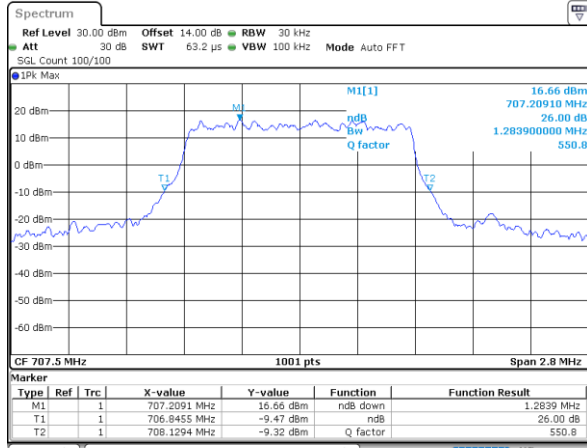


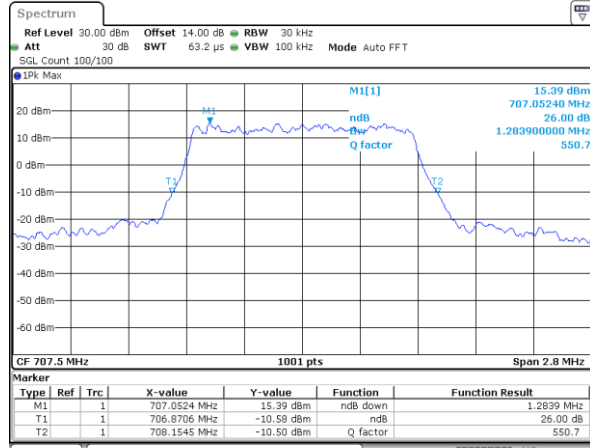


LTE Band 12

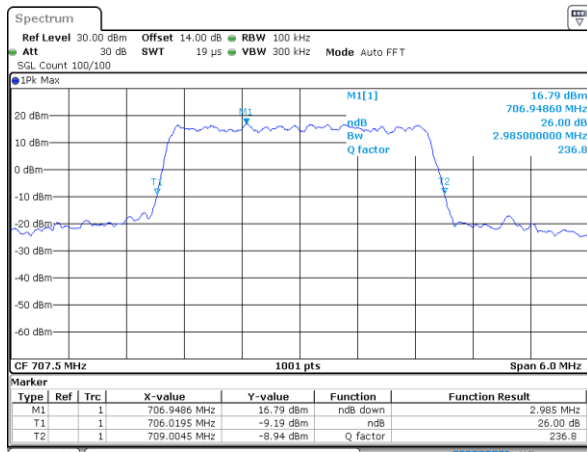
Middle Channel / 1.4MHz / QPSK



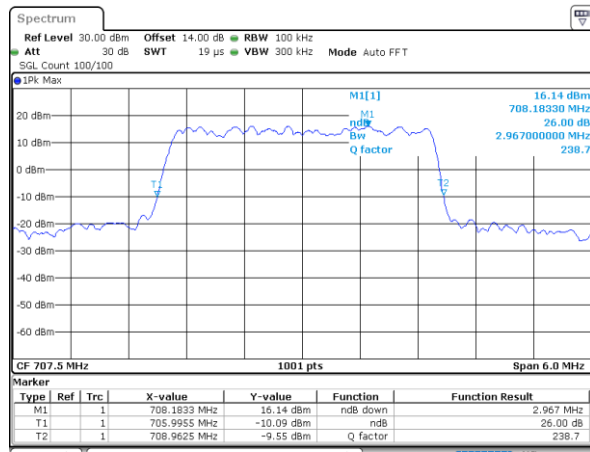
Middle Channel / 1.4MHz / 16QAM



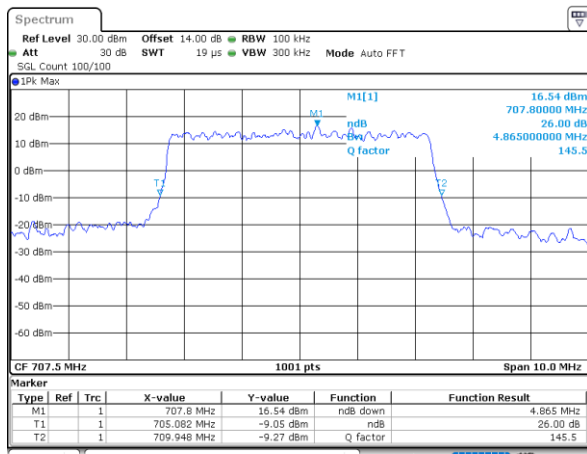
Middle Channel / 3MHz / QPSK



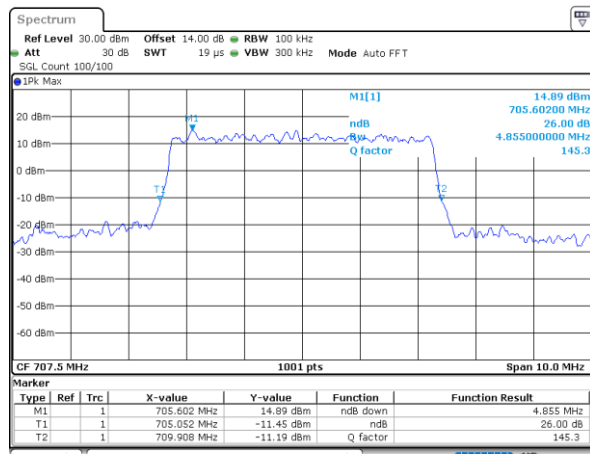
Middle Channel / 3MHz / 16QAM



Middle Channel / 5MHz / QPSK



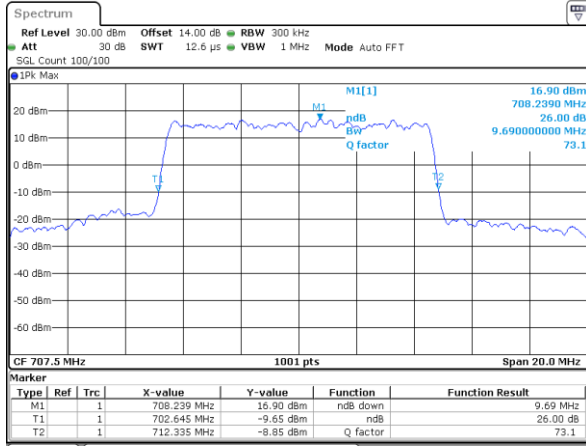
Middle Channel / 5MHz / 16QAM



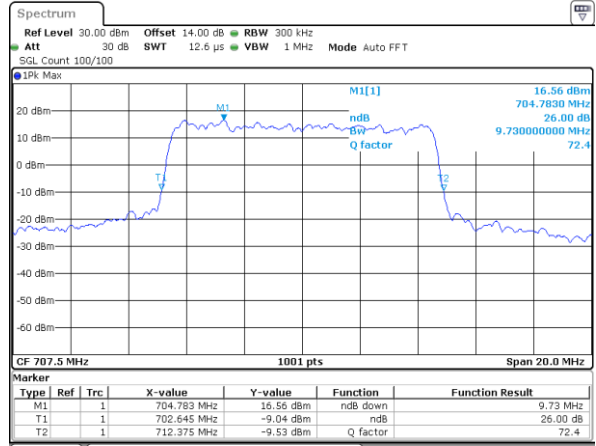


LTE Band 12

Middle Channel / 10MHz / QPSK



Middle Channel / 10MHz / 16QAM





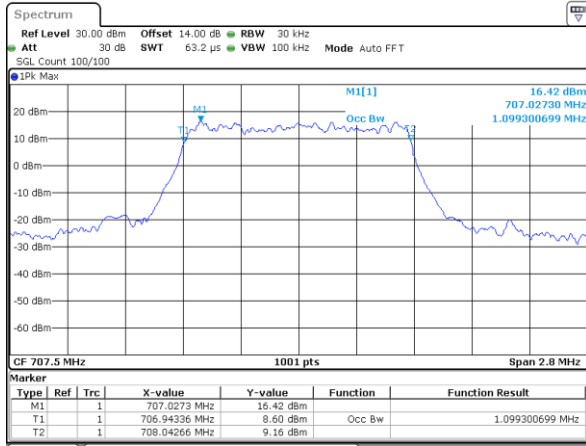
Occupied Bandwidth

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
Middle CH	1.10	1.10	2.72	2.70	4.49	4.48	9.03	9.03	-	-	-	-

