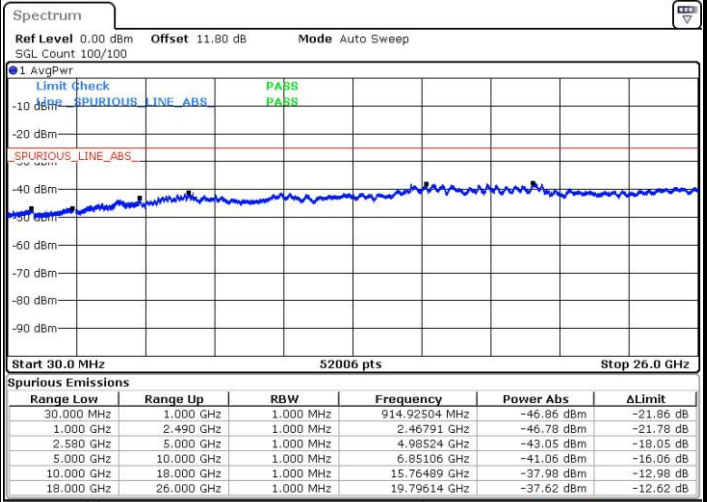
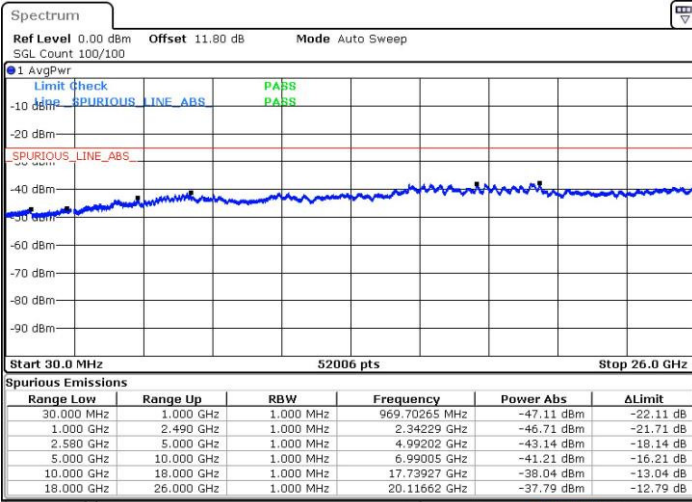




LTE Band 7 / 20MHz

Middle Channel / QPSK

Middle Channel / 16QAM

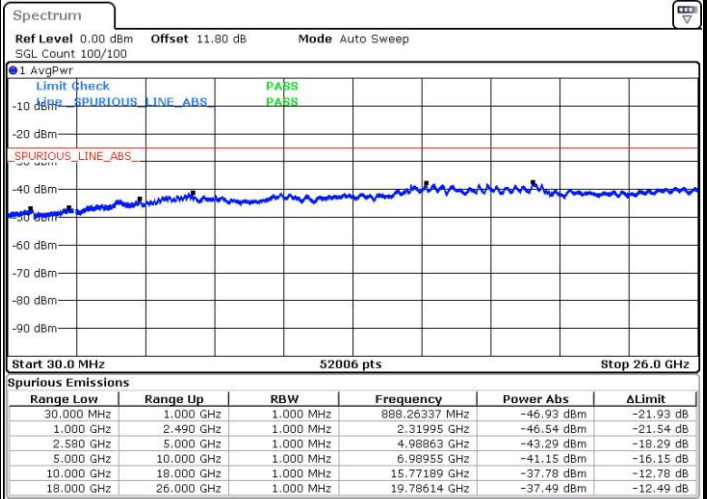
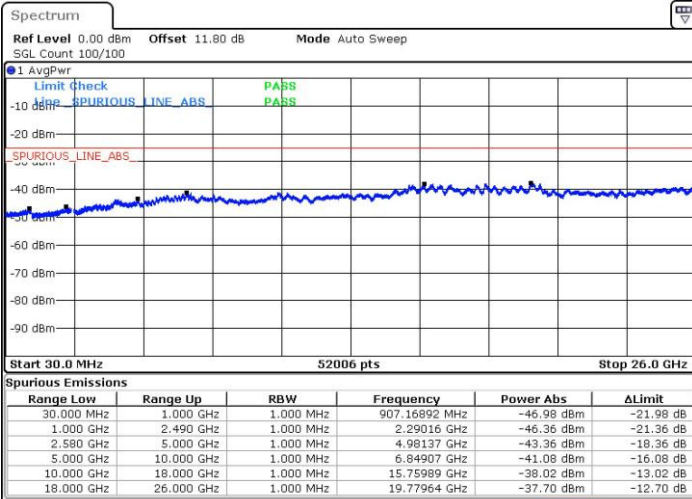


