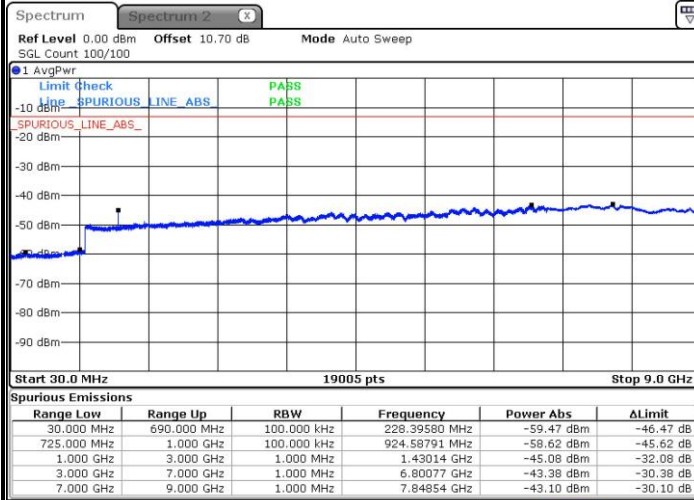




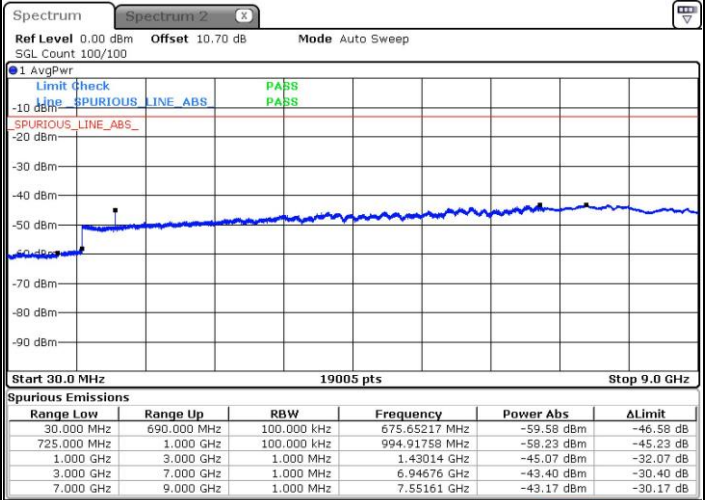
LTE Band 12 / 1.4MHz

Highest Channel / QPSK



Date: 2.OCT.2018 01:02:23

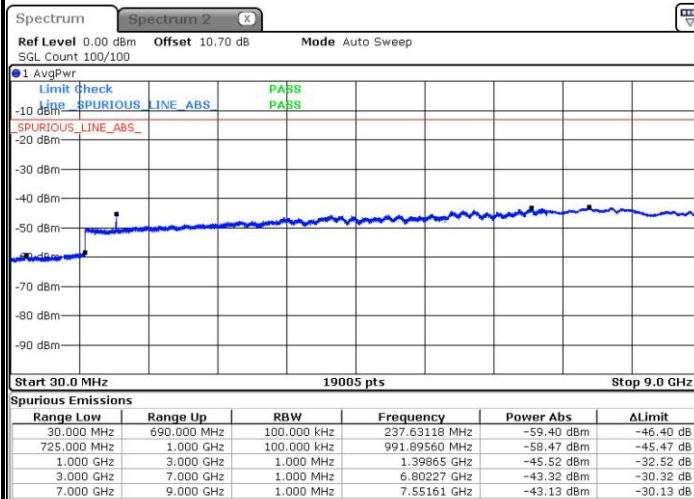
Highest Channel / 16QAM



Date: 2.OCT.2018 01:03:03

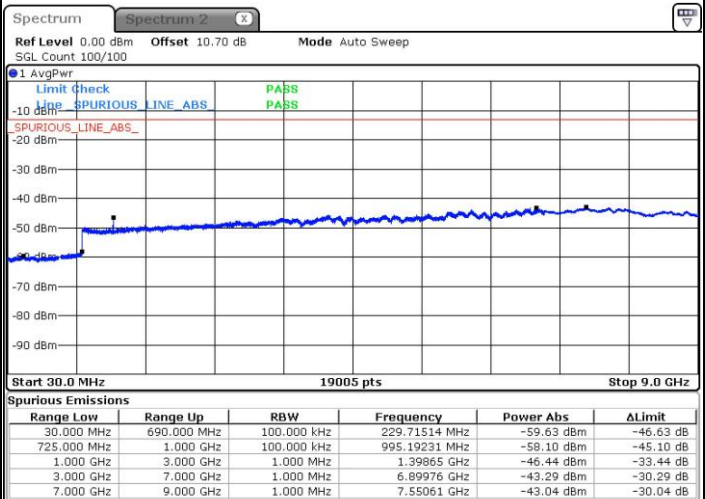
LTE Band 12 / 3MHz

Lowest Channel / QPSK



Date: 1.OCT.2018 22:33:00

Lowest Channel / 16QAM

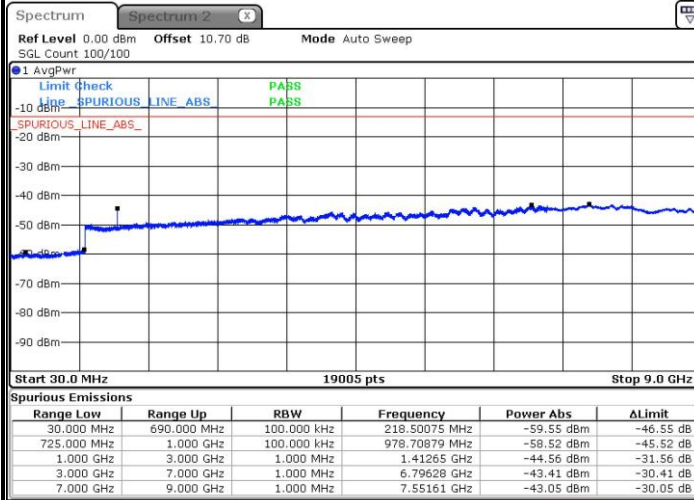


Date: 1.OCT.2018 22:33:40



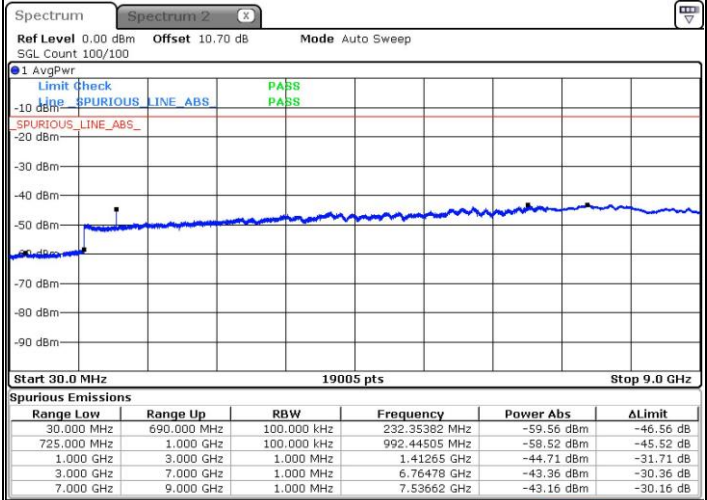
LTE Band 12 / 3MHz

Middle Channel / QPSK



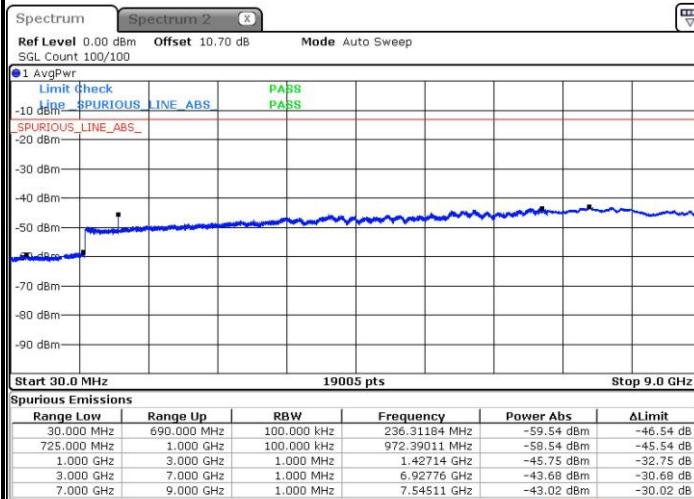
Date: 1.OCT.2018 22:35:46

Middle Channel / 16QAM



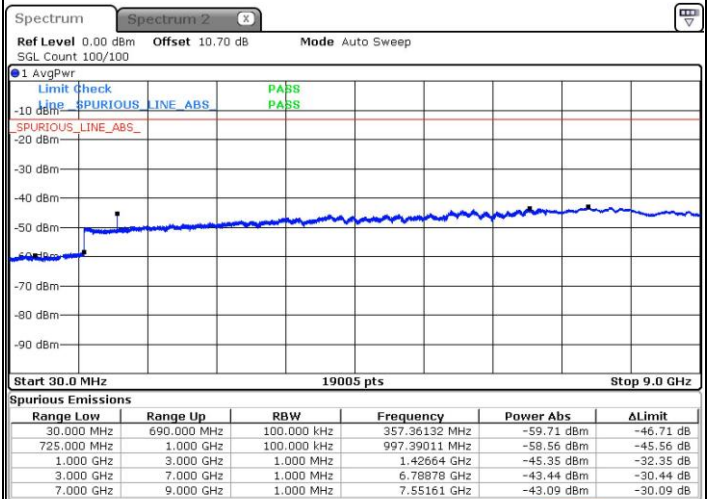
Date: 1.OCT.2018 22:35:06

Highest Channel / QPSK



Date: 1.OCT.2018 22:42:33

Highest Channel / 16QAM

