



LTE Band 4

Conducted Output Power(Average power)

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.85	23.76	23.55
1.4	1	2		23.87	24.00	23.64
1.4	1	5		23.76	23.80	23.52
1.4	3	0		23.85	23.72	23.67
1.4	3	1		23.89	23.80	23.80
1.4	3	2		23.77	23.91	23.71
1.4	6	0		22.84	22.84	22.59
1.4	1	0	16-QAM	23.12	23.15	22.79
1.4	1	2		22.96	23.08	22.89
1.4	1	5		23.04	22.68	22.91
1.4	3	0		22.92	23.04	22.75
1.4	3	1		22.90	23.00	22.78
1.4	3	2		22.99	23.03	22.79
1.4	6	0		21.67	21.72	21.59
3	1	0	QPSK	23.86	23.91	23.82
3	1	7		23.74	23.83	23.57
3	1	14		23.93	23.67	23.73
3	8	0		22.82	22.82	22.72
3	8	4		22.75	22.82	22.67
3	8	7		22.77	22.91	22.75
3	15	0		22.86	22.82	22.69
3	1	0	16-QAM	23.15	23.27	23.14
3	1	7		23.09	23.14	22.85
3	1	14		23.22	23.15	23.02
3	8	0		21.60	21.64	21.64
3	8	4		21.76	21.58	21.76
3	8	7		21.83	21.64	21.75
3	15	0		21.64	21.60	21.46



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.76	23.85	23.52
5	1	12		23.75	23.92	23.76
5	1	24		23.73	23.69	23.65
5	12	0		22.76	22.77	22.67
5	12	6		22.72	22.85	22.69
5	12	11		22.68	22.71	22.66
5	25	0	16-QAM	22.80	22.84	22.80
5	1	0		23.05	23.02	23.03
5	1	12		23.07	23.08	23.00
5	1	24		22.98	23.06	22.80
5	12	0		21.67	21.66	21.73
5	12	6		21.60	21.74	21.68
5	12	11		21.61	21.66	21.63
5	25	0		21.83	21.77	21.68
10	1	0	QPSK	24.00	23.93	23.87
10	1	24		23.76	23.75	23.68
10	1	49		23.79	23.77	23.74
10	25	0		22.87	22.76	22.79
10	25	12		22.77	22.77	22.70
10	25	24		22.66	22.88	22.71
10	50	0	16-QAM	22.75	22.80	22.77
10	1	0		23.10	23.24	23.15
10	1	24		23.00	23.04	22.94
10	1	49		22.93	23.04	22.84
10	25	0		21.78	21.68	21.81
10	25	12		21.77	21.76	21.76
10	25	24		21.72	21.76	21.77
10	50	0		21.61	21.69	21.83



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.97	23.99	23.79
15	1	37		23.55	23.74	23.49
15	1	74		23.85	23.58	23.53
15	36	0		22.85	22.82	22.84
15	36	18		22.72	22.78	22.75
15	36	37		22.75	22.88	22.63
15	75	0		22.88	22.83	22.72
15	1	0	16-QAM	23.23	23.41	23.09
15	1	37		22.94	23.05	22.93
15	1	74		23.07	22.88	22.82
15	36	0		21.74	21.62	21.72
15	36	18		21.63	21.77	21.72
15	36	37		21.61	21.75	21.69
15	75	0		21.68	21.72	21.73
20	1	0	QPSK	24.13	23.98	24.00
20	1	49		23.82	23.94	23.71
20	1	99		23.64	23.71	23.66
20	50	0		22.71	22.85	22.84
20	50	24		22.75	22.77	22.71
20	50	49		22.73	22.70	22.66
20	100	0		22.80	22.79	22.76
20	1	0	16-QAM	23.17	23.25	23.47
20	1	49		23.02	23.03	22.89
20	1	99		22.91	22.80	22.69
20	50	0		21.77	21.66	21.67
20	50	24		21.59	21.63	21.59
20	50	49		21.71	21.68	21.51
20	100	0		21.70	21.75	21.63

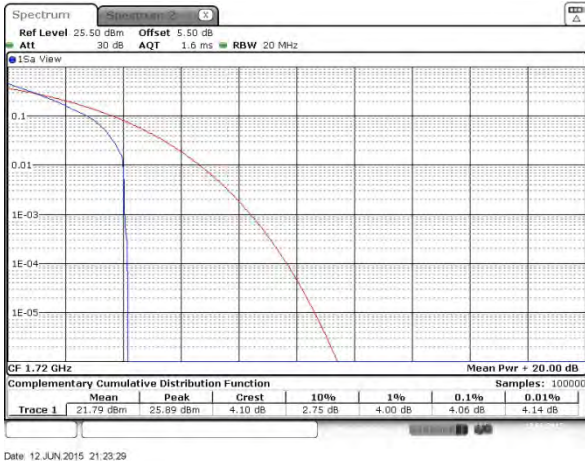
**Peak-to-Average Ratio**

Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	RB Size	Result
Lowest CH	4.06	5.01	5.45	6.00	PASS
Middle CH	4.20	4.96	4.87	5.97	
Highest CH	4.46	4.84	4.93	5.97	

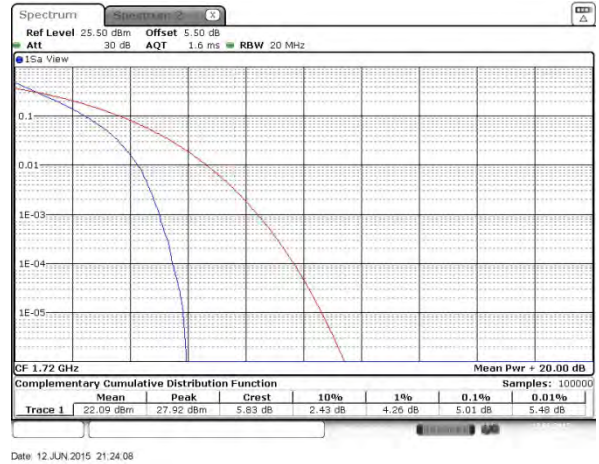


LTE Band 4 / 20MHz / QPSK

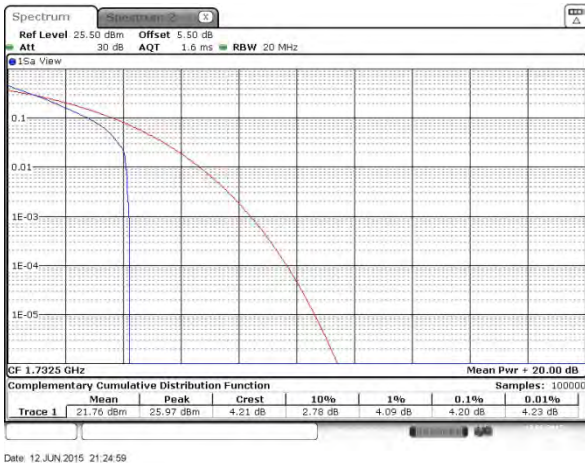
Lowest Channel / 1RB



Lowest Channel / Full RB



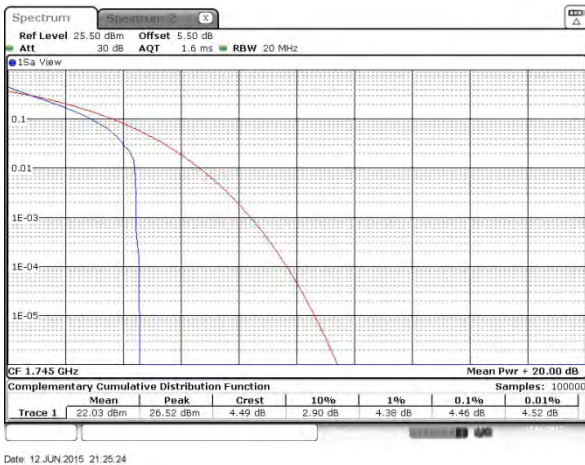
Middle Channel / 1RB



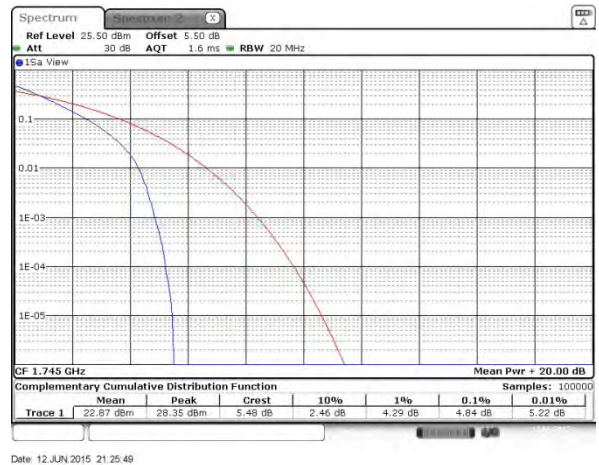
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB





LTE Band 4 / 20MHz / 16QAM

Lowest Channel / 1RB



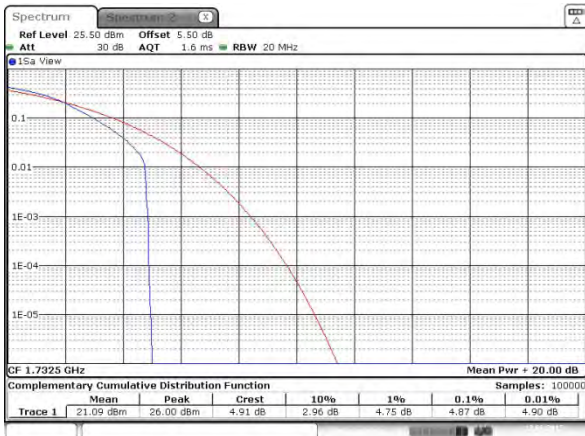
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Lowest Channel / Full RB



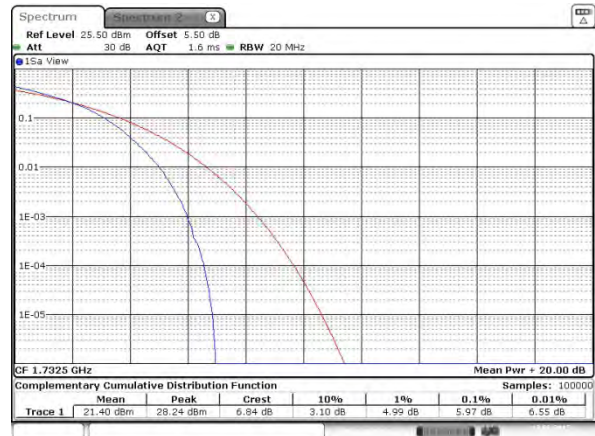
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Middle Channel / 1RB



Date: 12 JUN 2015 21:22:16

Middle Channel / Full RB



Date: 12 JUN 2015 21:22:37

Highest Channel / 1RB



Date: 12 JUN 2015 21:22:56

Highest Channel / Full RB



Date: 12 JUN 2015 21:23:07

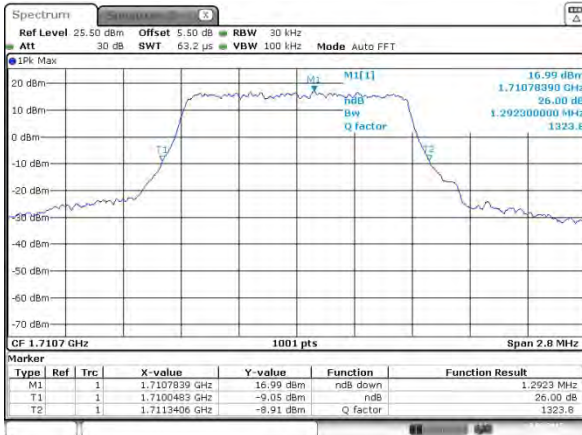
**26dB Bandwidth**

Mode	LTE Band 4 : 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	1.29	1.30	3.06	3.06	5.05	5.05	10.05	10.03	14.60	14.93	20.50	20.50
Middle CH	1.28	1.30	3.04	3.06	5.05	5.06	10.07	9.97	14.81	14.72	20.34	20.14
Highest CH	1.29	1.31	3.06	3.07	5.05	5.04	10.07	9.99	14.66	14.72	20.34	20.22



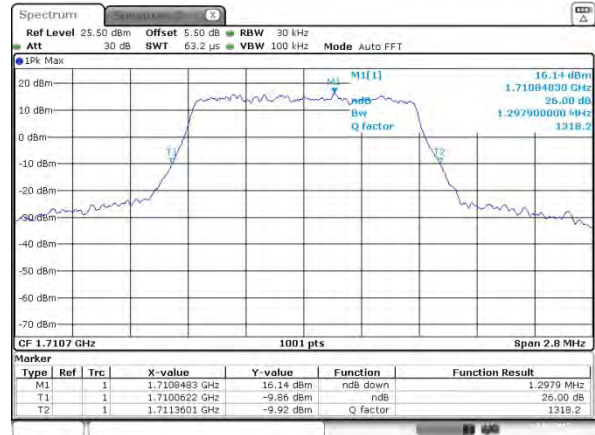
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



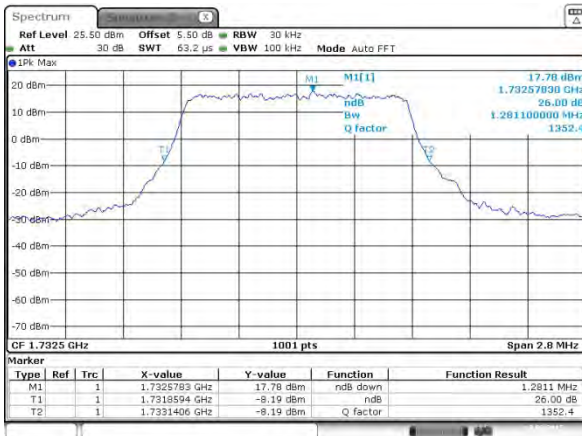
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Lowest Channel / 1.4MHz / 16QAM



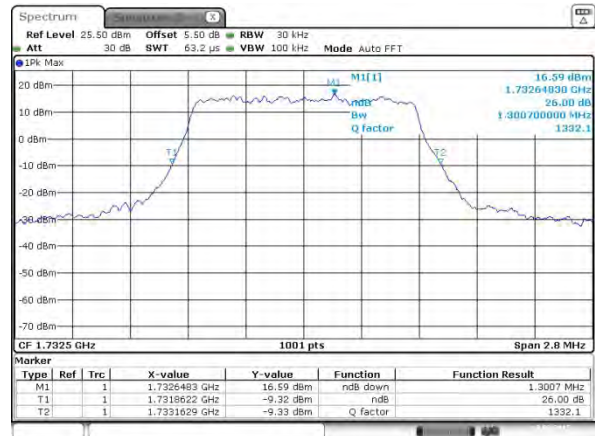
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Middle Channel / 1.4MHz / QPSK



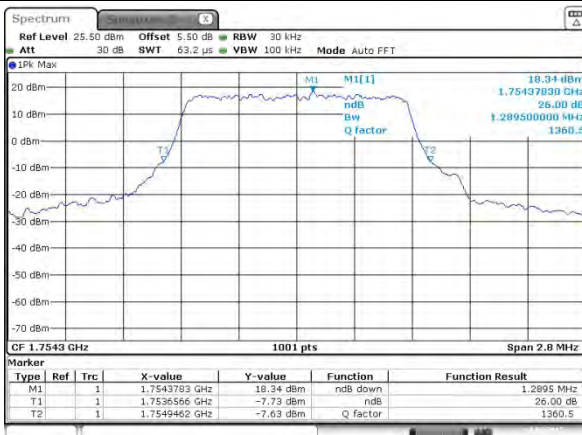
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Middle Channel / 1.4MHz / 16QAM



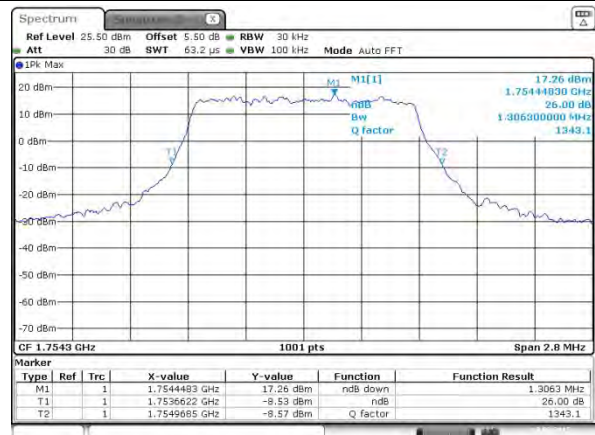
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Highest Channel / 1.4MHz / QPSK



Date: 12 JUN 2015 19:39:48

Highest Channel / 1.4MHz / 16QAM

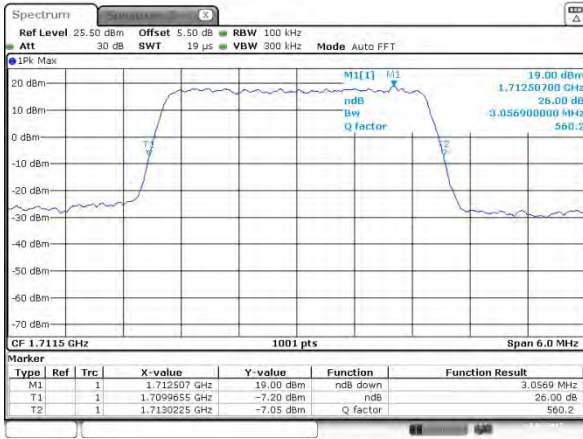


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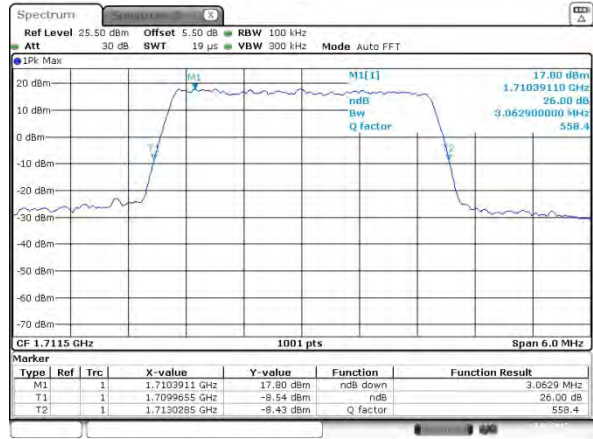


