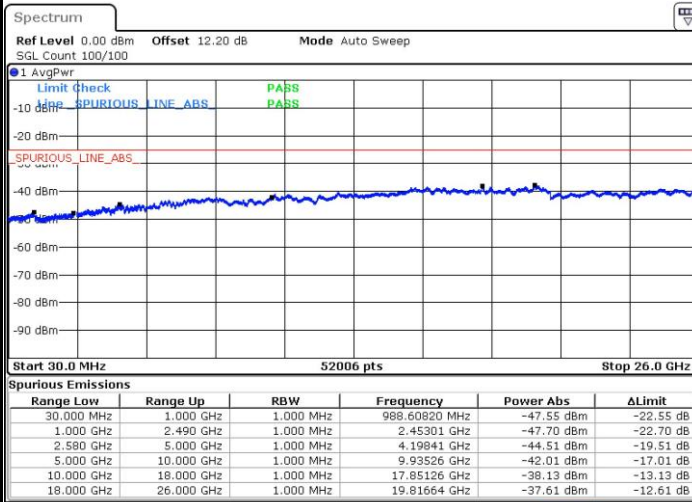




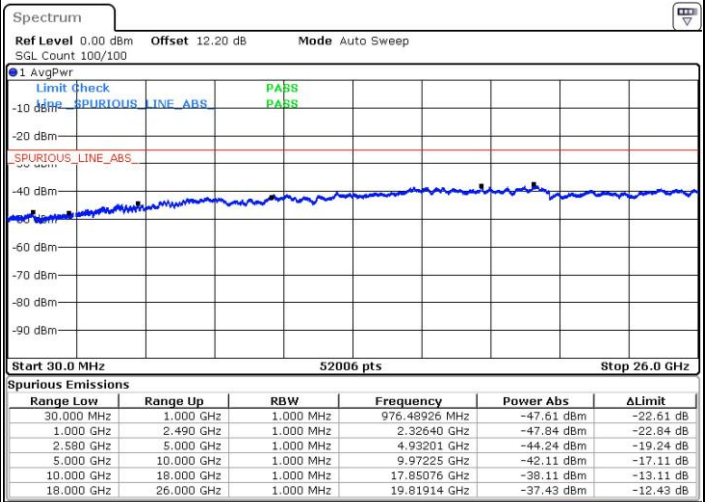
LTE Band7 / 15MHz

Highest Channel / QPSK



Date: 23 MAR 2019 12:08:34

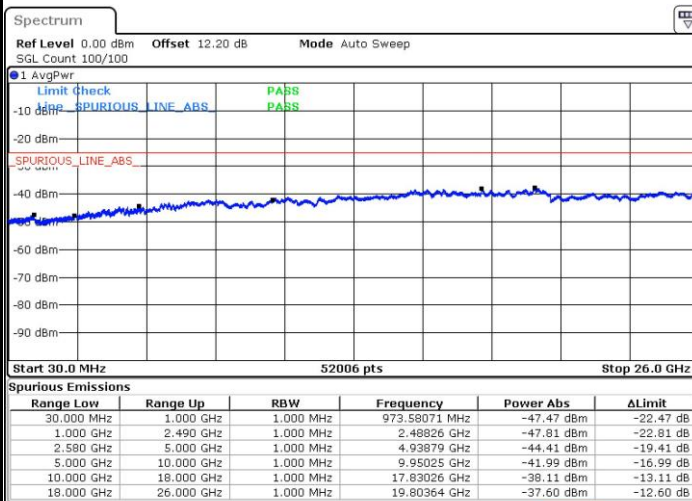
Highest Channel / 16QAM



Date: 23 MAR 2019 12:09:25

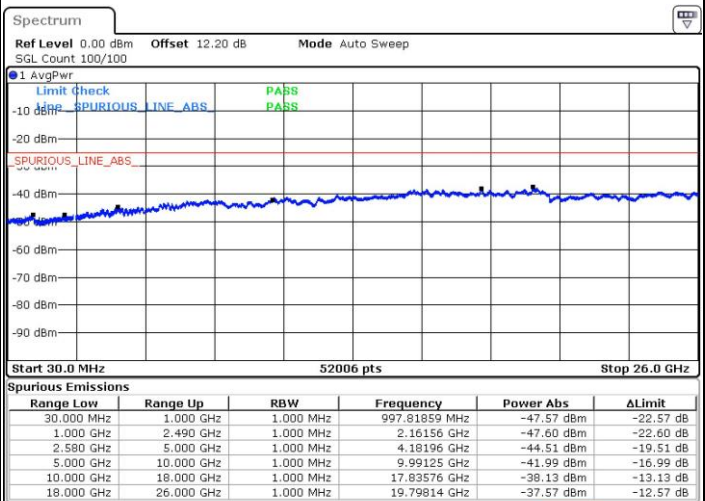
LTE Band 7 / 20MHz

Lowest Channel / QPSK



Date: 23 MAR 2019 12:20:25

Lowest Channel / 16QAM

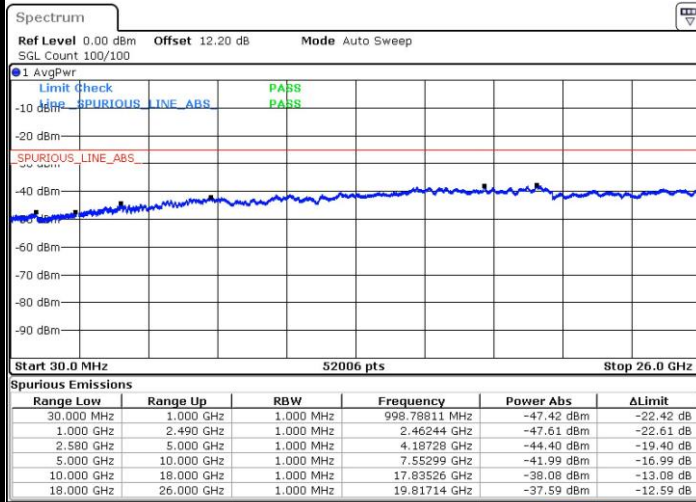


Date: 23 MAR 2019 12:21:16



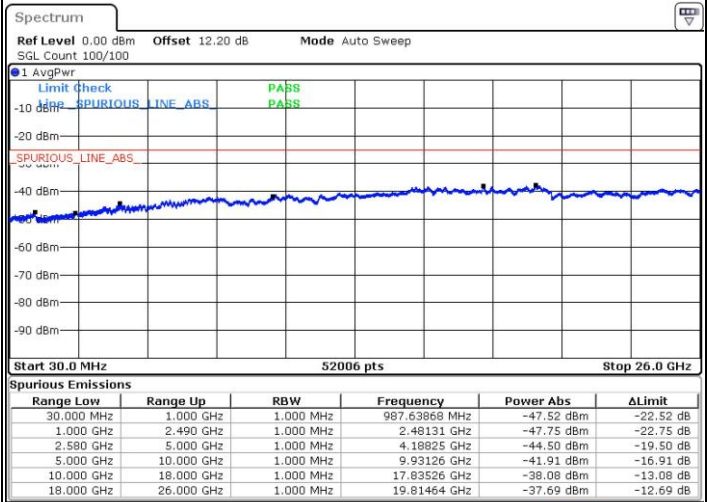
LTE Band 7 / 20MHz

Middle Channel / QPSK



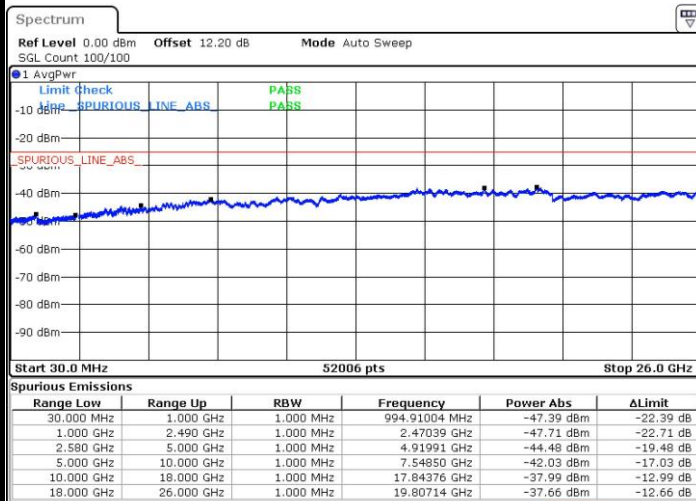
Date: 23 MAR 2019 12:22:55

Middle Channel / 16QAM



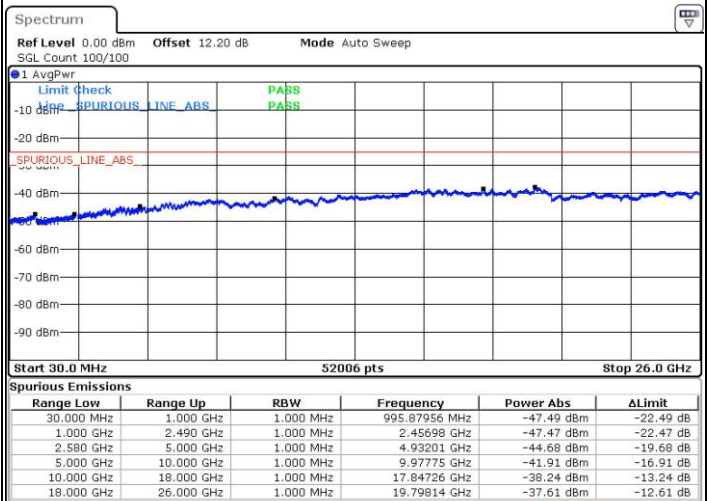
Date: 23 MAR 2019 12:23:45

Highest Channel / QPSK



Date: 23 MAR 2019 12:28:14

Highest Channel / 16QAM

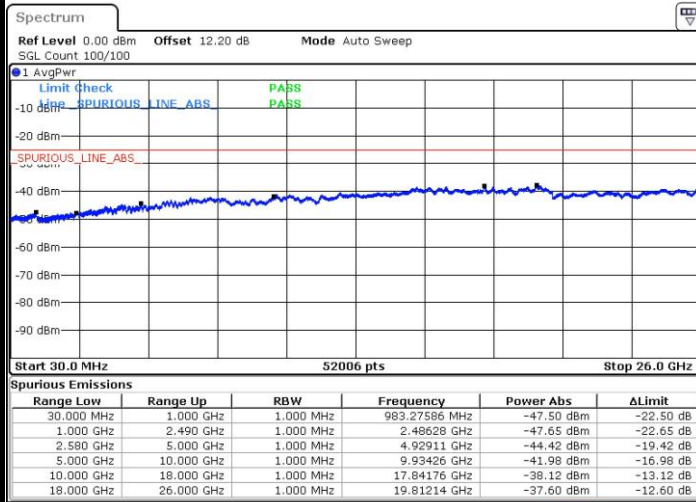


Date: 23 MAR 2019 12:29:05



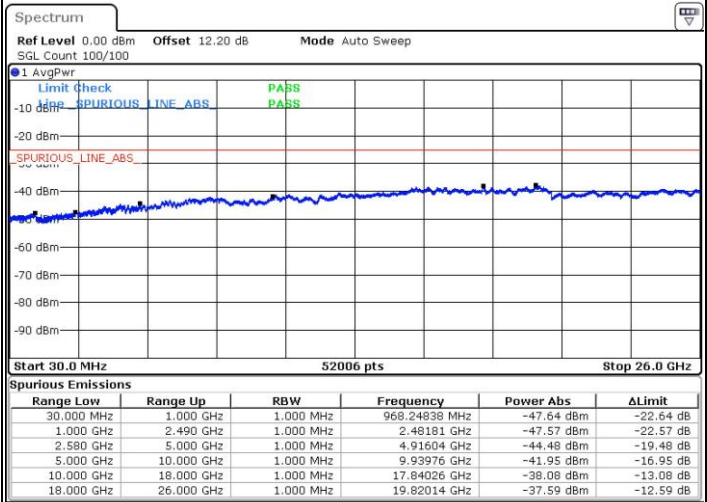
LTE Band 7 / 5MHz

Lowest Channel / 64QAM



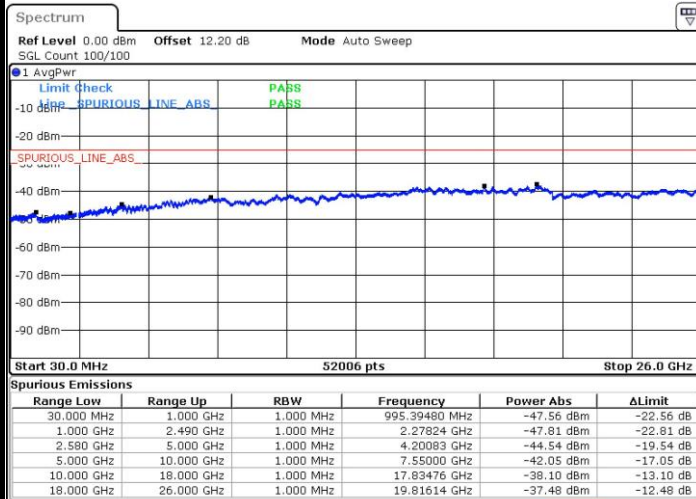
Date: 23 MAR 2019 11:32:50

Middle Channel / 64QAM



Date: 23 MAR 2019 11:34:04

Highest Channel / 64QAM

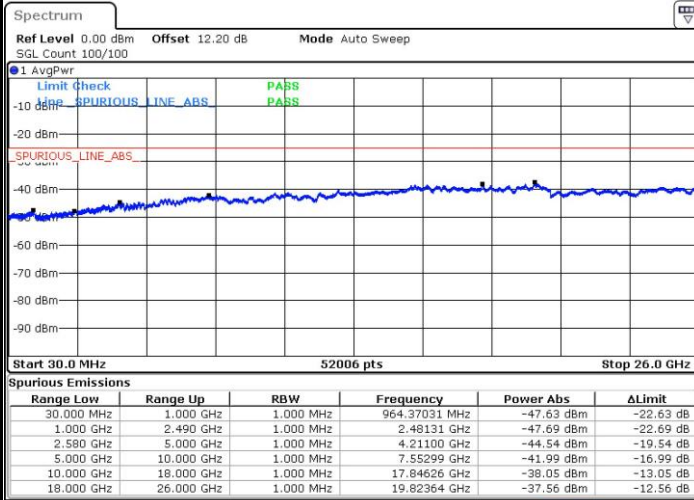


Date: 23 MAR 2019 11:36:43



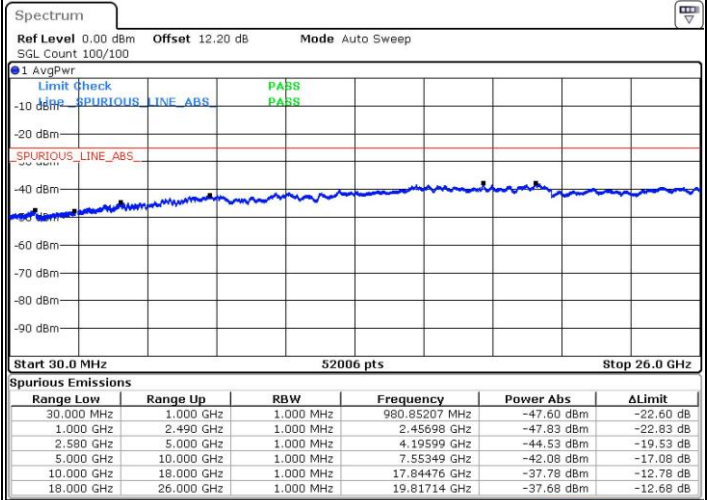
LTE Band 7 / 10MHz

Lowest Channel / 64QAM



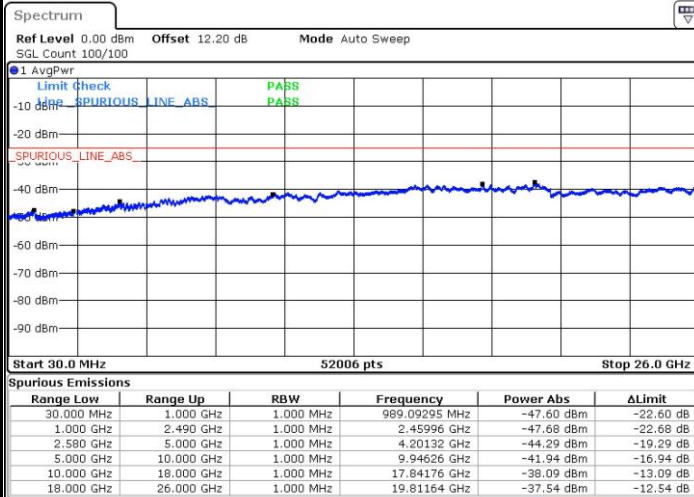
Date: 23 MAR 2019 11:52:27

Middle Channel / 64QAM



Date: 23 MAR 2019 11:53:41

Highest Channel / 64QAM

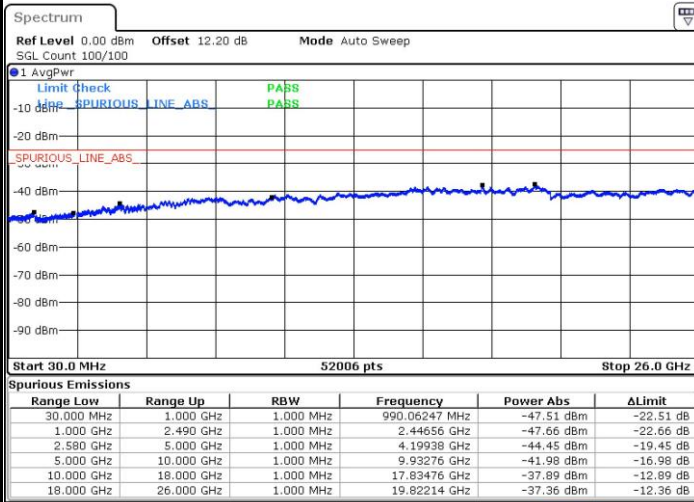


Date: 23 MAR 2019 11:56:20



