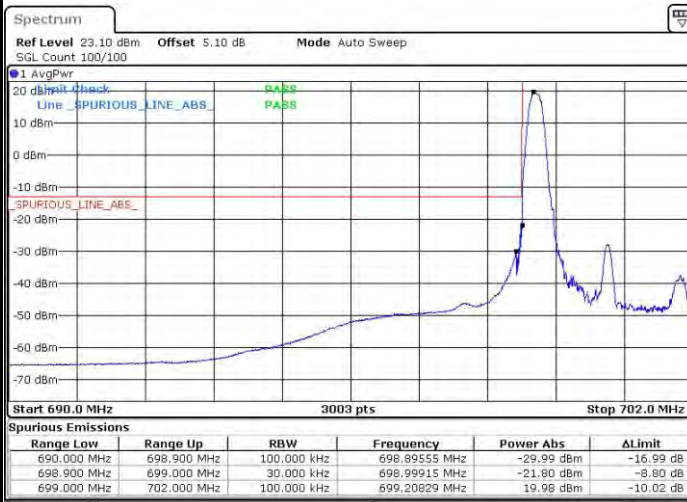




LTE Band 12 / 3MHz / 16QAM

Lowest Band Edge / 1 RB



Date: 20 JUN 2015 09:28:09

Highest Band Edge / 1 RB



Date: 20 JUN 2015 09:41:13

Lowest Band Edge / Full RB



Date: 20 JUN 2015 09:26:58

Highest Band Edge / Full RB

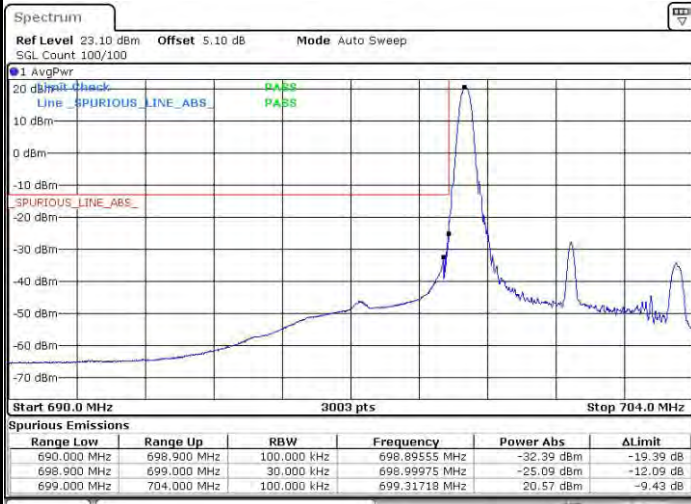


Date: 20 JUN 2015 09:40:03

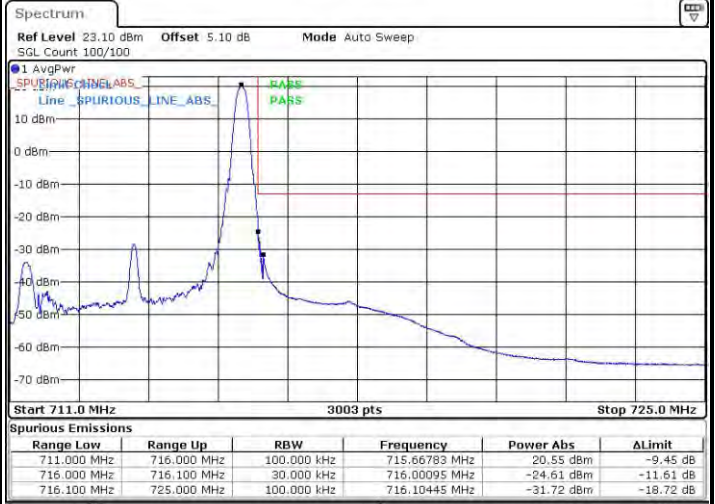


LTE Band 12 / 5MHz / QPSK

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



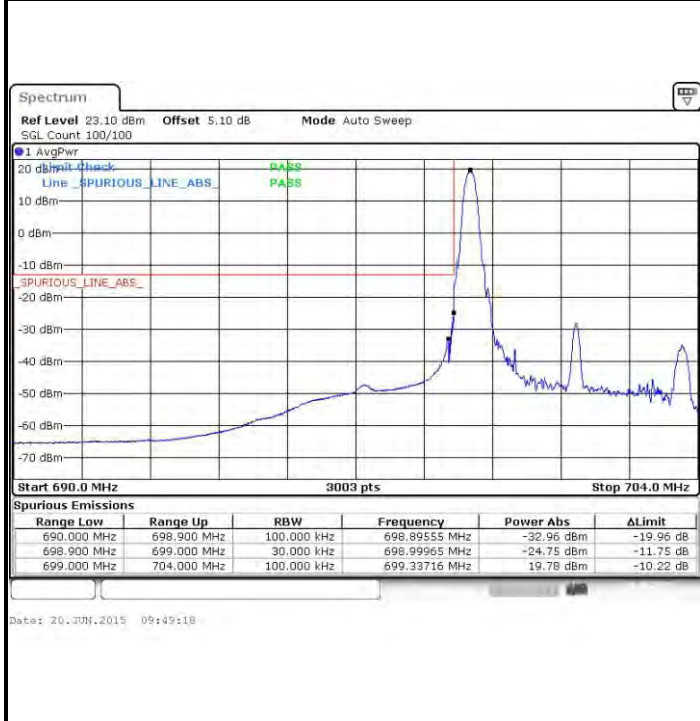
Highest Band Edge / Full RB



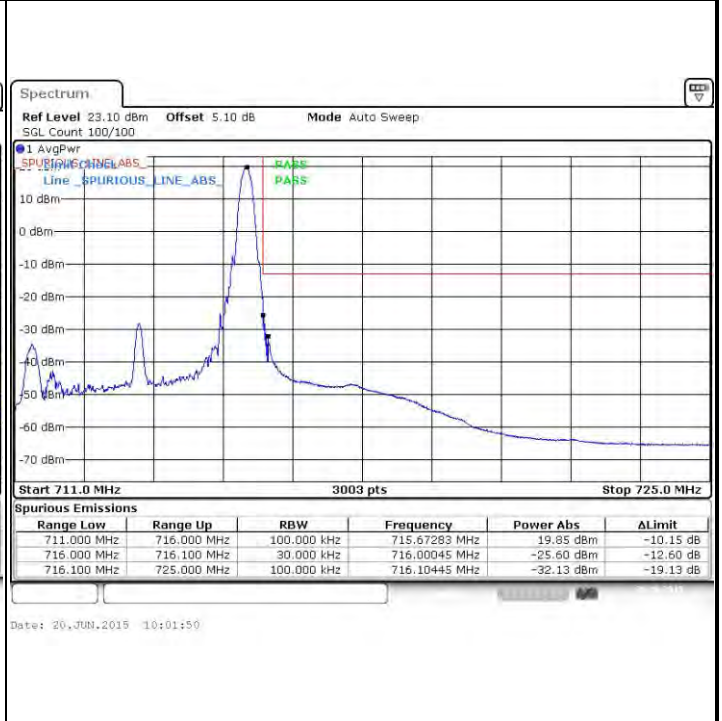


LTE Band 12 / 5MHz / 16QAM

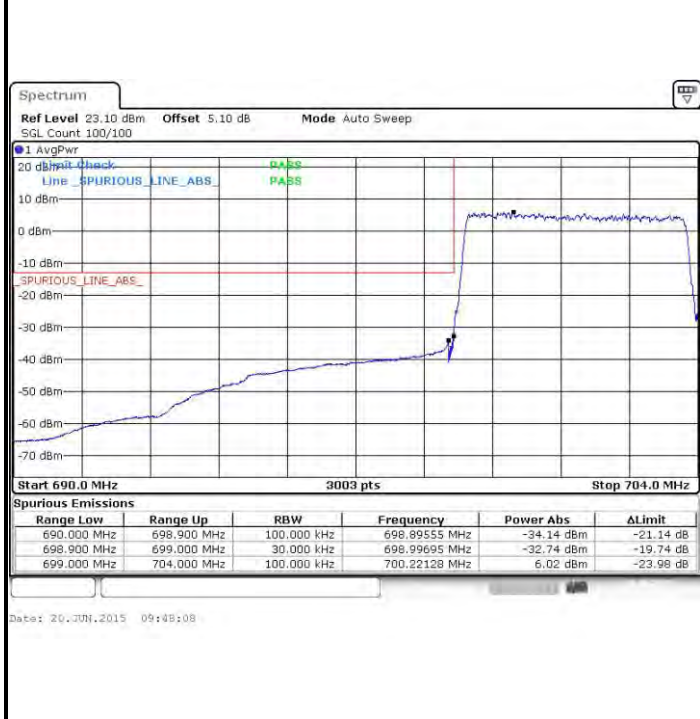
