EIRP for LTE Band 12

Frequency	Channel Bandwidth	Mode.	RB	Substituted level	Antenna Polarization	Antenna Gain correction	Cable Loss	Absolute Level	Limit (dBm)
699.7	1.4	QPSK	1/0	14.86	V	6.6	0.47	20.99	34.77
707.5	1.4	QPSK	1/0	14.72	V	6.6	0.47	20.85	34.77
715.3	1.4	QPSK	1/24	15.10	V	6.6	0.47	21.23	34.77
699.7	1.4	QPSK	1/0	17.44	H	6.6	0.47	23.57	34.77
707.5	1.4	QPSK	1/0	17.33	H	6.6	0.47	23.46	34.77
715.3	1.4	QPSK	1/24	17.37	H	6.6	0.47	23.50	34.77
699.7	1.4	16-QAM	1/0	15.30	V	6.6	0.47	21.43	34.77
707.5	1.4	16-QAM	1/0	14.23	V	6.6	0.47	20.36	34.77
715.3	1.4	16-QAM	1/24	13.54	V	6.6	0.47	19.67	34.77
699.7	1.4	16-QAM	1/0	17.77	H	6.6	0.47	23.90	34.77
707.5	1.4	16-QAM	1/0	16.60	H	6.6	0.47	22.73	34.77
715.3	1.4	16-QAM	1/24	16.35	H	6.6	0.47	22.48	34.77
700.5	3	QPSK	1/0	14.11	V	6.6	0.47	20.24	34.77
707.5	3	QPSK	1/49	14.46	V	6.6	0.47	20.59	34.77
714.5	3	QPSK	1/0	13.37	V	6.6	0.47	19.50	34.77
700.5	3	QPSK	1/0	16.47	H	6.6	0.47	22.60	34.77
707.5	3	QPSK	1/49	17.03	H	6.6	0.47	23.16	34.77
714.5	3	QPSK	1/0	16.01	H	6.6	0.47	22.14	34.77
700.5	3	16-QAM	1/0	15.63	V	6.6	0.47	21.76	34.77
707.5	3	16-QAM	1/49	15.37	V	6.6	0.47	21.50	34.77
714.5	3	16-QAM	1/0	15.35	V	6.6	0.47	21.48	34.77
700.5	3	16-QAM	1/0	17.77	H	6.6	0.47	23.90	34.77
707.5	3	16-QAM	1/49	17.71	H	6.6	0.47	23.84	34.77
714.5	3	16-QAM	1/0	17.69	H	6.6	0.47	23.82	34.77
701.5	5	QPSK	1/0	15.62	V	6.6	0.47	21.75	34.77
707.5	5	QPSK	1/74	15.32	V	6.6	0.47	21.45	34.77
713.5	5	QPSK	1/0	15.11	V	6.6	0.47	21.24	34.77
701.5	5	QPSK	1/0	17.71	H	6.6	0.47	23.84	34.77
707.5	5	QPSK	1/74	17.70	H	6.6	0.47	23.83	34.77
713.5	5	QPSK	1/0	17.63	H	6.6	0.47	23.76	34.77
701.5	5	16-QAM	1/0	14.31	V	6.6	0.47	20.44	34.77
707.5	5	16-QAM	1/74	14.39	V	6.6	0.47	20.52	34.77
713.5	5	16-QAM	1/0	14.95	V	6.6	0.47	21.08	34.77
701.5	5	16-QAM	1/0	16.69	H	6.6	0.47	22.82	34.77

707.5	5	16-QAM	1/74	16.86	H	6.6	0.47	22.99	34.77
713.5	5	16-QAM	1/0	16.95	H	6.6	0.47	23.08	34.77
704.0	10	QPSK	1/99	14.13	V	6.6	0.47	20.26	34.77
707.5	10	QPSK	1/99	14.29	V	6.6	0.47	20.42	34.77
711.0	10	QPSK	1/0	13.97	V	6.6	0.47	20.10	34.77
704.0	10	QPSK	1/99	16.46	H	6.6	0.47	22.59	34.77
707.5	10	QPSK	1/99	16.71	H	6.6	0.47	22.84	34.77
711.0	10	QPSK	1/0	16.25	H	6.6	0.47	22.38	34.77
704.0	10	16-QAM	1/99	15.49	V	6.6	0.47	21.62	34.77
707.5	10	16-QAM	1/99	15.66	V	6.6	0.47	21.79	34.77
711.0	10	16-QAM	1/0	15.33	V	6.6	0.47	21.46	34.77
704.0	10	16-QAM	1/99	17.83	H	6.6	0.47	23.96	34.77
707.5	10	16-QAM	1/99	17.81	H	6.6	0.47	23.94	34.77
711.0	10	16-QAM	1/0	17.70	H	6.6	0.47	23.83	34.77

