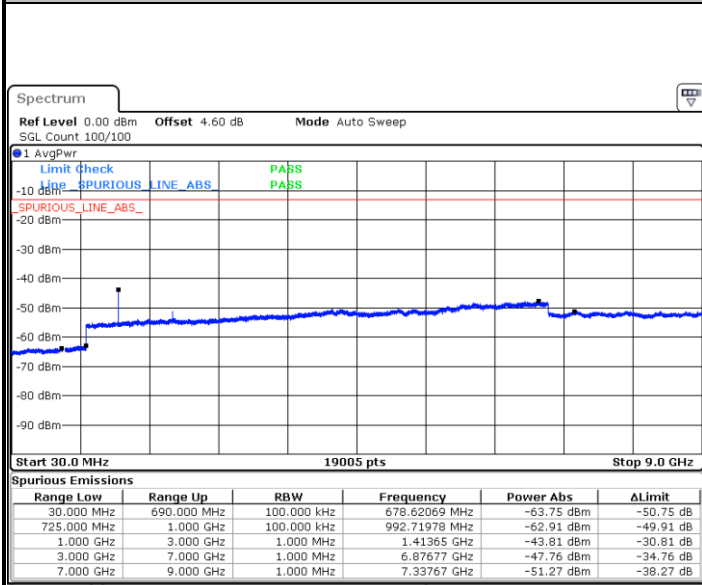
Date: 10 JUN.2020 23:12:07

Middle Channel / 16QAM



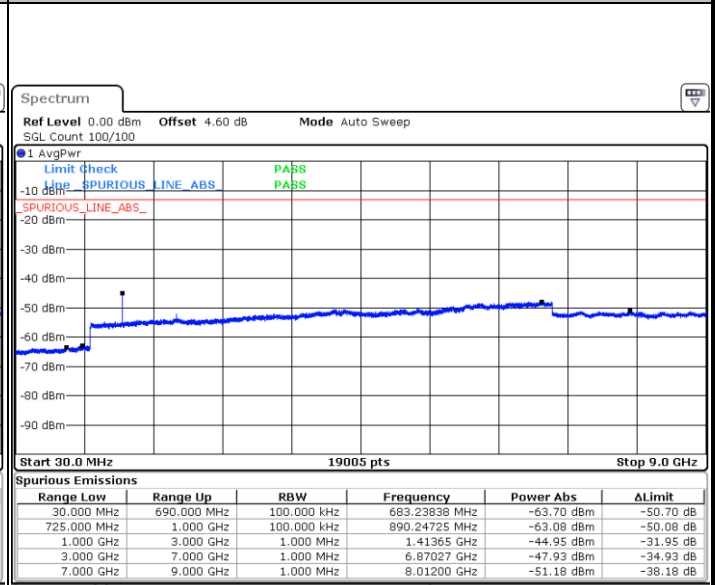
Date: 10 JUN.2020 23:11:13

Highest Channel / QPSK



Date: 10 JUN.2020 23:13:02

Highest Channel / 16QAM



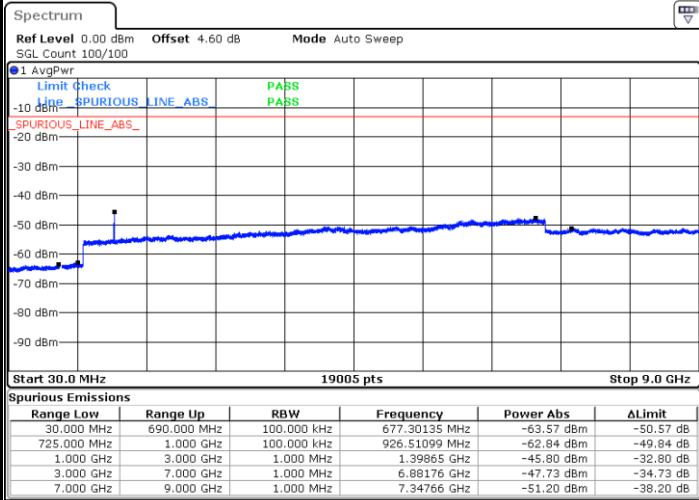
Date: 10 JUN.2020 23:13:56



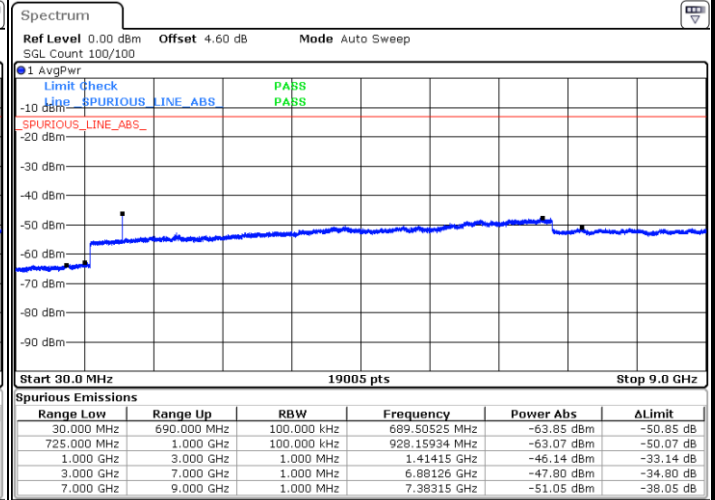
LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

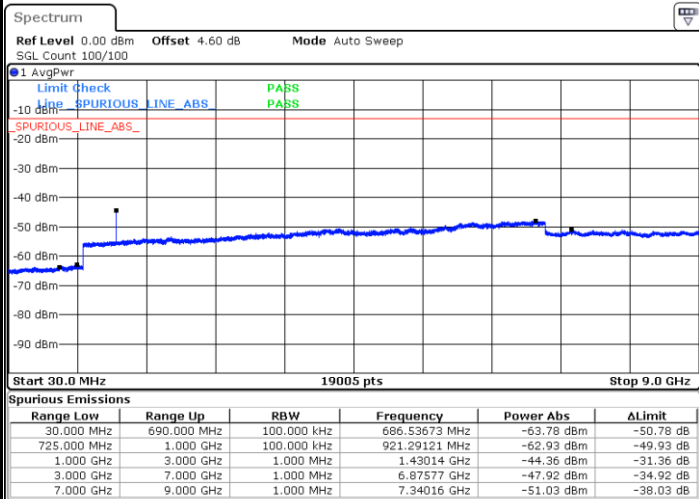


Date: 10 JUN.2020 23:29:23



Date: 10 JUN.2020 23:30:17

Highest Channel / 64QAM



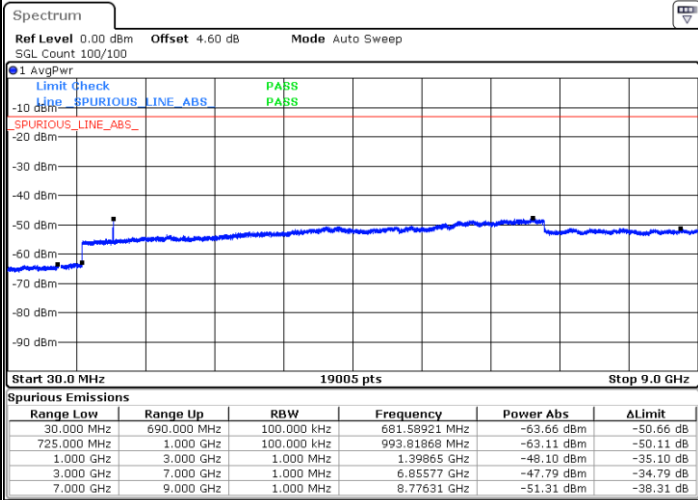
Date: 10 JUN.2020 23:31:12



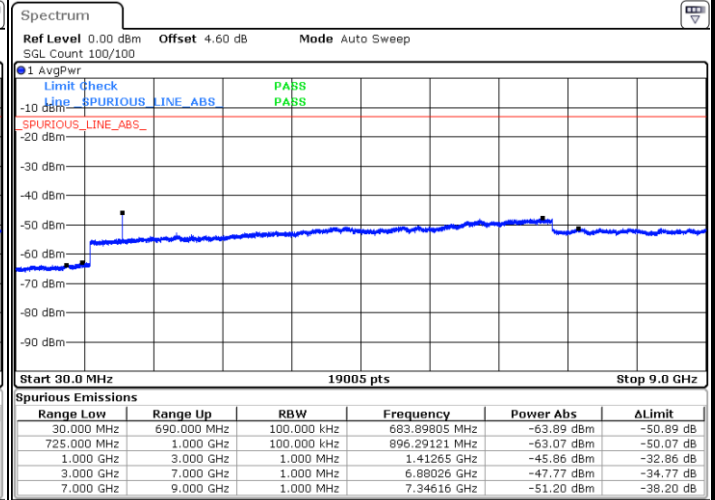
LTE Band 12 / 3MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

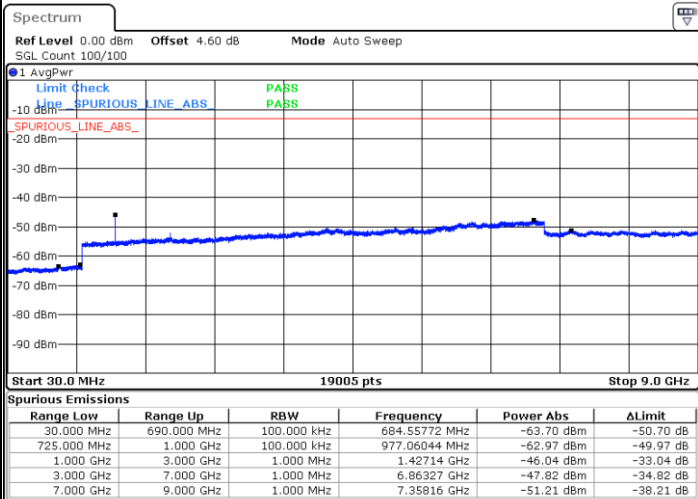


Date: 10 JUN.2020 23:32:07



Date: 10 JUN.2020 23:33:01

Highest Channel / 64QAM



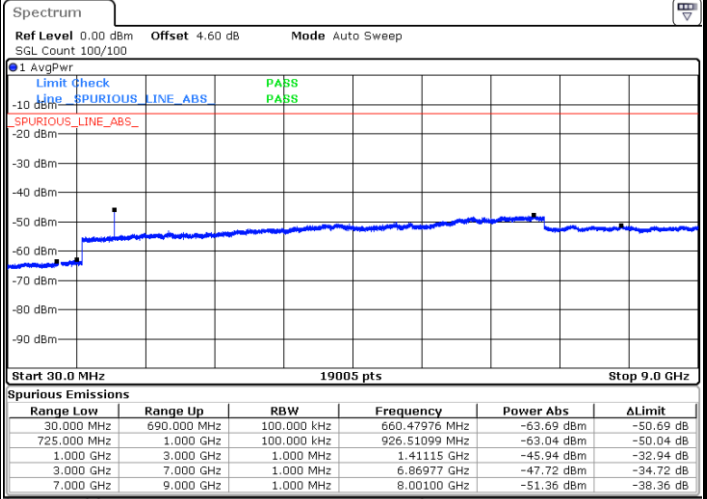
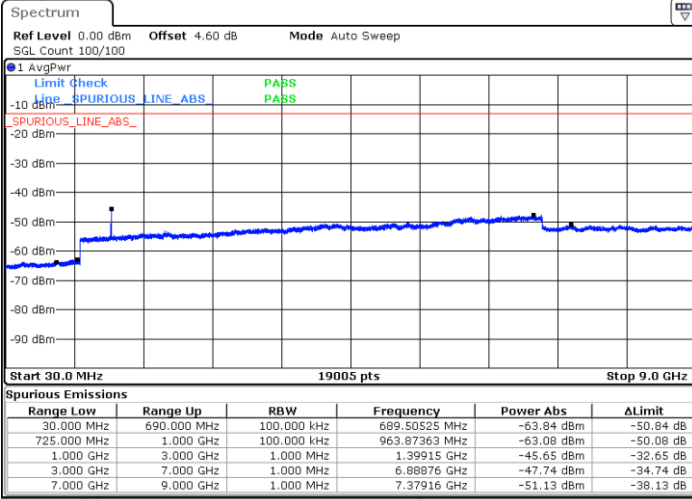
Date: 10 JUN.2020 23:33:56