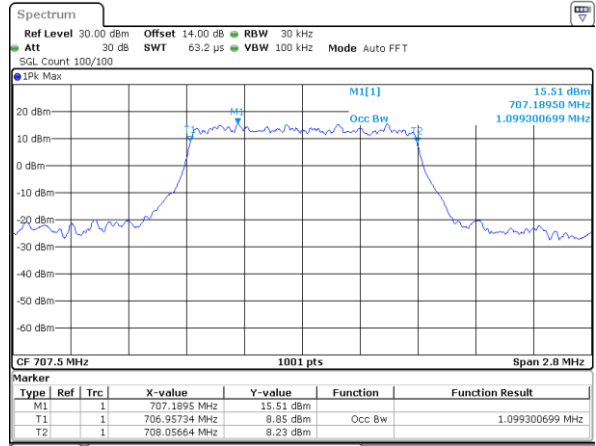


LTE Band 12

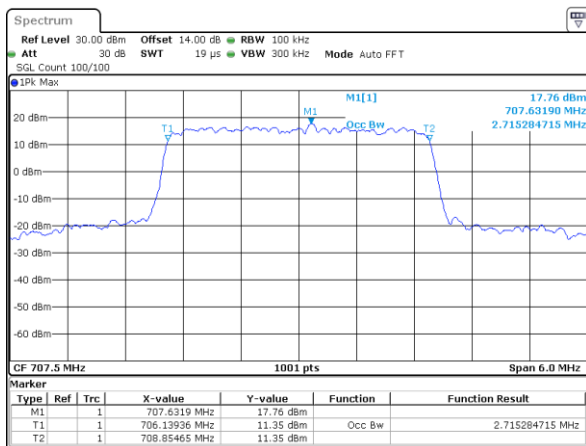
Middle Channel / 1.4MHz / QPSK



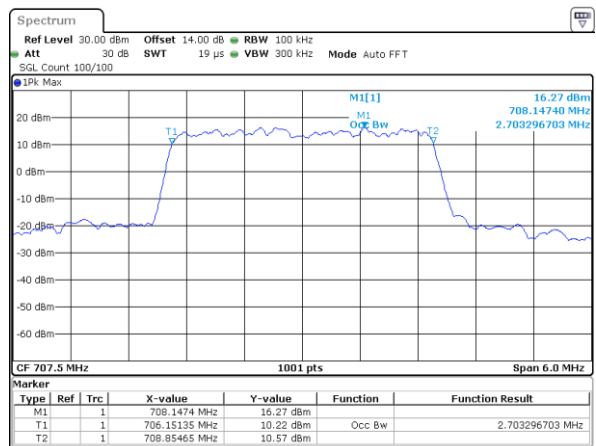
Middle Channel / 1.4MHz / 16QAM



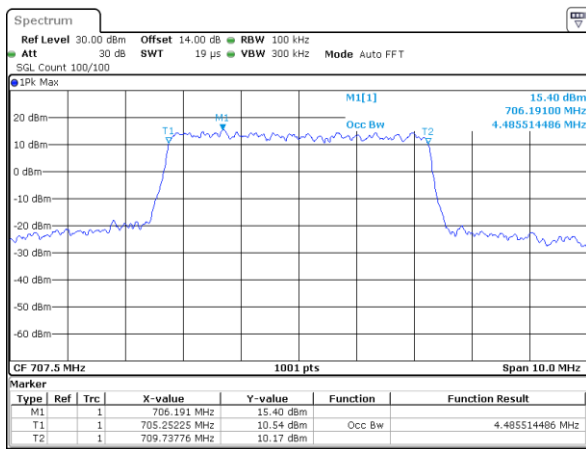
Middle Channel / 3MHz / QPSK



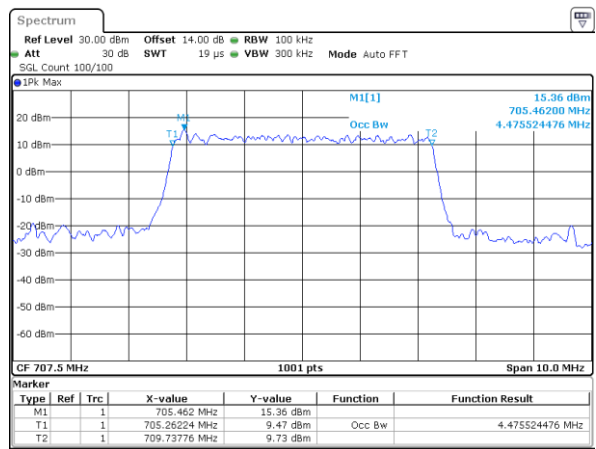
Middle Channel / 3MHz / 16QAM



Middle Channel / 5MHz / QPSK



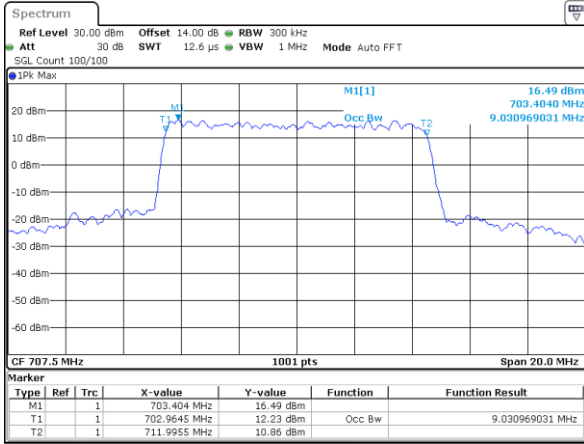
Middle Channel / 5MHz / 16QAM



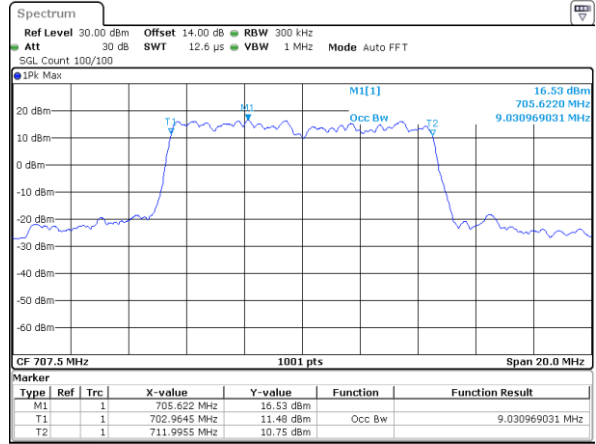


LTE Band 12

Middle Channel / 10MHz / QPSK



Middle Channel / 10MHz / 16QAM

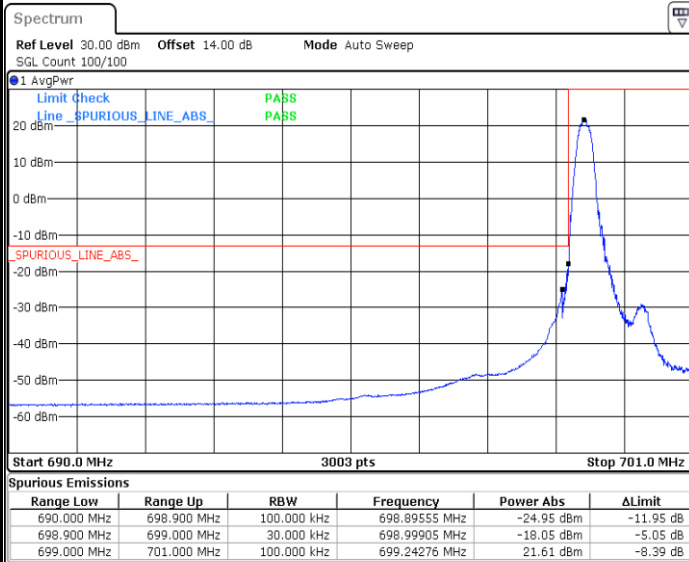




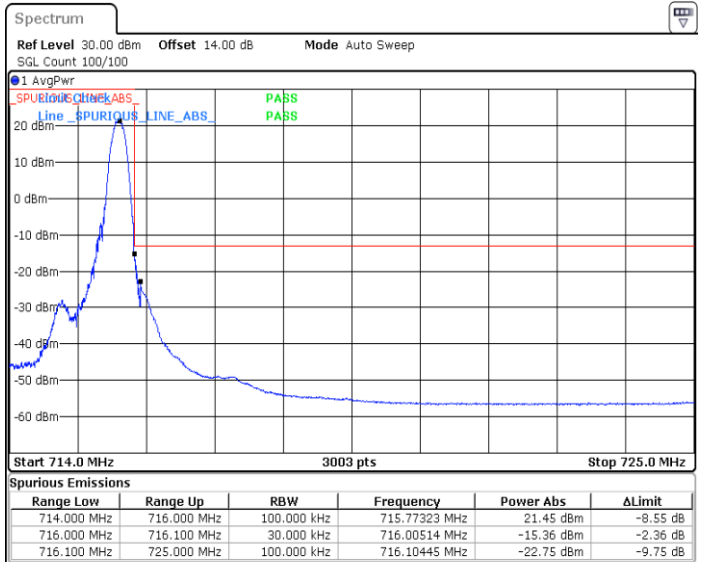
Conducted Band Edge

LTE Band 12 / 1.4MHz / QPSK

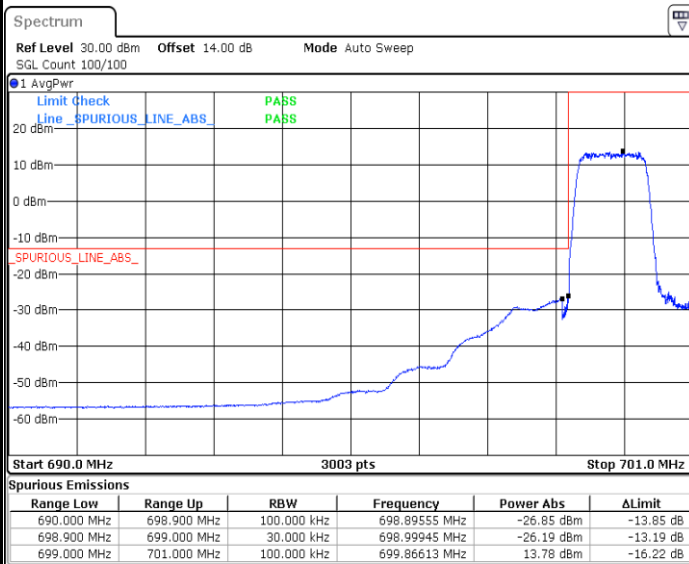
Lowest Band Edge / 1RB



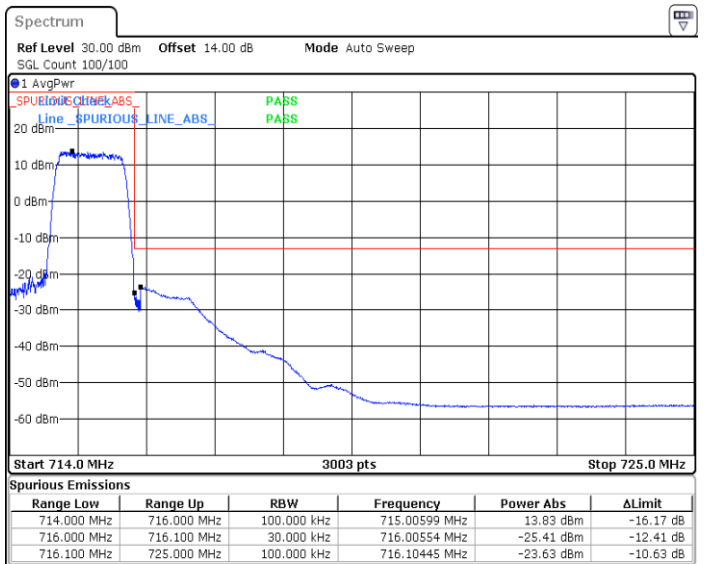
Highest Band Edge / 1RB



Lowest Band Edge / Full RB



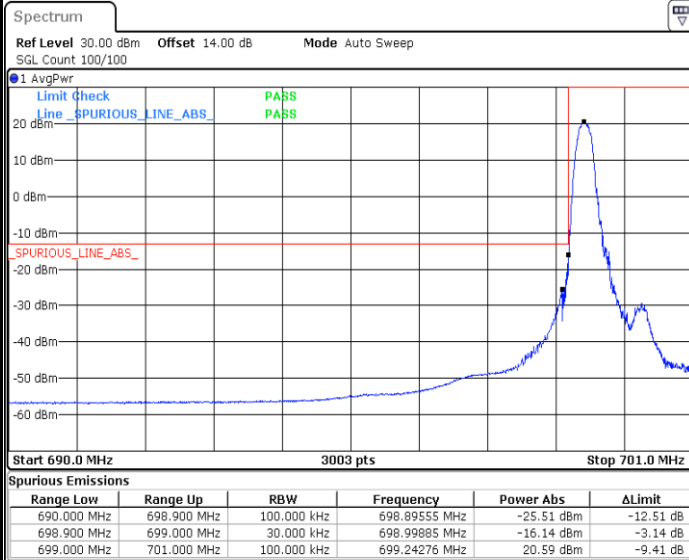
Highest Band Edge / Full RB



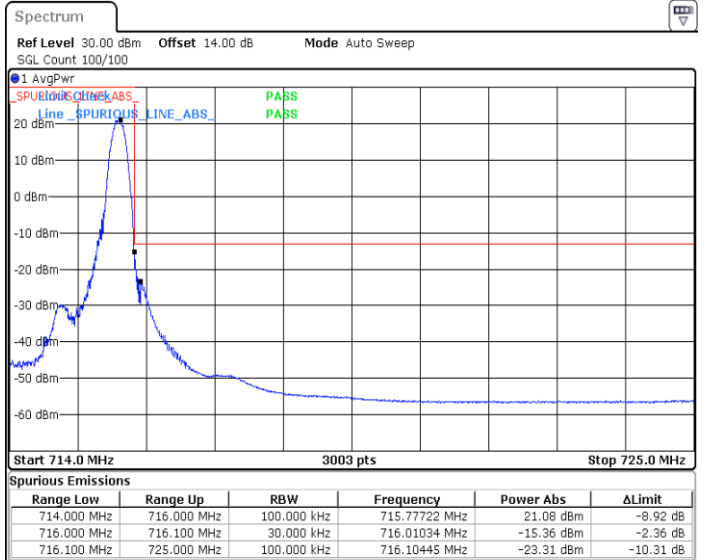


LTE Band 12 / 1.4MHz / 16QAM

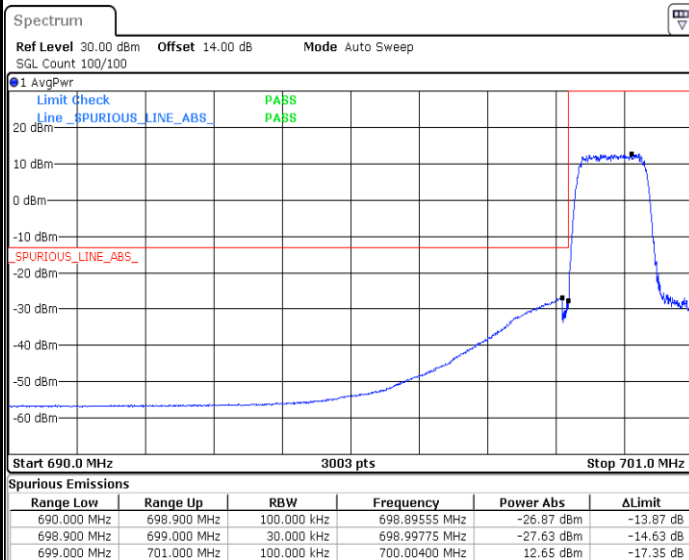
Lowest Band Edge / 1 RB



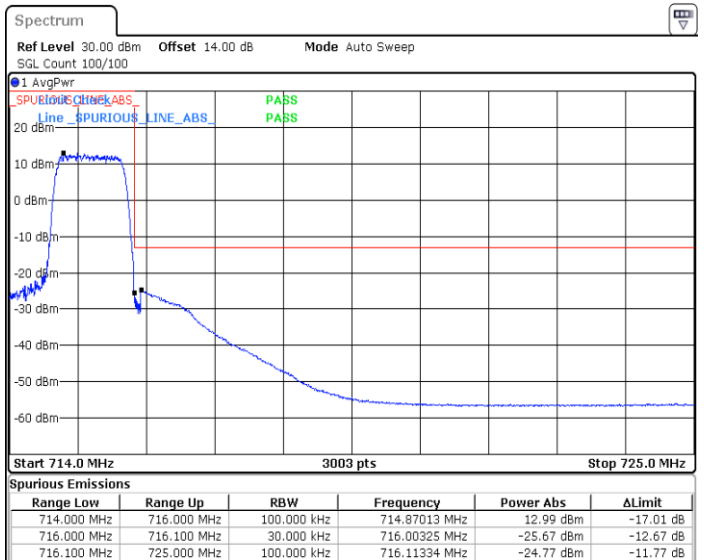
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



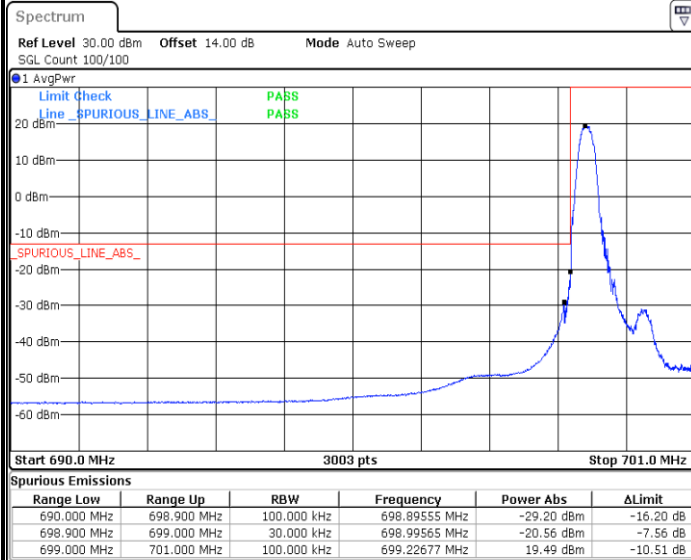
Highest Band Edge / Full RB



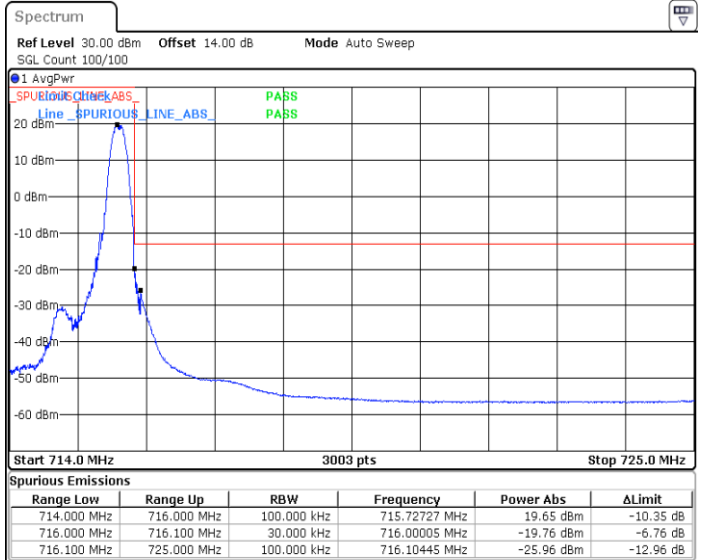


LTE Band 12 / 1.4MHz / 64QAM

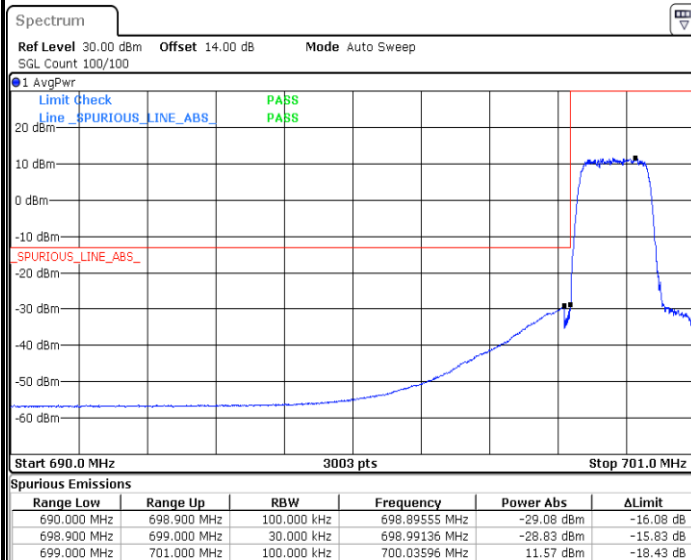
Lowest Band Edge / 1 RB



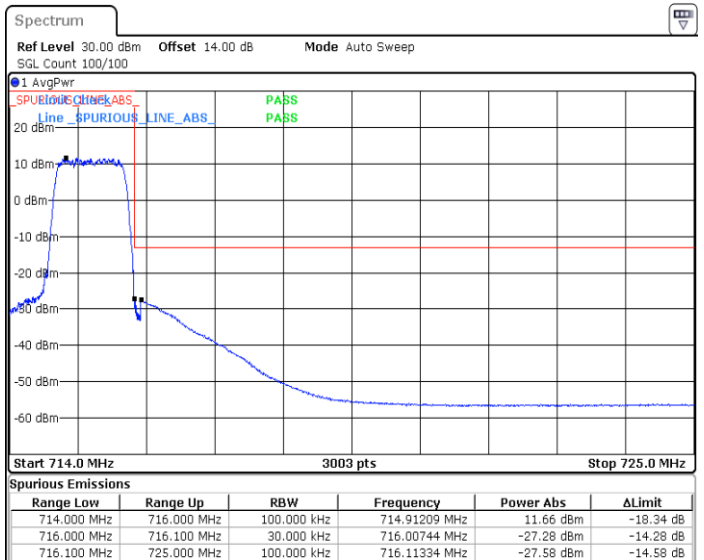
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