Date: 6 APR 2017 11:12:59

Date: 6 APR 2017 11:13:52

Highest Channel / QPSK

Highest Channel / 16QAM



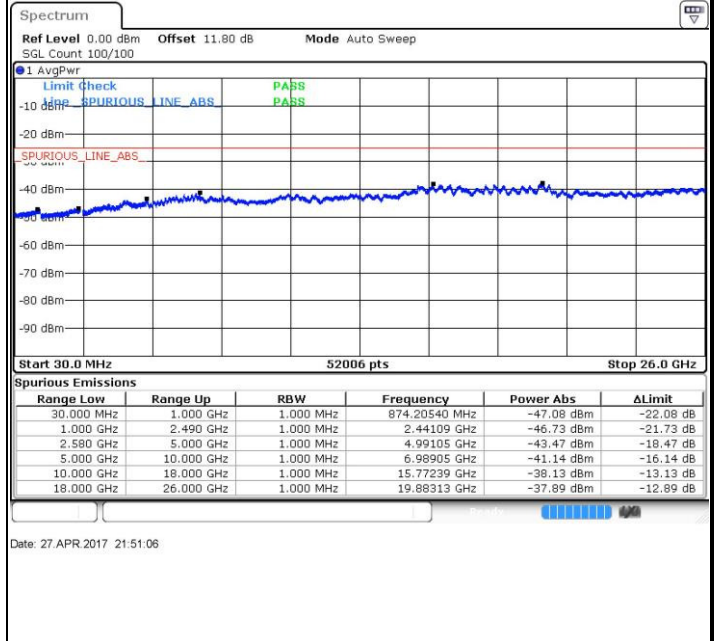
Date: 6 APR 2017 11:20:07

Date: 6 APR 2017 11:21:00

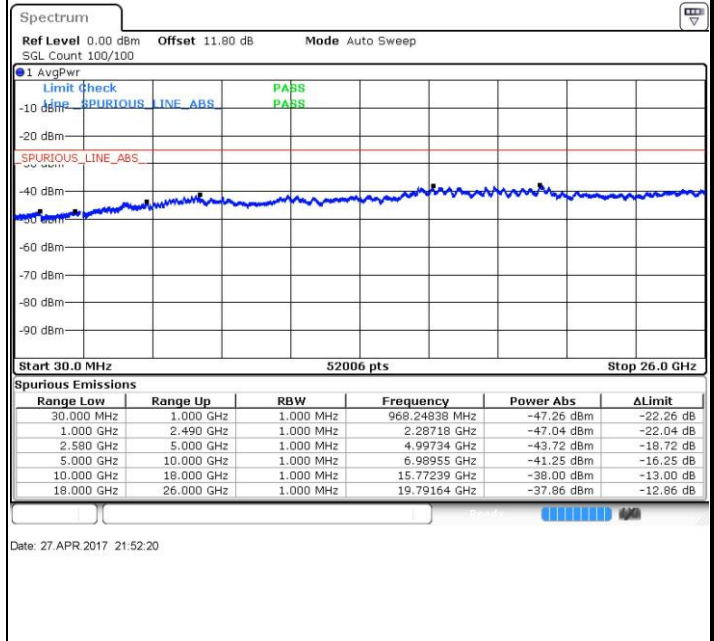


LTE Band 7 / 5MHz

Lowest Channel / 64QAM



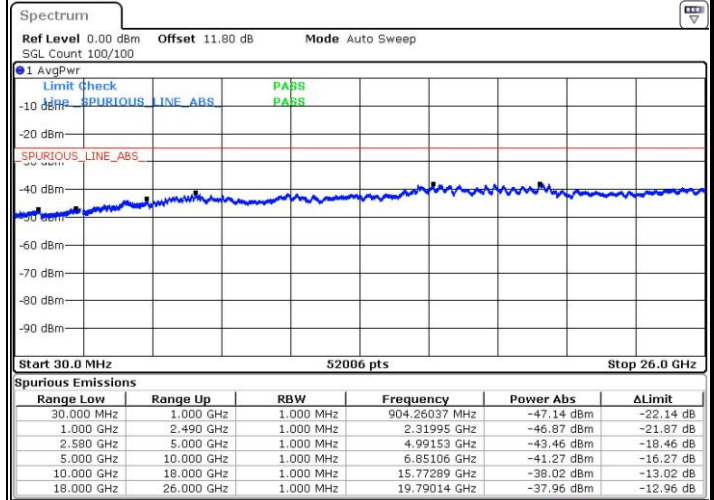
Middle Channel / 64QAM





LTE Band 7 / 5MHz

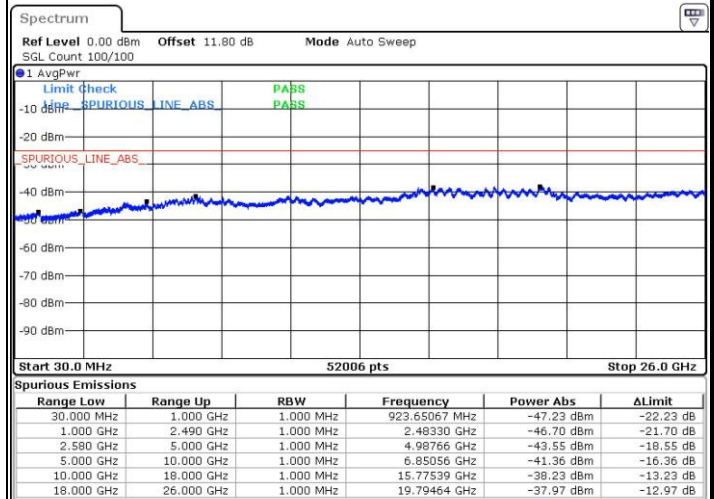
Highest Channel / 64QAM



Date: 27.APR.2017 21:55:54

LTE Band 7 / 10MHz

Lowest Channel / 64QAM

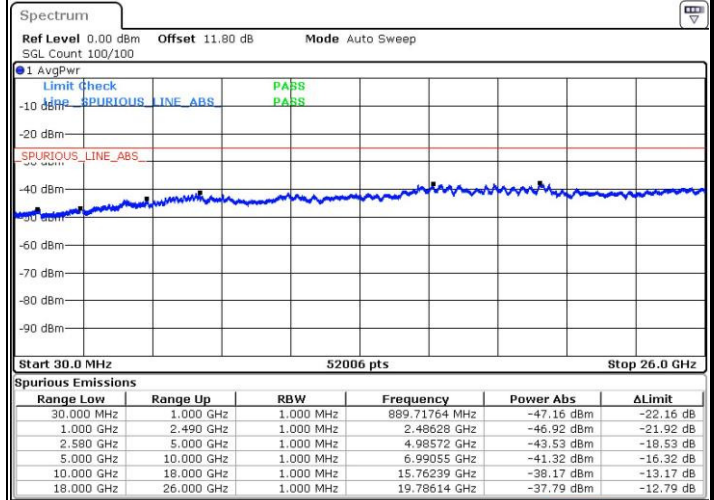


Date: 27.APR.2017 21:59:29



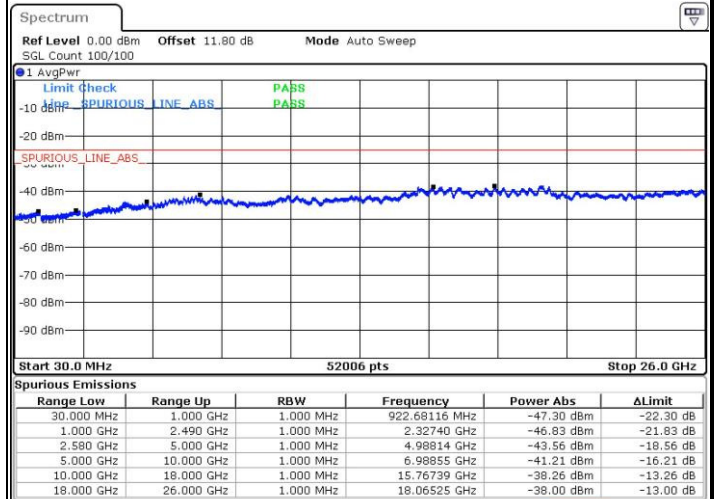
LTE Band 7 / 10MHz

Middle Channel / 64QAM



Date: 27.APR.2017 22:00:43

Highest Channel / 64QAM

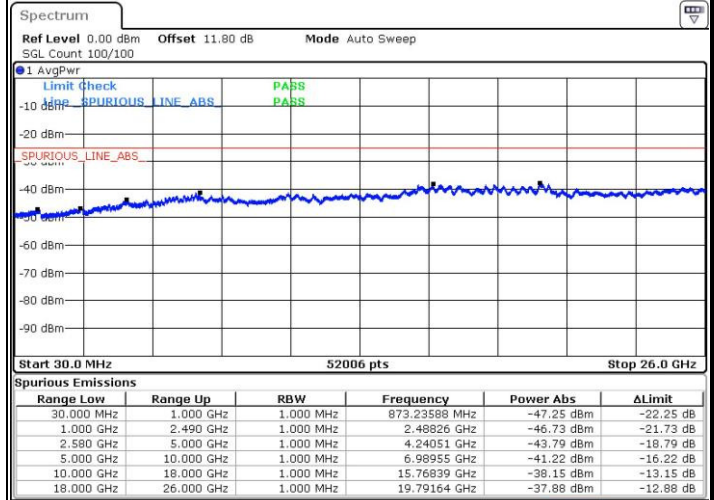


Date: 27.APR.2017 22:04:18



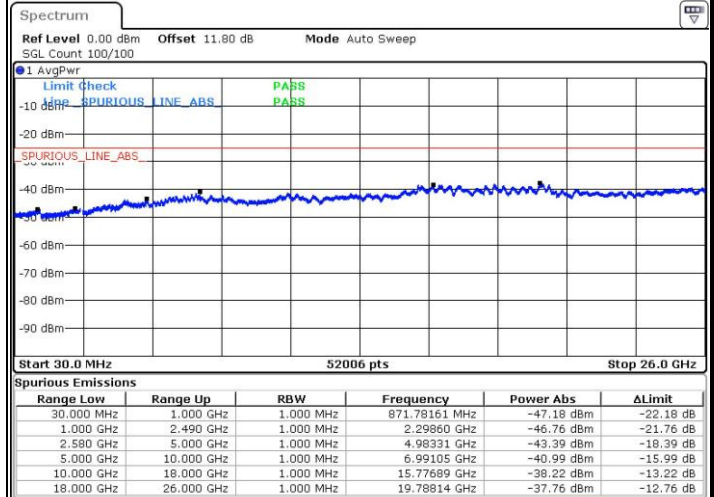
LTE Band 7 / 15MHz

Lowest Channel / 64QAM



Date: 27.APR.2017 22:07:51

Middle Channel / 64QAM

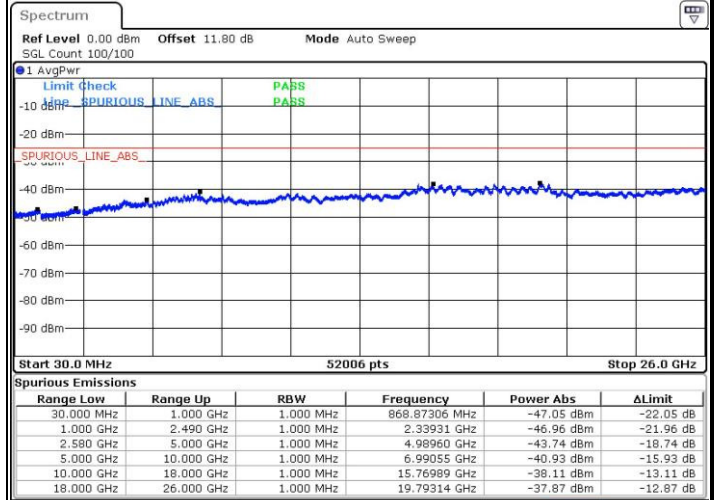


Date: 27.APR.2017 22:09:06



LTE Band7 / 15MHz

