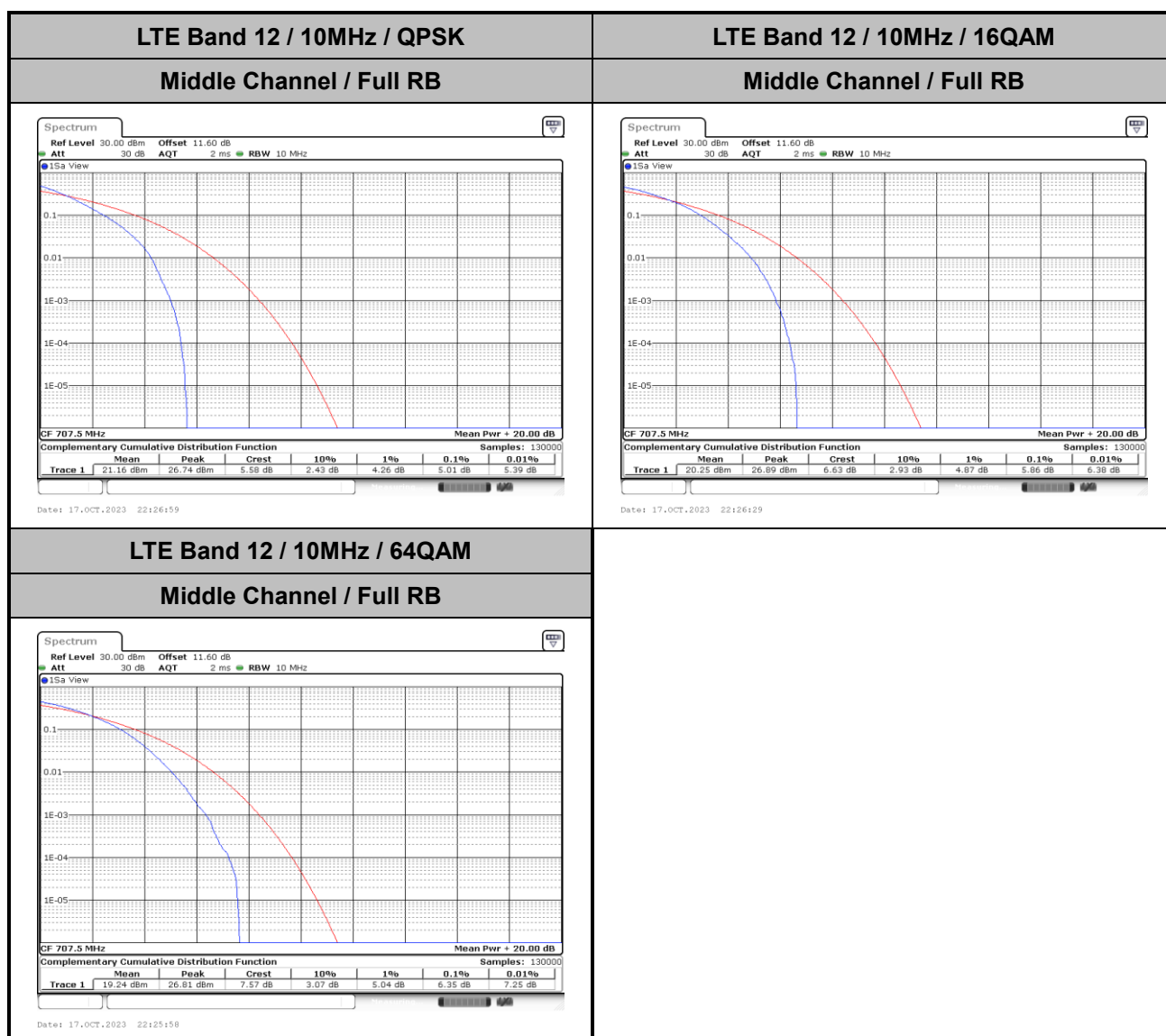




LTE Band 12

Peak-to-Average Ratio

Mode	LTE Band 12 / 10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Result
Middle CH	5.01	5.86	6.35	-	PASS



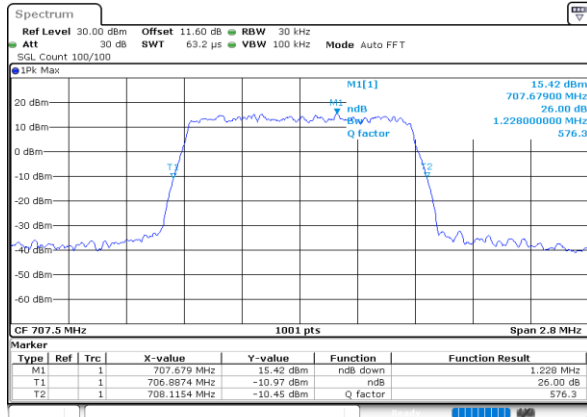
**26dB Bandwidth**

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
Middle CH	1.23	1.22	3.03	3.03	4.87	4.86	9.81	9.69	-	-	-	-
Mode	LTE Band 12 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	1.23	-	3.03	-	4.91	-	9.81	-	-	-	-	-

