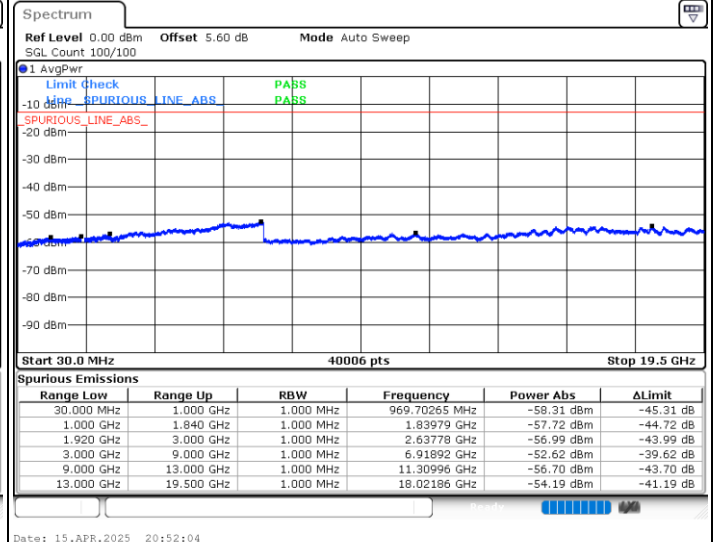
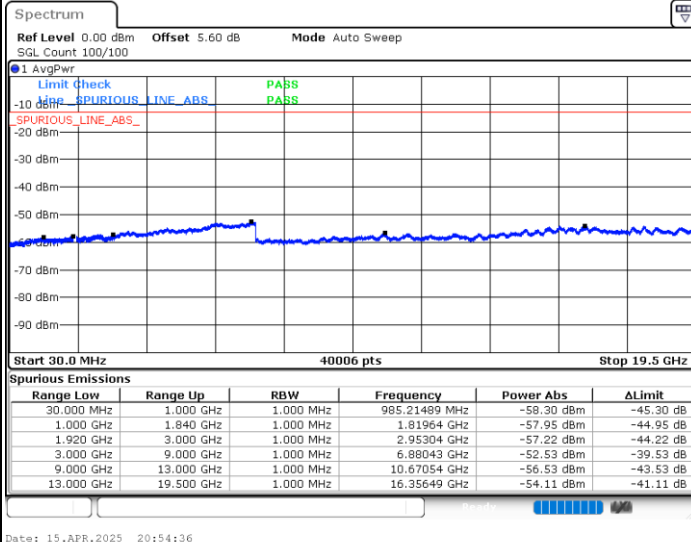




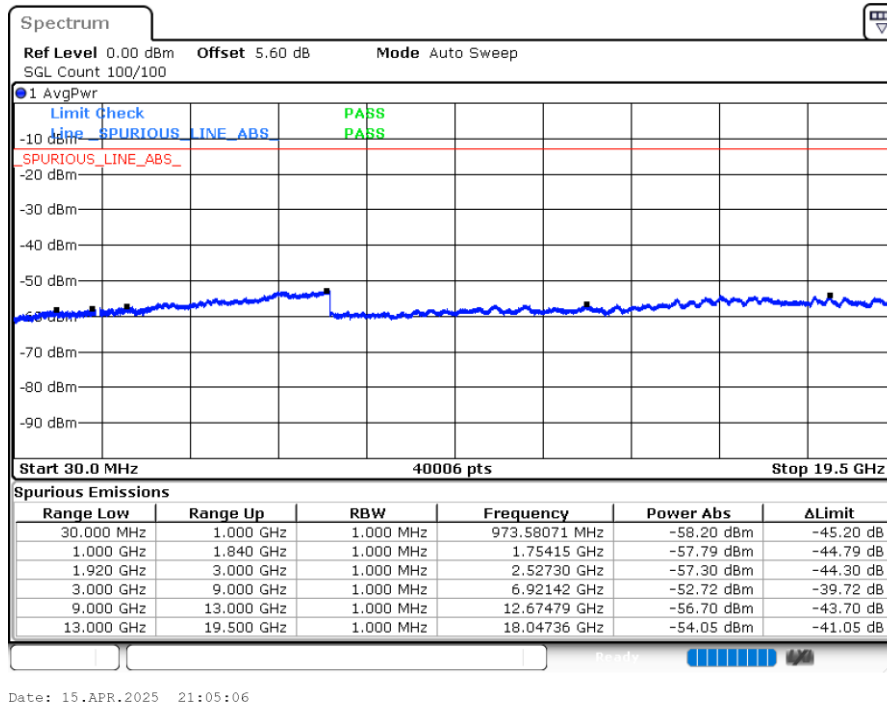
LTE Band 2 / 20MHz

Lowest Channel / QPSK

Middle Channel / QPSK



Highest Channel / QPSK



Frequency Stability

Test Conditions		LTE Band 2 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0021	PASS
40	Normal Voltage	0.0049	
30	Normal Voltage	0.0016	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0044	
0	Normal Voltage	0.0058	
-10	Normal Voltage	0.0063	
-20	Normal Voltage	0.0029	
-30	Normal Voltage	0.0005	
20	Maximum Voltage	0.0061	
20	Normal Voltage	0.0078	
20	Battery End Point	0.0013	

Note:

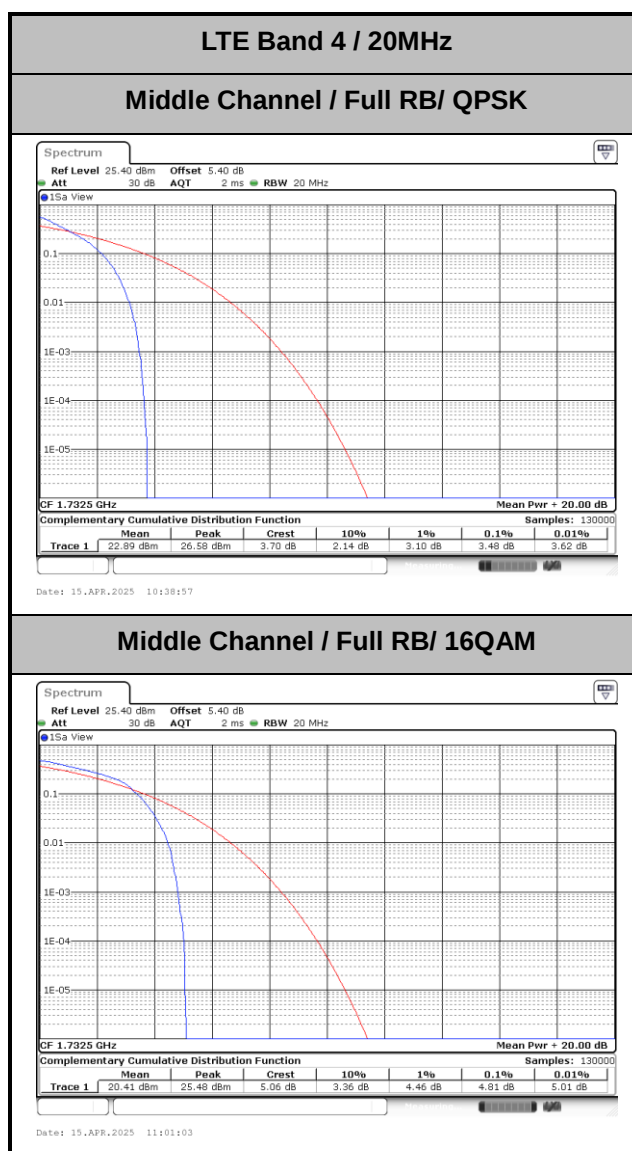
1. Normal Voltage = 3.89 V.; Battery End Point (BEP) =3.1 V.; Maximum Voltage = 4.48 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 4

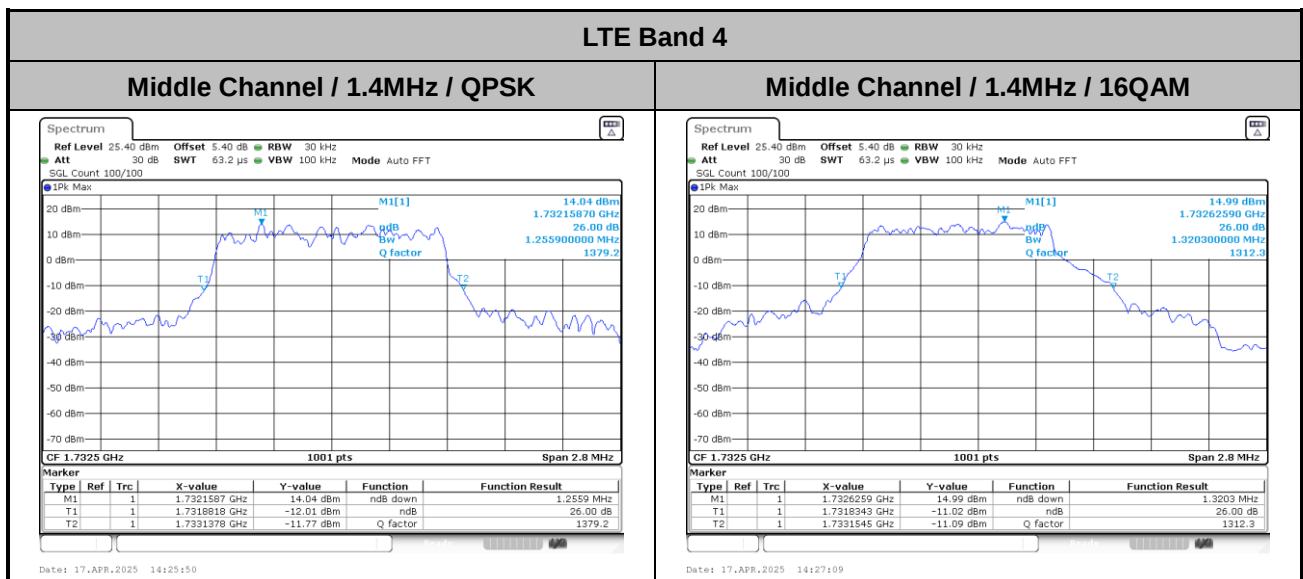
Peak-to-Average Ratio

Mode	LTE Band 4 / 20MHz		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	Full RB	Result
Middle CH	3.48	4.81	PASS



**26dB Bandwidth**

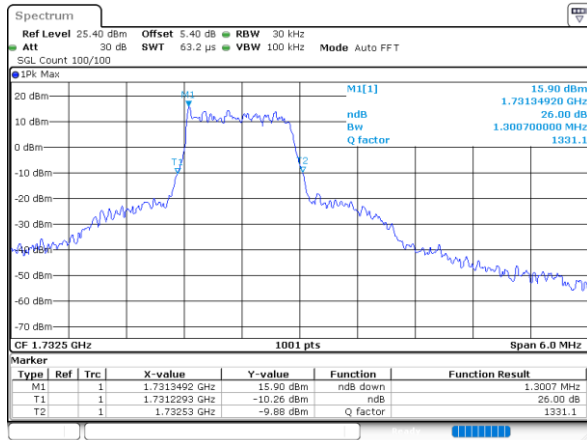
Mode	LTE Band 4 : 26dB BW(MHz)	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.26	1.32
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	1.30	1.31
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	1.33	1.30
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	1.38	1.38
BW	15MHz	
Mod.	QPSK	16QAM
Middle CH	1.38	1.35
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	1.48	1.28