LTE Band 4

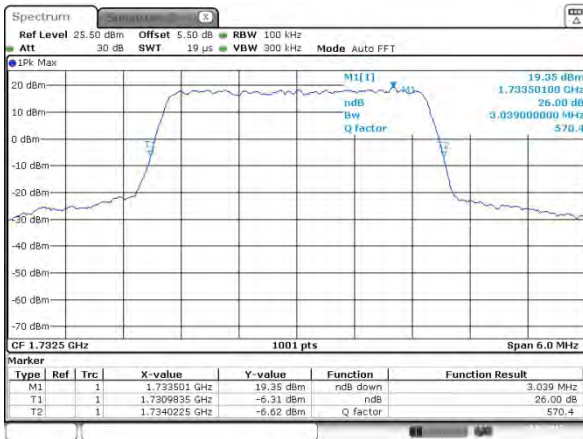
Lowest Channel / 3MHz / QPSK



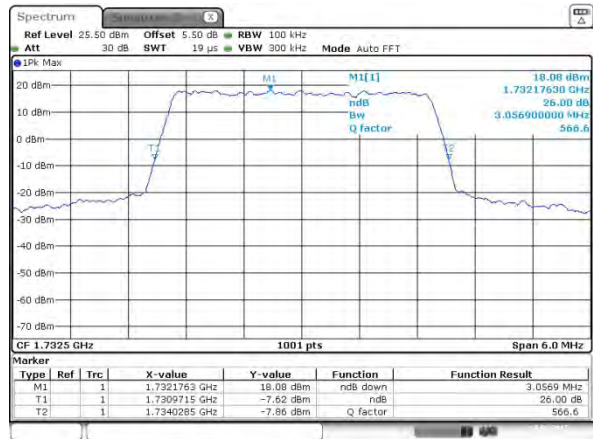
Lowest Channel / 3MHz / 16QAM



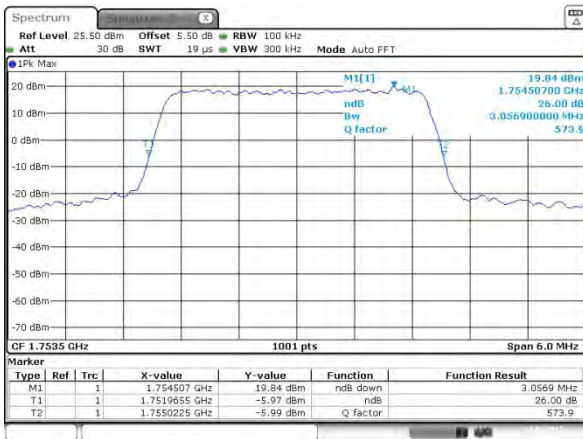
Middle Channel / 3MHz / QPSK



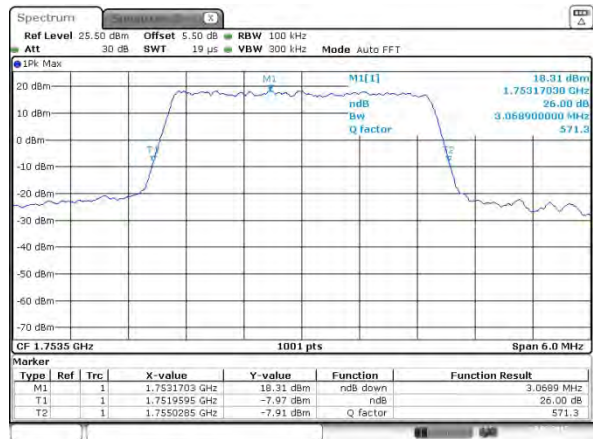
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK



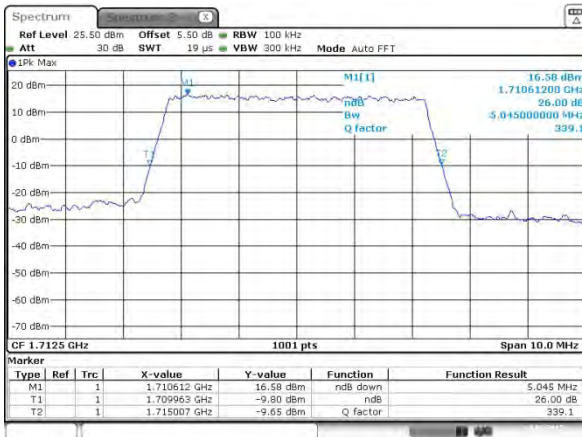
Highest Channel / 3MHz / 16QAM



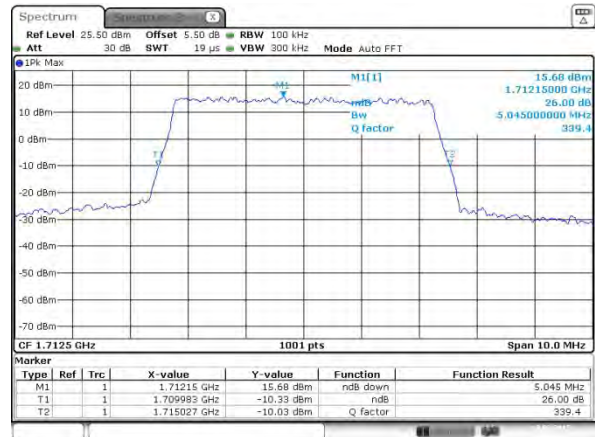


LTE Band 4

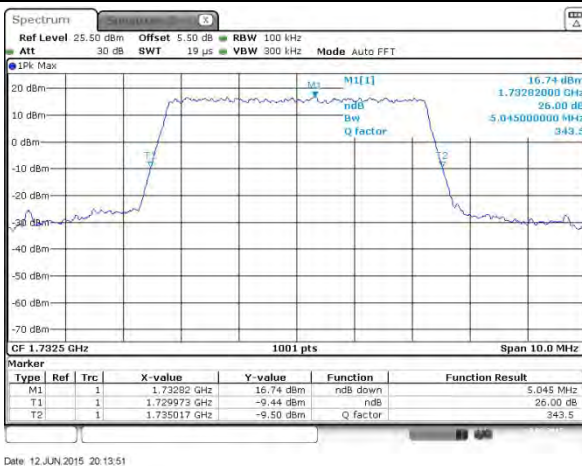
Lowest Channel / 5MHz / QPSK



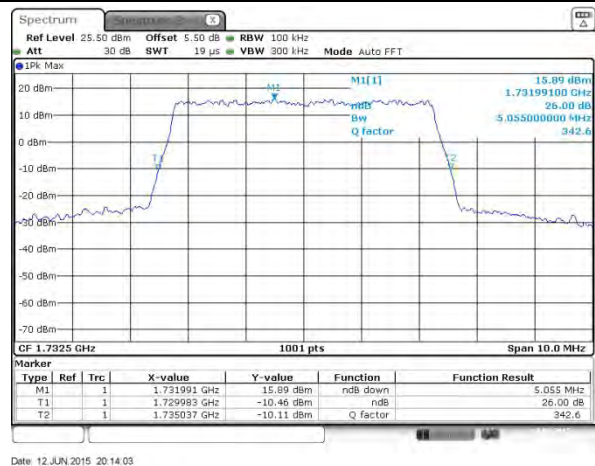
Lowest Channel / 5MHz / 16QAM



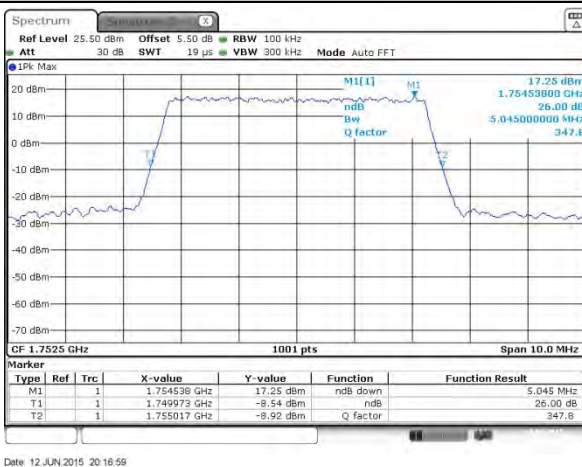
Middle Channel / 5MHz / QPSK



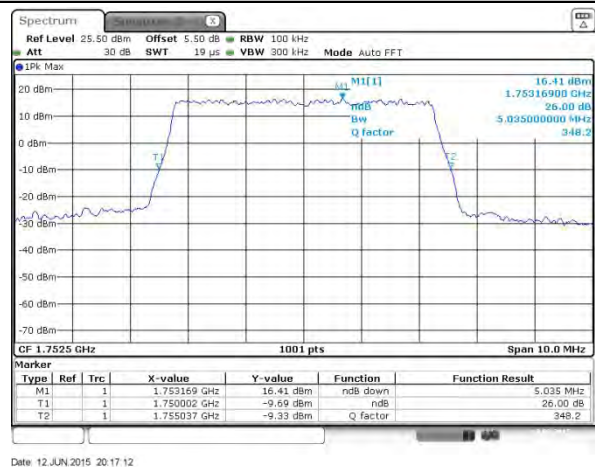
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



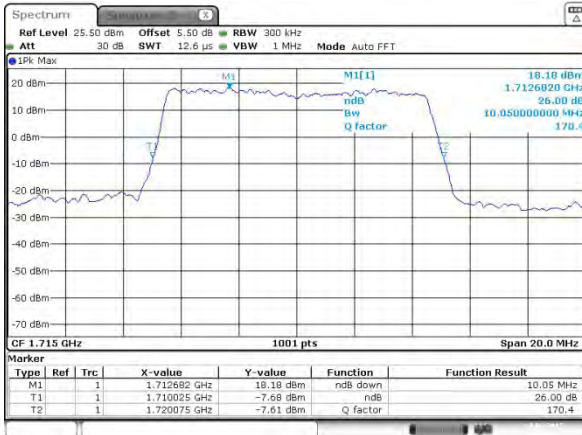
Highest Channel / 5MHz / 16QAM



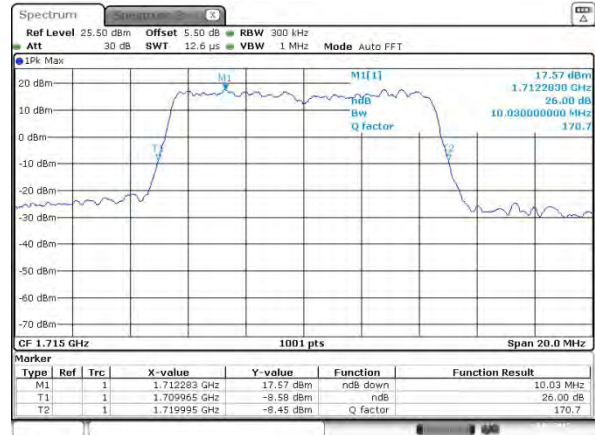


LTE Band 4

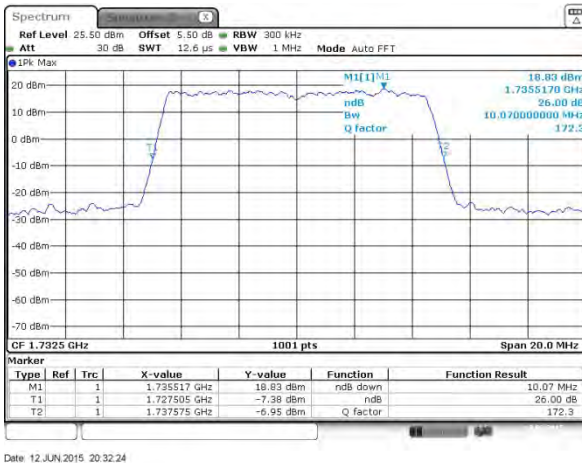
Lowest Channel / 10MHz / QPSK



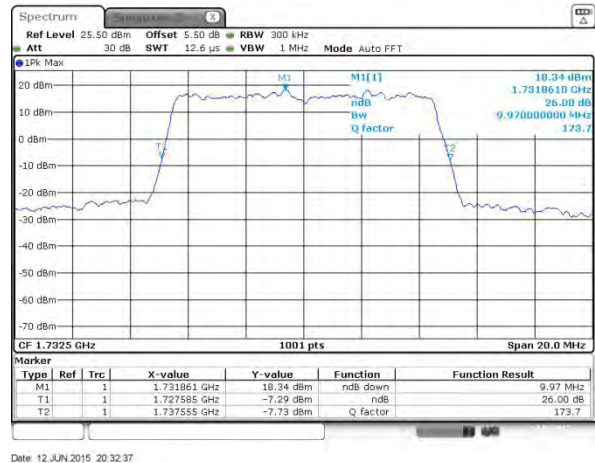
Lowest Channel / 10MHz / 16QAM



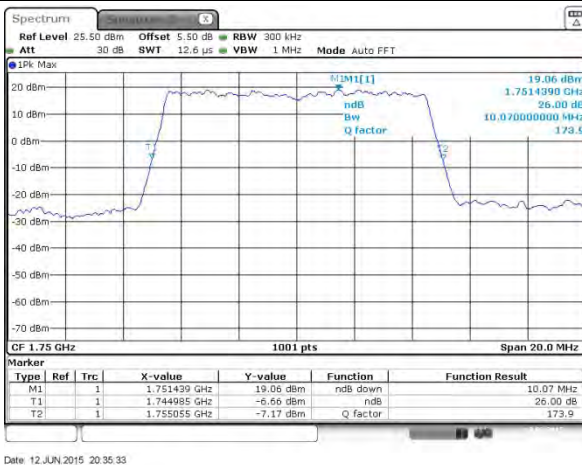
Middle Channel / 10MHz / QPSK



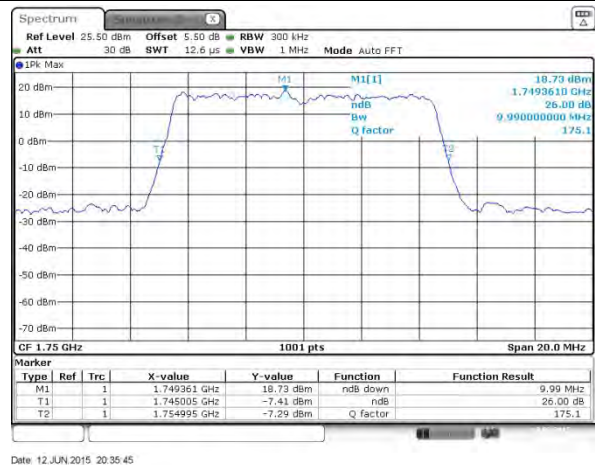
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK



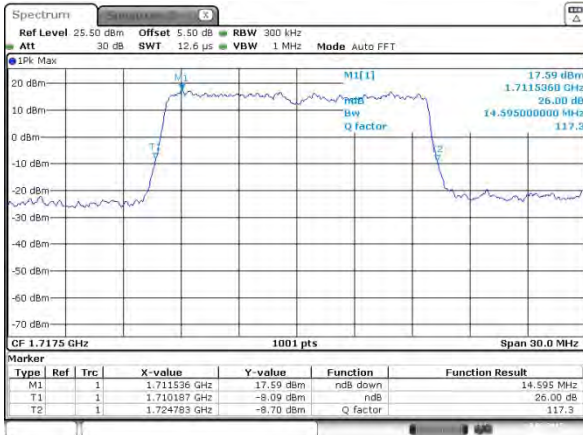
Highest Channel / 10MHz / 16QAM



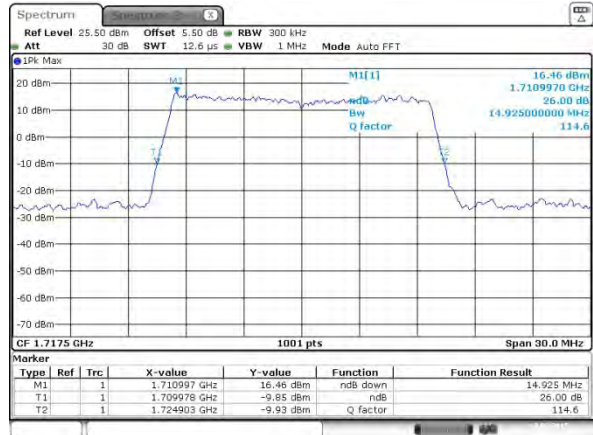


LTE Band 4

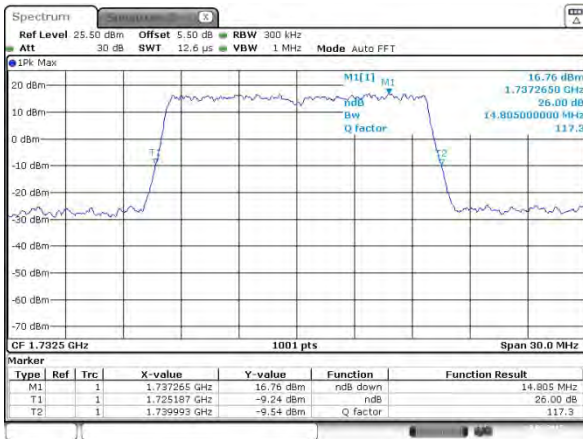
Lowest Channel / 15MHz / QPSK



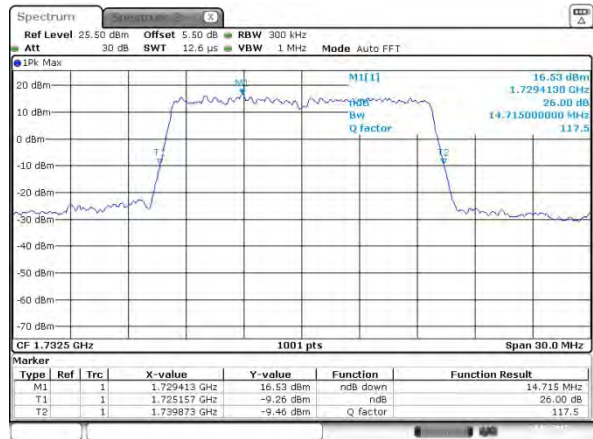
Lowest Channel / 15MHz / 16QAM



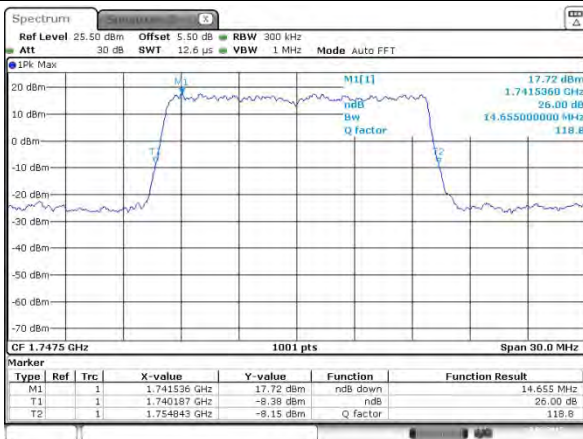
Middle Channel / 15MHz / QPSK



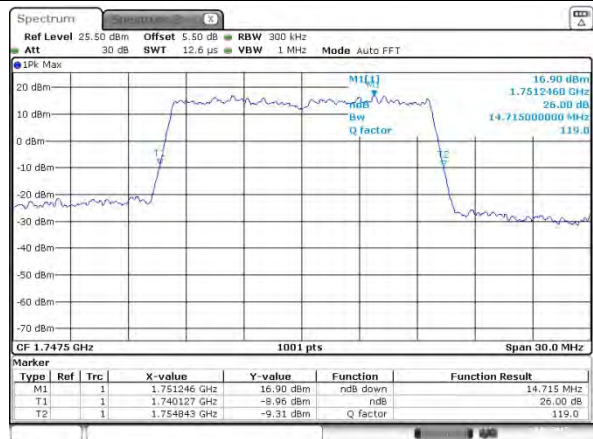
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK



