



## LTE Band 12

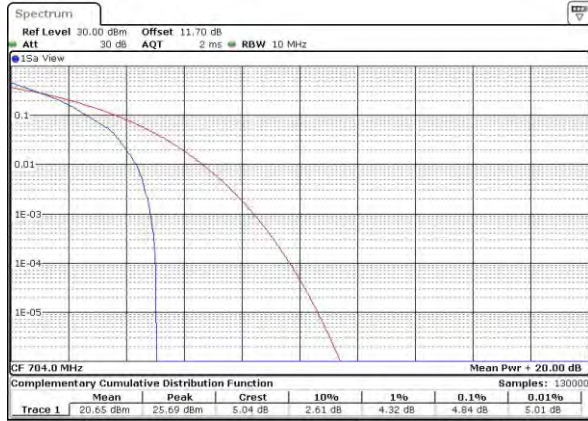
### Peak-to-Average Ratio

Mode	LTE Band 12 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.84	5.48	5.88	6.41	<b>PASS</b>
Middle CH	5.3	5.68	6.49	6.41	
Highest CH	5.48	5.68	6.35	6.7	



## LTE Band 12 / 10MHz / QPSK

## Lowest Channel / 1RB



## Lowest Channel / Full RB



## Middle Channel / 1RB



## Middle Channel / Full RB



## Highest Channel / 1RB



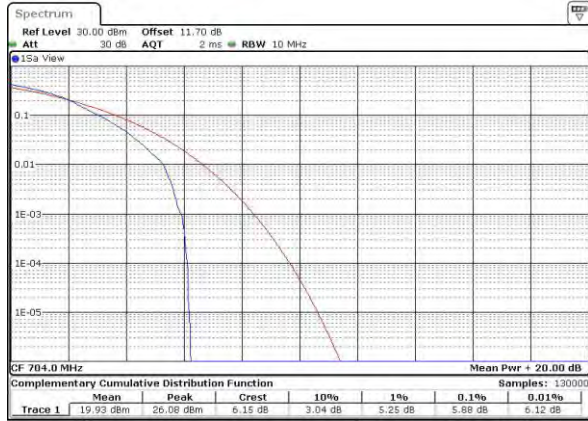
## Highest Channel / Full RB



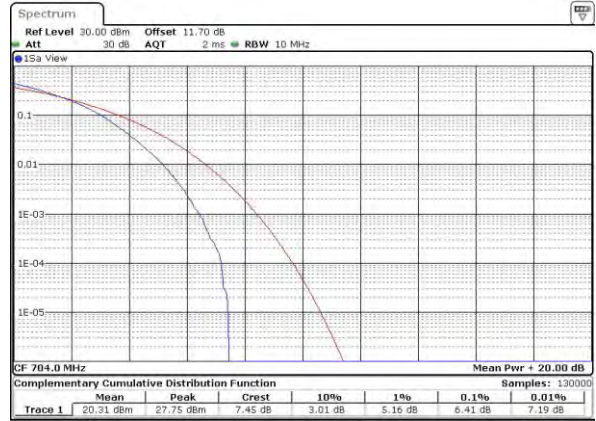


## LTE Band 12 / 10MHz / 16QAM

## Lowest Channel / 1RB



## Lowest Channel / Full RB



## Middle Channel / 1RB



## Middle Channel / Full RB



## Highest Channel / 1RB



## Highest Channel / Full RB



**26dB Bandwidth**

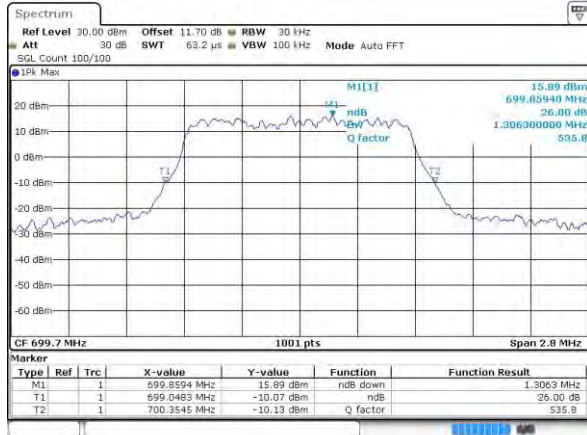
Mode	LTE Band 12 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.31	1.27	3.09	3.05	4.89	4.9	9.73	9.79	-	-	-	-
Middle CH	1.31	1.29	3.1	3.05	5.1	4.94	9.87	9.91	-	-	-	-
Highest CH	1.28	1.31	3.09	3.11	4.95	4.93	9.87	9.61	-	-	-	-





