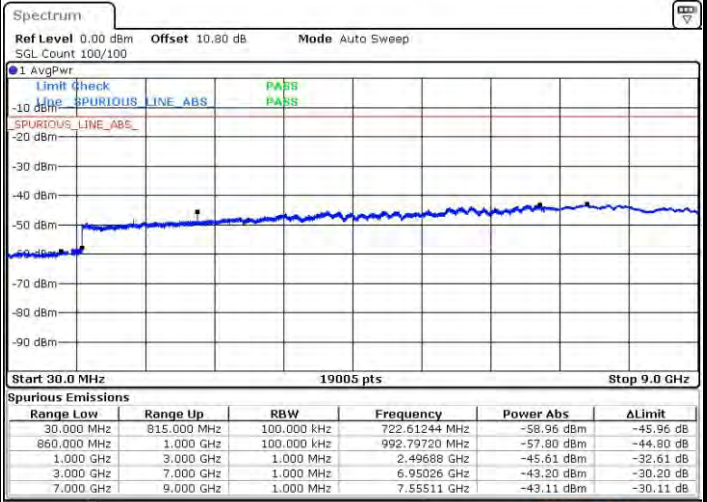
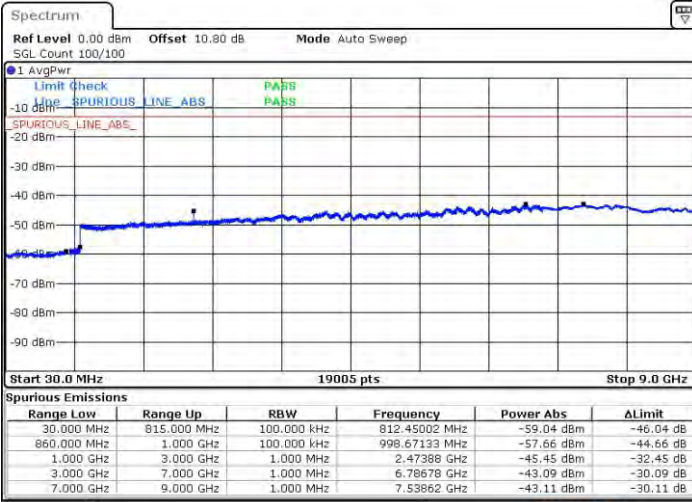




LTE Band 5 / 10MHz

Lowest Channel / 64QAM

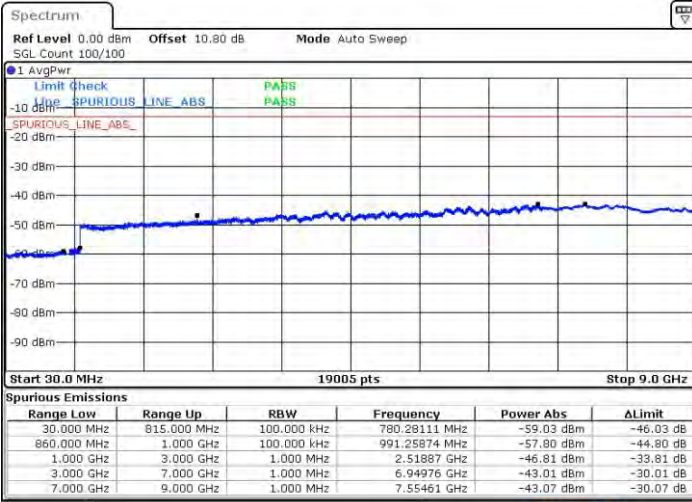
Middle Channel / 64QAM



Date: 16 DEC.2018 14:09:51

Date: 16 DEC.2018 14:11:09

Highest Channel / 64QAM



Date: 16 DEC.2018 14:15:47



**Frequency Stability**

Test Conditions		LTE Band 5 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0025	PASS
40	Normal Voltage	0.0024	
30	Normal Voltage	0.0011	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0044	
0	Normal Voltage	0.0012	
-10	Normal Voltage	0.0006	
-20	Normal Voltage	0.0004	
-30	Normal Voltage	0.0030	
20	Maximum Voltage	0.0027	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0008	

**Note:**

- 1. Normal Voltage =9 V. ; Battery End Point (BEP) =7.65 V. ; Maximum Voltage =10.35 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	4.38	5.1	5.39	5.91	PASS
Middle CH	4.41	5.28	5.22	6.03	
Highest CH	4.64	5.01	5.51	5.94	
Mode	LTE Band 12 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.14	6.43	-	-	PASS
Middle CH	6.14	6.55	-	-	
Highest CH	6.41	6.41	-	-	