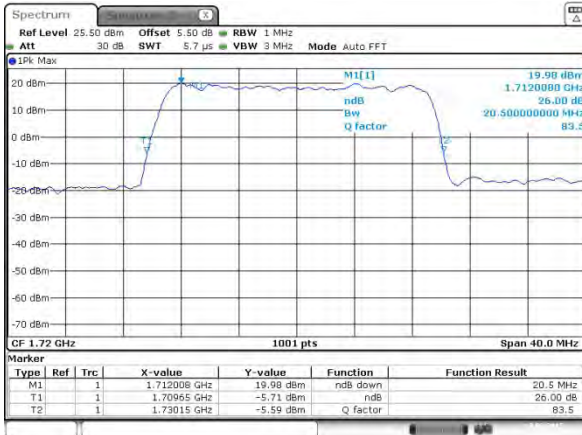
Highest Channel / 15MHz / 16QAM



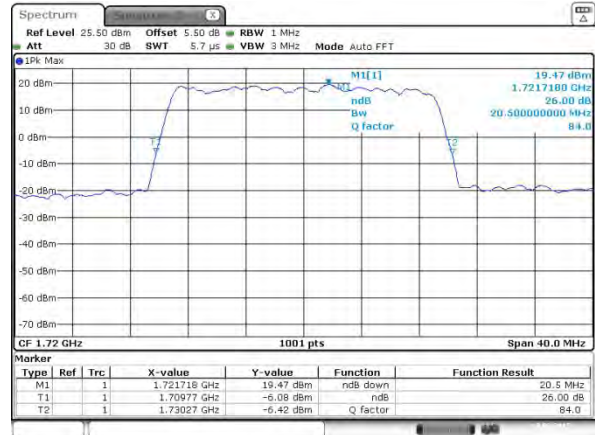


LTE Band 4

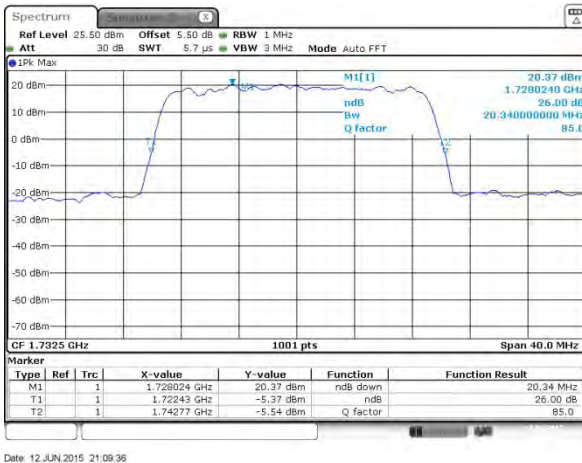
Lowest Channel / 20MHz / QPSK



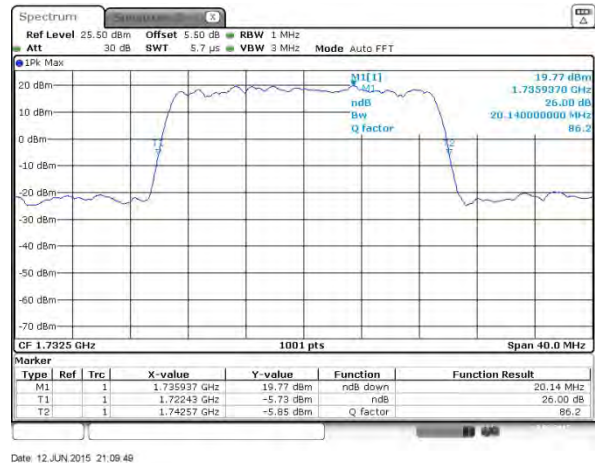
Lowest Channel / 20MHz / 16QAM



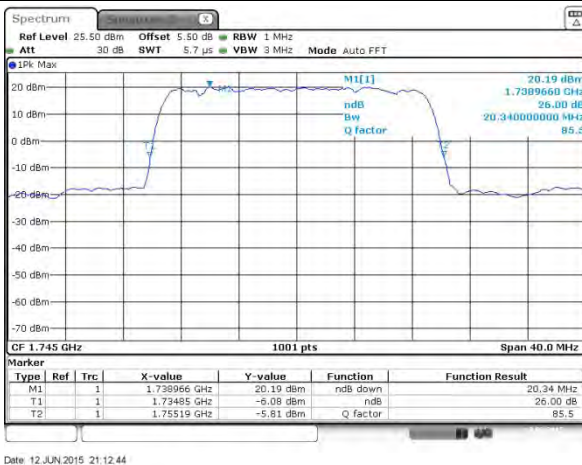
Middle Channel / 20MHz / QPSK



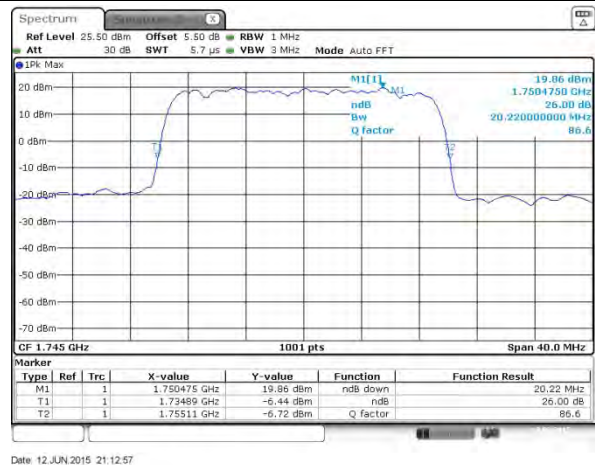
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



Highest Channel / 20MHz / 16QAM



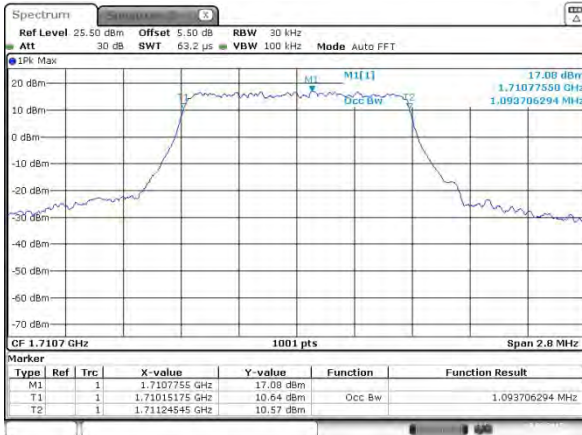
**Occupied Bandwidth**

Mode	LTE Band 4 : 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	1.10	2.73	2.72	4.50	4.50	9.11	9.05	13.49	13.49	18.42	18.46
Middle CH	1.09	1.10	2.73	2.73	4.51	4.50	9.09	9.03	13.46	13.46	18.46	18.26
Highest CH	1.10	1.10	2.73	2.72	4.51	4.50	9.07	9.01	13.49	13.46	18.42	18.42

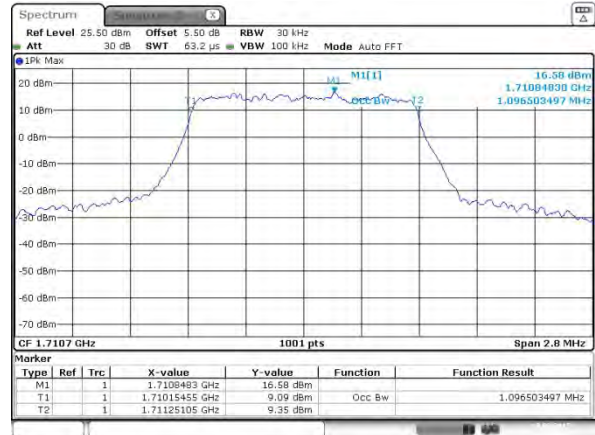


LTE Band 4

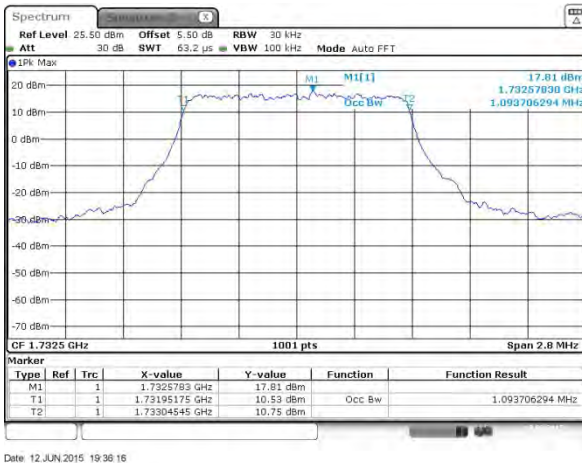
Lowest Channel / 1.4MHz / QPSK



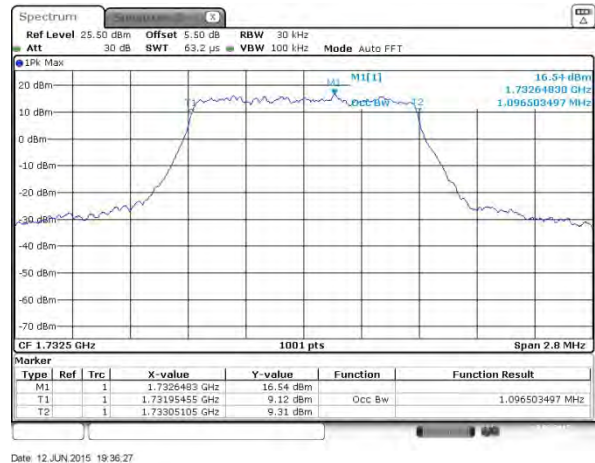
Lowest Channel / 1.4MHz / 16QAM



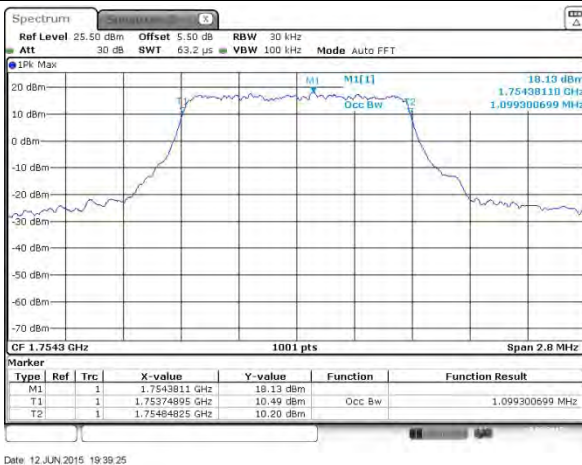
Middle Channel / 1.4MHz / QPSK



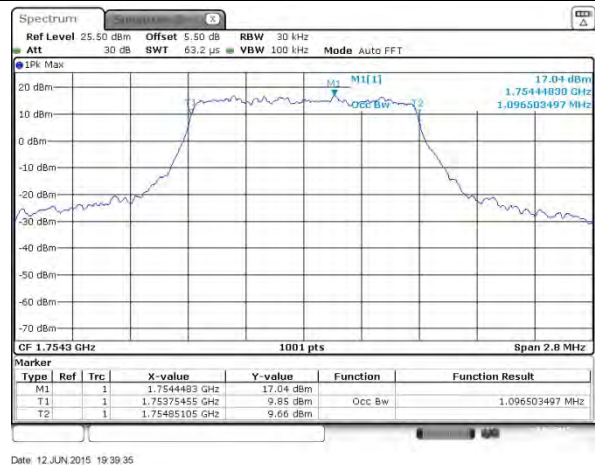
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK



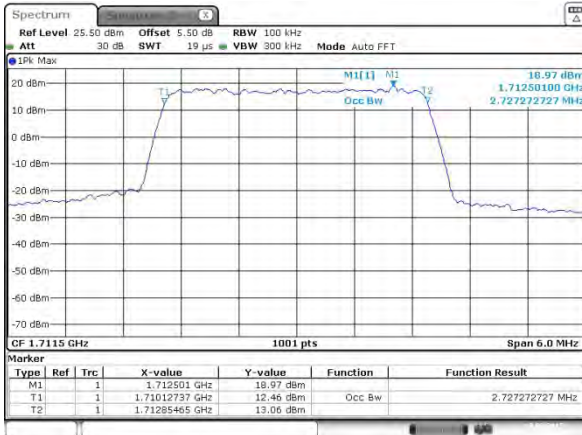
Highest Channel / 1.4MHz / 16QAM



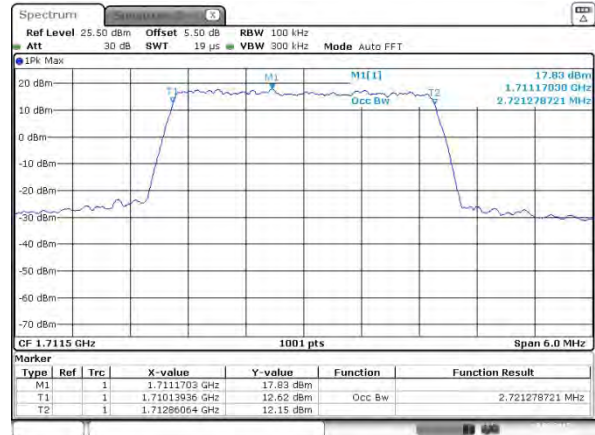


LTE Band 4

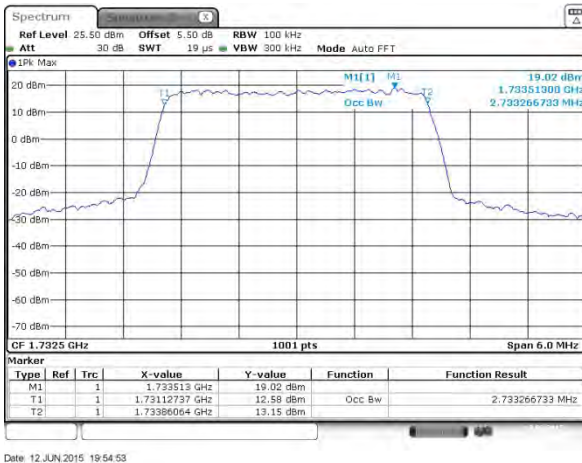
Lowest Channel / 3MHz / QPSK



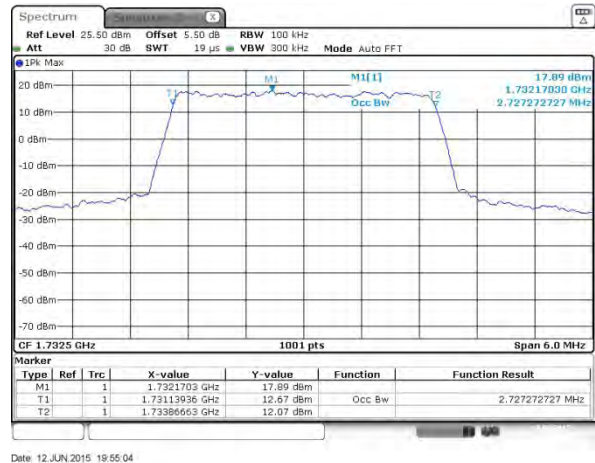
Lowest Channel / 3MHz / 16QAM



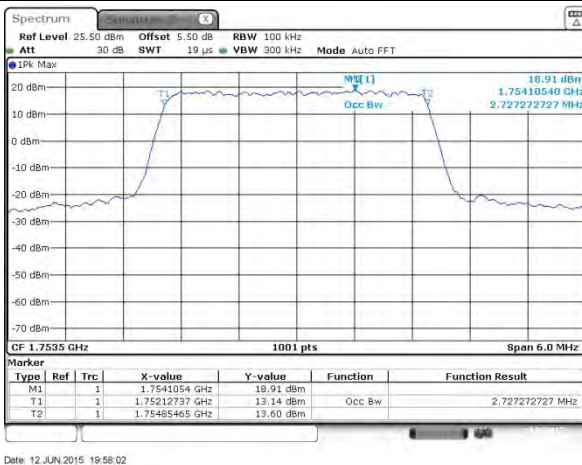
Middle Channel / 3MHz / QPSK



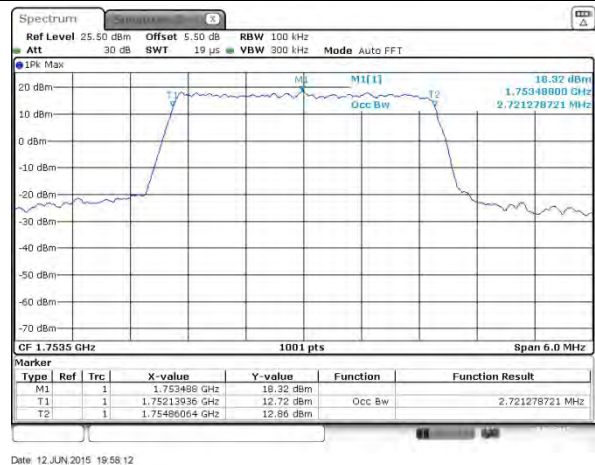
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK



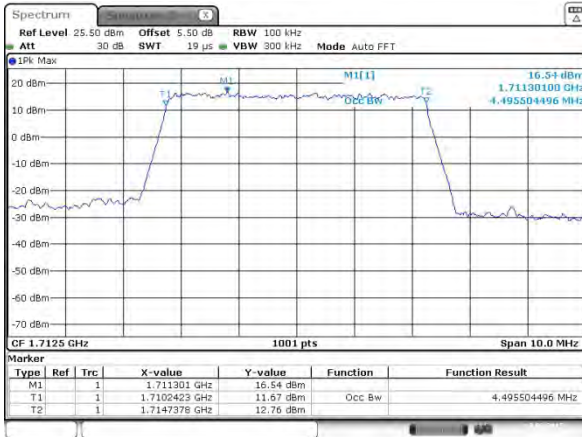
Highest Channel / 3MHz / 16QAM



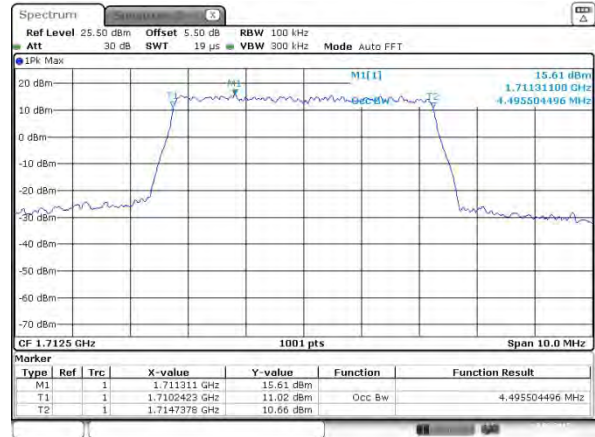


LTE Band 4

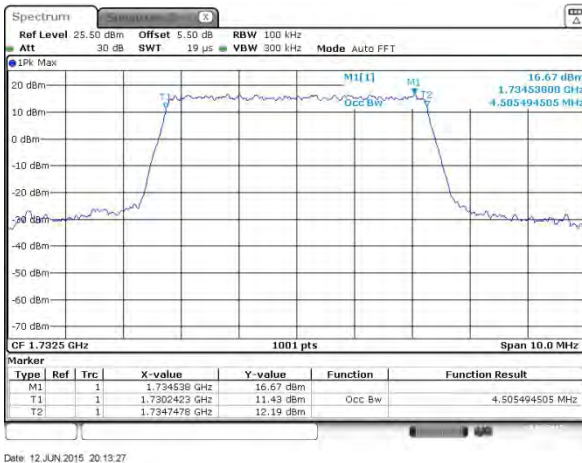
Lowest Channel / 5MHz / QPSK



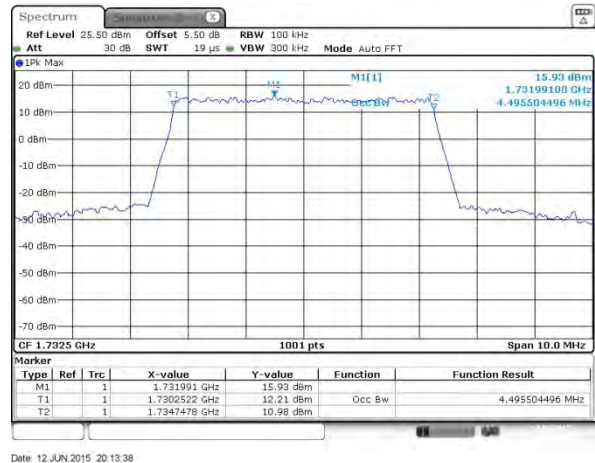
Lowest Channel / 5MHz / 16QAM



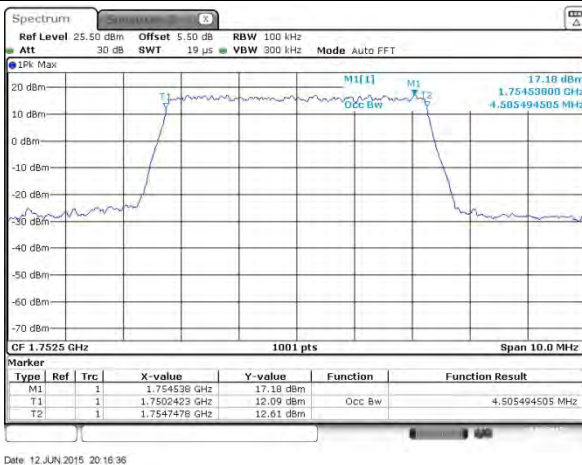
Middle Channel / 5MHz / QPSK



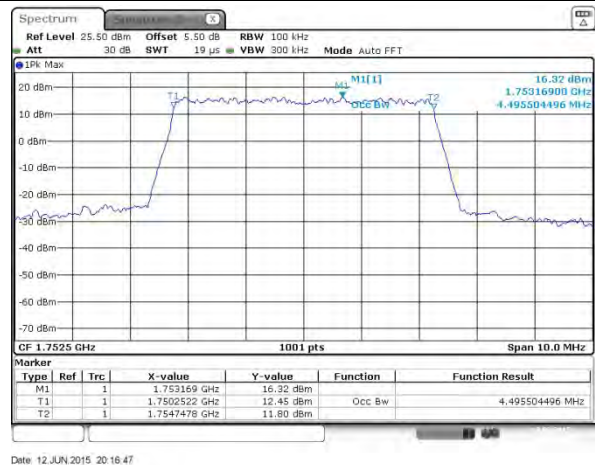
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



