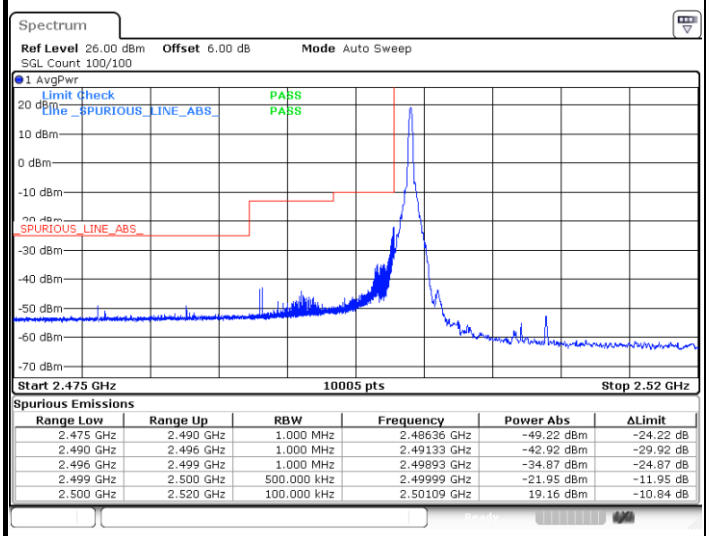
LTE Band 7 / 20MHz / 64QAM

Lowest Band Edge / 1 RB

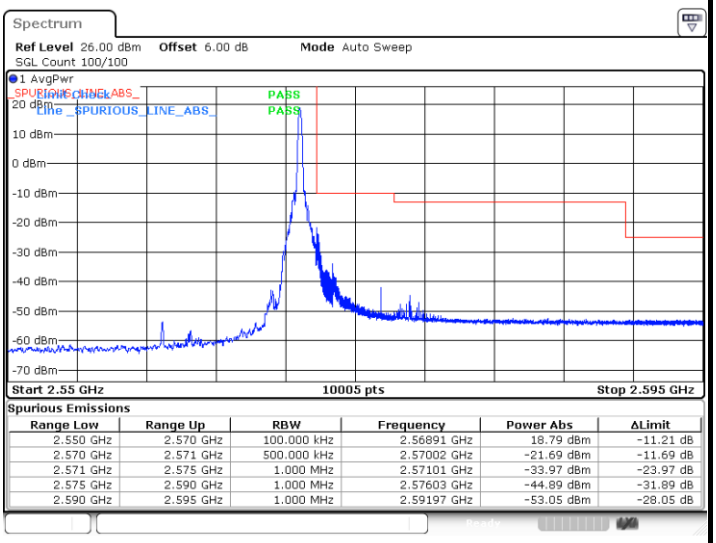


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.48636 GHz	-49.22 dBm	-24.22 dB
2.490 GHz	2.496 GHz	1.000 MHz	2.49133 GHz	-42.92 dBm	-29.92 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49893 GHz	-34.87 dBm	-24.87 dB
2.499 GHz	2.500 GHz	500.000 kHz	2.49999 GHz	-21.95 dBm	-11.95 dB
2.500 GHz	2.520 GHz	100.000 kHz	2.50109 GHz	19.16 dBm	-10.84 dB

Date: 21.NOV.2021 18:05:33

Highest Band Edge / 1 RB

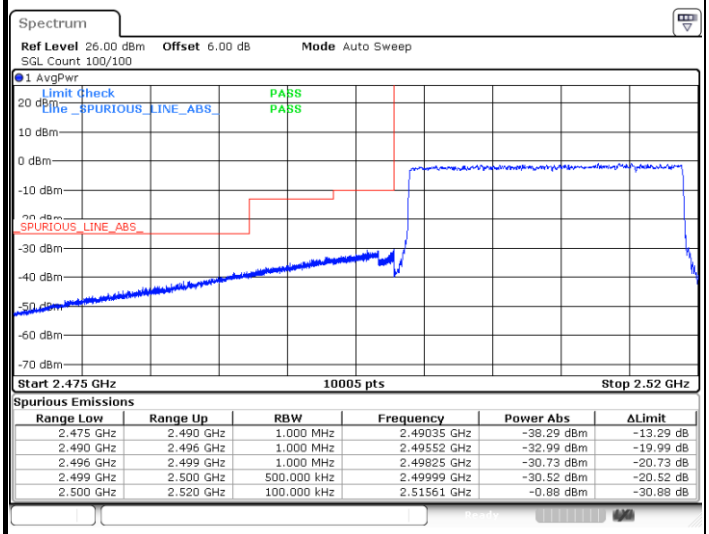


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.550 GHz	2.570 GHz	100.000 kHz	2.56891 GHz	18.79 dBm	-11.21 dB
2.570 GHz	2.571 GHz	500.000 kHz	2.57002 GHz	-21.69 dBm	-11.69 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57101 GHz	-33.97 dBm	-23.97 dB
2.575 GHz	2.590 GHz	1.000 MHz	2.57603 GHz	-44.89 dBm	-31.89 dB
2.590 GHz	2.595 GHz	1.000 MHz	2.59197 GHz	-53.05 dBm	-28.05 dB

