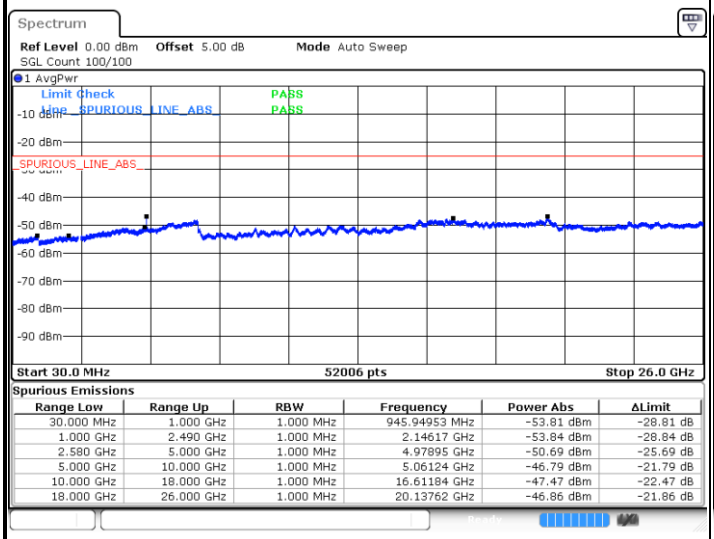
LTE Band 7 / 10MHz

Middle Channel / QPSK

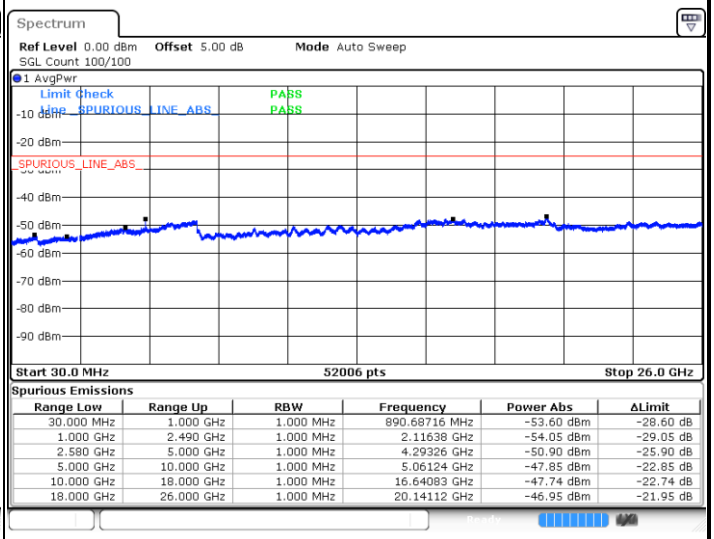


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	945.94953 MHz	-53.81 dBm	-28.81 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.14617 GHz	-53.84 dBm	-28.84 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.97895 GHz	-50.69 dBm	-25.69 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.06124 GHz	-46.79 dBm	-21.79 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.61184 GHz	-47.47 dBm	-22.47 dB
18.000 GHz	26.000 GHz	1.000 MHz	20.13762 GHz	-46.86 dBm	-21.86 dB

