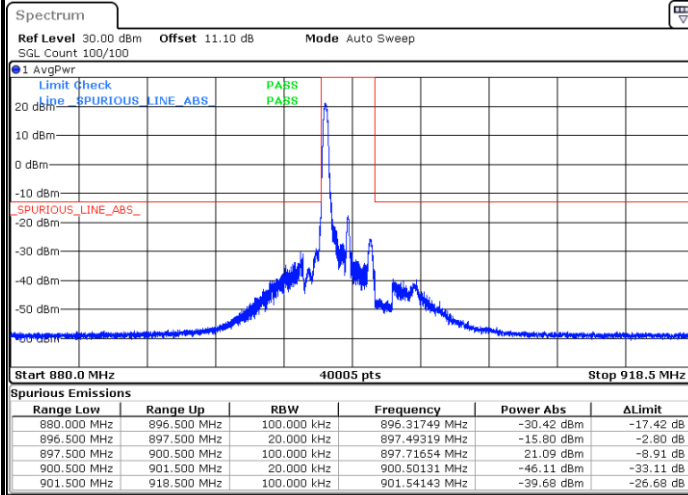


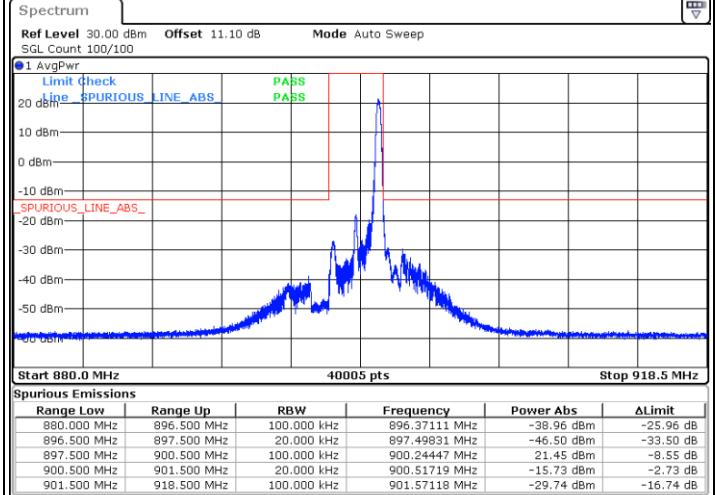


LTE Band 8 / 3MHz / 16QAM

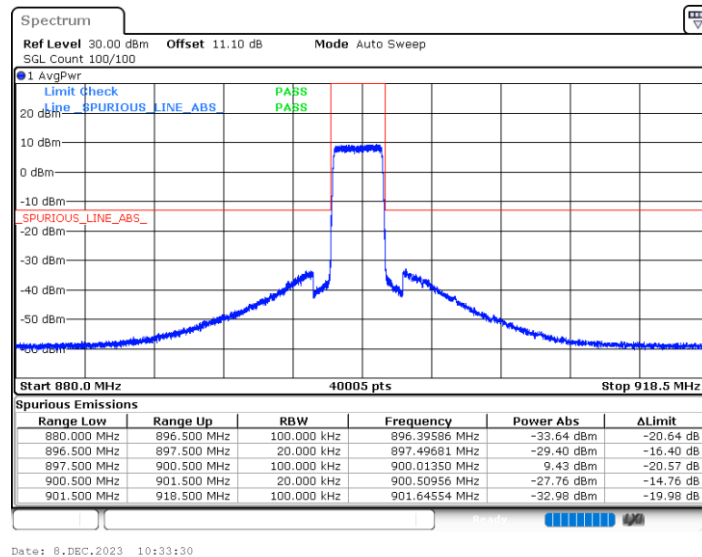
Middle Band Edge / 1 RB



Middle Band Edge / 1 RB



Middle Band Edge / Full RB

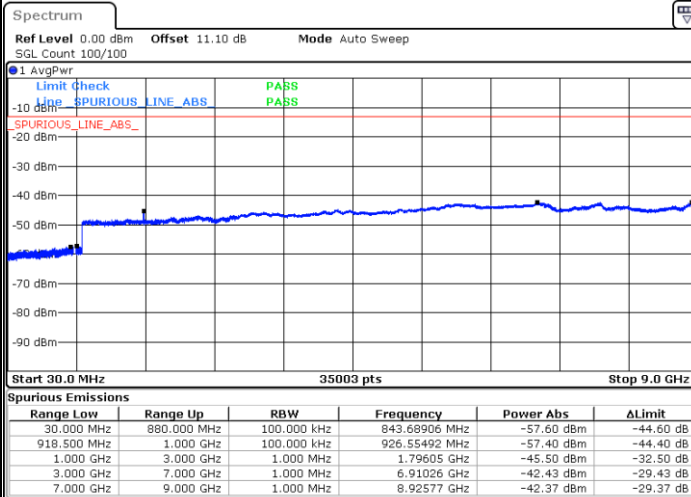




Conducted Spurious Emission

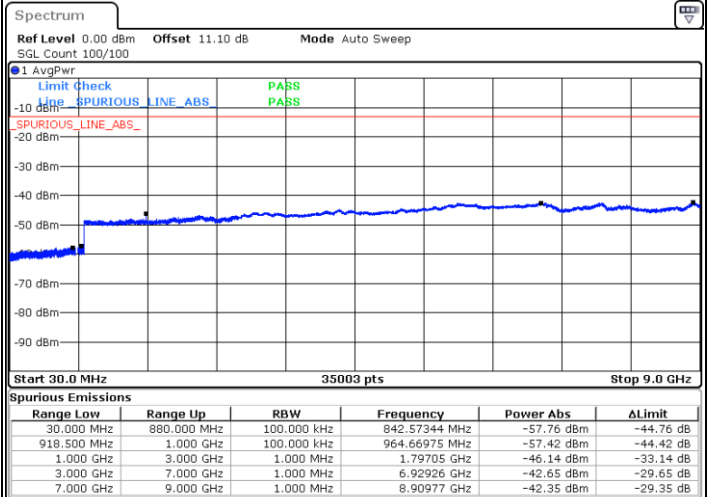
LTE Band 8 / 1.4MHz

Lowest Channel / QPSK



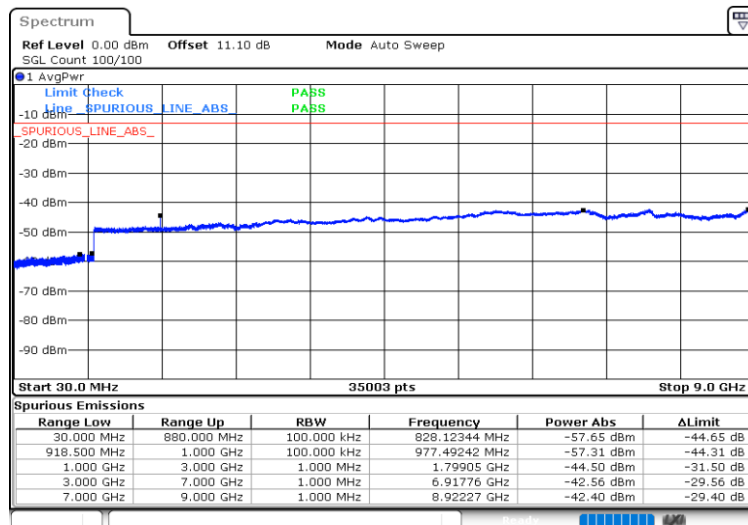
Date: 8.DEC.2023 10:57:36

Middle Channel / QPSK



Date: 8.DEC.2023 10:58:47

Highest Channel / QPSK

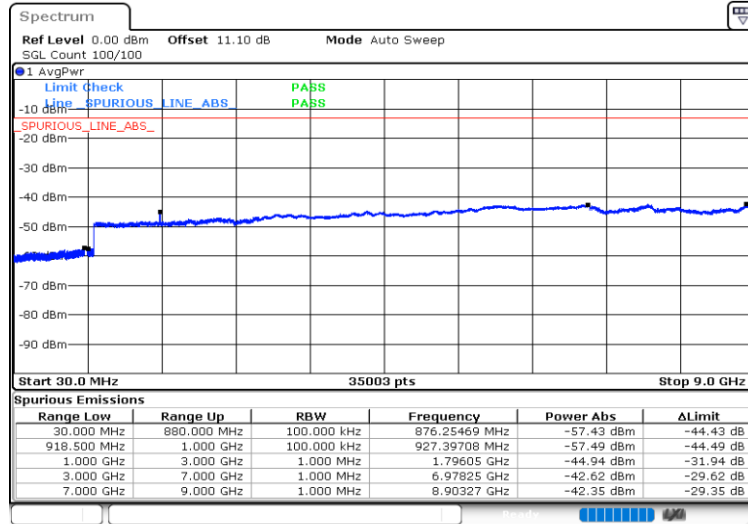


Date: 8.DEC.2023 10:59:59



LTE Band 8 / 3MHz

Middle Channel / QPSK



Frequency Stability

Test Conditions		LTE Band 8 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 3MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0018	PASS
40	Normal Voltage	0.0046	
30	Normal Voltage	0.0116	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0018	
0	Normal Voltage	0.0090	
-10	Normal Voltage	0.0139	
-20	Normal Voltage	0.0001	
-30	Normal Voltage	0.0004	
20	Maximum Voltage	0.0011	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0160	

Note:

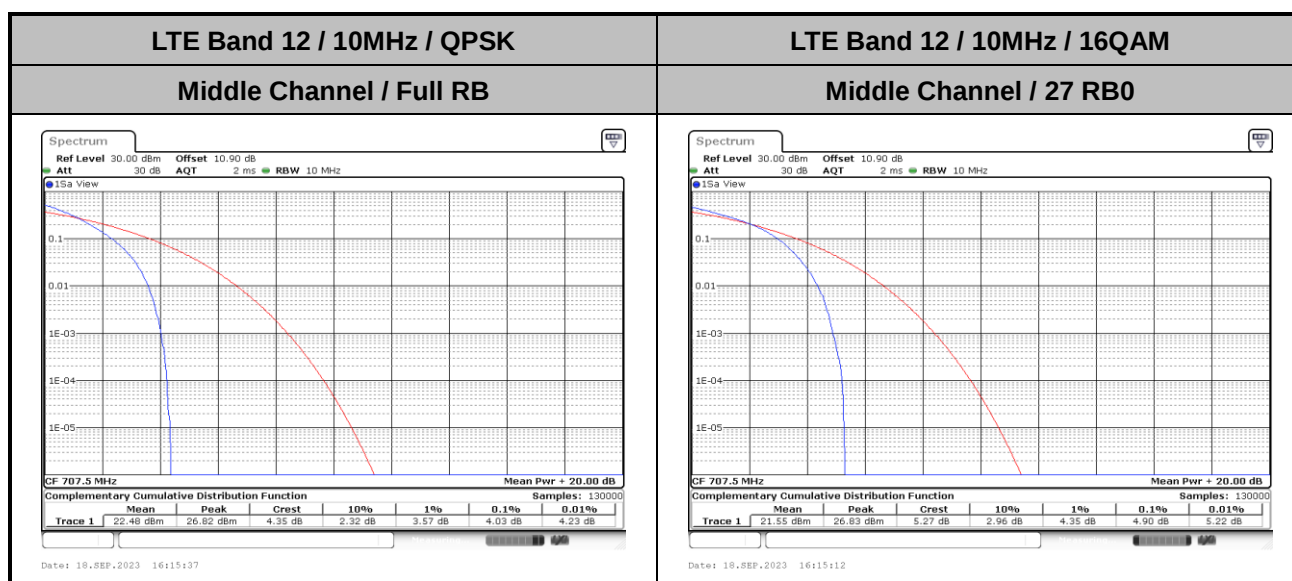
1. Normal Voltage = 3.7 V. ; Battery End Point (BEP) = 3.4 V. ; Maximum Voltage = 4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 12

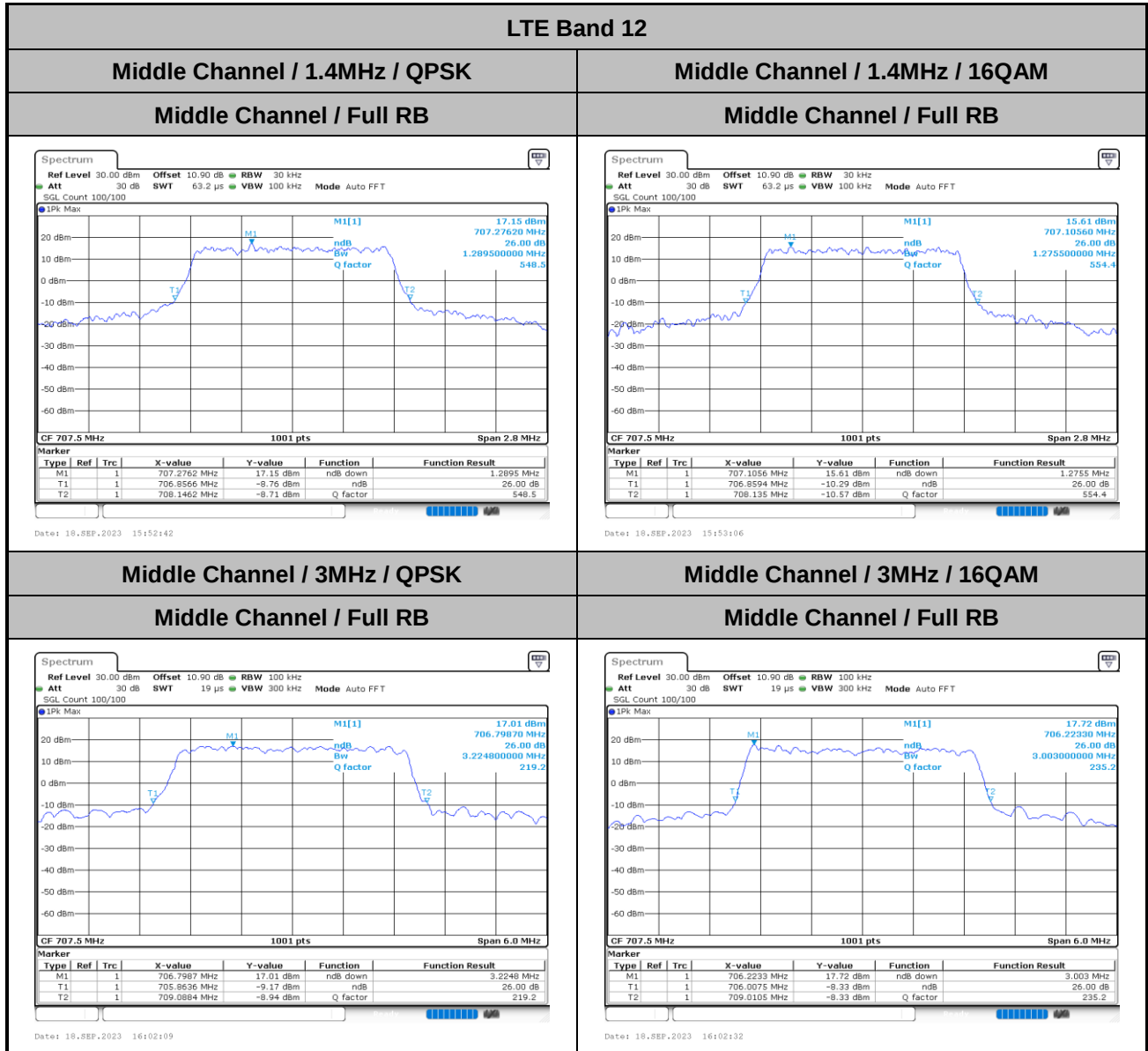
Peak-to-Average Ratio

Mode	LTE Band 12 / 10MHz		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	27 RB	Result
Middle CH	4.03	4.90	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	1.29	1.28	3.22	3.00	5.10	4.81	9.91	5.63	-	-	-	-