Date: 21.NOV.2021 18:10:09

Lowest Band Edge / Full RB

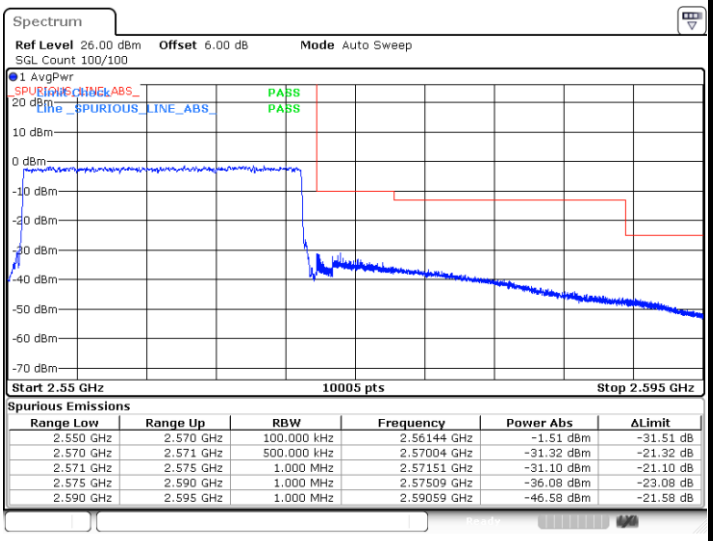


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.49035 GHz	-38.29 dBm	-13.29 dB
2.490 GHz	2.496 GHz	1.000 MHz	2.49552 GHz	-32.99 dBm	-19.99 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49825 GHz	-30.73 dBm	-20.73 dB
2.499 GHz	2.500 GHz	500.000 kHz	2.49999 GHz	-30.52 dBm	-20.52 dB
2.500 GHz	2.520 GHz	100.000 kHz	2.51561 GHz	-0.88 dBm	-30.88 dB

Date: 21.NOV.2021 18:07:01

Highest Band Edge / Full RB



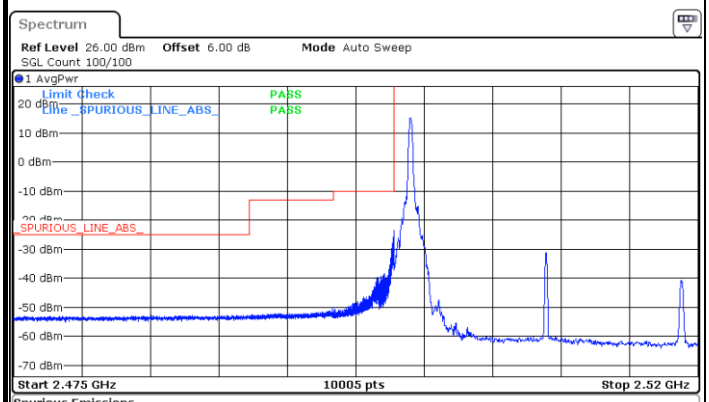
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.550 GHz	2.570 GHz	100.000 kHz	2.56144 GHz	-1.51 dBm	-31.51 dB
2.570 GHz	2.571 GHz	500.000 kHz	2.57004 GHz	-31.32 dBm	-21.32 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57151 GHz	-31.10 dBm	-21.10 dB
2.575 GHz	2.590 GHz	1.000 MHz	2.57509 GHz	-36.08 dBm	-23.08 dB
2.590 GHz	2.595 GHz	1.000 MHz	2.59059 GHz	-46.58 dBm	-21.58 dB

Date: 21.NOV.2021 18:08:38

LTE Band 7 / 20MHz / 256QAM

Lowest Band Edge / 1RB

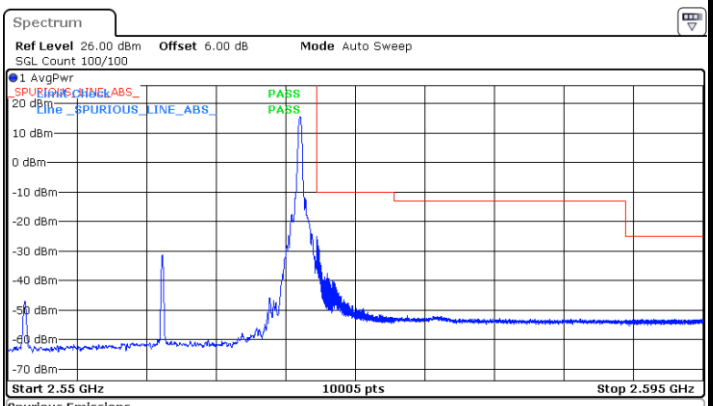


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.49038 GHz	-52.83 dBm	-27.83 dB
2.490 GHz	2.496 GHz	1.000 MHz	2.49597 GHz	-50.02 dBm	-37.02 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49895 GHz	-39.60 dBm	-29.60 dB
2.499 GHz	2.500 GHz	500.000 kHz	2.49999 GHz	-23.70 dBm	-13.70 dB
2.500 GHz	2.520 GHz	100.000 kHz	2.50108 GHz	15.35 dBm	-14.65 dB