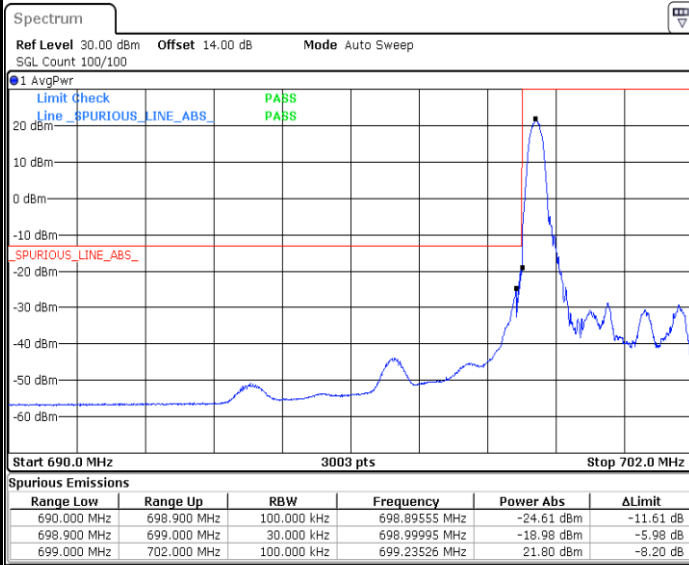
Highest Band Edge / Full RB



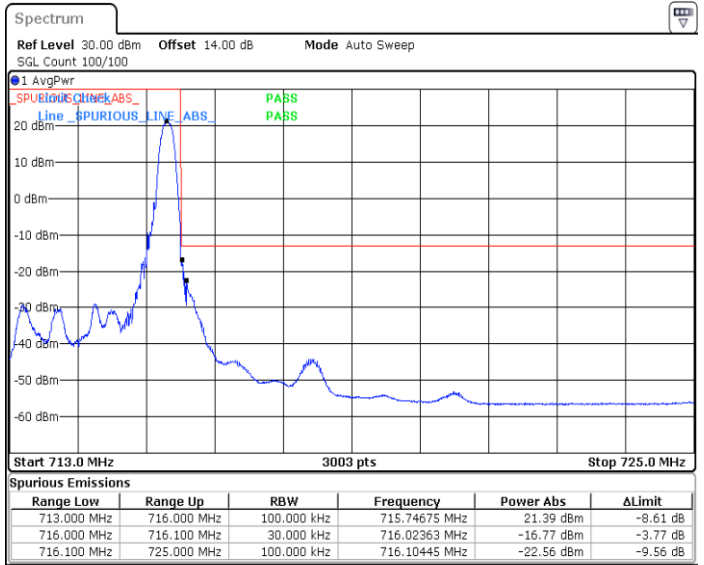


LTE Band 12 / 3MHz / QPSK

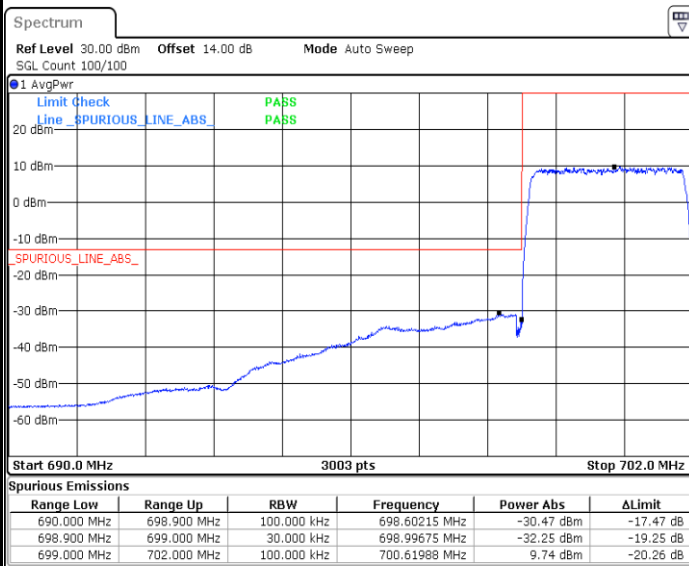
Lowest Band Edge / 1RB



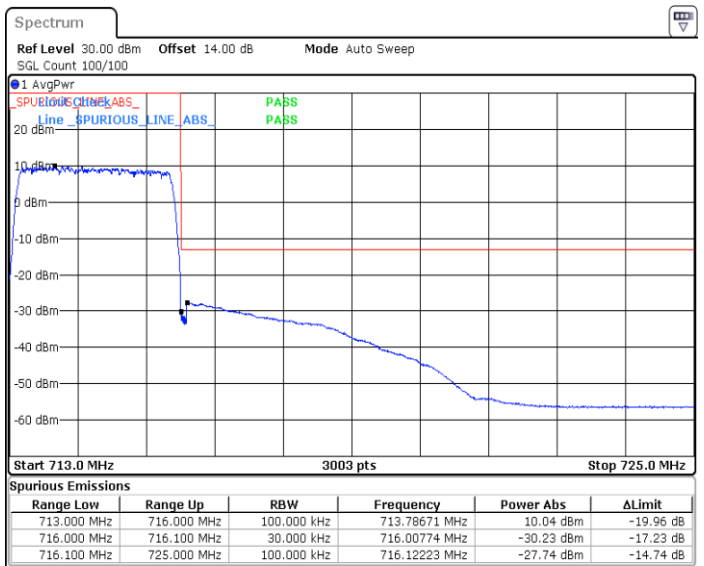
Highest Band Edge / 1RB



Lowest Band Edge / Full RB



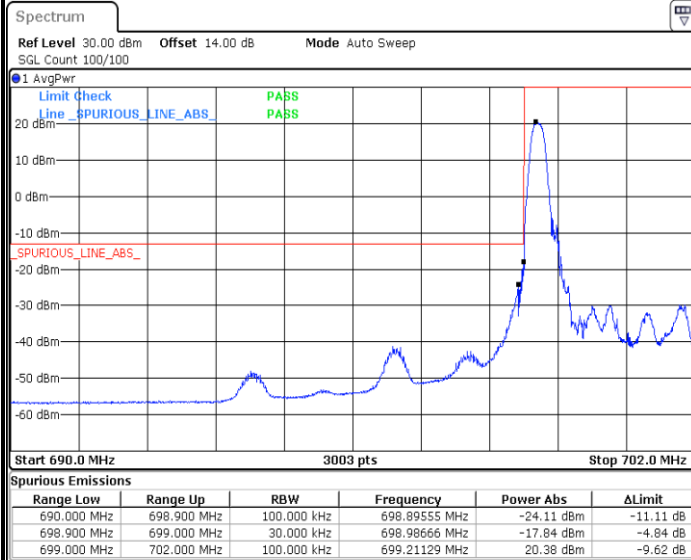
Highest Band Edge / Full RB



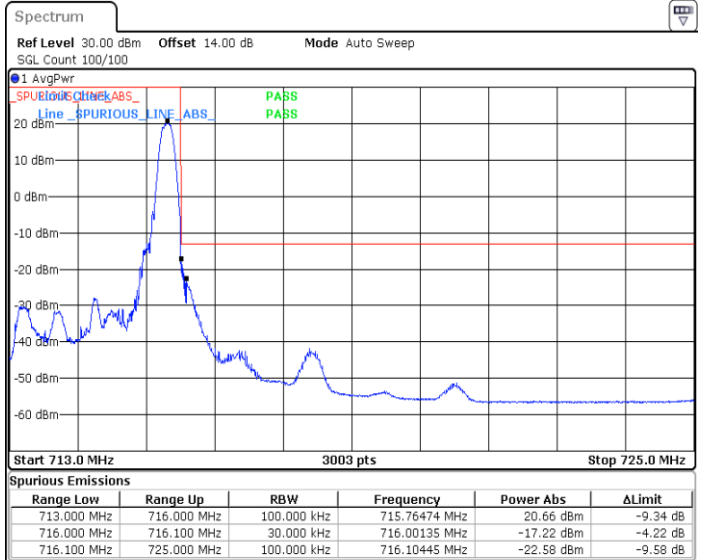


LTE Band 12 / 3MHz / 16QAM

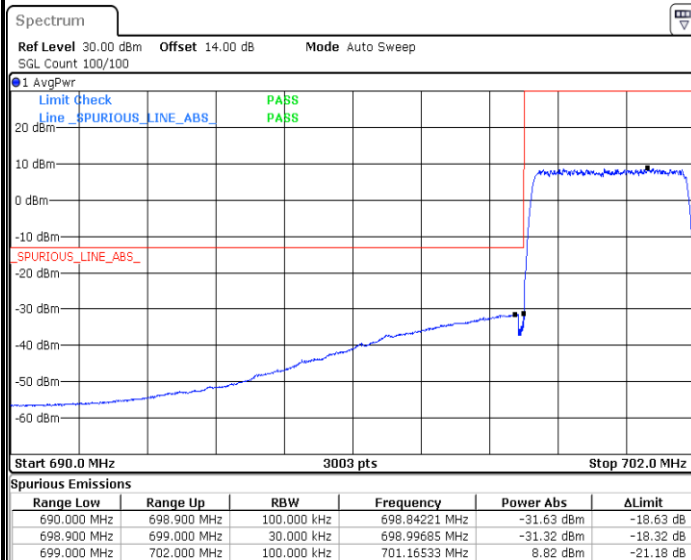
Lowest Band Edge / 1 RB



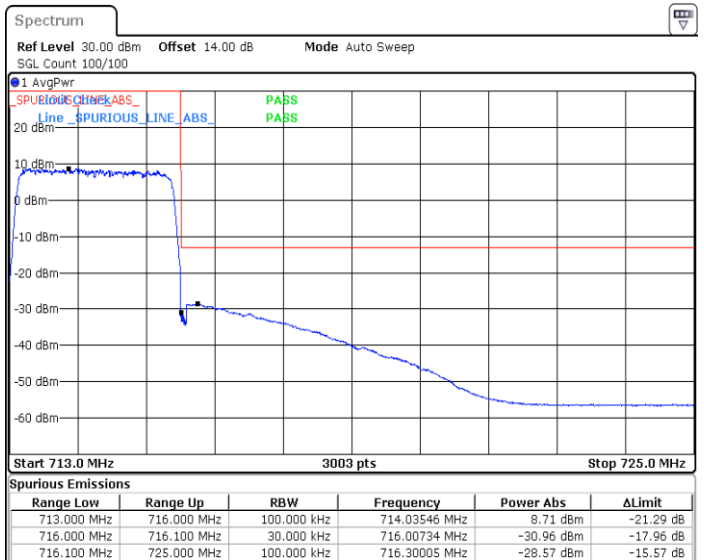
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



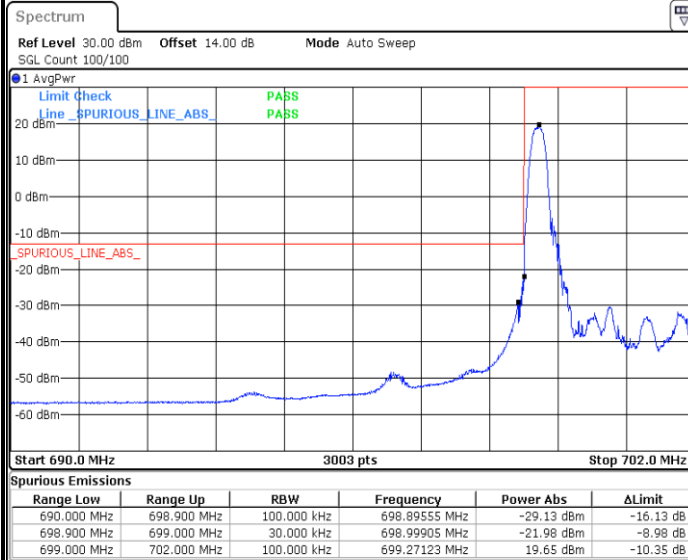
Highest Band Edge / Full RB



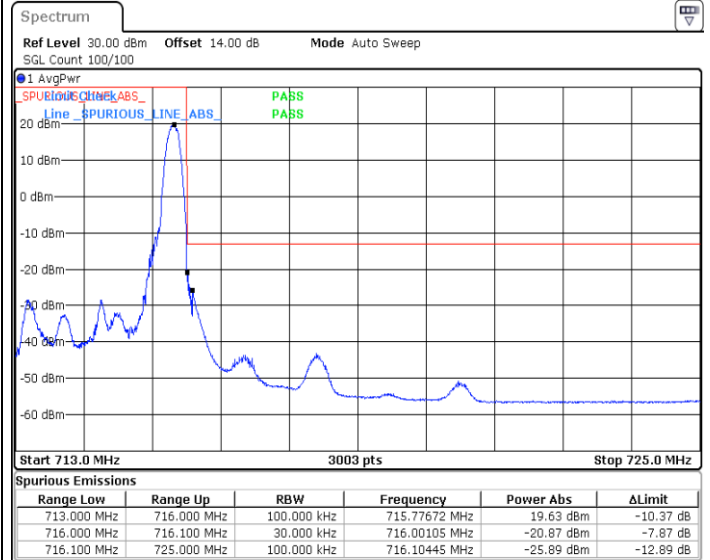


LTE Band 12 / 3MHz / 64QAM

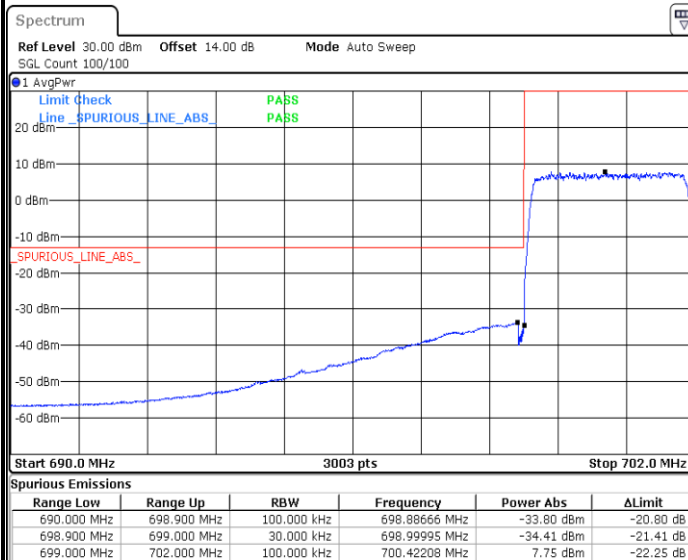
Lowest Band Edge / 1 RB



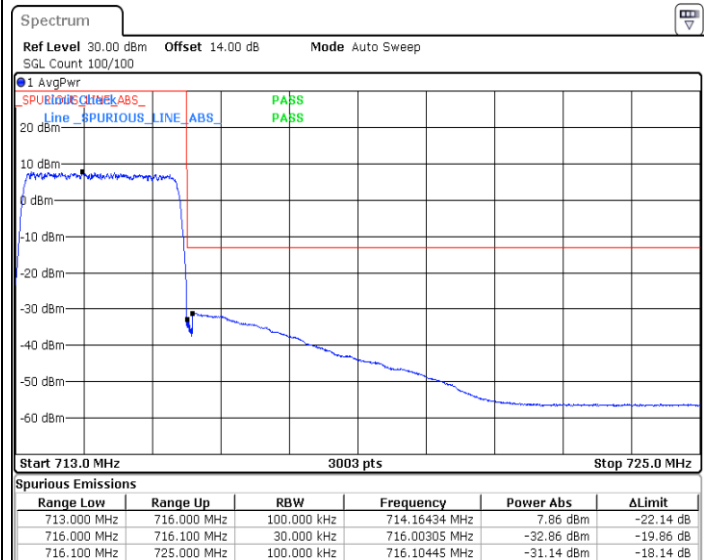
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