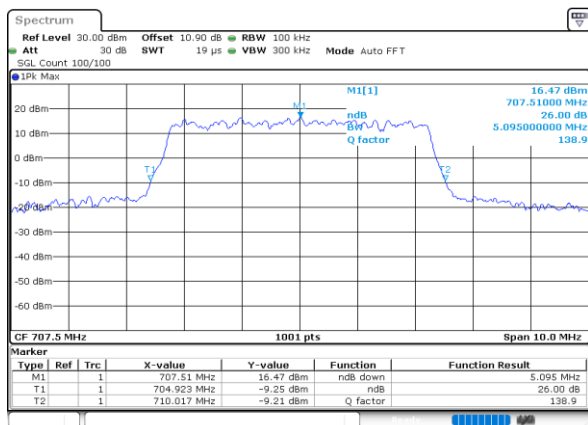




LTE Band 12

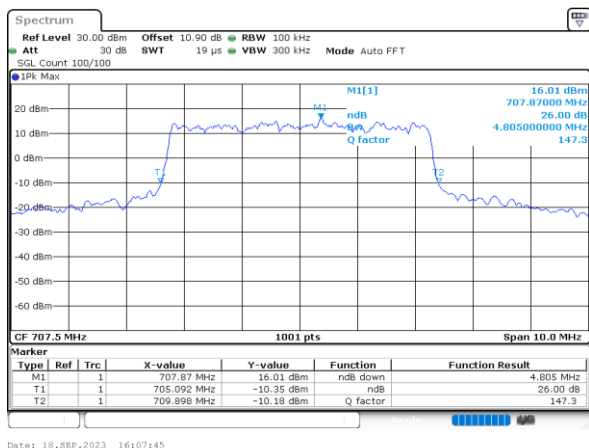
Middle Channel / 5MHz / QPSK

Middle Channel / Full RB



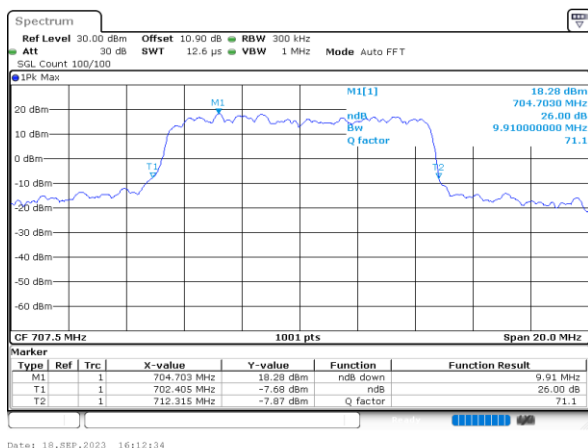
Middle Channel / 5MHz / 16QAM

Middle Channel / Full RB



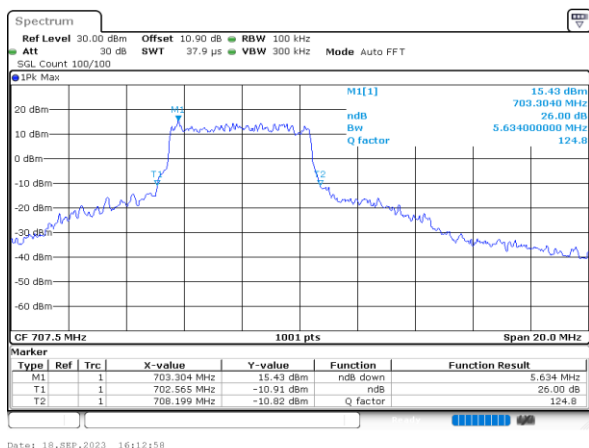
Middle Channel / 10MHz / QPSK

Middle Channel / Full RB



Middle Channel / 10MHz / 16QAM

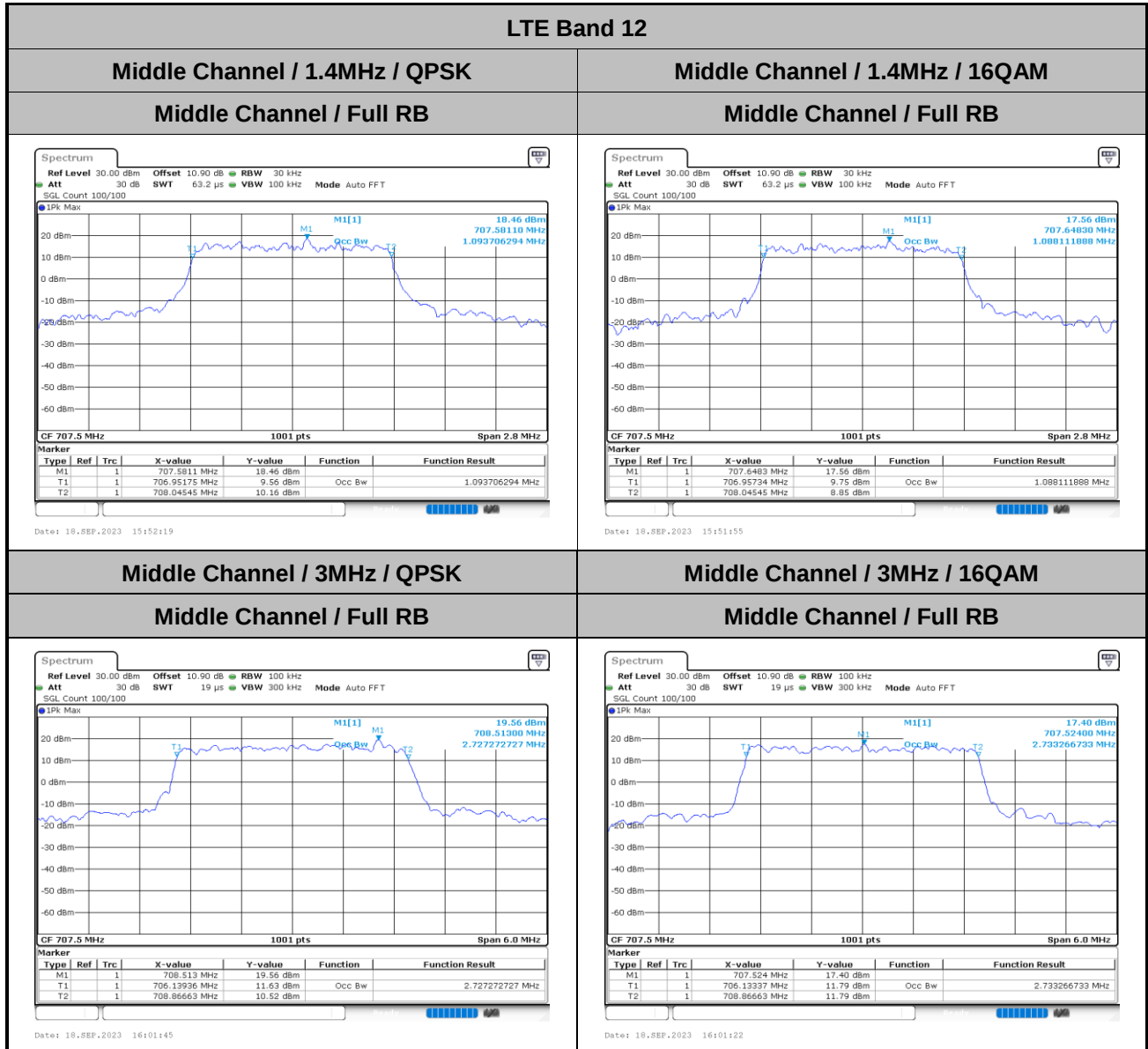
Middle Channel / 27RB0





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	2.73	2.73	4.48	4.49	9.07	4.90	-	-	-	-

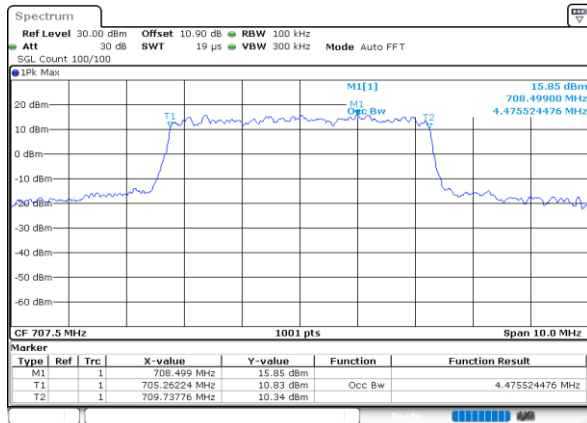




LTE Band 12

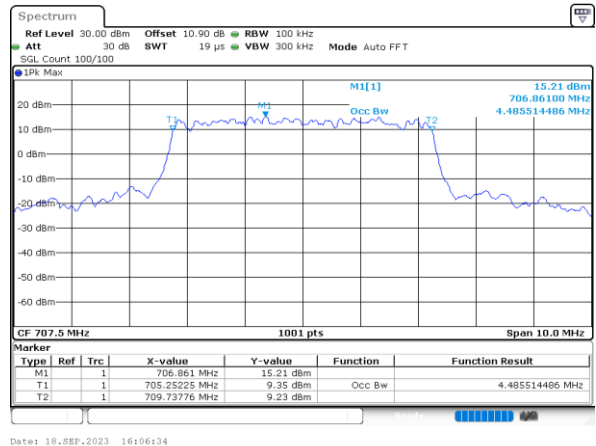
Middle Channel / 5MHz / QPSK

Middle Channel / Full RB



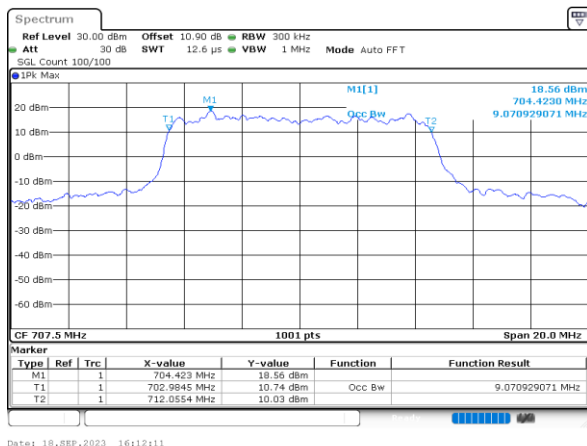
Middle Channel / 5MHz / 16QAM

Middle Channel / Full RB



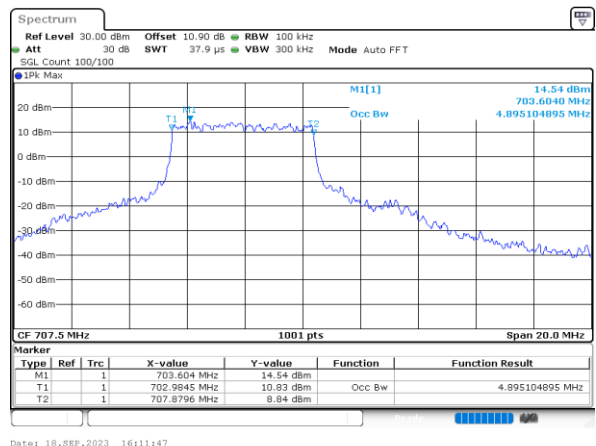
Middle Channel / 10MHz / QPSK

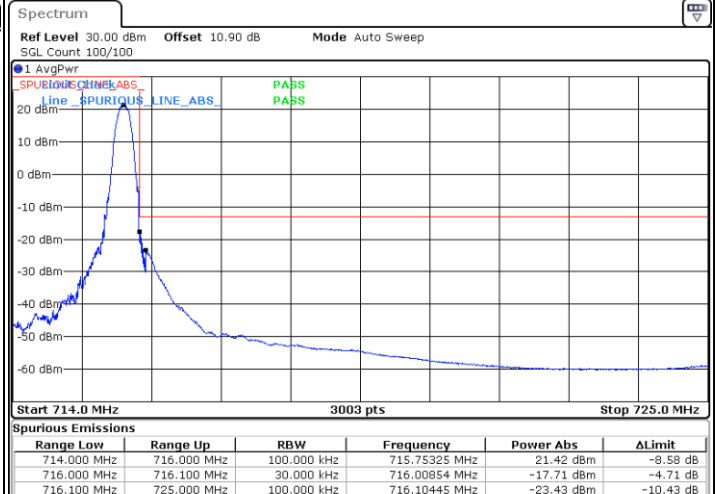
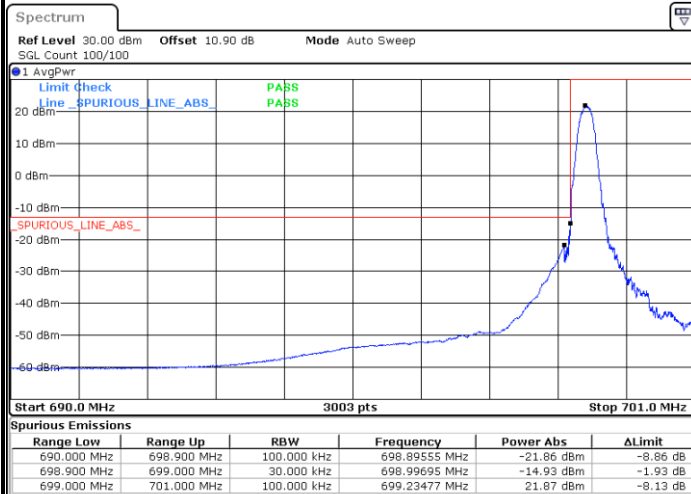
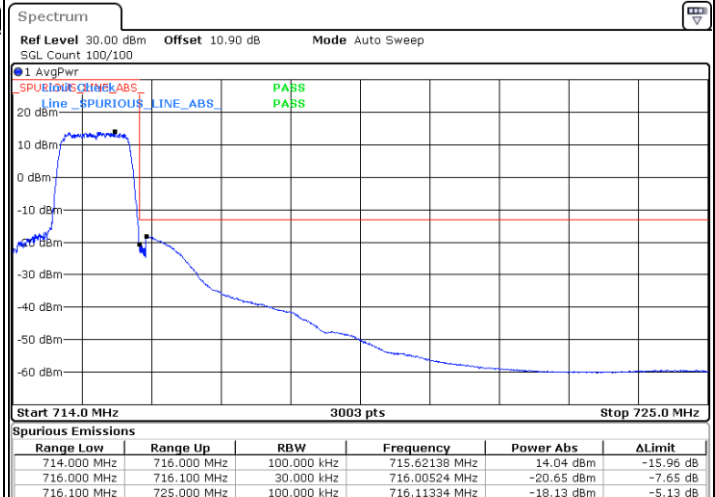
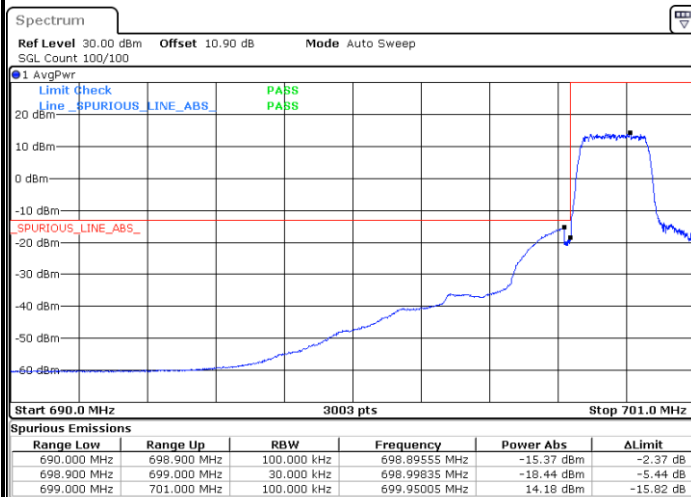
Middle Channel / Full RB



