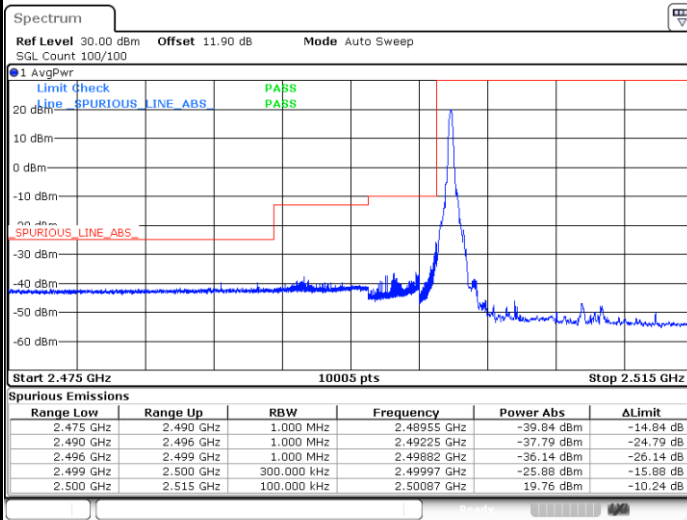


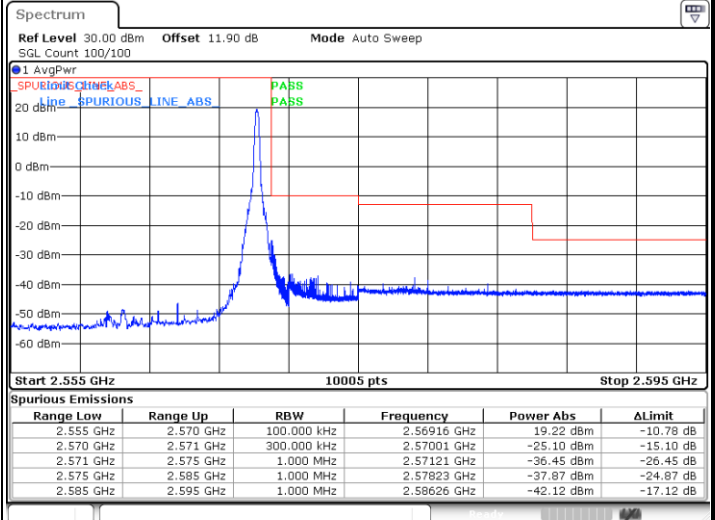


LTE Band 7 / 15MHz / 16QAM

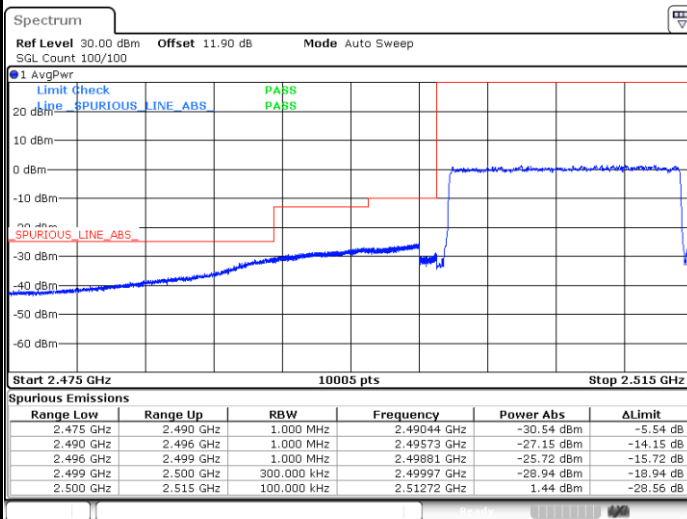
Lowest Band Edge / 1 RB



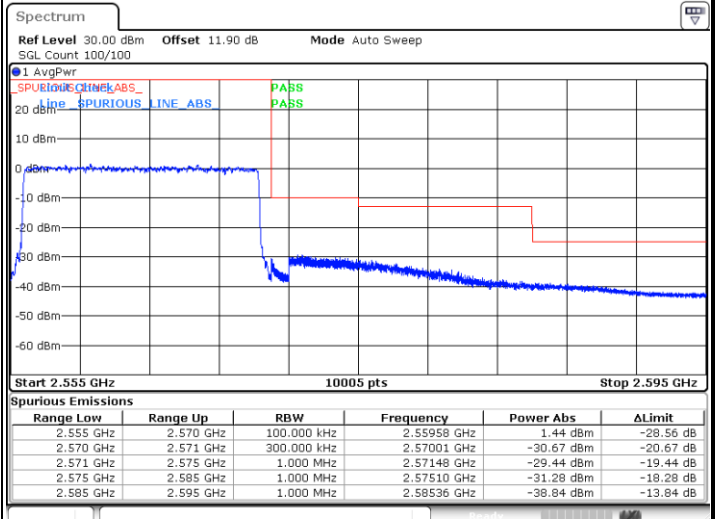
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



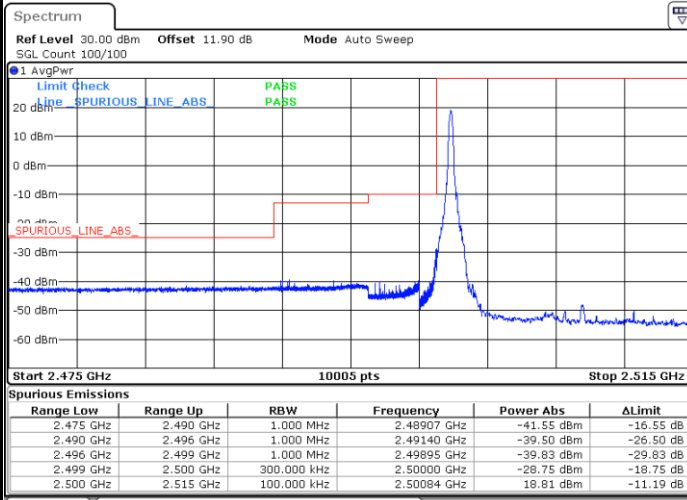
Highest Band Edge / Full RB



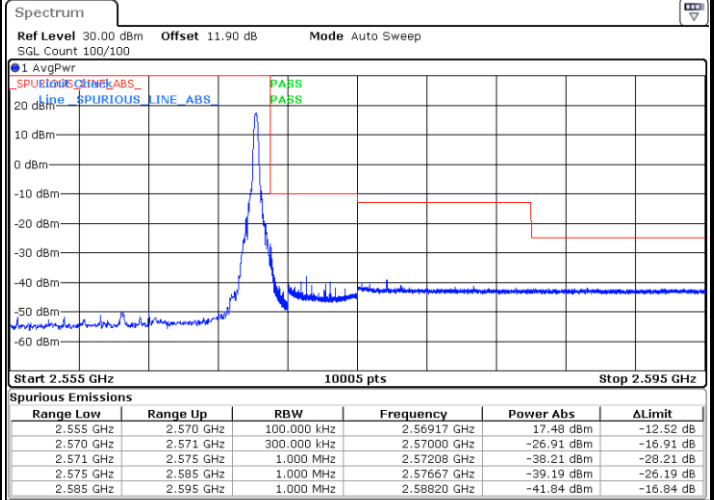


LTE Band 7 / 15MHz / 64QAM

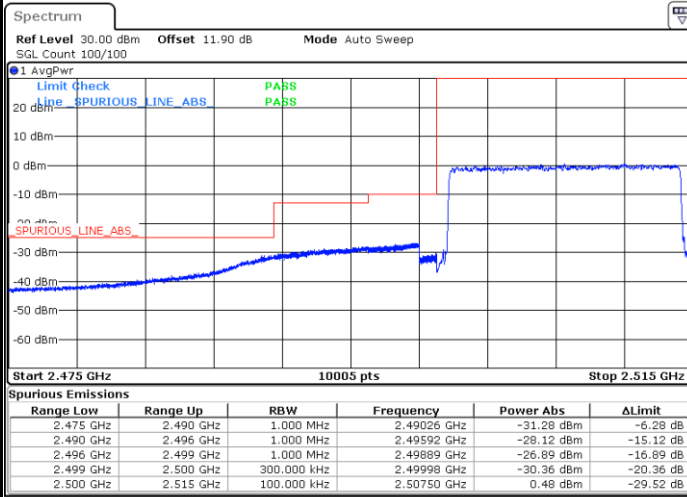
Lowest Band Edge / 1 RB



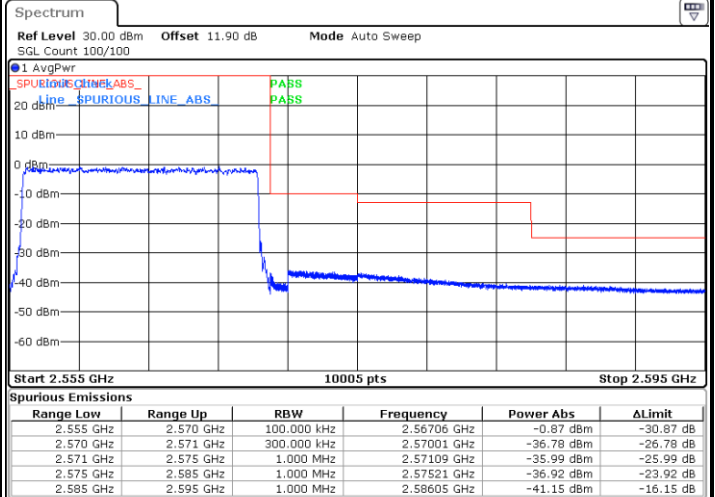
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



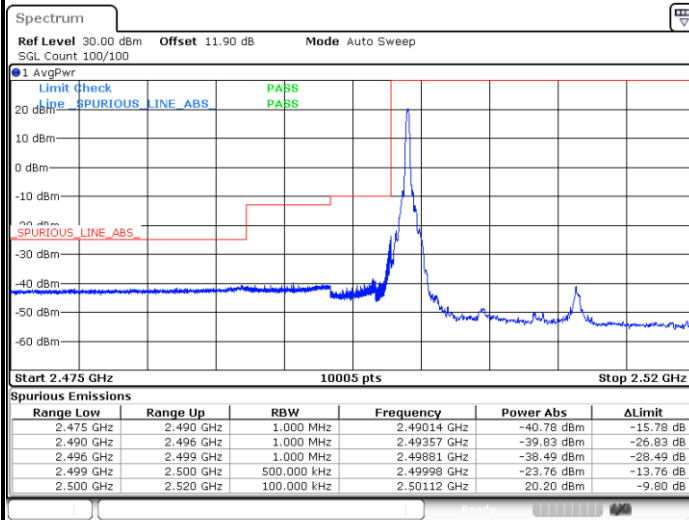
Highest Band Edge / Full RB



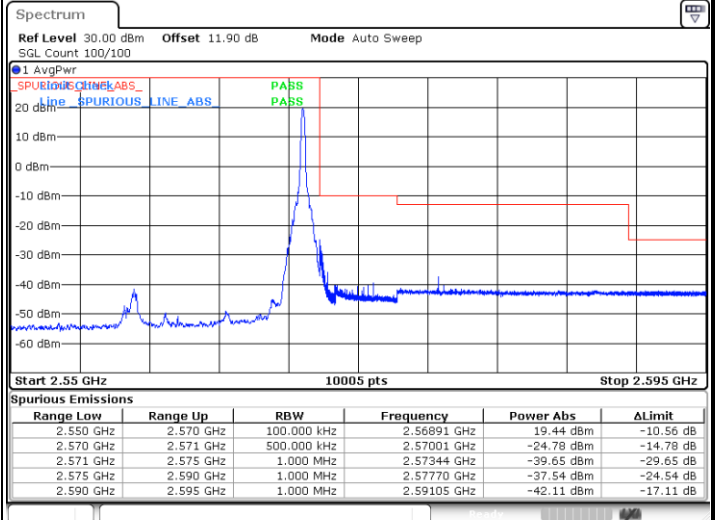


LTE Band 7 / 20MHz / QPSK

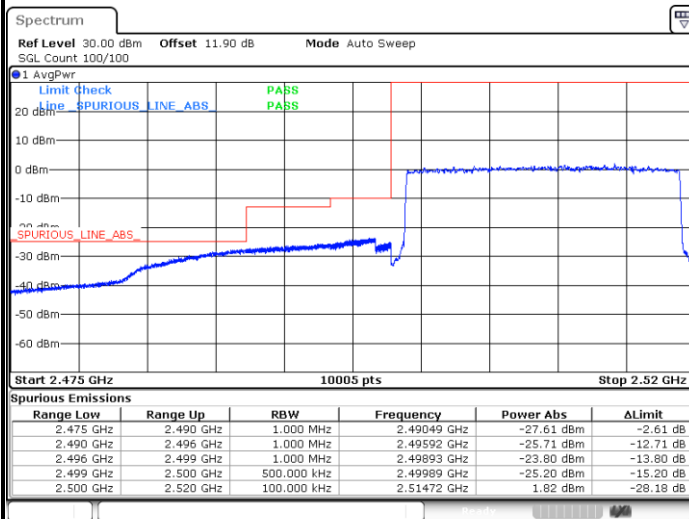
Lowest Band Edge / 1 RB



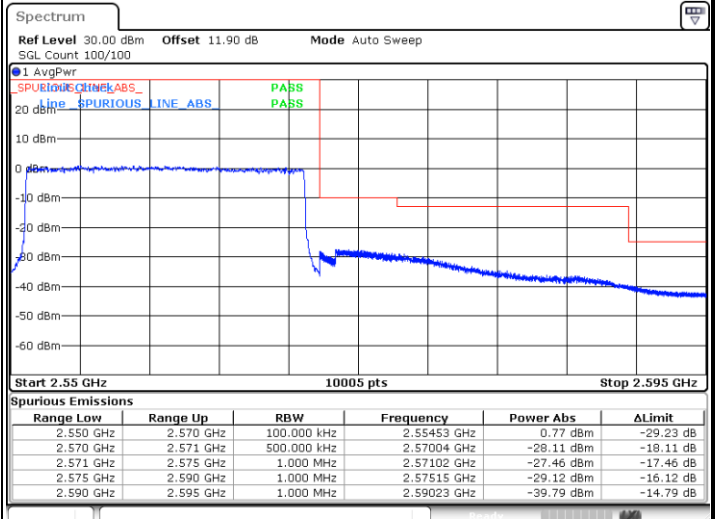
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