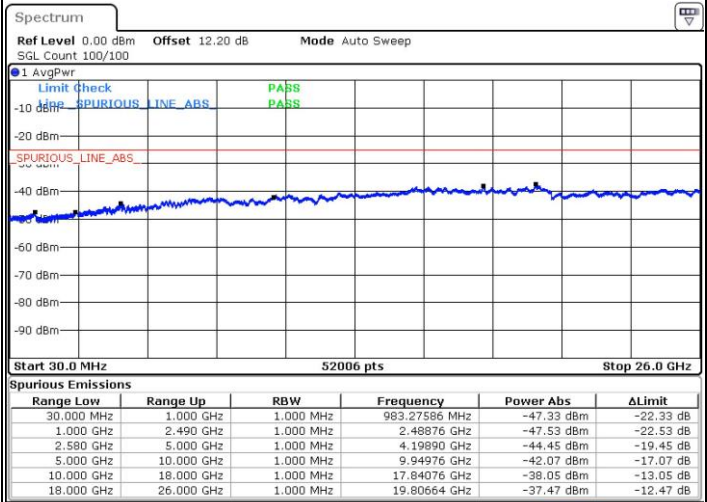
LTE Band 7 / 15MHz

Lowest Channel / 64QAM



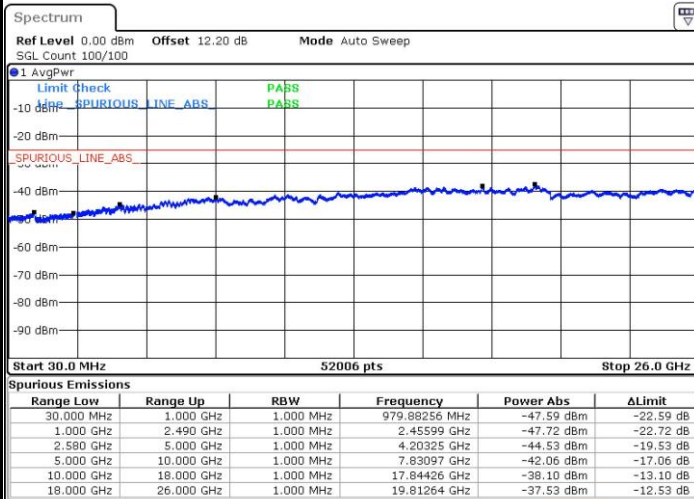
Date: 23 MAR 2019 12:12:04

Middle Channel / 64QAM



Date: 23 MAR 2019 12:13:18

Highest Channel / 64QAM

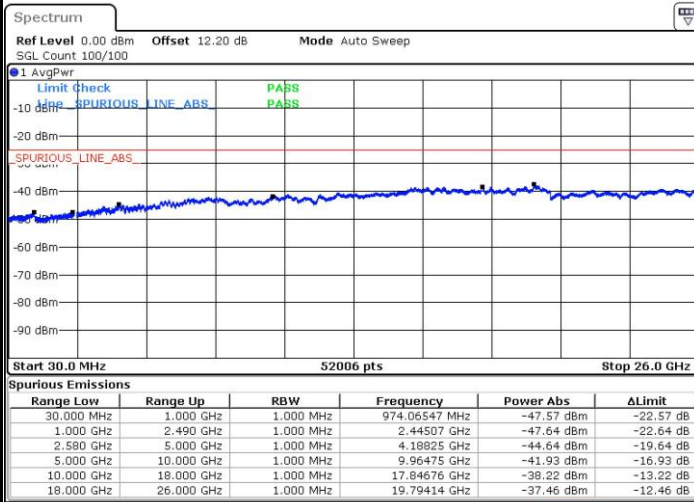


Date: 23 MAR 2019 12:15:57



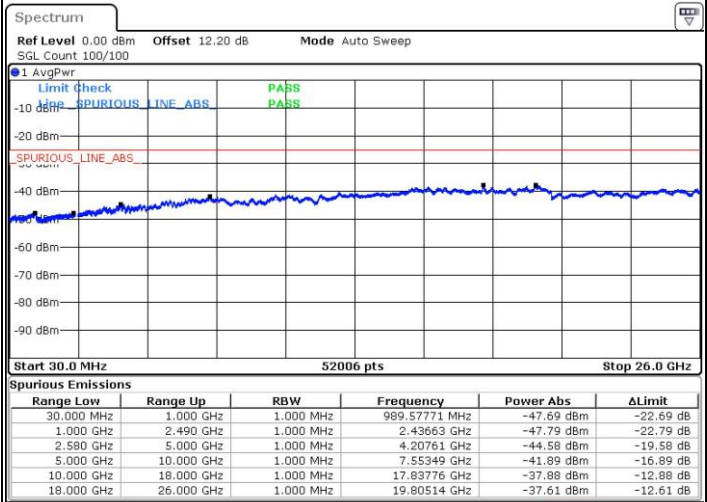
LTE Band 7 / 20MHz

Lowest Channel / 64QAM



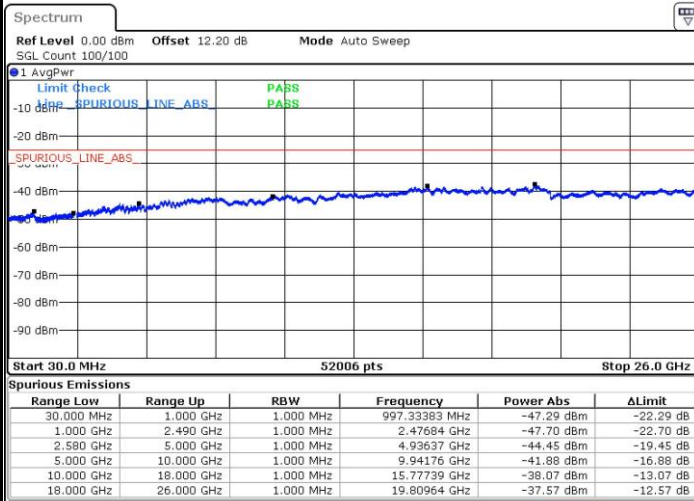
Date: 23 MAR 2019 12:31:44

Middle Channel / 64QAM



Date: 23 MAR 2019 12:32:58

Highest Channel / 64QAM



Date: 23 MAR 2019 12:35:38

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	0.0008	PASS
40	Normal Voltage	0.0062	
30	Normal Voltage	0.0006	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0003	
0	Normal Voltage	0.0007	
-10	Normal Voltage	0.0061	
-20	Normal Voltage	0.0006	
-30	Normal Voltage	0.0070	
20	Maximum Voltage	0.0064	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0054	

Note:

1. Normal Voltage =4.0 V. ; Battery End Point (BEP) =3.8 V. ; Maximum Voltage =4.2 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

LTE Band 12

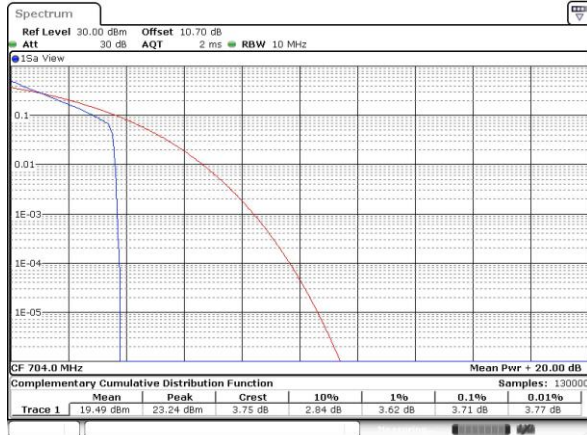
Peak-to-Average Ratio

Mode	LTE Band 12 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.71	4.55	5.42	5.86	PASS
Middle CH	3.62	4.81	5.36	6	
Highest CH	3.65	4.81	5.25	6.26	
Mode	LTE Band 12 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.38	6.55	-	-	PASS
Middle CH	6.46	6.58	-	-	
Highest CH	6.29	6.75	-	-	