LTE Band 12 / 5MHz

Lowest Channel / 64QAM

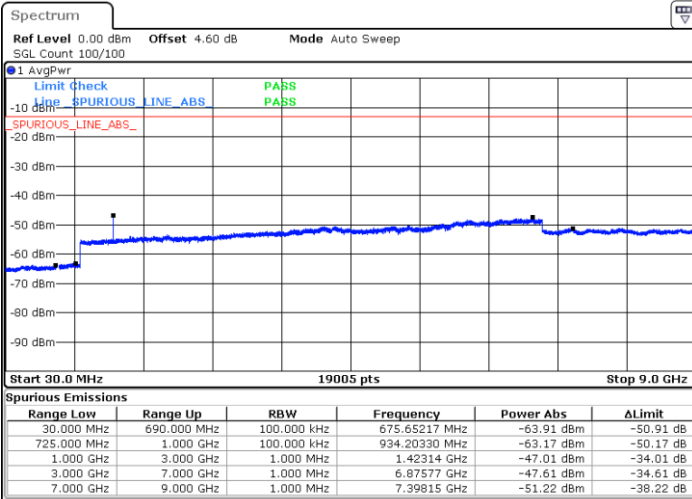
Middle Channel / 64QAM



Date: 10 JUN.2020 23:45:52

Date: 10 JUN.2020 23:46:46

Highest Channel / 64QAM



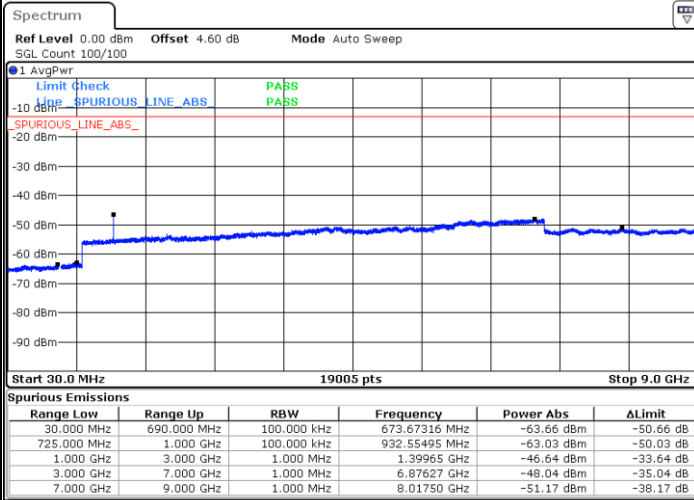
Date: 10 JUN.2020 23:47:41



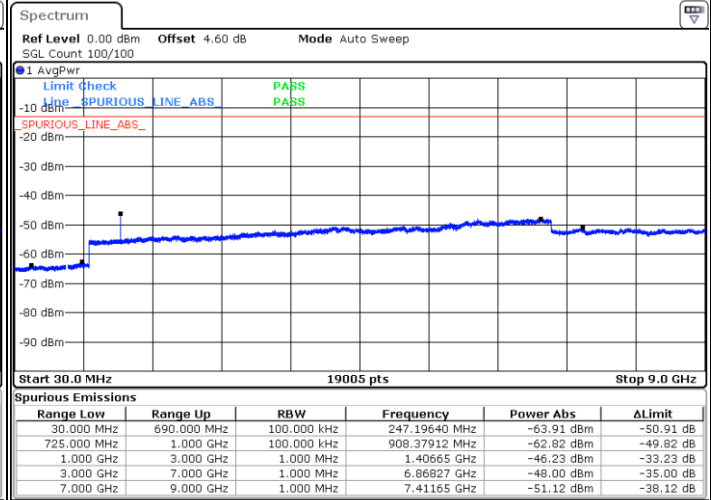
LTE Band 12 / 10MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

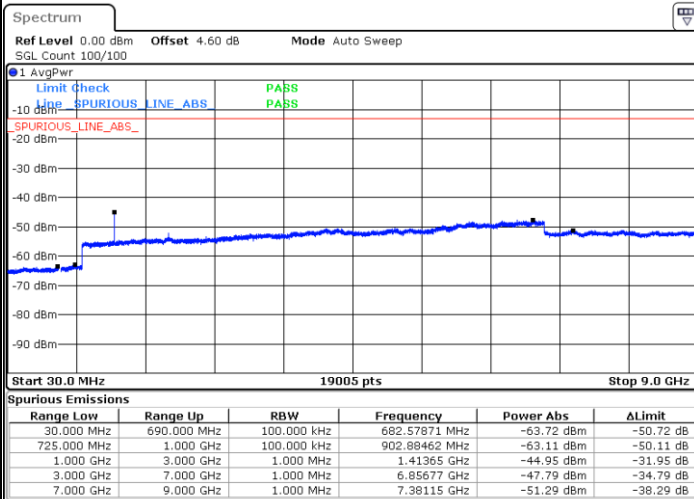


Date: 10 JUN.2020 23:48:36



Date: 10 JUN.2020 23:49:31

Highest Channel / 64QAM



Date: 10 JUN.2020 23:50:25



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	0.0011	PASS
40	Normal Voltage	0.0024	
30	Normal Voltage	0.0090	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0102	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0023	
-20	Normal Voltage	0.0076	
-30	Normal Voltage	0.0068	
20	Maximum Voltage	0.0011	
20	Normal Voltage	0.0007	
20	Battery End Point	0.0106	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.45 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 13

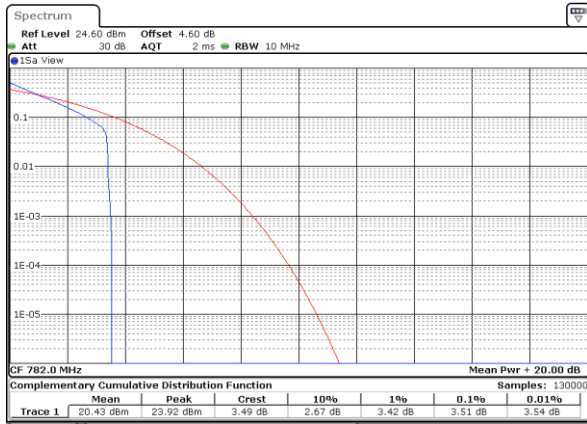
Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.51	4.87	5.25	5.68	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	6.87	6.23	-	-	
Highest CH	-	-	-	-	



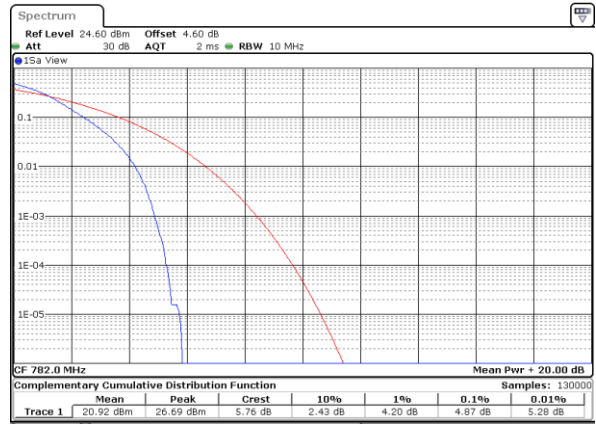
LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB



Date: 11 JUN 2020 21:22:45

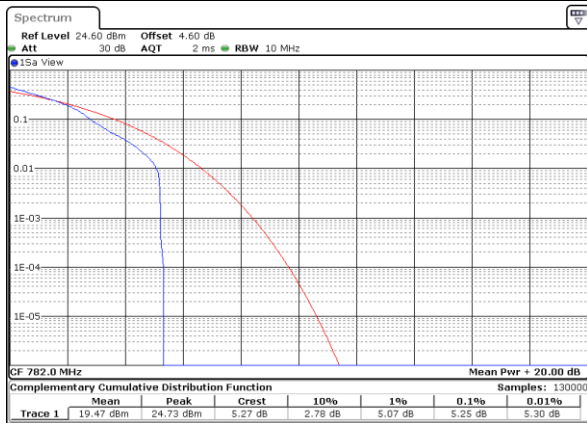
Middle Channel / Full RB



Date: 11 JUN 2020 21:23:13

LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB



Date: 11 JUN 2020 21:22:54

Middle Channel / Full RB



Date: 11 JUN 2020 21:23:03

LTE Band 13 / 10MHz / 64QAM

Middle Channel / 1RB



Date: 15 JUN 2020 17:33:53

Middle Channel / Full RB



Date: 15 JUN 2020 17:34:39



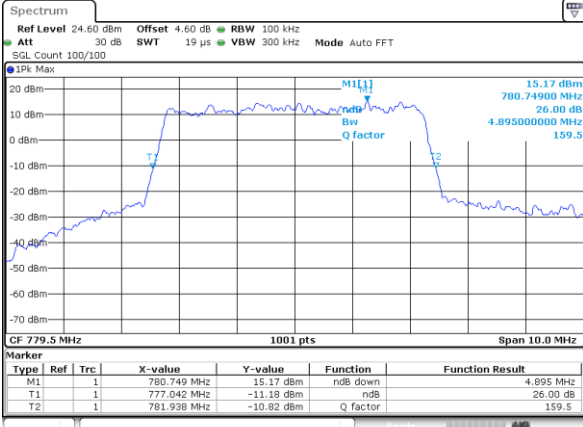
26dB Bandwidth

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	-	-	-	-	4.90	4.85	-	-	-	-	-	-
Middle CH	-	-	-	-	4.92	4.88	9.77	9.67	-	-	-	-
Highest CH	-	-	-	-	4.95	4.84	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.84	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.88	-	9.81	-	-	-	-	-
Highest CH	-	-	-	-	4.90	-	-	-	-	-	-	-