Lowest Band Edge / 1RB



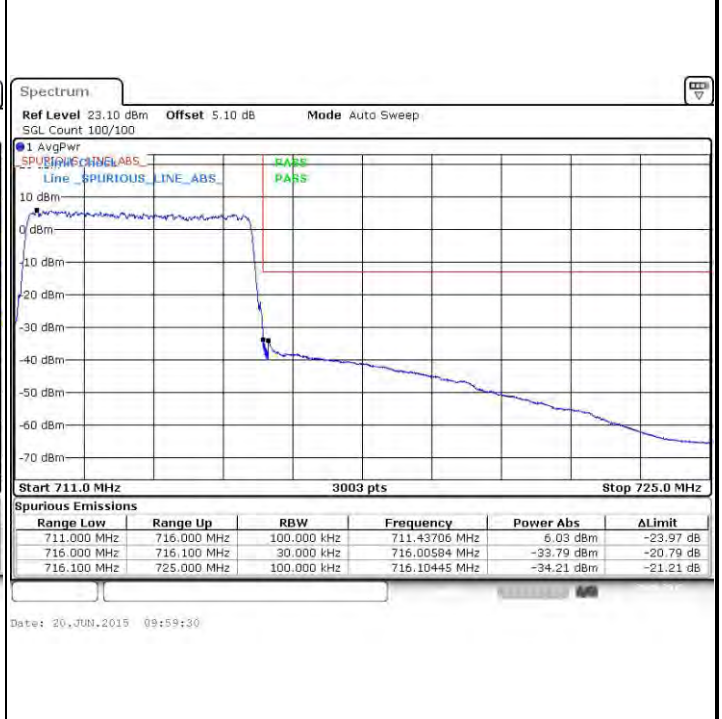
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



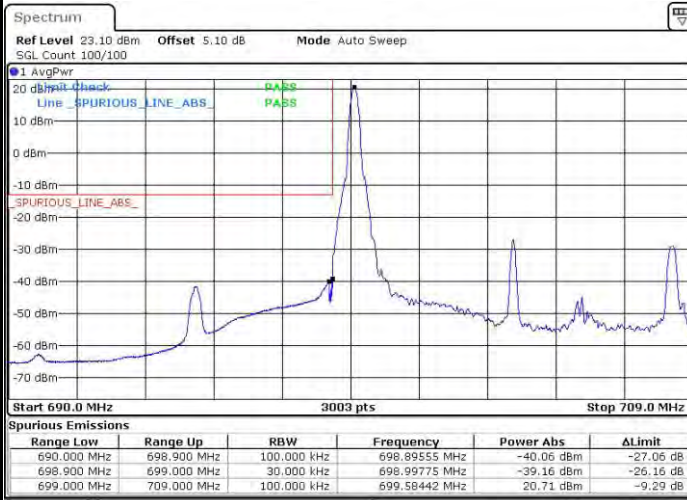
Highest Band Edge / Full RB





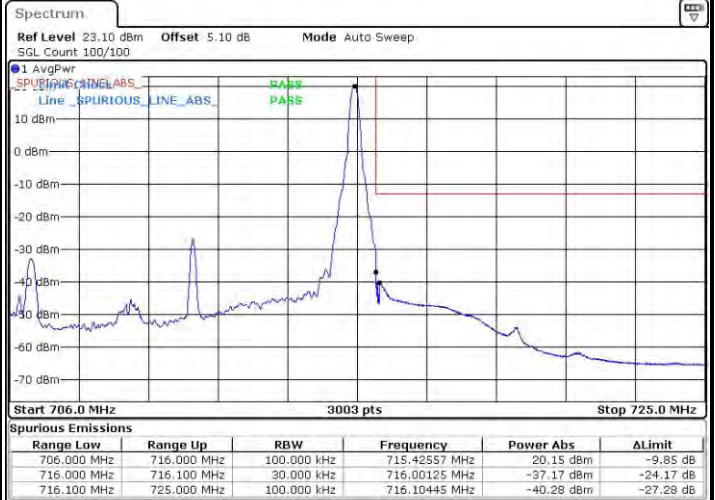
LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / 1 RB



Date: 20 JUN 2015 10:21:14

Highest Band Edge / 1 RB



Date: 20 JUN 2015 10:32:35

Lowest Band Edge / Full RB



Date: 20 JUN 2015 10:17:44

Highest Band Edge / Full RB

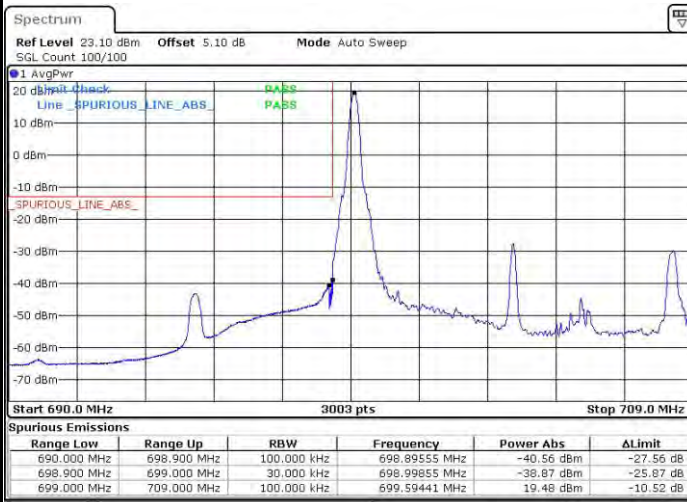


Date: 20 JUN 2015 10:29:04



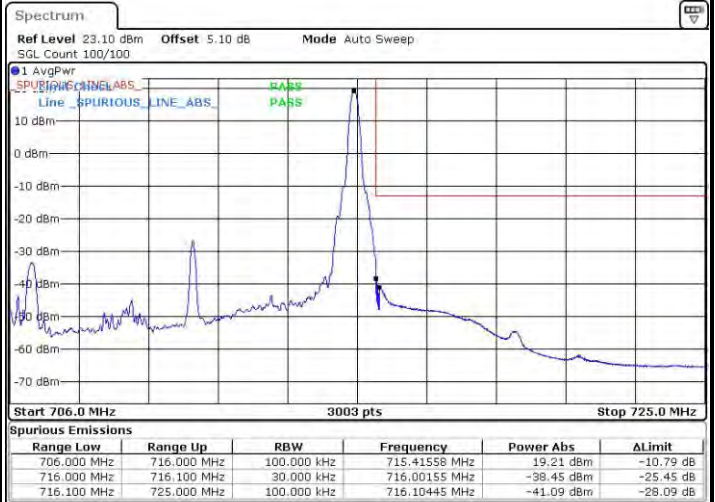
LTE Band 12 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



