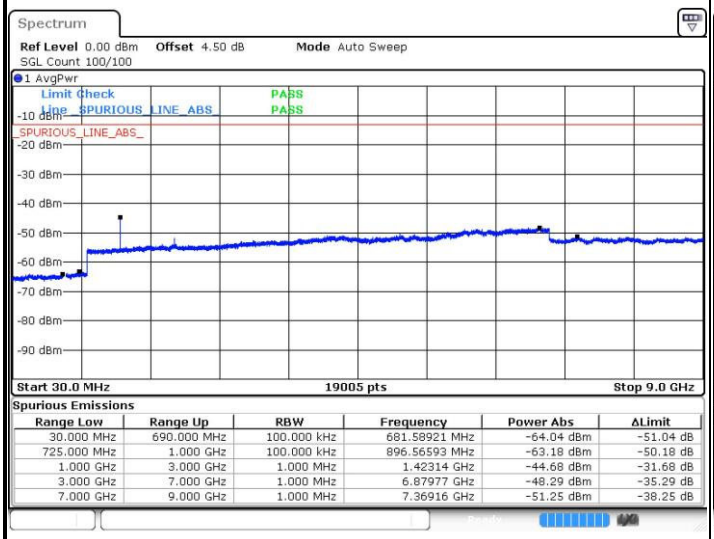
LTE Band 12 / 5MHz

Highest Channel / QPSK

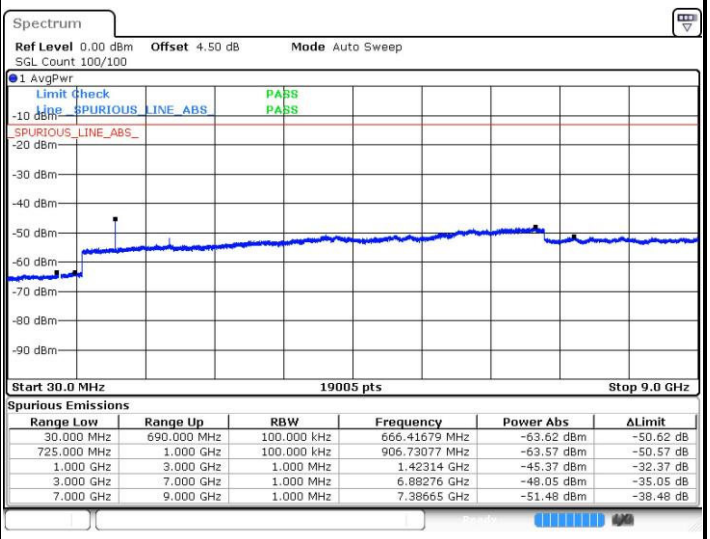


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	681.58921 MHz	-64.04 dBm	-51.04 dB
725.000 MHz	1.000 GHz	100.000 kHz	896.56593 MHz	-63.18 dBm	-50.18 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.42314 GHz	-44.68 dBm	-31.68 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.87977 GHz	-48.29 dBm	-35.29 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.36916 GHz	-51.25 dBm	-38.25 dB

Date: 30.MAR.2019 23:48:58

Highest Channel / 16QAM



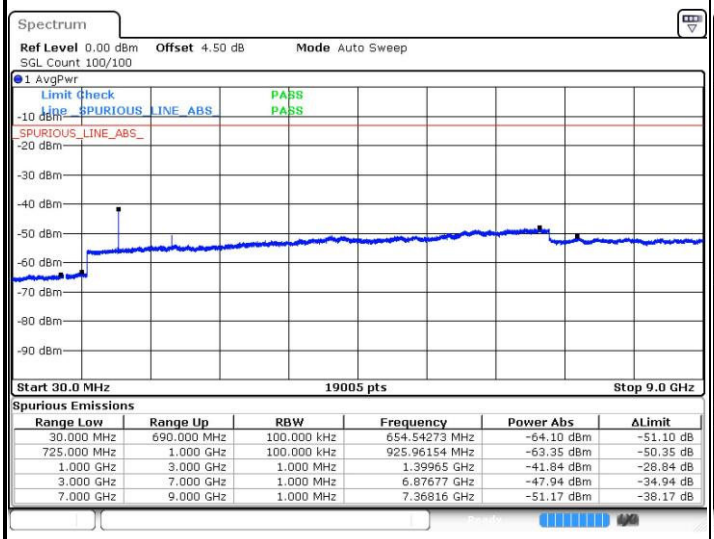
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	666.41679 MHz	-63.62 dBm	-50.62 dB
725.000 MHz	1.000 GHz	100.000 kHz	906.73077 MHz	-63.57 dBm	-50.57 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.42314 GHz	-45.37 dBm	-32.37 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.88276 GHz	-48.05 dBm	-35.05 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.38665 GHz	-51.48 dBm	-38.48 dB