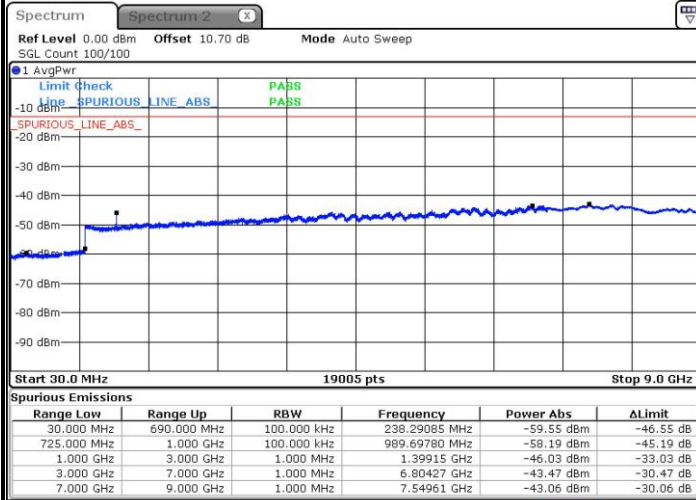


Date: 1.OCT.2018 22:43:13



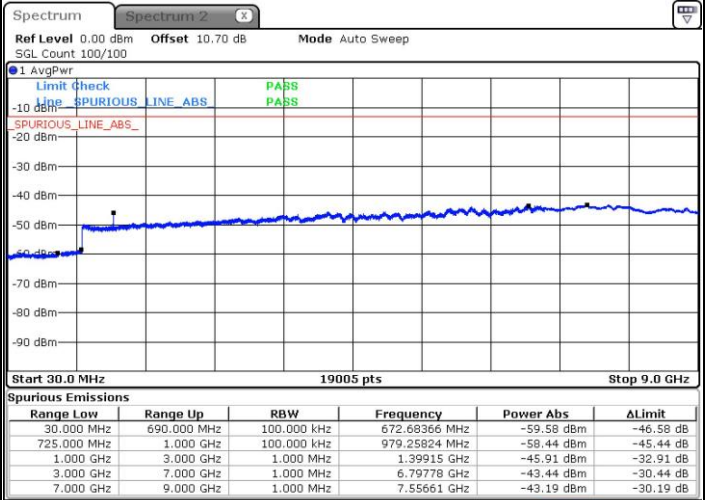
LTE Band 12 / 5MHz

Lowest Channel / QPSK



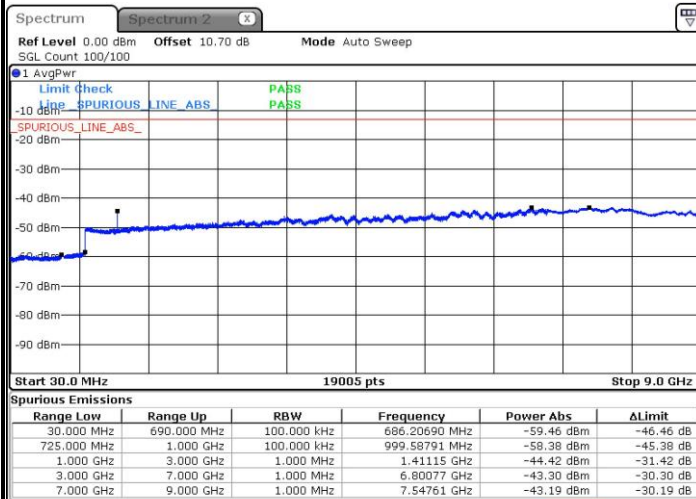
Date: 1.OCT.2018 22:49:59

Lowest Channel / 16QAM



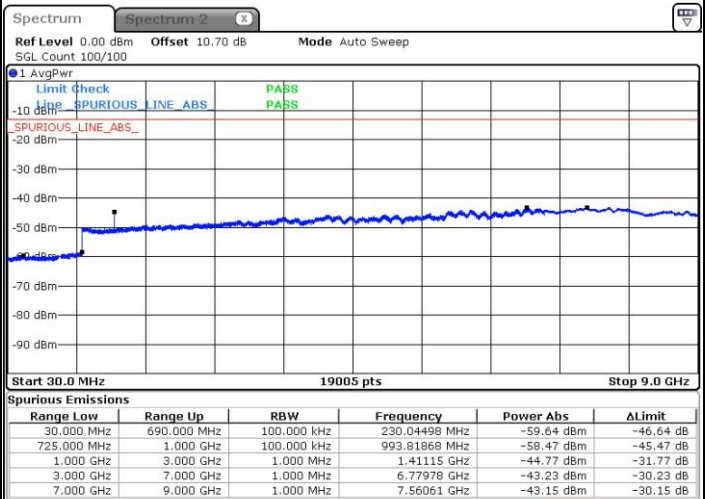
Date: 1.OCT.2018 22:50:39

Middle Channel / QPSK



Date: 1.OCT.2018 22:52:45

Middle Channel / 16QAM

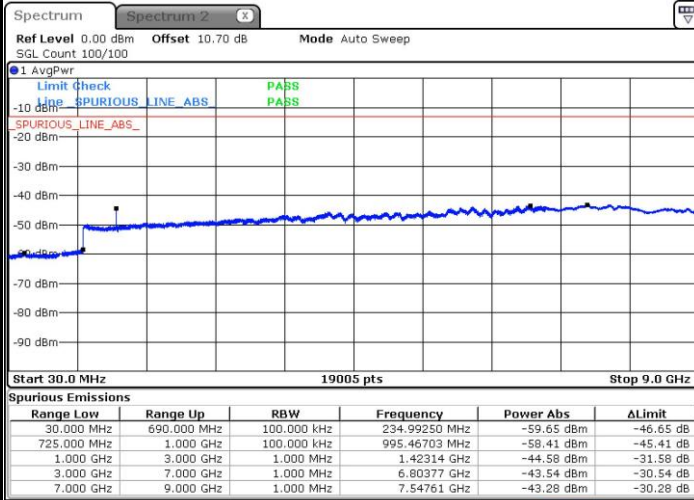


Date: 1.OCT.2018 22:52:05



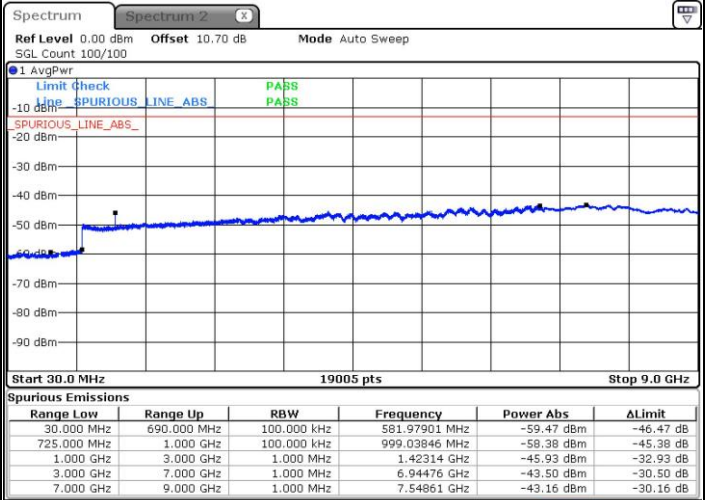
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 1.OCT.2018 23:00:12

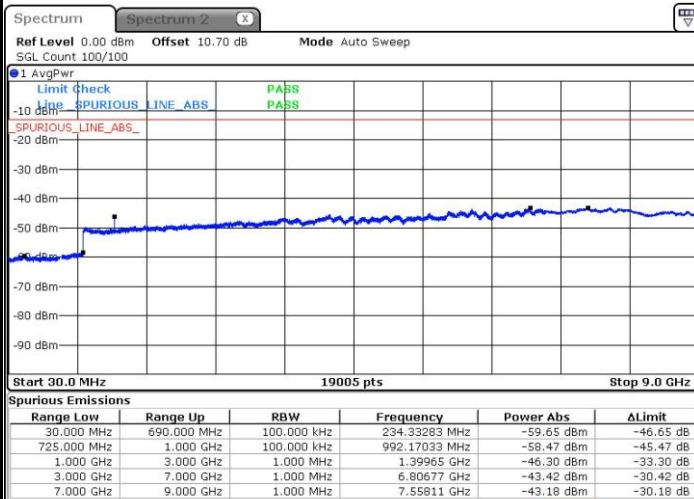
Highest Channel / 16QAM



Date: 1.OCT.2018 22:59:31

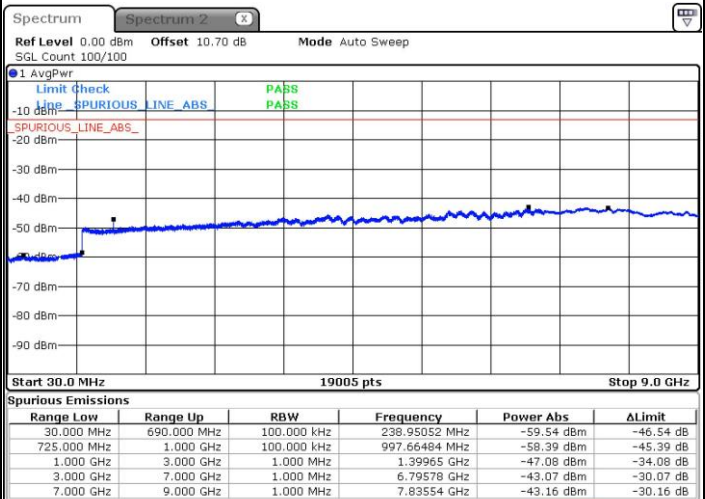
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 1.OCT.2018 23:06:58