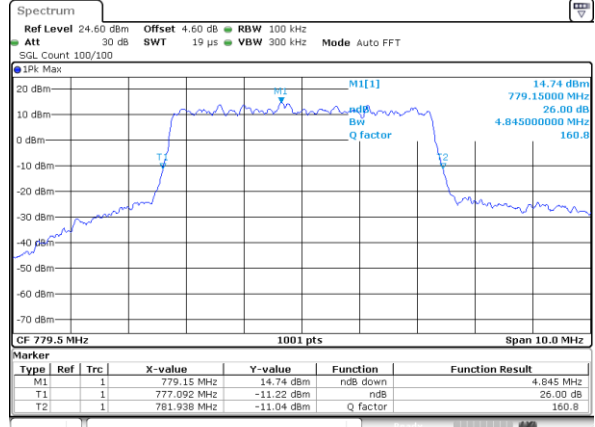
LTE Band 13

Lowest Channel / 5MHz / QPSK



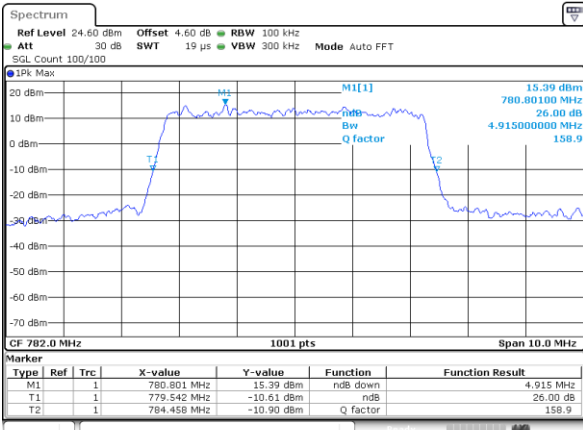
Date: 11 JUN 2020 20:46:34

Lowest Channel / 5MHz / 16QAM



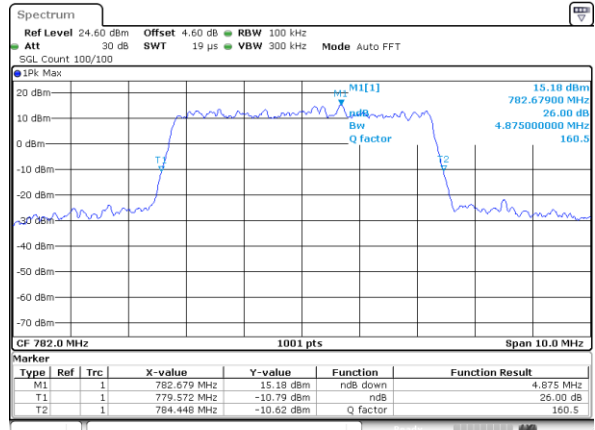
Date: 11 JUN 2020 20:46:44

Middle Channel / 5MHz / QPSK



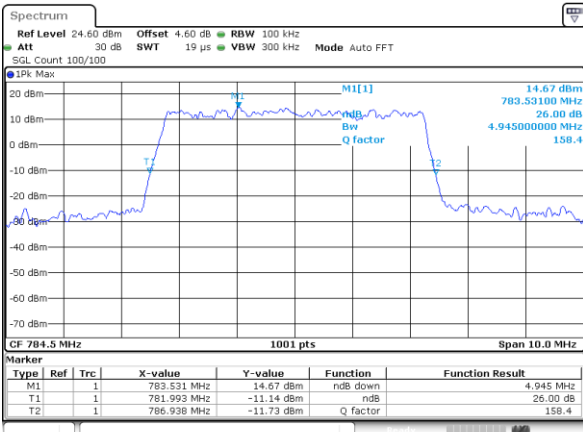
Date: 11 JUN 2020 20:55:39

Middle Channel / 5MHz / 16QAM



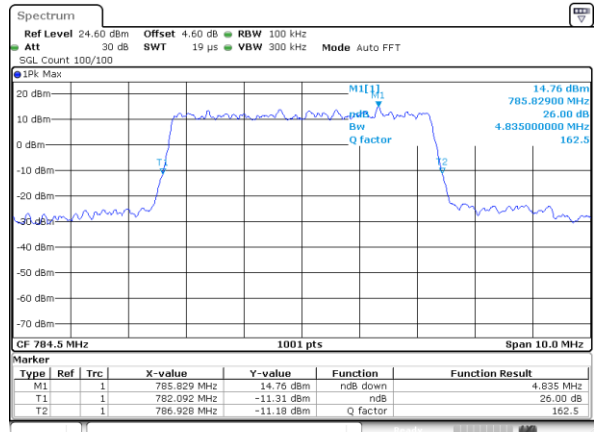
Date: 11 JUN 2020 20:55:49

Highest Channel / 5MHz / QPSK



Date: 11 JUN 2020 20:58:22

Highest Channel / 5MHz / 16QAM

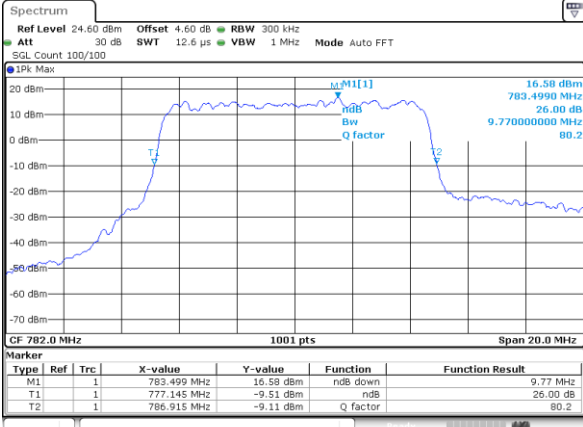


Date: 11 JUN 2020 20:58:11



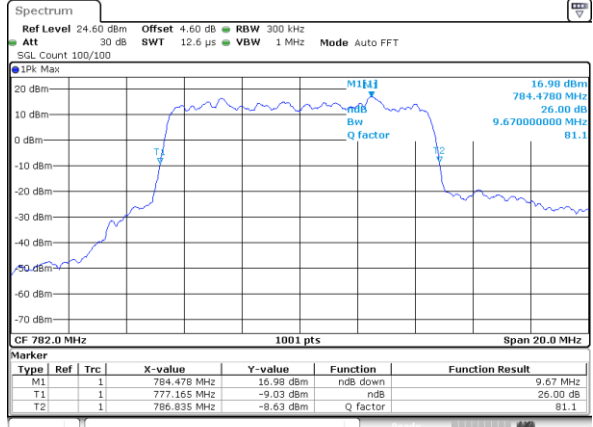
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 11 JUN 2020 21:09:23

Middle Channel / 10MHz / 16QAM

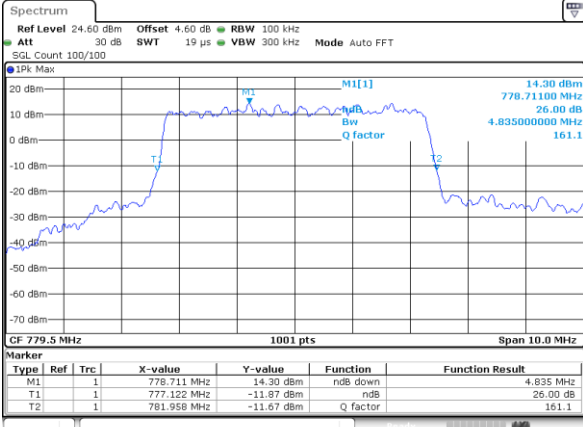


Date: 11 JUN 2020 21:09:13



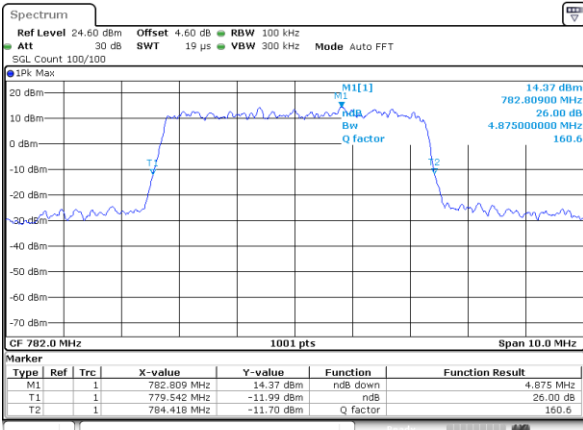
LTE Band 13

Lowest Channel / 5MHz / 64QAM



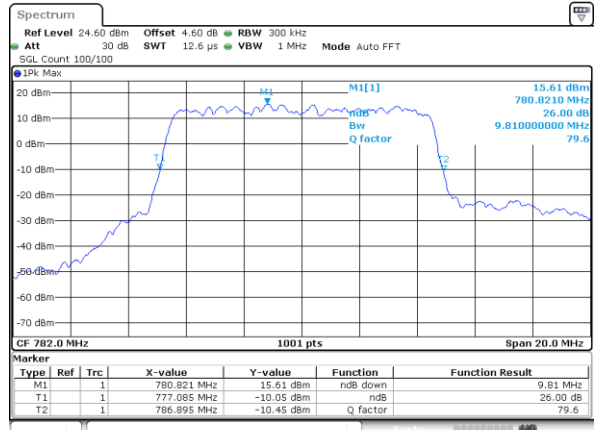
Date: 11 JUN 2020 21:23:53

Middle Channel / 5MHz / 64QAM



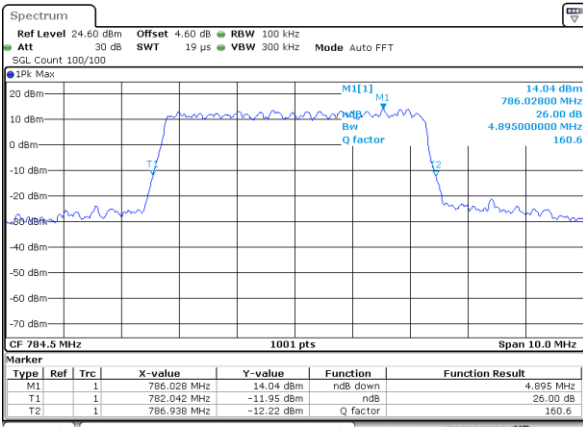
Date: 11 JUN 2020 21:24:03

Middle Channel / 10MHz / 64QAM



Date: 11 JUN 2020 21:33:58

Highest Channel / 5MHz / 64QAM



Date: 11 JUN 2020 21:24:13



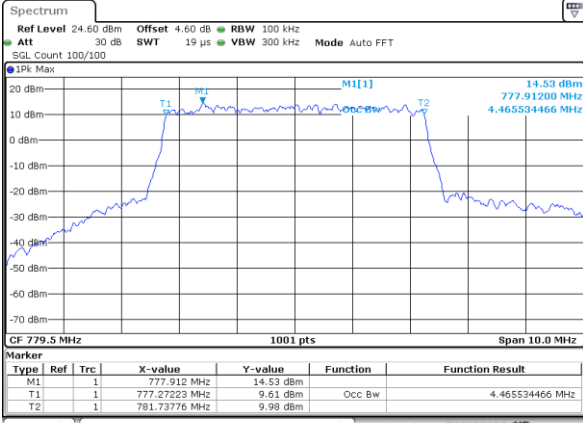
Occupied Bandwidth

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	-	-	-	-	4.47	4.49	-	-	-	-	-	-
Middle CH	-	-	-	-	4.48	4.50	8.97	9.01	-	-	-	-
Highest CH	-	-	-	-	4.52	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	-	-	-	-	4.48	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.47	-	9.01	-	-	-	-	-
Highest CH	-	-	-	-	4.49	-	-	-	-	-	-	-



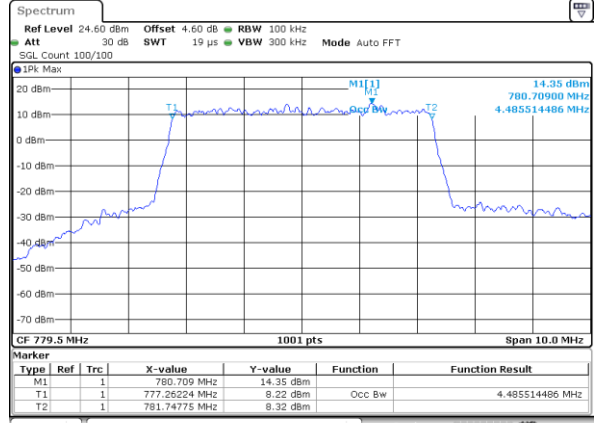
LTE Band 13

Lowest Channel / 5MHz / QPSK



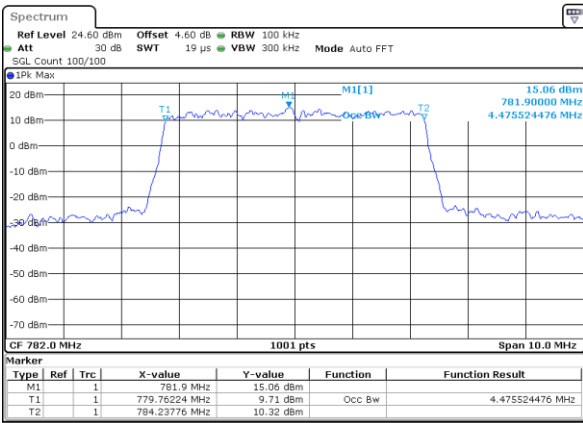
Date: 11 JUN 2020 20:47:04

Lowest Channel / 5MHz / 16QAM



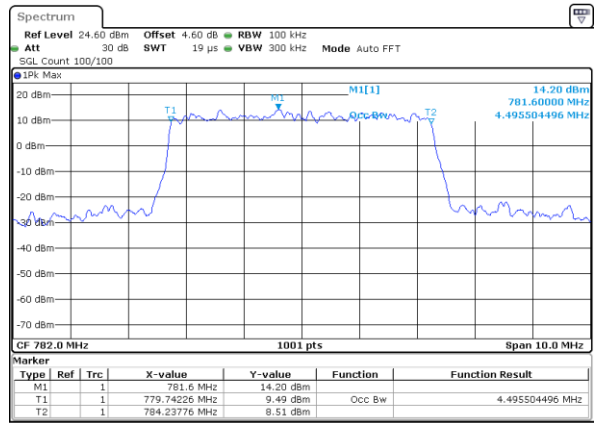
Date: 11 JUN 2020 20:46:54

Middle Channel / 5MHz / QPSK



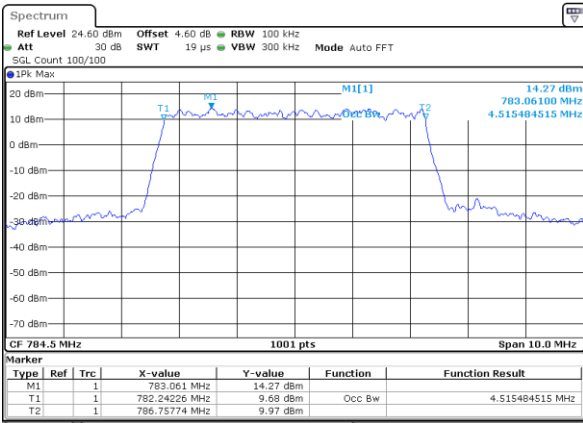
Date: 11 JUN 2020 20:55:59

Middle Channel / 5MHz / 16QAM



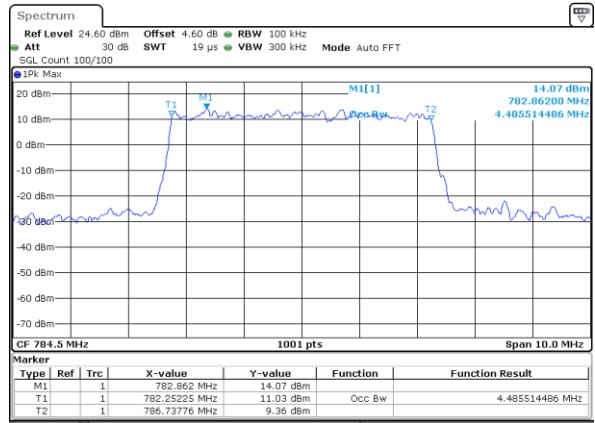
Date: 11 JUN 2020 20:56:09

Highest Channel / 5MHz / QPSK



Date: 11 JUN 2020 20:58:32

Highest Channel / 5MHz / 16QAM

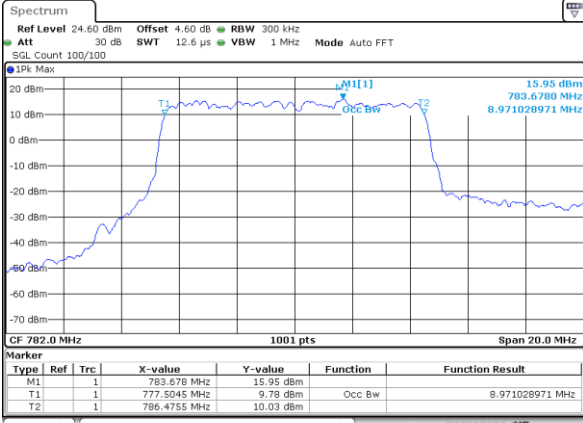


Date: 11 JUN 2020 20:58:42



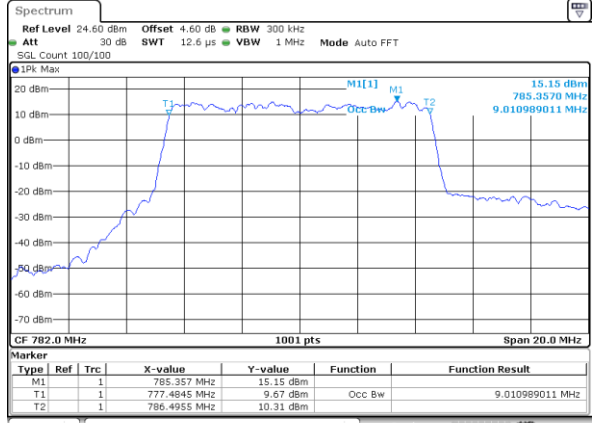
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 11 JUN 2020 21:09:33