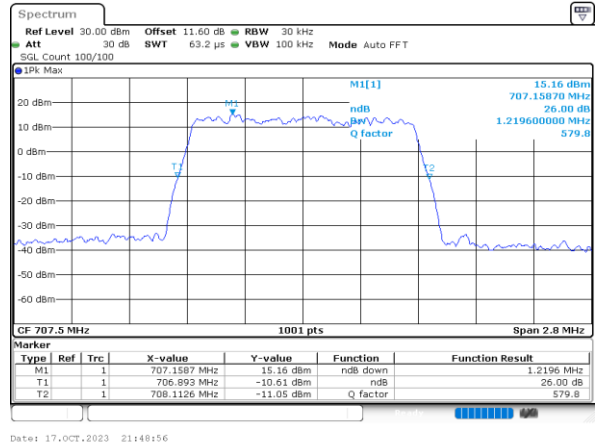


LTE Band 12

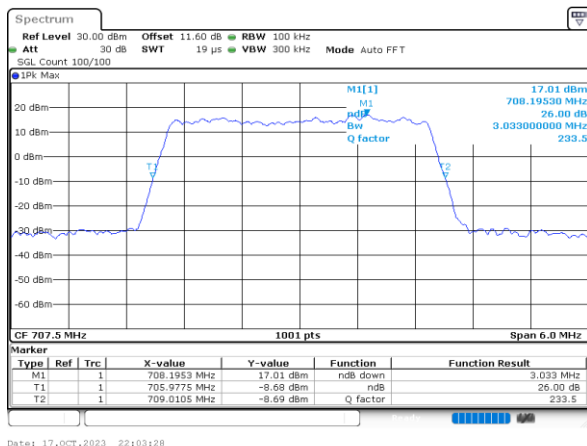
Middle Channel / 1.4MHz / QPSK



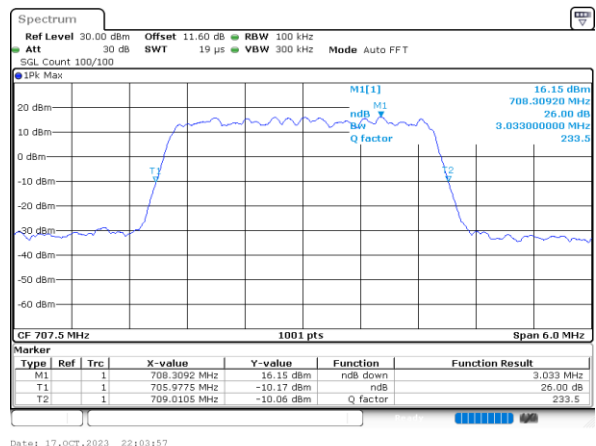
Middle Channel / 1.4MHz / 16QAM



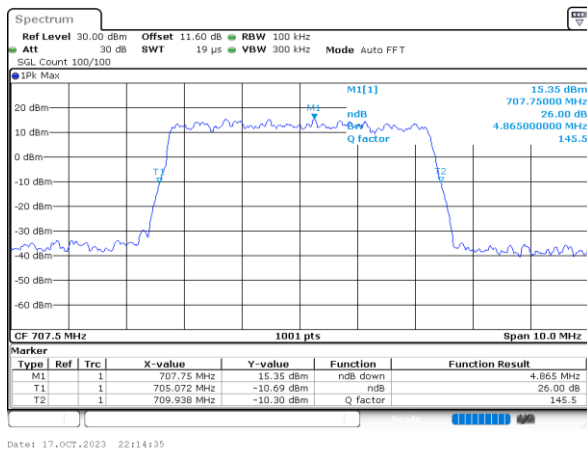
Middle Channel / 3MHz / QPSK



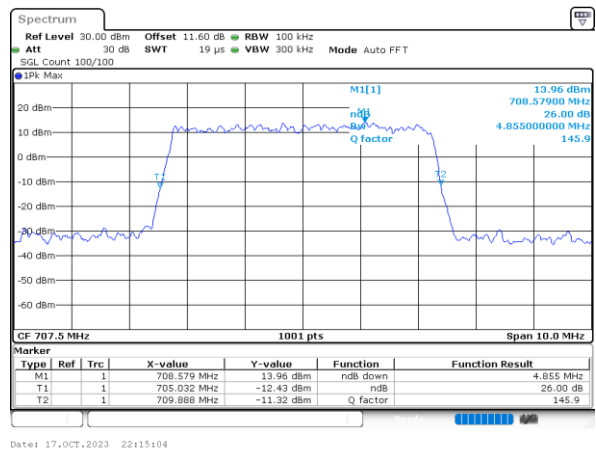
Middle Channel / 3MHz / 16QAM



Middle Channel / 5MHz / QPSK



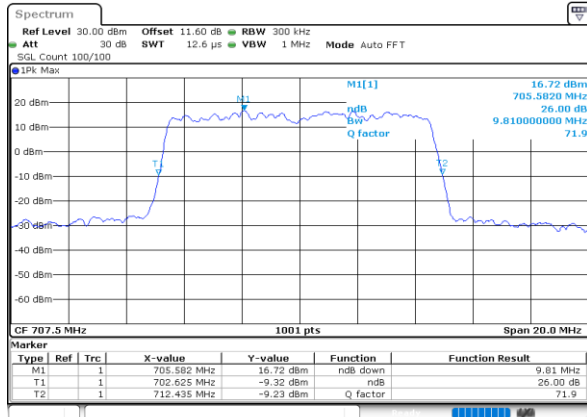
Middle Channel / 5MHz / 16QAM



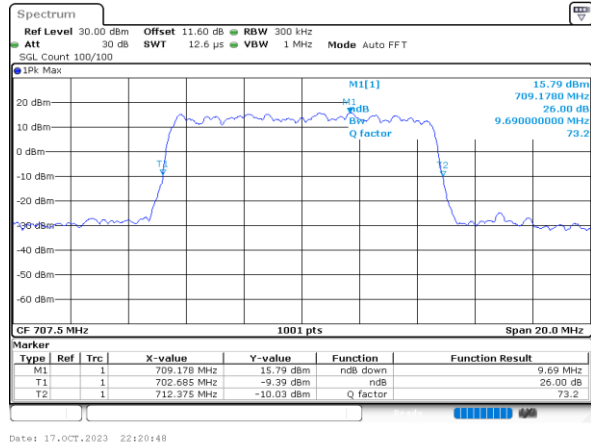


LTE Band 12

Middle Channel / 10MHz / QPSK

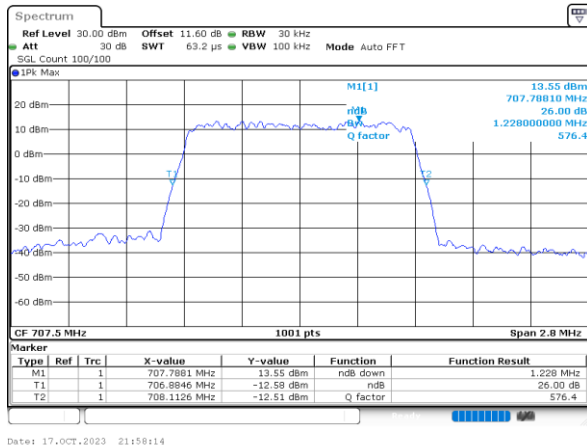


Middle Channel / 10MHz / 16QAM

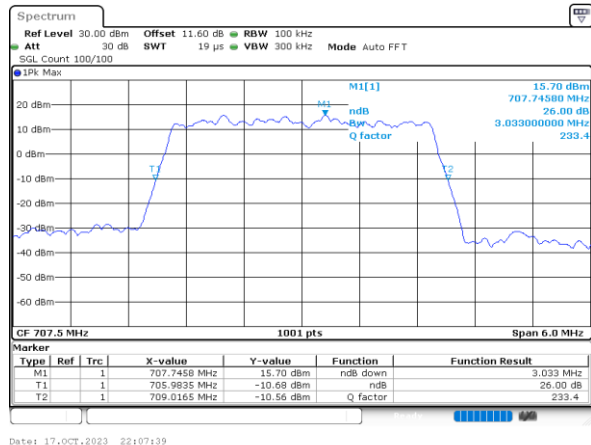


LTE Band 12

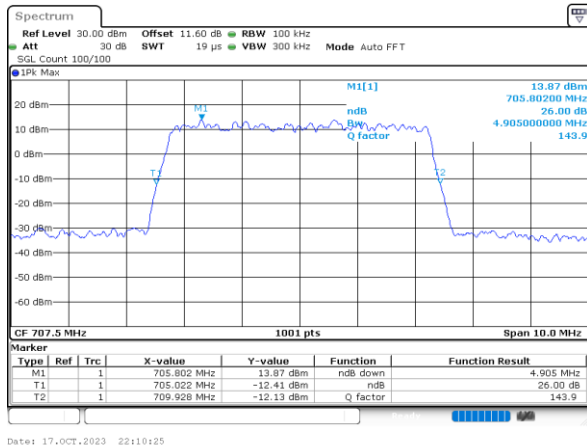
Middle Channel / 1.4MHz / 64QAM



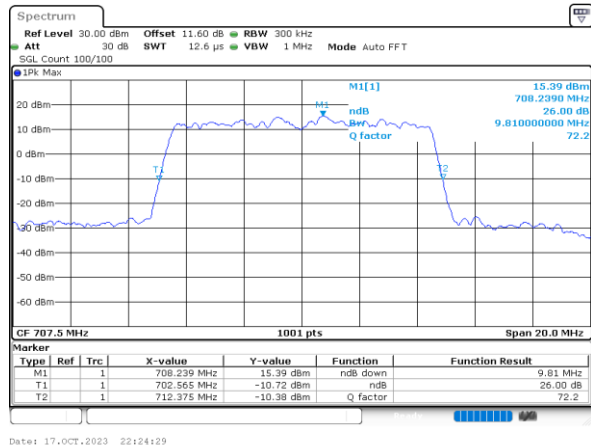
Middle Channel / 3MHz / 64QAM



Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



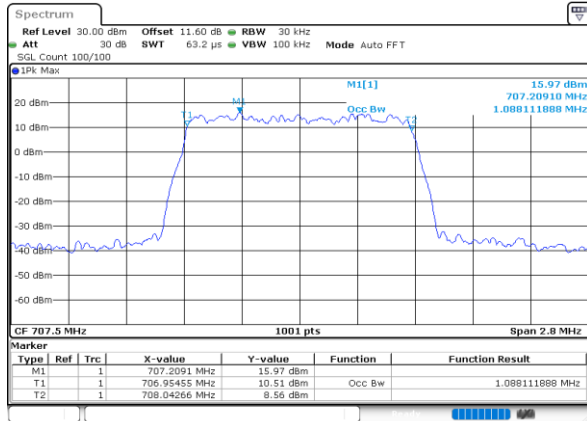
**Occupied Bandwidth**

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	1.09	1.09	2.71	2.73	4.48	4.50	9.09	8.97	-	-	-	-
Mode	LTE Band 12 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	1.09	-	2.72	-	4.49	-	8.97	-	-	-	-	-