Date: 11.JAN.2018 16:33:08

Middle Channel / 16QAM

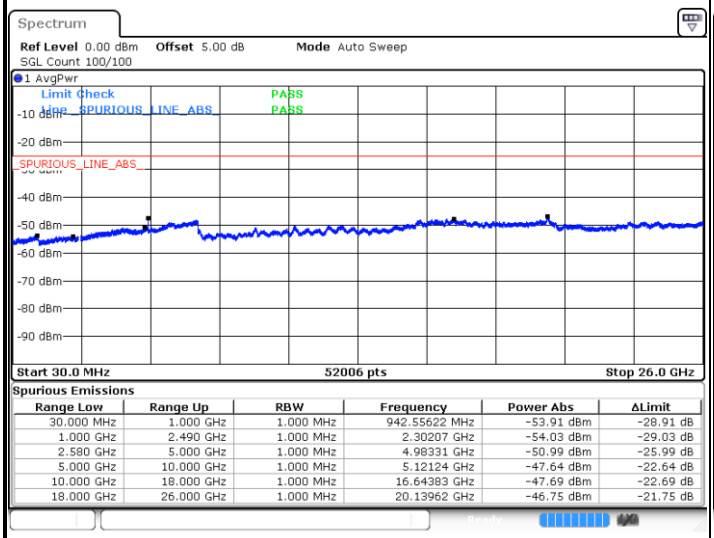


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	890.68716 MHz	-53.60 dBm	-28.60 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.11638 GHz	-54.05 dBm	-29.05 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.29326 GHz	-50.90 dBm	-25.90 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.06124 GHz	-47.85 dBm	-22.85 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.64083 GHz	-47.74 dBm	-22.74 dB
18.000 GHz	26.000 GHz	1.000 MHz	20.14112 GHz	-46.95 dBm	-21.95 dB

Date: 11.JAN.2018 16:32:14

Highest Channel / QPSK

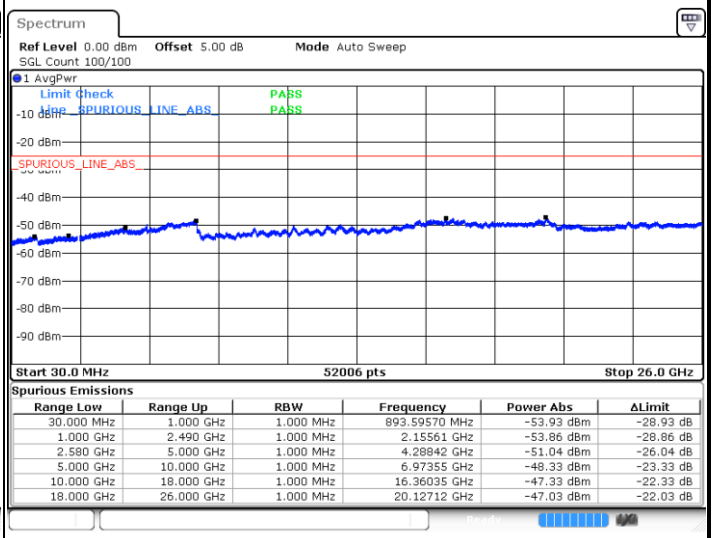


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	942.55622 MHz	-53.91 dBm	-28.91 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.30207 GHz	-54.03 dBm	-29.03 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.98331 GHz	-50.99 dBm	-25.99 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.12124 GHz	-47.64 dBm	-22.64 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.64383 GHz	-47.69 dBm	-22.69 dB
18.000 GHz	26.000 GHz	1.000 MHz	20.13962 GHz	-46.75 dBm	-21.75 dB

Date: 11.JAN.2018 16:34:02

Highest Channel / 16QAM



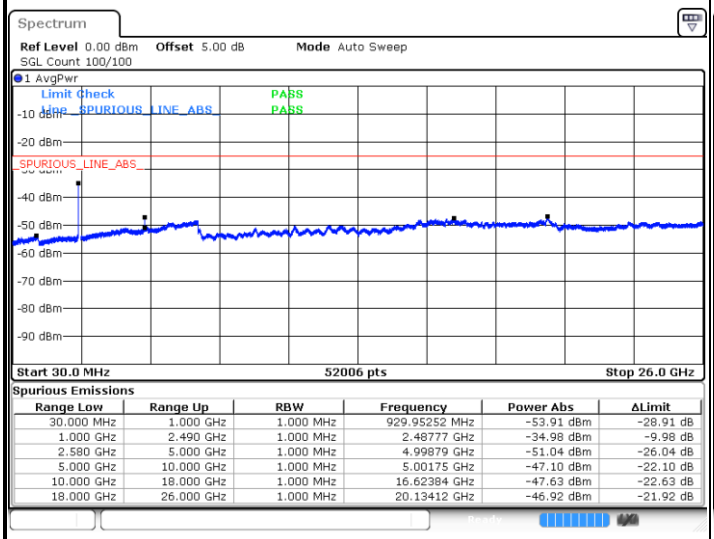
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	893.59570 MHz	-53.93 dBm	-28.93 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.15561 GHz	-53.86 dBm	-28.86 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.28842 GHz	-51.04 dBm	-26.04 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.97355 GHz	-48.33 dBm	-23.33 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.36035 GHz	-47.33 dBm	-22.33 dB
18.000 GHz	26.000 GHz	1.000 MHz	20.12712 GHz	-47.03 dBm	-22.03 dB