Date: 21.NOV.2021 18:05:48

Highest Band Edge / 1 RB

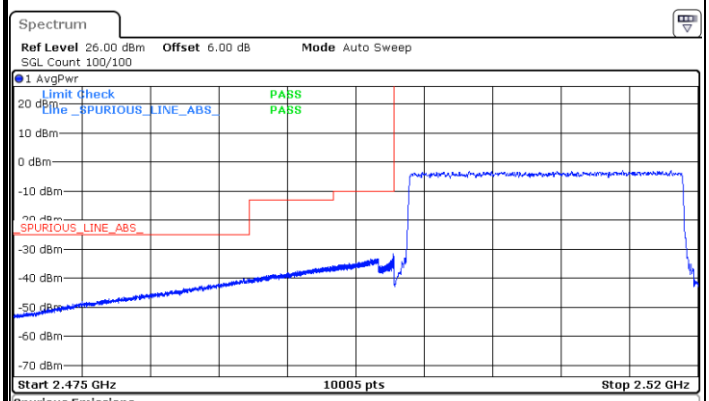


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.550 GHz	2.570 GHz	100.000 kHz	2.56892 GHz	15.57 dBm	-14.43 dB
2.570 GHz	2.571 GHz	500.000 kHz	2.57001 GHz	-25.18 dBm	-15.18 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57103 GHz	-40.31 dBm	-30.31 dB
2.575 GHz	2.590 GHz	1.000 MHz	2.57585 GHz	-52.02 dBm	-39.02 dB
2.590 GHz	2.595 GHz	1.000 MHz	2.59183 GHz	-52.99 dBm	-27.99 dB

Date: 21.NOV.2021 18:10:23

Lowest Band Edge / Full RB

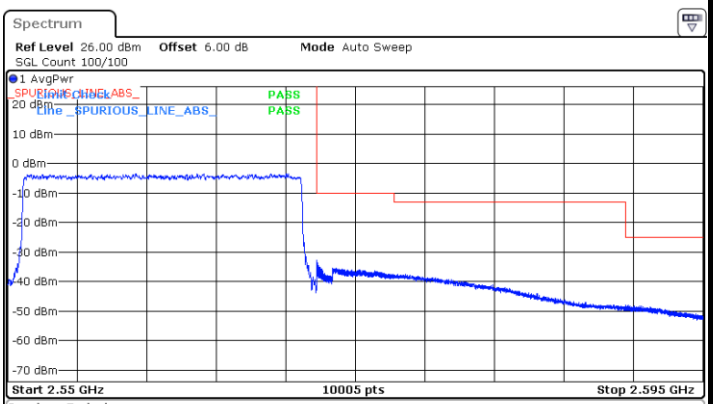


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.49011 GHz	-40.25 dBm	-15.25 dB
2.490 GHz	2.496 GHz	1.000 MHz	2.49597 GHz	-35.74 dBm	-22.74 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49887 GHz	-33.30 dBm	-23.30 dB
2.499 GHz	2.500 GHz	500.000 kHz	2.49997 GHz	-31.71 dBm	-21.71 dB
2.500 GHz	2.520 GHz	100.000 kHz	2.51822 GHz	-2.97 dBm	-32.97 dB

Date: 21.NOV.2021 18:07:16

Highest Band Edge / Full RB



Spurious Emissions

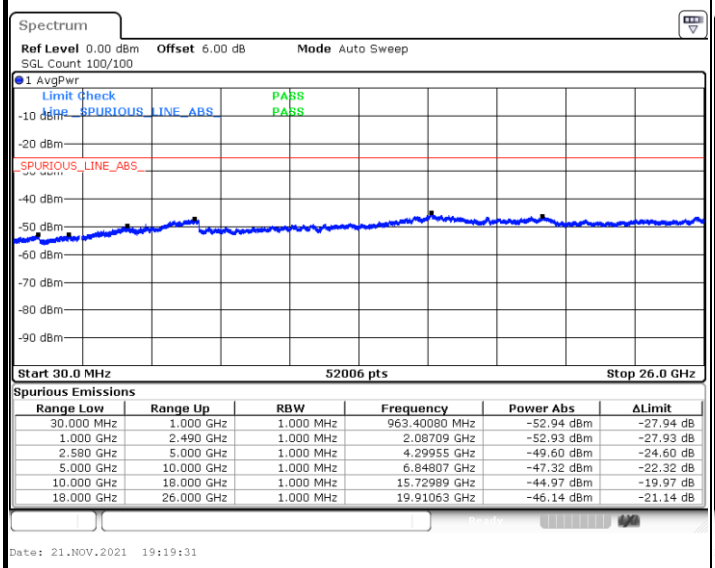
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.550 GHz	2.570 GHz	100.000 kHz	2.55830 GHz	-3.44 dBm	-33.44 dB
2.570 GHz	2.571 GHz	500.000 kHz	2.57002 GHz	-32.89 dBm	-22.89 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57101 GHz	-35.51 dBm	-25.51 dB
2.575 GHz	2.590 GHz	1.000 MHz	2.57575 GHz	-37.69 dBm	-24.69 dB
2.590 GHz	2.595 GHz	1.000 MHz	2.59018 GHz	-48.17 dBm	-23.17 dB