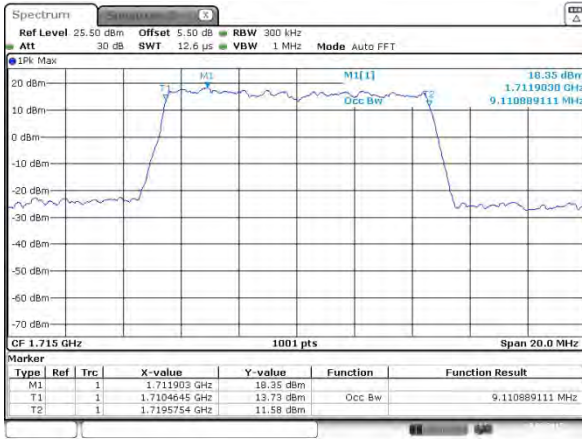
Highest Channel / 5MHz / 16QAM



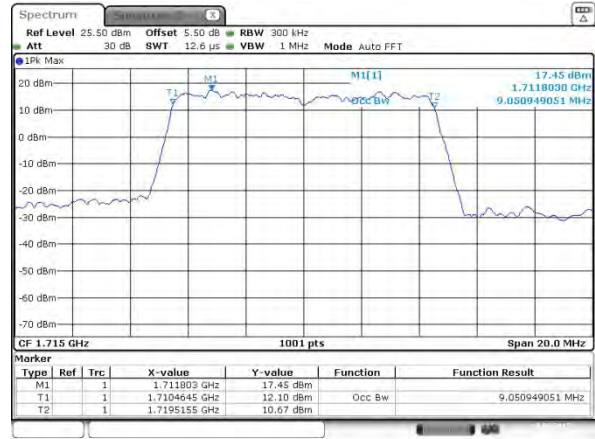


LTE Band 4

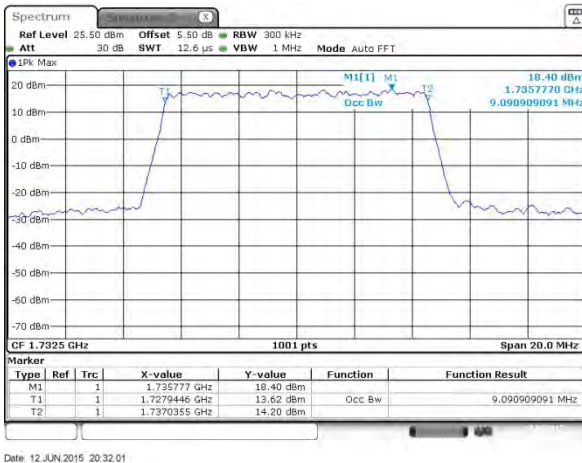
Lowest Channel / 10MHz / QPSK



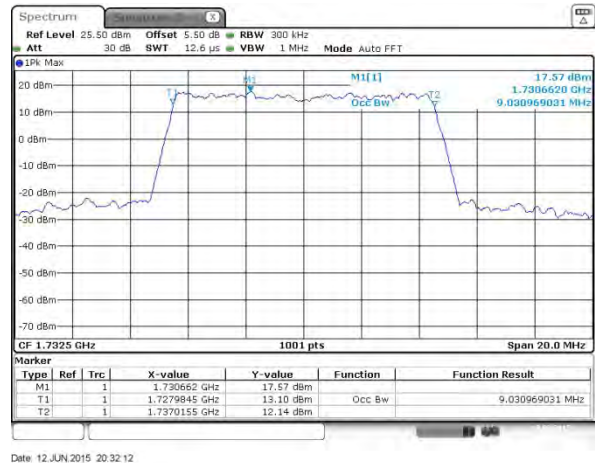
Lowest Channel / 10MHz / 16QAM



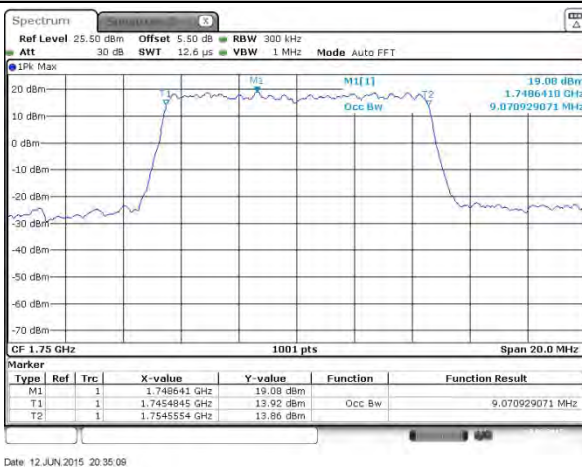
Middle Channel / 10MHz / QPSK



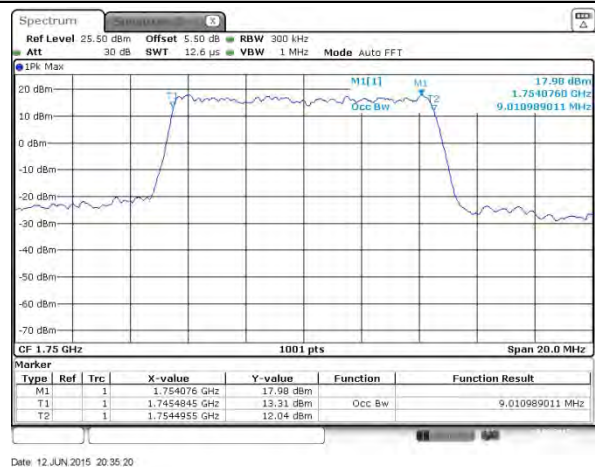
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK



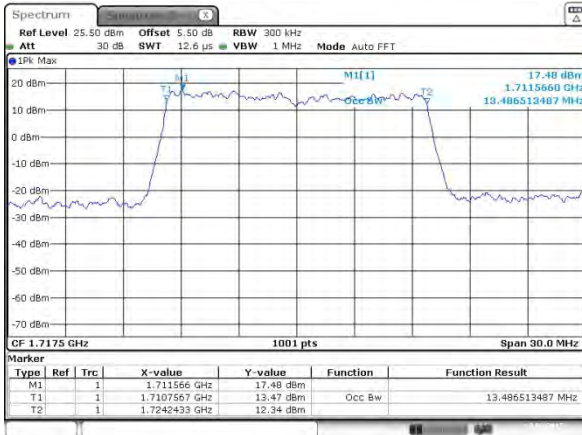
Highest Channel / 10MHz / 16QAM



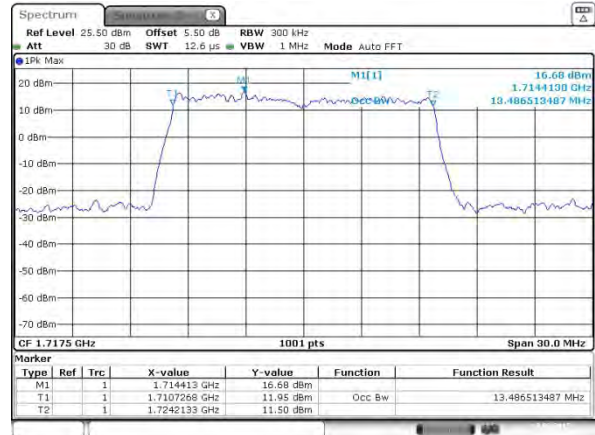


LTE Band 4

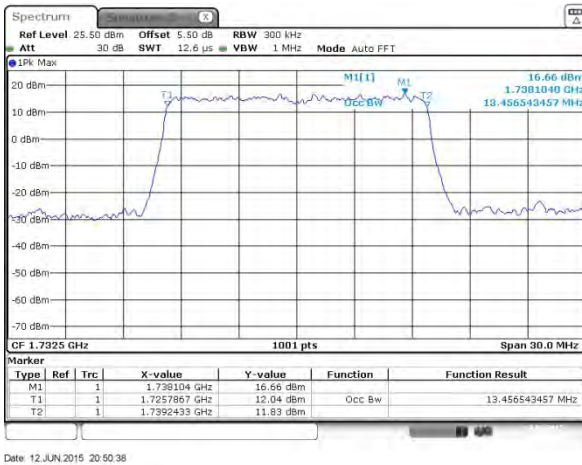
Lowest Channel / 15MHz / QPSK



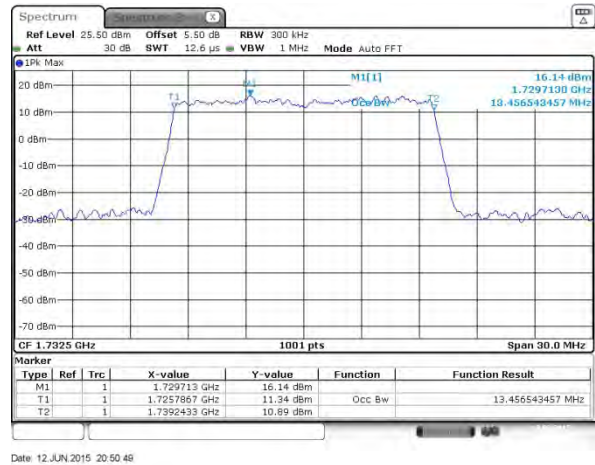
Lowest Channel / 15MHz / 16QAM



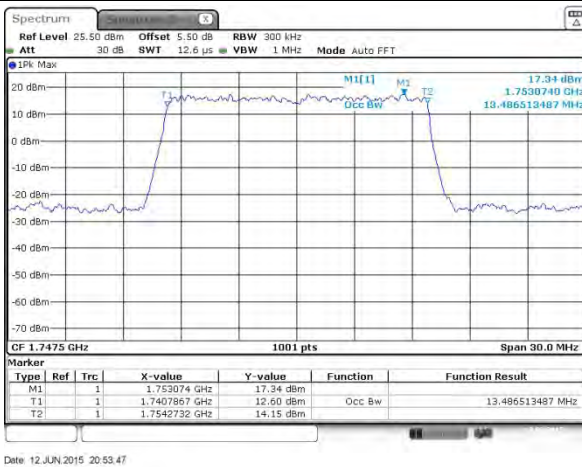
Middle Channel / 15MHz / QPSK



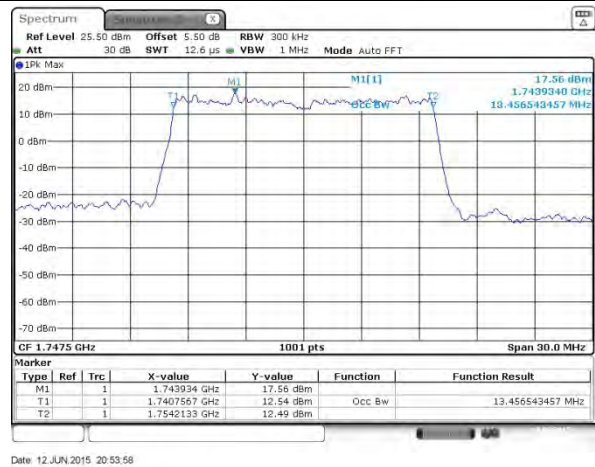
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK



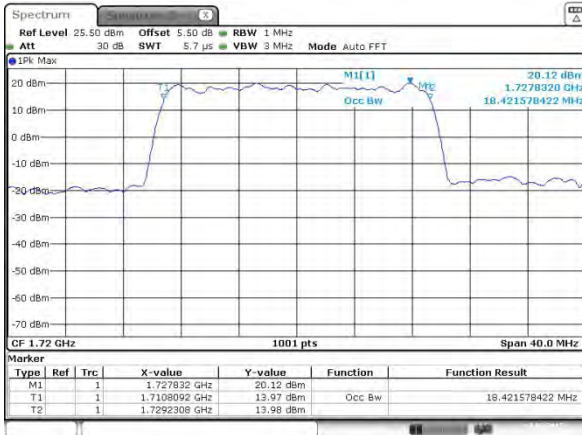
Highest Channel / 15MHz / 16QAM





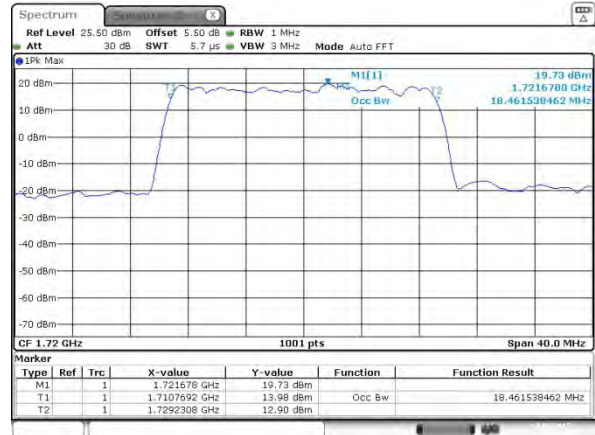
LTE Band 4

Lowest Channel / 20MHz / QPSK



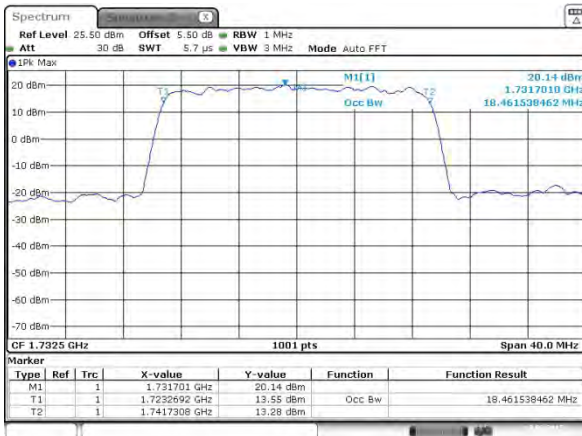
Date: 12 JUN 2015 21:01:30

Lowest Channel / 20MHz / 16QAM



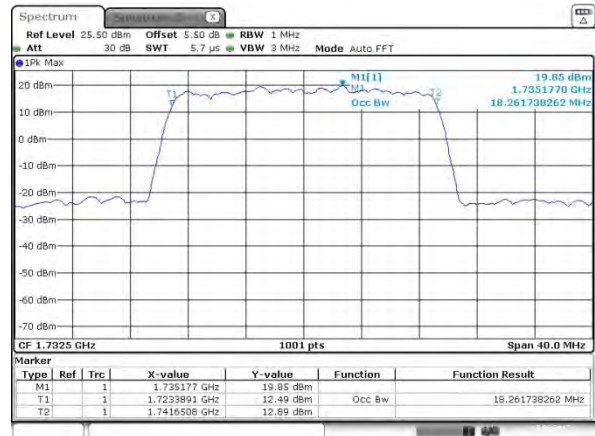
Date: 12 JUN 2015 21:01:41

Middle Channel / 20MHz / QPSK



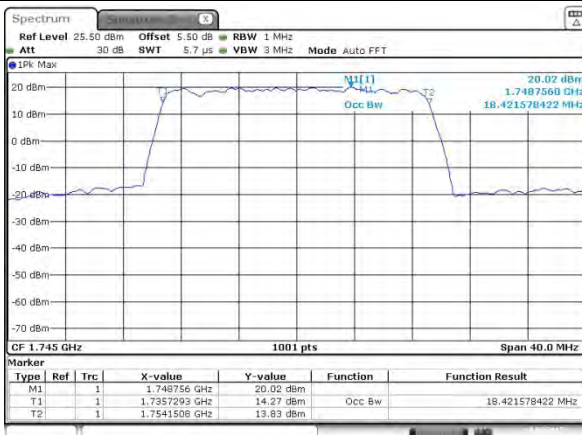
Date: 12 JUN 2015 21:09:12

Middle Channel / 20MHz / 16QAM



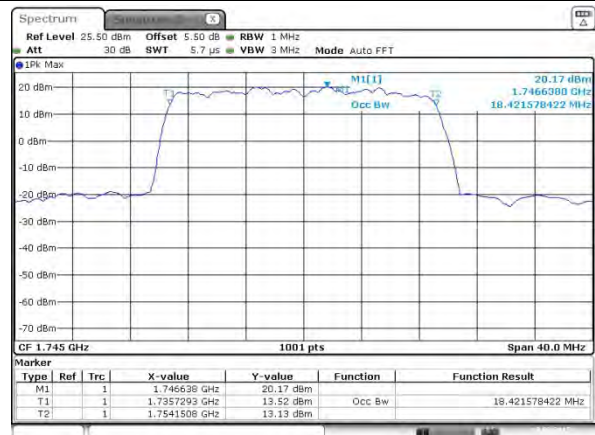
Date: 12 JUN 2015 21:09:23

Highest Channel / 20MHz / QPSK



Date: 12 JUN 2015 21:12:21

Highest Channel / 20MHz / 16QAM



Date: 12 JUN 2015 21:12:32



Conducted Band Edge

LTE Band 4 / 1.4MHz / QPSK

Lowest Band Edge / 1RB



Highest Band Edge / 1RB



Lowest Band Edge / Full RB



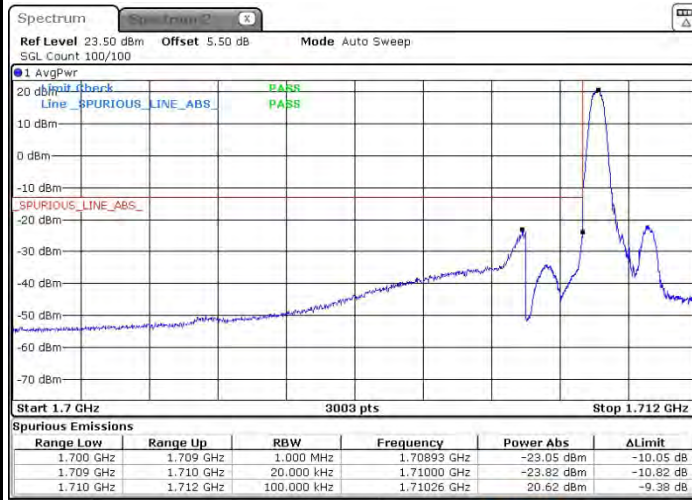
Highest Band Edge / Full RB





LTE Band 4 / 1.4MHz / 16QAM

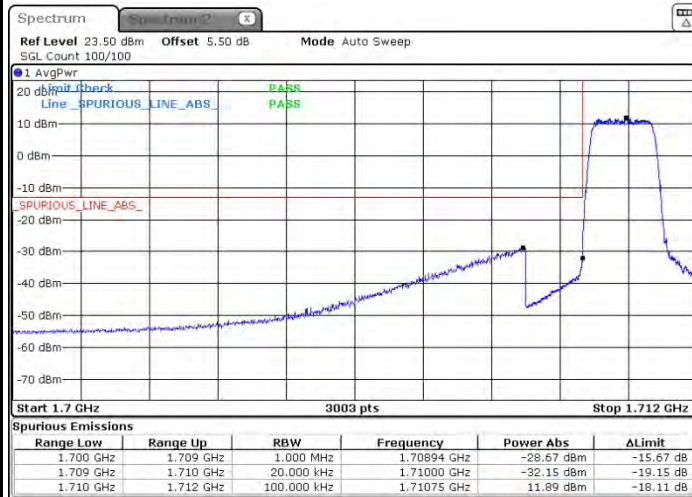
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