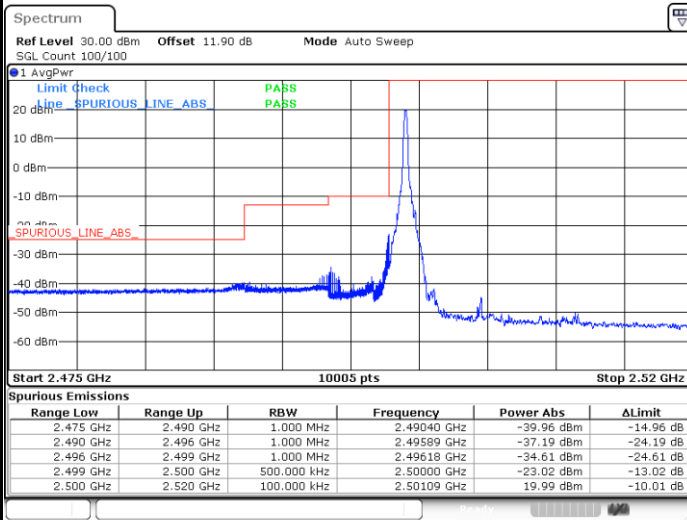
Highest Band Edge / Full RB



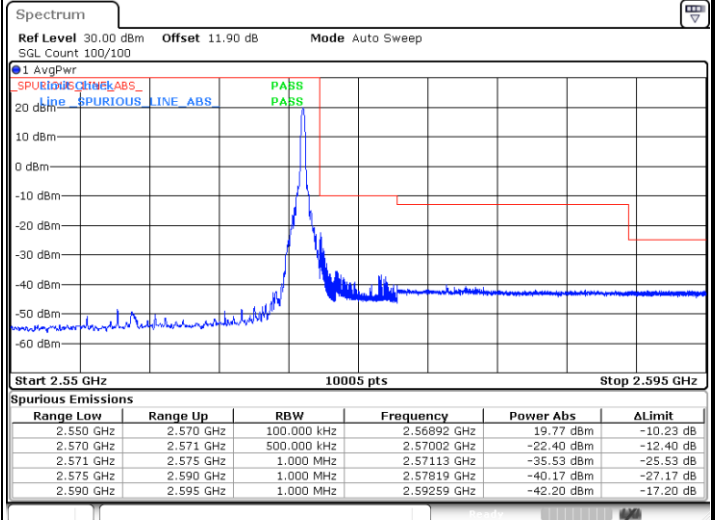


LTE Band 7 / 20MHz / 16QAM

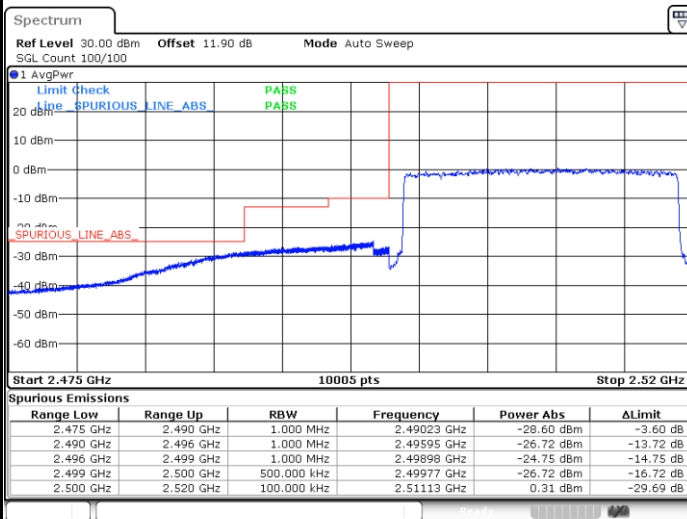
Lowest Band Edge / 1 RB



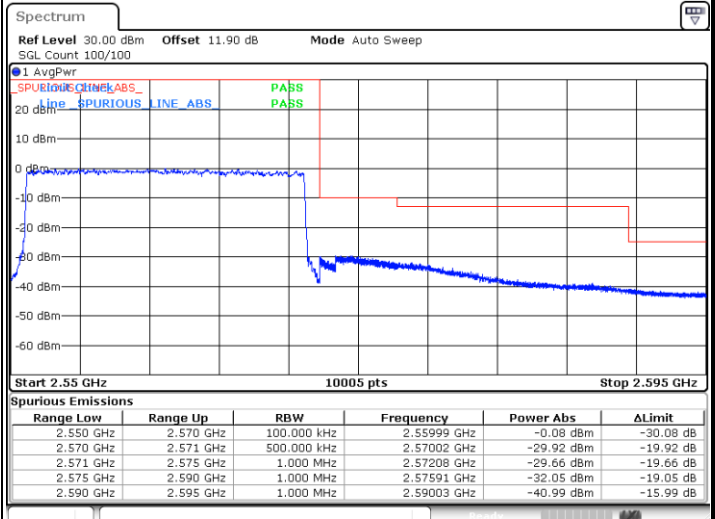
Highest Band Edge / 1RB



Lowest Band Edge / Full RB



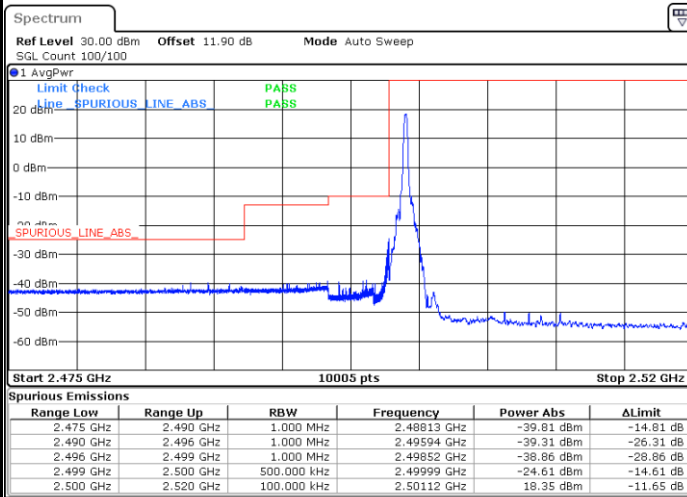
Highest Band Edge / Full RB





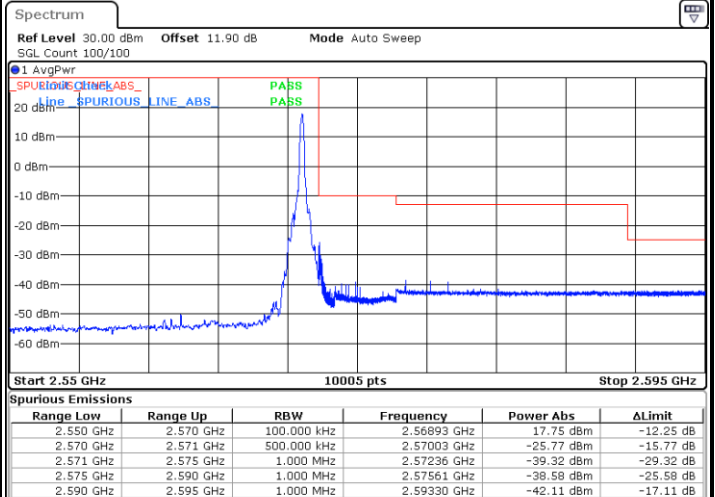
LTE Band 7 / 20MHz / 64QAM

Lowest Band Edge / 1 RB



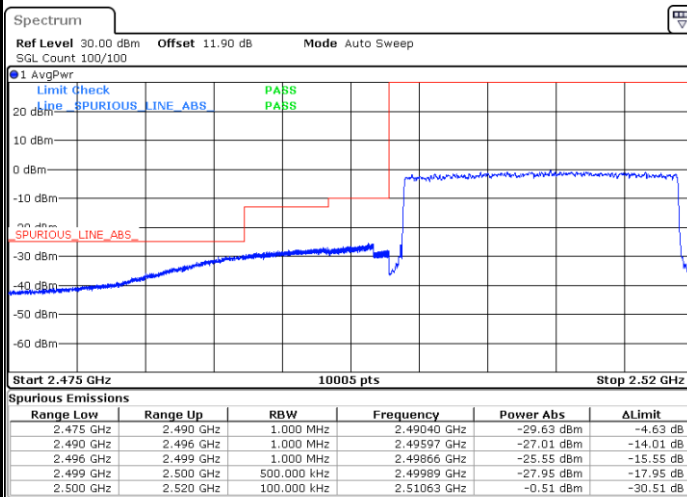
Date: 11.FEB.2020 19:22:16

Highest Band Edge / 1 RB



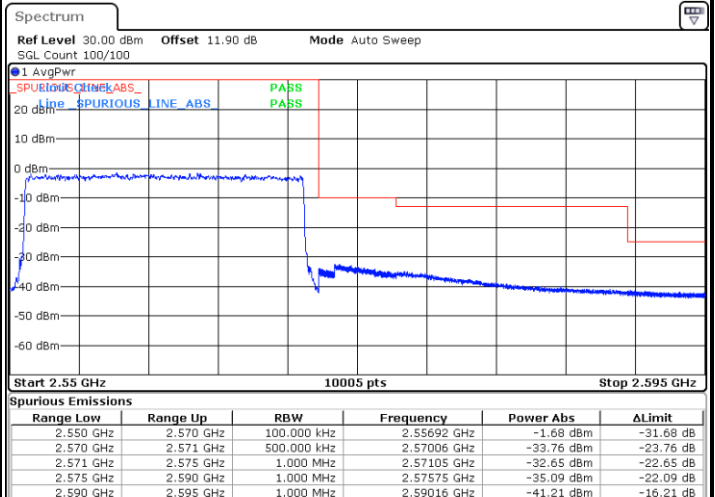
Date: 11.FEB.2020 19:27:20

Lowest Band Edge / Full RB



Date: 11.FEB.2020 19:23:28

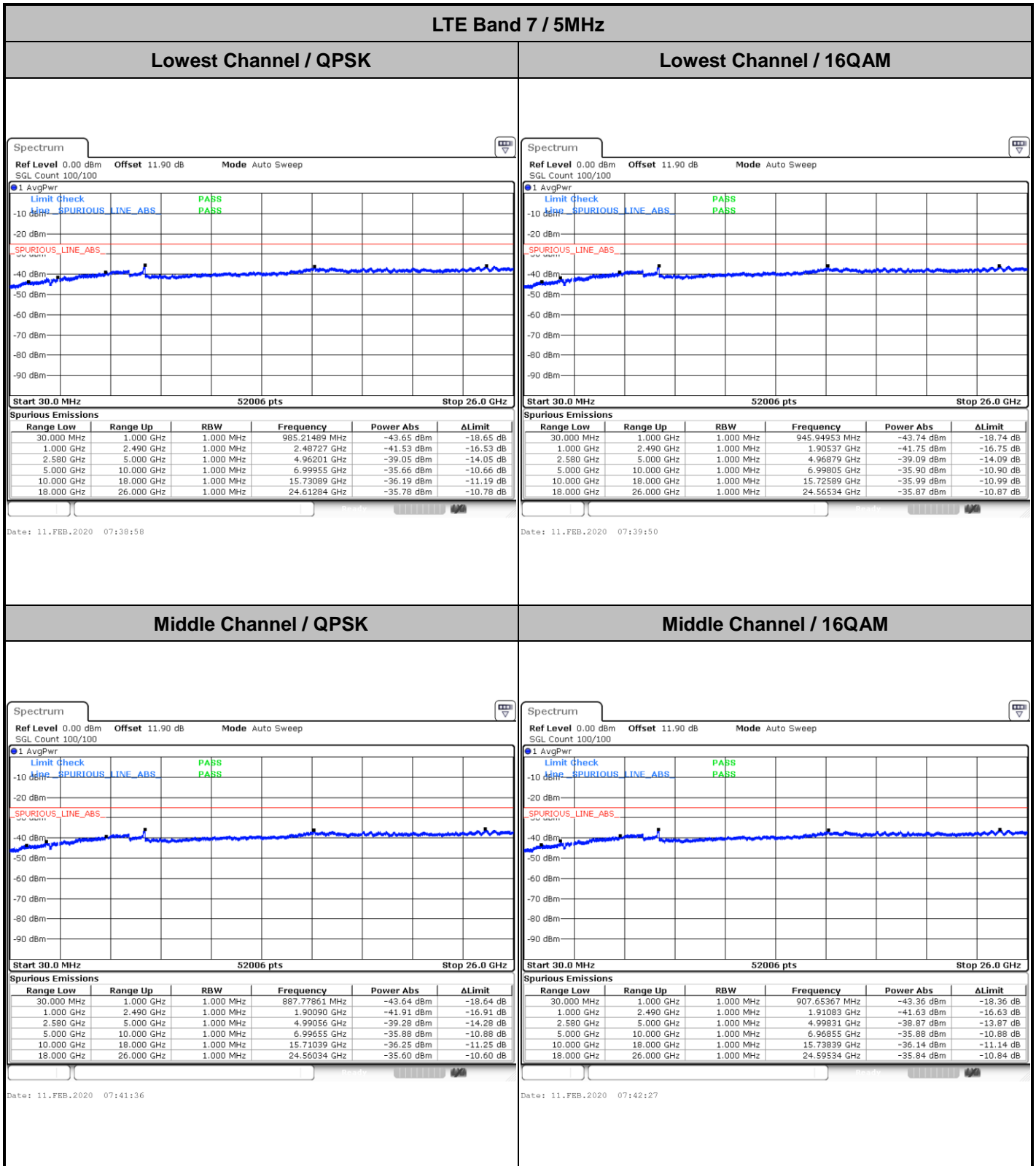
Highest Band Edge / Full RB



Date: 11.FEB.2020 19:28:32



# Conducted Spurious Emission

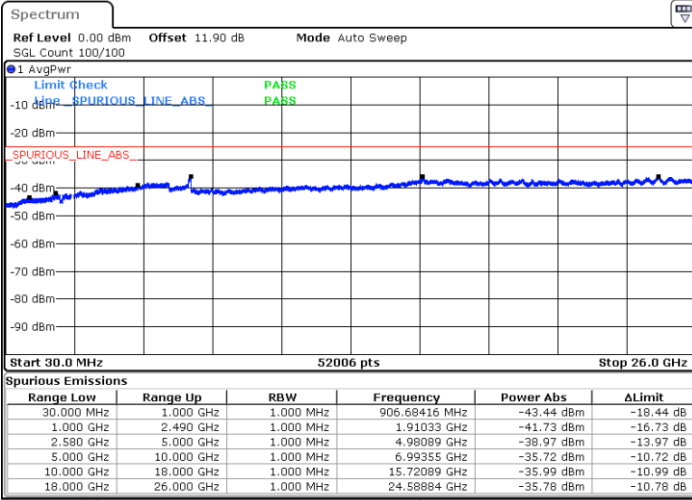




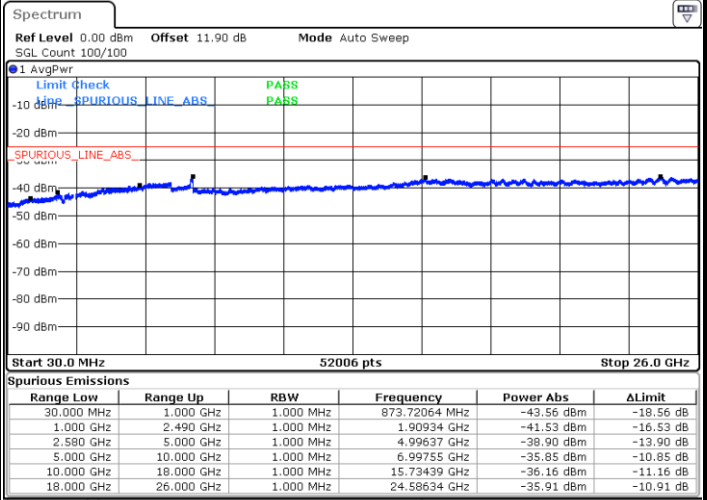
LTE Band 7 / 5MHz

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 11.FEB.2020 07:49:01

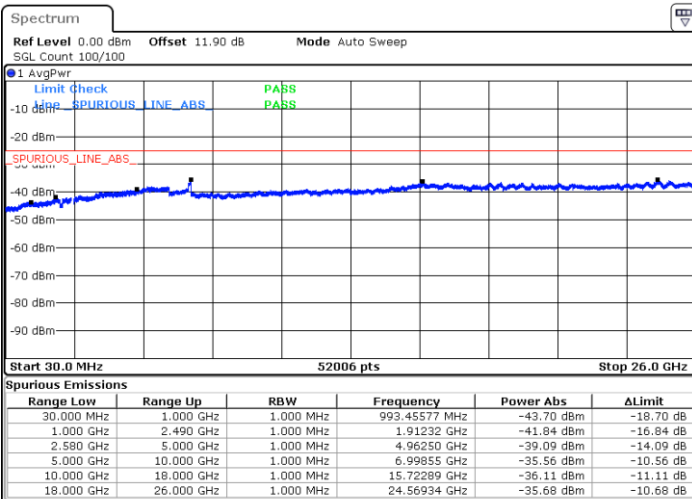


Date: 11.FEB.2020 07:49:54

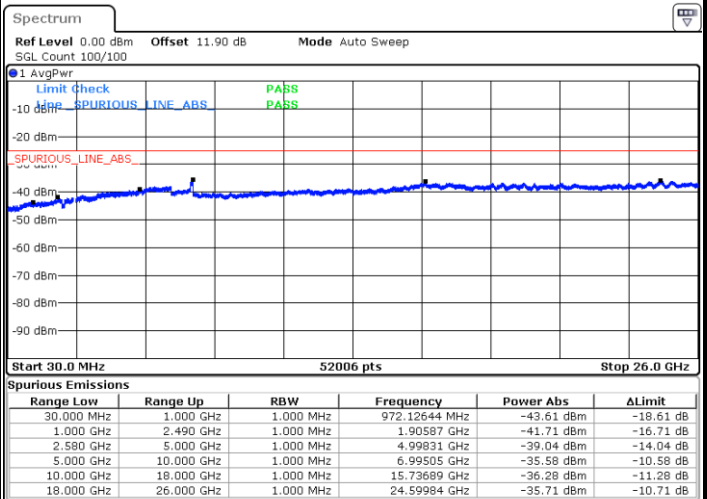
LTE Band 7 / 10MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