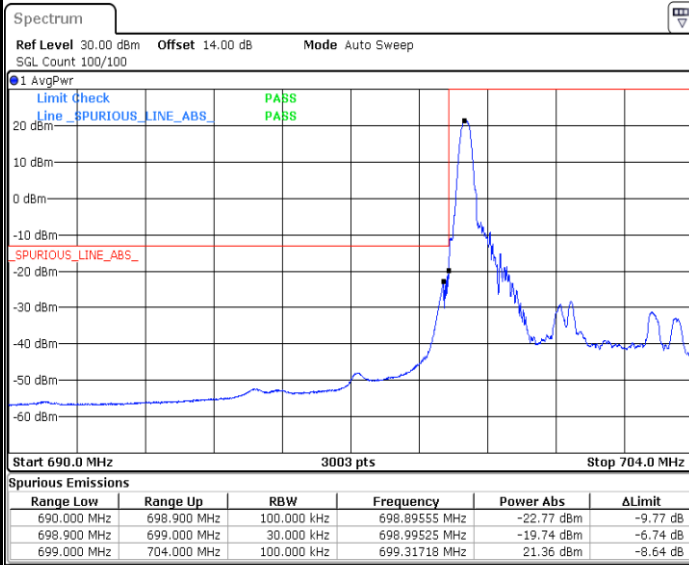
Highest Band Edge / Full RB



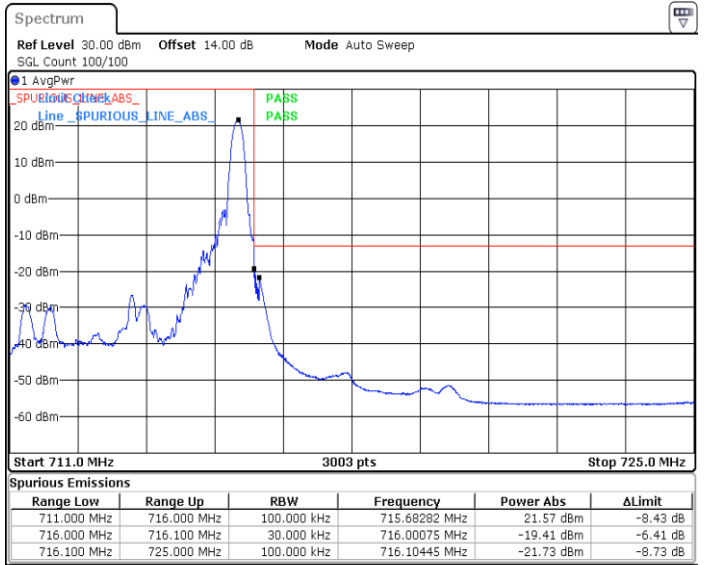


LTE Band 12 / 5MHz / QPSK

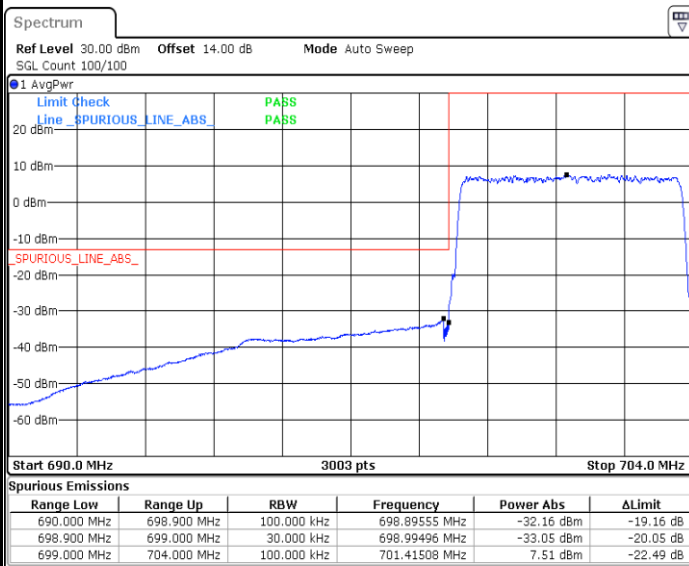
Lowest Band Edge / 1RB



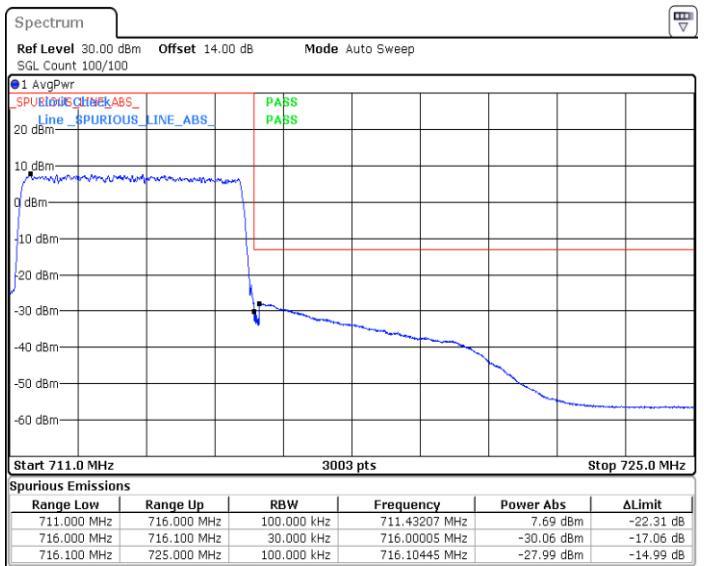
Highest Band Edge / 1RB



Lowest Band Edge / Full RB



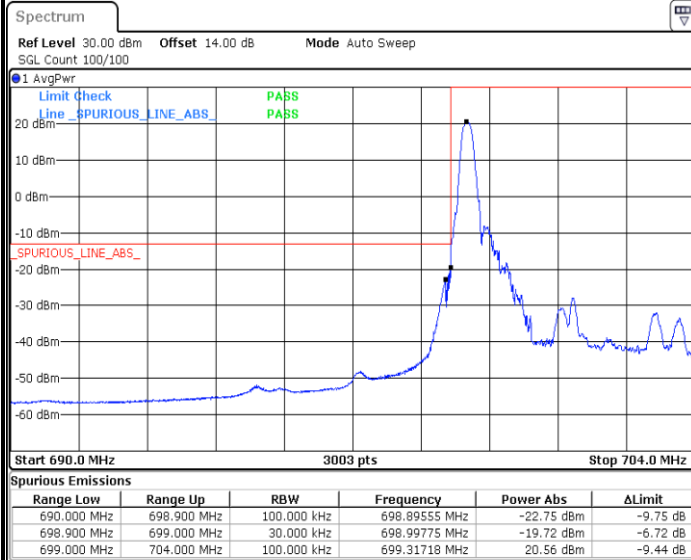
Highest Band Edge / Full RB



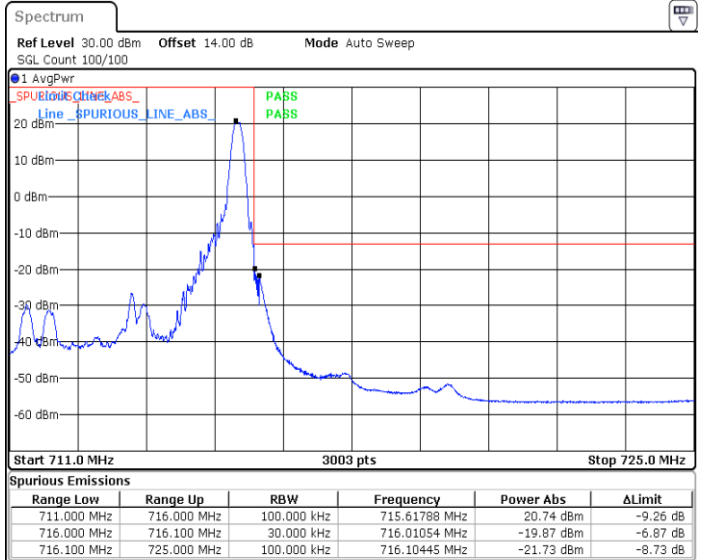


LTE Band 12 / 5MHz / 16QAM

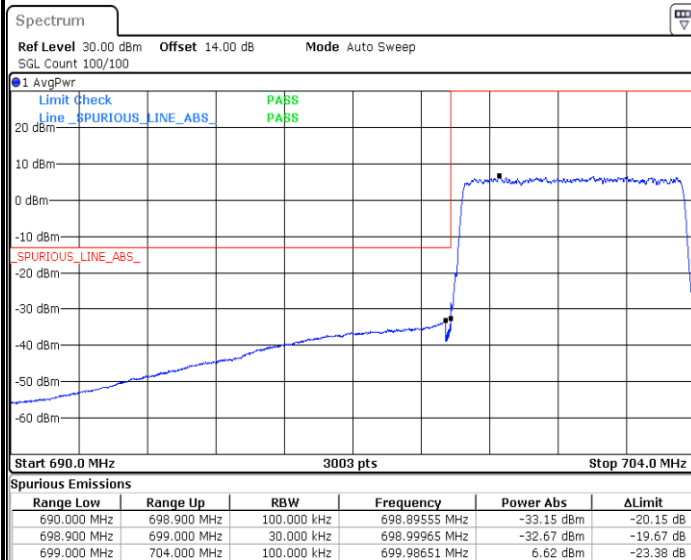
Lowest Band Edge / 1 RB



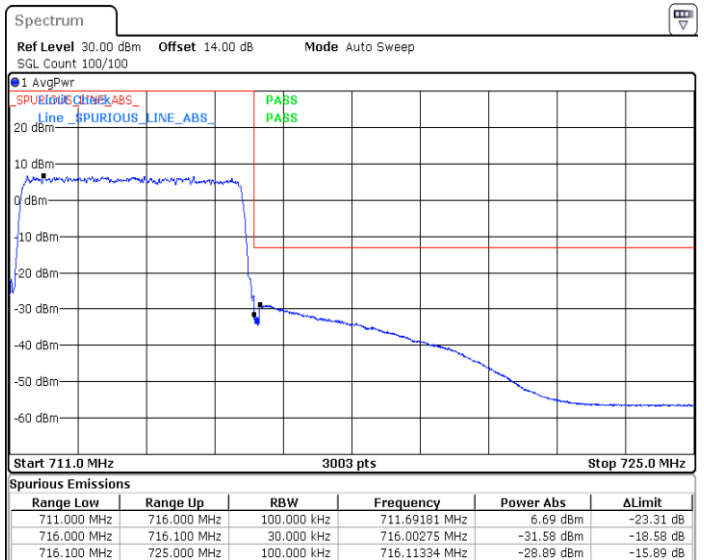
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



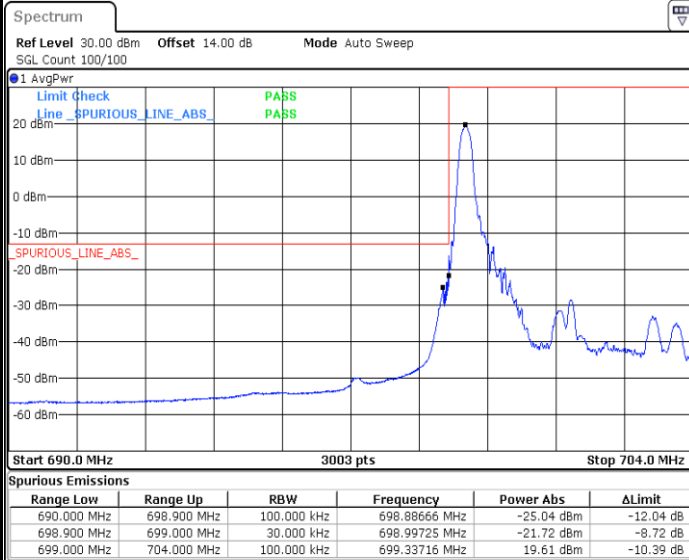
Highest Band Edge / Full RB



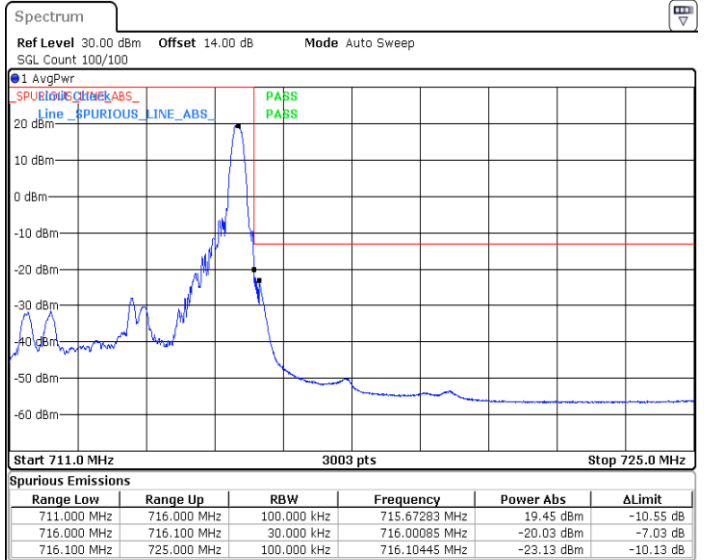


LTE Band 12 / 5MHz / 64QAM

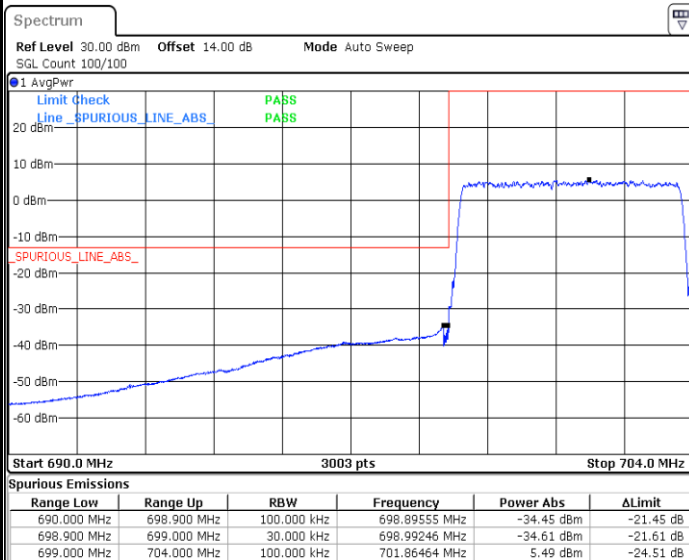
Lowest Band Edge / 1 RB



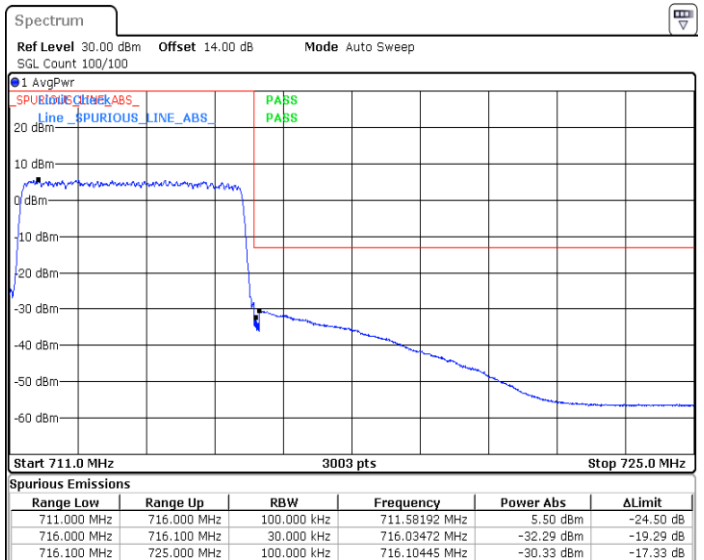
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



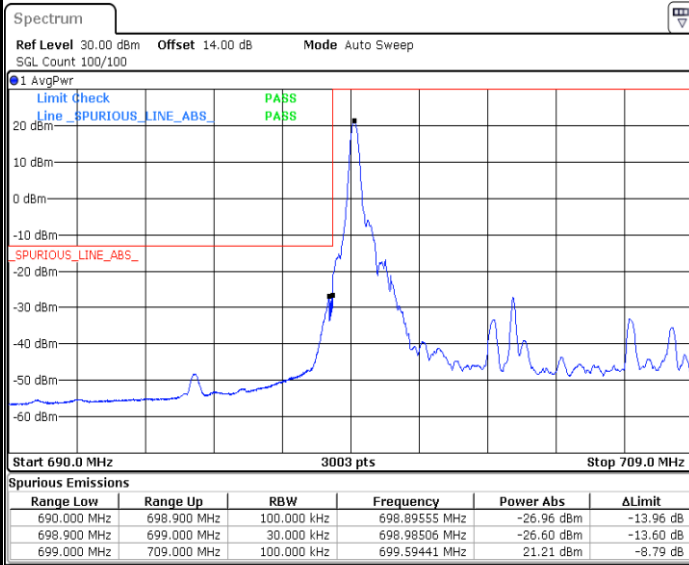
Highest Band Edge / Full RB



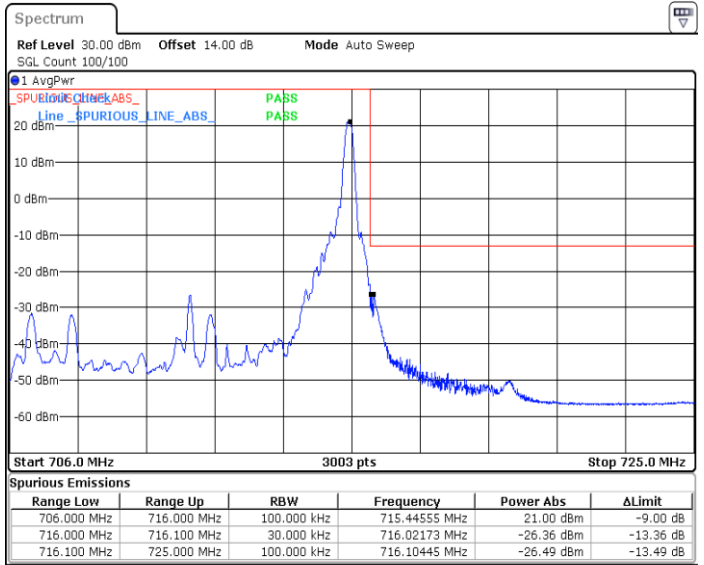


LTE Band 12 / 10MHz / QPSK

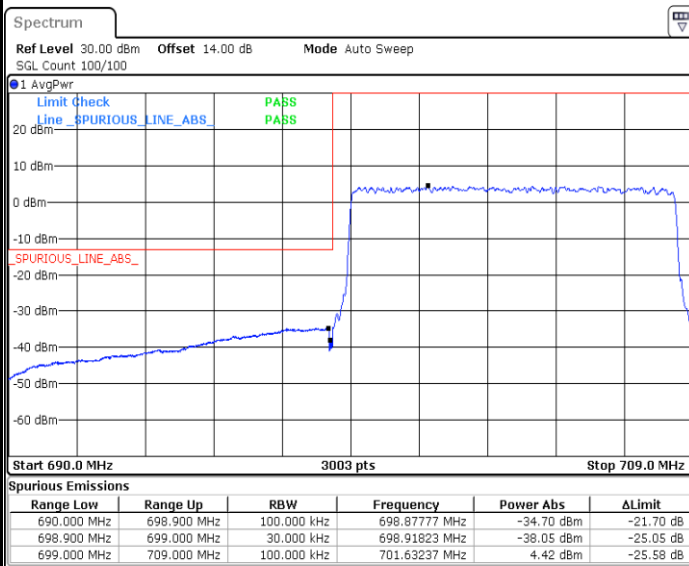
Lowest Band Edge / 1RB



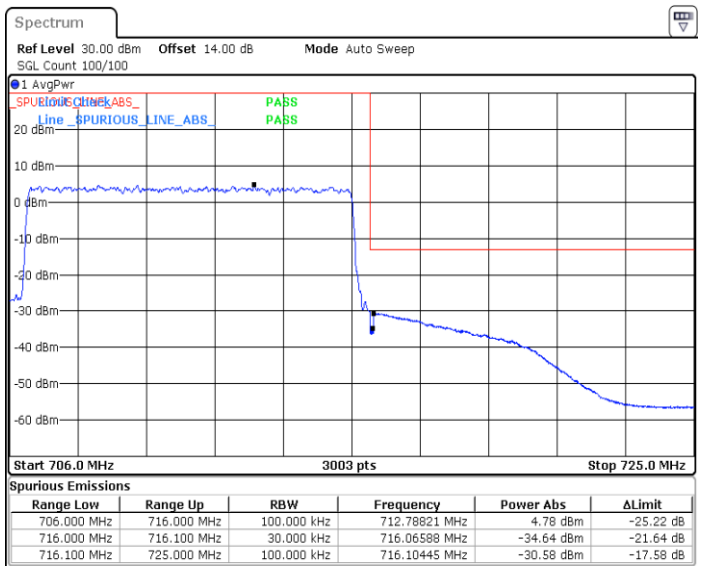
Highest Band Edge / 1RB



Lowest Band Edge / Full RB



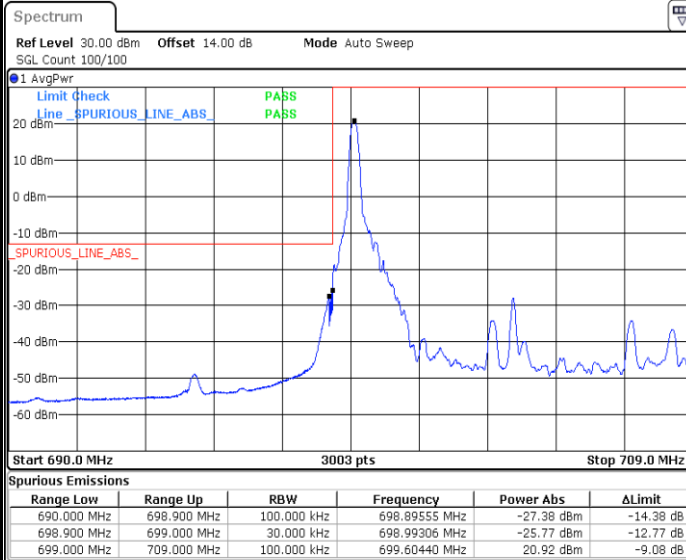
Highest Band Edge / Full RB



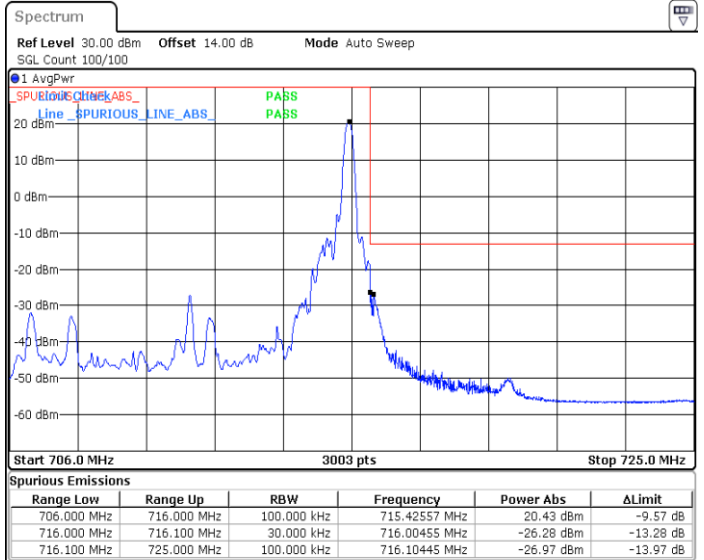


LTE Band 12 / 10MHz / 16QAM

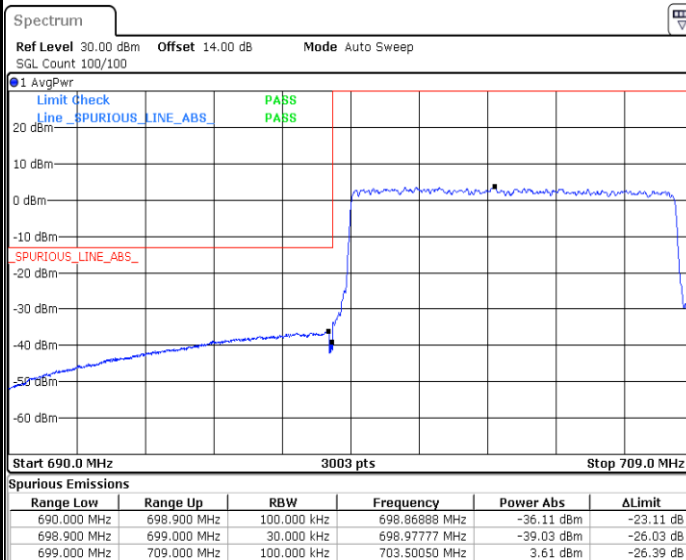
Lowest Band Edge / 1 RB



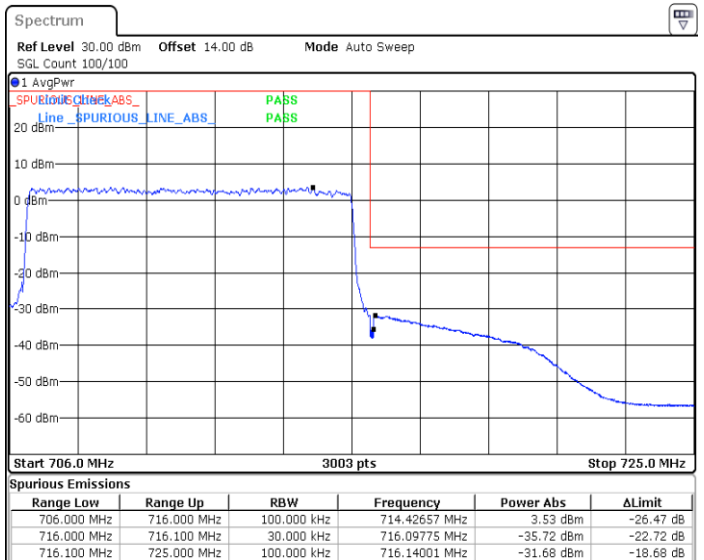
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