Middle Channel / 10MHz / 16QAM

Middle Channel / 27RB0



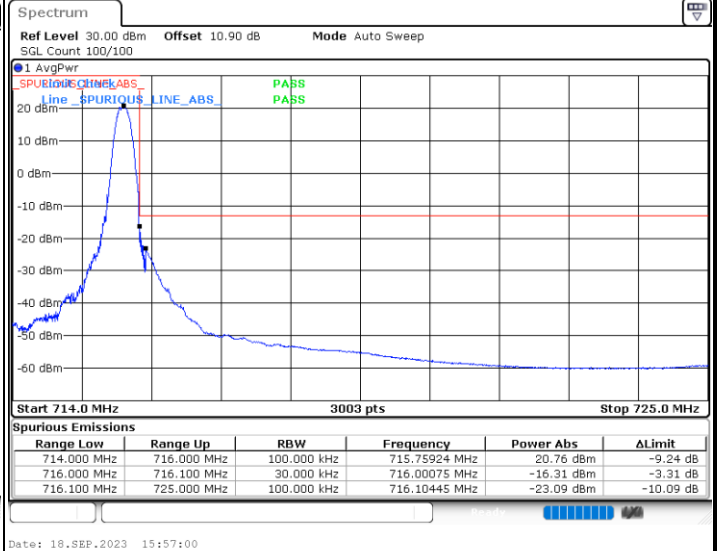
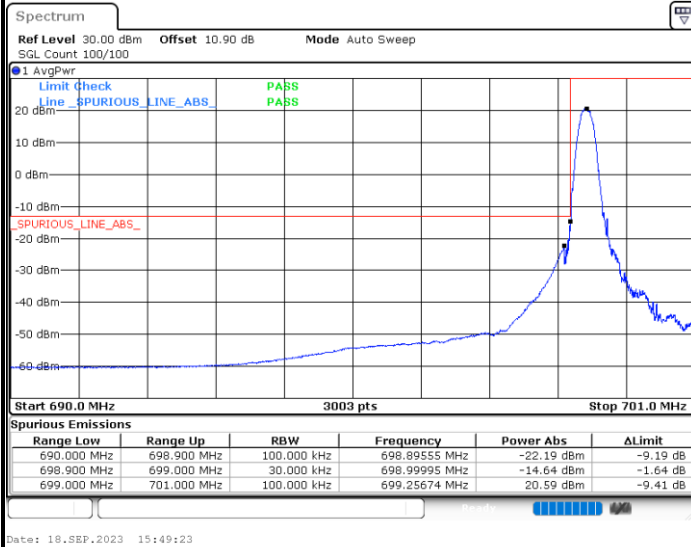
**Conducted Band Edge****LTE Band 12 / 1.4MHz / QPSK****Lowest Band Edge / 1RB0****Highest Band Edge / 1RBmax****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**



LTE Band 12 / 1.4MHz / 16QAM

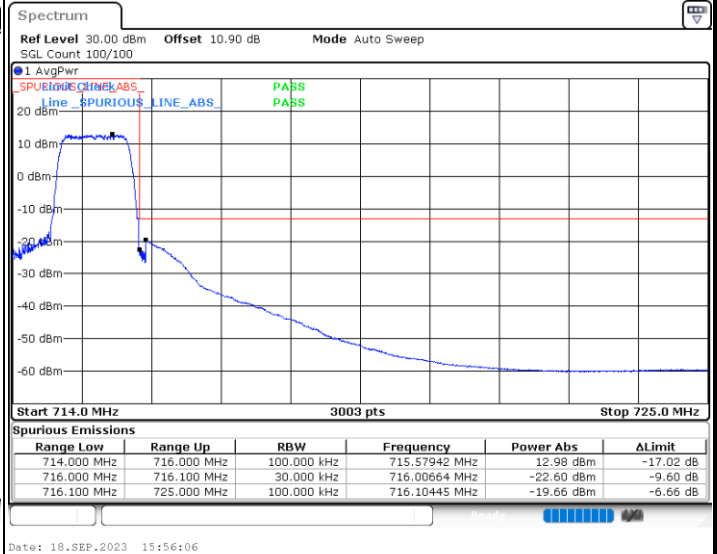
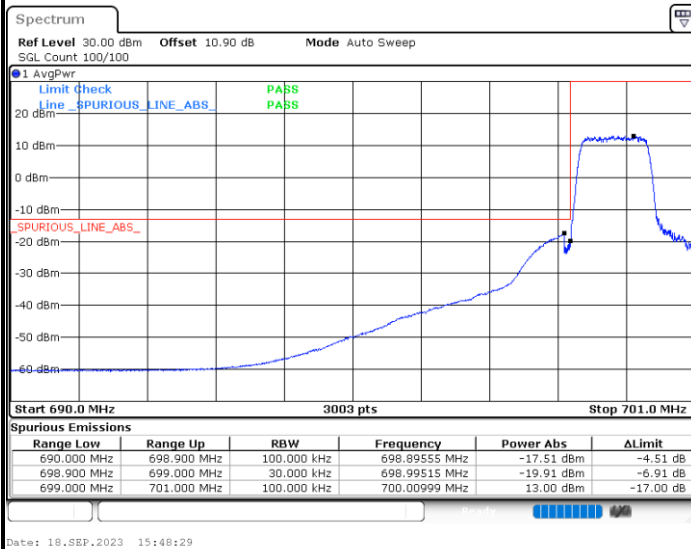
Lowest Band Edge / 1 RB0

Highest Band Edge / 1 RBmax



Lowest Band Edge / Full RB

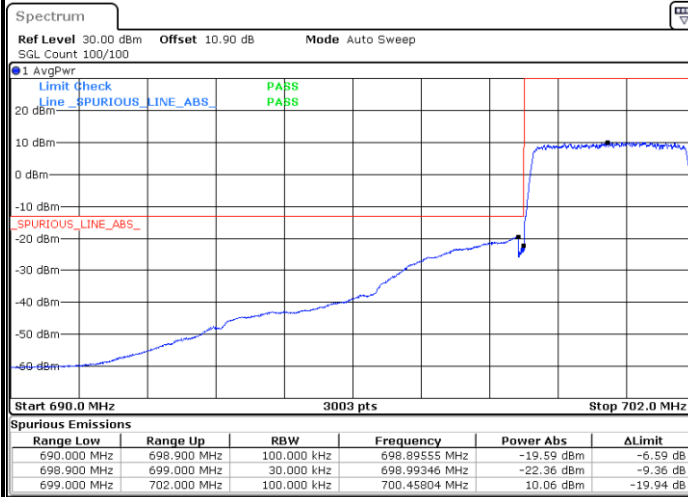
Highest Band Edge / Full RB



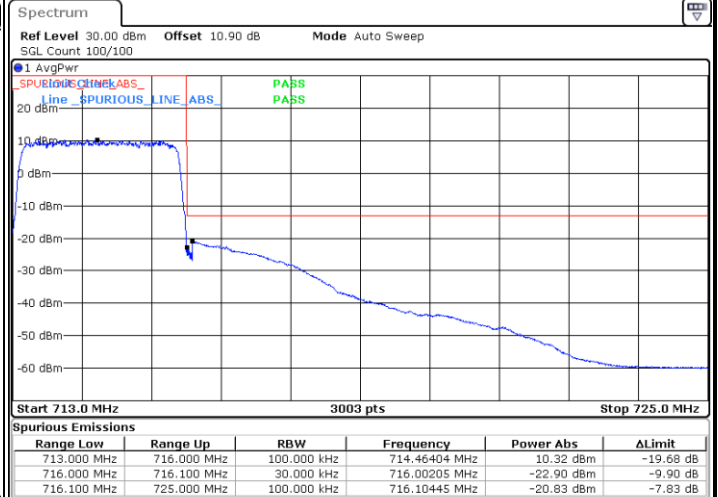


LTE Band 12 / 3MHz / QPSK

Lowest Band Edge / Full RB

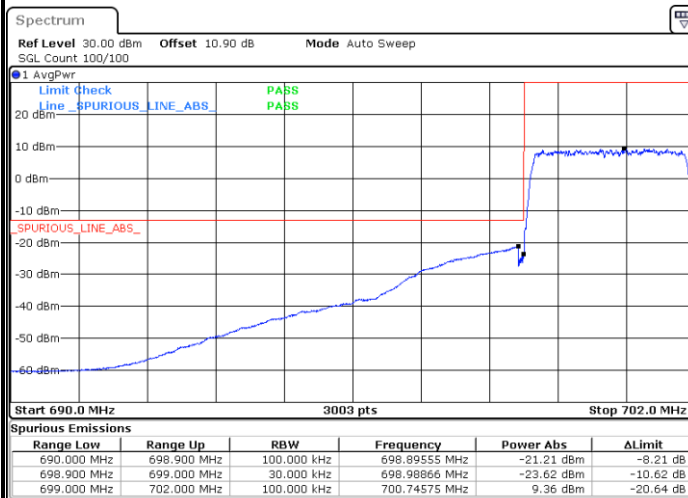


Highest Band Edge / Full RB

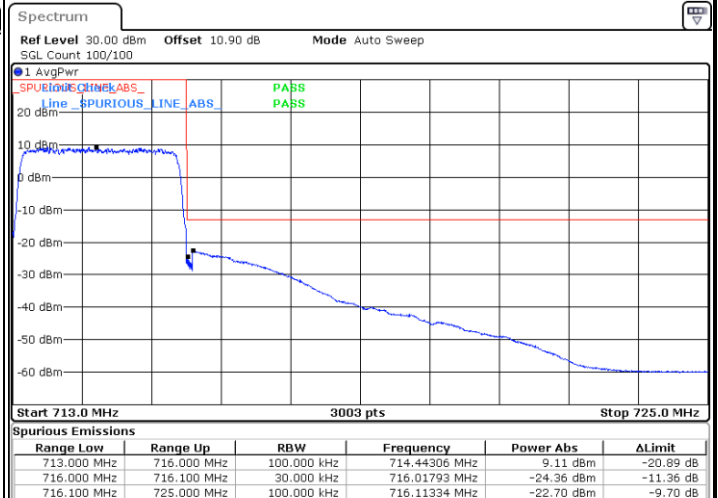


LTE Band 12 / 3MHz / 16QAM

Lowest Band Edge / Full RB



Highest Band Edge / Full RB

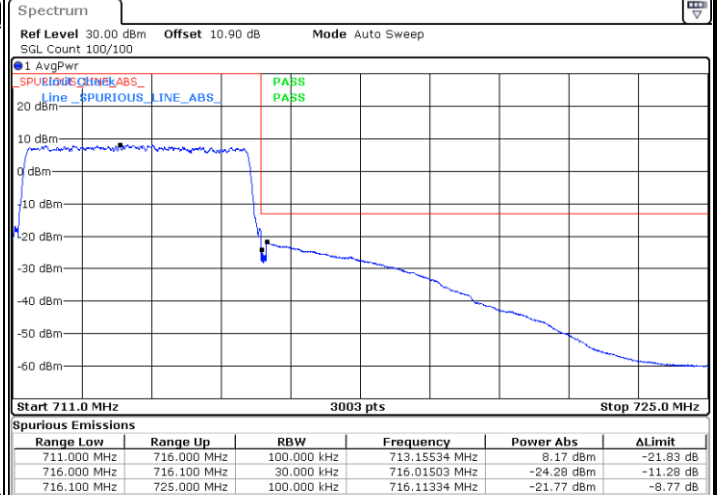
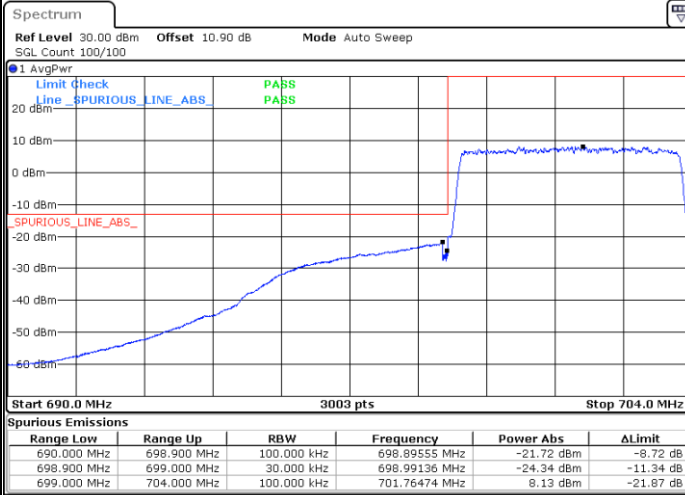




LTE Band 12 / 5MHz / QPSK

Lowest Band Edge / Full RB

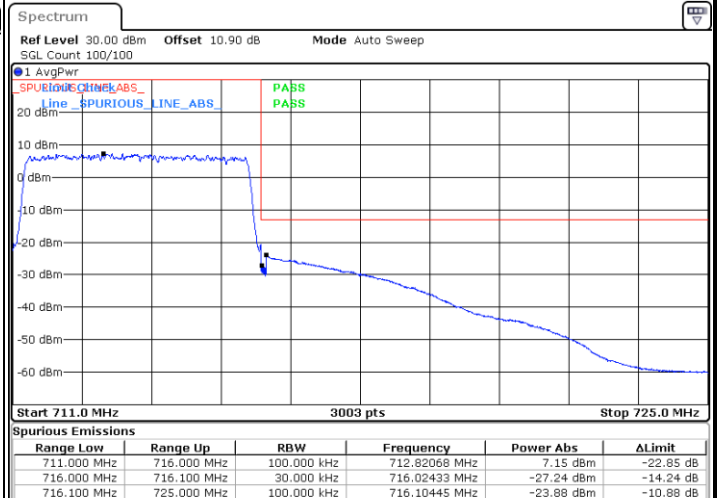
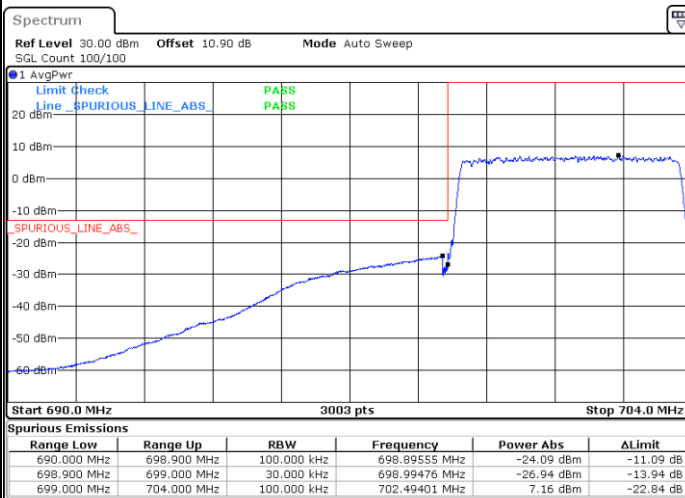
Highest Band Edge / Full RB