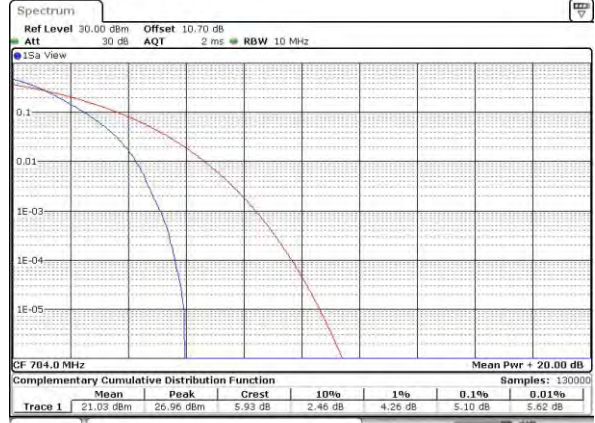
LTE Band 12 / 10MHz / QPSK

Lowest Channel / 1RB



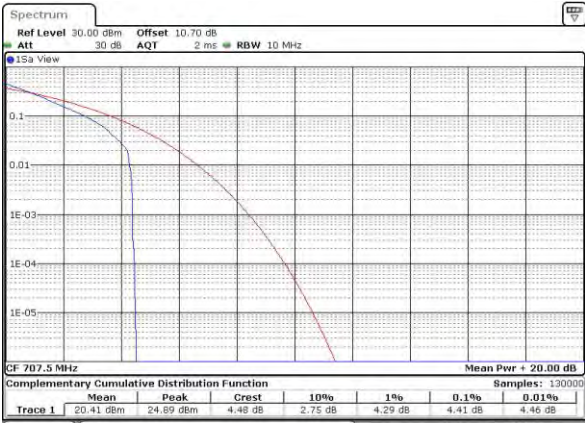
Date: 16 DEC 2016 17:18:25

Lowest Channel / Full RB



Date: 16 DEC 2016 17:18:15

Middle Channel / 1RB



Date: 16 DEC 2016 17:18:35

Middle Channel / Full RB



Date: 16 DEC 2016 17:18:45

Highest Channel / 1RB



Date: 16 DEC 2016 17:19:05

Highest Channel / Full RB



Date: 16 DEC 2016 17:18:55



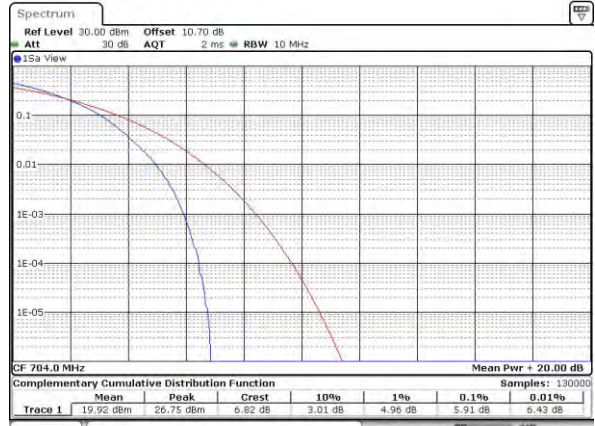
LTE Band 12 / 10MHz / 16QAM

Lowest Channel / 1RB



Date: 16 DEC 2016 17:17:26

Lowest Channel / Full RB



Date: 16 DEC 2016 17:17:16

Middle Channel / 1RB



Date: 16 DEC 2016 17:17:36

Middle Channel / Full RB



Date: 16 DEC 2016 17:17:46

Highest Channel / 1RB



Date: 16 DEC 2016 17:18:05

Highest Channel / Full RB



Date: 16 DEC 2016 17:17:55



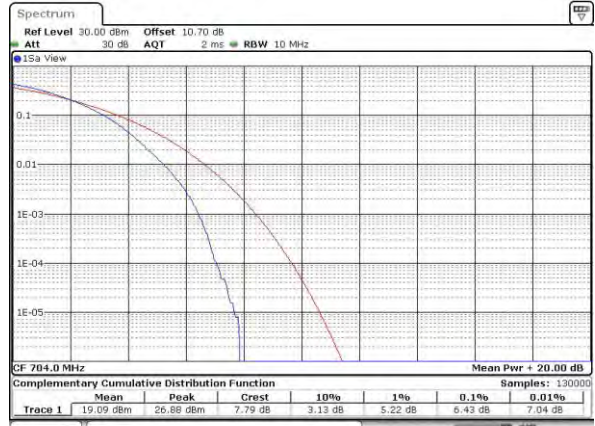
LTE Band 12 / 10MHz / 64QAM

Lowest Channel / 1RB



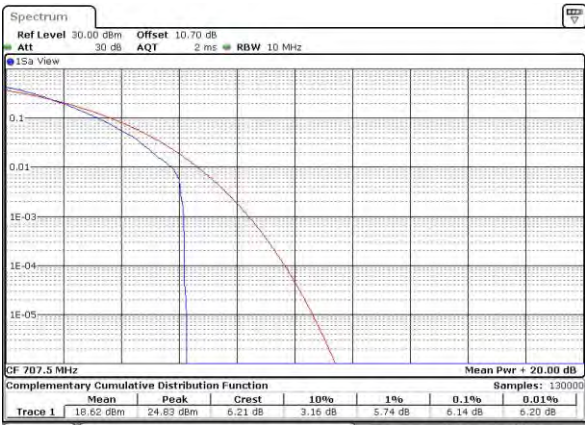
Date: 16 DEC 2016 17:16:26

Lowest Channel / Full RB



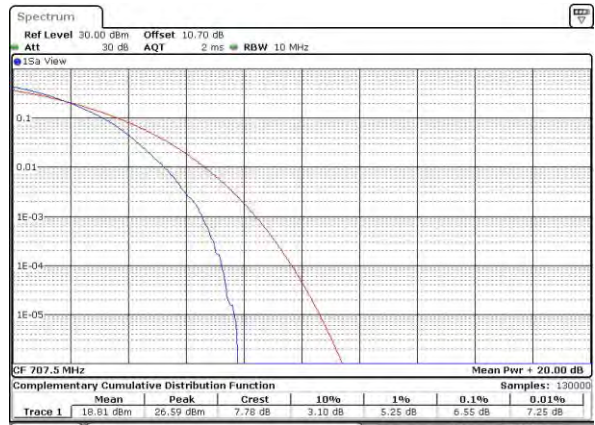
Date: 16 DEC 2016 17:16:16

Middle Channel / 1RB



Date: 16 DEC 2016 17:16:36

Middle Channel / Full RB



Date: 16 DEC 2016 17:16:46

Highest Channel / 1RB



Date: 16 DEC 2016 17:17:06

Highest Channel / Full RB



Date: 16 DEC 2016 17:16:56



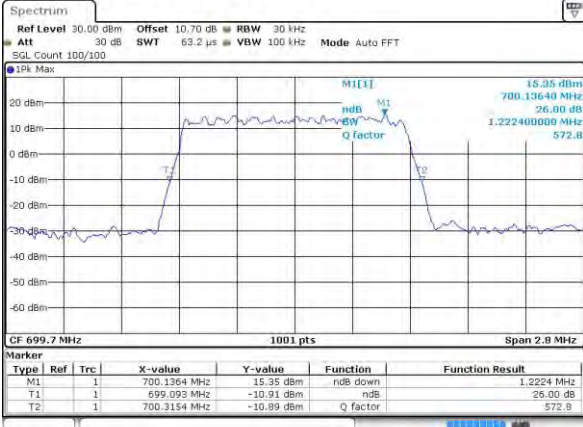
**26dB Bandwidth**

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	1.22	1.24	3.03	2.99	4.88	4.91	9.93	9.97	-	-	-	-
Middle CH	1.23	1.22	3.01	3.08	4.90	4.98	9.91	9.79	-	-	-	-
Highest CH	1.23	1.25	3.04	3.05	4.78	4.89	9.79	9.75	-	-	-	-
Mode	LTE Band 12 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.21	-	2.99	-	4.93	-	9.87	-	-	-	-	-
Middle CH	1.23	-	2.99	-	4.80	-	9.79	-	-	-	-	-
Highest CH	1.22	-	3.07	-	4.88	-	9.71	-	-	-	-	-



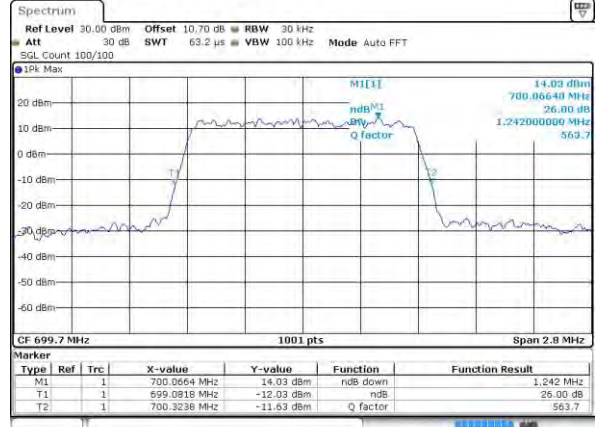
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



