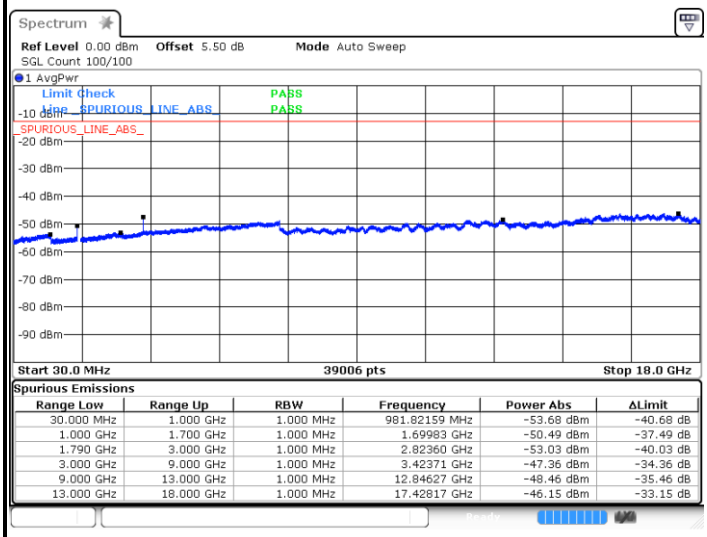
LTE Band 66 / 3MHz

Lowest Channel / QPSK

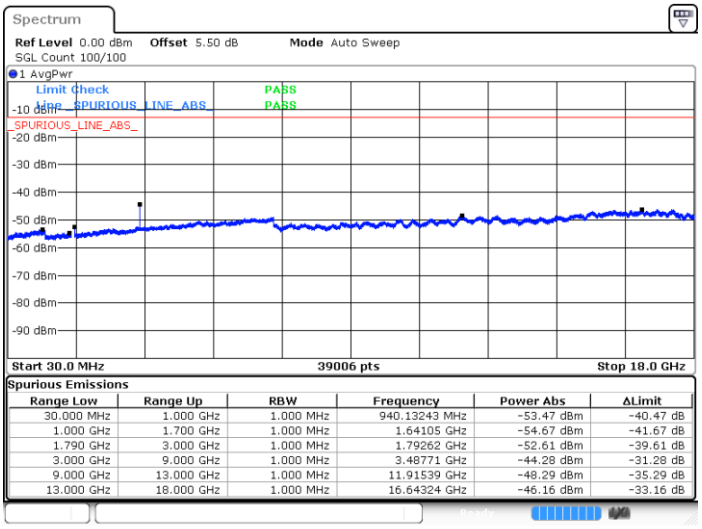


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	981.82159 MHz	-53.68 dBm	-40.68 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69983 GHz	-50.49 dBm	-37.49 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.82360 GHz	-53.03 dBm	-40.03 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.42371 GHz	-47.36 dBm	-34.36 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.84627 GHz	-48.46 dBm	-35.46 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.42817 GHz	-46.15 dBm	-33.15 dB