LTE Band 12 / 5MHz / 16QAM

Lowest Band Edge / Full RB

Highest Band Edge / Full RB

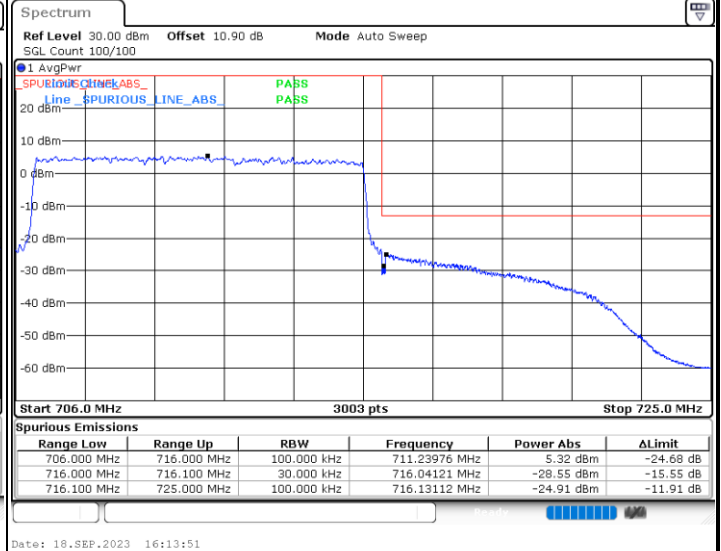
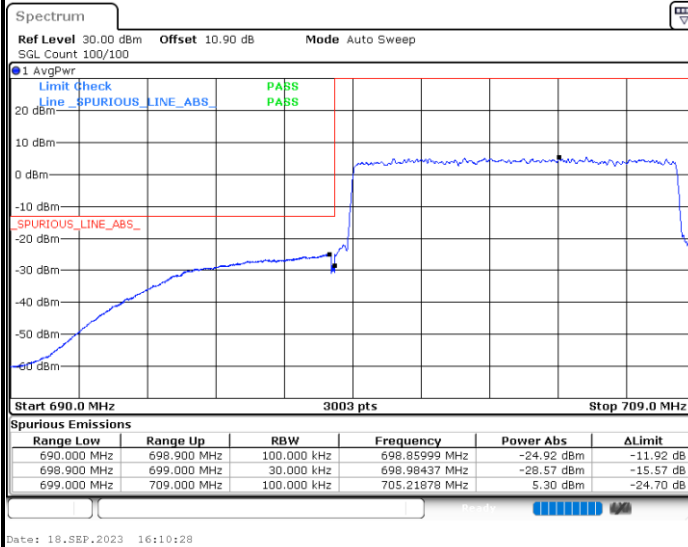




LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / Full RB

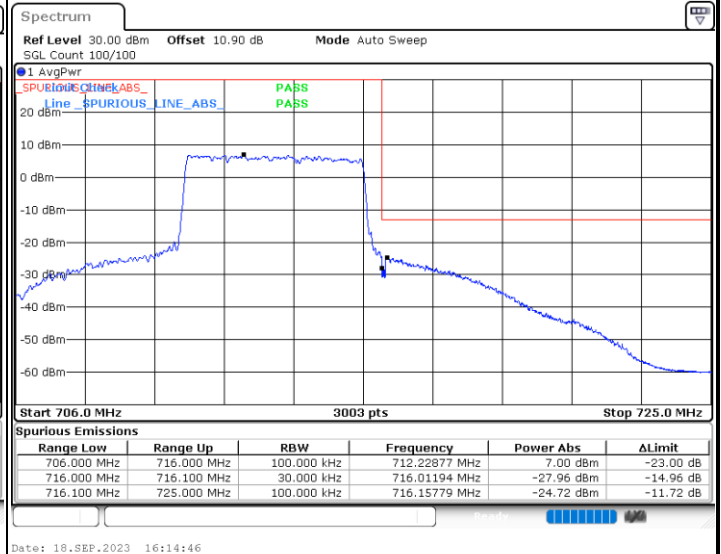
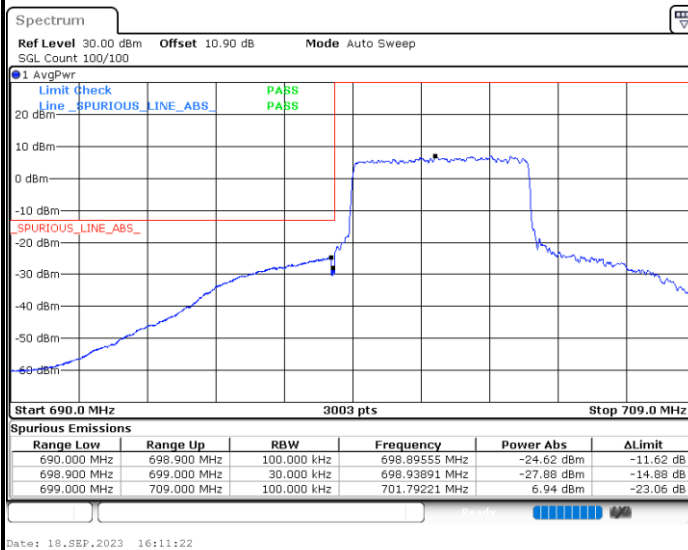
Highest Band Edge / Full RB



