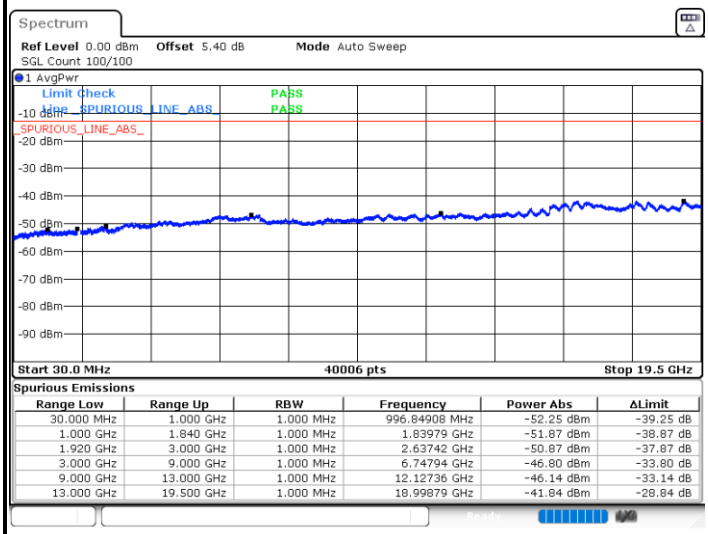
LTE Band 2 / 3MHz

Lowest Channel / QPSK

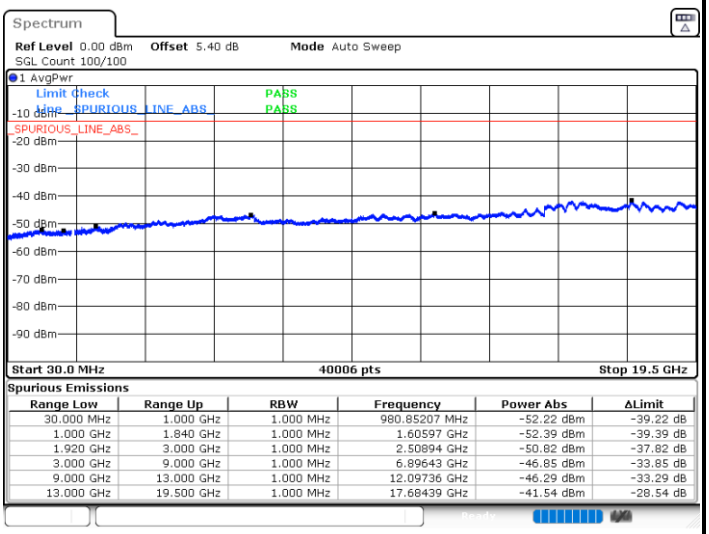


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	996.84908 MHz	-52.25 dBm	-39.25 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83979 GHz	-51.87 dBm	-38.87 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.63742 GHz	-50.87 dBm	-37.87 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.74794 GHz	-46.80 dBm	-33.80 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.12736 GHz	-46.14 dBm	-33.14 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.99879 GHz	-41.84 dBm	-28.84 dB

Date: 27.JUL.2023 10:40:00

Middle Channel / QPSK

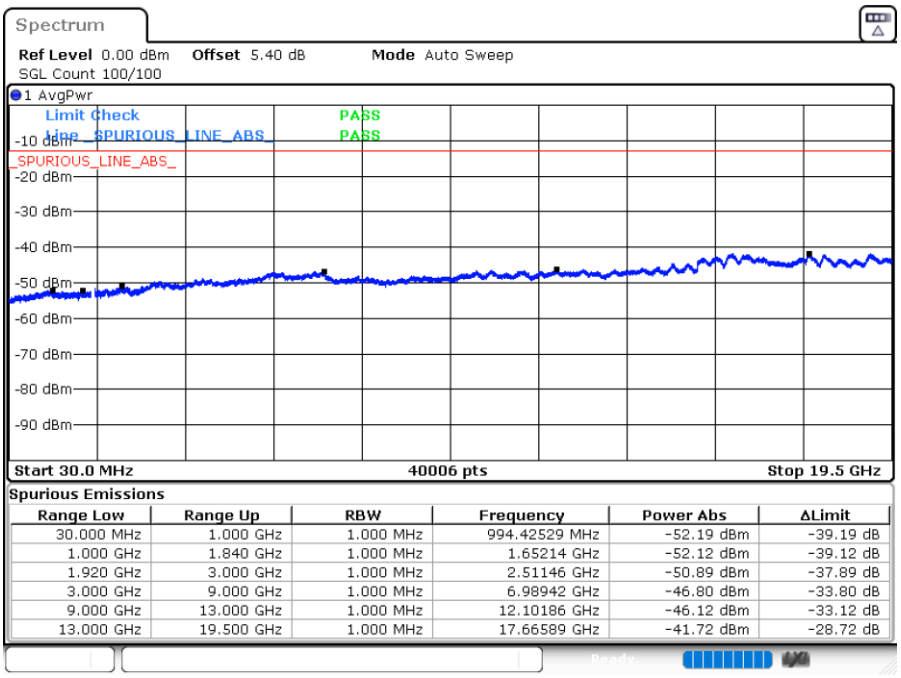


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	980.85207 MHz	-52.22 dBm	-39.22 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.60597 GHz	-52.39 dBm	-39.39 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.50894 GHz	-50.82 dBm	-37.82 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.89643 GHz	-46.85 dBm	-33.85 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.09736 GHz	-46.29 dBm	-33.29 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.68439 GHz	-41.54 dBm	-28.54 dB

Date: 27.JUL.2023 10:47:23

Highest Channel / QPSK



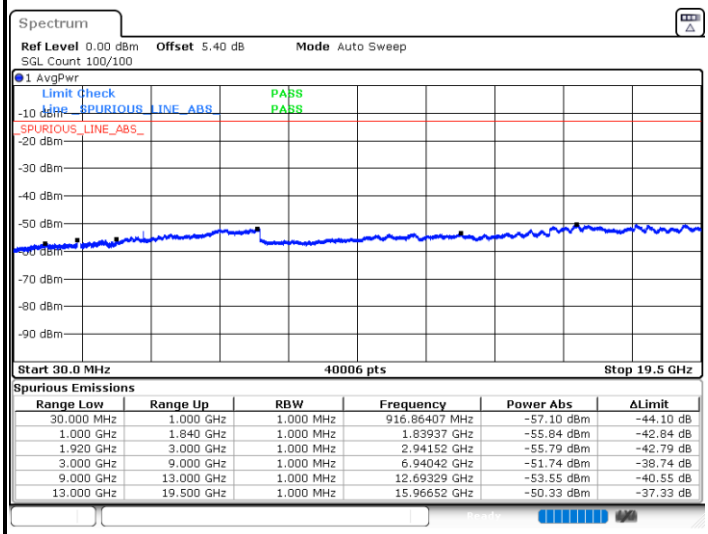
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	994.42529 MHz	-52.19 dBm	-39.19 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.65214 GHz	-52.12 dBm	-39.12 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.51146 GHz	-50.89 dBm	-37.89 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.98942 GHz	-46.80 dBm	-33.80 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.10186 GHz	-46.12 dBm	-33.12 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.66589 GHz	-41.72 dBm	-28.72 dB

Date: 27.JUL.2023 10:48:43

LTE Band 2 / 5MHz

Lowest Channel / QPSK

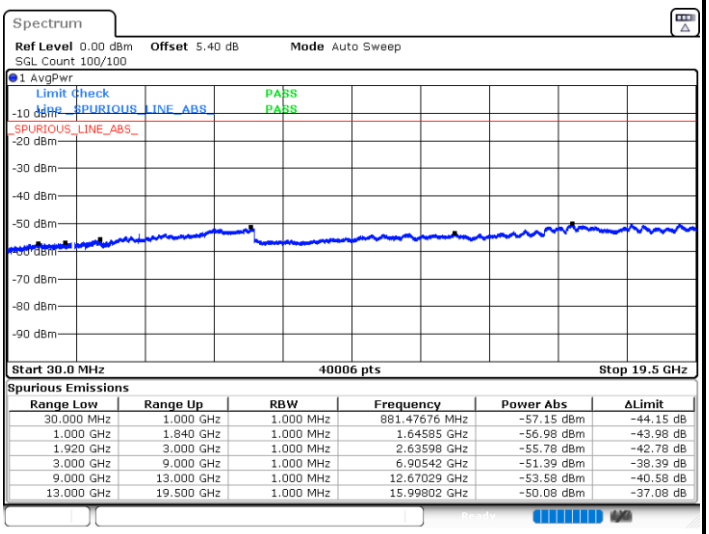


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	916.86407 MHz	-57.10 dBm	-44.10 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83937 GHz	-55.84 dBm	-42.84 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.94152 GHz	-55.79 dBm	-42.79 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.94042 GHz	-51.74 dBm	-38.74 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.69329 GHz	-53.55 dBm	-40.55 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.96652 GHz	-50.33 dBm	-37.33 dB

Date: 27.JUL.2023 10:54:24

Middle Channel / QPSK

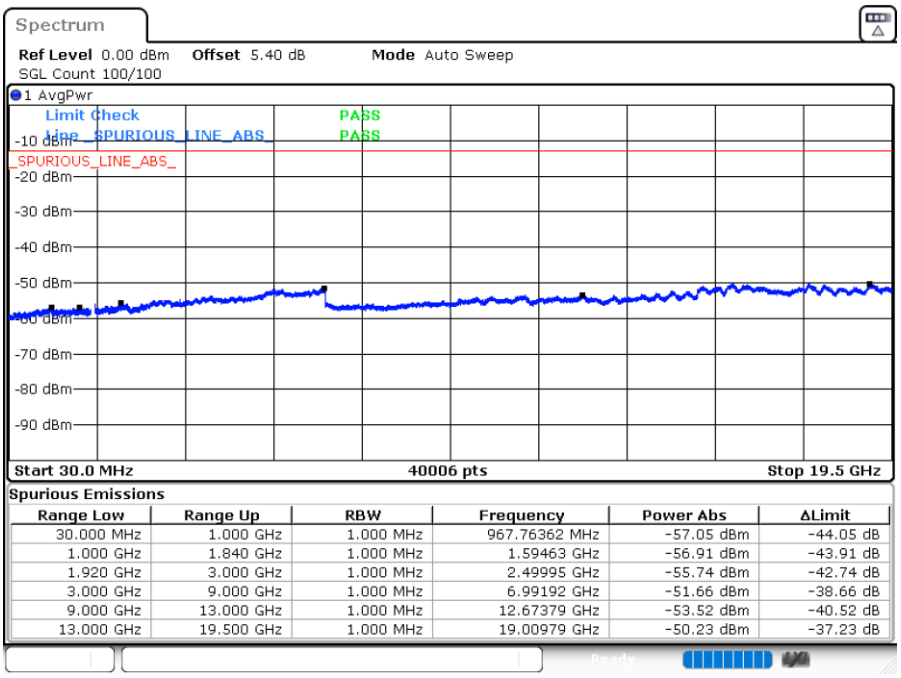


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	881.47676 MHz	-57.15 dBm	-44.15 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.64585 GHz	-56.98 dBm	-43.98 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.63598 GHz	-55.78 dBm	-42.78 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.90542 GHz	-51.39 dBm	-38.39 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.67029 GHz	-53.58 dBm	-40.58 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.99802 GHz	-50.08 dBm	-37.08 dB

Date: 27.JUL.2023 11:00:04

Highest Channel / QPSK



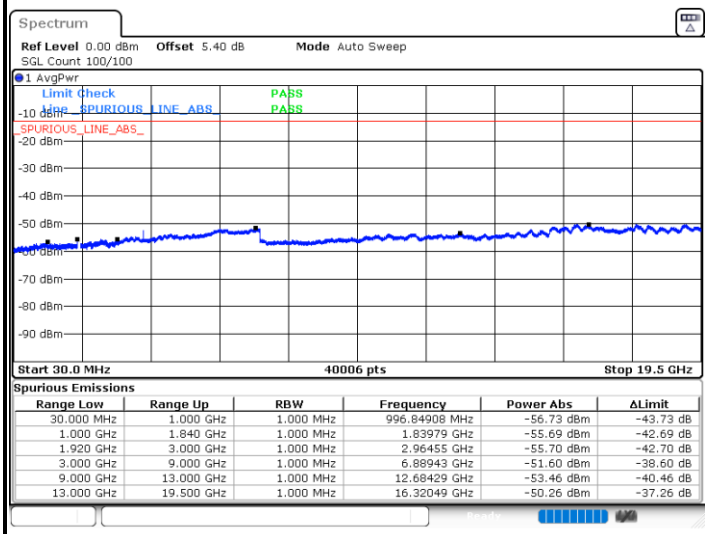
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	967.76362 MHz	-57.05 dBm	-44.05 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.59463 GHz	-56.91 dBm	-43.91 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.49995 GHz	-55.74 dBm	-42.74 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99192 GHz	-51.66 dBm	-38.66 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.67379 GHz	-53.52 dBm	-40.52 dB
13.000 GHz	19.500 GHz	1.000 MHz	19.00979 GHz	-50.23 dBm	-37.23 dB

Date: 27.JUL.2023 11:01:23

LTE Band 2 / 10MHz

Lowest Channel / QPSK

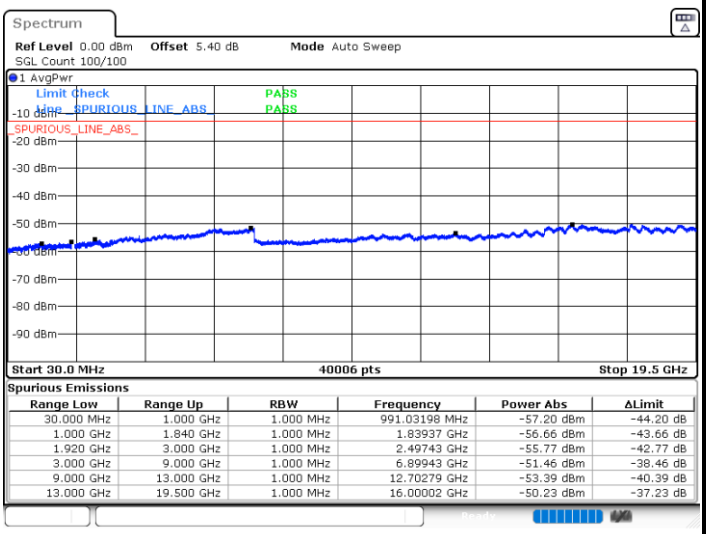


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	996.84908 MHz	-56.73 dBm	-43.73 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83979 GHz	-55.69 dBm	-42.69 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.96455 GHz	-55.70 dBm	-42.70 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.88943 GHz	-51.60 dBm	-38.60 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.68429 GHz	-53.46 dBm	-40.46 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.32049 GHz	-50.26 dBm	-37.26 dB

Date: 27.JUL.2023 11:07:04

Middle Channel / QPSK

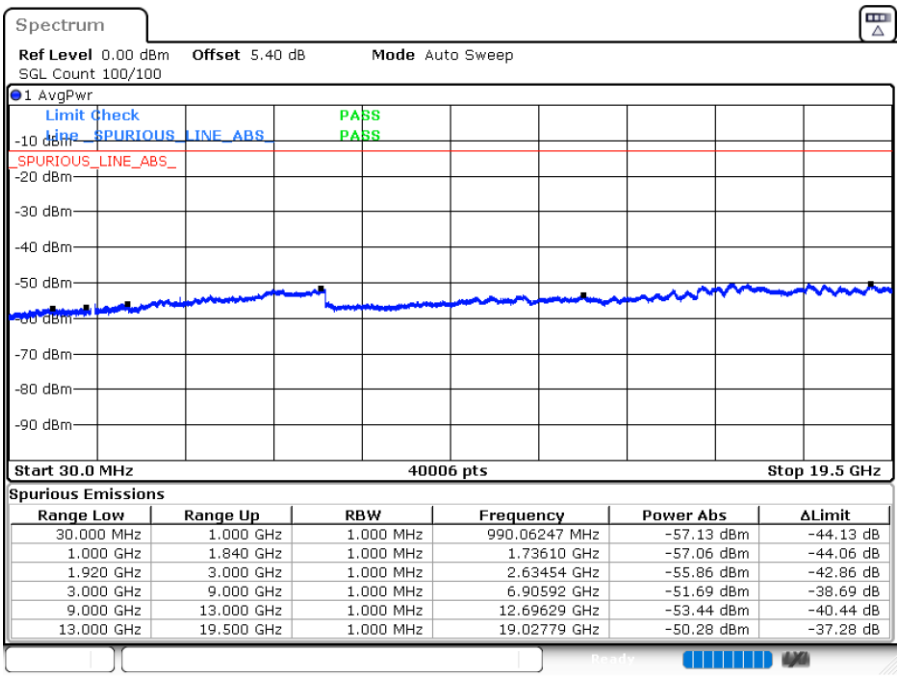


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	991.03198 MHz	-57.20 dBm	-44.20 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83937 GHz	-56.66 dBm	-43.66 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.49743 GHz	-55.77 dBm	-42.77 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.89943 GHz	-51.46 dBm	-38.46 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.70279 GHz	-53.39 dBm	-40.39 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.00002 GHz	-50.23 dBm	-37.23 dB

Date: 27.JUL.2023 11:33:08

Highest Channel / QPSK



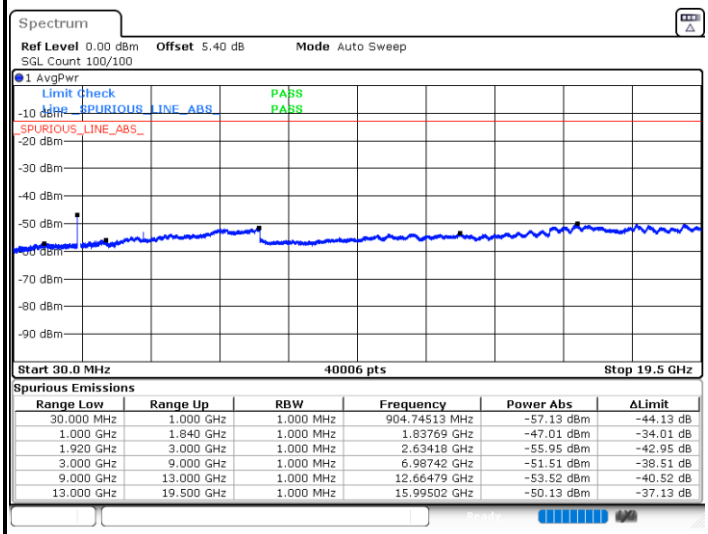
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	990.06247 MHz	-57.13 dBm	-44.13 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.73610 GHz	-57.06 dBm	-44.06 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.63454 GHz	-55.86 dBm	-42.86 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.90592 GHz	-51.69 dBm	-38.69 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.69629 GHz	-53.44 dBm	-40.44 dB
13.000 GHz	19.500 GHz	1.000 MHz	19.02779 GHz	-50.28 dBm	-37.28 dB