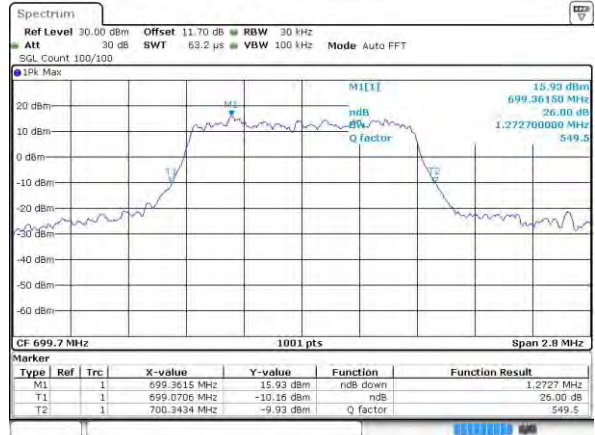
## LTE Band 12

## Lowest Channel / 1.4MHz / QPSK



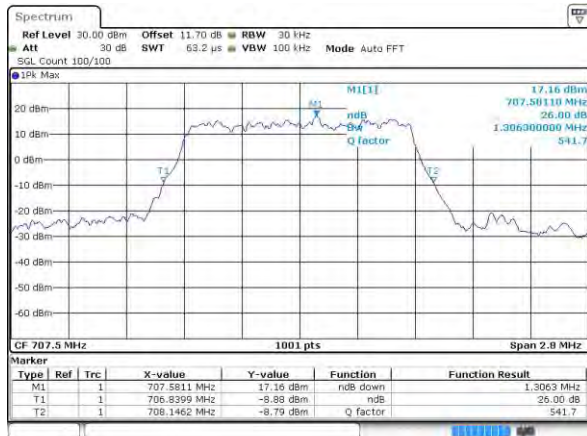
Date: 6 NOV 2015 17:04:49

## Lowest Channel / 1.4MHz / 16QAM



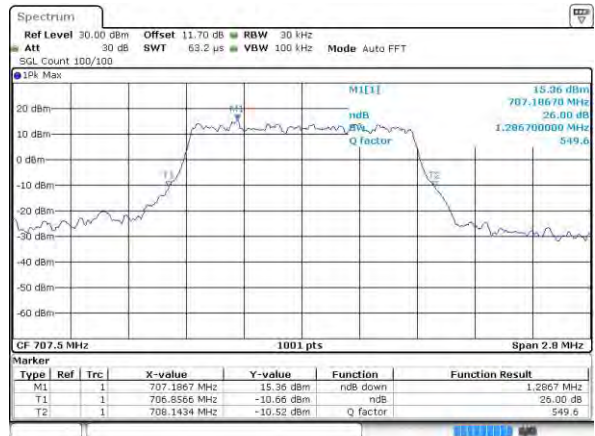
Date: 6 NOV 2015 17:04:39

## Middle Channel / 1.4MHz / QPSK



Date: 6 NOV 2015 17:15:19

## Middle Channel / 1.4MHz / 16QAM



Date: 6 NOV 2015 17:15:29

## Highest Channel / 1.4MHz / QPSK



Date: 6 NOV 2015 17:18:00

## Highest Channel / 1.4MHz / 16QAM

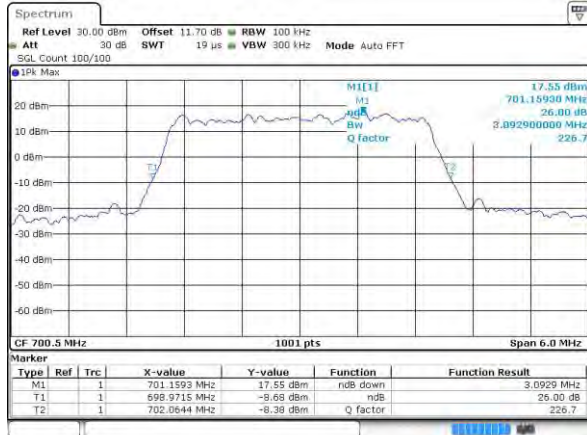


Date: 6 NOV 2015 17:17:50

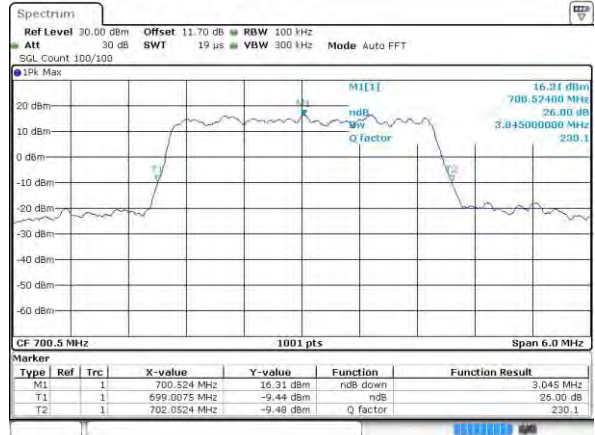


## LTE Band 12

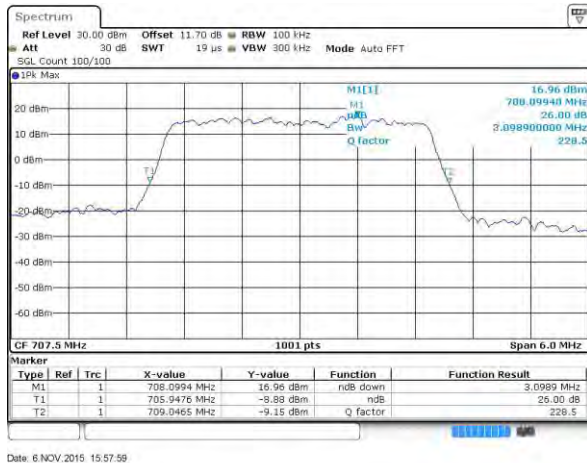
## Lowest Channel / 3MHz / QPSK



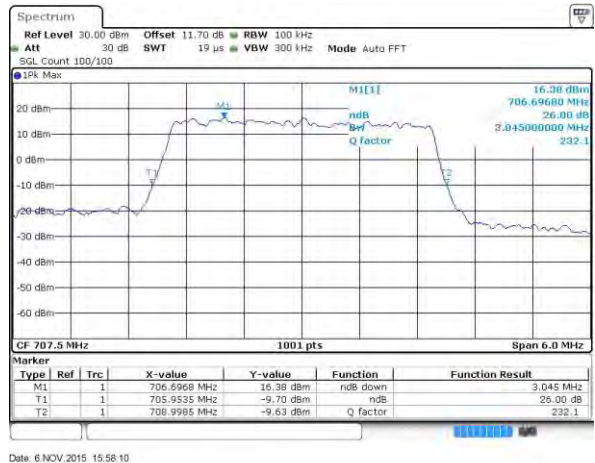
## Lowest Channel / 3MHz / 16QAM



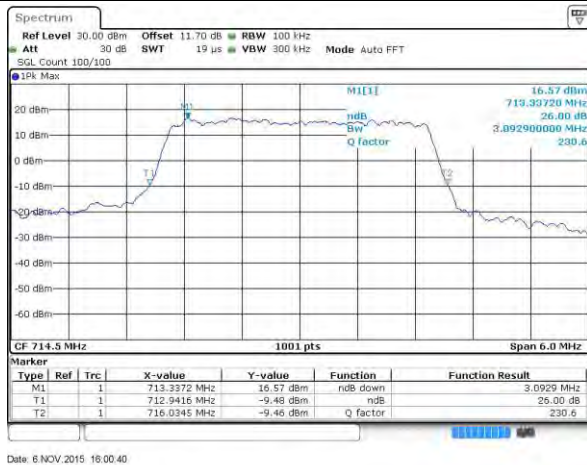
## Middle Channel / 3MHz / QPSK



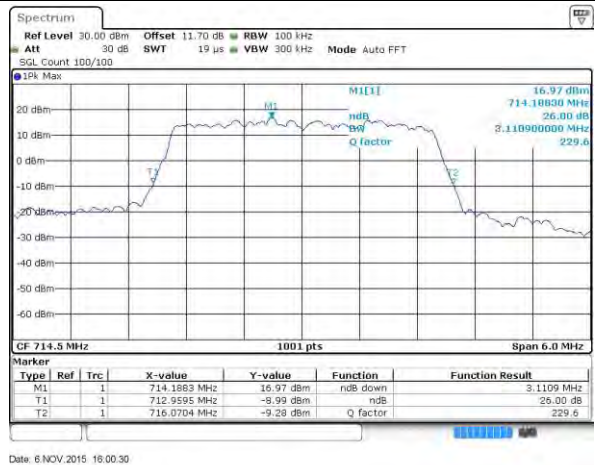
## Middle Channel / 3MHz / 16QAM



## Highest Channel / 3MHz / QPSK



## Highest Channel / 3MHz / 16QAM

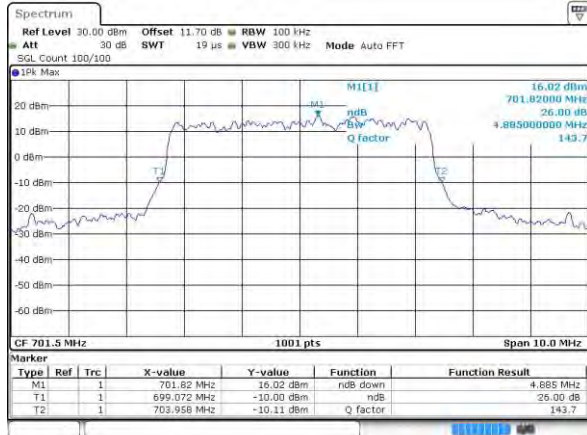




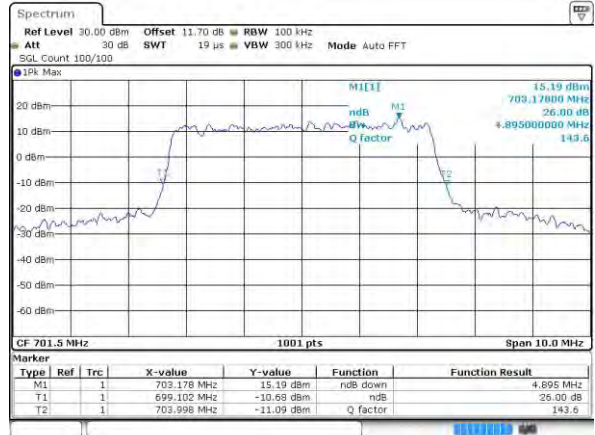


## LTE Band 12

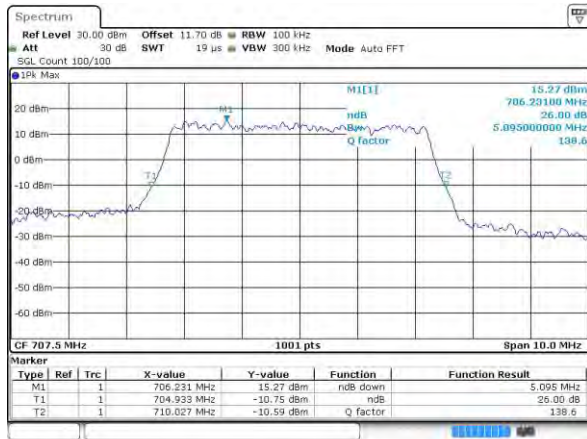
## Lowest Channel / 5MHz / QPSK



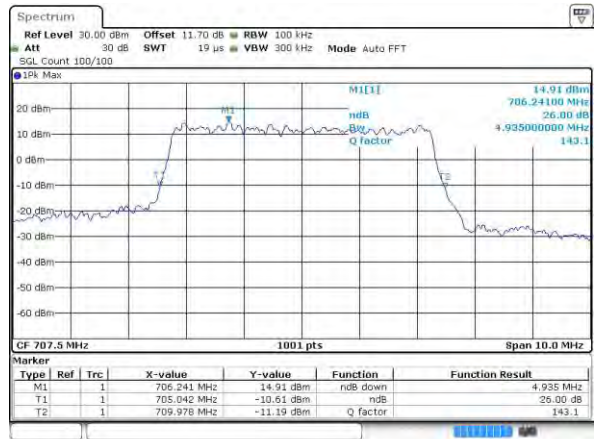
## Lowest Channel / 5MHz / 16QAM



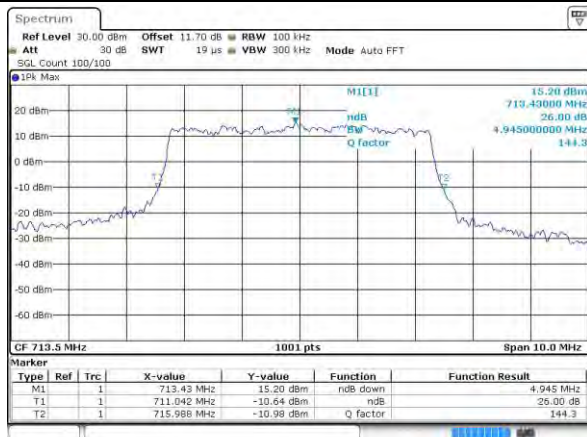
## Middle Channel / 5MHz / QPSK



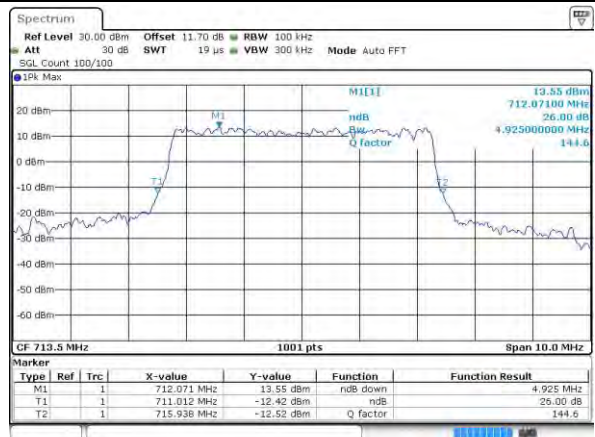
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



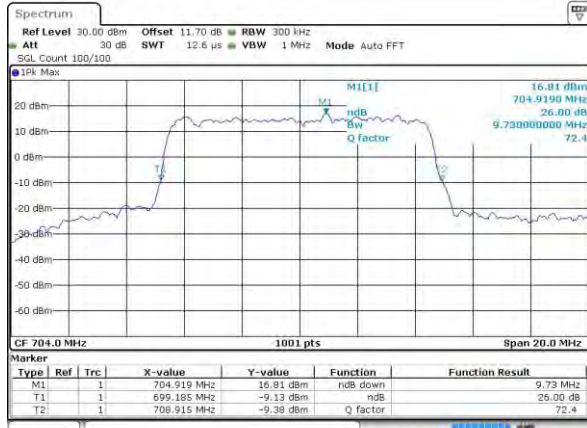
## Highest Channel / 5MHz / 16QAM





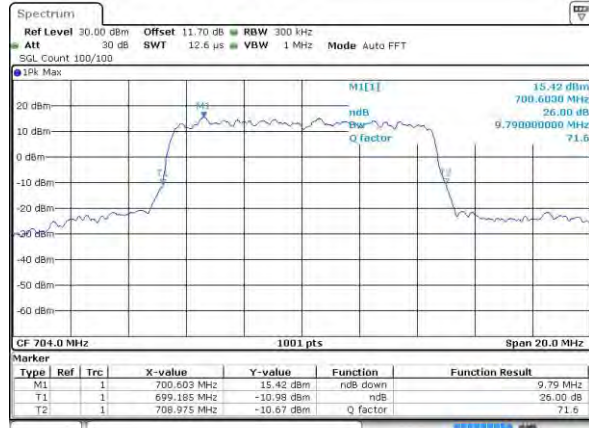
## LTE Band 12

## Lowest Channel / 10MHz / QPSK



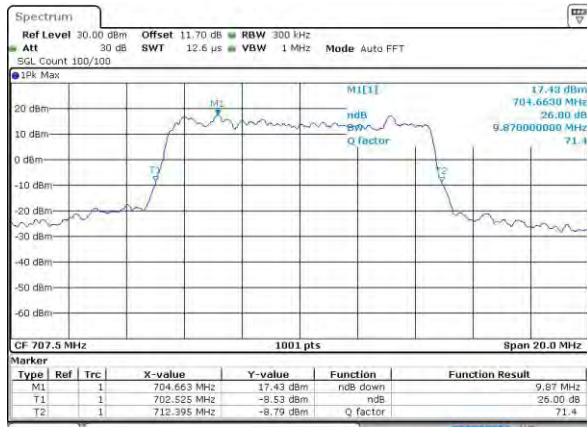
Date: 6 NOV 2015 18:35:07

## Lowest Channel / 10MHz / 16QAM



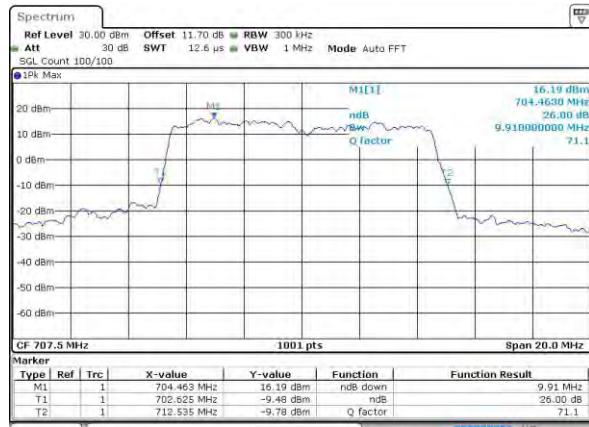
Date: 6 NOV 2015 18:34:57

## Middle Channel / 10MHz / QPSK



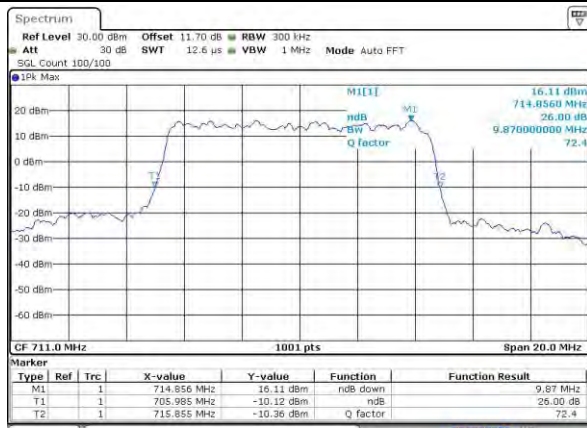
Date: 6 NOV 2015 18:45:36

## Middle Channel / 10MHz / 16QAM



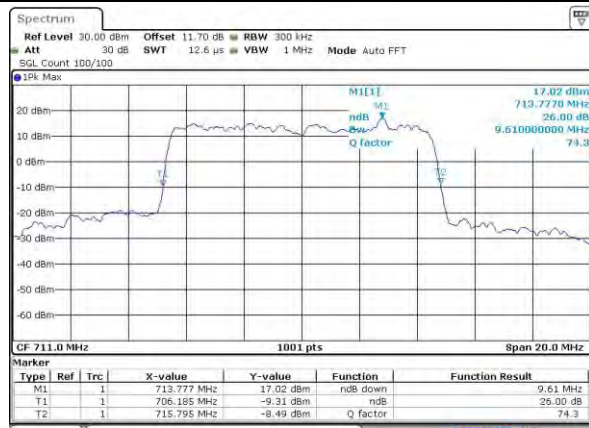
Date: 6 NOV 2015 18:45:46

## Highest Channel / 10MHz / QPSK



Date: 6 NOV 2015 18:48:17

## Highest Channel / 10MHz / 16QAM



Date: 6 NOV 2015 18:48:06



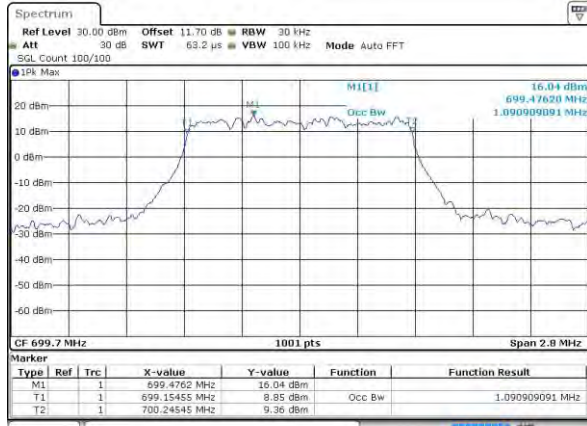
**Occupied Bandwidth**

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	2.71	2.7	4.51	4.48	9.01	9.01	-	-	-	-
Middle CH	1.09	1.09	2.73	2.72	4.49	4.51	8.99	8.99	-	-	-	-
Highest CH	1.1	1.09	2.72	2.74	4.5	4.49	9.09	9.01	-	-	-	-