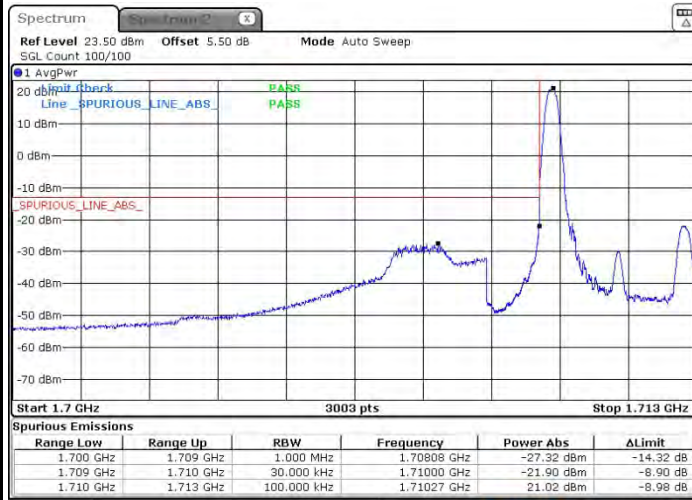
Highest Band Edge / Full RB





LTE Band 4 / 3MHz / QPSK

Lowest Band Edge / 1RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



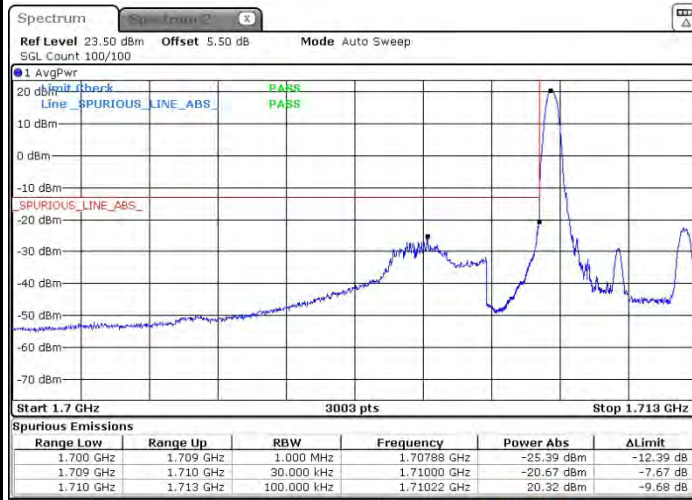
Highest Band Edge / Full RB





LTE Band 4 / 3MHz / 16QAM

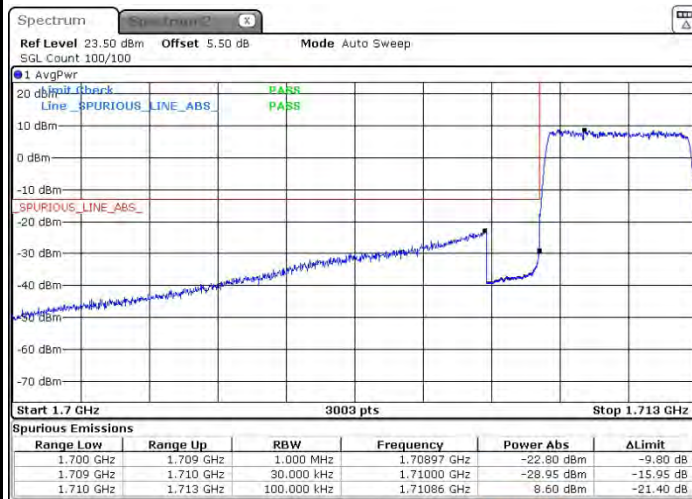
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



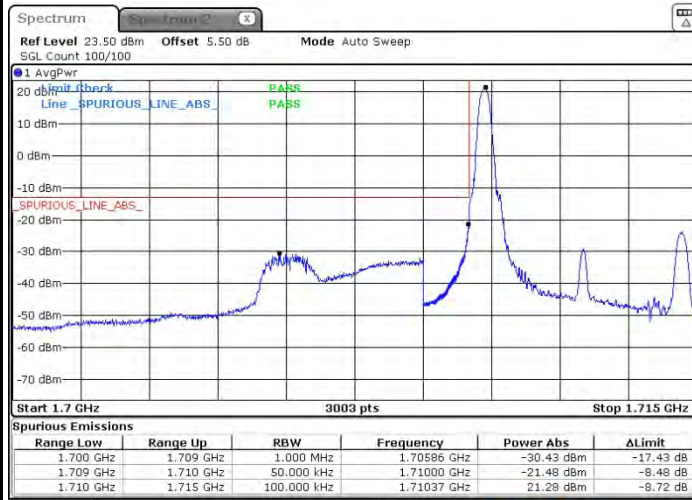
Highest Band Edge / Full RB





LTE Band 4 / 5MHz / QPSK

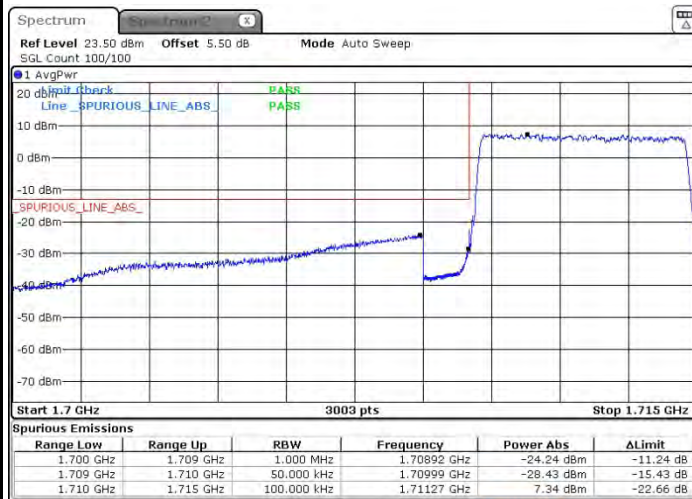
Lowest Band Edge / 1 RB



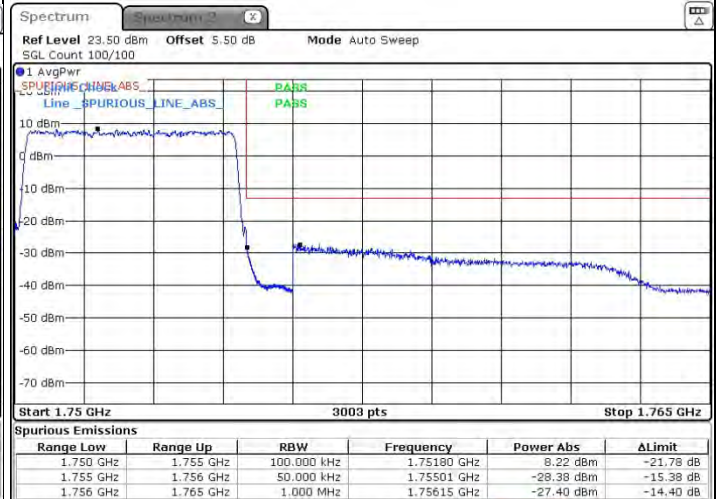
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



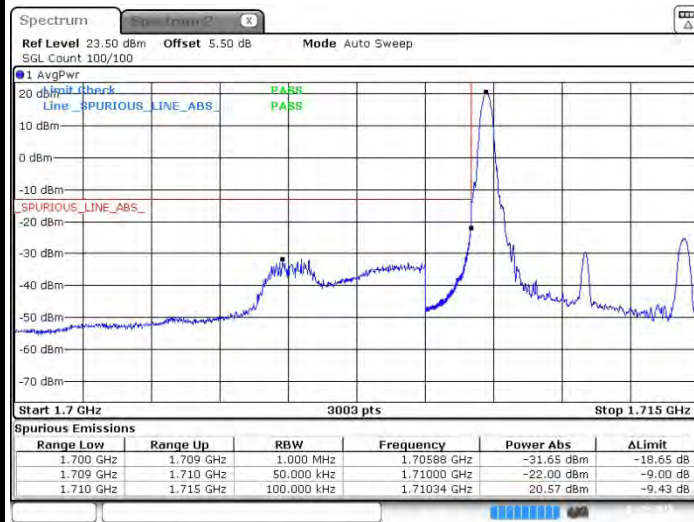
Highest Band Edge / Full RB



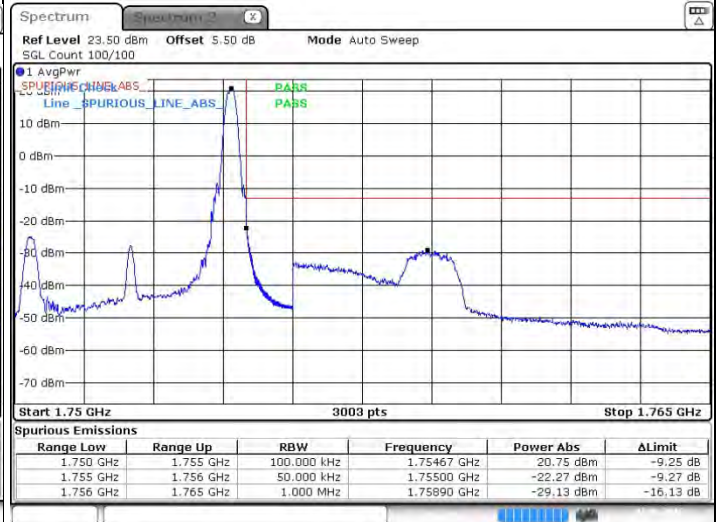


LTE Band 4 / 5MHz / 16QAM

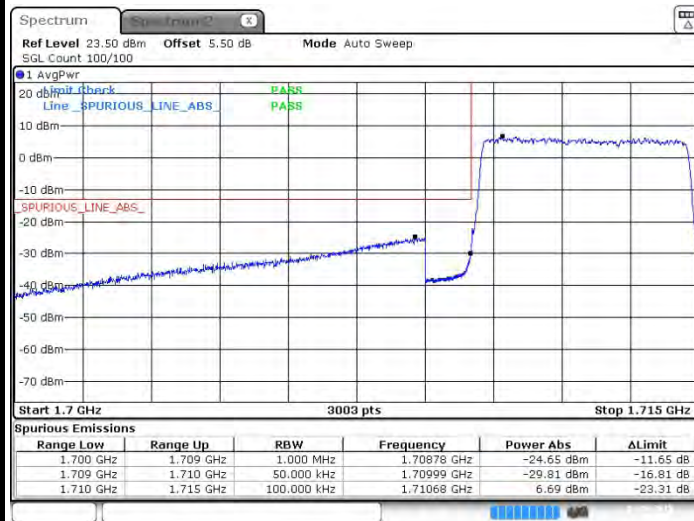
Lowest Band Edge / 1RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



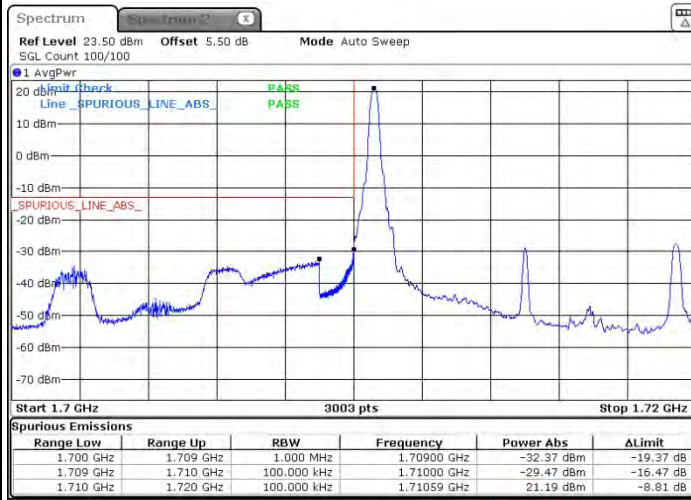
Highest Band Edge / Full RB



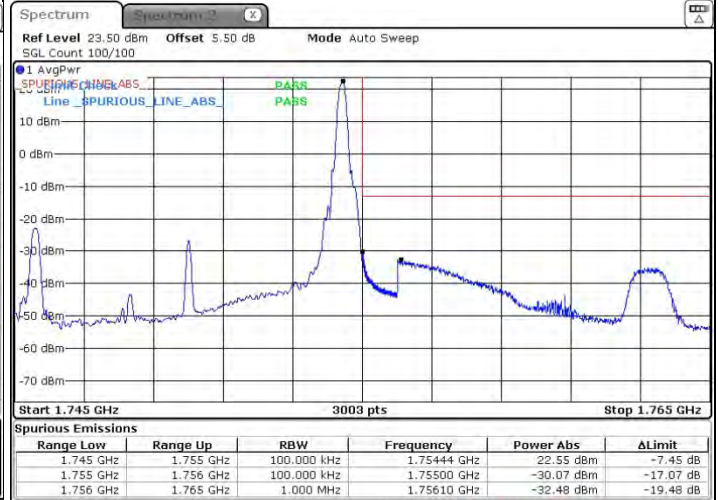


LTE Band 4 / 10MHz / QPSK

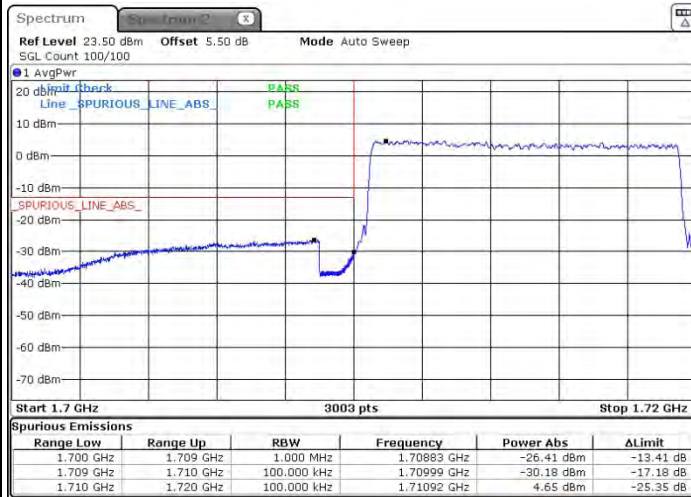
Lowest Band Edge / 1 RB



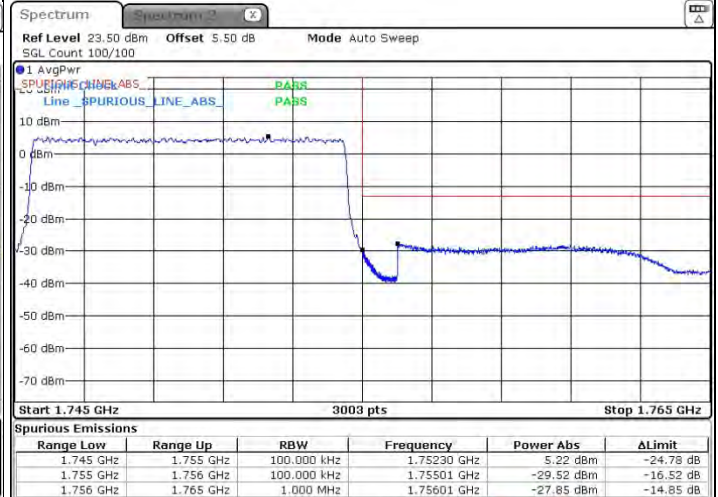
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



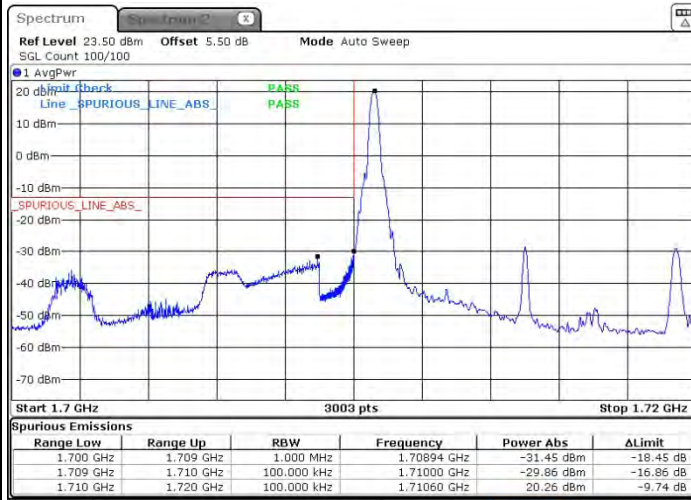
Highest Band Edge / Full RB



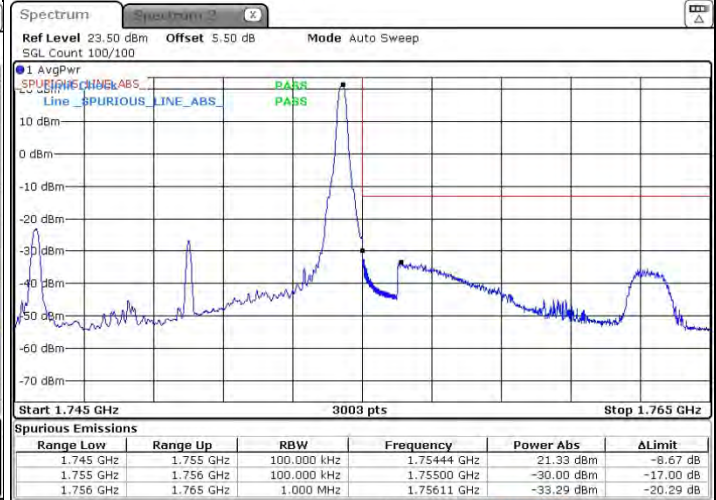


LTE Band 4 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



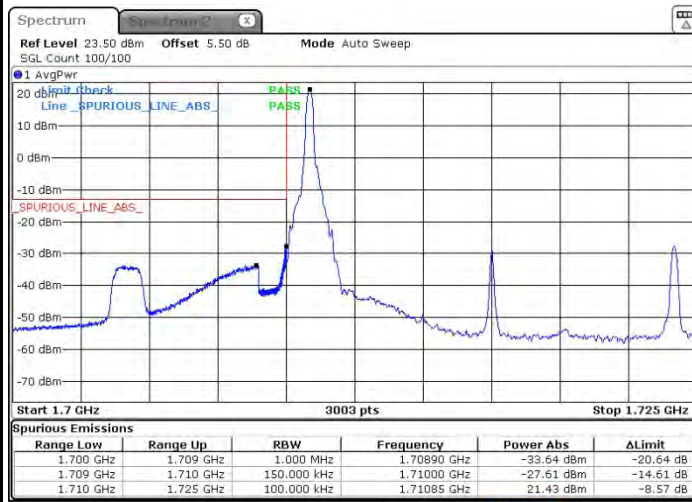
Highest Band Edge / Full RB



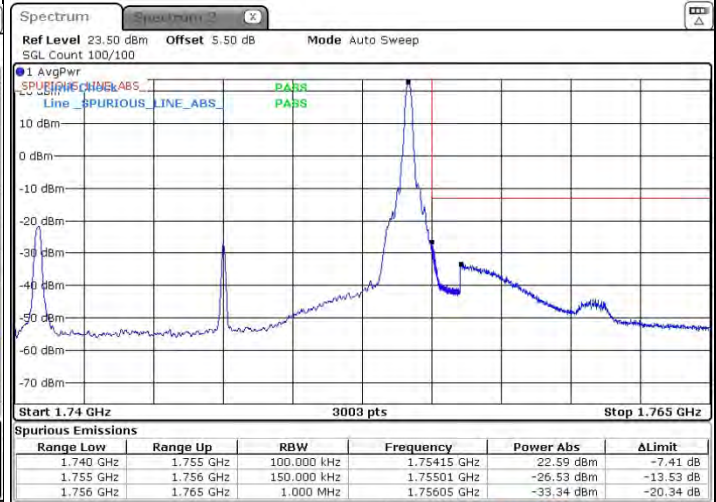


LTE Band 4 / 15MHz / QPSK

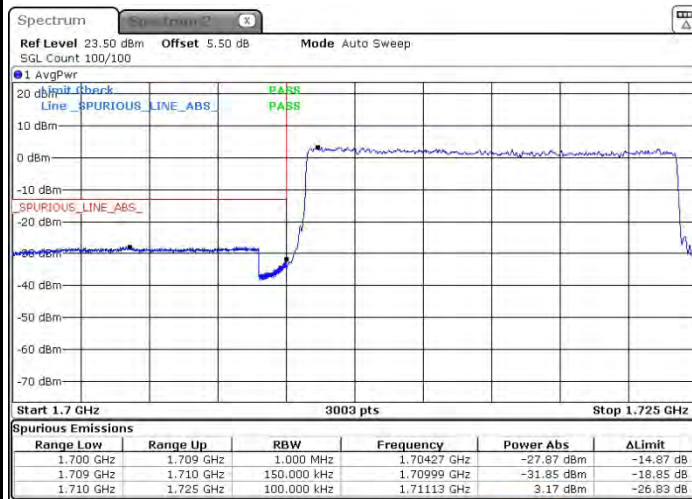
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