Date: 27.JUL.2023 11:34:28

LTE Band 2 / 15MHz

Lowest Channel / QPSK

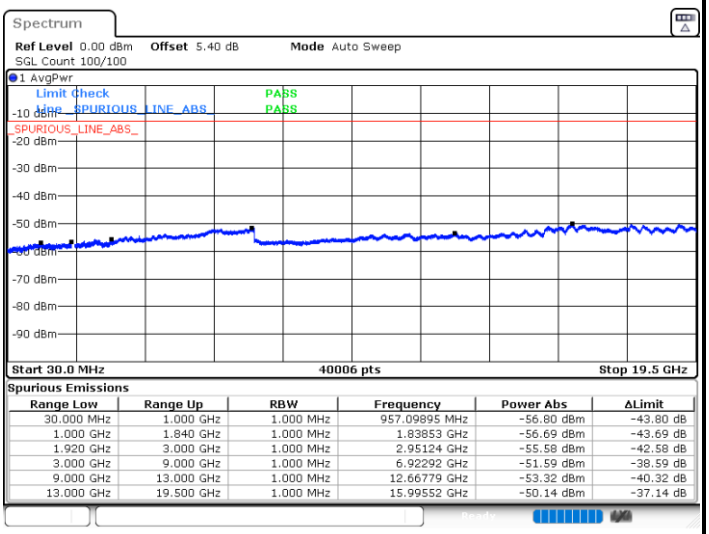


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	904.74513 MHz	-57.13 dBm	-44.13 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83769 GHz	-47.01 dBm	-34.01 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.63418 GHz	-55.95 dBm	-42.95 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.98742 GHz	-51.51 dBm	-38.51 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.66479 GHz	-53.52 dBm	-40.52 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.99502 GHz	-50.13 dBm	-37.13 dB

Date: 27.JUL.2023 11:38:03

Middle Channel / QPSK

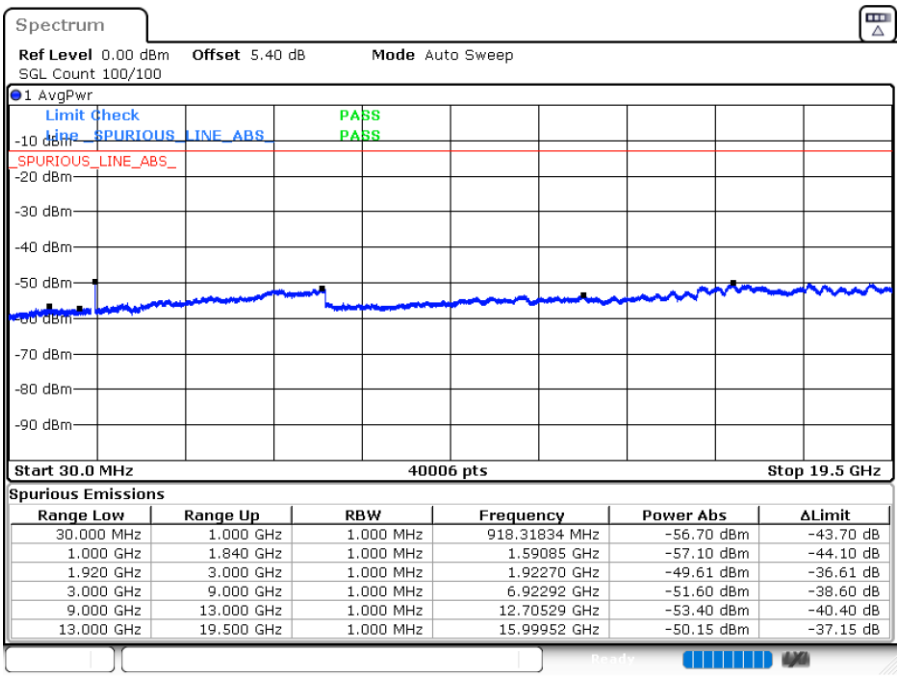


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	957.09895 MHz	-56.80 dBm	-43.80 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83853 GHz	-56.69 dBm	-43.69 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.95124 GHz	-55.58 dBm	-42.58 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.92292 GHz	-51.59 dBm	-38.59 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.66779 GHz	-53.32 dBm	-40.32 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.99552 GHz	-50.14 dBm	-37.14 dB

Date: 27.JUL.2023 11:41:38

Highest Channel / QPSK



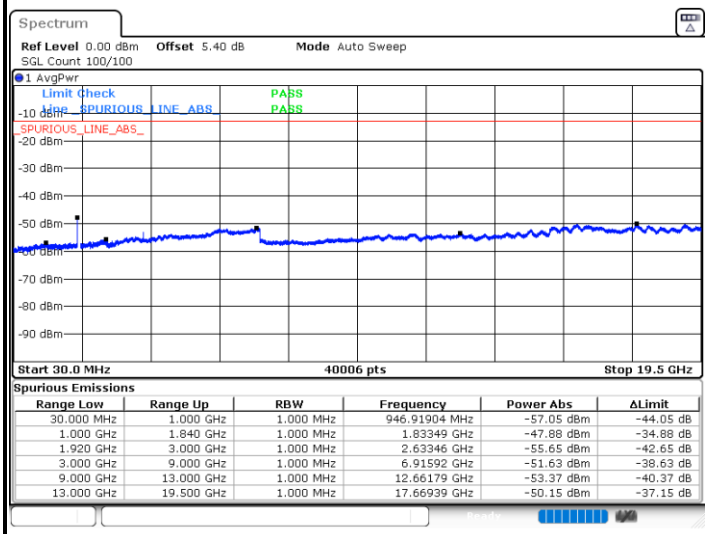
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	918.31834 MHz	-56.70 dBm	-43.70 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.59085 GHz	-57.10 dBm	-44.10 dB
1.920 GHz	3.000 GHz	1.000 MHz	1.92270 GHz	-49.61 dBm	-36.61 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.92292 GHz	-51.60 dBm	-38.60 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.70529 GHz	-53.40 dBm	-40.40 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.99952 GHz	-50.15 dBm	-37.15 dB

Date: 27.JUL.2023 11:42:58

LTE Band 2 / 20MHz

Lowest Channel / QPSK

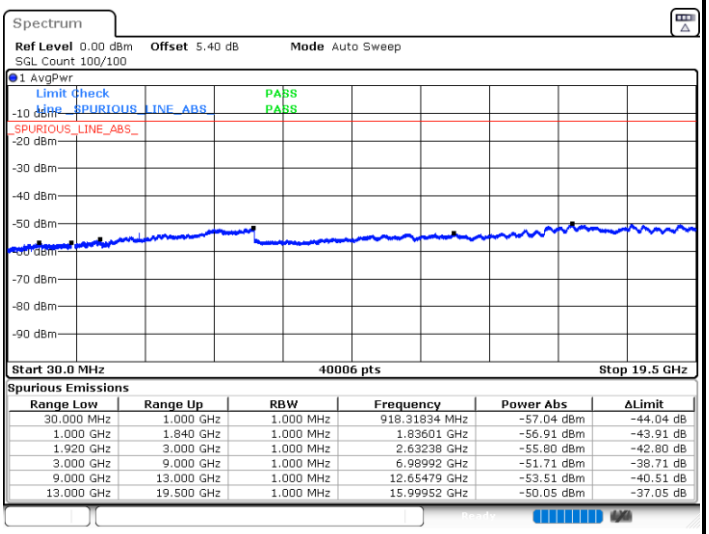


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	946.91904 MHz	-57.05 dBm	-44.05 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83349 GHz	-47.88 dBm	-34.88 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.63346 GHz	-55.65 dBm	-42.65 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.91592 GHz	-51.63 dBm	-38.63 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.66179 GHz	-53.37 dBm	-40.37 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.66939 GHz	-50.15 dBm	-37.15 dB

Date: 27.JUL.2023 11:46:33

Middle Channel / QPSK

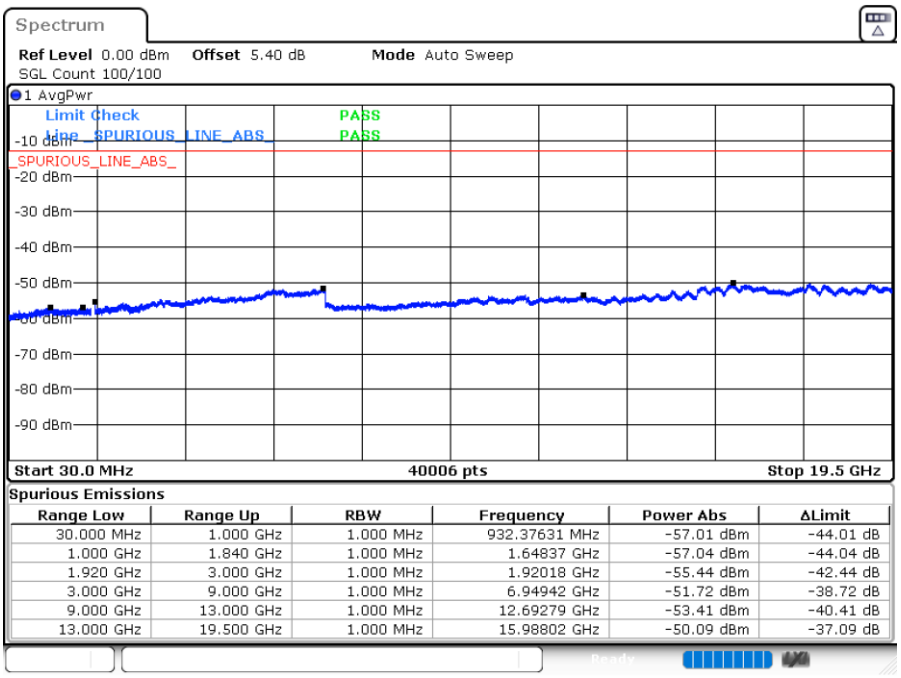


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	918.31834 MHz	-57.04 dBm	-44.04 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83601 GHz	-56.91 dBm	-43.91 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.63238 GHz	-55.80 dBm	-42.80 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.98992 GHz	-51.71 dBm	-38.71 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.65479 GHz	-53.51 dBm	-40.51 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.99952 GHz	-50.05 dBm	-37.05 dB

Date: 27.JUL.2023 11:50:08

Highest Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	932.37631 MHz	-57.01 dBm	-44.01 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.64837 GHz	-57.04 dBm	-44.04 dB
1.920 GHz	3.000 GHz	1.000 MHz	1.92018 GHz	-55.44 dBm	-42.44 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.94942 GHz	-51.72 dBm	-38.72 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.69279 GHz	-53.41 dBm	-40.41 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.98802 GHz	-50.09 dBm	-37.09 dB

Date: 27.JUL.2023 11:51:27

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	0.0043	
30	Normal Voltage	0.0038	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0015	
0	Normal Voltage	0.0035	
-10	Normal Voltage	0.0027	
-20	Normal Voltage	0.0002	
-30	Normal Voltage	0.0019	
20	Maximum Voltage	0.0024	
20	Normal Voltage	0.0003	
20	Minimum Voltage	0.0046	

Note:

1. Normal Voltage = 3.8 V. ; Minimum Voltage =3.3 V. ; Maximum Voltage = 4.3 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

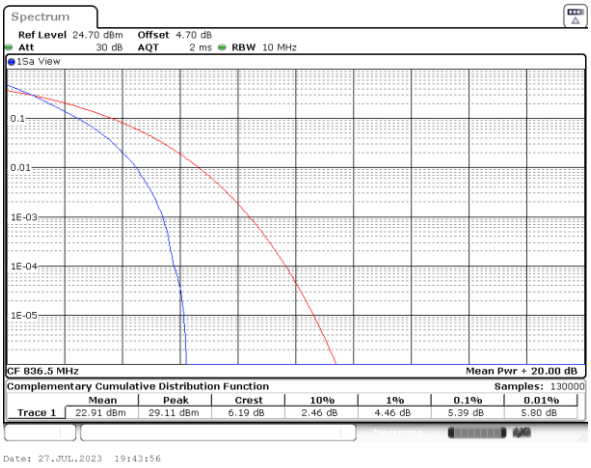
LTE Band 5

Peak-to-Average Ratio

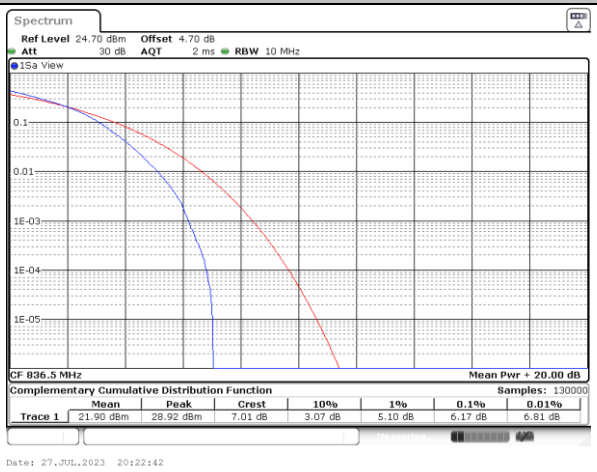
Mode	LTE Band 5 / 10MHz		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	Full RB	Result
Middle CH	5.39	6.17	PASS

LTE Band 5 / 10MHz

Middle Channel / Full RB/ QPSK



Middle Channel / Full RB/ 16QAM



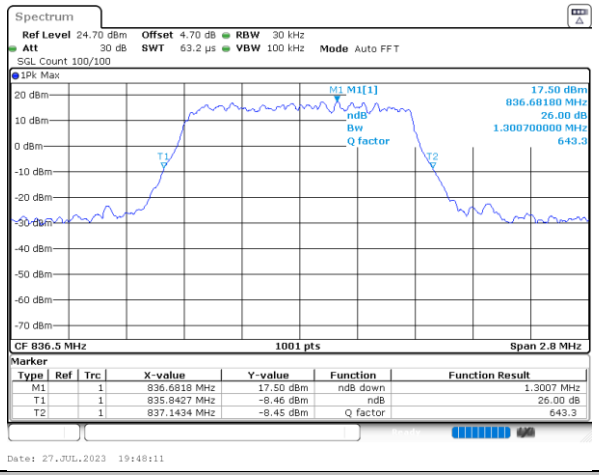
26dB Bandwidth

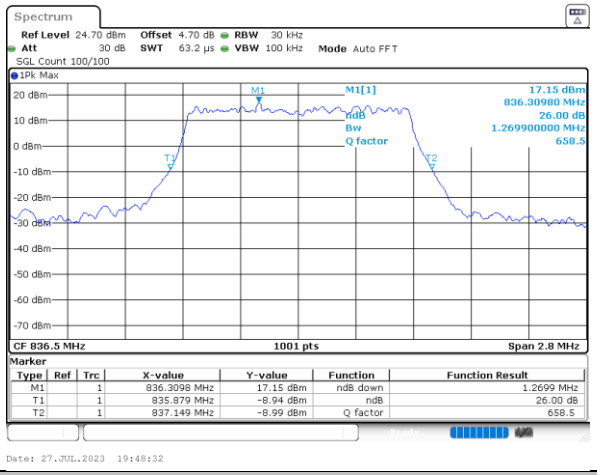
Mode	LTE Band 5 : 26dB BW(MHz) Full RB	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.30	1.27
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	3.09	3.02
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	5.06	5.00
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	10.11	6.39

Mode	LTE Band 5 : 26dB BW(MHz) 1RB	
BW	3MHz	
Mod.	QPSK	16QAM
L CH 1RB	0.60	0.59
H CH 1RB	0.60	0.61
BW	5MHz	
Mod.	QPSK	16QAM
L CH 1RB	0.89	0.83
H CH 1RB	0.80	0.78
BW	10MHz	
Mod.	QPSK	16QAM
L CH 1RB	1.80	1.74
H CH 1RB	1.30	1.54

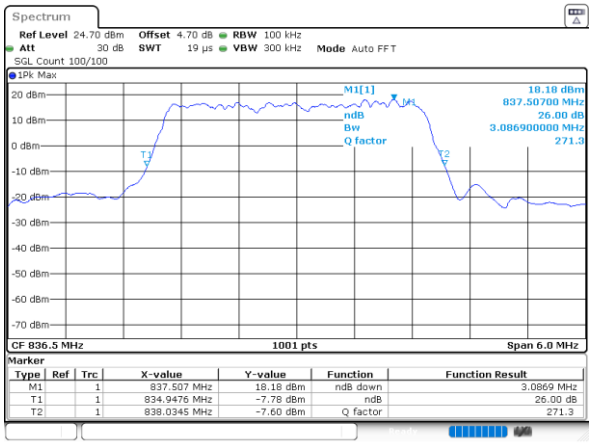
Full RB (Middle CH):

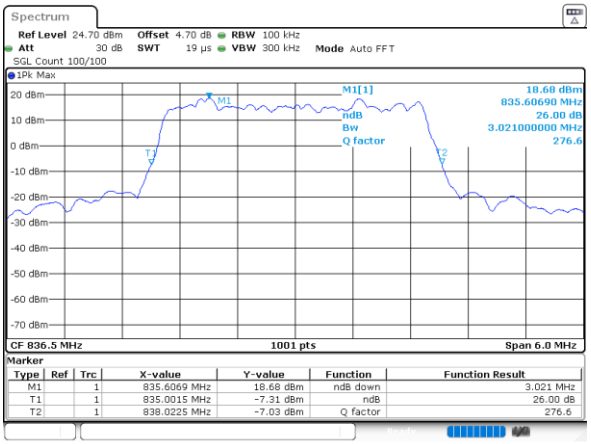
LTE Band 5	
Middle Channel / 1.4MHz / QPSK	**Middle Channel /1.4MHz / 16QAM**





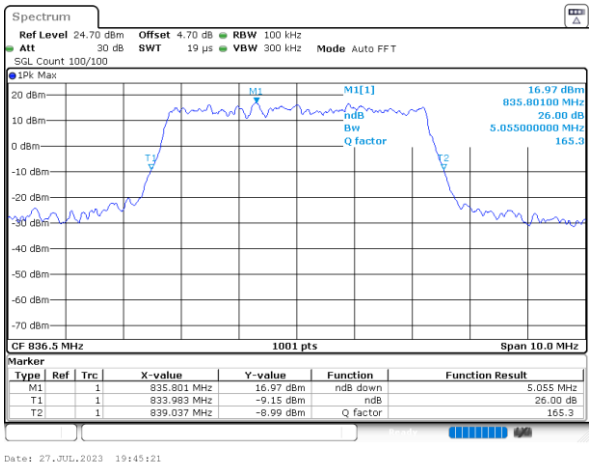
LTE Band 5	
Middle Channel / 3MHz / QPSK	**Middle Channel / 3MHz / 16QAM**