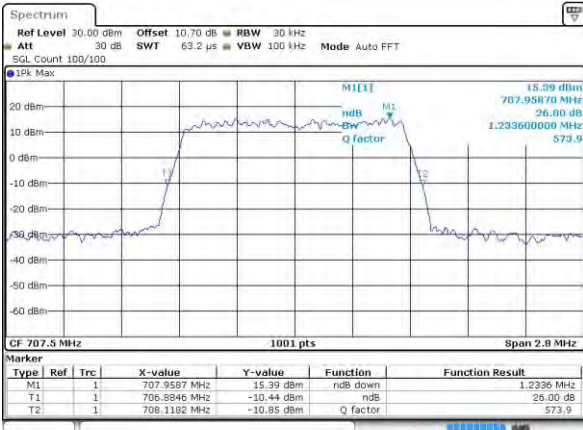
Date: 16 DEC 2018 16:31:25

Lowest Channel / 1.4MHz / 16QAM



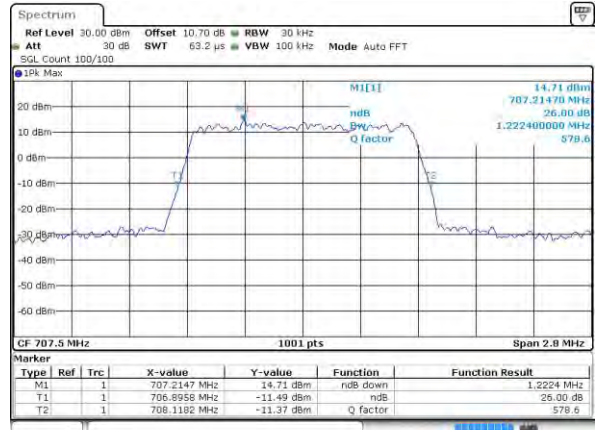
Date: 16 DEC 2018 16:31:13

Middle Channel / 1.4MHz / QPSK



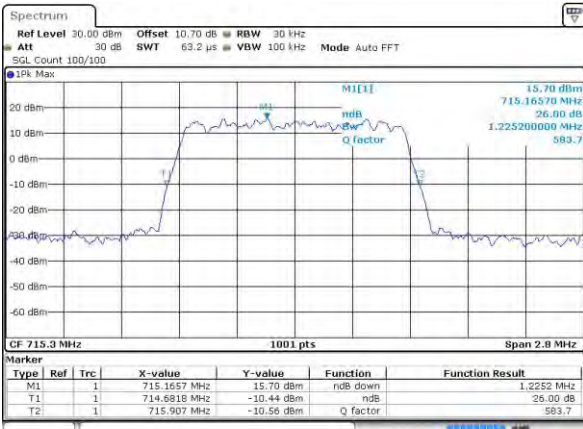
Date: 16 DEC 2018 16:37:29

Middle Channel / 1.4MHz / 16QAM



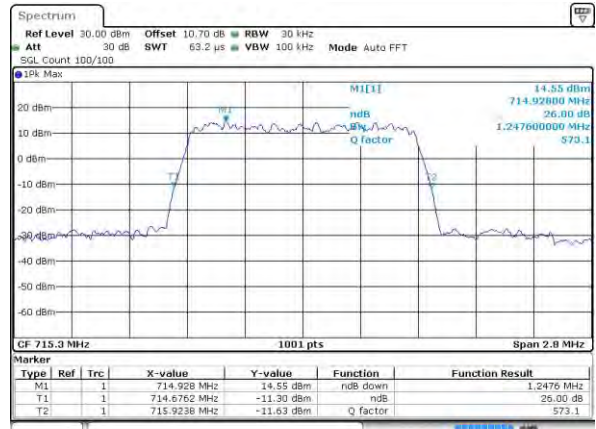
Date: 16 DEC 2018 16:37:41

Highest Channel / 1.4MHz / QPSK



Date: 16 DEC 2018 16:40:17

Highest Channel / 1.4MHz / 16QAM



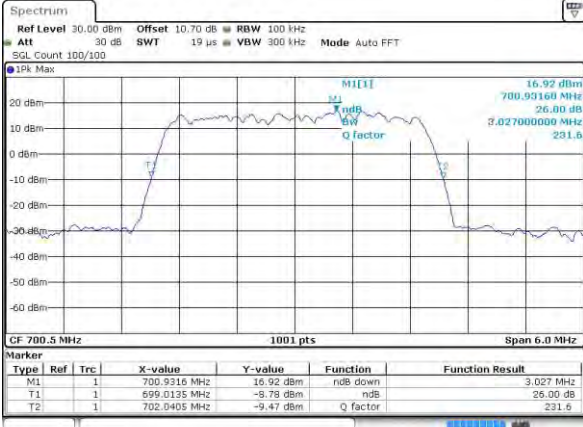
Date: 16 DEC 2018 16:40:05





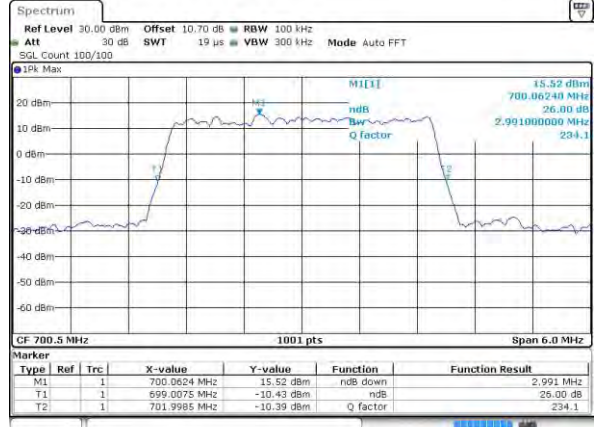
LTE Band 12

Lowest Channel / 3MHz / QPSK



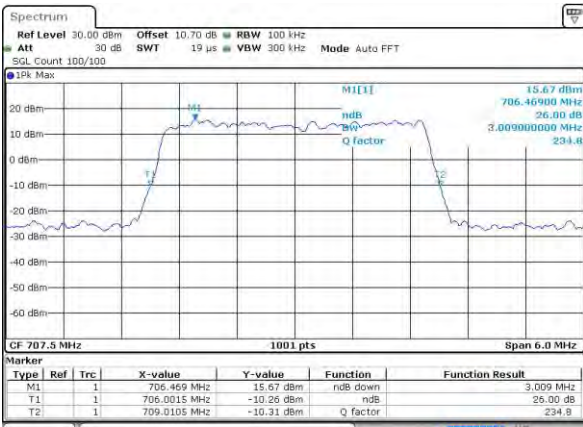
Date: 16 DEC 2018 15:11:10

Lowest Channel / 3MHz / 16QAM



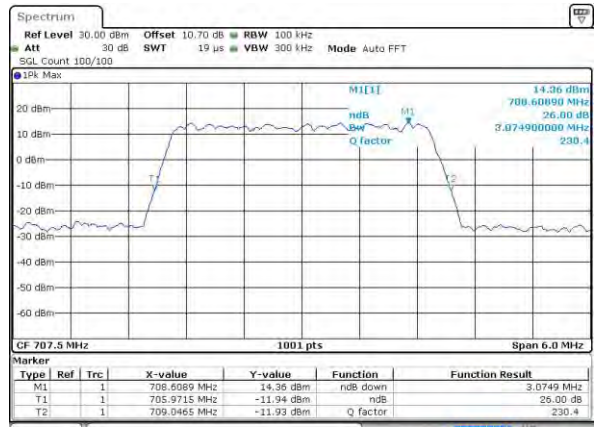
Date: 16 DEC 2018 15:10:59

Middle Channel / 3MHz / QPSK



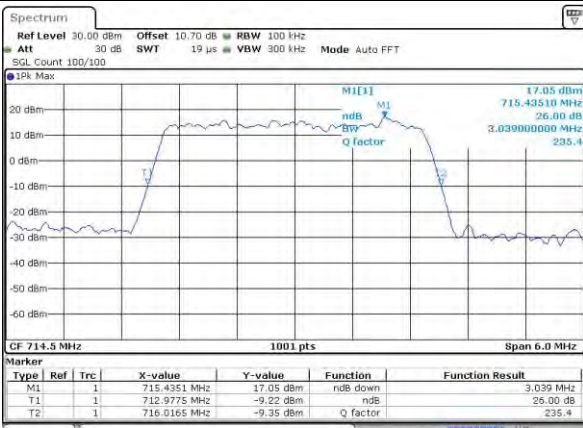
Date: 16 DEC 2018 15:19:13

Middle Channel / 3MHz / 16QAM



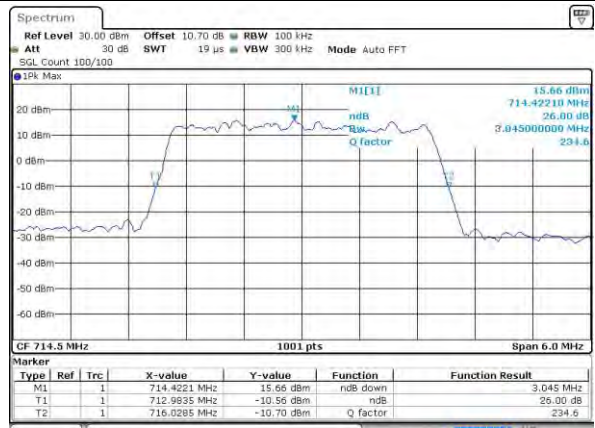
Date: 16 DEC 2018 15:19:25

Highest Channel / 3MHz / QPSK



Date: 16 DEC 2018 15:22:01

Highest Channel / 3MHz / 16QAM

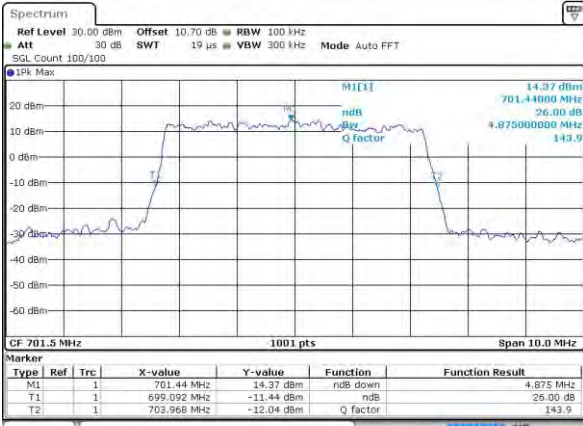


Date: 16 DEC 2018 15:21:49



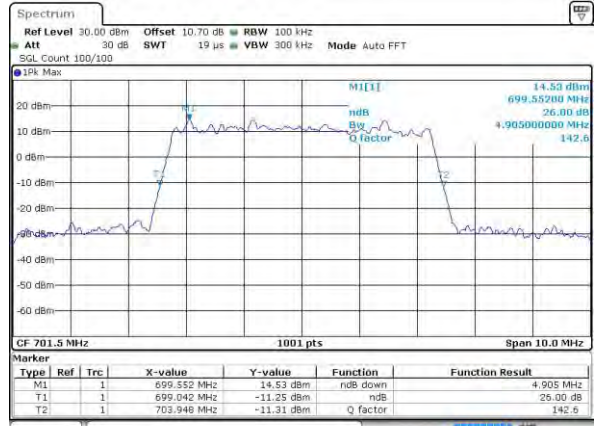
LTE Band 12

Lowest Channel / 5MHz / QPSK



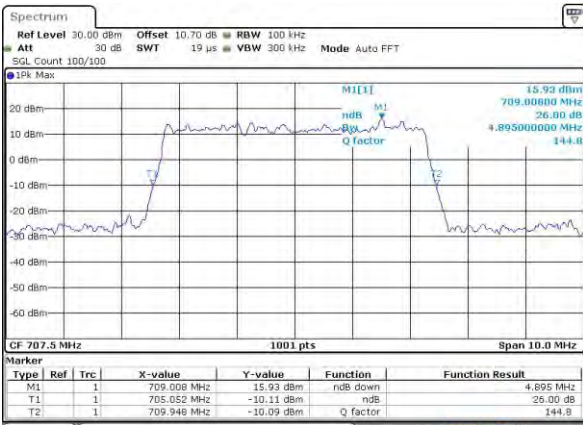
Date: 16 DEC 2018 15:28:17

Lowest Channel / 5MHz / 16QAM



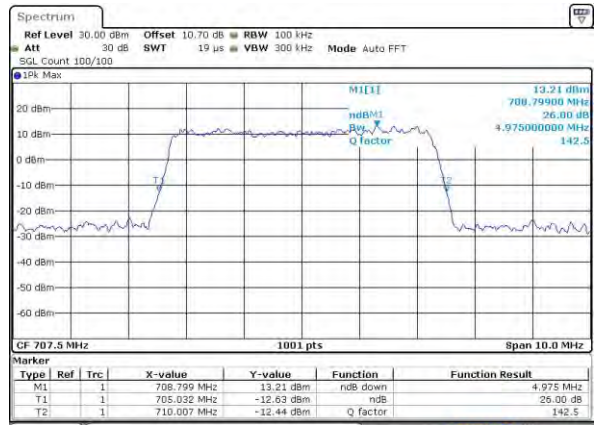