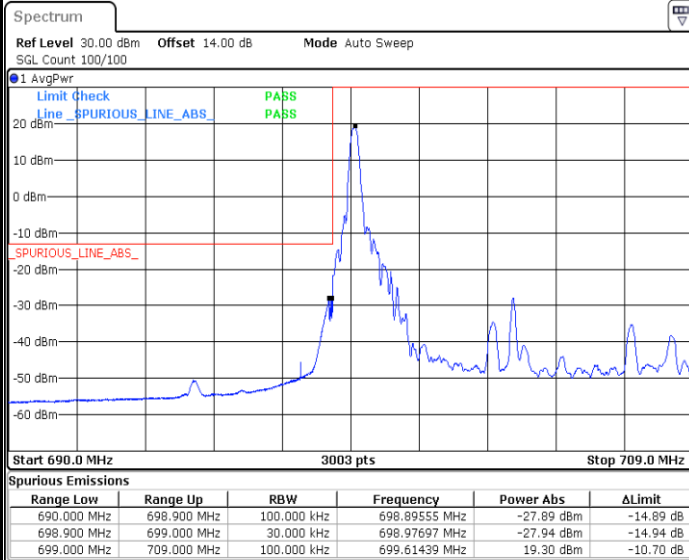
Highest Band Edge / Full RB



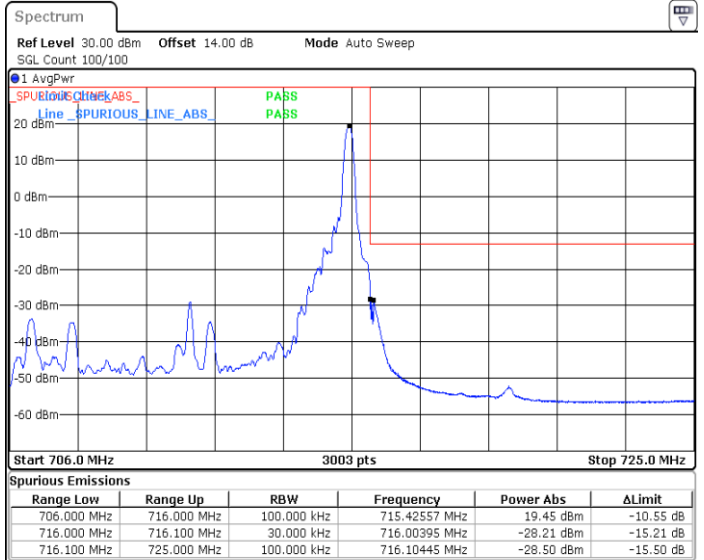


LTE Band 12 / 10MHz / 64QAM

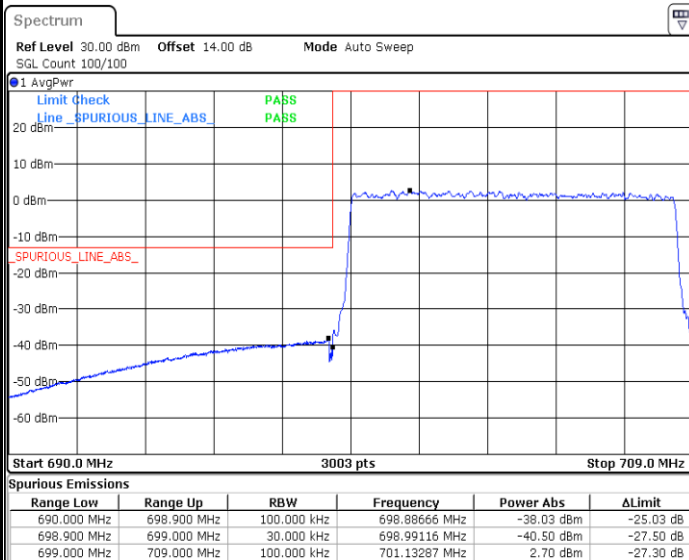
Lowest Band Edge / 1 RB



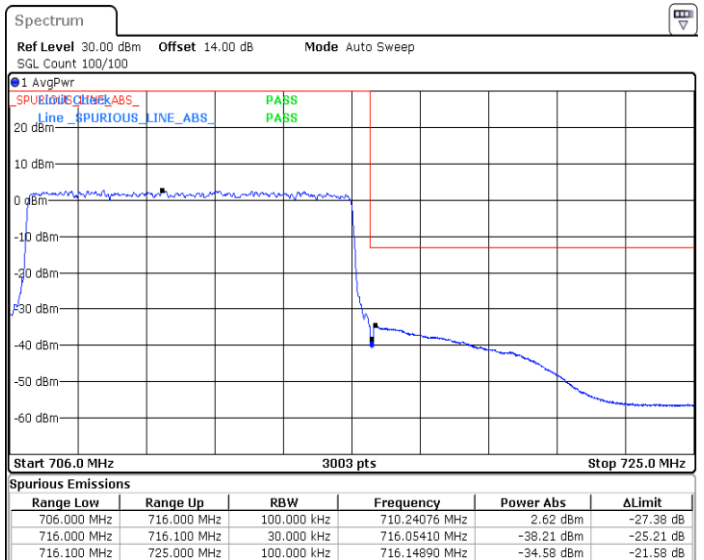
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

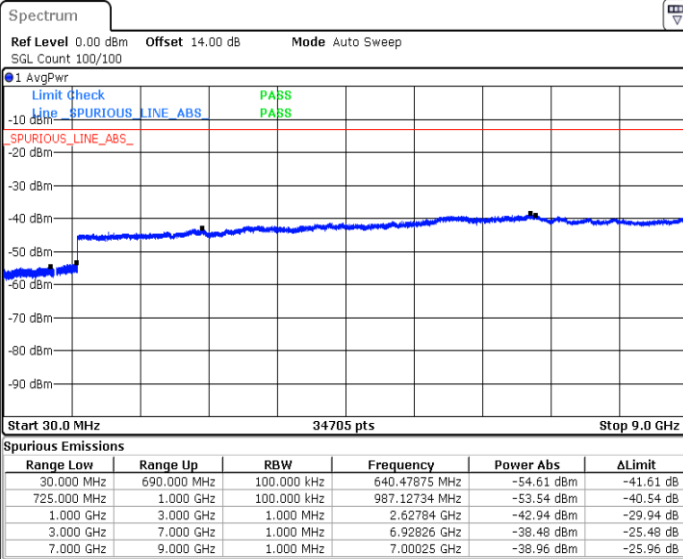




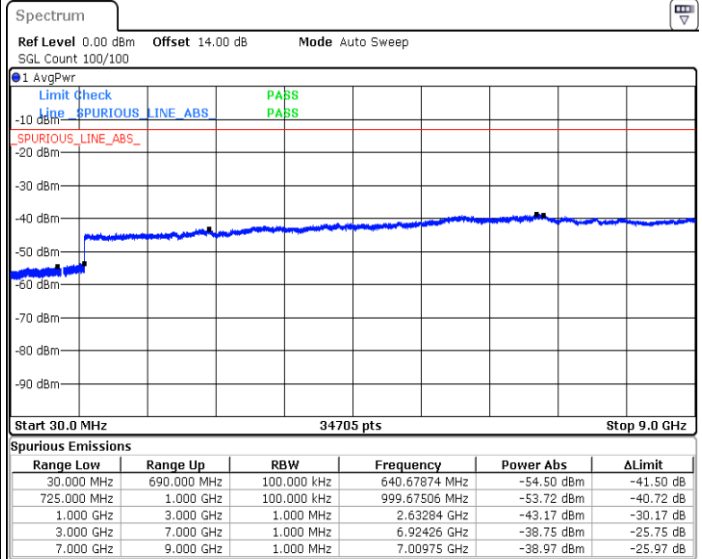
Conducted Spurious Emission

LTE Band 12 / 1.4MHz

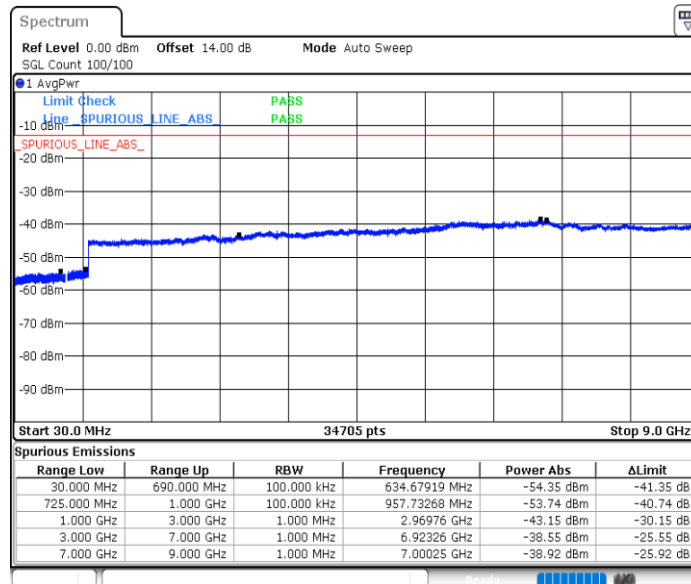
Lowest Channel / QPSK



Middle Channel / QPSK



Highest Channel / QPSK

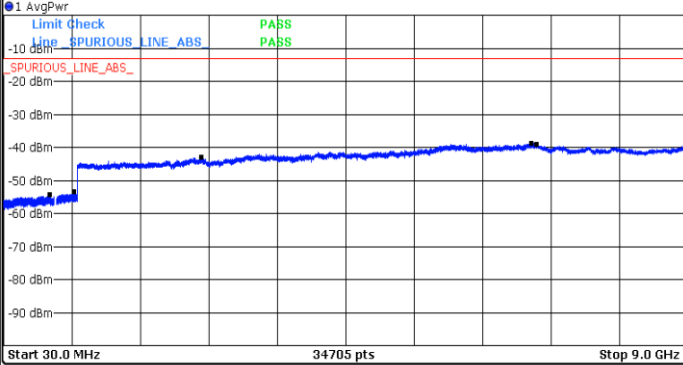




LTE Band 12 / 3MHz

Lowest Channel / QPSK

Spectrum

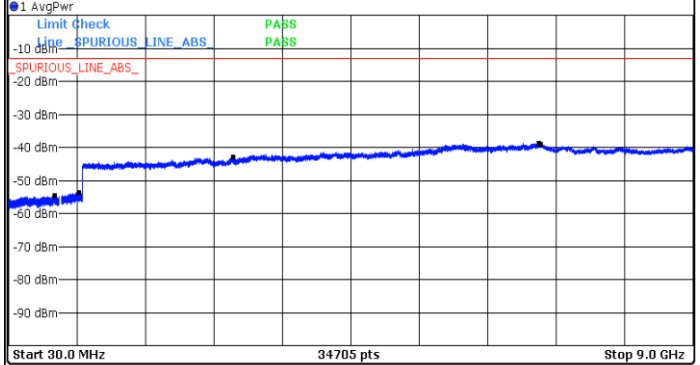
Ref Level 0.00 dBm Offset 14.00 dB Mode Auto Sweep
SGL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	636.67904 MHz	-54.42 dBm	-41.42 dB
725.000 MHz	1.000 GHz	100.000 kHz	949.53418 MHz	-53.58 dBm	-40.58 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.61735 GHz	-43.01 dBm	-30.01 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.94226 GHz	-38.71 dBm	-25.71 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.01175 GHz	-39.17 dBm	-26.17 dB

Middle Channel / QPSK

Spectrum

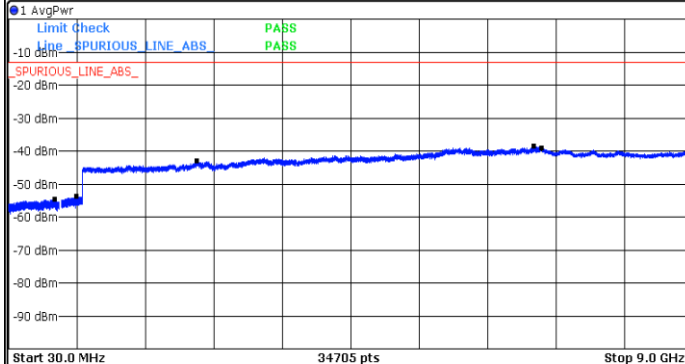
Ref Level 0.00 dBm Offset 14.00 dB Mode Auto Sweep
SGL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	635.62912 MHz	-54.57 dBm	-41.57 dB
725.000 MHz	1.000 GHz	100.000 kHz	953.33348 MHz	-53.82 dBm	-40.82 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.96876 GHz	-43.02 dBm	-30.02 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.98175 GHz	-38.68 dBm	-25.68 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.00125 GHz	-39.14 dBm	-26.14 dB

Highest Channel / QPSK

Spectrum

Ref Level 0.00 dBm Offset 14.00 dB Mode Auto Sweep
SGL Count 100/100

Spurious Emissions

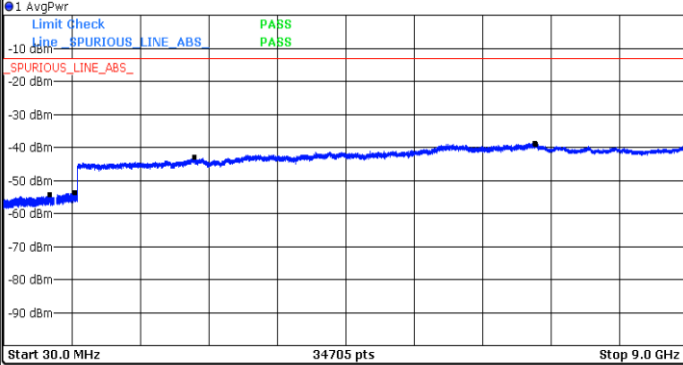
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	630.37952 MHz	-54.66 dBm	-41.66 dB
725.000 MHz	1.000 GHz	100.000 kHz	919.38966 MHz	-53.77 dBm	-40.77 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.49738 GHz	-43.08 dBm	-30.08 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.90676 GHz	-38.58 dBm	-25.58 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.01575 GHz	-38.97 dBm	-25.97 dB



LTE Band 12 / 5MHz

Lowest Channel / QPSK

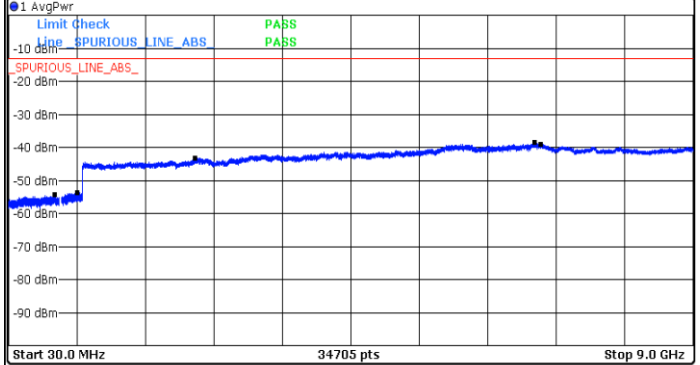
Spectrum

Ref Level 0.00 dBm Offset 14.00 dB Mode Auto Sweep
SGL Count 100/100

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	627.07977 MHz	-54.32 dBm	-41.32 dB
725.000 MHz	1.000 GHz	100.000 kHz	955.58308 MHz	-53.76 dBm	-40.76 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.52687 GHz	-43.11 dBm	-30.11 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99175 GHz	-38.73 dBm	-25.73 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.00675 GHz	-39.08 dBm	-26.08 dB

Middle Channel / QPSK

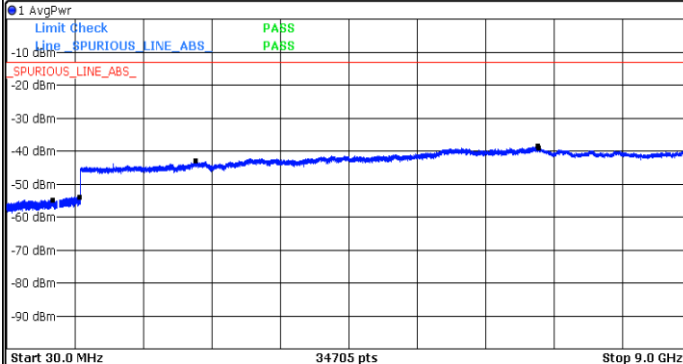
Spectrum

Ref Level 0.00 dBm Offset 14.00 dB Mode Auto Sweep
SGL Count 100/100

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	634.27922 MHz	-54.34 dBm	-41.34 dB
725.000 MHz	1.000 GHz	100.000 kHz	923.43892 MHz	-53.63 dBm	-40.63 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.46988 GHz	-43.18 dBm	-30.18 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.92176 GHz	-38.61 dBm	-25.61 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.00625 GHz	-39.04 dBm	-26.04 dB