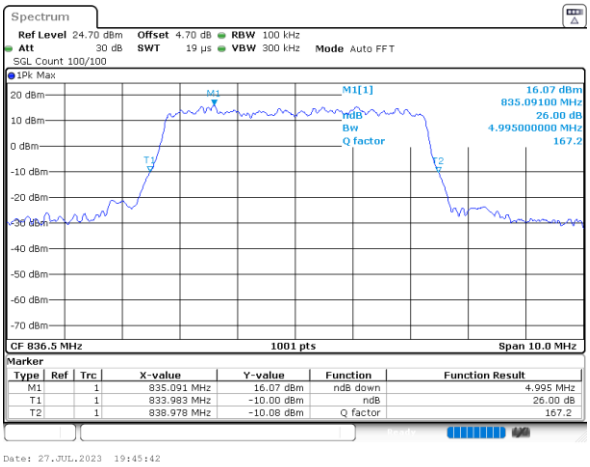


LTE Band 5

Middle Channel / 5MHz / QPSK

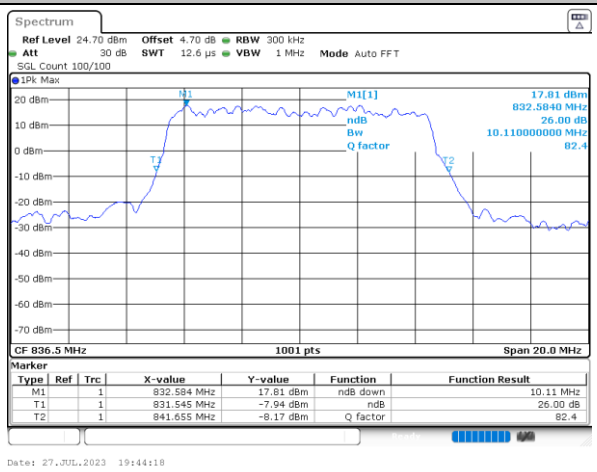


Middle Channel / 5MHz / 16QAM

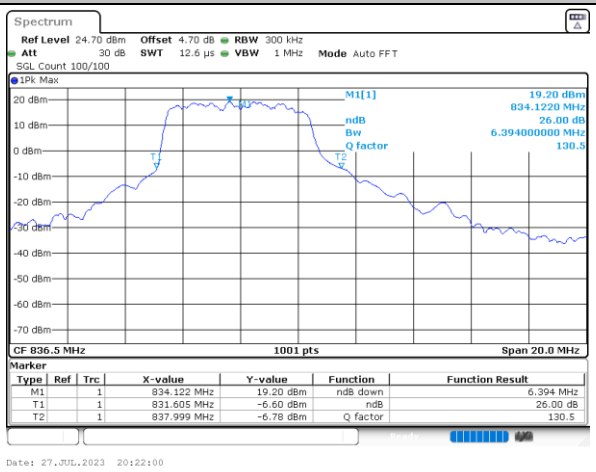


LTE Band 5

Middle Channel / 10MHz / QPSK



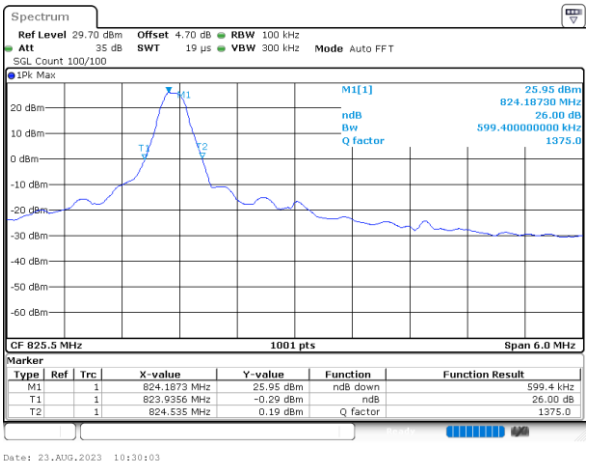
Middle Channel / 10MHz / 16QAM



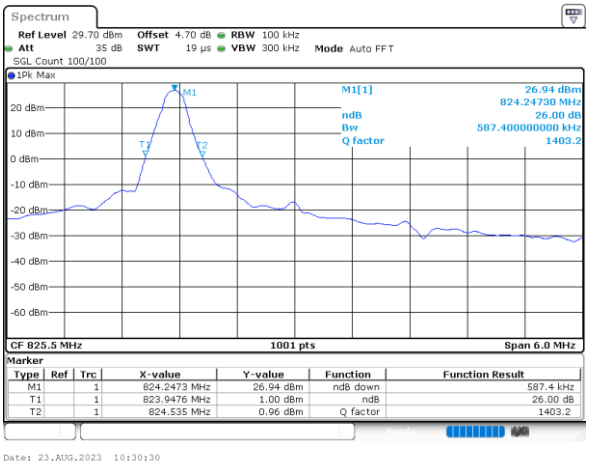
1 RB (Low/High CH):

LTE Band 5

L CH / 3MHz / QPSK

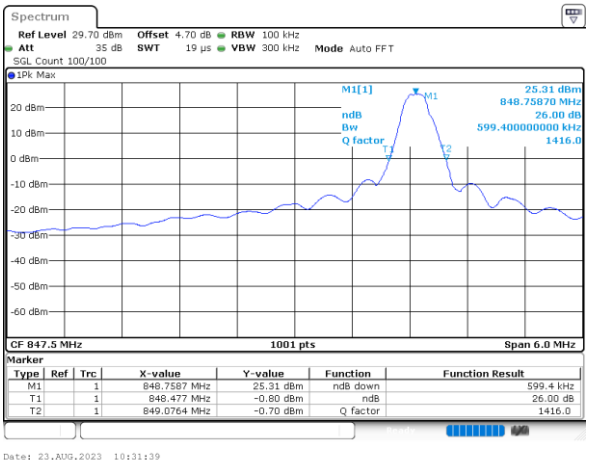


L CH / 3MHz / 16QAM

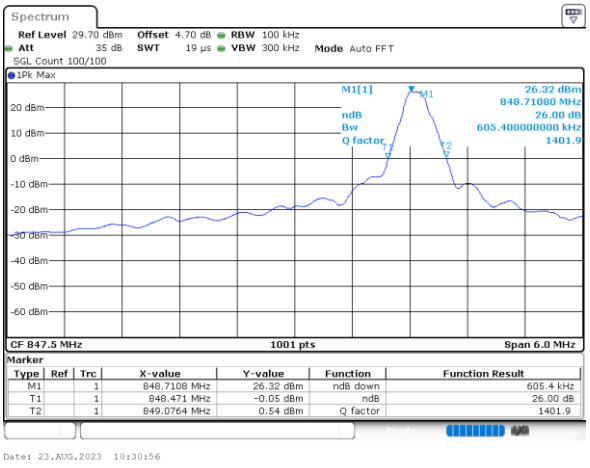


LTE Band 5

H CH / 3MHz / QPSK

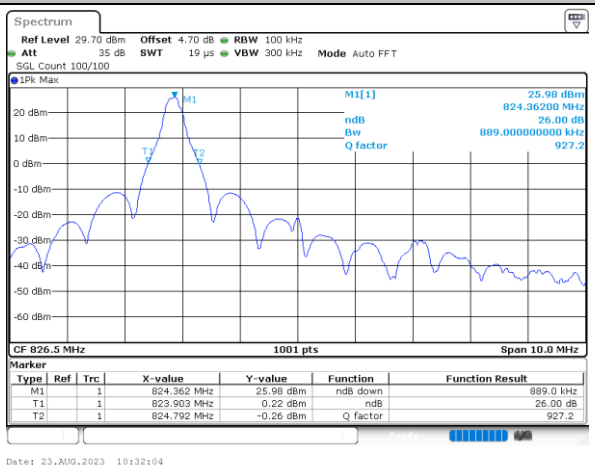


H CH / 3MHz / 16QAM

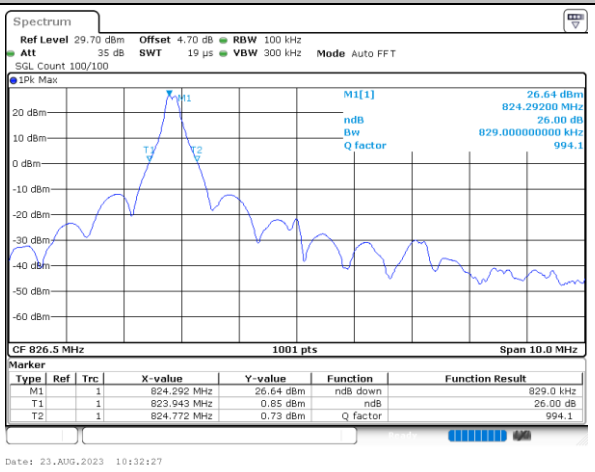


LTE Band 5

L CH / 5MHz / QPSK

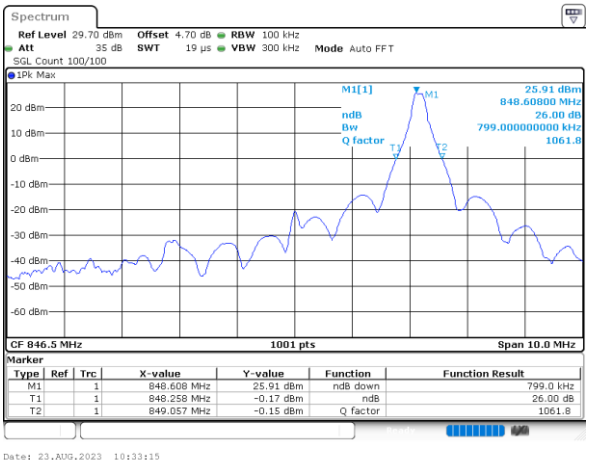


L CH / 5MHz / 16QAM

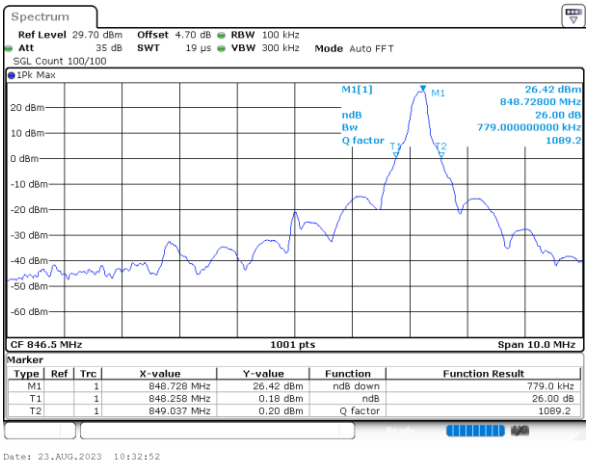


LTE Band 5

H CH / 5MHz / QPSK

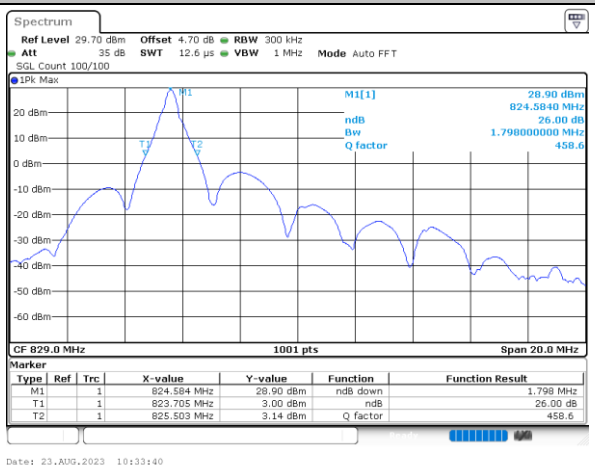


H CH / 5MHz / 16QAM

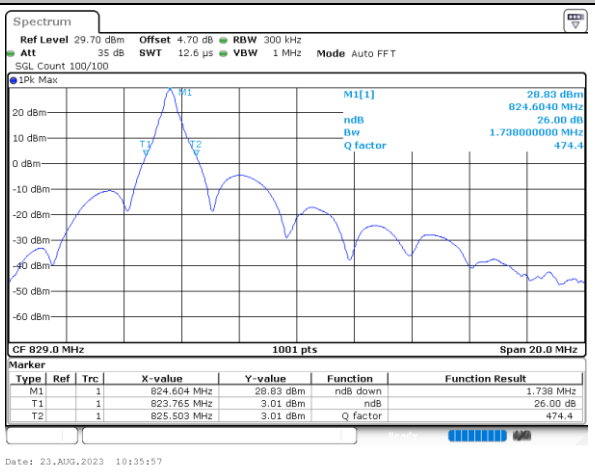


LTE Band 5

L CH / 10MHz / QPSK

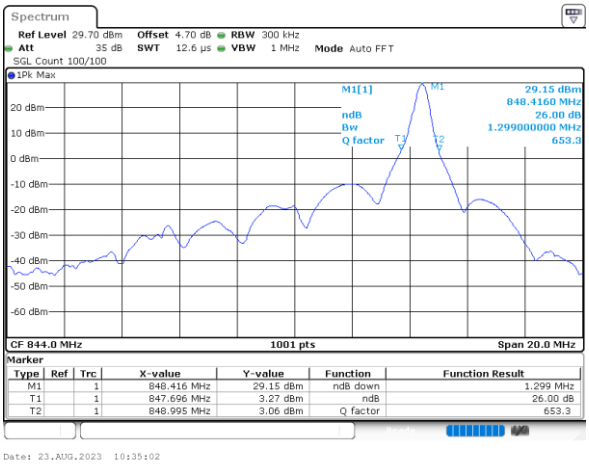


L CH / 10MHz / 16QAM

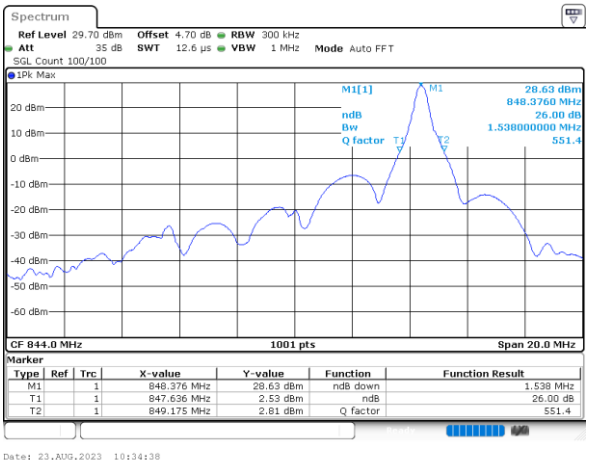


LTE Band 5

H CH / 10MHz / QPSK

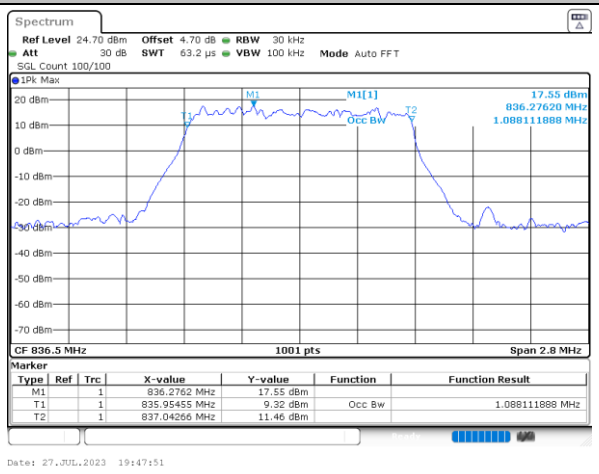
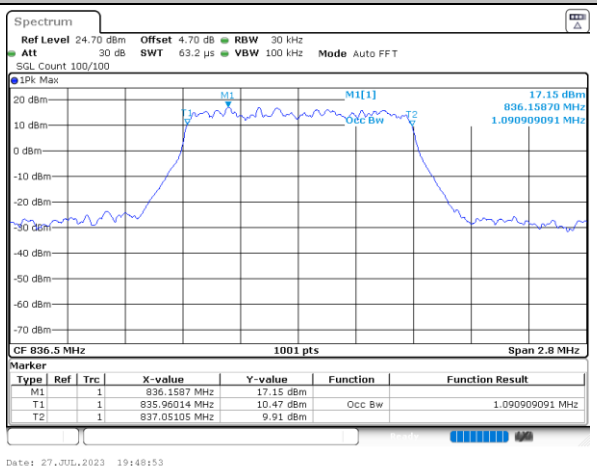


H CH / 10MHz / 16QAM



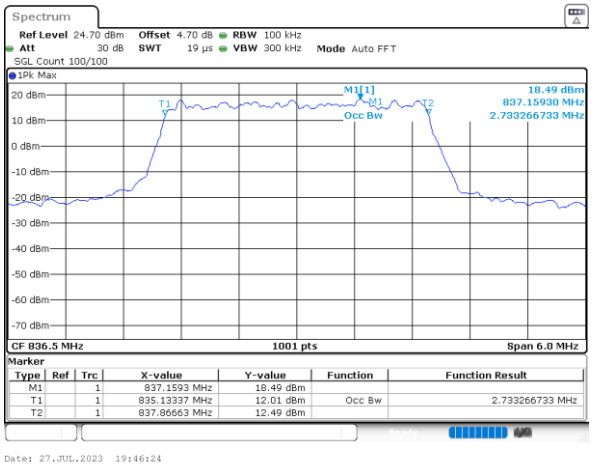
Occupied Bandwidth

Mode	LTE Band 5 : 99%OBW(MHz)	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.09	1.09
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	2.73	2.74
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	4.48	4.49
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	9.11	5.03

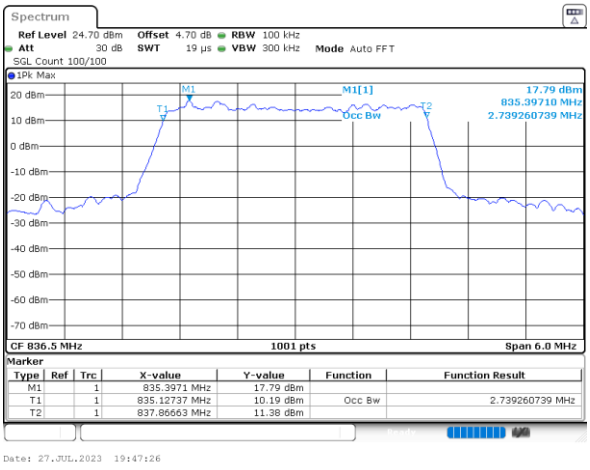
LTE Band 5	
Middle Channel / 1.4MHz / QPSK	Middle Channel / 1.4MHz / 16QAM
	