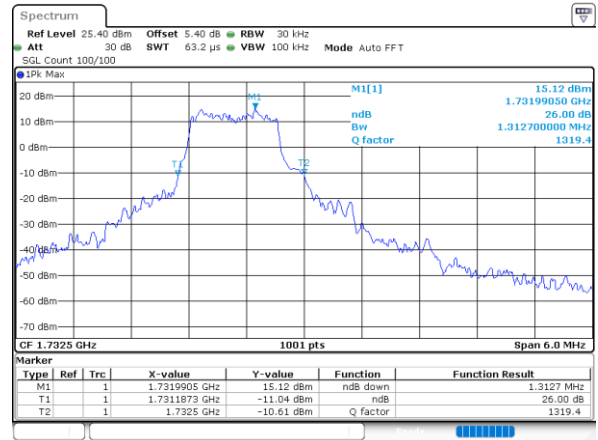


LTE Band 4

Middle Channel / 3MHz / QPSK

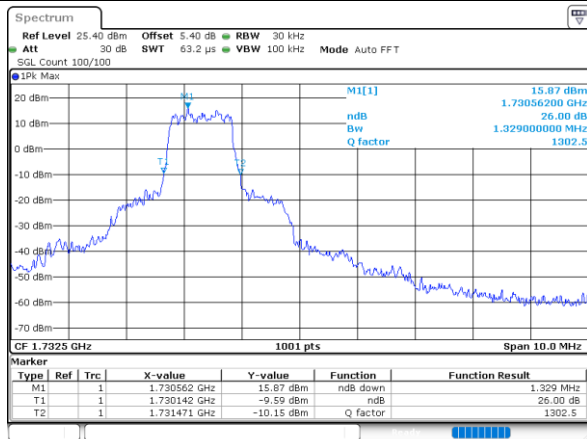


Middle Channel / 3MHz / 16QAM

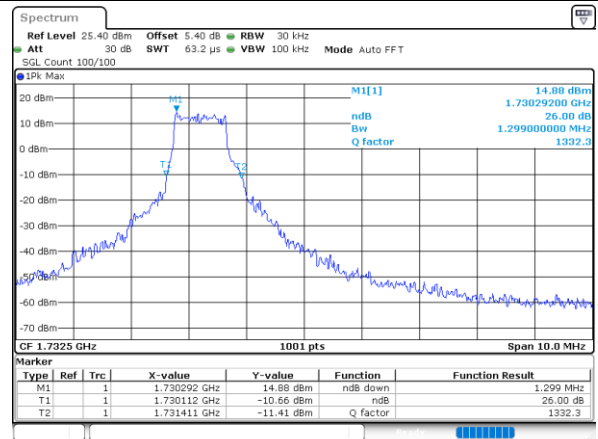


LTE Band 4

Middle Channel / 5MHz / QPSK

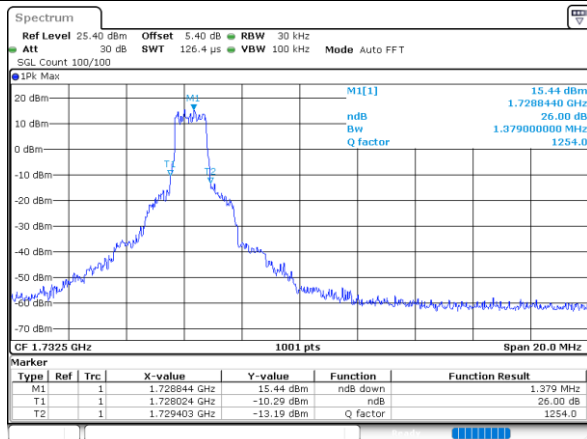


Middle Channel / 5MHz / 16QAM

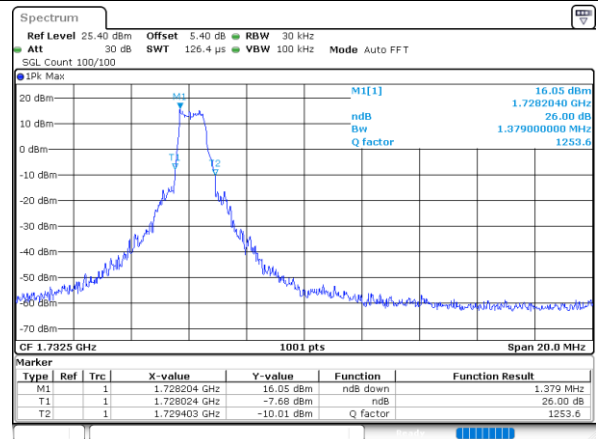


LTE Band 4

Middle Channel / 10MHz / QPSK



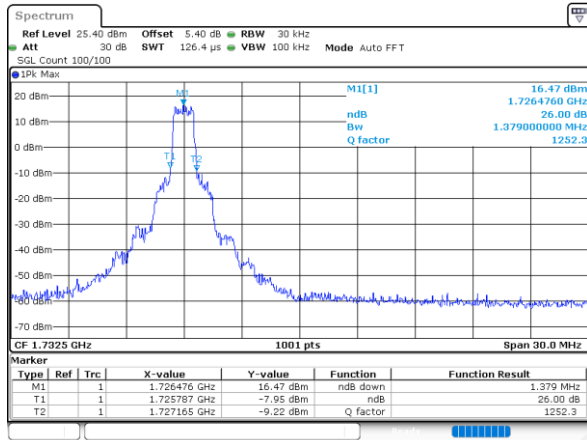
Middle Channel / 10MHz / 16QAM



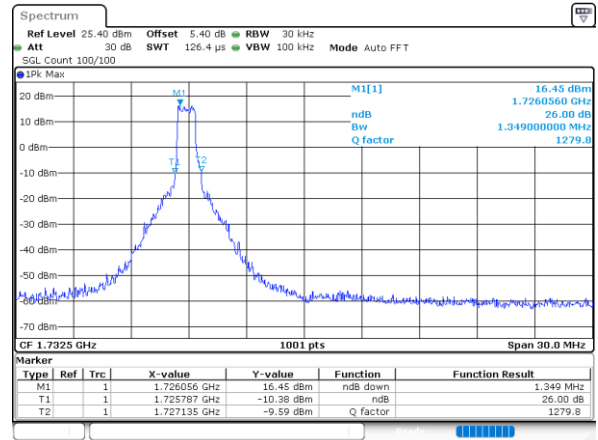


LTE Band 4

Middle Channel / 15MHz / QPSK

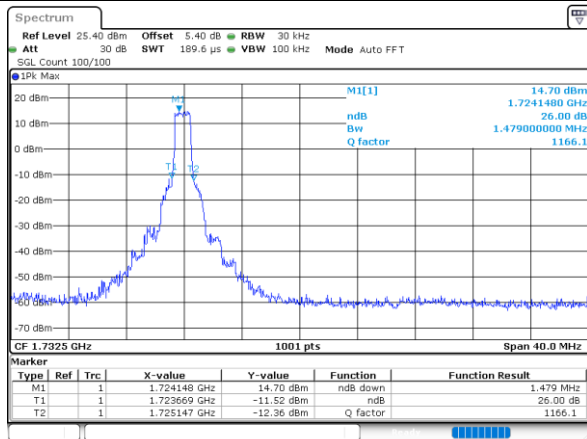


Middle Channel / 15MHz / 16QAM

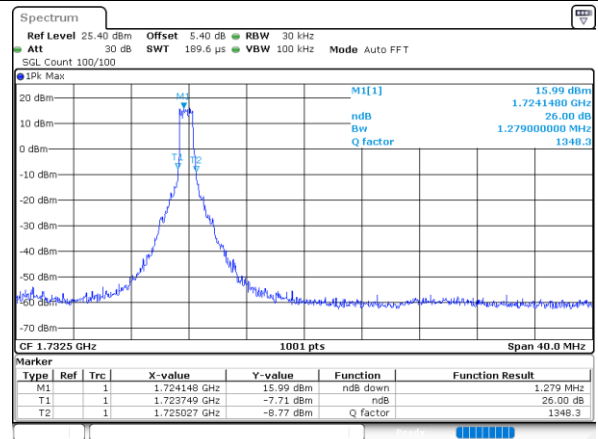


LTE Band 4

Middle Channel / 20MHz / QPSK

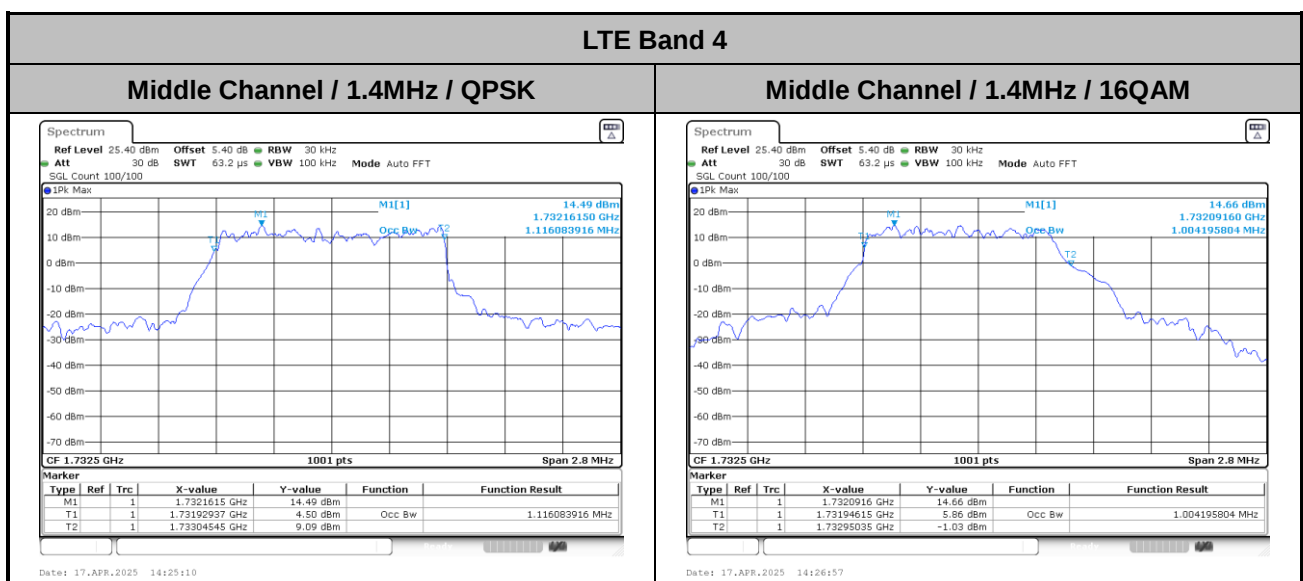


Middle Channel / 20MHz / 16QAM



Occupied Bandwidth

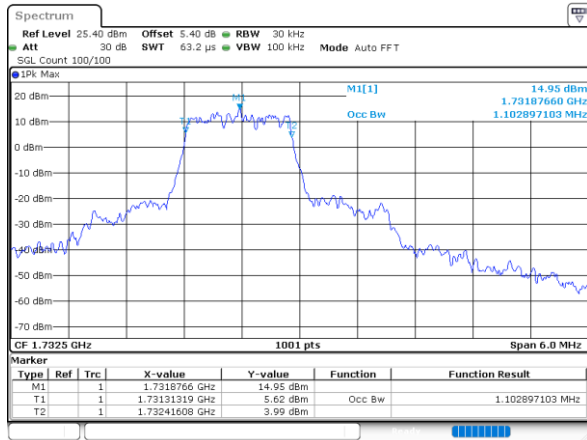
Mode	LTE Band 4 : 99%OBW(MHz)	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.12	1.00
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	1.10	0.971
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	1.09	1.01
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	1.12	0.939
BW	15MHz	
Mod.	QPSK	16QAM
Middle CH	1.11	0.959
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	1.12	0.959