Date: 5.AUG.2021 08:59:13

Middle Channel / QPSK

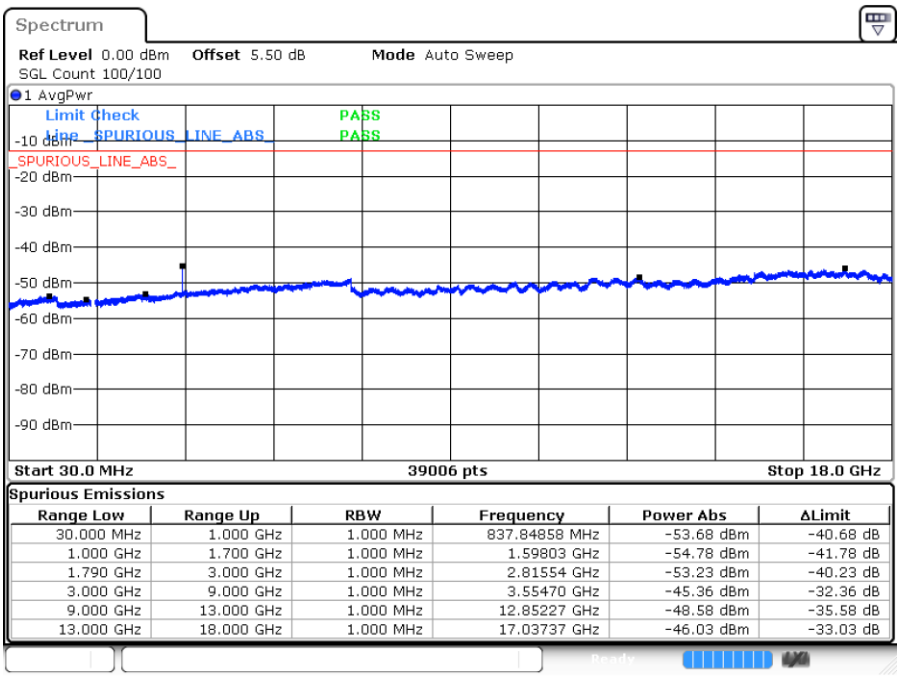


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	940.13243 MHz	-53.47 dBm	-40.47 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.64105 GHz	-54.67 dBm	-41.67 dB
1.790 GHz	3.000 GHz	1.000 MHz	1.79262 GHz	-52.61 dBm	-39.61 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.48771 GHz	-44.28 dBm	-31.28 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.91539 GHz	-48.29 dBm	-35.29 dB
13.000 GHz	18.000 GHz	1.000 MHz	16.64324 GHz	-46.16 dBm	-33.16 dB

Date: 5.AUG.2021 09:00:18

Highest Channel / QPSK



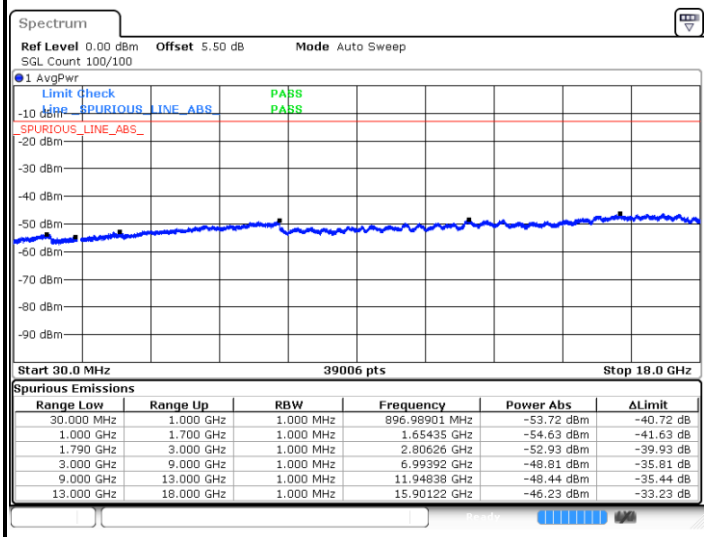
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	837.84858 MHz	-53.68 dBm	-40.68 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.59803 GHz	-54.78 dBm	-41.78 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.81554 GHz	-53.23 dBm	-40.23 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.55470 GHz	-45.36 dBm	-32.36 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.85227 GHz	-48.58 dBm	-35.58 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.03737 GHz	-46.03 dBm	-33.03 dB

Date: 5.AUG.2021 09:01:52

LTE Band 66 / 5MHz

Lowest Channel / QPSK

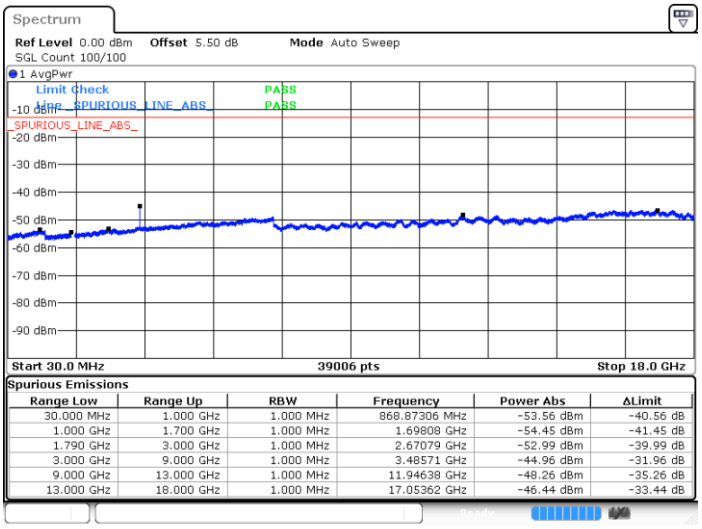


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	896.98901 MHz	-53.72 dBm	-40.72 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.65435 GHz	-54.63 dBm	-41.63 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.80626 GHz	-52.93 dBm	-39.93 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99392 GHz	-48.81 dBm	-35.81 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.94838 GHz	-48.44 dBm	-35.44 dB
13.000 GHz	18.000 GHz	1.000 MHz	15.90122 GHz	-46.23 dBm	-33.23 dB