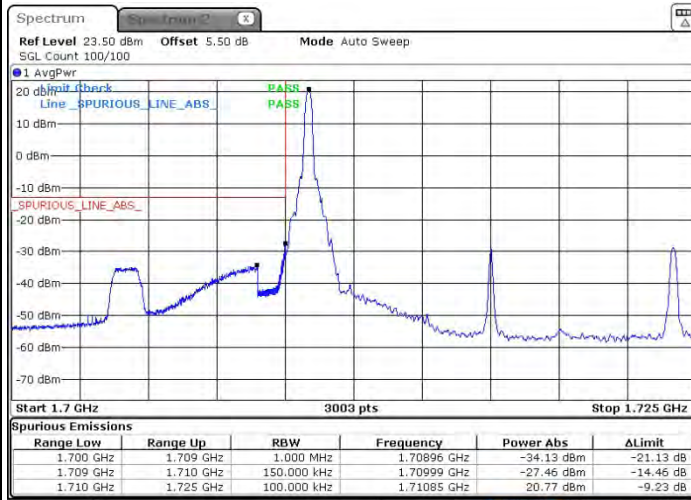
Highest Band Edge / Full RB



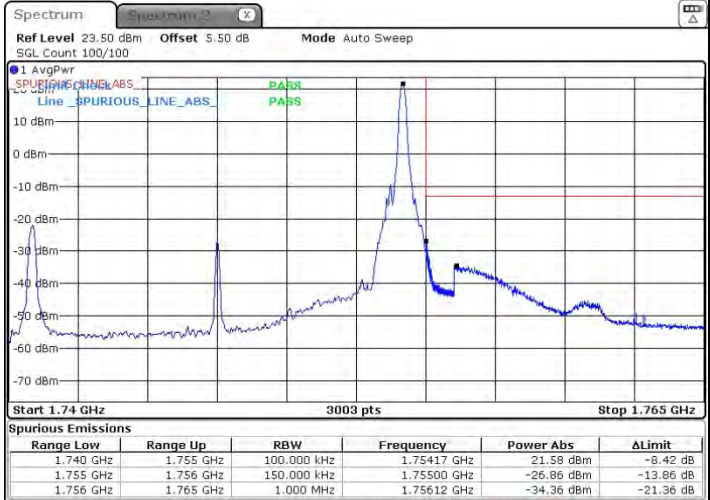


LTE Band 4 / 15MHz / 16QAM

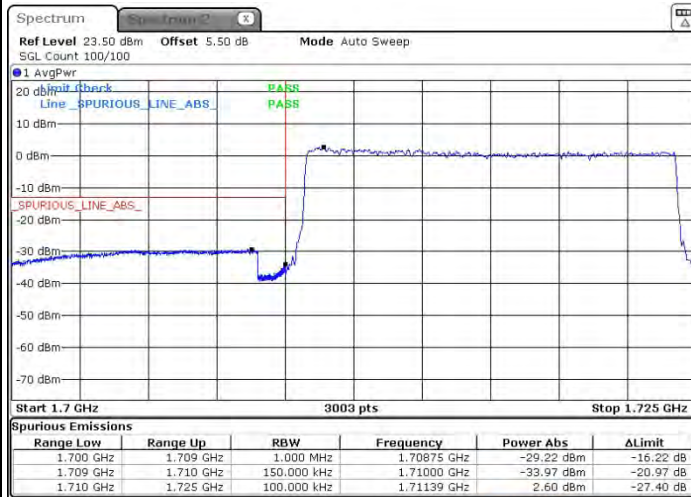
Lowest Band Edge / 1 RB



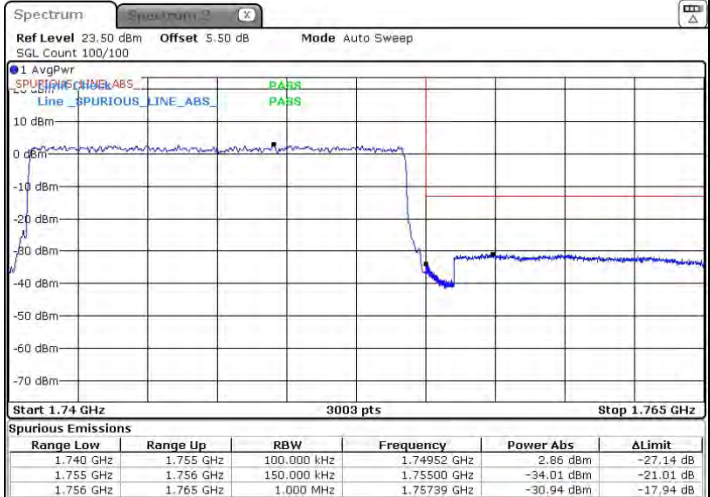
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



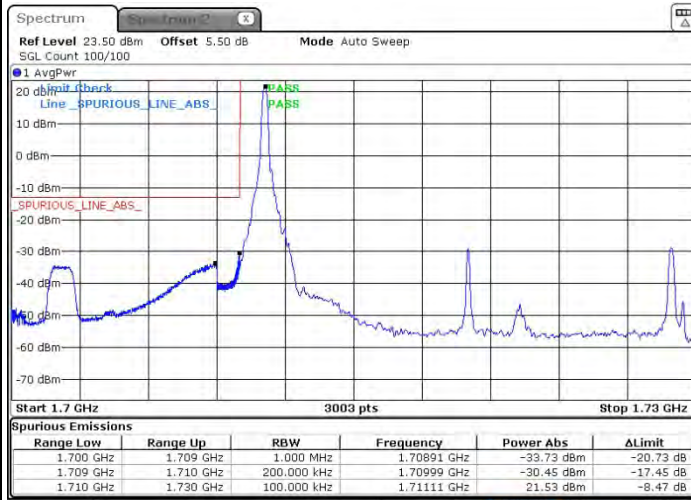
Highest Band Edge / Full RB



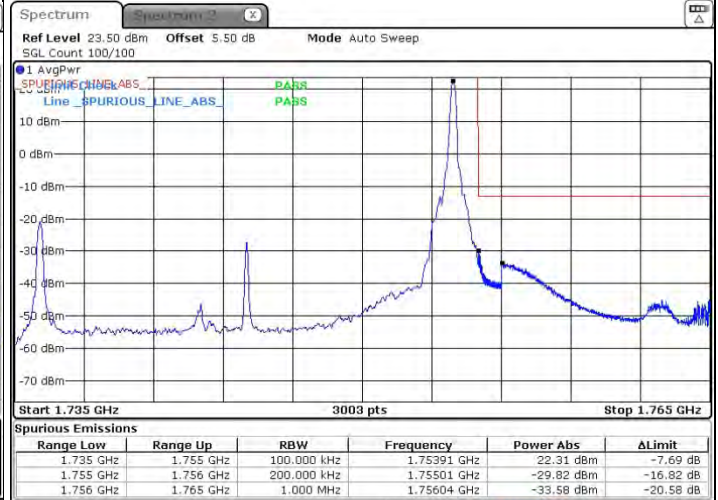


LTE Band 4 / 20MHz / QPSK

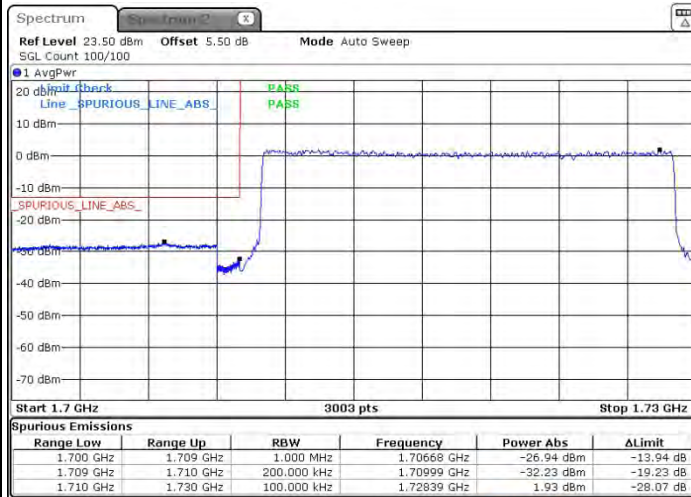
Lowest Band Edge / 1 RB



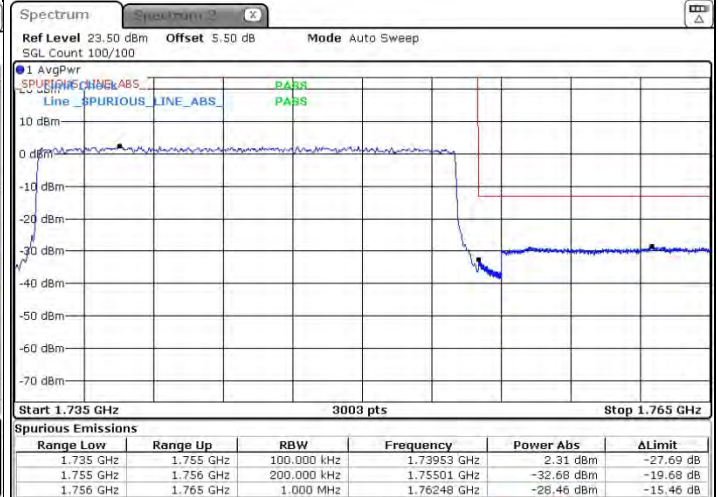
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



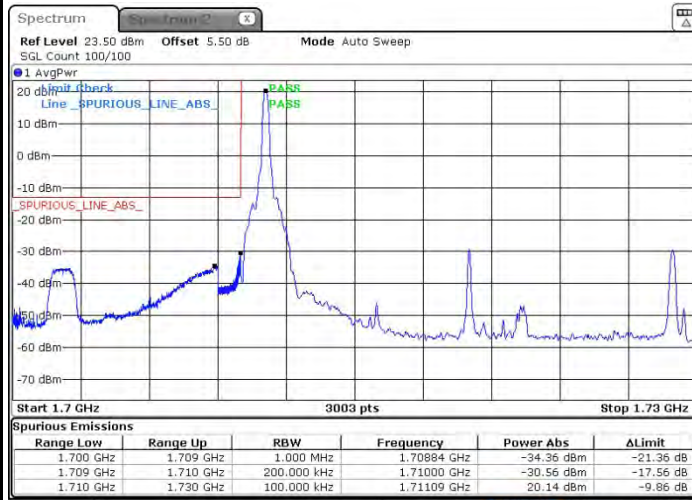
Highest Band Edge / Full RB



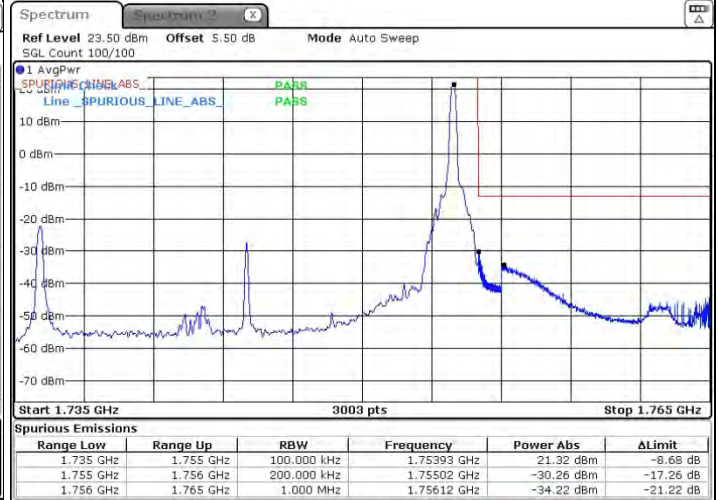


LTE Band 4 / 20MHz / 16QAM

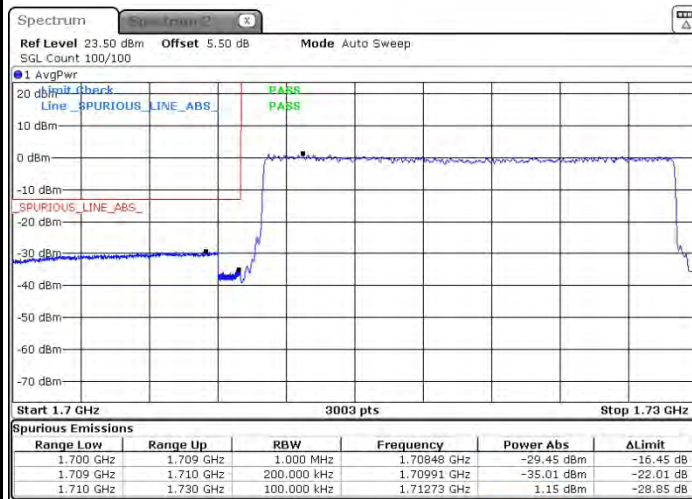
Lowest Band Edge / 1 RB



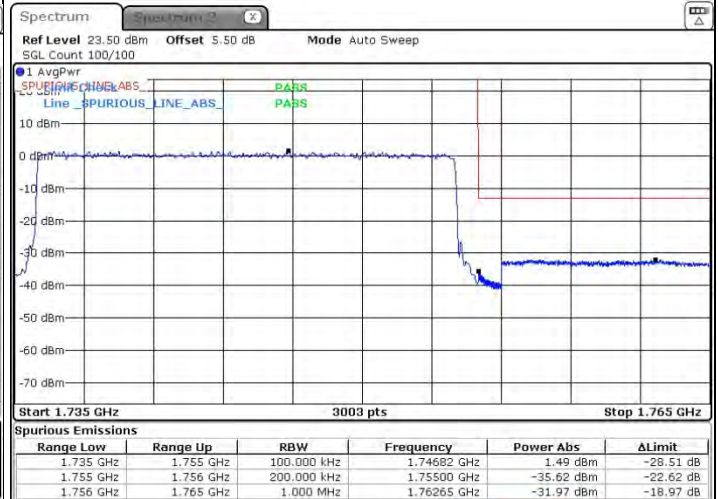
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB



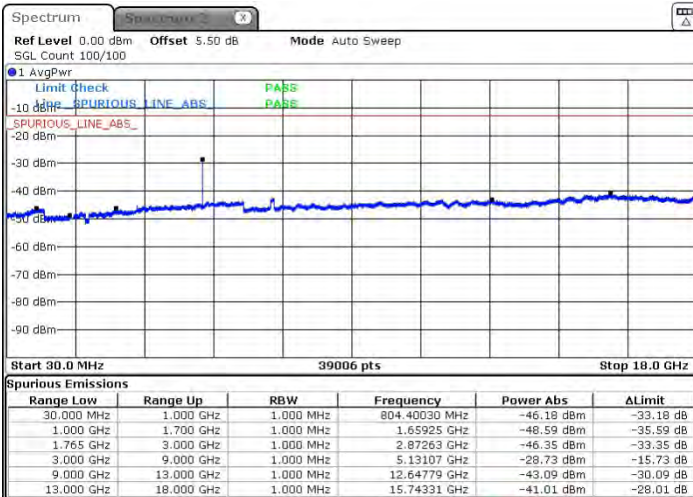


Conducted Spurious Emission

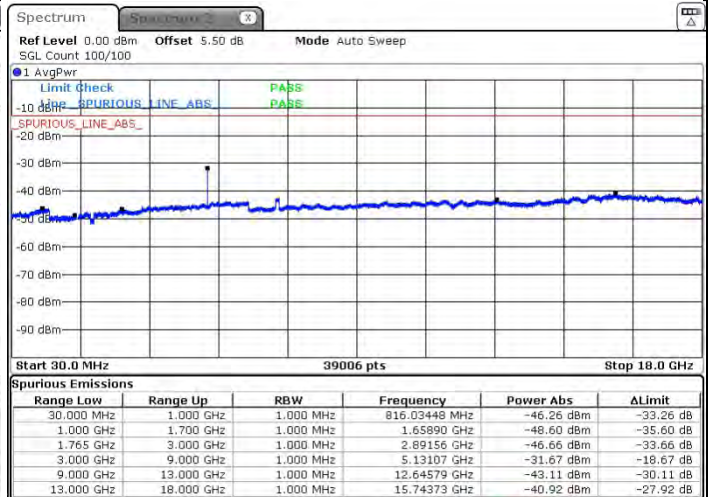
LTE Band 4 / 1.4MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