LTE Band 12 / 10MHz / 16QAM

Lowest Band Edge / 27 RB0

Highest Band Edge / 27 RBmax

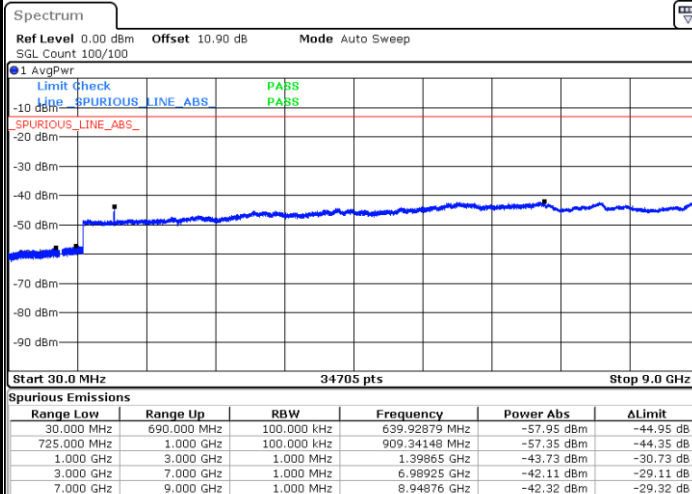




Conducted Spurious Emission

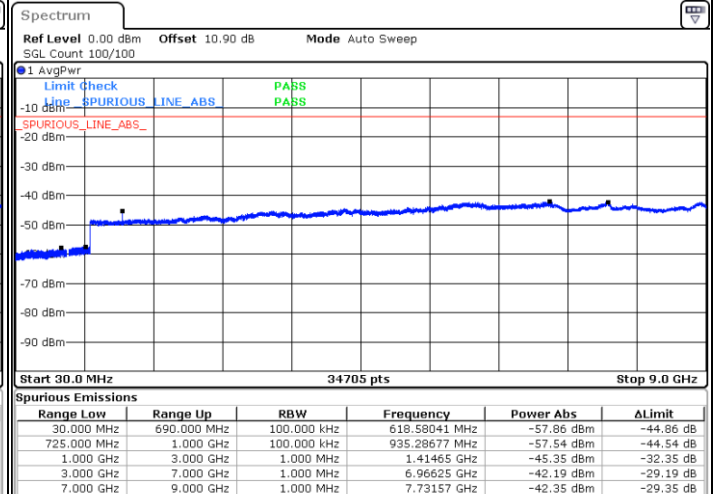
LTE Band 12 / 1.4MHz

Lowest Channel / QPSK



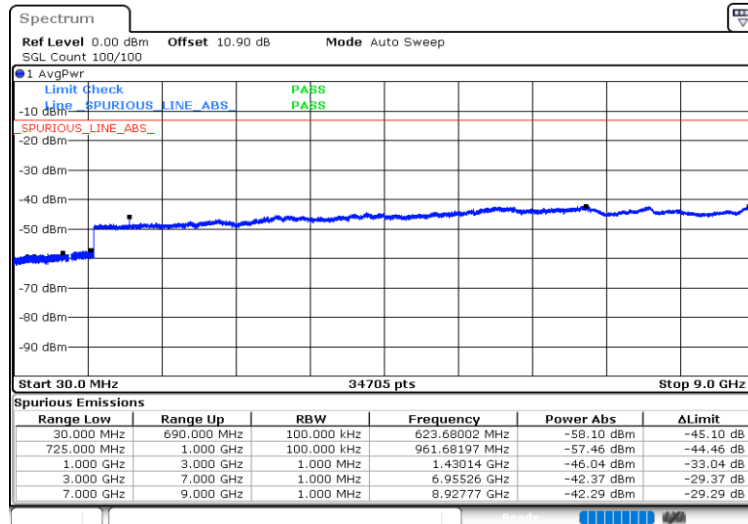
Date: 18.SEP.2023 15:51:31

Middle Channel / QPSK



Date: 18.SEP.2023 15:54:18

Highest Channel / QPSK

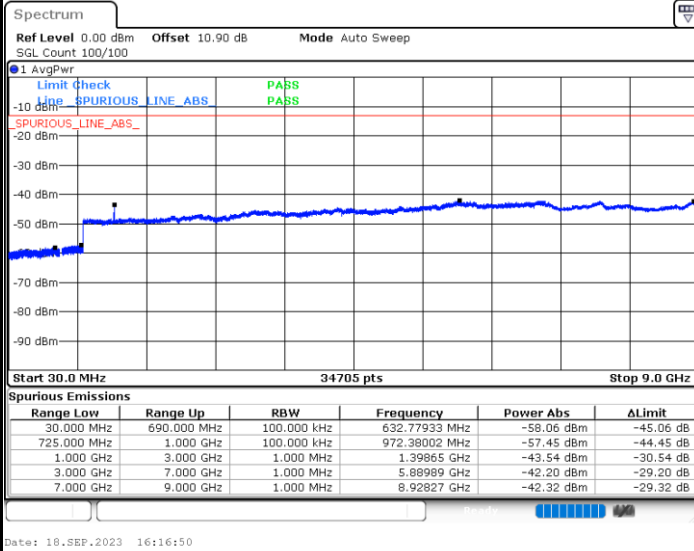


Date: 18.SEP.2023 15:59:08

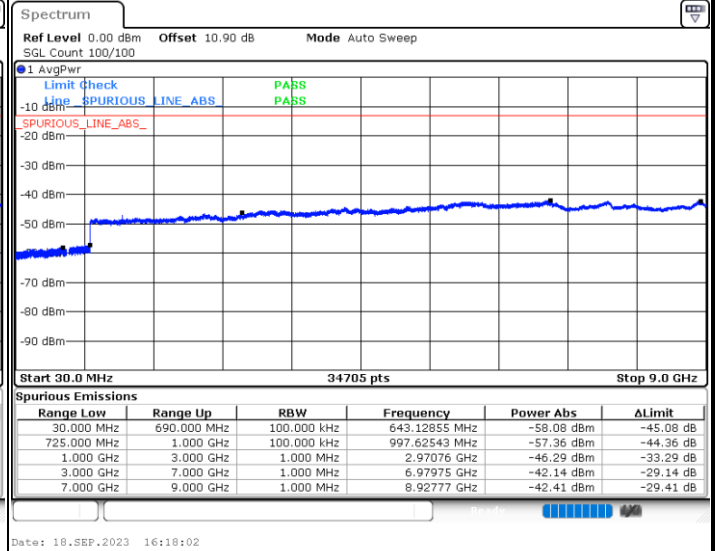


LTE Band 12 / 3MHz

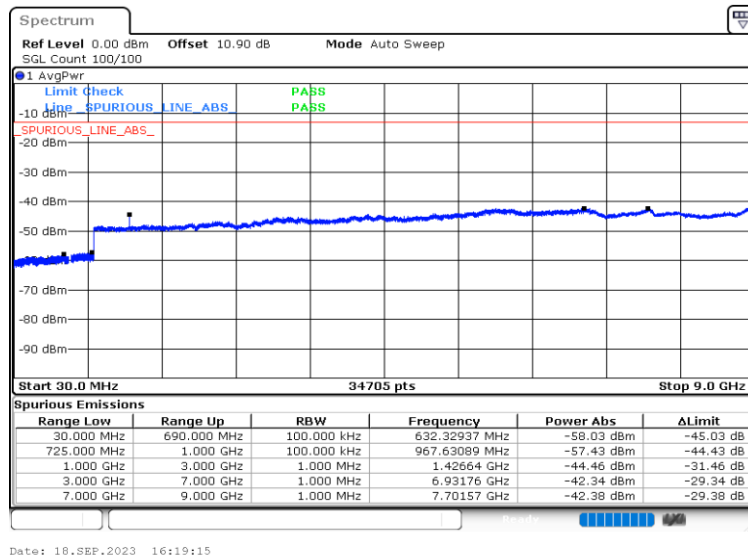
Lowest Channel / QPSK



Middle Channel / QPSK



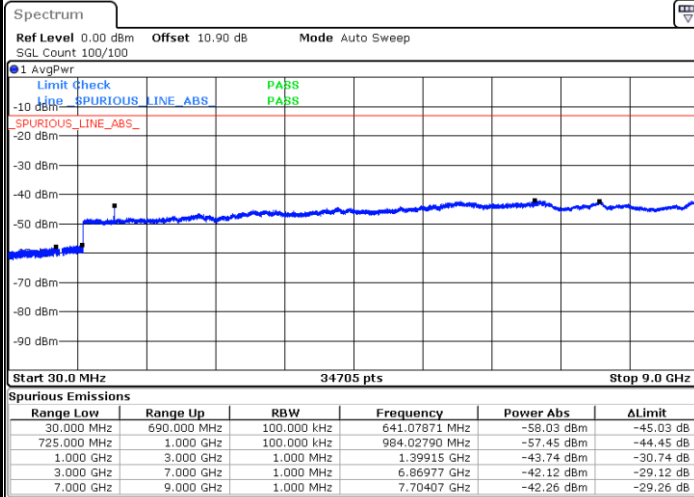
Highest Channel / QPSK





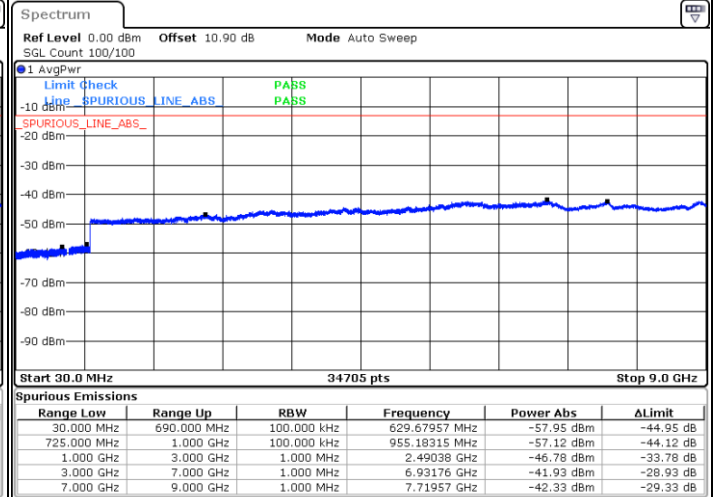
LTE Band 12 / 5MHz

Lowest Channel / QPSK



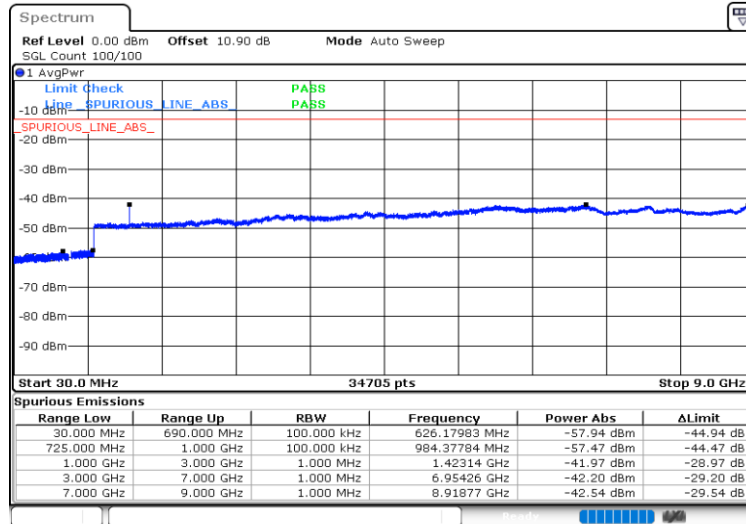
Date: 18.SEP.2023 16:20:28

Middle Channel / QPSK



Date: 18.SEP.2023 16:21:41

Highest Channel / QPSK

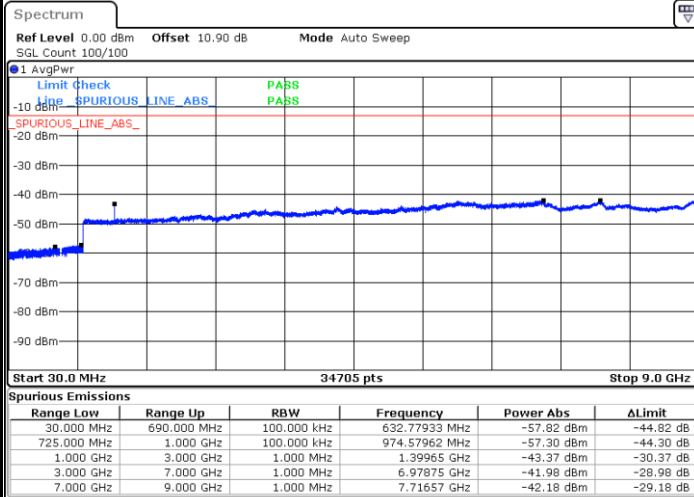


Date: 18.SEP.2023 16:22:53



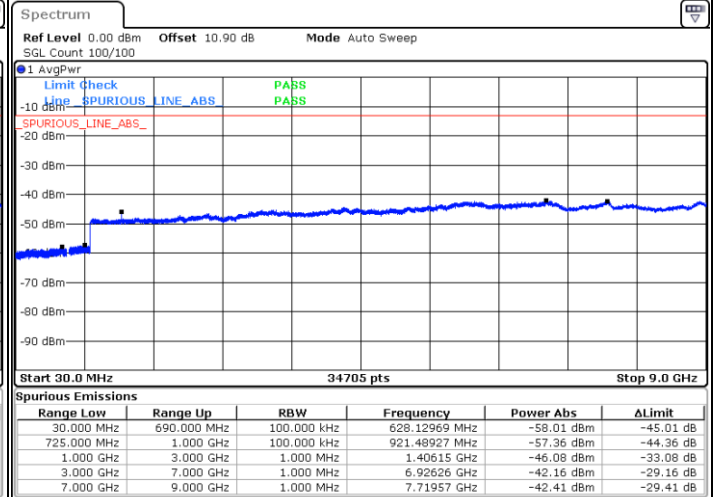
LTE Band 12 / 10MHz

Lowest Channel / QPSK



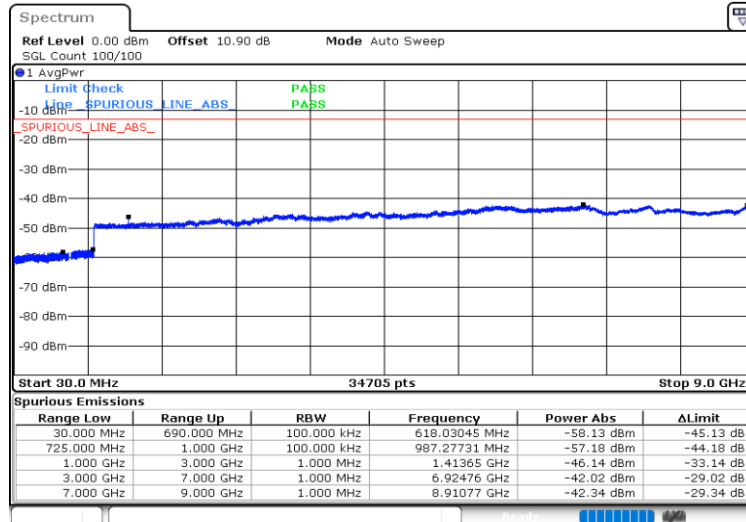
Date: 18.SEP.2023 16:24:07

Middle Channel / QPSK



Date: 18.SEP.2023 16:25:19

Highest Channel / QPSK



Date: 18.SEP.2023 16:26:32

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	0.0261	PASS
40	Normal Voltage	0.0110	
30	Normal Voltage	0.0099	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0260	
0	Normal Voltage	0.0252	
-10	Normal Voltage	0.0194	
-20	Normal Voltage	0.0006	
-30	Normal Voltage	0.0031	
20	Maximum Voltage	0.0025	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0124	

Note:

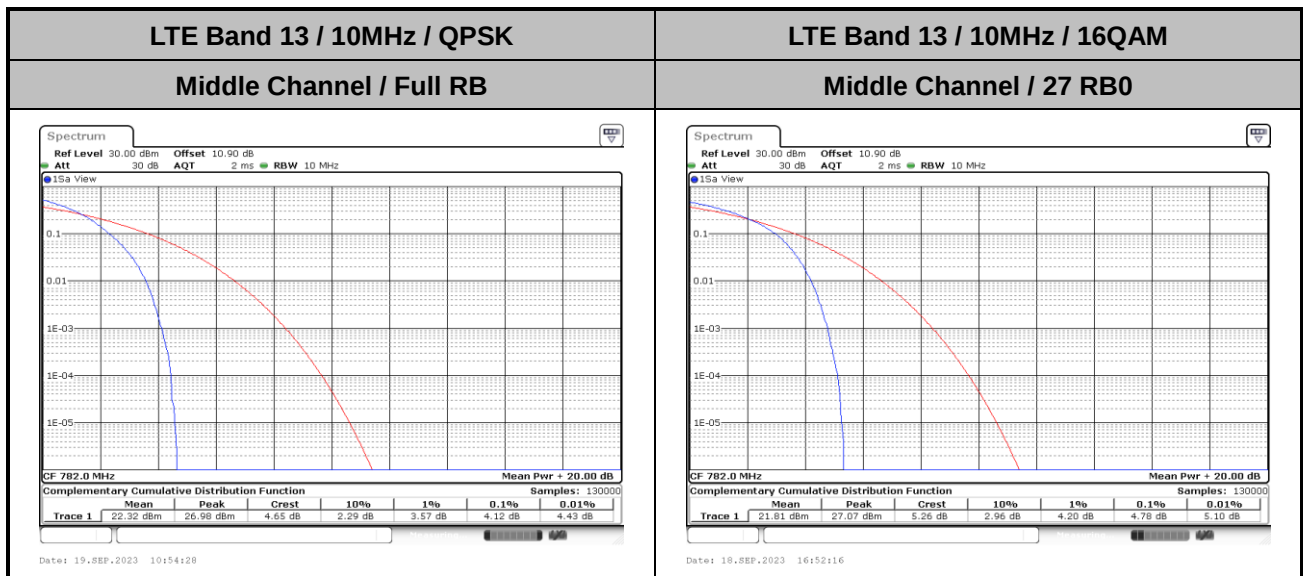
1. Normal Voltage = 3.7 V. ; Battery End Point (BEP) = 3.4 V. ; Maximum Voltage = 4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 13

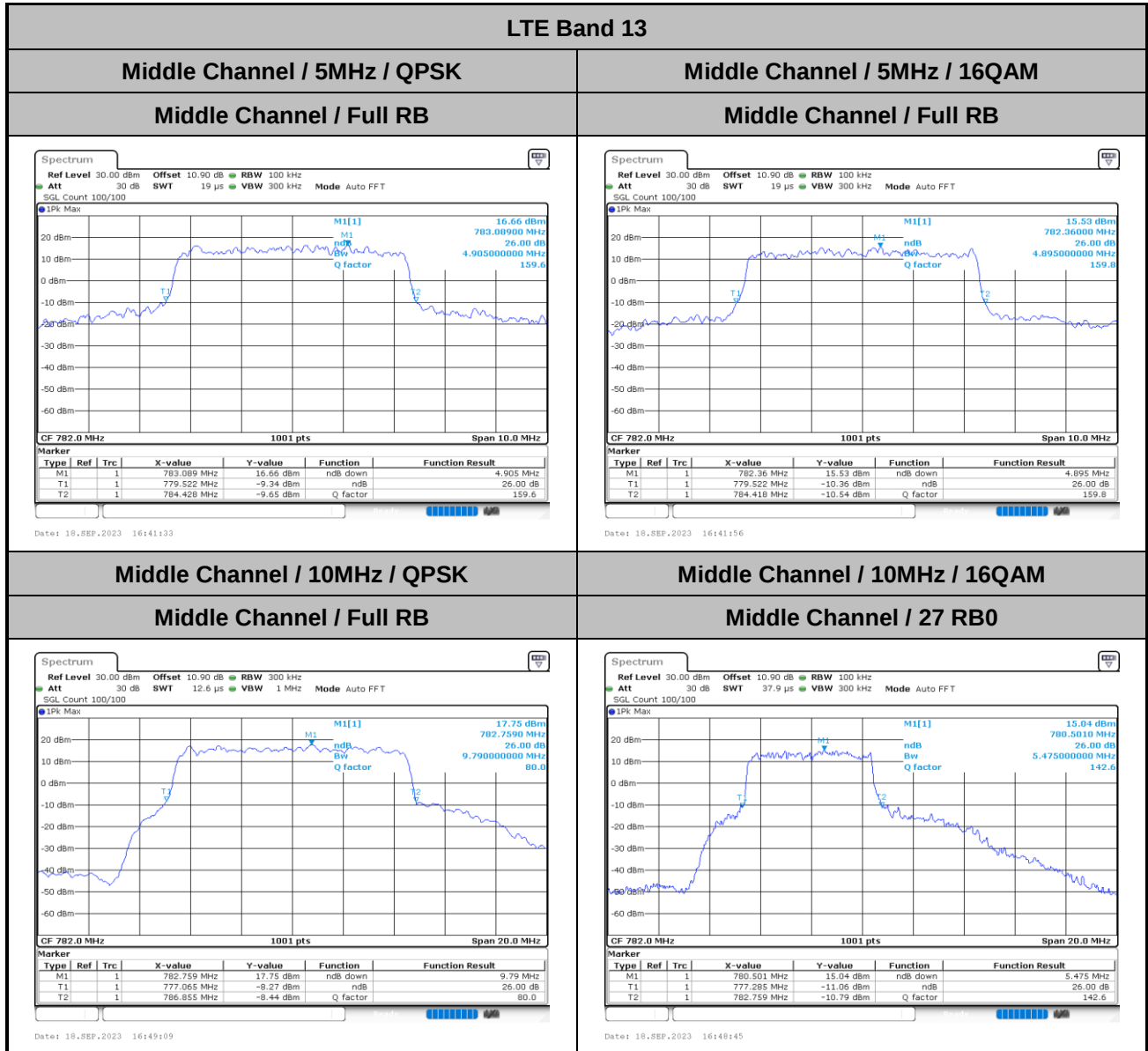
Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	27 RB	Result
Middle CH	4.12	4.78	PASS



**26dB Bandwidth**

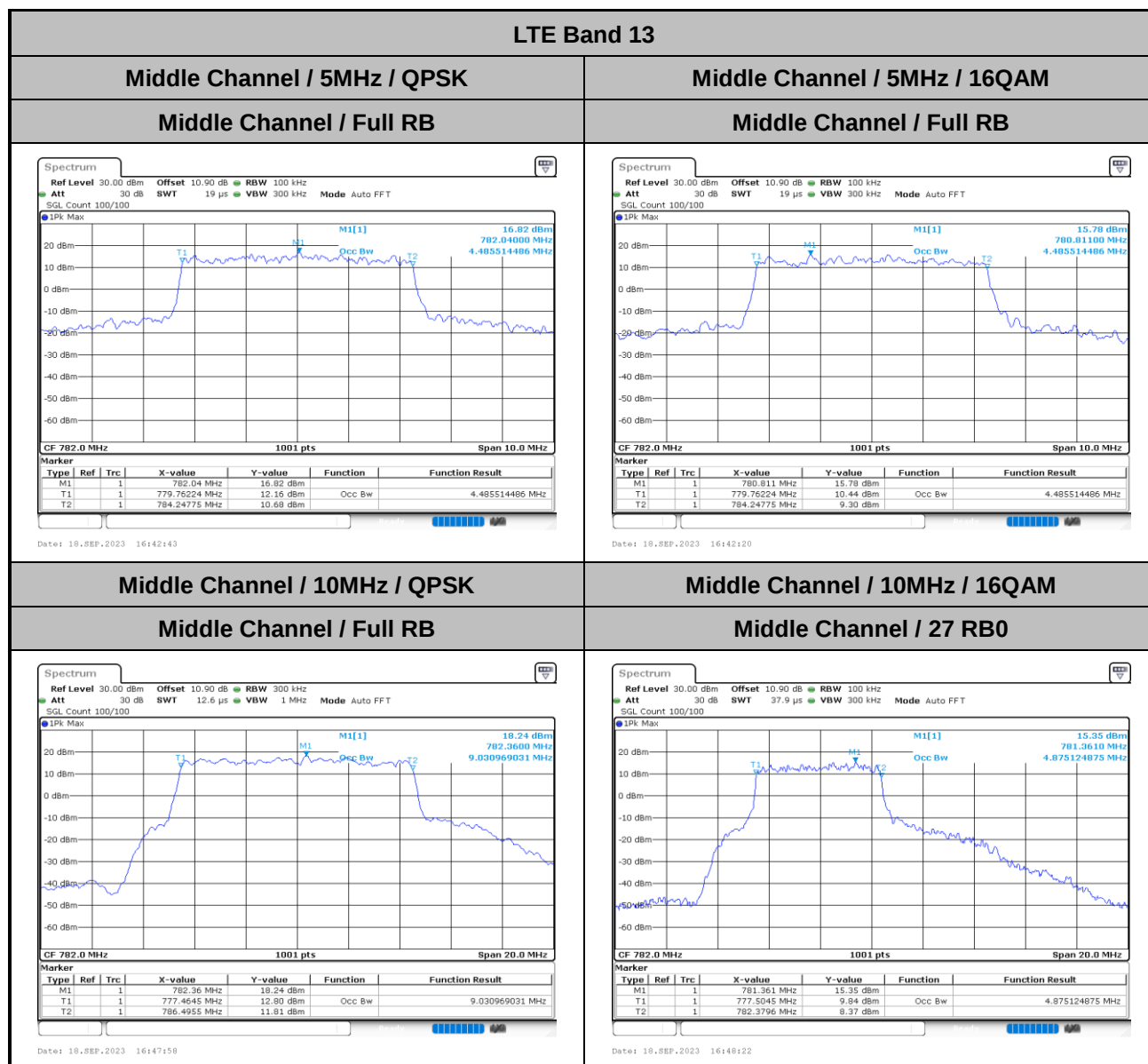
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	-	-	-	-	4.91	4.90	9.79	5.48	-	-	-	-