Highest Channel / QPSK

Spectrum

Ref Level 0.00 dBm Offset 14.00 dB Mode Auto Sweep
SGL Count 100/100

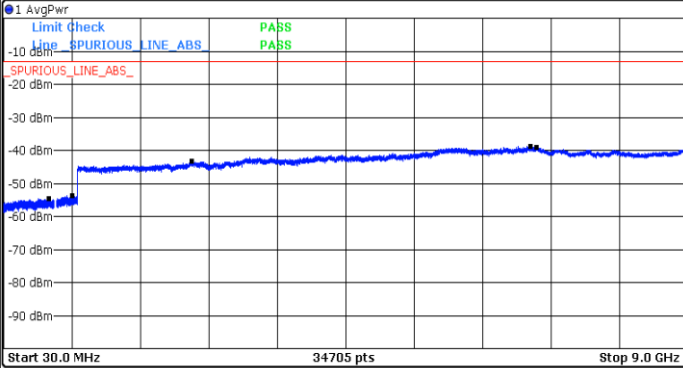
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	634.72919 MHz	-54.80 dBm	-41.80 dB
725.000 MHz	1.000 GHz	100.000 kHz	986.37748 MHz	-53.90 dBm	-40.90 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.51037 GHz	-43.13 dBm	-30.13 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99025 GHz	-38.54 dBm	-25.54 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.00175 GHz	-38.98 dBm	-25.98 dB



LTE Band 12 / 10MHz

Lowest Channel / QPSK

Spectrum

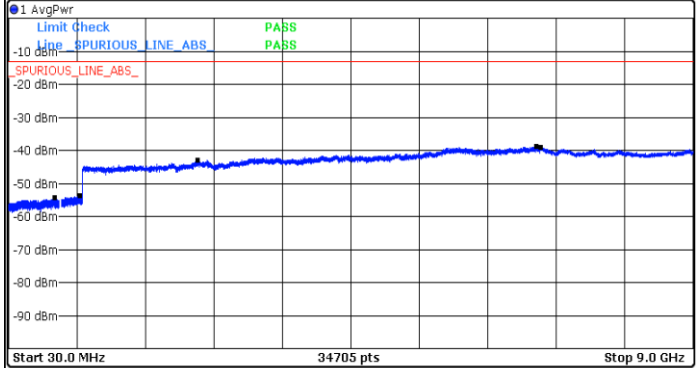
Ref Level 0.00 dBm Offset 14.00 dB Mode Auto Sweep
SGL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	615.18067 MHz	-54.50 dBm	-41.50 dB
725.000 MHz	1.000 GHz	100.000 kHz	931.93738 MHz	-53.81 dBm	-40.81 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.48888 GHz	-43.32 dBm	-30.32 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.92776 GHz	-38.73 dBm	-25.73 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.01725 GHz	-38.98 dBm	-25.98 dB

Middle Channel / QPSK

Spectrum

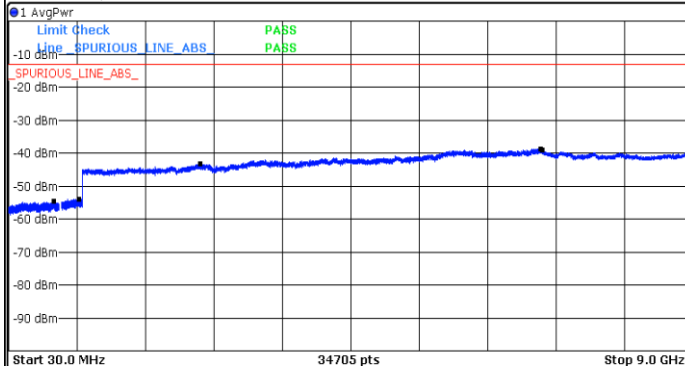
Ref Level 0.00 dBm Offset 14.00 dB Mode Auto Sweep
SGL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	633.07931 MHz	-54.44 dBm	-41.44 dB
725.000 MHz	1.000 GHz	100.000 kHz	965.23132 MHz	-53.87 dBm	-40.87 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.50137 GHz	-43.07 dBm	-30.07 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.94126 GHz	-38.80 dBm	-25.80 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.00225 GHz	-39.09 dBm	-26.09 dB

Highest Channel / QPSK

Spectrum

Ref Level 0.00 dBm Offset 14.00 dB Mode Auto Sweep
SGL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	624.92993 MHz	-54.53 dBm	-41.53 dB
725.000 MHz	1.000 GHz	100.000 kHz	947.93447 MHz	-53.92 dBm	-40.92 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.53537 GHz	-43.20 dBm	-30.20 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99725 GHz	-38.68 dBm	-25.68 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.02824 GHz	-39.04 dBm	-26.04 dB

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	0.0051	PASS
40	Normal Voltage	0.0041	
30	Normal Voltage	0.0085	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0001	
0	Normal Voltage	0.0052	
-10	Normal Voltage	0.0079	
-20	Normal Voltage	0.0028	
-30	Normal Voltage	0.0008	
20	Maximum Voltage	0.0047	
20	Normal Voltage	0.0000	
20	Minimum Voltage	0.0037	

Note:

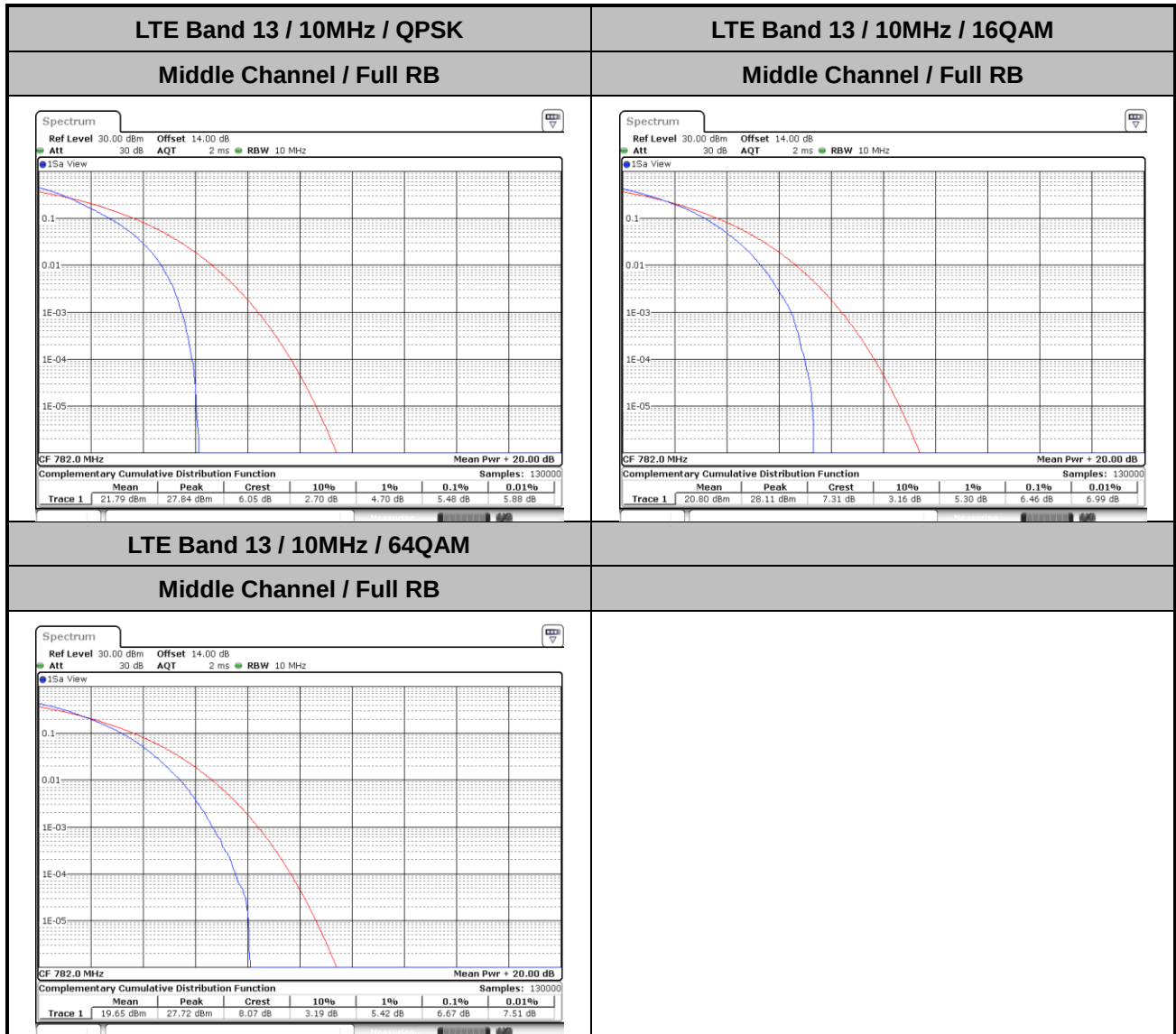
1. Normal Voltage = 3.3 V. ; Minimum Voltage = 3.135 V. ; Maximum Voltage = 4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 13

Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz			
Mod.	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Result
Middle CH	5.48	6.46	6.67	PASS





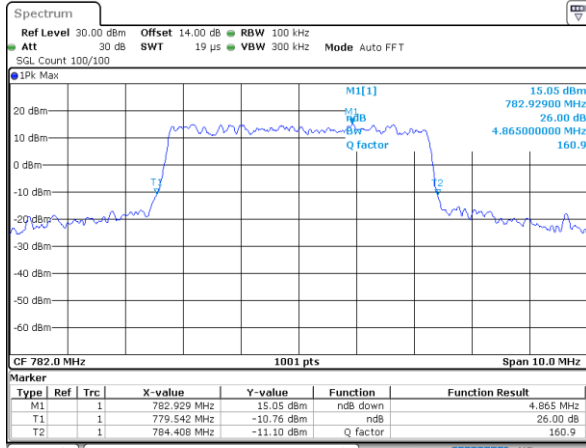
26dB Bandwidth

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
Middle CH	-	-	-	-	4.87	4.91	9.79	9.77	-	-	-	-

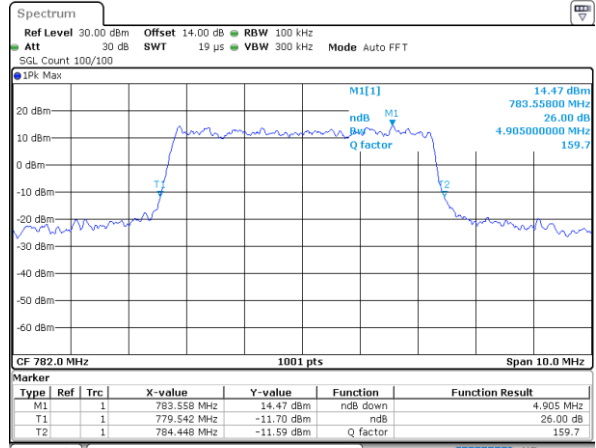


LTE Band 13

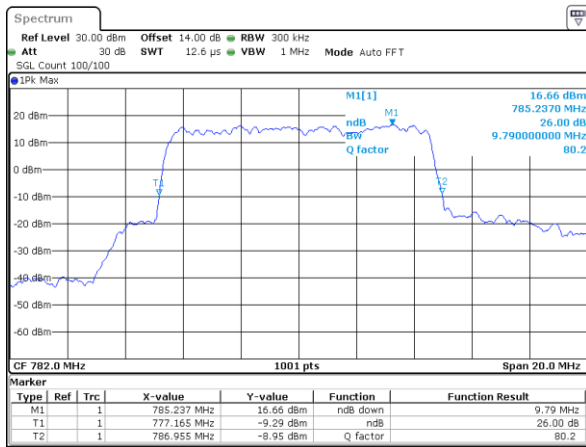
Middle Channel / 5MHz / QPSK



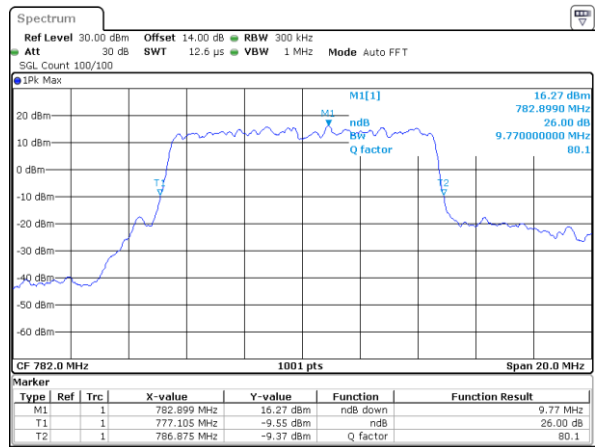
Middle Channel / 5MHz / 16QAM



Middle Channel / 10MHz / QPSK



Middle Channel / 10MHz / 16QAM





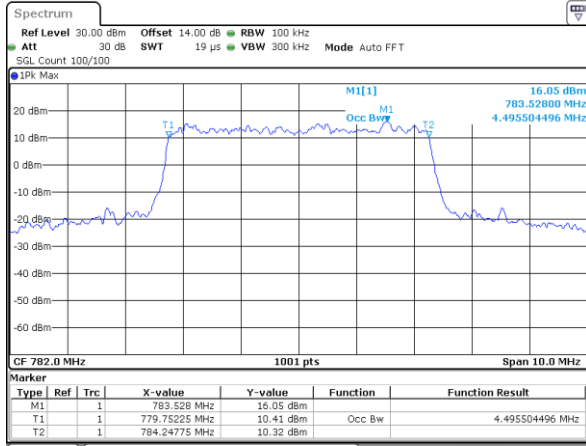
Occupied Bandwidth

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
Middle CH	-	-	-	-	4.50	4.51	9.03	9.01	-	-	-	-