Date: 16 DEC 2018 15:28:06

Middle Channel / 5MHz / QPSK



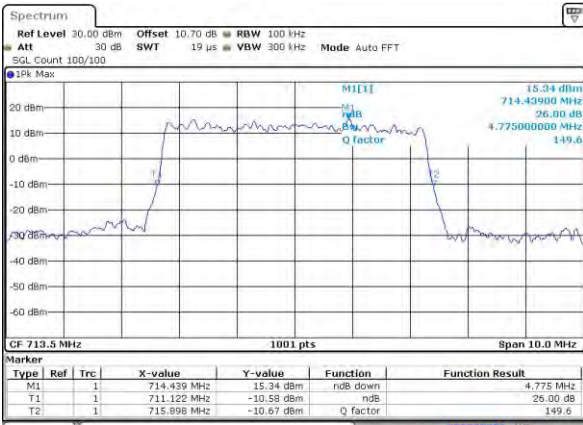
Date: 16 DEC 2018 15:34:22

Middle Channel / 5MHz / 16QAM



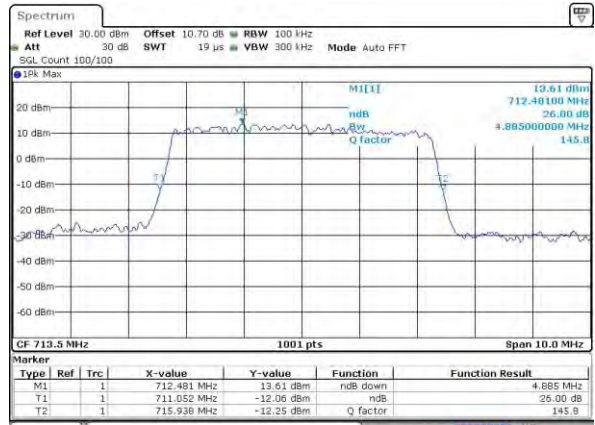
Date: 16 DEC 2018 15:34:33

Highest Channel / 5MHz / QPSK



Date: 16 DEC 2018 15:37:09

Highest Channel / 5MHz / 16QAM

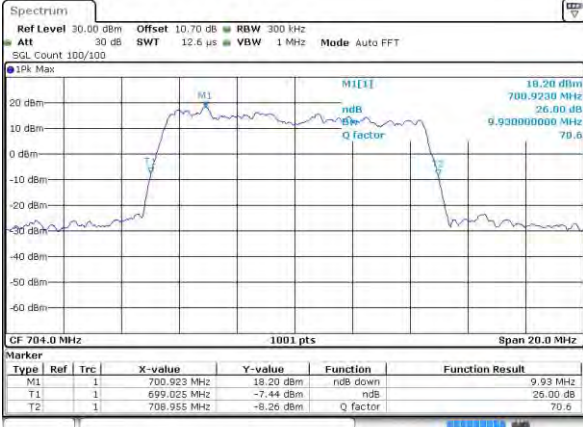


Date: 16 DEC 2018 15:36:58



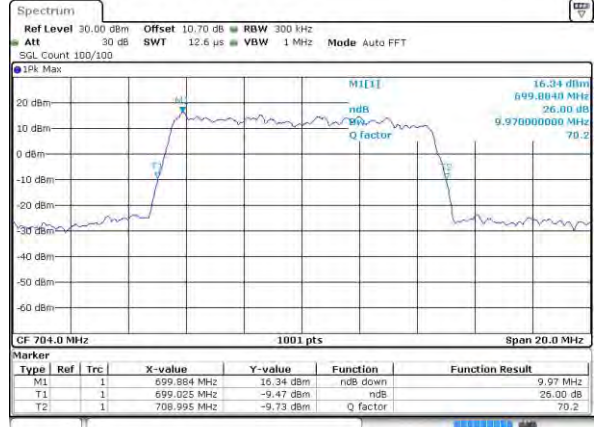
LTE Band 12

Lowest Channel / 10MHz / QPSK



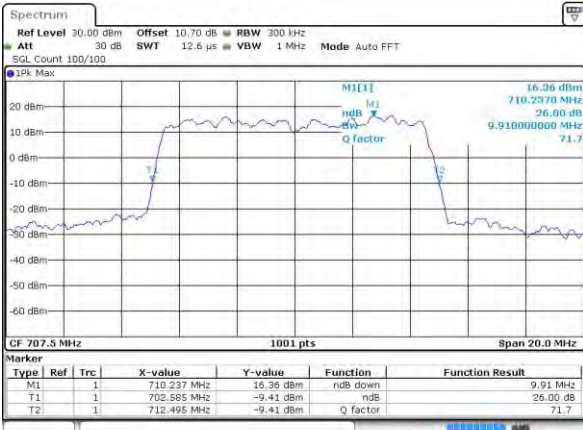
Date: 16 DEC 2018 15:43:25

Lowest Channel / 10MHz / 16QAM



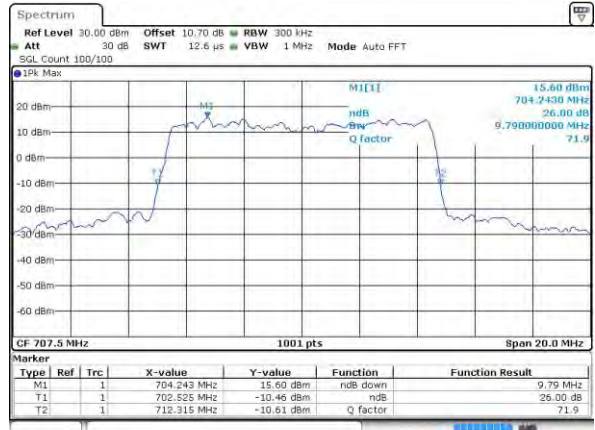
Date: 16 DEC 2018 15:43:13

Middle Channel / 10MHz / QPSK



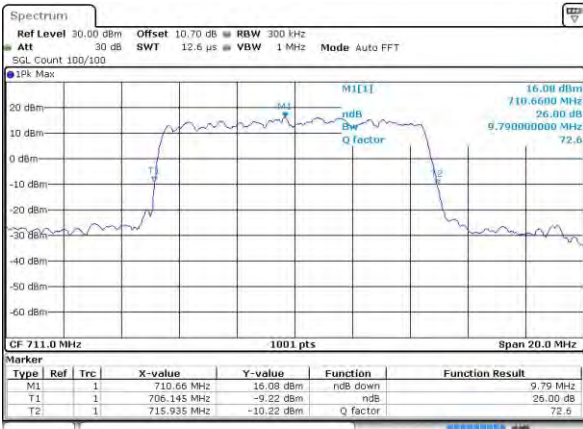
Date: 16 DEC 2018 16:12:19

Middle Channel / 10MHz / 16QAM



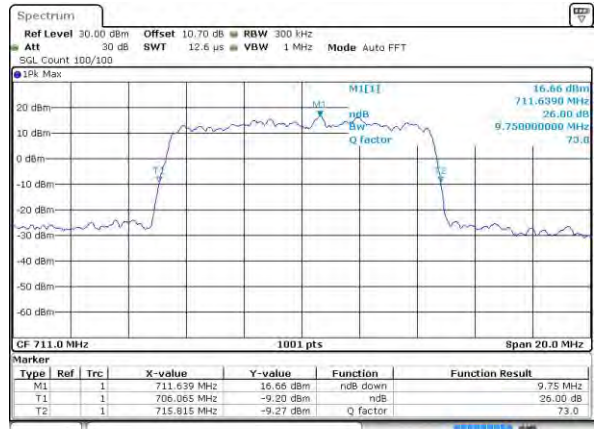
Date: 16 DEC 2018 16:12:31

Highest Channel / 10MHz / QPSK



Date: 16 DEC 2018 16:22:56

Highest Channel / 10MHz / 16QAM

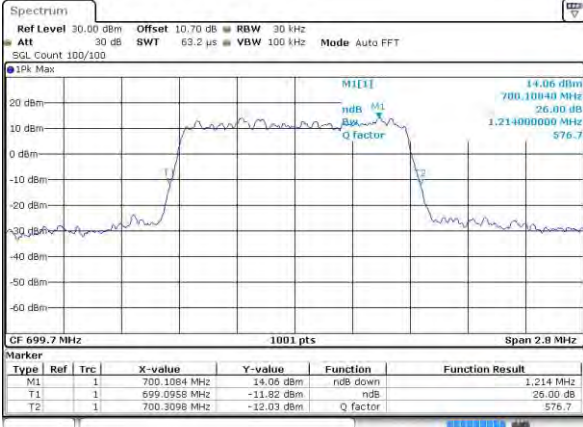


Date: 16 DEC 2018 16:22:45



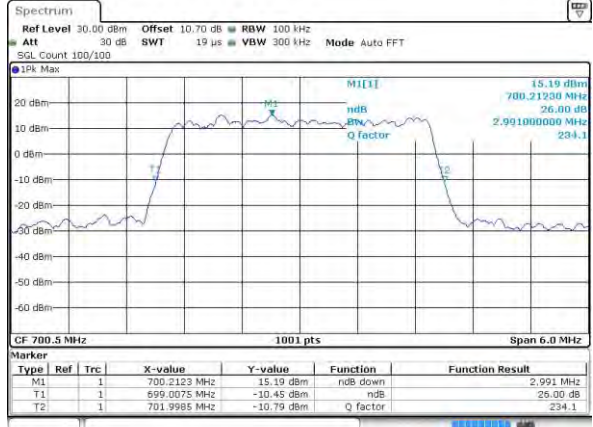
LTE Band 12

Lowest Channel / 1.4MHz / 64QAM



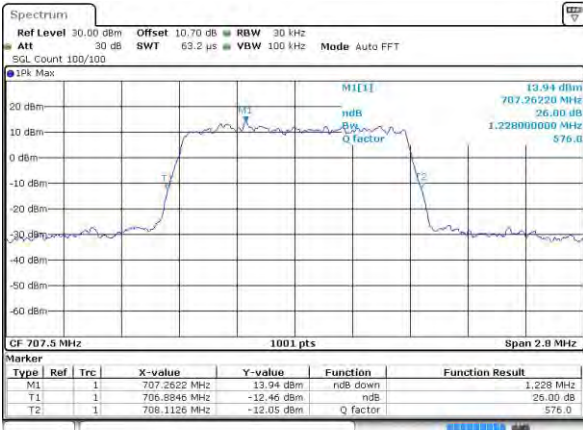
Date: 16 DEC 2018 17:08:52

Lowest Channel / 3MHz / 64QAM



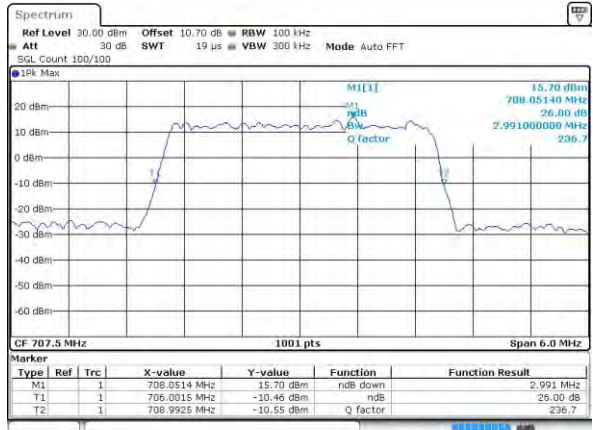
Date: 16 DEC 2018 16:46:10

Middle Channel / 1.4MHz / 64QAM



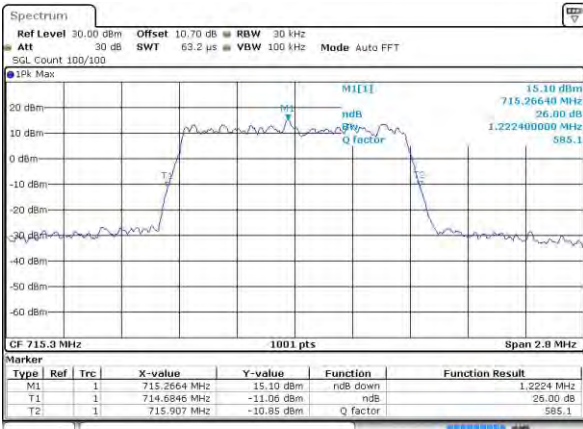
Date: 16 DEC 2018 17:12:00

Middle Channel / 3MHz / 64QAM