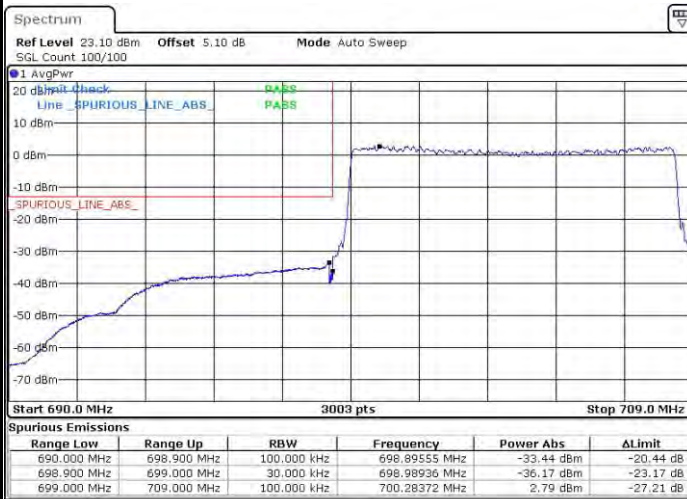
Date: 20 JUN 2015 10:20:04

Highest Band Edge / 1 RB



Date: 20 JUN 2015 10:31:24

Lowest Band Edge / Full RB



Date: 20 JUN 2015 10:18:54

Highest Band Edge / Full RB



Date: 20 JUN 2015 10:30:14



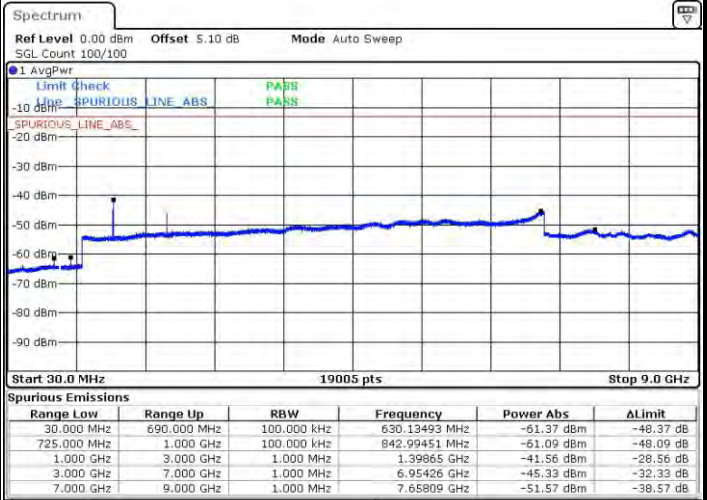
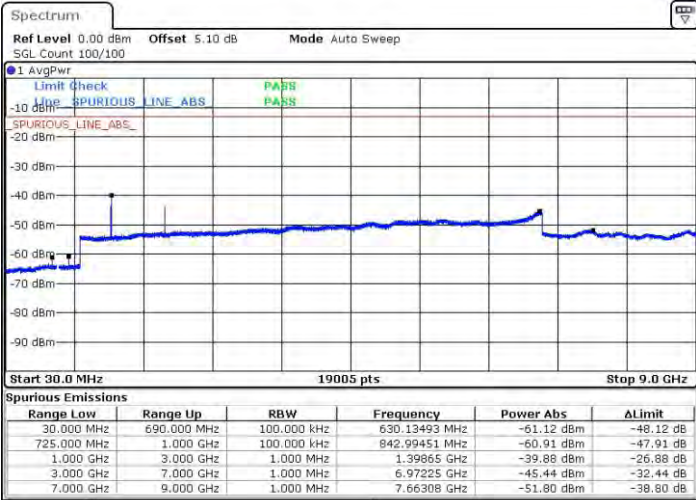
Conducted Spurious Emission



LTE Band 12 / 1.4MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

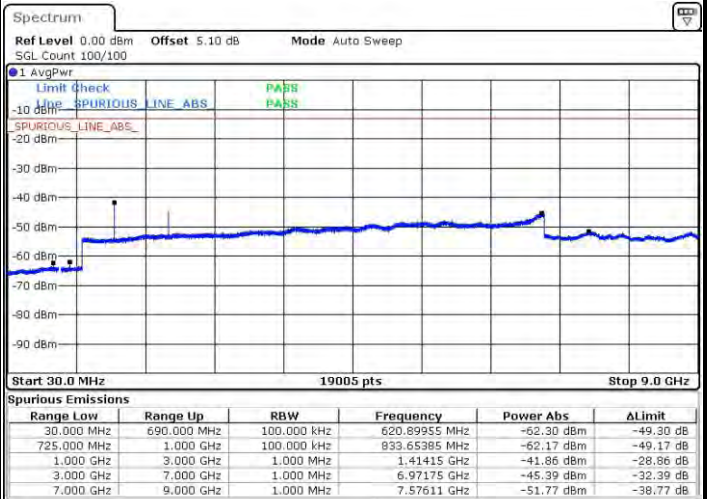
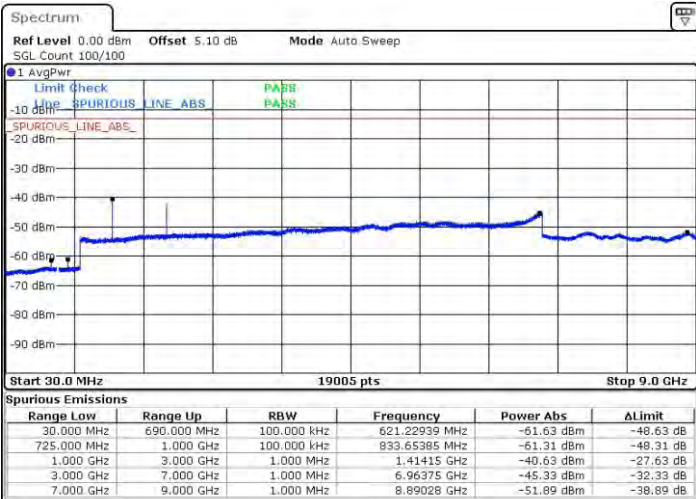


