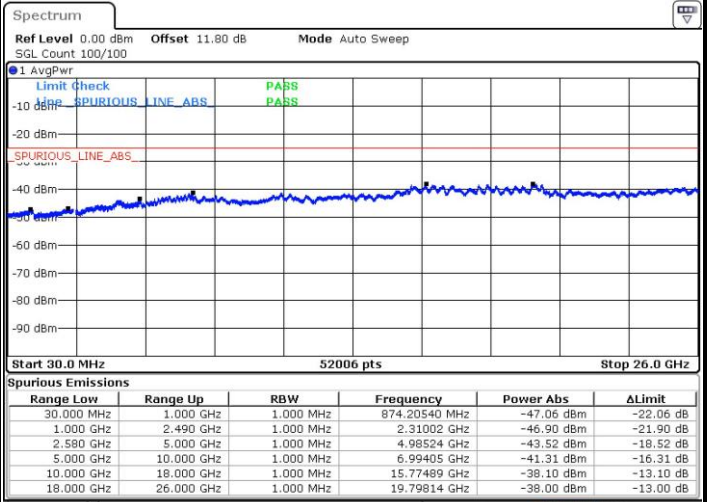
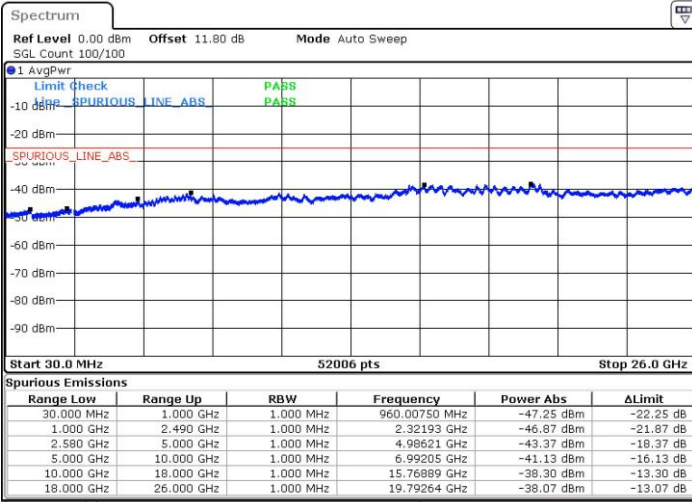




LTE Band 7 / 15MHz

Highest Channel / QPSK

Highest Channel / 16QAM



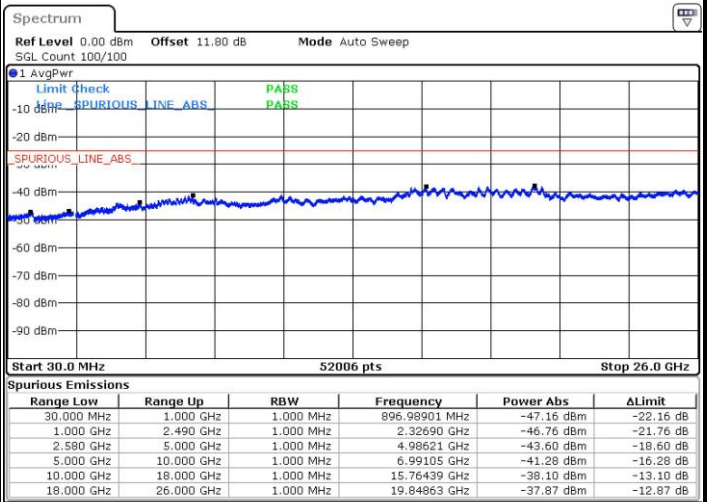
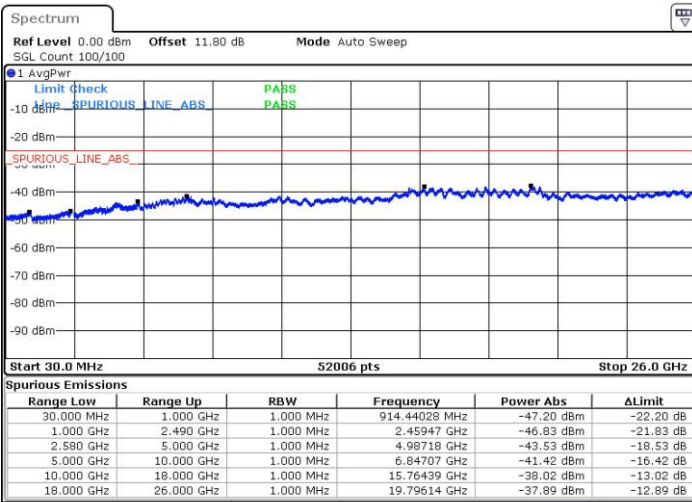
Date: 13.MAY.2017 18:31:16

Date: 13.MAY.2017 18:32:10

LTE Band 7 / 20MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



Date: 13.MAY.2017 18:38:24

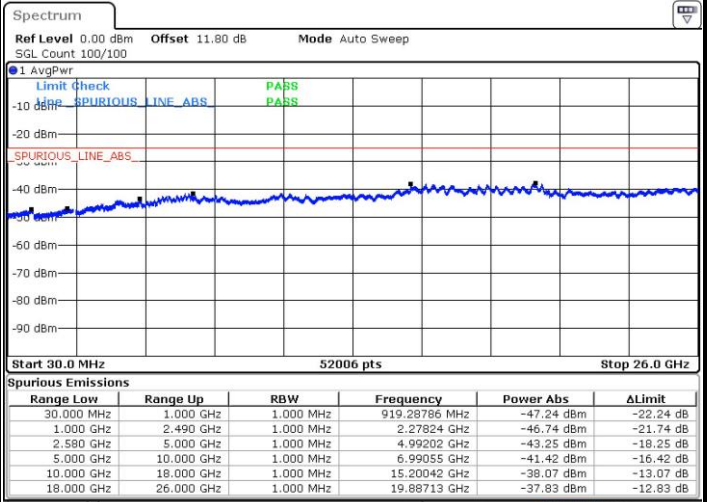
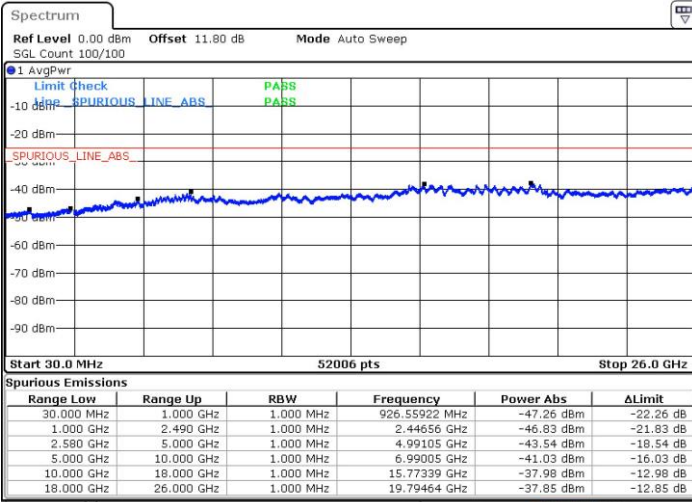
Date: 13.MAY.2017 18:39:18



LTE Band 7 / 20MHz

Middle Channel / QPSK

Middle Channel / 16QAM

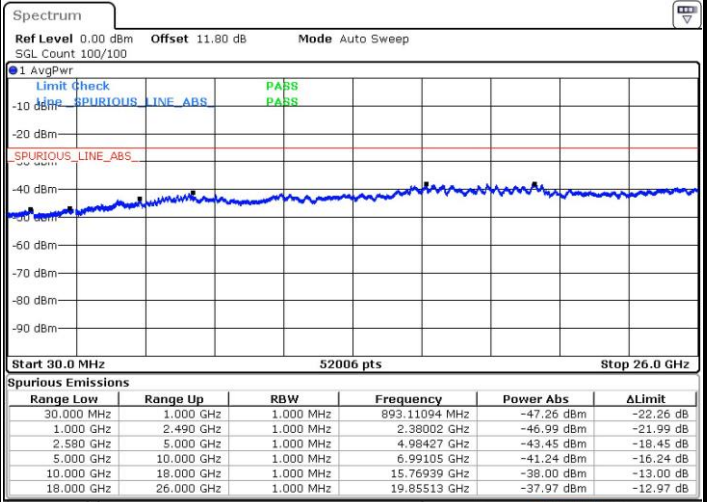
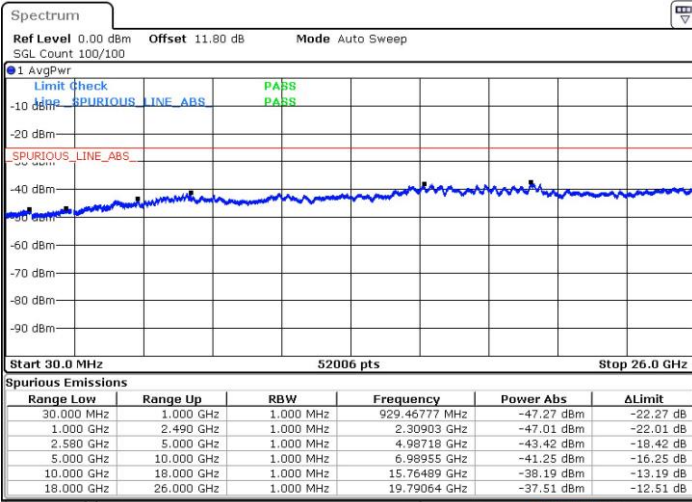