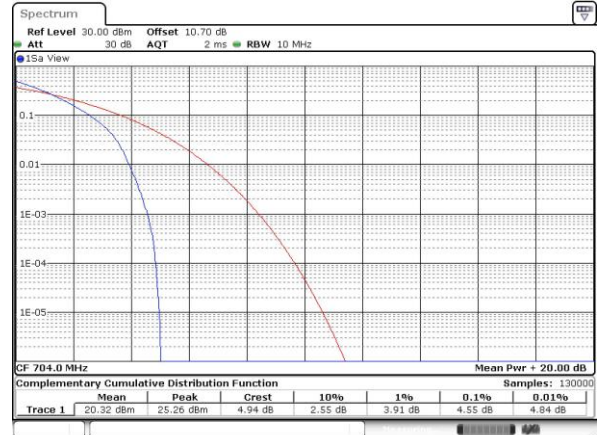


LTE Band 12 / 10MHz / QPSK

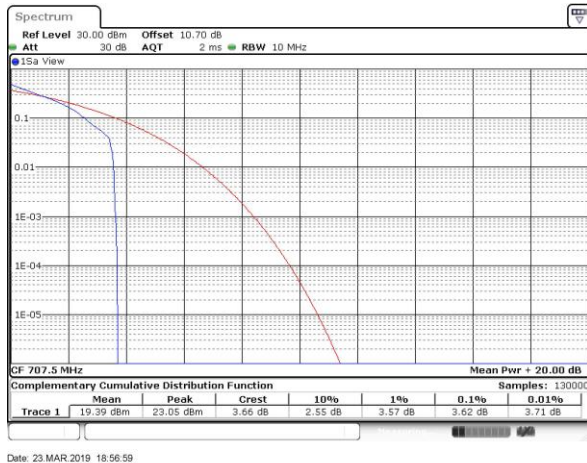
Lowest Channel / 1RB



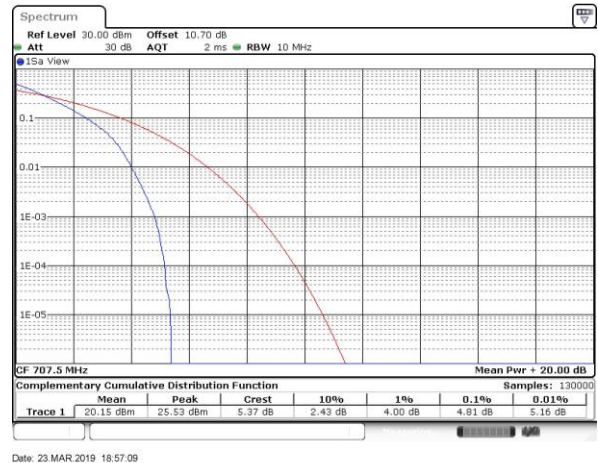
Lowest Channel / Full RB



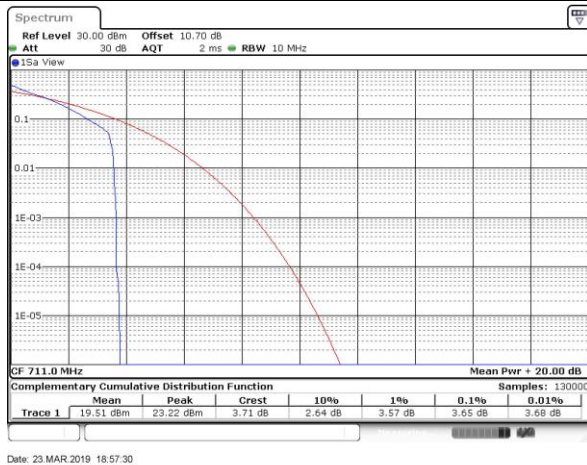
Middle Channel / 1RB



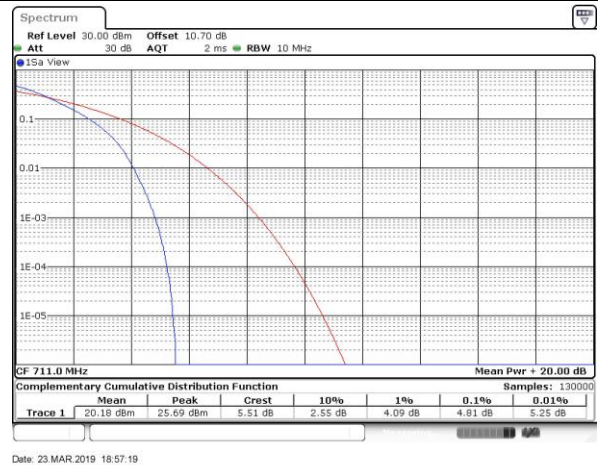
Middle Channel / Full RB



Highest Channel / 1RB

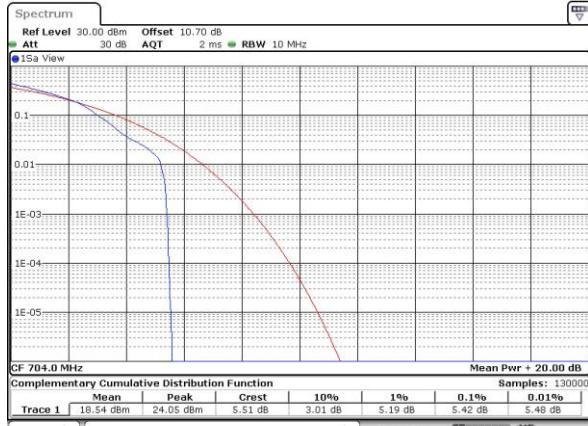


Highest Channel / Full RB



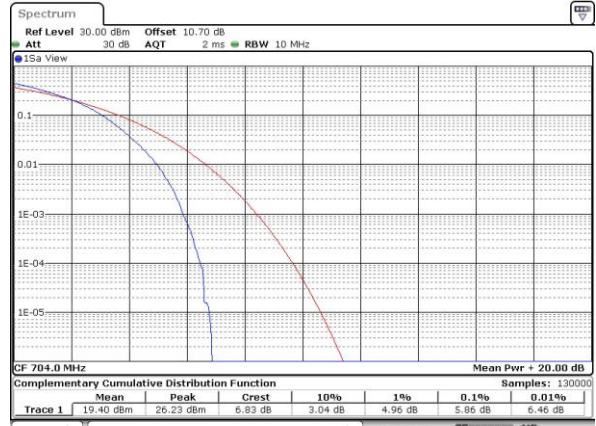
LTE Band 12 / 10MHz / 16QAM

Lowest Channel / 1RB



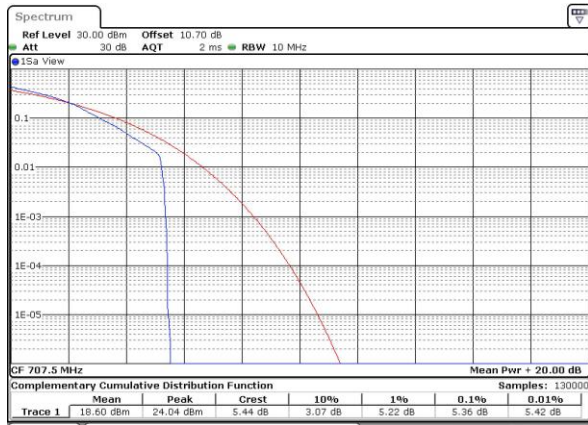
Date: 23 MAR 2019 18:55:44

Lowest Channel / Full RB



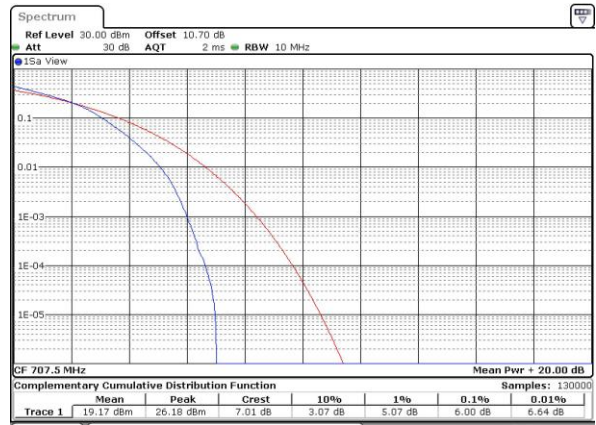
Date: 23 MAR 2019 18:55:34

Middle Channel / 1RB



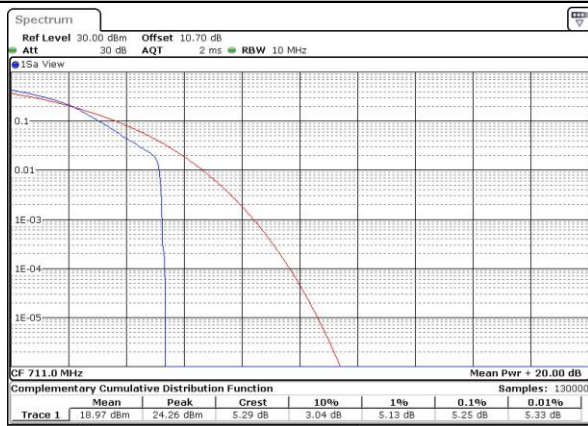
Date: 23 MAR 2019 18:55:55

Middle Channel / Full RB



Date: 23 MAR 2019 18:56:05

Highest Channel / 1RB



Date: 23 MAR 2019 18:56:27

Highest Channel / Full RB

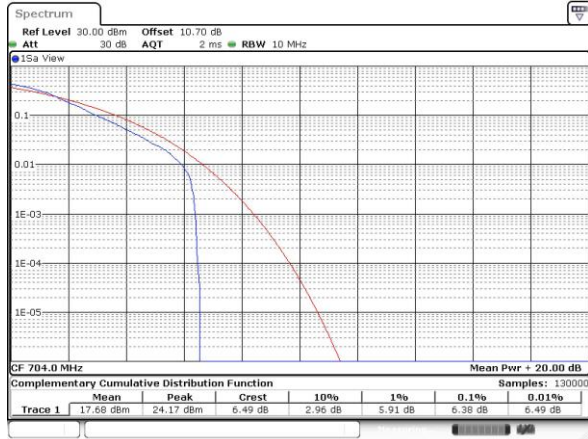