Date: 20 JUN 2015 11:18:17

Date: 20 JUN 2015 11:19:32

Middle Channel / QPSK

Middle Channel / 16QAM



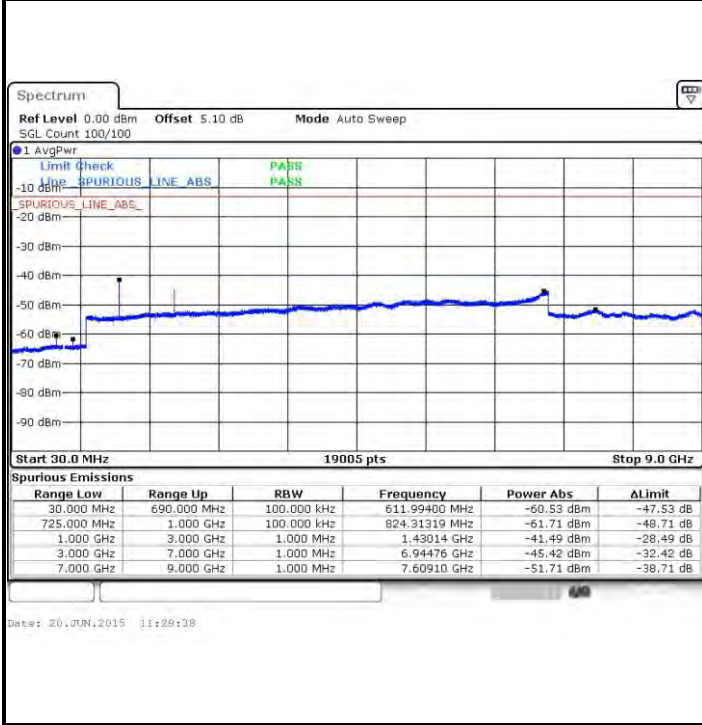
Date: 20 JUN 2015 11:22:52

Date: 20 JUN 2015 11:21:38



LTE Band 12 / 1.4MHz

Highest Channel / QPSK

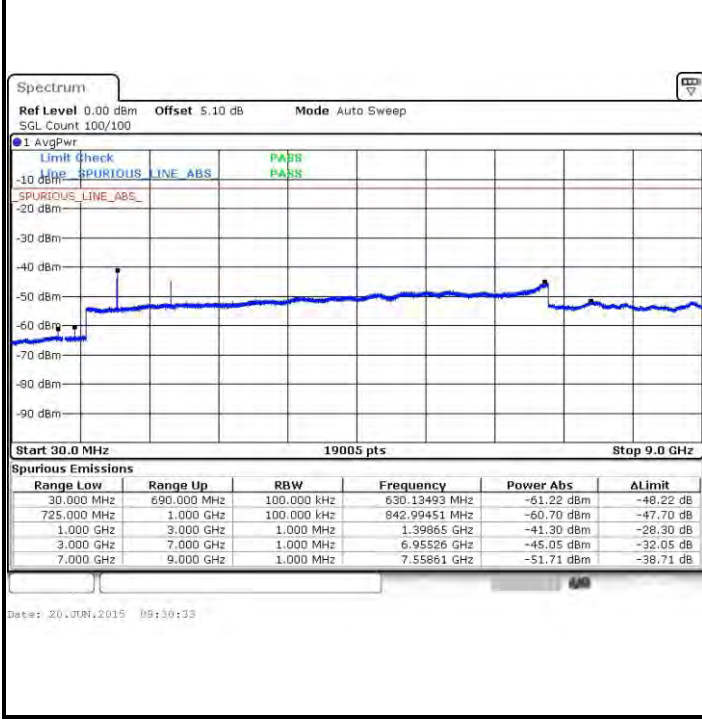


Highest Channel / 16QAM



LTE Band 12 / 3MHz

Lowest Channel / QPSK



Lowest Channel / 16QAM

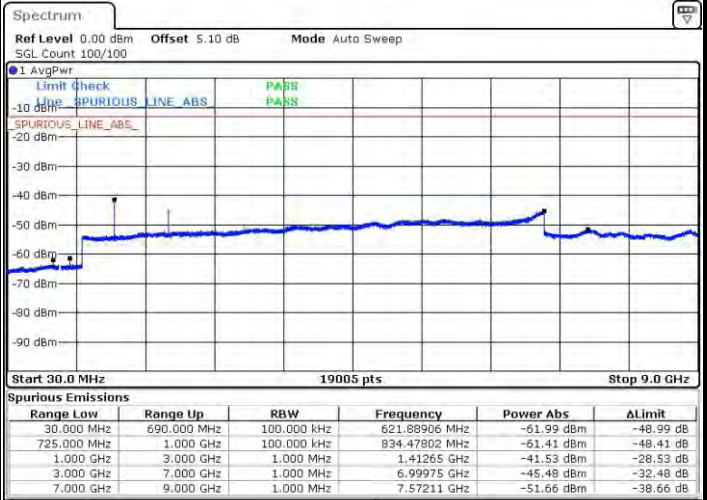
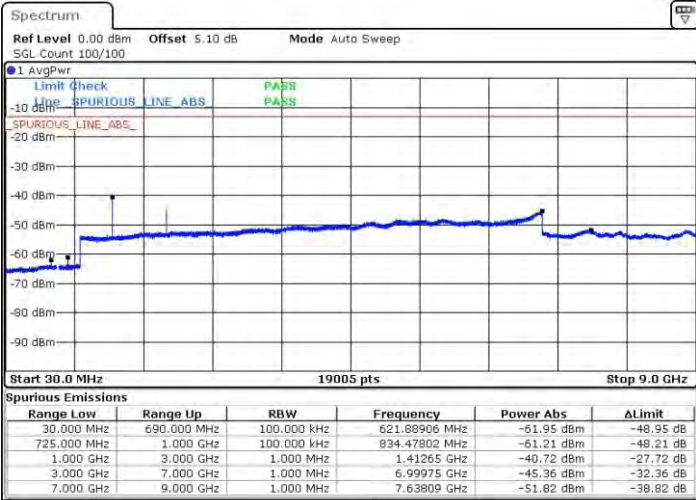