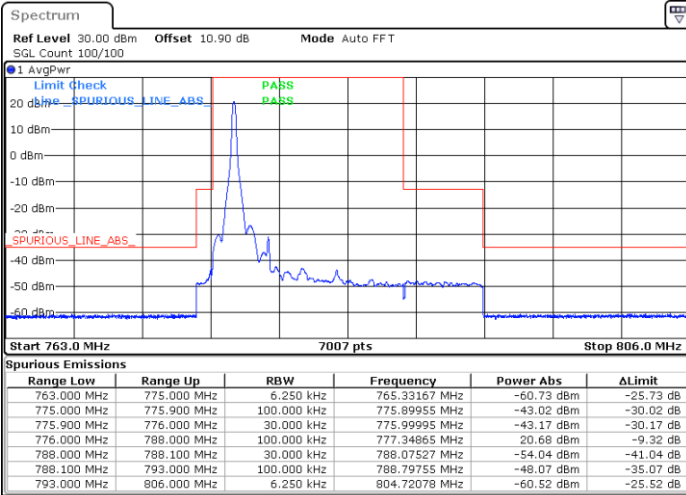
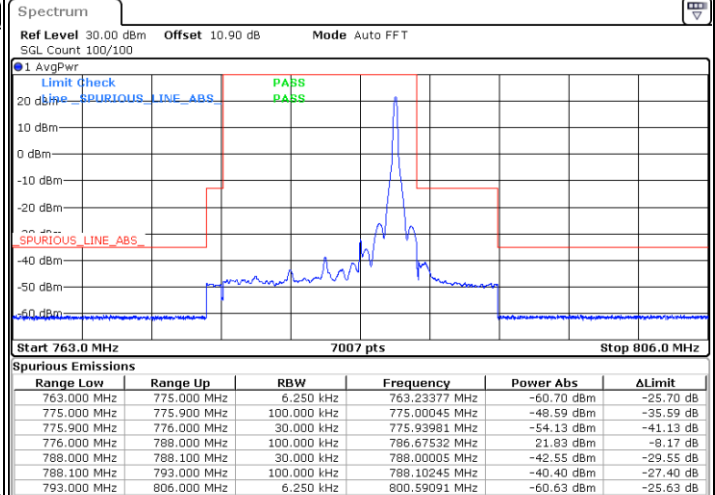
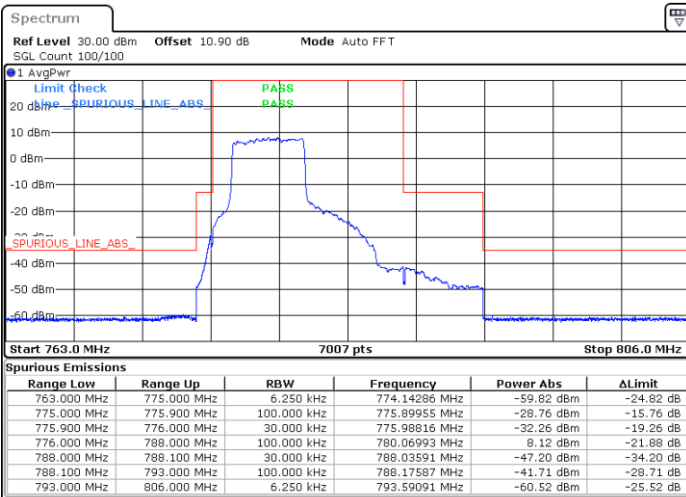
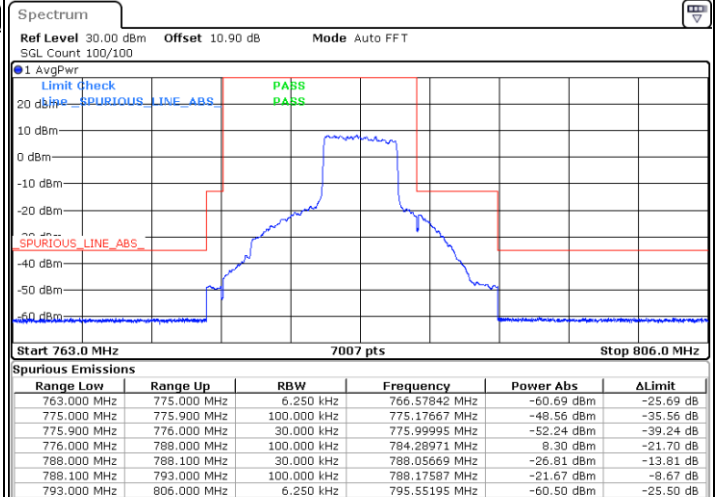




Occupied Bandwidth

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	-	-	-	-	4.49	4.49	9.03	4.88	-	-	-	-



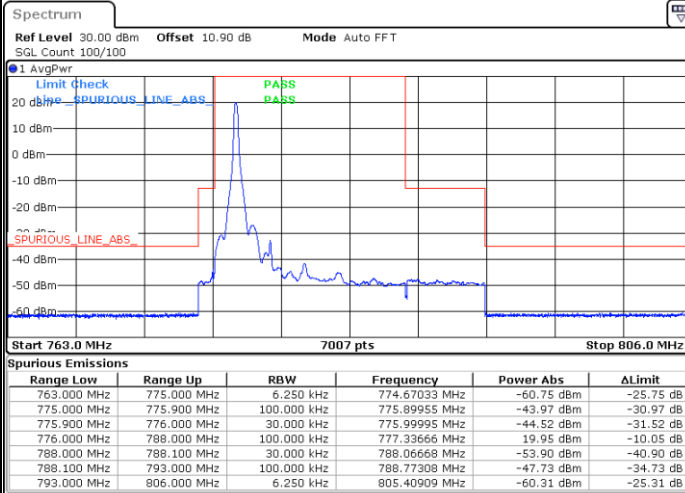
**Conducted Band Edge****LTE Band 13 / 5MHz / QPSK****Lowest Band Edge / 1 RB 0****Highest Band Edge / 1 RB max****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**



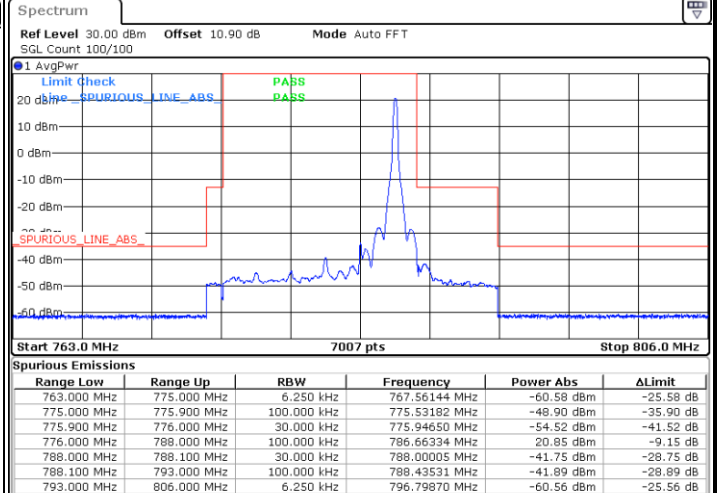
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB0

Highest Band Edge / 1 RBmax



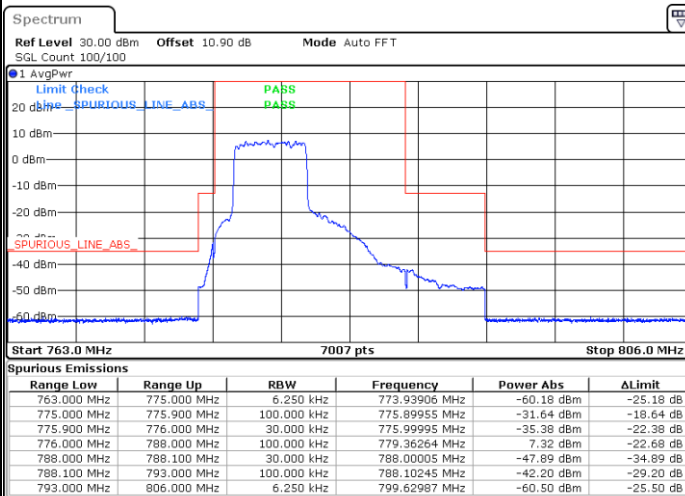
Date: 18.SEP.2023 16:37:47



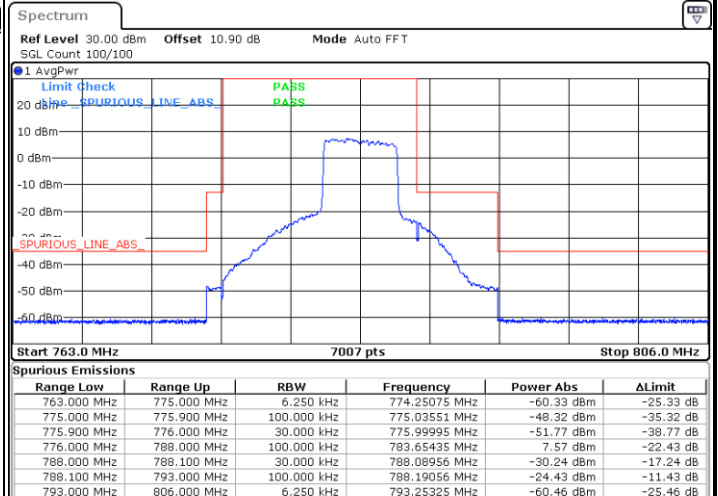
Date: 18.SEP.2023 16:45:25

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 18.SEP.2023 16:36:53



Date: 18.SEP.2023 16:44:30



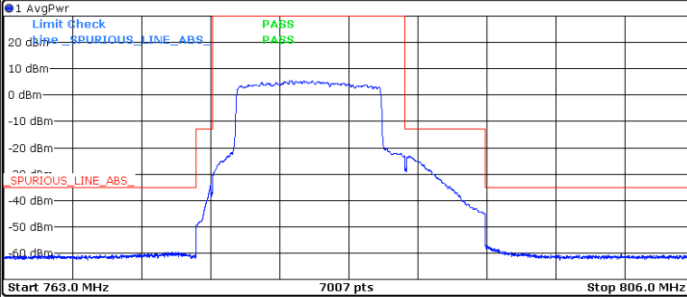
LTE Band 13 / 10MHz / QPSK

Band Edge / Full RB

LTE Band 13 / 10MHz / 16QAM

Band Edge / 27 RB0

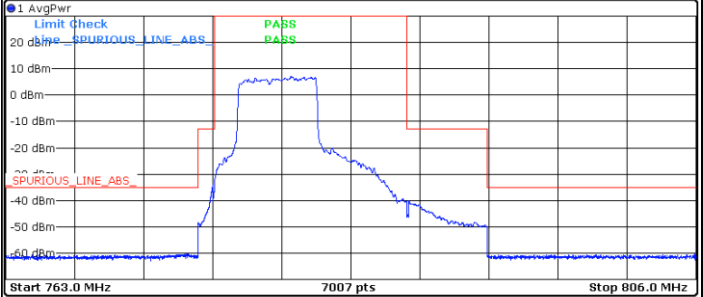
Spectrum

Ref Level 30.00 dBm Offset 10.90 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	773.23177 MHz	-59.67 dBm	-24.67 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.89955 MHz	-33.89 dBm	-20.89 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.98057 MHz	-36.90 dBm	-23.90 dB
776.000 MHz	788.000 MHz	100.000 kHz	780.87313 MHz	-5.52 dBm	-24.48 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.06079 MHz	-27.77 dBm	-14.77 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.28357 MHz	-23.16 dBm	-10.16 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.03247 MHz	-57.07 dBm	-22.07 dB

Date: 18.SEP.2023 16:50:02

Spectrum

Ref Level 30.00 dBm Offset 10.90 dB Mode Auto FFT
SGL Count 100/100

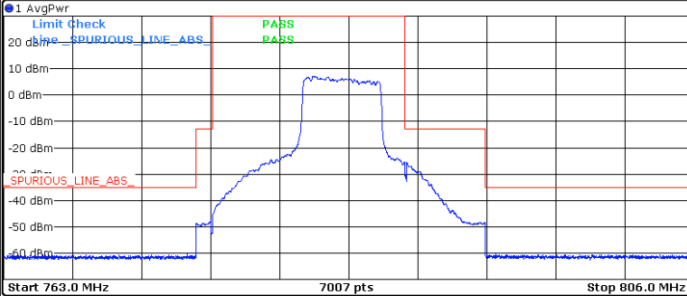
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.31069 MHz	-60.33 dBm	-25.33 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.89955 MHz	-34.09 dBm	-21.09 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.98056 MHz	-36.49 dBm	-23.49 dB
776.000 MHz	788.000 MHz	100.000 kHz	780.78921 MHz	-7.02 dBm	-22.98 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.02982 MHz	-45.34 dBm	-32.34 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.10245 MHz	-40.21 dBm	-27.21 dB
793.000 MHz	806.000 MHz	6.250 kHz	805.87662 MHz	-60.53 dBm	-25.53 dB

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Band Edge /27 RB Max

N/A

Spectrum

Ref Level 30.00 dBm Offset 10.90 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	774.43057 MHz	-60.48 dBm	-25.48 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.89955 MHz	-47.56 dBm	-34.56 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.99995 MHz	-51.90 dBm	-38.90 dB
776.000 MHz	788.000 MHz	100.000 kHz	782.26374 MHz	-7.06 dBm	-22.94 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.01733 MHz	-30.29 dBm	-17.29 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.10245 MHz	-25.63 dBm	-12.63 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.64286 MHz	-60.41 dBm	-25.41 dB