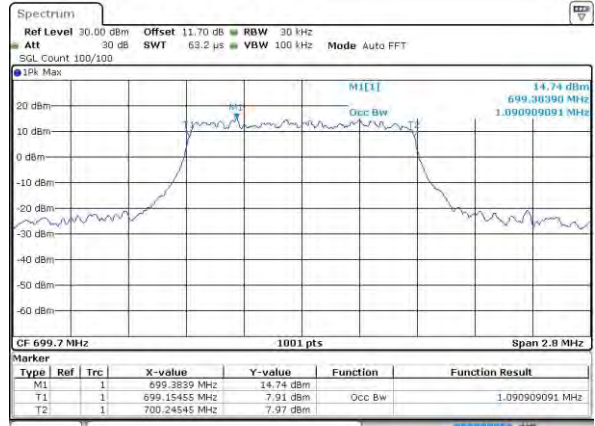


## LTE Band 12

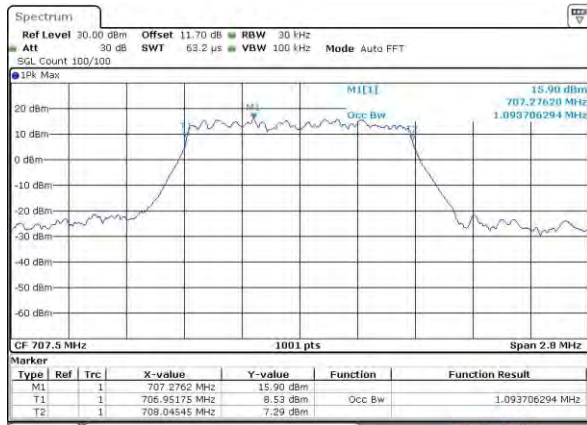
## Lowest Channel / 1.4MHz / QPSK



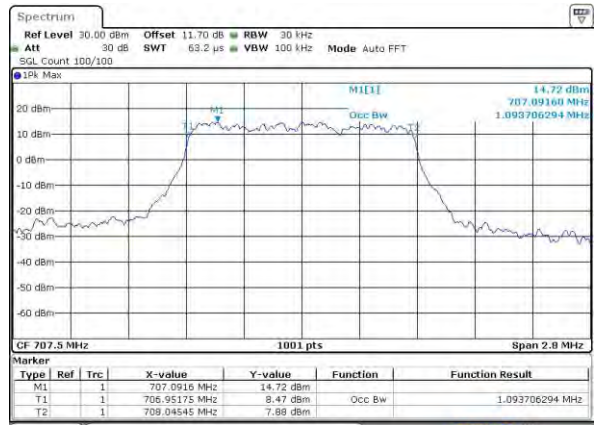
## Lowest Channel / 1.4MHz / 16QAM



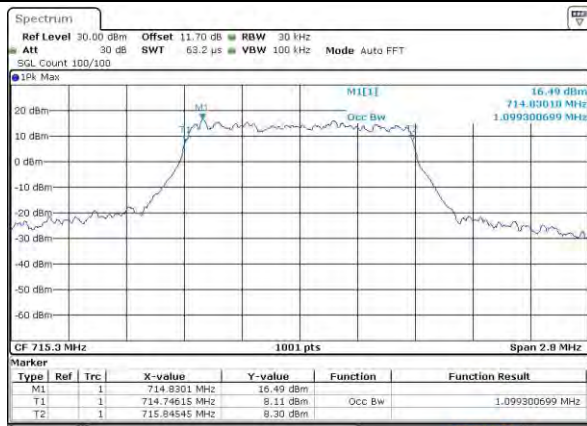
## Middle Channel / 1.4MHz / QPSK



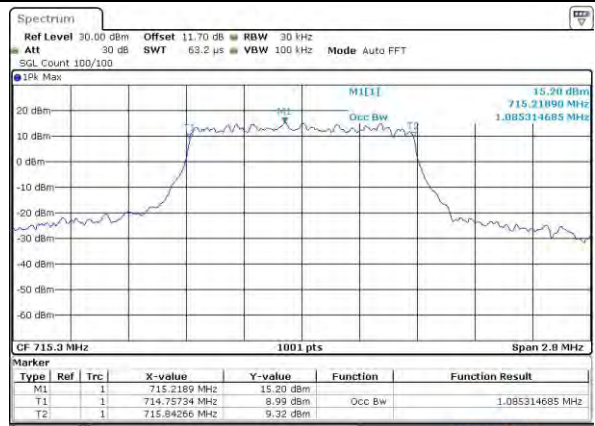
## Middle Channel / 1.4MHz / 16QAM



## Highest Channel / 1.4MHz / QPSK



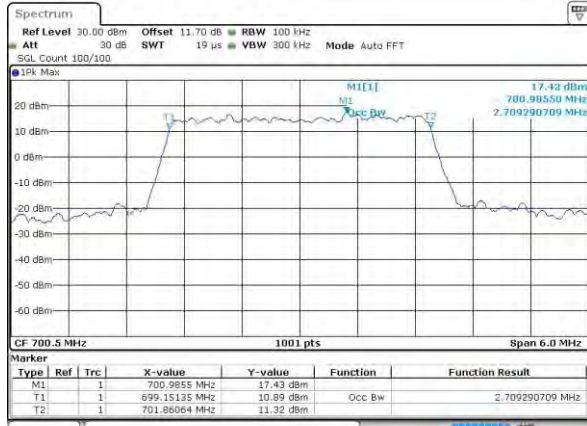
## Highest Channel / 1.4MHz / 16QAM





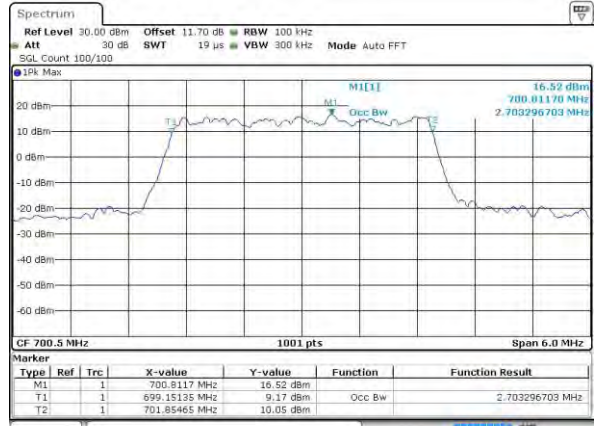
## LTE Band 12

## Lowest Channel / 3MHz / QPSK



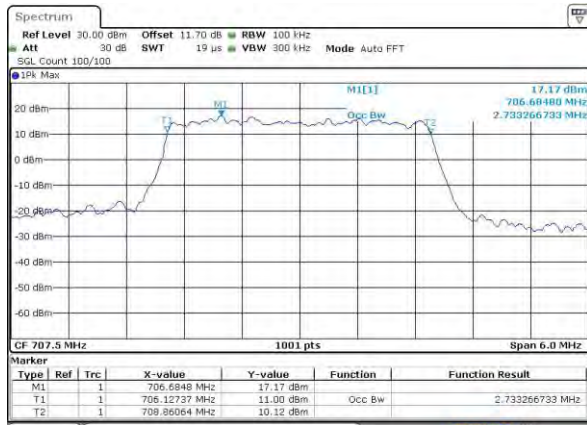
Date: 6 NOV 2015 15:35:34

## Lowest Channel / 3MHz / 16QAM



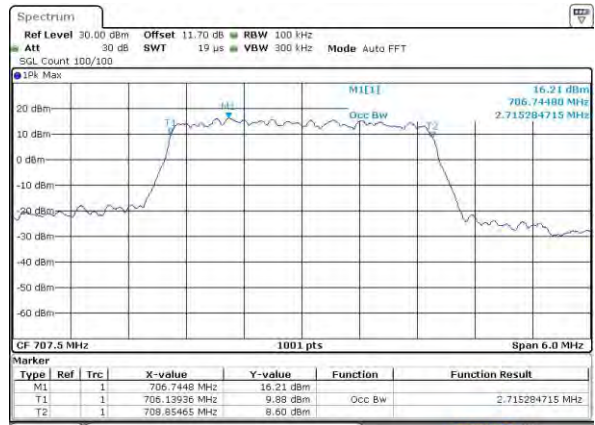
Date: 6 NOV 2015 15:35:44

## Middle Channel / 3MHz / QPSK



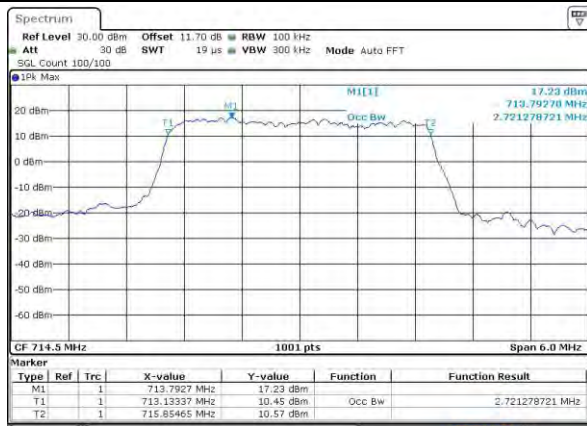
Date: 6 NOV 2015 15:57:49

## Middle Channel / 3MHz / 16QAM



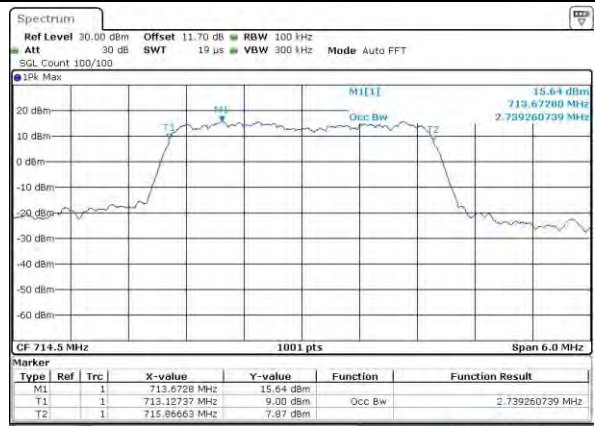
Date: 6 NOV 2015 15:57:38

## Highest Channel / 3MHz / QPSK



Date: 6 NOV 2015 18:00:09

## Highest Channel / 3MHz / 16QAM



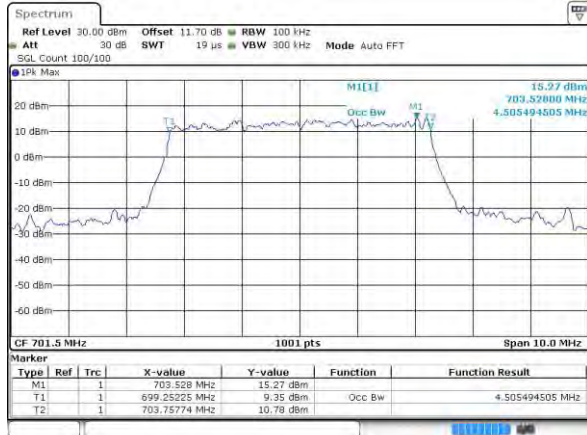
Date: 6 NOV 2015 18:00:19



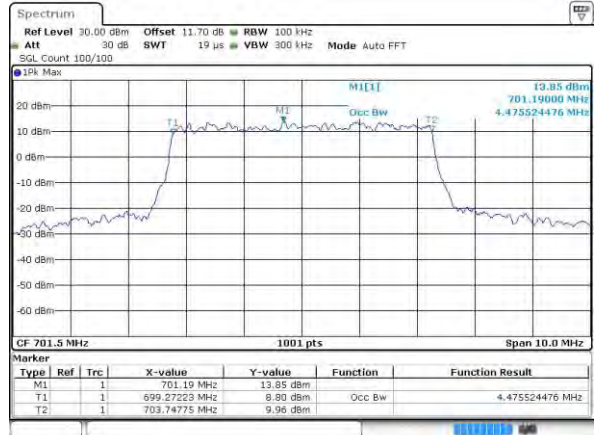


## LTE Band 12

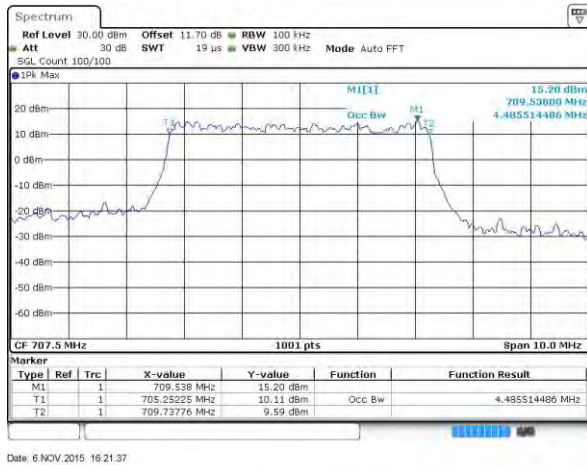
## Lowest Channel / 5MHz / QPSK



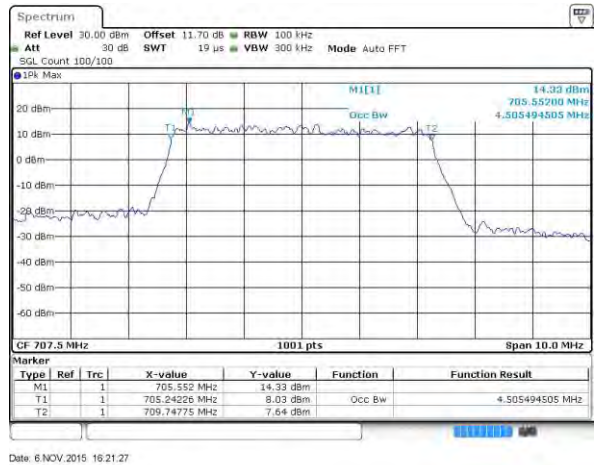
## Lowest Channel / 5MHz / 16QAM



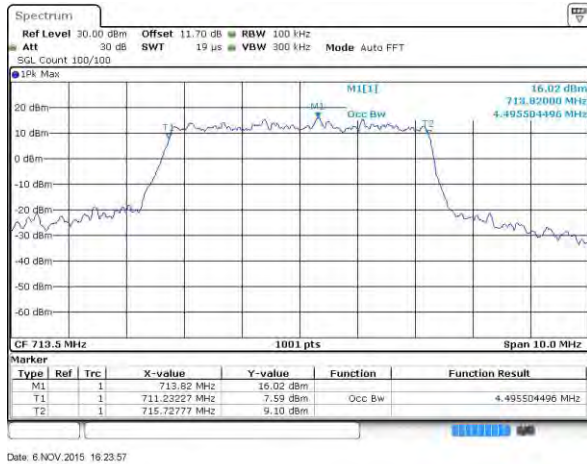
## Middle Channel / 5MHz / QPSK



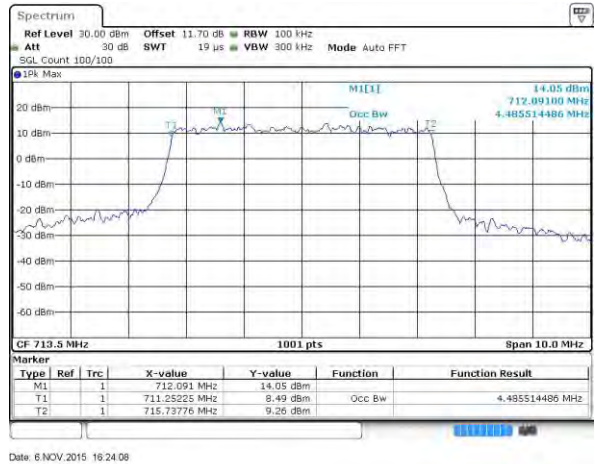
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