Date: 30.MAR.2019 23:49:26

LTE Band 12 / 10MHz

Lowest Channel / QPSK

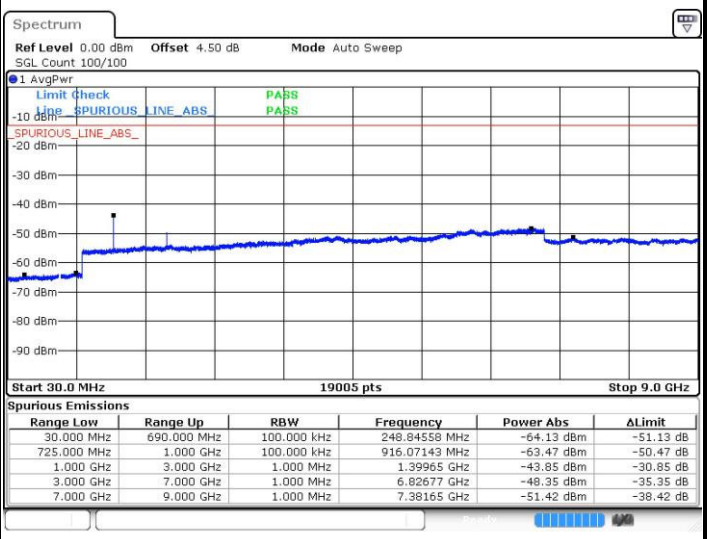


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	654.54273 MHz	-64.10 dBm	-51.10 dB
725.000 MHz	1.000 GHz	100.000 kHz	925.96154 MHz	-63.35 dBm	-50.35 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.39965 GHz	-41.84 dBm	-28.84 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.87677 GHz	-47.94 dBm	-34.94 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.36816 GHz	-51.17 dBm	-38.17 dB

Date: 30.MAR.2019 23:51:01

Lowest Channel / 16QAM



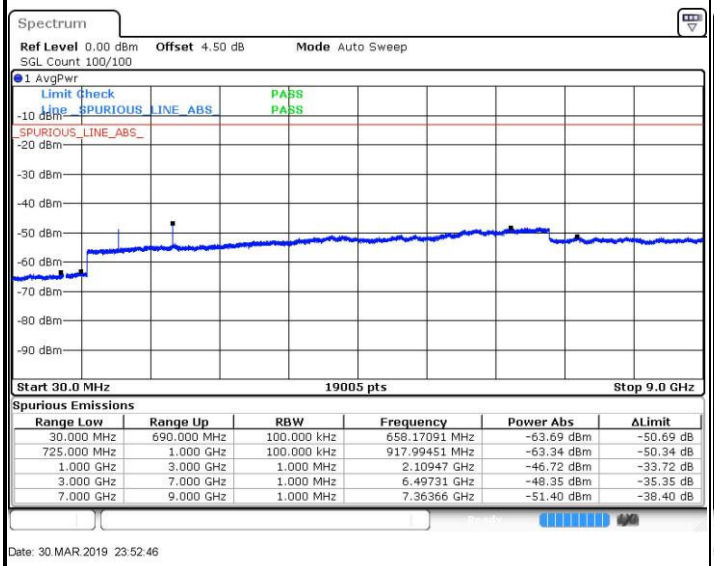
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	248.84558 MHz	-64.13 dBm	-51.13 dB
725.000 MHz	1.000 GHz	100.000 kHz	916.07143 MHz	-63.47 dBm	-50.47 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.39965 GHz	-43.85 dBm	-30.85 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.82677 GHz	-48.35 dBm	-35.35 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.38165 GHz	-51.42 dBm	-38.42 dB

Date: 30.MAR.2019 23:51:46

LTE Band 12 / 10MHz

Middle Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	658.17091 MHz	-63.69 dBm	-50.69 dB
725.000 MHz	1.000 GHz	100.000 kHz	917.99451 MHz	-63.34 dBm	-50.34 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.10947 GHz	-46.72 dBm	-33.72 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.49731 GHz	-48.35 dBm	-35.35 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.36366 GHz	-51.40 dBm	-38.40 dB

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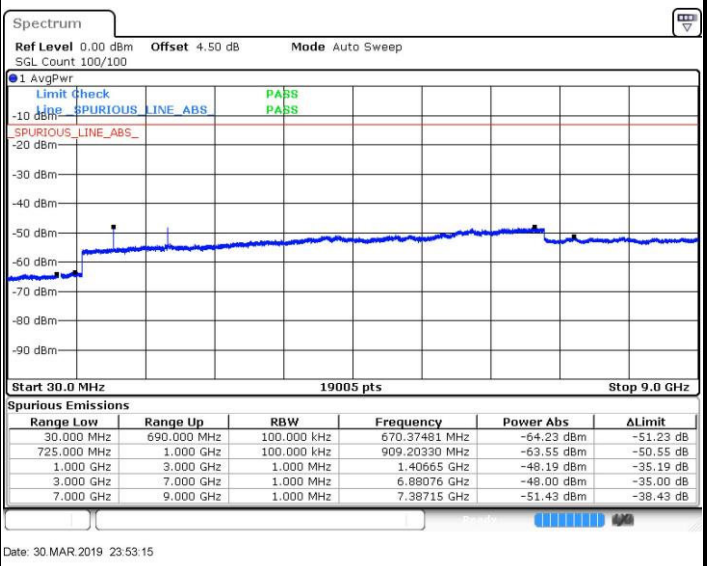
Middle Channel / 16QAM