Date: 11.JAN.2018 16:34:56

LTE Band 7 / 15MHz

Lowest Channel / QPSK

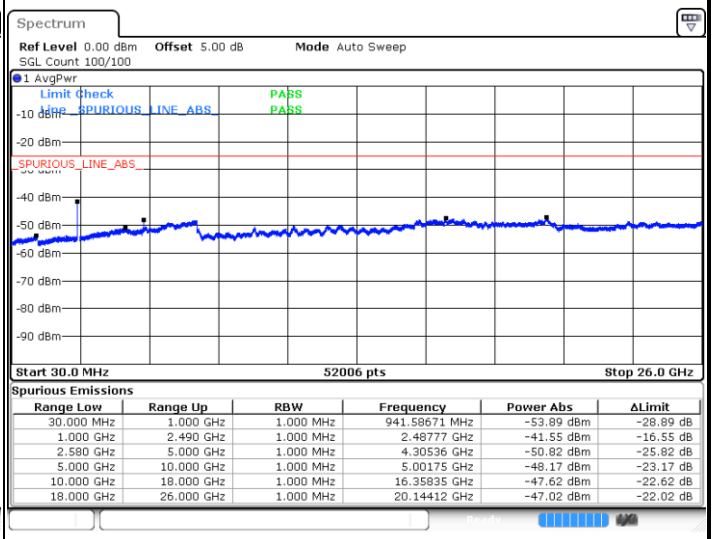


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	929.95252 MHz	-53.91 dBm	-28.91 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48777 GHz	-34.98 dBm	-9.98 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.99879 GHz	-51.04 dBm	-26.04 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.00175 GHz	-47.10 dBm	-22.10 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.62384 GHz	-47.63 dBm	-22.63 dB
18.000 GHz	26.000 GHz	1.000 MHz	20.13412 GHz	-46.92 dBm	-21.92 dB

Date: 11.JAN.2018 16:46:53

Lowest Channel / 16QAM

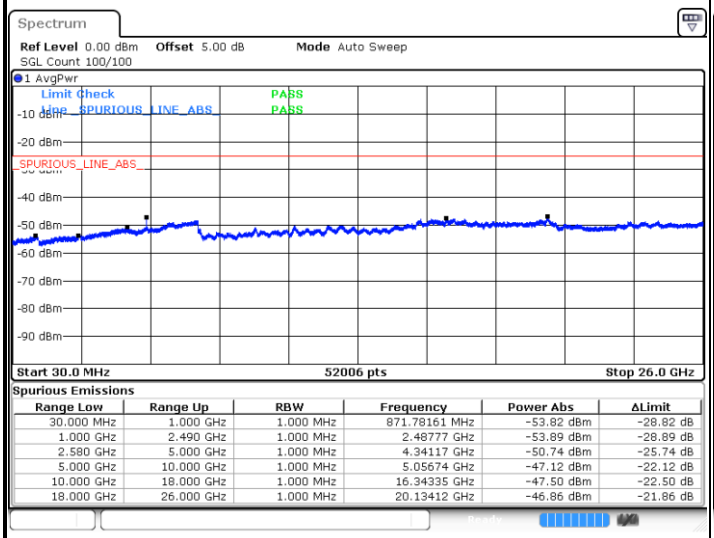


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	941.58671 MHz	-53.89 dBm	-28.89 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48777 GHz	-41.55 dBm	-16.55 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.30536 GHz	-50.82 dBm	-25.82 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.00175 GHz	-48.17 dBm	-23.17 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.35835 GHz	-47.62 dBm	-22.62 dB
18.000 GHz	26.000 GHz	1.000 MHz	20.14412 GHz	-47.02 dBm	-22.02 dB