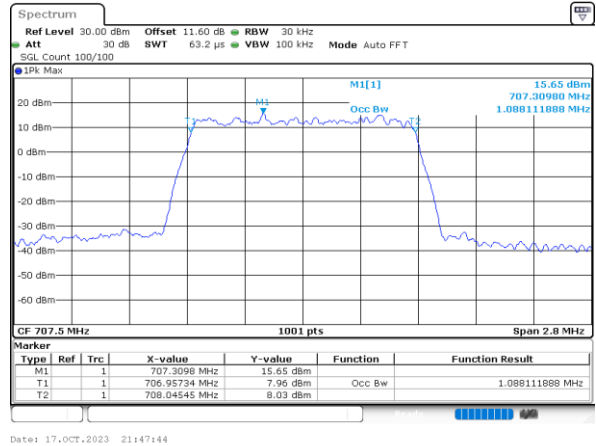


LTE Band 12

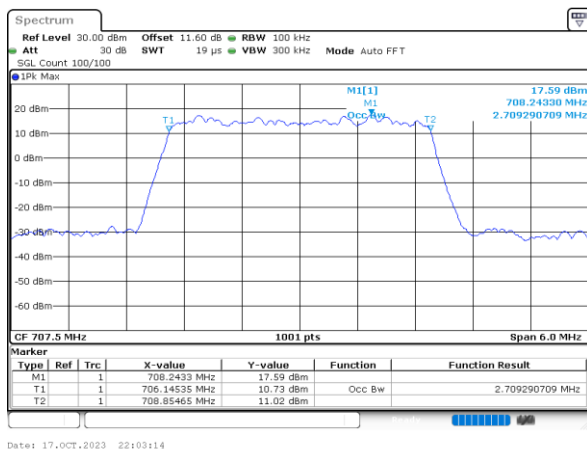
Middle Channel / 1.4MHz / QPSK



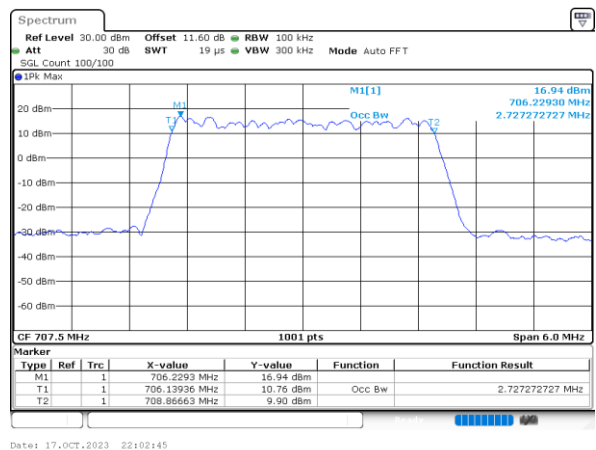
Middle Channel / 1.4MHz / 16QAM



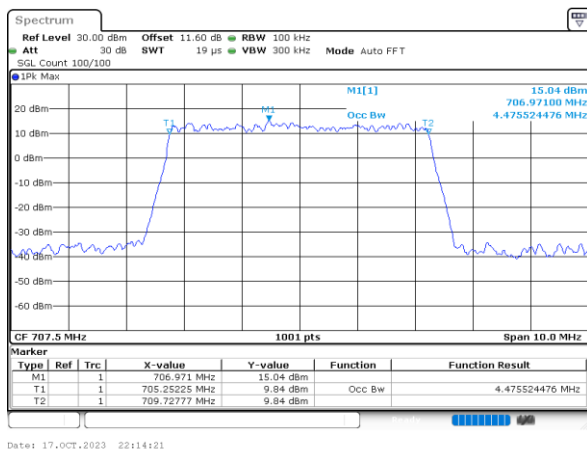
Middle Channel / 3MHz / QPSK



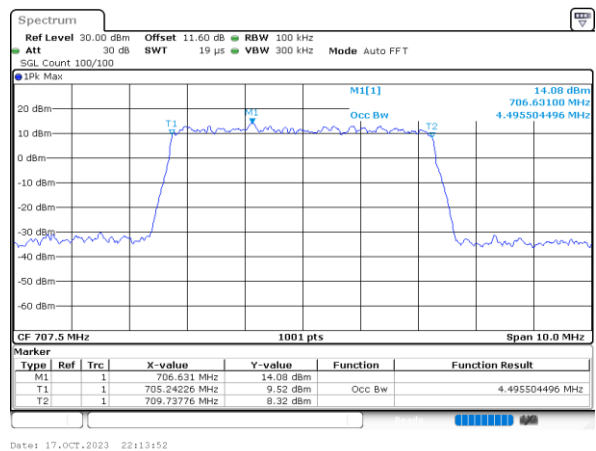
Middle Channel / 3MHz / 16QAM



Middle Channel / 5MHz / QPSK



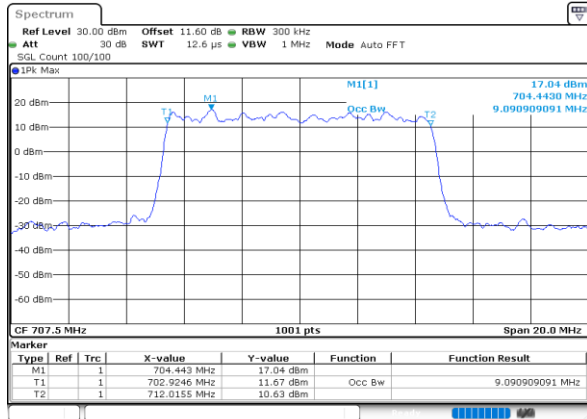
Middle Channel / 5MHz / 16QAM



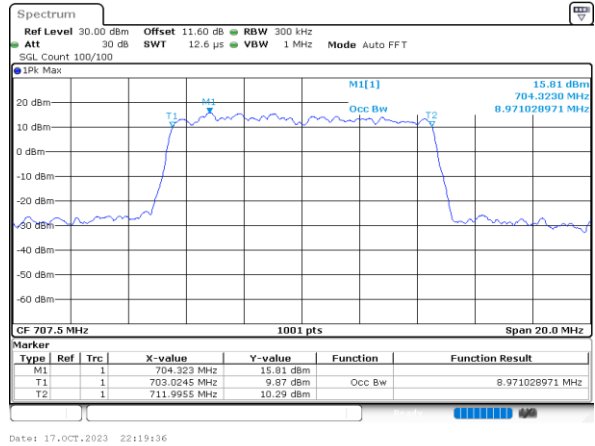


LTE Band 12

Middle Channel / 10MHz / QPSK

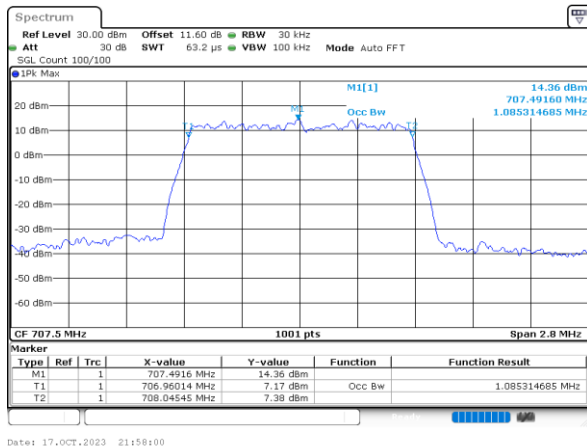


Middle Channel / 10MHz / 16QAM

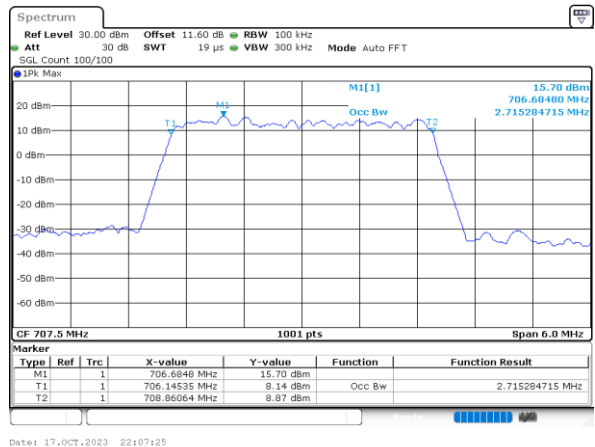


LTE Band 12

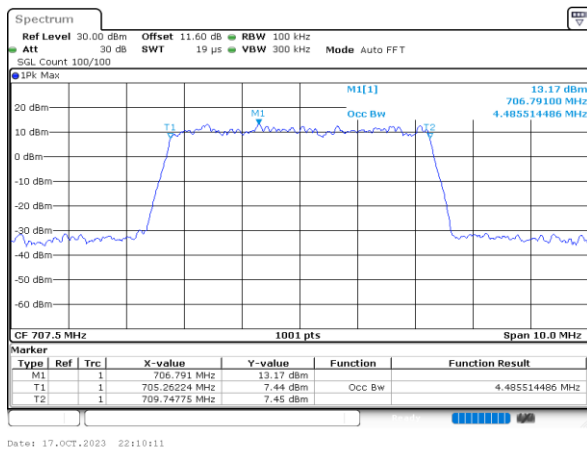
Middle Channel / 1.4MHz / 64QAM



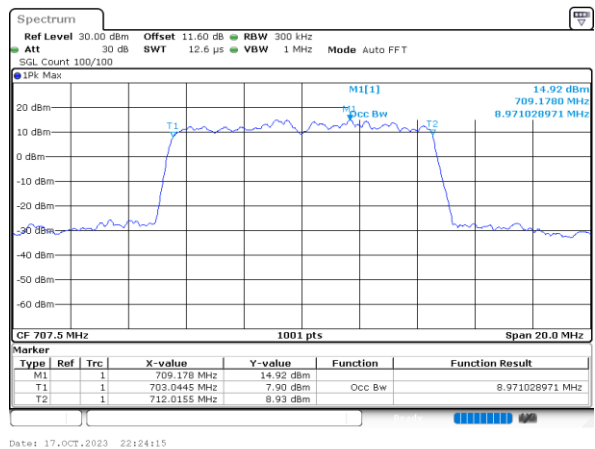
Middle Channel / 3MHz / 64QAM



Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM

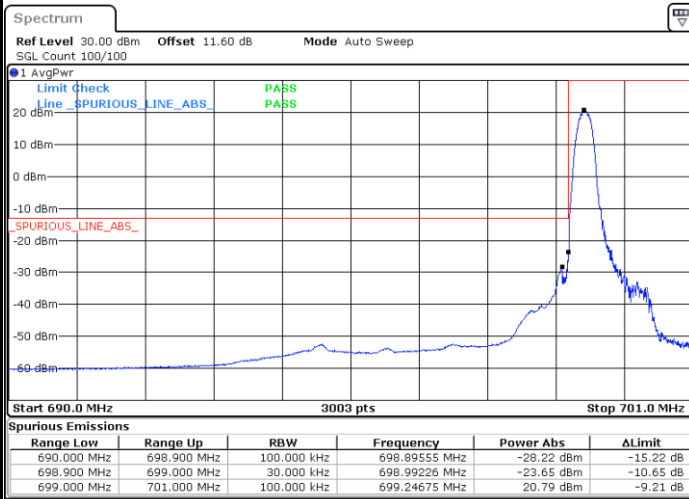




Conducted Band Edge

LTE Band 12 / 1.4MHz / QPSK

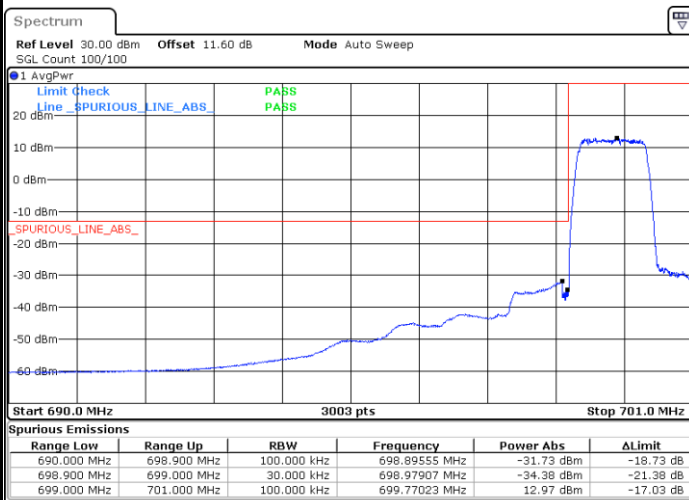
Lowest Band Edge / 1RB



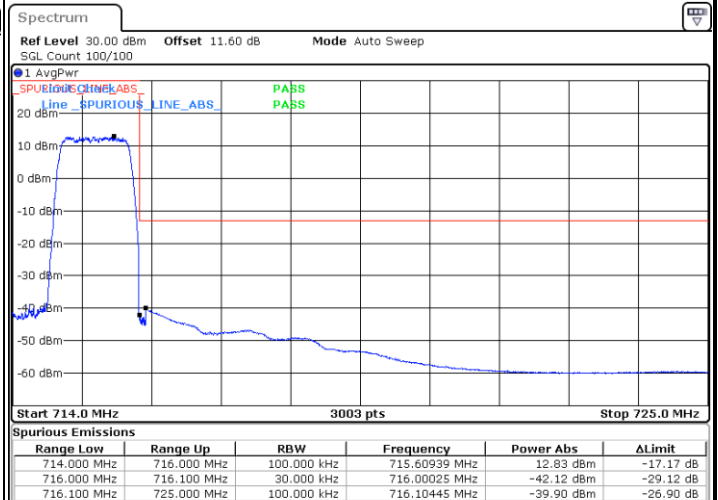
Highest Band Edge / 1RB



Lowest Band Edge / Full RB



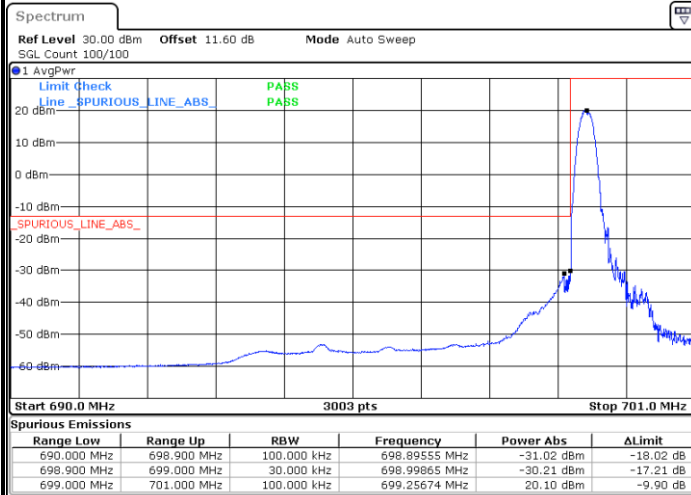
Highest Band Edge / Full RB





LTE Band 12 / 1.4MHz / 16QAM

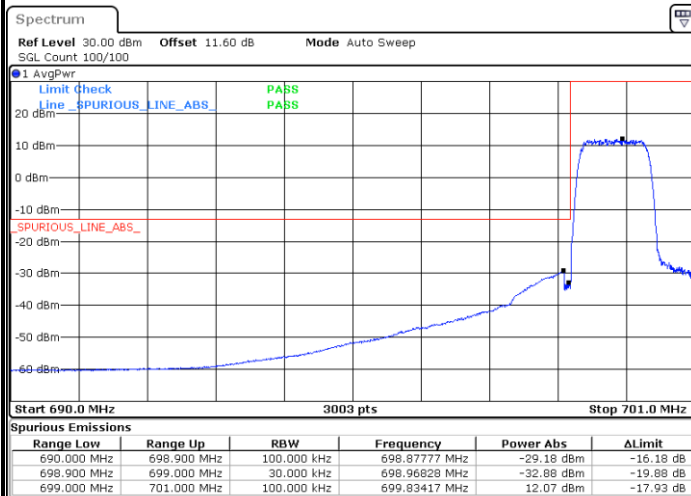
Lowest Band Edge / 1 RB



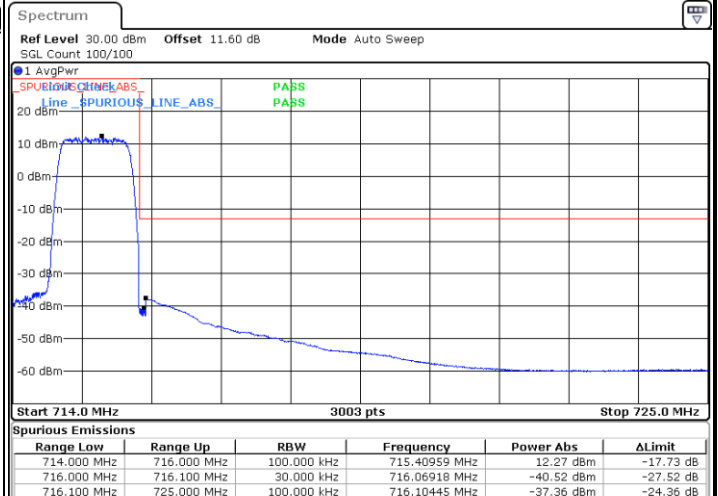
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



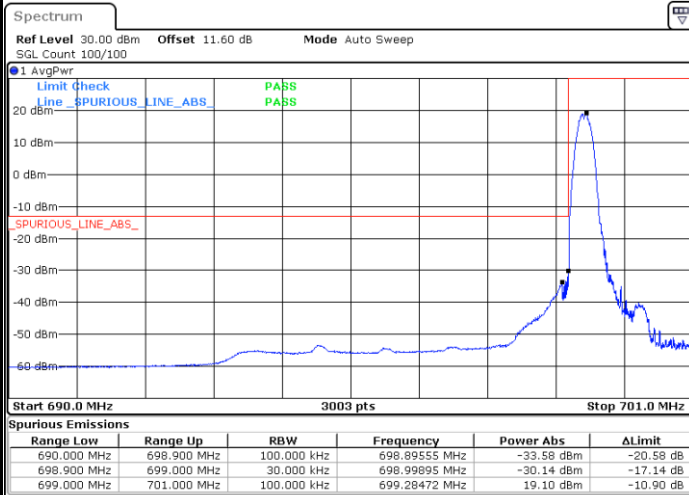
Highest Band Edge / Full RB





LTE Band 12 / 1.4MHz / 64QAM

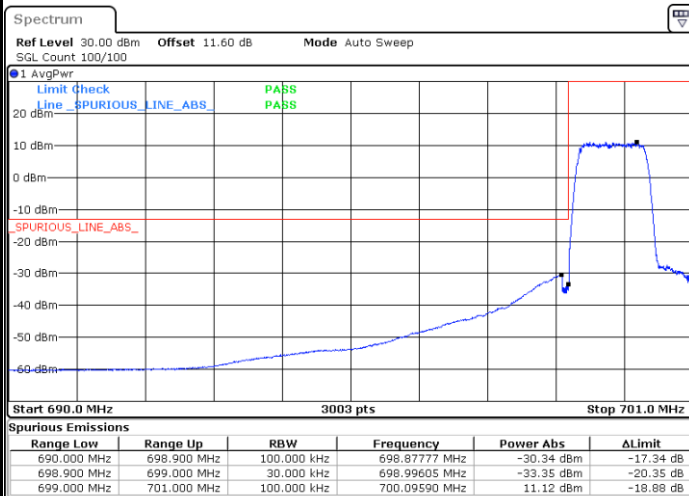
Lowest Band Edge / 1 RB



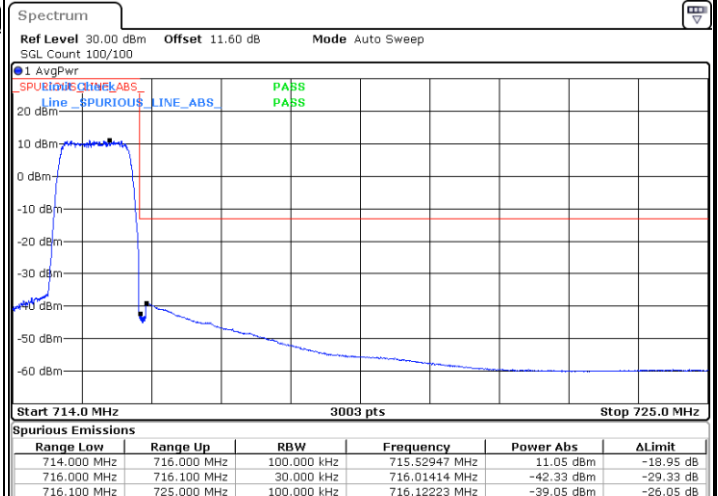
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