LTE Band 12 / 3MHz

Middle Channel / QPSK

Middle Channel / 16QAM

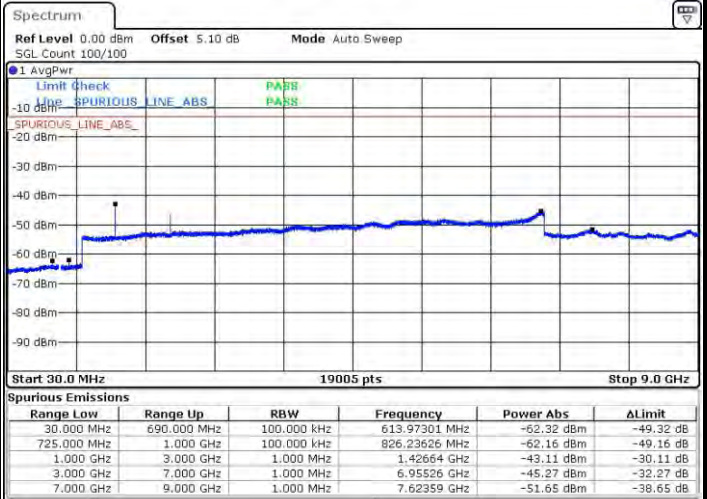


Date: 20 JUN 2015 09:35:08

Date: 20 JUN 2015 09:35:53

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 20 JUN 2015 09:43:37

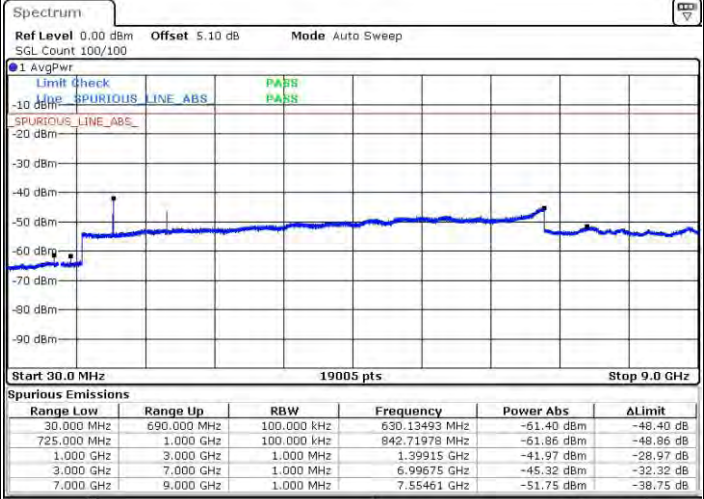
Date: 20 JUN 2015 09:44:31



LTE Band 12 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

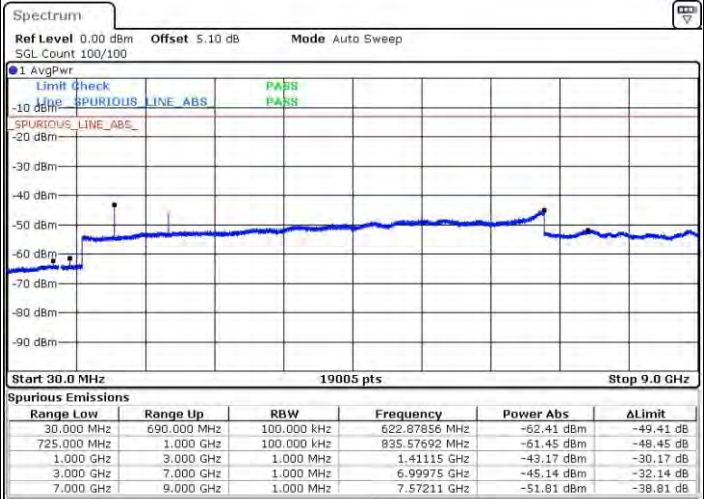


Date: 20 JUN 2015 09:51:42

Date: 20 JUN 2015 09:52:57

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 20 JUN 2015 09:56:17

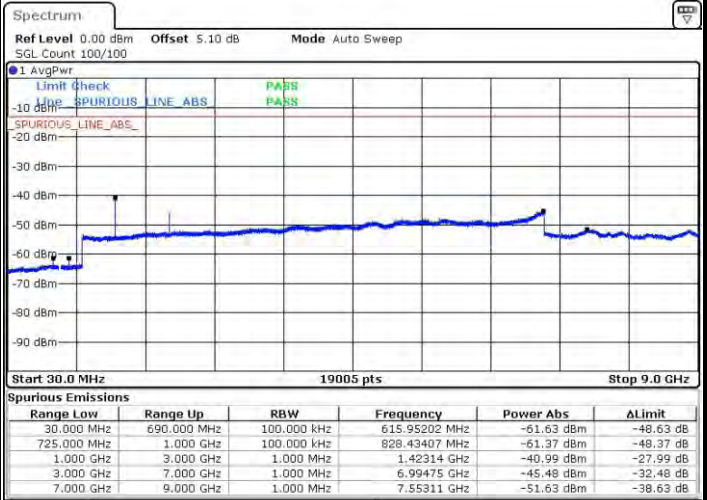
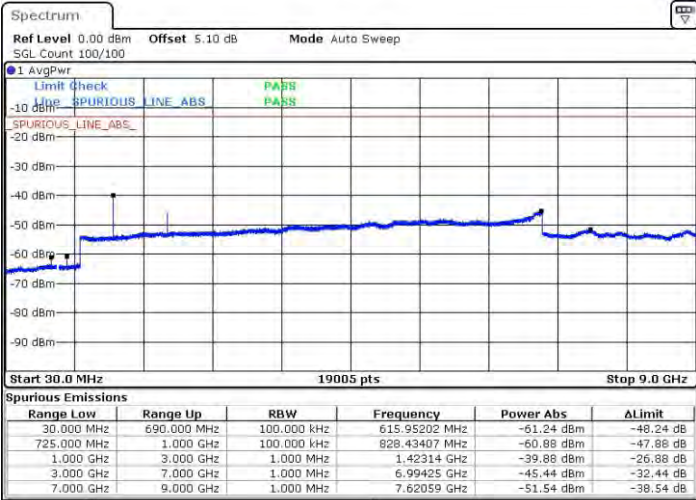
Date: 20 JUN 2015 09:55:03



LTE Band 12 / 5MHz

Highest Channel / QPSK

Highest Channel / 16QAM



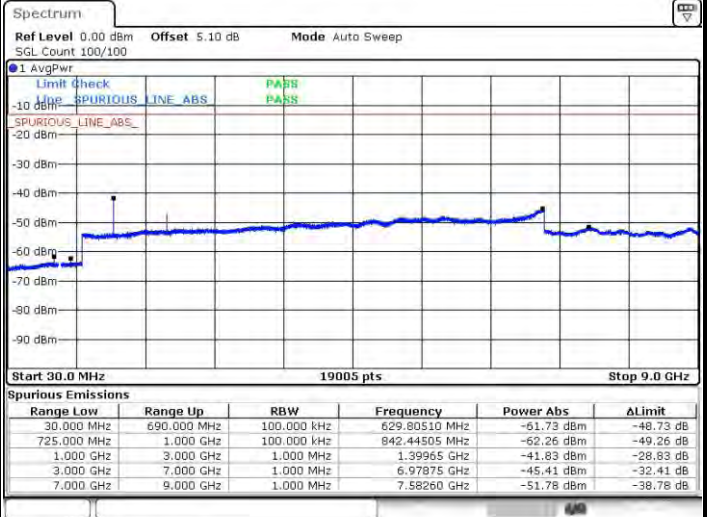
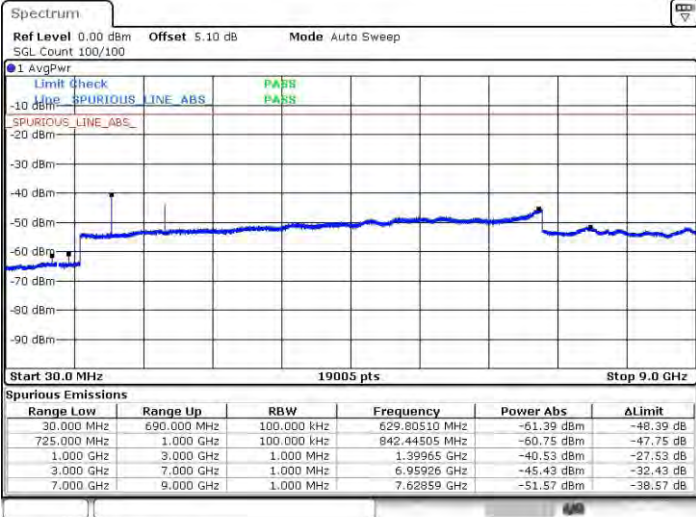
Date: 20.JUN.2015 10:04:36

Date: 20.JUN.2015 10:05:04

LTE Band 12 / 10MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



Date: 20.JUN.2015 10:22:27

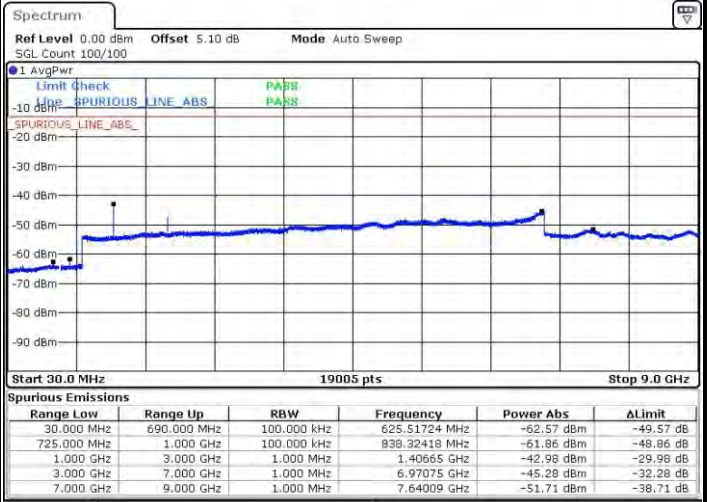
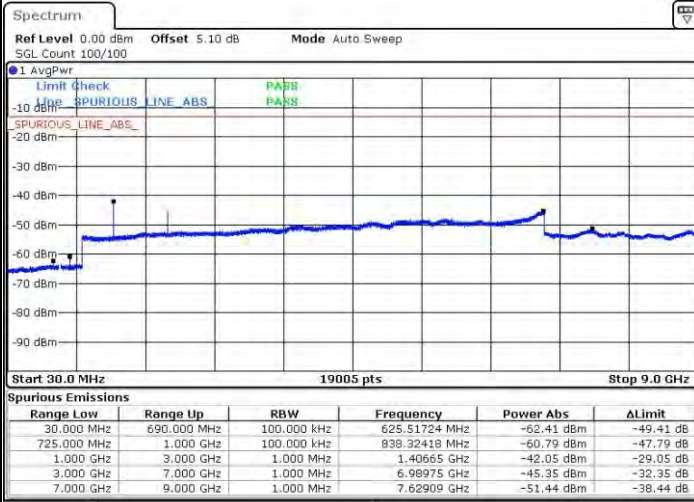
Date: 20.JUN.2015 10:23:41