Date: 5.AUG.2021 08:53:52

Middle Channel / QPSK

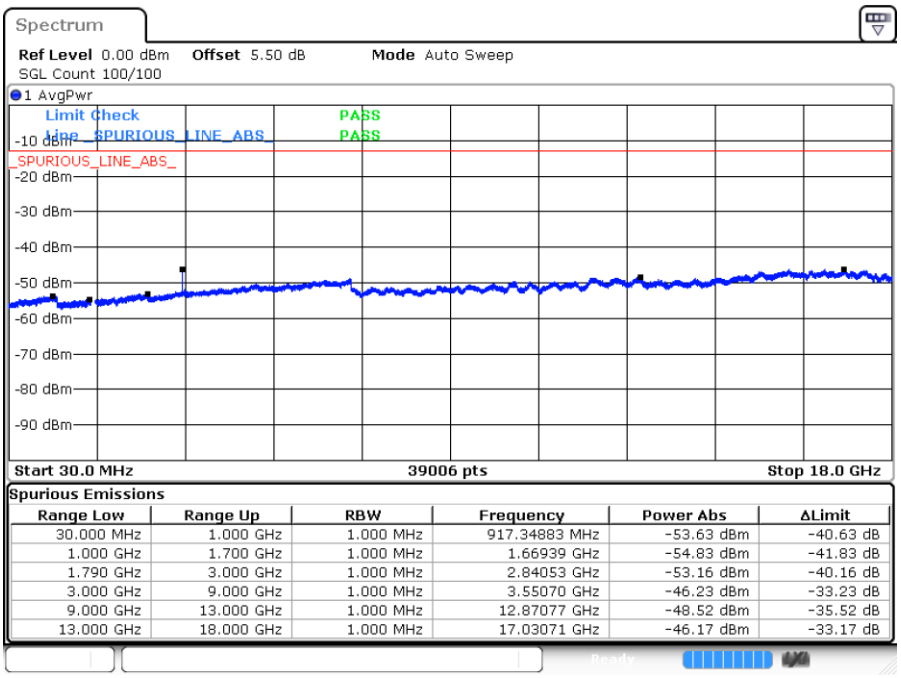


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	868.87306 MHz	-53.56 dBm	-40.56 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69808 GHz	-54.45 dBm	-41.45 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.67079 GHz	-52.99 dBm	-39.99 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.48571 GHz	-44.96 dBm	-31.96 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.94638 GHz	-48.26 dBm	-35.26 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.05362 GHz	-46.44 dBm	-33.44 dB

Date: 5.AUG.2021 08:55:33

Highest Channel / QPSK



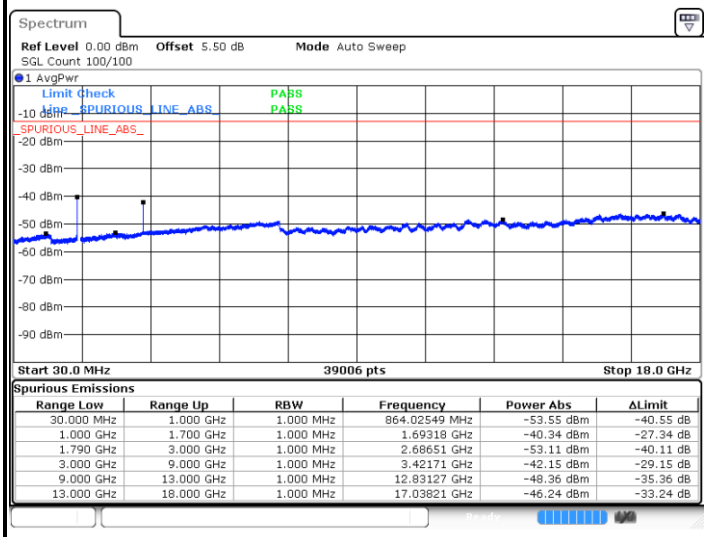
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	917.34883 MHz	-53.63 dBm	-40.63 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.66939 GHz	-54.83 dBm	-41.83 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.84053 GHz	-53.16 dBm	-40.16 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.55070 GHz	-46.23 dBm	-33.23 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.87077 GHz	-48.52 dBm	-35.52 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.03071 GHz	-46.17 dBm	-33.17 dB