Date: 21.NOV.2021 18:08:52

Conducted Spurious EmissionFF

LTE Band 7 / 5MHz

Lowest Channel / QPSK

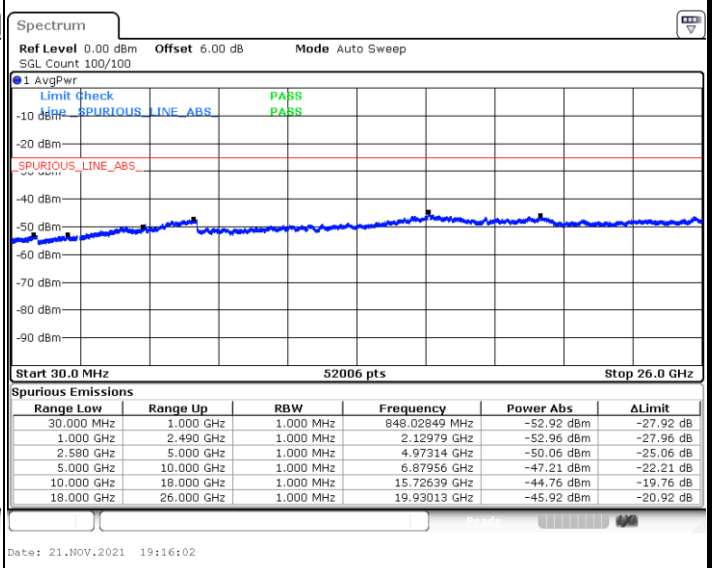


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	963.40080 MHz	-52.94 dBm	-27.94 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.08709 GHz	-52.93 dBm	-27.93 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.29955 GHz	-49.60 dBm	-24.60 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.84807 GHz	-47.32 dBm	-22.32 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.72989 GHz	-44.97 dBm	-19.97 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.91063 GHz	-46.14 dBm	-21.14 dB

Date: 21.NOV.2021 19:19:31

Middle Channel / QPSK

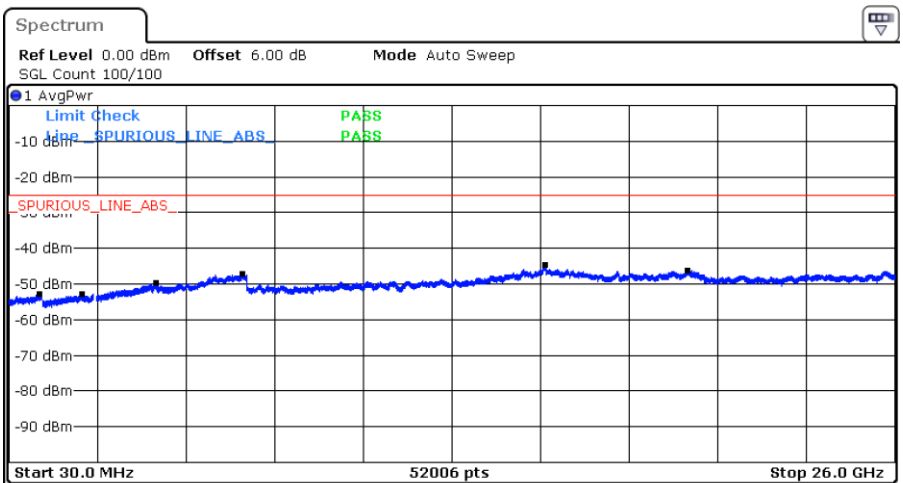


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	848.02849 MHz	-52.92 dBm	-27.92 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.12979 GHz	-52.96 dBm	-27.96 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.97314 GHz	-50.06 dBm	-25.06 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.87956 GHz	-47.21 dBm	-22.21 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.72639 GHz	-44.76 dBm	-19.76 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.93013 GHz	-45.92 dBm	-20.92 dB

Date: 21.NOV.2021 19:16:02

Highest Channel / QPSK



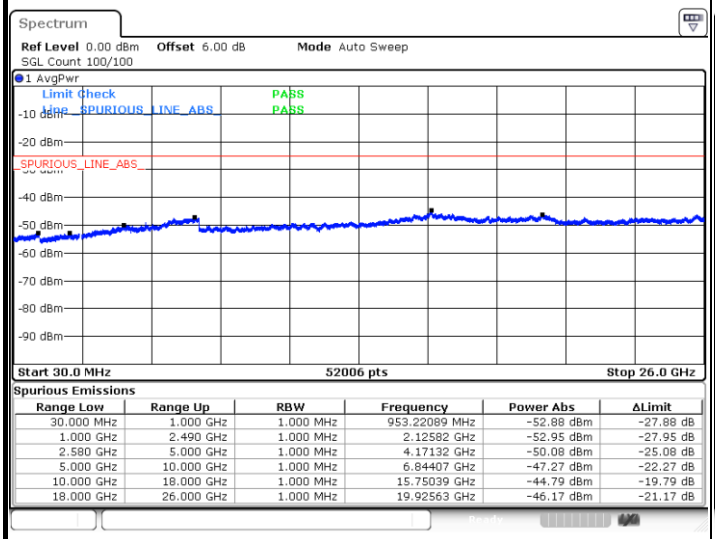
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	914.92504 MHz	-52.94 dBm	-27.94 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.16107 GHz	-52.77 dBm	-27.77 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.33729 GHz	-49.79 dBm	-24.79 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.86706 GHz	-47.25 dBm	-22.25 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.72889 GHz	-44.80 dBm	-19.80 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.92113 GHz	-46.13 dBm	-21.13 dB