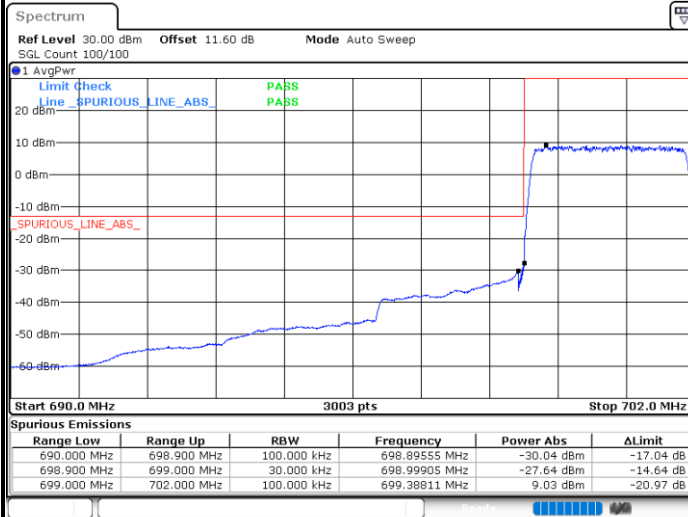
Highest Band Edge / Full RB





LTE Band 12 / 3MHz / QPSK

Lowest Band Edge / Full RB

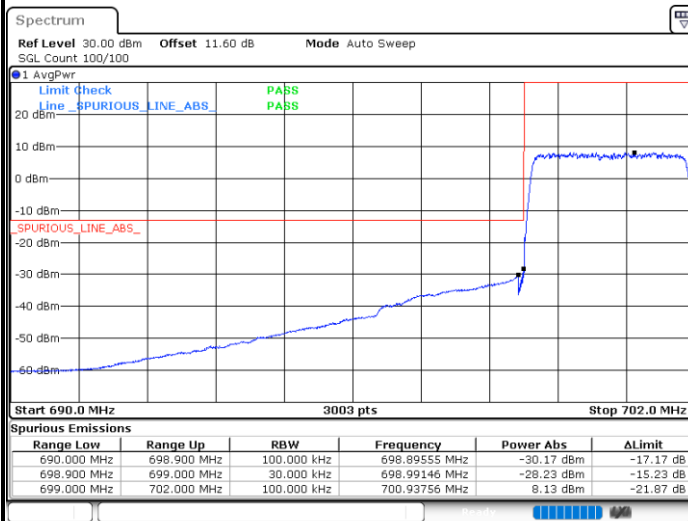


Highest Band Edge / Full RB

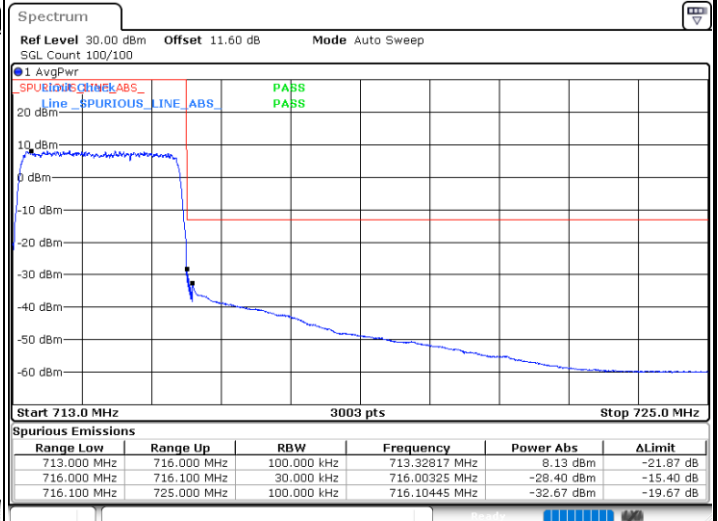


LTE Band 12 / 3MHz / 16QAM

Lowest Band Edge / Full RB



Highest Band Edge / Full RB

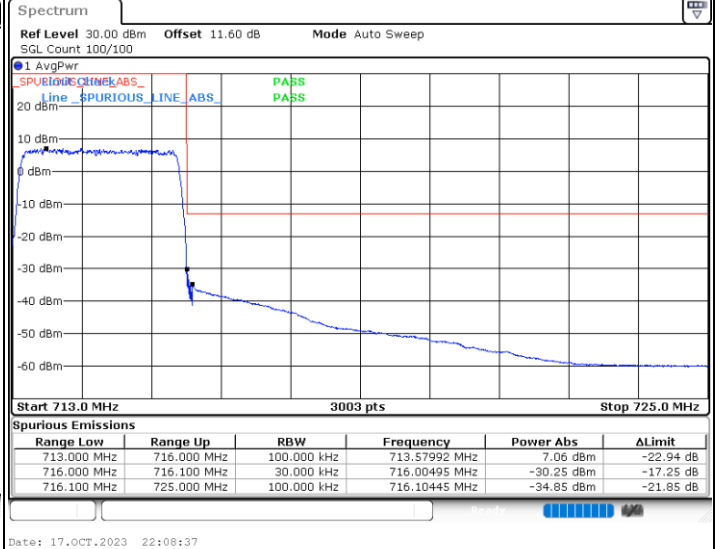
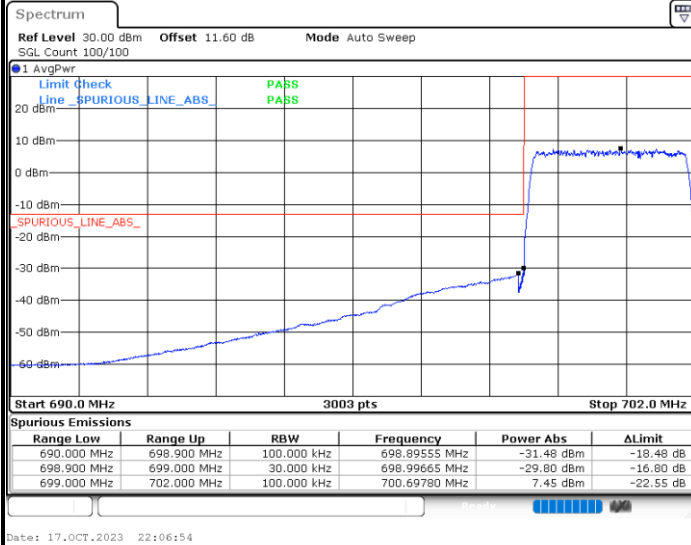




LTE Band 12 / 3MHz / 64QAM

Lowest Band Edge / Full RB

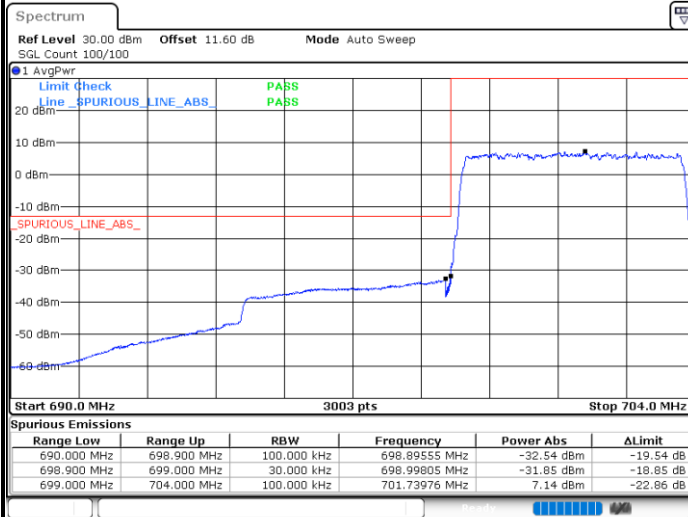
Highest Band Edge / Full RB



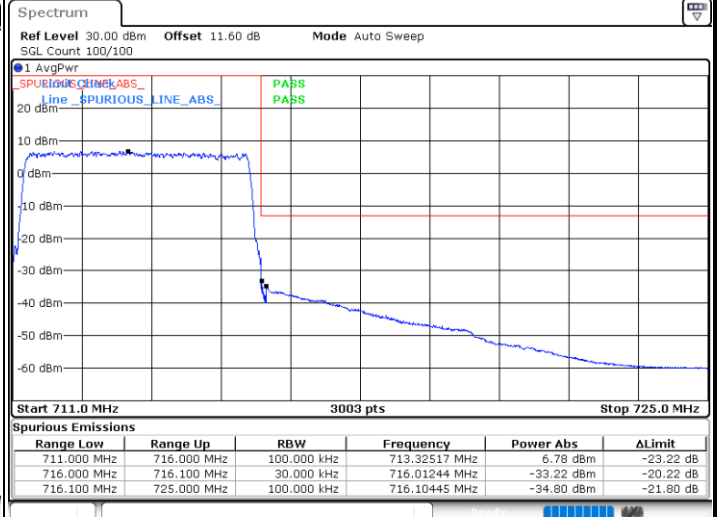


LTE Band 12 / 5MHz / QPSK

Lowest Band Edge / Full RB

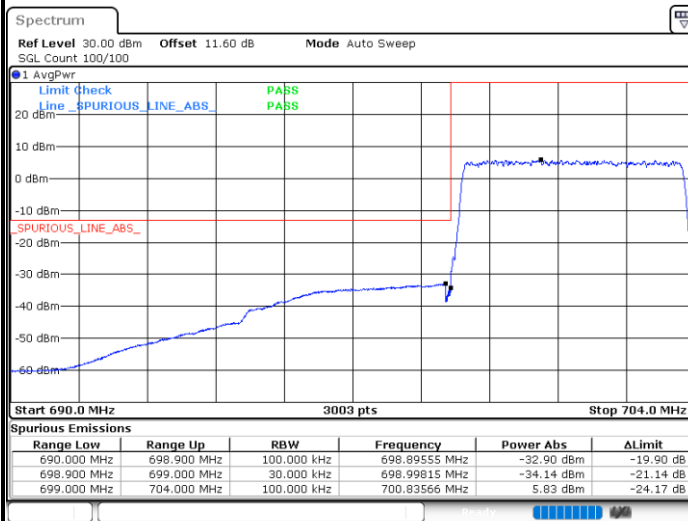


Highest Band Edge / Full RB

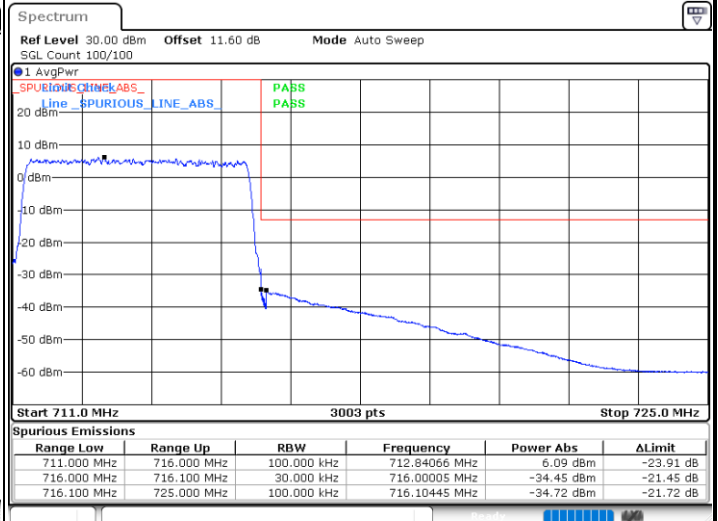


LTE Band 12 / 5MHz / 16QAM

Lowest Band Edge / Full RB



Highest Band Edge / Full RB

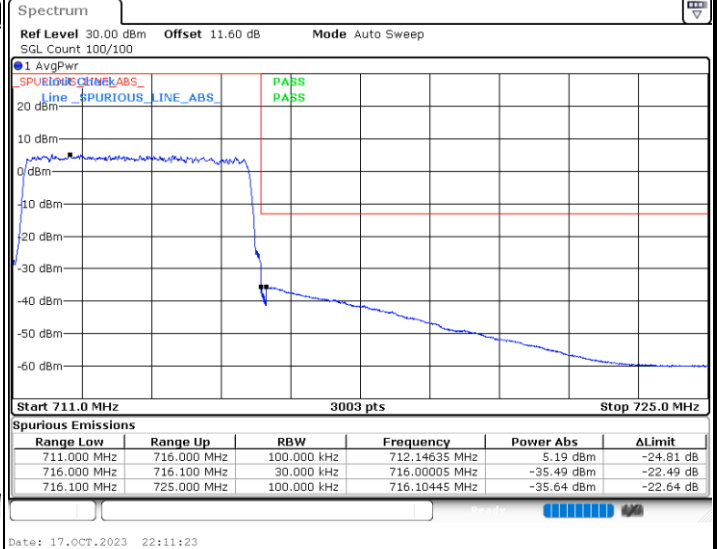
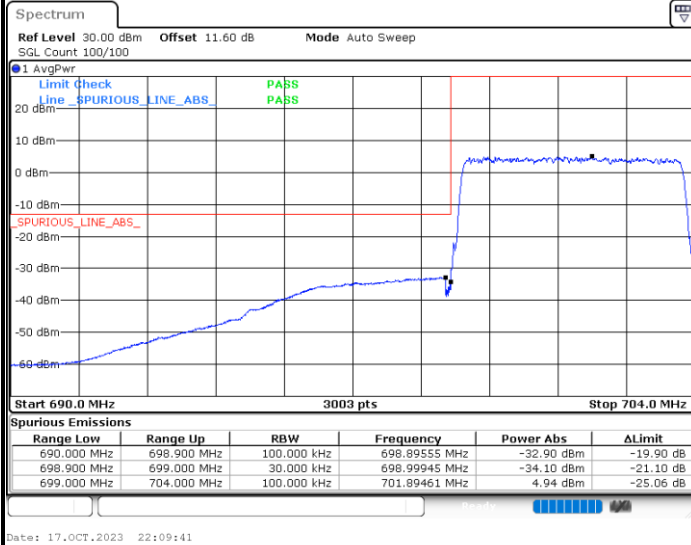