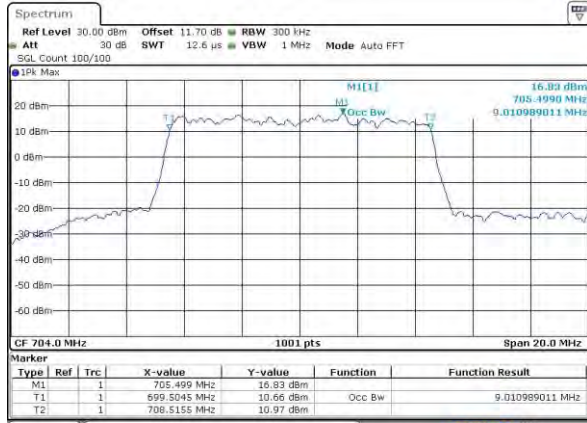
## Highest Channel / 5MHz / 16QAM





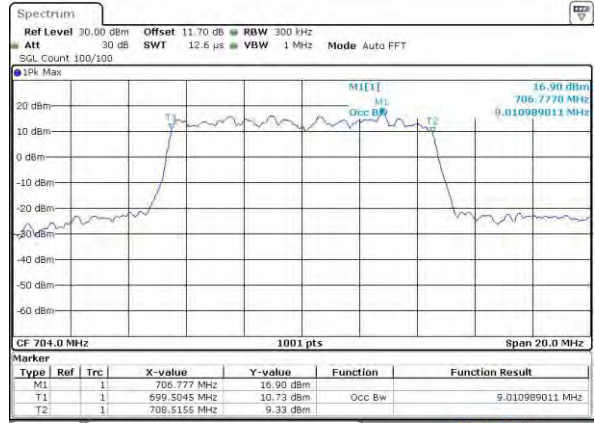
## LTE Band 12

## Lowest Channel / 10MHz / QPSK



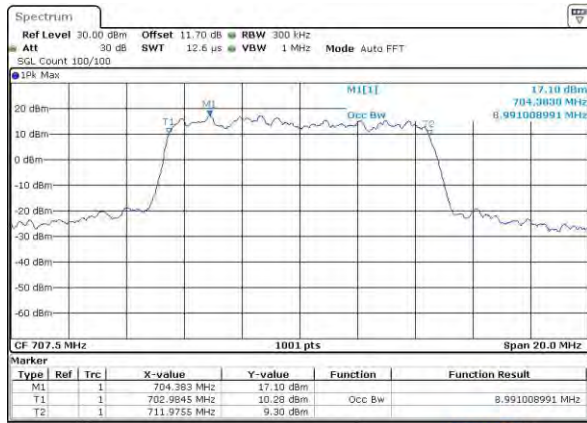
Date: 6 NOV 2015 18:34:36

## Lowest Channel / 10MHz / 16QAM



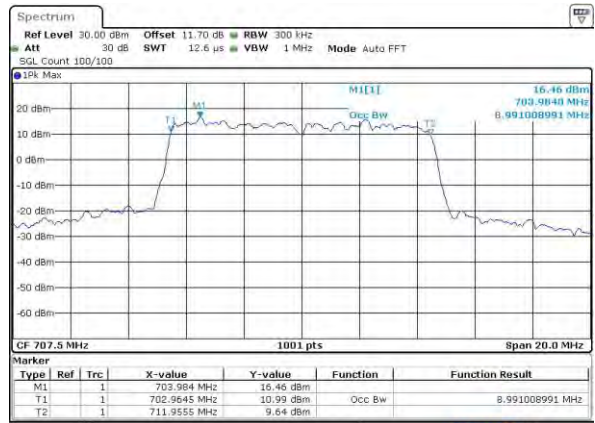
Date: 6 NOV 2015 18:34:47

## Middle Channel / 10MHz / QPSK



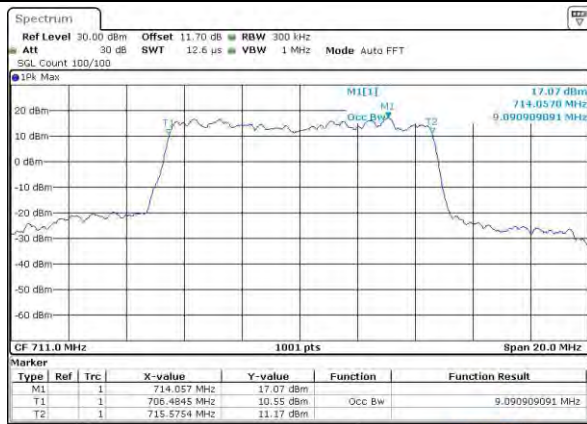
Date: 6 NOV 2015 18:45:26

## Middle Channel / 10MHz / 16QAM



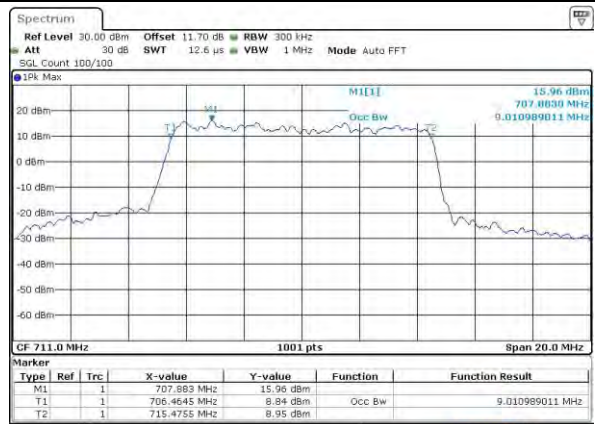
Date: 6 NOV 2015 18:45:15

## Highest Channel / 10MHz / QPSK



Date: 6 NOV 2015 18:47:45

## Highest Channel / 10MHz / 16QAM



Date: 6 NOV 2015 18:47:56



## **Conducted Band Edge**





## LTE Band 12 / 1.4MHz / QPSK

## Lowest Band Edge / 1 RB



## Highest Band Edge / 1RB



## Lowest Band Edge / Full RB



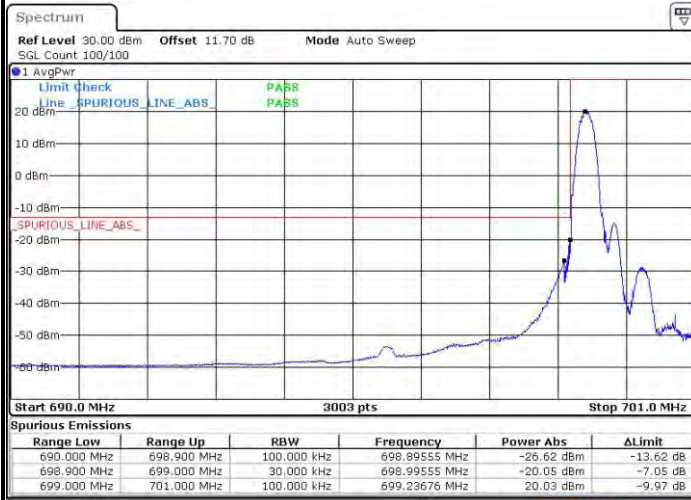
## Highest Band Edge / Full RB





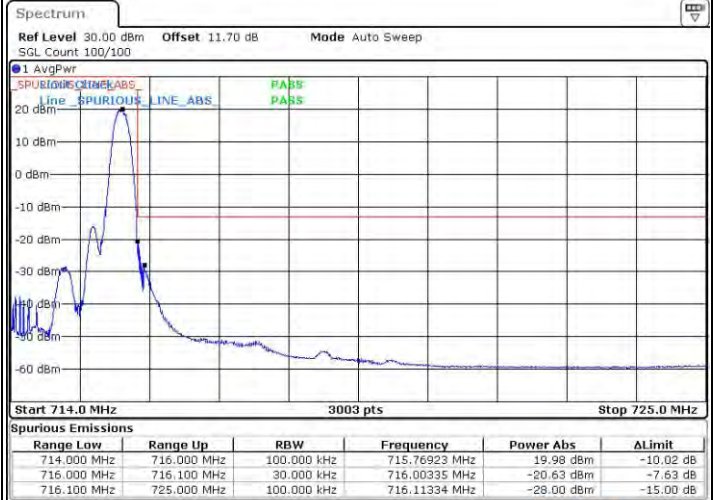
## LTE Band 12 / 1.4MHz / 16QAM

## Lowest Band Edge / 1 RB



Date: 8 NOV 2015 17:10:56

## Highest Band Edge / 1 RB



Date: 8 NOV 2015 17:24:06