Date: 11.FEB.2020 08:05:11



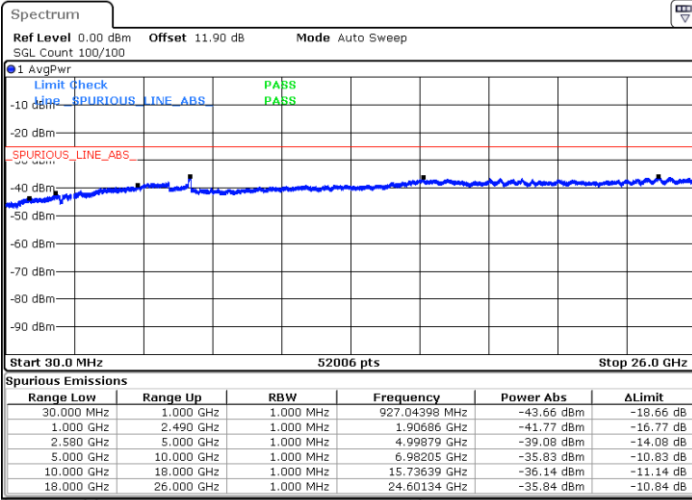
Date: 11.FEB.2020 08:06:03



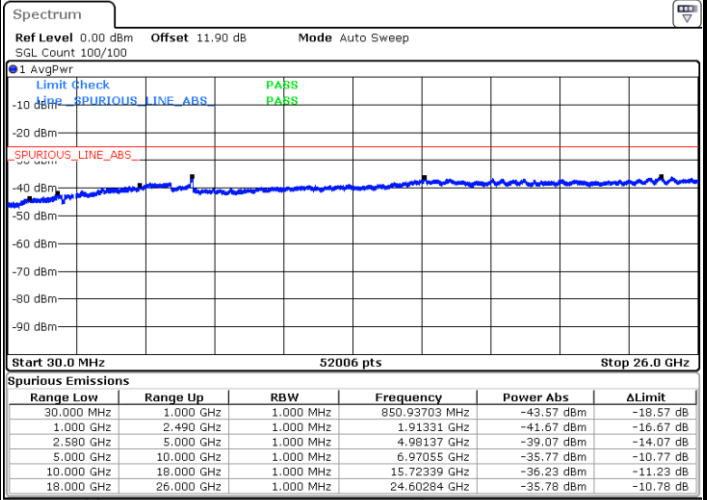
LTE Band 7 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM



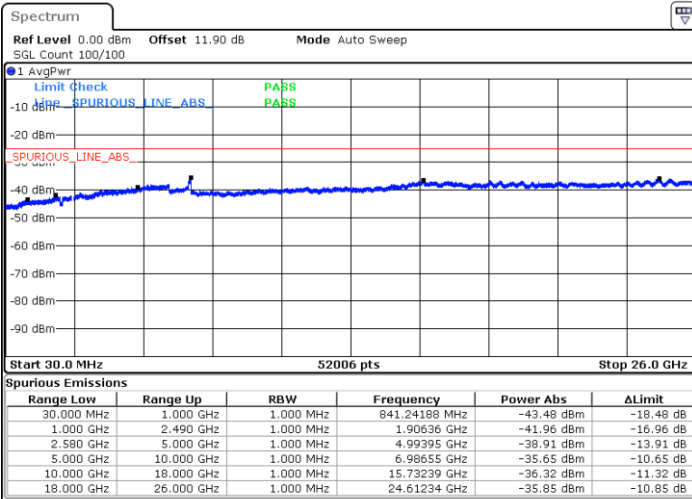
Date: 11.FEB.2020 08:07:48



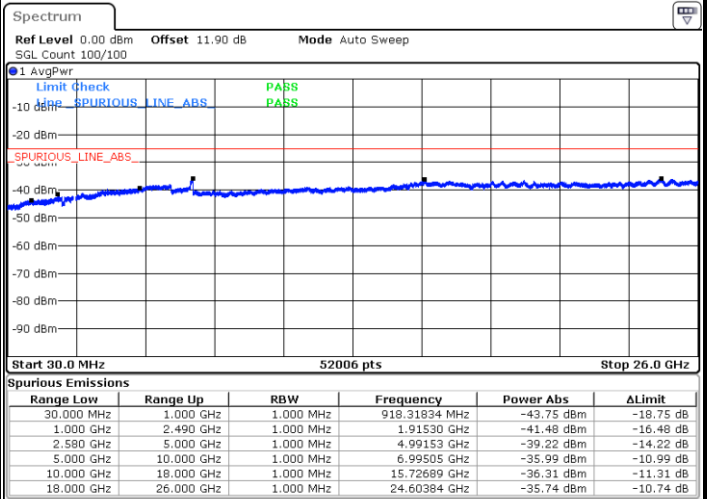
Date: 11.FEB.2020 08:08:40

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 11.FEB.2020 08:15:13



Date: 11.FEB.2020 08:16:05

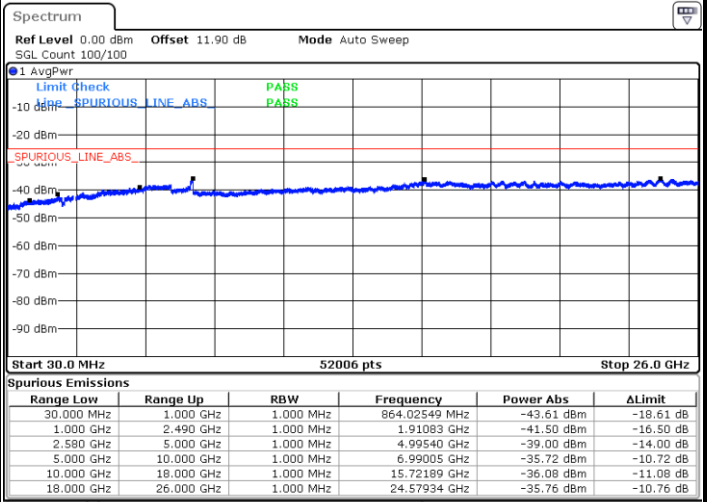
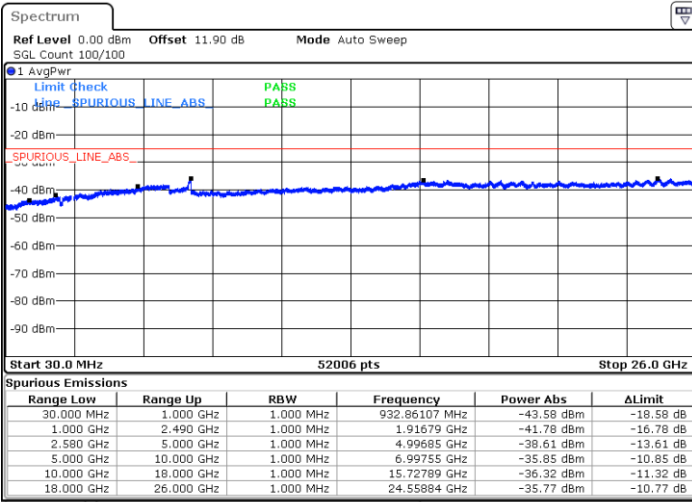




LTE Band 7 / 15MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

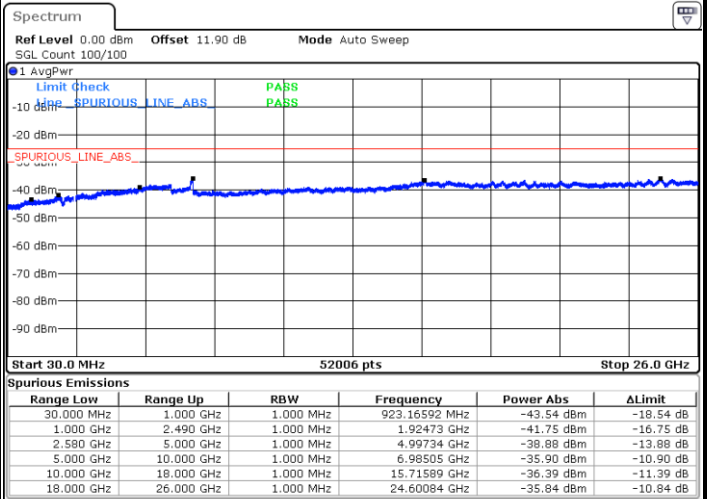
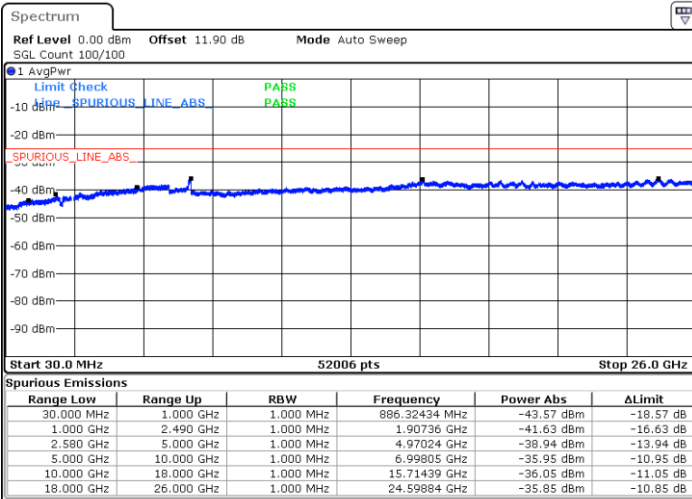


Date: 11.FEB.2020 08:31:23

Date: 11.FEB.2020 08:32:16

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 11.FEB.2020 08:34:01

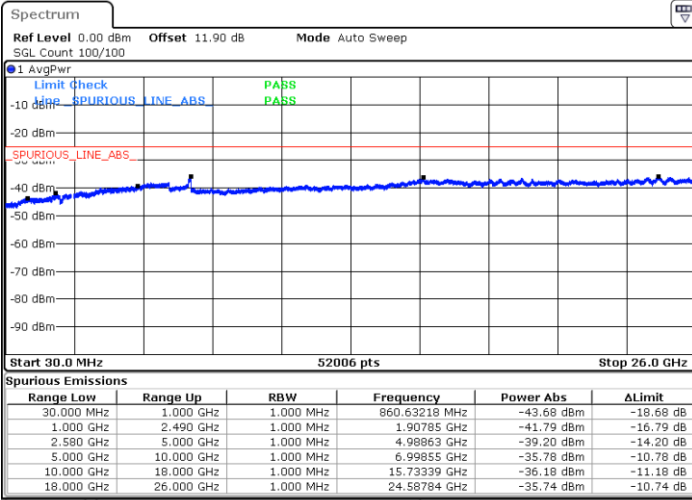
Date: 11.FEB.2020 08:34:53



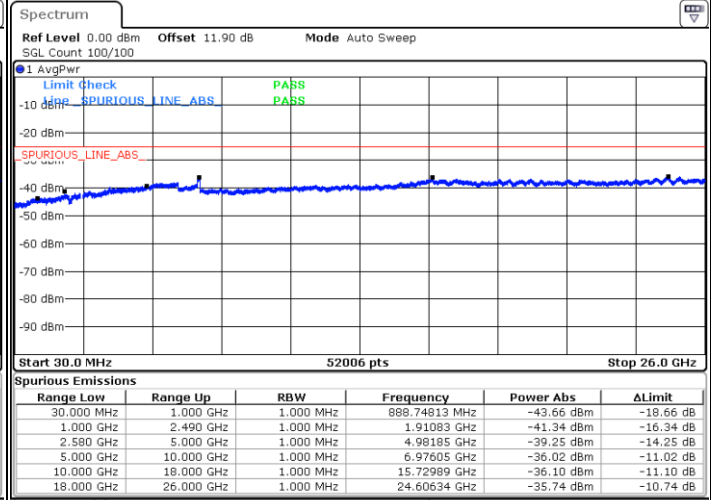
LTE Band7 / 15MHz

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 11.FEB.2020 08:41:26

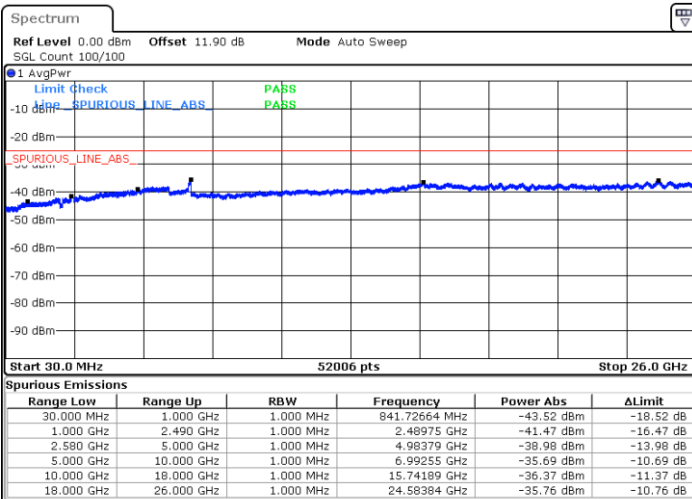


Date: 11.FEB.2020 08:42:18

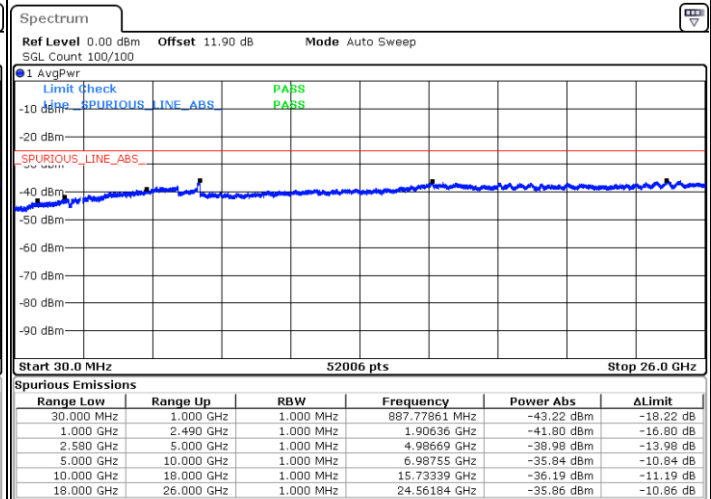
LTE Band 7 / 20MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