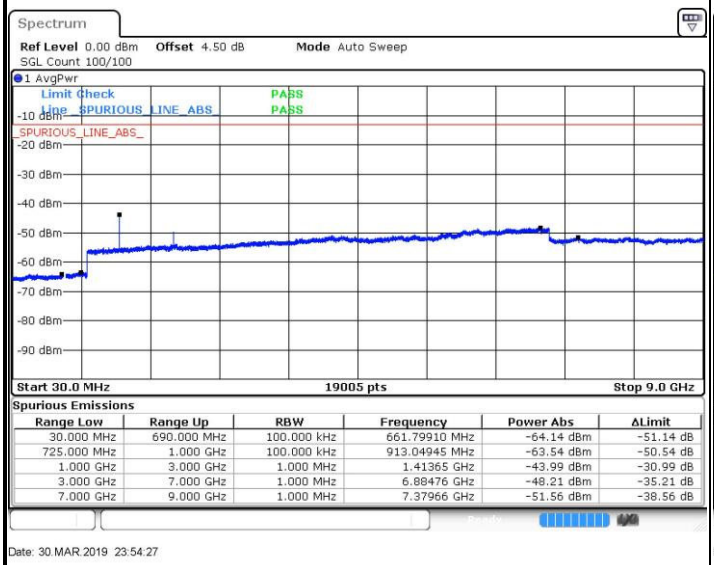


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	670.37481 MHz	-64.23 dBm	-51.23 dB
725.000 MHz	1.000 GHz	100.000 kHz	909.20330 MHz	-63.55 dBm	-50.55 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.40665 GHz	-48.19 dBm	-35.19 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.88076 GHz	-48.00 dBm	-35.00 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.38715 GHz	-51.43 dBm	-38.43 dB

Date: 30.MAR.2019 23:53:15

Highest Channel / QPSK

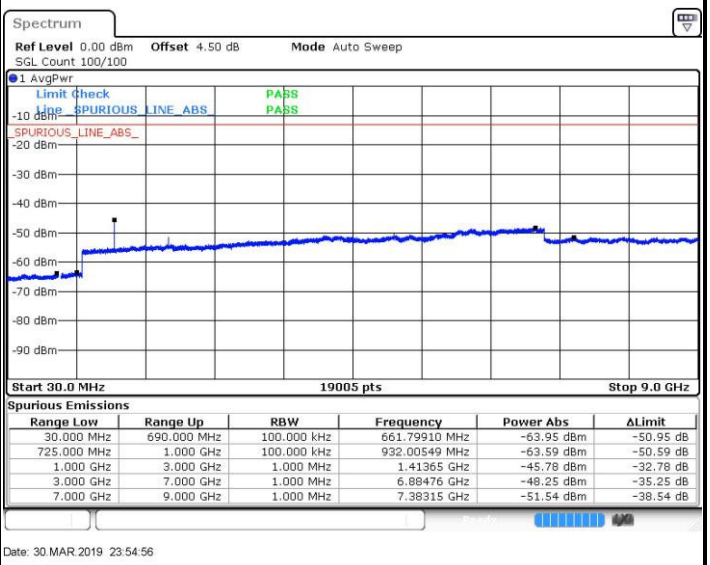


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	661.79910 MHz	-64.14 dBm	-51.14 dB
725.000 MHz	1.000 GHz	100.000 kHz	913.04945 MHz	-63.54 dBm	-50.54 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.41365 GHz	-43.99 dBm	-30.99 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.88476 GHz	-48.21 dBm	-35.21 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.37966 GHz	-51.56 dBm	-38.56 dB

Date: 30.MAR.2019 23:54:27

Highest Channel / 16QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	661.79910 MHz	-63.95 dBm	-50.95 dB
725.000 MHz	1.000 GHz	100.000 kHz	932.00549 MHz	-63.59 dBm	-50.59 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.41365 GHz	-45.78 dBm	-32.78 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.88476 GHz	-48.25 dBm	-35.25 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.38315 GHz	-51.54 dBm	-38.54 dB