Middle Channel / 10MHz / 16QAM

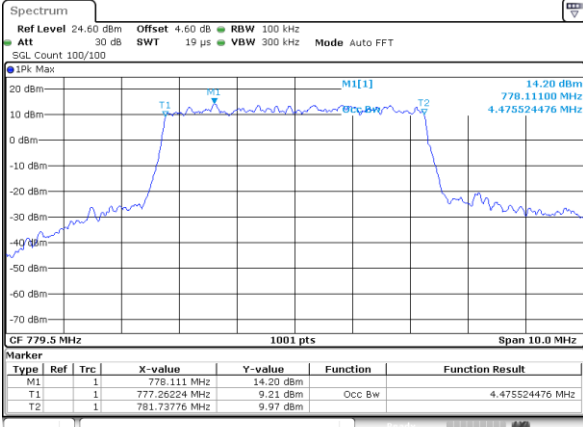


Date: 11 JUN 2020 21:09:43



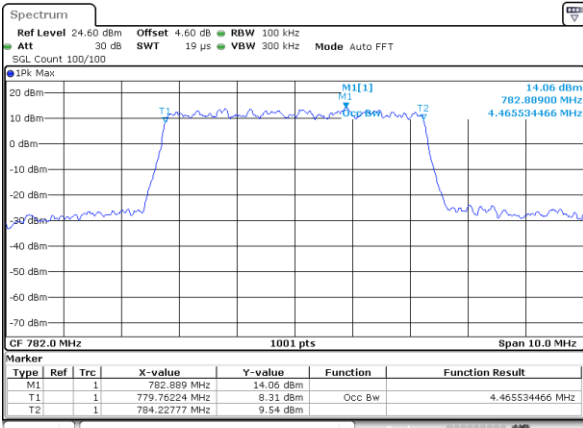
LTE Band 13

Lowest Channel / 5MHz / 64QAM



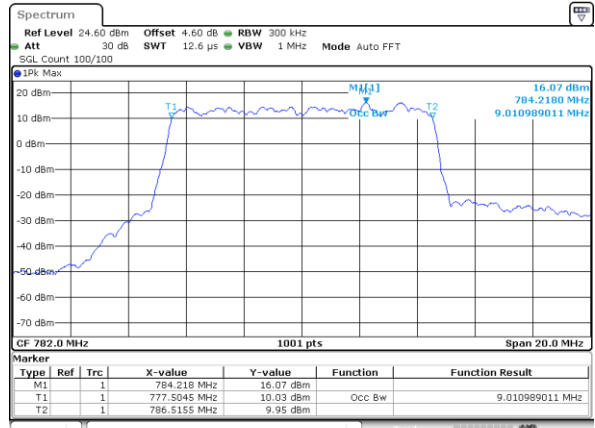
Date: 11 JUN 2020 21:23:23

Middle Channel / 5MHz / 64QAM



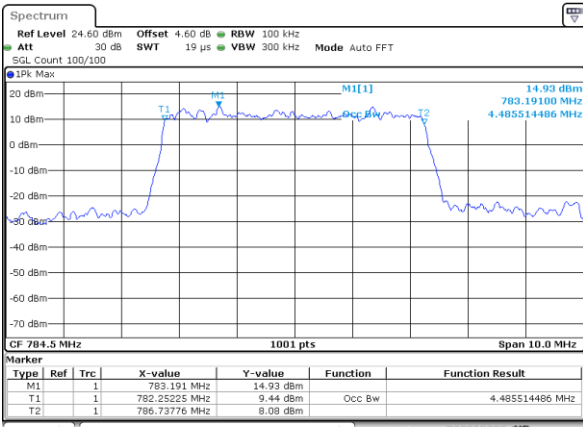
Date: 11 JUN 2020 21:23:33

Middle Channel / 10MHz / 64QAM



Date: 11 JUN 2020 21:33:48

Highest Channel / 5MHz / 64QAM



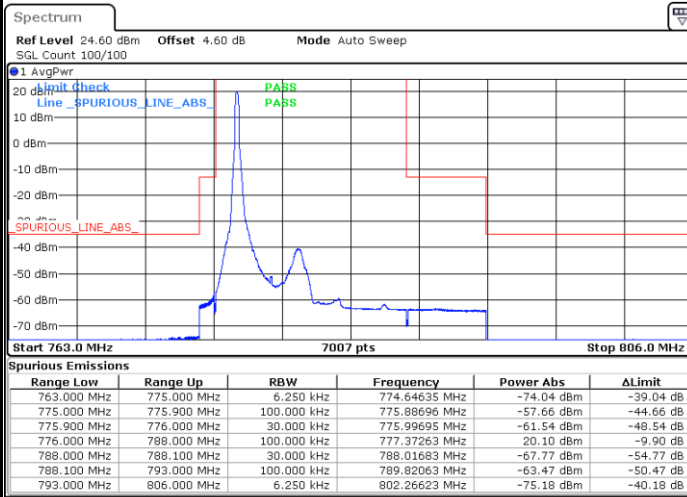
Date: 11 JUN 2020 21:23:43



Conducted Band Edge

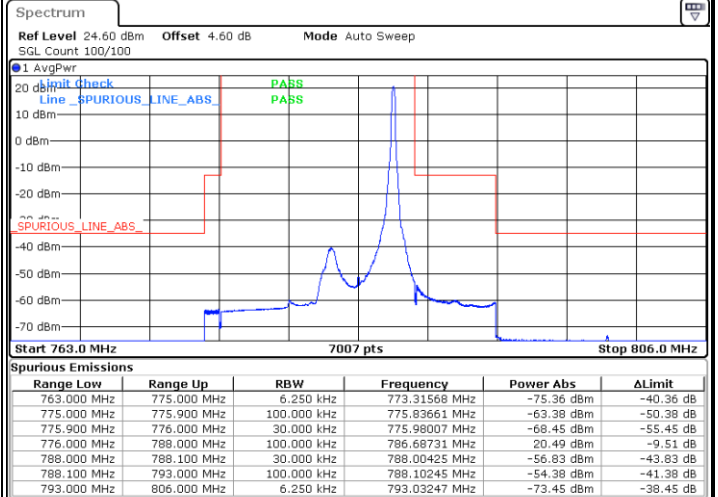
LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB



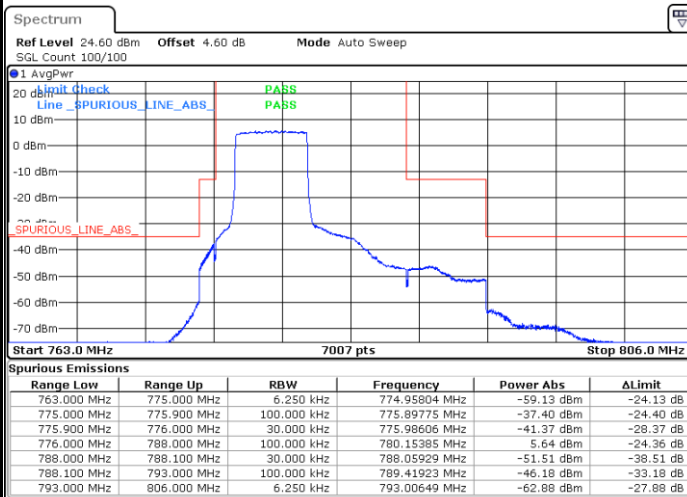
Date: 11.JUN.2020 20:51:59

Highest Band Edge / 1 RB



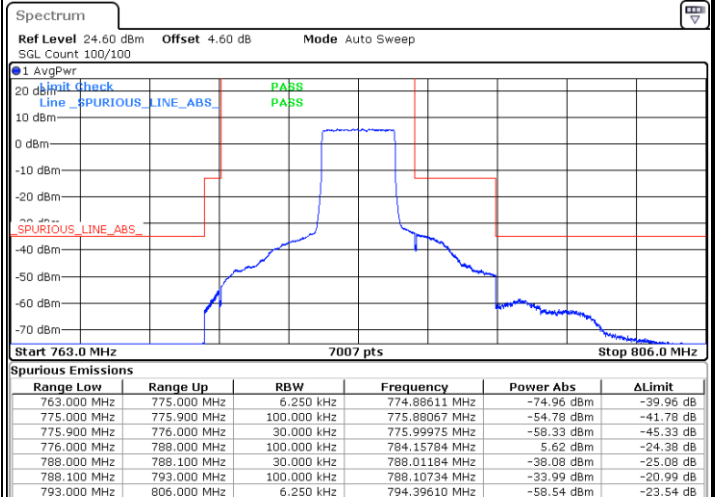
Date: 11.JUN.2020 21:03:38

Lowest Band Edge / Full RB



Date: 11.JUN.2020 20:50:21

Highest Band Edge / Full RB



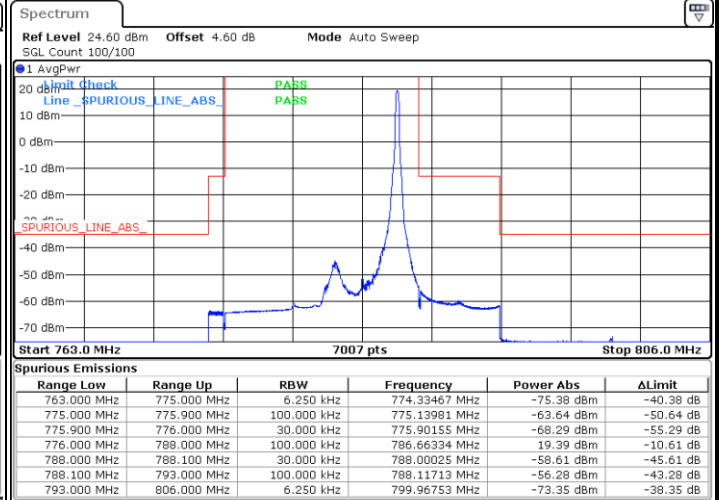
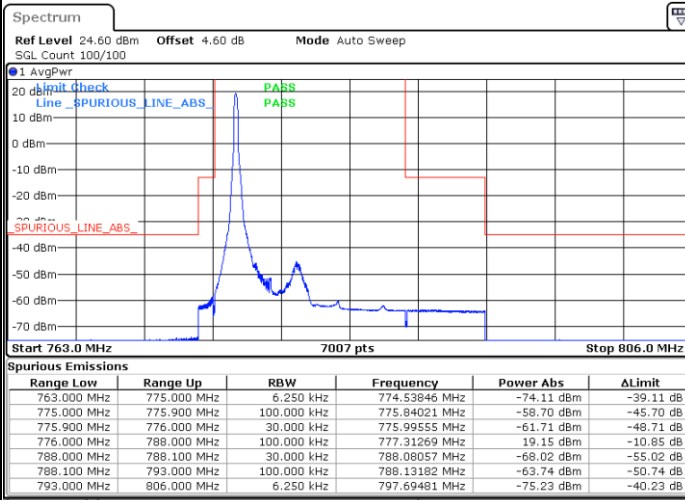
Date: 11.JUN.2020 21:01:59



LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

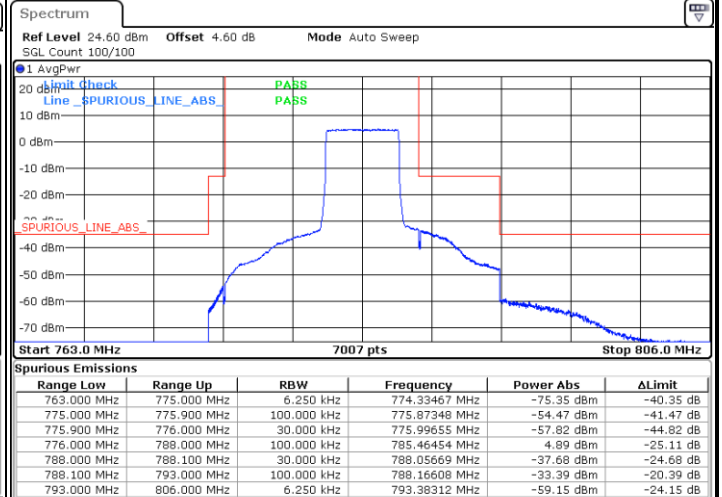
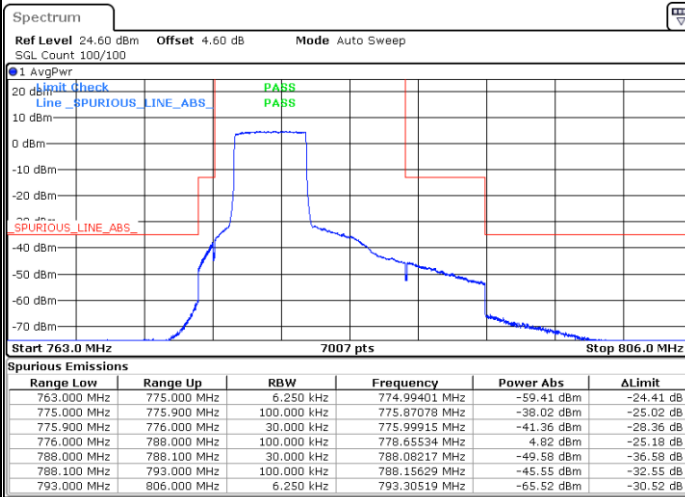