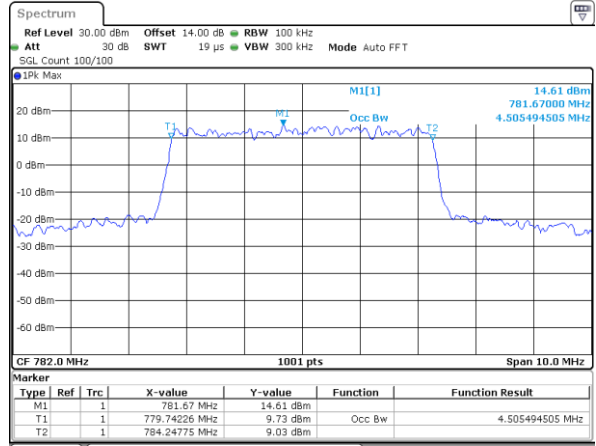


LTE Band 13

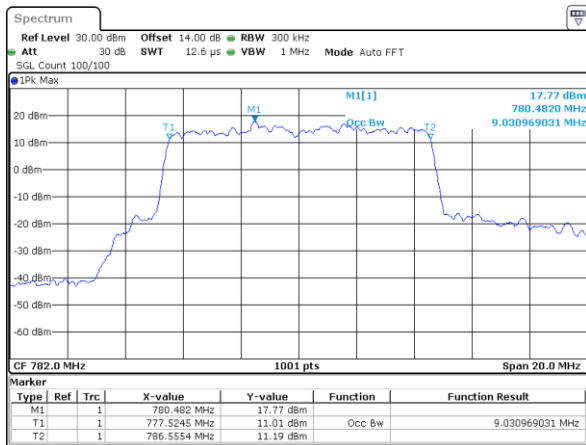
Middle Channel / 5MHz / QPSK



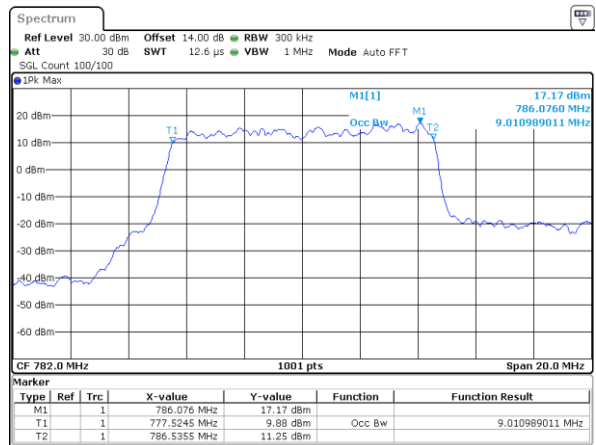
Middle Channel / 5MHz / 16QAM



Middle Channel / 10MHz / QPSK



Middle Channel / 10MHz / 16QAM

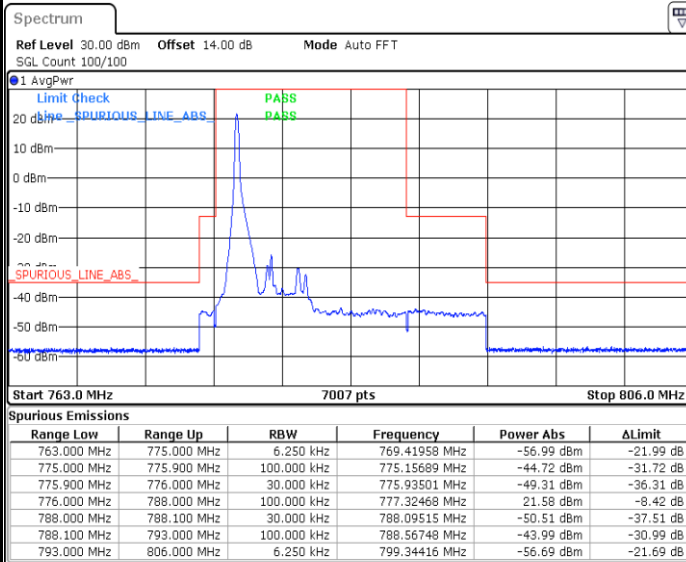




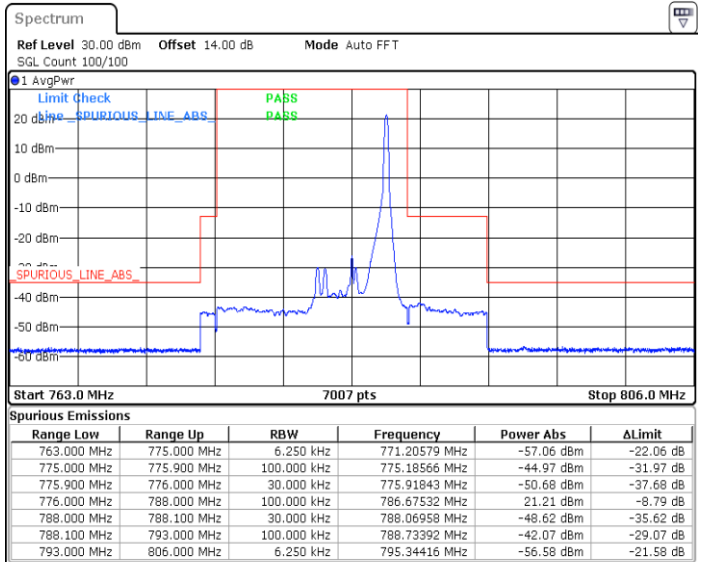
Conducted Band Edge

LTE Band 13 / 5MHz / QPSK

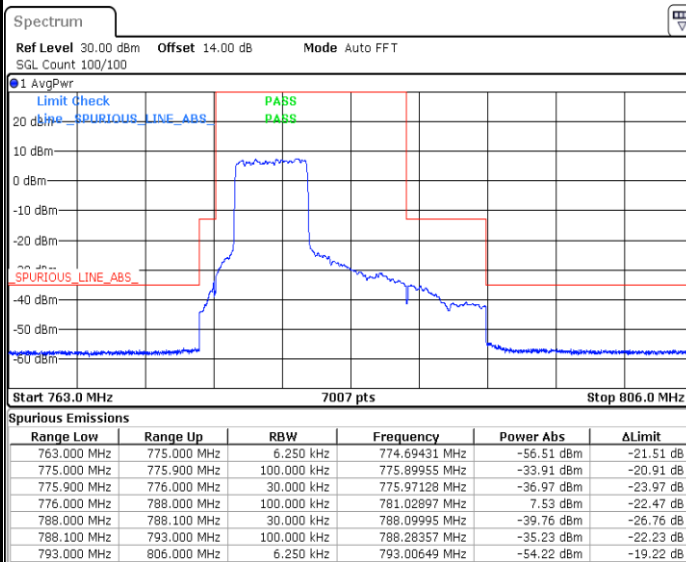
Lowest Band Edge / 1 RB



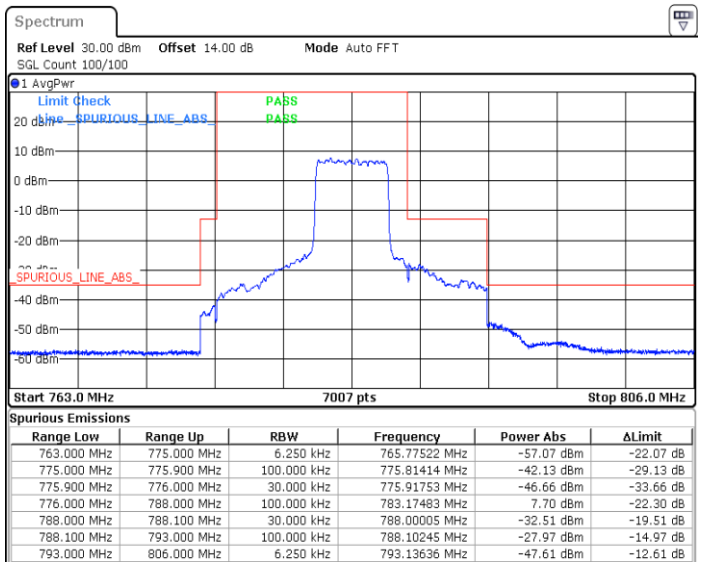
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



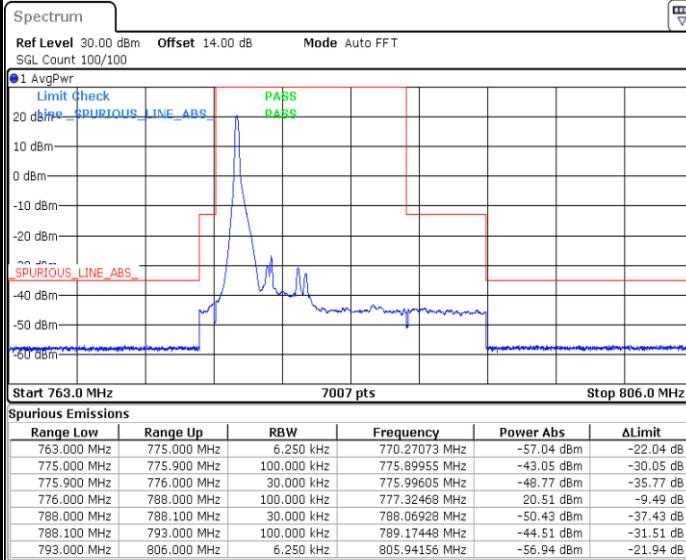
Highest Band Edge / Full RB



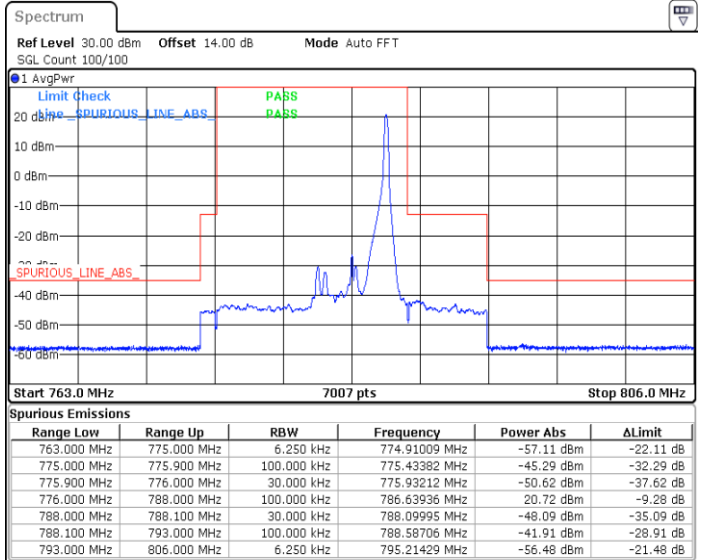


LTE Band 13 / 5MHz / 16QAM

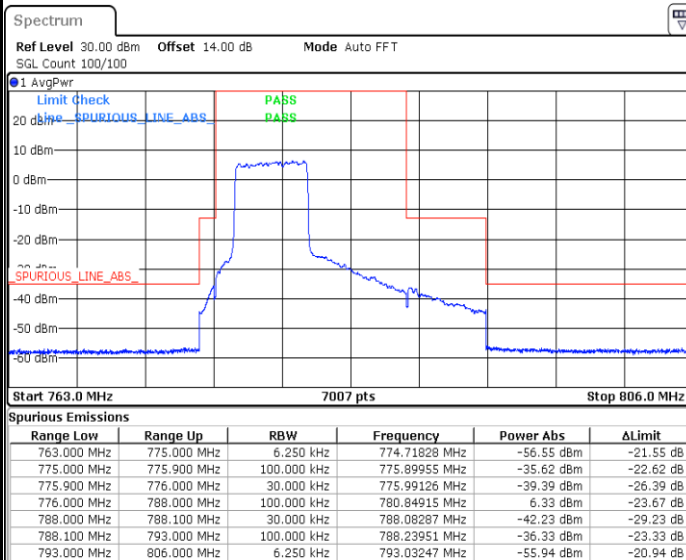
Lowest Band Edge / 1 RB



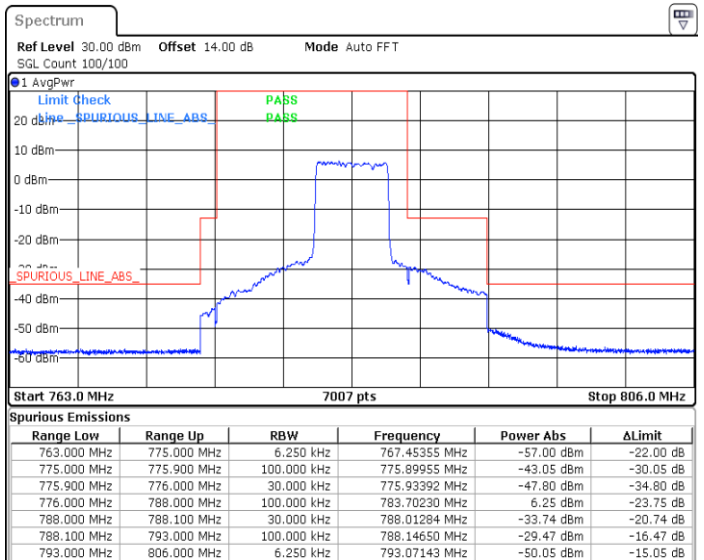
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



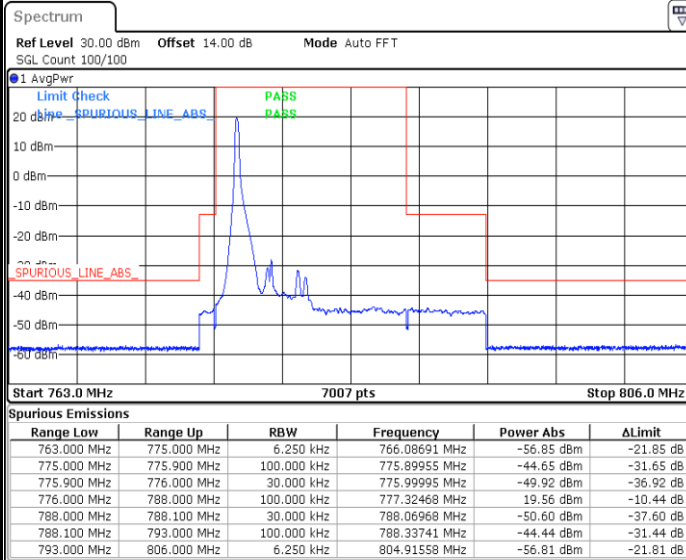
Highest Band Edge / Full RB



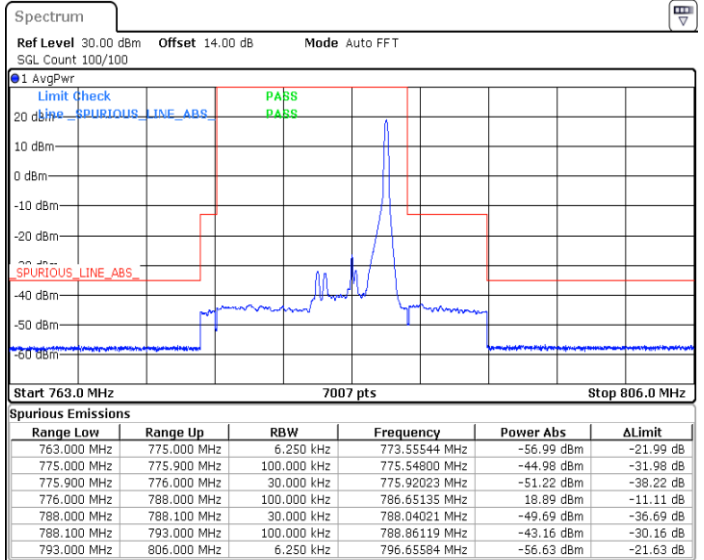


LTE Band 13 / 5MHz / 64QAM

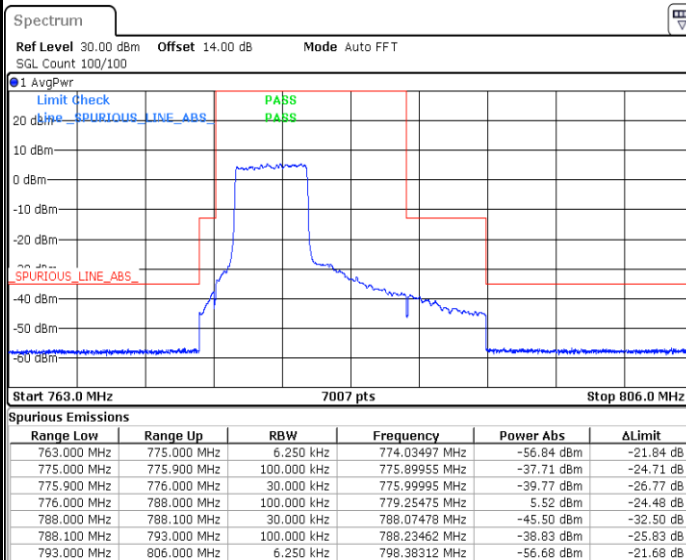
Lowest Band Edge / 1 RB



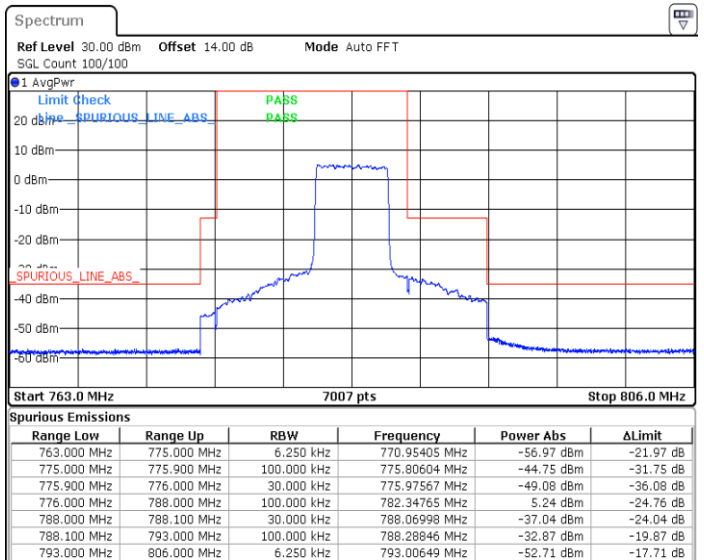
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