Date: 13.MAY.2017 18:40:53

Date: 13.MAY.2017 18:41:46

Highest Channel / QPSK

Highest Channel / 16QAM



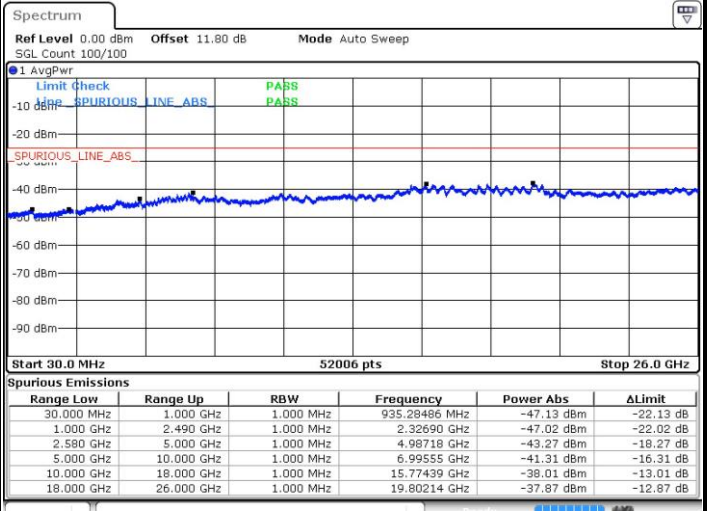
Date: 13.MAY.2017 18:48:01

Date: 13.MAY.2017 18:48:55



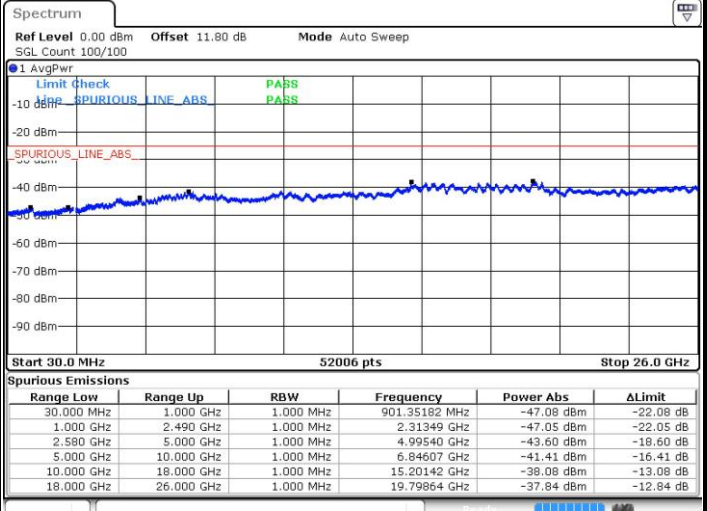
LTE Band 7 / 5MHz

Lowest Channel / 64QAM



Date: 13.MAY.2017 18:57:33

Middle Channel / 64QAM

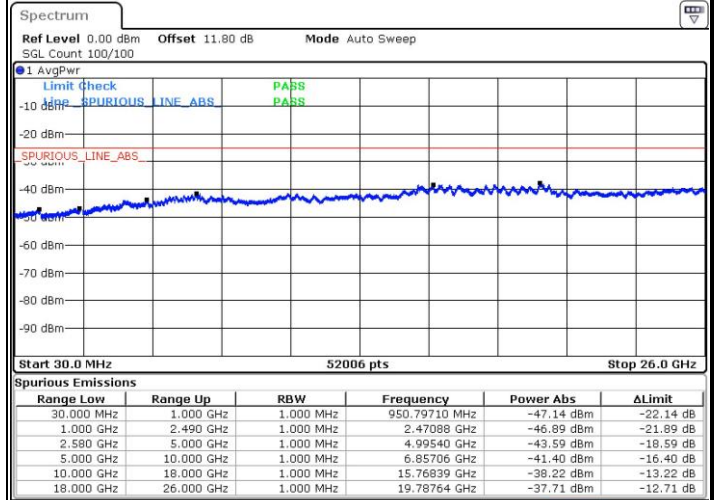


Date: 13.MAY.2017 18:58:48



LTE Band 7 / 5MHz

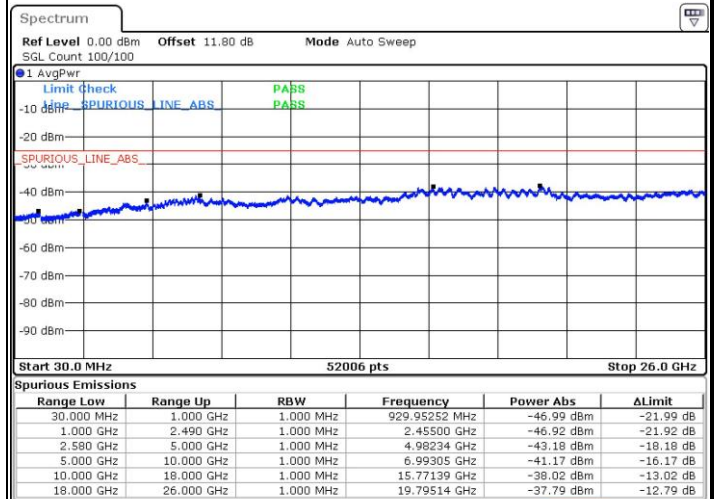
Highest Channel / 64QAM



Date: 13.MAY.2017 19:02:22

LTE Band 7 / 10MHz

Lowest Channel / 64QAM

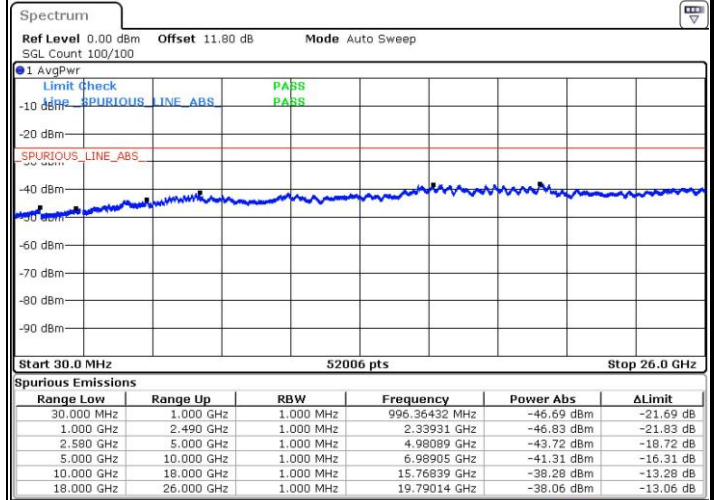


Date: 13.MAY.2017 19:05:55



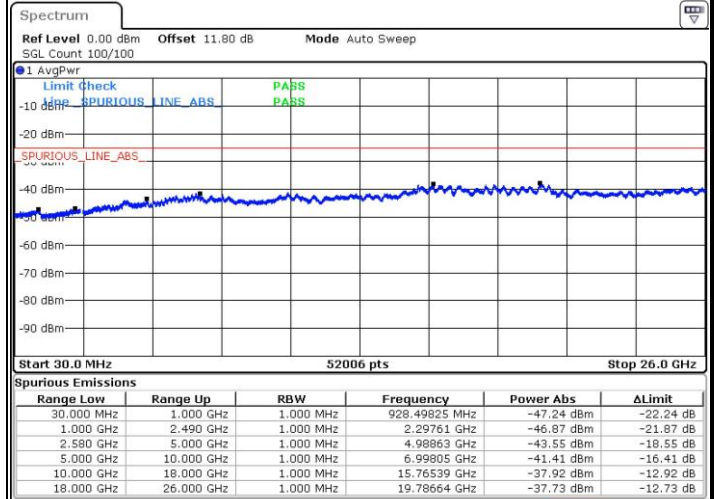
LTE Band 7 / 10MHz

Middle Channel / 64QAM



Date: 13.MAY.2017 19:07:10

Highest Channel / 64QAM

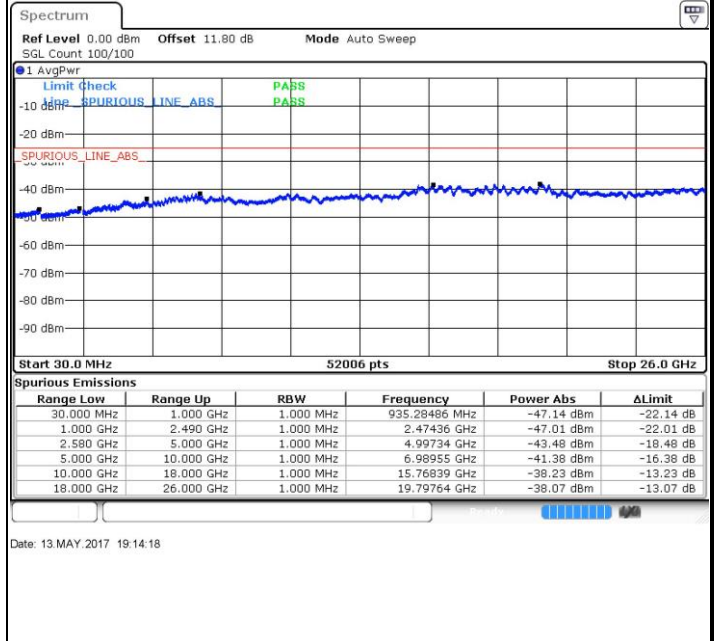


Date: 13.MAY.2017 19:10:44

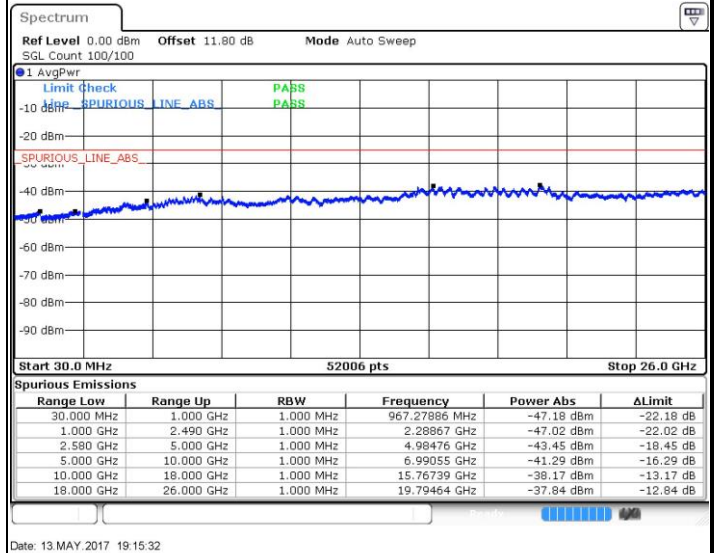


LTE Band 7 / 15MHz

Lowest Channel / 64QAM



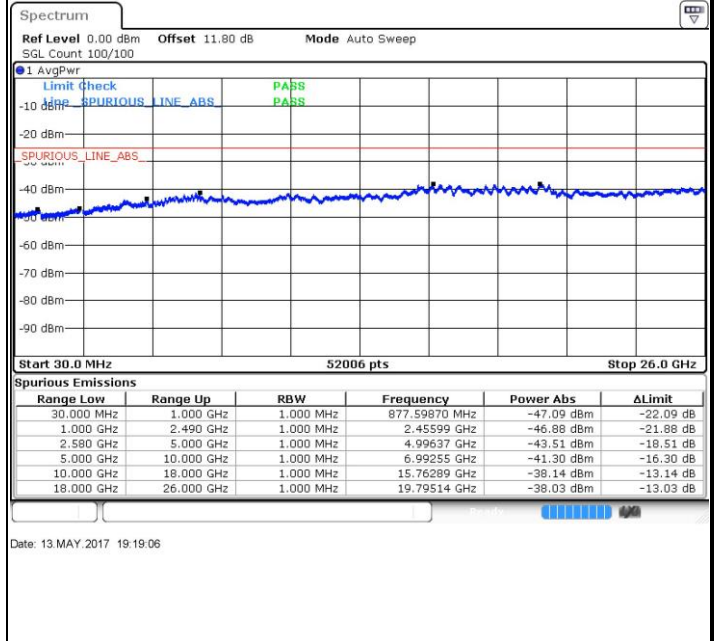
Middle Channel / 64QAM