Date: 11.FEB.2020 19:09:32



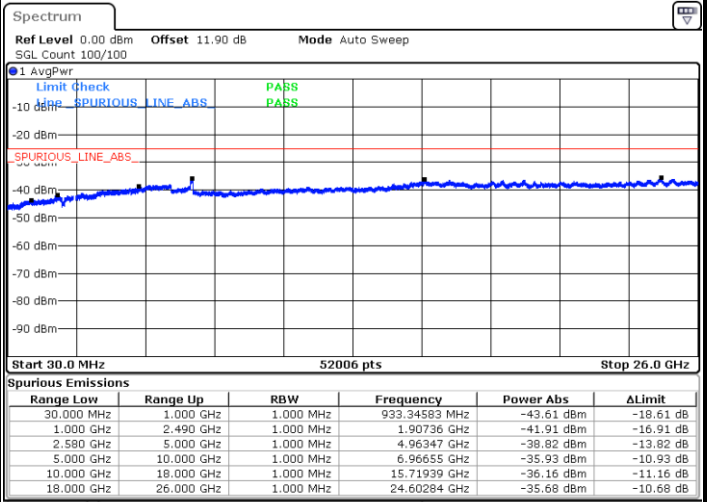
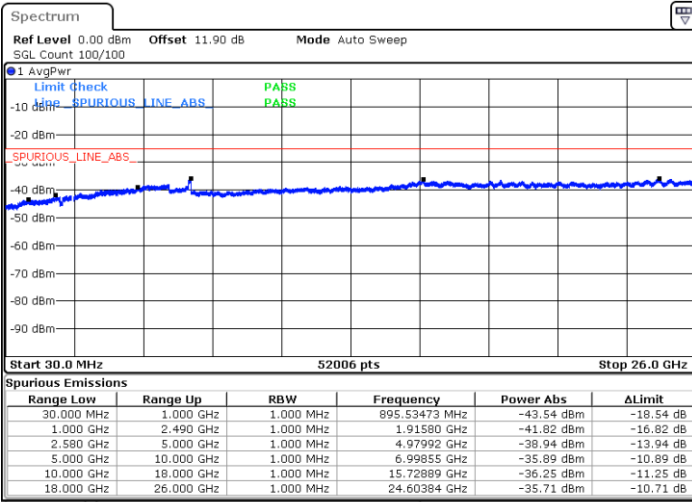
Date: 11.FEB.2020 19:10:25



LTE Band 7 / 20MHz

Middle Channel / QPSK

Middle Channel / 16QAM

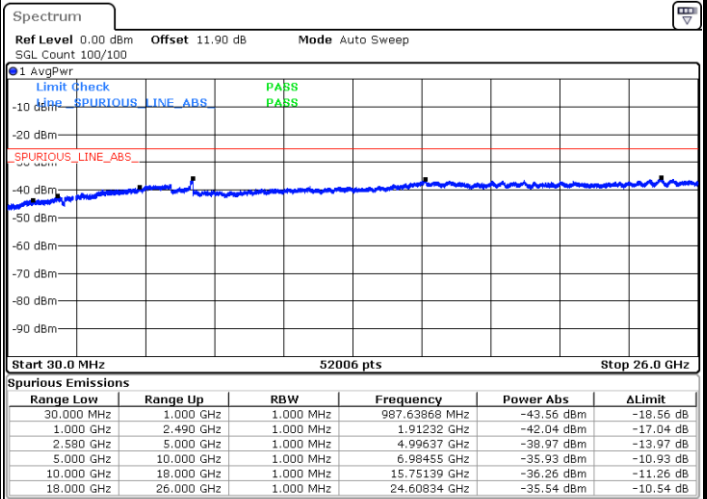
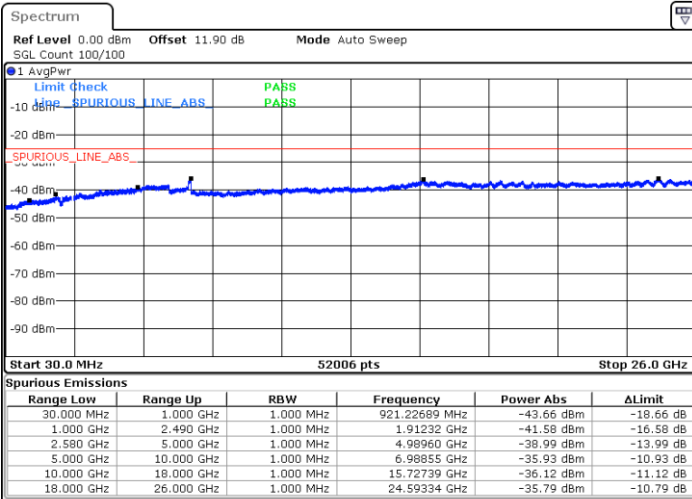


Date: 11.FEB.2020 19:12:12

Date: 11.FEB.2020 19:13:04

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 11.FEB.2020 19:19:41

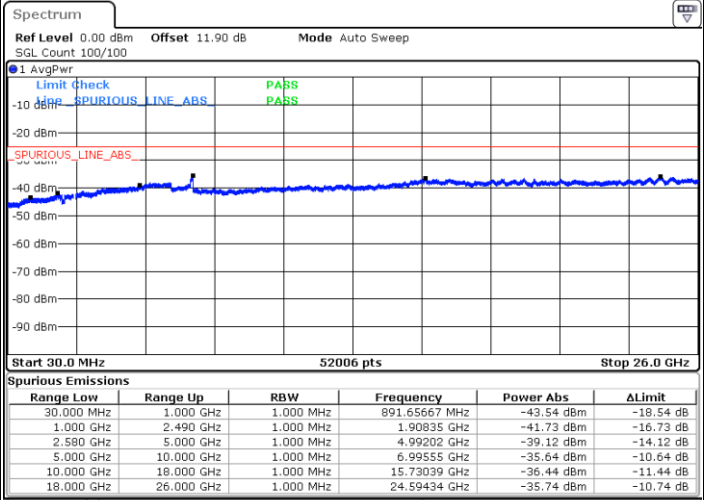
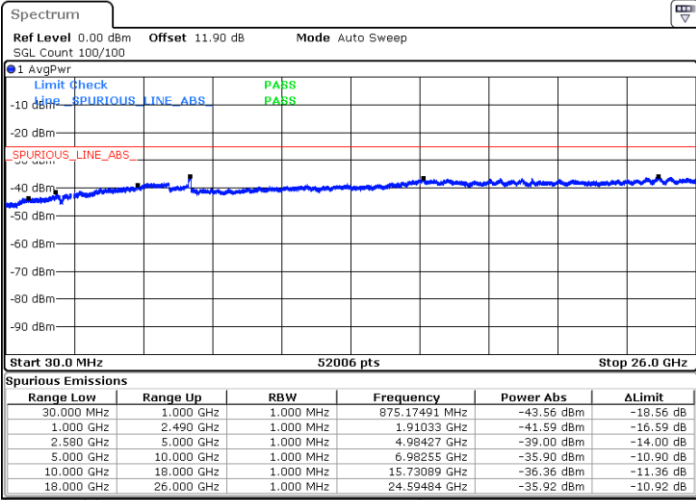
Date: 11.FEB.2020 19:20:34



LTE Band 7 / 5MHz

Lowest Channel / 64QAM

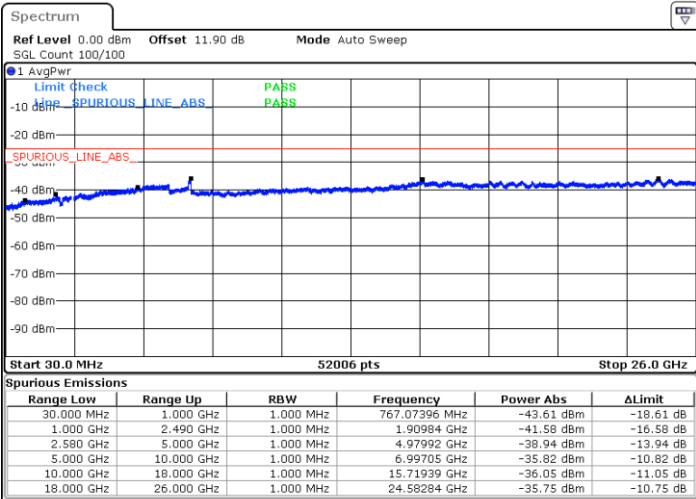
Middle Channel / 64QAM



Date: 11.FEB.2020 07:53:37

Date: 11.FEB.2020 07:54:55

Highest Channel / 64QAM



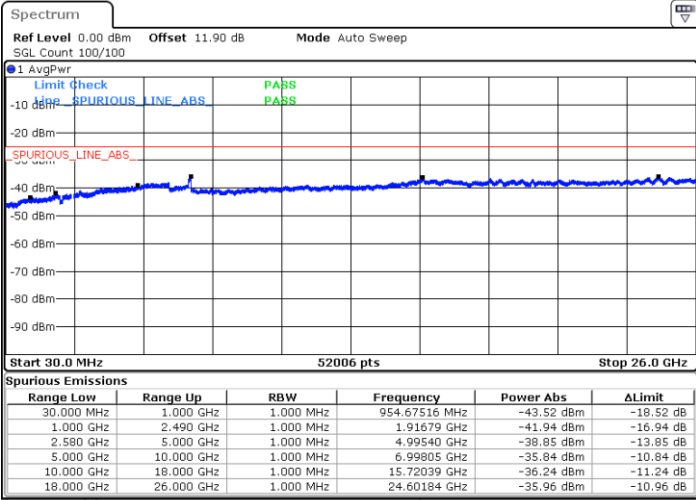
Date: 11.FEB.2020 07:58:37



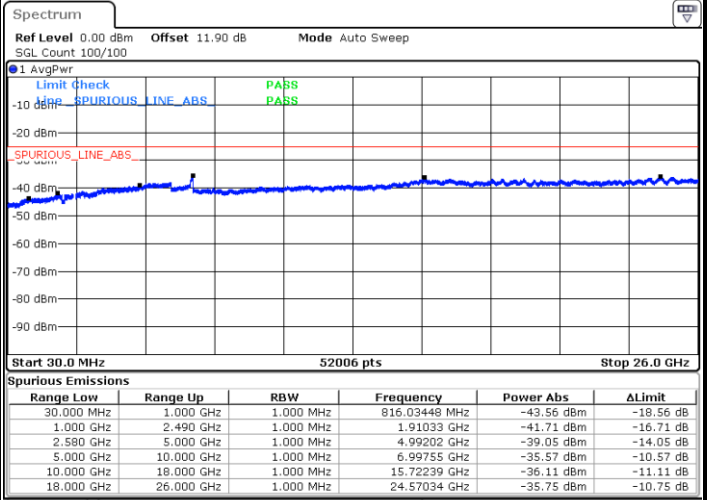
LTE Band 7 / 10MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

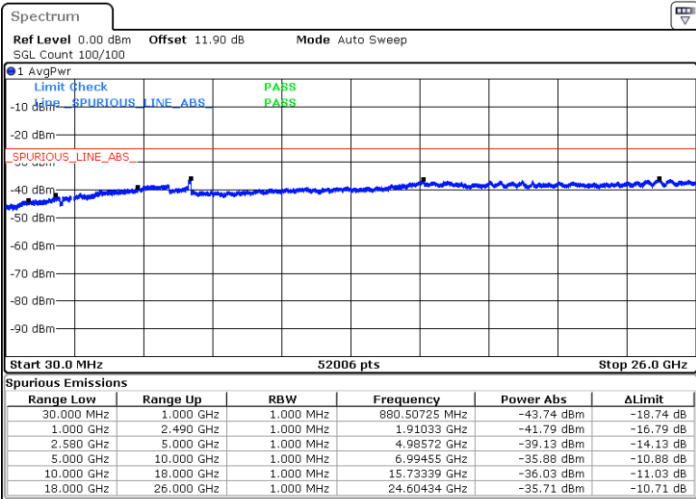


Date: 11.FEB.2020 08:19:48



Date: 11.FEB.2020 08:21:06

Highest Channel / 64QAM



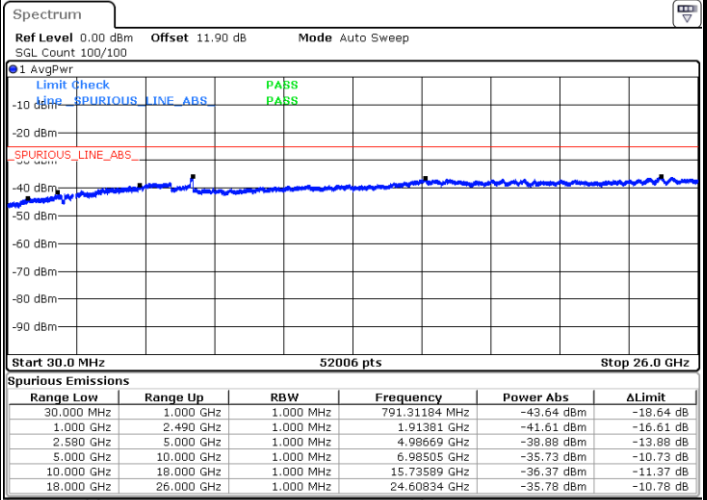
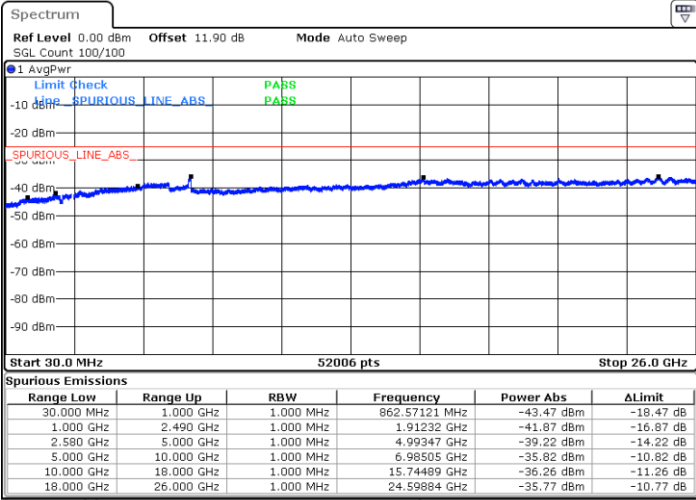
Date: 11.FEB.2020 08:24:48