Date: 21.NOV.2021 19:24:51

LTE Band 7 / 10MHz

Lowest Channel / QPSK

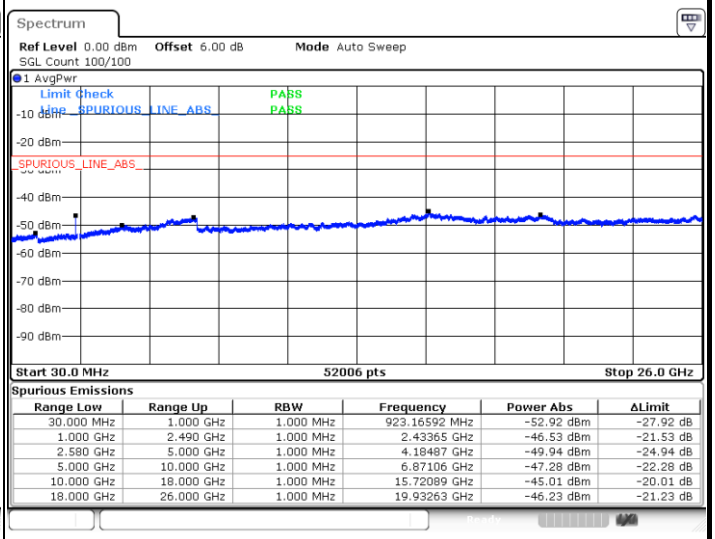


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	953.22089 MHz	-52.88 dBm	-27.88 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.12582 GHz	-52.95 dBm	-27.95 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.17132 GHz	-50.08 dBm	-25.08 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.84407 GHz	-47.27 dBm	-22.27 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.75039 GHz	-44.79 dBm	-19.79 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.92563 GHz	-46.17 dBm	-21.17 dB

Date: 21.NOV.2021 19:01:29

Middle Channel / QPSK

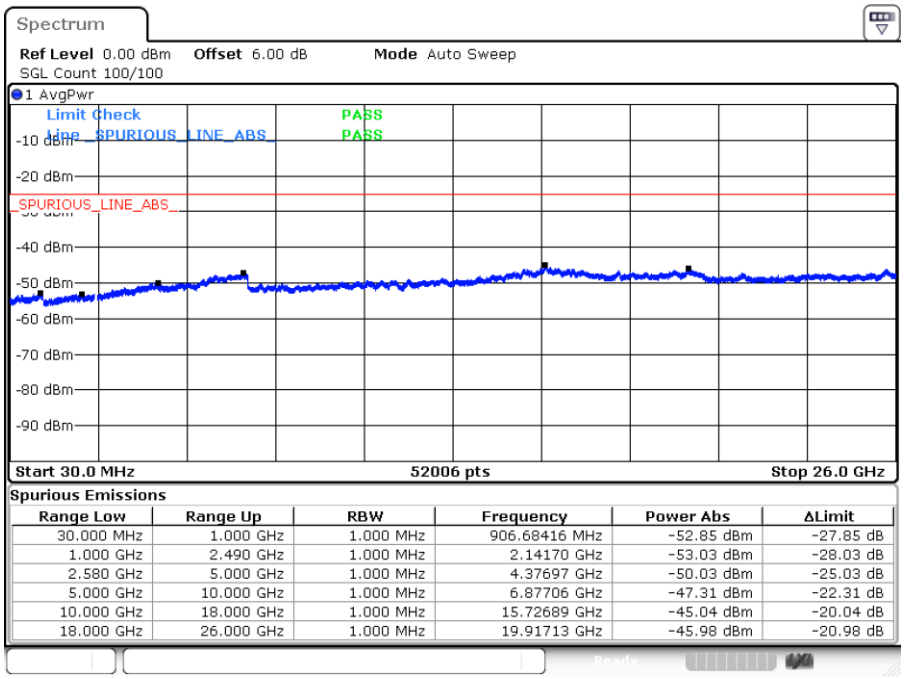


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	923.16592 MHz	-52.92 dBm	-27.92 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.43365 GHz	-46.53 dBm	-21.53 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.18487 GHz	-49.94 dBm	-24.94 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.87106 GHz	-47.28 dBm	-22.28 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.72089 GHz	-45.01 dBm	-20.01 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.93263 GHz	-46.23 dBm	-21.23 dB