Date: 5.AUG.2021 08:56:52

LTE Band 66 / 10MHz

Lowest Channel / QPSK

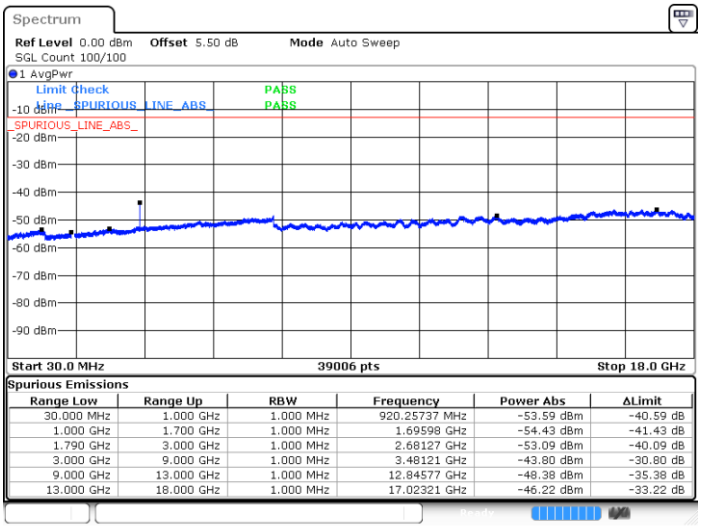


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	864.02549 MHz	-53.55 dBm	-40.55 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69318 GHz	-40.34 dBm	-27.34 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.68651 GHz	-53.11 dBm	-40.11 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.42171 GHz	-42.15 dBm	-29.15 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.83127 GHz	-48.36 dBm	-35.36 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.03821 GHz	-46.24 dBm	-33.24 dB

Date: 5.AUG.2021 08:46:53

Middle Channel / QPSK

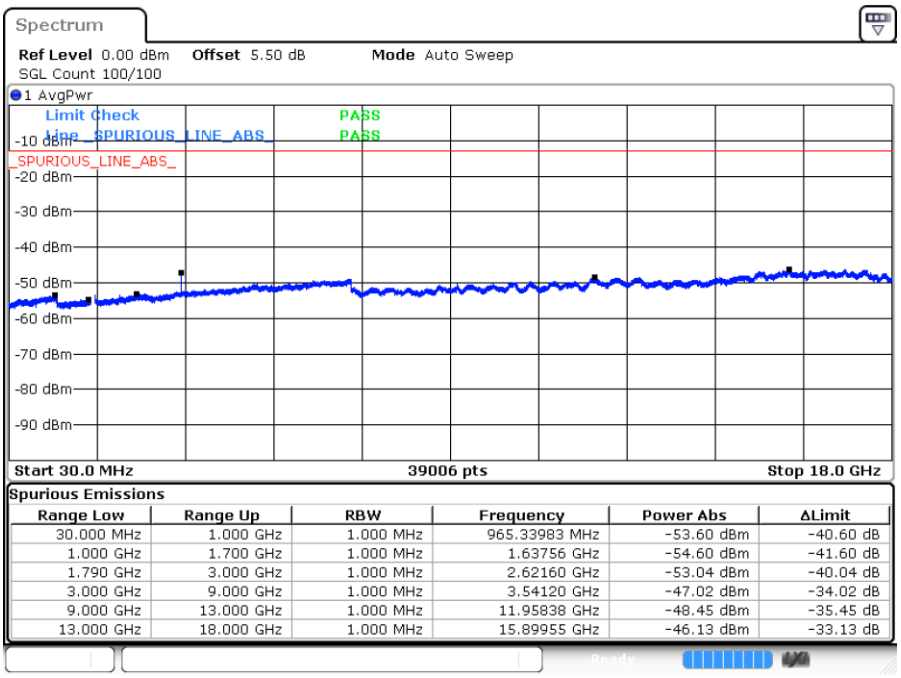


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	920.25737 MHz	-53.59 dBm	-40.59 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69598 GHz	-54.43 dBm	-41.43 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.68127 GHz	-53.09 dBm	-40.09 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.48121 GHz	-43.80 dBm	-30.80 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.84577 GHz	-48.38 dBm	-35.38 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.02321 GHz	-46.22 dBm	-33.22 dB