LTE Band 12 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

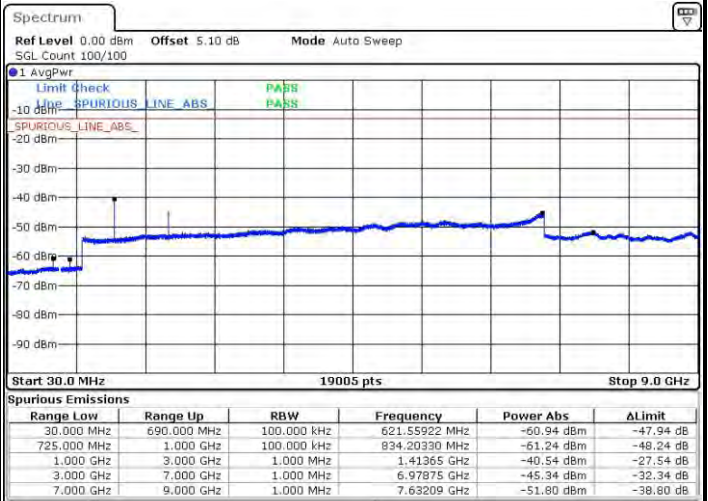
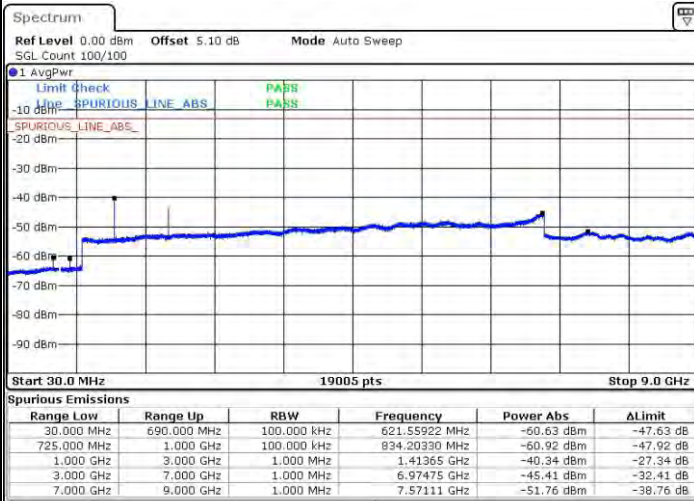


Date: 20 JUN 2015 10:27:02

Date: 20 JUN 2015 10:25:47

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 20 JUN 2015 10:33:40

Date: 20 JUN 2015 10:35:02



Frequency Stability

Test Conditions		LTE Band 12 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0006	PASS
40	Normal Voltage	0.0011	
30	Normal Voltage	0.0072	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0079	
0	Normal Voltage	0.0068	
-10	Normal Voltage	0.0007	
-20	Normal Voltage	0.0013	
-30	Normal Voltage	0.0023	
20	Maximum Voltage	0.0016	
20	Normal Voltage	0.0014	
20	Battery End Point	0.0112	

Note:

1. Normal Voltage = 3.9V. ; Battery End Point (BEP) = 3.5 V. ; Maximum Voltage =4.35 V
2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



Test Conditions		LTE Band 12 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 5MHz	Within Band
		Frequency Offset (Δf) (Hz)	Result
50	Normal Voltage	-0.4	PASS
40	Normal Voltage	0.8	
30	Normal Voltage	-5.1	
20(Ref.)	Normal Voltage	0	
10	Normal Voltage	-5.6	
0	Normal Voltage	-4.8	
-10	Normal Voltage	0.5	
-20	Normal Voltage	0.9	
-30	Normal Voltage	1.6	
20	Maximum Voltage	1.1	
20	Normal Voltage	0	
20	Battery End Point	-7.9	

$|\text{MAX}(\Delta f)|$ 7.9= Hz

Frequency Stability	Frequency (MHz)	Limit Line	Result
$f_L - \text{MAX}(\Delta f) $	699.109	≥ 698 MHz	PASS
$f_H + \text{MAX}(\Delta f) $	715.8913	≤ 716 MHz	



LTE Band 17

Peak-to-Average Ratio

Mode	LTE Band 17 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.41	4.78	5.48	5.74	PASS
Middle CH	5.13	4.87	5.51	5.71	
Highest CH	4.43	4.72	5.39	5.71	



LTE Band 17 / 10MHz / QPSK

Lowest Channel / 1RB



Date: 20_JUN.2015 11:36:50

Lowest Channel / Full RB



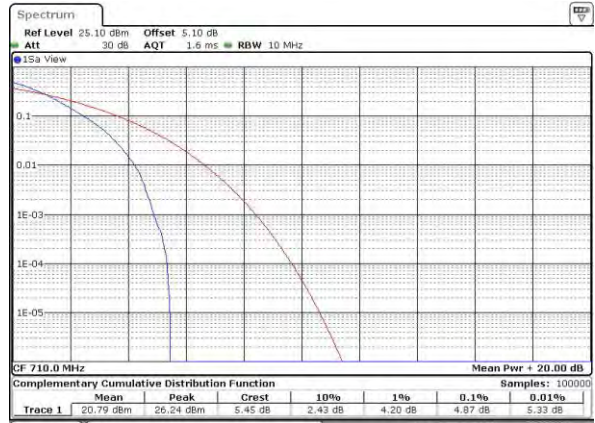
Date: 20_JUN.2015 11:37:03

Middle Channel/ 1RB



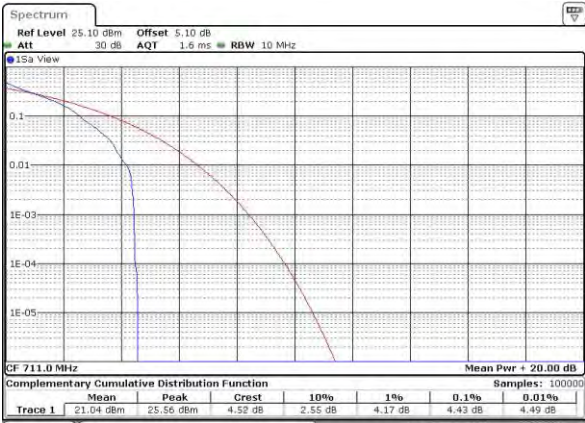
Date: 20_JUN.2015 11:37:18

Middle Channel / Full RB



Date: 20_JUN.2015 11:38:09

Highest Channel/ 1RB



Date: 20_JUN.2015 11:38:27

Highest Channel / Full RB



Date: 20_JUN.2015 11:38:56



LTE Band 17 / 10MHz / 16QAM

Lowest Channel / 1RB



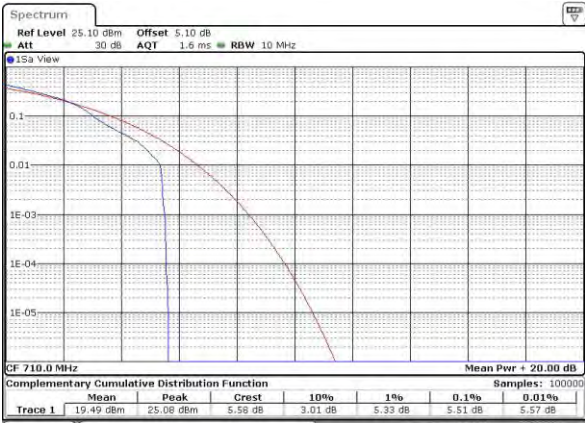
Date: 20_JUN,2015 11:35:13

Lowest Channel / Full RB



Date: 20_JUN,2015 11:35:29

Middle Channel/ 1RB



Date: 20_JUN,2015 11:35:45

Middle Channel / Full RB



Date: 20_JUN,2015 11:35:57

Highest Channel/ 1RB



Date: 20_JUN,2015 11:36:17

Highest Channel / Full RB



Date: 20_JUN,2015 11:36:34



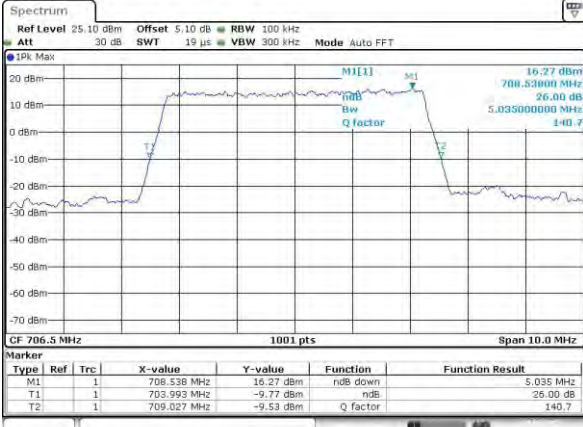
26dB Bandwidth

Mode	LTE Band 17 : 26dB BW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
BW	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	5.04	5.02	10.03	9.97	-	-	-	-
Middle CH	-	-	-	-	5.01	5.04	10.23	10.03	-	-	-	-
Highest CH	-	-	-	-	5.38	5.06	9.95	10.01	-	-	-	-



