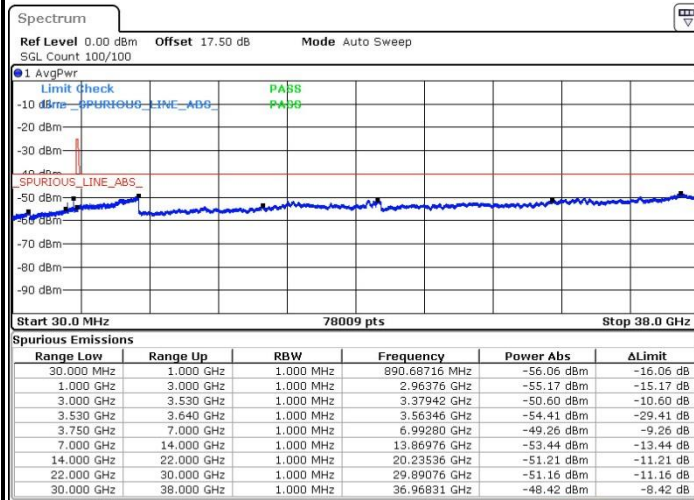




LTE Band 48 / 20MHz

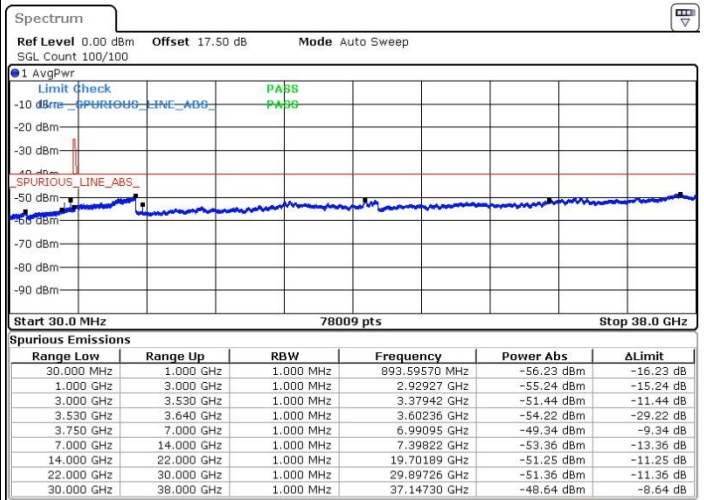
64QAM

Highest Channel / 1RB0



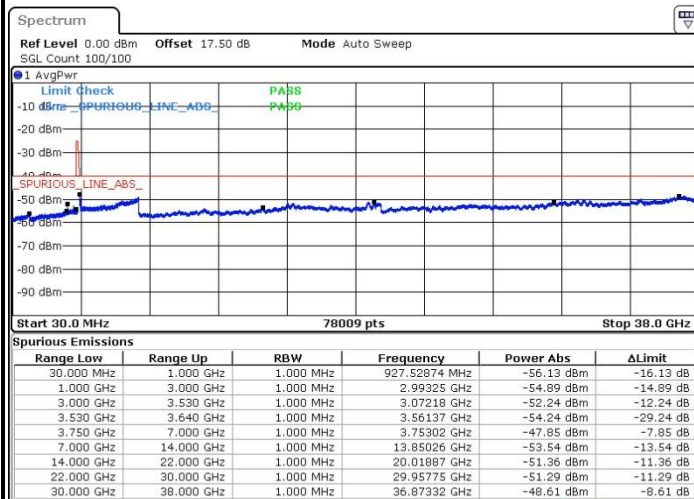
Date: 18 JUL 2019 23:21:26

Highest Channel / 1RBmax



Date: 18 JUL 2019 23:30:31

Highest Channel / FullIRB



Date: 18 JUL 2019 23:12:21

N/A

Frequency Stability

Test Conditions		LTE Band 48 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0023	PASS
40	Normal Voltage	0.0021	
30	Normal Voltage	0.0008	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0001	
0	Normal Voltage	0.0003	
-10	Normal Voltage	0.0010	
-20	Normal Voltage	0.0014	
-30	Normal Voltage	0.0001	
20	Maximum Voltage	0.0017	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0013	