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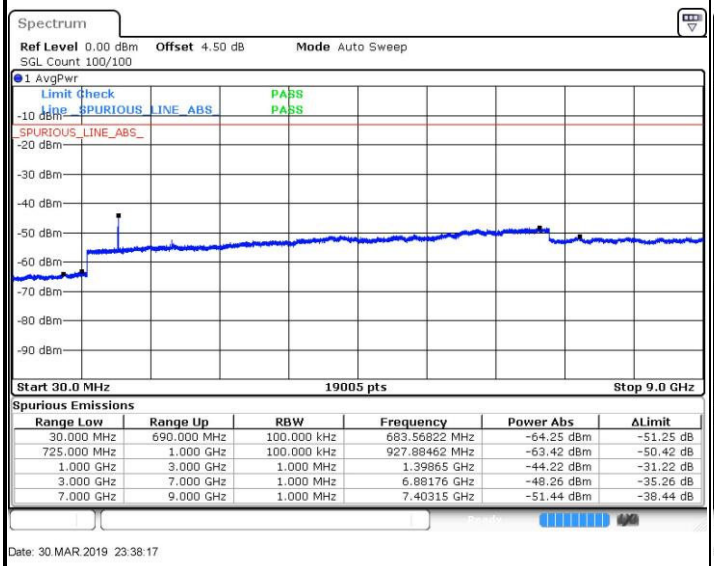
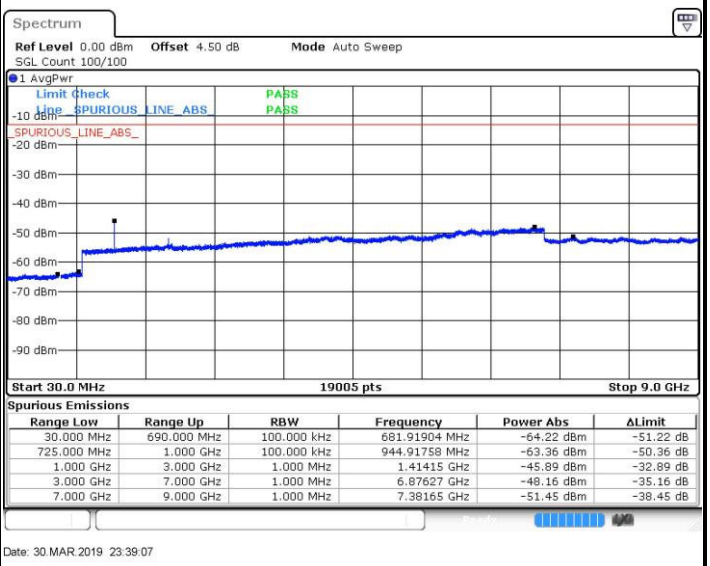
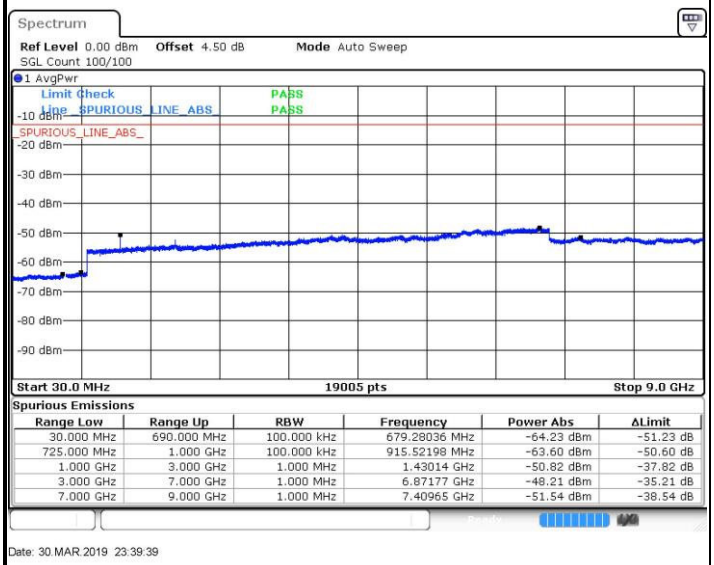
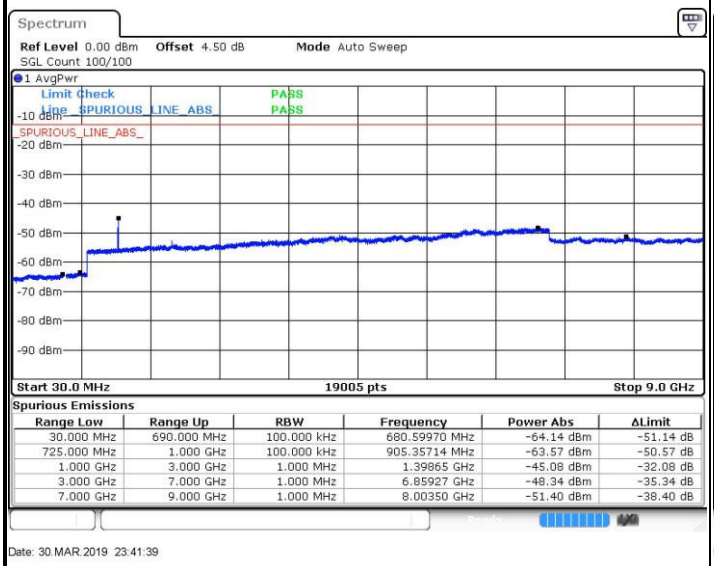
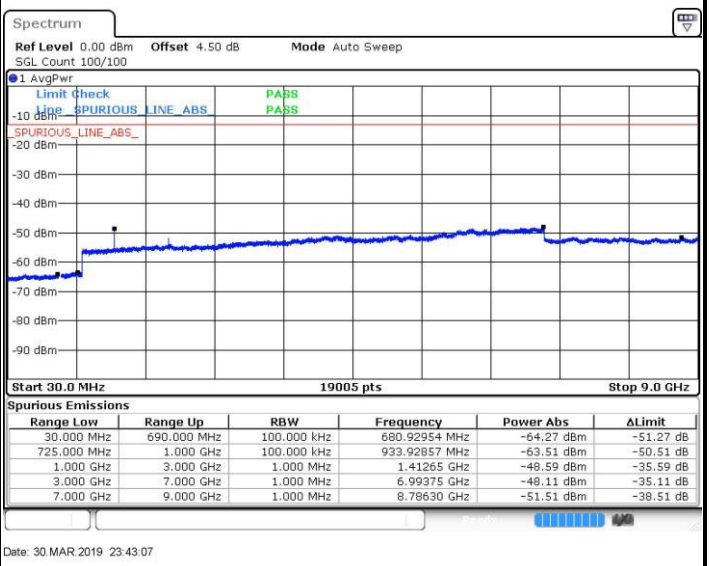
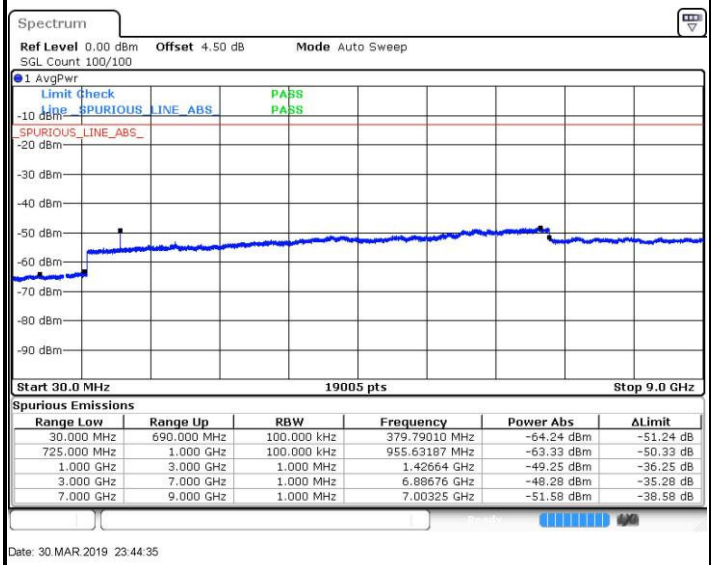
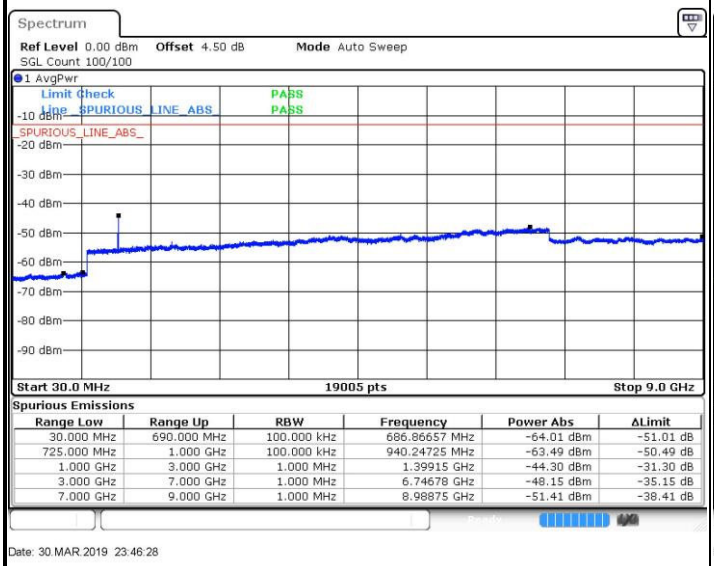
LTE Band 12 / 1.4MHz	
Lowest Channel / 64QAM	**Middle Channel / 64QAM**
	