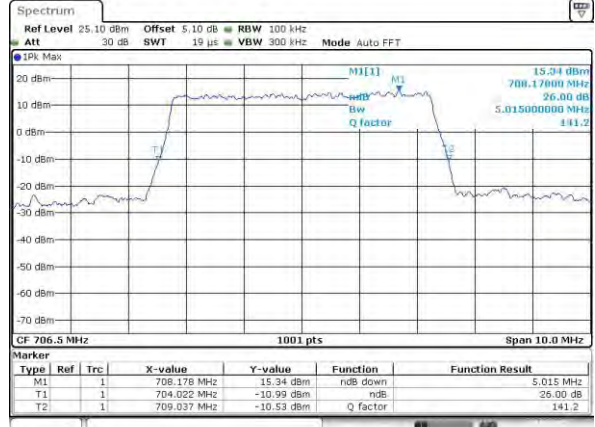
LTE Band 17

Lowest Channel / 5MHz / QPSK



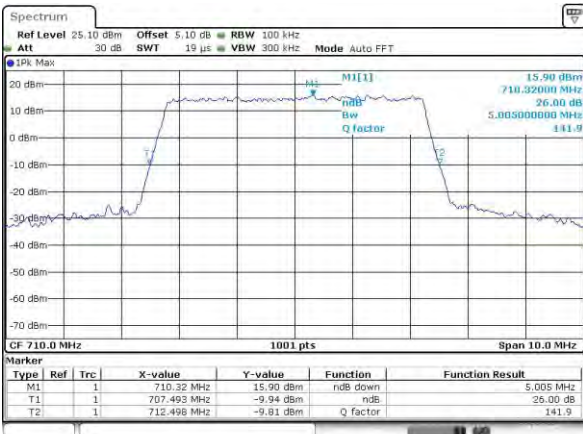
Date: 20/03/2015 10:35:16

Lowest Channel / 5MHz / 16QAM



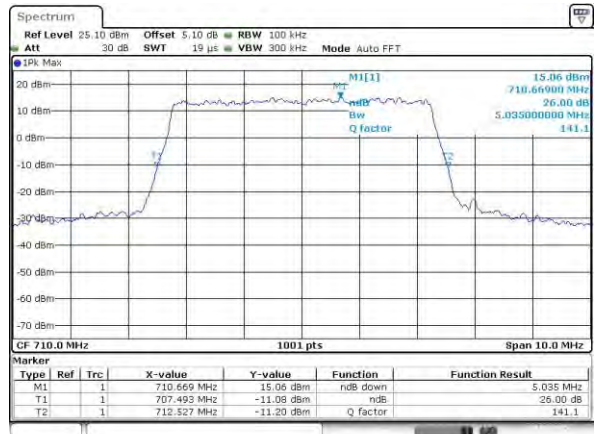
Date: 20/03/2015 10:36:00

Middle Channel / 5MHz / QPSK



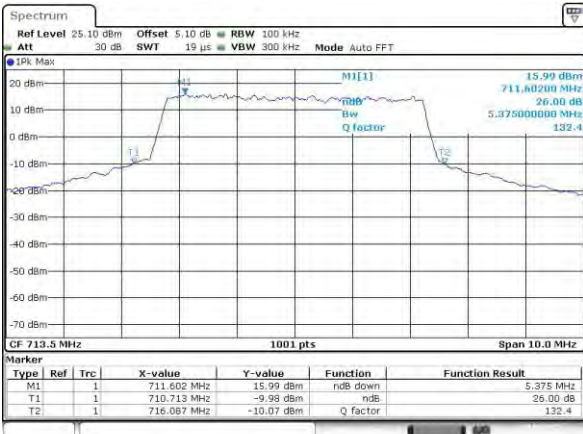
Date: 20/03/2015 10:43:47

Middle Channel / 5MHz / 16QAM



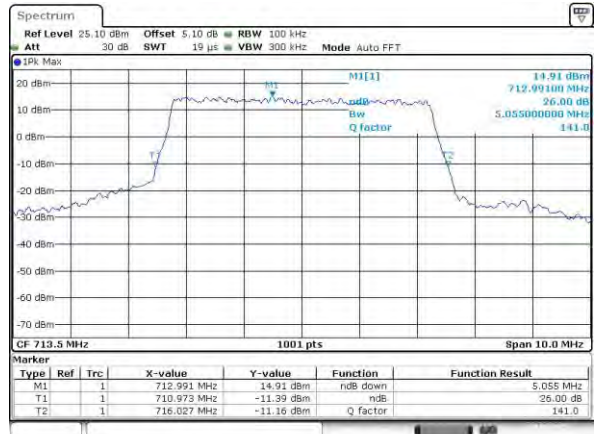
Date: 20/03/2015 10:44:01

Highest Channel / 5MHz / QPSK



Date: 20/03/2015 10:47:07

Highest Channel / 5MHz / 16QAM

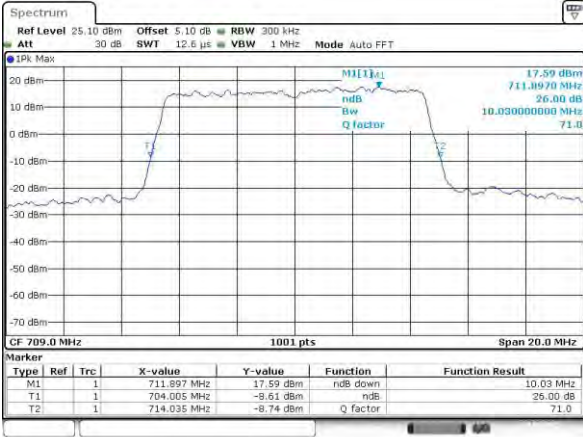


Date: 20/03/2015 10:47:21



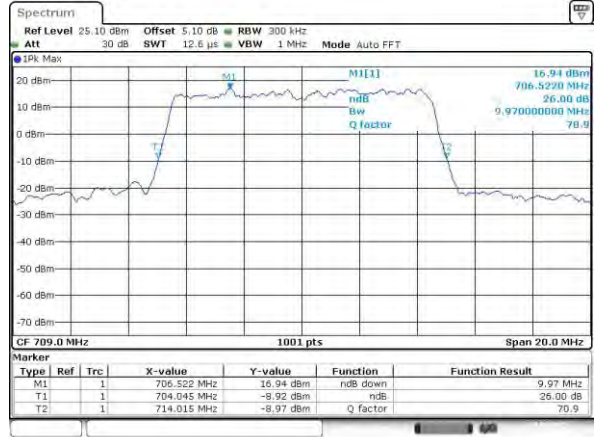
LTE Band 17

Lowest Channel / 10MHz / QPSK



Date: 20_03_2019 10:55:13

Lowest Channel / 10MHz / 16QAM



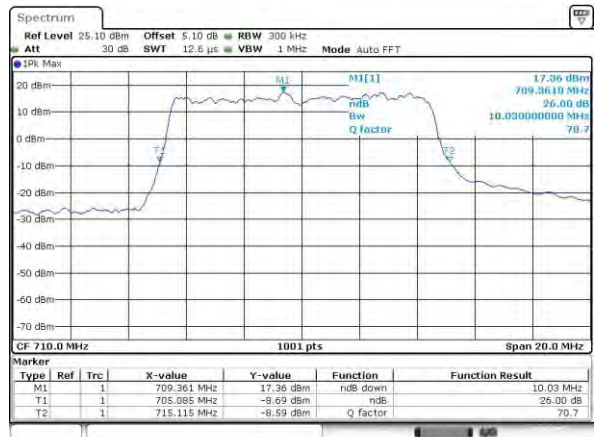
Date: 20_03_2019 10:55:26

Middle Channel / 10MHz / QPSK



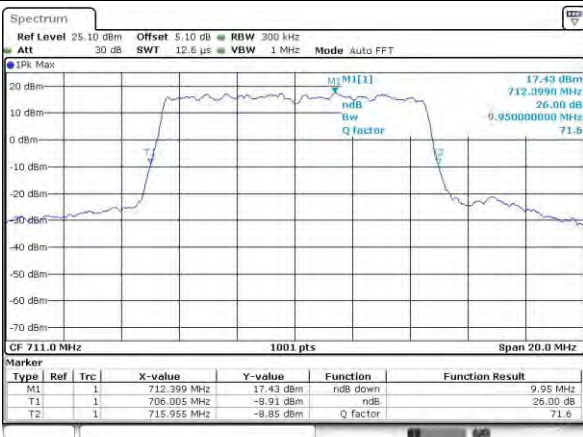
Date: 20_03_2019 11:03:13

Middle Channel / 10MHz / 16QAM



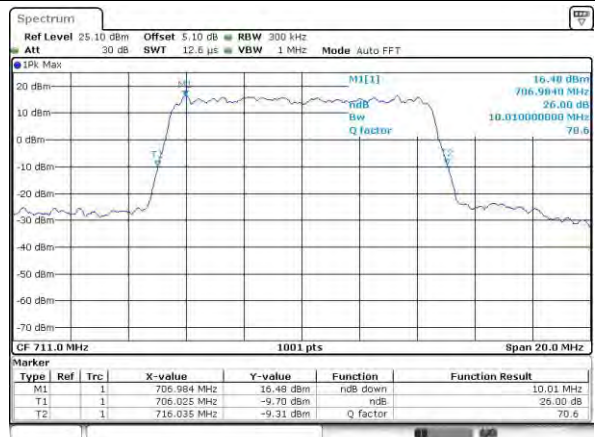