LTE Band 5

Middle Channel / 3MHz / QPSK

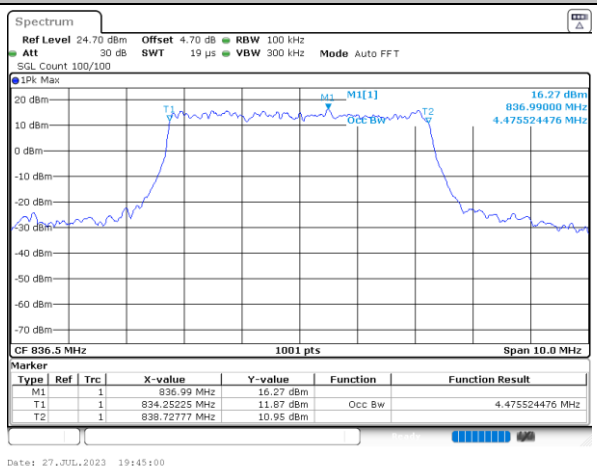


Middle Channel / 3MHz / 16QAM

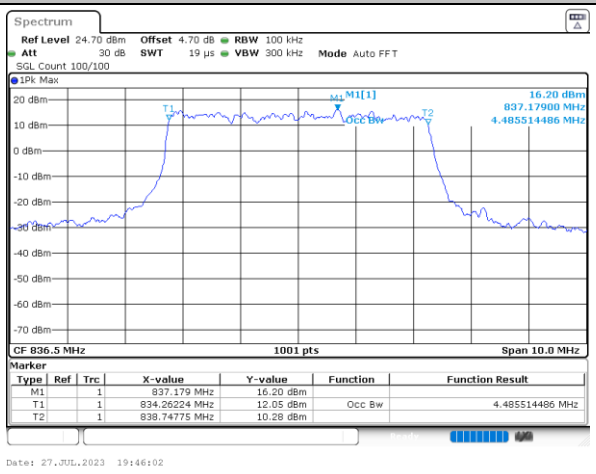


LTE Band 5

Middle Channel / 5MHz / QPSK

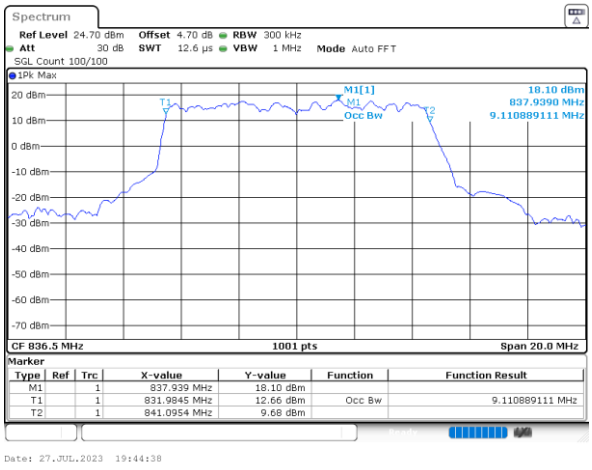


Middle Channel / 5MHz / 16QAM

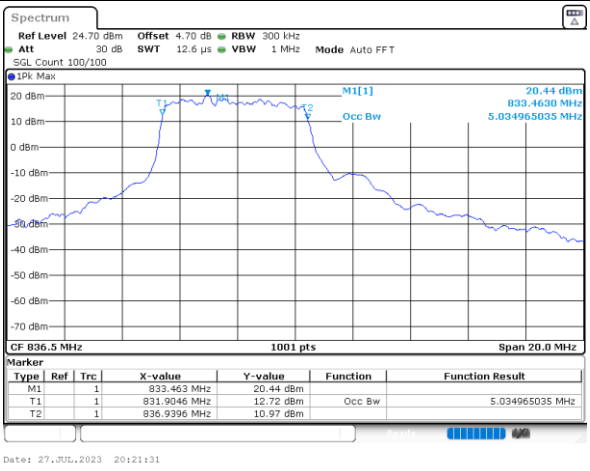


LTE Band 5

Middle Channel / 10MHz / QPSK



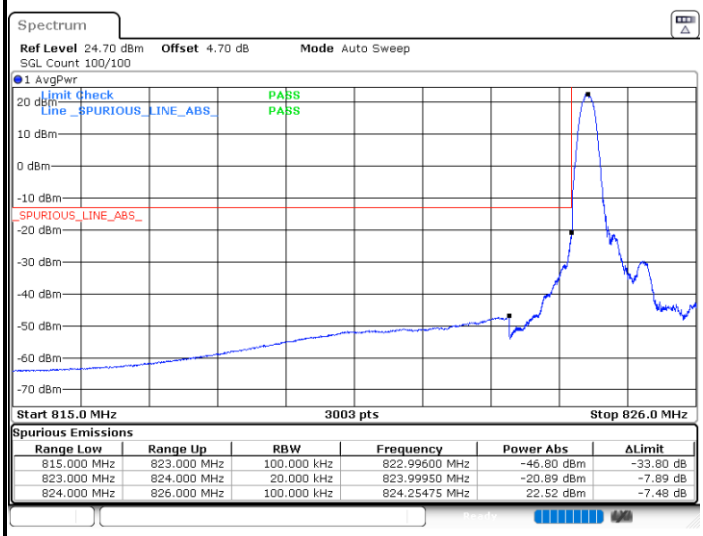
Middle Channel / 10MHz / 16QAM



Conducted Band Edge

LTE Band 5 / 1.4MHz / QPSK

Lowest Band Edge / 1RB

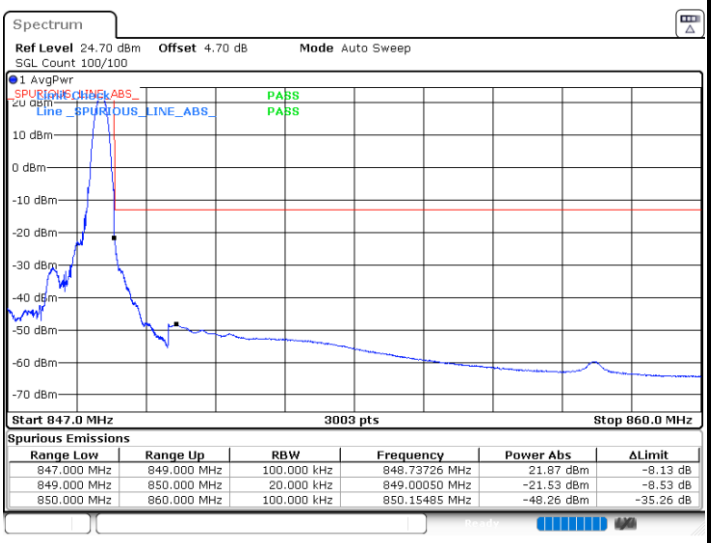


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	822.99600 MHz	-46.80 dBm	-33.80 dB
823.000 MHz	824.000 MHz	20.000 kHz	823.99950 MHz	-20.89 dBm	-7.89 dB
824.000 MHz	826.000 MHz	100.000 kHz	824.25475 MHz	22.52 dBm	-7.48 dB

Date: 27.JUL.2023 18:35:39

Highest Band Edge / 1RB

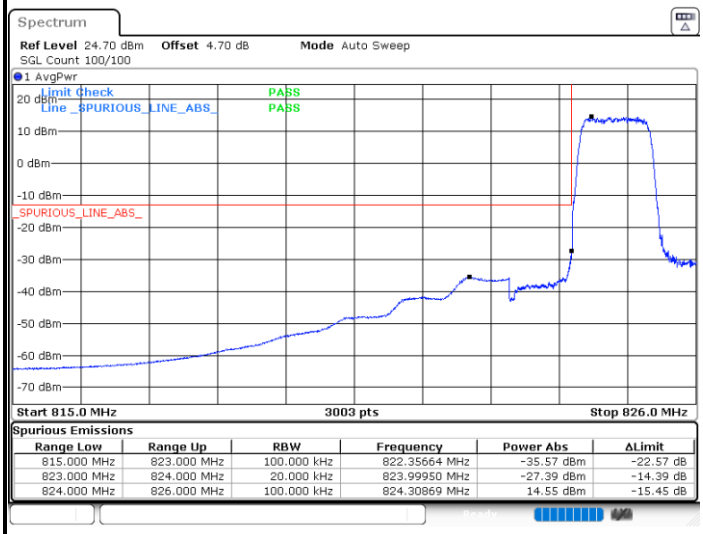


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
847.000 MHz	849.000 MHz	100.000 kHz	848.73726 MHz	21.87 dBm	-8.13 dB
849.000 MHz	850.000 MHz	20.000 kHz	849.00050 MHz	-21.53 dBm	-8.53 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.15485 MHz	-48.26 dBm	-35.26 dB

Date: 27.JUL.2023 18:45:39

Lowest Band Edge / Full RB

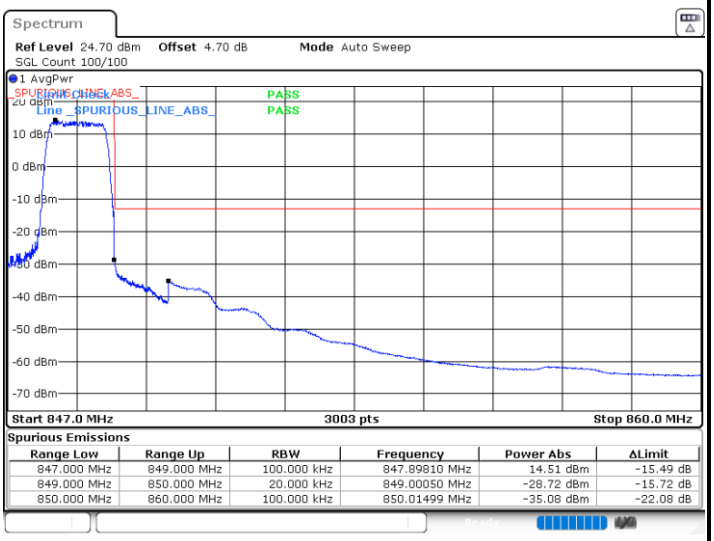


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	822.35664 MHz	-35.57 dBm	-22.57 dB
823.000 MHz	824.000 MHz	20.000 kHz	823.99950 MHz	-27.39 dBm	-14.39 dB
824.000 MHz	826.000 MHz	100.000 kHz	824.30869 MHz	14.55 dBm	-15.45 dB

Date: 27.JUL.2023 18:39:20

Highest Band Edge / Full RB



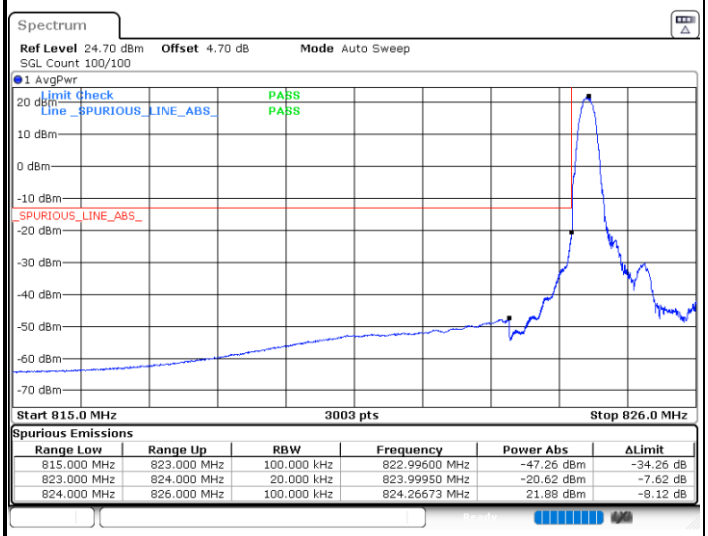
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
847.000 MHz	849.000 MHz	100.000 kHz	847.89810 MHz	14.51 dBm	-15.49 dB
849.000 MHz	850.000 MHz	20.000 kHz	849.00050 MHz	-28.72 dBm	-15.72 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.01499 MHz	-35.08 dBm	-22.08 dB

Date: 27.JUL.2023 18:49:20

LTE Band 5 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB

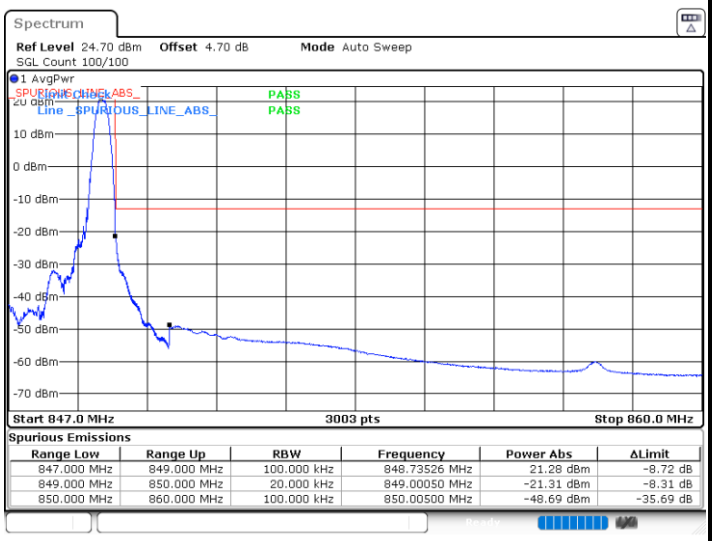


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	822.99600 MHz	-47.26 dBm	-34.26 dB
823.000 MHz	824.000 MHz	20.000 kHz	823.99950 MHz	-20.62 dBm	-7.62 dB
824.000 MHz	826.000 MHz	100.000 kHz	824.26673 MHz	21.88 dBm	-8.12 dB

Date: 27.JUL.2023 18:37:29

Highest Band Edge / 1 RB

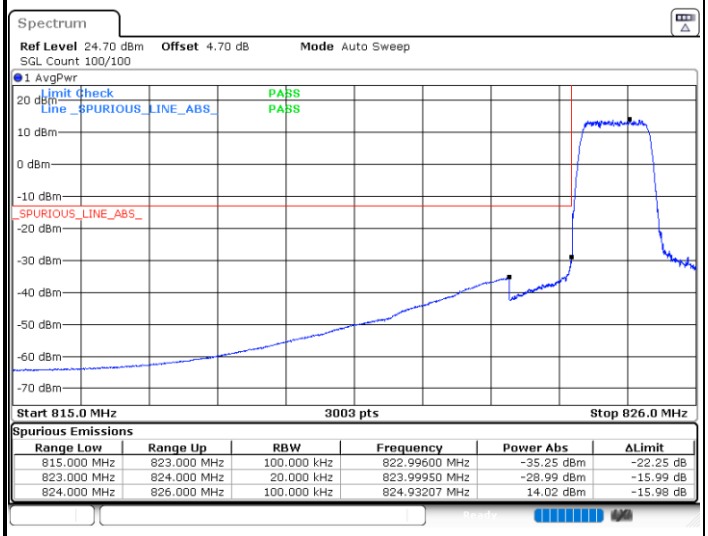


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
847.000 MHz	849.000 MHz	100.000 kHz	848.73526 MHz	21.28 dBm	-8.72 dB
849.000 MHz	850.000 MHz	20.000 kHz	849.00050 MHz	-21.31 dBm	-8.31 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.00500 MHz	-48.69 dBm	-35.69 dB

Date: 27.JUL.2023 18:47:30

Lowest Band Edge / Full RB

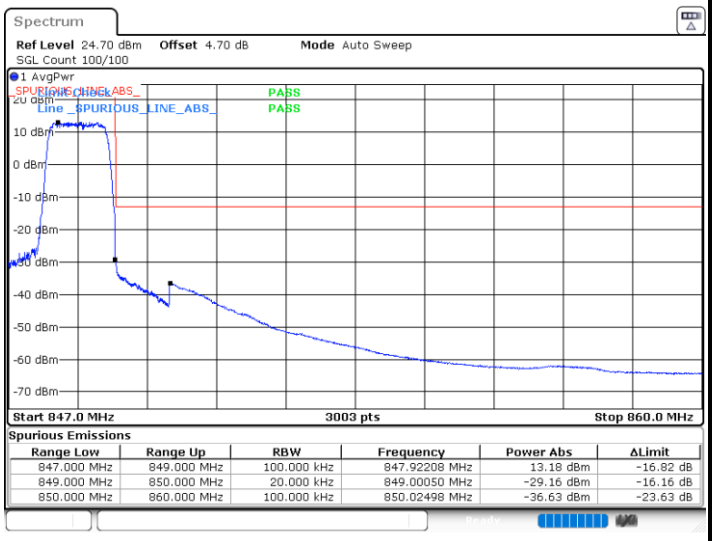


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	822.99600 MHz	-35.25 dBm	-22.25 dB
823.000 MHz	824.000 MHz	20.000 kHz	823.99950 MHz	-28.99 dBm	-15.99 dB
824.000 MHz	826.000 MHz	100.000 kHz	824.93207 MHz	14.02 dBm	-15.98 dB

Date: 27.JUL.2023 18:41:10

Highest Band Edge / Full RB



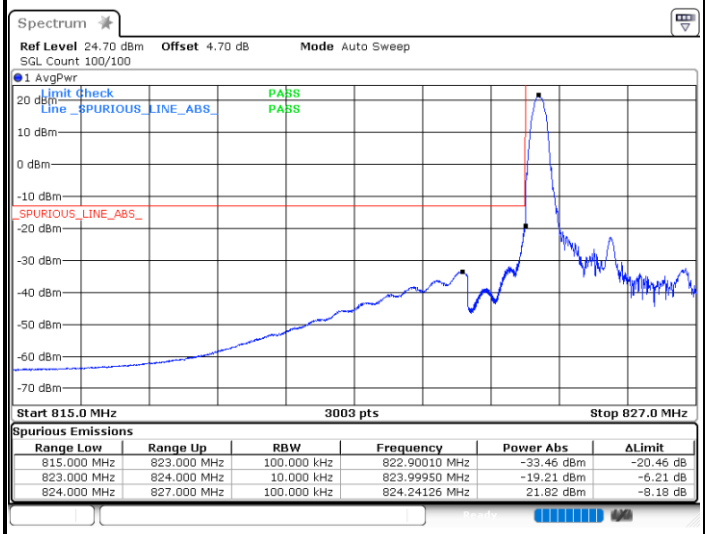
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
847.000 MHz	849.000 MHz	100.000 kHz	847.92208 MHz	13.18 dBm	-16.82 dB
849.000 MHz	850.000 MHz	20.000 kHz	849.00050 MHz	-29.16 dBm	-16.16 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.02498 MHz	-36.63 dBm	-23.63 dB

Date: 27.JUL.2023 18:51:10

LTE Band 5 / 3MHz / QPSK

Lowest Band Edge / 1RB

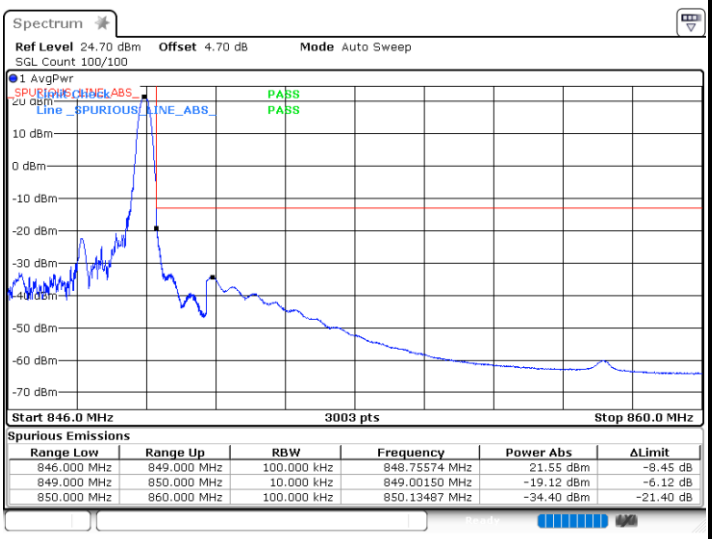


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	822.90010 MHz	-33.46 dBm	-20.46 dB
823.000 MHz	824.000 MHz	10.000 kHz	823.99950 MHz	-19.21 dBm	-6.21 dB
824.000 MHz	827.000 MHz	100.000 kHz	824.24126 MHz	21.82 dBm	-8.18 dB