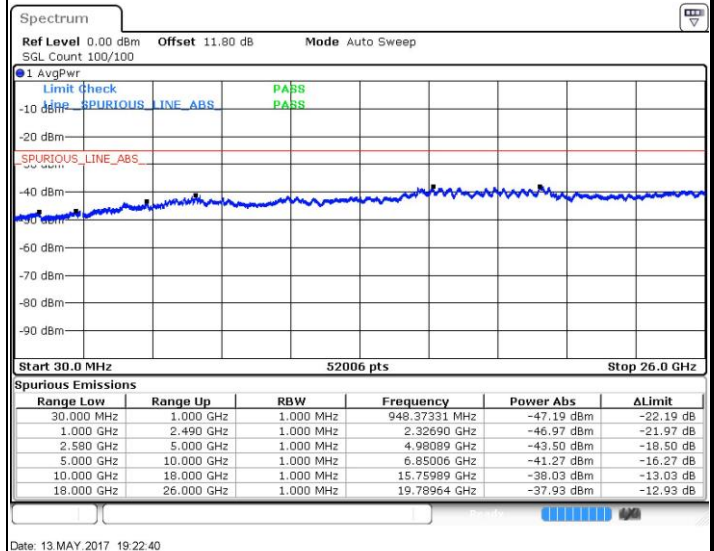
LTE Band7 / 15MHz

Highest Channel / 64QAM



LTE Band 7 / 20MHz

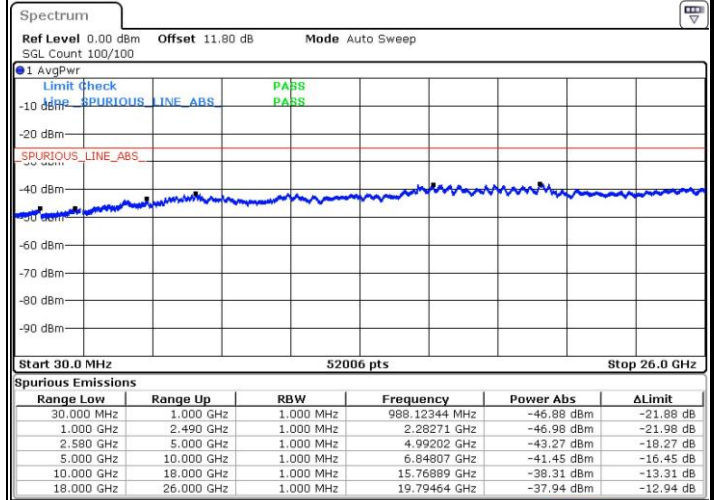
Lowest Channel / 64QAM





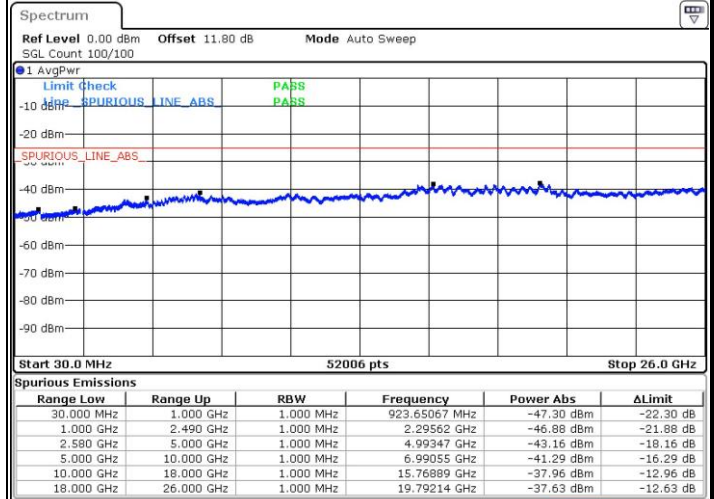
LTE Band 7 / 20MHz

Middle Channel / 64QAM



Date: 13.MAY.2017 19:23:54

Highest Channel / 64QAM



Date: 13.MAY.2017 19:27:28





**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	0.0000	
30	Normal Voltage	0.0078	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0075	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0075	
-20	Normal Voltage	0.0077	
-30	Normal Voltage	0.0009	
20	Maximum Voltage	0.0008	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0002	

**Note:**

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.35 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	4.49	4.9	5.07	5.74	<b>PASS</b>
Middle CH	4.58	4.67	5.42	5.62	
Highest CH	4.14	4.84	4.58	5.65	
Mod.	-		64QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	5.19	5.8	<b>PASS</b>
Middle CH	-	-	5.42	5.77	
Highest CH	-	-	4.72	5.68	