Date: 21.NOV.2021 18:59:57

Highest Channel / QPSK



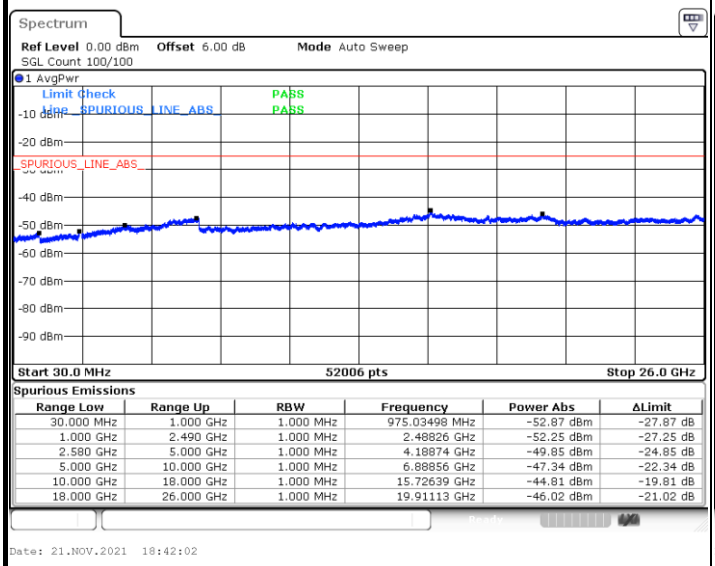
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	906.68416 MHz	-52.85 dBm	-27.85 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.14170 GHz	-53.03 dBm	-28.03 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.37697 GHz	-50.03 dBm	-25.03 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.87706 GHz	-47.31 dBm	-22.31 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.72689 GHz	-45.04 dBm	-20.04 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.91713 GHz	-45.98 dBm	-20.98 dB

Date: 21.NOV.2021 19:11:45

LTE Band 7 / 15MHz

Lowest Channel / QPSK

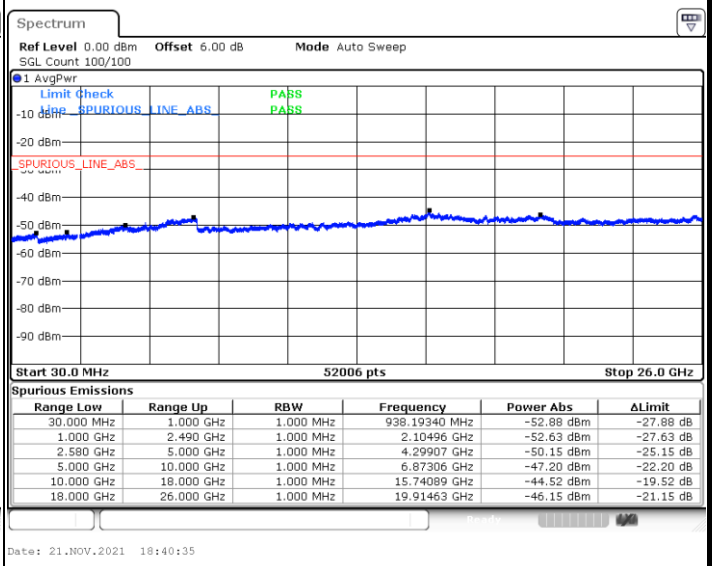


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	975.03498 MHz	-52.87 dBm	-27.87 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48826 GHz	-52.25 dBm	-27.25 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.18874 GHz	-49.85 dBm	-24.85 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.88856 GHz	-47.34 dBm	-22.34 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.72639 GHz	-44.81 dBm	-19.81 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.91113 GHz	-46.02 dBm	-21.02 dB

Date: 21.NOV.2021 18:42:02

Middle Channel / QPSK

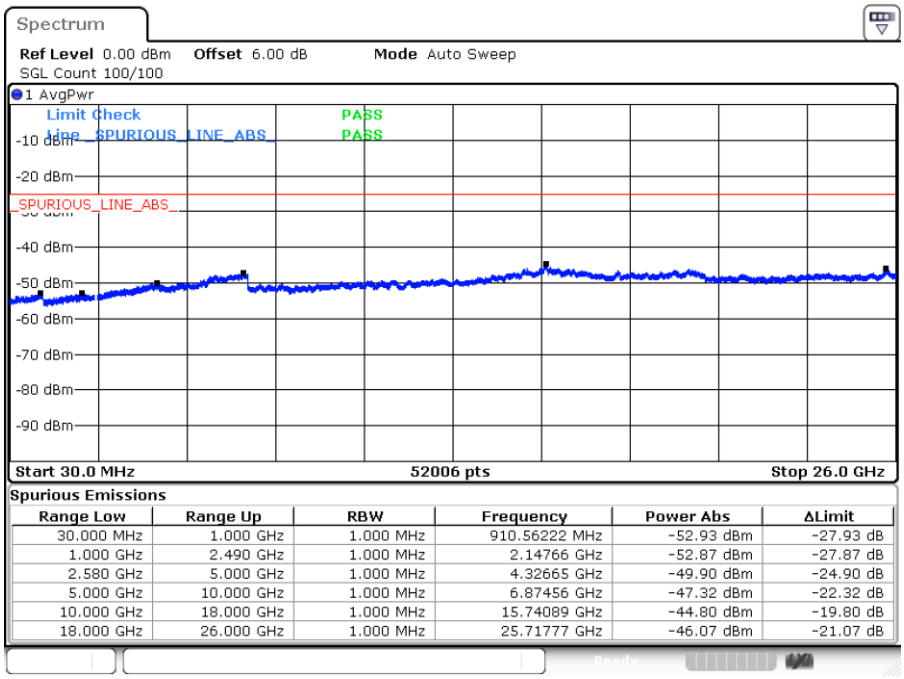


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	938.19340 MHz	-52.88 dBm	-27.88 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.10496 GHz	-52.63 dBm	-27.63 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.29907 GHz	-50.15 dBm	-25.15 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.87306 GHz	-47.20 dBm	-22.20 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.74089 GHz	-44.52 dBm	-19.52 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.91463 GHz	-46.15 dBm	-21.15 dB