Date: 23.AUG.2023 13:11:51

Highest Band Edge / 1 RB

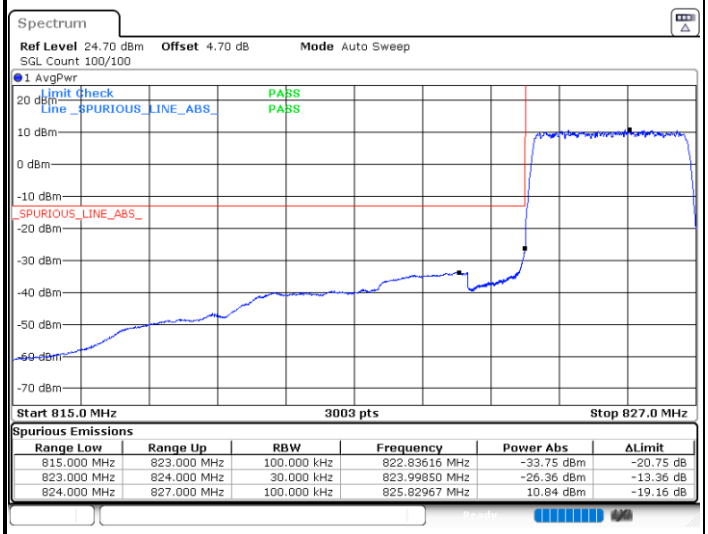


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
846.000 MHz	849.000 MHz	100.000 kHz	848.75574 MHz	21.55 dBm	-8.45 dB
849.000 MHz	850.000 MHz	10.000 kHz	849.00150 MHz	-19.12 dBm	-6.12 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.13487 MHz	-34.40 dBm	-21.40 dB

Date: 23.AUG.2023 13:16:46

Lowest Band Edge / Full RB

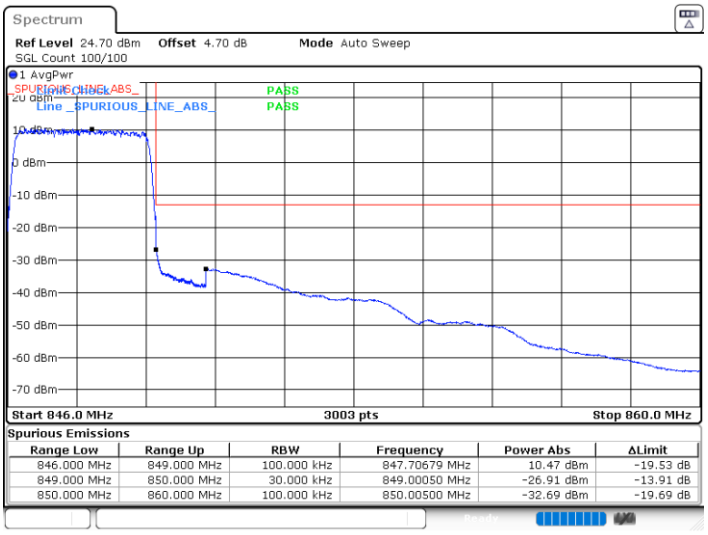


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	822.83616 MHz	-33.75 dBm	-20.75 dB
823.000 MHz	824.000 MHz	30.000 kHz	823.99850 MHz	-26.36 dBm	-13.36 dB
824.000 MHz	827.000 MHz	100.000 kHz	825.82967 MHz	10.84 dBm	-19.16 dB

Date: 27.JUL.2023 18:58:01

Highest Band Edge / Full RB



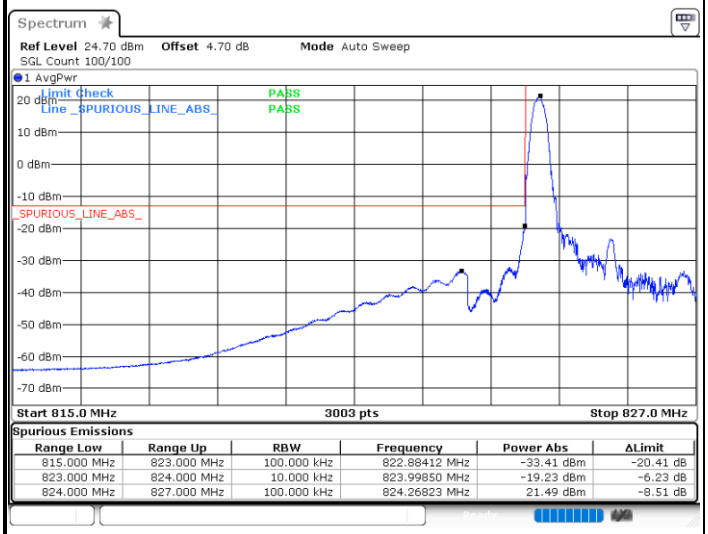
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
846.000 MHz	849.000 MHz	100.000 kHz	847.70679 MHz	10.47 dBm	-19.53 dB
849.000 MHz	850.000 MHz	30.000 kHz	849.00050 MHz	-26.91 dBm	-13.91 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.00500 MHz	-32.69 dBm	-19.69 dB

Date: 27.JUL.2023 19:08:02

LTE Band 5 / 3MHz / 16QAM

Lowest Band Edge / 1 RB

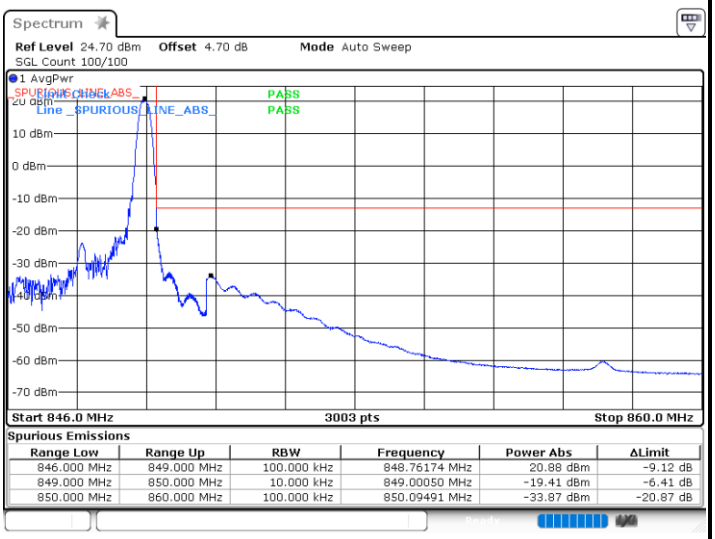


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	822.88412 MHz	-33.41 dBm	-20.41 dB
823.000 MHz	824.000 MHz	10.000 kHz	823.99850 MHz	-19.23 dBm	-6.23 dB
824.000 MHz	827.000 MHz	100.000 kHz	824.26823 MHz	21.49 dBm	-8.51 dB

Date: 23.AUG.2023 13:14:58

Highest Band Edge /1 RB

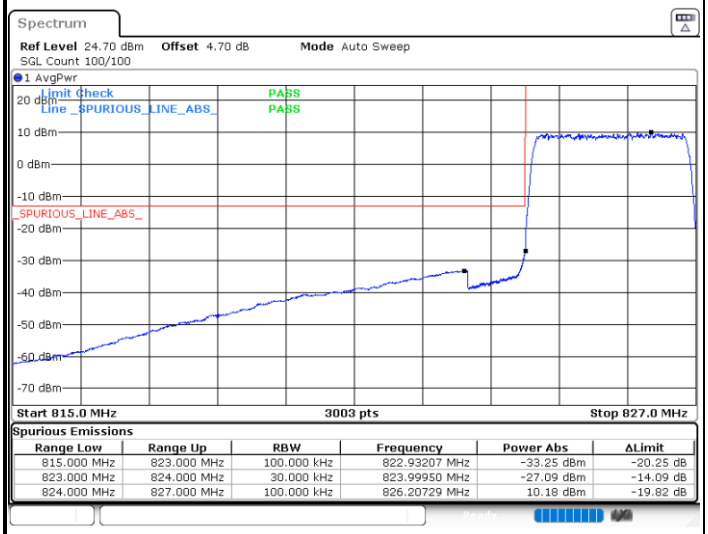


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
846.000 MHz	849.000 MHz	100.000 kHz	848.76174 MHz	20.88 dBm	-9.12 dB
849.000 MHz	850.000 MHz	10.000 kHz	849.00050 MHz	-19.41 dBm	-6.41 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.09491 MHz	-33.87 dBm	-20.87 dB

Date: 23.AUG.2023 13:18:58

Lowest Band Edge / Full RB

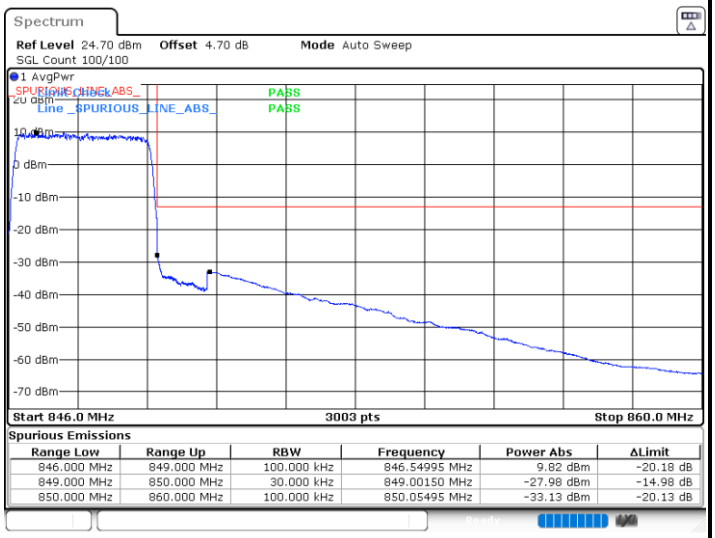


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	822.93207 MHz	-33.25 dBm	-20.25 dB
823.000 MHz	824.000 MHz	30.000 kHz	823.99950 MHz	-27.09 dBm	-14.09 dB
824.000 MHz	827.000 MHz	100.000 kHz	826.20729 MHz	10.18 dBm	-19.82 dB

Date: 27.JUL.2023 18:59:51

Highest Band Edge / Full RB



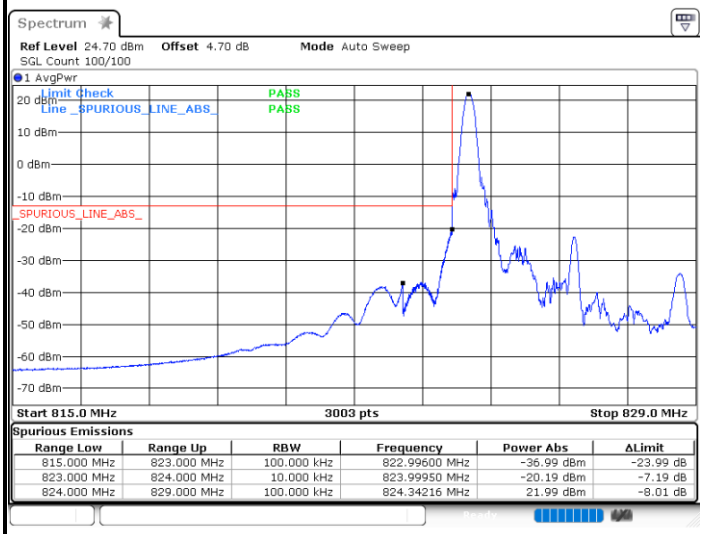
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
846.000 MHz	849.000 MHz	100.000 kHz	846.54995 MHz	9.82 dBm	-20.18 dB
849.000 MHz	850.000 MHz	30.000 kHz	849.00150 MHz	-27.98 dBm	-14.98 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.05495 MHz	-33.13 dBm	-20.13 dB

Date: 27.JUL.2023 19:09:52

LTE Band 5 / 5MHz / QPSK

Lowest Band Edge / 1 RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	822.99600 MHz	-36.99 dBm	-23.99 dB
823.000 MHz	824.000 MHz	10.000 kHz	823.99950 MHz	-20.19 dBm	-7.19 dB
824.000 MHz	829.000 MHz	100.000 kHz	824.34216 MHz	21.99 dBm	-8.01 dB

Date: 23.AUG.2023 13:20:18

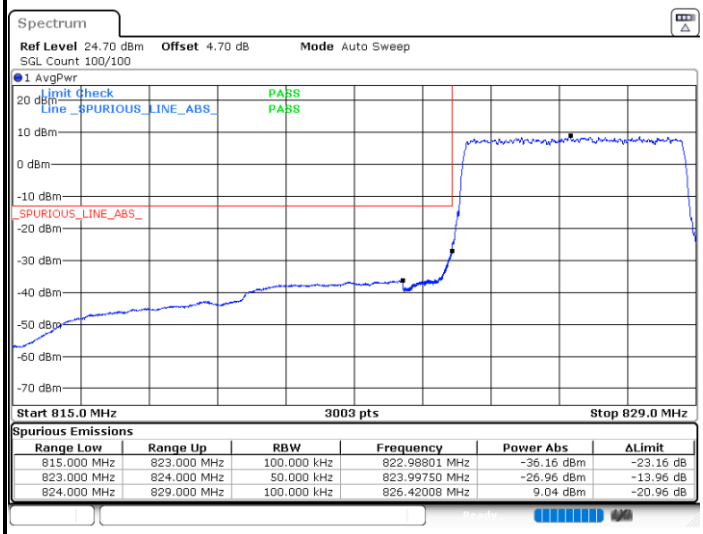
Highest Band Edge / 1 RB

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
844.000 MHz	849.000 MHz	100.000 kHz	848.66284 MHz	21.42 dBm	-8.58 dB
849.000 MHz	850.000 MHz	10.000 kHz	849.00050 MHz	-21.24 dBm	-8.24 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.00500 MHz	-38.21 dBm	-25.21 dB

Date: 23.AUG.2023 13:24:09

Lowest Band Edge / Full RB

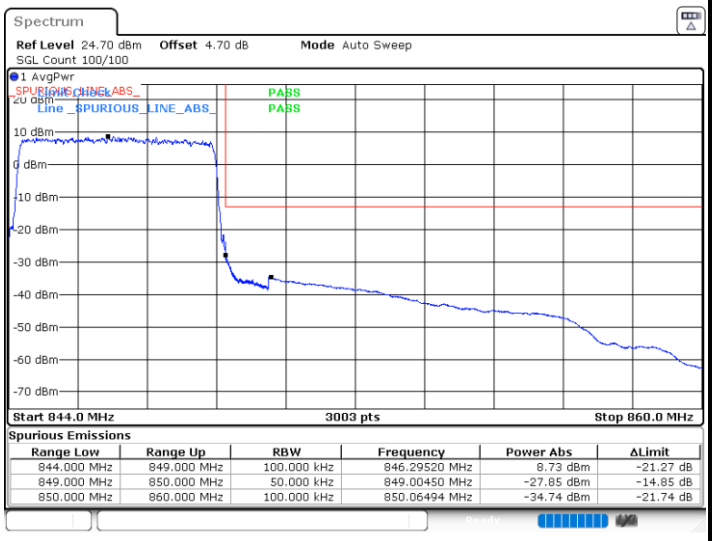


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	822.98801 MHz	-36.16 dBm	-23.16 dB
823.000 MHz	824.000 MHz	50.000 kHz	823.99750 MHz	-26.96 dBm	-13.96 dB
824.000 MHz	829.000 MHz	100.000 kHz	826.42008 MHz	9.04 dBm	-20.96 dB

Date: 27.JUL.2023 19:16:43

Highest Band Edge / Full RB



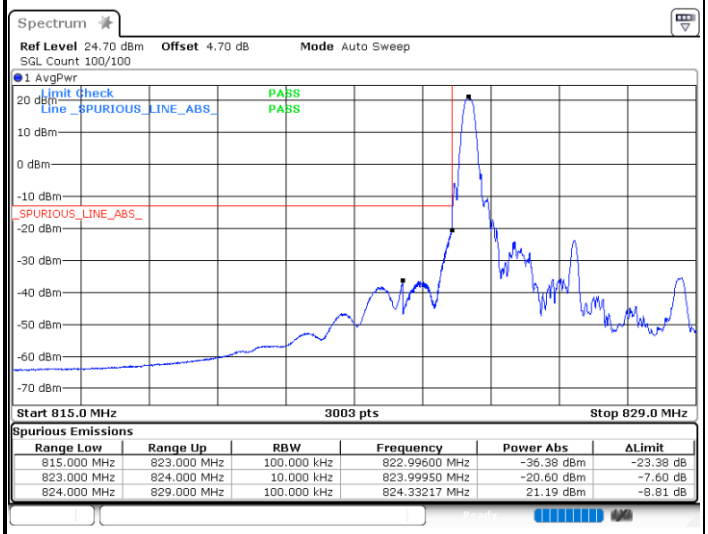
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
844.000 MHz	849.000 MHz	100.000 kHz	846.29520 MHz	8.73 dBm	-21.27 dB
849.000 MHz	850.000 MHz	50.000 kHz	849.00450 MHz	-27.85 dBm	-14.85 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.06494 MHz	-34.74 dBm	-21.74 dB

Date: 27.JUL.2023 19:26:43

LTE Band 5 / 5MHz / 16QAM

Lowest Band Edge / 1RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	822.99600 MHz	-36.38 dBm	-23.38 dB
823.000 MHz	824.000 MHz	10.000 kHz	823.99950 MHz	-20.60 dBm	-7.60 dB
824.000 MHz	829.000 MHz	100.000 kHz	824.33217 MHz	21.19 dBm	-8.81 dB

Date: 23.AUG.2023 13:22:05

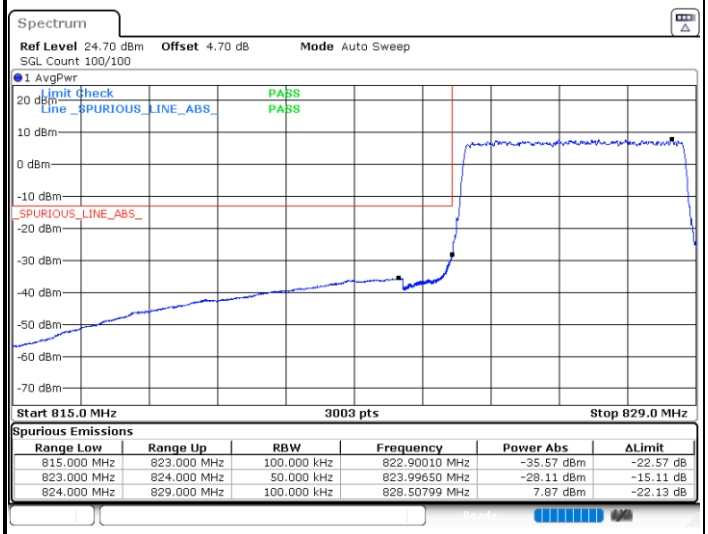
Highest Band Edge / 1 RB

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
844.000 MHz	849.000 MHz	100.000 kHz	848.68282 MHz	20.66 dBm	-9.34 dB
849.000 MHz	850.000 MHz	10.000 kHz	849.00350 MHz	-21.87 dBm	-8.87 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.00500 MHz	-37.94 dBm	-24.94 dB