Highest Channel / 64QAM	
	

LTE Band 12 / 3MHz	
Lowest Channel / 64QAM	**Middle Channel / 64QAM**
	
Highest Channel / 64QAM	
	

LTE Band 12 / 5MHz

Lowest Channel / 64QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	686.86657 MHz	-64.01 dBm	-51.01 dB
725.000 MHz	1.000 GHz	100.000 kHz	940.24725 MHz	-63.49 dBm	-50.49 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.39915 GHz	-44.30 dBm	-31.30 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.74678 GHz	-48.15 dBm	-35.15 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.98875 GHz	-51.41 dBm	-38.41 dB

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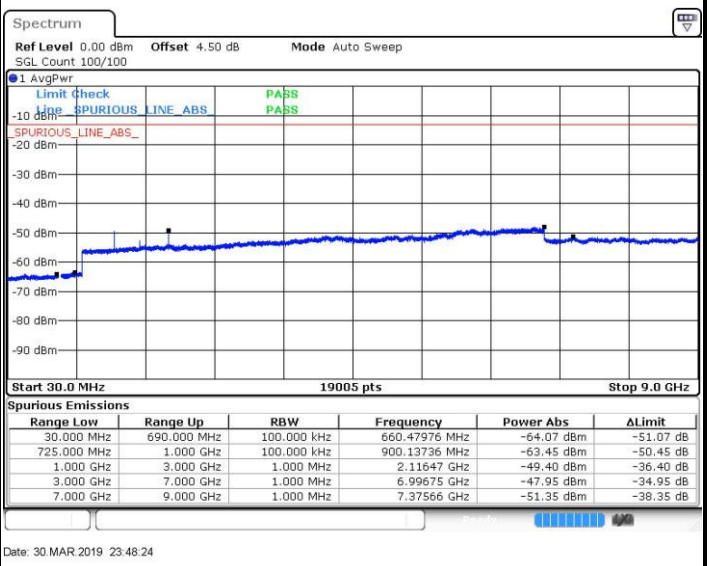
Middle Channel / 64QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	660.47976 MHz	-64.07 dBm	-51.07 dB
725.000 MHz	1.000 GHz	100.000 kHz	900.13736 MHz	-63.45 dBm	-50.45 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.11647 GHz	-49.40 dBm	-36.40 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99675 GHz	-47.95 dBm	-34.95 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.37566 GHz	-51.35 dBm	-38.35 dB