LTE Band 12 / 10MHz / QPSK

Lowest Channel / 1RB



Date: 11 MAY 2017 20:08:49

Lowest Channel / Full RB



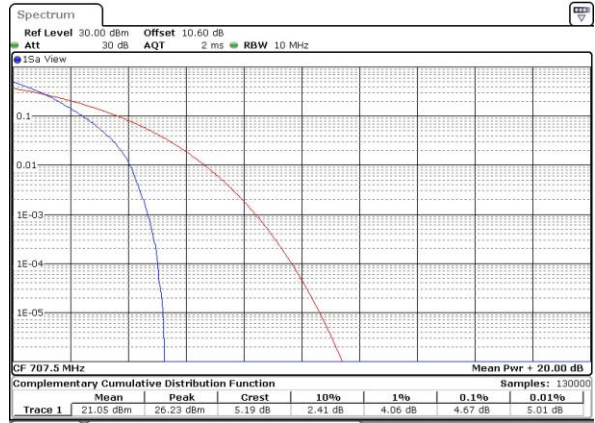
Date: 11 MAY 2017 20:08:23

Middle Channel / 1RB



Date: 11 MAY 2017 20:08:59

Middle Channel / Full RB



Date: 11 MAY 2017 20:09:08

Highest Channel / 1RB



Date: 11 MAY 2017 20:09:29

Highest Channel / Full RB



Date: 11 MAY 2017 20:09:18



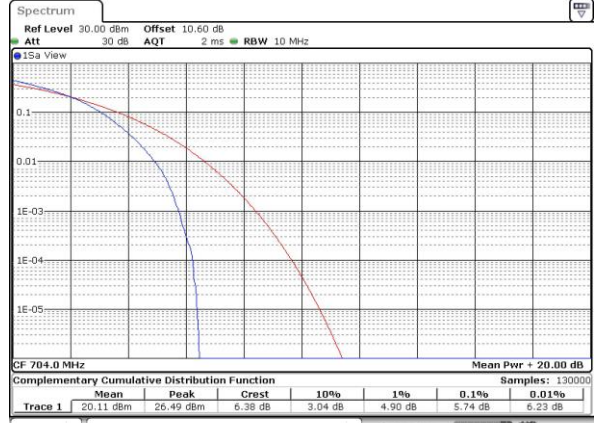
LTE Band 12 / 10MHz / 16QAM

Lowest Channel / 1RB



Date: 11 MAY 2017 20:07:33

Lowest Channel / Full RB



Date: 11 MAY 2017 20:07:22

Middle Channel / 1RB



Date: 11 MAY 2017 20:07:44

Middle Channel / Full RB



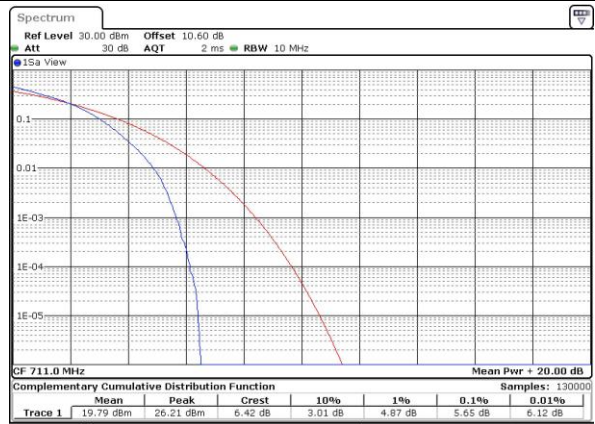
Date: 11 MAY 2017 20:07:54

Highest Channel / 1RB



Date: 11 MAY 2017 20:08:13

Highest Channel / Full RB

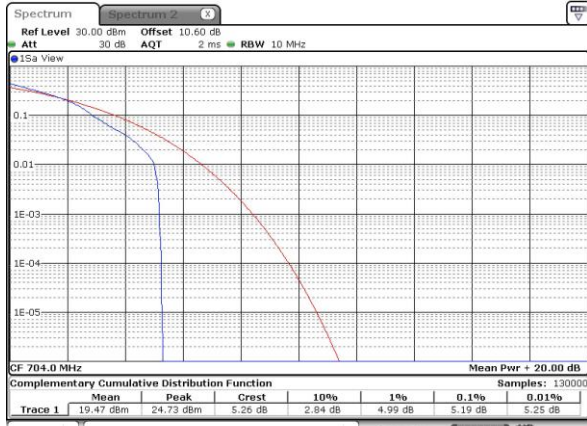


Date: 11 MAY 2017 20:08:04



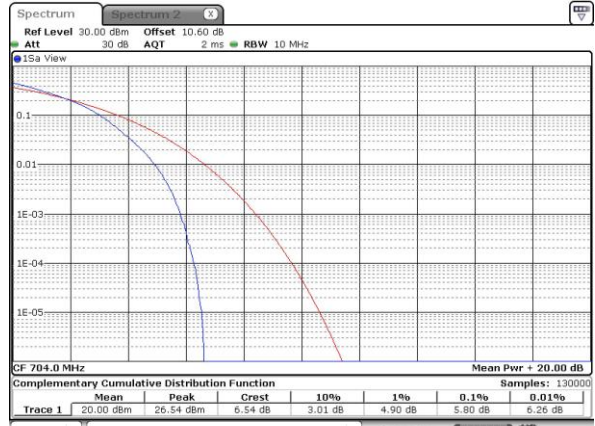
LTE Band 12 / 10MHz / 64QAM

Lowest Channel / 1RB



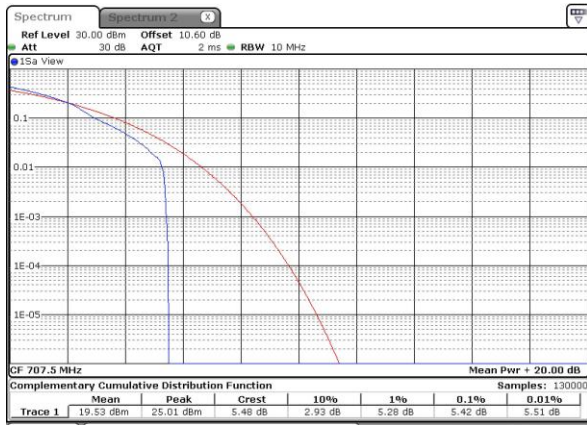
Date: 14.MAY.2017 11:29:36

Lowest Channel / Full RB



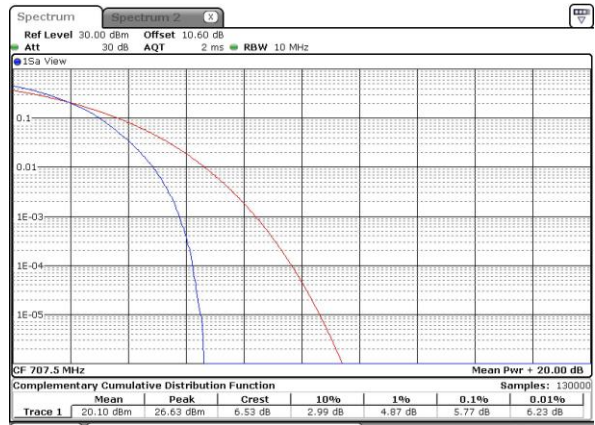
Date: 14.MAY.2017 11:29:24

Middle Channel / 1RB



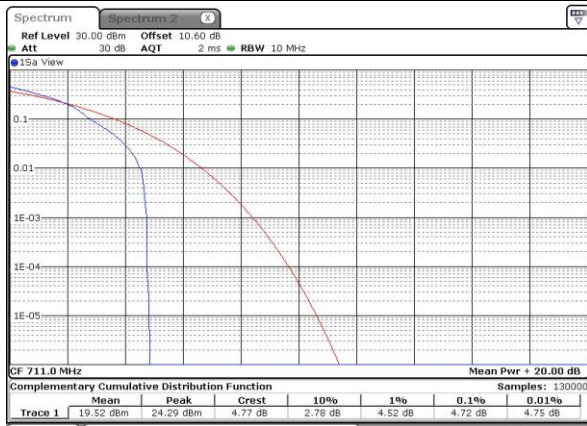
Date: 14.MAY.2017 11:30:21

Middle Channel / Full RB



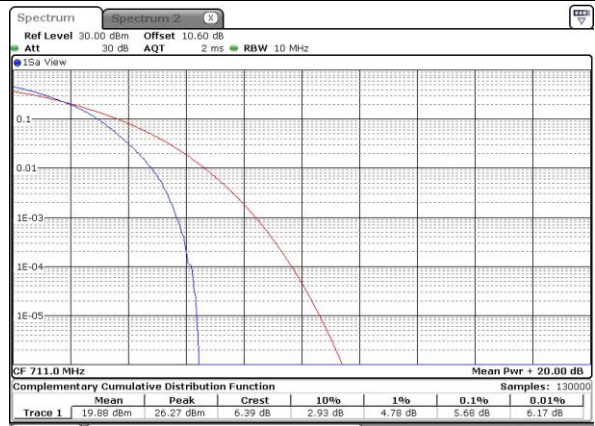
Date: 14.MAY.2017 11:30:32

Highest Channel / 1RB



Date: 14.MAY.2017 11:31:21

Highest Channel / Full RB



Date: 14.MAY.2017 11:31:11



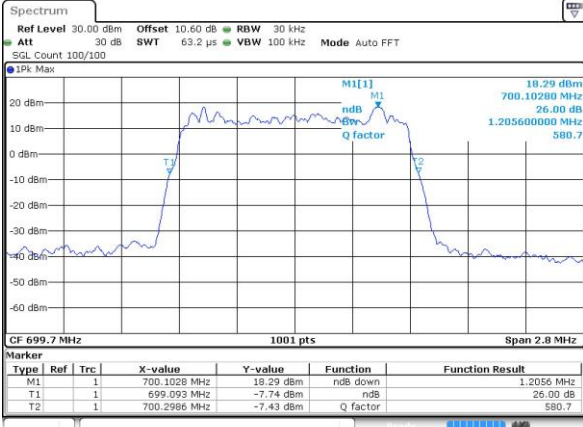
**26dB Bandwidth**

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	1.21	1.23	3.05	3.05	4.89	4.93	9.79	9.87	-	-	-	-
Middle CH	1.22	1.23	3.00	3.02	4.95	4.89	9.71	9.71	-	-	-	-
Highest CH	1.23	1.23	2.99	3.04	4.88	4.87	9.81	9.77	-	-	-	-
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	-	64QAM	-	64QAM	-	64QAM	-	64QAM	-	64QAM	-	64QAM
Lowest CH	-	1.22	-	3.03	-	4.87	-	9.77	-	-	-	-
Middle CH	-	1.22	-	3.07	-	4.86	-	9.71	-	-	-	-
Highest CH	-	1.23	-	3.07	-	4.85	-	9.83	-	-	-	-



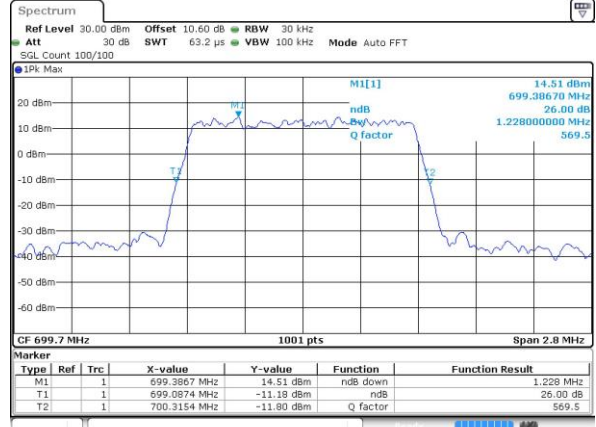
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