Date: 21.NOV.2021 18:40:35

Highest Channel / QPSK



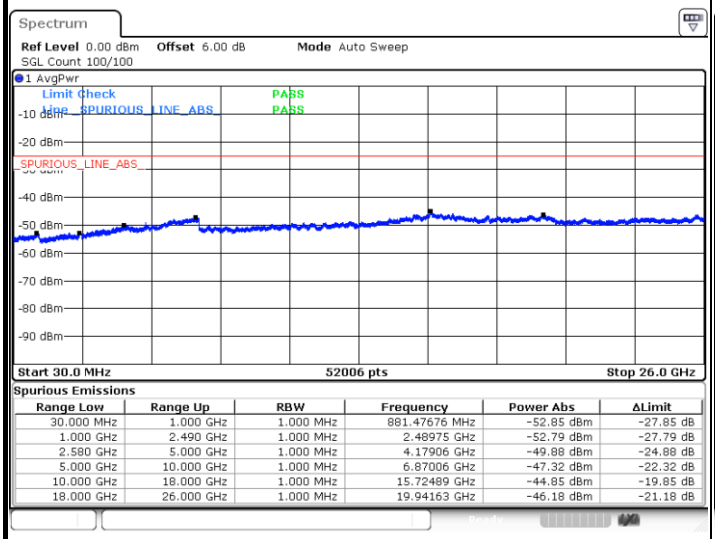
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	910.56222 MHz	-52.93 dBm	-27.93 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.14766 GHz	-52.87 dBm	-27.87 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.32665 GHz	-49.90 dBm	-24.90 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.87456 GHz	-47.32 dBm	-22.32 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.74089 GHz	-44.80 dBm	-19.80 dB
18.000 GHz	26.000 GHz	1.000 MHz	25.71777 GHz	-46.07 dBm	-21.07 dB

Date: 21.NOV.2021 18:58:12

LTE Band 7 / 20MHz

Lowest Channel / QPSK

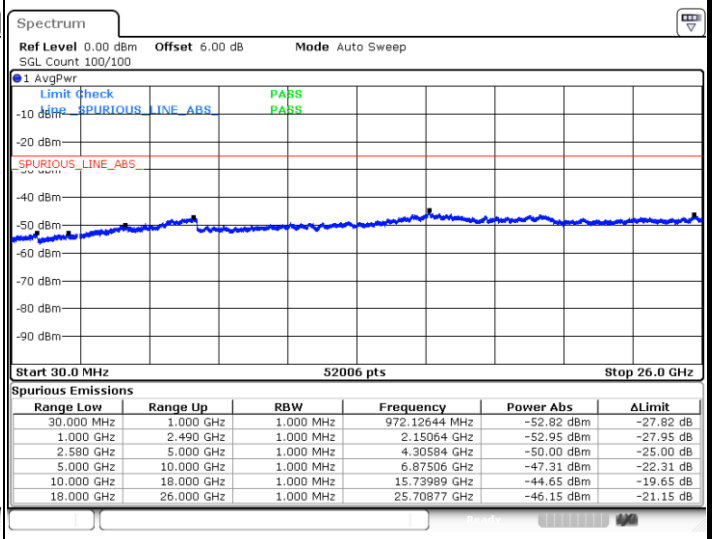


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	881.47676 MHz	-52.85 dBm	-27.85 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48975 GHz	-52.79 dBm	-27.79 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.17906 GHz	-49.88 dBm	-24.88 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.87006 GHz	-47.32 dBm	-22.32 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.72489 GHz	-44.85 dBm	-19.85 dB
18.000 GHz	26.000 GHz	1.000 MHz	19.94163 GHz	-46.18 dBm	-21.18 dB