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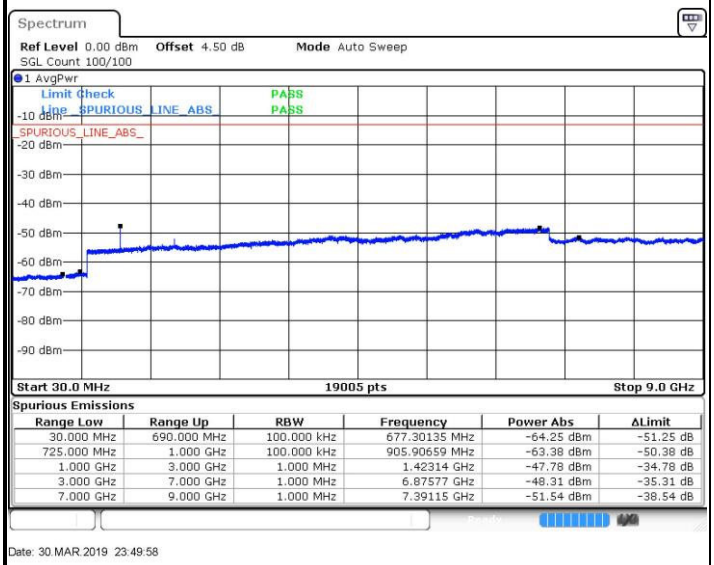
Highest Channel / 64QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	677.30135 MHz	-64.25 dBm	-51.25 dB
725.000 MHz	1.000 GHz	100.000 kHz	905.90659 MHz	-63.38 dBm	-50.38 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.42314 GHz	-47.78 dBm	-34.78 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.87577 GHz	-48.31 dBm	-35.31 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.39115 GHz	-51.54 dBm	-38.54 dB

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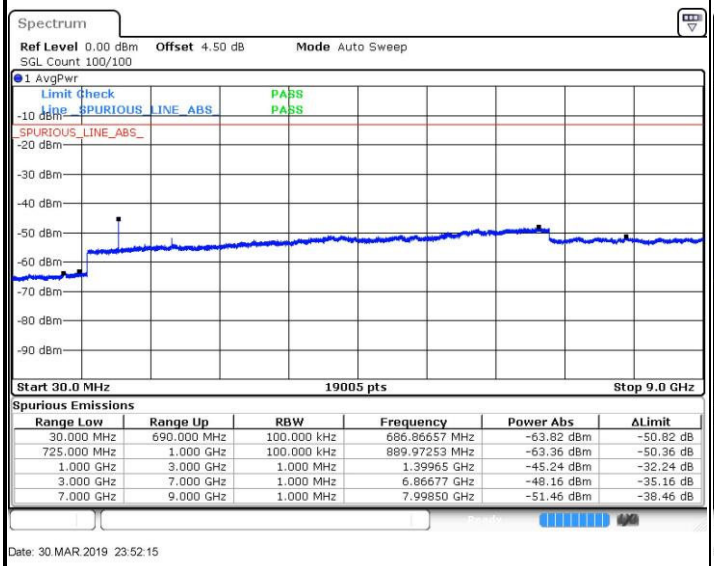
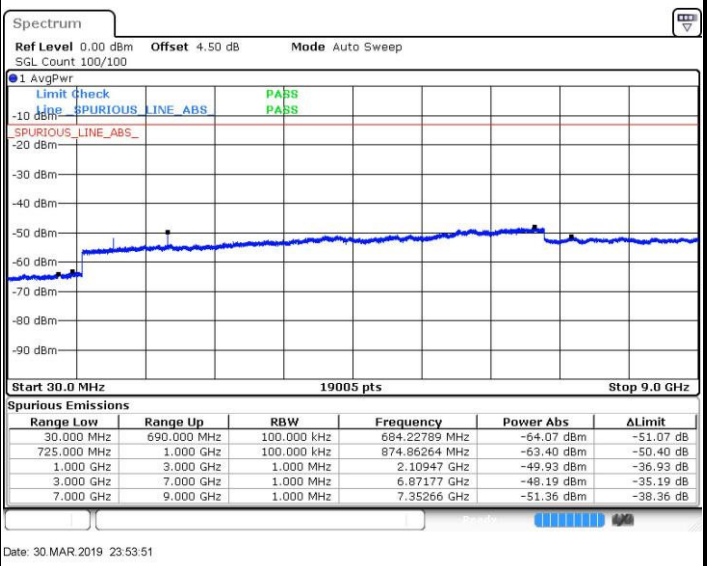
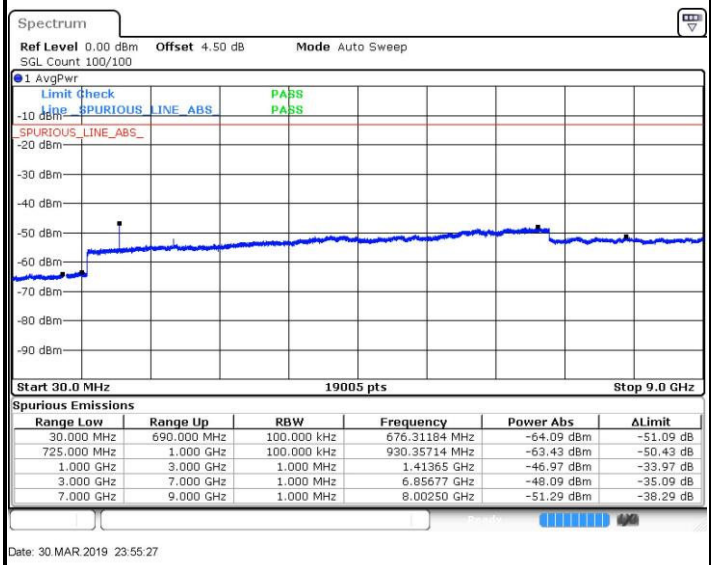
LTE Band 12 / 10MHz	
Lowest Channel / 64QAM	**Middle Channel / 64QAM**
	