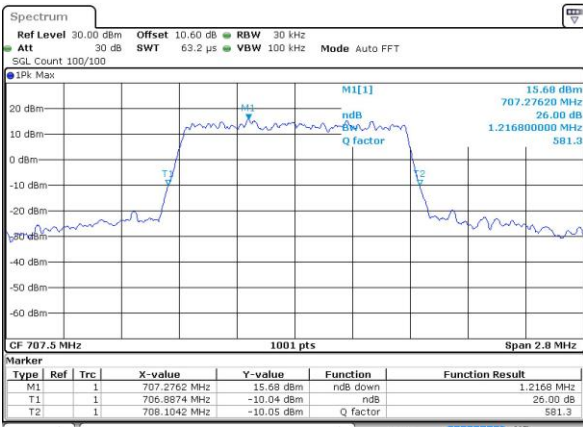
Date: 11 MAY 2017 19:51:08

Lowest Channel / 1.4MHz / 16QAM



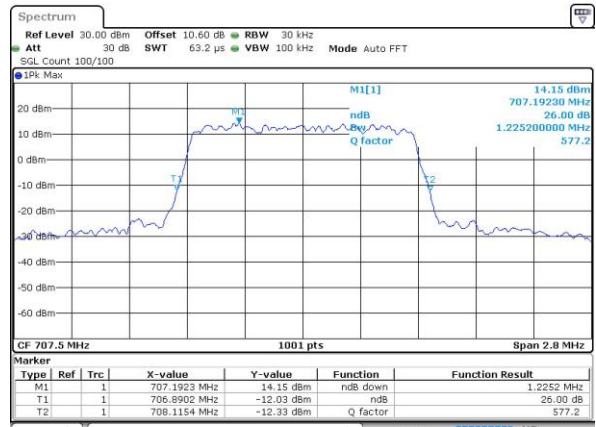
Date: 11 MAY 2017 19:50:58

Middle Channel / 1.4MHz / QPSK



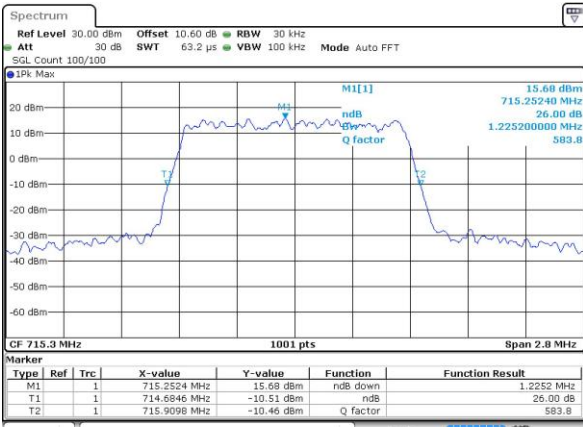
Date: 11 MAY 2017 19:58:05

Middle Channel / 1.4MHz / 16QAM



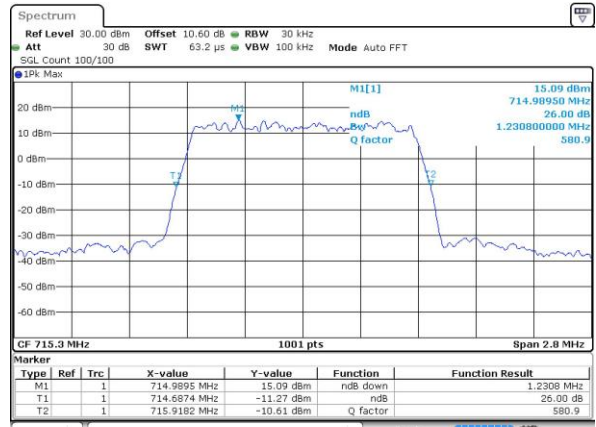
Date: 11 MAY 2017 19:58:15

Highest Channel / 1.4MHz / QPSK



Date: 11 MAY 2017 20:00:45

Highest Channel / 1.4MHz / 16QAM

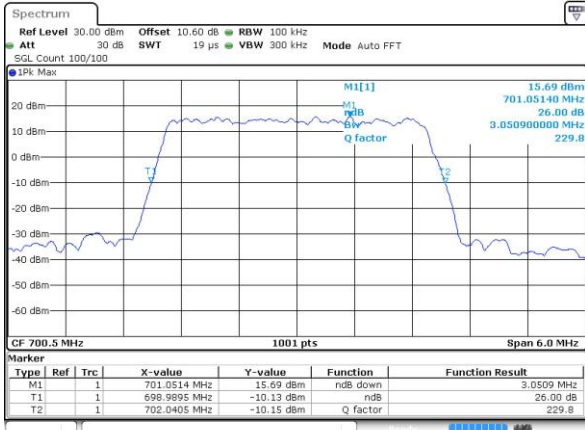


Date: 11 MAY 2017 20:00:35



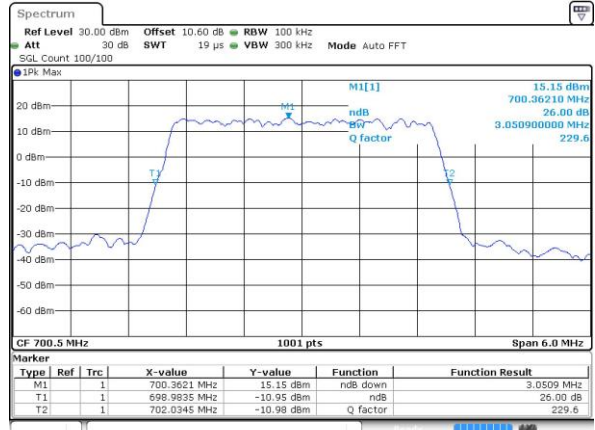
LTE Band 12

Lowest Channel / 3MHz / QPSK



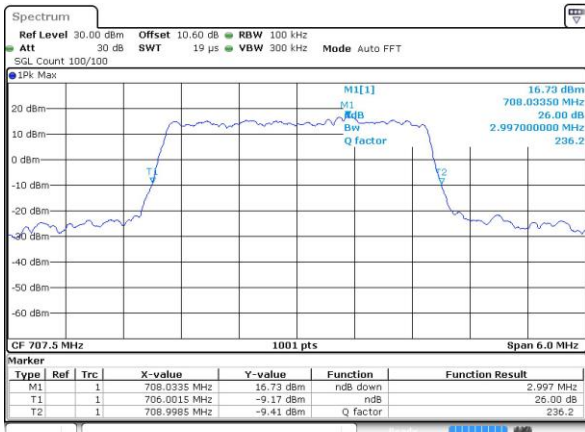
Date: 11 MAY 2017 18:57:03

Lowest Channel / 3MHz / 16QAM



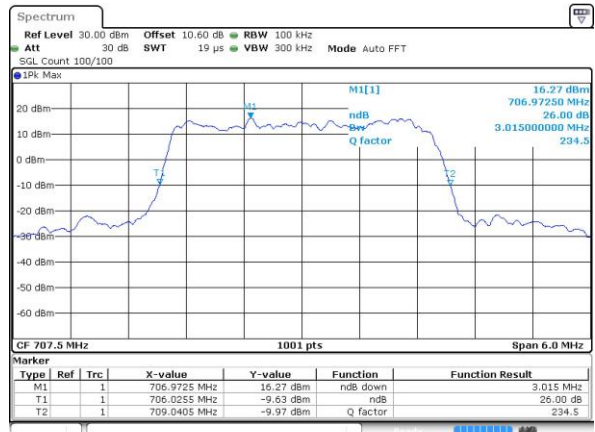
Date: 11 MAY 2017 18:56:53

Middle Channel / 3MHz / QPSK



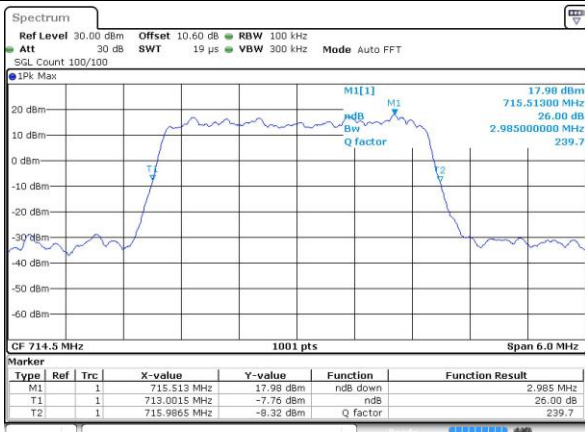
Date: 11 MAY 2017 19:04:00

Middle Channel / 3MHz / 16QAM



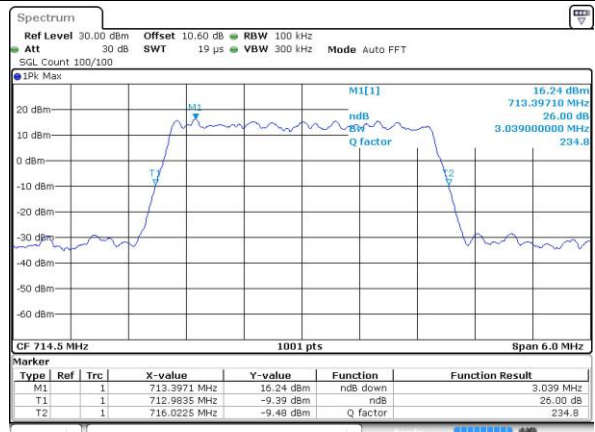
Date: 11 MAY 2017 19:04:10

Highest Channel / 3MHz / QPSK



Date: 11 MAY 2017 19:06:40

Highest Channel / 3MHz / 16QAM



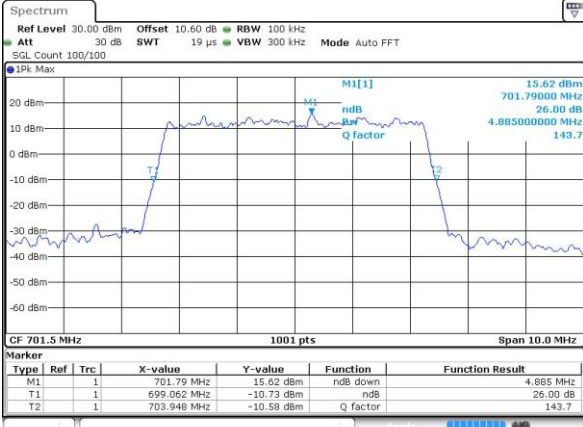
Date: 11 MAY 2017 19:06:30





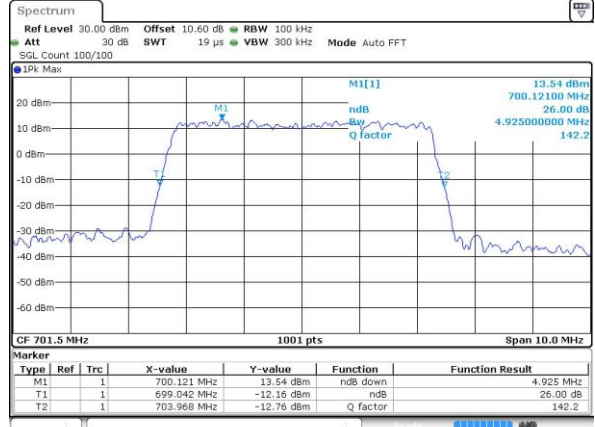
LTE Band 12

Lowest Channel / 5MHz / QPSK



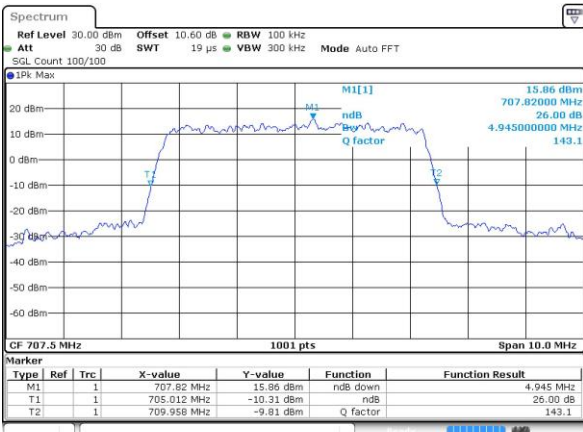
Date: 11 MAY 2017 19:13:47

Lowest Channel / 5MHz / 16QAM