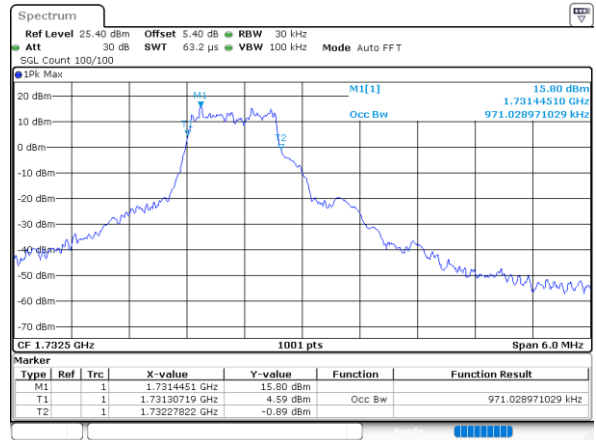


LTE Band 4

Middle Channel / 3MHz / QPSK

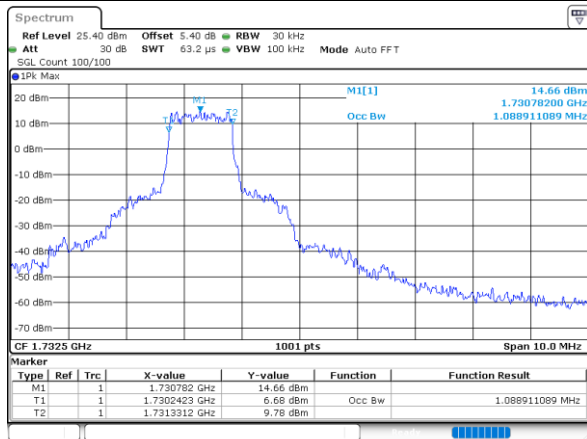


Middle Channel / 3MHz / 16QAM

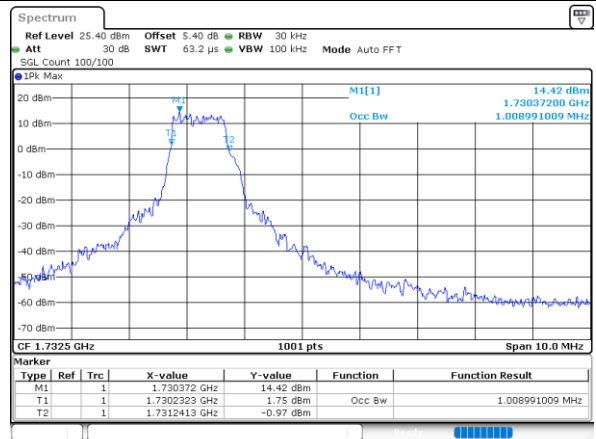


LTE Band 4

Middle Channel / 5MHz / QPSK

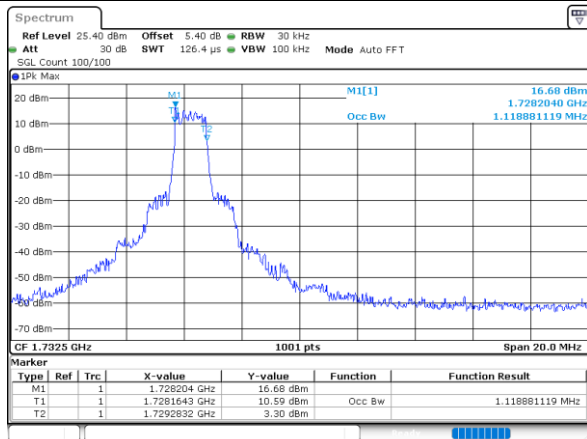


Middle Channel / 5MHz / 16QAM

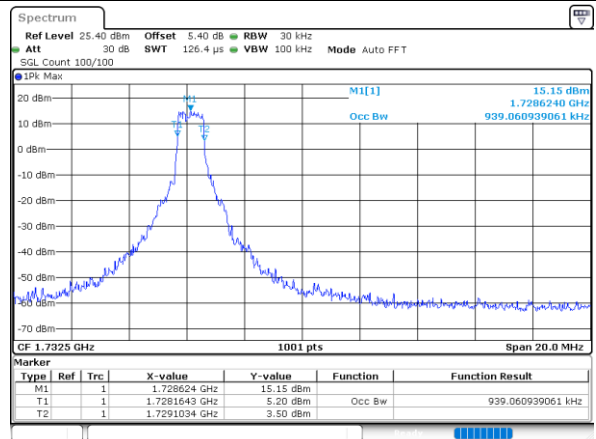


LTE Band 4

Middle Channel / 10MHz / QPSK



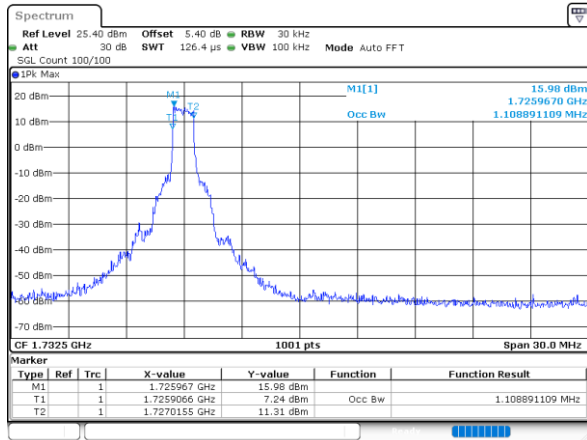
Middle Channel / 10MHz / 16QAM



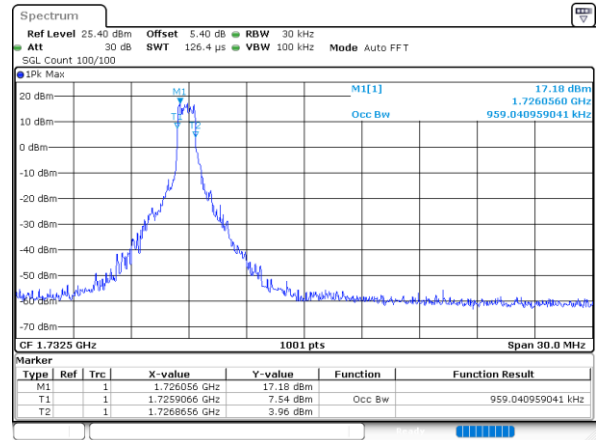


LTE Band 4

Middle Channel / 15MHz / QPSK

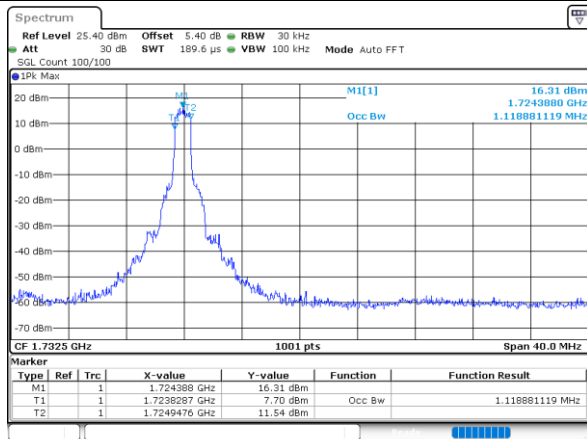


Middle Channel / 15MHz / 16QAM

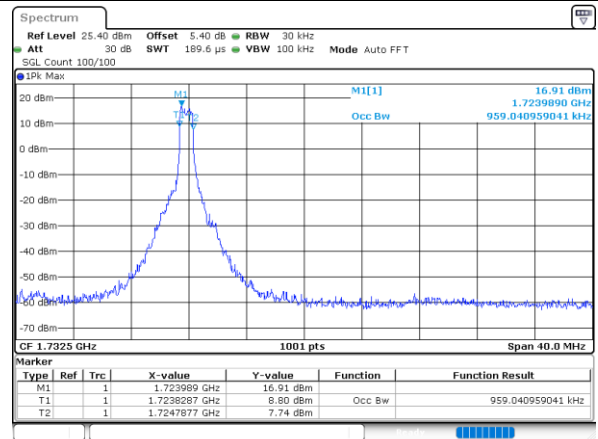


LTE Band 4

Middle Channel / 20MHz / QPSK



Middle Channel / 20MHz / 16QAM

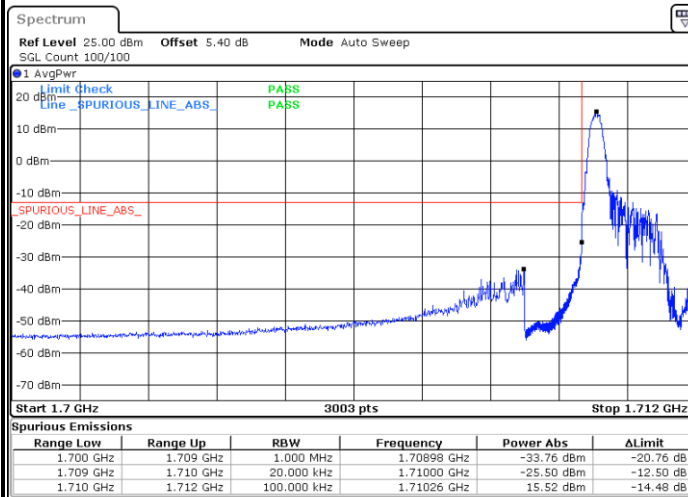




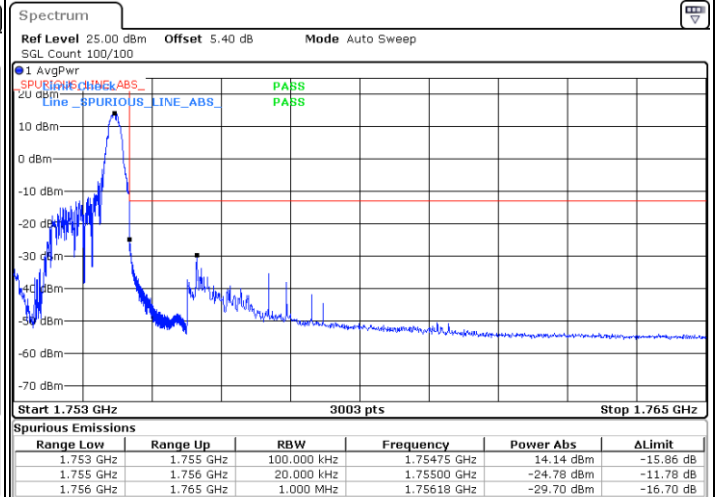
Conducted Band Edge

LTE Band 4 / 1.4MHz / QPSK

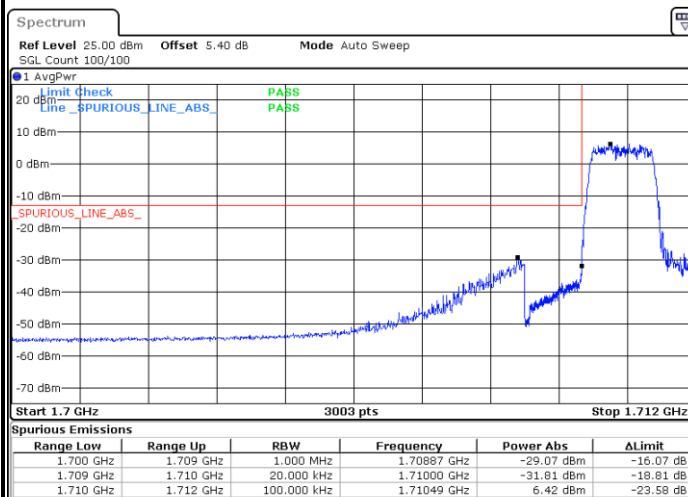
Lowest Band Edge / 1RB



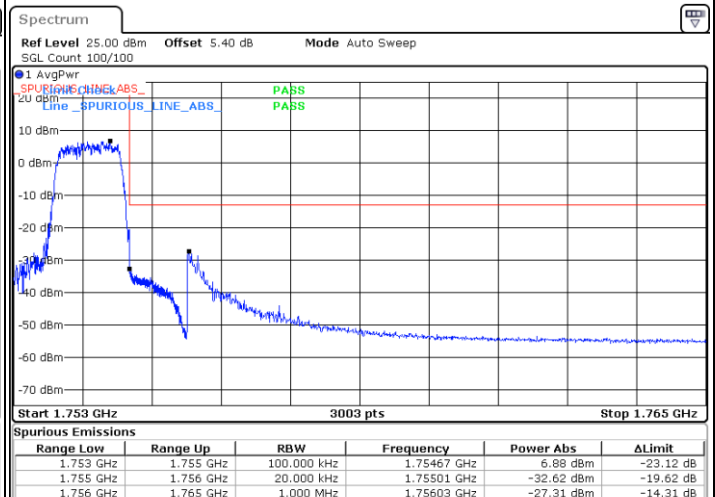
Highest Band Edge / 1RB



Lowest Band Edge / Full RB



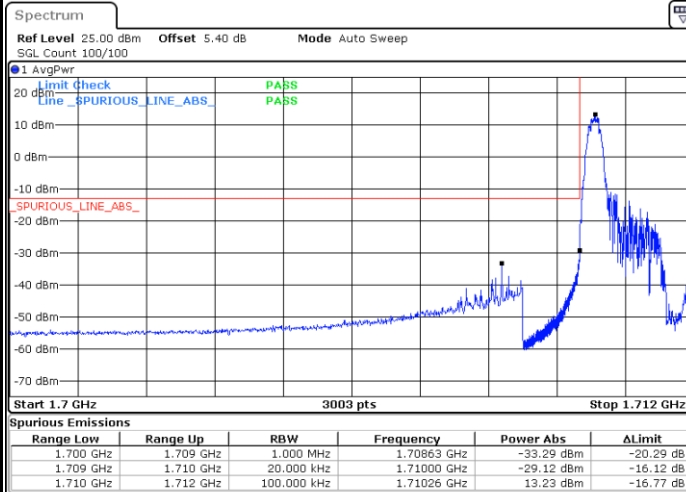
Highest Band Edge / Full RB



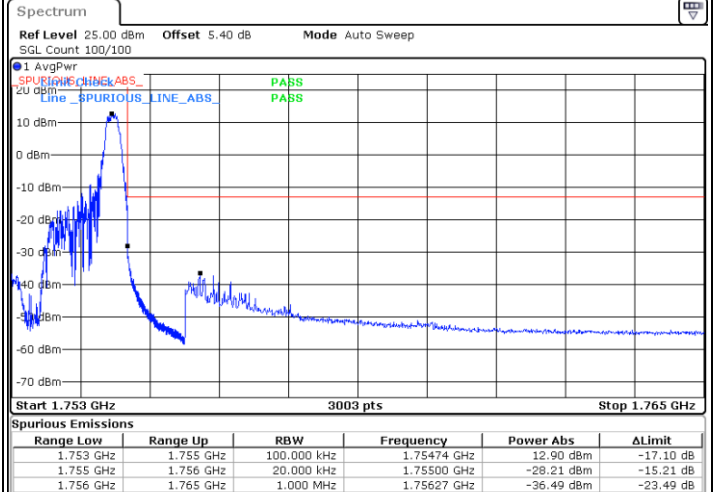


LTE Band 4 / 1.4MHz / 16QAM

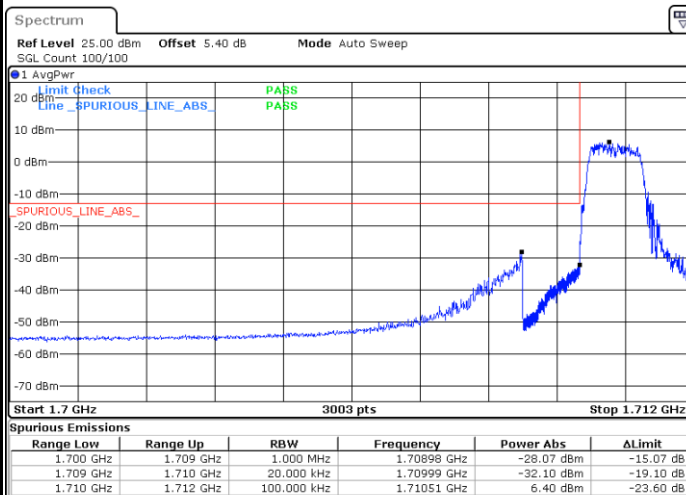
Lowest Band Edge / 1 RB



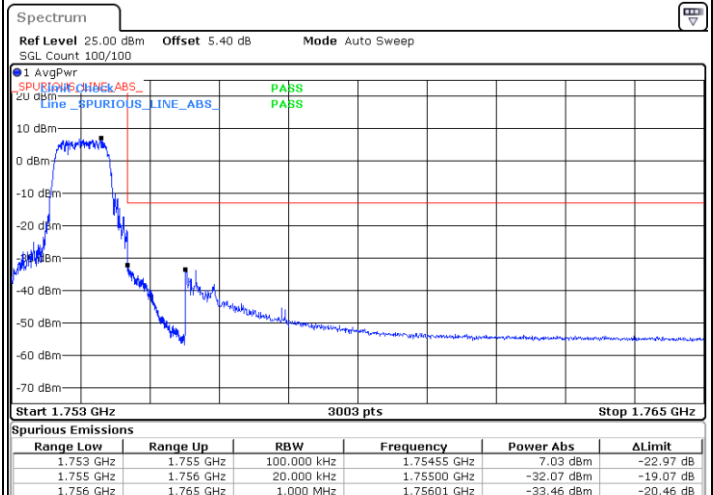
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



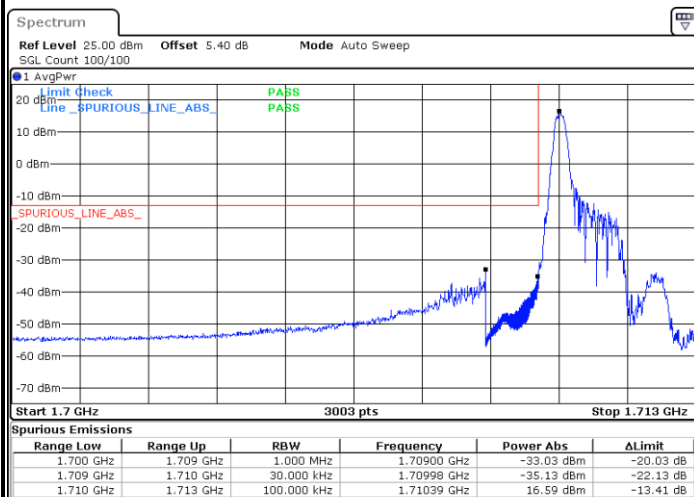
Highest Band Edge / Full RB



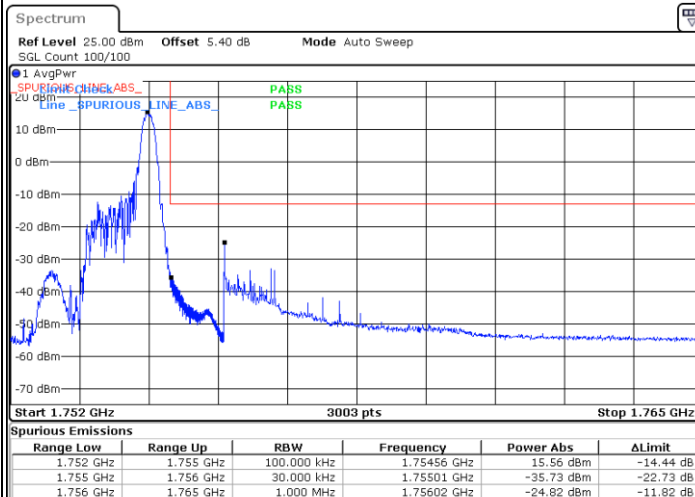


LTE Band 4 / 3MHz / QPSK

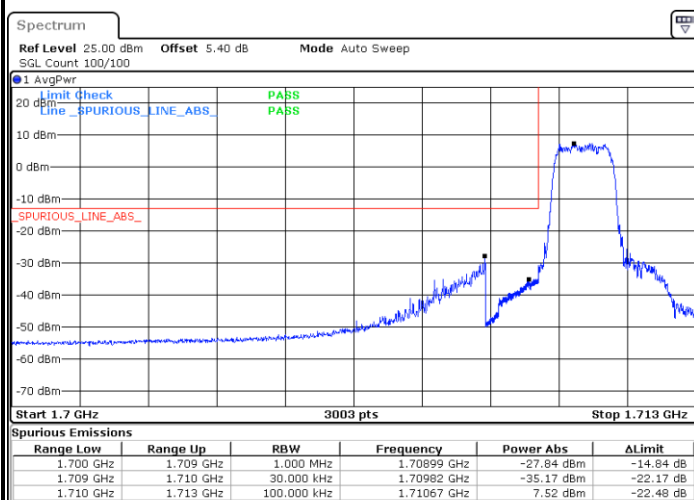
Lowest Band Edge / 1RB



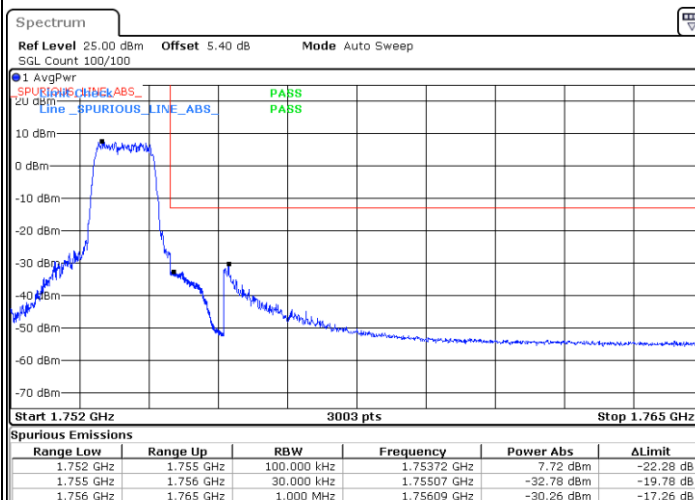
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