LTE Band 7 / 15MHz

Lowest Channel / 64QAM

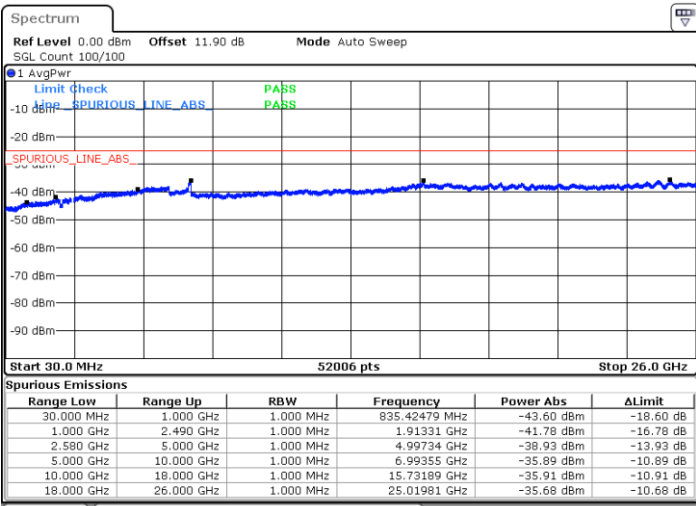
Middle Channel / 64QAM



Date: 11.FEB.2020 08:46:02

Date: 11.FEB.2020 08:47:20

Highest Channel / 64QAM



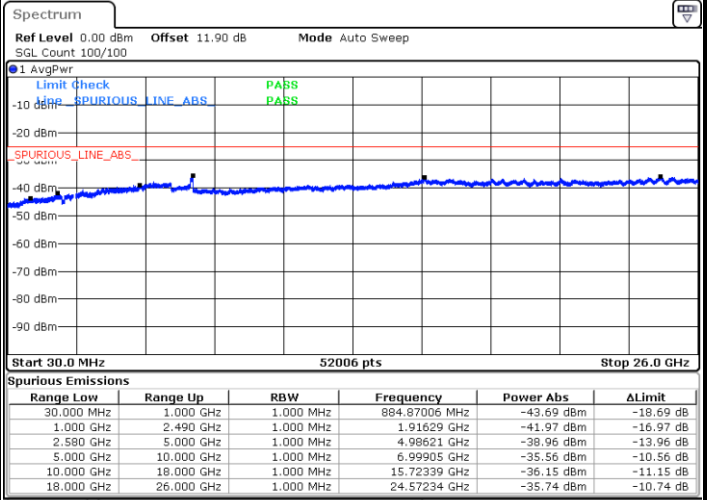
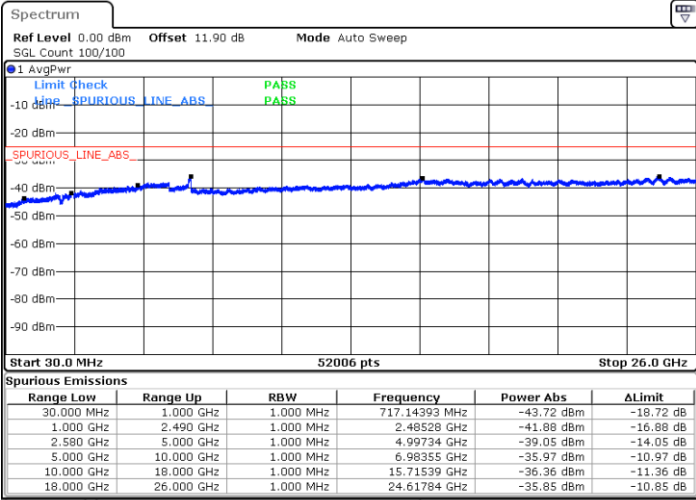
Date: 11.FEB.2020 08:51:02



LTE Band 7 / 20MHz

Lowest Channel / 64QAM

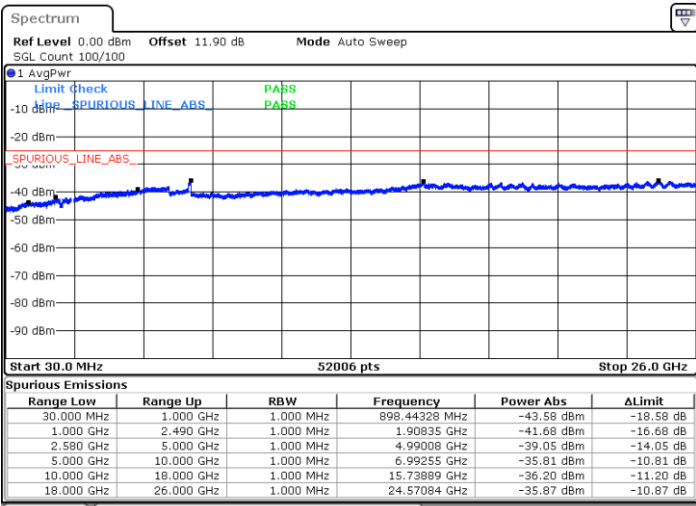
Middle Channel / 64QAM



Date: 11.FEB.2020 19:24:20

Date: 11.FEB.2020 19:25:39

Highest Channel / 64QAM



Date: 11.FEB.2020 19:29:24



**Frequency Stability**

Test Conditions		LTE Band 7 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0073	PASS
40	Normal Voltage	0.0081	
30	Normal Voltage	0.0002	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0092	
0	Normal Voltage	0.0029	
-10	Normal Voltage	0.0009	
-20	Normal Voltage	0.0009	
-30	Normal Voltage	0.0089	
20	Maximum Voltage	0.0002	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0005	

**Note:**

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.





# LTE Band 12

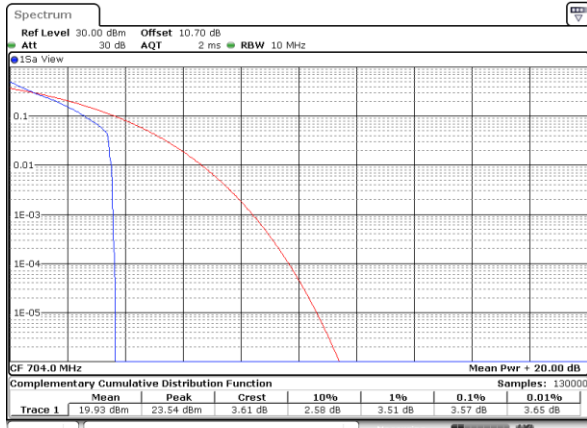
## Peak-to-Average Ratio

Mode	LTE Band 12 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.57	4.43	4.03	5.45	<b>PASS</b>
Middle CH	3.65	4.52	4.09	5.42	
Highest CH	3.65	4.49	4.09	5.42	
Mode	LTE Band 12 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.09	6.38	-	-	<b>PASS</b>
Middle CH	6.12	6.46	-	-	
Highest CH	6.09	6.41	-	-	