Date: 5.AUG.2021 08:48:21

Highest Channel / QPSK



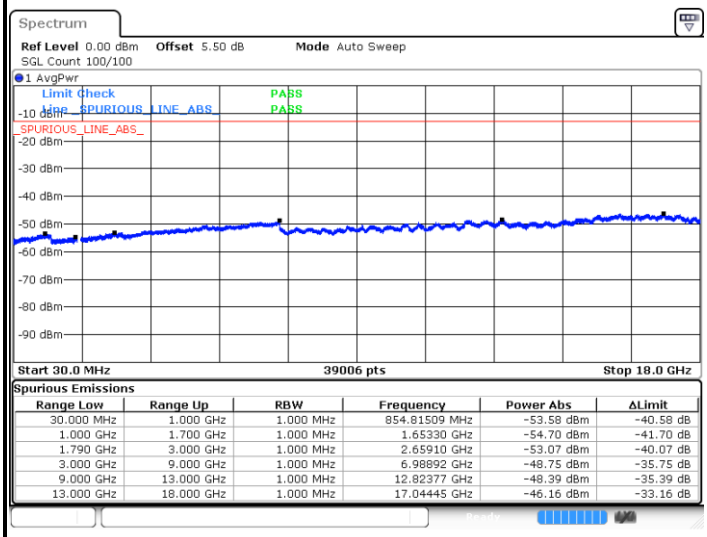
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	965.33983 MHz	-53.60 dBm	-40.60 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.63756 GHz	-54.60 dBm	-41.60 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.62160 GHz	-53.04 dBm	-40.04 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.54120 GHz	-47.02 dBm	-34.02 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.95838 GHz	-48.45 dBm	-35.45 dB
13.000 GHz	18.000 GHz	1.000 MHz	15.89955 GHz	-46.13 dBm	-33.13 dB

Date: 5.AUG.2021 08:51:09

LTE Band 66 / 15MHz

Lowest Channel / QPSK

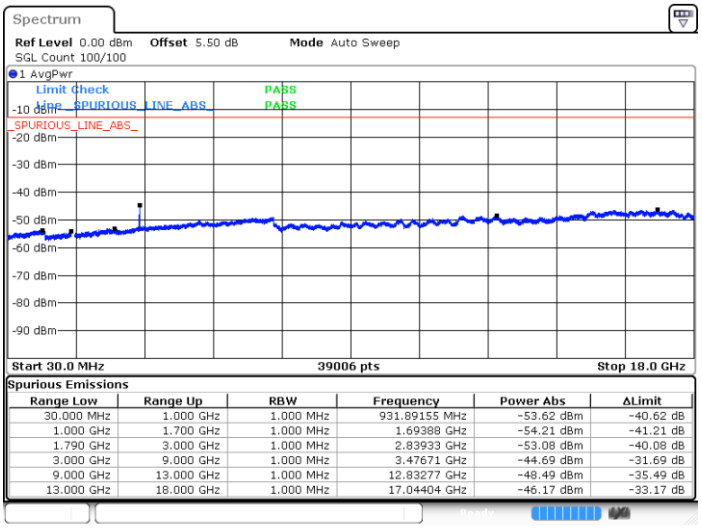


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	854.81509 MHz	-53.58 dBm	-40.58 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.65330 GHz	-54.70 dBm	-41.70 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.65910 GHz	-53.07 dBm	-40.07 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.98892 GHz	-48.75 dBm	-35.75 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.82377 GHz	-48.39 dBm	-35.39 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.04445 GHz	-46.16 dBm	-33.16 dB