Date: 11.JAN.2018 16:47:47

Middle Channel / QPSK

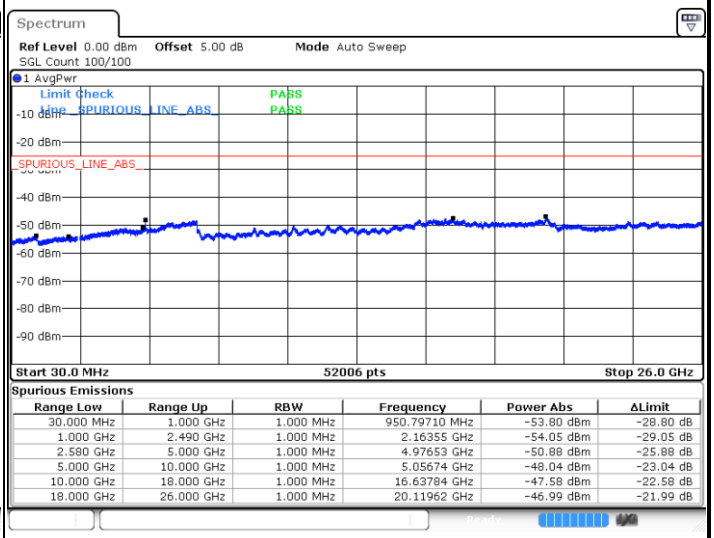


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	871.78161 MHz	-53.82 dBm	-28.82 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48777 GHz	-53.89 dBm	-28.89 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.34117 GHz	-50.74 dBm	-25.74 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.05674 GHz	-47.12 dBm	-22.12 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.34335 GHz	-47.50 dBm	-22.50 dB
18.000 GHz	26.000 GHz	1.000 MHz	20.13412 GHz	-46.86 dBm	-21.86 dB

Date: 11.JAN.2018 16:49:35

Middle Channel / 16QAM



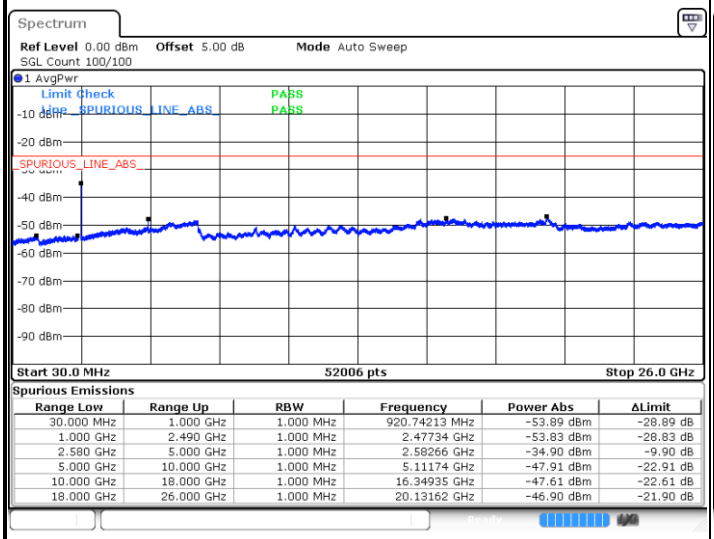
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	950.79710 MHz	-53.80 dBm	-28.80 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.16355 GHz	-54.05 dBm	-29.05 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.97653 GHz	-50.88 dBm	-25.88 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.05674 GHz	-48.04 dBm	-23.04 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.63784 GHz	-47.58 dBm	-22.58 dB
18.000 GHz	26.000 GHz	1.000 MHz	20.11962 GHz	-46.99 dBm	-21.99 dB