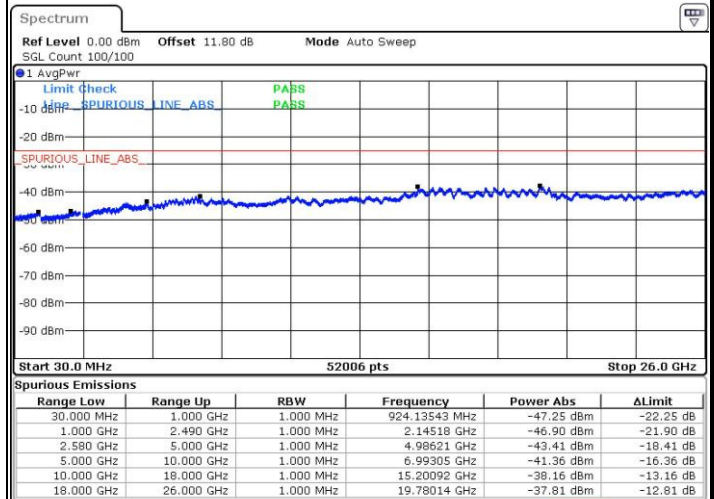
Highest Channel / 64QAM



Date: 27.APR.2017 22:12:40

LTE Band 7 / 20MHz

Lowest Channel / 64QAM

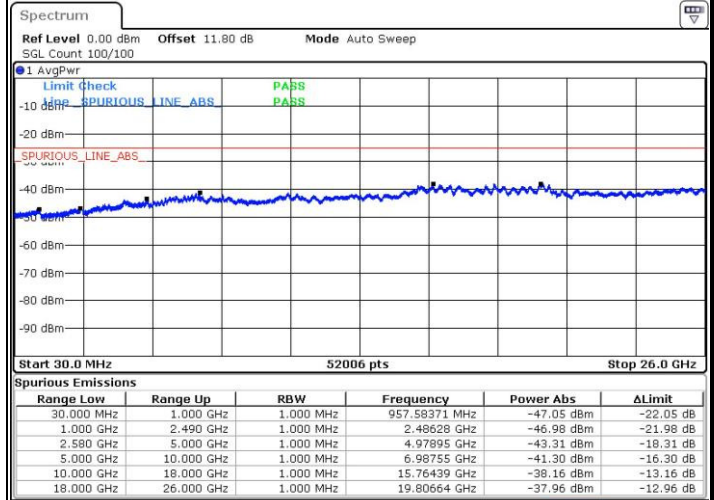


Date: 27.APR.2017 22:16:14



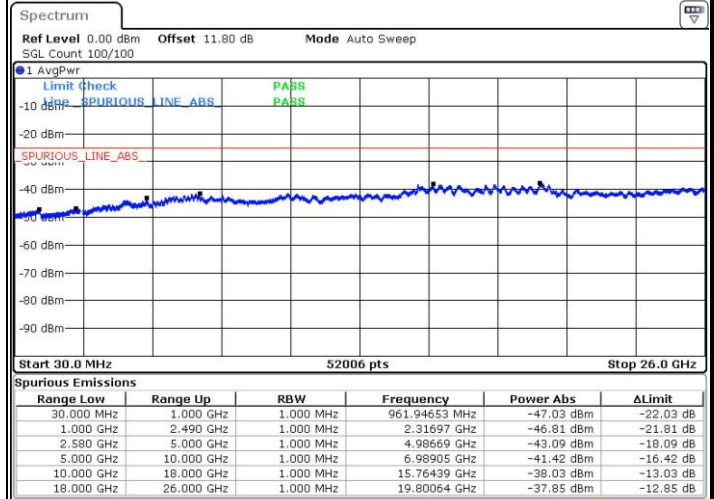
LTE Band 7 / 20MHz

Middle Channel / 64QAM



Date: 27.APR.2017 22:17:28

Highest Channel / 64QAM



Date: 27.APR.2017 22:21:02





**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	0.0006	PASS
40	Normal Voltage	0.0003	
30	Normal Voltage	0.0122	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0004	
0	Normal Voltage	0.0123	
-10	Normal Voltage	0.0003	
-20	Normal Voltage	0.0119	
-30	Normal Voltage	0.0000	
20	Maximum Voltage	0.0001	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0003	

**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	5.1	5.1	5.51	5.97	PASS
Middle CH	5.25	4.9	6.17	5.83	
Highest CH	4.29	5.22	5.25	6	
Mod.	-		64QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	5.83	6	PASS
Middle CH	-	-	5.97	5.97	
Highest CH	-	-	5.28	6.03	