Date: 20_03_2019 11:03:27

Highest Channel / 10MHz / QPSK



Date: 20_03_2019 11:06:34

Highest Channel / 10MHz / 16QAM



Date: 20_03_2019 11:06:48



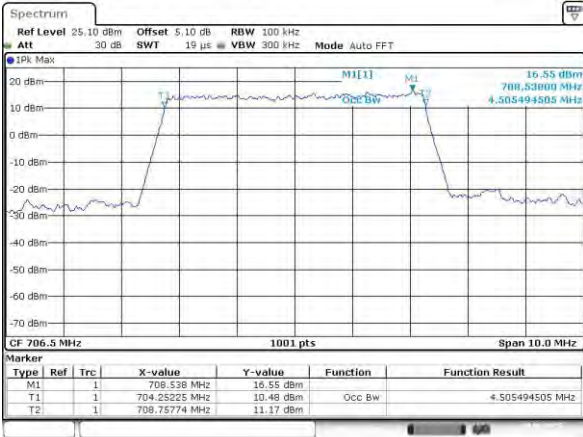
Occupied Bandwidth

Mode	LTE Band 17 : 99%OBW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
BW	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.51	4.51	9.05	8.99	-	-	-	-
Middle CH	-	-	-	-	4.5	4.49	9.07	9.01	-	-	-	-
Highest CH	-	-	-	-	4.51	4.5	9.01	9.01	-	-	-	-



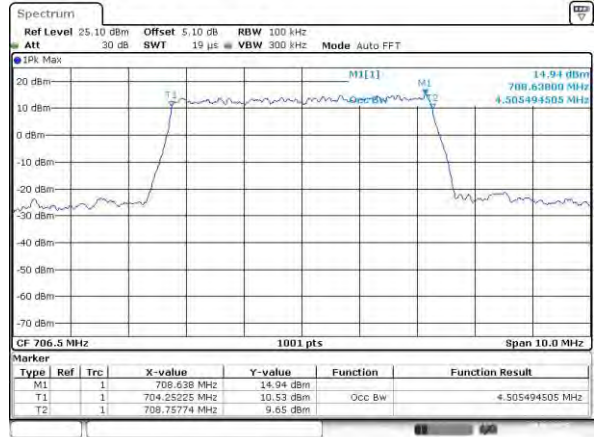
LTE Band 17

Lowest Channel / 5MHz / QPSK



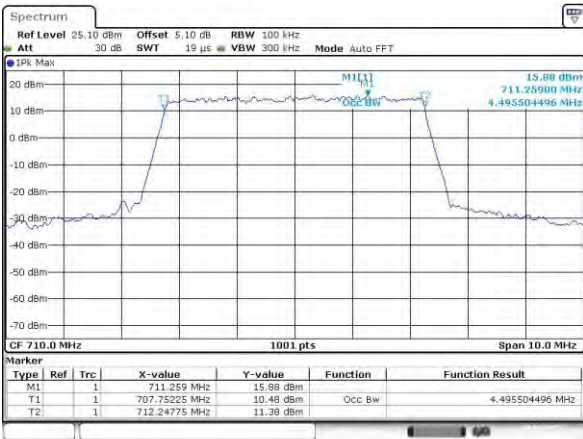
Date: 20/08/2018 10:35:20

Lowest Channel / 5MHz / 16QAM



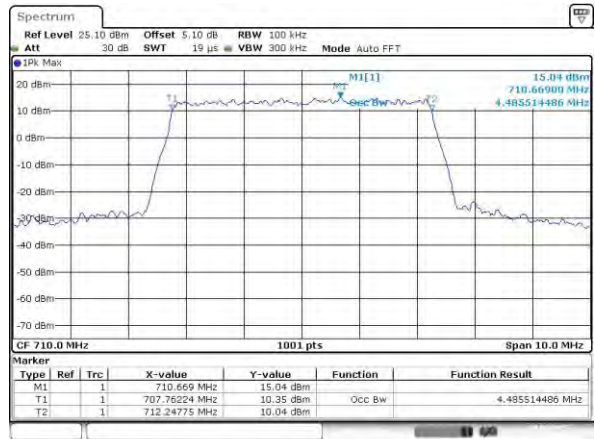
Date: 20/08/2018 10:35:32

Middle Channel / 5MHz / QPSK



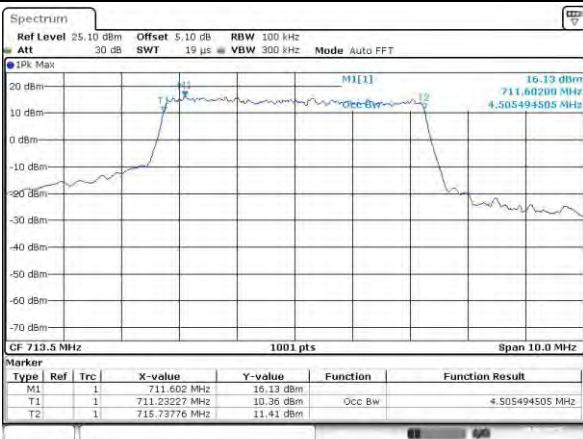
Date: 20/08/2018 10:43:21

Middle Channel / 5MHz / 16QAM



Date: 20/08/2018 10:43:33

Highest Channel / 5MHz / QPSK



Date: 20/08/2018 10:46:41

Highest Channel / 5MHz / 16QAM



Date: 20/08/2018 10:46:53