Date: 11.JAN.2018 16:48:41

LTE Band7 / 15MHz

Highest Channel / QPSK

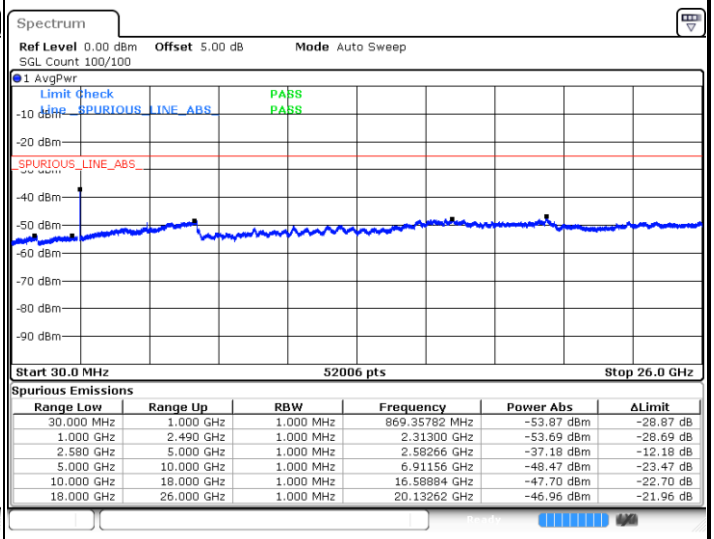


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	920.74213 MHz	-53.89 dBm	-28.89 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.47734 GHz	-53.83 dBm	-28.83 dB
2.580 GHz	5.000 GHz	1.000 MHz	2.58266 GHz	-34.90 dBm	-9.90 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.11174 GHz	-47.91 dBm	-22.91 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.34935 GHz	-47.61 dBm	-22.61 dB
18.000 GHz	26.000 GHz	1.000 MHz	20.13162 GHz	-46.90 dBm	-21.90 dB

Date: 11.JAN.2018 16:50:29

Highest Channel / 16QAM



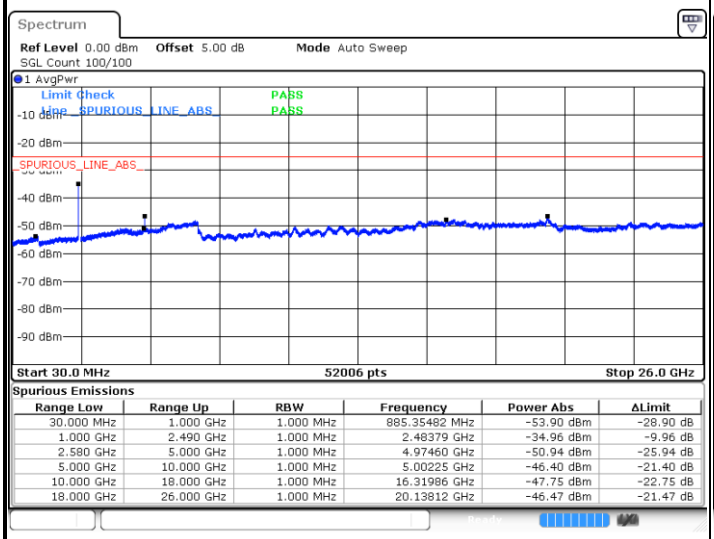
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	869.35782 MHz	-53.87 dBm	-28.87 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.31300 GHz	-53.69 dBm	-28.69 dB
2.580 GHz	5.000 GHz	1.000 MHz	2.58266 GHz	-37.18 dBm	-12.18 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.91156 GHz	-48.47 dBm	-23.47 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.58884 GHz	-47.70 dBm	-22.70 dB
18.000 GHz	26.000 GHz	1.000 MHz	20.13262 GHz	-46.96 dBm	-21.96 dB