LTE Band 12 / 10MHz / QPSK

Lowest Channel / 1RB



Date: 5 APR 2017 22:57:28

Lowest Channel / Full RB



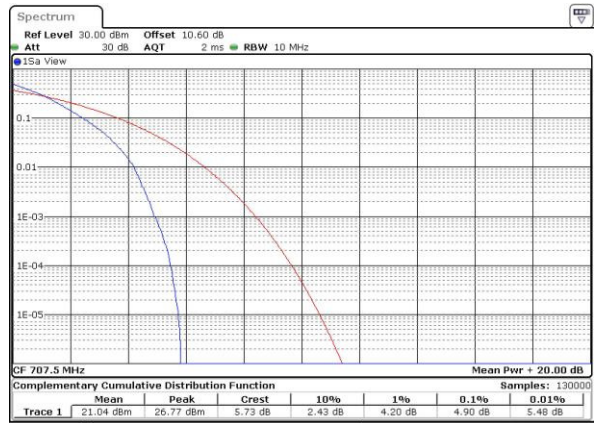
Date: 5 APR 2017 22:56:46

Middle Channel / 1RB



Date: 5 APR 2017 22:57:39

Middle Channel / Full RB



Date: 5 APR 2017 22:57:59

Highest Channel / 1RB



Date: 5 APR 2017 22:58:39

Highest Channel / Full RB



Date: 5 APR 2017 22:58:29



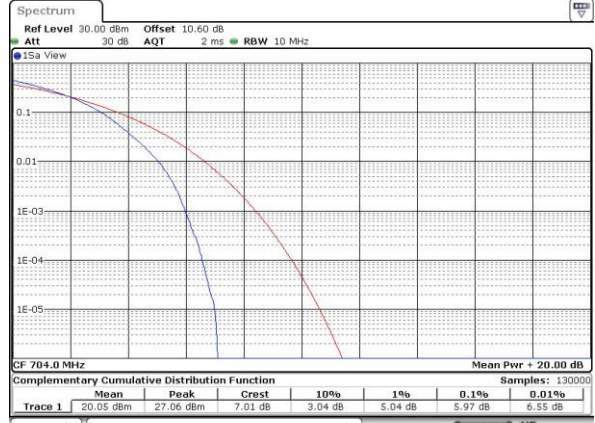
LTE Band 12 / 10MHz / 16QAM

Lowest Channel / 1RB



Date: 5 APR 2017 22:52:46

Lowest Channel / Full RB



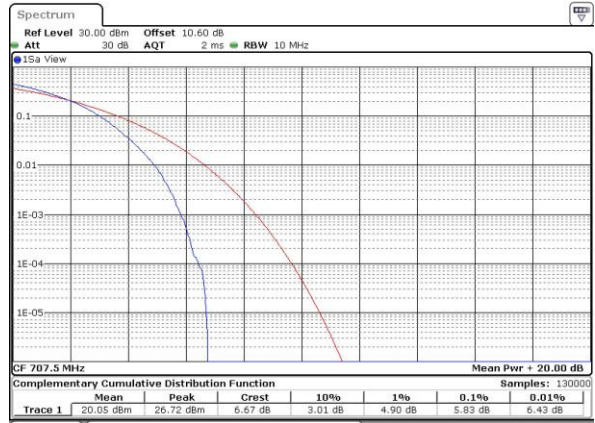
Date: 5 APR 2017 22:52:31

Middle Channel / 1RB



Date: 5 APR 2017 22:52:56

Middle Channel / Full RB



Date: 5 APR 2017 22:53:44

Highest Channel / 1RB



Date: 5 APR 2017 22:55:29

Highest Channel / Full RB

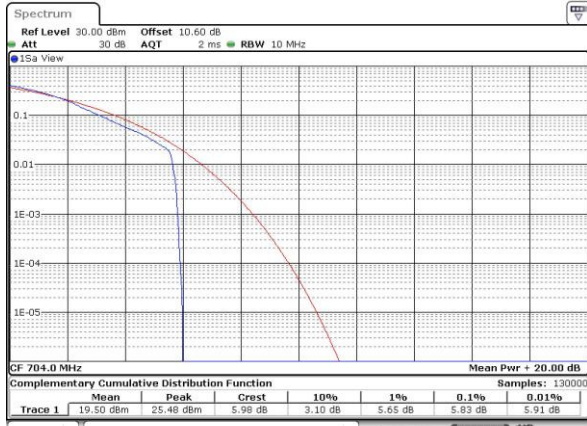


Date: 5 APR 2017 22:54:14



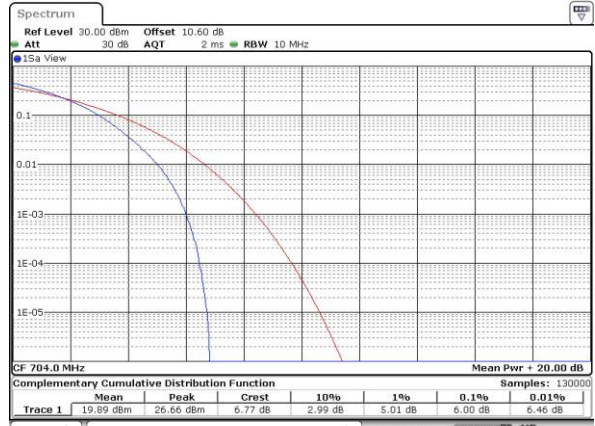
LTE Band 12 / 10MHz / 64QAM

Lowest Channel / 1RB



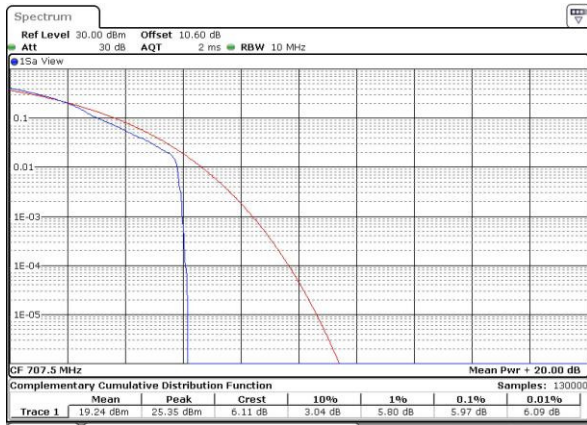
Date: 27 APR 2017 19:01:22

Lowest Channel / Full RB



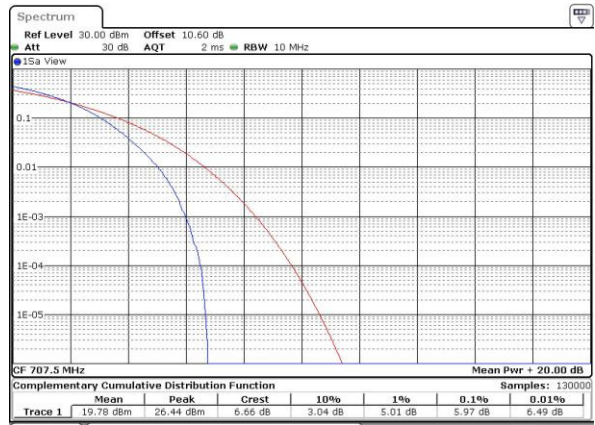
Date: 27 APR 2017 19:01:12

Middle Channel / 1RB



Date: 27 APR 2017 19:01:32

Middle Channel / Full RB



Date: 27 APR 2017 19:01:50

Highest Channel / 1RB



Date: 27 APR 2017 19:02:15

Highest Channel / Full RB



Date: 27 APR 2017 19:02:05



**26dB Bandwidth**

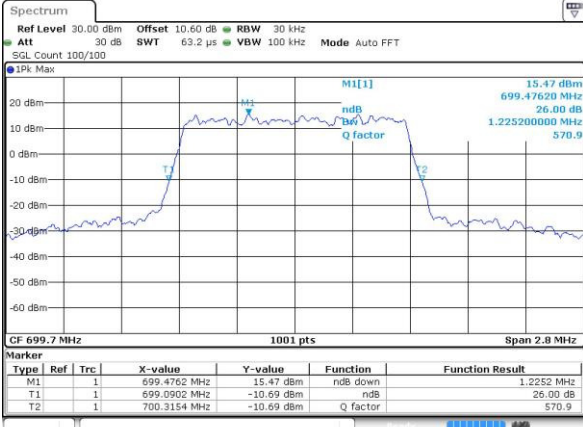
Mode	LTE Band 12 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.23	1.24	2.99	3.02	4.96	4.89	9.79	9.79	-	-	-	-
Middle CH	1.23	1.23	3.03	3.02	4.87	4.92	9.87	9.71	-	-	-	-
Highest CH	1.24	1.23	3.00	3.03	4.97	4.88	9.81	9.77	-	-	-	-
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	-	64QAM	-	64QAM	-	64QAM	-	64QAM	-	64QAM	-	64QAM
Lowest CH	-	1.24	-	3.01	-	4.87	-	9.71	-	-	-	-
Middle CH	-	1.21	-	3.02	-	4.80	-	9.73	-	-	-	-
Highest CH	-	1.22	-	3.00	-	4.90	-	9.65	-	-	-	-





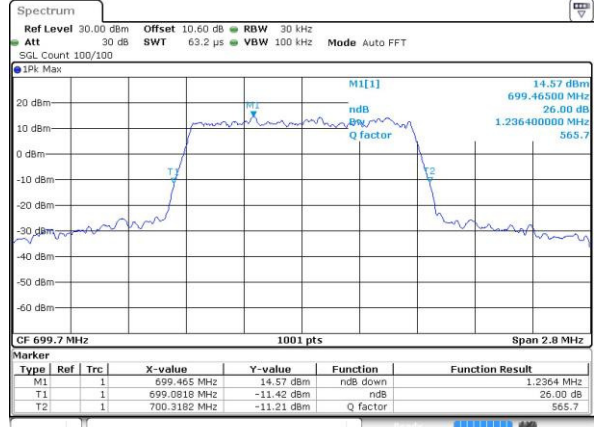
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