Date: 11.JUN.2020 20:53:38

Date: 11.JUN.2020 21:05:17

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 11.JUN.2020 20:48:43

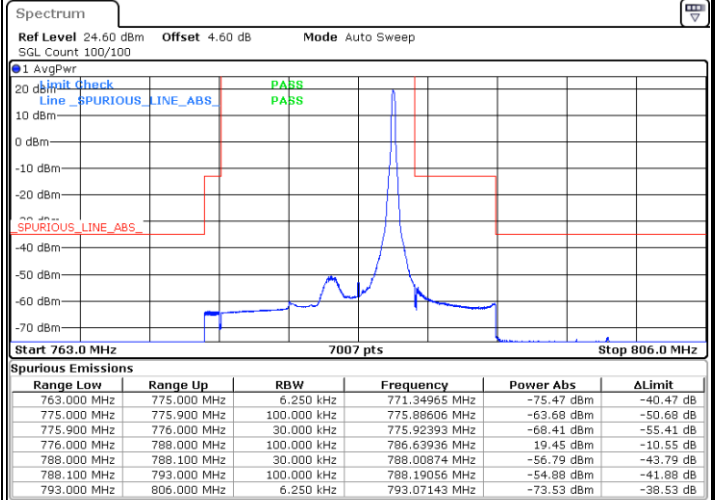
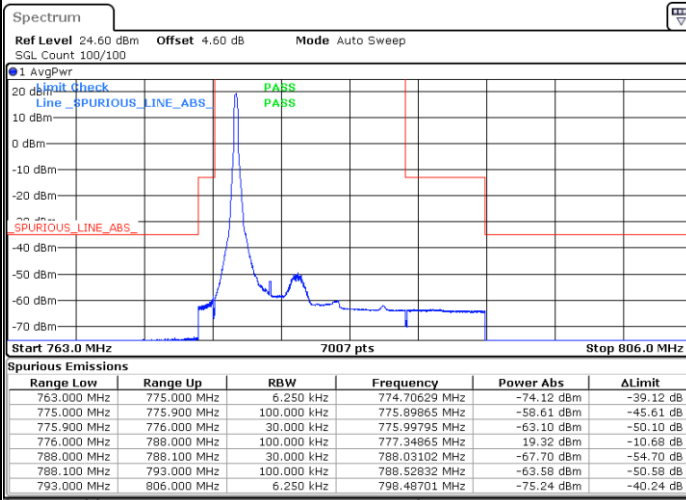
Date: 11.JUN.2020 21:00:21



LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

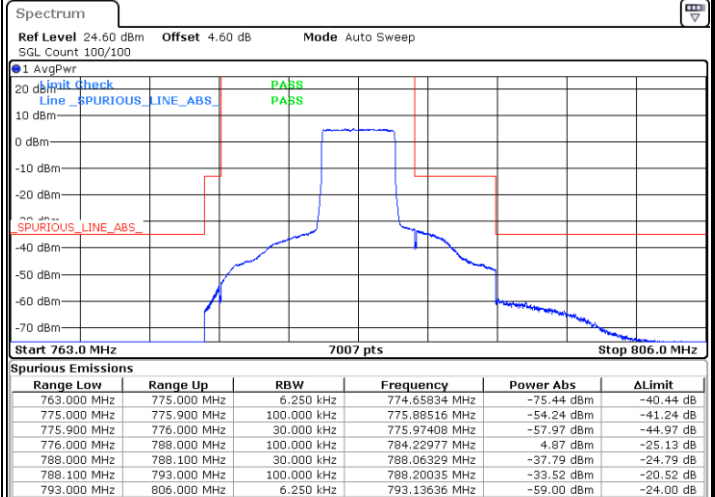
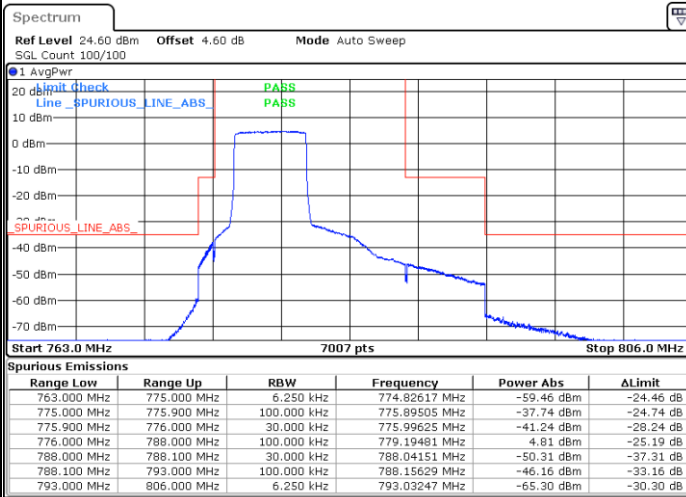


Date: 11.JUN.2020 21:25:52

Date: 11.JUN.2020 21:30:49

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 11.JUN.2020 21:27:31

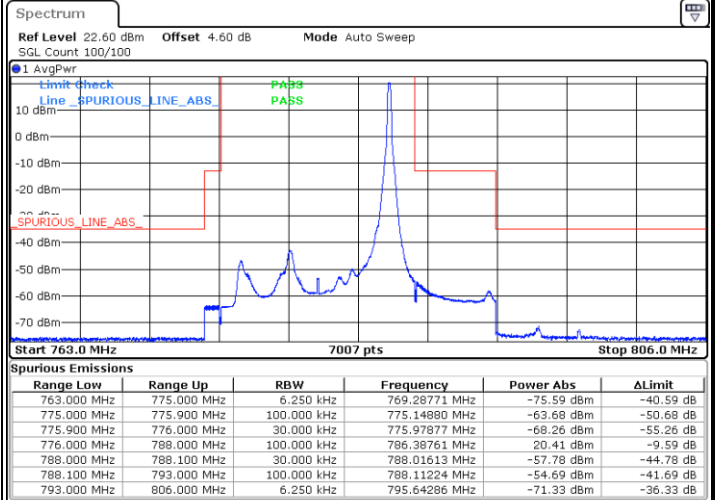
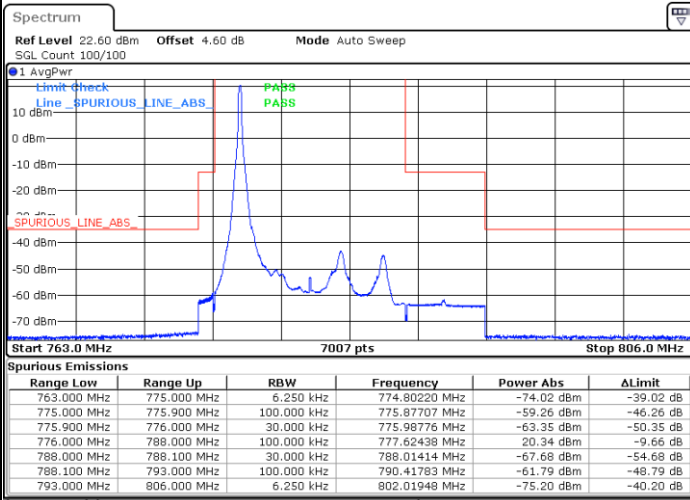
Date: 11.JUN.2020 21:29:10



LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB

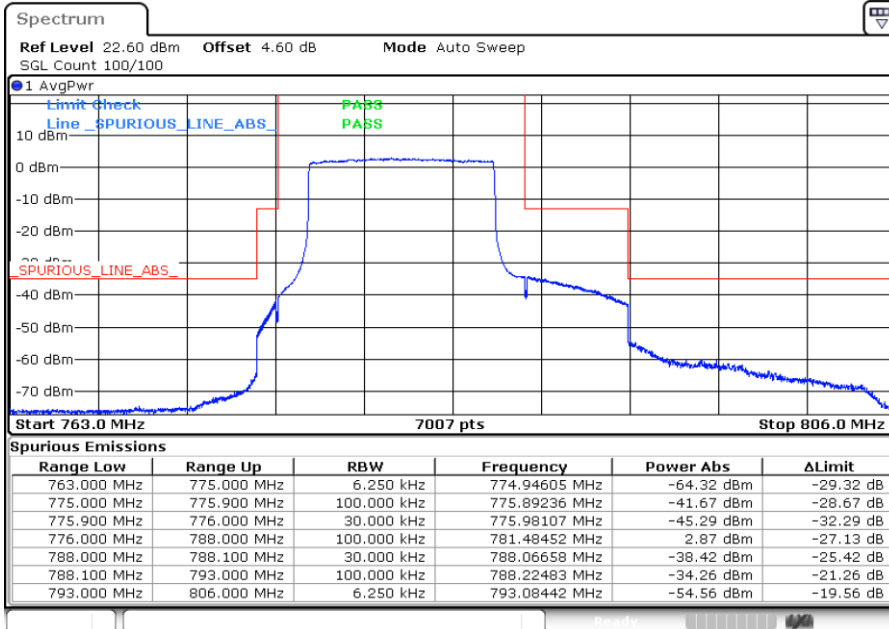
Highest Band Edge / 1 RB



Date: 11.JUN.2020 21:13:00

Date: 11.JUN.2020 21:19:34

Band Edge / Full RB

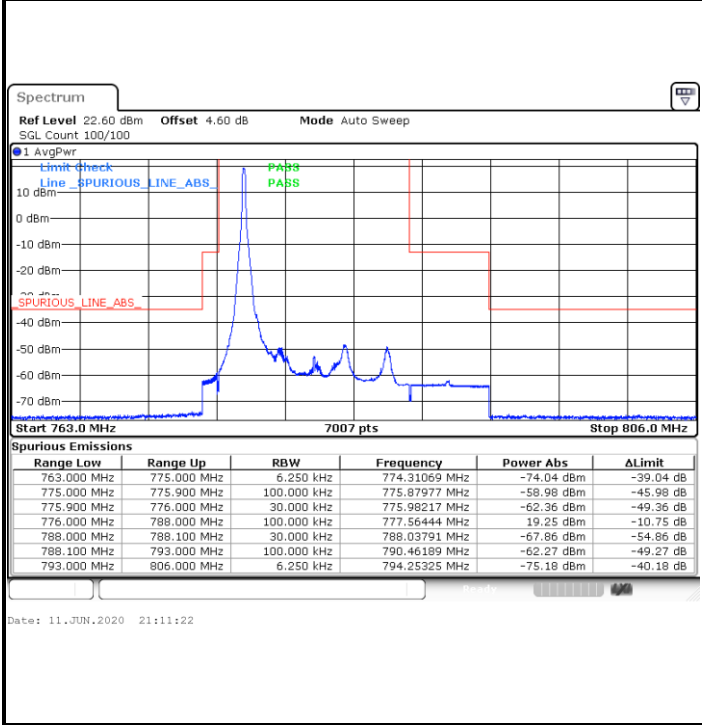


Date: 11.JUN.2020 21:14:39

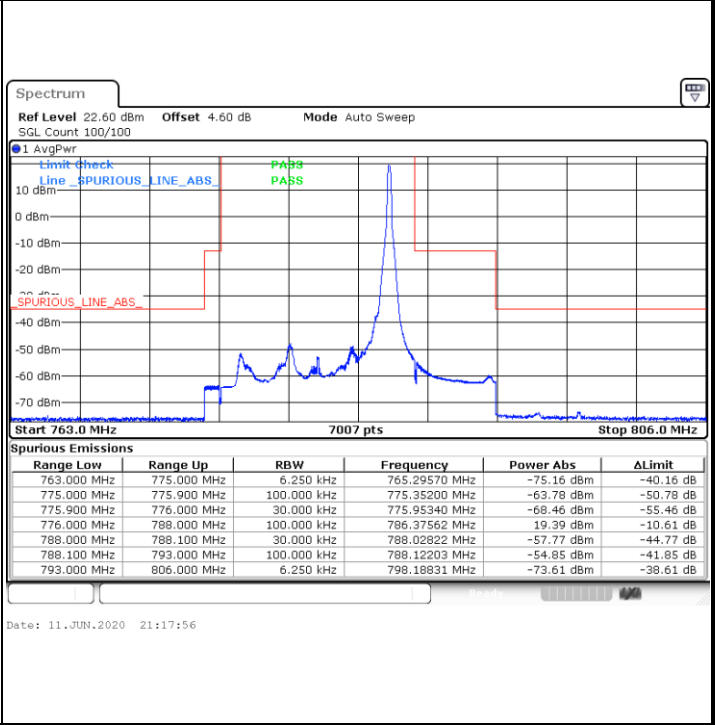


LTE Band 13 / 10MHz / 16QAM

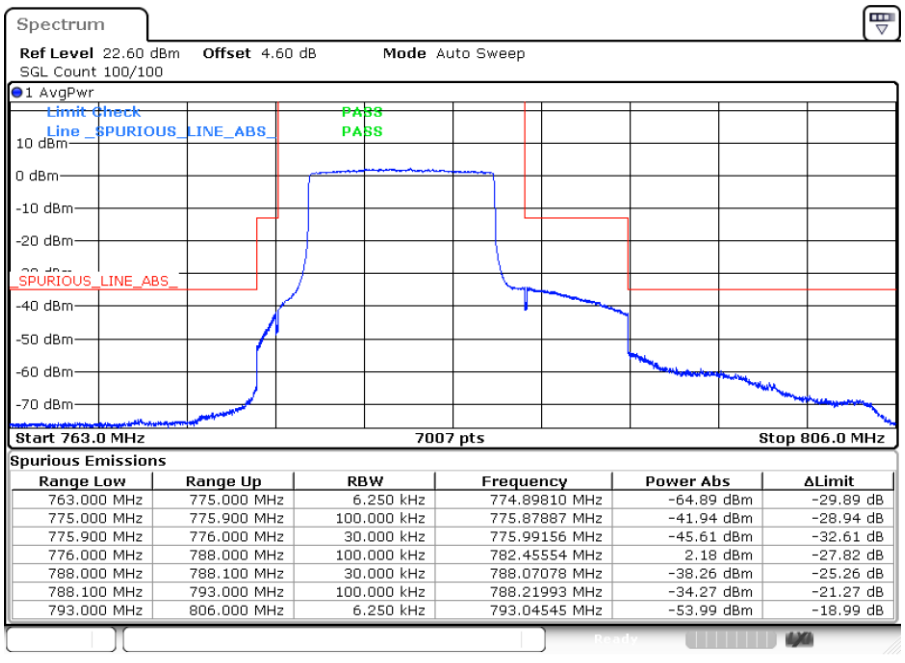
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



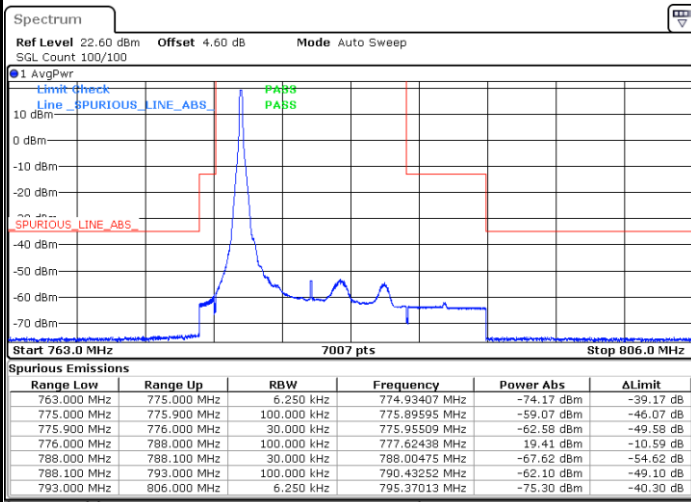
Band Edge / Full RB





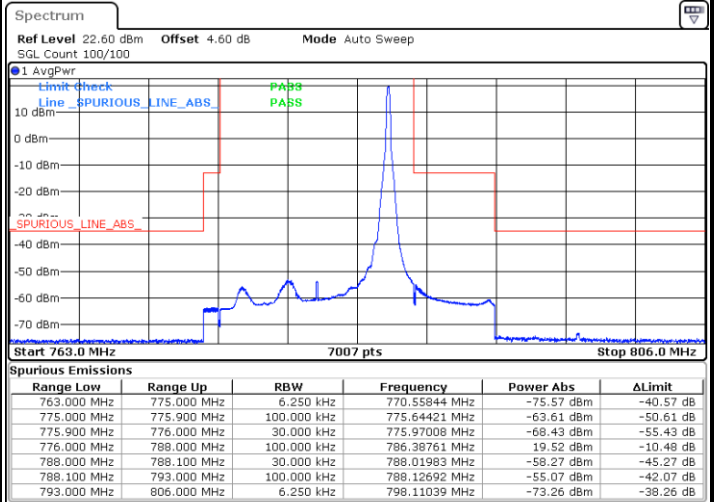
LTE Band 13 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