Date: 11.JAN.2018 16:51:23

LTE Band 7 / 20MHz

Lowest Channel / QPSK

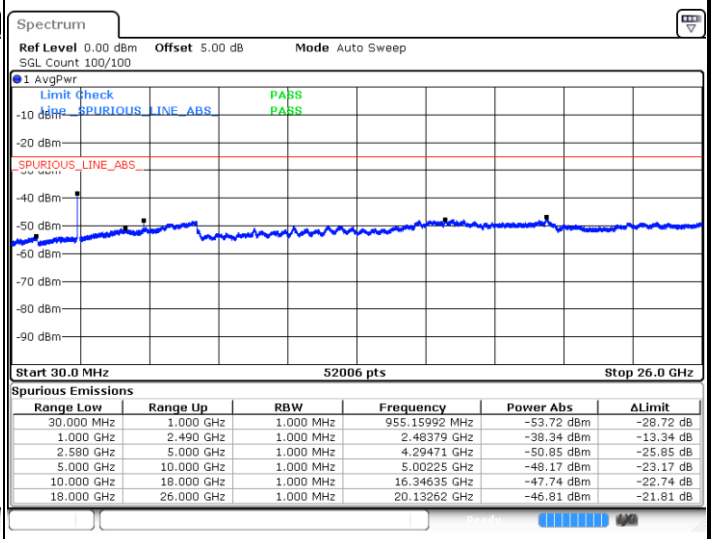


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	885.35482 MHz	-53.90 dBm	-28.90 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48379 GHz	-34.96 dBm	-9.96 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.97460 GHz	-50.94 dBm	-25.94 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.00225 GHz	-46.40 dBm	-21.40 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.31986 GHz	-47.75 dBm	-22.75 dB
18.000 GHz	26.000 GHz	1.000 MHz	20.13812 GHz	-46.47 dBm	-21.47 dB

Date: 11.JAN.2018 17:03:21

Lowest Channel / 16QAM



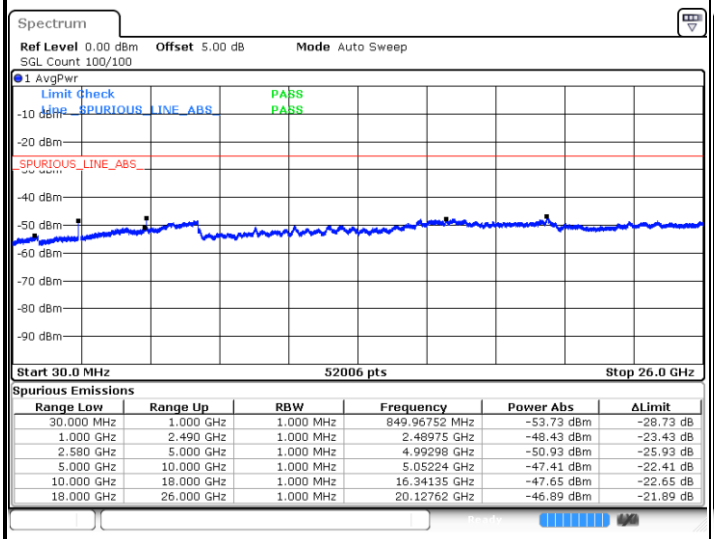
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	955.15992 MHz	-53.72 dBm	-28.72 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48379 GHz	-38.34 dBm	-13.34 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.29471 GHz	-50.85 dBm	-25.85 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.00225 GHz	-48.17 dBm	-23.17 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.34635 GHz	-47.74 dBm	-22.74 dB
18.000 GHz	26.000 GHz	1.000 MHz	20.13262 GHz	-46.81 dBm	-21.81 dB