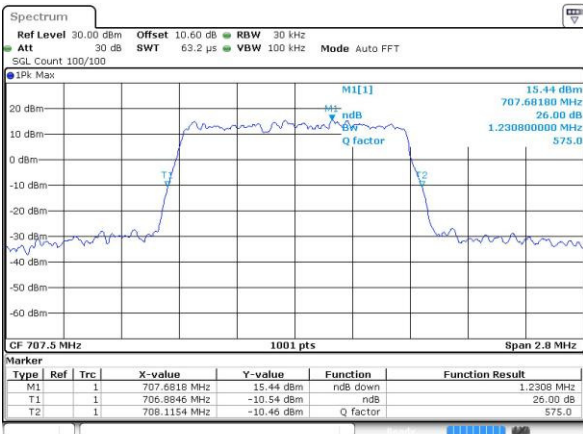
Date: 5 APR 2017 22:35:48

Lowest Channel / 1.4MHz / 16QAM



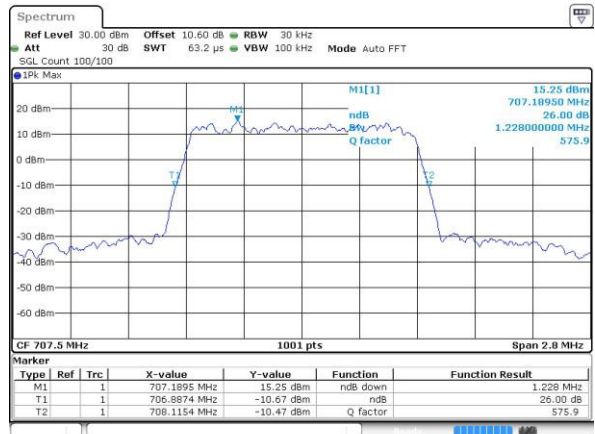
Date: 5 APR 2017 22:35:38

Middle Channel / 1.4MHz / QPSK



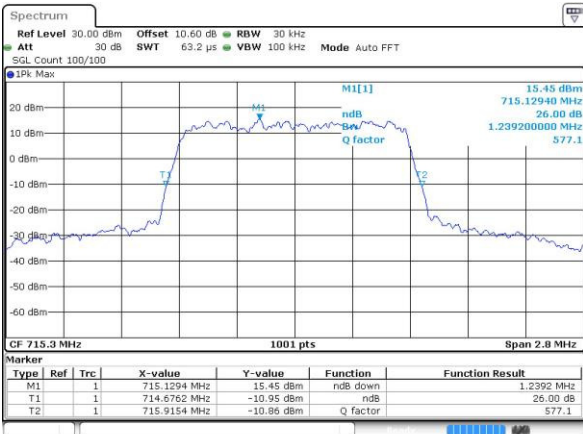
Date: 5 APR 2017 22:42:44

Middle Channel / 1.4MHz / 16QAM



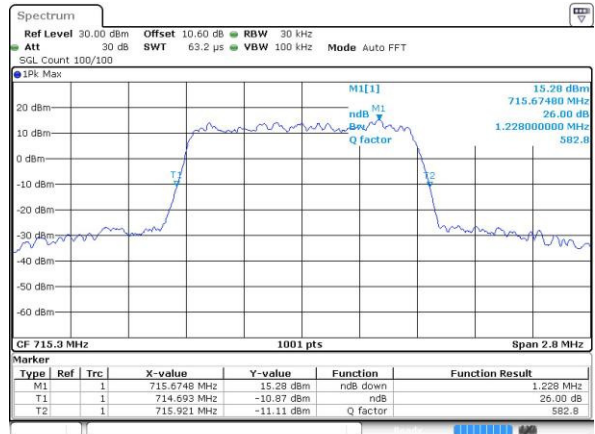
Date: 5 APR 2017 22:42:55

Highest Channel / 1.4MHz / QPSK



Date: 5 APR 2017 22:45:25

Highest Channel / 1.4MHz / 16QAM

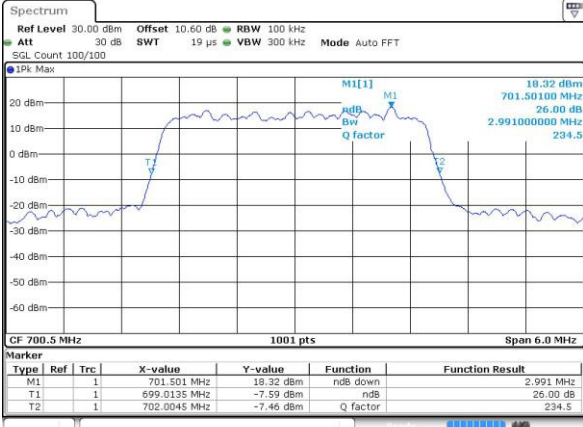


Date: 5 APR 2017 22:45:14



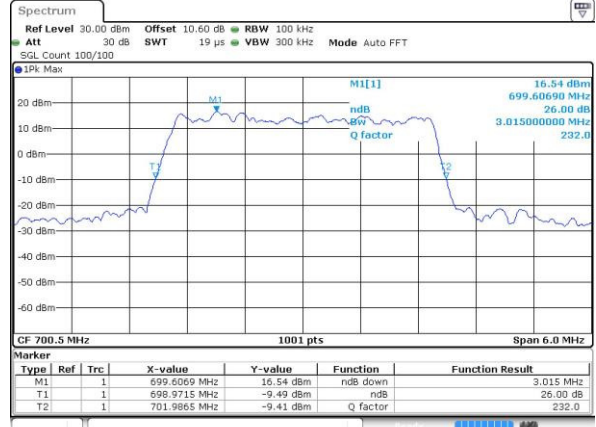
LTE Band 12

Lowest Channel / 3MHz / QPSK



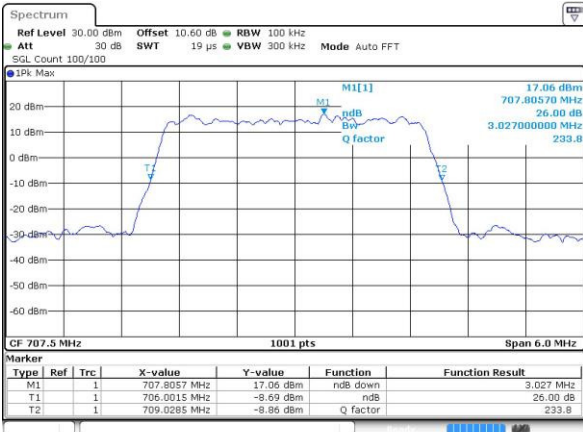
Date: 5 APR 2017 21:44:47

Lowest Channel / 3MHz / 16QAM



Date: 5 APR 2017 21:44:37

Middle Channel / 3MHz / QPSK



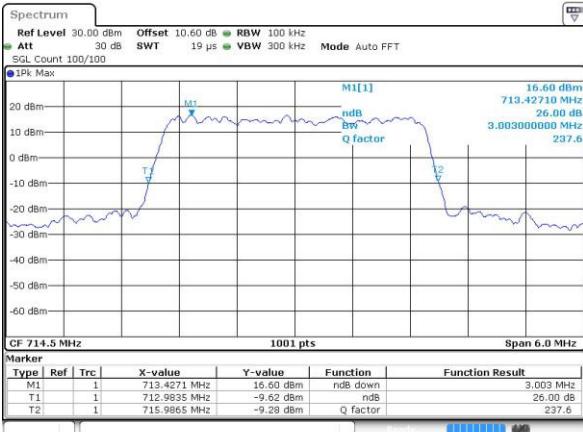
Date: 5 APR 2017 21:51:43

Middle Channel / 3MHz / 16QAM



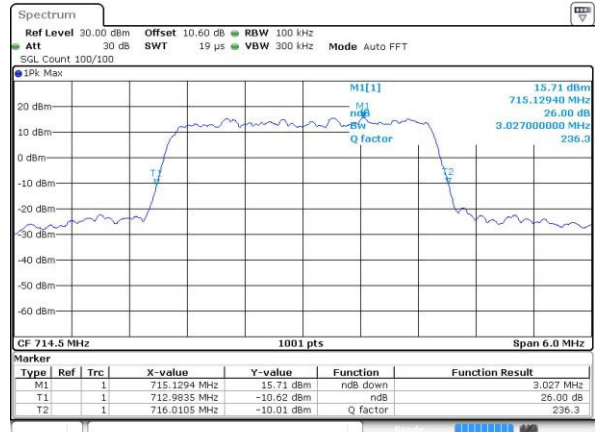
Date: 5 APR 2017 21:51:53

Highest Channel / 3MHz / QPSK



Date: 5 APR 2017 21:54:23

Highest Channel / 3MHz / 16QAM



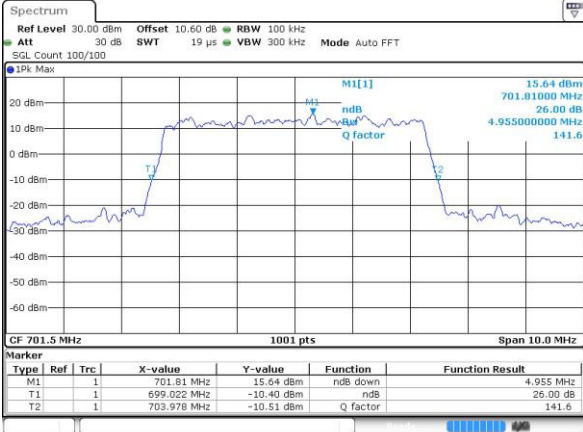
Date: 5 APR 2017 21:54:13





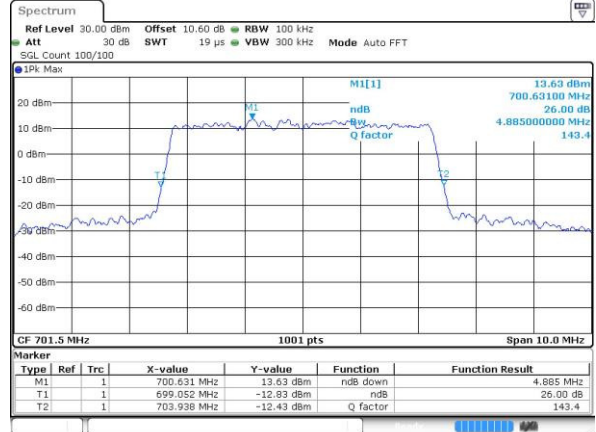
LTE Band 12

Lowest Channel / 5MHz / QPSK



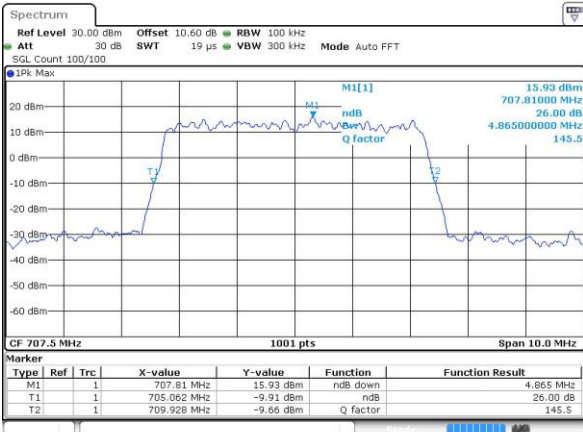
Date: 5 APR 2017 22:01:30

Lowest Channel / 5MHz / 16QAM



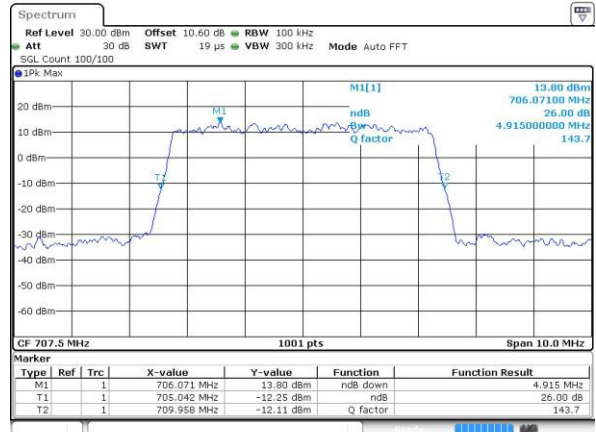
Date: 5 APR 2017 22:01:20