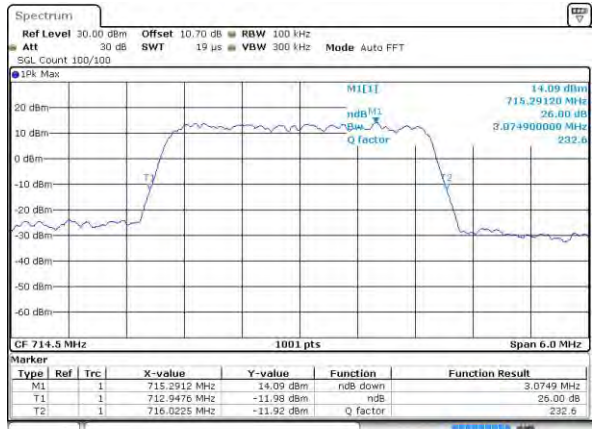
Date: 16 DEC 2018 16:49:19

Highest Channel / 1.4MHz / 64QAM



Date: 16 DEC 2018 17:13:18

Highest Channel / 3MHz / 64QAM

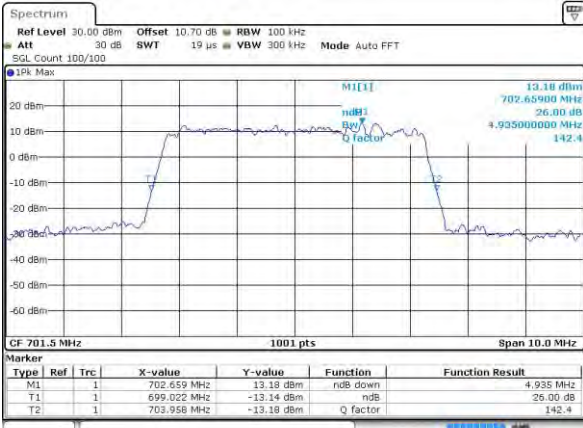


Date: 16 DEC 2018 16:50:37



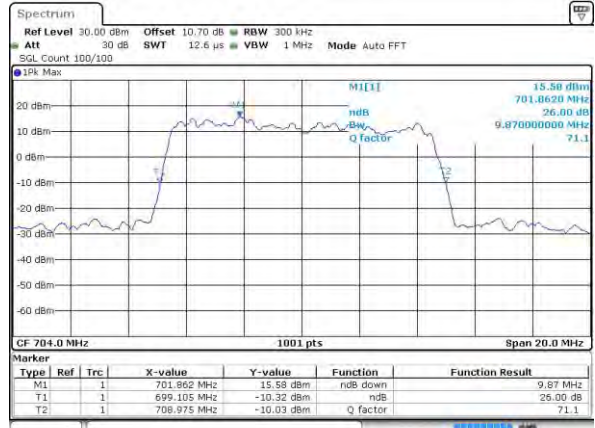
LTE Band 12

Lowest Channel / 5MHz / 64QAM



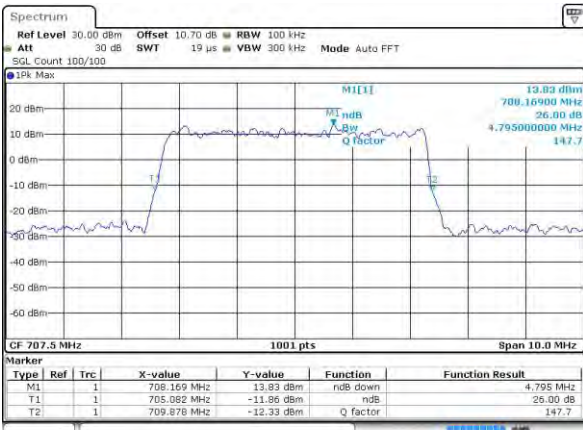
Date: 16 DEC 2018 16:53:44

Lowest Channel / 10MHz / 64QAM



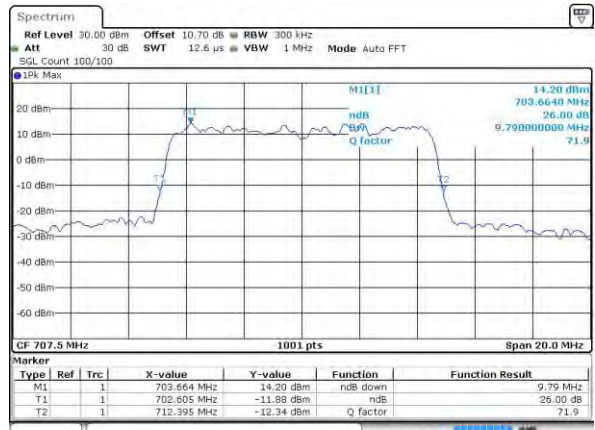
Date: 16 DEC 2018 17:01:18

Middle Channel / 5MHz / 64QAM



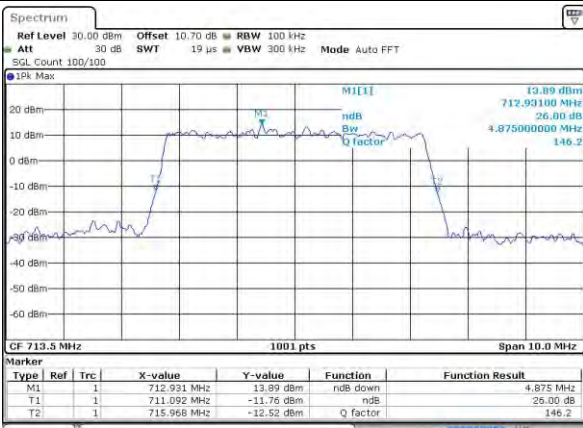
Date: 16 DEC 2018 16:56:52

Middle Channel / 10MHz / 64QAM



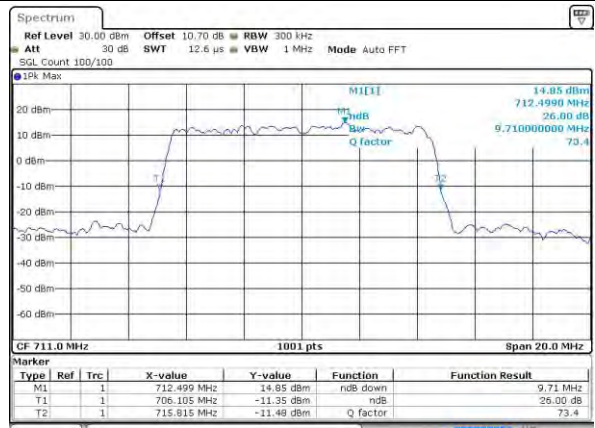
Date: 16 DEC 2018 17:04:26

Highest Channel / 5MHz / 64QAM



Date: 16 DEC 2018 16:58:10

Highest Channel / 10MHz / 64QAM



Date: 16 DEC 2018 17:05:44



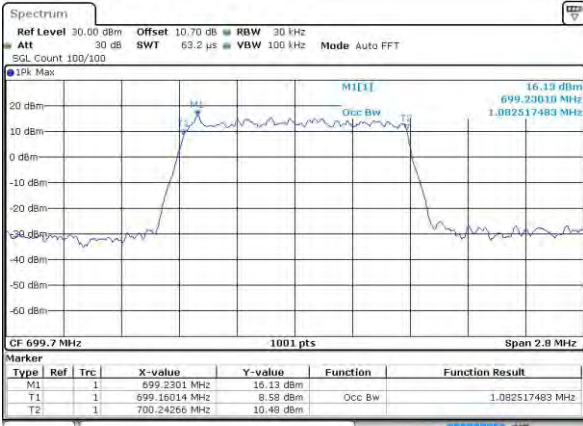
**Occupied Bandwidth**

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	1.08	1.1	2.73	2.7	4.47	4.47	8.97	8.99	-	-	-	-
Middle CH	1.09	1.09	2.74	2.72	4.5	4.5	9.03	9.07	-	-	-	-
Highest CH	1.09	1.08	2.73	2.74	4.52	4.46	8.97	9.03	-	-	-	-
Mode	LTE Band 12 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.09	-	2.73	-	4.46	-	9.01	-	-	-	-	-
Middle CH	1.09	-	2.72	-	4.49	-	9.09	-	-	-	-	-
Highest CH	1.09	-	2.73	-	4.48	-	8.99	-	-	-	-	-



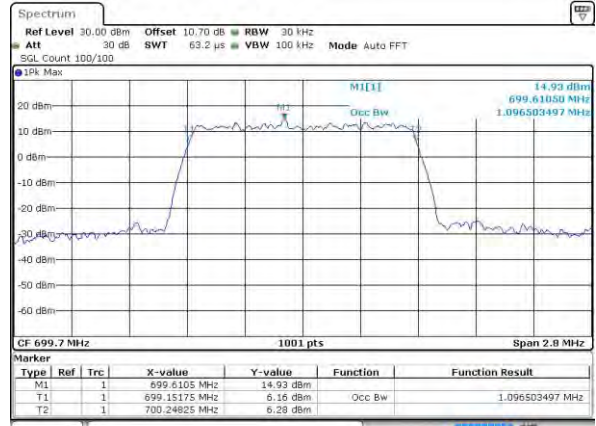
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