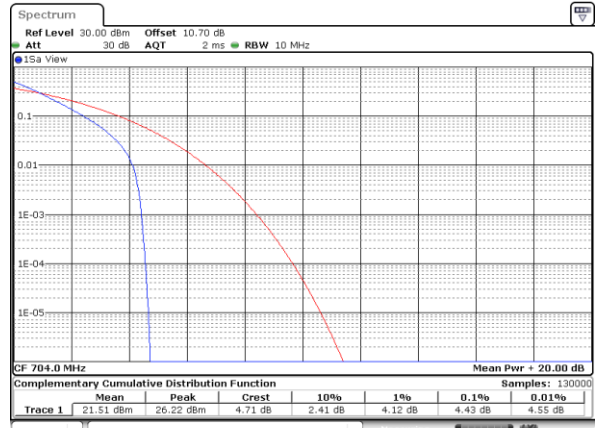
LTE Band 12 / 10MHz / QPSK

Lowest Channel / 1RB



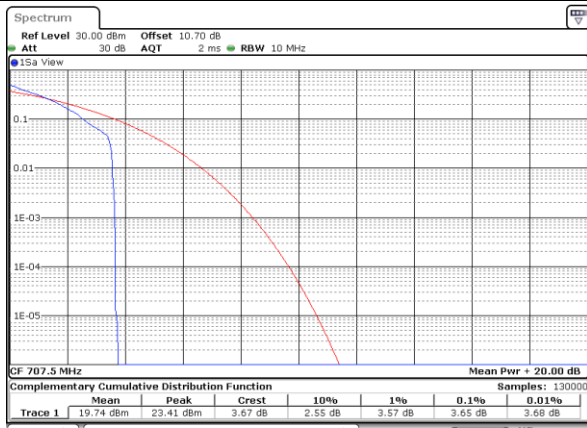
Date: 13.FEB.2020 01:47:04

Lowest Channel / Full RB



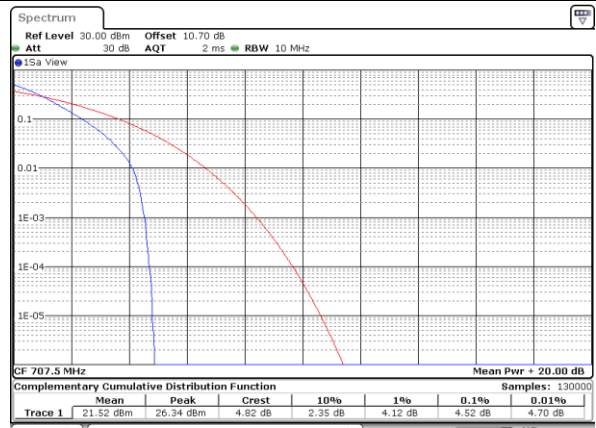
Date: 13.FEB.2020 01:46:28

Middle Channel / 1RB



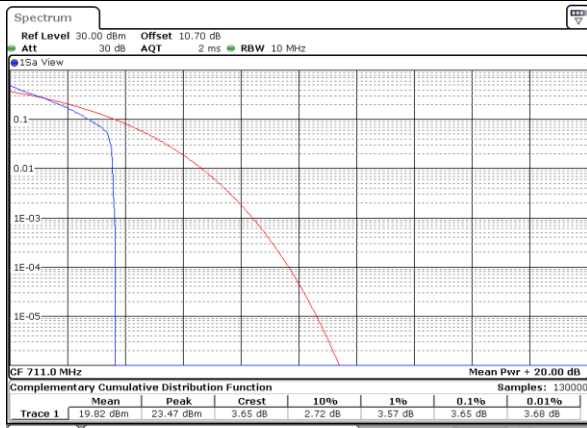
Date: 13.FEB.2020 01:47:21

Middle Channel / Full RB



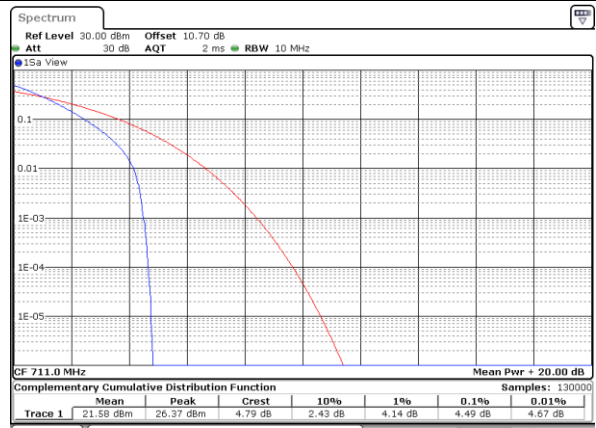
Date: 13.FEB.2020 01:47:41

Highest Channel / 1RB



Date: 13.FEB.2020 01:48:39

Highest Channel / Full RB

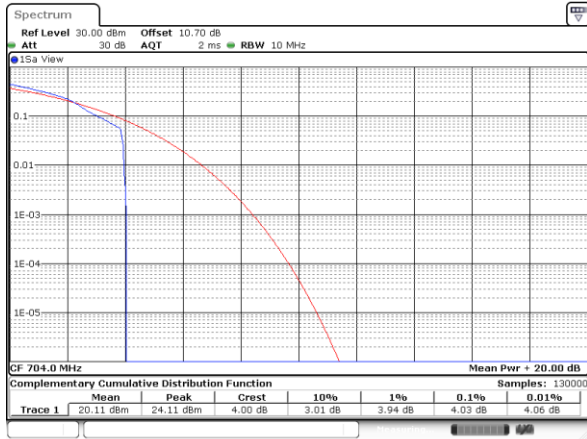


Date: 13.FEB.2020 01:48:08



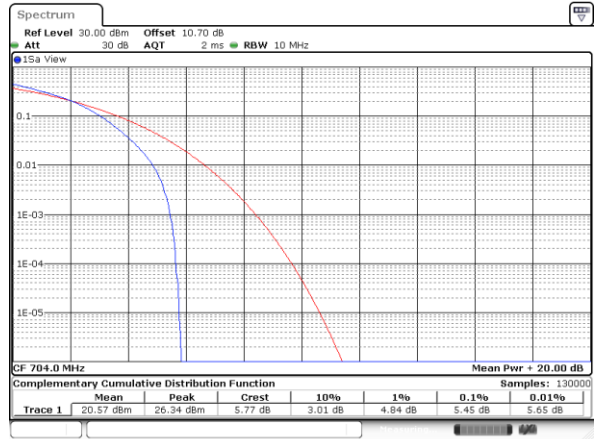
LTE Band 12 / 10MHz / 16QAM

Lowest Channel / 1RB



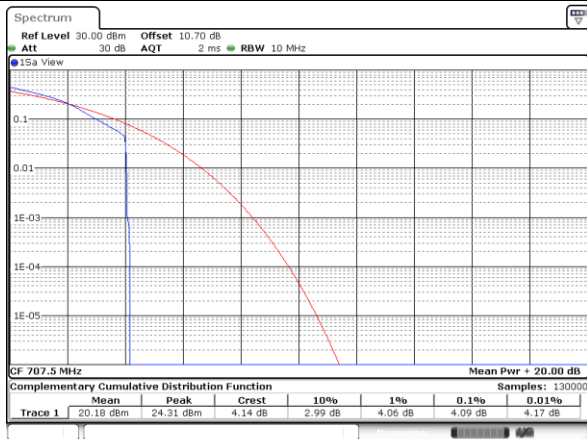
Date: 13.FEB.2020 01:40:34

Lowest Channel / Full RB



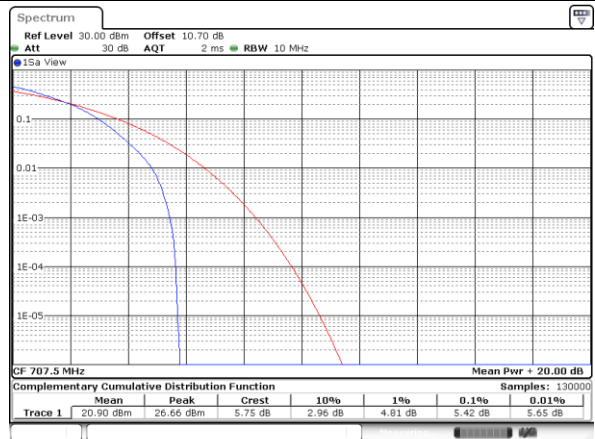
Date: 13.FEB.2020 01:40:10

Middle Channel / 1RB



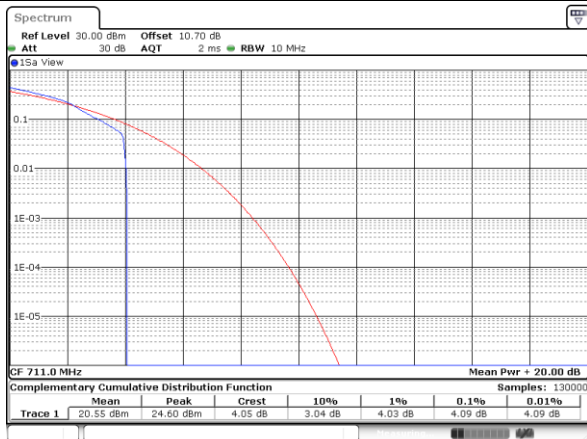
Date: 13.FEB.2020 01:40:59

Middle Channel / Full RB



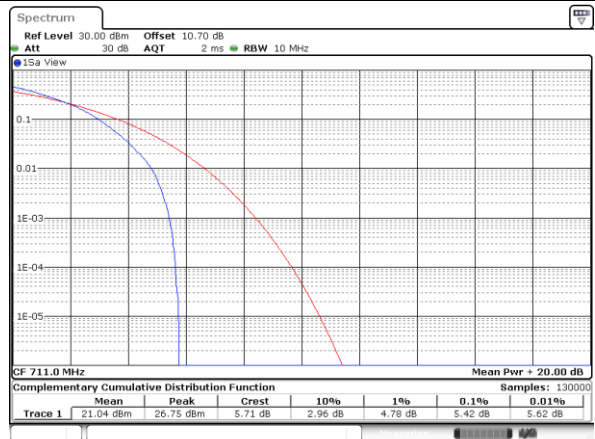
Date: 13.FEB.2020 01:40:04

Highest Channel / 1RB



Date: 13.FEB.2020 01:46:10

Highest Channel / Full RB

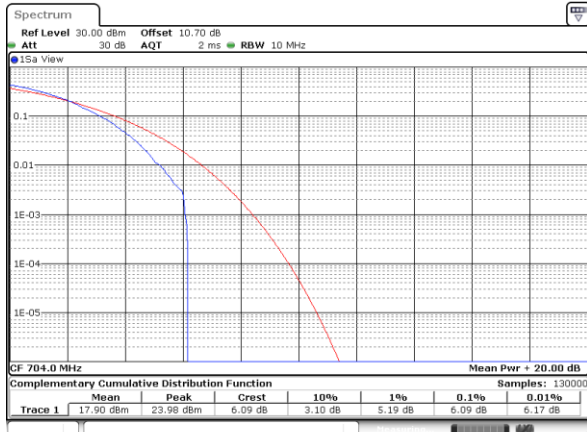


Date: 13.FEB.2020 01:44:23



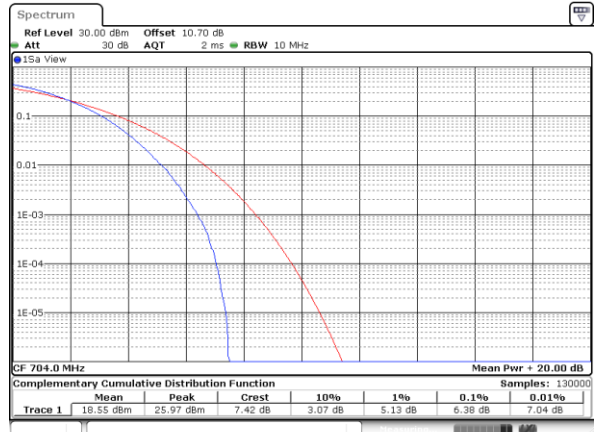
LTE Band 12 / 10MHz / 64QAM

Lowest Channel / 1RB



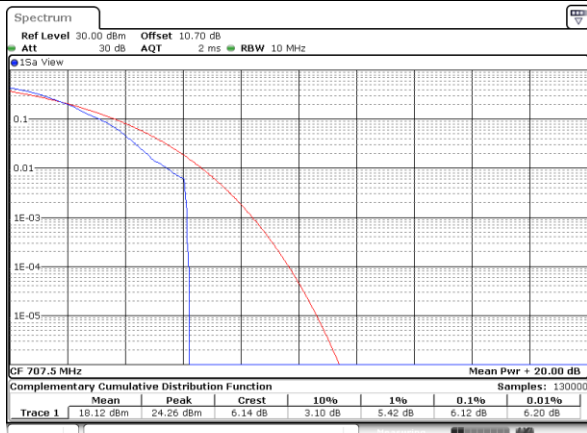
Date: 13.FEB.2020 01:38:34

Lowest Channel / Full RB



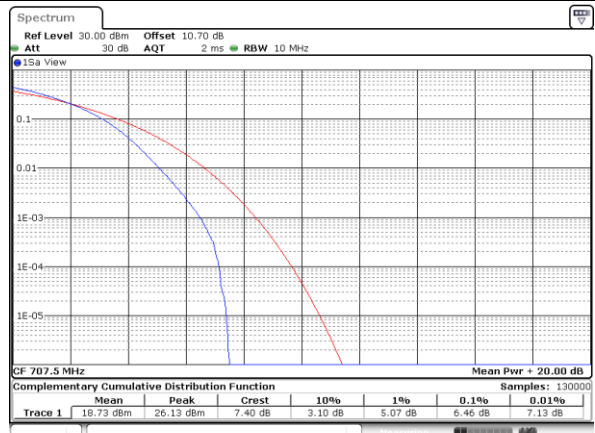
Date: 13.FEB.2020 01:38:03

Middle Channel / 1RB



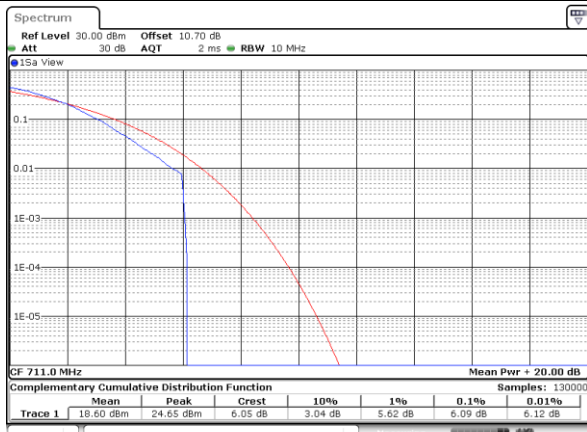
Date: 13.FEB.2020 01:38:50

Middle Channel / Full RB



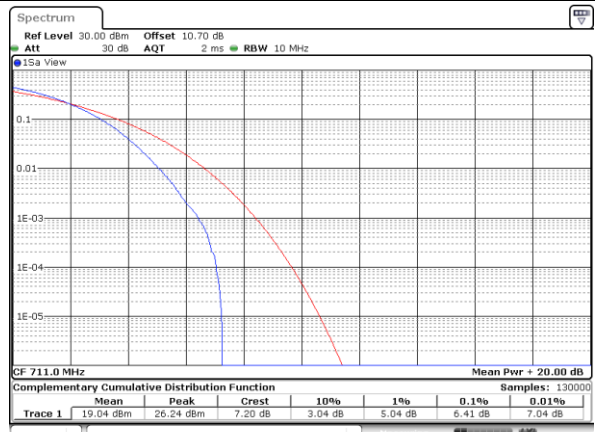
Date: 13.FEB.2020 01:39:04

Highest Channel / 1RB



Date: 13.FEB.2020 01:39:51

Highest Channel / Full RB



Date: 13.FEB.2020 01:39:19



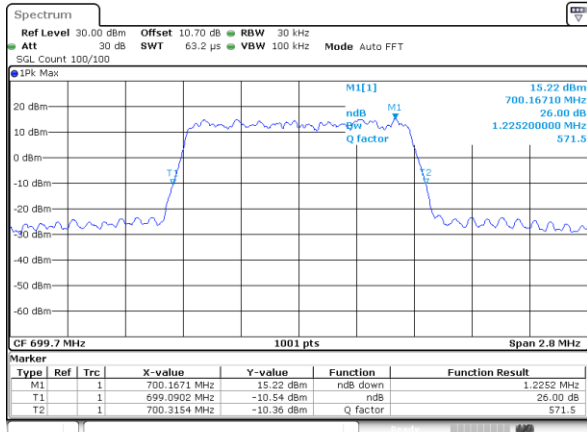
**26dB Bandwidth**

Mode	LTE Band 12 : 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	1.23	1.22	3.05	3.03	4.87	4.87	9.91	9.93	-	-	-	-
Middle CH	1.23	1.24	3.06	3.02	4.99	4.88	9.75	9.71	-	-	-	-
Highest CH	1.23	1.23	3.07	3.00	4.97	4.85	9.75	9.77	-	-	-	-
Mode	LTE Band 12 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.23	-	3.03	-	4.95	-	9.87	-	-	-	-	-
Middle CH	1.23	-	3.02	-	4.88	-	9.81	-	-	-	-	-
Highest CH	1.21	-	3.02	-	4.83	-	9.63	-	-	-	-	-



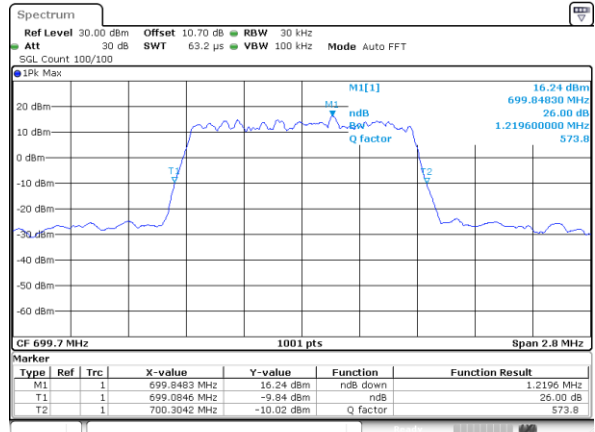
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