Note:

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



Appendix B. Test Results of EIRP and Radiated Test

EIRP

<Reporting Only>

LTE Band 48 / 5MHz (Average) (GT - LC = -1 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	12	23.07	0.2028	22.07	0.1611
Middle		1	12	23.41	0.2193	22.41	0.1742
Highest		1	12	23.29	0.2133	22.29	0.1694
Lowest	16QAM	1	12	22.31	0.1702	21.31	0.1352
Middle		1	12	22.54	0.1795	21.54	0.1426
Highest		1	12	22.36	0.1722	21.36	0.1368
Lowest	64QAM	1	12	21.27	0.1340	20.27	0.1064
Middle		1	12	21.65	0.1462	20.65	0.1161
Highest		1	12	21.33	0.1358	20.33	0.1079

LTE Band 48 / 10MHz (Average) (GT - LC = -1 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	49	23.10	0.2042	22.10	0.1622
Middle		1	49	23.40	0.2188	22.40	0.1738
Highest		1	49	23.30	0.2138	22.30	0.1698
Lowest	16QAM	1	49	22.36	0.1722	21.36	0.1368
Middle		1	49	22.54	0.1795	21.54	0.1426
Highest		1	49	22.51	0.1782	21.51	0.1416
Lowest	64QAM	1	25	21.30	0.1349	20.30	0.1072
Middle		1	25	21.64	0.1459	20.64	0.1159
Highest		1	25	21.37	0.1371	20.37	0.1089

LTE Band 48 / 15MHz (Average) (GT - LC = -1 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	74	23.23	0.2104	22.23	0.1671
Middle		1	74	23.51	0.2244	22.51	0.1782
Highest		1	74	23.41	0.2193	22.41	0.1742
Lowest	16QAM	1	37	22.49	0.1774	21.49	0.1409
Middle		1	37	22.78	0.1897	21.78	0.1507
Highest		1	37	22.60	0.1820	21.60	0.1445
Lowest	64QAM	1	74	21.47	0.1403	20.47	0.1114
Middle		1	74	21.78	0.1507	20.78	0.1197
Highest		1	74	21.51	0.1416	20.51	0.1125



LTE Band 48 / 20MHz (Average) (GT - LC = -1 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	49	23.32	0.2148	22.32	0.1706
Middle		1	49	23.48	0.2228	22.48	0.1770
Highest		1	49	23.34	0.2158	22.34	0.1714
Lowest	16QAM	1	99	22.53	0.1791	21.53	0.1422
Middle		1	99	22.69	0.1858	21.69	0.1476
Highest		1	99	22.69	0.1858	21.69	0.1476
Lowest	64QAM	1	99	21.53	0.1422	20.53	0.1130
Middle		1	99	21.76	0.1500	20.76	0.1191
Highest		1	99	21.59	0.1442	20.59	0.1146



EIRP Power

LTE Band 48 / Conducted Power (dBm/10MHz)									
BW	1.4MHz			3MHz			5MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	-	-	-	-	-	-	23.07	22.31	21.27
Middle CH	-	-	-	-	-	-	23.41	22.54	21.65
Highest CH	-	-	-	-	-	-	23.29	22.36	21.33
LTE Band 48 / Conducted Power (dBm/10MHz)									
BW	10MHz			15MHz			20MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	23.1	22.36	21.3	21.47	20.73	19.71	20.31	19.52	18.52
Middle CH	23.4	22.54	21.64	21.75	21.02	20.02	20.47	19.68	18.75
Highest CH	23.3	22.51	21.37	21.65	20.84	19.75	20.33	19.68	18.58