Date: 23 MAR 2019 18:56:16

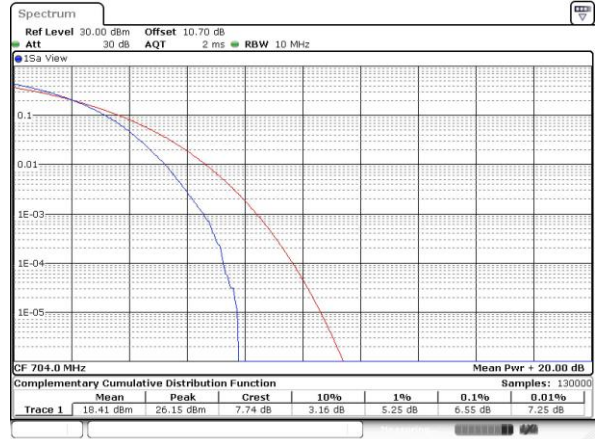


LTE Band 12 / 10MHz / 64QAM

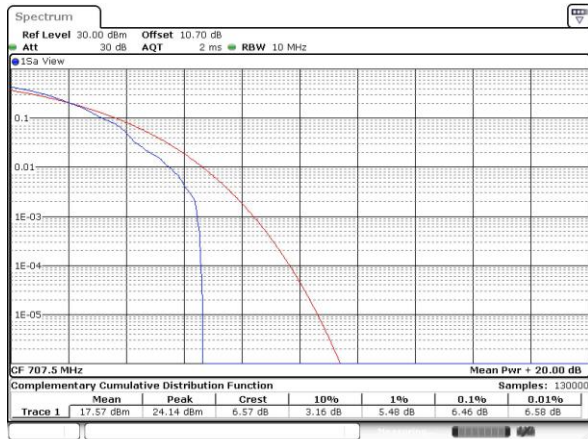
Lowest Channel / 1RB



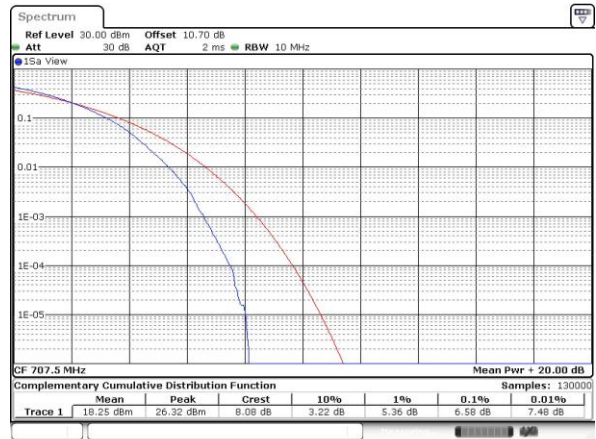
Lowest Channel / Full RB



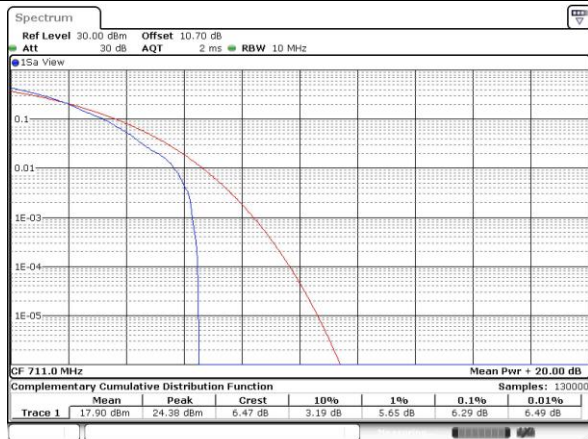
Middle Channel / 1RB



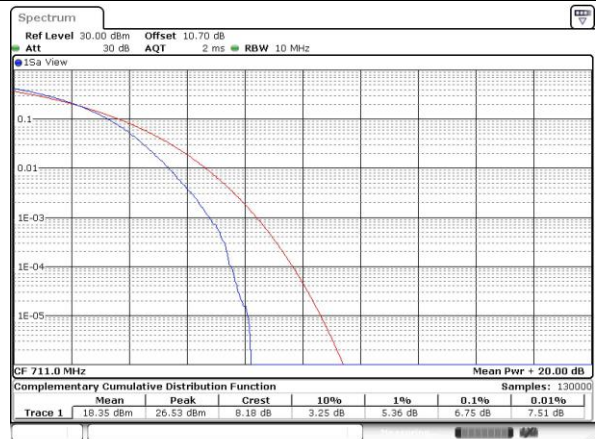
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB



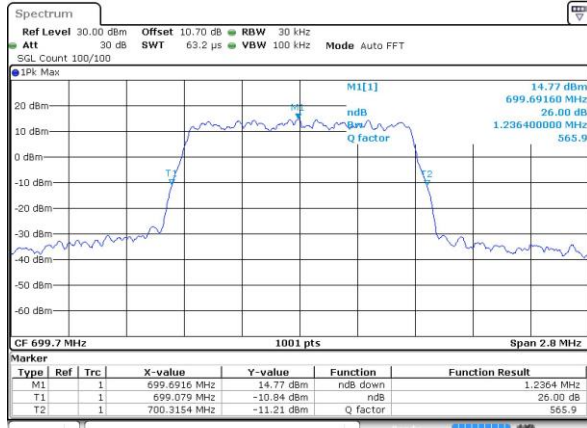
**26dB Bandwidth**

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	1.24	1.22	3.03	3.00	4.89	4.94	9.75	9.77	-	-	-	-
Middle CH	1.23	1.24	3.06	3.00	4.90	4.95	9.89	9.87	-	-	-	-
Highest CH	1.23	1.23	3.01	3.00	4.89	4.92	9.67	9.87	-	-	-	-
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	-	3.00	-	4.88	-	9.85	-	-	-	-	-
Middle CH	1.22	-	3.02	-	4.92	-	9.81	-	-	-	-	-
Highest CH	1.24	-	3.04	-	4.79	-	10.01	-	-	-	-	-



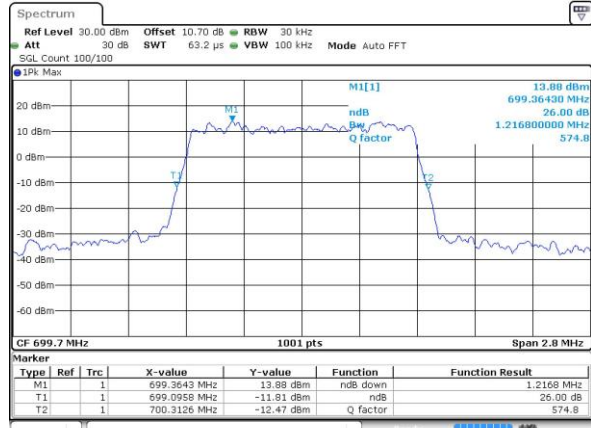
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