LTE Band 12 / 5MHz / 64QAM

Lowest Band Edge / Full RB

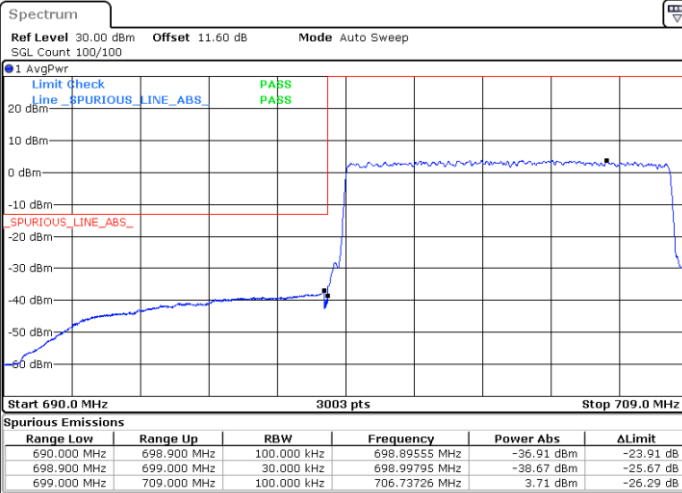
Highest Band Edge / Full RB



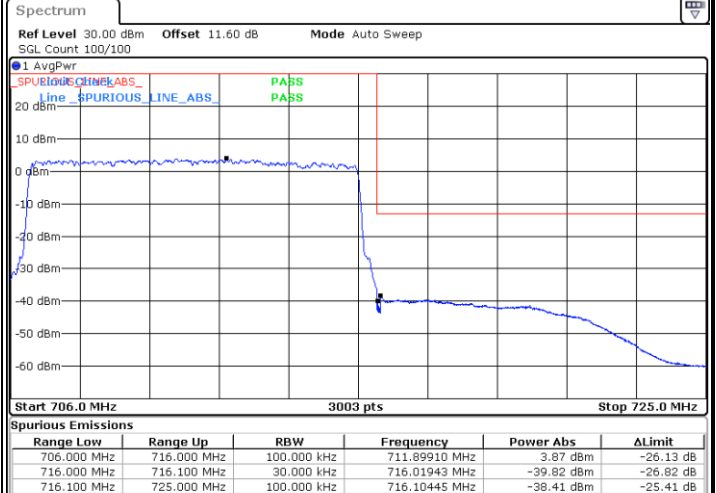


LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / Full RB

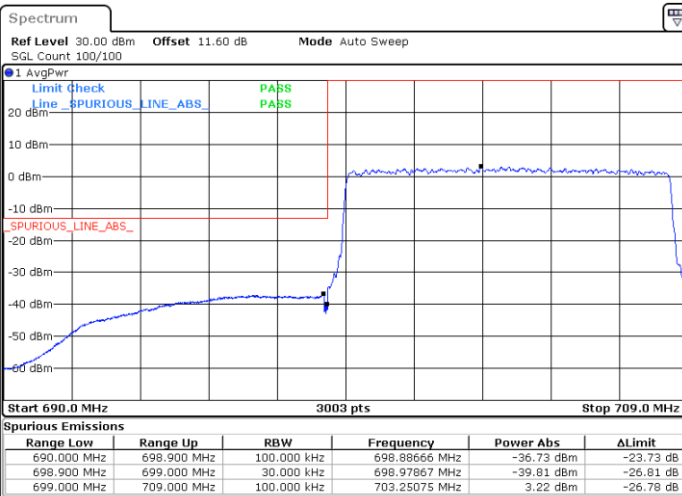


Highest Band Edge / Full RB

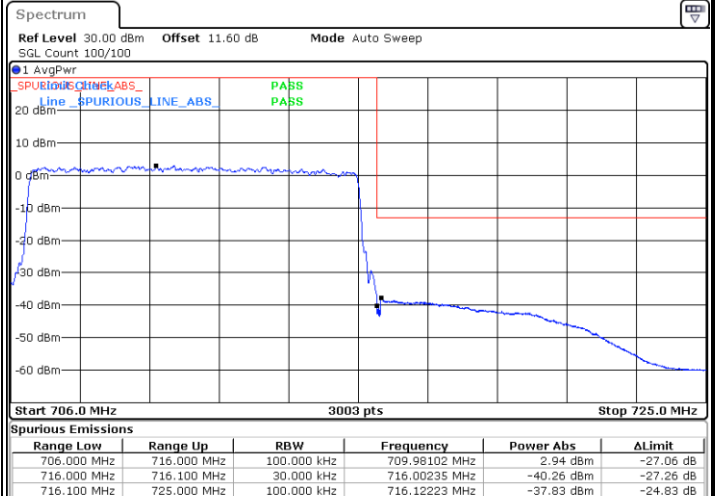


LTE Band 12 / 10MHz / 16QAM

Lowest Band Edge / Full RB



Highest Band Edge / Full RB

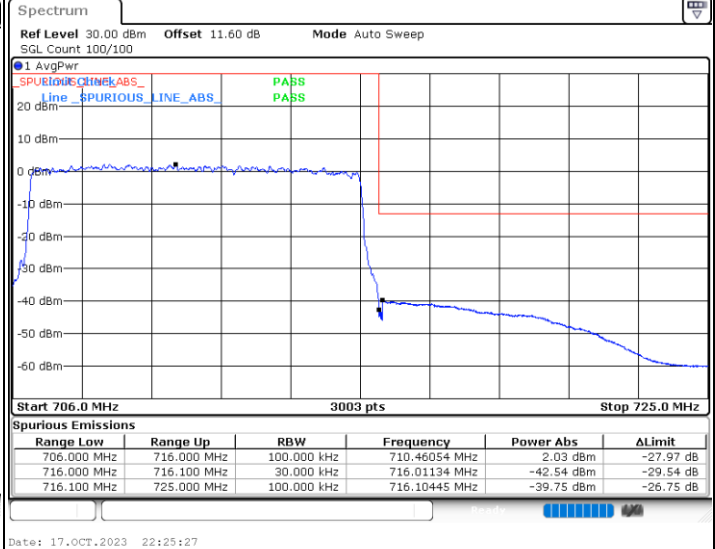
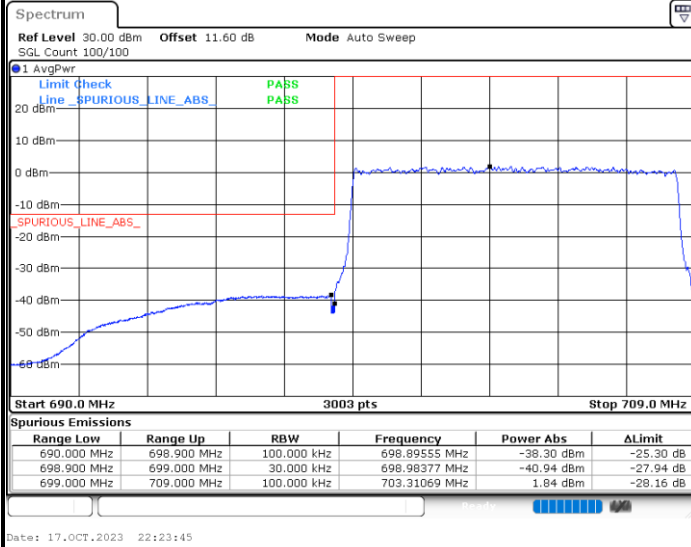