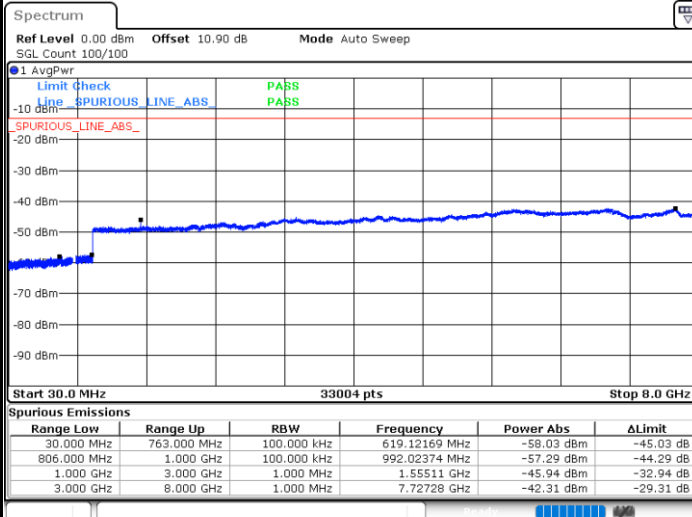
Date: 18.SEP.2023 16:51:50



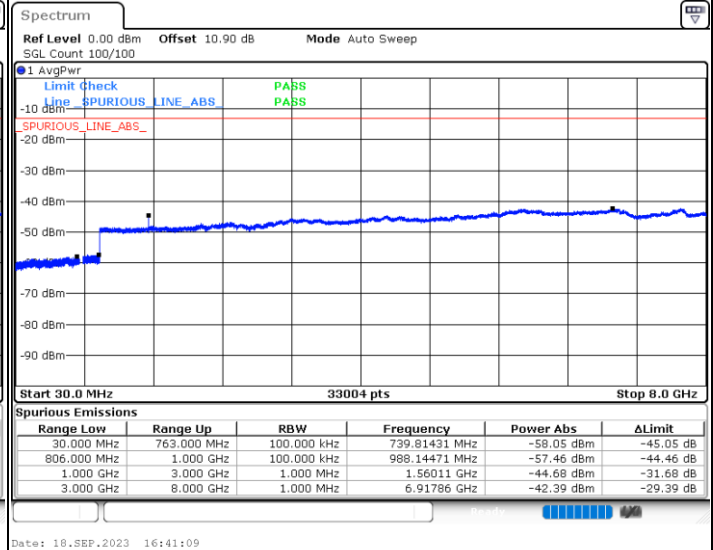
Conducted Spurious Emission

LTE Band 13 / 5MHz

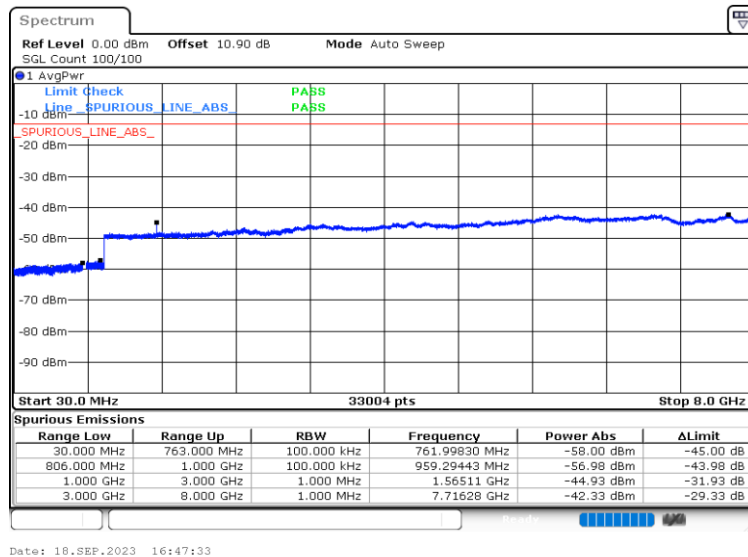
Lowest Channel / QPSK



Middle Channel / QPSK



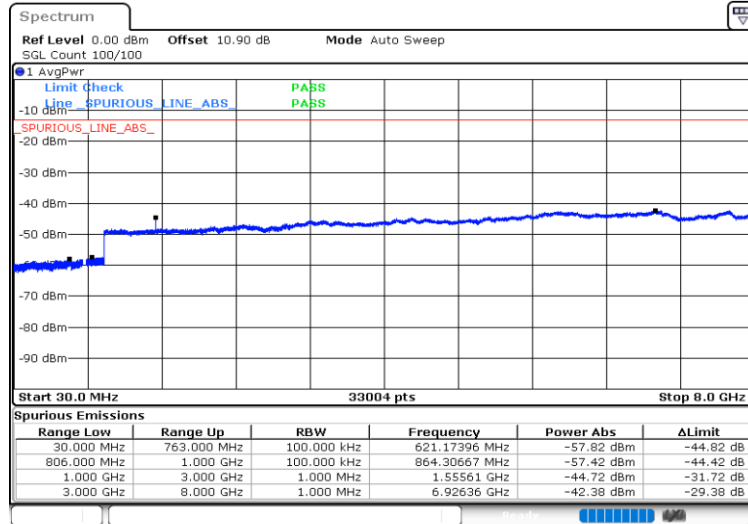
Highest Channel / QPSK





LTE Band 13 / 10MHz

Middle Channel / QPSK



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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	0.0170	PASS
40	Normal Voltage	0.0005	
30	Normal Voltage	0.0087	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0170	
0	Normal Voltage	0.0124	
-10	Normal Voltage	0.0046	
-20	Normal Voltage	0.0041	
-30	Normal Voltage	0.0081	
20	Maximum Voltage	0.0003	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0051	

Note:

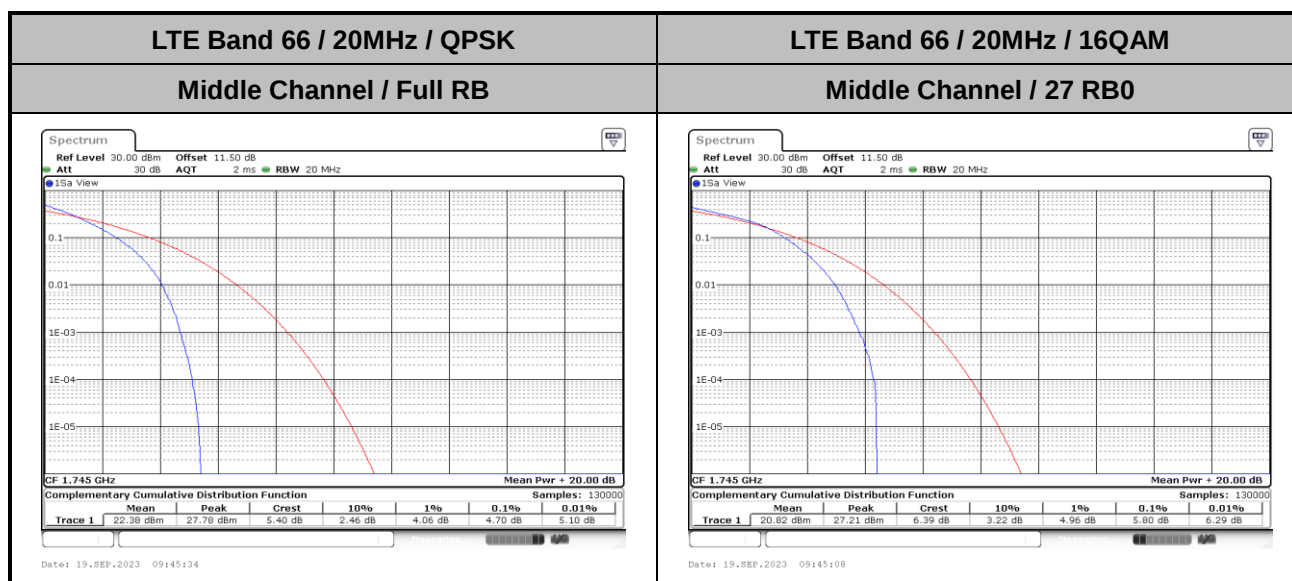
1. Normal Voltage = 3.7 V. ; Battery End Point (BEP) = 3.4 V. ; Maximum Voltage = 4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 66

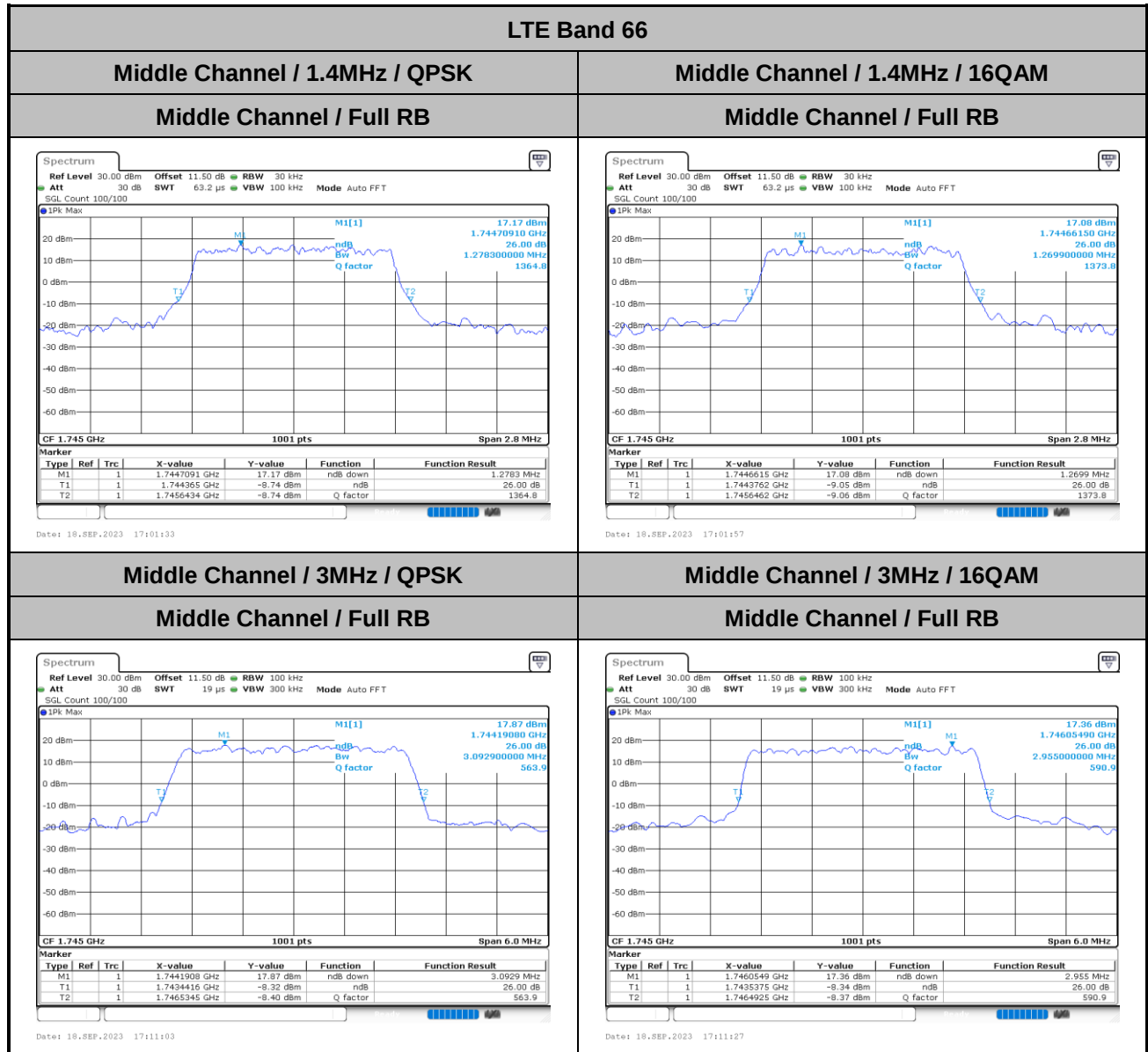
Peak-to-Average Ratio

Mode	LTE Band 66 / 20MHz		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	27 RB	Result
Middle CH	4.70	5.80	PASS



**26dB Bandwidth**

Mode	LTE Band 66 : 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	1.28	1.27	3.09	2.96	5.00	4.96	10.17	5.44	14.48	5.81	19.30	5.83

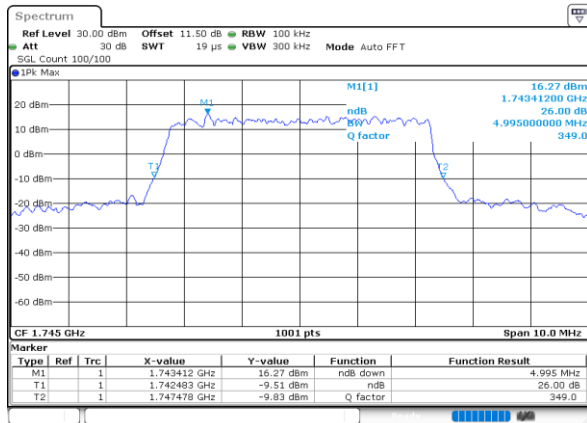




LTE Band 66

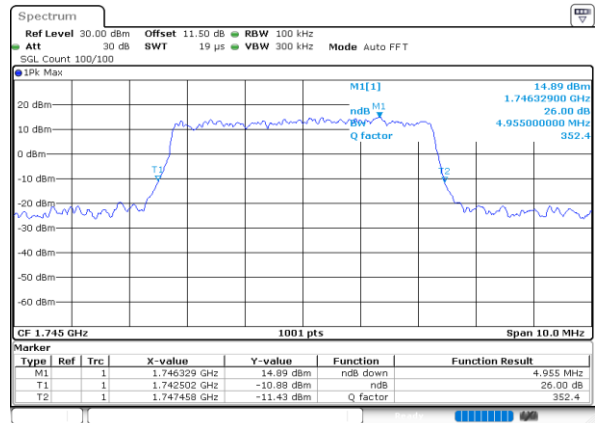
Middle Channel / 5MHz / QPSK

Middle Channel / Full RB



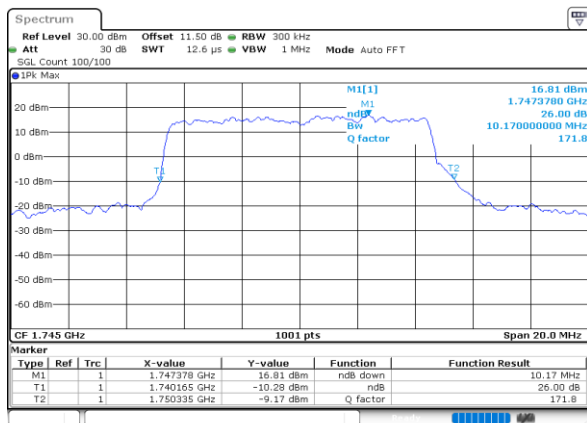
Middle Channel / 5MHz / 16QAM

Middle Channel / Full RB



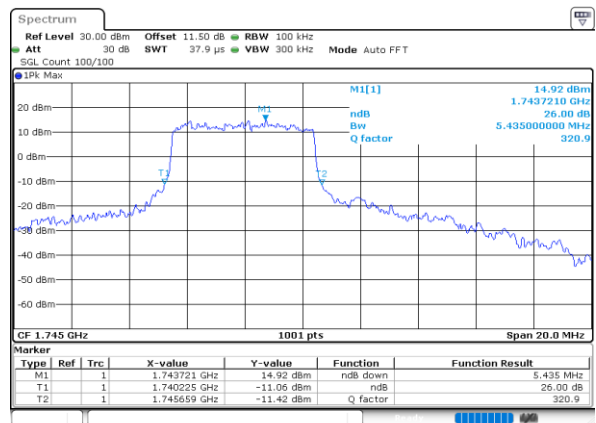
Middle Channel / 10MHz / QPSK

Middle Channel / Full RB



Middle Channel / 10MHz / 16QAM

Middle Channel / 27 RB0





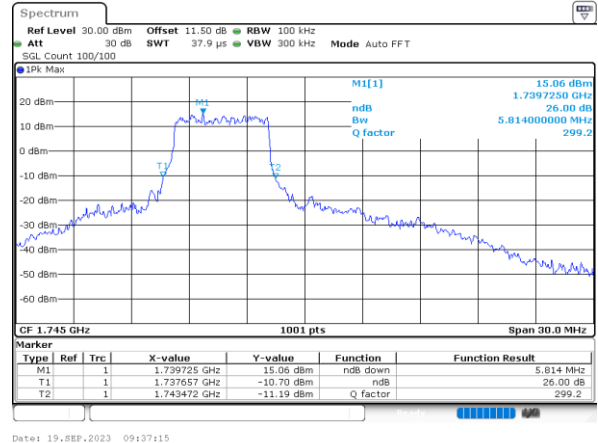
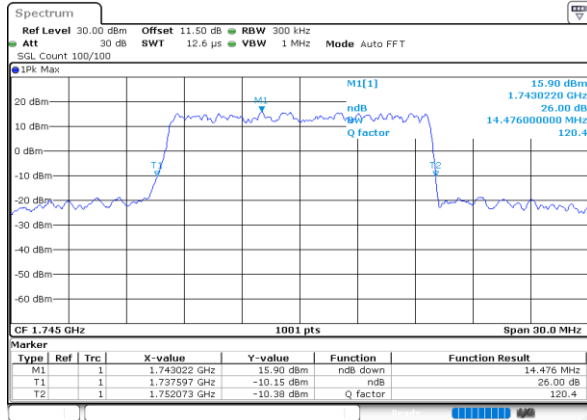
LTE Band 66

Middle Channel / 15MHz / QPSK

Middle Channel / 15MHz / 16QAM

Middle Channel / Full RB

Middle Channel / 27 RB0

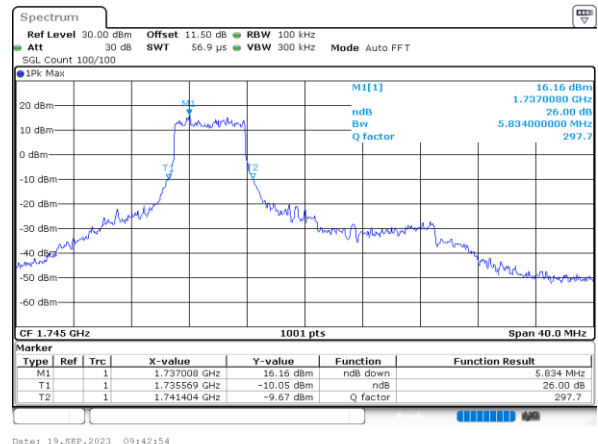
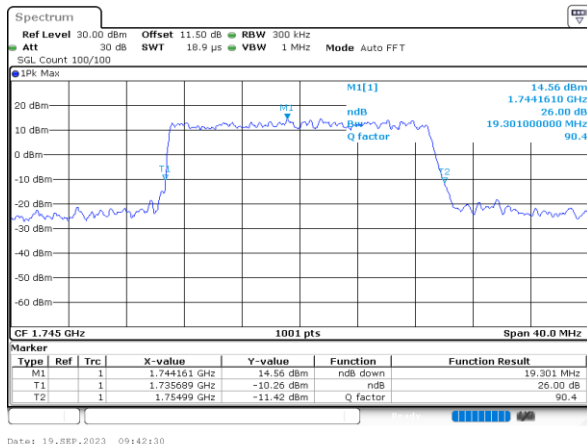