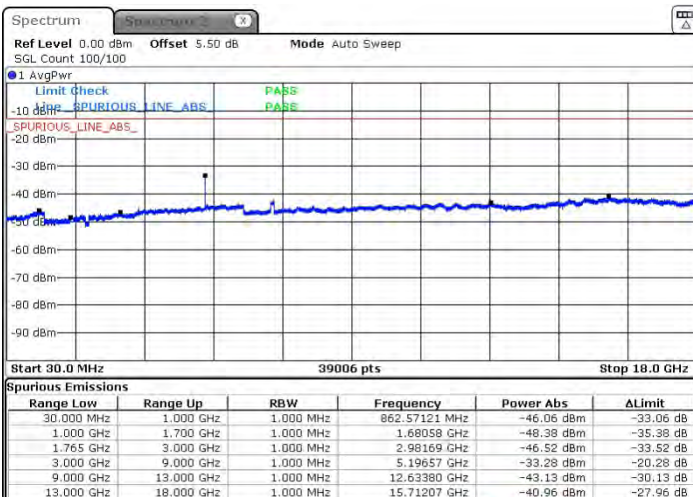
Date: 12 JUN 2015 19:34:53



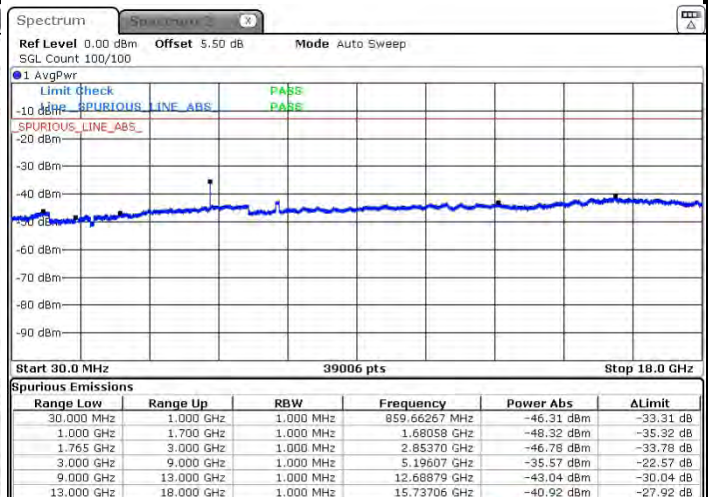
Date: 12 JUN 2015 19:36:04

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 12 JUN 2015 19:38:02

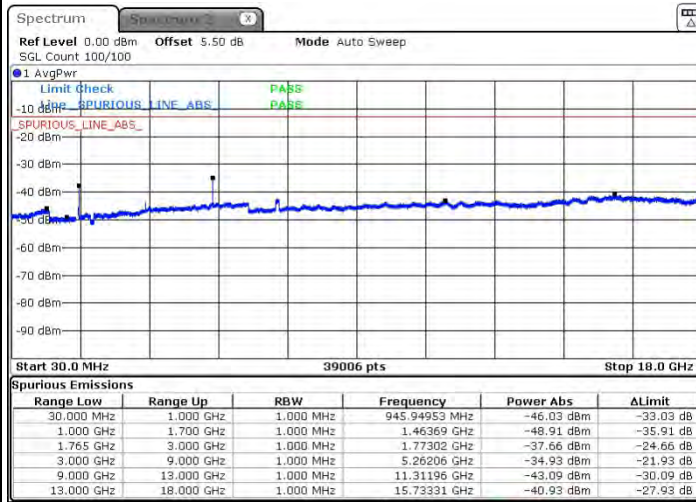


Date: 12 JUN 2015 19:39:13



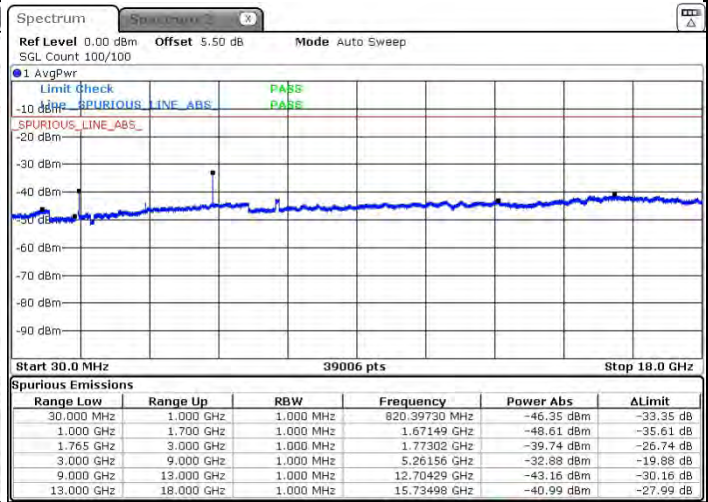
LTE Band 4 / 1.4MHz

Highest Channel / QPSK



Date: 12 JUN 2015 19:45:45

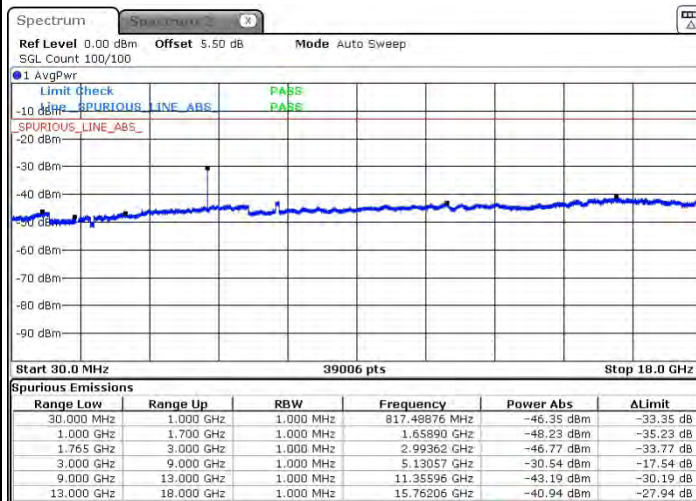
Highest Channel / 16QAM



Date: 12 JUN 2015 19:46:56

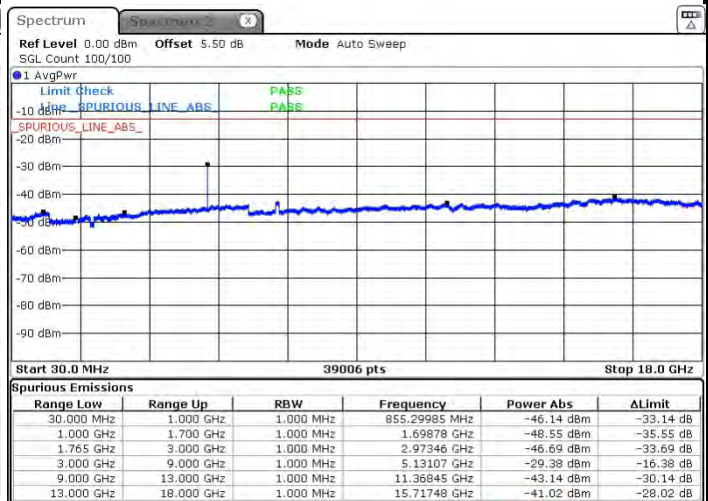
LTE Band 4 / 3MHz

Lowest Channel / QPSK



Date: 12 JUN 2015 19:53:30

Lowest Channel / 16QAM

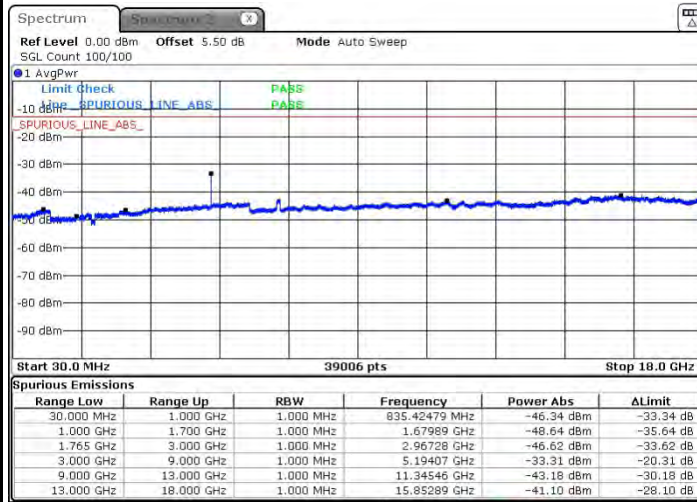


Date: 12 JUN 2015 19:54:41



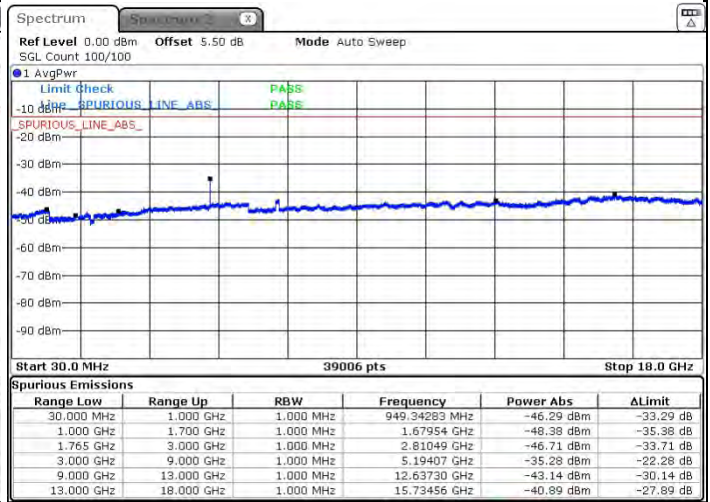
LTE Band 4 / 3MHz

Middle Channel / QPSK



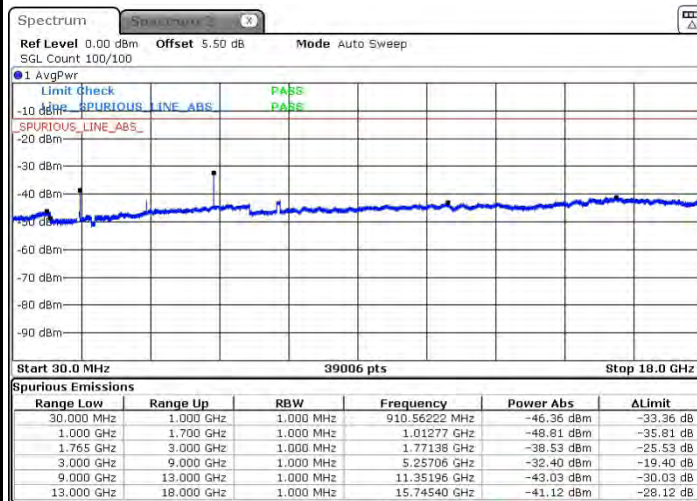
Date: 12 JUN 2015 19:56:39

Middle Channel / 16QAM



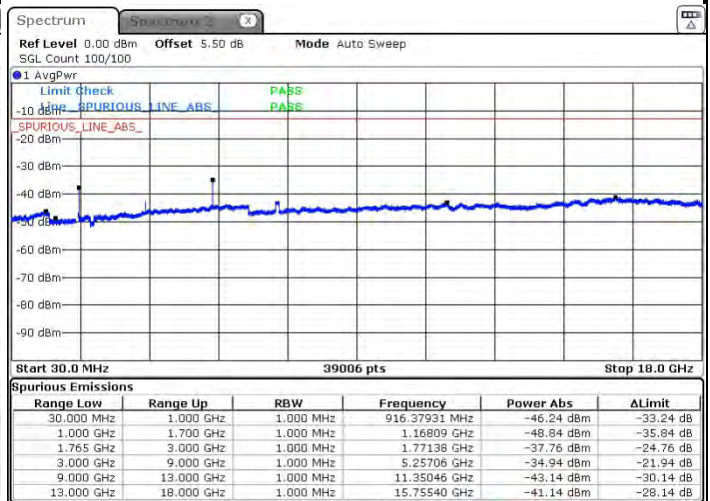
Date: 12 JUN 2015 19:57:50

Highest Channel / QPSK



Date: 12 JUN 2015 20:04:22

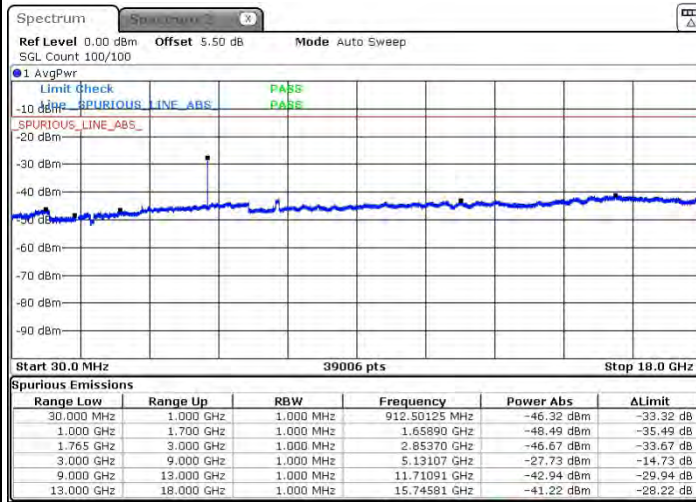
Highest Channel / 16QAM





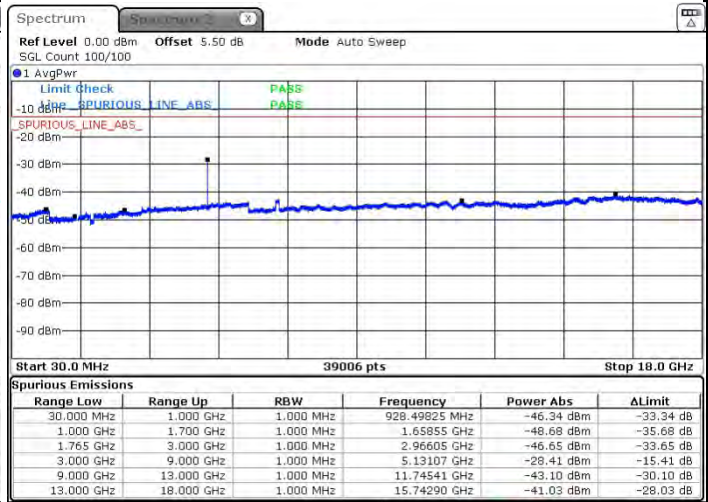
LTE Band 4 / 5MHz

Lowest Channel / QPSK



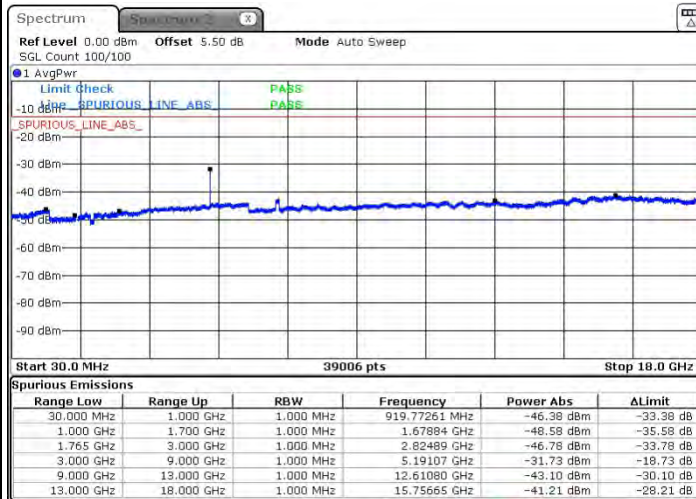
Date: 12 JUN 2015 20:12:04

Lowest Channel / 16QAM



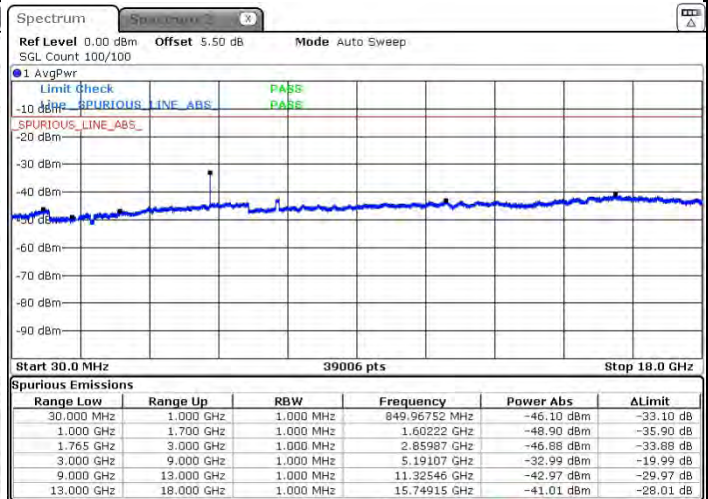
Date: 12 JUN 2015 20:13:15

Middle Channel / QPSK



Date: 12 JUN 2015 20:15:13

Middle Channel / 16QAM

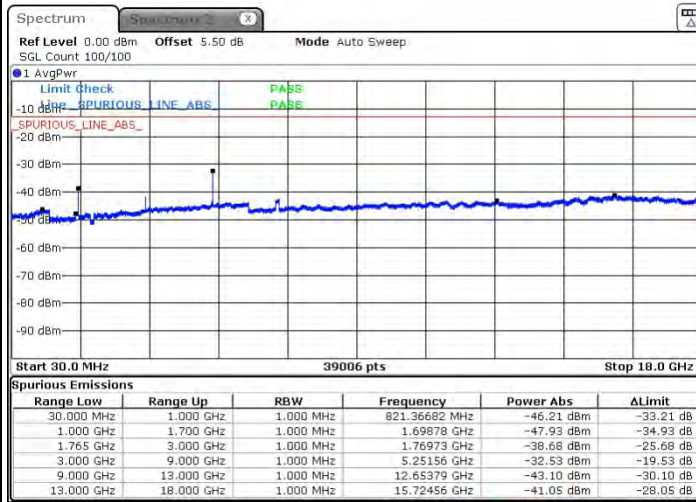


Date: 12 JUN 2015 20:16:24



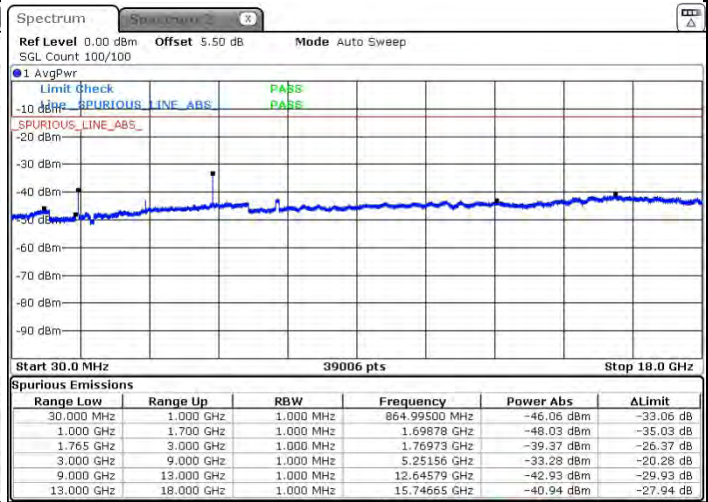
LTE Band 4 / 5MHz

Highest Channel / QPSK



Date: 12 JUN 2015 20:22:56

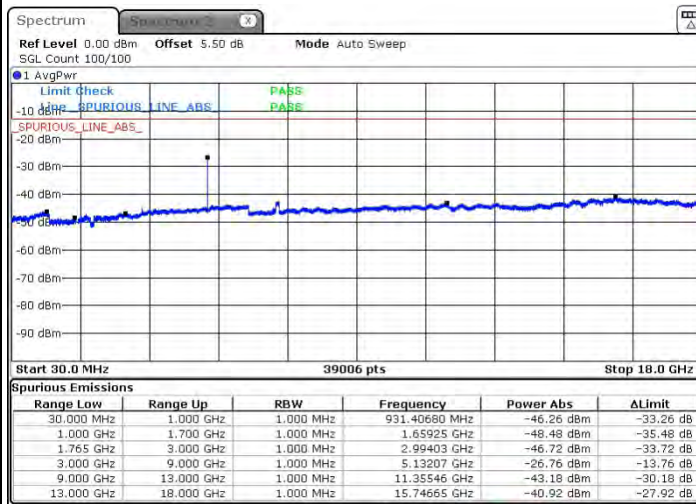
Highest Channel / 16QAM



Date: 12 JUN 2015 20:24:07

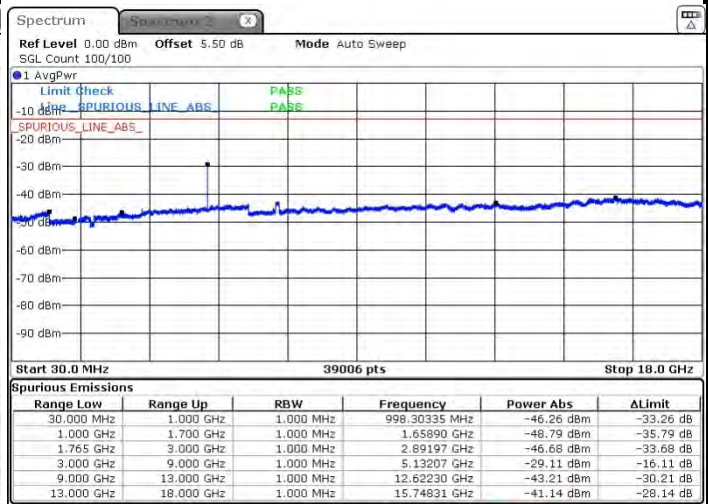
LTE Band 4 / 10MHz

Lowest Channel / QPSK



Date: 12 JUN 2015 20:30:38

Lowest Channel / 16QAM

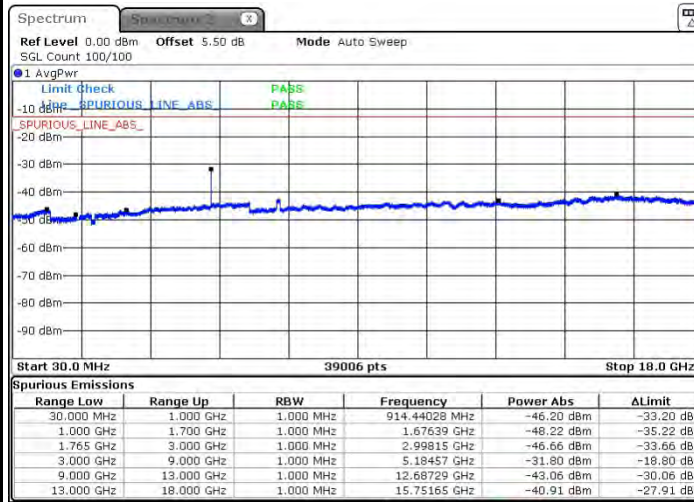


Date: 12 JUN 2015 20:31:49



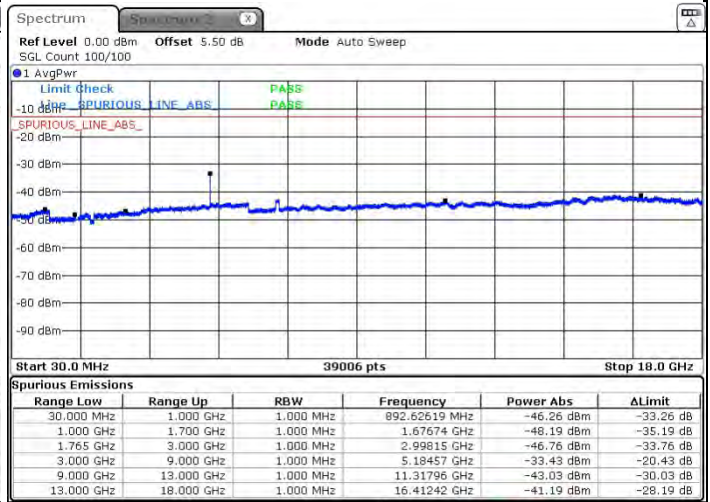
LTE Band 4 / 10MHz

Middle Channel / QPSK