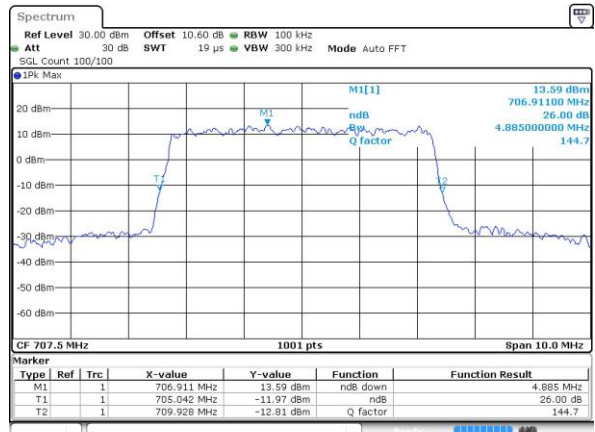
Date: 11 MAY 2017 19:13:36

Middle Channel / 5MHz / QPSK



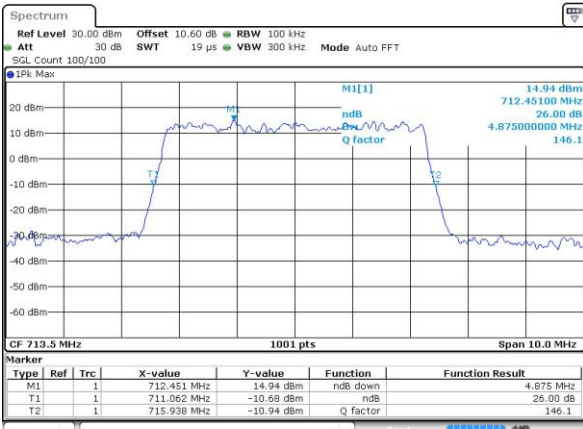
Date: 11 MAY 2017 19:20:43

Middle Channel / 5MHz / 16QAM



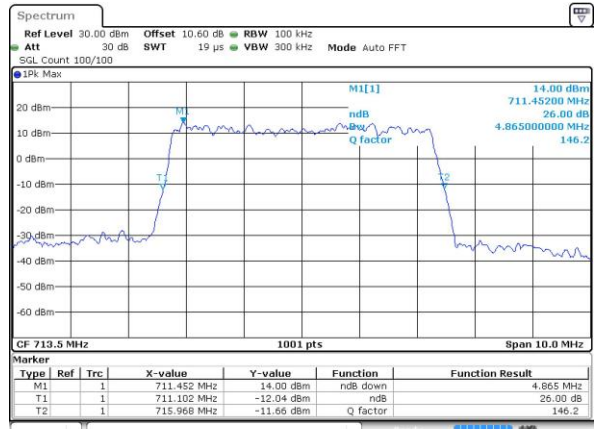
Date: 11 MAY 2017 19:20:53

Highest Channel / 5MHz / QPSK



Date: 11 MAY 2017 19:23:23

Highest Channel / 5MHz / 16QAM

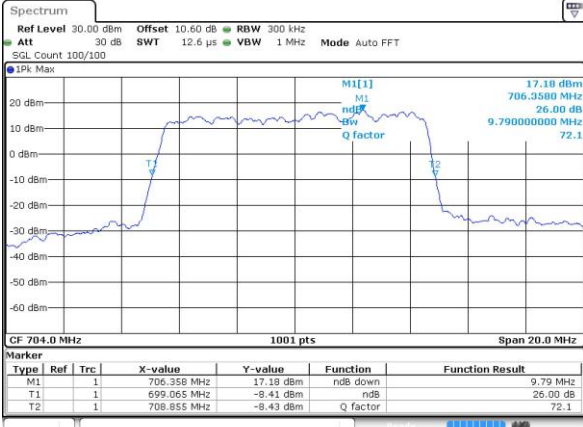


Date: 11 MAY 2017 19:23:13



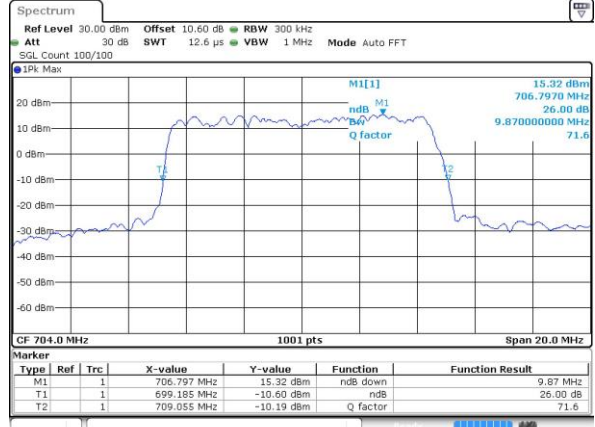
LTE Band 12

Lowest Channel / 10MHz / QPSK



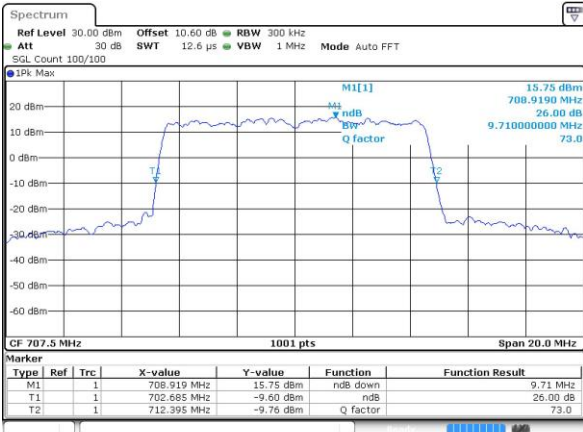
Date: 11 MAY 2017 19:30:30

Lowest Channel / 10MHz / 16QAM



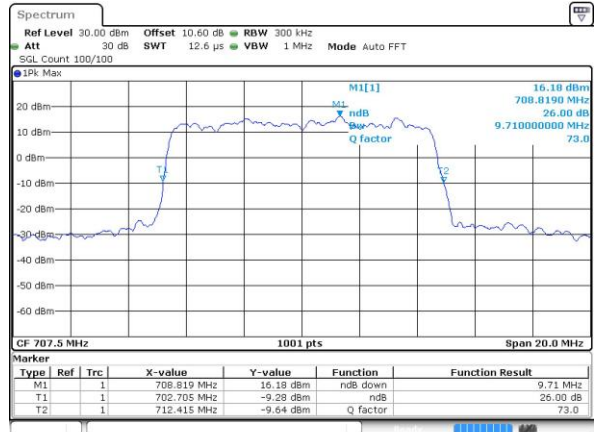
Date: 11 MAY 2017 19:30:19

Middle Channel / 10MHz / QPSK



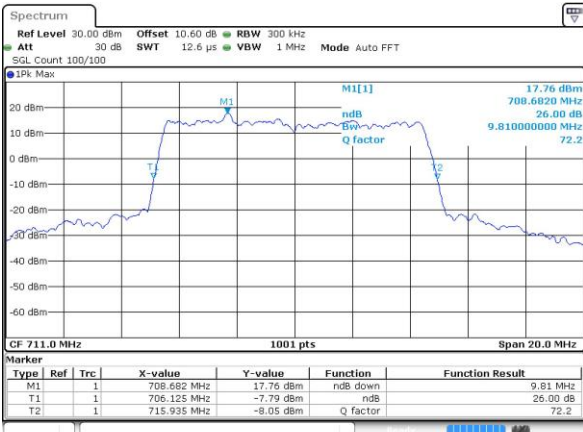
Date: 11 MAY 2017 19:37:26

Middle Channel / 10MHz / 16QAM



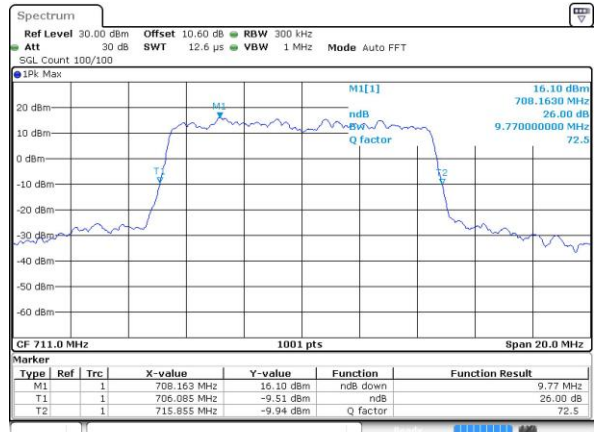
Date: 11 MAY 2017 19:37:37

Highest Channel / 10MHz / QPSK



Date: 11 MAY 2017 19:40:07

Highest Channel / 10MHz / 16QAM

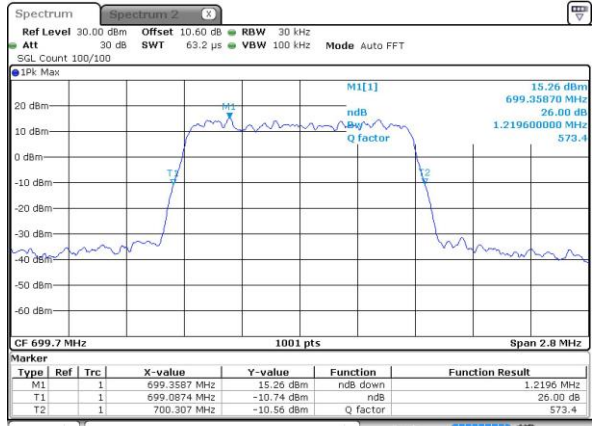


Date: 11 MAY 2017 19:39:57



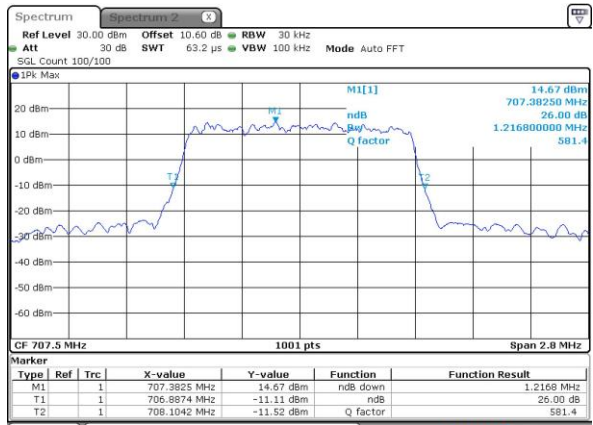
LTE Band 12

Lowest Channel / 1.4MHz / 64QAM



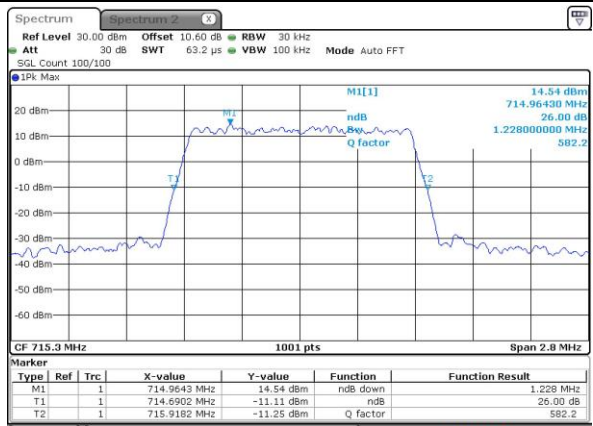
Date: 14.MAY.2017 11:21:11

Middle Channel / 1.4MHz / 64QAM



Date: 14.MAY.2017 11:24:44

Highest Channel / 1.4MHz / 64QAM

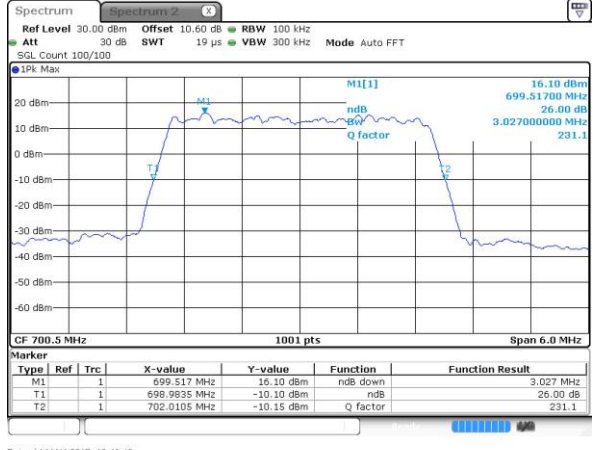


Date: 14.MAY.2017 11:25:59