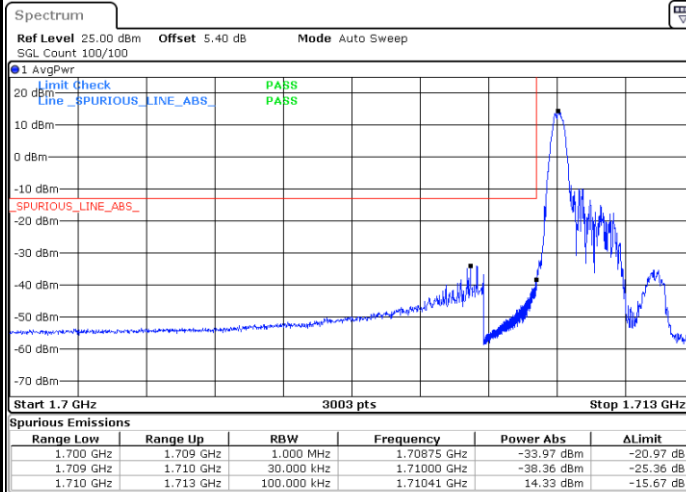
Highest Band Edge / Full RB



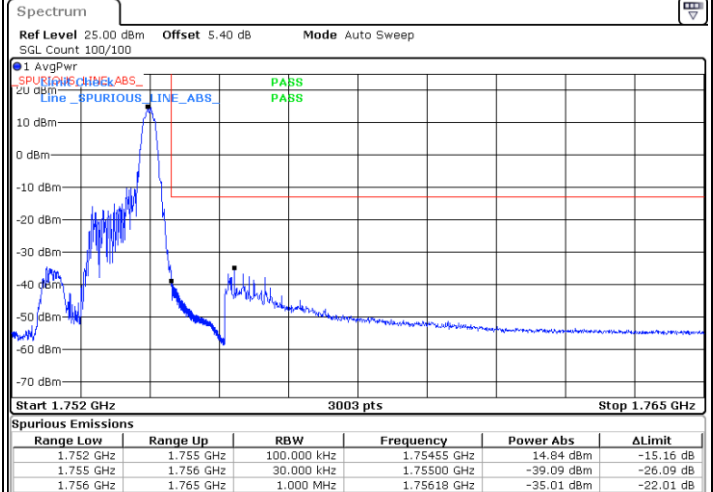


LTE Band 4 / 3MHz / 16QAM

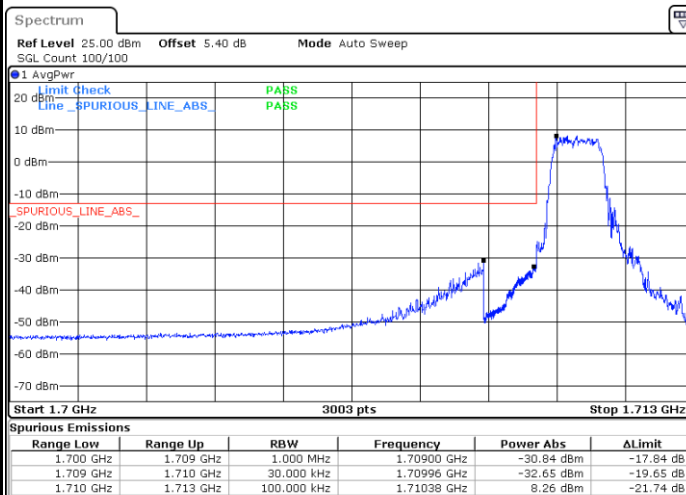
Lowest Band Edge / 1 RB



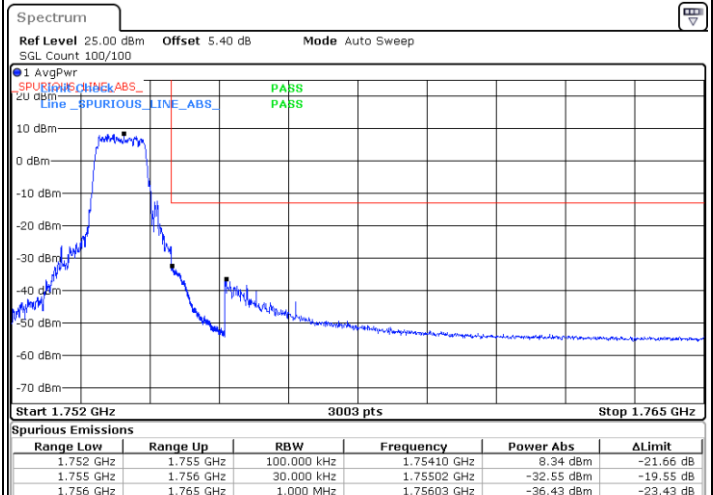
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



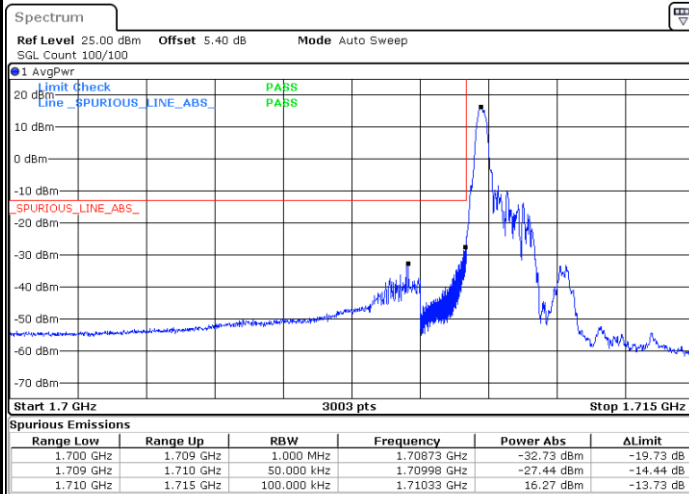
Highest Band Edge / Full RB



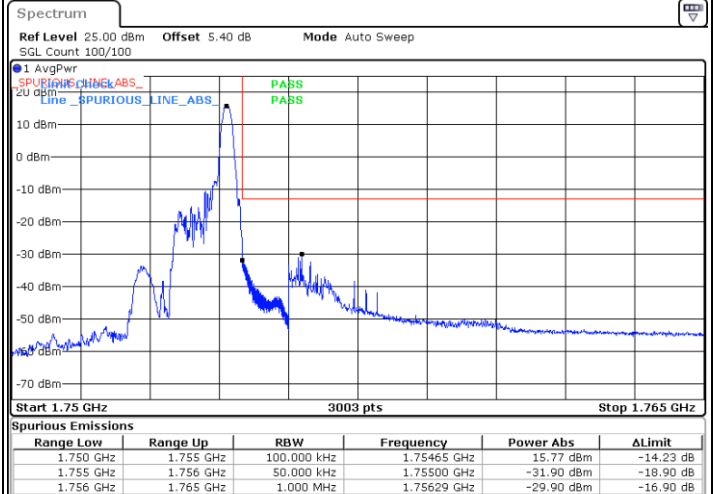


LTE Band 4 / 5MHz / QPSK

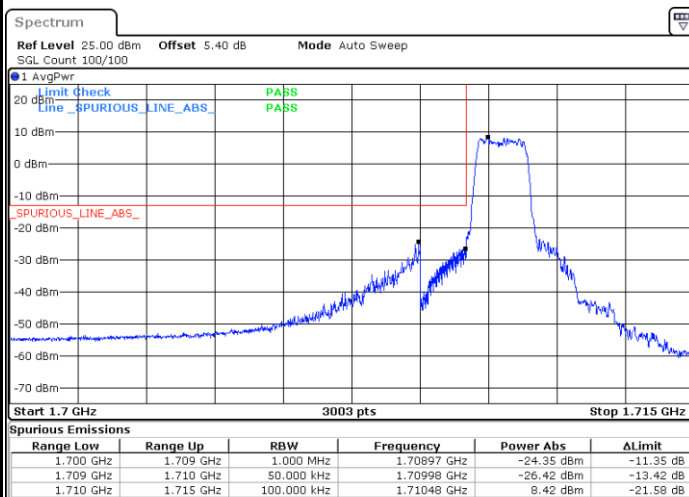
Lowest Band Edge / 1 RB



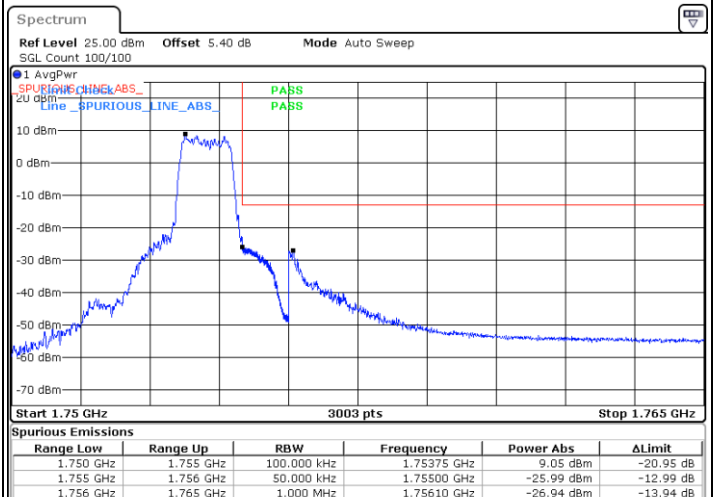
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



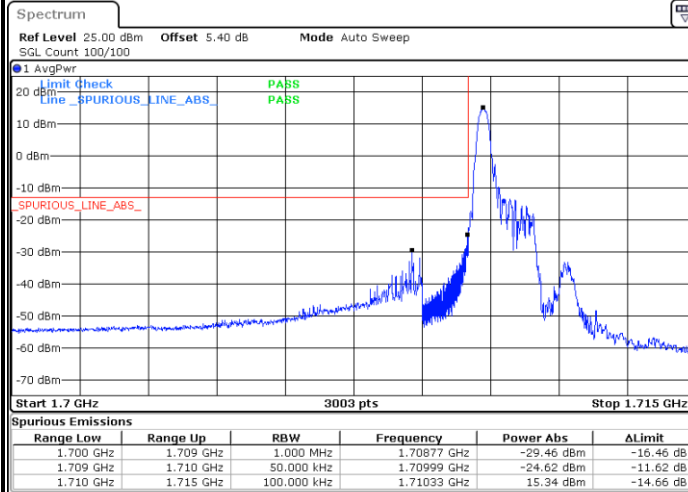
Highest Band Edge / Full RB



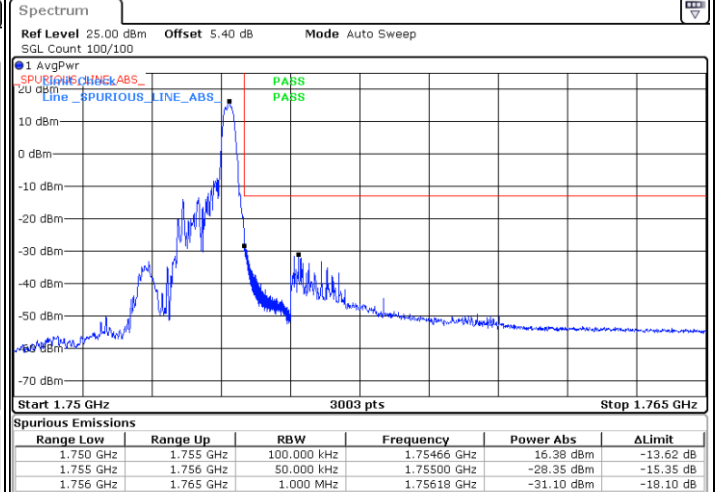


LTE Band 4 / 5MHz / 16QAM

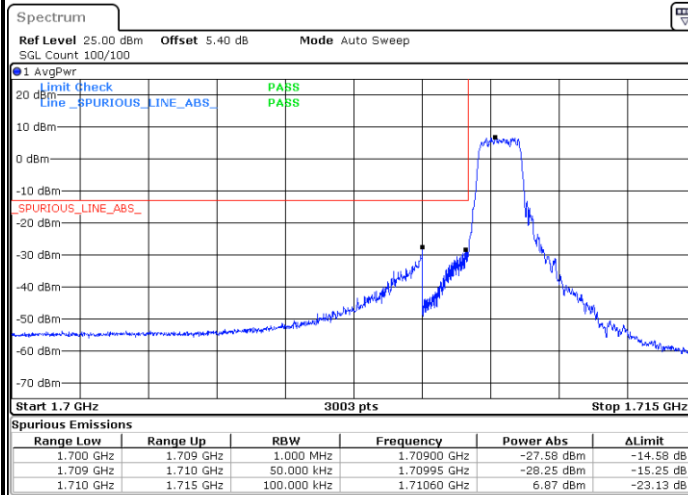
Lowest Band Edge / 1RB



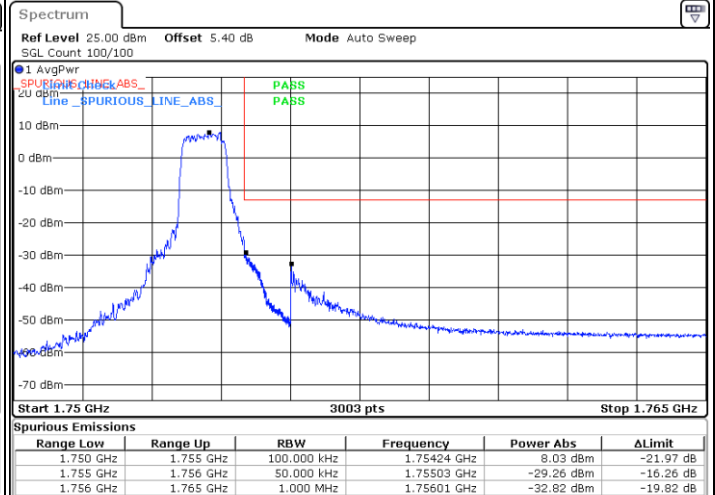
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



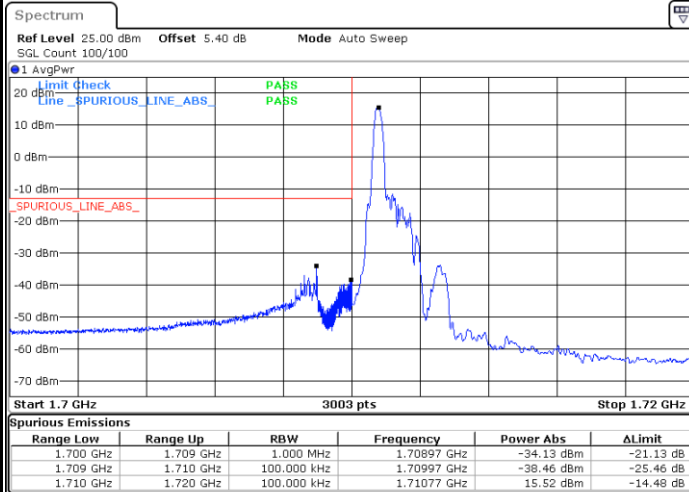
Highest Band Edge / Full RB



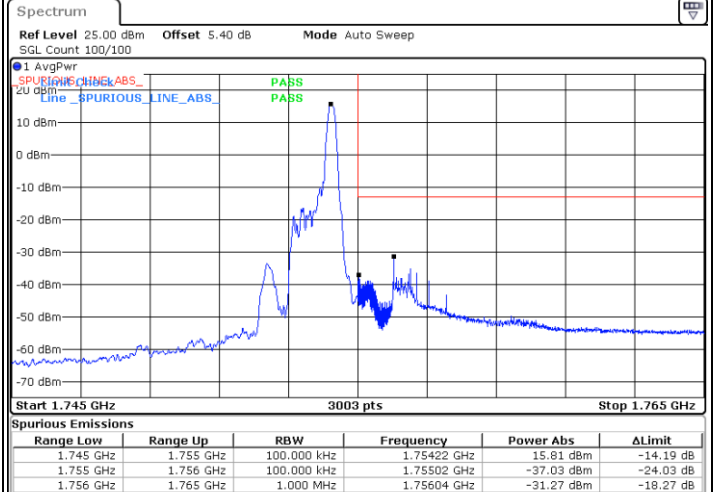


LTE Band 4 / 10MHz / QPSK

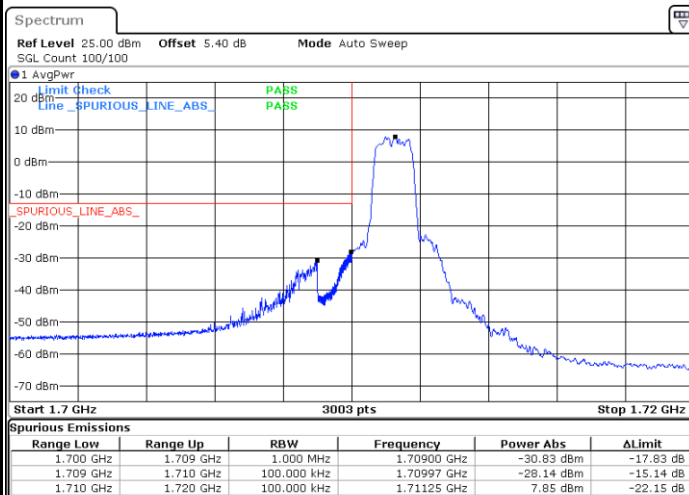
Lowest Band Edge / 1 RB



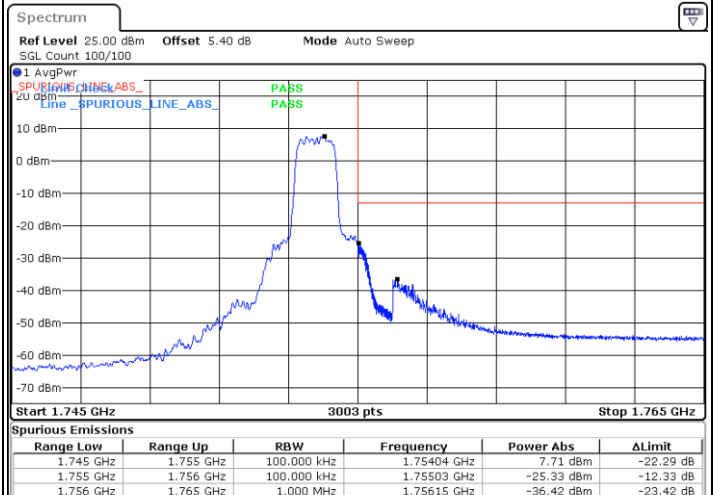
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