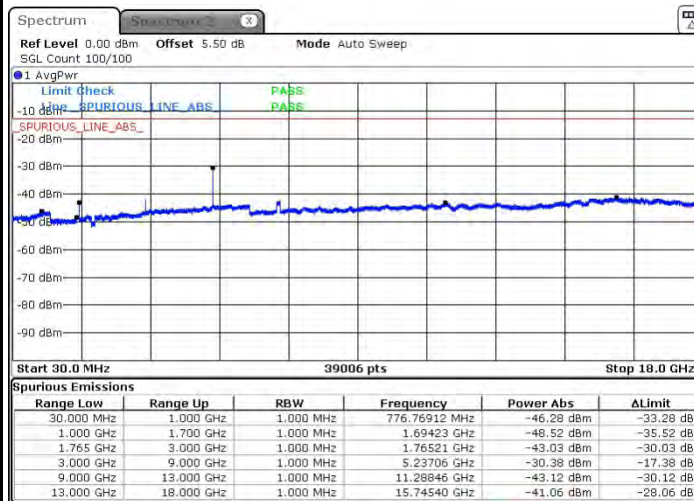
Date: 12 JUN 2015 20:33:46

Middle Channel / 16QAM



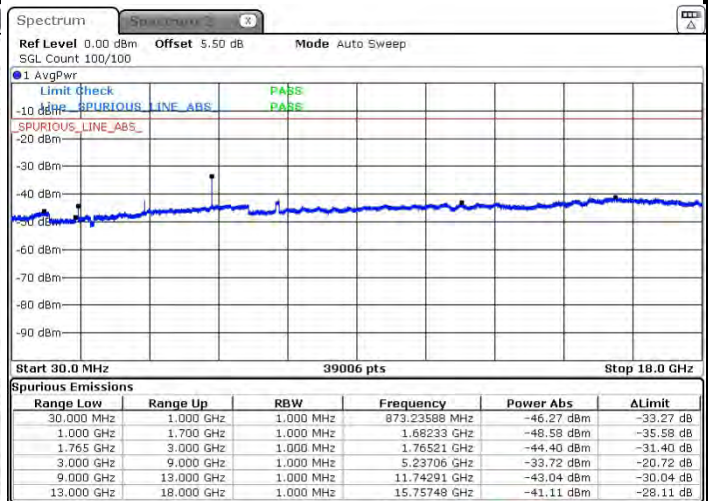
Date: 12 JUN 2015 20:34:57

Highest Channel / QPSK



Date: 12 JUN 2015 20:41:29

Highest Channel / 16QAM

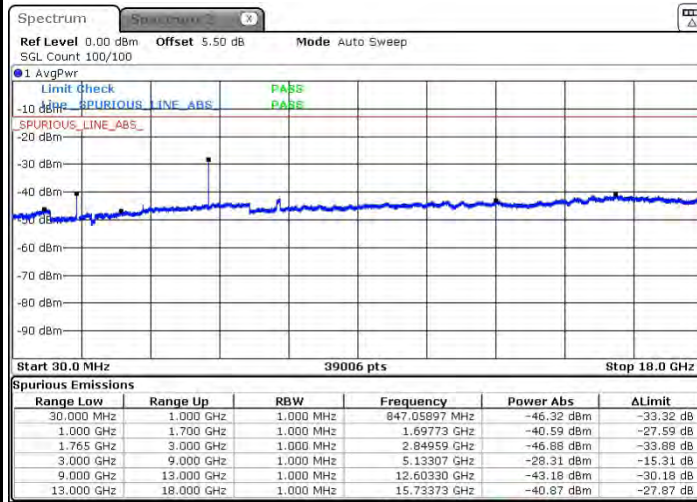


Date: 12 JUN 2015 20:42:40



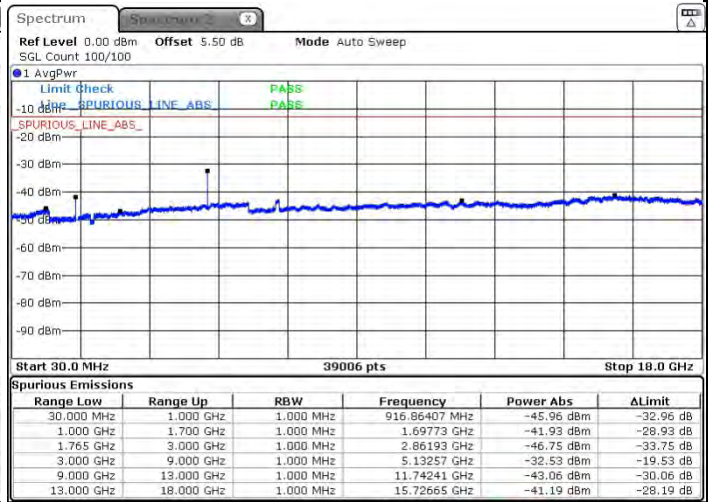
LTE Band 4 / 15MHz

Lowest Channel / QPSK



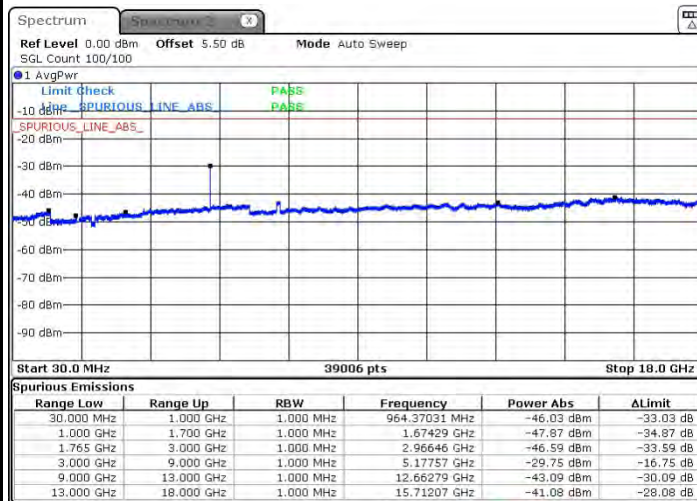
Date: 12 JUN 2015 20:49:15

Lowest Channel / 16QAM



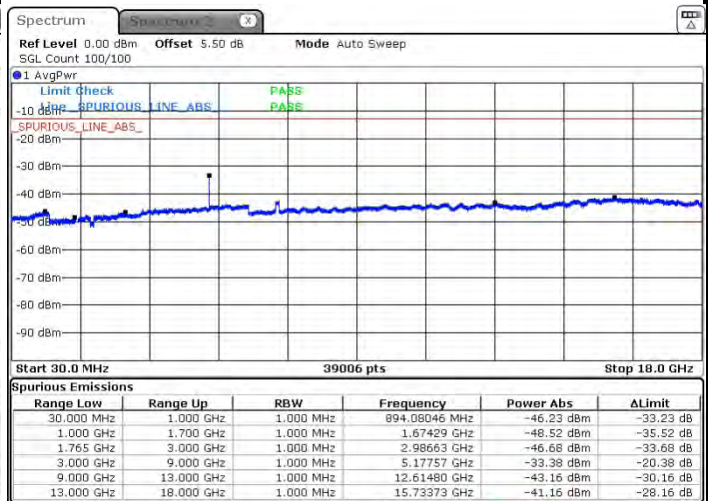
Date: 12 JUN 2015 20:50:26

Middle Channel / QPSK



Date: 12 JUN 2015 20:52:24

Middle Channel / 16QAM

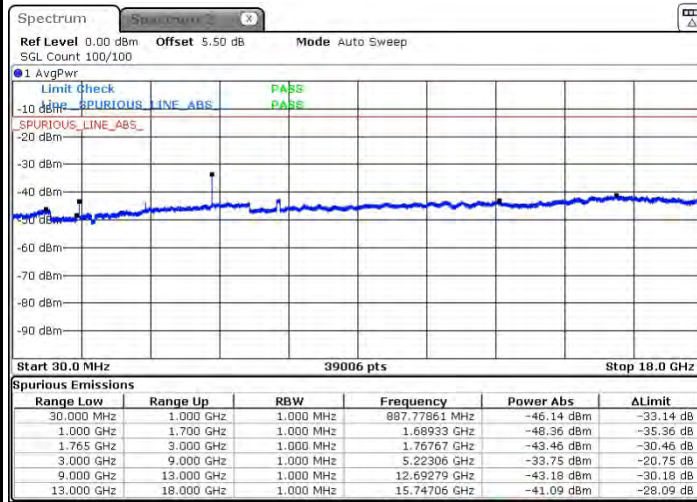


Date: 12 JUN 2015 20:53:35



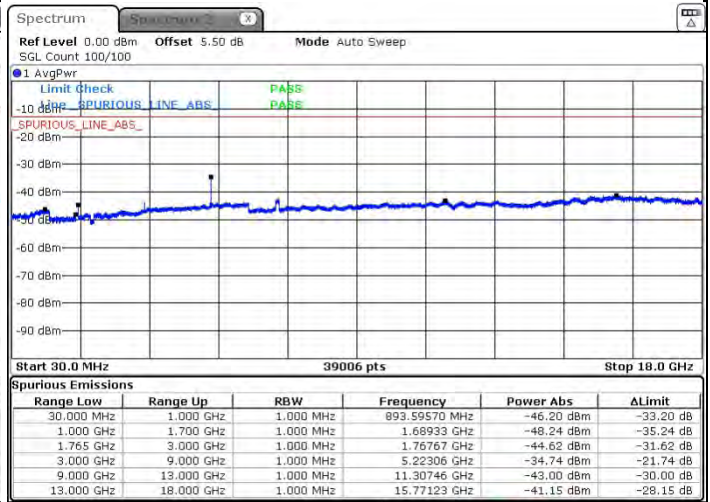
LTE Band 4 / 15MHz

Highest Channel / QPSK



Date: 12 JUN 2015 21:00:07

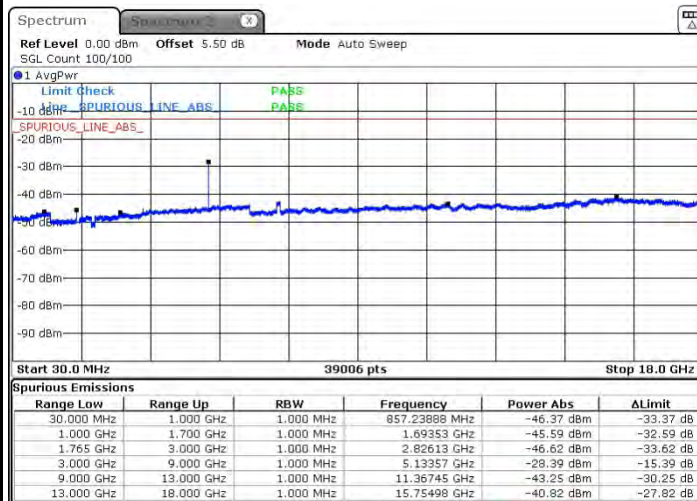
Highest Channel / 16QAM



Date: 12 JUN 2015 21:01:18

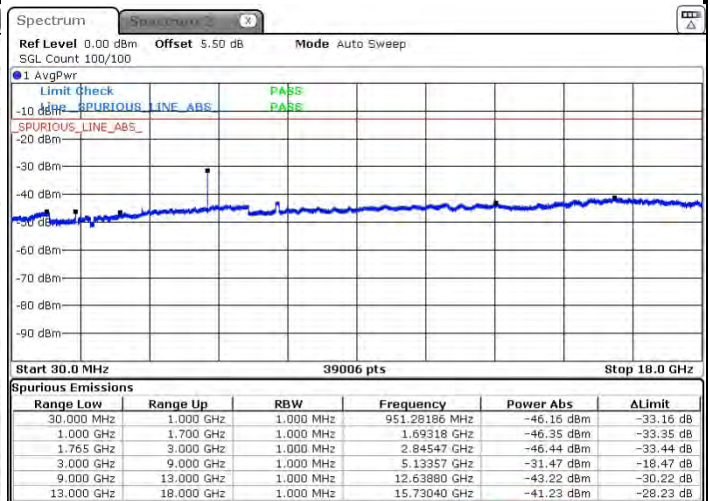
LTE Band 4 / 20MHz

Lowest Channel / QPSK



Date: 12 JUN 2015 21:07:50

Lowest Channel / 16QAM

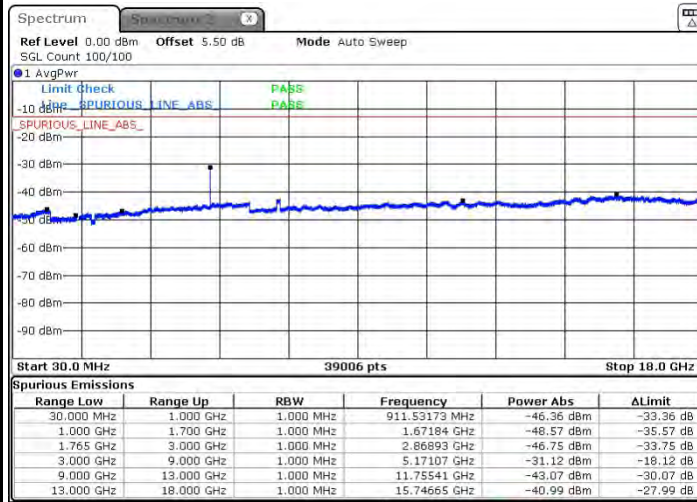


Date: 12 JUN 2015 21:09:00



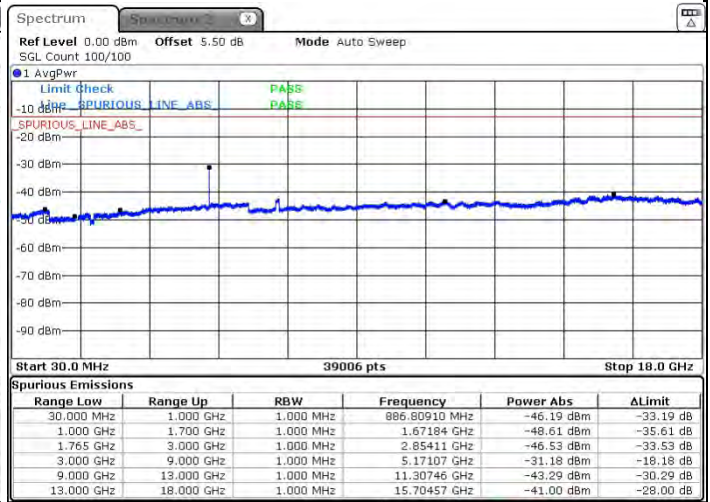
LTE Band 4 / 20MHz

Middle Channel / QPSK



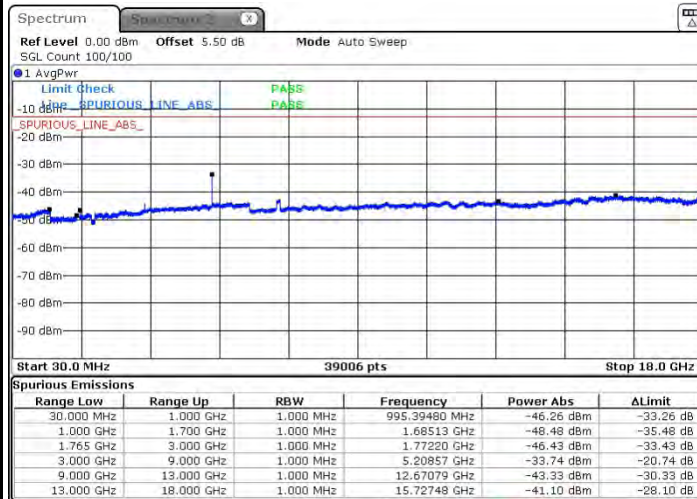
Date: 12 JUN 2015 21:10:58

Middle Channel / 16QAM



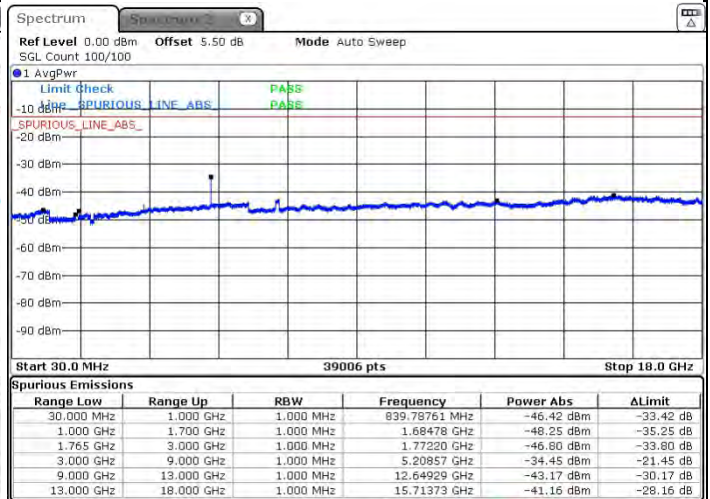
Date: 12 JUN 2015 21:12:09

Highest Channel / QPSK



Date: 12 JUN 2015 21:18:40

Highest Channel / 16QAM



**Frequency Stability**

Test Conditions		LTE Band 4 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0127	PASS
40	Normal Voltage	0.0110	
30	Normal Voltage	0.0098	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0023	
0	Normal Voltage	0.0092	
-10	Normal Voltage	0.0012	
-20	Normal Voltage	0.0029	
-30	Normal Voltage	0.0081	
20	Maximum Voltage	0.0095	
20	Normal Voltage	0.0035	
20	Battery End Point	0.0087	

Note:

1. Normal Voltage = 3.8V. ; Battery End Point (BEP) = 3.6V. ; Maximum Voltage =4.2 V
2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.