Highest Channel / 64QAM	
	

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	0.0020	PASS
40	Normal Voltage	0.0015	
30	Normal Voltage	0.0003	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0028	
0	Normal Voltage	0.0007	
-10	Normal Voltage	0.0003	
-20	Normal Voltage	0.0009	
-30	Normal Voltage	0.0013	
20	Maximum Voltage	0.0001	
20	Normal Voltage	0.0025	
20	Battery End Point	0.0018	

Note:

1. Normal Voltage =4 V.；Battery End Point (BEP) =3.6 V.；Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

Test Conditions		LTE Band 4 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0021	PASS
40	Normal Voltage	0.0018	
30	Normal Voltage	0.0003	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0028	
0	Normal Voltage	0.0007	
-10	Normal Voltage	0.0003	
-20	Normal Voltage	0.0008	
-30	Normal Voltage	0.0013	
20	Maximum Voltage	0.0001	
20	Normal Voltage	0.0025	
20	Battery End Point	0.0018	

Note:

1. Normal Voltage =4 V.；Battery End Point (BEP) =3.6 V.；Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

Test Conditions		LTE Band 5 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0020	PASS
40	Normal Voltage	0.0016	
30	Normal Voltage	0.0003	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0028	
0	Normal Voltage	0.0007	
-10	Normal Voltage	0.0003	
-20	Normal Voltage	0.0006	
-30	Normal Voltage	0.0013	
20	Maximum Voltage	0.0001	
20	Normal Voltage	0.0025	
20	Battery End Point	0.0018	

Note:

1. Normal Voltage =4 V.；Battery End Point (BEP) =3.6 V.；Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

Test Conditions		LTE Band 7 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0021	PASS
40	Normal Voltage	0.0018	
30	Normal Voltage	0.0003	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0026	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0003	
-20	Normal Voltage	0.0008	
-30	Normal Voltage	0.0013	
20	Maximum Voltage	0.0001	
20	Normal Voltage	0.0025	
20	Battery End Point	0.0018	

Note:

1. Normal Voltage =4 V.；Battery End Point (BEP) =3.6 V.；Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

Test Conditions		LTE Band 12 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0021	PASS
40	Normal Voltage	0.0018	
30	Normal Voltage	0.0003	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0028	
0	Normal Voltage	0.0007	
-10	Normal Voltage	0.0003	
-20	Normal Voltage	0.0008	
-30	Normal Voltage	0.0013	
20	Maximum Voltage	0.0001	
20	Normal Voltage	0.0026	
20	Battery End Point	0.0016	

Note:

1. Normal Voltage =4 V.；Battery End Point (BEP) =3.6 V.；Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

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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)
Lowest	3702	-58.13	-13	-45.13	-70.39	2.641	14.90	H
	5553	-57.68	-13	-44.68	-69.54	2.94	14.80	H
	7404	-52.22	-13	-39.22	-61.99	3.39	13.16	H
	3702	-57.23	-13	-44.23	-69.49	2.64	14.90	V
	5553	-57.36	-13	-44.36	-69.22	2.94	14.80	V
	7404	-52.00	-13	-39.00	-61.77	3.39	13.16	V
Middle	3741	-56.74	-13	-43.74	-69.00	2.641	14.90	H
	5613	-54.01	-13	-41.01	-65.87	2.94	14.80	H
	7488	-52.25	-13	-39.25	-62.02	3.39	13.16	H
	3741	-55.50	-13	-42.50	-67.76	2.64	14.90	V
	5613	-51.43	-13	-38.43	-63.29	2.94	14.80	V
	7488	-51.64	-13	-38.64	-61.41	3.39	13.16	V
Highest	3783	-59.96	-13	-46.96	-72.22	2.641	14.90	H
	5673	-54.13	-13	-41.13	-65.99	2.94	14.80	H
	7560	-52.40	-13	-39.40	-62.17	3.39	13.16	H
	3783	-58.43	-13	-45.43	-70.69	2.64	14.90	V
	5673	-55.02	-13	-42.02	-66.88	2.94	14.80	V
	7560	-52.07	-13	-39.07	-61.84	3.39	13.16	V

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

LTE Band 4 / 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)
Lowest	3423	-61.53	-13	-48.53	-66.25	3.413	8.13	H
	5133	-51.49	-13	-38.49	-57.50	4.195	10.20	H
	6840	-54.34	-13	-41.34	-60.79	4.911	11.36	H
	3423	-60.82	-13	-47.82	-65.54	3.413	8.13	V
	5133	-54.27	-13	-41.27	-60.28	4.195	10.20	V
	6840	-54.26	-13	-41.26	-60.71	4.911	11.36	V
Middle	3447	-60.00	-13	-47.00	-64.72	3.413	8.13	H
	5172	-50.10	-13	-37.10	-56.11	4.195	10.20	H
	6900	-54.32	-13	-41.32	-60.77	4.911	11.36	H
	3447	-61.13	-13	-48.13	-65.85	3.413	8.13	V
	5169	-52.27	-13	-39.27	-58.28	4.195	10.20	V
	6900	-54.15	-13	-41.15	-60.60	4.911	11.36	V
Highest	3471	-62.77	-13	-49.77	-67.49	3.413	8.13	H
	5208	-54.61	-13	-41.61	-60.62	4.195	10.20	H
	6948	-54.08	-13	-41.08	-60.53	4.911	11.36	H
	3471	-62.96	-13	-49.96	-67.68	3.413	8.13	V
	5208	-53.14	-13	-40.14	-59.15	4.195	10.20	V
	6948	-54.20	-13	-41.20	-60.65	4.911	11.36	V