Date: 23.AUG.2023 13:25:18

Lowest Band Edge / Full RB

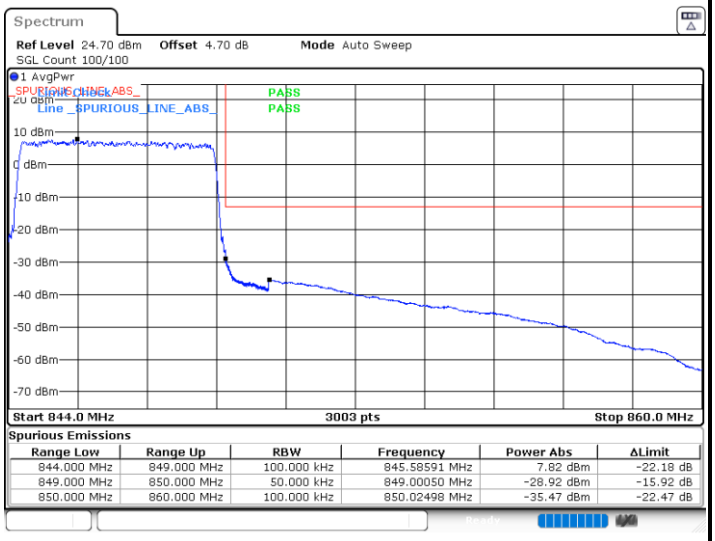


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	822.90010 MHz	-35.57 dBm	-22.57 dB
823.000 MHz	824.000 MHz	50.000 kHz	823.99650 MHz	-28.11 dBm	-15.11 dB
824.000 MHz	829.000 MHz	100.000 kHz	828.50799 MHz	7.87 dBm	-22.13 dB

Date: 27.JUL.2023 19:18:33

Highest Band Edge / Full RB



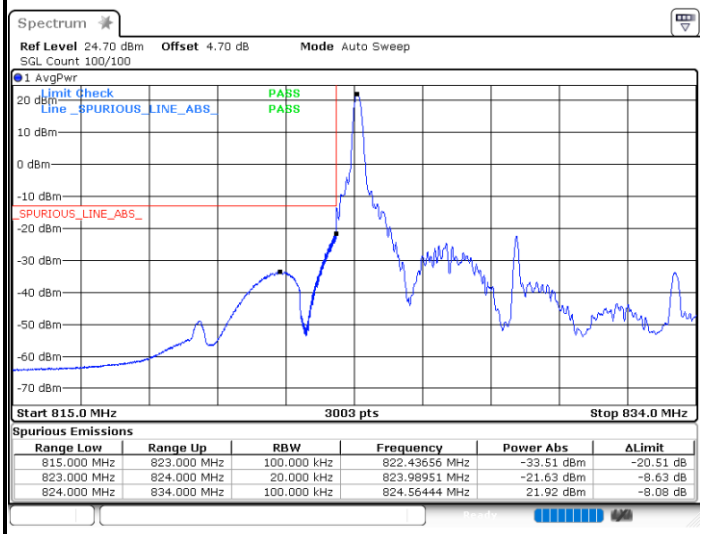
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
844.000 MHz	849.000 MHz	100.000 kHz	845.58591 MHz	7.82 dBm	-22.18 dB
849.000 MHz	850.000 MHz	50.000 kHz	849.00050 MHz	-28.92 dBm	-15.92 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.02498 MHz	-35.47 dBm	-22.47 dB

Date: 27.JUL.2023 19:28:33

LTE Band 5 / 10MHz / QPSK

Lowest Band Edge / 1 RB

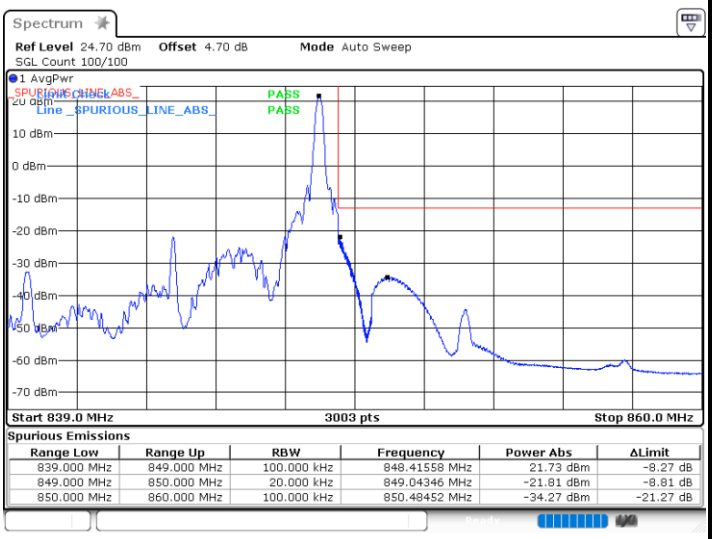


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	822.43656 MHz	-33.51 dBm	-20.51 dB
823.000 MHz	824.000 MHz	20.000 kHz	823.98951 MHz	-21.63 dBm	-8.63 dB
824.000 MHz	834.000 MHz	100.000 kHz	824.56444 MHz	21.92 dBm	-8.08 dB

Date: 23.AUG.2023 13:26:50

Highest Band Edge / 1 RB

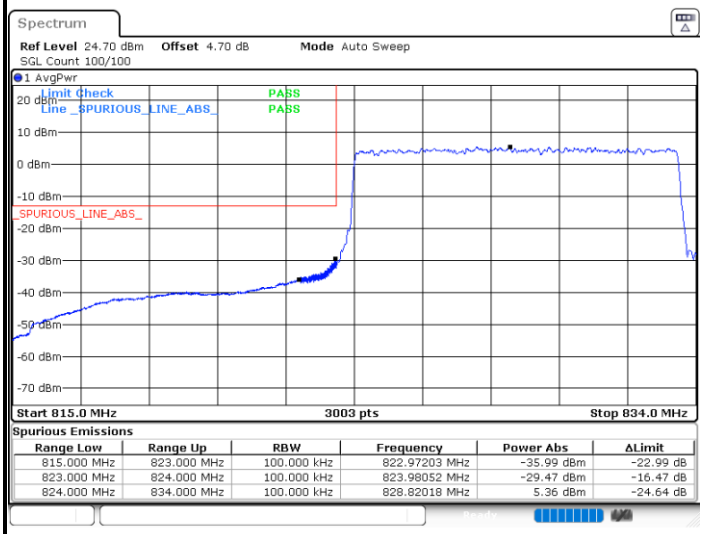


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
839.000 MHz	849.000 MHz	100.000 kHz	848.41558 MHz	21.73 dBm	-8.27 dB
849.000 MHz	850.000 MHz	20.000 kHz	849.04346 MHz	-21.81 dBm	-8.81 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.48452 MHz	-34.27 dBm	-21.27 dB

Date: 23.AUG.2023 13:29:19

Lowest Band Edge / Full RB

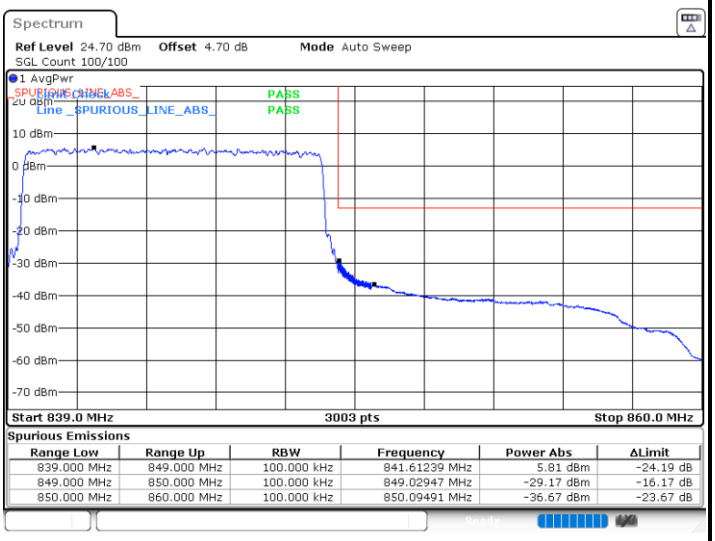


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	822.97203 MHz	-35.99 dBm	-22.99 dB
823.000 MHz	824.000 MHz	100.000 kHz	823.98052 MHz	-29.47 dBm	-16.47 dB
824.000 MHz	834.000 MHz	100.000 kHz	828.82018 MHz	5.36 dBm	-24.64 dB

Date: 27.JUL.2023 19:35:24

Highest Band Edge / Full RB



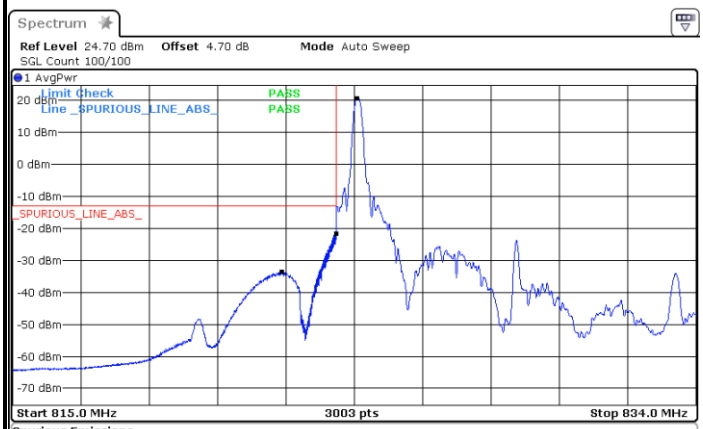
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
839.000 MHz	849.000 MHz	100.000 kHz	841.61239 MHz	5.81 dBm	-24.19 dB
849.000 MHz	850.000 MHz	100.000 kHz	849.02947 MHz	-29.17 dBm	-16.17 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.09491 MHz	-36.67 dBm	-23.67 dB

Date: 27.JUL.2023 19:43:34

LTE Band 5 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

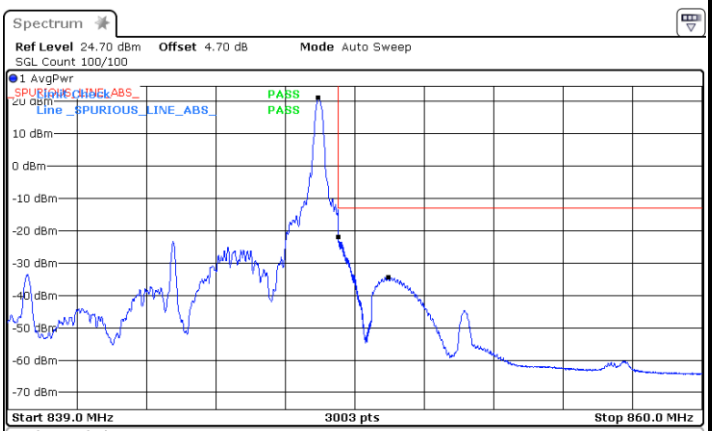


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	822.47652 MHz	-33.59 dBm	-20.59 dB
823.000 MHz	824.000 MHz	20.000 kHz	823.99550 MHz	-21.59 dBm	-8.59 dB
824.000 MHz	834.000 MHz	100.000 kHz	824.57443 MHz	20.65 dBm	-9.35 dB

Date: 23.AUG.2023 13:28:00

Highest Band Edge / 1 RB

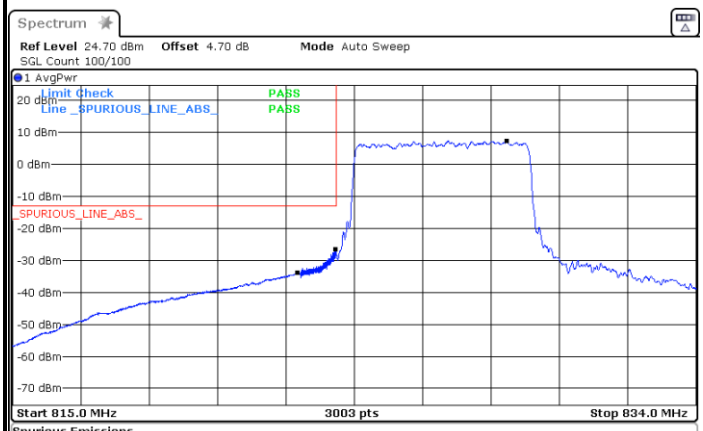


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
839.000 MHz	849.000 MHz	100.000 kHz	848.38561 MHz	21.08 dBm	-8.92 dB
849.000 MHz	850.000 MHz	20.000 kHz	849.00549 MHz	-22.03 dBm	-9.03 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.51449 MHz	-34.31 dBm	-21.31 dB

Date: 23.AUG.2023 13:30:20

Lowest Band Edge / Full RB

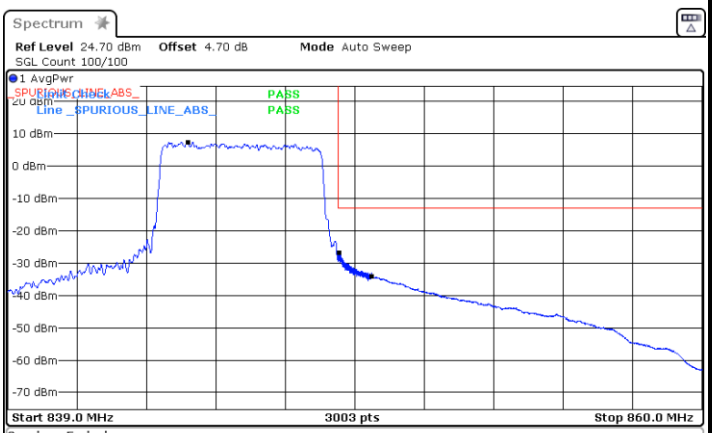


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
815.000 MHz	823.000 MHz	100.000 kHz	822.90809 MHz	-33.79 dBm	-20.79 dB
823.000 MHz	824.000 MHz	100.000 kHz	823.96154 MHz	-26.40 dBm	-13.40 dB
824.000 MHz	834.000 MHz	100.000 kHz	828.73027 MHz	7.38 dBm	-22.62 dB

Date: 27.JUL.2023 20:12:35

Highest Band Edge / Full RB



Spurious Emissions

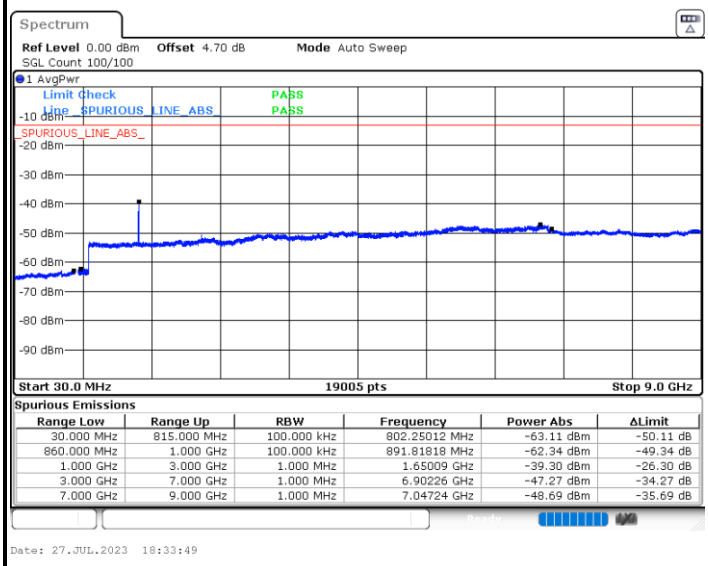
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
839.000 MHz	849.000 MHz	100.000 kHz	844.43956 MHz	7.47 dBm	-22.53 dB
849.000 MHz	850.000 MHz	100.000 kHz	849.00849 MHz	-26.67 dBm	-13.67 dB
850.000 MHz	860.000 MHz	100.000 kHz	850.01499 MHz	-34.18 dBm	-21.18 dB

Date: 27.JUL.2023 20:20:17

Conducted Spurious Emission

LTE Band 5 / 1.4MHz

Lowest Channel / QPSK

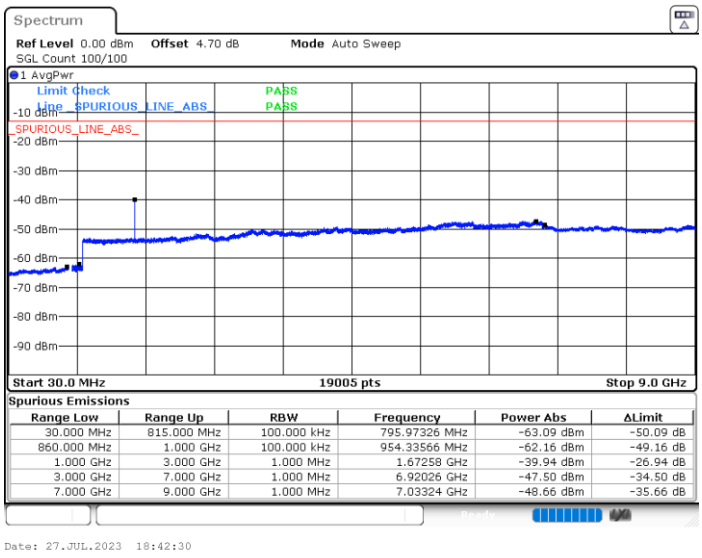


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	802.25012 MHz	-63.11 dBm	-50.11 dB
860.000 MHz	1.000 GHz	100.000 kHz	891.81818 MHz	-62.34 dBm	-49.34 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.65009 GHz	-39.30 dBm	-26.30 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.90226 GHz	-47.27 dBm	-34.27 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.04724 GHz	-48.69 dBm	-35.69 dB