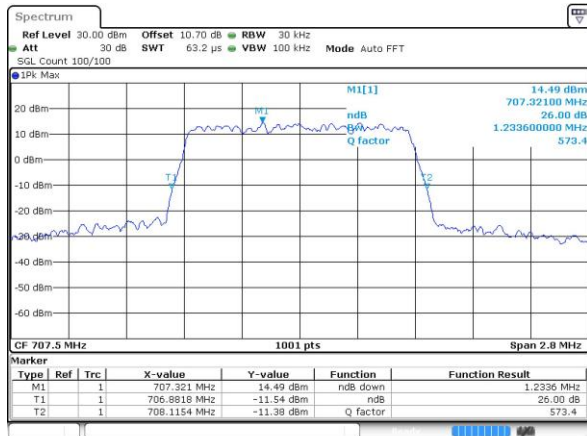
Date: 23 MAR 2019 18:32:22

Lowest Channel / 1.4MHz / 16QAM



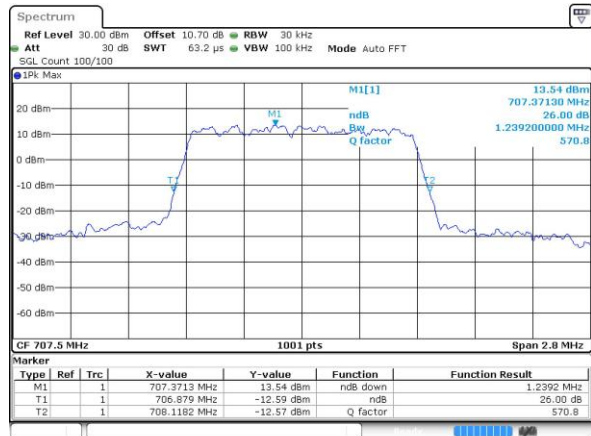
Date: 23 MAR 2019 18:32:10

Middle Channel / 1.4MHz / QPSK



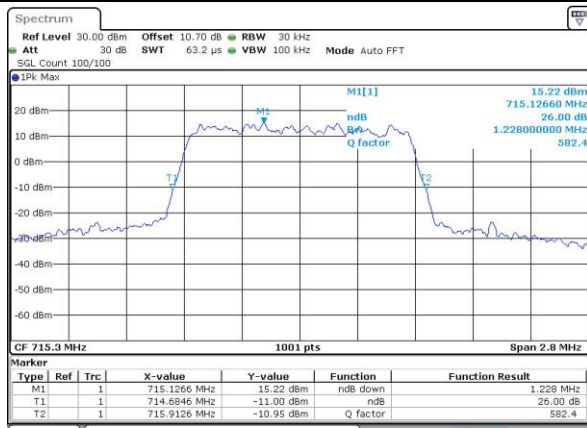
Date: 23 MAR 2019 18:39:25

Middle Channel / 1.4MHz / 16QAM



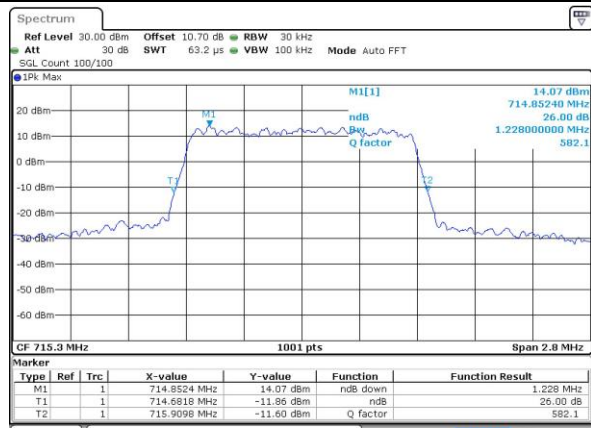
Date: 23 MAR 2019 18:39:37

Highest Channel / 1.4MHz / QPSK



Date: 23 MAR 2019 18:42:07

Highest Channel / 1.4MHz / 16QAM

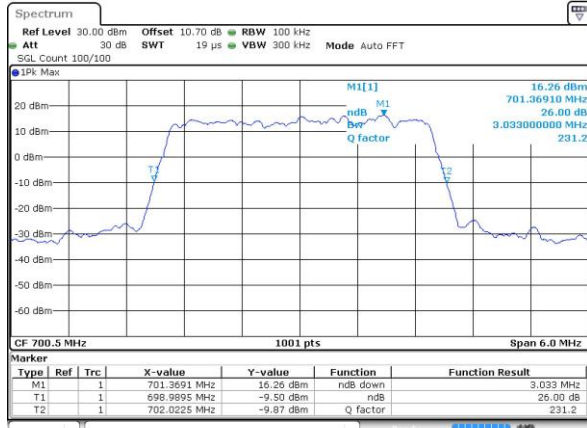


Date: 23 MAR 2019 18:41:55

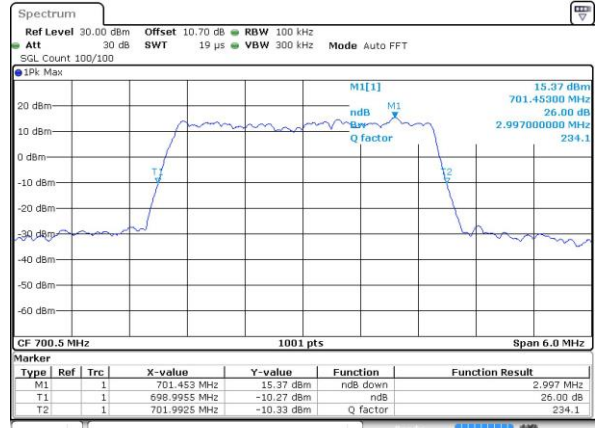


LTE Band 12

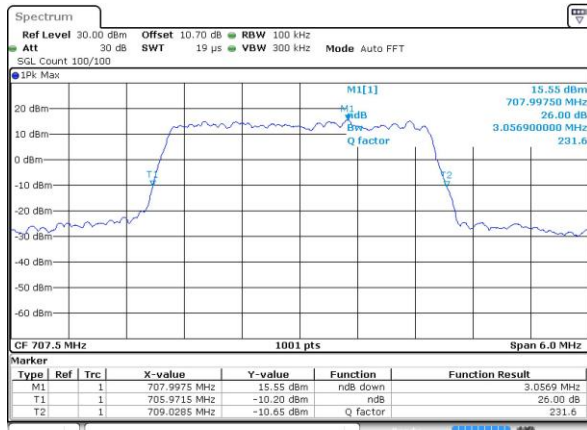
Lowest Channel / 3MHz / QPSK



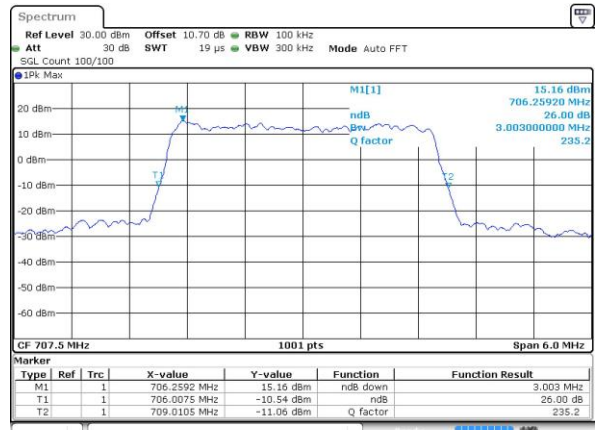
Lowest Channel / 3MHz / 16QAM



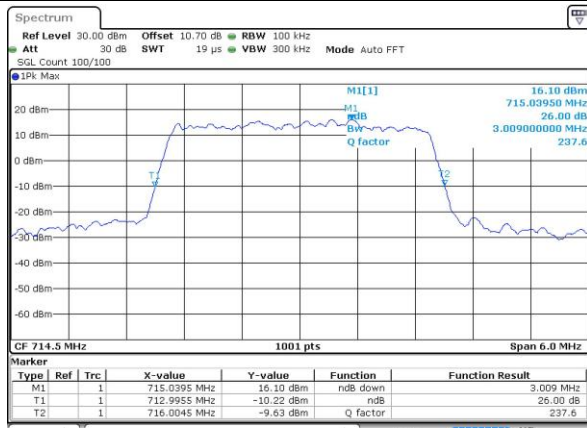
Middle Channel / 3MHz / QPSK



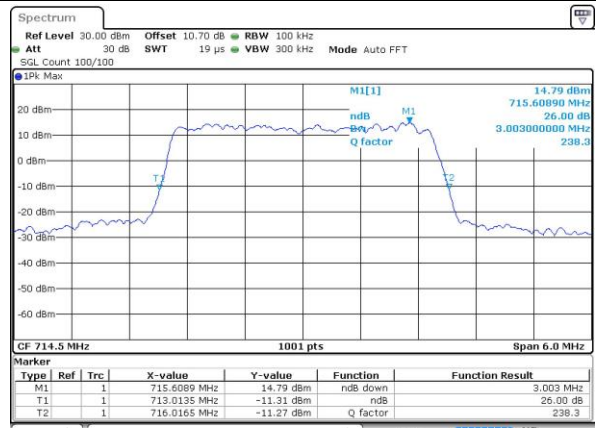
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK



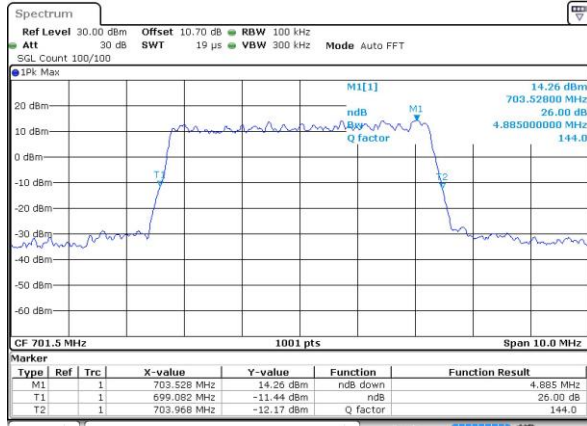
Highest Channel / 3MHz / 16QAM





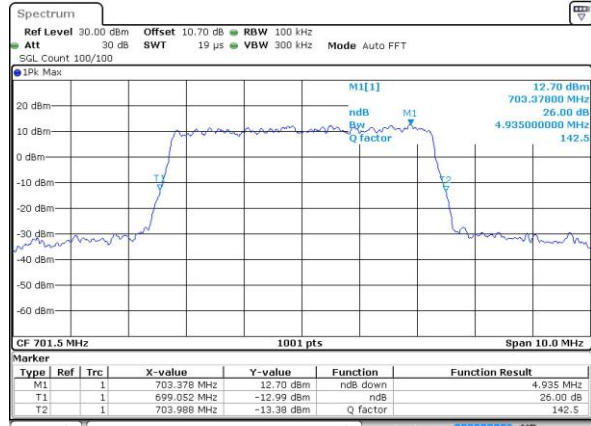
LTE Band 12

Lowest Channel / 5MHz / QPSK



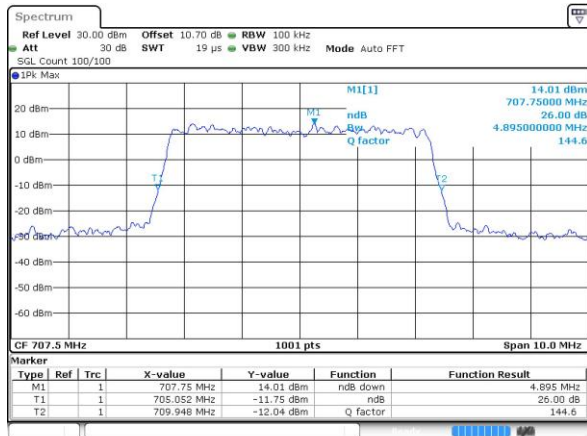
Date: 23 MAR 2019 16:24:05

Lowest Channel / 5MHz / 16QAM



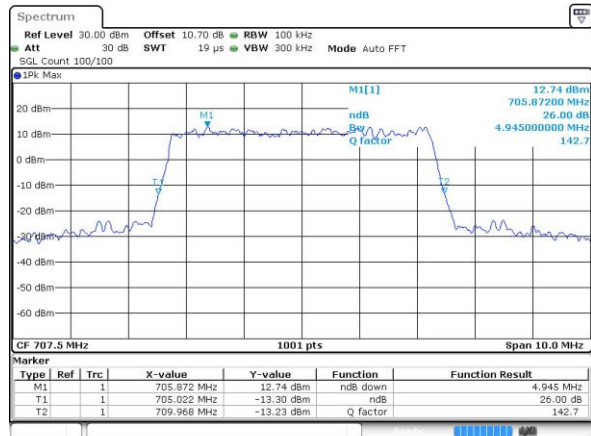
Date: 23 MAR 2019 16:23:53

Middle Channel / 5MHz / QPSK



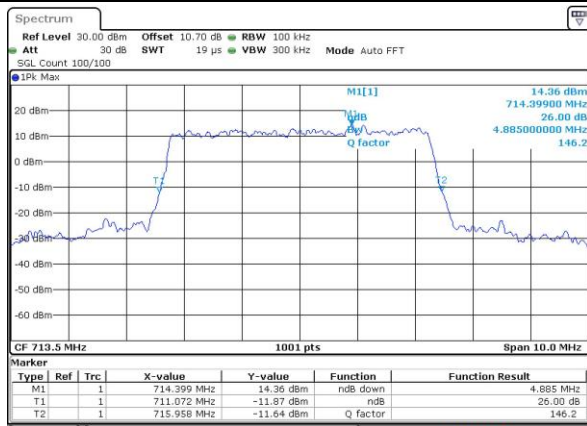
Date: 23 MAR 2019 16:31:08

Middle Channel / 5MHz / 16QAM



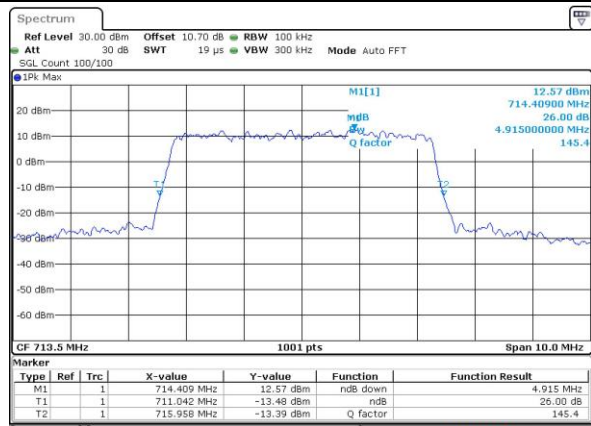
Date: 23 MAR 2019 16:31:20

Highest Channel / 5MHz / QPSK



Date: 23 MAR 2019 16:33:50

Highest Channel / 5MHz / 16QAM

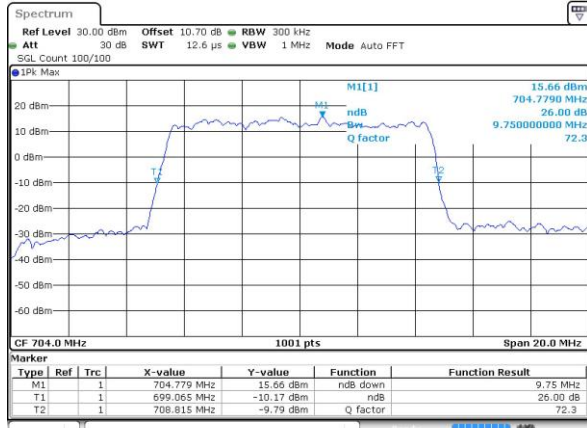


Date: 23 MAR 2019 16:33:38



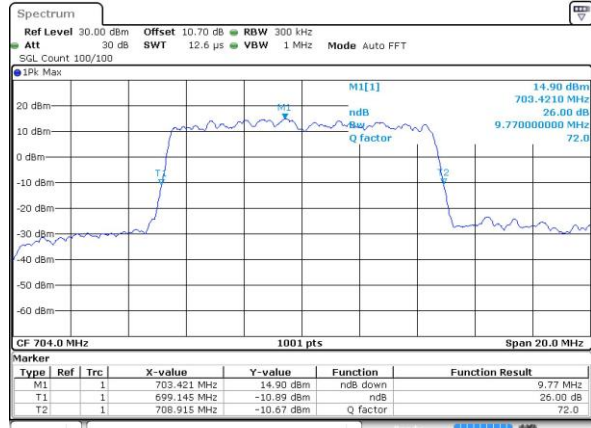
LTE Band 12

Lowest Channel / 10MHz / QPSK



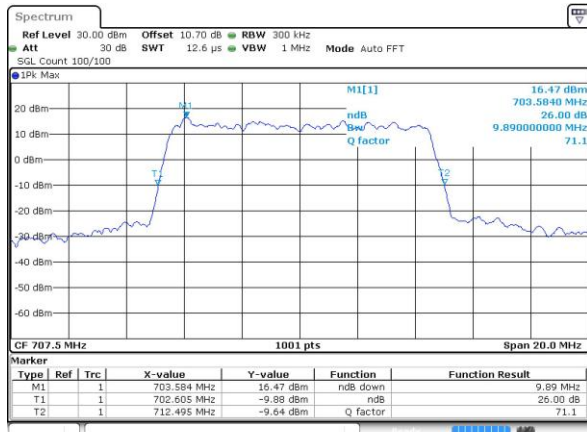
Date: 23 MAR 2019 16:50:15

Lowest Channel / 10MHz / 16QAM



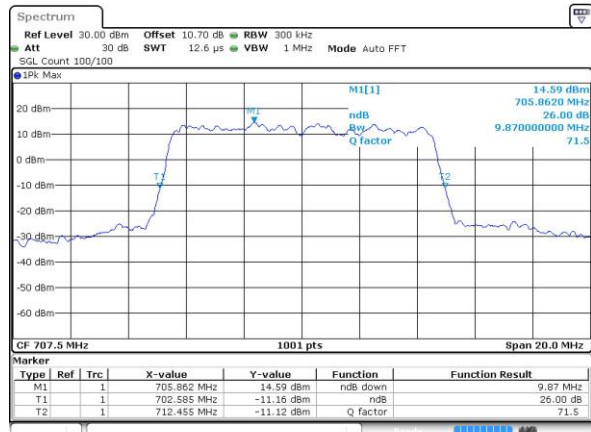
Date: 23 MAR 2019 16:50:02

Middle Channel / 10MHz / QPSK



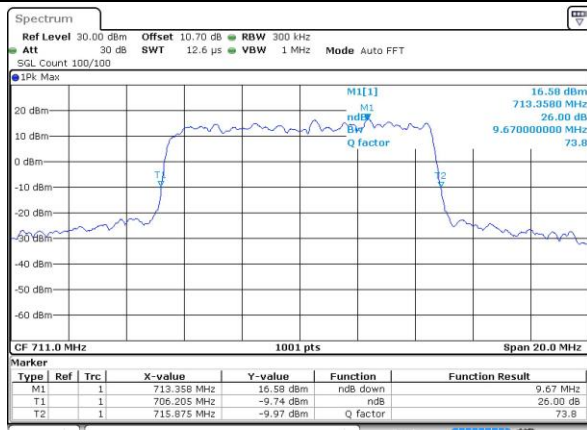
Date: 23 MAR 2019 16:57:17

Middle Channel / 10MHz / 16QAM



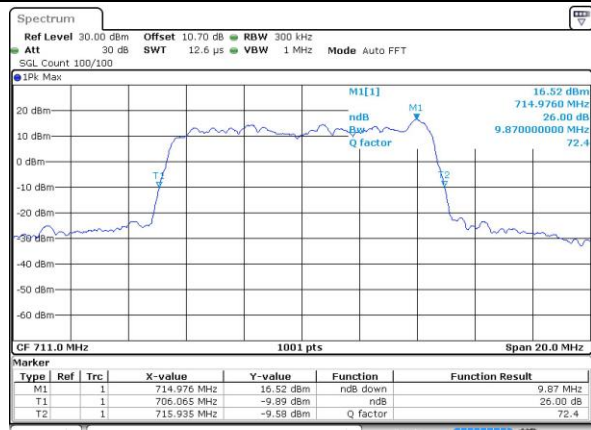
Date: 23 MAR 2019 16:57:29

Highest Channel / 10MHz / QPSK



Date: 23 MAR 2019 16:59:59

Highest Channel / 10MHz / 16QAM

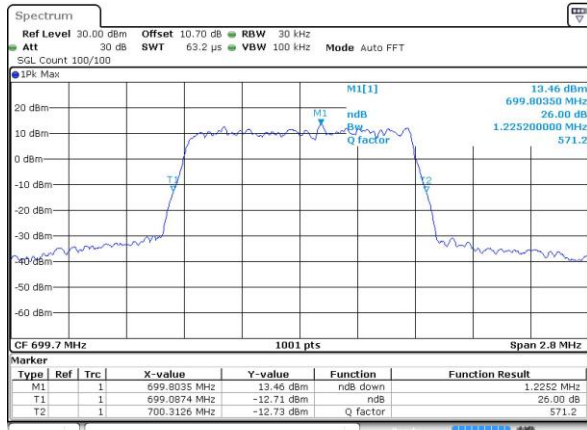


Date: 23 MAR 2019 16:59:47



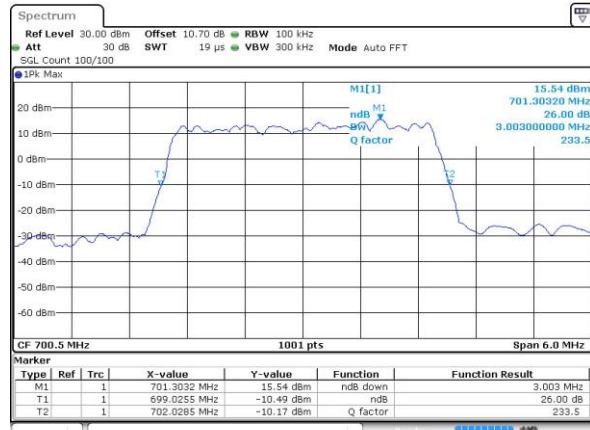
LTE Band 12

Lowest Channel / 1.4MHz / 64QAM