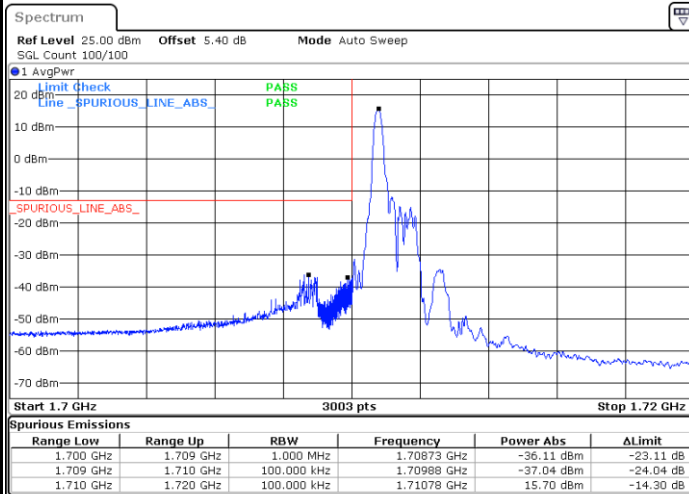
Highest Band Edge / Full RB



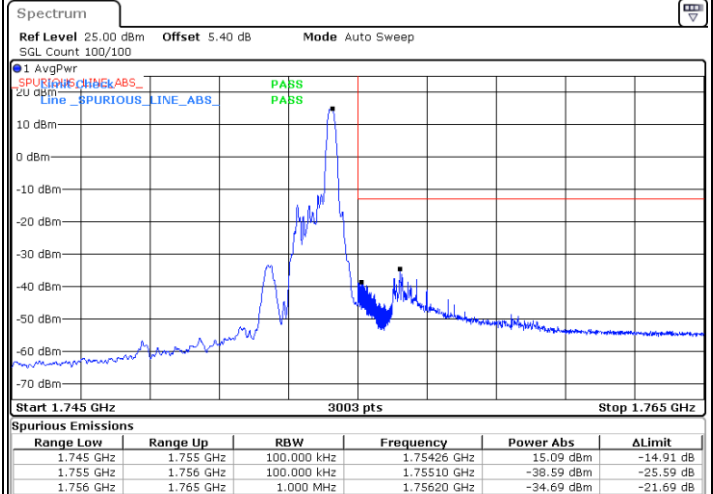


LTE Band 4 / 10MHz / 16QAM

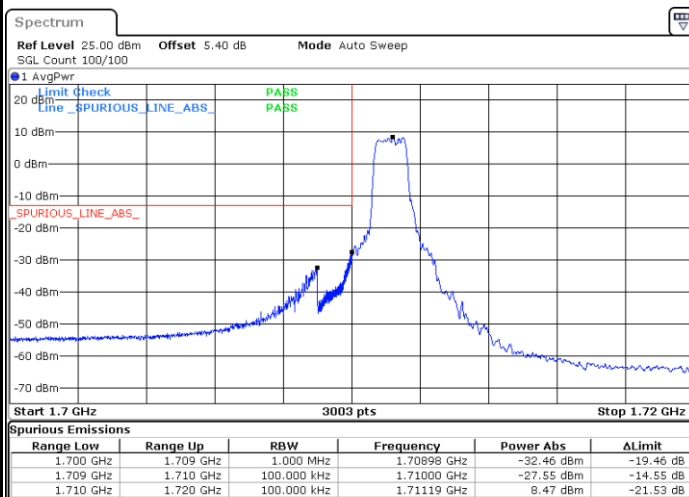
Lowest Band Edge / 1 RB



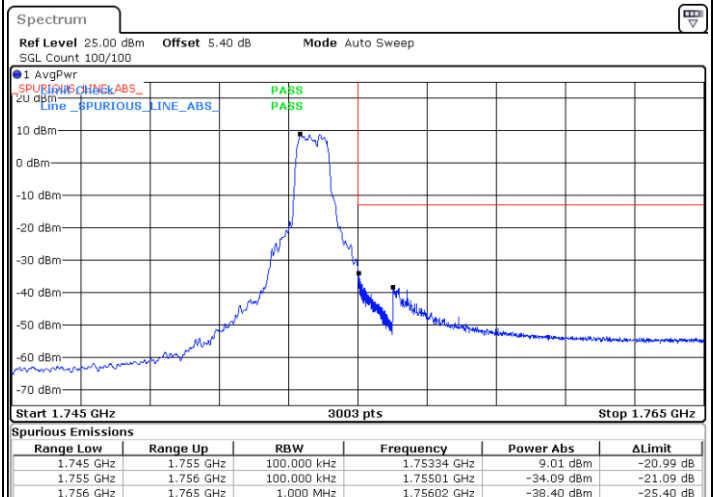
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



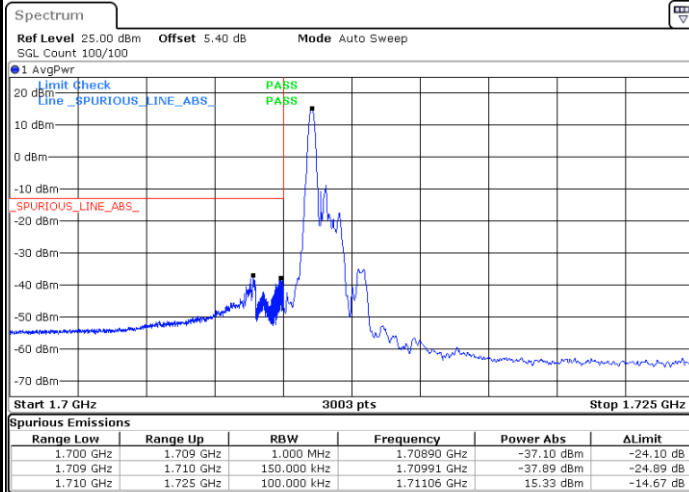
Highest Band Edge / Full RB



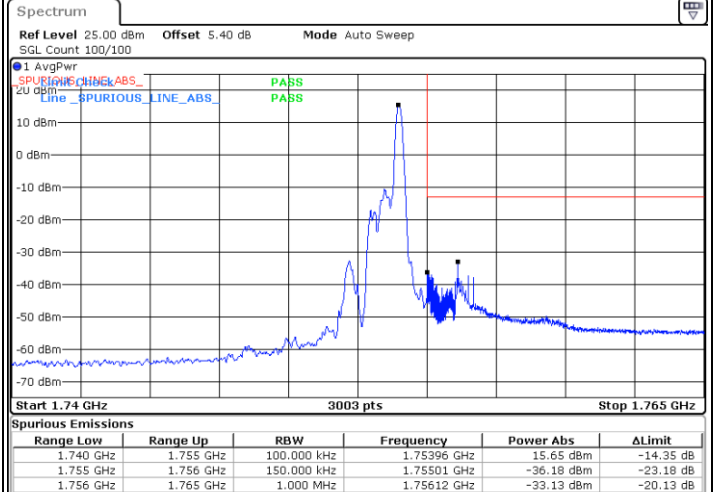


LTE Band 4 / 15MHz / QPSK

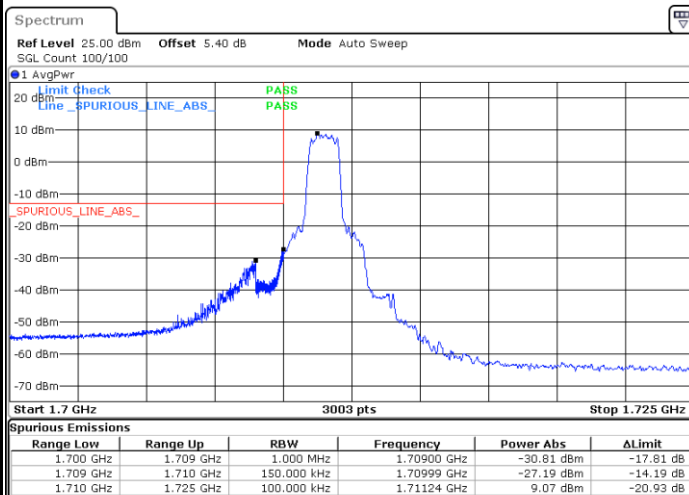
Lowest Band Edge / 1 RB



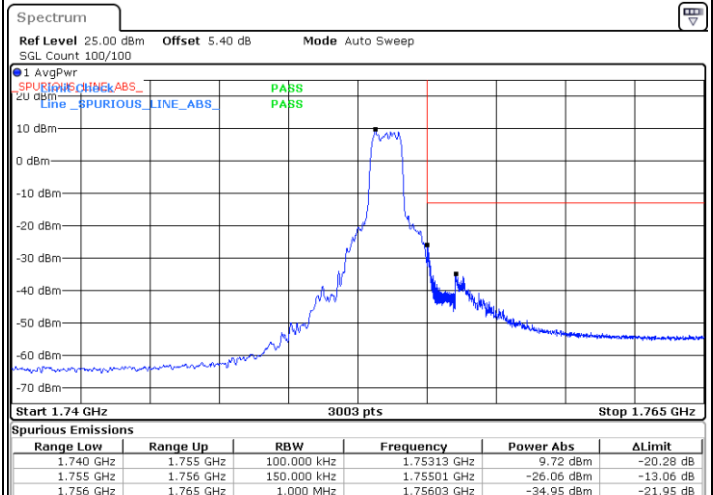
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



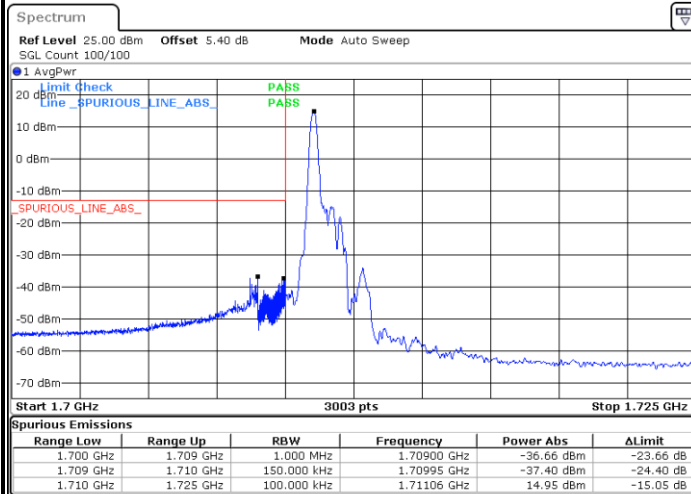
Highest Band Edge / Full RB



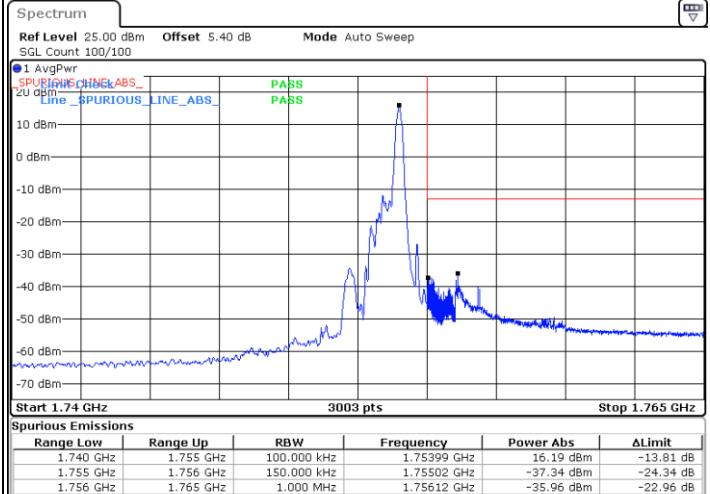


LTE Band 4 / 15MHz / 16QAM

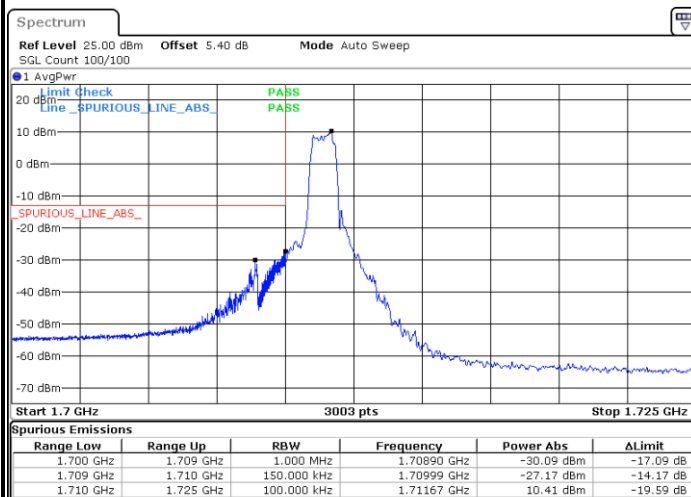
Lowest Band Edge / 1 RB



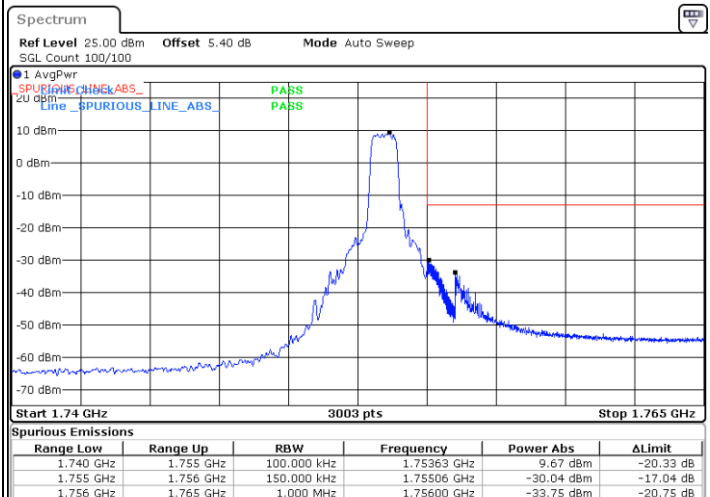
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