Date: 27.JUL.2023 18:33:49

Middle Channel / QPSK

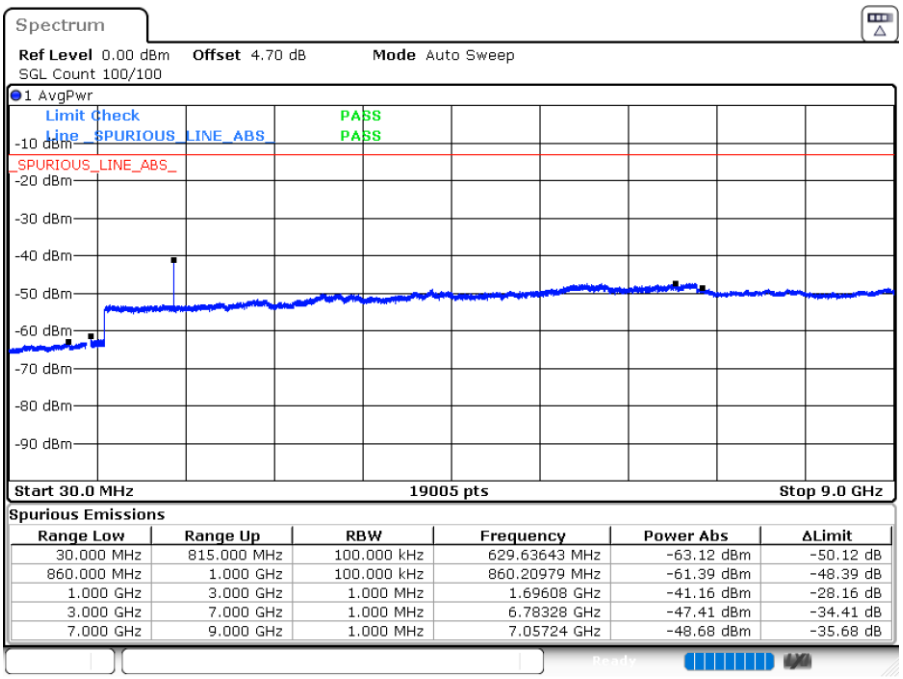


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	795.97326 MHz	-63.09 dBm	-50.09 dB
860.000 MHz	1.000 GHz	100.000 kHz	954.33566 MHz	-62.16 dBm	-49.16 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.67258 GHz	-39.94 dBm	-26.94 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.92026 GHz	-47.50 dBm	-34.50 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.03324 GHz	-48.66 dBm	-35.66 dB

Date: 27.JUL.2023 18:42:30

Highest Channel / QPSK



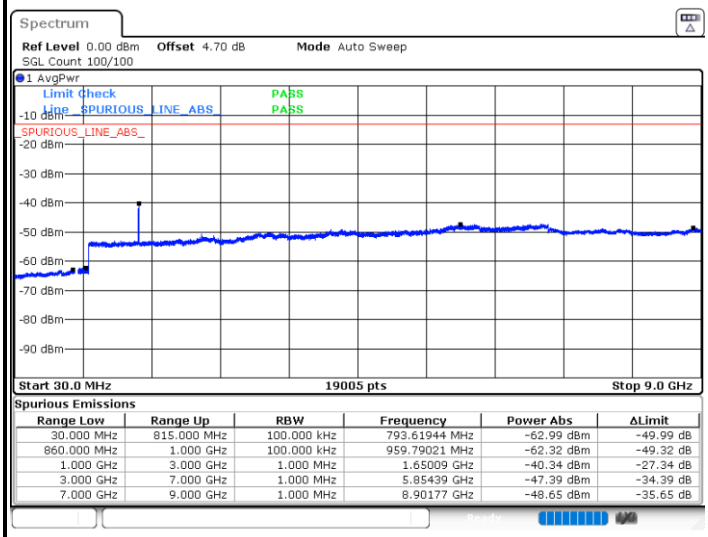
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	629.63643 MHz	-63.12 dBm	-50.12 dB
860.000 MHz	1.000 GHz	100.000 kHz	860.20979 MHz	-61.39 dBm	-48.39 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.69608 GHz	-41.16 dBm	-28.16 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.78328 GHz	-47.41 dBm	-34.41 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.05724 GHz	-48.68 dBm	-35.68 dB

Date: 27.JUL.2023 18:43:49

LTE Band 5 / 3MHz

Lowest Channel / QPSK

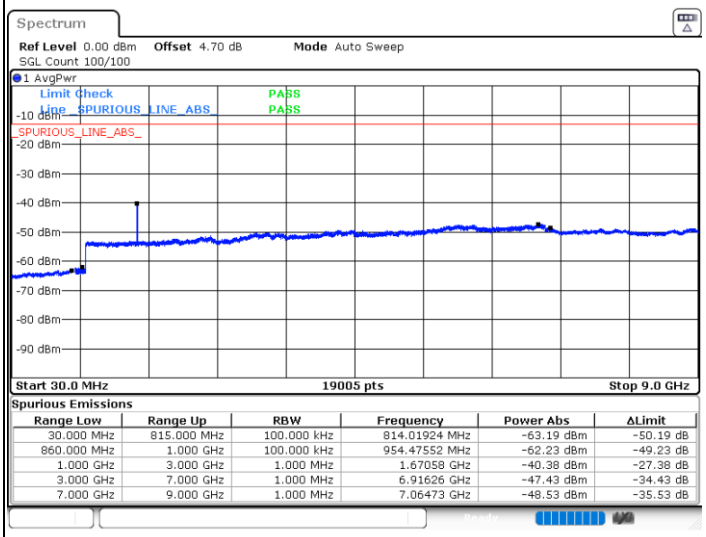


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	793.61944 MHz	-62.99 dBm	-49.99 dB
860.000 MHz	1.000 GHz	100.000 kHz	959.79021 MHz	-62.32 dBm	-49.32 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.65009 GHz	-40.34 dBm	-27.34 dB
3.000 GHz	7.000 GHz	1.000 MHz	5.85439 GHz	-47.39 dBm	-34.39 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.90177 GHz	-48.65 dBm	-35.65 dB

Date: 27.JUL.2023 18:52:30

Middle Channel / QPSK

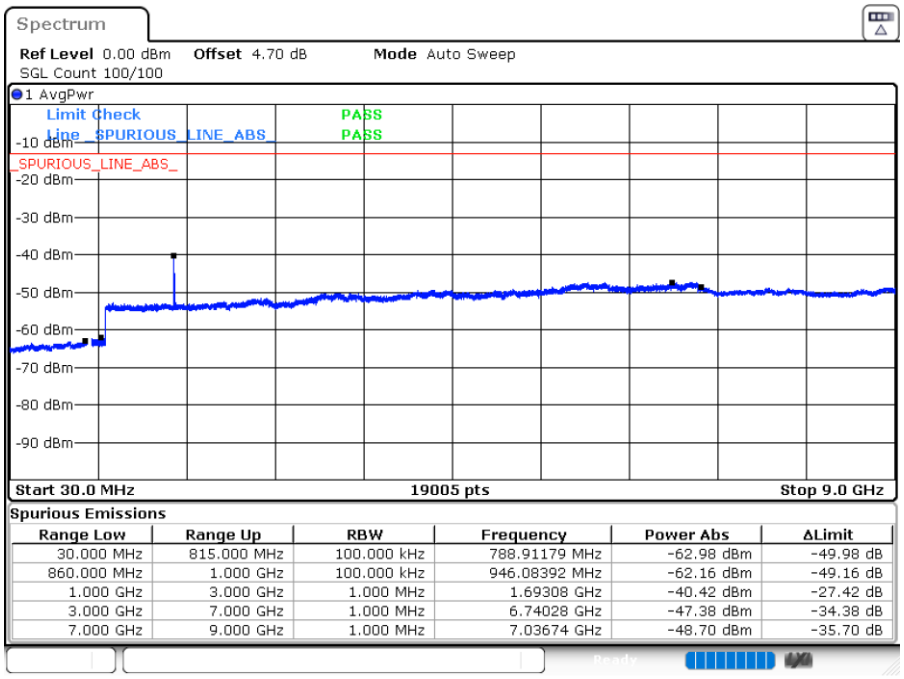


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	814.01924 MHz	-63.19 dBm	-50.19 dB
860.000 MHz	1.000 GHz	100.000 kHz	954.47552 MHz	-62.23 dBm	-49.23 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.67058 GHz	-40.38 dBm	-27.38 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.91626 GHz	-47.43 dBm	-34.43 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.06473 GHz	-48.53 dBm	-35.53 dB

Date: 27.JUL.2023 19:01:11

Highest Channel / QPSK



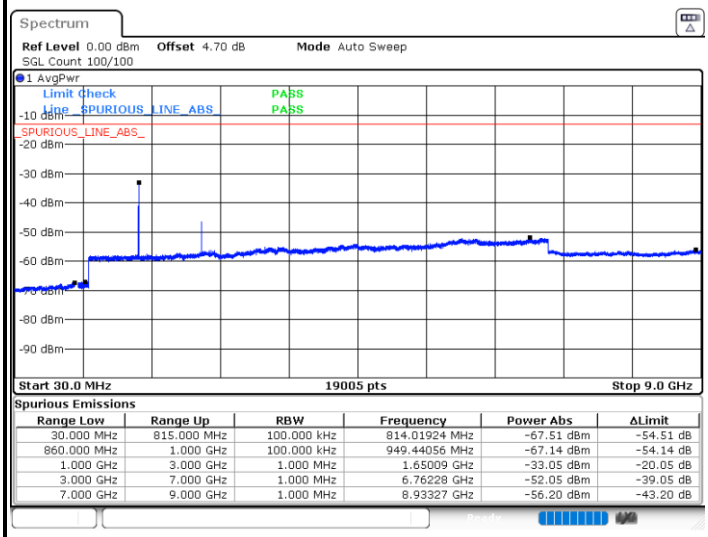
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	788.91179 MHz	-62.98 dBm	-49.98 dB
860.000 MHz	1.000 GHz	100.000 kHz	946.08392 MHz	-62.16 dBm	-49.16 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.69308 GHz	-40.42 dBm	-27.42 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.74028 GHz	-47.38 dBm	-34.38 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.03674 GHz	-48.70 dBm	-35.70 dB

Date: 27.JUL.2023 19:02:31

LTE Band 5 / 5MHz

Lowest Channel / QPSK

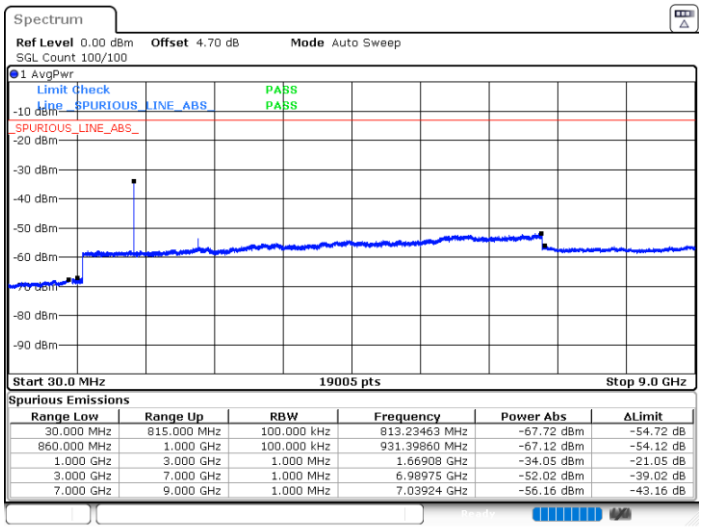


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	814.01924 MHz	-67.51 dBm	-54.51 dB
860.000 MHz	1.000 GHz	100.000 kHz	949.44056 MHz	-67.14 dBm	-54.14 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.65009 GHz	-33.05 dBm	-20.05 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.76228 GHz	-52.05 dBm	-39.05 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.93327 GHz	-56.20 dBm	-43.20 dB

Date: 27.JUL.2023 19:11:12

Middle Channel / QPSK

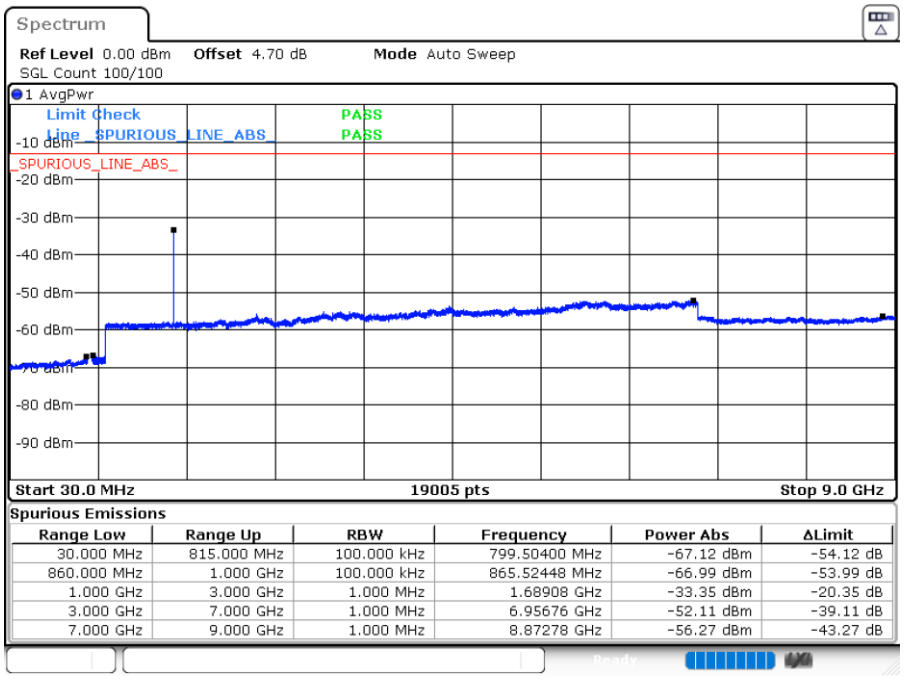


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	813.23463 MHz	-67.72 dBm	-54.72 dB
860.000 MHz	1.000 GHz	100.000 kHz	931.39860 MHz	-67.12 dBm	-54.12 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.66908 GHz	-34.05 dBm	-21.05 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.98975 GHz	-52.02 dBm	-39.02 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.03924 GHz	-56.16 dBm	-43.16 dB

Date: 27.JUL.2023 19:19:53

Highest Channel / QPSK



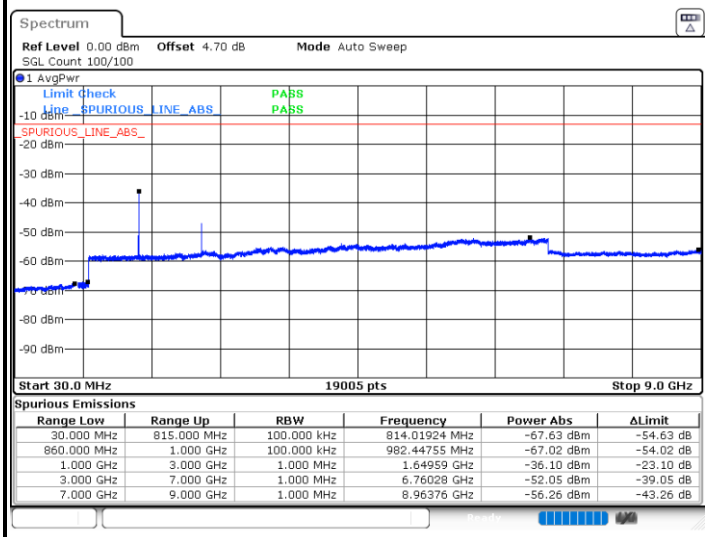
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	799.50400 MHz	-67.12 dBm	-54.12 dB
860.000 MHz	1.000 GHz	100.000 kHz	865.52448 MHz	-66.99 dBm	-53.99 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.68908 GHz	-33.35 dBm	-20.35 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.95676 GHz	-52.11 dBm	-39.11 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.87278 GHz	-56.27 dBm	-43.27 dB

Date: 27.JUL.2023 19:21:13

LTE Band 5 / 10MHz

Lowest Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	814.01924 MHz	-67.63 dBm	-54.63 dB
860.000 MHz	1.000 GHz	100.000 kHz	982.44755 MHz	-67.02 dBm	-54.02 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.64959 GHz	-36.10 dBm	-23.10 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.76028 GHz	-52.05 dBm	-39.05 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.96376 GHz	-56.26 dBm	-43.26 dB

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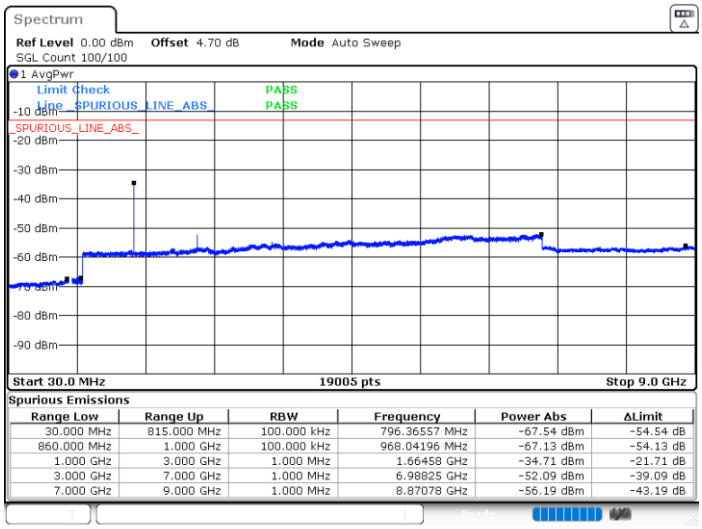
Middle Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	796.36557 MHz	-67.54 dBm	-54.54 dB
860.000 MHz	1.000 GHz	100.000 kHz	968.04196 MHz	-67.13 dBm	-54.13 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.66458 GHz	-34.71 dBm	-21.71 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.98825 GHz	-52.09 dBm	-39.09 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.87078 GHz	-56.19 dBm	-43.19 dB

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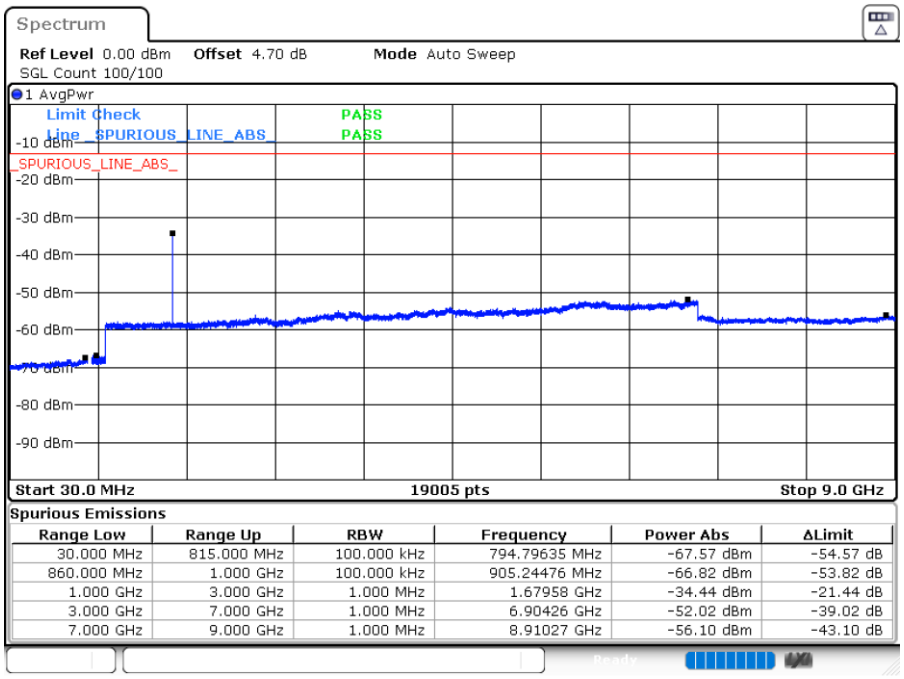
Highest Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	794.79635 MHz	-67.57 dBm	-54.57 dB
860.000 MHz	1.000 GHz	100.000 kHz	905.24476 MHz	-66.82 dBm	-53.82 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.67958 GHz	-34.44 dBm	-21.44 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.90426 GHz	-52.02 dBm	-39.02 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.91027 GHz	-56.10 dBm	-43.10 dB