Middle Channel / 20MHz / QPSK

Middle Channel / 20MHz / 16QAM

Middle Channel / Full RB

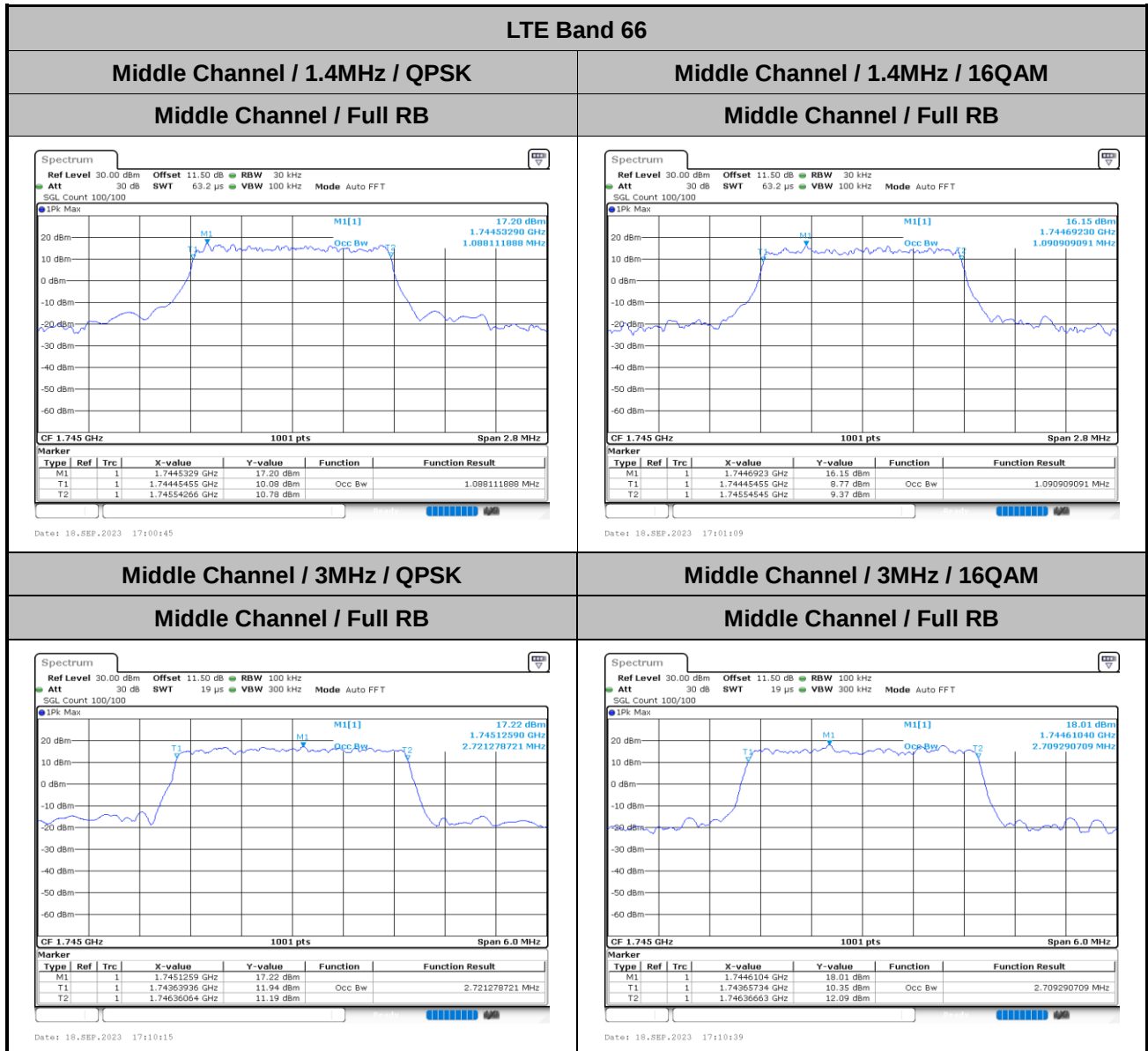
Middle Channel / 27 RB0





Occupied Bandwidth

Mode	LTE Band 66 : 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	2.72	2.71	4.51	4.50	9.01	4.86	13.46	4.89	17.94	4.88

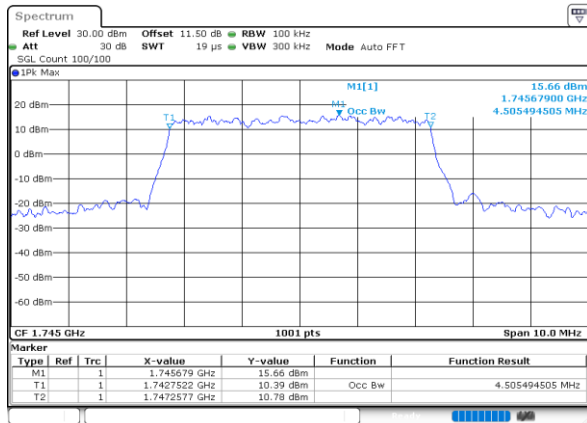




LTE Band 66

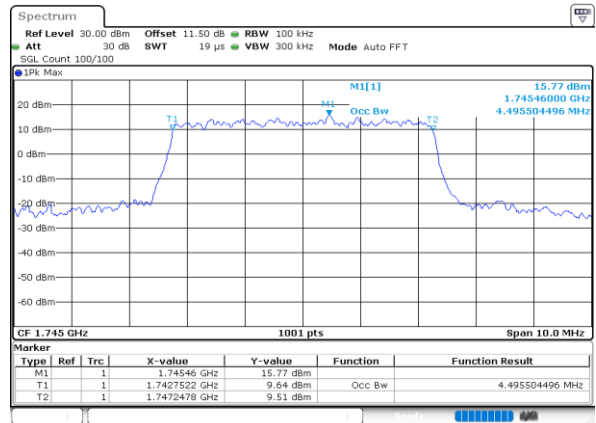
Middle Channel / 5MHz / QPSK

Middle Channel / Full RB



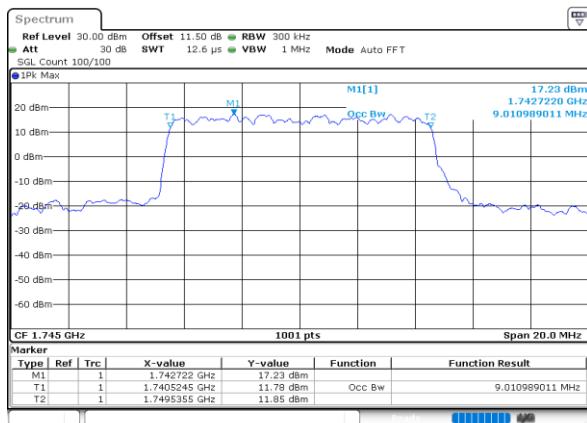
Middle Channel / 5MHz / 16QAM

Middle Channel / Full RB



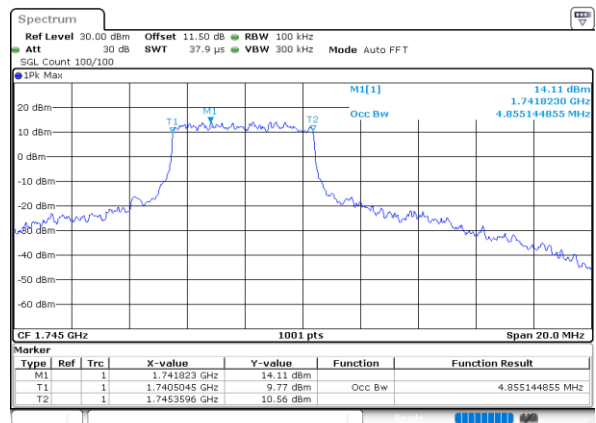
Middle Channel / 10MHz / QPSK

Middle Channel / Full RB



Middle Channel / 10MHz / 16QAM

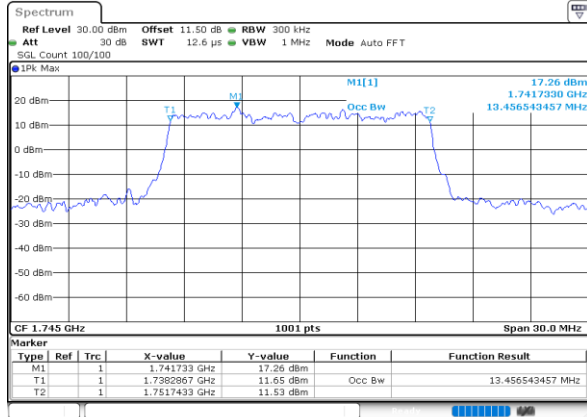
Middle Channel / 27 RB0





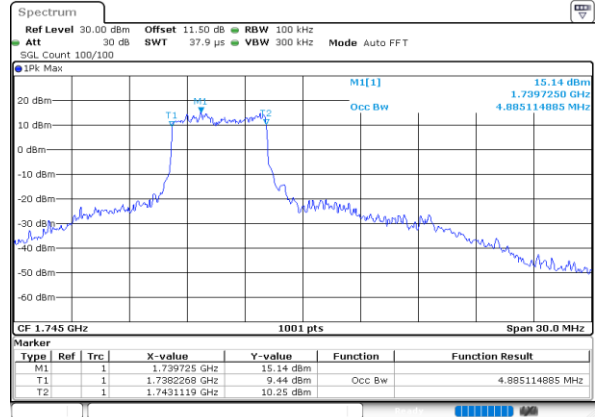
Middle Channel / 15MHz / QPSK

Middle Channel / Full RB



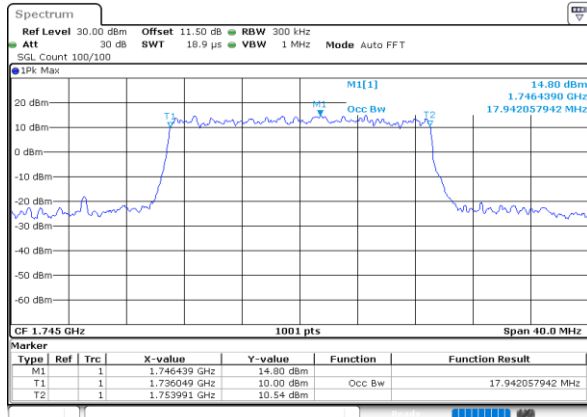
Middle Channel / 15MHz / 16QAM

Middle Channel / 27 RB0



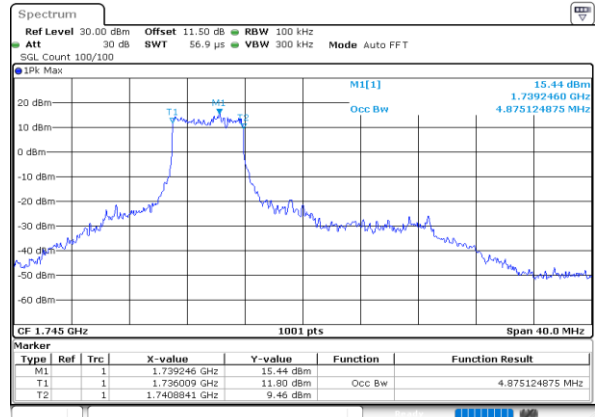
Middle Channel / 20MHz / QPSK

Middle Channel / Full RB



Middle Channel / 20MHz / 16QAM

Middle Channel / 27 RB0

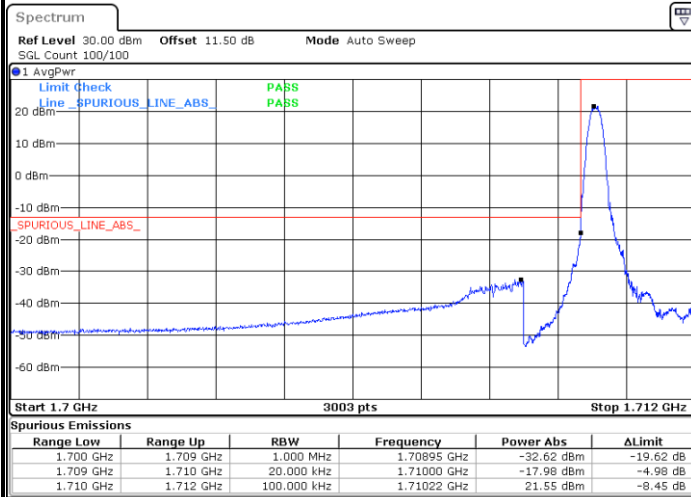




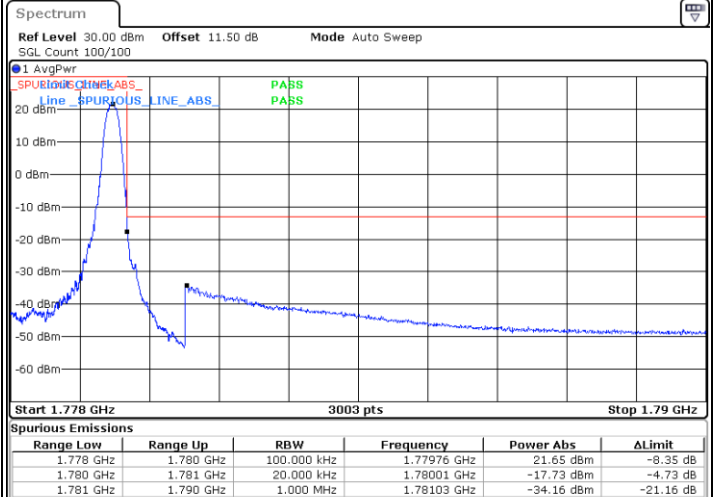
Conducted Band Edge

LTE Band 66 / 1.4MHz / QPSK

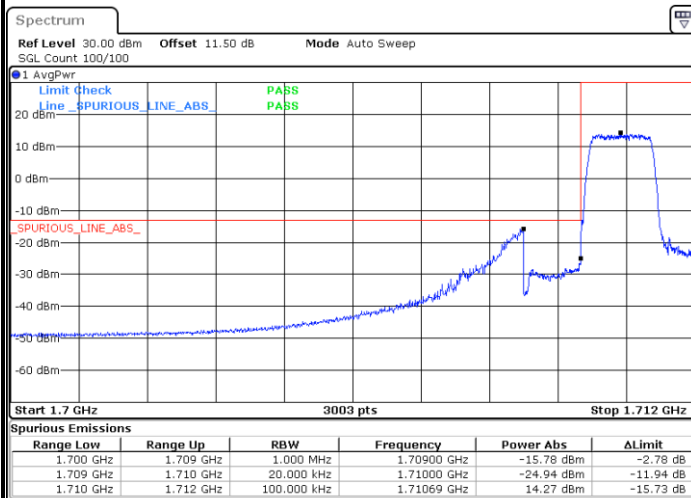
Lowest Band Edge / 1RB0



Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