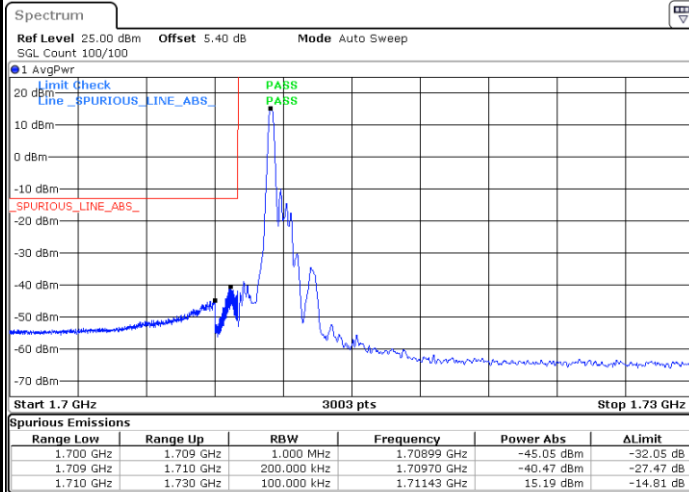
Highest Band Edge / Full RB



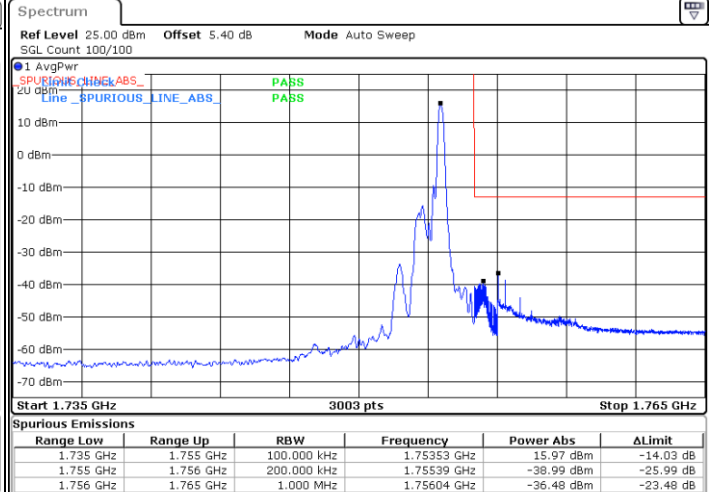


LTE Band 4 / 20MHz / QPSK

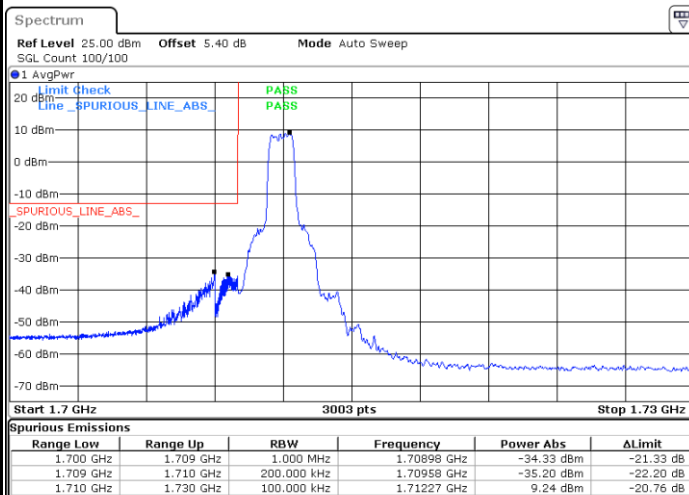
Lowest Band Edge / 1 RB



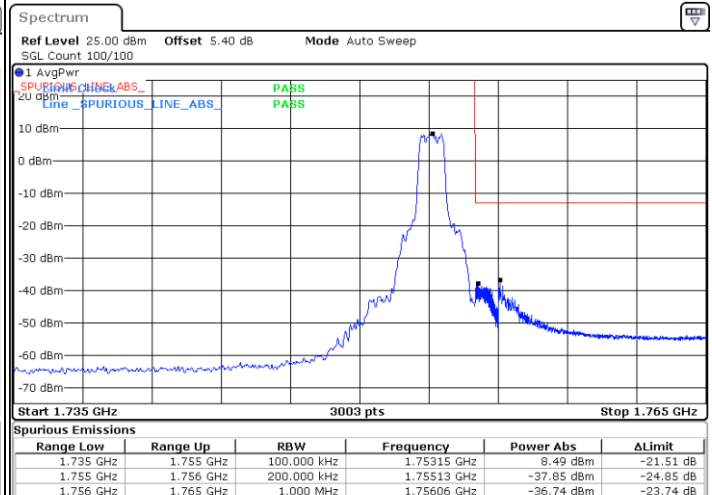
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



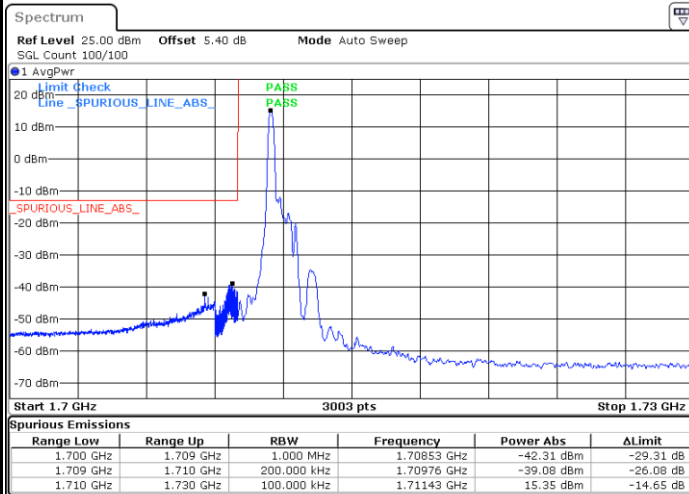
Highest Band Edge / Full RB



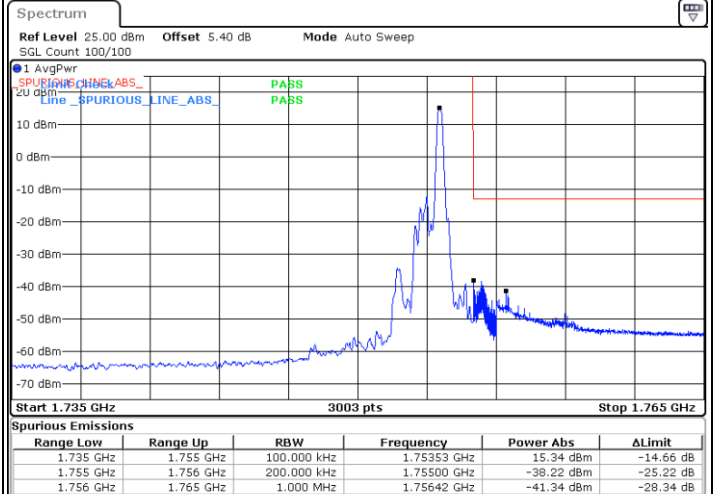


LTE Band 4 / 20MHz / 16QAM

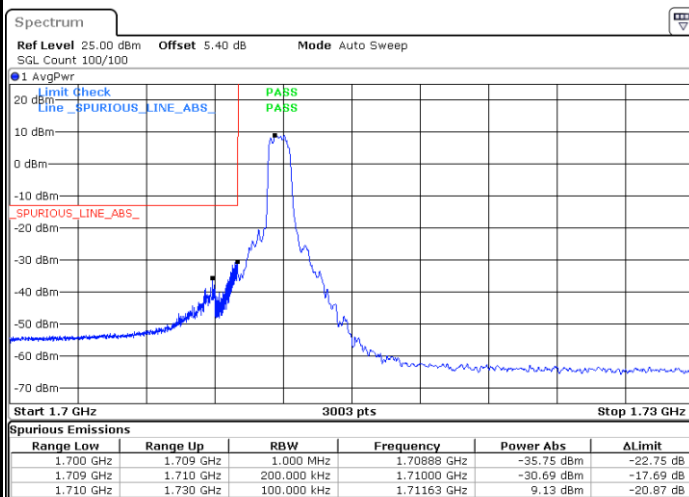
Lowest Band Edge / 1 RB



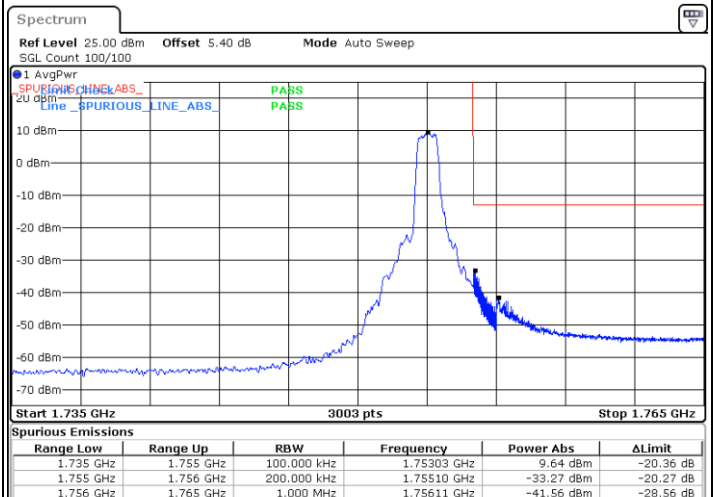
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB



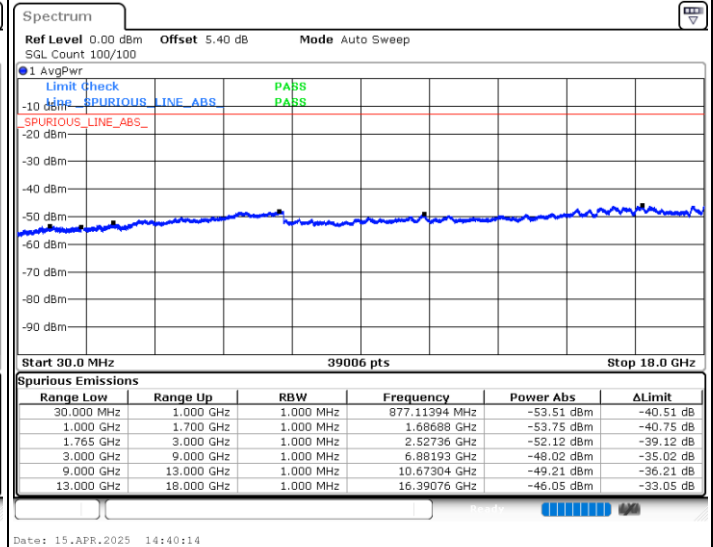
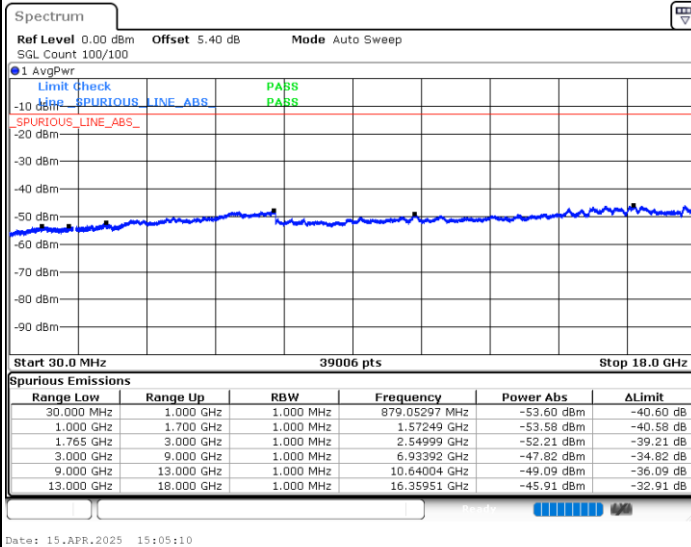