Middle Channel / 5MHz / QPSK



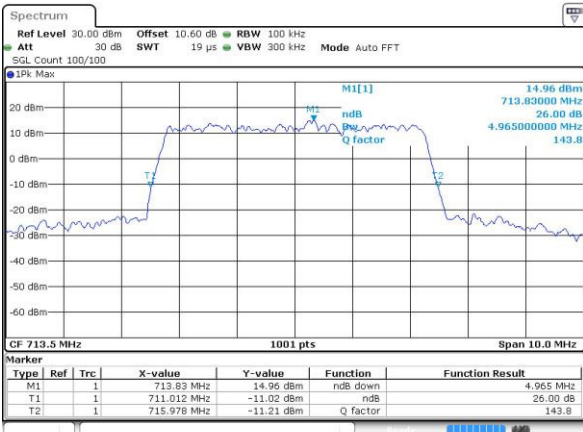
Date: 5 APR 2017 22:08:26

Middle Channel / 5MHz / 16QAM



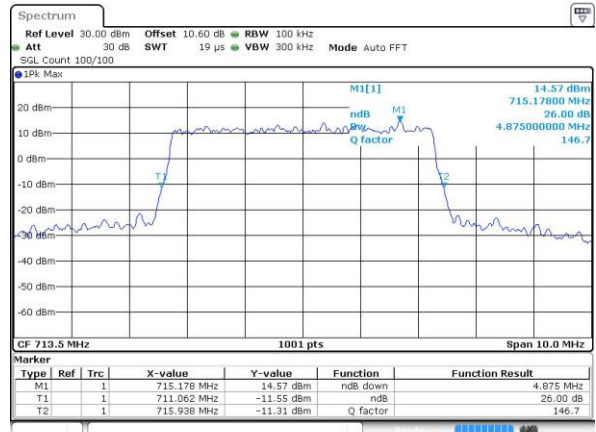
Date: 5 APR 2017 22:08:36

Highest Channel / 5MHz / QPSK



Date: 5 APR 2017 22:11:07

Highest Channel / 5MHz / 16QAM

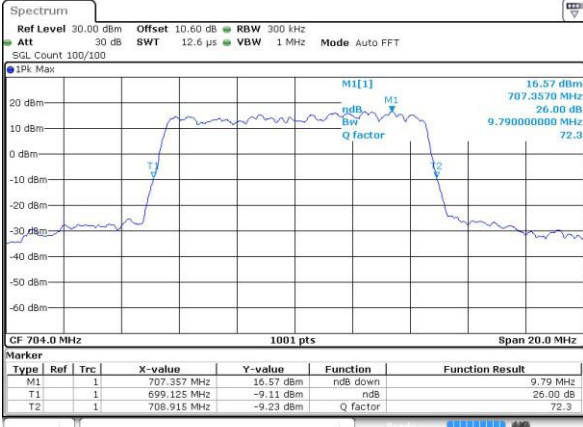


Date: 5 APR 2017 22:10:56



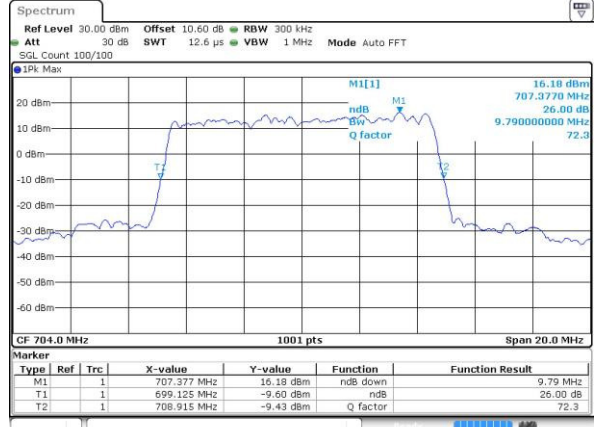
LTE Band 12

Lowest Channel / 10MHz / QPSK



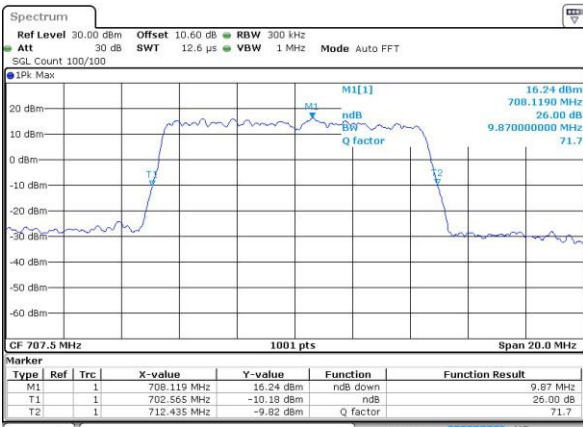
Date: 5 APR 2017 22:18:14

Lowest Channel / 10MHz / 16QAM



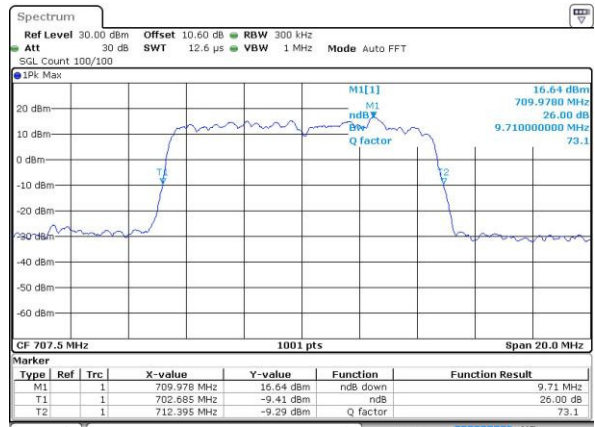
Date: 5 APR 2017 22:18:03

Middle Channel / 10MHz / QPSK



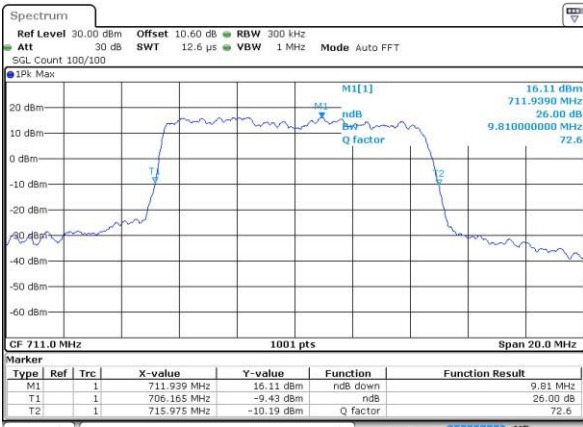
Date: 5 APR 2017 22:25:10

Middle Channel / 10MHz / 16QAM



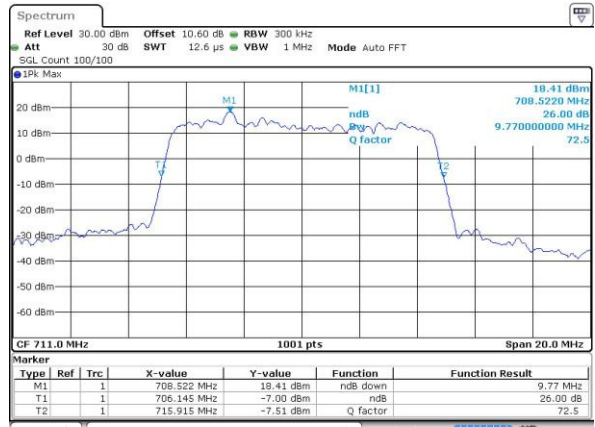
Date: 5 APR 2017 22:25:20

Highest Channel / 10MHz / QPSK



Date: 5 APR 2017 22:27:50

Highest Channel / 10MHz / 16QAM

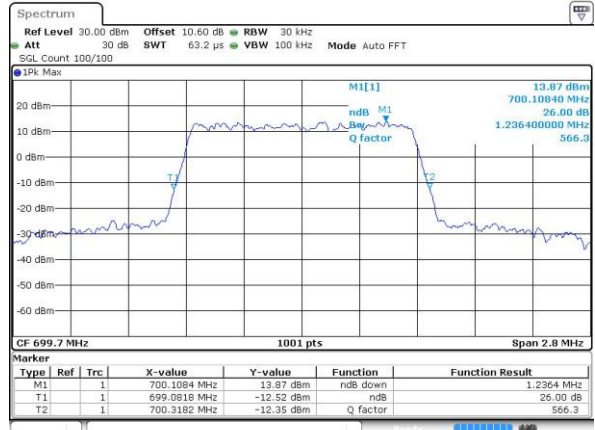


Date: 5 APR 2017 22:27:40



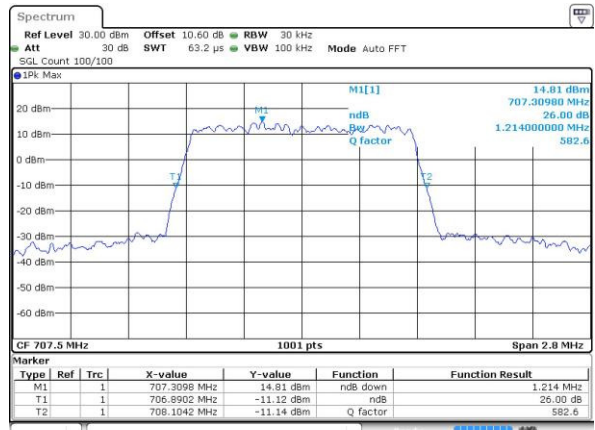
LTE Band 12

Lowest Channel / 1.4MHz / 64QAM



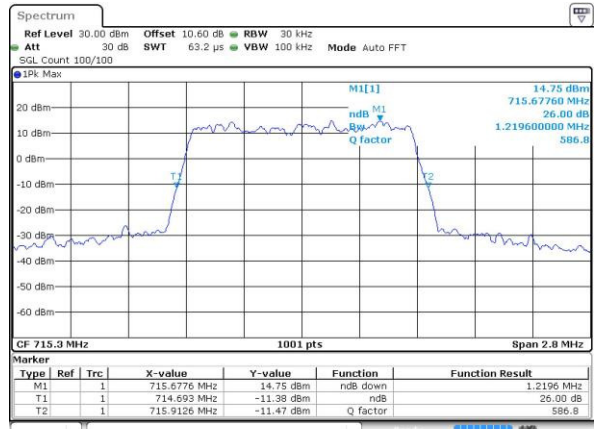
Date: 27 APR 2017 19:03:46

Middle Channel / 1.4MHz / 64QAM



Date: 27 APR 2017 18:56:06

Highest Channel / 1.4MHz / 64QAM

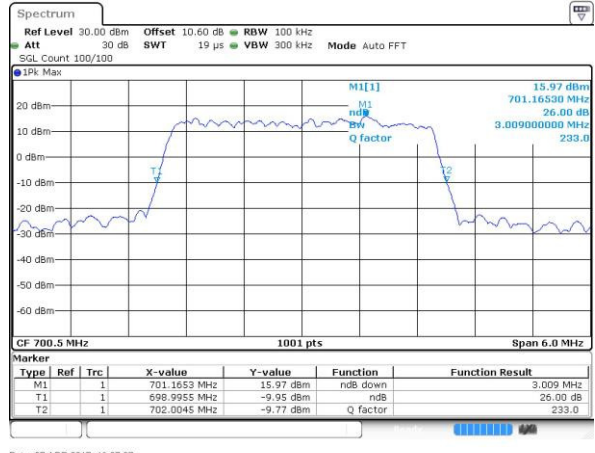


Date: 27 APR 2017 18:57:21



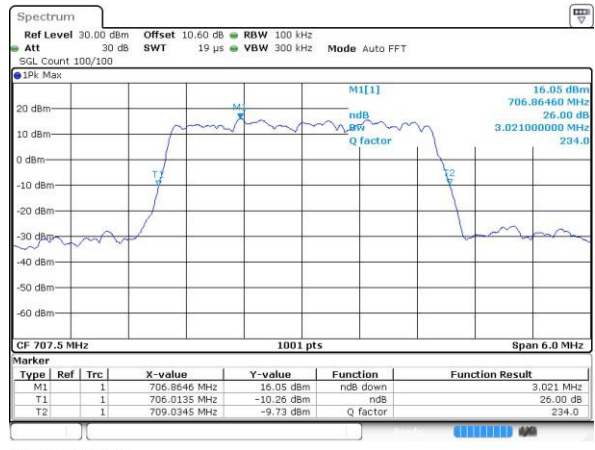
LTE Band 12

Lowest Channel / 3MHz / 64QAM