Lowest Channel / 16QAM

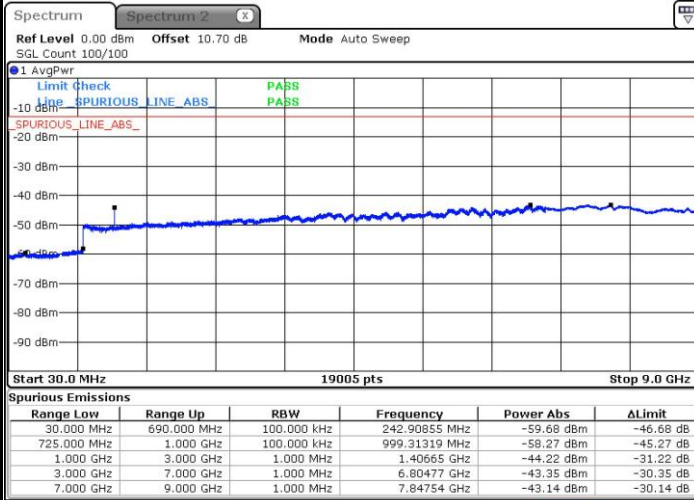


Date: 1.OCT.2018 23:07:38



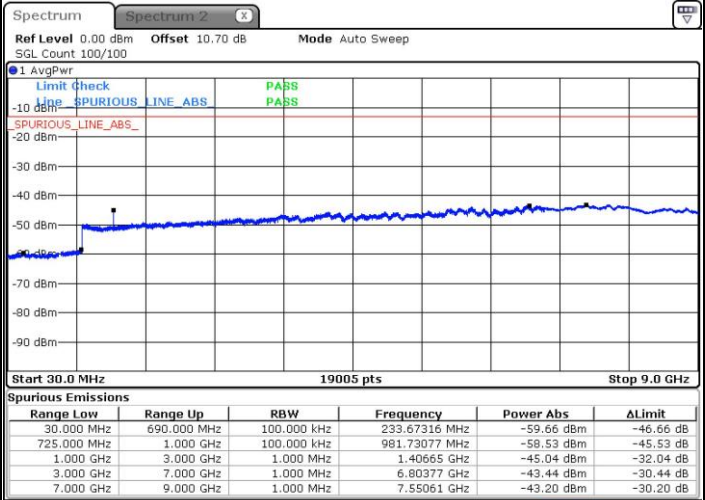
LTE Band 12 / 10MHz

Middle Channel / QPSK



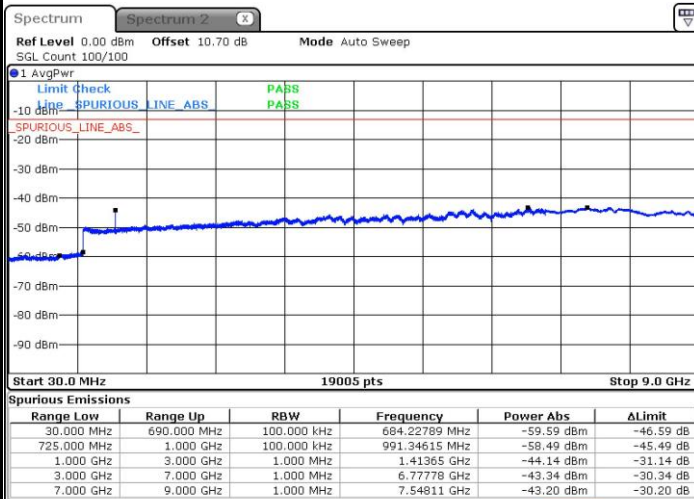
Date: 1.OCT.2018 23:09:44

Middle Channel / 16QAM



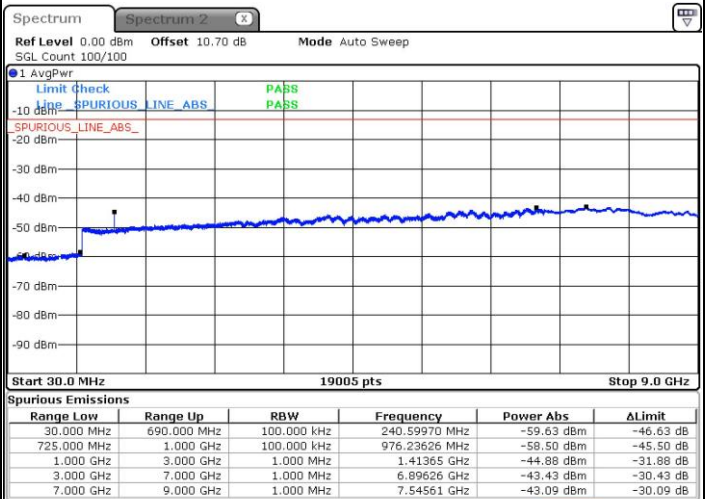
Date: 1.OCT.2018 23:09:04

Highest Channel / QPSK



Date: 1.OCT.2018 23:16:30

Highest Channel / 16QAM

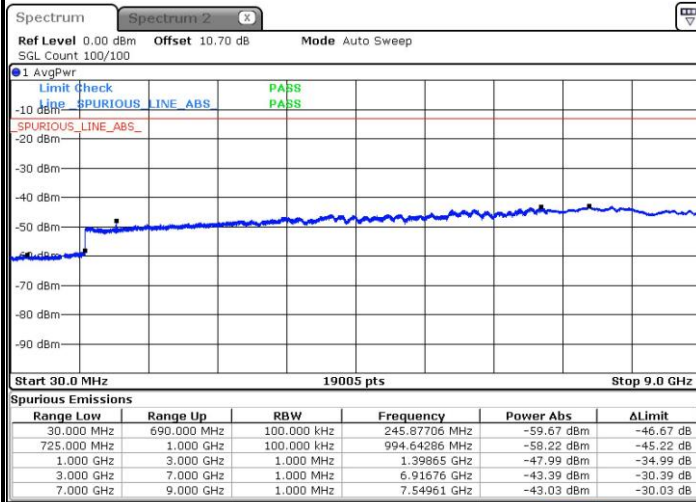


Date: 1.OCT.2018 23:17:10



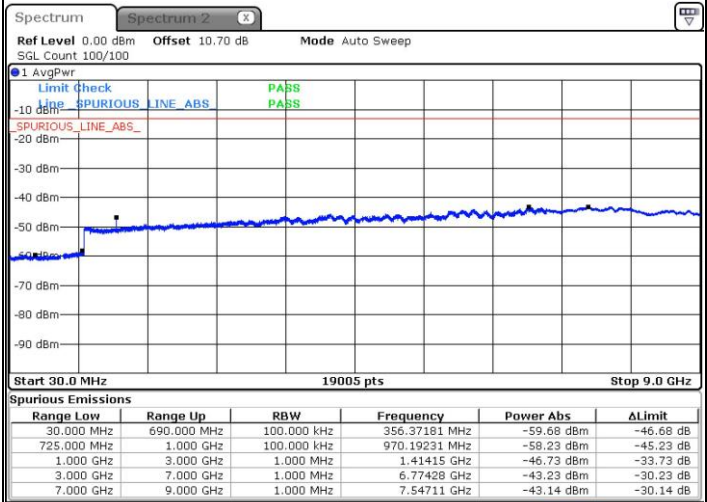
LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM



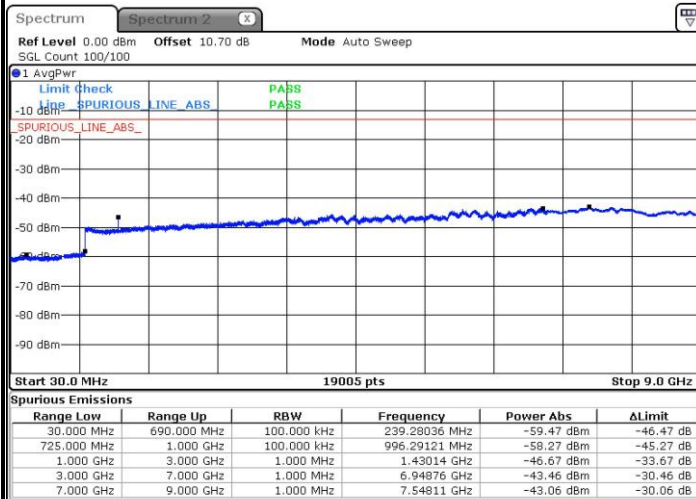
Date: 2.OCT.2018 00:41:18

Middle Channel / 64QAM



Date: 2.OCT.2018 00:42:21

Highest Channel / 64QAM

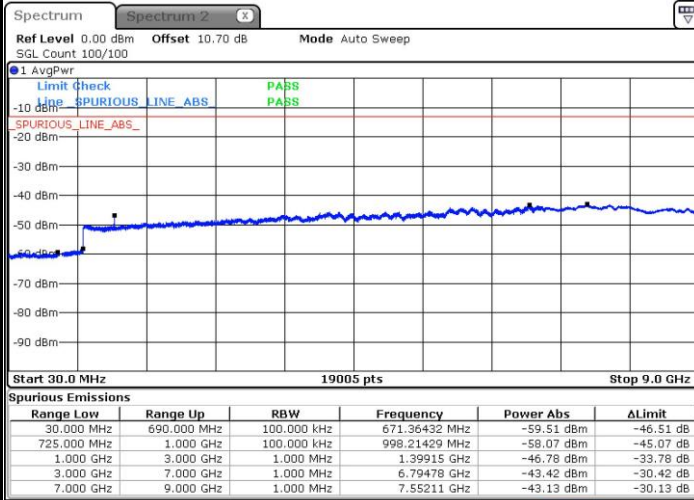


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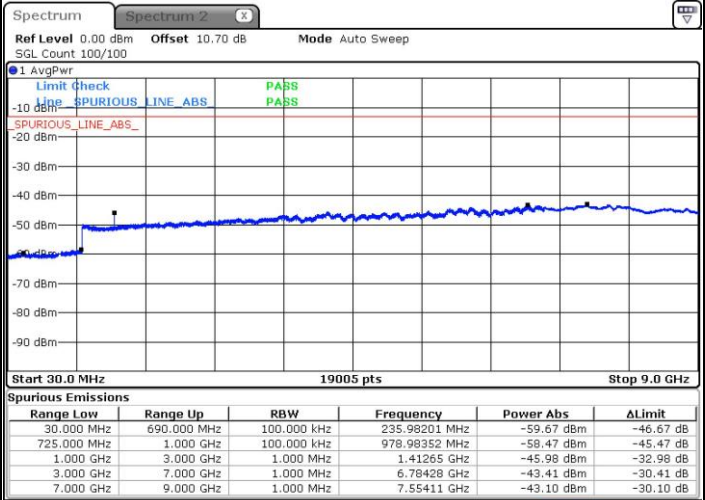
LTE Band 12 / 3MHz