## Lowest Band Edge / Full RB



Date: 8 NOV 2015 17:08:53

## Highest Band Edge / Full RB



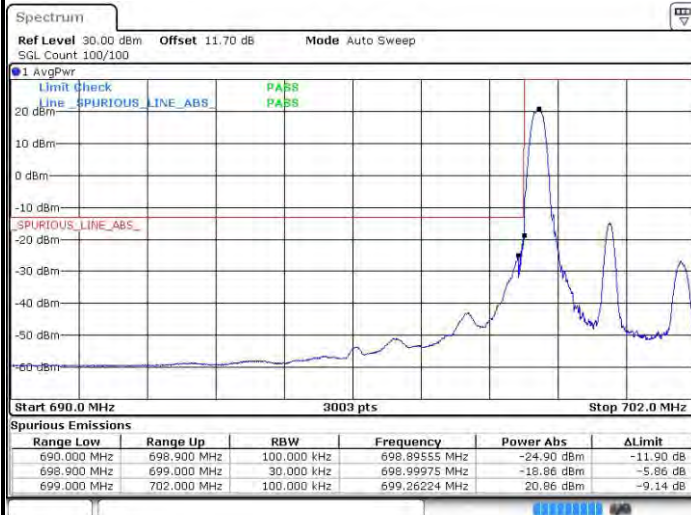
Date: 8 NOV 2015 17:22:04



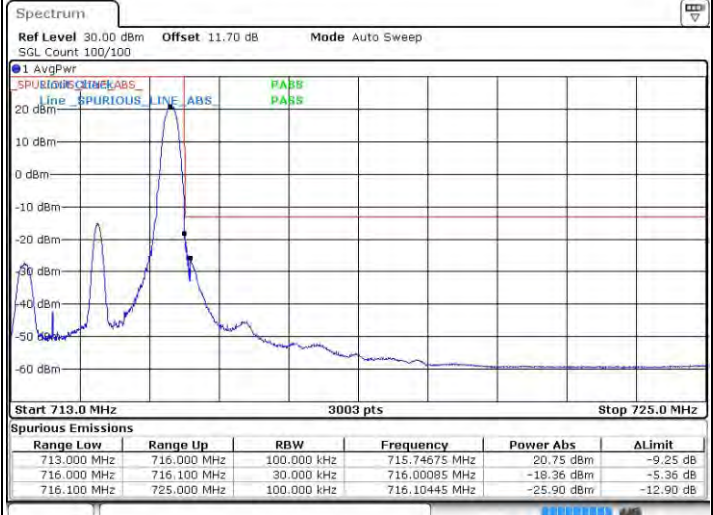


## LTE Band 12 / 3MHz / QPSK

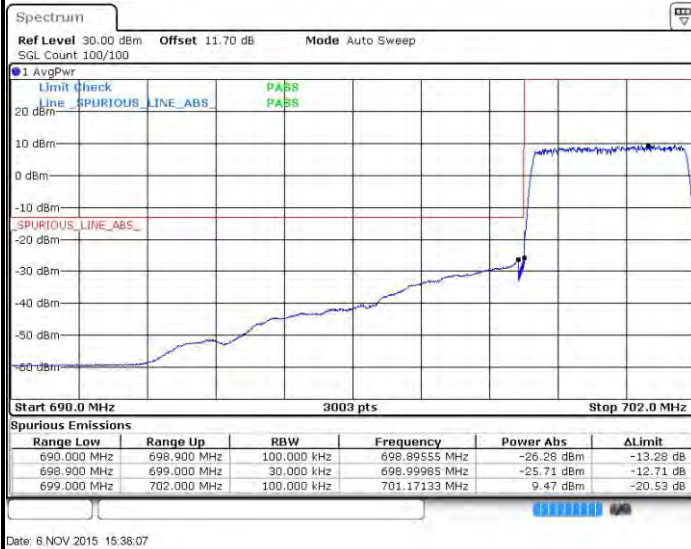
## Lowest Band Edge / 1RB



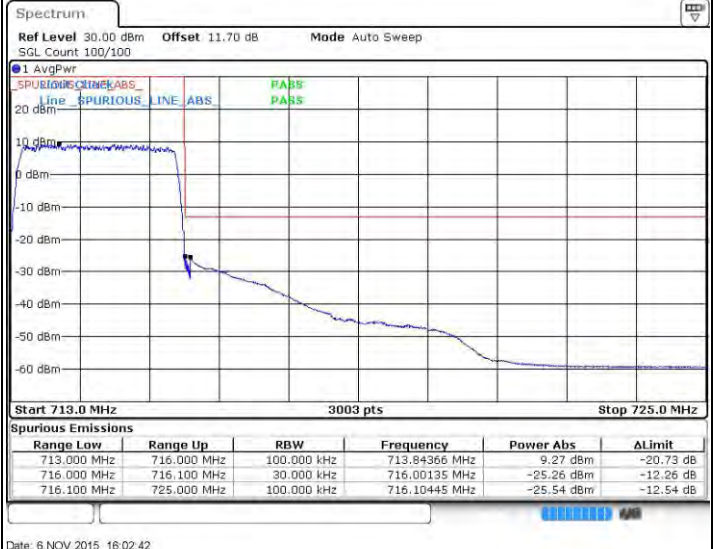
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB

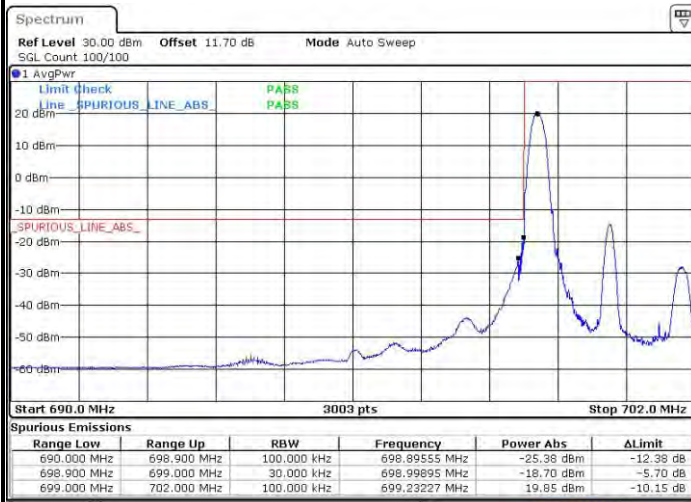




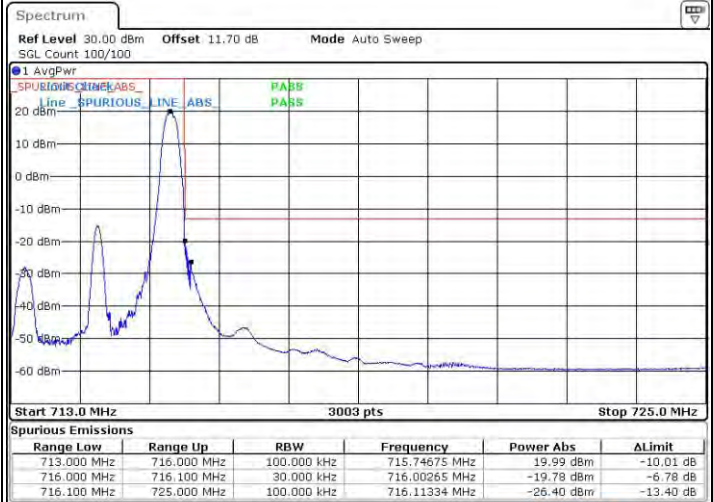


## LTE Band 12 / 3MHz / 16QAM

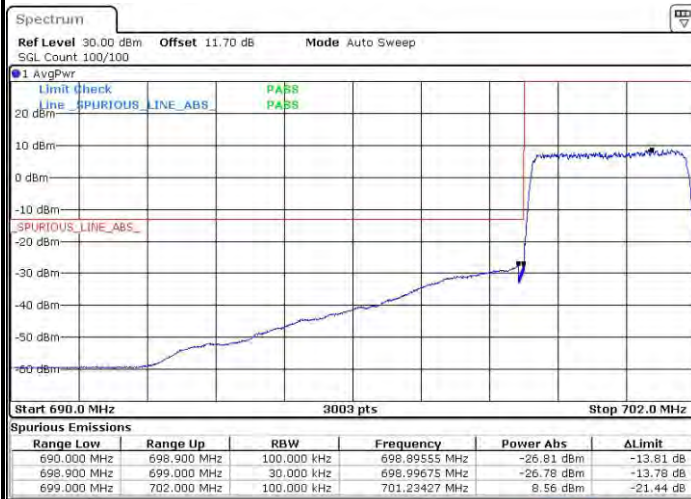
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



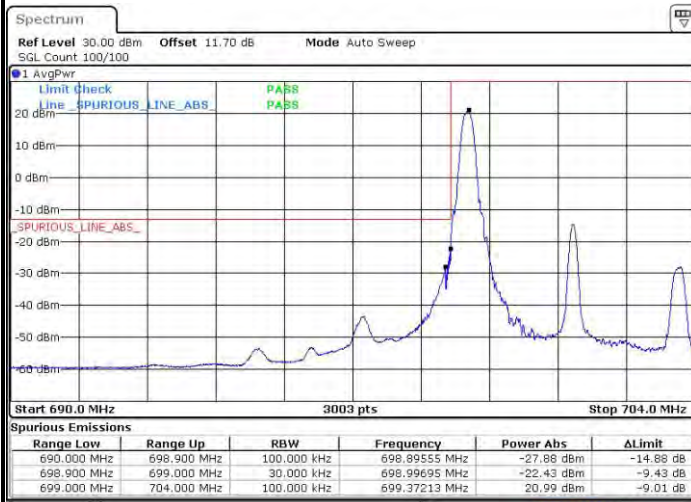
## Highest Band Edge / Full RB



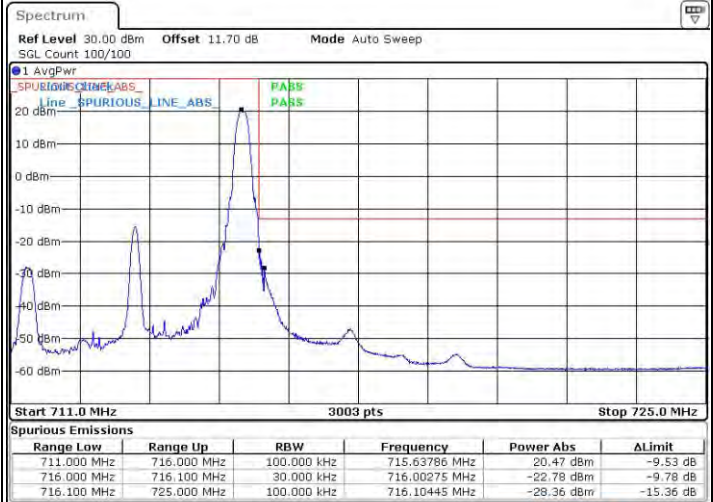


## LTE Band 12 / 5MHz / QPSK

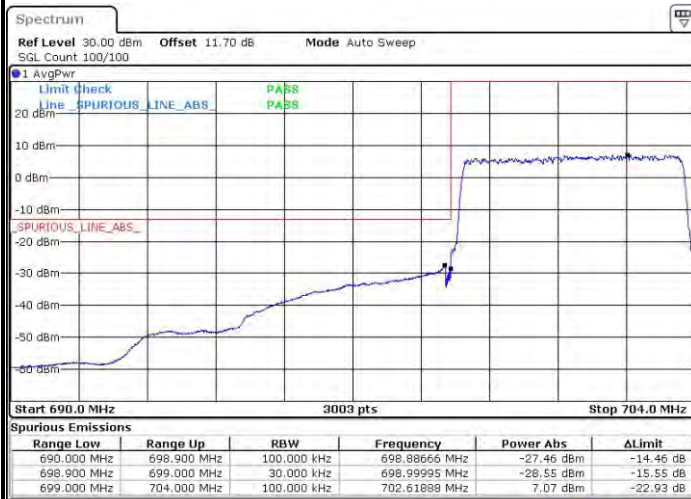
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB

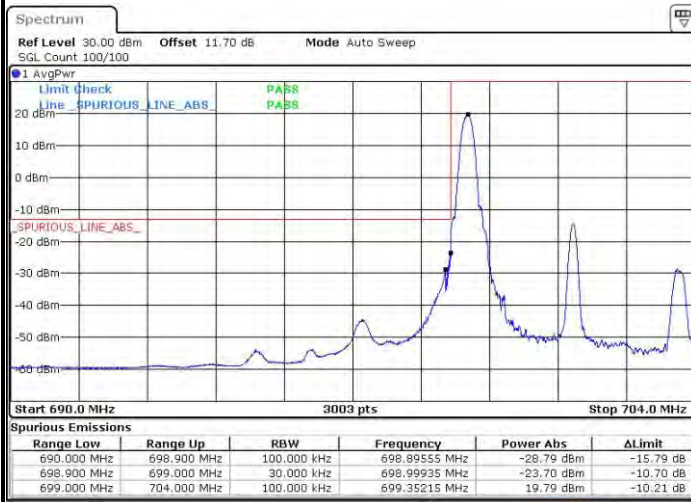




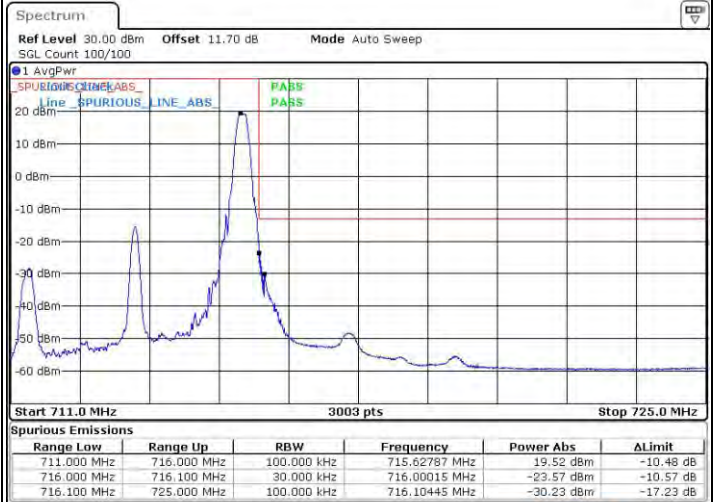


## LTE Band 12 / 5MHz / 16QAM

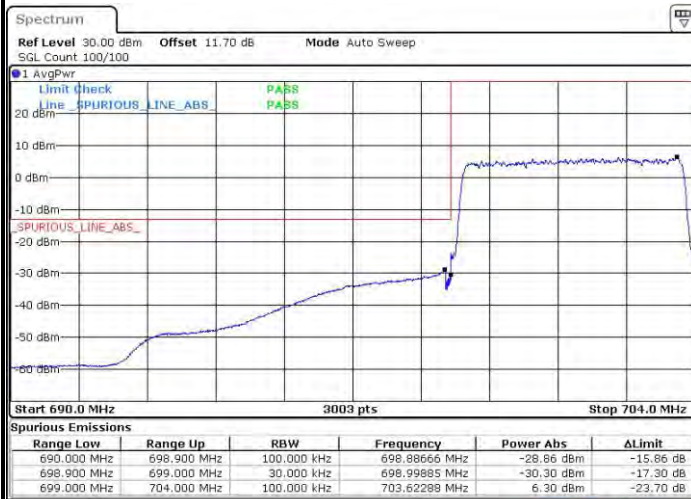
## Lowest Band Edge / 1RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB

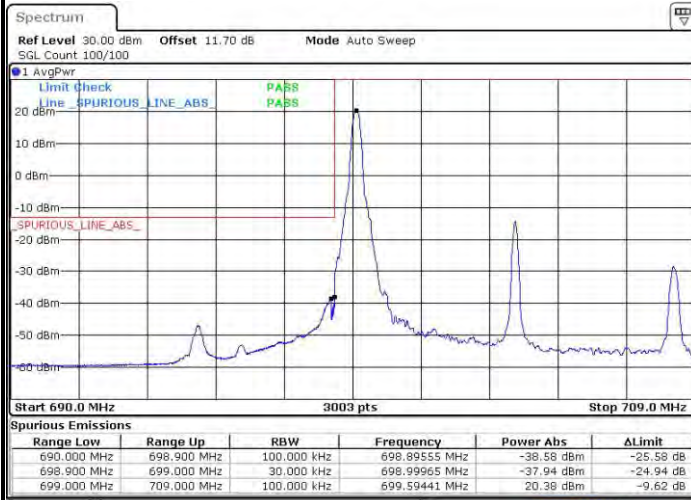




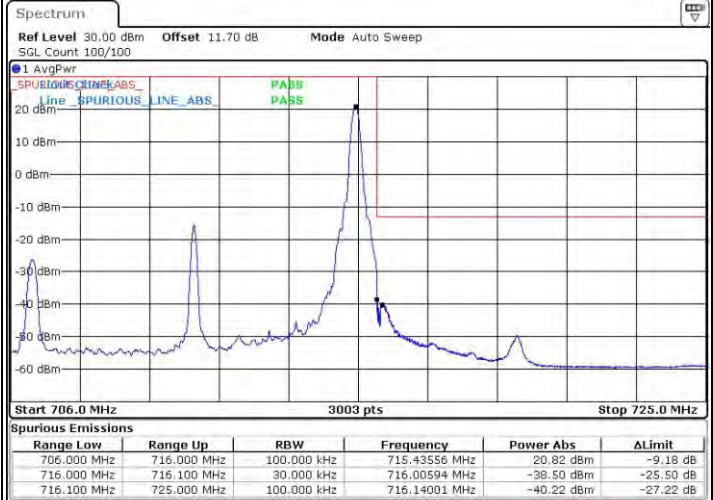


## LTE Band 12 / 10MHz / QPSK

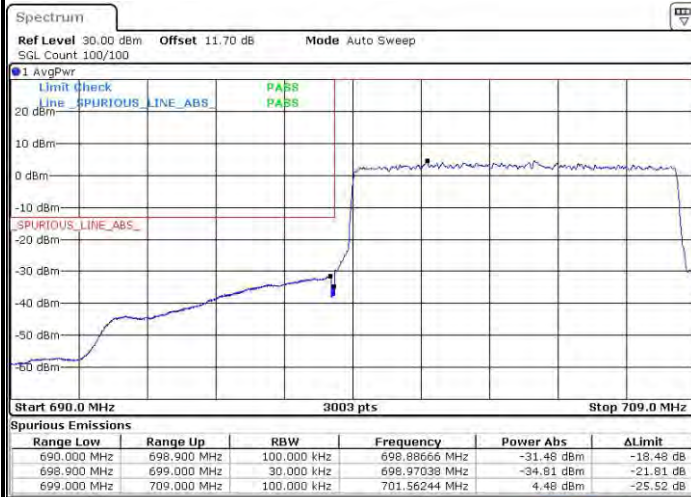
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



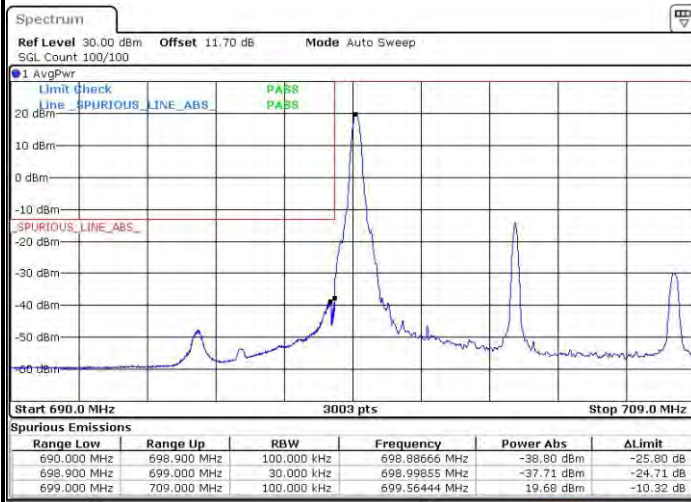
## Highest Band Edge / Full RB



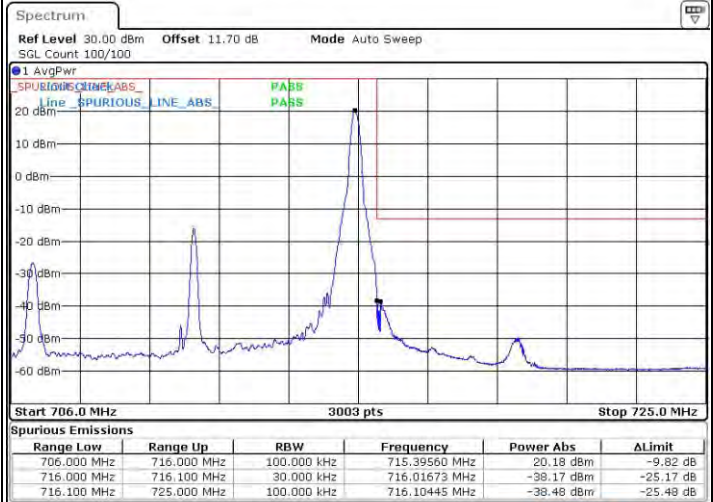


## LTE Band 12 / 10MHz / 16QAM

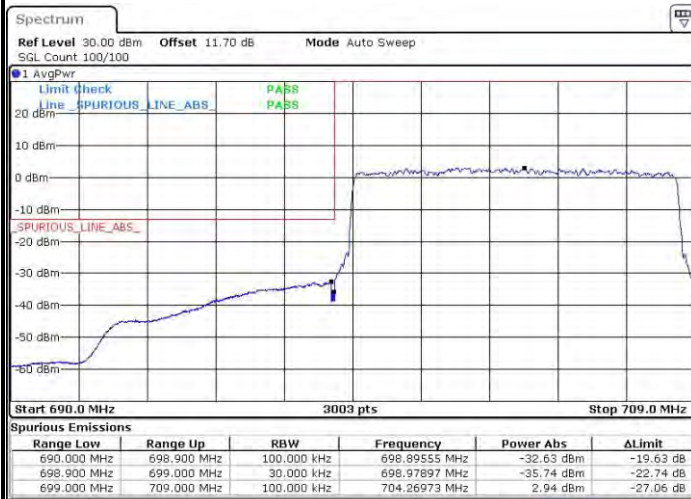
## Lowest Band Edge / 1 RB



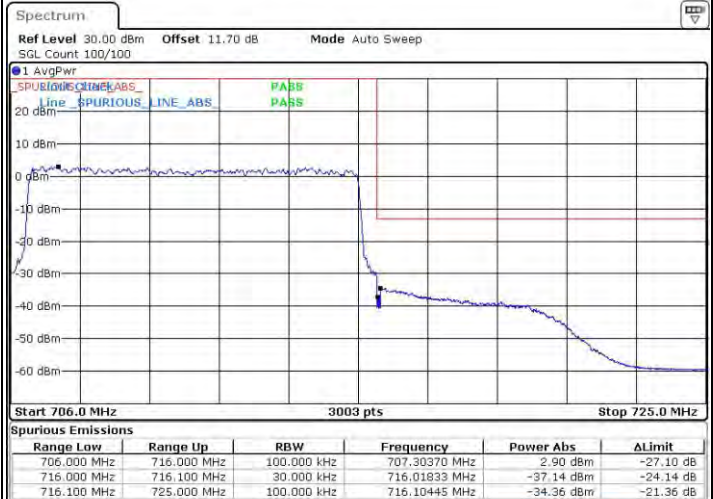
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB





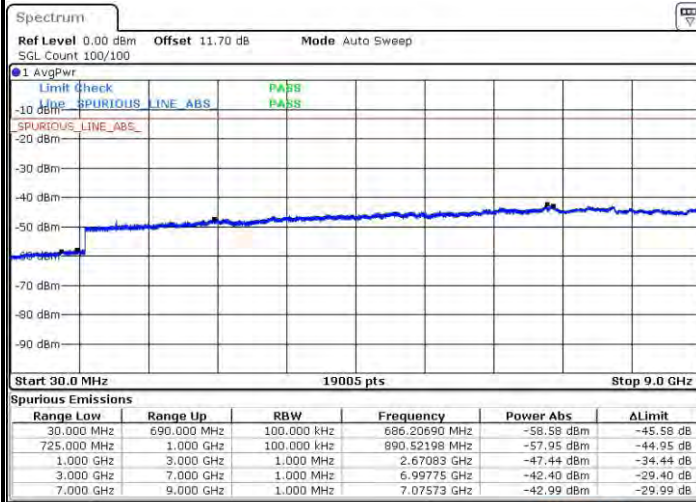
## **Conducted Spurious Emission**





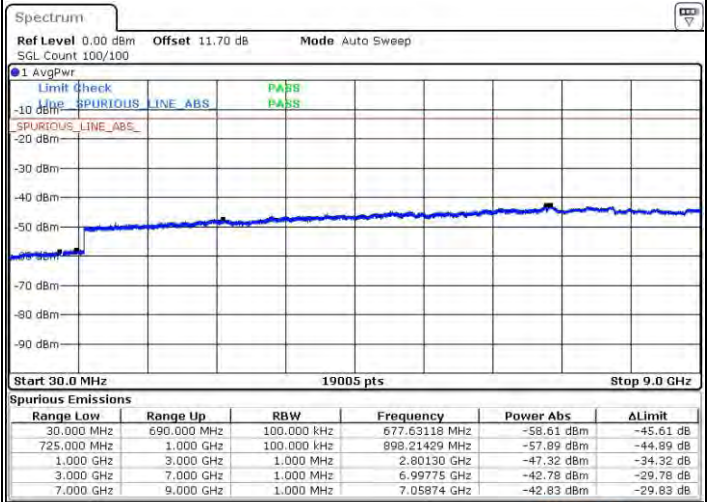
## LTE Band 12 / 1.4MHz

## Lowest Channel / QPSK



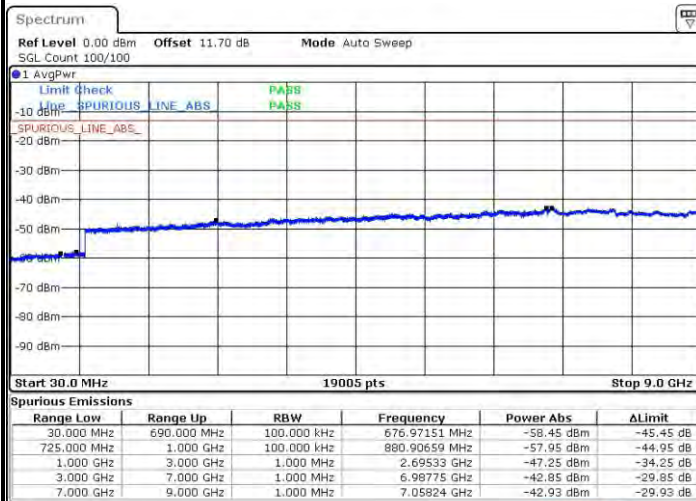
Date: 6 NOV 2015 17:13:53

## Lowest Channel / 16QAM



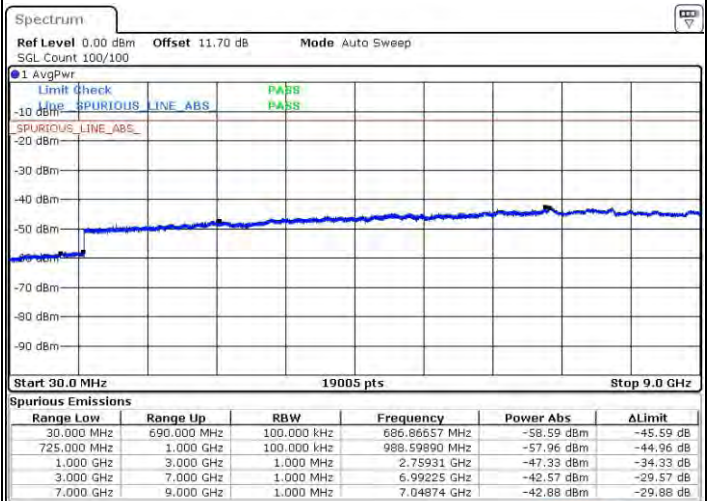
Date: 6 NOV 2015 17:14:47

## Middle Channel / QPSK



Date: 6 NOV 2015 17:17:18

## Middle Channel / 16QAM

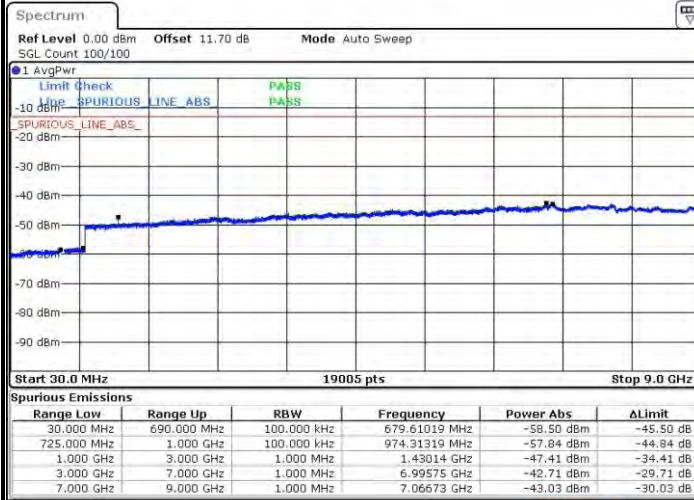


Date: 6 NOV 2015 17:16:24



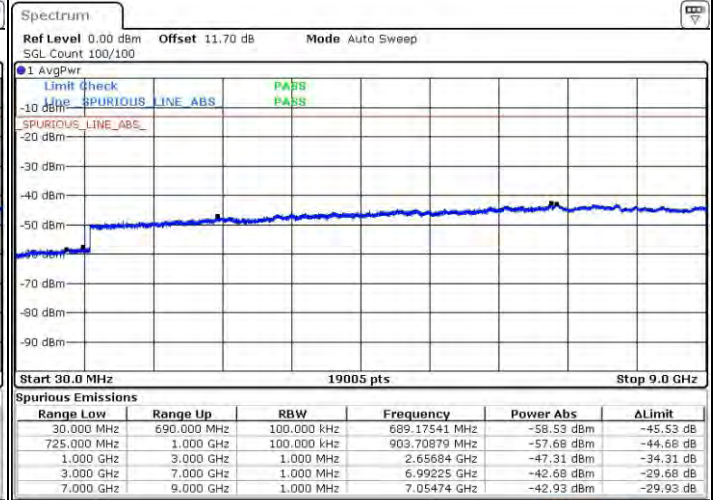
## LTE Band 12 / 1.4MHz

## Highest Channel / QPSK



Date: 6 NOV 2015 17:27:04

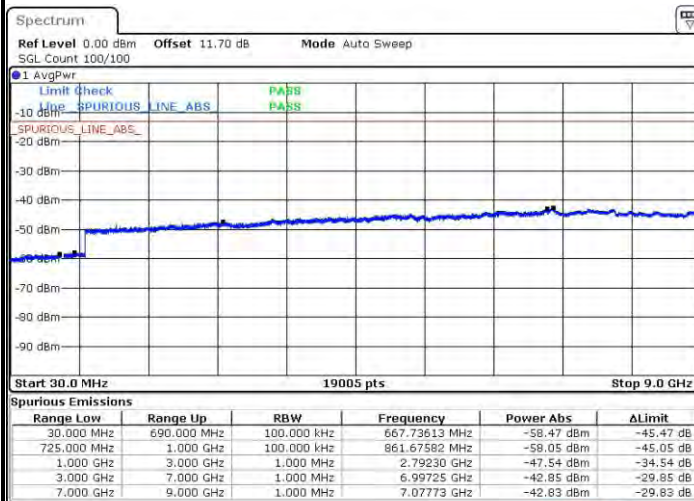
## Highest Channel / 16QAM



Date: 6 NOV 2015 17:27:58

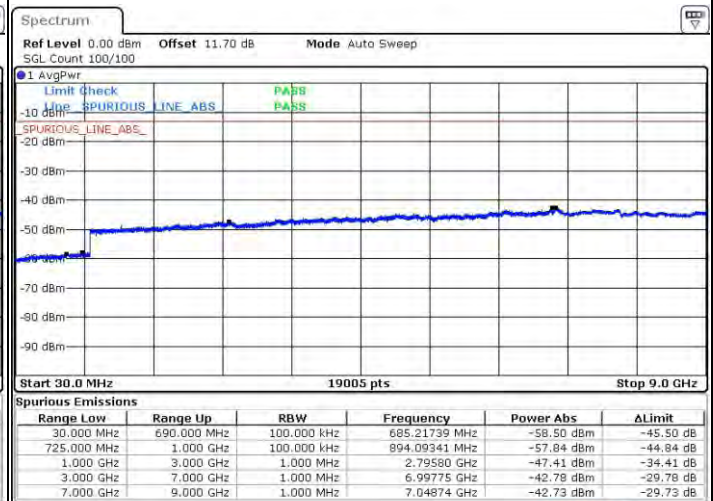
## LTE Band 12 / 3MHz

## Lowest Channel / QPSK



Date: 6 NOV 2015 15:58:33

## Lowest Channel / 16QAM

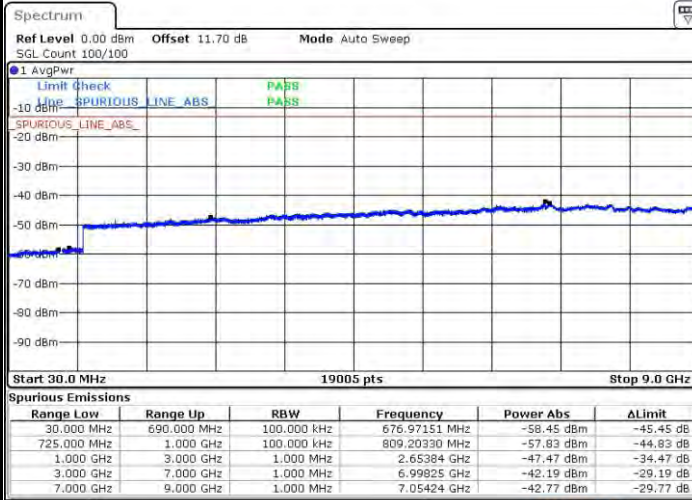


Date: 6 NOV 2015 15:57:28



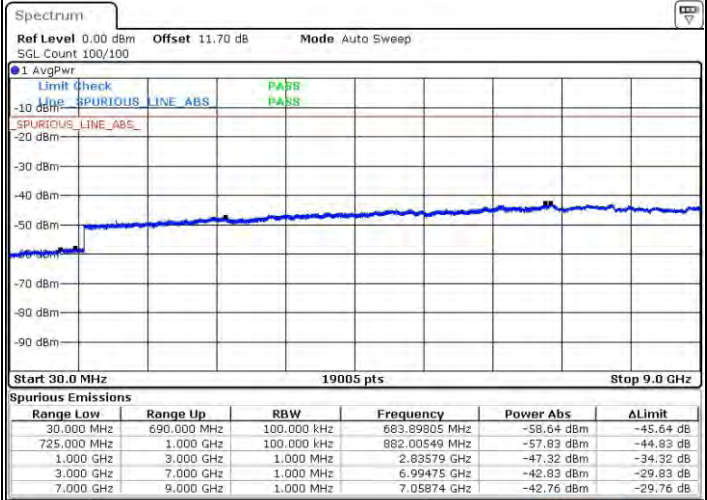
## LTE Band 12 / 3MHz

## Middle Channel / QPSK



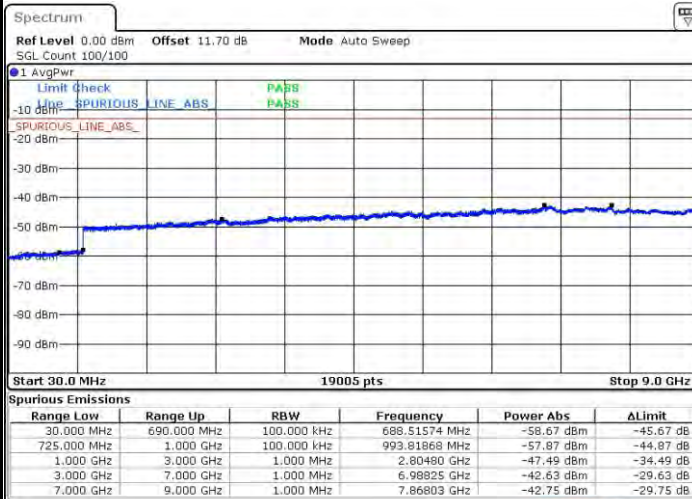
Date: 6 NOV 2015 15:59:58

## Middle Channel / 16QAM



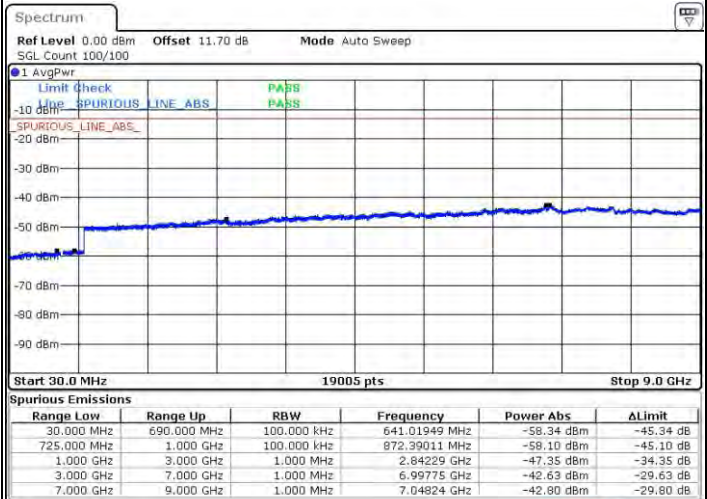
Date: 6 NOV 2015 15:59:04

## Highest Channel / QPSK



Date: 6 NOV 2015 16:09:43

## Highest Channel / 16QAM



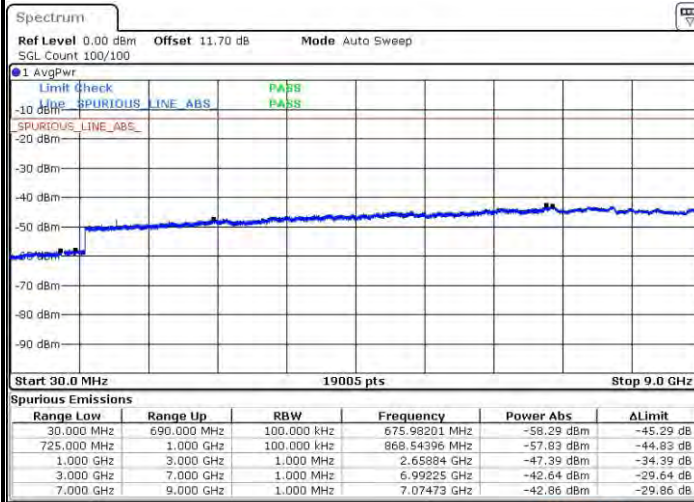
Date: 6 NOV 2015 16:10:38





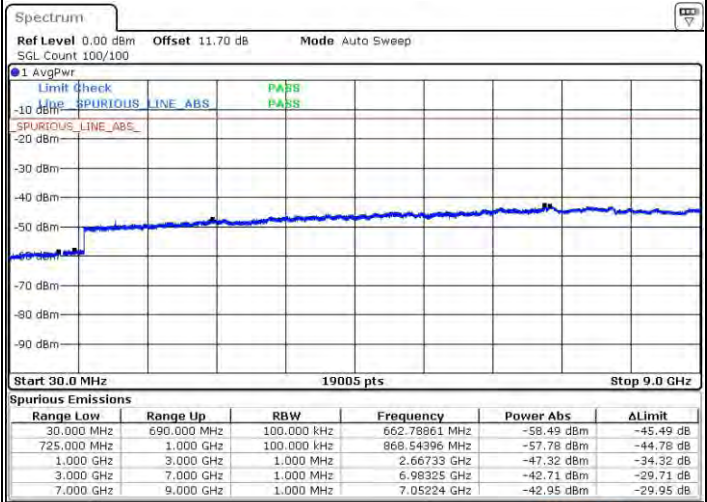
## LTE Band 12 / 5MHz

## Lowest Channel / QPSK



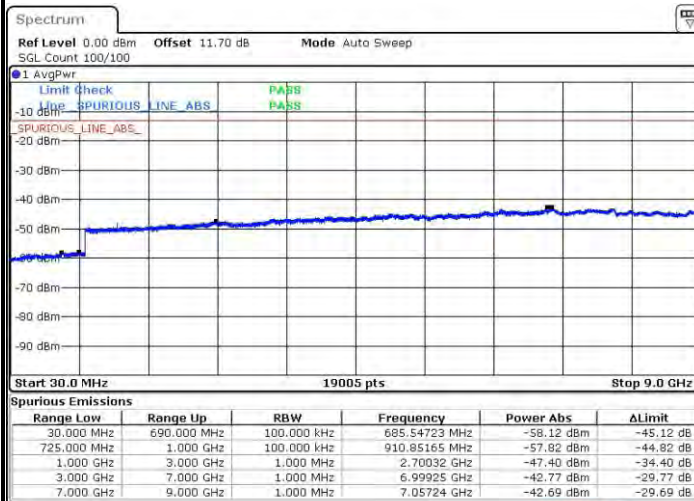
Date: 6 NOV 2015 16:20:22

## Lowest Channel / 16QAM



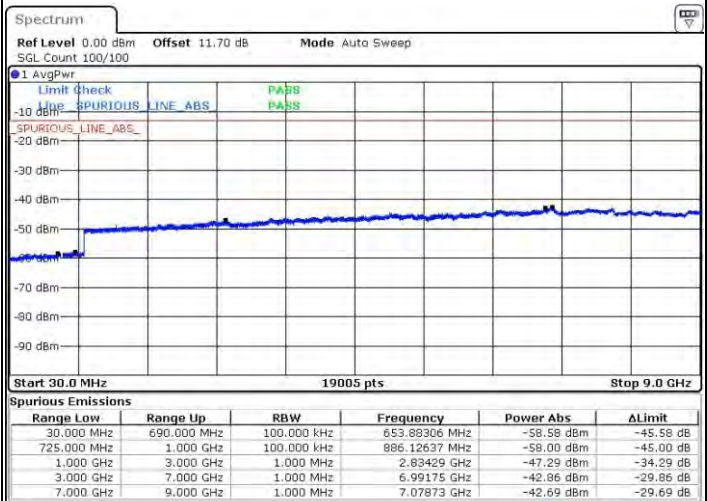