Date: 5.AUG.2021 08:41:36

Middle Channel / QPSK

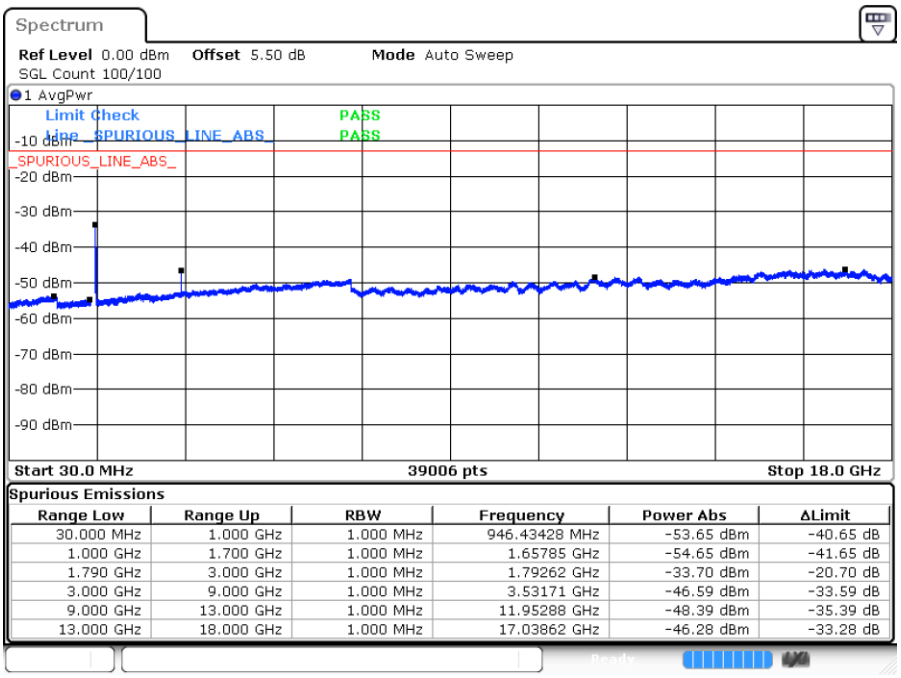


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	931.89155 MHz	-53.62 dBm	-40.62 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69388 GHz	-54.21 dBm	-41.21 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.83933 GHz	-53.08 dBm	-40.08 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.47671 GHz	-44.69 dBm	-31.69 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.83277 GHz	-48.49 dBm	-35.49 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.04404 GHz	-46.17 dBm	-33.17 dB

Date: 5.AUG.2021 08:43:21

Highest Channel / QPSK



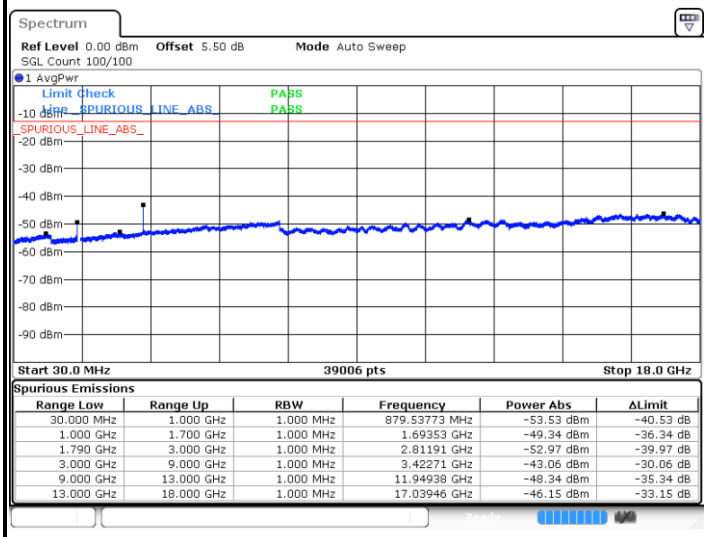
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	946.43428 MHz	-53.65 dBm	-40.65 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.65785 GHz	-54.65 dBm	-41.65 dB
1.790 GHz	3.000 GHz	1.000 MHz	1.79262 GHz	-33.70 dBm	-20.70 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.53171 GHz	-46.59 dBm	-33.59 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.95288 GHz	-48.39 dBm	-35.39 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.03862 GHz	-46.28 dBm	-33.28 dB