Lowest Channel / 64QAM



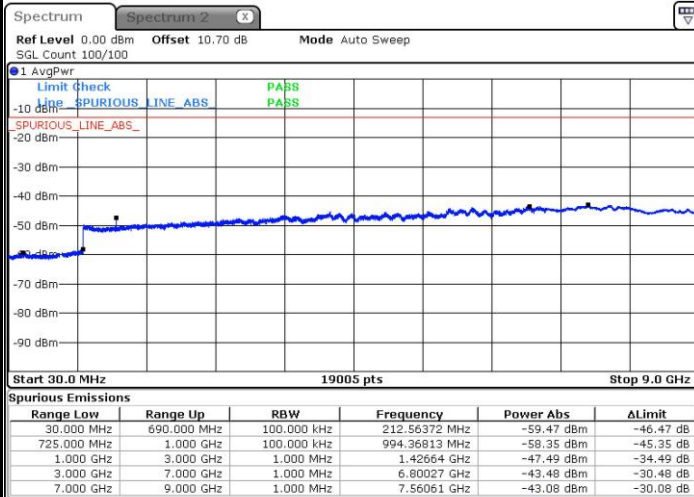
Date: 2.OCT.2018 00:11:49

Middle Channel / 64QAM



Date: 2.OCT.2018 00:12:52

Highest Channel / 64QAM

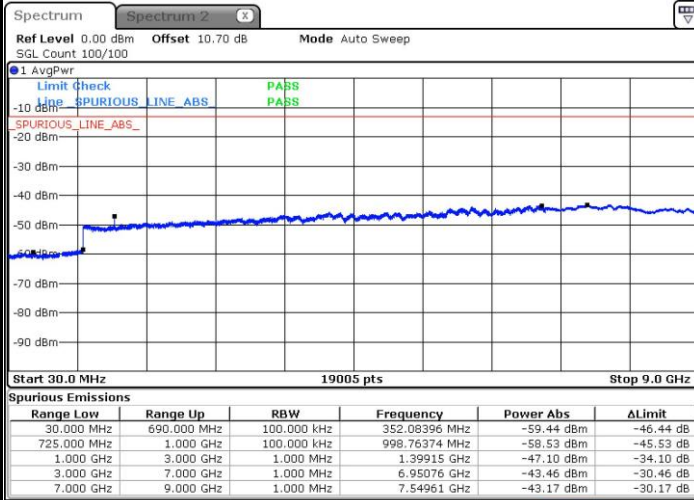


Date: 2.OCT.2018 00:16:36



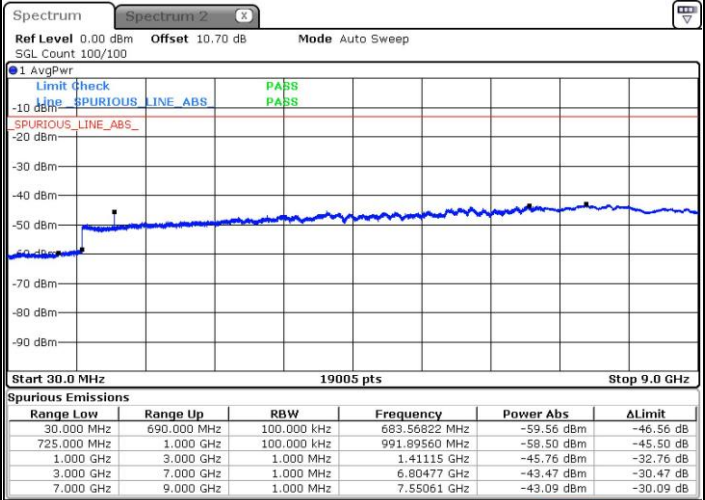
LTE Band 12 / 5MHz

Lowest Channel / 64QAM



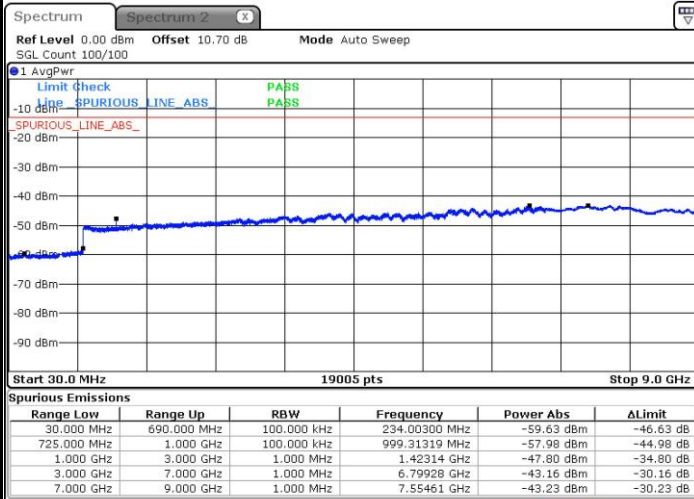
Date: 2.OCT.2018 00:20:19

Middle Channel / 64QAM



Date: 2.OCT.2018 00:21:22

Highest Channel / 64QAM

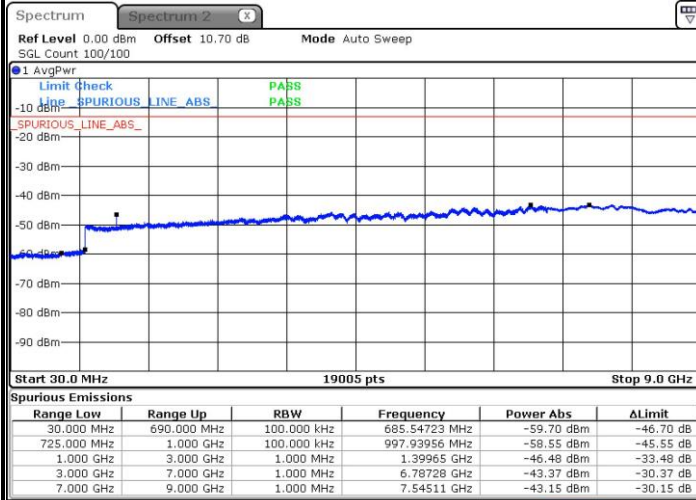


Date: 2.OCT.2018 00:25:05



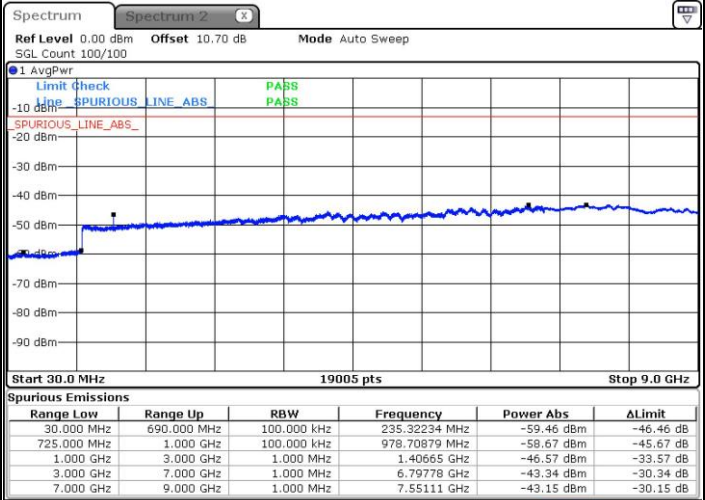
LTE Band 12 / 10MHz

Lowest Channel / 64QAM



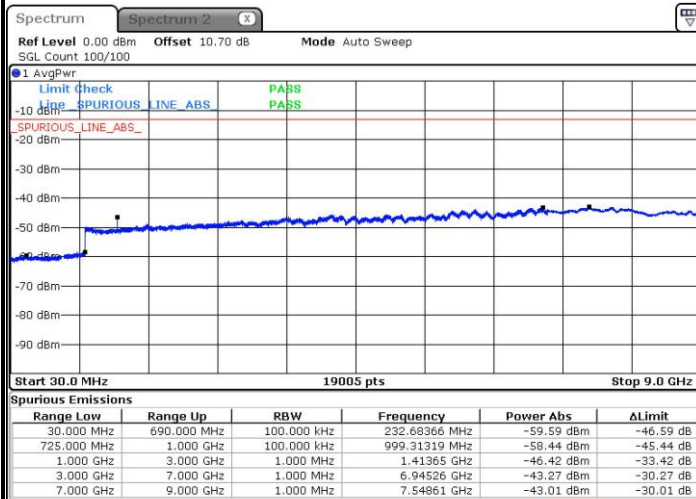
Date: 2.OCT.2018 00:28:49

Middle Channel / 64QAM



Date: 2.OCT.2018 00:29:52

Highest Channel / 64QAM



Date: 2.OCT.2018 00:33:35

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	0.0057	PASS
40	Normal Voltage	0.0096	
30	Normal Voltage	0.0003	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0033	
0	Normal Voltage	0.0092	
-10	Normal Voltage	0.0054	
-20	Normal Voltage	0.0016	
-30	Normal Voltage	0.0081	
20	Maximum Voltage	0.0011	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0006	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