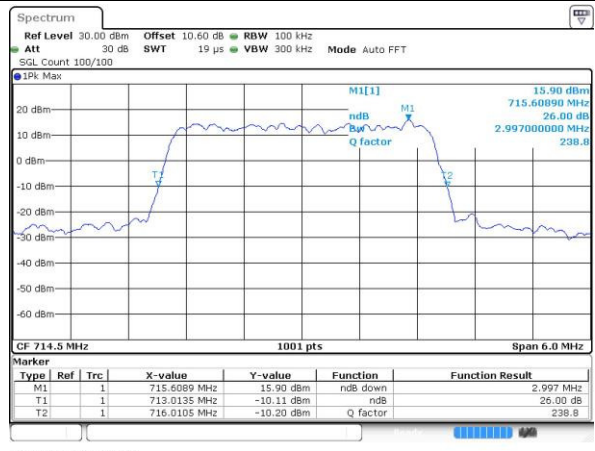
Date: 27 APR 2017 18:27:27

Middle Channel / 3MHz / 64QAM



Date: 27 APR 2017 18:31:01

Highest Channel / 3MHz / 64QAM

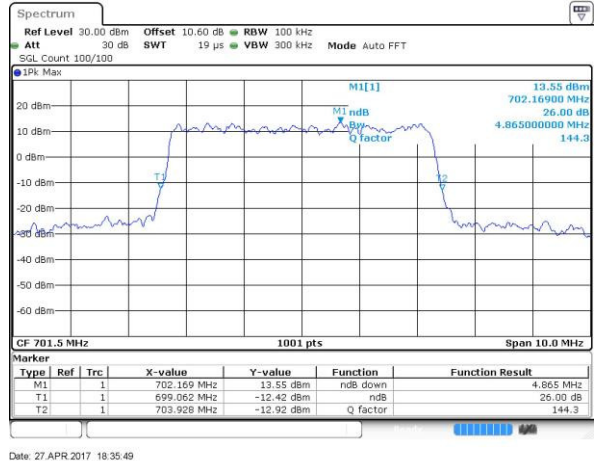


Date: 27 APR 2017 18:32:16

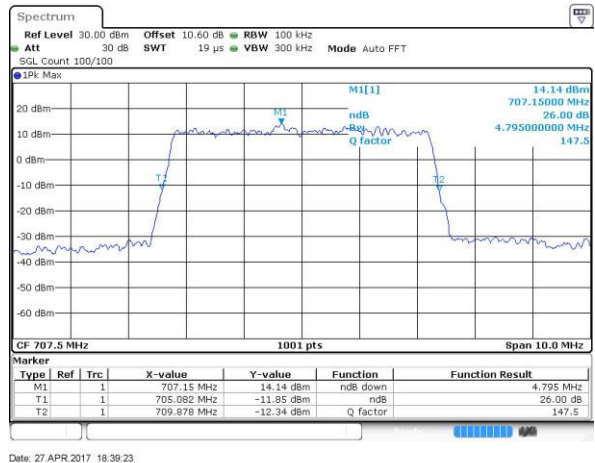


LTE Band 12

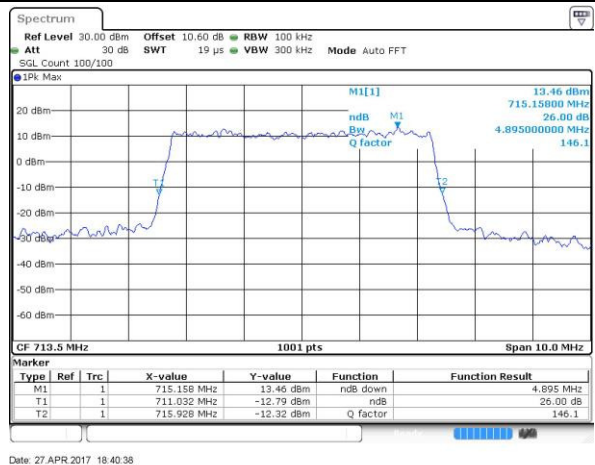
Lowest Channel / 5MHz / 64QAM



Middle Channel / 5MHz / 64QAM



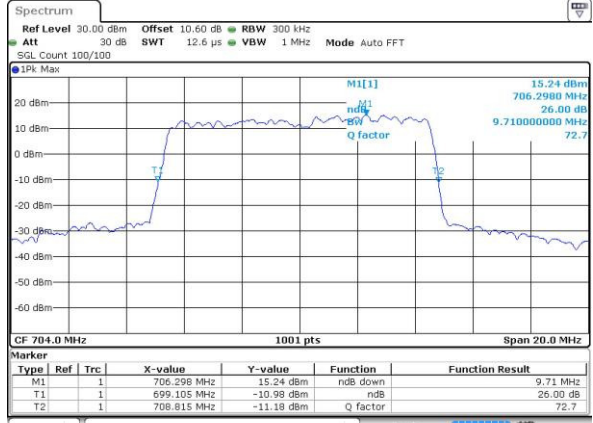
Highest Channel / 5MHz / 64QAM





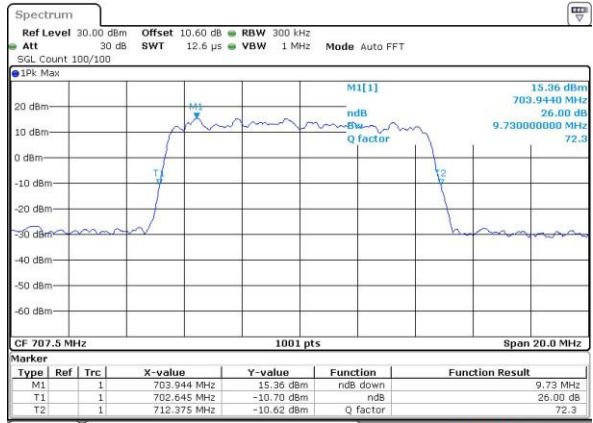
LTE Band 12

Lowest Channel / 10MHz / 64QAM



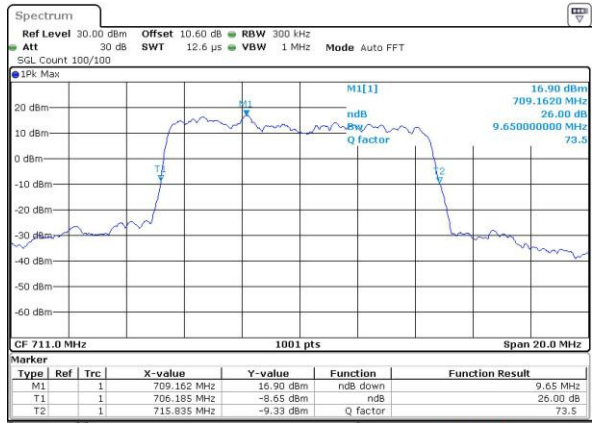
Date: 27 APR 2017 18:44:11

Middle Channel / 10MHz / 64QAM



Date: 27 APR 2017 18:47:45

Highest Channel / 10MHz / 64QAM



Date: 27 APR 2017 18:49:00



## Occupied Bandwidth

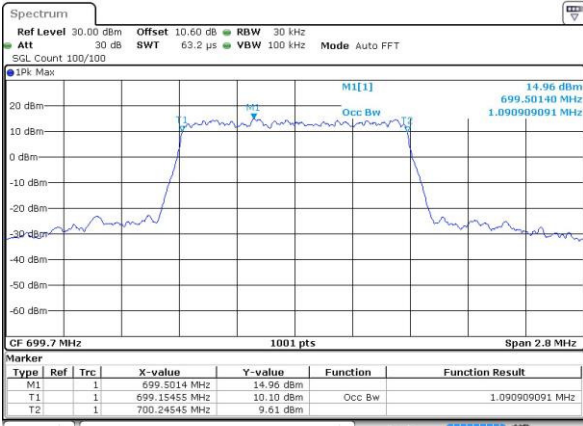
Mode	LTE Band 12 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	1.09	2.72	2.71	4.49	4.49	9.09	8.99	-	-	-	-
Middle CH	1.08	1.09	2.72	2.71	4.48	4.47	8.99	8.97	-	-	-	-
Highest CH	1.09	1.09	2.72	2.73	4.49	4.48	9.03	9.03	-	-	-	-
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	-	64QAM	-	64QAM	-	64QAM	-	64QAM	-	64QAM	-	64QAM
Lowest CH	-	1.09	-	2.7	-	4.49	-	9.01	-	-	-	-
Middle CH	-	1.09	-	2.73	-	4.48	-	9.01	-	-	-	-
Highest CH	-	1.09	-	2.71	-	4.48	-	9.07	-	-	-	-





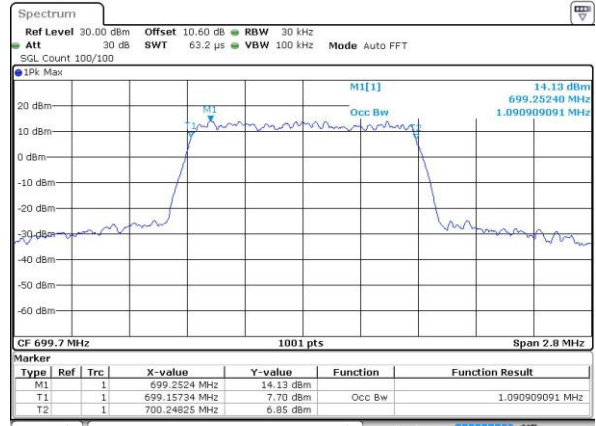
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