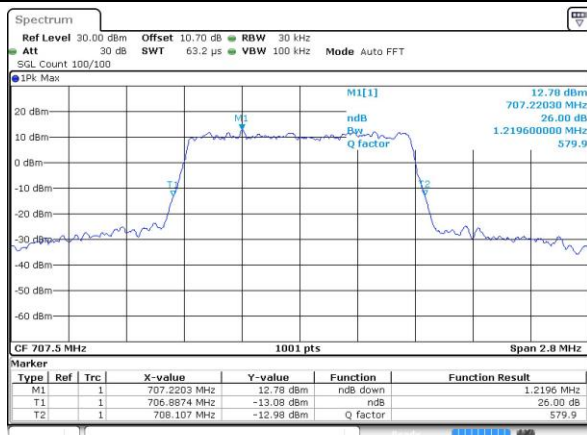
Date: 23 MAR 2019 18:23:28

Lowest Channel / 3MHz / 64QAM



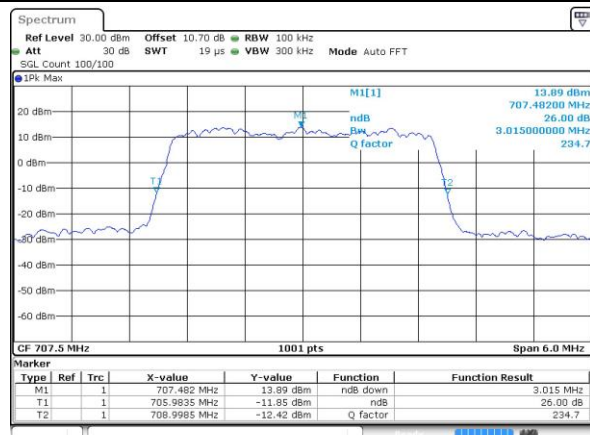
Date: 23 MAR 2019 17:57:57

Middle Channel / 1.4MHz / 64QAM



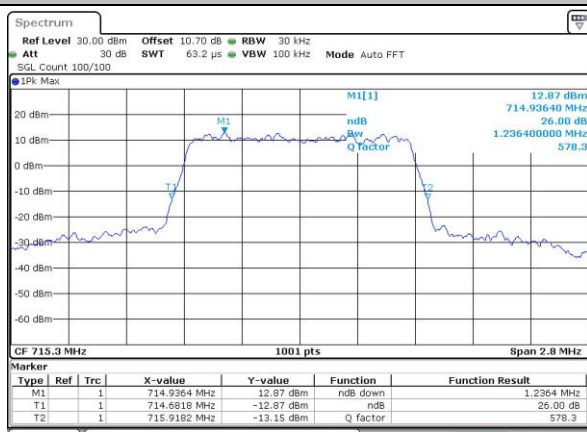
Date: 23 MAR 2019 18:27:04

Middle Channel / 3MHz / 64QAM



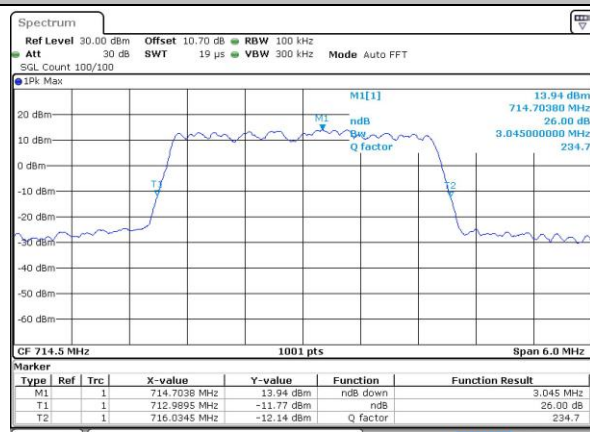
Date: 23 MAR 2019 18:01:34

Highest Channel / 1.4MHz / 64QAM



Date: 23 MAR 2019 18:28:19

Highest Channel / 3MHz / 64QAM

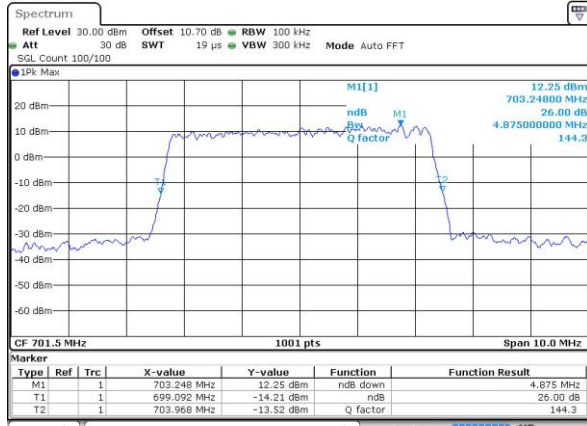


Date: 23 MAR 2019 18:02:49

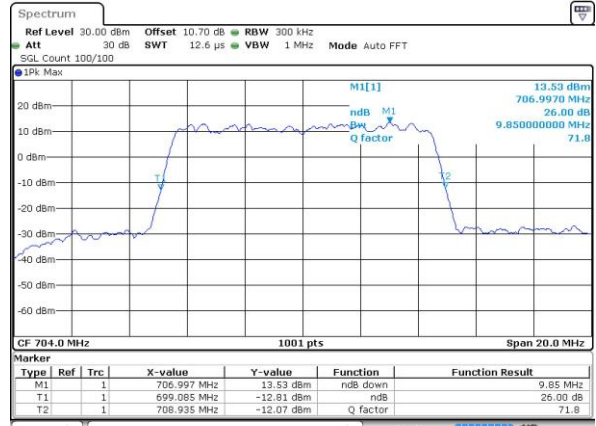


LTE Band 12

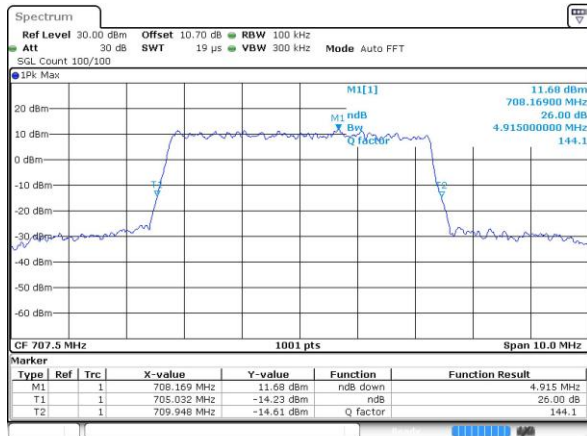
Lowest Channel / 5MHz / 64QAM



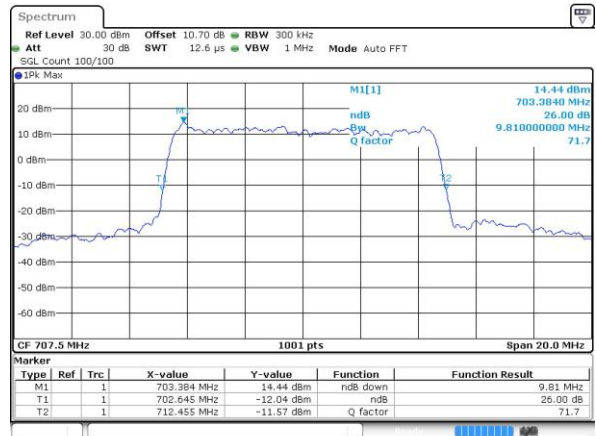
Lowest Channel / 10MHz / 64QAM



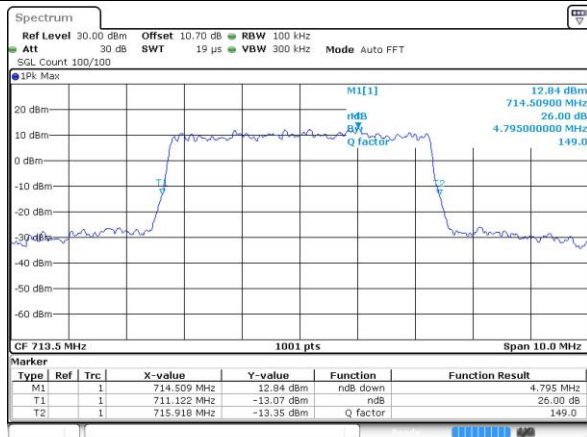
Middle Channel / 5MHz / 64QAM



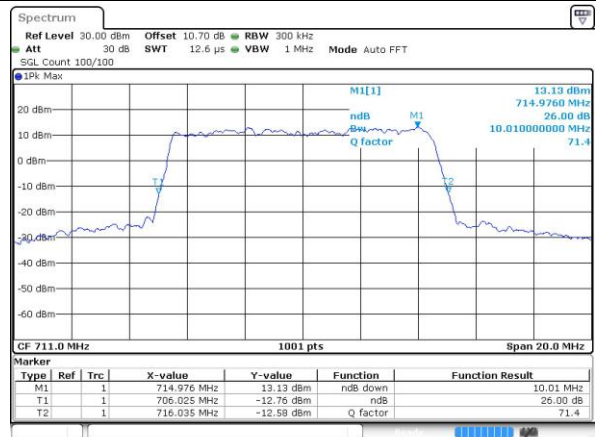
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



Highest Channel / 10MHz / 64QAM



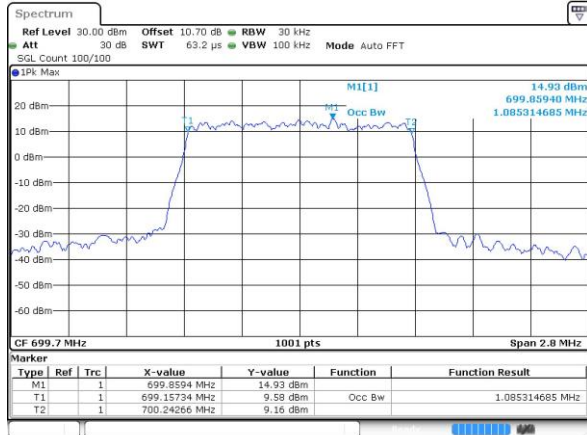
**Occupied Bandwidth**

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	1.09	2.75	2.72	4.48	4.48	8.99	9.03	-	-	-	-
Middle CH	1.09	1.09	2.72	2.73	4.48	4.51	9.05	9.03	-	-	-	-
Highest CH	1.1	1.09	2.73	2.7	4.5	4.48	9.05	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	1.09	-	2.71	-	4.48	-	8.95	-	-	-	-	-
Middle CH	1.09	-	2.72	-	4.50	-	9.01	-	-	-	-	-
Highest CH	1.08	-	2.71	-	4.49	-	9.09	-	-	-	-	-