LTE Band 13

Peak-to-Average Ratio

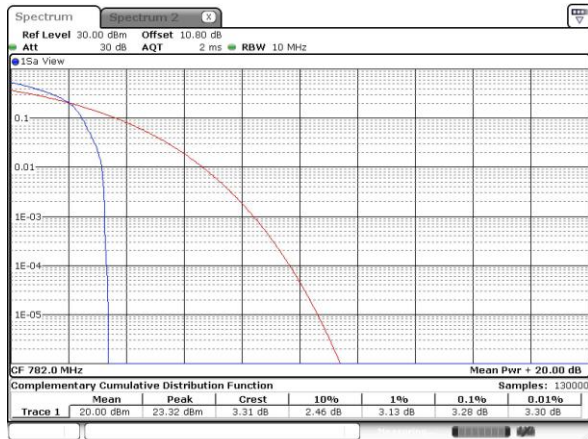
Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	2.17	4.2	3.28	5.3	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH			-	-	PASS
Middle CH	4.03	5.83	-	-	
Highest CH			-	-	

LTE Band 13 / 10MHz / QPSK
Middle Channel / 1RB

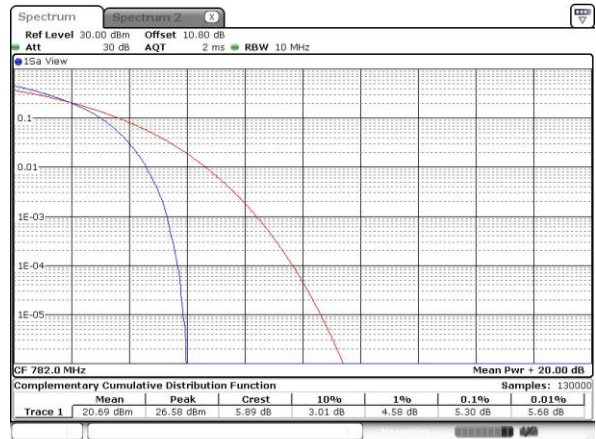

Date: 2.OCT.2018 06:11:55

Middle Channel / Full RB


Date: 2.OCT.2018 06:12:05

LTE Band 13 / 10MHz / 16QAM
Middle Channel / 1RB


Date: 2.OCT.2018 06:11:35

Middle Channel / Full RB


Date: 2.OCT.2018 06:11:45

LTE Band 13 / 10MHz / 64QAM
Middle Channel / 1RB


Date: 2.OCT.2018 06:11:15

Middle Channel / Full RB


Date: 2.OCT.2018 06:11:25

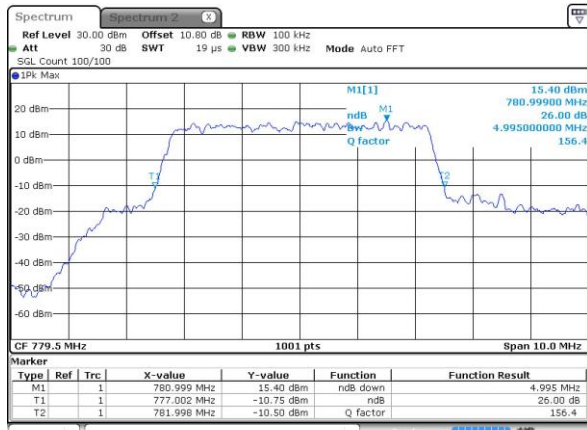
**26dB Bandwidth**

Mode	LTE Band 13 : 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	-	-	-	-	5.00	4.93	-	-	-	-	-	-
Middle CH	-	-	-	-	4.90	5.00	9.73	9.65	-	-	-	-
Highest CH	-	-	-	-	4.93	4.84	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.88	-		-	-	-	-	-
Middle CH	-	-	-	-	4.87	-	9.71	-	-	-	-	-
Highest CH	-	-	-	-	4.90	-		-	-	-	-	-

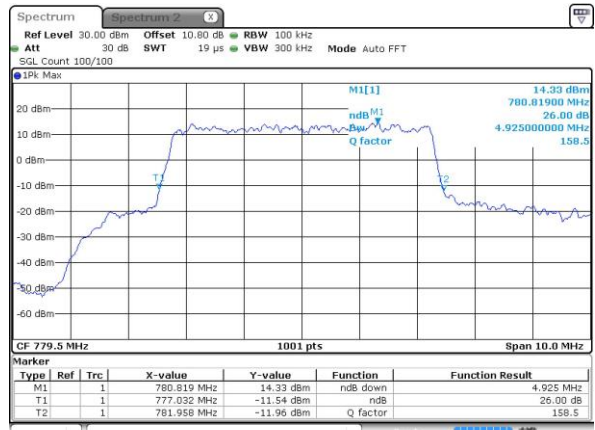


LTE Band 13

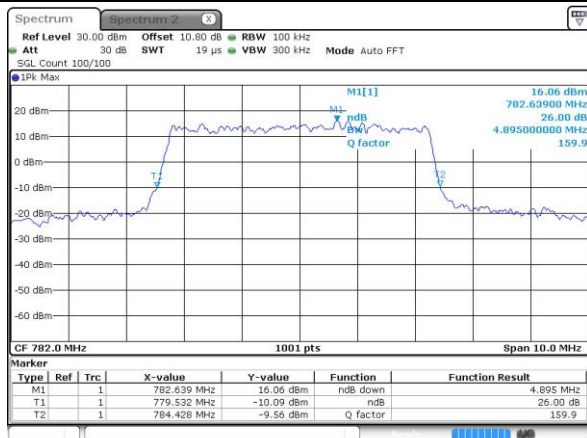
Lowest Channel / 5MHz / QPSK



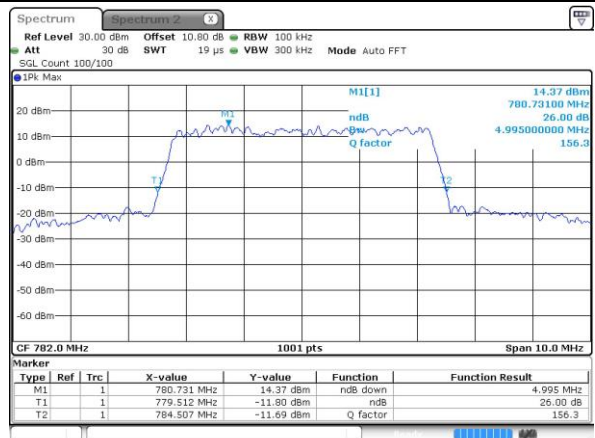
Lowest Channel / 5MHz / 16QAM



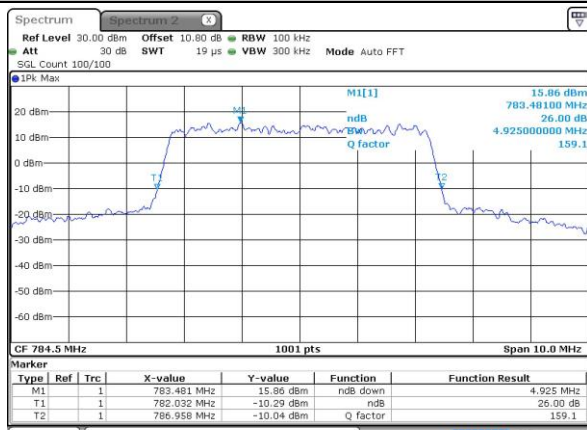
Middle Channel / 5MHz / QPSK



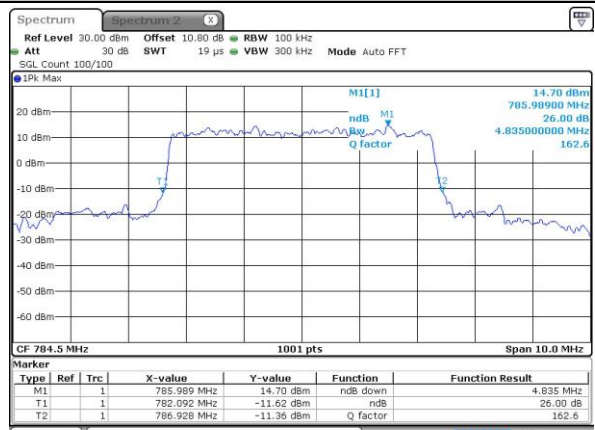
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



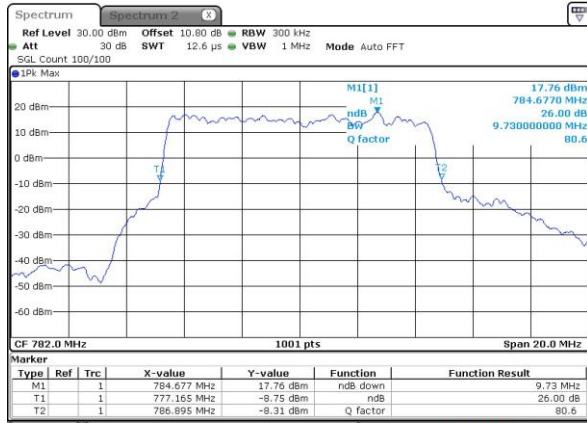
Highest Channel / 5MHz / 16QAM





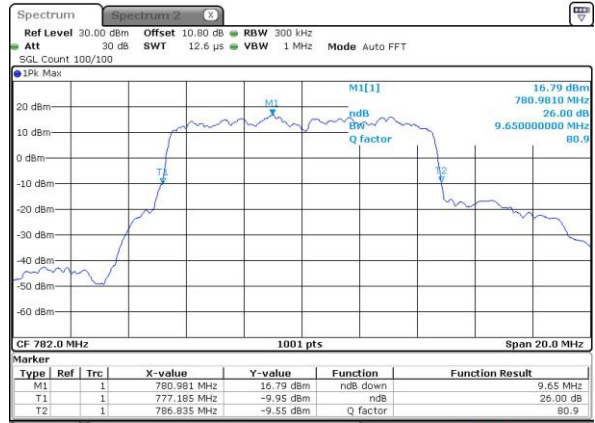
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 2.OCT.2018 05:23:22