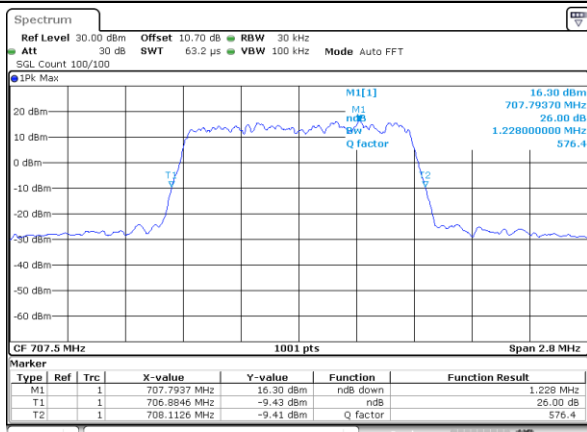
Date: 12.FEB.2020 18:13:27

Lowest Channel / 1.4MHz / 16QAM



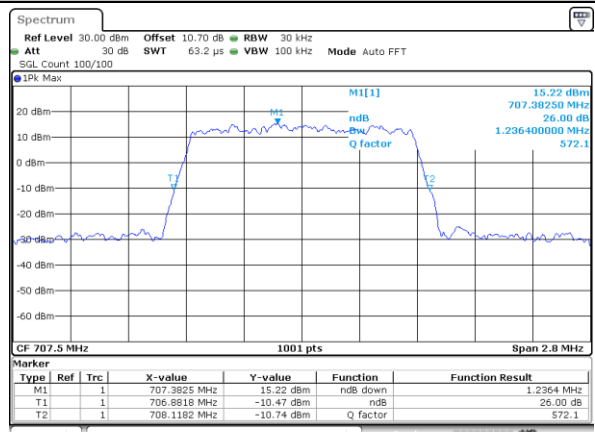
Date: 12.FEB.2020 18:13:13

Middle Channel / 1.4MHz / QPSK



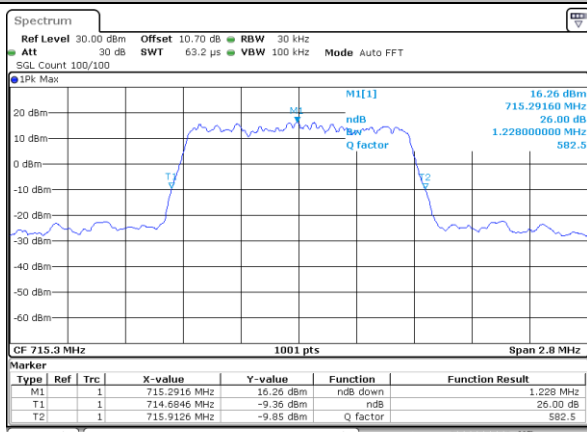
Date: 12.FEB.2020 18:20:42

Middle Channel / 1.4MHz / 16QAM



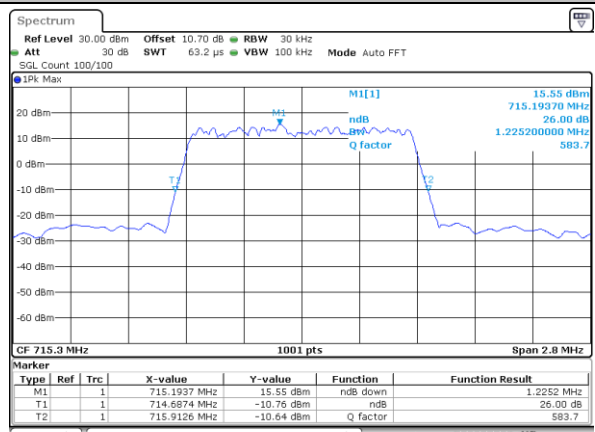
Date: 12.FEB.2020 18:20:55

Highest Channel / 1.4MHz / QPSK



Date: 12.FEB.2020 18:23:39

Highest Channel / 1.4MHz / 16QAM

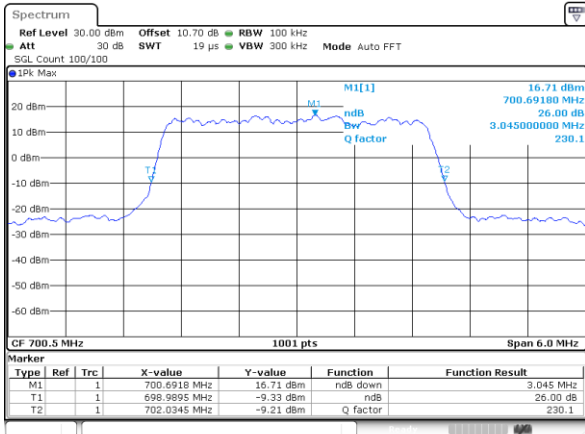


Date: 12.FEB.2020 18:23:25



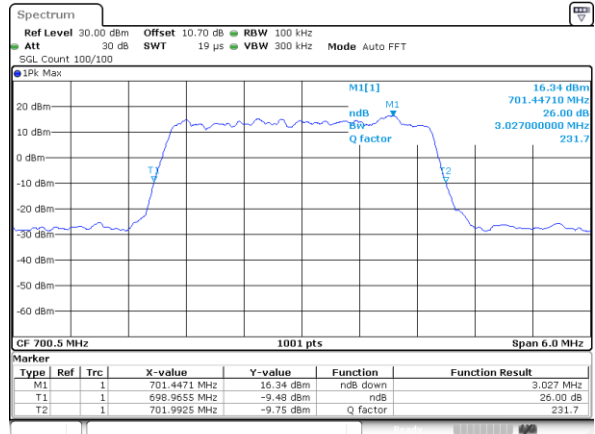
LTE Band 12

Lowest Channel / 3MHz / QPSK



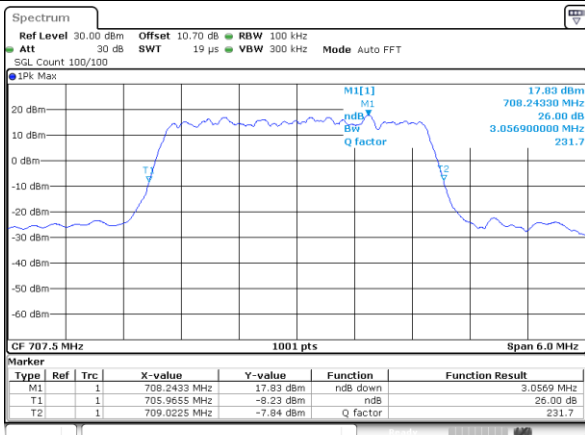
Date: 12.FEB.2020 18:40:00

Lowest Channel / 3MHz / 16QAM



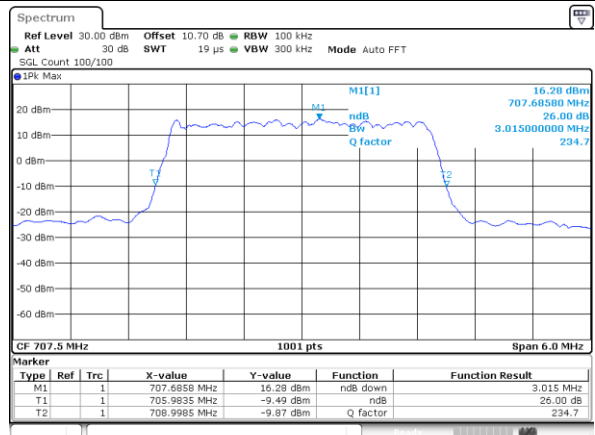
Date: 12.FEB.2020 18:39:46

Middle Channel / 3MHz / QPSK



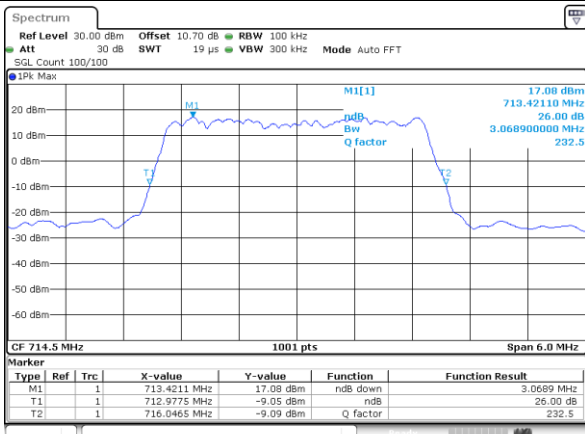
Date: 12.FEB.2020 18:47:14

Middle Channel / 3MHz / 16QAM



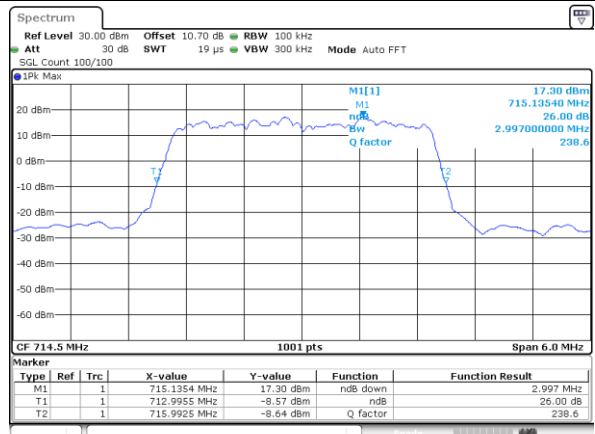
Date: 12.FEB.2020 18:47:27

Highest Channel / 3MHz / QPSK



Date: 12.FEB.2020 18:50:11

Highest Channel / 3MHz / 16QAM

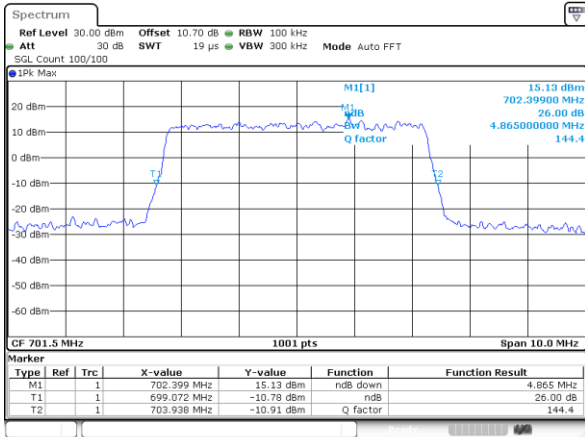


Date: 12.FEB.2020 18:49:58



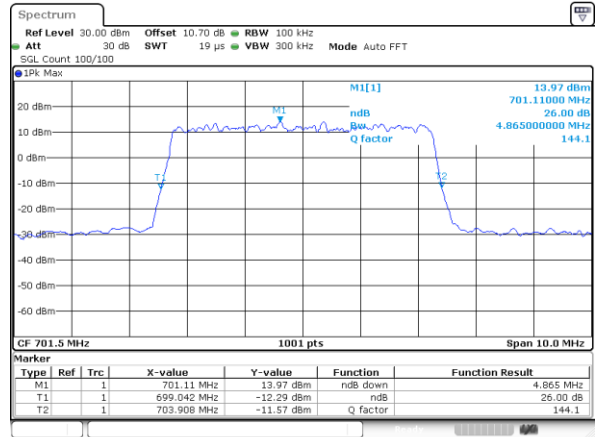
LTE Band 12

Lowest Channel / 5MHz / QPSK



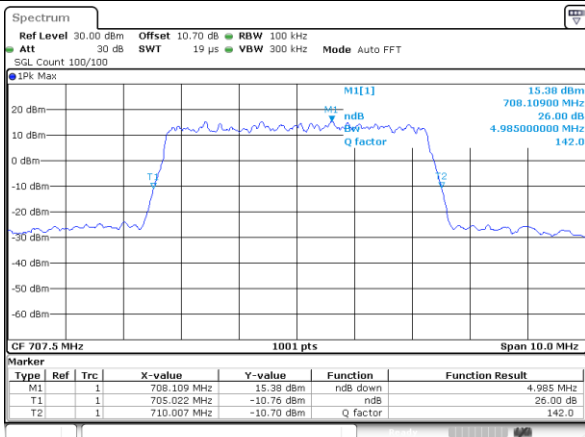
Date: 12.FEB.2020 19:15:21

Lowest Channel / 5MHz / 16QAM



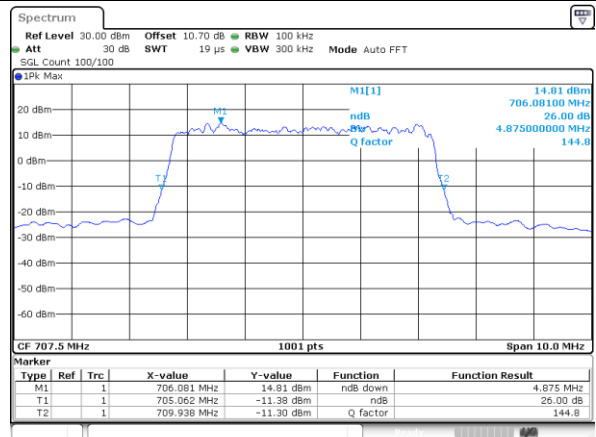
Date: 12.FEB.2020 19:15:08

Middle Channel / 5MHz / QPSK



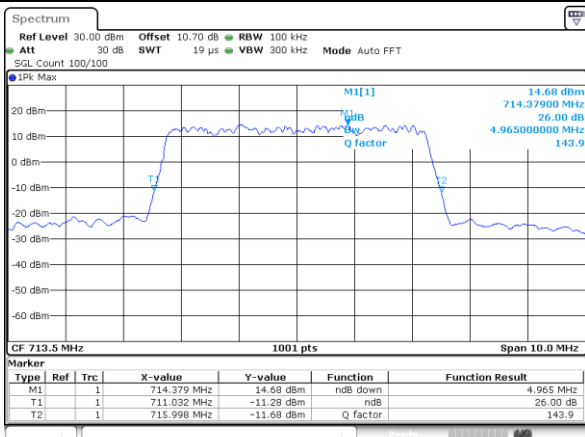
Date: 12.FEB.2020 19:22:35

Middle Channel / 5MHz / 16QAM



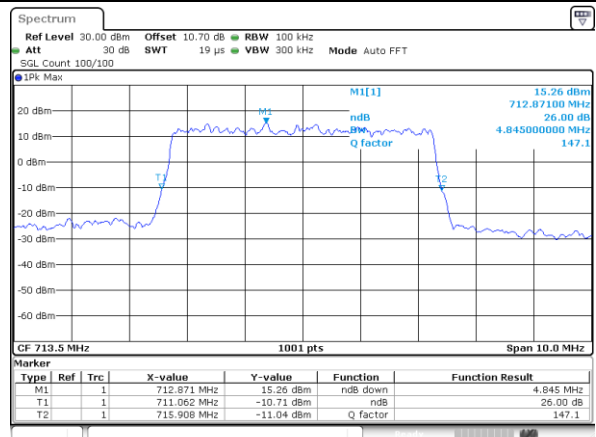
Date: 12.FEB.2020 19:22:48

Highest Channel / 5MHz / QPSK



Date: 12.FEB.2020 19:25:33

Highest Channel / 5MHz / 16QAM



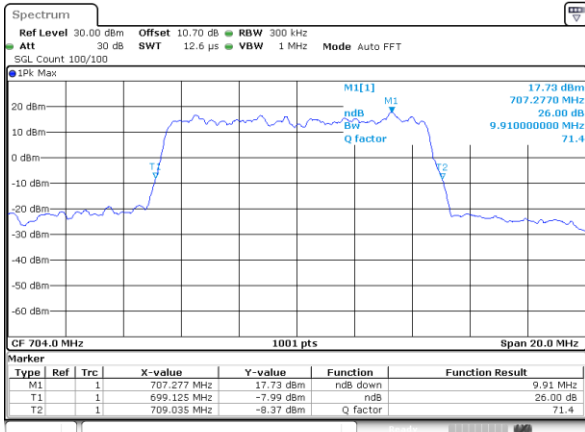
Date: 12.FEB.2020 19:25:19





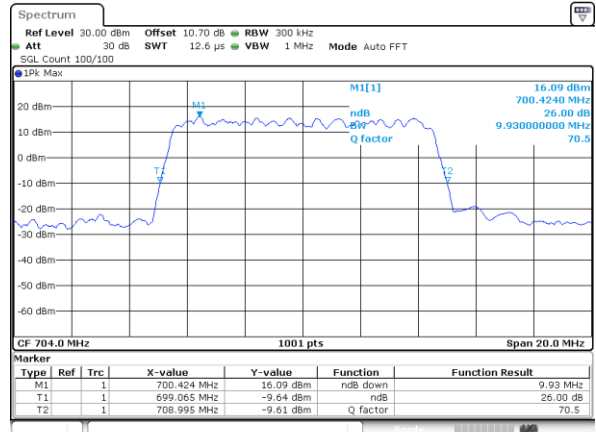
LTE Band 12

Lowest Channel / 10MHz / QPSK



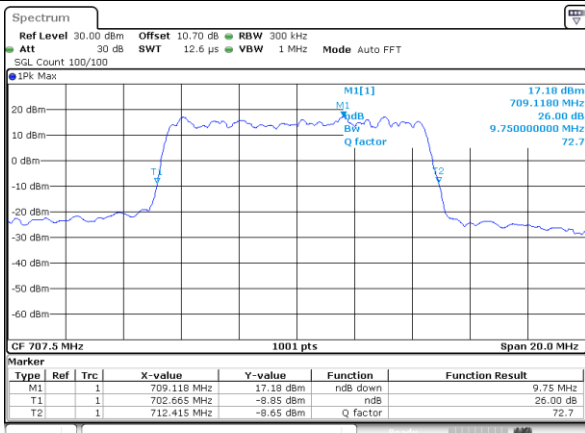
Date: 12.FEB.2020 19:33:02

Lowest Channel / 10MHz / 16QAM



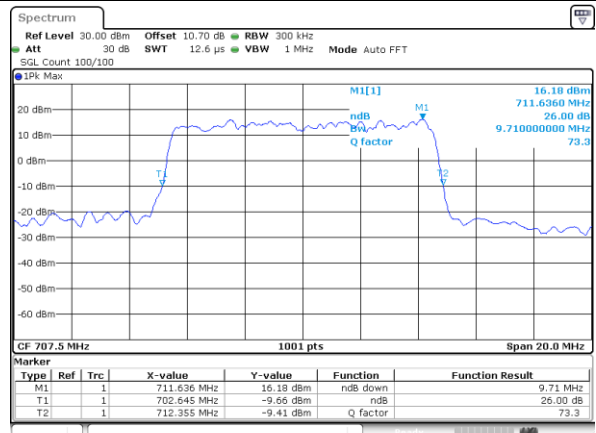
Date: 12.FEB.2020 19:32:48