LTE Band 12 / 10MHz / 64QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

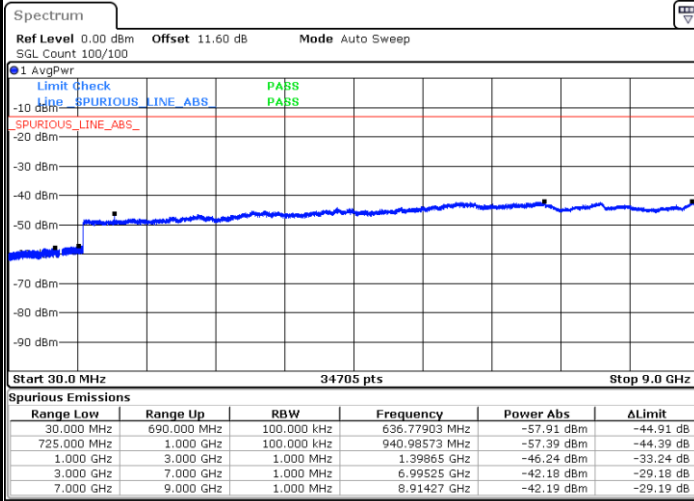




Conducted Spurious Emission

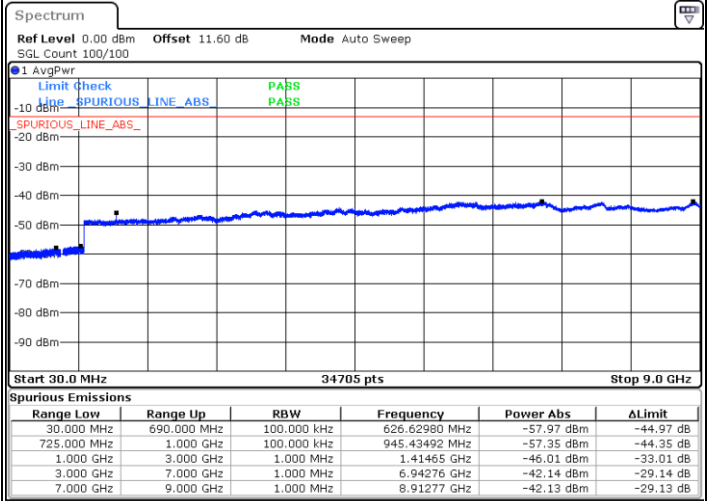
LTE Band 12 / 1.4MHz

Lowest Channel / QPSK



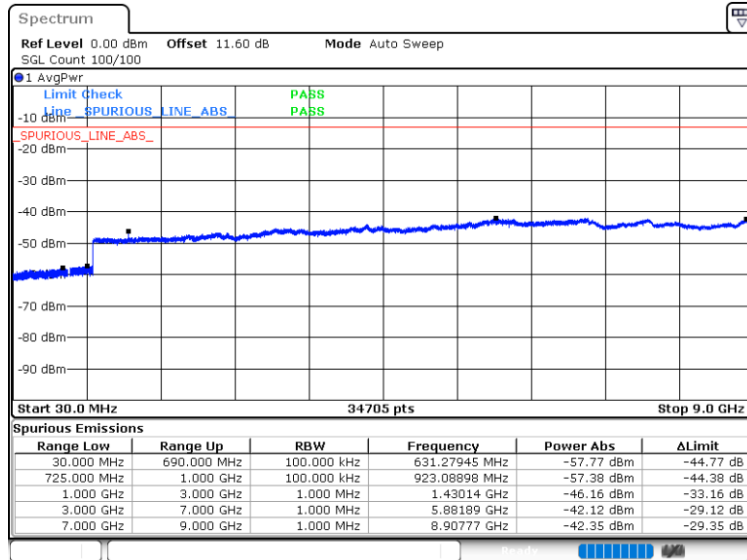
Date: 17.OCT.2023 21:47:14

Middle Channel / QPSK



Date: 17.OCT.2023 21:50:13

Highest Channel / QPSK

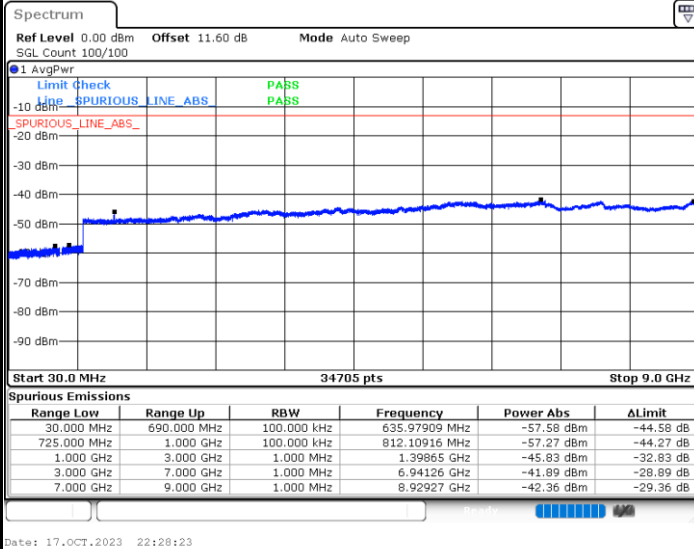


Date: 17.OCT.2023 21:55:31

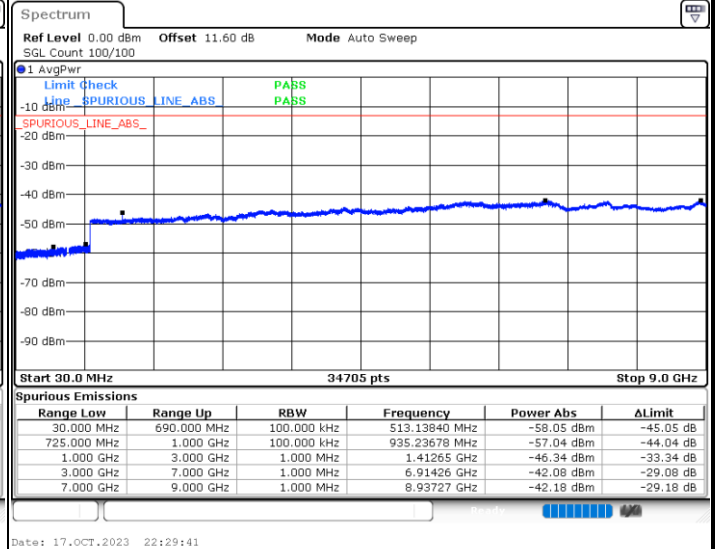


LTE Band 12 / 3MHz

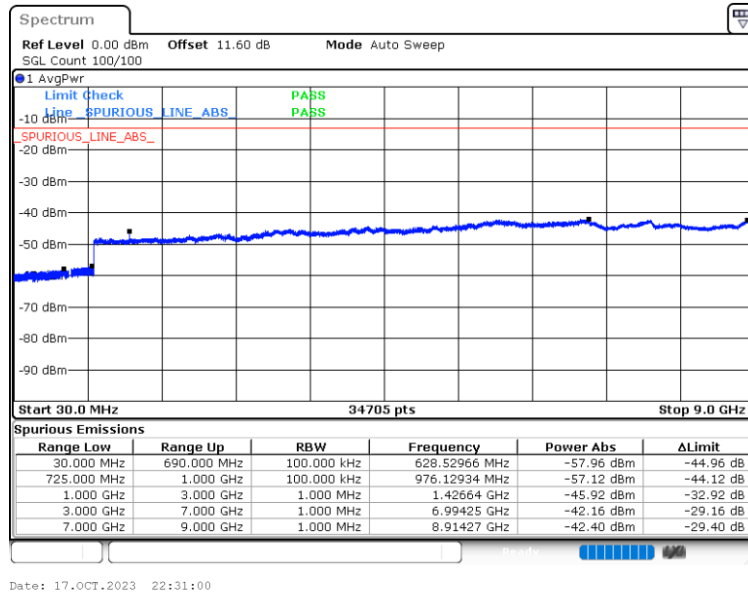
Lowest Channel / QPSK



Middle Channel / QPSK



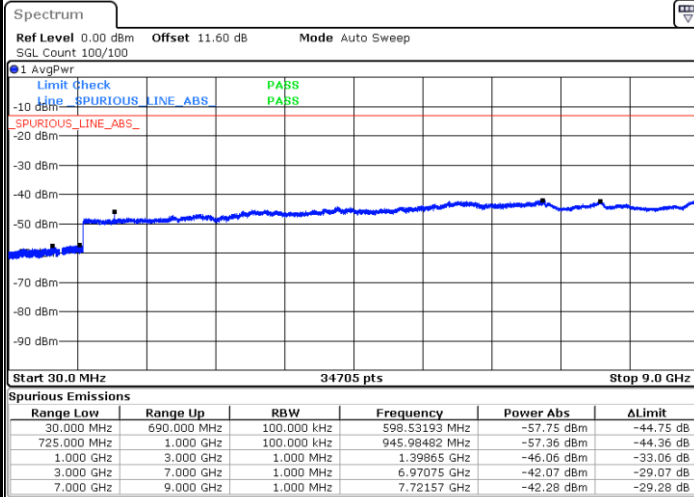
Highest Channel / QPSK





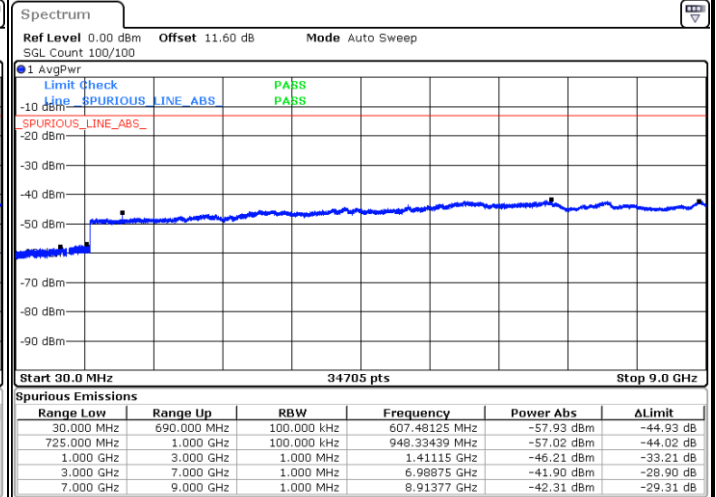
LTE Band 12 / 5MHz

Lowest Channel / QPSK



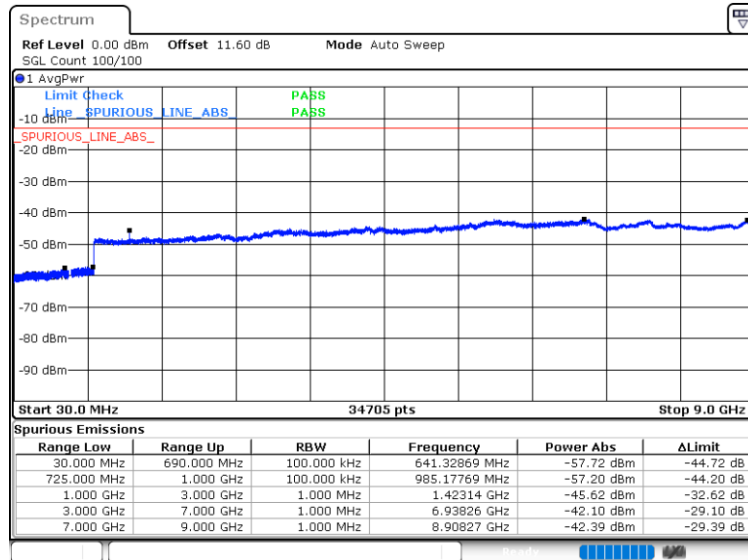
Date: 17.OCT.2023 22:32:23

Middle Channel / QPSK



Date: 17.OCT.2023 22:33:40

Highest Channel / QPSK

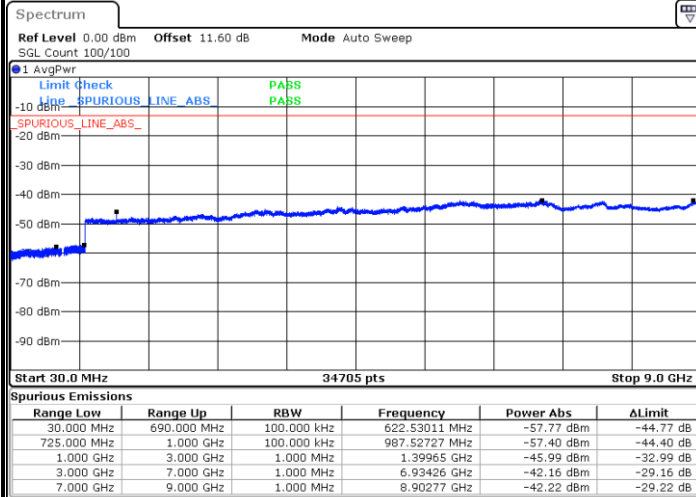


Date: 17.OCT.2023 22:34:59



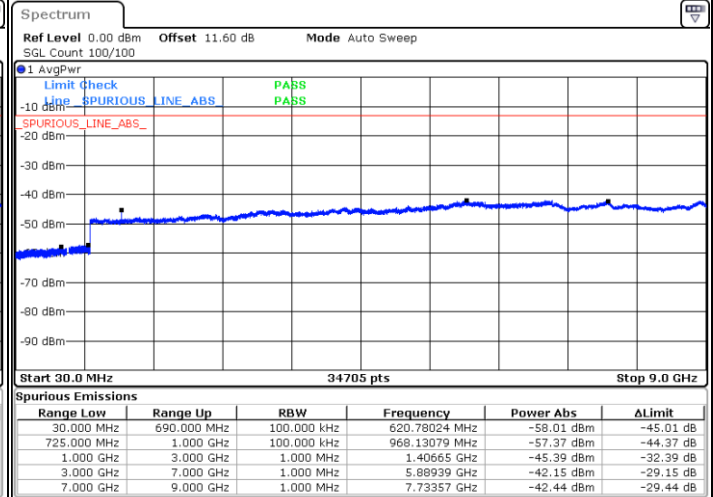
LTE Band 12 / 10MHz

Lowest Channel / QPSK



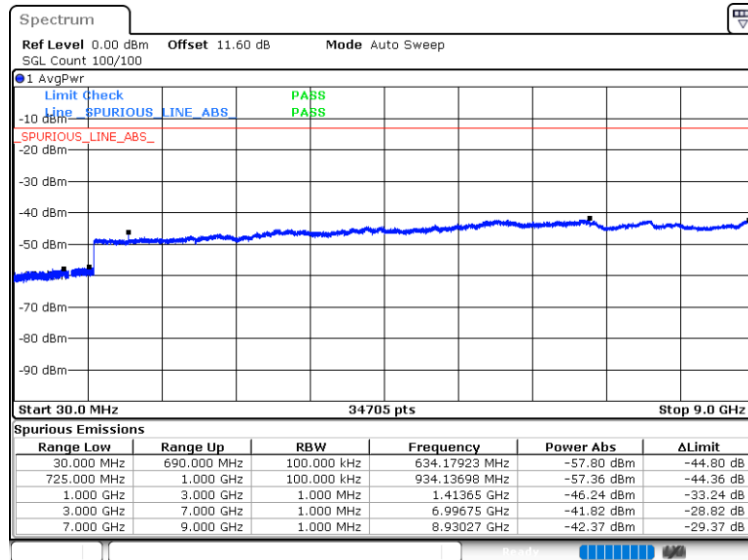
Date: 17.OCT.2023 22:36:22

Middle Channel / QPSK



Date: 17.OCT.2023 22:37:40

Highest Channel / QPSK



Date: 17.OCT.2023 22:38:58

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	0.0114	PASS
40	Normal Voltage	0.0021	
30	Normal Voltage	0.0119	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0054	
0	Normal Voltage	0.0177	
-10	Normal Voltage	0.0196	
-20	Normal Voltage	0.0131	
-30	Normal Voltage	0.0204	
20	Maximum Voltage	0.0085	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0030	

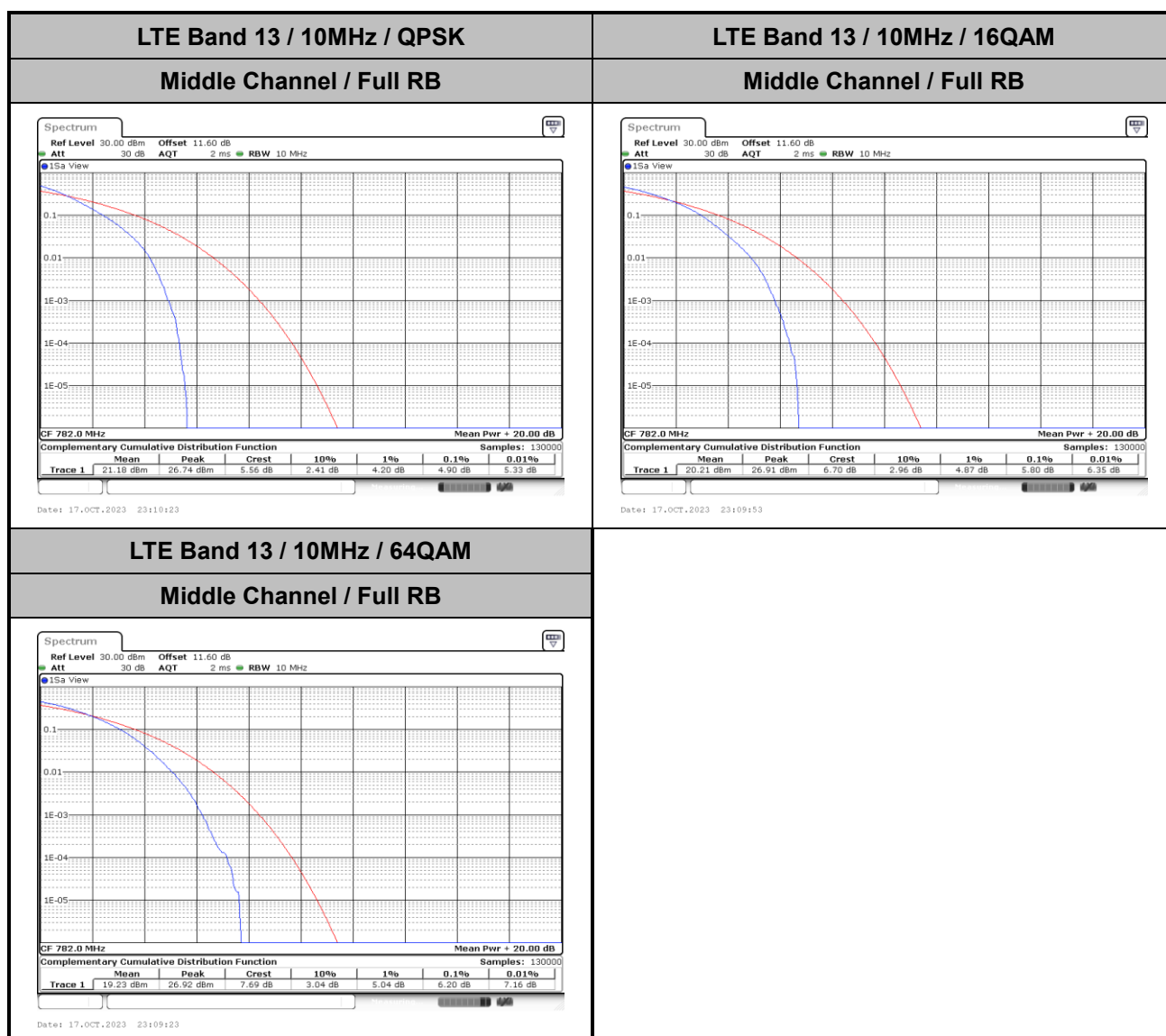
Note:

1. Normal Voltage = 4.0 V. ; Battery End Point (BEP) = 3.8 V. ; Maximum Voltage = 4.2 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	256QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Result
Middle CH	4.90	5.80	6.20	-	PASS



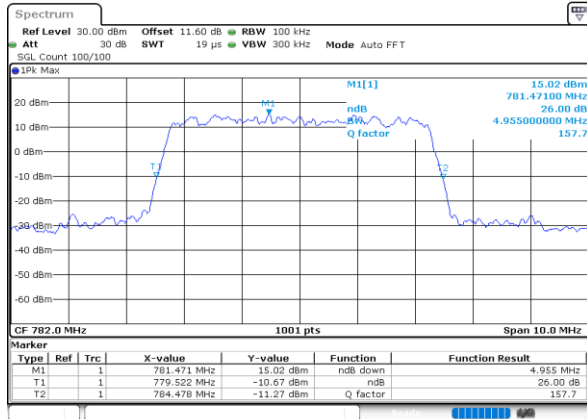
**26dB Bandwidth**

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	-	-	-	-	4.96	4.91	9.83	9.69	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	-	-	-	-	4.89	-	9.75	-	-	-	-	-