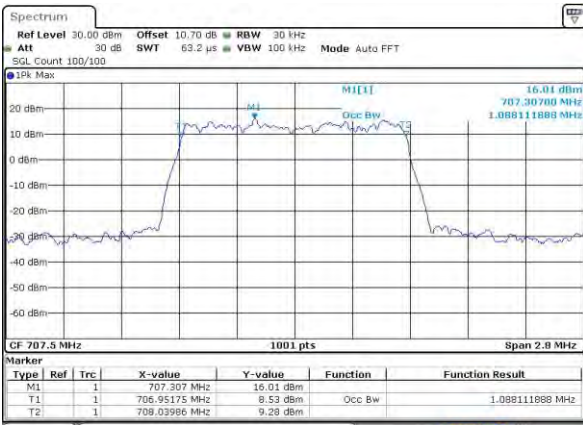
Date: 16 DEC 2018 16:30:50

Lowest Channel / 1.4MHz / 16QAM



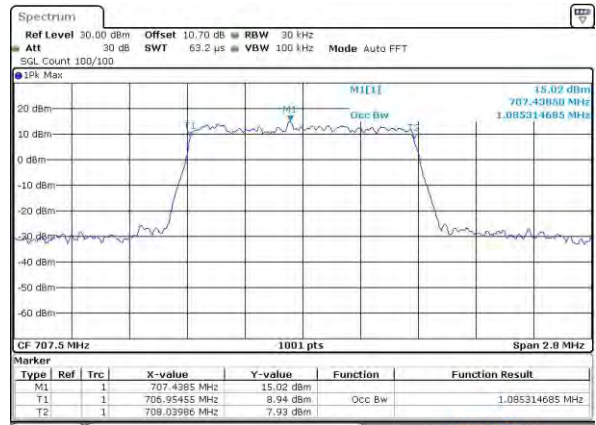
Date: 16 DEC 2018 16:31:02

Middle Channel / 1.4MHz / QPSK



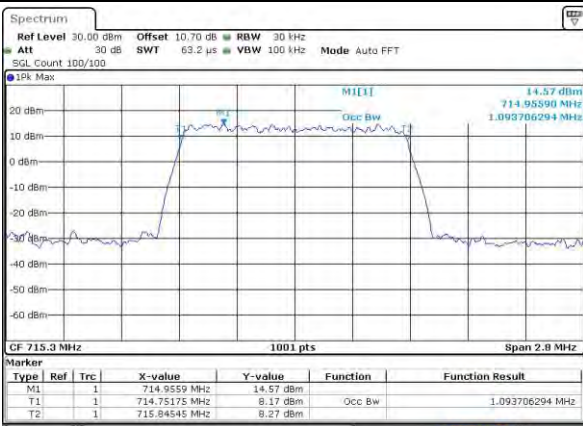
Date: 16 DEC 2018 16:37:18

Middle Channel / 1.4MHz / 16QAM



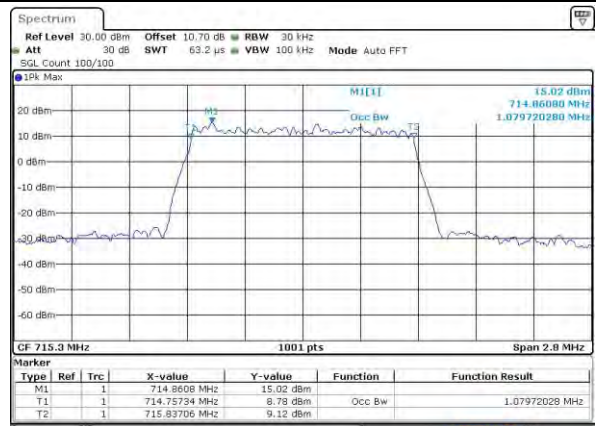
Date: 16 DEC 2018 16:37:06

Highest Channel / 1.4MHz / QPSK



Date: 16 DEC 2018 16:39:43

Highest Channel / 1.4MHz / 16QAM

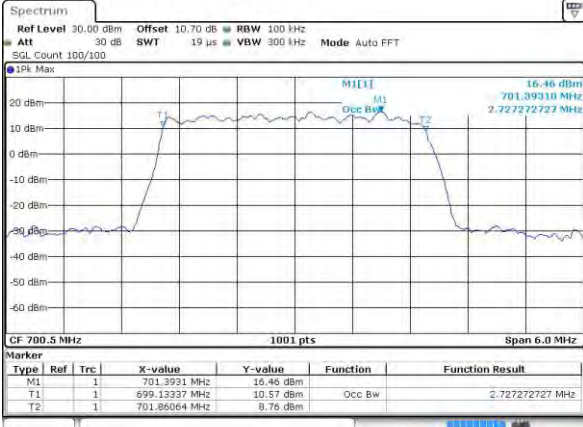


Date: 16 DEC 2018 16:39:54



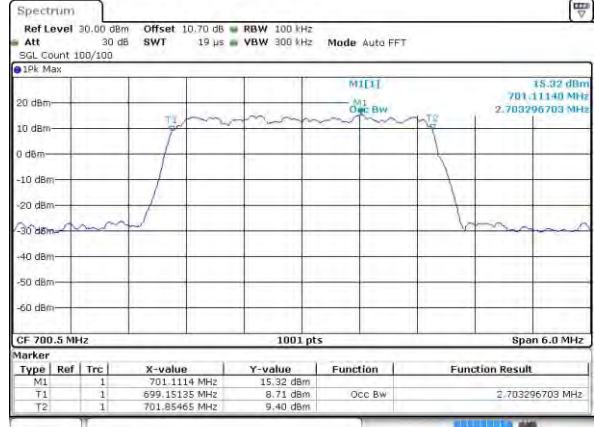
LTE Band 12

Lowest Channel / 3MHz / QPSK



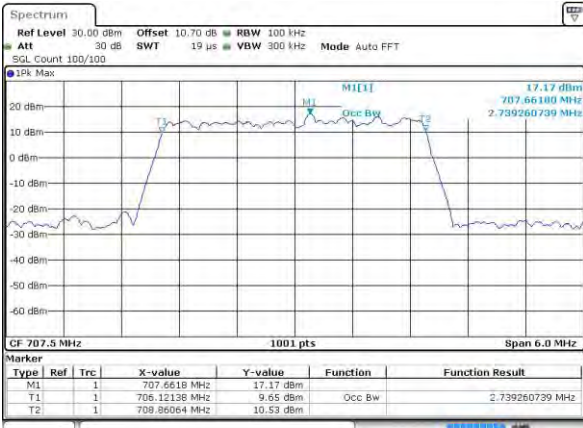
Date: 16 DEC 2018 15:10:36

Lowest Channel / 3MHz / 16QAM



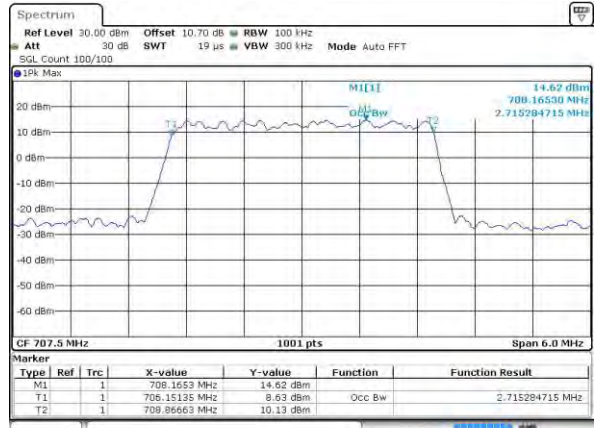
Date: 16 DEC 2018 15:10:47

Middle Channel / 3MHz / QPSK



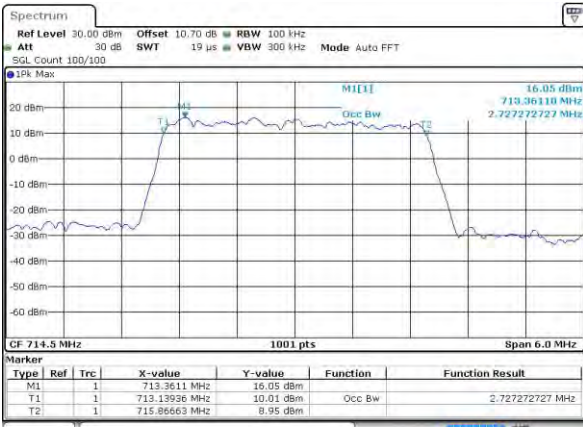
Date: 16 DEC 2018 15:19:02

Middle Channel / 3MHz / 16QAM



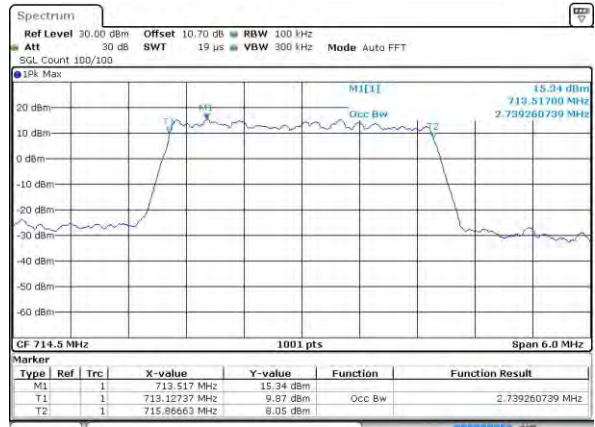
Date: 16 DEC 2018 15:18:50

Highest Channel / 3MHz / QPSK



Date: 16 DEC 2018 15:21:27

Highest Channel / 3MHz / 16QAM



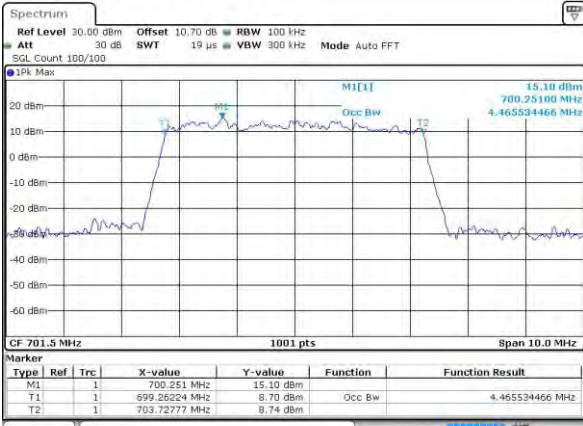