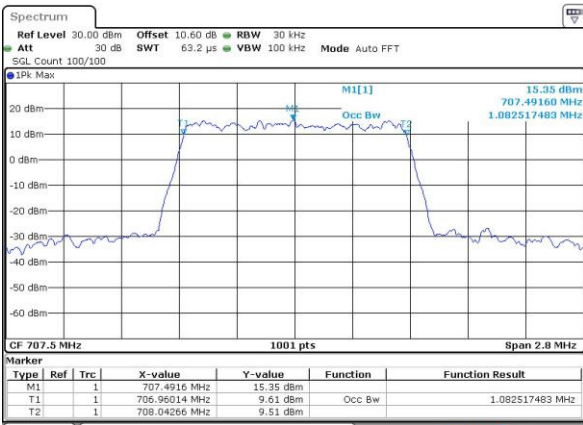
Date: 5 APR 2017 22:35:17

Lowest Channel / 1.4MHz / 16QAM



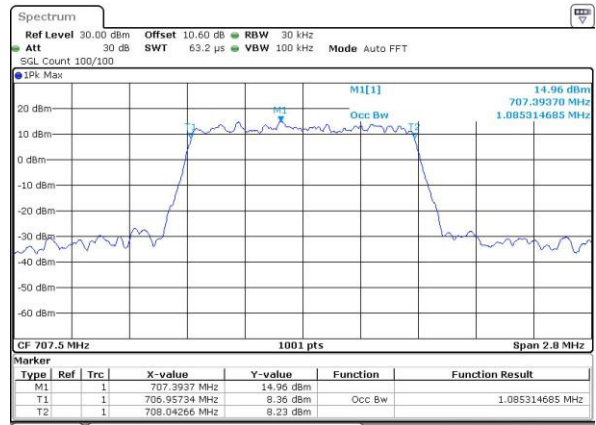
Date: 5 APR 2017 22:35:28

Middle Channel / 1.4MHz / QPSK



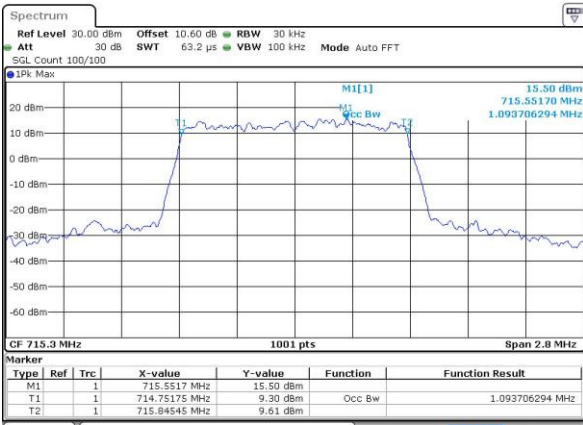
Date: 5 APR 2017 22:42:34

Middle Channel / 1.4MHz / 16QAM



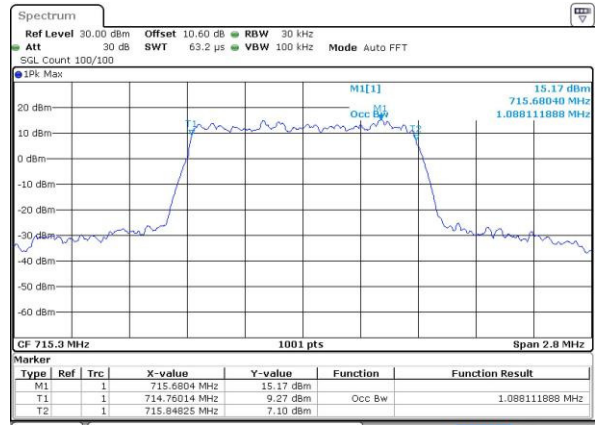
Date: 5 APR 2017 22:42:24

Highest Channel / 1.4MHz / QPSK



Date: 5 APR 2017 22:44:54

Highest Channel / 1.4MHz / 16QAM

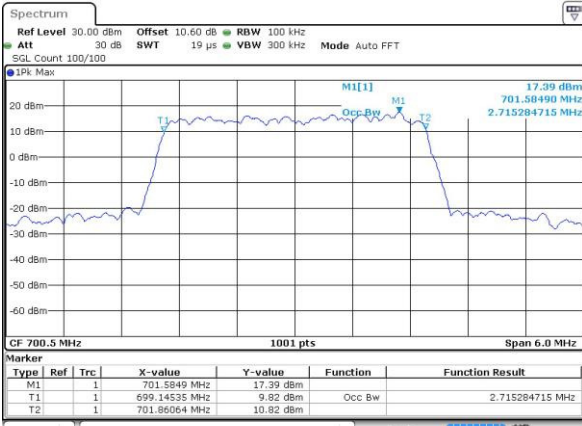


Date: 5 APR 2017 22:45:04



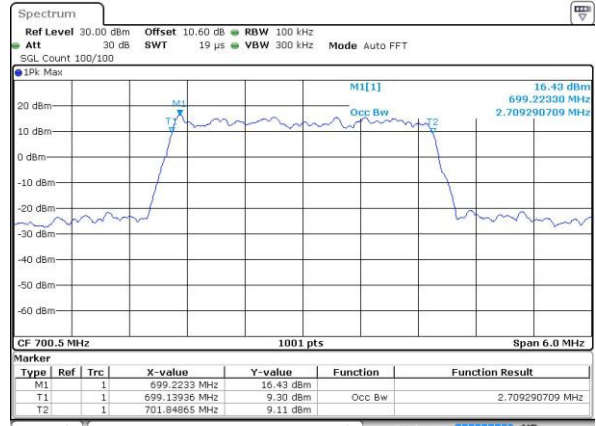
LTE Band 12

Lowest Channel / 3MHz / QPSK



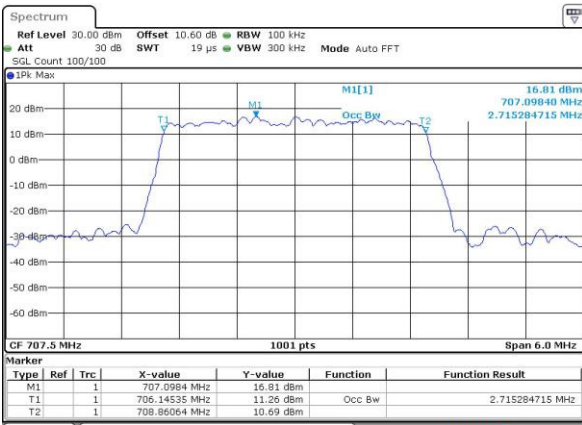
Date: 5 APR 2017 21:44:16

Lowest Channel / 3MHz / 16QAM



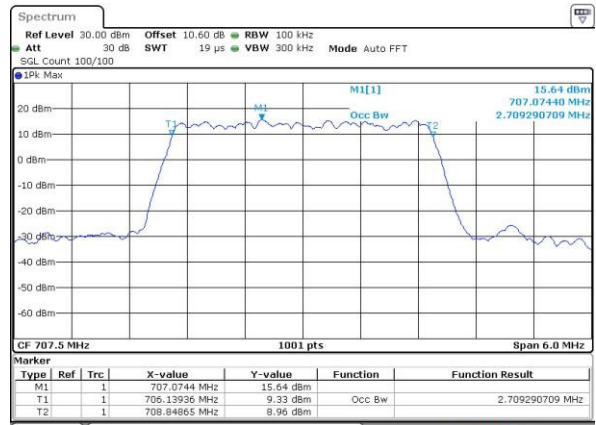
Date: 5 APR 2017 21:44:26

Middle Channel / 3MHz / QPSK



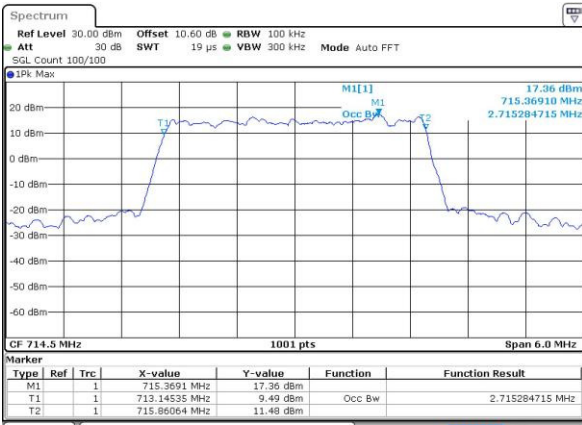
Date: 5 APR 2017 21:51:33

Middle Channel / 3MHz / 16QAM



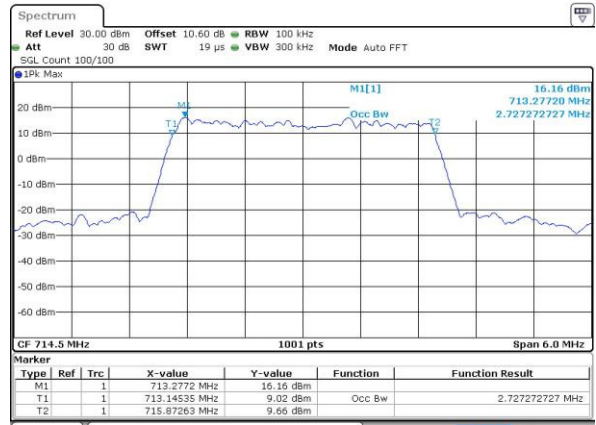
Date: 5 APR 2017 21:51:22

Highest Channel / 3MHz / QPSK



Date: 5 APR 2017 21:53:52

Highest Channel / 3MHz / 16QAM



Date: 5 APR 2017 21:54:03