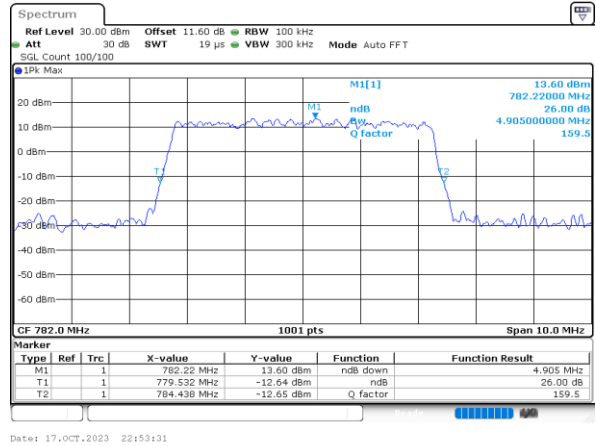


LTE Band 13

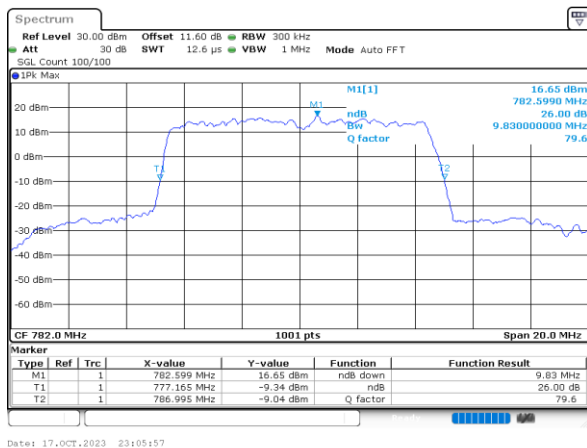
Middle Channel / 5MHz / QPSK



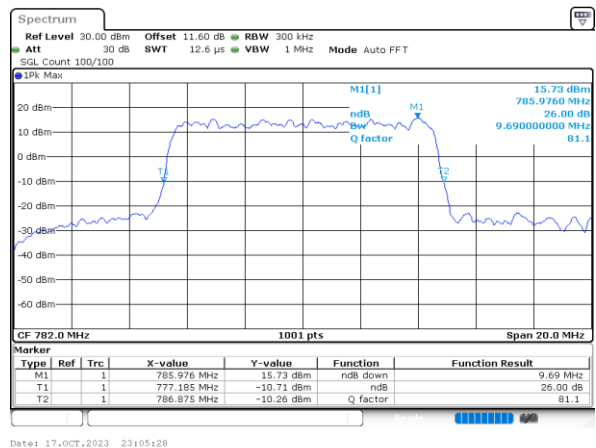
Middle Channel / 5MHz / 16QAM



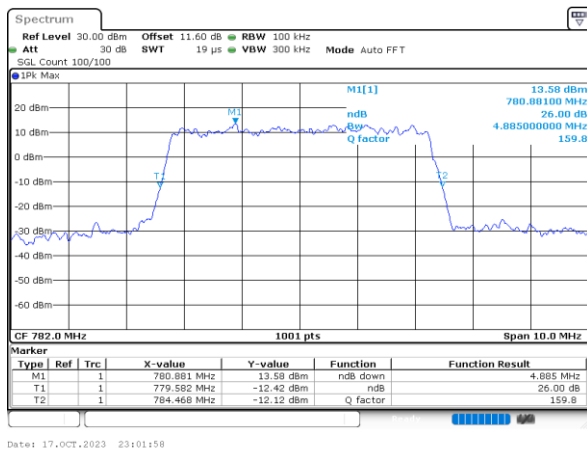
Middle Channel / 10MHz / QPSK



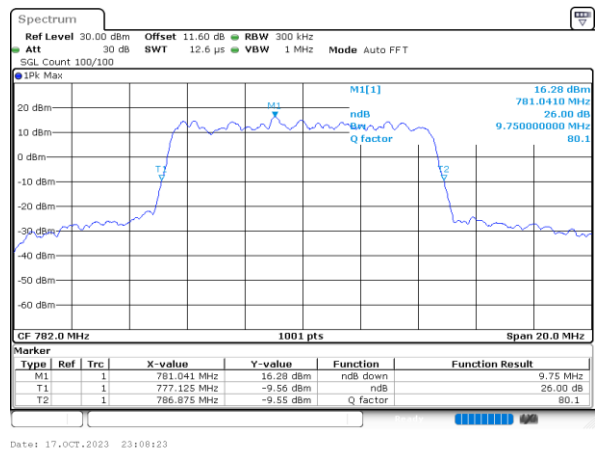
Middle Channel / 10MHz / 16QAM



Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



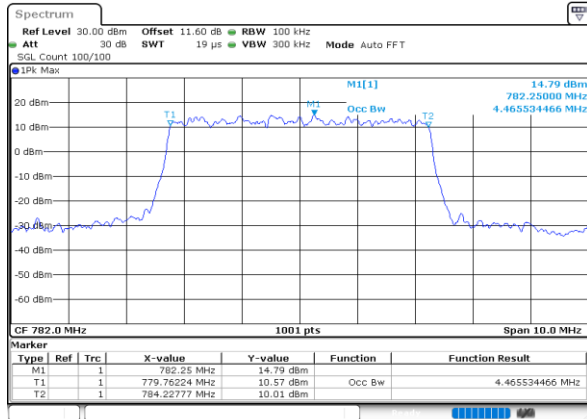
**Occupied Bandwidth**

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	-	-	-	-	4.47	4.50	9.01	8.95	-	-	-	-
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	-	-	-	-	4.50	-	9.03	-	-	-	-	-

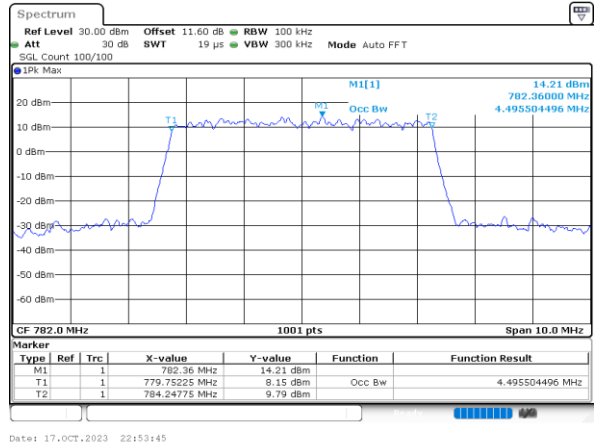


LTE Band 13

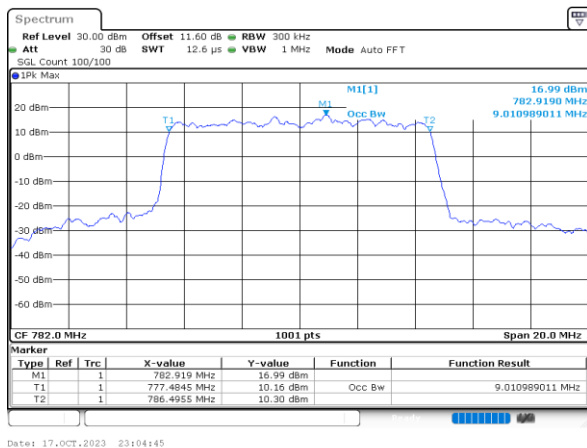
Middle Channel / 5MHz / QPSK



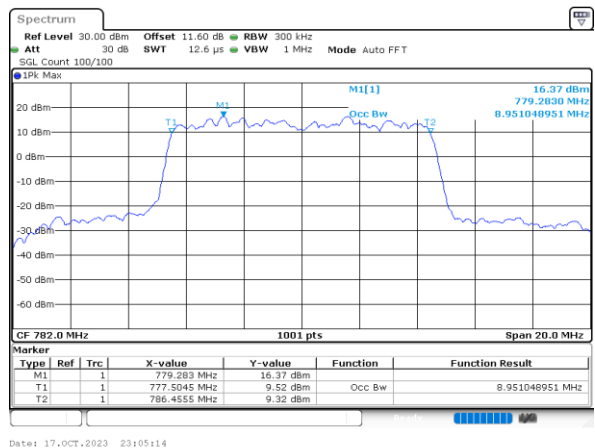
Middle Channel / 5MHz / 16QAM



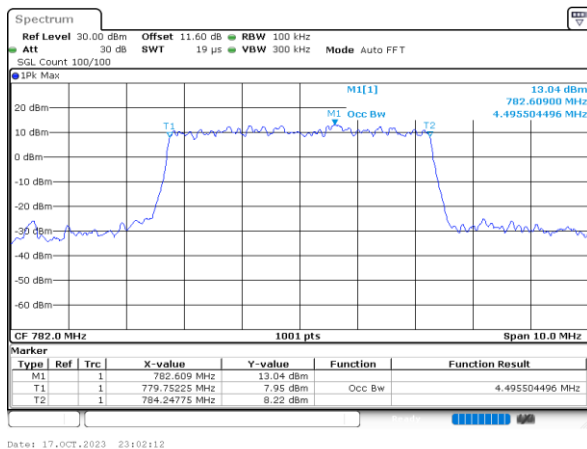
Middle Channel / 10MHz / QPSK



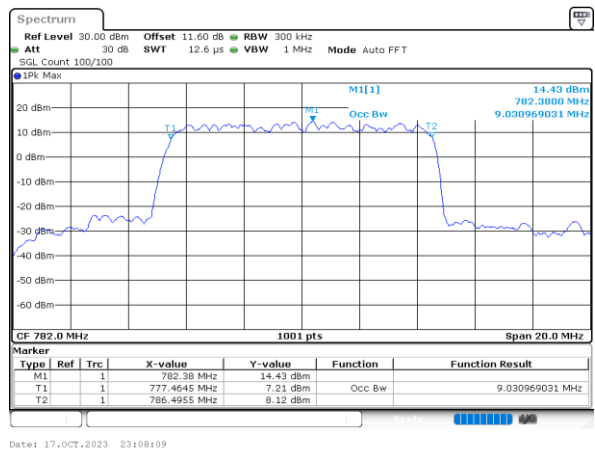
Middle Channel / 10MHz / 16QAM



Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM

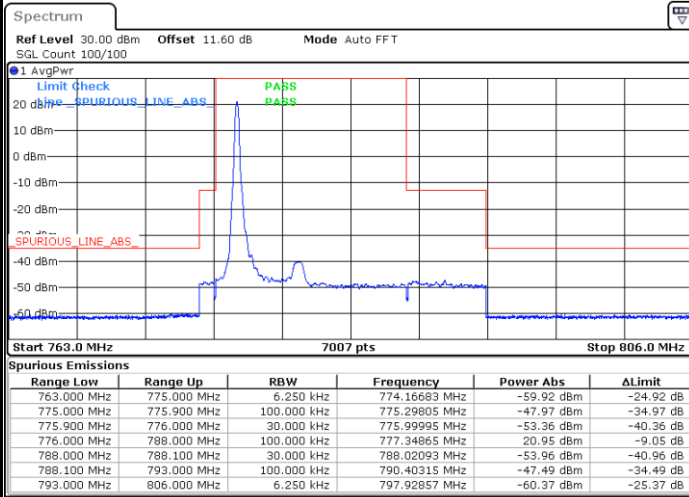




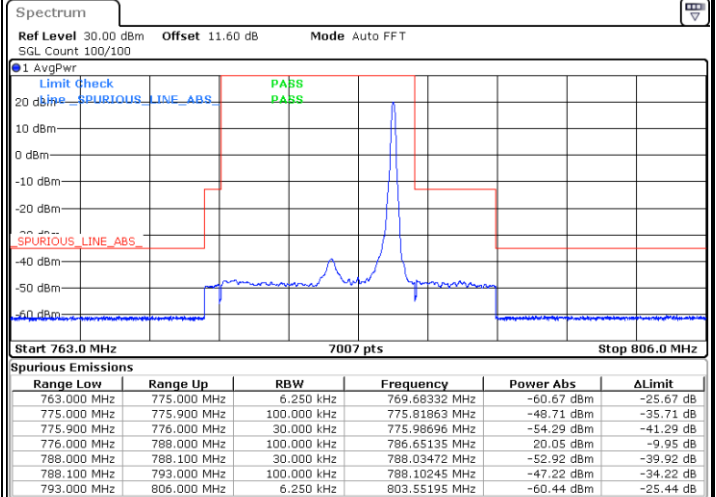
Conducted Band Edge

LTE Band 13 / 5MHz / QPSK

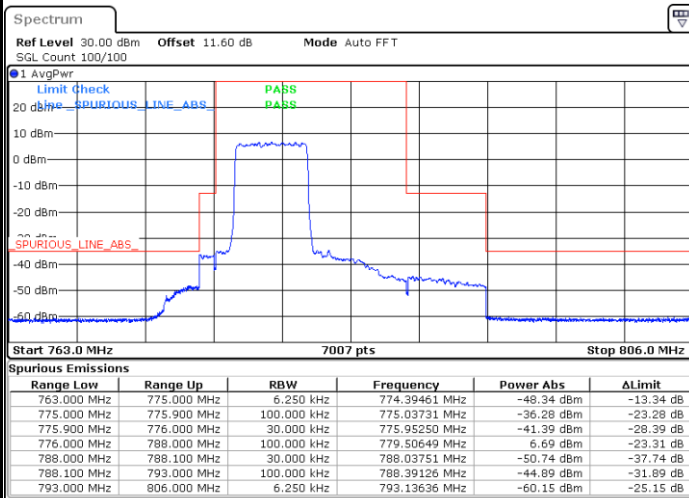
Lowest Band Edge / 1 RB



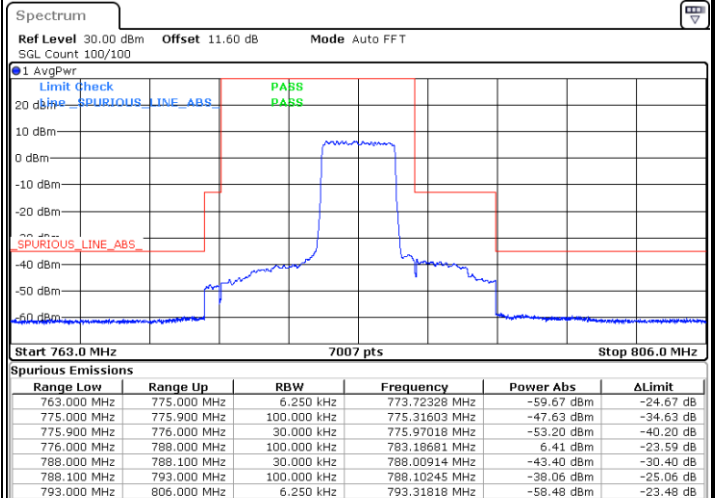
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