Middle Channel / 10MHz / 16QAM



Date: 2.OCT.2018 05:23:11



Spectrum **Spectrum 2**

Ref Level 30.00 dBm Offset 10.60 dB RBW 100 kHz
 Att 30 dB SWT 19 μ s YBW 300 kHz Mode Auto FFT
 SGL Count 100/100

1Pk Max

20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm

M1[1] 13.71 dBm
 779.84000 MHz
 26.00 dB
 4.875000000 MHz
 160.0

CF 779.5 MHz 1001 pts Span 10.0 MHz

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1	1		779.94 MHz	13.71 dBm	ndB down	4.675 dB
T1	1		777.092 MHz	-12.20 dBm	ndB	26.00 dB
T2	1		761.968 MHz	-12.15 dBm	Q factor	150.0

Middle Channel / 5MHz / 64QAM

Spectrum Spectrum 2 X

Ref Level 30.00 dBm Offset 10.80 dB RBW 300 kHz
Att 30 dB SWF 12.6 μs VBW 1 MHz Mode Auto FFT

SGL Count 100/100

1% Max

20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm

M1[1] 15.25 dBm
781.141 MHz
26.00 dB
9.710000000 MHz
80.4

10 dB
SW
Q factor

CF 782.0 MHz 1001 pts Span 20.0 MHz

Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1	1		781.141 MHz	15.25 dBm	nB down	9.71 MHz
T1	1		777.125 MHz	-11.04 dBm	nB	26.00 dB
T2	1		786.835 MHz	-10.38 dBm	Q factor	80.4

Highest Channel / 5MHz / 64QAM

Spectrum 2

Ref Level 30.00 dBm Offset 10.80 dB RBW 100 kHz
 Alt 30 dB SWT 19 µs VBW 300 kHz Mode Auto FFT
 SQL Count 100/100

1Pk Max

20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-60 dBm

M1[1] 13.87 dBm
 782.81200 MHz
 26.00 dB
 4.895000000 MHz
 159.9

ndB
 Q factor

T1
 T2

CF 784.5 MHz 1001 pts Span 10.0 MHz

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1	1		782.512 MHz	13.87 dBm	ndB down	4.895 MHz
T1	1		782.052 MHz	-11.96 dBm	ndB	26.00 dB
T2	1		786.948 MHz	-12.23 dBm	Q factor	159.9

Page Number : A13-6 of 27

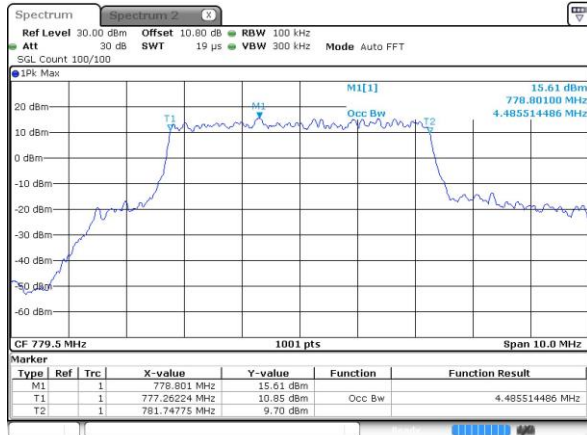
**Occupied Bandwidth**

Mode	LTE Band 13 : 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	-	-	-	-	4.49	4.5	-	-	-	-	-	-
Middle CH	-	-	-	-	4.52	4.5	8.99	9.03	-	-	-	-
Highest CH	-	-	-	-	4.48	4.5	-	-	-	-	-	-
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.51	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.50	-	8.95	-	-	-	-	-
Highest CH	-	-	-	-	4.50	-	-	-	-	-	-	-



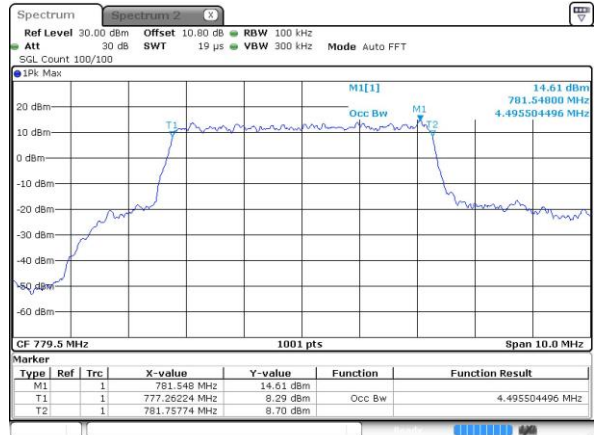
LTE Band 13

Lowest Channel / 5MHz / QPSK



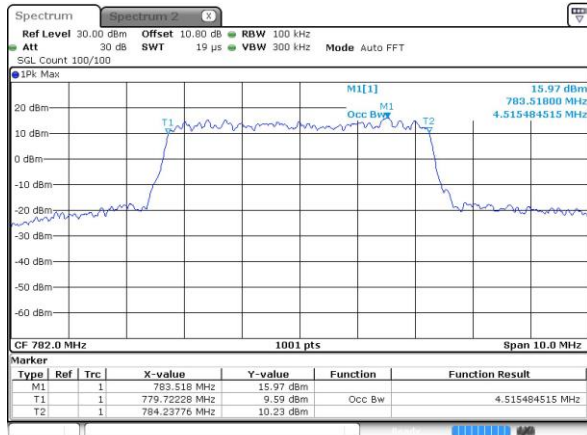
Date: 2.OCT.2018 04:53:18

Lowest Channel / 5MHz / 16QAM



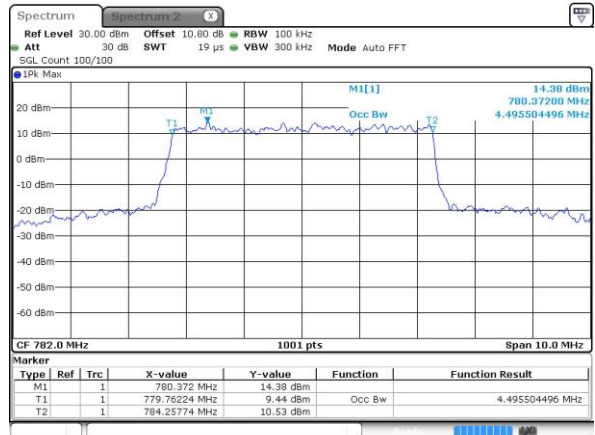
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Middle Channel / 5MHz / QPSK



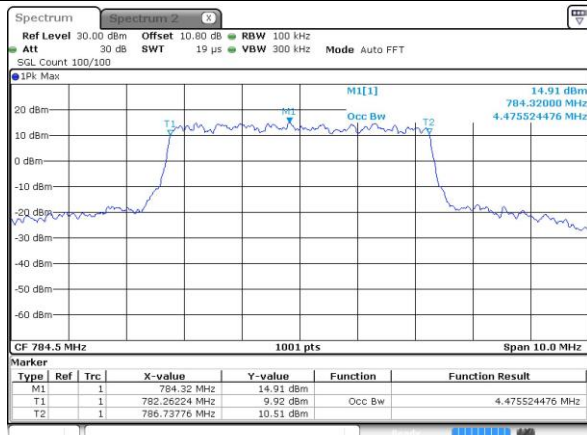
Date: 2.OCT.2018 05:03:59

Middle Channel / 5MHz / 16QAM



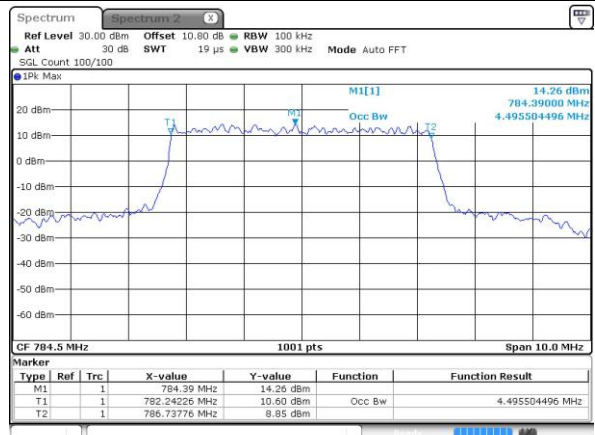
Date: 2.OCT.2018 05:03:48

Highest Channel / 5MHz / QPSK



Date: 2.OCT.2018 05:04:10

Highest Channel / 5MHz / 16QAM



Date: 2.OCT.2018 05:04:22



LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 2.OCT.2018 05:22:48

Middle Channel / 10MHz / 16QAM

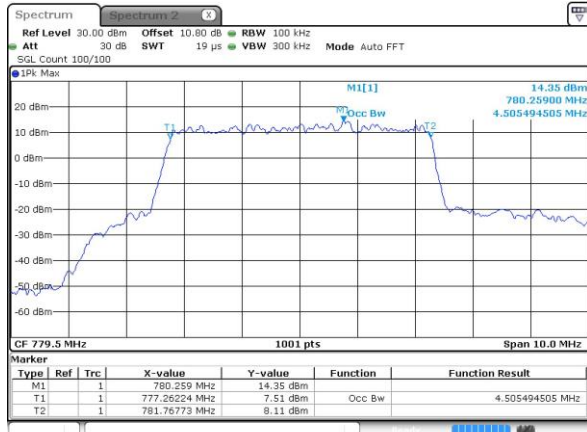


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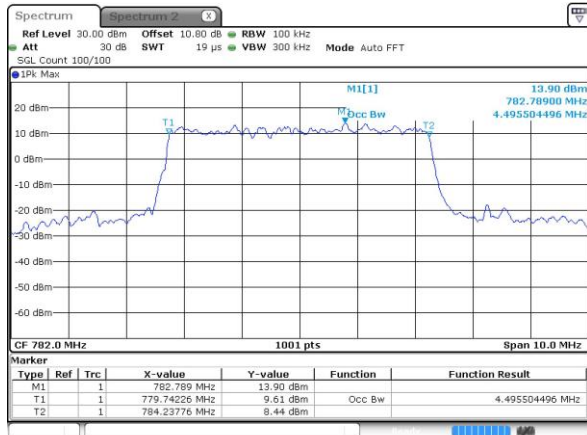