Conducted Spurious Emission

LTE Band 4 / 1.4MHz

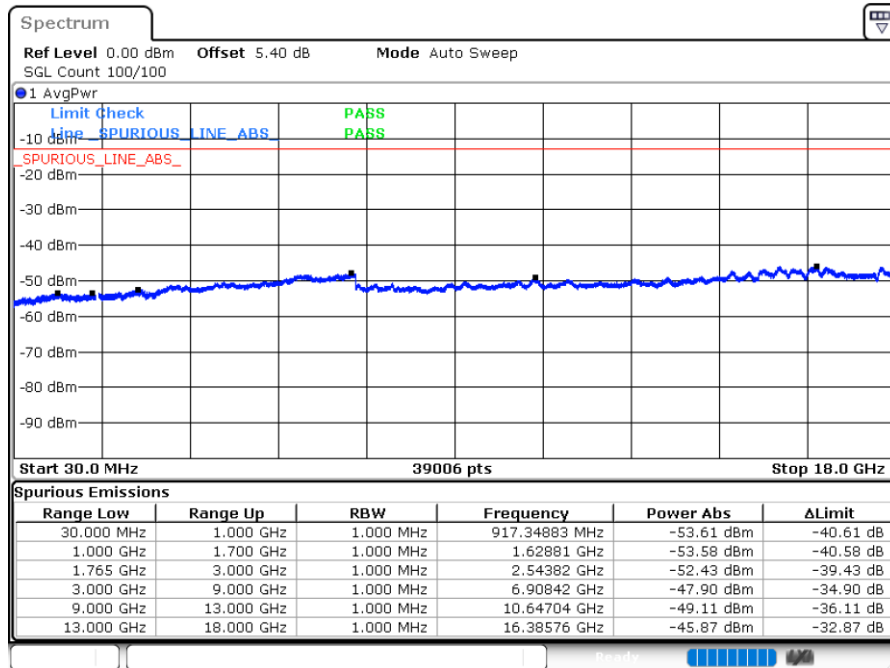
Lowest Channel / QPSK

Middle Channel / QPSK





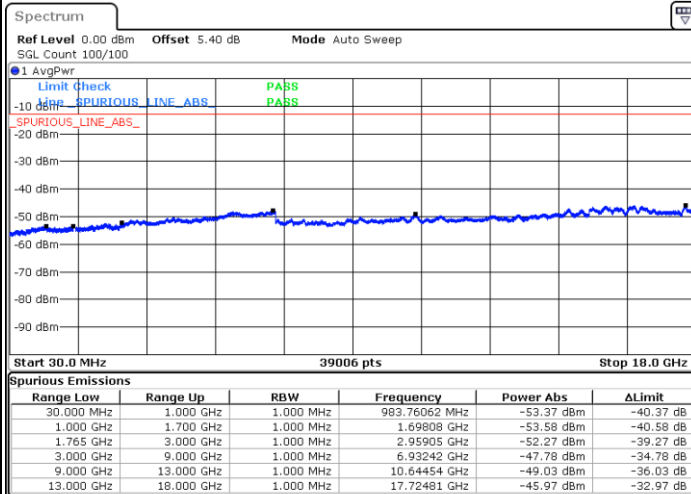
Highest Channel / QPSK



Date: 15.APR.2025 14:41:58

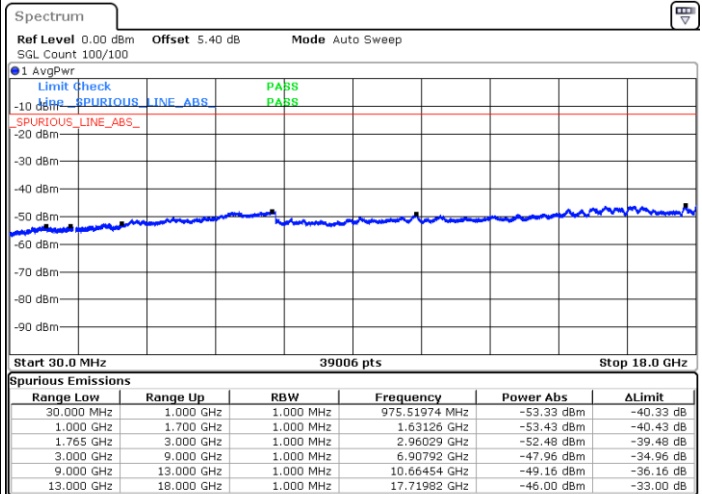
LTE Band 4 / 3MHz

Lowest Channel / QPSK



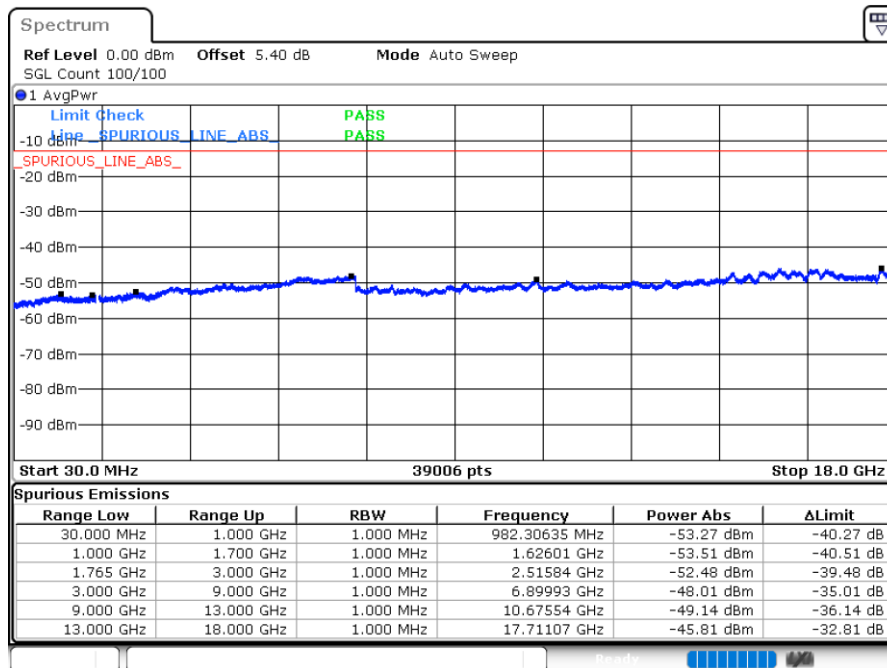
Date: 15.APR.2025 14:28:12

Middle Channel / QPSK



Date: 15.APR.2025 13:44:30

Highest Channel / QPSK



Date: 15.APR.2025 13:57:06

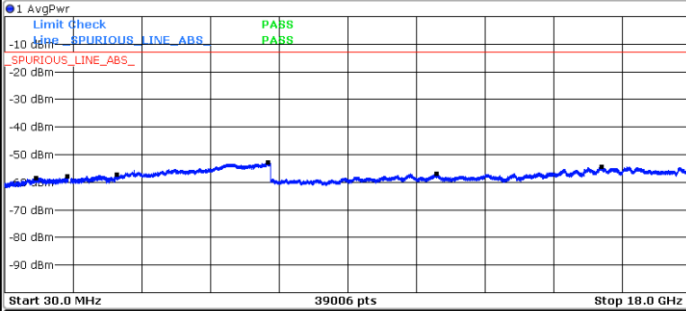


LTE Band 4 / 5MHz

Lowest Channel / QPSK

Middle Channel / QPSK

Spectrum

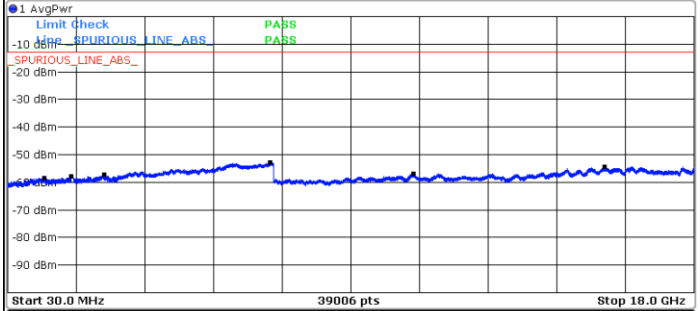
Ref Level 0.00 dBm Offset 5.40 dB Mode Auto Sweep
SGL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	847.05997 MHz	-58.51 dBm	-45.51 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.67849 GHz	-57.73 dBm	-44.73 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.95905 GHz	-57.15 dBm	-44.15 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.91792 GHz	-52.80 dBm	-39.80 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.33146 GHz	-56.84 dBm	-43.84 dB
13.000 GHz	18.000 GHz	1.000 MHz	15.64999 GHz	-54.43 dBm	-41.43 dB

Date: 15.APR.2025 13:42:39

Spectrum

Ref Level 0.00 dBm Offset 5.40 dB Mode Auto Sweep
SGL Count 100/100

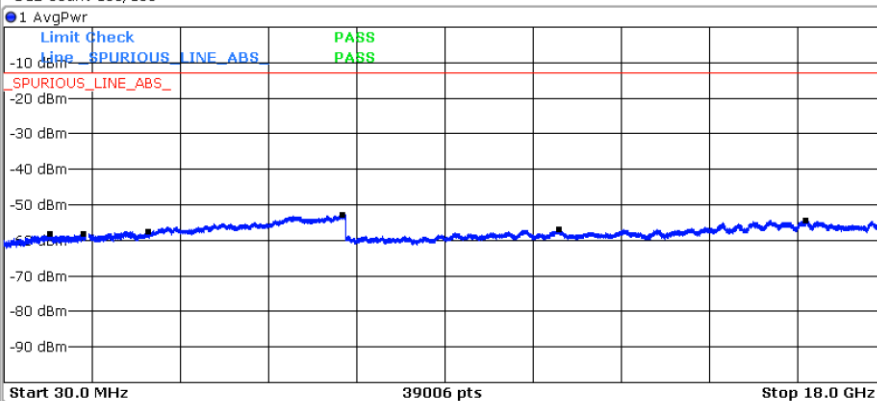
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	984.24538 MHz	-58.47 dBm	-45.47 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69878 GHz	-57.80 dBm	-44.80 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.54382 GHz	-57.39 dBm	-44.39 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.98993 GHz	-52.93 dBm	-39.93 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.64904 GHz	-57.06 dBm	-44.06 dB
13.000 GHz	18.000 GHz	1.000 MHz	15.65082 GHz	-54.35 dBm	-41.35 dB

Date: 15.APR.2025 13:21:23

Highest Channel / QPSK

Spectrum

Ref Level 0.00 dBm Offset 5.40 dB Mode Auto Sweep
SGL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	965.33983 MHz	-58.24 dBm	-45.24 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.65050 GHz	-58.31 dBm	-45.31 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.96728 GHz	-57.47 dBm	-44.47 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.92942 GHz	-52.77 dBm	-39.77 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.32496 GHz	-57.05 dBm	-44.05 dB
13.000 GHz	18.000 GHz	1.000 MHz	16.36534 GHz	-54.40 dBm	-41.40 dB

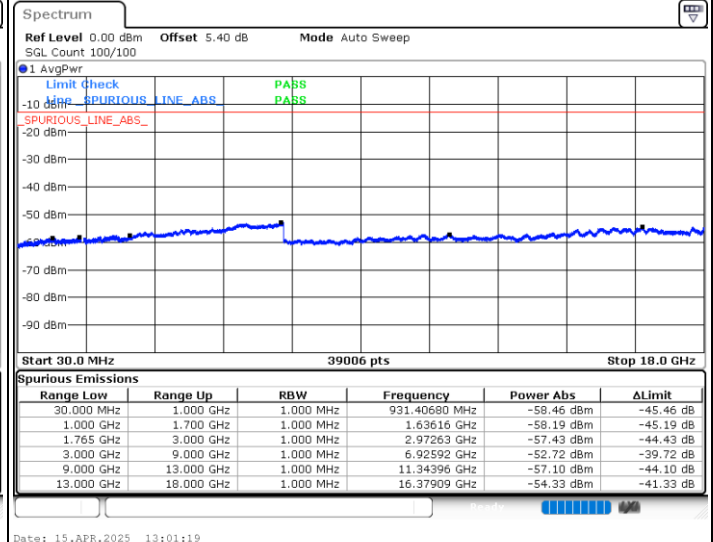
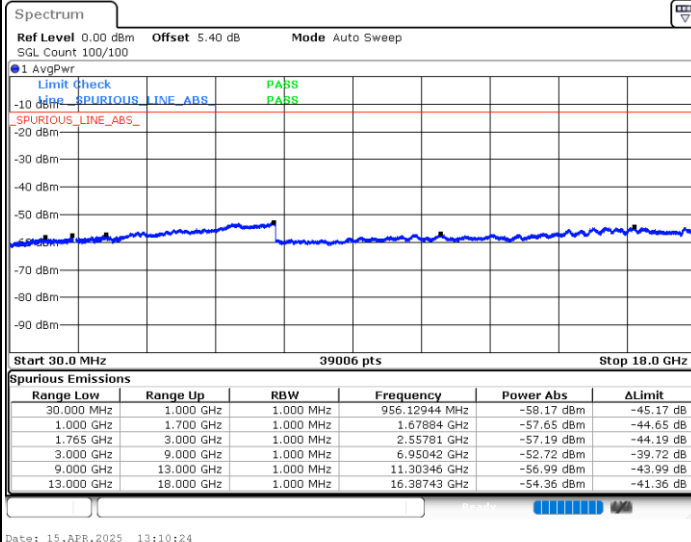
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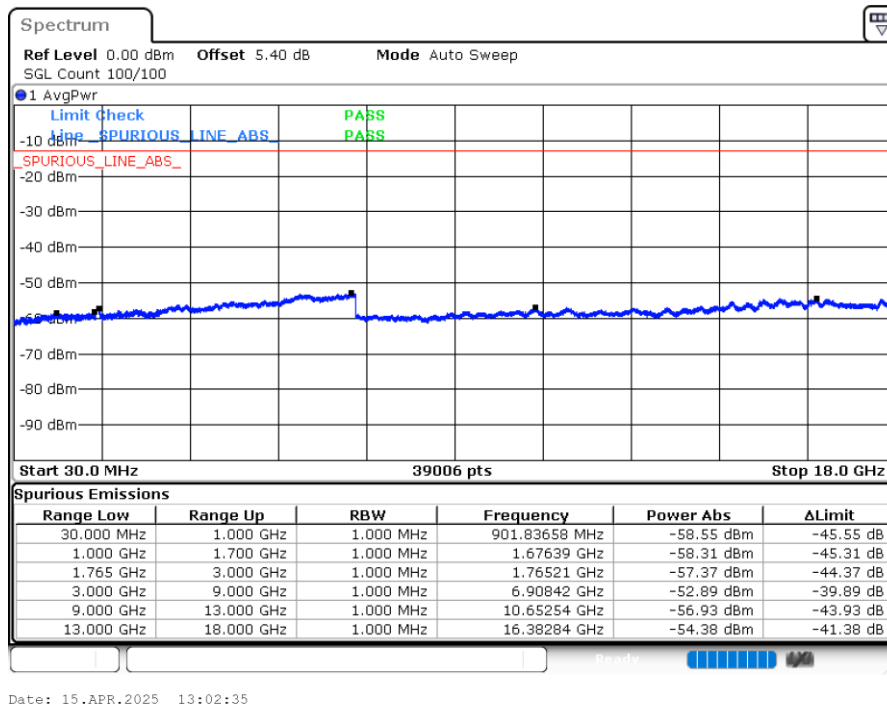
LTE Band 4 / 10MHz

Lowest Channel / QPSK

Middle Channel / QPSK



Highest Channel / QPSK



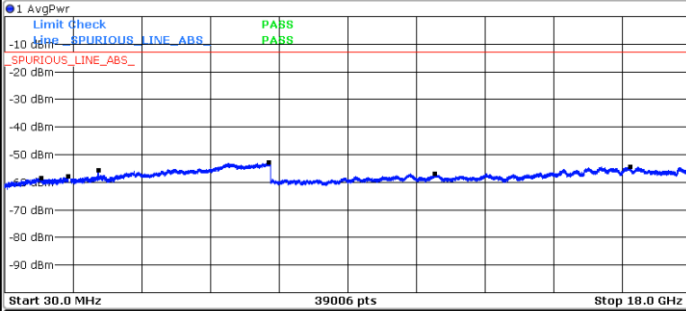


LTE Band 4 / 15MHz

Lowest Channel / QPSK

Middle Channel / QPSK

Spectrum

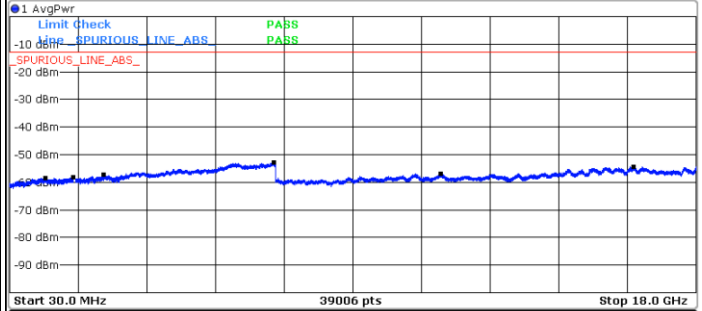
Ref Level 0.00 dBm Offset 5.40 dB Mode Auto Sweep
SGL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	974.55022 MHz	-58.49 dBm	-45.49 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69878 GHz	-57.78 dBm	-44.78 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.47551 GHz	-55.63 dBm	-42.63 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.94942 GHz	-52.70 dBm	-39.70 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.29146 GHz	-56.96 dBm	-43.96 dB
13.000 GHz	18.000 GHz	1.000 MHz	16.40117 GHz	-54.32 dBm	-41.32 dB

Date: 15.APR.2025 12:52:06

Spectrum

Ref Level 0.00 dBm Offset 5.40 dB Mode Auto Sweep
SGL Count 100/100

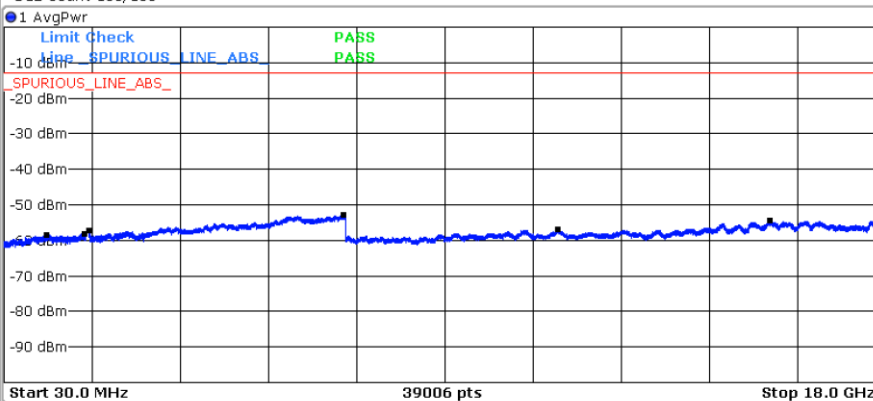
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	970.67218 MHz	-58.45 dBm	-45.45 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69423 GHz	-58.07 dBm	-45.07 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.49197 GHz	-57.24 dBm	-44.24 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.94342 GHz	-52.81 dBm	-39.81 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.31746 GHz	-56.90 dBm	-43.90 dB
13.000 GHz	18.000 GHz	1.000 MHz	16.36368 GHz	-54.47 dBm	-41.47 dB

Date: 15.APR.2025 12:51:01

Highest Channel / QPSK

Spectrum

Ref Level 0.00 dBm Offset 5.40 dB Mode Auto Sweep
SGL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	895.04998 MHz	-58.57 dBm	-45.57 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.67569 GHz	-58.14 dBm	-45.14 dB
1.765 GHz	3.000 GHz	1.000 MHz	1.76562 GHz	-57.25 dBm	-44.25 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.95342 GHz	-52.87 dBm	-39.87 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.31596 GHz	-57.01 dBm	-44.01 dB
13.000 GHz	18.000 GHz	1.000 MHz	15.63082 GHz	-54.32 dBm	-41.32 dB