Date: 27.JUL.2023 19:38:04

Frequency Stability

Test Conditions		LTE Band 5 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0029	PASS
40	Normal Voltage	0.0013	
30	Normal Voltage	0.0035	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0017	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0012	
-20	Normal Voltage	0.0029	
-30	Normal Voltage	0.0027	
20	Maximum Voltage	0.0016	
20	Normal Voltage	0.0022	
20	Minimum Voltage	0.0015	

Note:

1. Normal Voltage =3.8 V. ; Minimum Voltage =3.3 V. ; Maximum Voltage =4.3 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

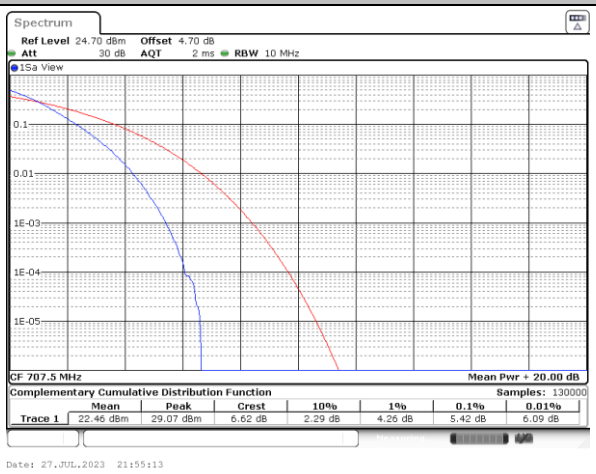
LTE Band 12

Peak-to-Average Ratio

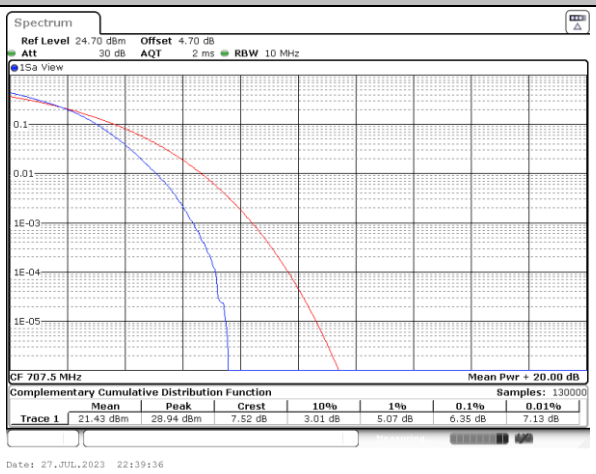
Mode	LTE Band 12 / 10MHz		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	Full RB	Result
Middle CH	5.42	6.35	PASS

LTE Band 12 / 10MHz

Middle Channel / Full RB/ QPSK

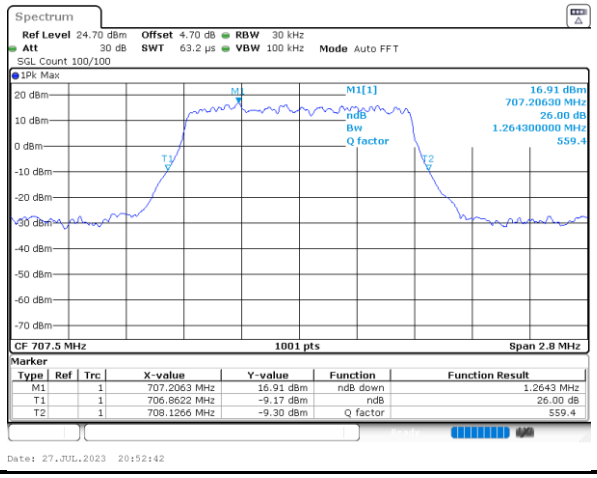
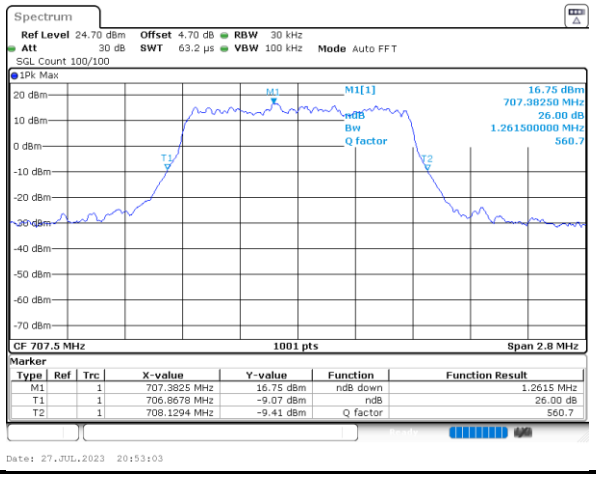


Middle Channel / Full RB/ 16QAM



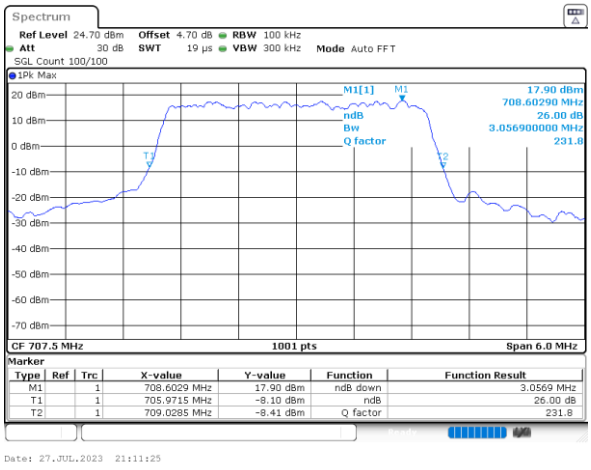
26dB Bandwidth

Mode	LTE Band 12 : 26dB BW(MHz)	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.26	1.26
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	3.06	3.06
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	5.05	4.94
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	10.17	5.79

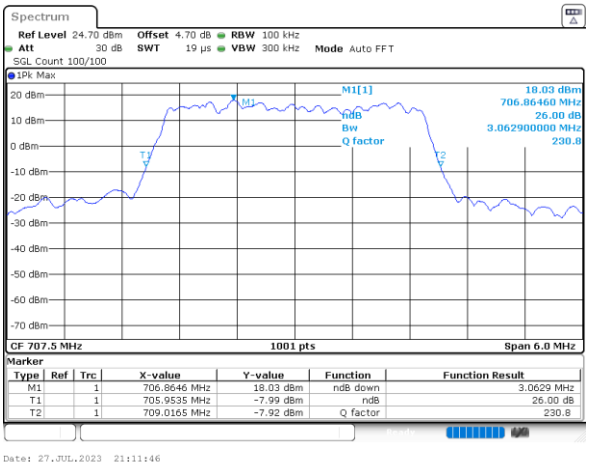
LTE Band 12	
Middle Channel / 1.4MHz / QPSK	Middle Channel /1.4MHz / 16QAM
	

LTE Band 12

Middle Channel / 3MHz / QPSK

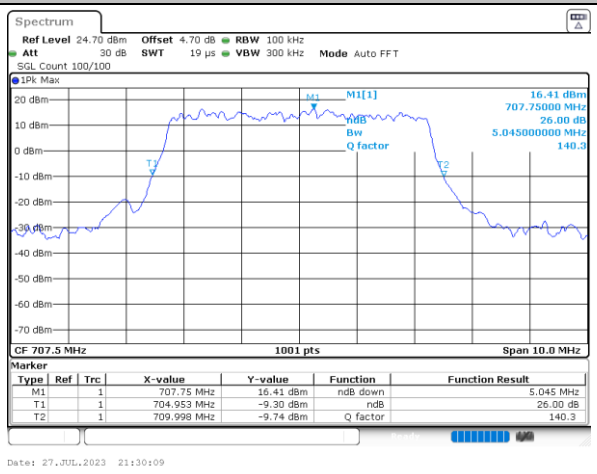


Middle Channel / 3MHz / 16QAM

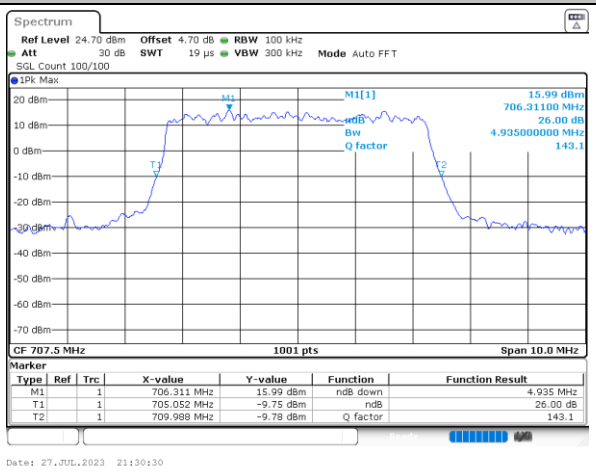


LTE Band 12

Middle Channel / 5MHz / QPSK

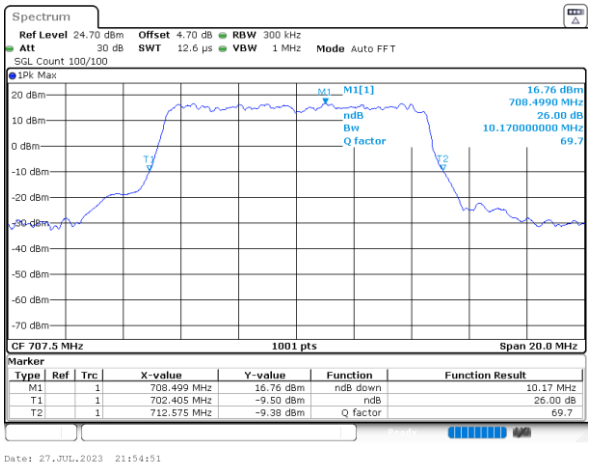


Middle Channel / 5MHz / 16QAM

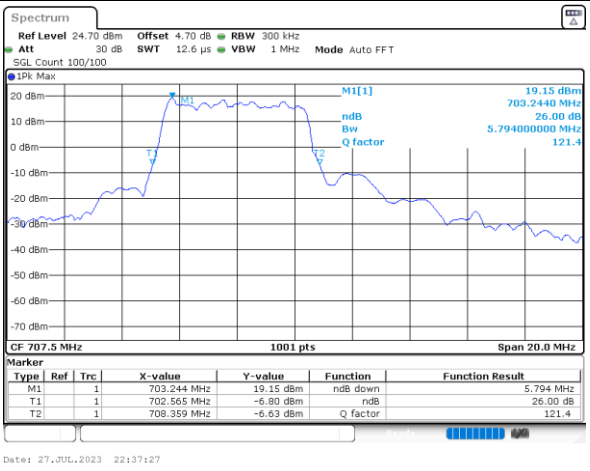


LTE Band 12

Middle Channel / 10MHz / QPSK

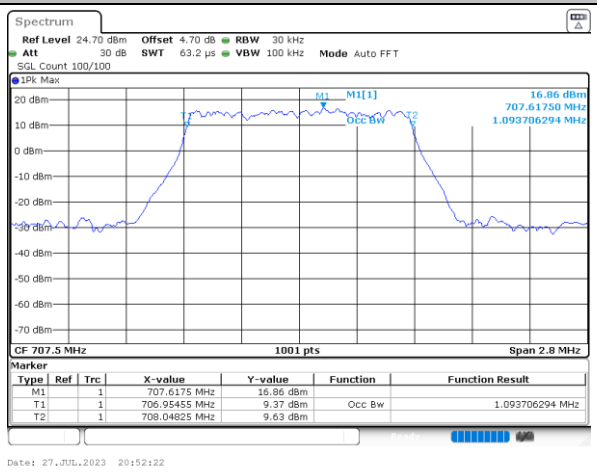
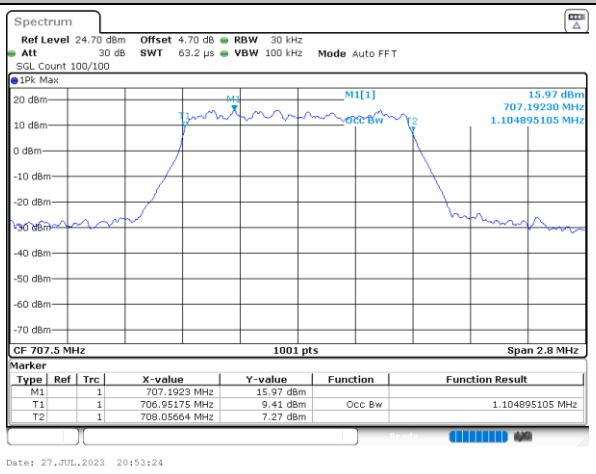


Middle Channel / 10MHz / 16QAM



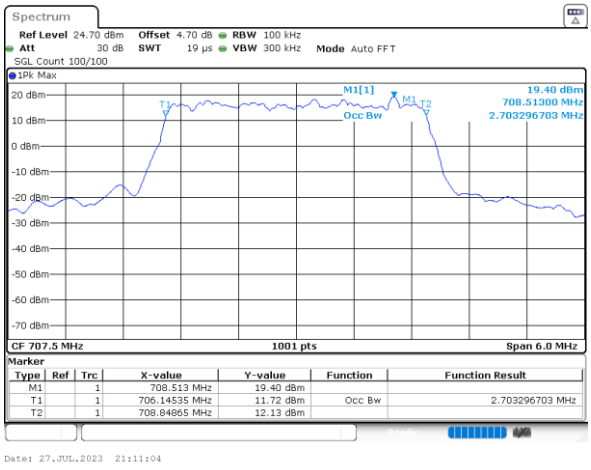
Occupied Bandwidth

Mode	LTE Band 12 : 99%OBW(MHz)	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.09	1.10
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	2.70	2.72
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	4.49	4.48
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	8.97	5.03

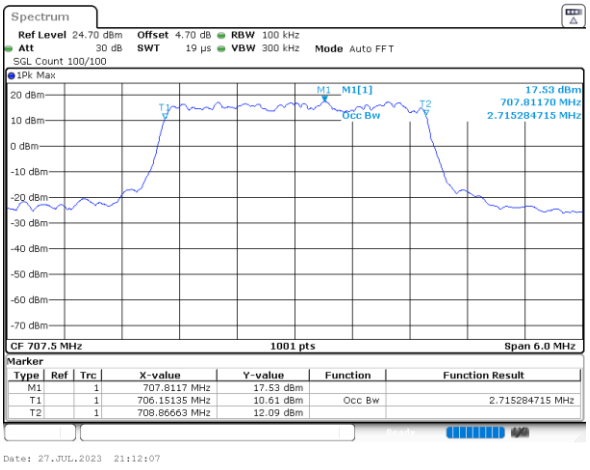
LTE Band 12	
Middle Channel / 1.4MHz / QPSK	Middle Channel / 1.4MHz / 16QAM
	

LTE Band 12

Middle Channel / 3MHz / QPSK

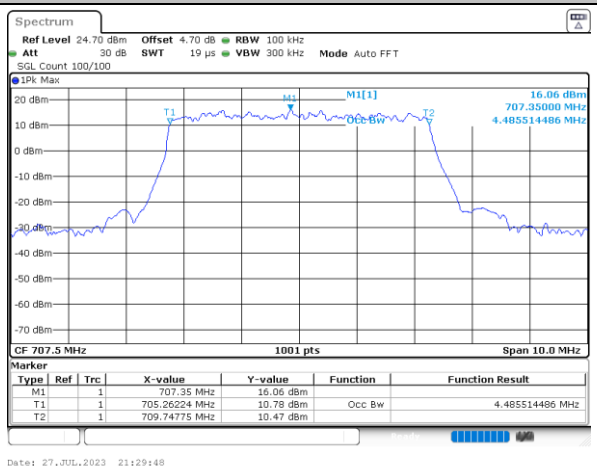


Middle Channel / 3MHz / 16QAM

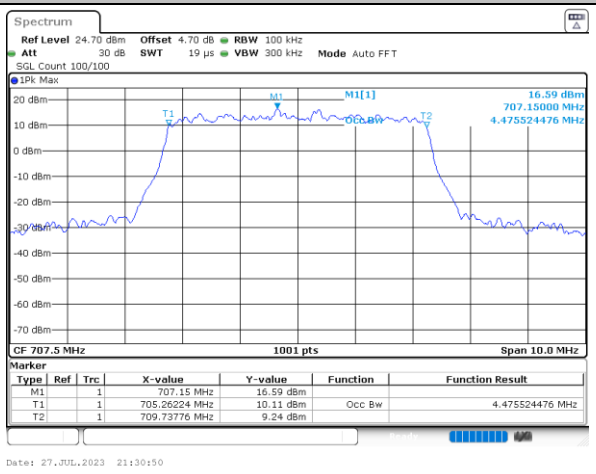


LTE Band 12

Middle Channel / 5MHz / QPSK

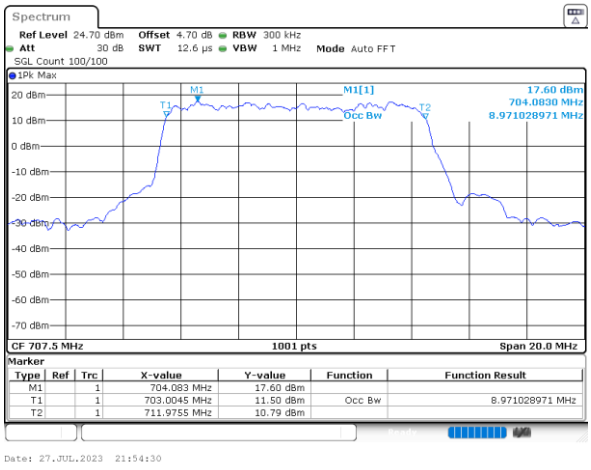
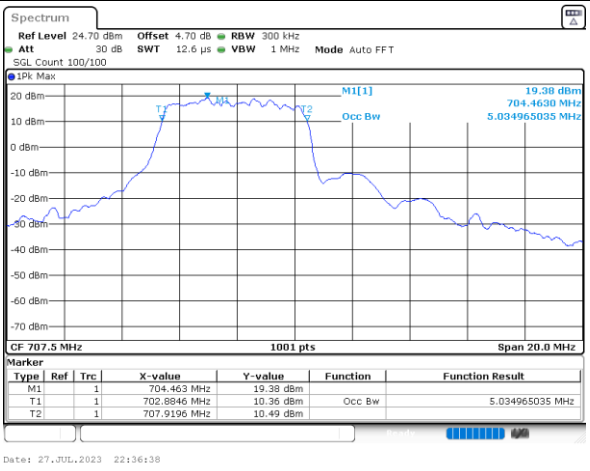


Middle Channel / 5MHz / 16QAM



LTE Band 12

Middle Channel / 10MHz / QPSK



Middle Channel / 10MHz / 16QAM