Date: 21.NOV.2021 18:38:54

Middle Channel / QPSK

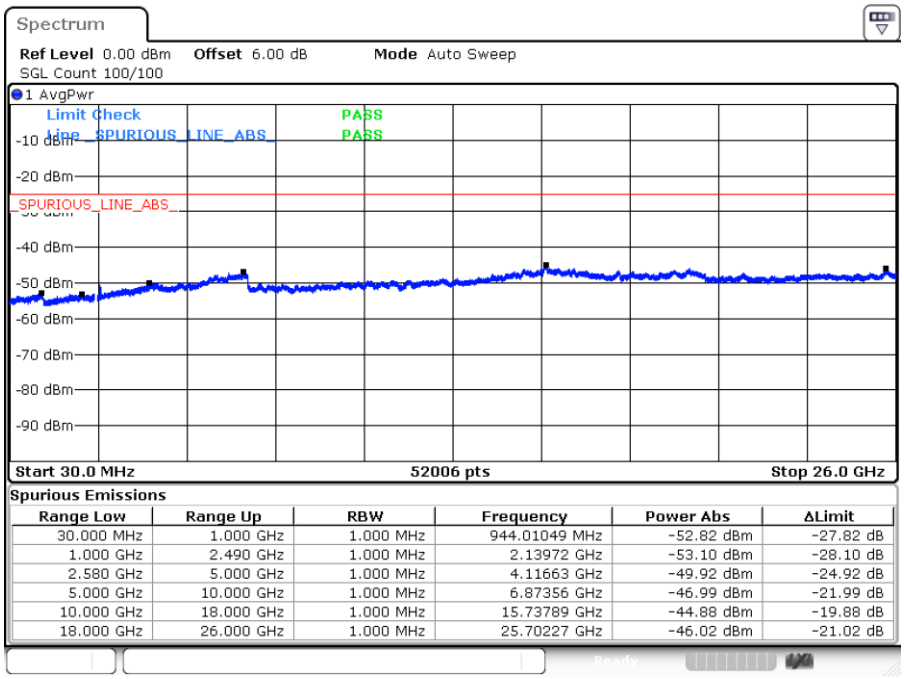


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	972.12644 MHz	-52.82 dBm	-27.82 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.15064 GHz	-52.95 dBm	-27.95 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.30584 GHz	-50.00 dBm	-25.00 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.87506 GHz	-47.31 dBm	-22.31 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.73989 GHz	-44.65 dBm	-19.65 dB
18.000 GHz	26.000 GHz	1.000 MHz	25.70877 GHz	-46.15 dBm	-21.15 dB

Date: 21.NOV.2021 17:54:52

Highest Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	944.01049 MHz	-52.82 dBm	-27.82 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.13972 GHz	-53.10 dBm	-28.10 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.11663 GHz	-49.92 dBm	-24.92 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.87356 GHz	-46.99 dBm	-21.99 dB
10.000 GHz	18.000 GHz	1.000 MHz	15.73789 GHz	-44.88 dBm	-19.88 dB
18.000 GHz	26.000 GHz	1.000 MHz	25.70227 GHz	-46.02 dBm	-21.02 dB

Date: 21.NOV.2021 18:12:09

Frequency Stability

Test Conditions		LTE Band 7 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0029	PASS
40	Normal Voltage	0.0035	
30	Normal Voltage	0.0031	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0028	
0	Normal Voltage	0.0019	
-10	Normal Voltage	0.0031	
-20	Normal Voltage	0.0029	
-30	Normal Voltage	0.0012	
20	Maximum Voltage	0.0022	
20	Normal Voltage	0.0034	
20	Battery End Point	0.0038	

Note:

1. Normal Voltage =3.87 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.45 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

Test Engineer :	Chris Chen	Temperature :	22~23℃
		Relative Humidity :	41~42%

Note: Pre-scanned harmonic for the different antenna, we choose the worst antenna mode to test.

LTE Band 7 / 20MHz / 16QAM Ant 3								
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	-54.39	-25	-29.39	-64.60	3.03	13.24	H
	7576	-60.77	-25	-35.77	-70.22	3.56	13.01	H
	10100	-59.88	-25	-34.88	-69.40	3.92	13.44	H
	5052	-53.41	-25	-28.41	-63.62	3.03	13.24	V
	7576	-61.20	-25	-36.20	-70.65	3.56	13.01	V
	10100	-59.78	-25	-34.78	-69.30	3.92	13.44	V

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

LTE Band 41 / 20MHz / 16QAM Ant 3								
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	5168	-51.73	-25	-26.73	-61.94	3.03	13.24	H
	7752	-60.41	-25	-35.41	-69.86	3.56	13.01	H
	10340	-58.58	-25	-33.58	-68.10	3.92	13.44	H
	5168	-51.96	-25	-26.96	-62.17	3.03	13.24	V
	7752	-60.47	-25	-35.47	-69.92	3.56	13.01	V
	10340	-58.70	-25	-33.70	-68.22	3.92	13.44	V

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

LTE Band 7C_CA / 20MHz+20MHz / 16QAM Ant 3								
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	5032	-61.50	-25	-36.50	-71.71	3.03	13.24	H
	7548	-61.31	-25	-36.31	-70.76	3.56	13.01	H
	10060	-60.11	-25	-35.11	-69.63	3.92	13.44	H
	5032	-60.65	-25	-35.65	-70.86	3.03	13.24	V
	7548	-61.03	-25	-36.03	-70.48	3.56	13.01	V
	10060	-59.94	-25	-34.94	-69.46	3.92	13.44	V

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

LTE Band 38C_CA / 20MHz+20MHz / 16QAM Ant 3								
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	5152	-62.24	-25	-37.24	-72.45	3.03	13.24	H
	7728	-61.43	-25	-36.43	-70.88	3.56	13.01	H
	10300	-59.06	-25	-34.06	-68.58	3.92	13.44	H
	5152	-61.74	-25	-36.74	-71.95	3.03	13.24	V
	7728	-61.32	-25	-36.32	-70.77	3.56	13.01	V
	10300	-58.68	-25	-33.68	-68.20	3.92	13.44	V

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