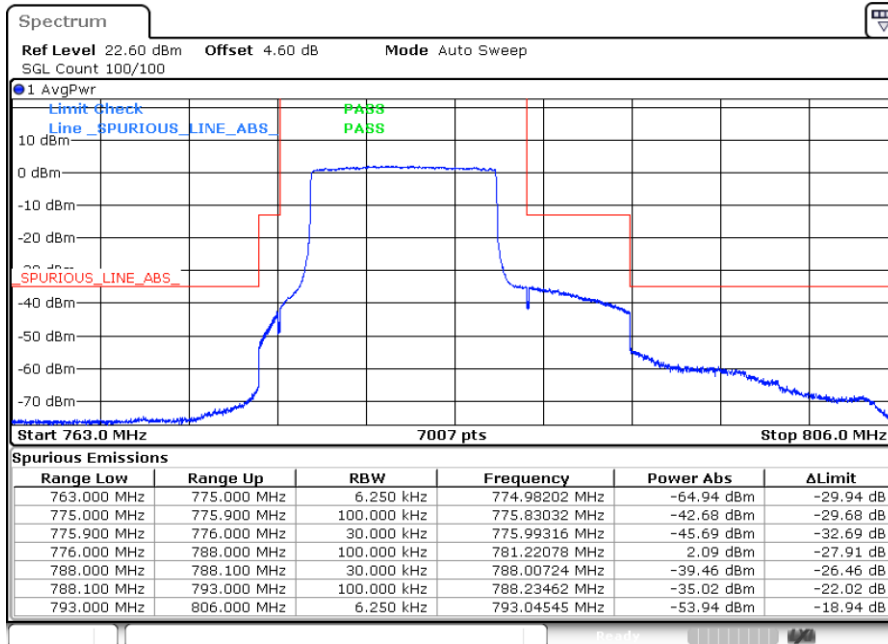
Date: 11.JUN.2020 21:35:36

Highest Band Edge / 1 RB



Date: 11.JUN.2020 21:37:15

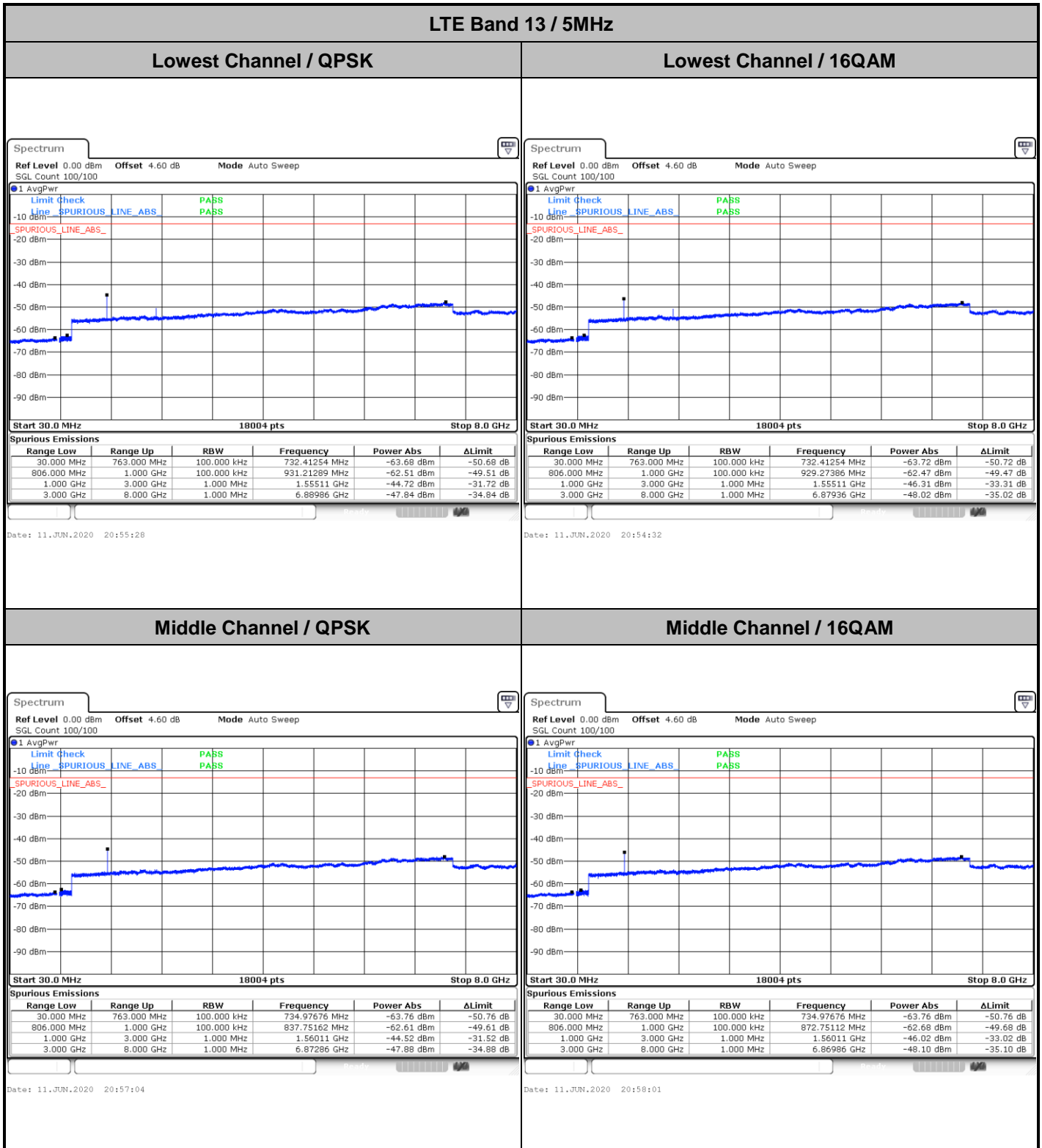
Band Edge / Full RB



Date: 11.JUN.2020 21:38:53



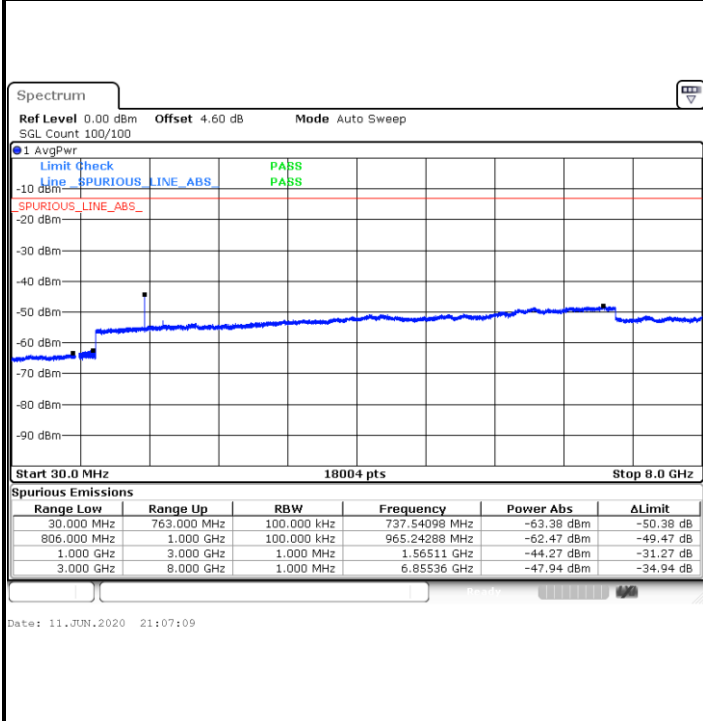
Conducted Spurious Emission



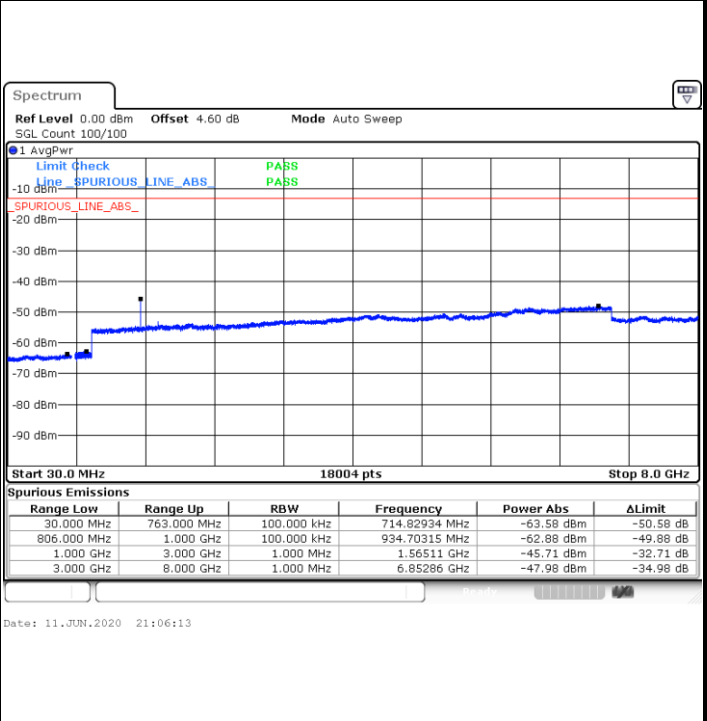


LTE Band 13 / 5MHz

Highest Channel / QPSK

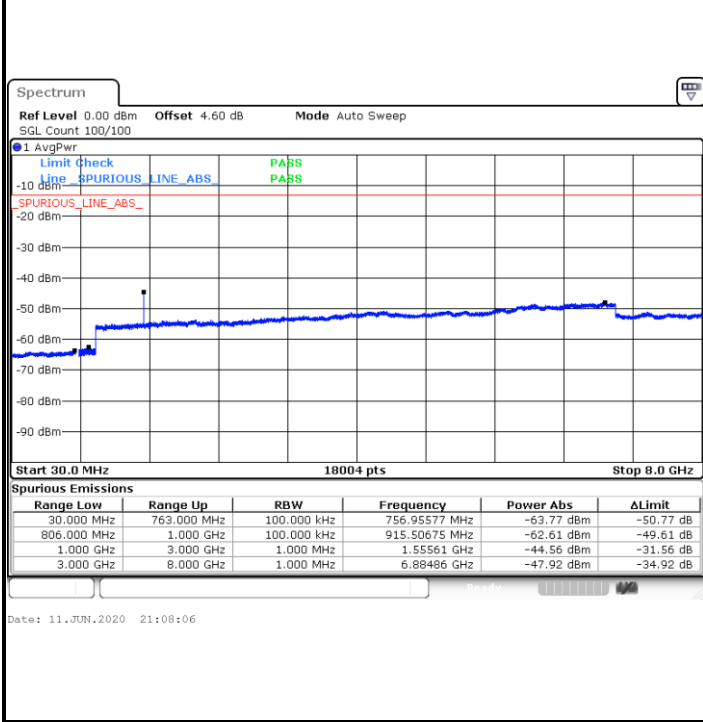


Highest Channel / 16QAM

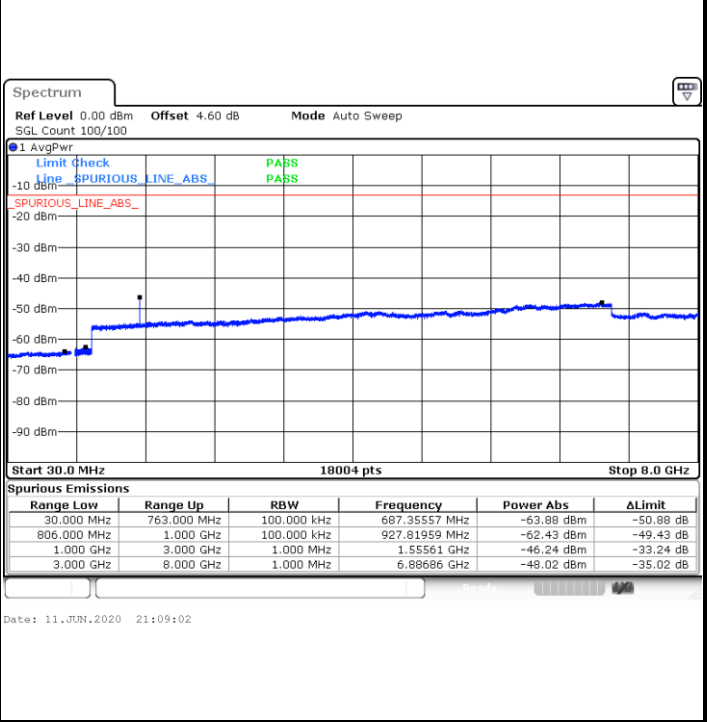


LTE Band 13 / 10MHz

Middle Channel / QPSK



Middle Channel / 16QAM

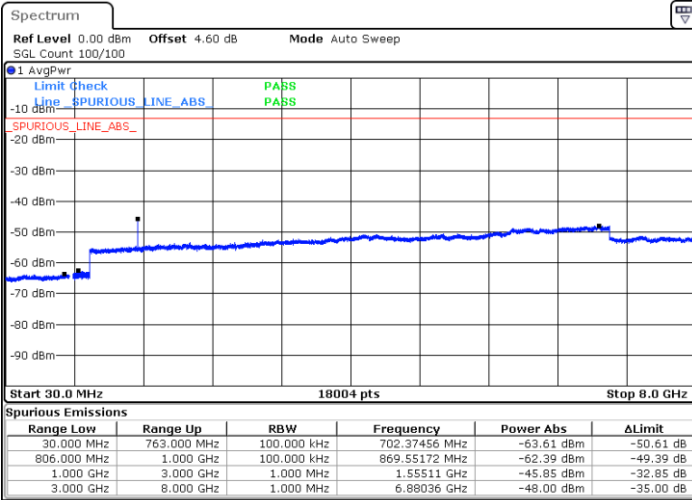




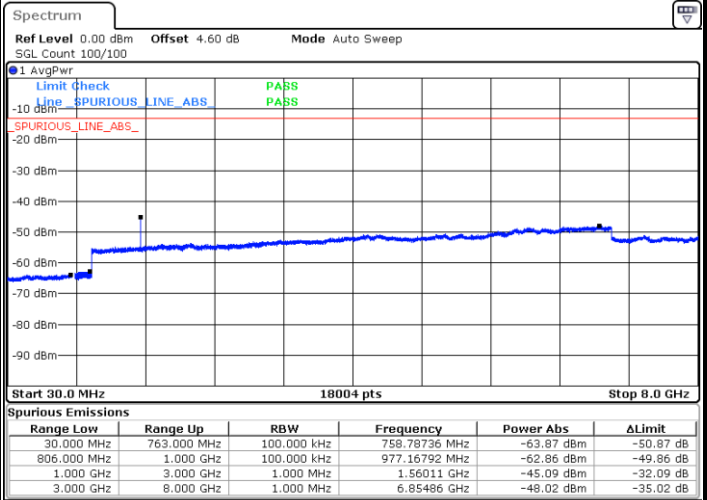
LTE Band 13 / 5MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

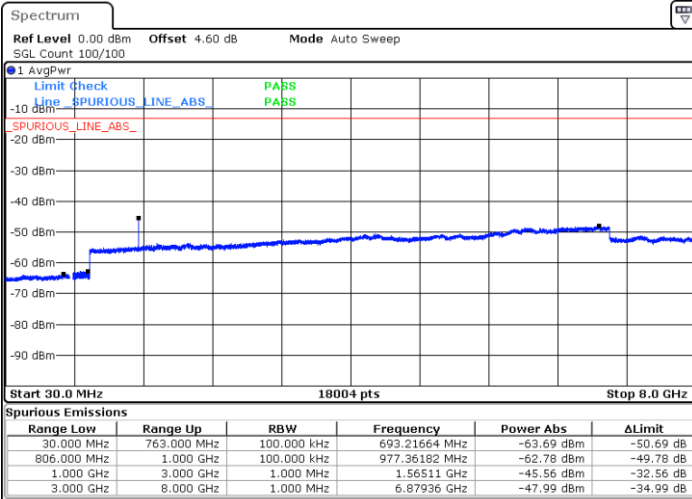


Date: 11.JUN.2020 21:31:44



Date: 11.JUN.2020 21:32:41

Highest Channel / 64QAM

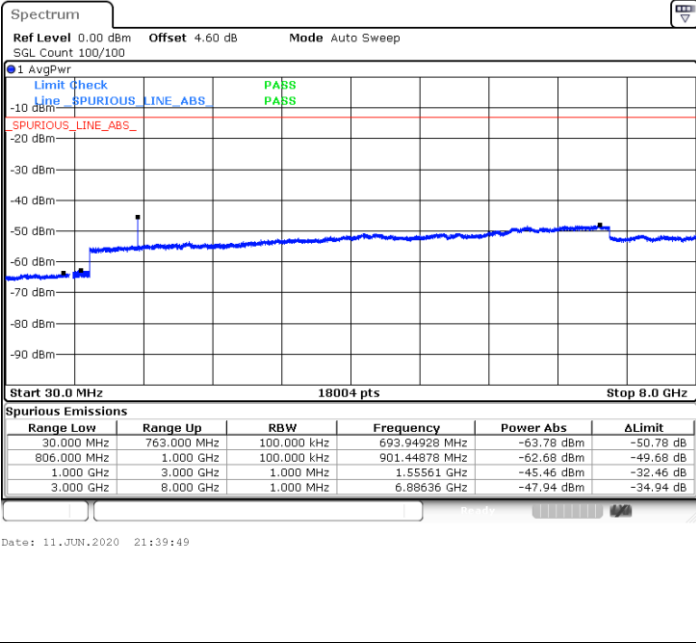


Date: 11.JUN.2020 21:33:37



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	0.0013	PASS
40	Normal Voltage	0.0008	
30	Normal Voltage	0.0001	
20(Ref.)	Normal Voltage	0.0002	
10	Normal Voltage	0.0015	
0	Normal Voltage	0.0008	
-10	Normal Voltage	0.0024	
-20	Normal Voltage	0.0017	
-30	Normal Voltage	0.0027	
20	Maximum Voltage	0.0013	
20	Normal Voltage	0.0001	
20	Battery End Point	0.0003	

Note:

- 3. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.45 V.
- 4. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 38

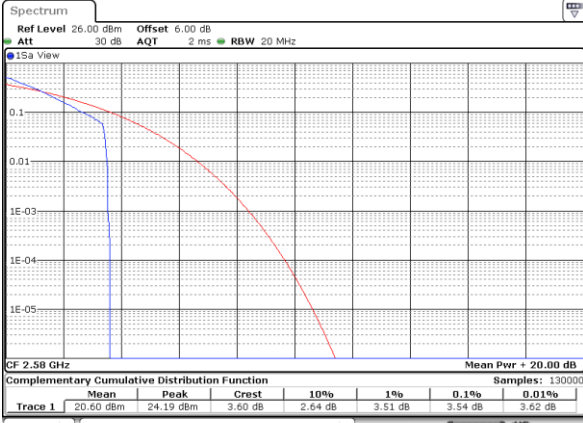
Peak-to-Average Ratio

Mode	LTE Band 38 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.54	5.51	5.74	6.35	PASS
Middle CH	4.67	5.71	5.74	6.00	
Highest CH	6.46	6.64	6.84	6.20	
Mode	LTE Band 38 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.32	6.46	-	-	PASS
Middle CH	6.17	6.12	-	-	
Highest CH	5.94	6.84	-	-	