LTE Band 13

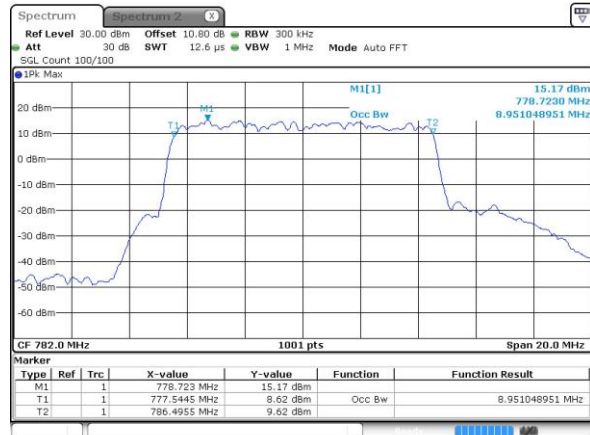
Lowest Channel / 5MHz / 64QAM



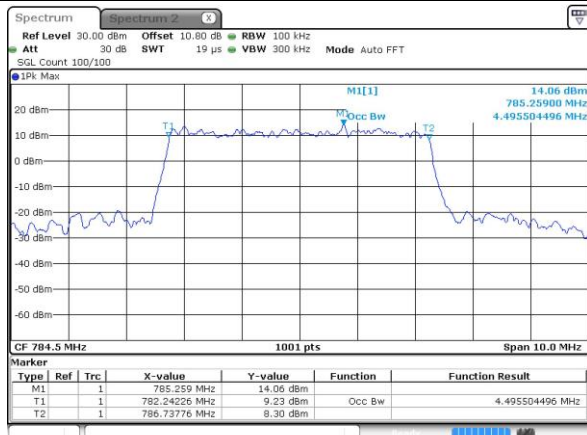
Middle Channel / 5MHz / 64QAM

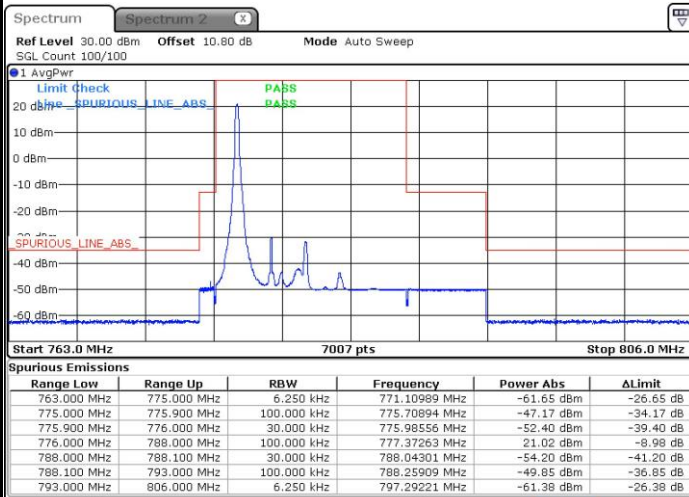
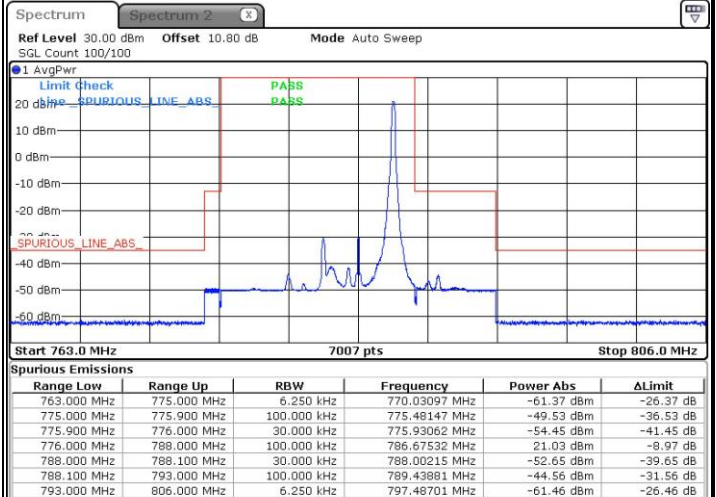
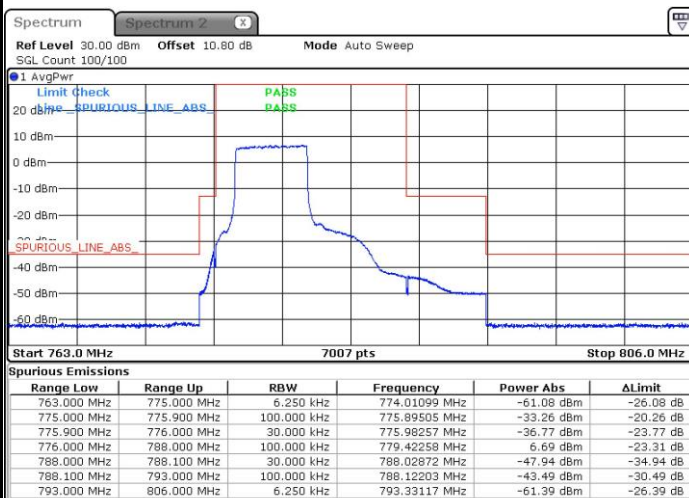
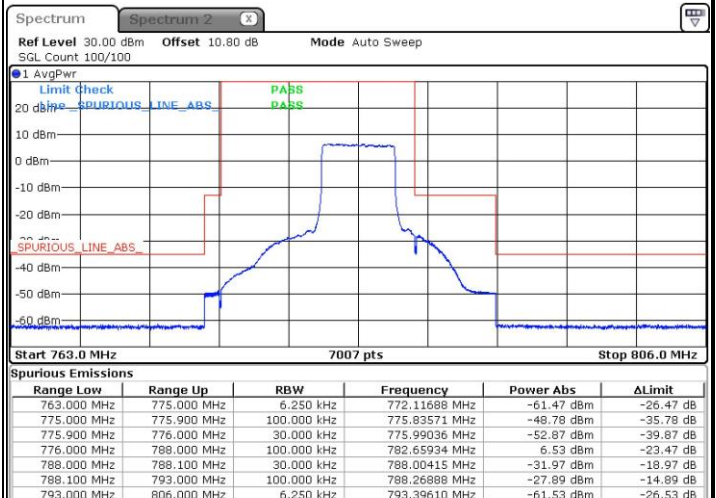


Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

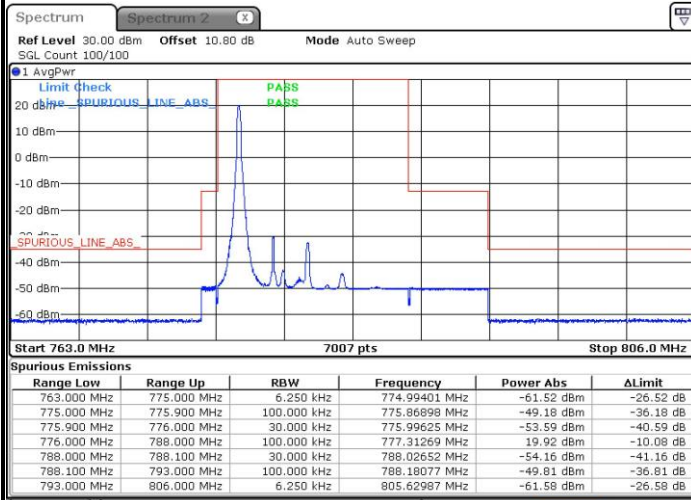


**Conducted Band Edge****LTE Band 13 / 5MHz / QPSK****Lowest Band Edge / 1 RB****Highest Band Edge / 1 RB****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**