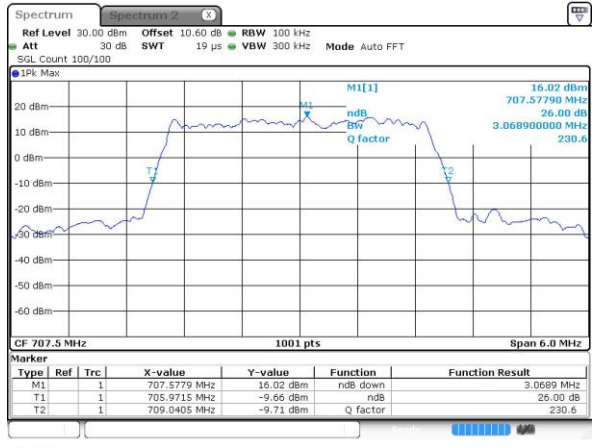


LTE Band 12

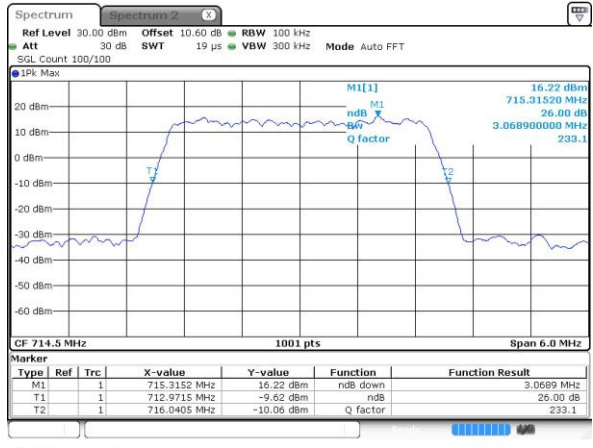
Lowest Channel / 3MHz / 64QAM



Middle Channel / 3MHz / 64QAM



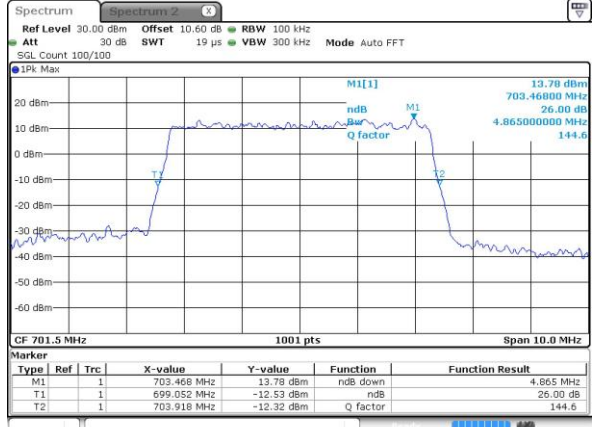
Highest Channel / 3MHz / 64QAM





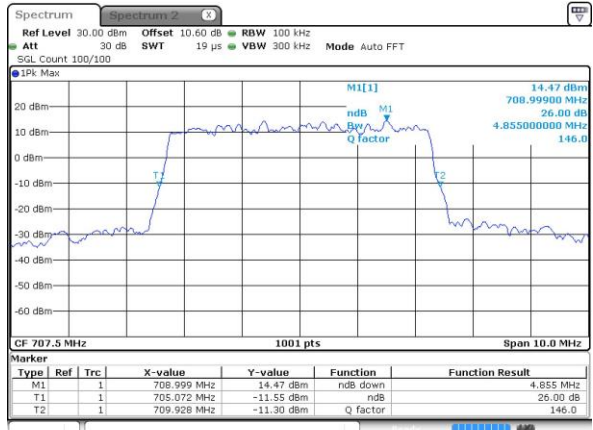
LTE Band 12

Lowest Channel / 5MHz / 64QAM



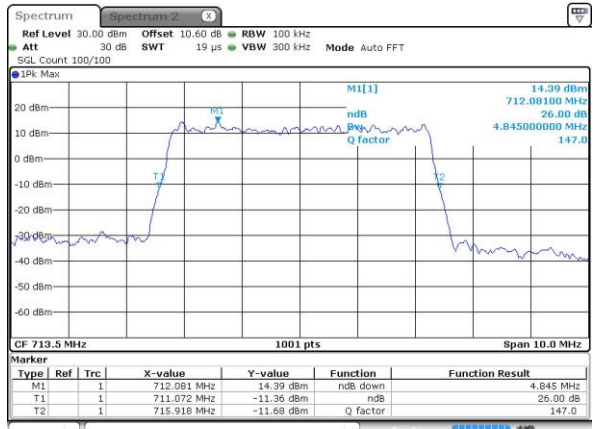
Date: 14.MAY.2017 10:57:05

Middle Channel / 5MHz / 64QAM



Date: 14.MAY.2017 11:00:38

Highest Channel / 5MHz / 64QAM

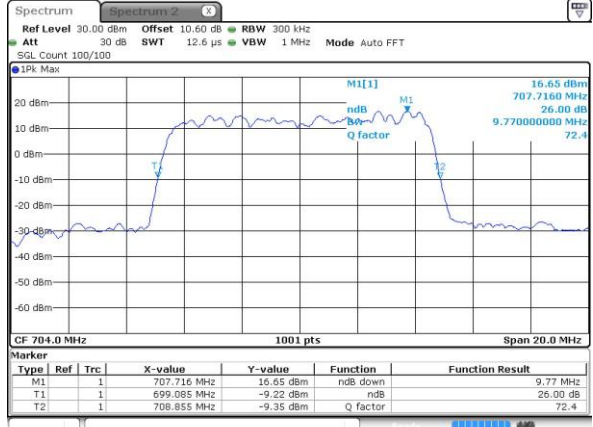


Date: 14.MAY.2017 11:01:53



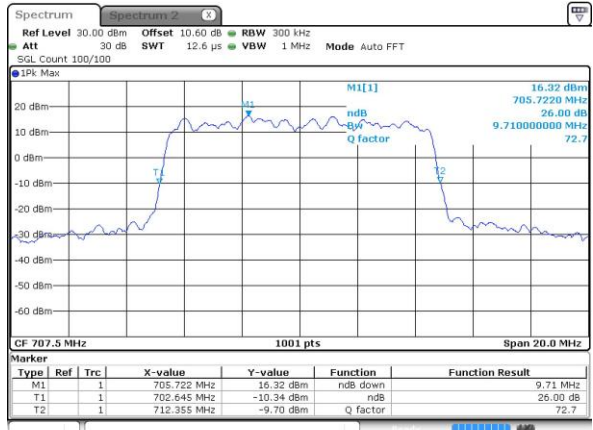
LTE Band 12

Lowest Channel / 10MHz / 64QAM



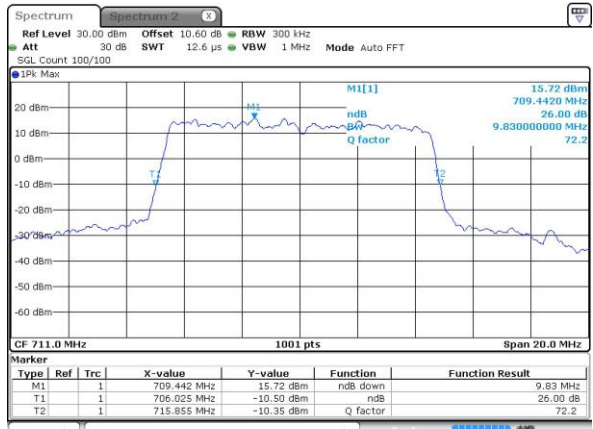
Date: 14.MAY.2017 11:07:44

Middle Channel / 10MHz / 64QAM



Date: 14.MAY.2017 11:11:17

Highest Channel / 10MHz / 64QAM



Date: 14.MAY.2017 11:14:35



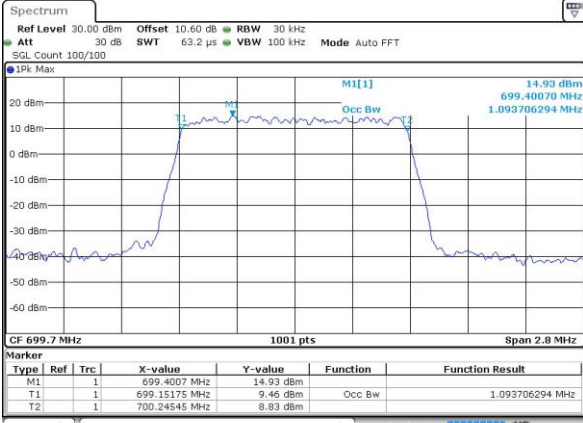
**Occupied Bandwidth**

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	1.1	2.73	2.72	4.51	4.51	9.03	9.01	-	-	-	-
Middle CH	1.08	1.09	2.72	2.73	4.49	4.49	8.95	8.99	-	-	-	-
Highest CH	1.09	1.09	2.7	2.7	4.5	4.49	9.05	8.99	-	-	-	-
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	-	64QAM	-	64QAM	-	64QAM	-	64QAM	-	64QAM	-	64QAM
Lowest CH	-	1.09	-	2.71	-	4.49	-	9.03	-	-	-	-
Middle CH	-	1.09	-	2.7	-	4.47	-	8.99	-	-	-	-
Highest CH	-	1.09	-	2.7	-	4.49	-	8.97	-	-	-	-