Date: 16 DEC 2018 15:21:38





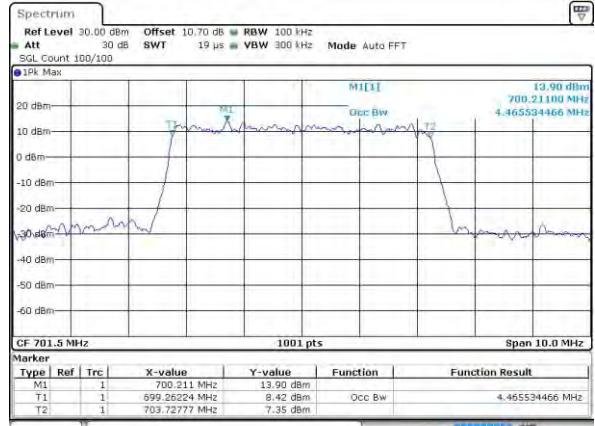
LTE Band 12

Lowest Channel / 5MHz / QPSK



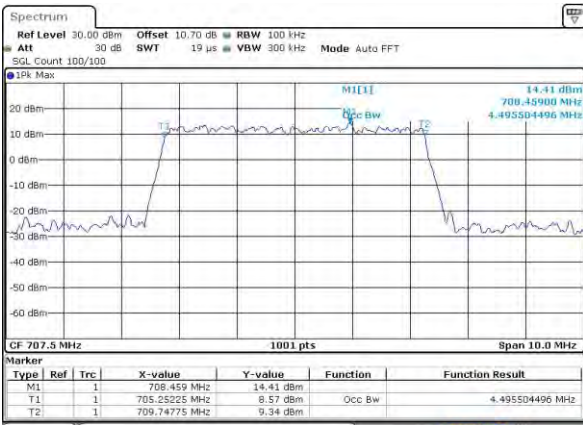
Date: 16 DEC 2018 15:27:43

Lowest Channel / 5MHz / 16QAM



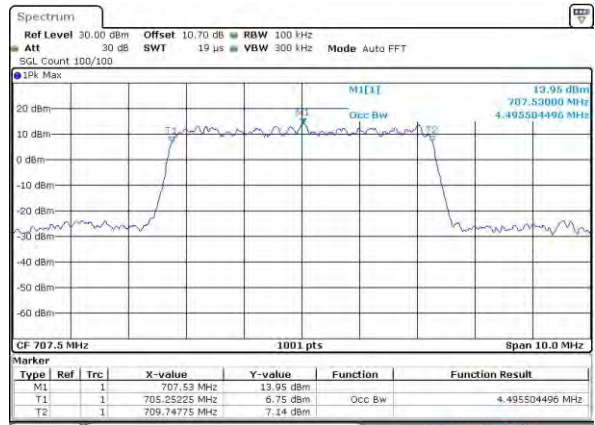
Date: 16 DEC 2018 15:27:54

Middle Channel / 5MHz / QPSK



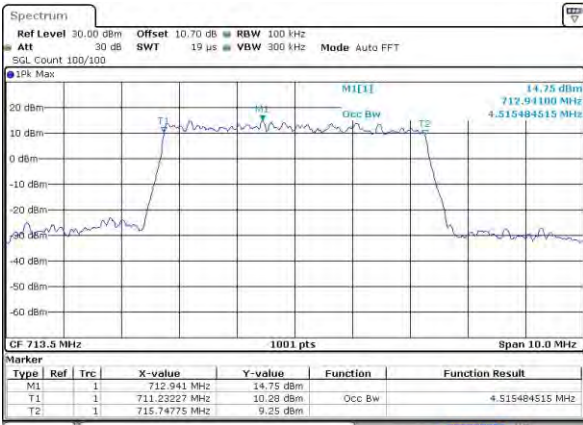
Date: 16 DEC 2018 15:34:10

Middle Channel / 5MHz / 16QAM



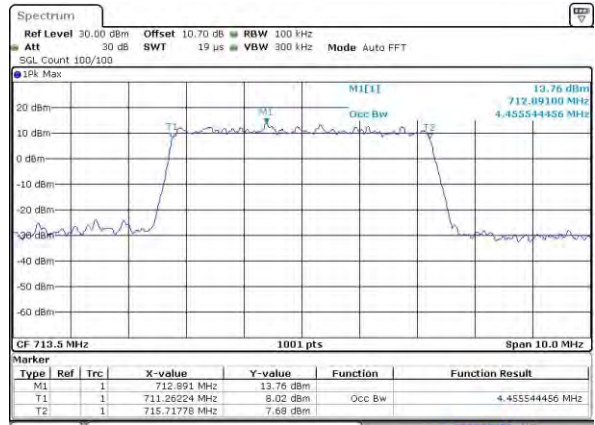
Date: 16 DEC 2018 15:33:59

Highest Channel / 5MHz / QPSK



Date: 16 DEC 2018 15:36:35

Highest Channel / 5MHz / 16QAM

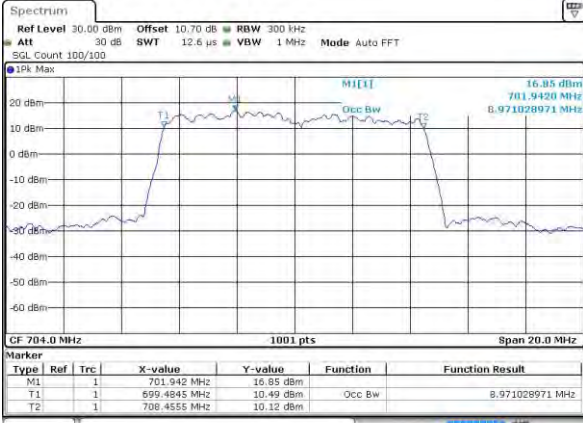


Date: 16 DEC 2018 15:36:46



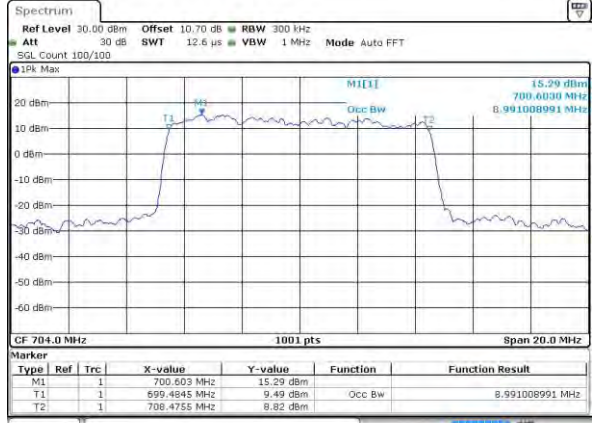
LTE Band 12

Lowest Channel / 10MHz / QPSK



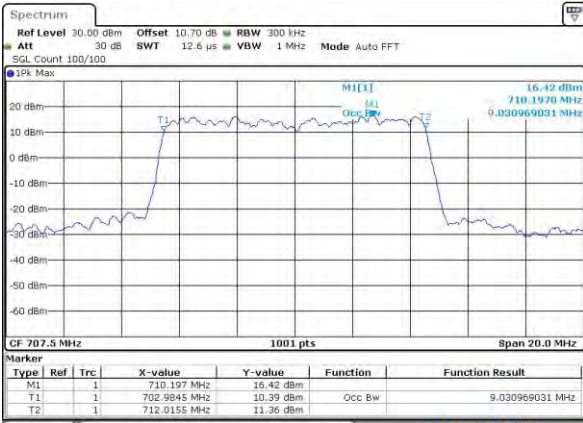
Date: 16 DEC 2018 15:42:51

Lowest Channel / 10MHz / 16QAM



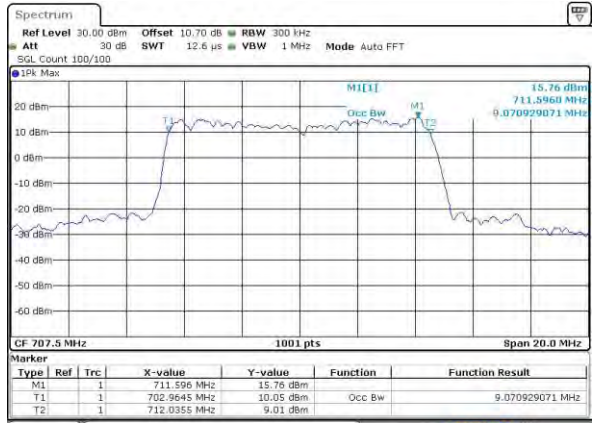
Date: 16 DEC 2018 15:43:02

Middle Channel / 10MHz / QPSK



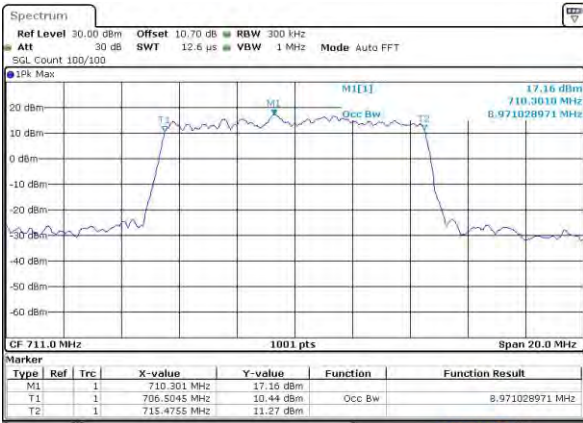
Date: 16 DEC 2018 16:12:08

Middle Channel / 10MHz / 16QAM



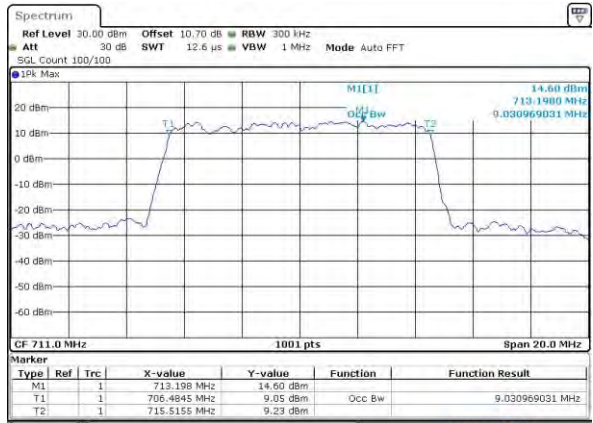
Date: 16 DEC 2018 16:11:56