Date: 15.APR.2025 12:49:48

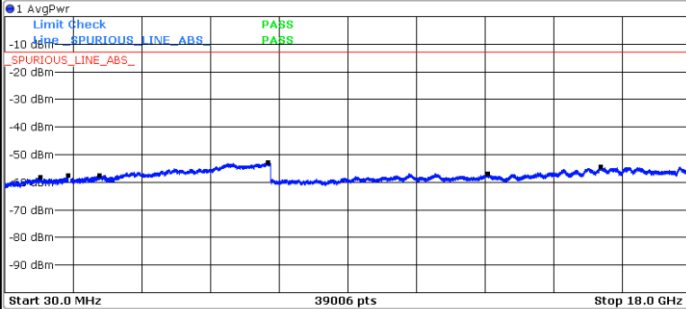


LTE Band 4 / 20MHz

Lowest Channel / QPSK

Middle Channel / QPSK

Spectrum

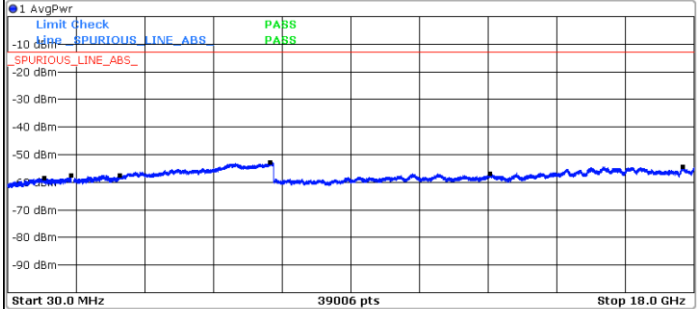
Ref Level 0.00 dBm Offset 5.40 dB Mode Auto Sweep
SGL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	957.09895 MHz	-58.24 dBm	-45.24 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.67989 GHz	-57.43 dBm	-44.43 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.50637 GHz	-57.40 dBm	-44.40 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.93092 GHz	-52.70 dBm	-39.70 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.66679 GHz	-56.76 dBm	-43.76 dB
13.000 GHz	18.000 GHz	1.000 MHz	15.63041 GHz	-54.34 dBm	-41.34 dB

Date: 15.APR.2025 11:29:58

Spectrum

Ref Level 0.00 dBm Offset 5.40 dB Mode Auto Sweep
SGL Count 100/100

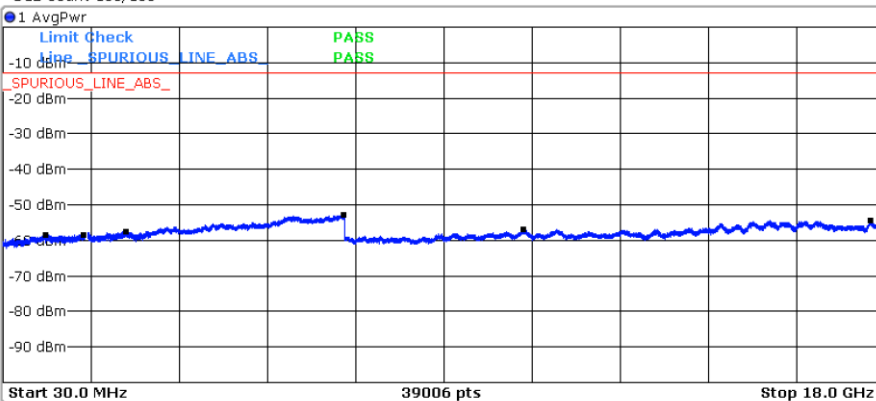
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	996.36432 MHz	-58.34 dBm	-45.34 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69213 GHz	-57.69 dBm	-44.69 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.96070 GHz	-57.43 dBm	-44.43 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.90492 GHz	-52.95 dBm	-39.95 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.65979 GHz	-56.87 dBm	-43.87 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.69898 GHz	-54.45 dBm	-41.45 dB

Date: 15.APR.2025 11:26:24

Highest Channel / QPSK

Spectrum

Ref Level 0.00 dBm Offset 5.40 dB Mode Auto Sweep
SGL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	893.59570 MHz	-58.38 dBm	-45.38 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.65785 GHz	-58.35 dBm	-45.35 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.53353 GHz	-57.44 dBm	-44.44 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.95942 GHz	-52.78 dBm	-39.78 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.62055 GHz	-56.79 dBm	-43.79 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.70482 GHz	-54.26 dBm	-41.26 dB

Date: 15.APR.2025 11:24:35

Frequency Stability

Test Conditions		LTE Band 4 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0015	PASS
40	Normal Voltage	0.0024	
30	Normal Voltage	0.0031	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0032	
0	Normal Voltage	0.0021	
-10	Normal Voltage	0.0005	
-20	Normal Voltage	0.0013	
-30	Normal Voltage	0.0027	
20	Maximum Voltage	0.0042	
20	Normal Voltage	0.0015	
20	Battery End Point	0.0028	

Note:

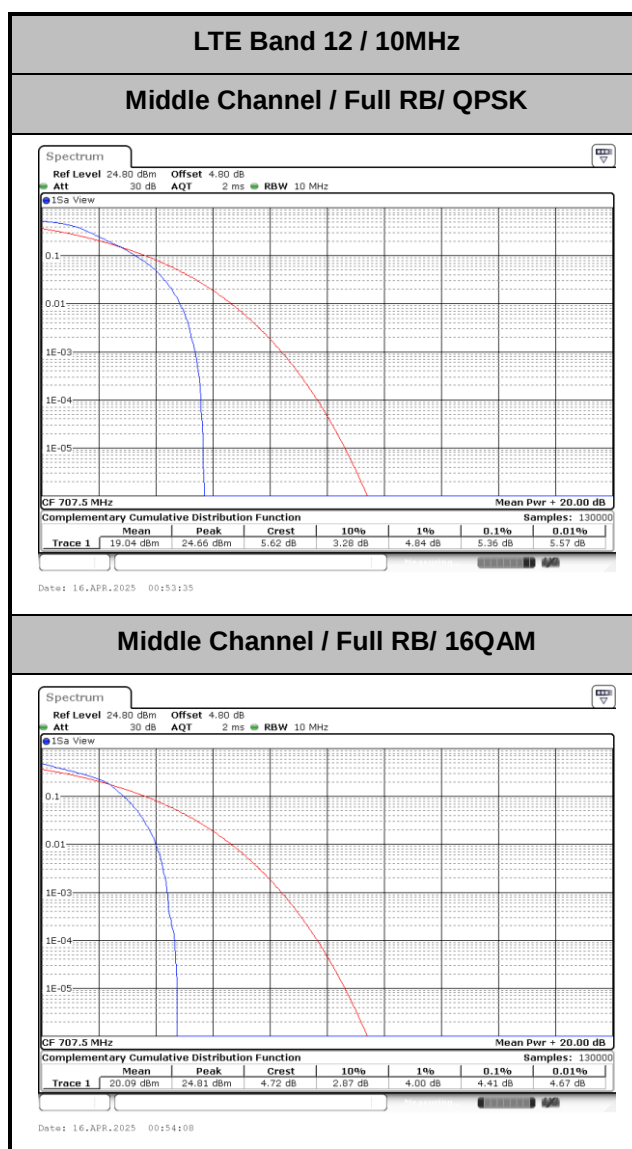
1. Normal Voltage = 3.89 V.; Battery End Point (BEP) =3.1 V.; Maximum Voltage = 4.48 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 12

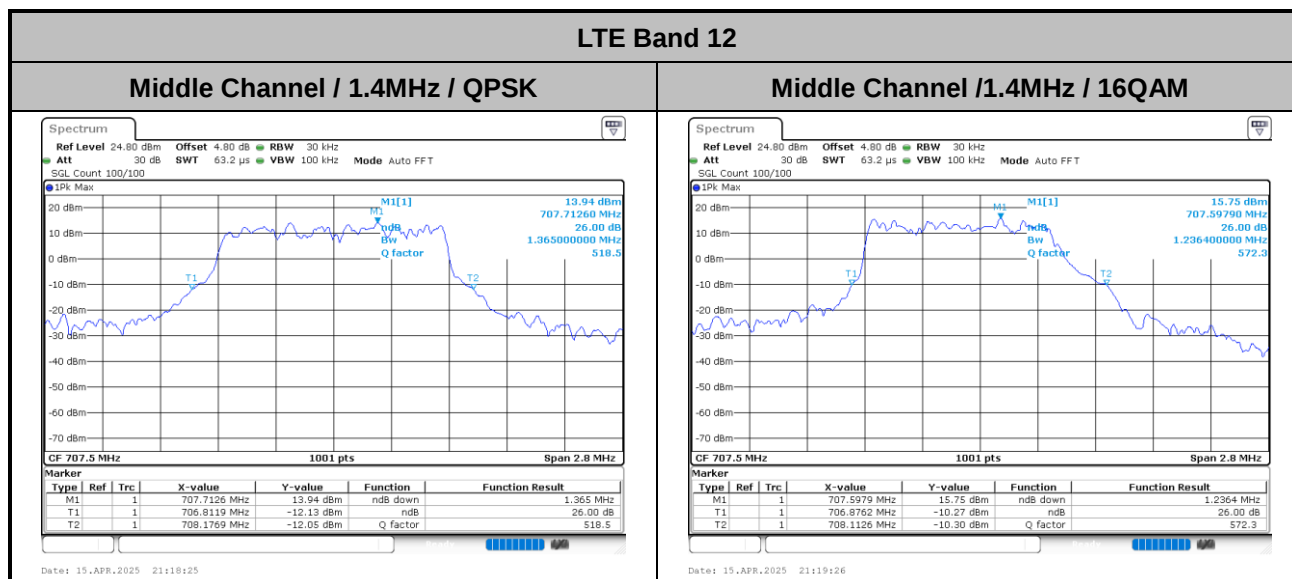
Peak-to-Average Ratio

Mode	LTE Band 12 / 10MHz		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	Full RB	Result
Middle CH	5.36	4.41	PASS



**26dB Bandwidth**

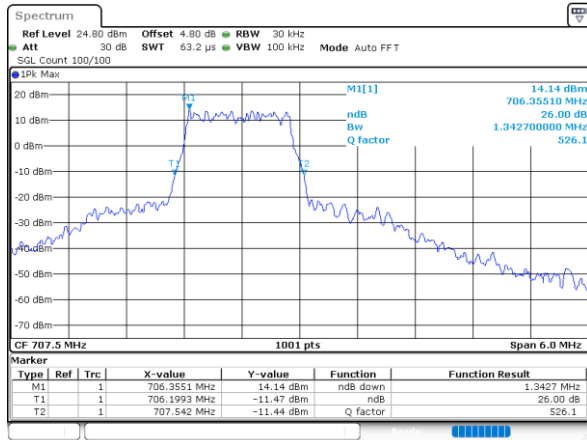
Mode	LTE Band 12 : 26dB BW(MHz)	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.37	1.24
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	1.34	1.29
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	1.26	1.30
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	1.34	1.36



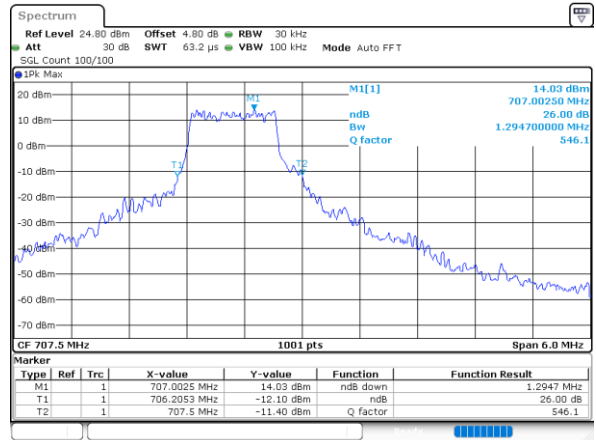


LTE Band 12

Middle Channel / 3MHz / QPSK

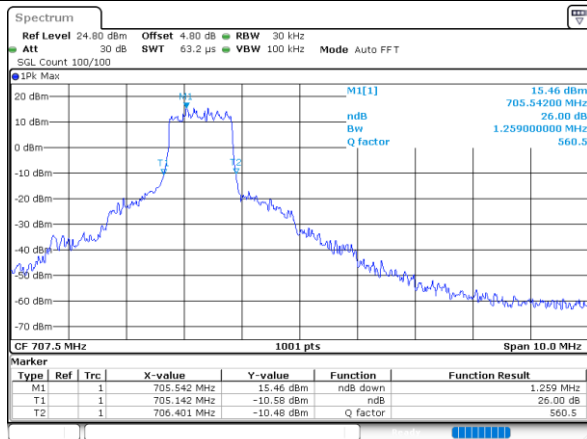


Middle Channel / 3MHz / 16QAM

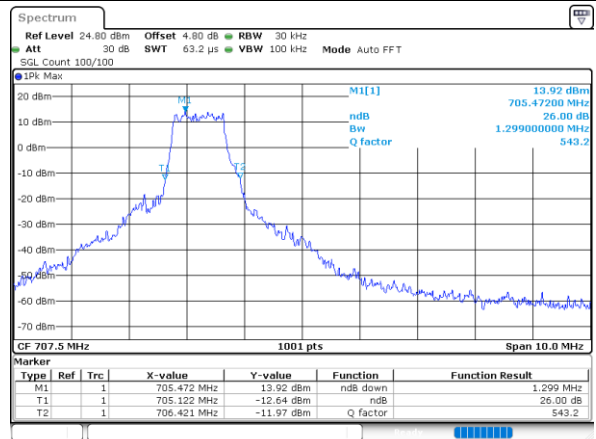


LTE Band 12

Middle Channel / 5MHz / QPSK

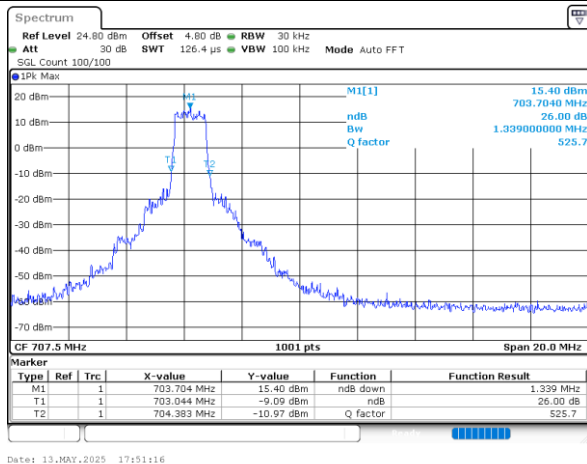


Middle Channel / 5MHz / 16QAM

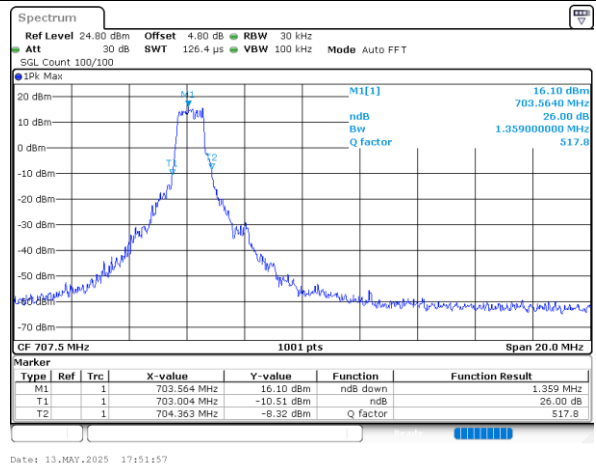


LTE Band 12

Middle Channel / 10MHz / QPSK



Middle Channel / 10MHz / 16QAM





Occupied Bandwidth

Mode	LTE Band 12 : 99%OBW(MHz)	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.11	0.937
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	1.10	0.929
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	1.10	1.01
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	1.10	0.959