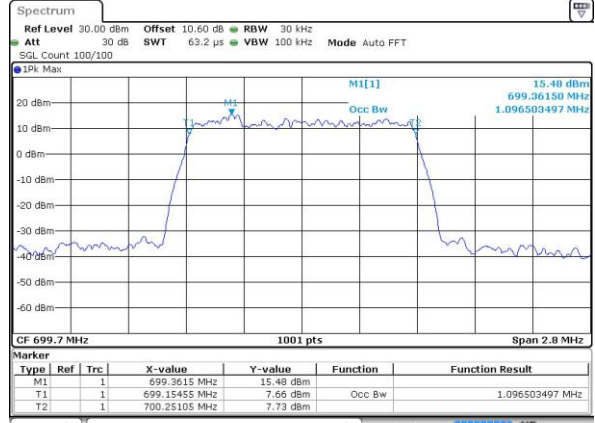
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



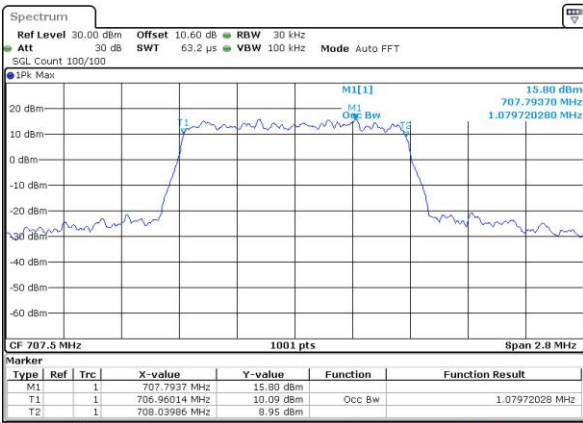
Date: 11 MAY 2017 19:50:37

Lowest Channel / 1.4MHz / 16QAM



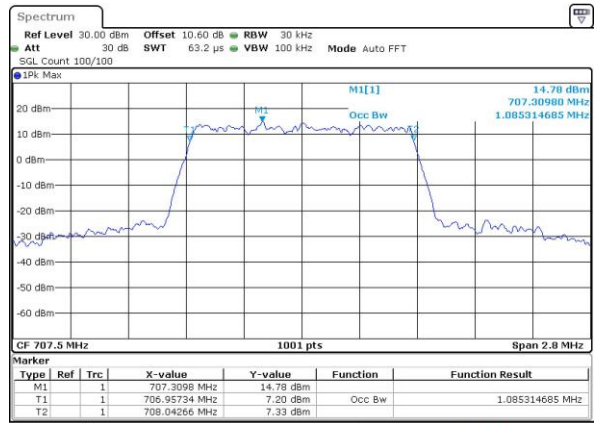
Date: 11 MAY 2017 19:50:47

Middle Channel / 1.4MHz / QPSK



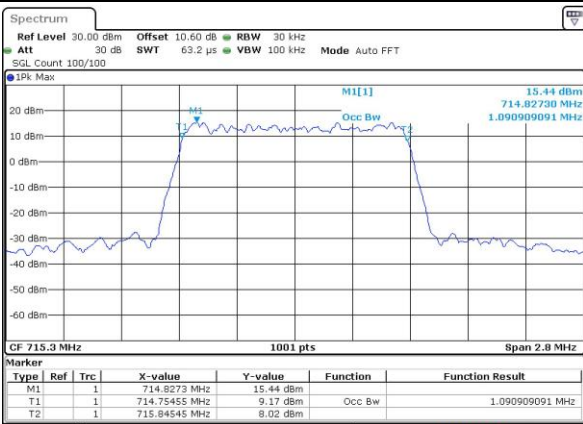
Date: 11 MAY 2017 19:57:54

Middle Channel / 1.4MHz / 16QAM



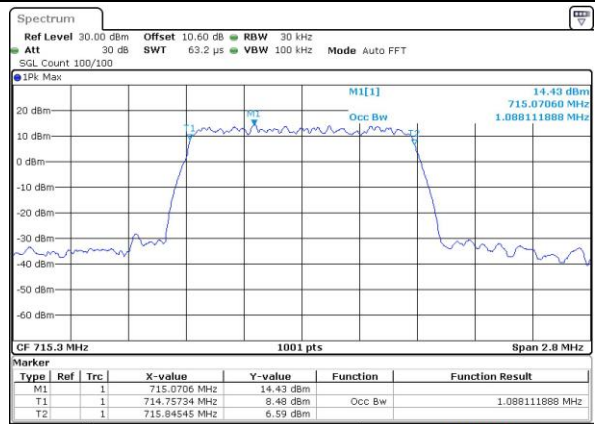
Date: 11 MAY 2017 19:57:44

Highest Channel / 1.4MHz / QPSK



Date: 11 MAY 2017 20:00:14

Highest Channel / 1.4MHz / 16QAM



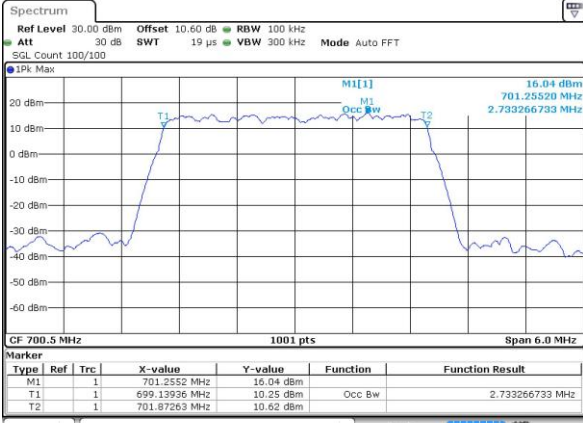
Date: 11 MAY 2017 20:00:24





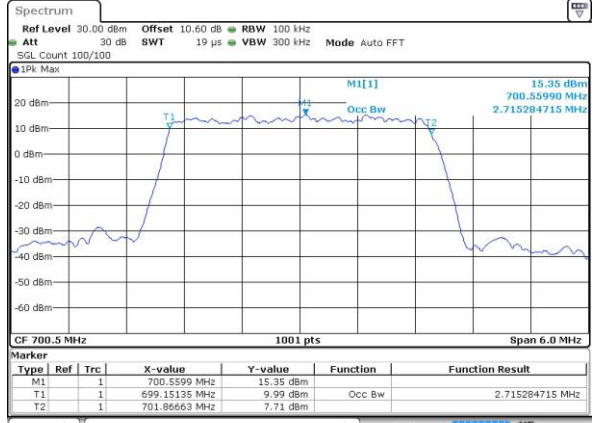
LTE Band 12

Lowest Channel / 3MHz / QPSK



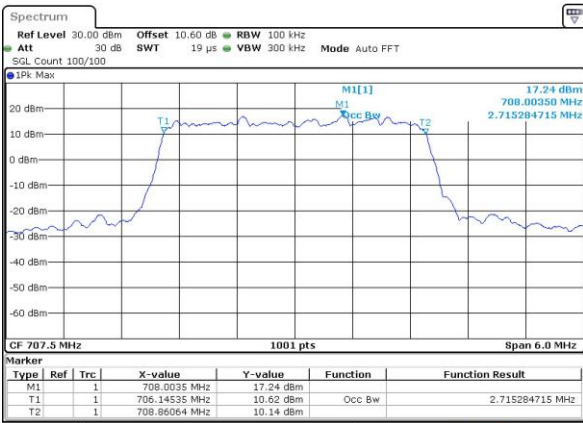
Date: 11 MAY 2017 18:56:31

Lowest Channel / 3MHz / 16QAM



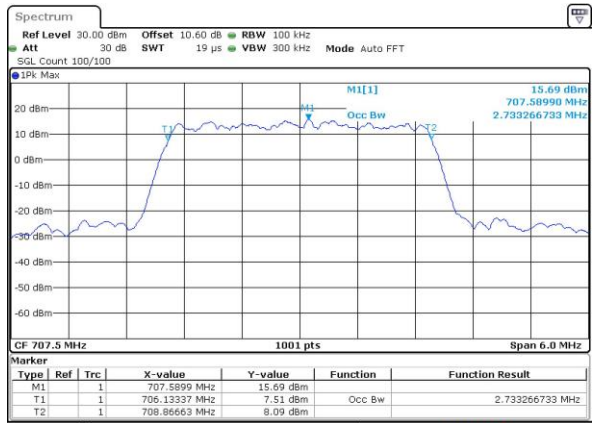
Date: 11 MAY 2017 18:56:42

Middle Channel / 3MHz / QPSK



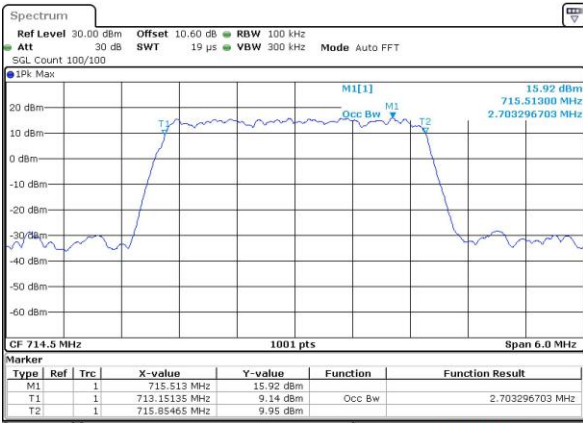
Date: 11 MAY 2017 19:03:50

Middle Channel / 3MHz / 16QAM



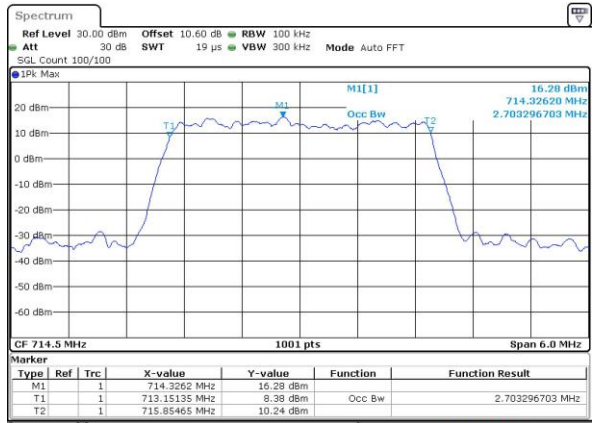
Date: 11 MAY 2017 19:03:39

Highest Channel / 3MHz / QPSK



Date: 11 MAY 2017 19:06:09

Highest Channel / 3MHz / 16QAM



Date: 11 MAY 2017 19:06:20