Date: 5.AUG.2021 08:44:48

LTE Band 66 / 20MHz

Lowest Channel / QPSK

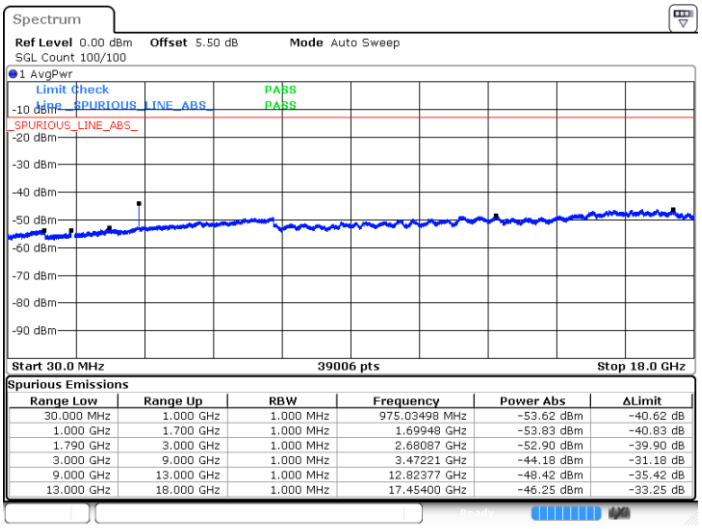


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	879.53773 MHz	-53.53 dBm	-40.53 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69353 GHz	-49.34 dBm	-36.34 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.81191 GHz	-52.97 dBm	-39.97 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.42271 GHz	-43.06 dBm	-30.06 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.94938 GHz	-48.34 dBm	-35.34 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.03946 GHz	-46.15 dBm	-33.15 dB

Date: 5.AUG.2021 08:39:44

Middle Channel / QPSK

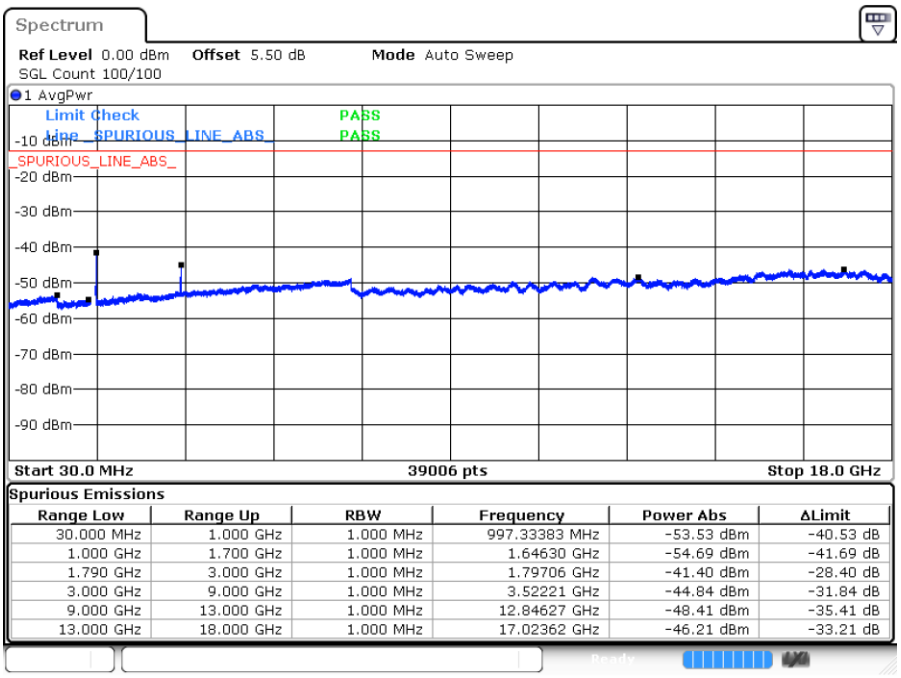


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	975.03498 MHz	-53.62 dBm	-40.62 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69948 GHz	-53.83 dBm	-40.83 dB
1.790 GHz	3.000 GHz	1.000 MHz	2.68087 GHz	-52.90 dBm	-39.90 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.47221 GHz	-44.18 dBm	-31.18 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.82377 GHz	-48.42 dBm	-35.42 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.45400 GHz	-46.25 dBm	-33.25 dB

Date: 5.AUG.2021 09:32:48

Highest Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	997.33383 MHz	-53.53 dBm	-40.53 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.64630 GHz	-54.69 dBm	-41.69 dB
1.790 GHz	3.000 GHz	1.000 MHz	1.79706 GHz	-41.40 dBm	-28.40 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.52221 GHz	-44.84 dBm	-31.84 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.84627 GHz	-48.41 dBm	-35.41 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.02362 GHz	-46.21 dBm	-33.21 dB