Highest Channel / 10MHz / QPSK



Date: 16 DEC 2018 16:22:22

Highest Channel / 10MHz / 16QAM

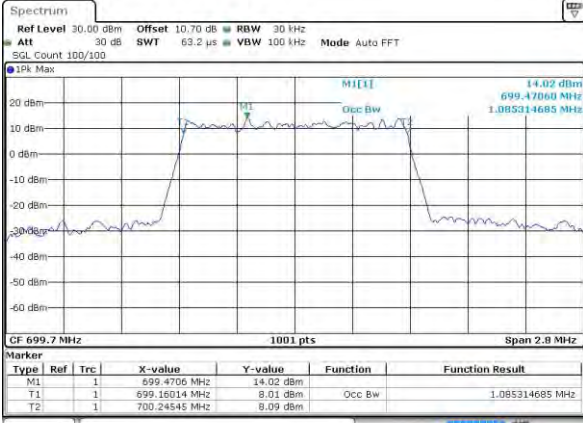


Date: 16 DEC 2018 16:22:34



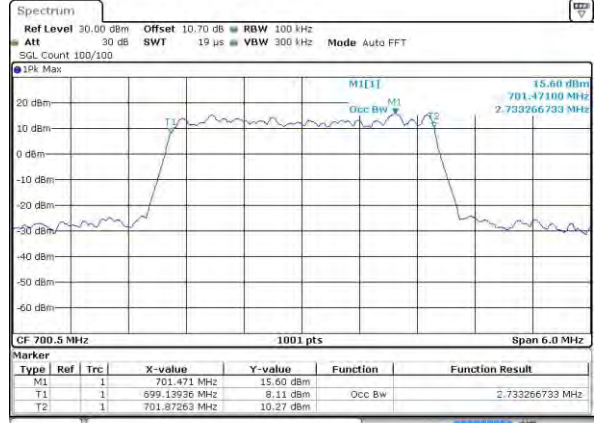
LTE Band 12

Lowest Channel / 1.4MHz / 64QAM



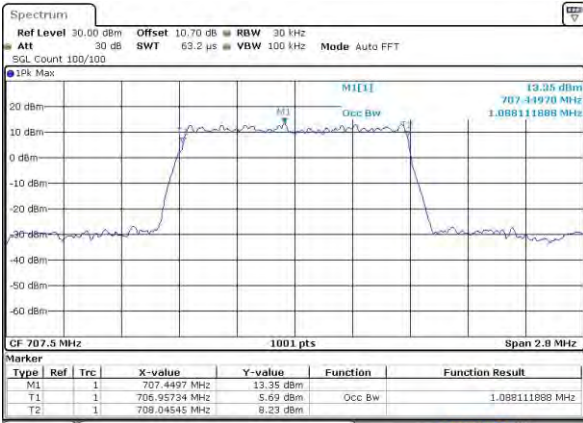
Date: 16 DEC 2018 17:08:41

Lowest Channel / 3MHz / 64QAM



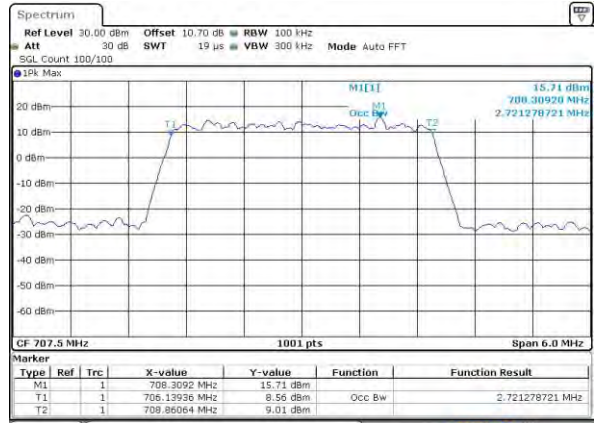
Date: 16 DEC 2018 16:45:59

Middle Channel / 1.4MHz / 64QAM



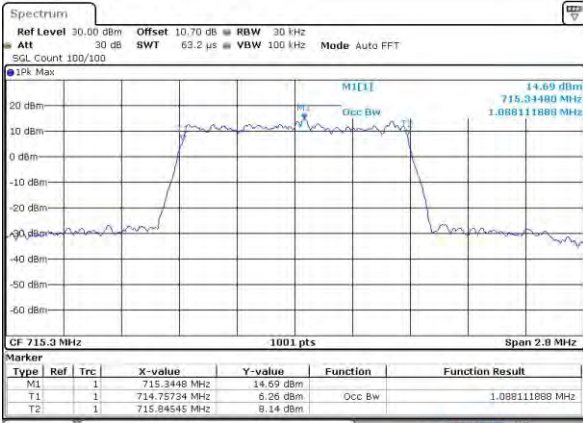
Date: 16 DEC 2018 17:11:49

Middle Channel / 3MHz / 64QAM



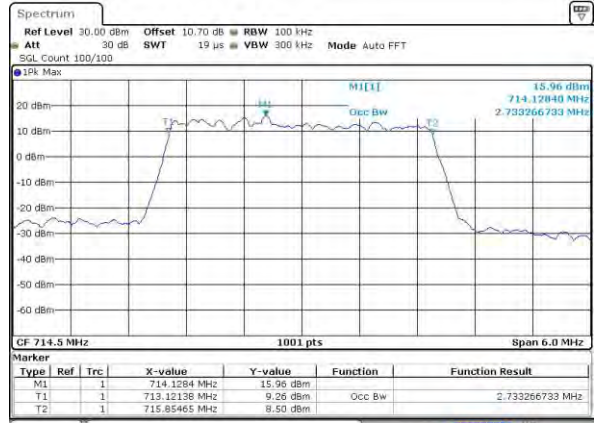
Date: 16 DEC 2018 16:49:07

Highest Channel / 1.4MHz / 64QAM



Date: 16 DEC 2018 17:13:07

Highest Channel / 3MHz / 64QAM

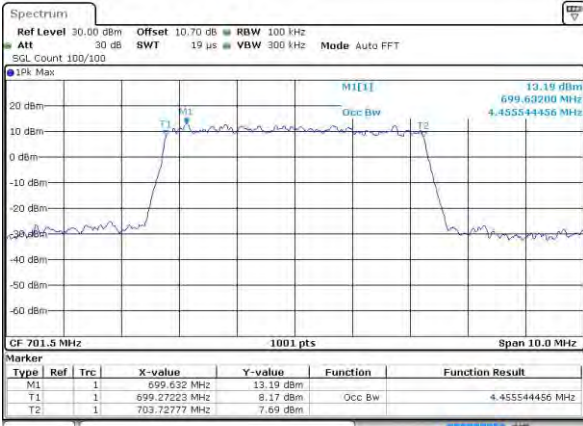


Date: 16 DEC 2018 16:50:25

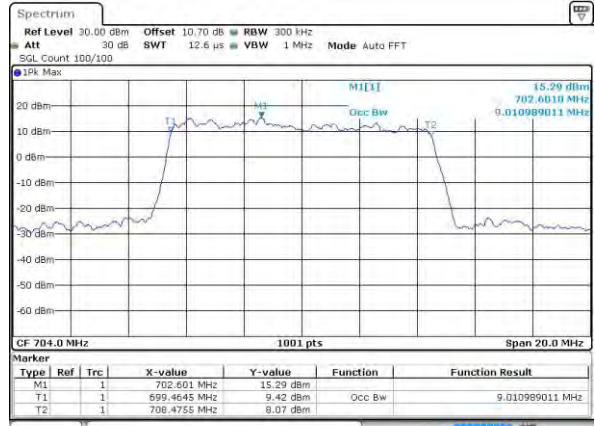


LTE Band 12

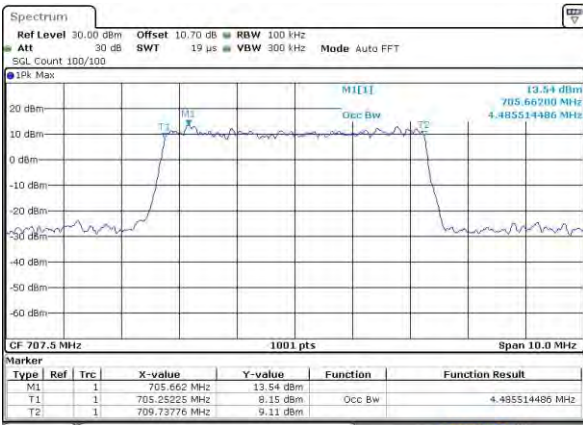
Lowest Channel / 5MHz / 64QAM



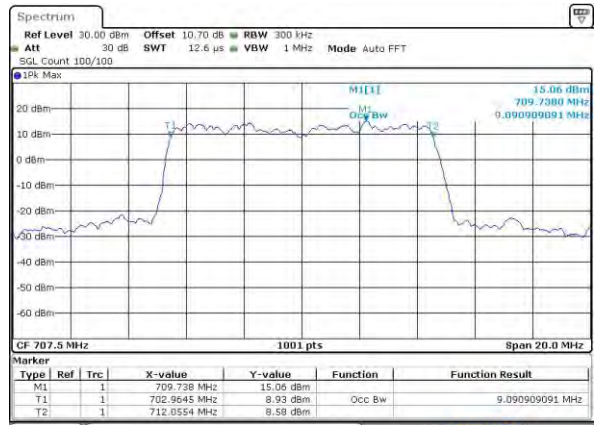
Lowest Channel / 10MHz / 64QAM



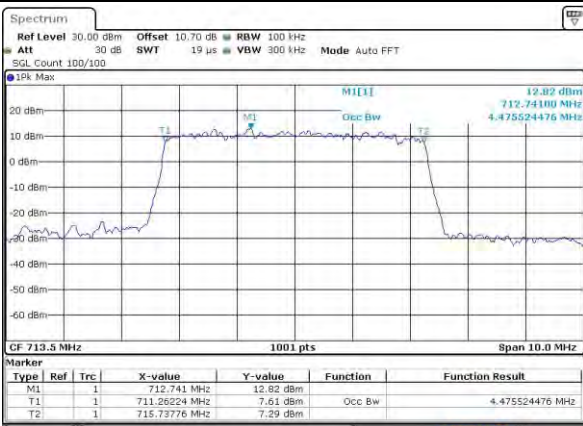
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



Highest Channel / 10MHz / 64QAM