Date: 11.JAN.2018 17:04:15

LTE Band 7 / 20MHz

Middle Channel / QPSK

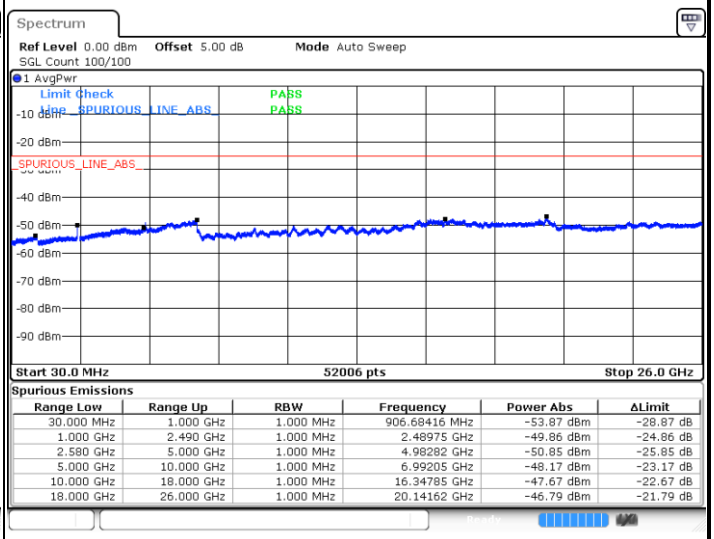


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	849.96752 MHz	-53.73 dBm	-28.73 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48975 GHz	-48.43 dBm	-23.43 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.99298 GHz	-50.93 dBm	-25.93 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.05224 GHz	-47.41 dBm	-22.41 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.34135 GHz	-47.65 dBm	-22.65 dB
18.000 GHz	26.000 GHz	1.000 MHz	20.12762 GHz	-46.89 dBm	-21.89 dB

Date: 11.JAN.2018 17:06:03

Middle Channel / 16QAM

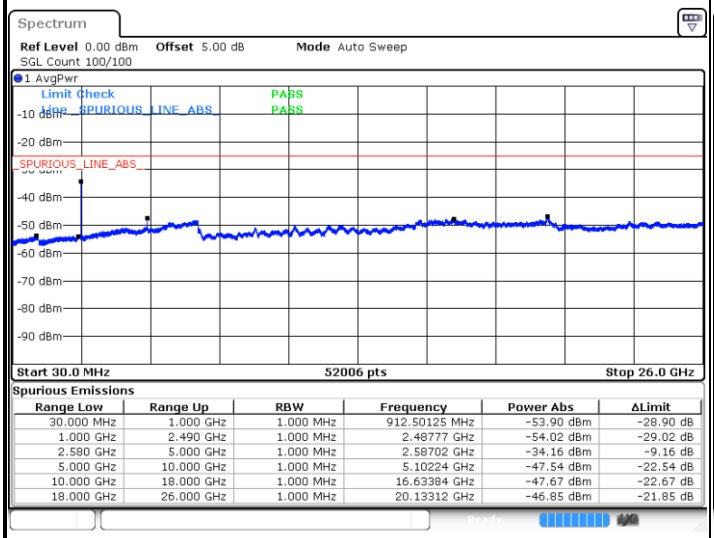


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	906.68416 MHz	-53.87 dBm	-28.87 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48975 GHz	-49.86 dBm	-24.86 dB
2.580 GHz	5.000 GHz	1.000 MHz	4.98282 GHz	-50.85 dBm	-25.85 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.99205 GHz	-48.17 dBm	-23.17 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.34785 GHz	-47.67 dBm	-22.67 dB
18.000 GHz	26.000 GHz	1.000 MHz	20.14162 GHz	-46.79 dBm	-21.79 dB