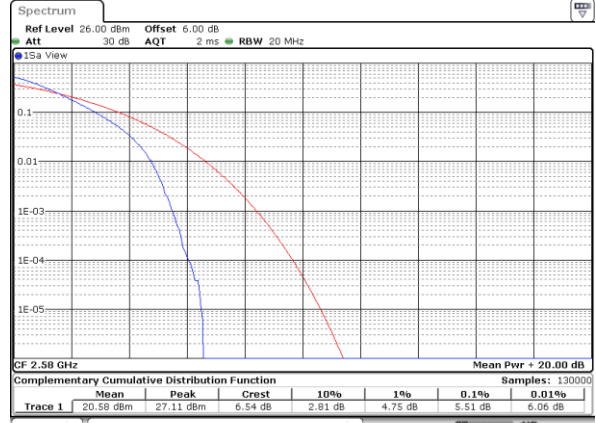
LTE Band 38 / 20MHz / QPSK

Lowest Channel / 1RB



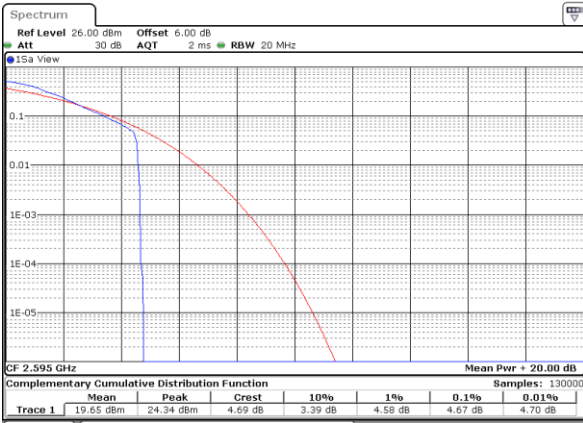
Date: 22 JUN 2020 23 07 56

Lowest Channel / Full RB



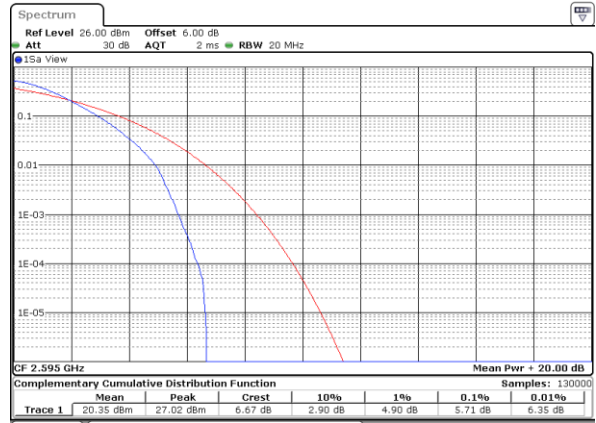
Date: 22 JUN 2020 23 08 09

Middle Channel / 1RB



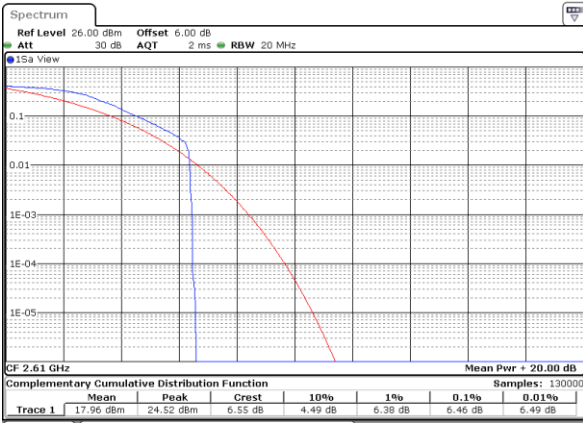
Date: 22 JUN 2020 23 09 22

Middle Channel / Full RB



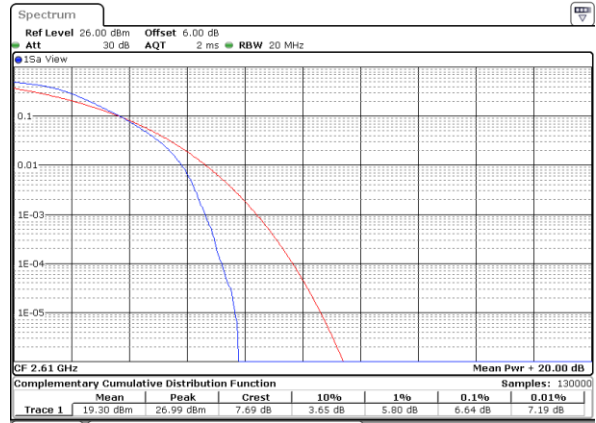
Date: 22 JUN 2020 23 09 30

Highest Channel / 1RB



Date: 22 JUN 2020 23 10 36

Highest Channel / Full RB

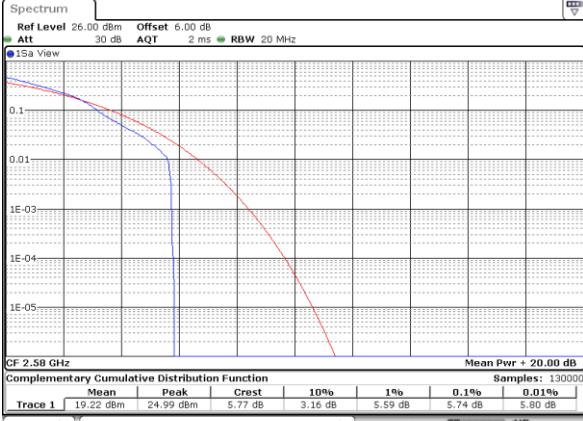


Date: 22 JUN 2020 23 10 50



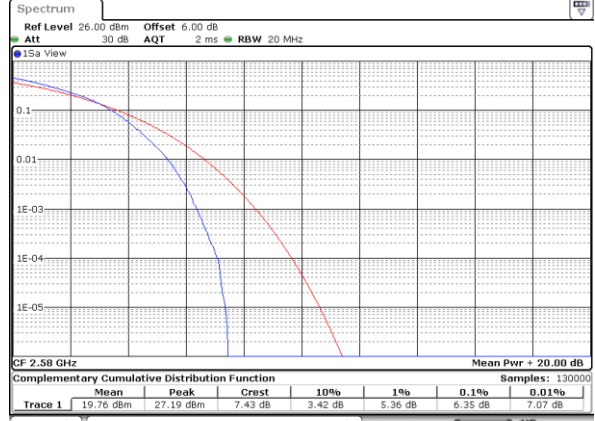
LTE Band 38 / 20MHz / 16QAM

Lowest Channel / 1RB



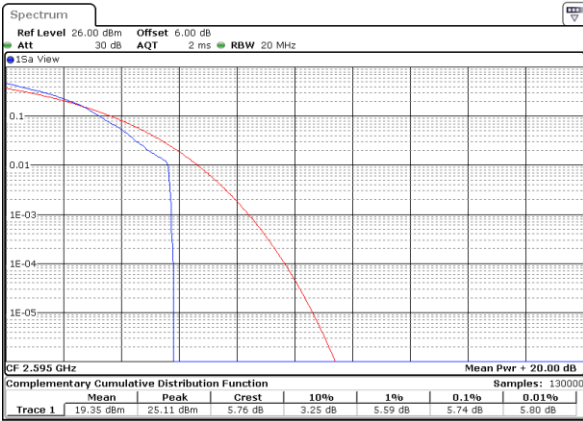
Date: 22 JUN 2020 23 08 36

Lowest Channel / Full RB



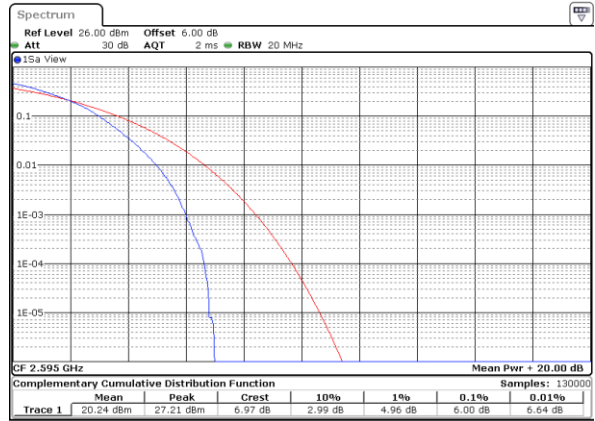
Date: 22 JUN 2020 23 08 22

Middle Channel / 1RB



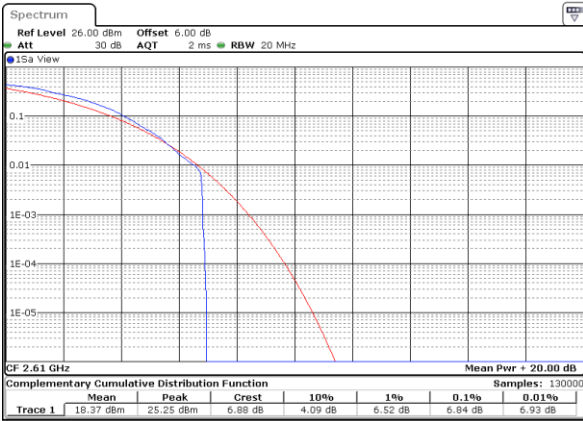
Date: 22 JUN 2020 23 09 51

Middle Channel / Full RB



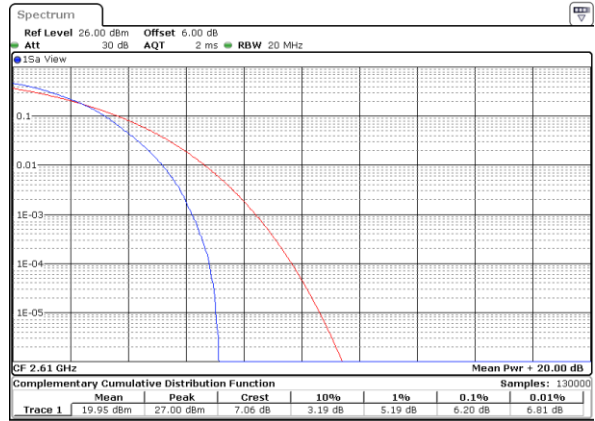
Date: 22 JUN 2020 23 09 42

Highest Channel / 1RB



Date: 22 JUN 2020 23 11 17

Highest Channel / Full RB



Date: 22 JUN 2020 23 11 03



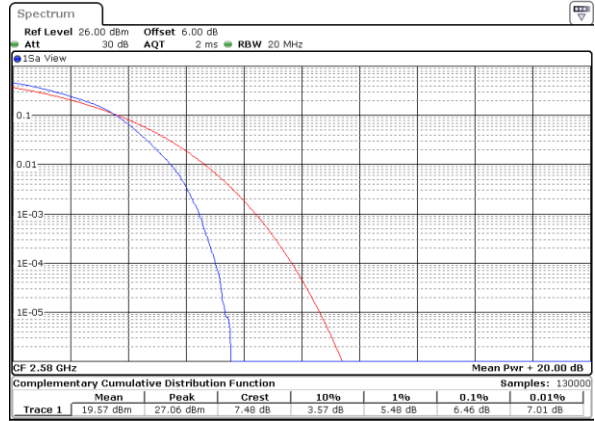
LTE Band 38 / 20MHz / 64QAM

Lowest Channel / 1RB



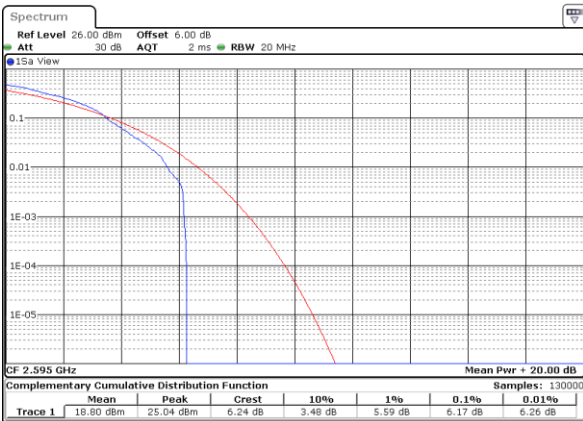
Date: 22 JUN 2020 23:09:03

Lowest Channel / Full RB



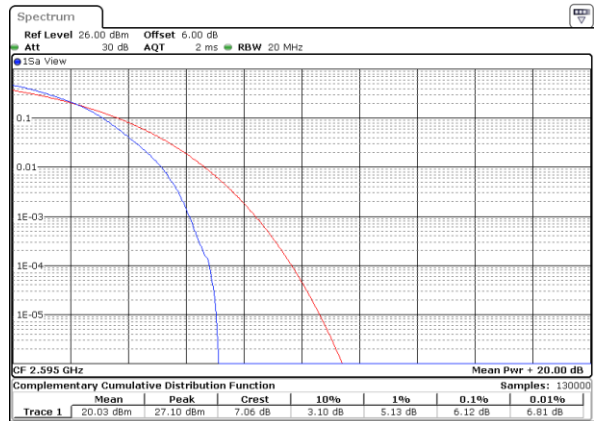
Date: 22 JUN 2020 23:08:51

Middle Channel / 1RB



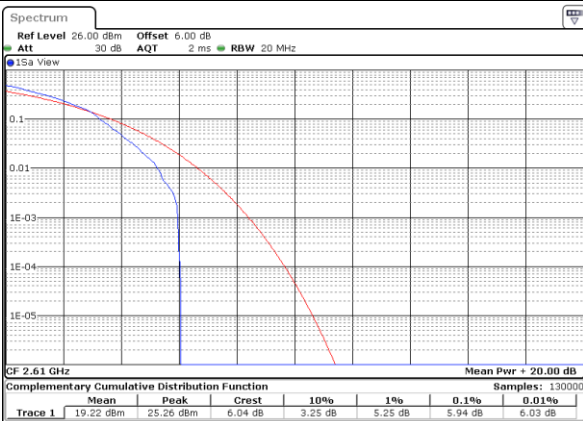
Date: 22 JUN 2020 23:10:27

Middle Channel / Full RB



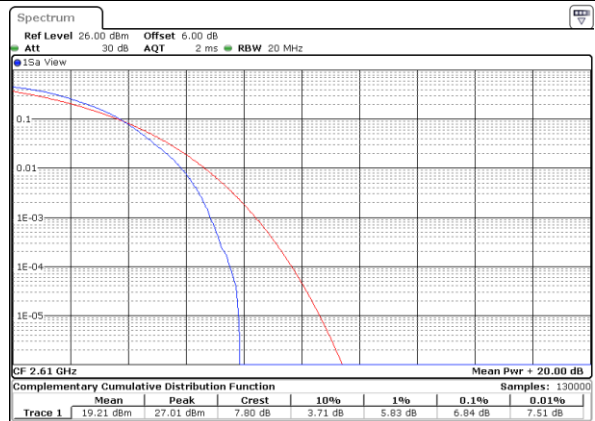
Date: 22 JUN 2020 23:10:07

Highest Channel / 1RB



Date: 22 JUN 2020 23:11:30

Highest Channel / Full RB



Date: 22 JUN 2020 23:11:40



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	-	-	-	-	4.91	4.72	9.79	9.73	14.24	14.12	20.14	20.06
Middle CH	-	-	-	-	4.79	4.93	9.61	9.65	14.15	14.12	20.06	20.14
Highest CH	-	-	-	-	4.77	4.88	9.85	9.81	14.39	14.15	20.26	20.18
Mode	LTE Band 38 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.91	-	9.73	-	14.30	-	20.18	-
Middle CH	-	-	-	-	4.72	-	9.79	-	14.42	-	20.14	-
Highest CH	-	-	-	-	4.85	-	9.67	-	14.21	-	20.06	-