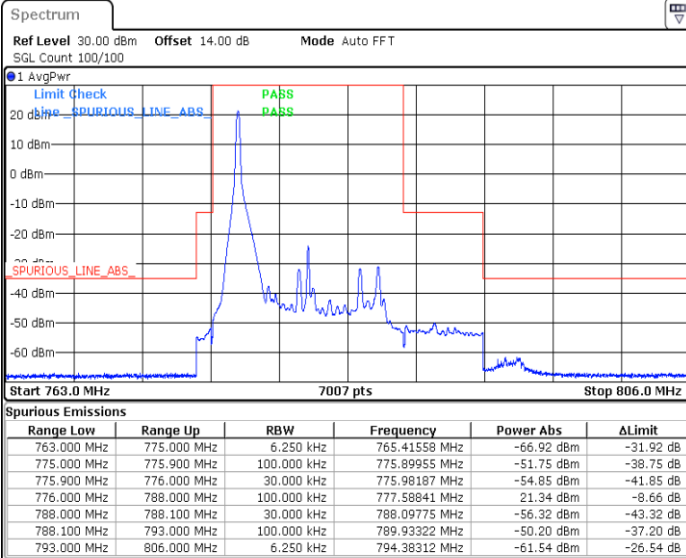
Highest Band Edge / Full RB





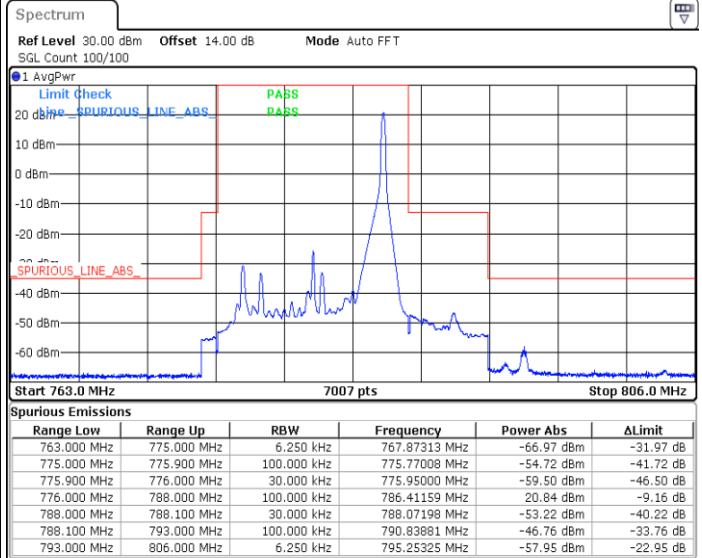
LTE Band 13 / 10MHz / QPSK

Band Edge / 1 RB



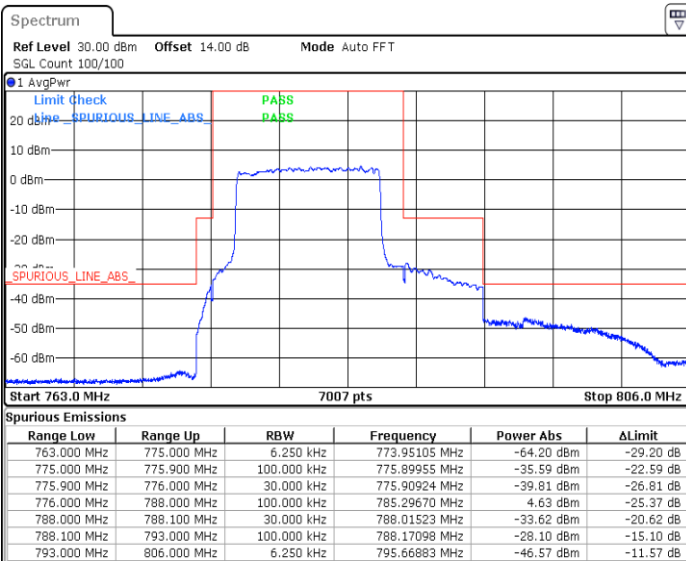
LTE Band 13 / 10MHz / QPSK

Band Edge / 1 RB



LTE Band 13 / 10MHz / QPSK

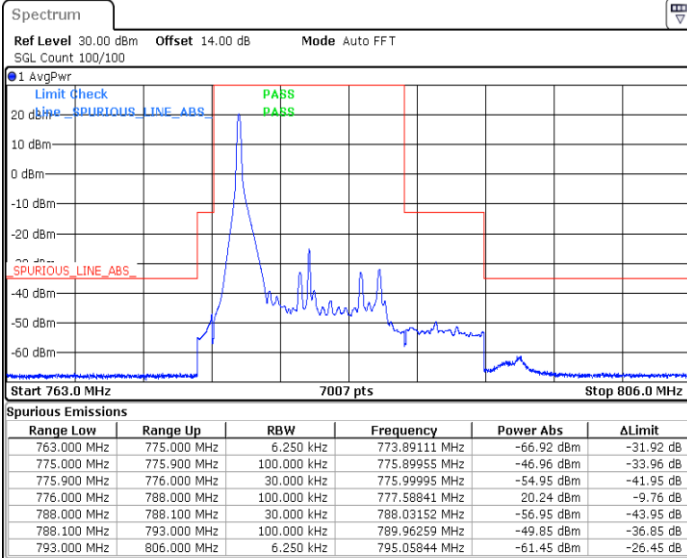
Band Edge / Full RB





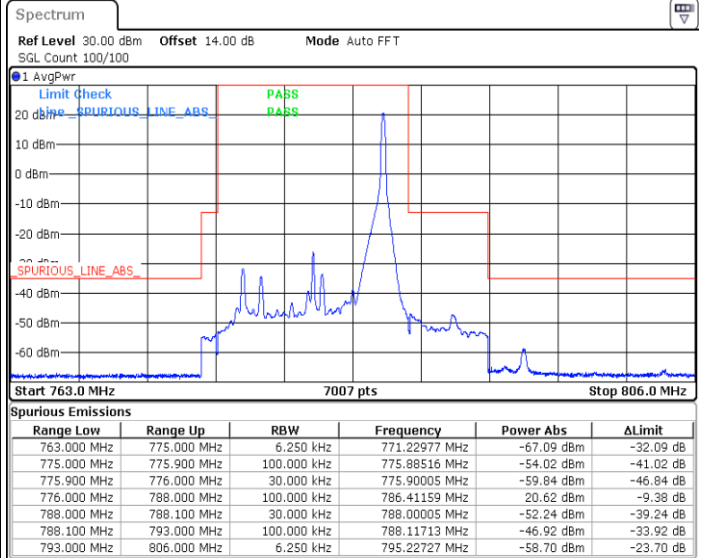
LTE Band 13 / 10MHz / 16QAM

Band Edge / 1 RB



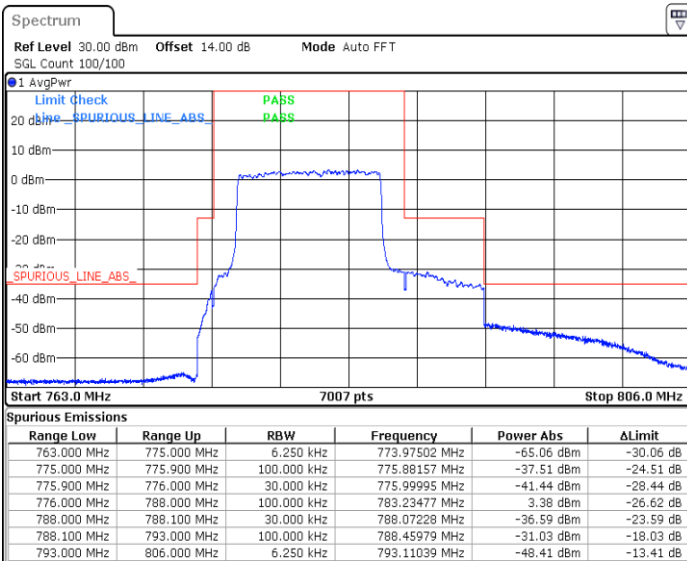
LTE Band 13 / 10MHz / 16QAM

Band Edge / 1 RB



LTE Band 13 / 10MHz / 16QAM

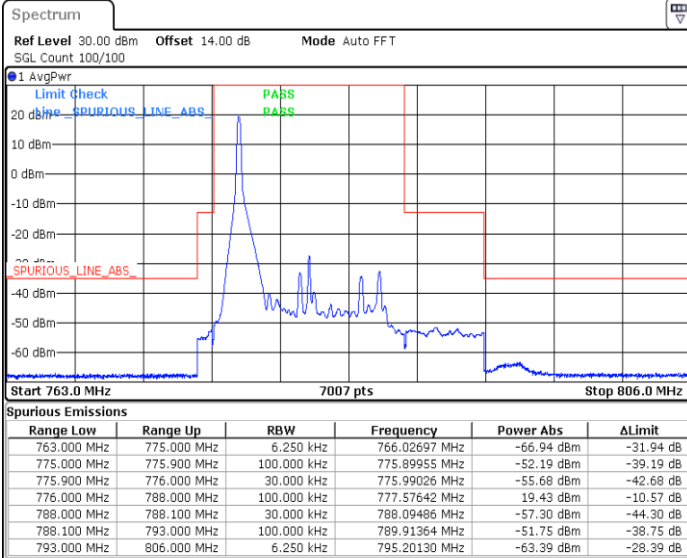
Band Edge / Full RB





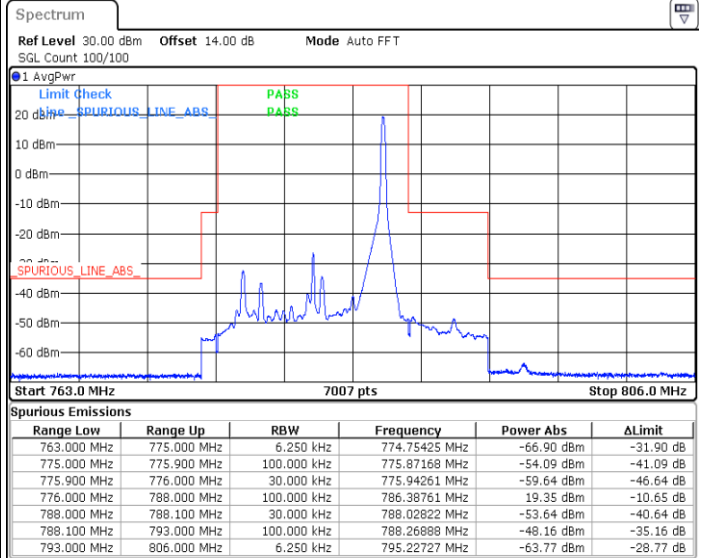
LTE Band 13 / 10MHz / 64QAM

Band Edge / 1 RB



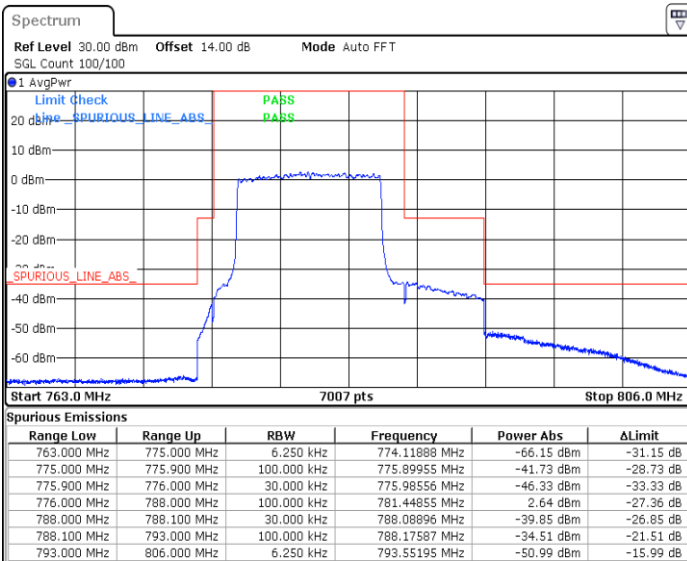
LTE Band 13 / 10MHz / 64QAM

Band Edge / 1 RB



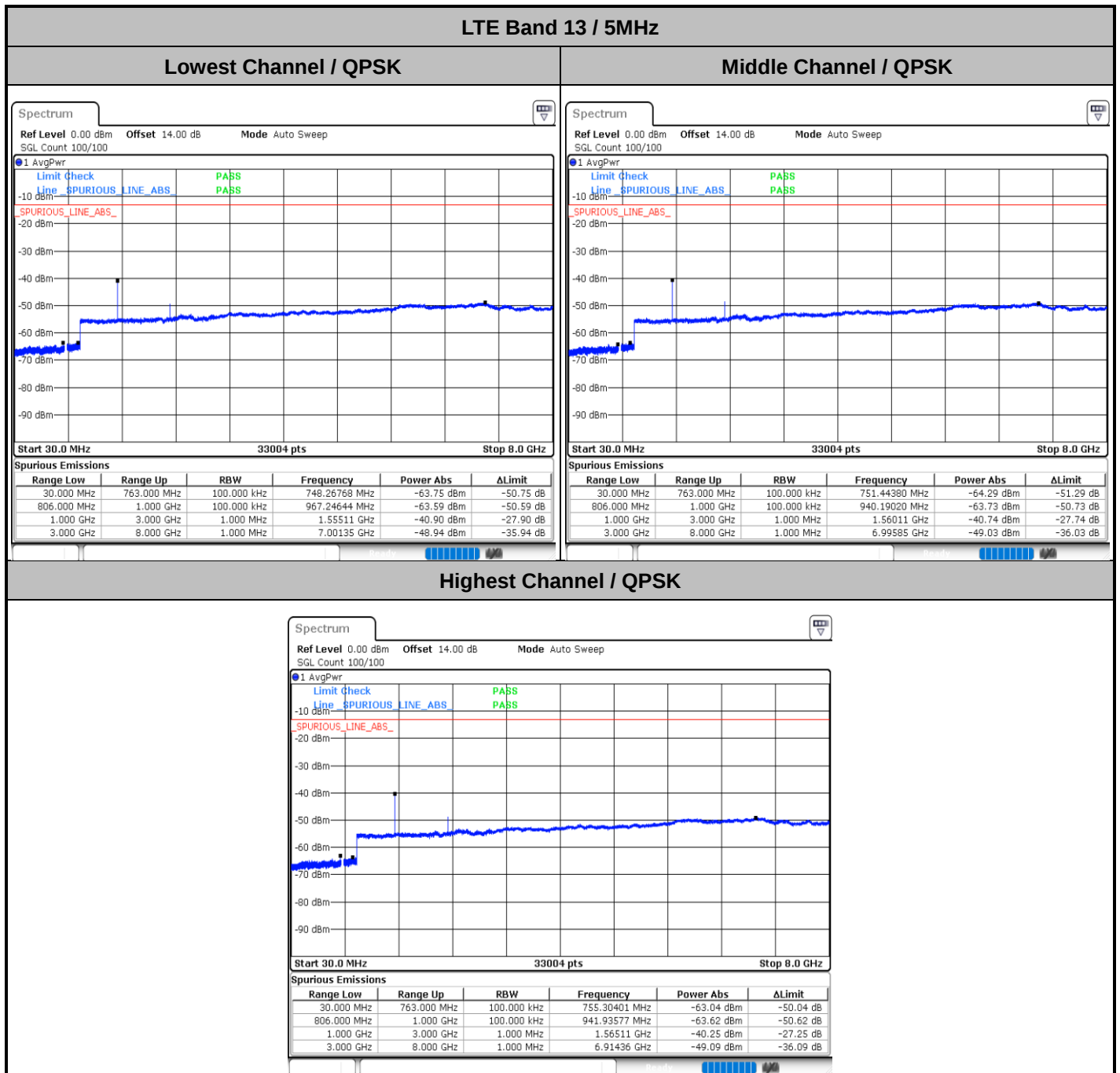
LTE Band 13 / 10MHz / 64QAM

Band Edge / Full RB





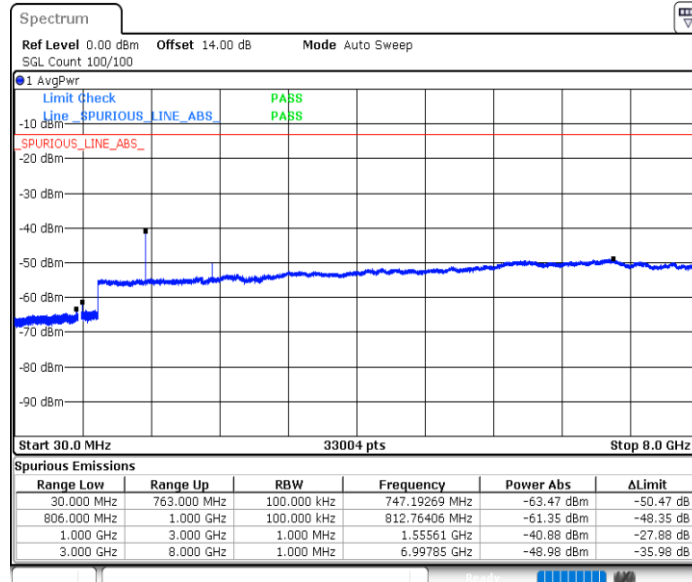
Conducted Spurious Emission





LTE Band 13 / 10MHz

Middle Channel / QPSK



Frequency Stability

Test Conditions		LTE Band 13 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0017	PASS
40	Normal Voltage	0.0026	
30	Normal Voltage	0.0024	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0037	
0	Normal Voltage	0.0019	
-10	Normal Voltage	0.0023	
-20	Normal Voltage	0.0009	
-30	Normal Voltage	0.0031	
20	Maximum Voltage	0.0064	
20	Normal Voltage	0.0000	
20	Minimum Voltage	0.0004	

Note:

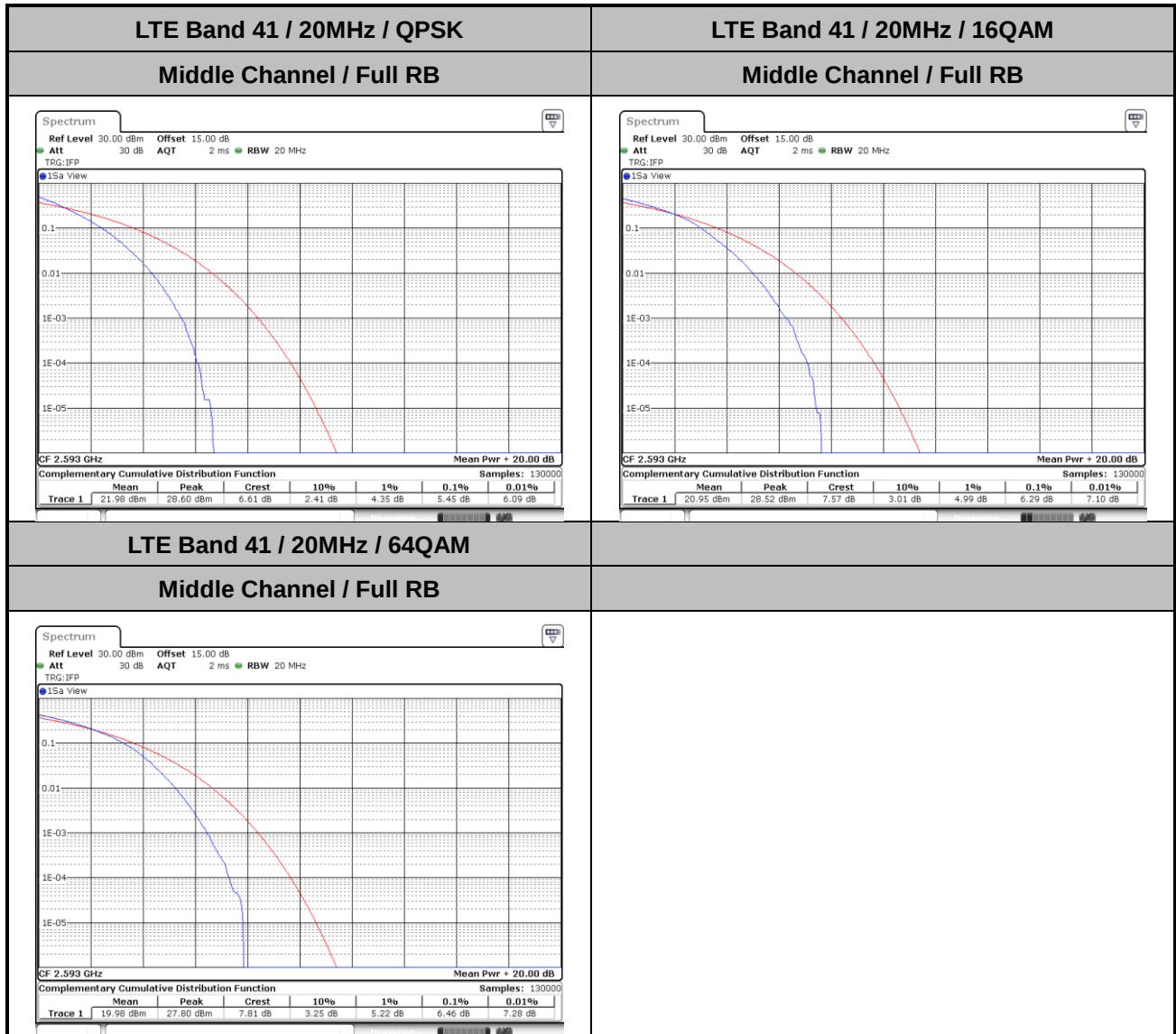
1. Normal Voltage = 3.3 V. ; Minimum Voltage = 3.135 V. ; Maximum Voltage = 4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 41

Peak-to-Average Ratio

Mode	LTE Band 41 / 20MHz			
Mod.	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Result
Middle CH	5.45	6.29	6.46	PASS





26dB Bandwidth

Mode	LTE Band 41 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	-	-	-	-	4.85	4.78	9.67	9.77	14.09	14.45	18.66	19.26