Date: 11.JAN.2018 17:05:09

Highest Channel / QPSK

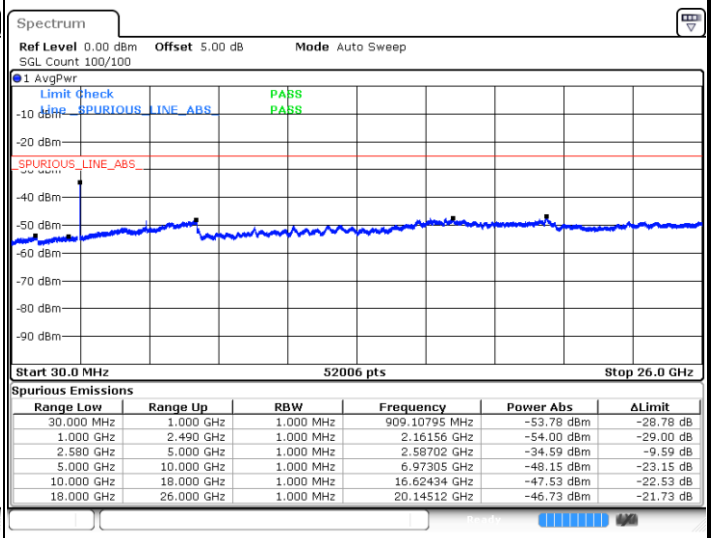


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	912.50125 MHz	-53.90 dBm	-28.90 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.48777 GHz	-54.02 dBm	-29.02 dB
2.580 GHz	5.000 GHz	1.000 MHz	2.58702 GHz	-34.16 dBm	-9.16 dB
5.000 GHz	10.000 GHz	1.000 MHz	5.10224 GHz	-47.54 dBm	-22.54 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.63384 GHz	-47.67 dBm	-22.67 dB
18.000 GHz	26.000 GHz	1.000 MHz	20.13312 GHz	-46.85 dBm	-21.85 dB

Date: 11.JAN.2018 17:06:57

Highest Channel / 16QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	909.10795 MHz	-53.78 dBm	-28.78 dB
1.000 GHz	2.490 GHz	1.000 MHz	2.16156 GHz	-54.00 dBm	-29.00 dB
2.580 GHz	5.000 GHz	1.000 MHz	2.58702 GHz	-34.59 dBm	-9.59 dB
5.000 GHz	10.000 GHz	1.000 MHz	6.97305 GHz	-48.15 dBm	-23.15 dB
10.000 GHz	18.000 GHz	1.000 MHz	16.62434 GHz	-47.53 dBm	-22.53 dB
18.000 GHz	26.000 GHz	1.000 MHz	20.14512 GHz	-46.73 dBm	-21.73 dB

Date: 11.JAN.2018 17:07:51

Frequency Stability

Test Conditions		LTE Band 5 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0074	PASS
40	Normal Voltage	0.0096	
30	Normal Voltage	0.0017	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0072	
0	Normal Voltage	0.0081	
-10	Normal Voltage	0.0020	
-20	Normal Voltage	0.0026	
-30	Normal Voltage	0.0060	
20	Maximum Voltage	0.0092	
20	Normal Voltage	0.0007	
20	Battery End Point	0.0077	

Note: Normal Voltage =3.8 V.；Battery End Point (BEP) =3.45 V.；Maximum Voltage =4.2 V.

Test Conditions		LTE Band 7 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0017	PASS
40	Normal Voltage	0.0009	
30	Normal Voltage	0.0018	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0019	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0011	
-20	Normal Voltage	0.0016	
-30	Normal Voltage	0.0021	
20	Maximum Voltage	0.0002	
20	Normal Voltage	0.0010	
20	Battery End Point	0.0002	

Note:

1. Normal Voltage =3.8 V.；Battery End Point (BEP) =3.45 V.；Maximum Voltage =4.2 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 5 / 3MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1670	-60.32	-13	-47.32	-65.41	-62.23	1.14	5.20	H
	2506	-51.15	-13	-38.15	-62.26	-53.78	1.12	5.90	H
	3342	-61.37	-13	-48.37	-71.34	-64.58	1.34	6.70	H
	1670	-59.90	-13	-46.90	-65.23	-61.81	1.14	5.20	V
	2506	-53.84	-13	-40.84	-63.50	-56.47	1.12	5.90	V
	3342	-61.22	-13	-48.22	-71.35	-64.43	1.34	6.70	V

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

LTE Band 7 / 20MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	5052	-54.28	-25	-29.28	-39.72	-61.64	1.76	9.12	H
	7578	-45.52	-25	-20.52	-36.34	-55.49	2.16	12.13	H
	10107	-58.18	-25	-33.18	-53.42	-68.06	2.22	12.10	H
	5052	-50.43	-25	-25.43	-36.95	-57.79	1.76	9.12	V
	7578	-43.16	-25	-18.16	-34.28	-53.13	2.16	12.13	V
	10107	-57.39	-25	-32.39	-52.84	-67.27	2.22	12.10	V

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