Date: 6 NOV 2015 16:21:17

## Middle Channel / QPSK



Date: 6 NOV 2015 16:23:47

## Middle Channel / 16QAM

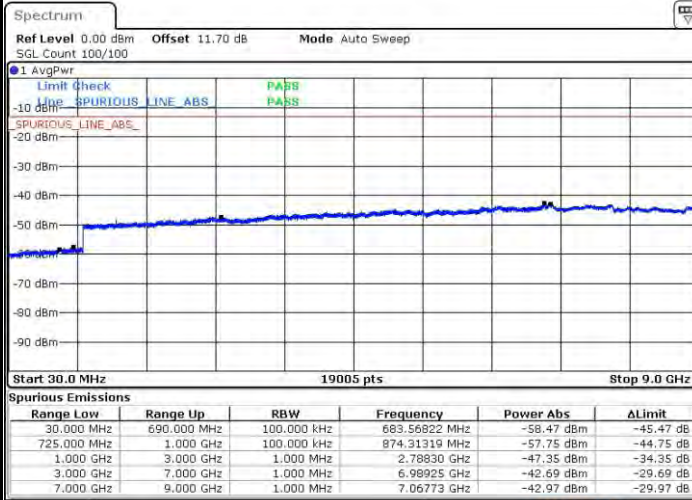


Date: 6 NOV 2015 16:22:53



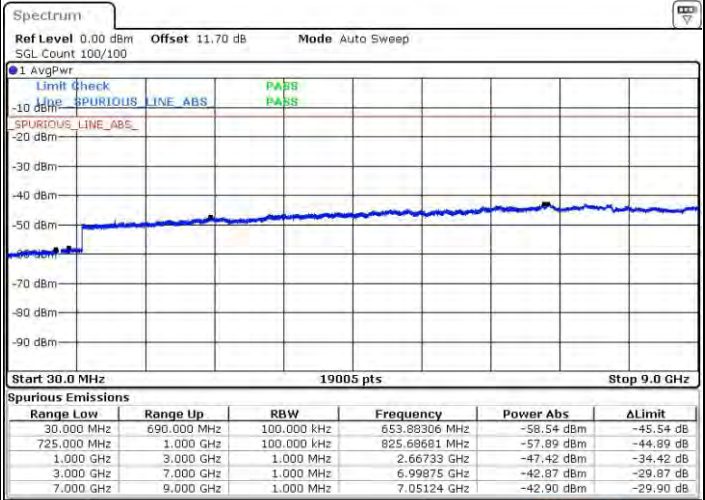
## LTE Band 12 / 5MHz

## Highest Channel / QPSK



Date: 6 NOV 2015 16:34:26

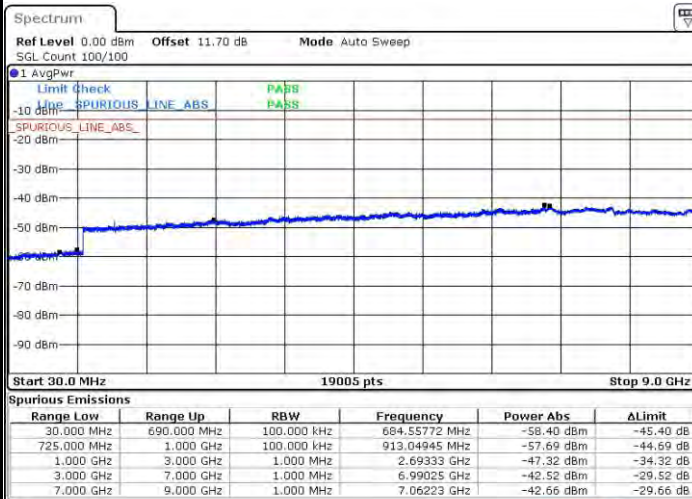
## Highest Channel / 16QAM



Date: 6 NOV 2015 16:33:32

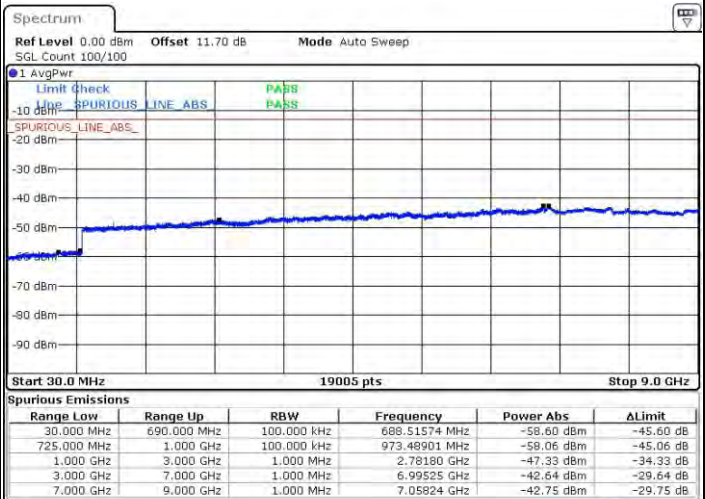
## LTE Band 12 / 10MHz

## Lowest Channel / QPSK



Date: 6 NOV 2015 16:44:11

## Lowest Channel / 16QAM

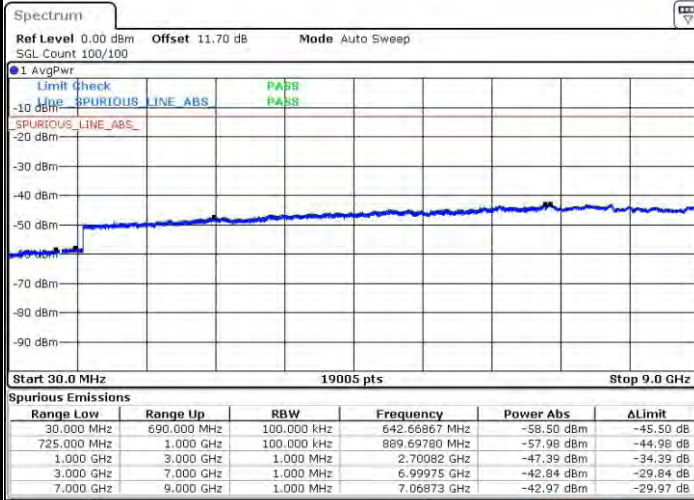


Date: 6 NOV 2015 16:45:05



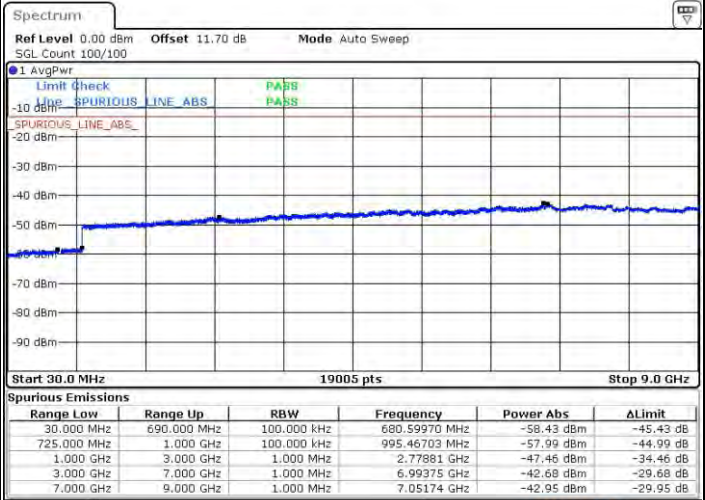
## LTE Band 12 / 10MHz

## Middle Channel / QPSK



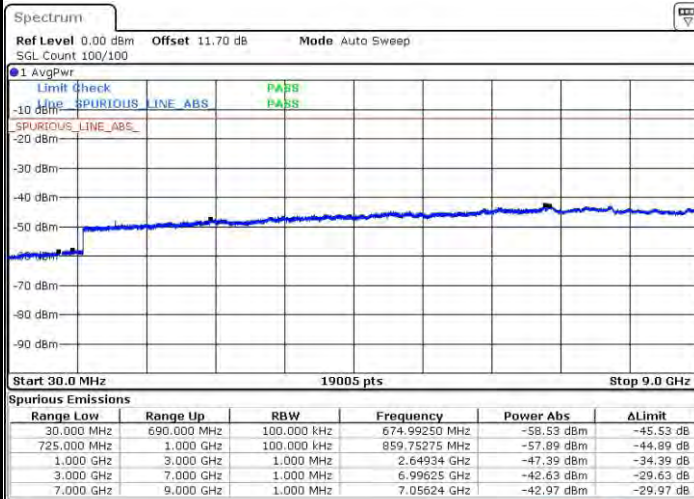
Date: 6 NOV 2015 16:47:35

## Middle Channel / 16QAM



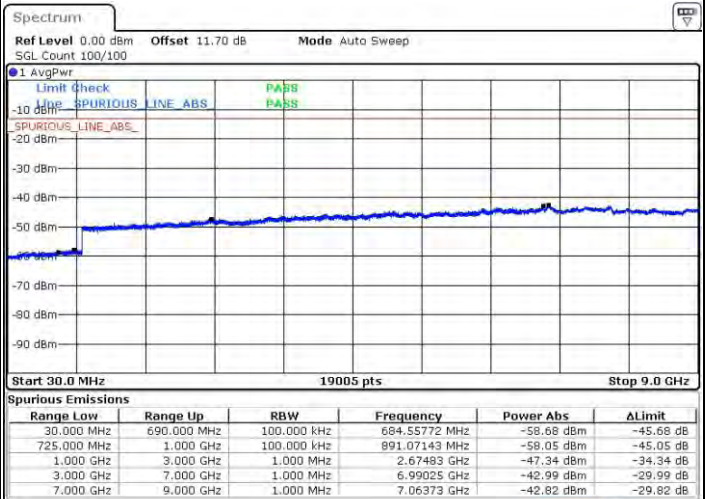
Date: 6 NOV 2015 16:48:41

## Highest Channel / QPSK



Date: 6 NOV 2015 16:57:20

## Highest Channel / 16QAM



Date: 6 NOV 2015 16:58:14



## 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	0.0185	PASS
40	Normal Voltage	0.0150	
30	Normal Voltage	0.0028	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0151	
0	Normal Voltage	0.0031	
-10	Normal Voltage	0.0027	
-20	Normal Voltage	0.0141	
-30	Normal Voltage	0.0034	
20	Maximum Voltage	0.0007	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0023	

**Note:**

1. Normal Voltage = 12V. ; Battery End Point (BEP) = 9 V. ; Maximum Voltage =32 V
2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.