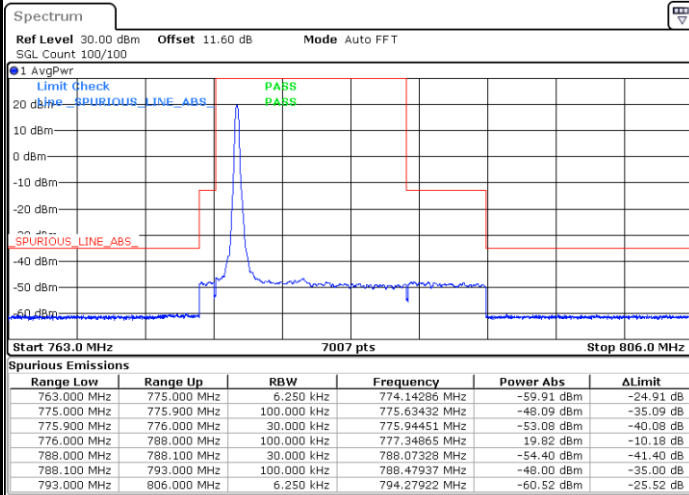
Highest Band Edge / Full RB





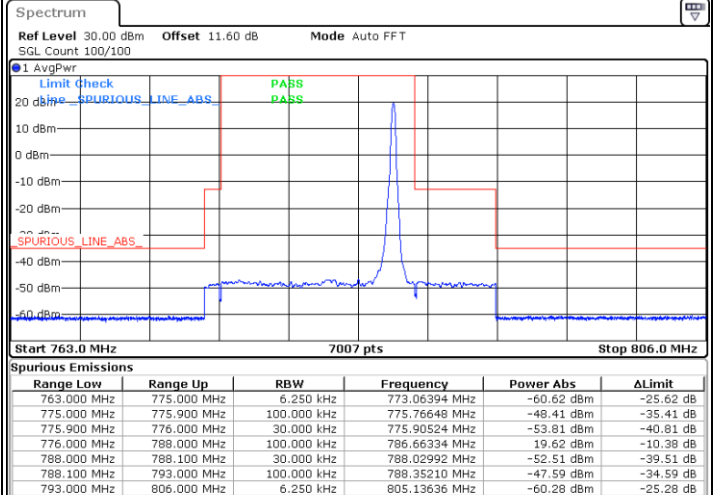
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB



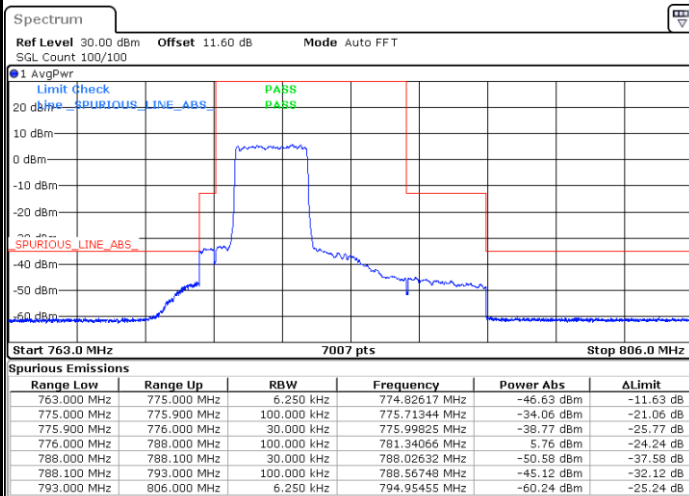
Date: 17.OCT.2023 22:49:10

Highest Band Edge / 1 RB



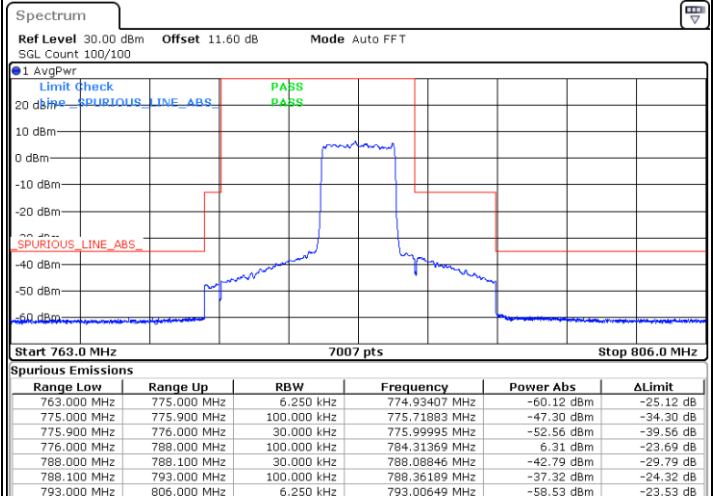
Date: 17.OCT.2023 22:57:11

Lowest Band Edge / Full RB



Date: 17.OCT.2023 22:48:11

Highest Band Edge / Full RB

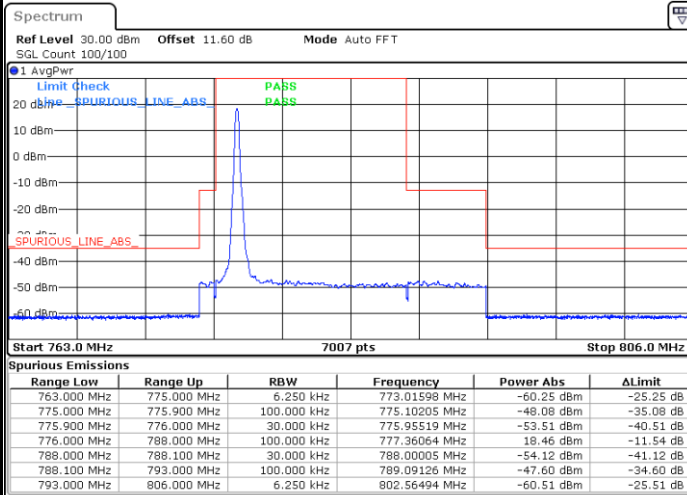


Date: 17.OCT.2023 22:56:11



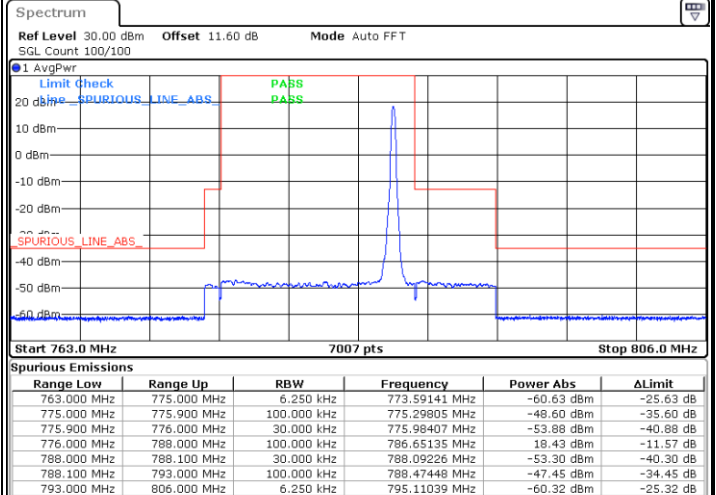
LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB



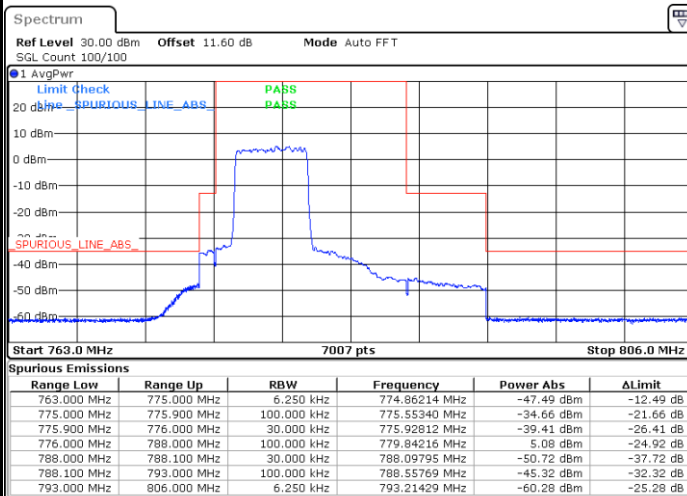
Date: 17.OCT.2023 23:01:28

Highest Band Edge / 1 RB



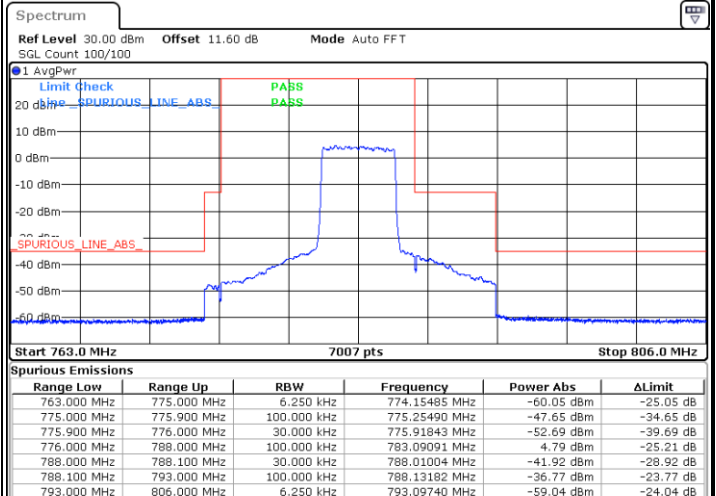
Date: 17.OCT.2023 23:04:10

Lowest Band Edge / Full RB



Date: 17.OCT.2023 23:00:28

Highest Band Edge / Full RB



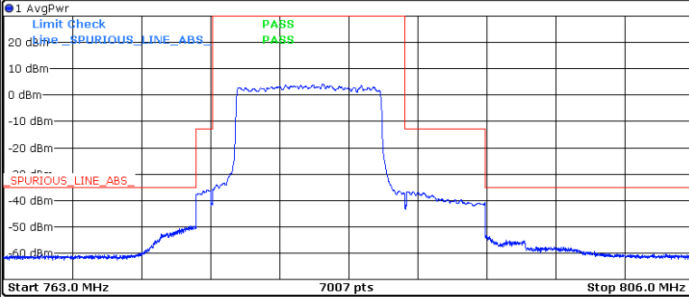
Date: 17.OCT.2023 23:03:10



LTE Band 13 / 10MHz / QPSK

Band Edge / Full RB

Spectrum

Ref Level 30.00 dBm Offset 11.60 dB Mode Auto FFT
SGL Count 100/100

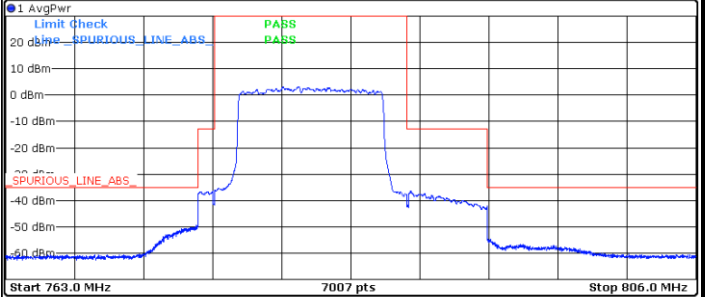
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.73027 MHz	-49.62 dBm	-14.62 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.68556 MHz	-35.96 dBm	-22.96 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.94860 MHz	-40.97 dBm	-27.97 dB
776.000 MHz	788.000 MHz	100.000 kHz	782.89910 MHz	-4.18 dBm	-25.82 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.07647 MHz	-41.70 dBm	-28.70 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.22972 MHz	-36.65 dBm	-23.65 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.03247 MHz	-53.35 dBm	-18.35 dB

Date: 17.OCT.2023 23:06:41

LTE Band 13 / 10MHz / 16QAM

Band Edge / Full RB

Spectrum

Ref Level 30.00 dBm Offset 11.60 dB Mode Auto FFT
SGL Count 100/100

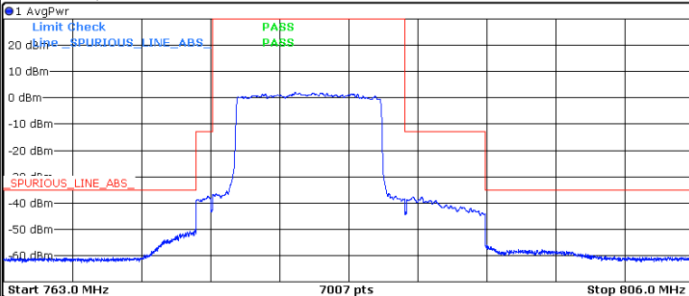
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.88611 MHz	-49.42 dBm	-14.42 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.89955 MHz	-36.45 dBm	-23.45 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.90005 MHz	-41.11 dBm	-28.11 dB
776.000 MHz	788.000 MHz	100.000 kHz	780.28571 MHz	3.14 dBm	-26.86 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.02443 MHz	-41.76 dBm	-28.76 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.21993 MHz	-36.54 dBm	-23.54 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.03247 MHz	-54.84 dBm	-19.84 dB

Date: 17.OCT.2023 23:07:39

LTE Band 13 / 10MHz / 64QAM

Band Edge / Full RB

Spectrum

Ref Level 30.00 dBm Offset 11.60 dB Mode Auto FFT
SGL Count 100/100

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.91009 MHz	-50.17 dBm	-15.17 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.73681 MHz	-37.56 dBm	-24.56 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.99995 MHz	-42.62 dBm	-29.62 dB
776.000 MHz	788.000 MHz	100.000 kHz	781.14885 MHz	2.02 dBm	-27.98 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.06868 MHz	-43.46 dBm	-30.46 dB
788.100 MHz	793.000 MHz	100.000 kHz	789.03741 MHz	-37.78 dBm	-24.78 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.12338 MHz	-56.17 dBm	-21.17 dB

Date: 17.OCT.2023 23:09:06