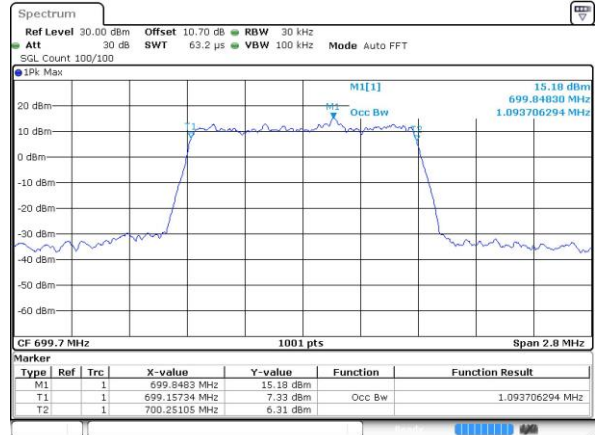


LTE Band 12

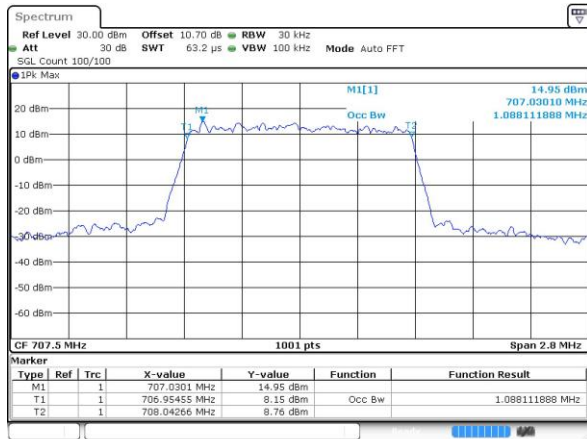
Lowest Channel / 1.4MHz / QPSK



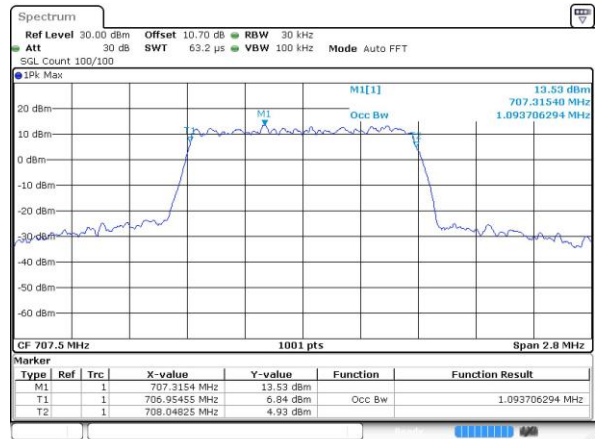
Lowest Channel / 1.4MHz / 16QAM



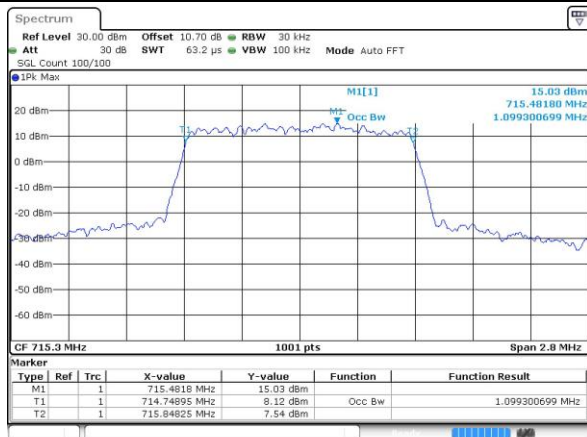
Middle Channel / 1.4MHz / QPSK



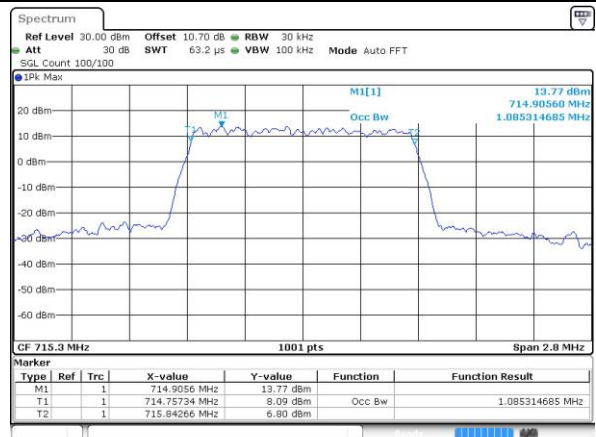
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK



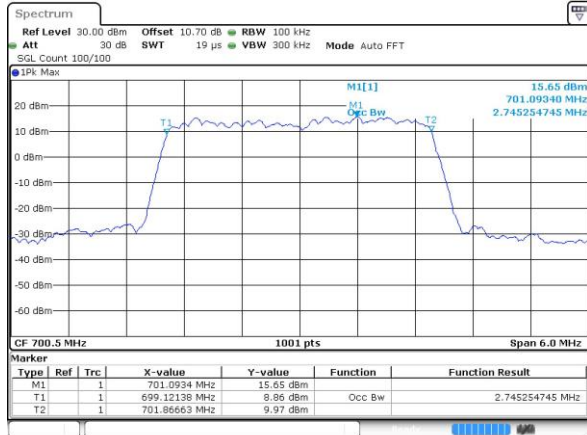
Highest Channel / 1.4MHz / 16QAM





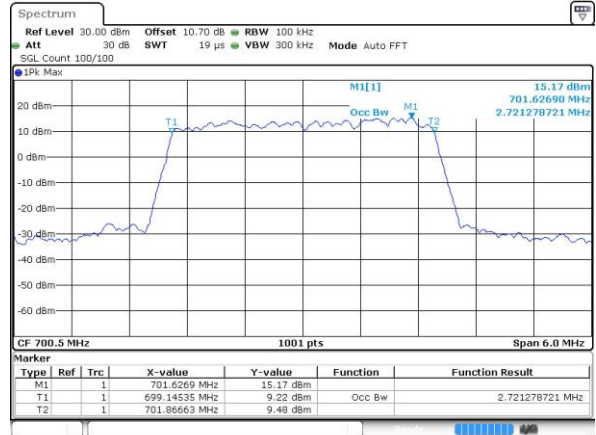
LTE Band 12

Lowest Channel / 3MHz / QPSK



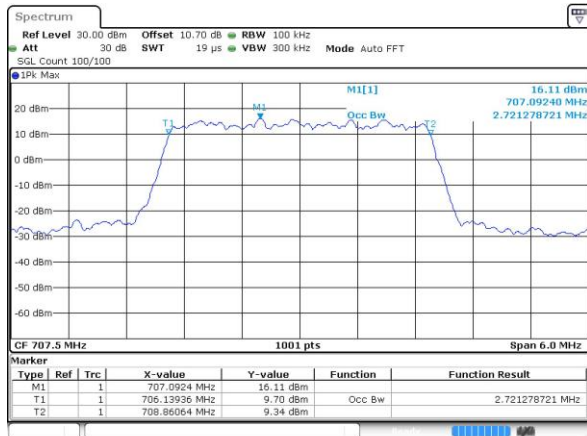
Date: 23 MAR 2019 16:06:27

Lowest Channel / 3MHz / 16QAM



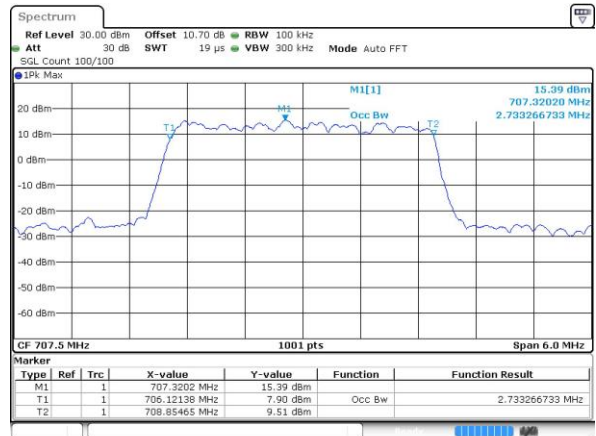
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Middle Channel / 3MHz / QPSK



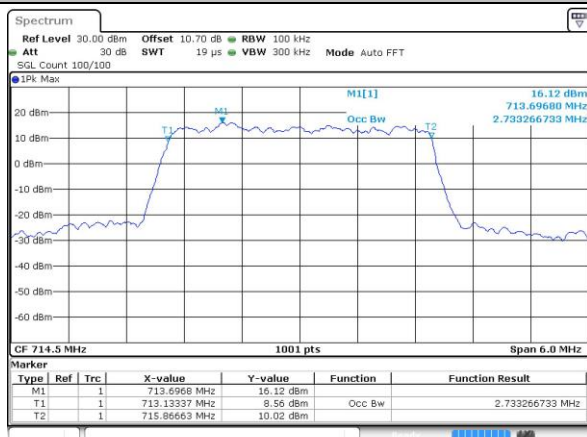
Date: 23 MAR 2019 16:13:55

Middle Channel / 3MHz / 16QAM



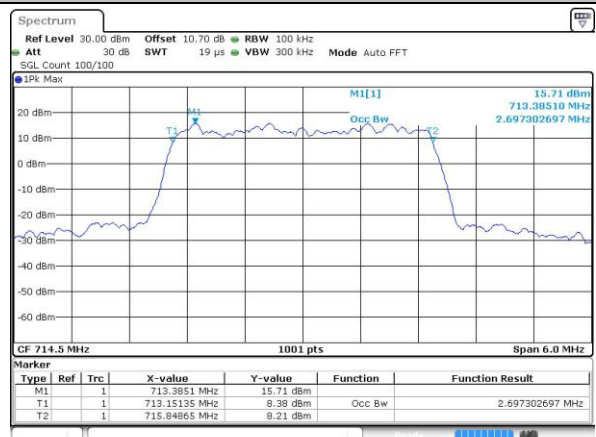
Date: 23 MAR 2019 16:13:43

Highest Channel / 3MHz / QPSK



Date: 23 MAR 2019 16:16:12

Highest Channel / 3MHz / 16QAM



Date: 23 MAR 2019 16:16:24