Middle Channel / 10MHz / QPSK



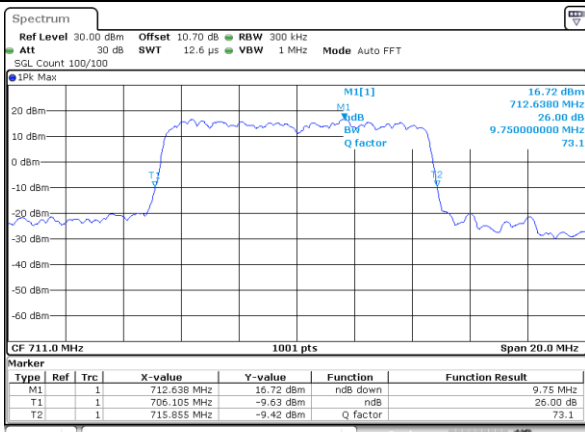
Date: 12.FEB.2020 19:40:16

Middle Channel / 10MHz / 16QAM



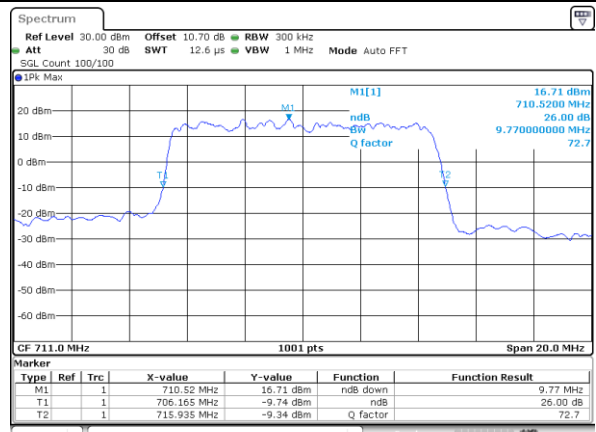
Date: 12.FEB.2020 19:40:29

Highest Channel / 10MHz / QPSK



Date: 12.FEB.2020 19:43:13

Highest Channel / 10MHz / 16QAM

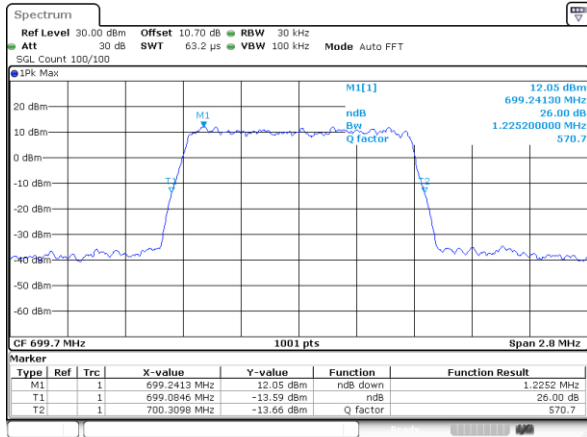


Date: 12.FEB.2020 19:42:59



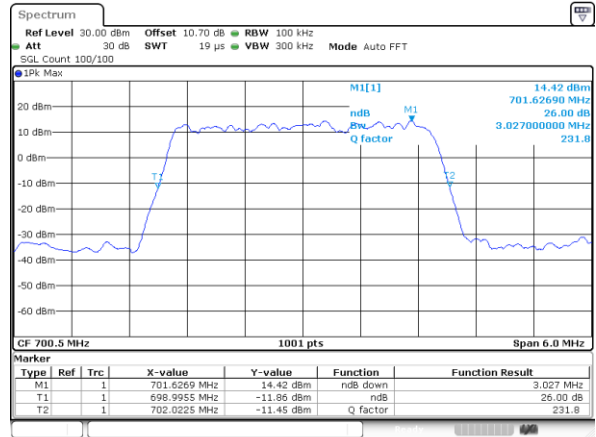
LTE Band 12

Lowest Channel / 1.4MHz / 64QAM



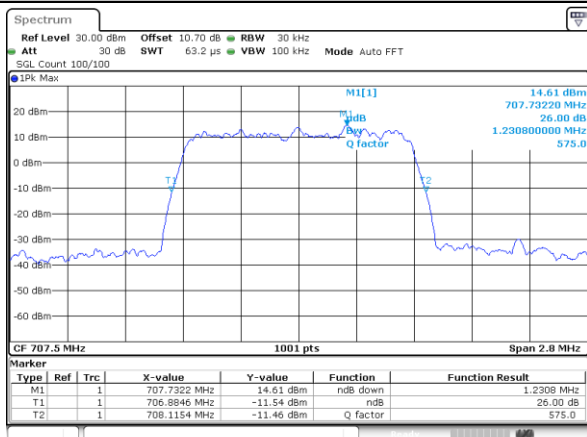
Date: 12.FEB.2020 18:30:42

Lowest Channel / 3MHz / 64QAM



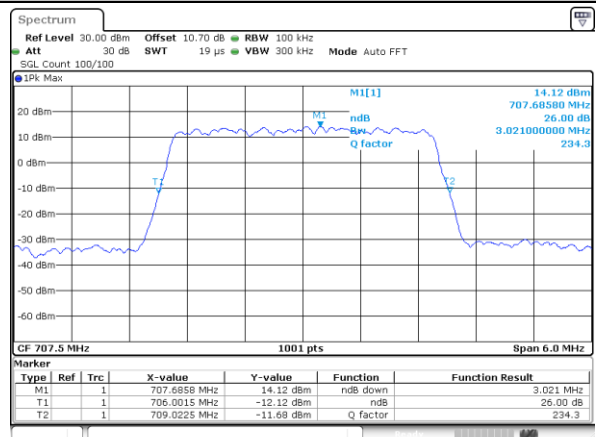
Date: 12.FEB.2020 18:57:13

Middle Channel / 1.4MHz / 64QAM



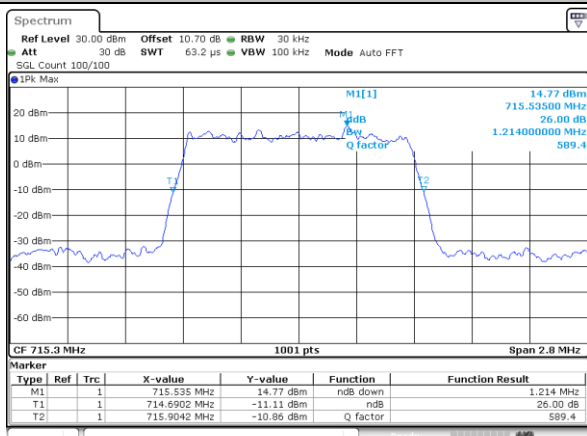
Date: 12.FEB.2020 19:34:25

Middle Channel / 3MHz / 64QAM



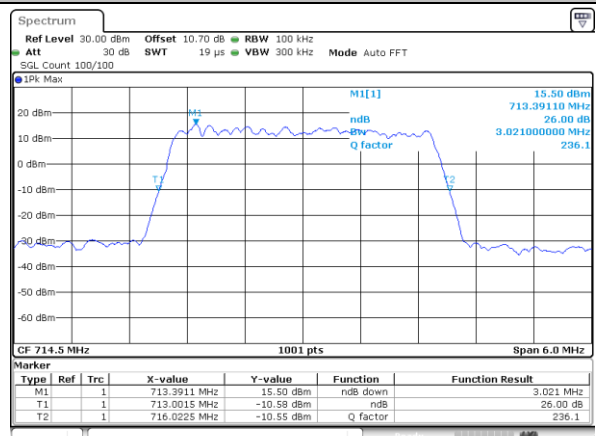
Date: 12.FEB.2020 19:00:57

Highest Channel / 1.4MHz / 64QAM



Date: 12.FEB.2020 18:35:47

Highest Channel / 3MHz / 64QAM

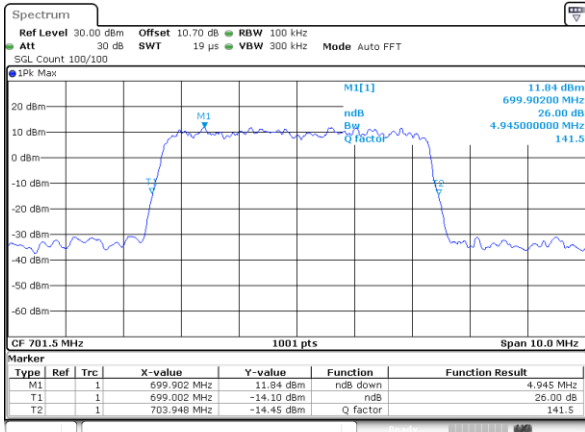


Date: 12.FEB.2020 19:02:19



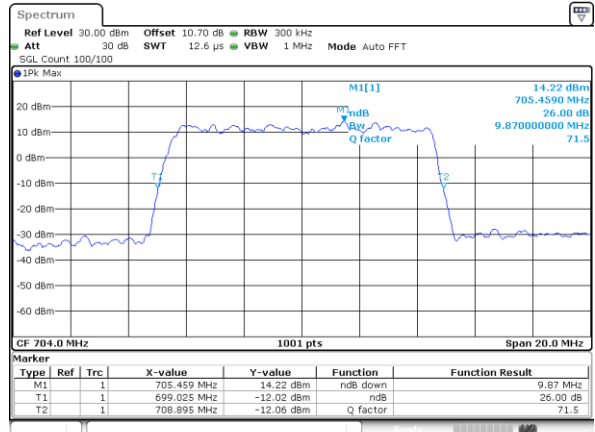
LTE Band 12

Lowest Channel / 5MHz / 64QAM



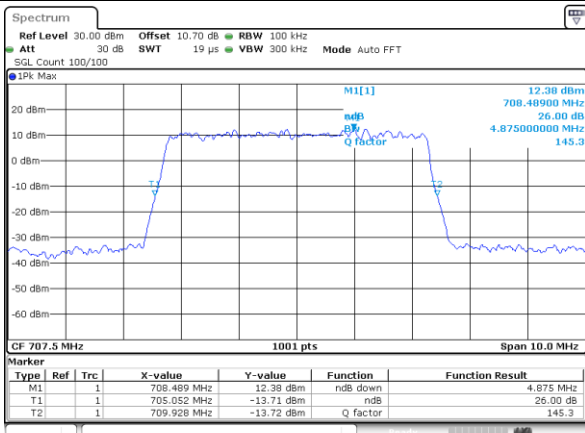
Date: 12.FEB.2020 19:06:04

Lowest Channel / 10MHz / 64QAM



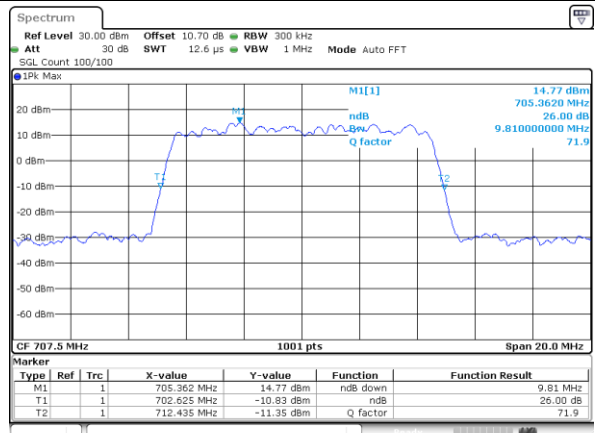
Date: 12.FEB.2020 19:50:15

Middle Channel / 5MHz / 64QAM



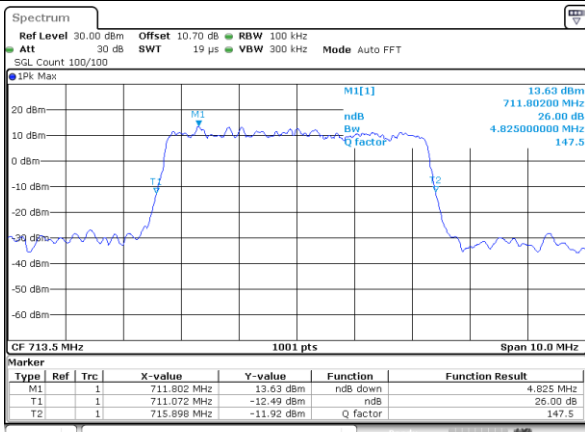
Date: 12.FEB.2020 19:09:48

Middle Channel / 10MHz / 64QAM



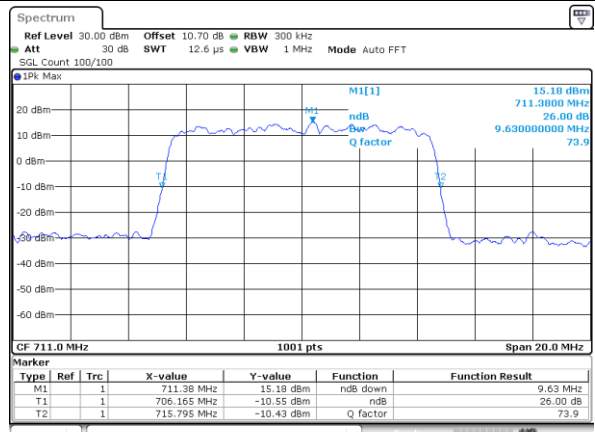
Date: 12.FEB.2020 19:53:58

Highest Channel / 5MHz / 64QAM



Date: 12.FEB.2020 19:11:09

Highest Channel / 10MHz / 64QAM



Date: 13.FEB.2020 01:34:27



**Occupied Bandwidth**

Mode	LTE Band 12 : 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	1.09	1.10	2.73	2.70	4.49	4.49	9.05	9.03	-	-	-	-
Middle CH	1.09	1.09	2.72	2.71	4.50	4.49	9.03	8.99	-	-	-	-
Highest CH	1.09	1.09	2.72	2.71	4.48	4.48	9.01	8.99	-	-	-	-
Mode	LTE Band 12 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.10	-	2.73	-	4.50	-	8.97	-	-	-	-	-
Middle CH	1.09	-	2.72	-	4.49	-	9.03	-	-	-	-	-
Highest CH	1.10	-	2.73	-	4.49	-	8.99	-	-	-	-	-