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

LTE Band 5 / 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)
Lowest	1650	-63.54	-13	-50.54	-68.02	1.21	5.68	H
	2474	-62.43	-13	-49.43	-66.69	1.54	5.80	H
	3297	-60.45	-13	-47.45	-66.60	1.73	7.88	H
	1650	-56.23	-13	-43.23	-60.71	1.21	5.68	V
	2473.77	-59.91	-13	-46.91	-64.17	1.54	5.80	V
	3297	-60.80	-13	-47.80	-66.95	1.73	7.88	V
Middle	1664	-62.72	-13	-49.72	-67.20	1.21	5.68	H
	2496	-62.48	-13	-49.48	-66.74	1.54	5.80	H
	3327	-60.44	-13	-47.44	-66.59	1.73	7.88	H
	1664	-56.21	-13	-43.21	-60.69	1.21	5.68	V
	2496	-59.70	-13	-46.70	-63.96	1.54	5.80	V
	3327	-60.31	-13	-47.31	-66.46	1.73	7.88	V
Highest	1680	-61.19	-13	-48.19	-65.67	1.21	5.68	H
	2518	-62.83	-13	-49.83	-67.09	1.54	5.80	H
	3357	-60.01	-13	-47.01	-66.16	1.73	7.88	H
	1680	-55.83	-13	-42.83	-60.31	1.21	5.68	V
	2518	-58.76	-13	-45.76	-63.02	1.54	5.80	V
	3357	-60.39	-13	-47.39	-66.54	1.73	7.88	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)
Lowest	5004	-63.28	-25	-38.28	-73.49	3.03	13.24	H
	7504	-59.24	-25	-34.24	-68.69	3.56	13.01	H
	10004	-58.49	-25	-33.49	-67.94	3.56	13.01	H
	12504	-55.85	-25	-30.85	-65.30	3.56	13.01	H
	15006	-58.69	-25	-33.69	-68.21	3.92	13.44	H
	5004	-63.90	-25	-38.90	-74.11	3.03	13.24	V
	7504	-57.76	-25	-32.76	-67.21	3.56	13.01	V
	10004	-58.18	-25	-33.18	-67.63	3.56	13.01	V
	12504	-46.40	-25	-21.40	-55.85	3.56	13.01	V
	15006	-52.19	-25	-27.19	-61.71	3.92	13.44	V
Middle	5052	-63.47	-25	-38.47	-73.68	3.03	13.24	H
	7580	-43.48	-25	-18.48	-52.93	3.56	13.01	H
	10104	-57.42	-25	-32.42	-66.87	3.56	13.01	H
	12630	-50.73	-25	-25.73	-60.18	3.56	13.01	H
	15156	-58.36	-25	-33.36	-67.88	3.92	13.44	H
	5052	-60.67	-25	-35.67	-70.88	3.03	13.24	V
	7580	-43.86	-25	-18.86	-53.31	3.56	13.01	V
	10104	-56.60	-25	-31.60	-66.05	3.56	13.01	V
	12630	-42.89	-25	-17.89	-52.34	3.56	13.01	V
	15156	-50.52	-25	-25.52	-60.04	3.92	13.44	V
Highest	5104	-62.25	-25	-37.25	-72.46	3.03	13.24	H
	7652	-55.35	-25	-30.35	-64.80	3.56	13.01	H
	10204	-59.06	-25	-34.06	-68.51	3.56	13.01	H
	12756	-56.52	-25	-31.52	-65.97	3.56	13.01	H
	15306	-66.37	-25	-41.37	-75.89	3.92	13.44	H
	5100	-61.74	-25	-36.74	-71.95	3.03	13.24	V
	7652	-57.35	-25	-32.35	-66.80	3.56	13.01	V
	10204	-57.23	-25	-32.23	-66.68	3.56	13.01	V
	12756	-46.75	-25	-21.75	-56.20	3.56	13.01	V
	15306	-57.62	-25	-32.62	-67.14	3.92	13.44	V

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

LTE Band 12 / 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)
Lowest	1400	-66.78	-13	-53.78	-67.99	2.32	5.68	H
	2099	-60.42	-13	-47.42	-61.05	3.02	5.80	H
	2798	-65.99	-13	-52.99	-68.45	3.27	7.88	H
	1400	-60.22	-13	-47.22	-61.43	2.32	5.68	V
	2098	-56.92	-13	-43.92	-57.55	3.02	5.80	V
	2798	-66.29	-13	-53.29	-68.75	3.27	7.88	V
Middle	1406	-66.04	-13	-53.04	-67.25	2.32	5.68	H
	2109.27	-53.69	-13	-40.69	-54.32	3.02	5.80	H
	2812	-66.06	-13	-53.06	-68.52	3.27	7.88	H
	1406	-61.56	-13	-48.56	-62.77	2.32	5.68	V
	2110	-51.05	-13	-38.05	-51.68	3.02	5.80	V
	2812	-66.09	-13	-53.09	-68.55	3.27	7.88	V
Highest	1414	-68.32	-13	-55.32	-69.53	2.32	5.68	H
	2120	-60.96	-13	-47.96	-61.59	3.02	5.80	H
	2826	-66.09	-13	-53.09	-68.55	3.27	7.88	H
	1413	-63.72	-13	-50.72	-64.93	2.32	5.68	V
	2120	-57.43	-13	-44.43	-58.06	3.02	5.80	V
	2826	-65.80	-13	-52.80	-68.26	3.27	7.88	V

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