Date: 5.AUG.2021 08:38:11

Frequency Stability

Test Conditions		LTE Band 66 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0002	PASS
40	Normal Voltage	0.0015	
30	Normal Voltage	0.0013	
20(Ref.)	Normal Voltage	0.0010	
10	Normal Voltage	0.0024	
0	Normal Voltage	0.0005	
-10	Normal Voltage	0.0022	
-20	Normal Voltage	0.0025	
-30	Normal Voltage	0.0015	
20	Maximum Voltage	0.0009	
20	Normal Voltage	0.0016	
20	Battery End Point	0.0027	

Note:

1. Normal Voltage 3.85 V. ; Battery End Point (BEP) =3.65 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

LTE Band 2 / 20MHz / QPSK								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3741	-55.81	-13	-42.81	-68.07	2.64	14.90	H
	5613	-52.63	-13	-39.63	-64.49	2.94	14.80	H
	7488	-52.05	-13	-39.05	-61.82	3.39	13.16	H
	3741	-55.77	-13	-42.77	-68.03	2.64	14.90	V
	5613	-54.61	-13	-41.61	-66.47	2.94	14.80	V
	7488	-52.62	-13	-39.62	-62.39	3.39	13.16	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 7 / 20MHz / QPSK								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	5052	-61.69	-25	-36.69	-71.90	3.03	13.24	H
	7580	-61.15	-25	-36.15	-70.60	3.56	13.01	H
	10340	-58.91	-25	-33.91	-68.43	3.92	13.44	H
	5052	-62.33	-25	-37.33	-72.54	3.03	13.24	V
	7580	-61.74	-25	-36.74	-71.19	3.56	13.01	V
	10340	-59.29	-25	-34.29	-68.81	3.92	13.44	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 12 / 10 MHz / QPSK								
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1406	-65.09	-13	-52.09	-72.06	1.58	10.70	H
	2110	-59.51	-13	-46.51	-68.14	1.72	12.50	H
	2812	-57.39	-13	-44.39	-67.18	1.96	13.90	H
	3516	-57.59	-13	-44.59	-66.29	2.45	13.30	H
	1406	-64.40	-13	-51.40	-71.37	1.58	10.70	V
	2110	-58.22	-13	-45.22	-66.85	1.72	12.50	V
	2812	-56.80	-13	-43.80	-66.59	1.96	13.90	V
	3516	-57.87	-13	-44.87	-66.57	2.45	13.30	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 13 / 5MHz / QPSK								
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1560	-64.26	-42.15	-22.11	-66.89	1.09	5.87	H
	2340	-59.93	-13	-46.93	-62.33	1.37	5.92	H
	3120	-58.11	-13	-45.11	-62.00	1.64	7.68	H
	1560	-63.64	-42.15	-21.49	-66.27	1.09	5.87	V
	2340	-58.05	-13	-45.05	-60.45	1.37	5.92	V
	3120	-57.84	-13	-44.84	-61.73	1.64	7.68	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 13 / 10MHz / QPSK								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1556	-64.09	-13	-51.09	-66.72	1.09	5.87	H
	2332	-59.15	-13	-46.15	-61.55	1.37	5.92	H
	3108	-57.98	-13	-44.98	-61.87	1.64	7.68	H
	1556	-63.40	-13	-50.40	-66.03	1.09	5.87	V
	2332	-57.62	-13	-44.62	-60.02	1.37	5.92	V
	3108	-57.56	-13	-44.56	-61.45	1.64	7.68	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 26 / 15MHz / QPSK								
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1660	-63.45	-13	-50.45	-70.42	1.58	10.70	H
	2490	-59.01	-13	-46.01	-67.26	2.102	12.50	H
	3318	-57.85	-13	-44.85	-66.74	2.856	13.90	H
	1660	-62.21	-13	-49.21	-69.18	1.58	10.70	V
	2490	-57.10	-13	-44.10	-65.35	2.10	12.50	V
	3318	-58.07	-13	-45.07	-66.96	2.86	13.90	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 66 / 20MHz / QPSK								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3471	-57.66	-13	-44.66	-68.40	2.604	13.34	H
	5208	-54.05	-13	-41.05	-64.56	3.011	13.52	H
	6948	-53.88	-13	-40.88	-64.08	3.271	13.47	H
	3471	-57.82	-13	-44.82	-68.56	2.604	13.34	V
	5208	-54.35	-13	-41.35	-64.86	3.011	13.52	V
	6948	-53.51	-13	-40.51	-63.71	3.271	13.47	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.