LTE Band 48 / EIRP Power (dBm/10MHz)									
BW	1.4MHz			3MHz			5MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	-	-	-	-	-	-	22.07	21.31	20.27
Middle CH	-	-	-	-	-	-	22.41	21.54	20.65
Highest CH	-	-	-	-	-	-	22.29	21.36	20.33
LTE Band 48 / EIRP Power (dBm/10MHz)									
BW	10MHz			15MHz			20MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	22.1	21.36	20.3	20.47	19.73	18.71	19.31	18.52	17.52
Middle CH	22.4	21.54	20.64	20.75	20.02	19.02	19.47	18.68	17.75
Highest CH	22.3	21.51	20.37	20.65	19.84	18.75	19.33	18.68	17.58
Antenna Gain	-1 dBi								
Limit	23dBm / 10MHz								
Result	Pass								

**Radiated Spurious Emission****LTE Band 48**

LTE Band 48 / 20MHz / QPSK									
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)
Lowest	7120	-57.11	-40	-17.11	-61.2	-67.03	1.78	11.71	H
	10680	-59.17	-40	-19.17	-66.98	-67.59	2.48	10.90	H
	14240	-56.22	-40	-16.22	-68.41	-64.98	2.87	11.62	H
	21360	-48.42	-40	-8.42	-74.64	-65.16	1.96	18.70	H
	24920	-49.07	-40	-9.07	-75.36	-65.17	2.07	18.17	H
	28480	-47.54	-40	-7.54	-75.83	-64.83	2.30	19.59	H
									H
	7120	-60.19	-40	-20.19	-63.91	-70.11	1.78	11.71	V
	10680	-59.71	-40	-19.71	-67.28	-68.13	2.48	10.90	V
	14240	-56.76	-40	-16.76	-68.6	-65.52	2.87	11.62	V
	21360	-55.95	-40	-15.95	-75.07	-72.69	1.96	18.70	V
	24920	-49.73	-40	-9.73	-72.41	-65.83	2.07	18.17	V
	28480	-50.64	-40	-10.64	-75.67	-67.93	2.30	19.59	V
									V



Middle	7250	-48.11	-40	-8.11	-52.2	-57.76	1.86	11.50	H
	10875	-58.79	-40	-18.79	-66.89	-67.11	2.59	10.90	H
	14500	-57.77	-40	-17.77	-69.92	-65.92	2.85	11.00	H
	18124	-51.82	-40	-11.82	-71.26	-68.02	1.77	17.98	H
	21750	-50.10	-40	-10.10	-75.46	-66.89	2.01	18.80	H
	25375	-46.67	-40	-6.67	-75.13	-63.35	2.15	18.83	H
									H
	7250	-54.82	-40	-14.82	-58.66	-64.47	1.86	11.50	V
	10875	-59.33	-40	-19.33	-67.23	-67.65	2.59	10.90	V
	14500	-58.69	-40	-18.69	-69.94	-66.84	2.85	11.00	V
	18124	-58.50	-40	-18.50	-71.52	-74.70	1.77	17.98	V
	21750	-56.96	-40	-16.96	-75.63	-73.75	2.01	18.80	V
	25375	-47.72	-40	-7.72	-72.43	-64.40	2.15	18.83	V
									V
Highest	7380	-53.15	-40	-13.15	-57.08	-62.52	1.93	11.29	H
	11070	-59.36	-40	-19.36	-67.81	-67.72	2.62	10.98	H
	14760	-55.94	-40	-15.94	-69.52	-64.85	2.92	11.83	H
	18450	-52.75	-40	-12.75	-72.59	-68.78	1.88	17.91	H
	22140	-49.98	-40	-9.98	-74.67	-66.76	2.06	18.84	H
	25830	-46.42	-40	-6.42	-75.01	-63.49	2.00	19.07	H
									H
	7380	-59.87	-40	-19.87	-63.63	-69.24	1.93	11.29	V
	11070	-59.18	-40	-19.18	-67.46	-67.54	2.62	10.98	V
	14760	-57.71	-40	-17.71	-69.51	-66.62	2.92	11.83	V
	18450	-60.52	-40	-20.52	-72.84	-76.55	1.88	17.91	V
	22140	-56.71	-40	-16.71	-75.14	-73.49	2.06	18.84	V
	25830	-46.76	-40	-6.76	-71.82	-63.83	2.00	19.07	V
									V

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