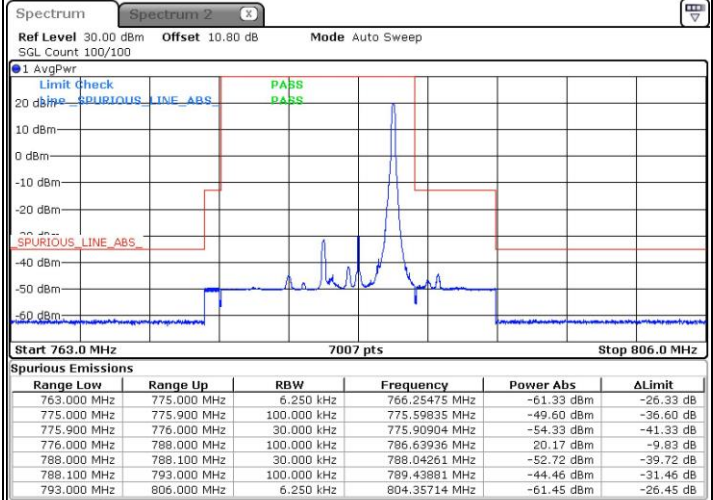


LTE Band 13 / 5MHz / 16QAM

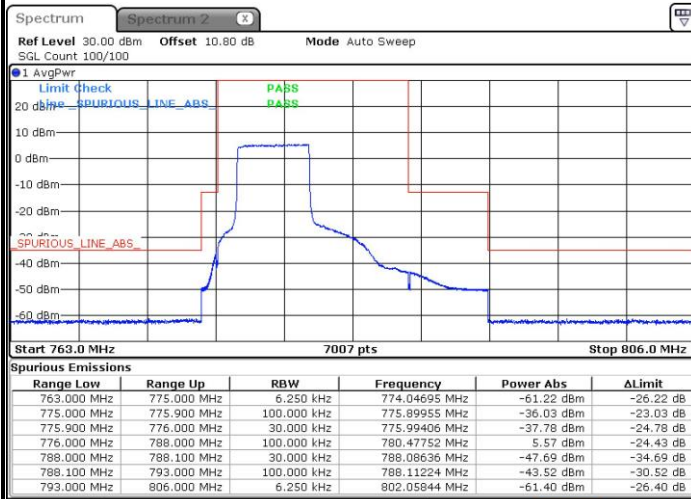
Lowest Band Edge / 1 RB



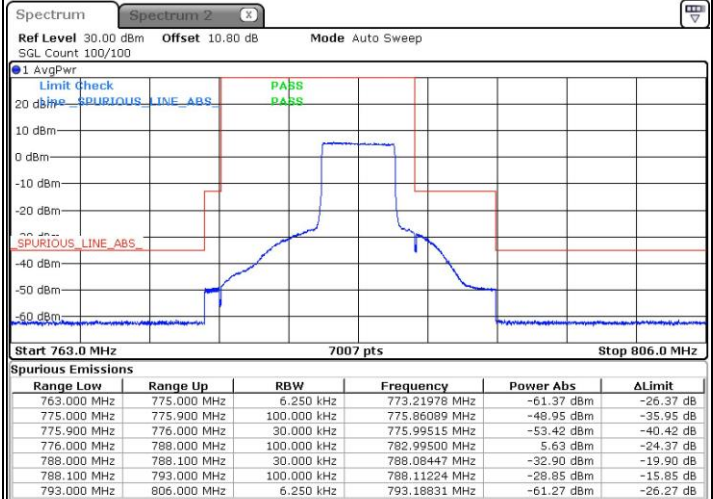
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



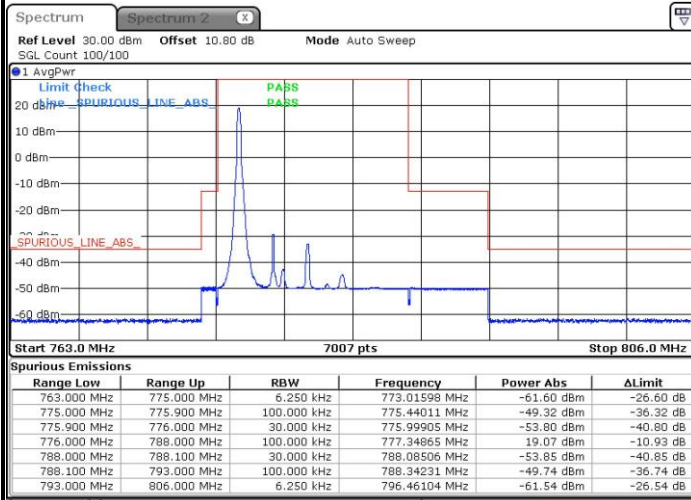
Highest Band Edge / Full RB



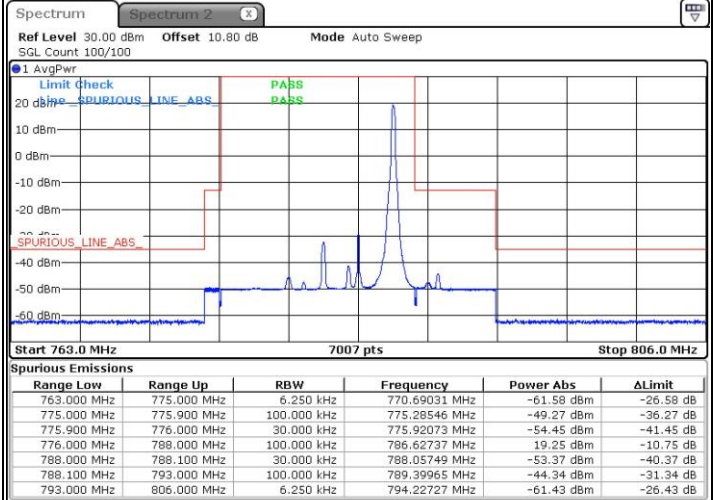


LTE Band 13 / 5MHz / 64QAM

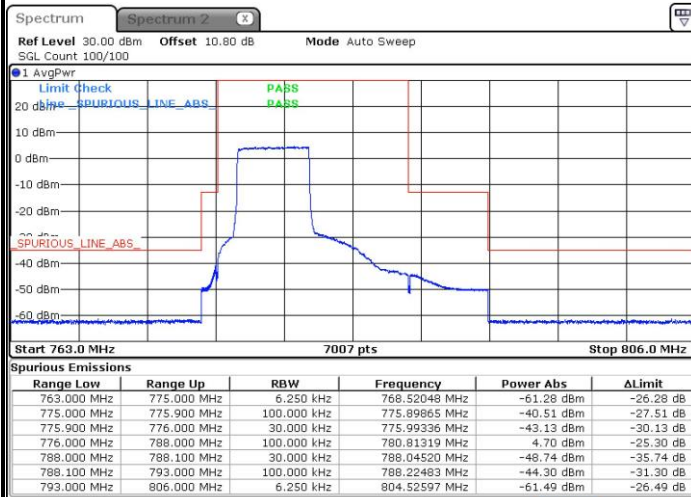
Lowest Band Edge / 1 RB



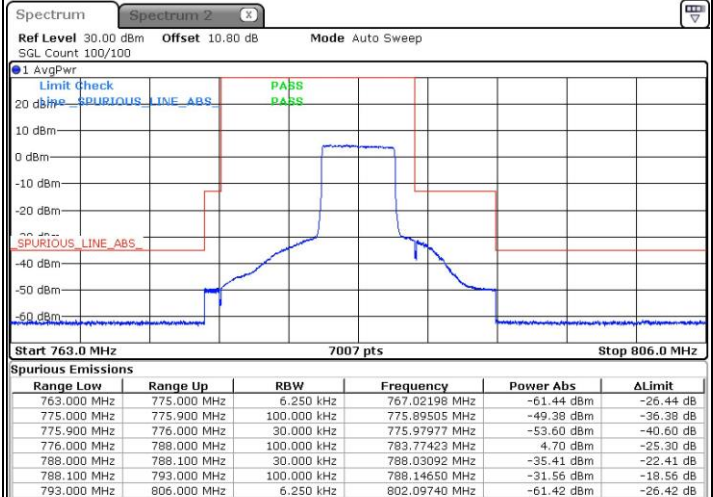
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



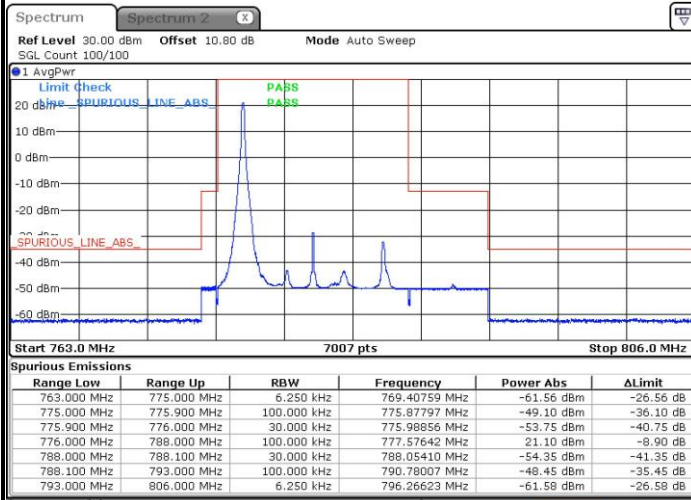
Highest Band Edge / Full RB



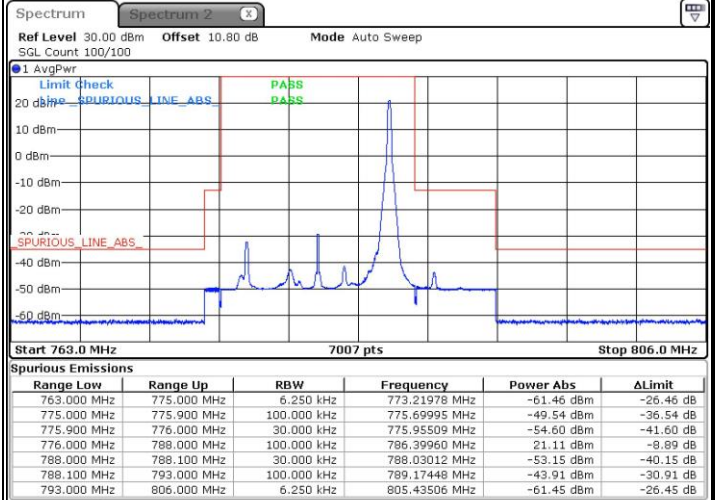


LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Band Edge / Full RB