EIRP for LTE Band 13

Frequency	Channel Bandwidth	Mode.	RB	Substituted level	Antenna Polarization	Antenna Gain correction	Cable Loss	Absolute Level	Limit (dBm)
779.5	5	QPSK	1/0	13.74	V	6.6	0.47	19.87	34.77
782	5	QPSK	1/74	13.56	V	6.6	0.47	19.69	34.77
784.5	5	QPSK	1/0	13.56	V	6.6	0.47	19.69	34.77
779.5	5	QPSK	1/0	16.43	H	6.6	0.47	22.56	34.77
782	5	QPSK	1/74	16.41	H	6.6	0.47	22.54	34.77
784.5	5	QPSK	1/0	15.92	H	6.6	0.47	22.05	34.77
779.5	5	16-QAM	1/0	14.20	V	6.6	0.47	20.33	34.77
782	5	16-QAM	1/74	13.62	V	6.6	0.47	19.75	34.77
784.5	5	16-QAM	1/0	13.56	V	6.6	0.47	19.69	34.77
779.5	5	16-QAM	1/0	16.34	H	6.6	0.47	22.47	34.77
782	5	16-QAM	1/74	15.90	H	6.6	0.47	22.03	34.77
784.5	5	16-QAM	1/0	15.90	H	6.6	0.47	22.03	34.77
782	10	QPSK	1/99	13.93	V	6.6	0.47	20.06	34.77
782	10	QPSK	1/99	14.39	H	6.6	0.47	20.52	34.77
782	10	16-QAM	1/99	14.13	V	6.6	0.47	20.26	34.77
782	10	16-QAM	1/99	16.07	H	6.6	0.47	22.20	34.77

EIRP for LTE Band 25

Frequency	Channel Bandwidth	Mode.	RB	Substituted level	Antenna Polarization	Antenna Gain correction	Cable Loss	Absolute Level	Limit (dBm)
1850.7	1.4	QPSK	1/0	10.87	V	7.95	0.79	18.03	33
1882.5	1.4	QPSK	1/0	10.72	V	7.95	0.79	17.88	33
1914.3	1.4	QPSK	1/0	10.59	V	7.95	0.79	17.75	33
1850.7	1.4	QPSK	1/0	13.19	H	7.95	0.79	20.35	33
1882.5	1.4	QPSK	1/0	13.13	H	7.95	0.79	20.29	33
1914.3	1.4	QPSK	1/0	13.11	H	7.95	0.79	20.27	33
1850.7	1.4	16-QAM	1/5	11.97	V	7.95	0.79	19.13	33
1882.5	1.4	16-QAM	1/0	11.97	V	7.95	0.79	19.13	33
1914.3	1.4	16-QAM	1/0	12.04	V	7.95	0.79	19.2	33
1850.7	1.4	16-QAM	1/5	14.29	H	7.95	0.79	21.45	33
1882.5	1.4	16-QAM	1/0	14.38	H	7.95	0.79	21.54	33
1914.3	1.4	16-QAM	1/0	14.39	H	7.95	0.79	21.55	33
1851.5	3	QPSK	1/0	11.99	V	7.95	0.79	19.15	33
1882.5	3	QPSK	1/0	11.35	V	7.95	0.79	18.51	33
1913.5	3	QPSK	1/0	10.89	V	7.95	0.79	18.05	33
1851.5	3	QPSK	1/0	14.33	H	7.95	0.79	21.49	33
1882.5	3	QPSK	1/0	13.58	H	7.95	0.79	20.74	33
1913.5	3	QPSK	1/0	13.28	H	7.95	0.79	20.44	33
1851.5	3	16-QAM	1/0	10.76	V	7.95	0.79	17.92	33
1882.5	3	16-QAM	1/0	10.03	V	7.95	0.79	17.19	33
1913.5	3	16-QAM	1/0	10.52	V	7.95	0.79	17.68	33
1851.5	3	16-QAM	1/0	12.99	H	7.95	0.79	20.15	33
1882.5	3	16-QAM	1/0	12.61	H	7.95	0.79	19.77	33
1913.5	3	16-QAM	1/0	12.88	H	7.95	0.79	20.04	33
1852.5	5	QPSK	1/0	10.73	V	7.95	0.79	17.89	33
1882.5	5	QPSK	1/0	12.92	V	7.95	0.79	20.08	33
1912.5	5	QPSK	1/24	12.88	V	7.95	0.79	20.04	33
1852.5	5	QPSK	1/0	13.08	H	7.95	0.79	20.24	33
1882.5	5	QPSK	1/0	15.33	H	7.95	0.79	22.49	33

1912.5	5	QPSK	1/24	15.23	H	7.95	0.79	22.39	33
1852.5	5	16-QAM	1/0	13.11	V	7.95	0.79	20.27	33
1882.5	5	16-QAM	1/0	12.59	V	7.95	0.79	19.75	33
1912.5	5	16-QAM	1/24	12.62	V	7.95	0.79	19.78	33
1852.5	5	16-QAM	1/0	15.27	H	7.95	0.79	22.43	33
1882.5	5	16-QAM	1/0	14.94	H	7.95	0.79	22.1	33
1912.5	5	16-QAM	1/24	14.86	H	7.95	0.79	22.02	33
1855.0	10	QPSK	1/0	12.45	V	7.95	0.79	19.61	33
1882.5	10	QPSK	1/49	12.14	V	7.95	0.79	19.3	33
1910.0	10	QPSK	1/0	11.66	V	7.95	0.79	18.82	33
1855.0	10	QPSK	1/0	14.47	H	7.95	0.79	21.63	33
1882.5	10	QPSK	1/49	14.50	H	7.95	0.79	21.66	33
1910.0	10	QPSK	1/0	14.18	H	7.95	0.79	21.34	33
1855.0	10	16-QAM	1/0	13.16	V	7.95	0.79	20.32	33
1882.5	10	16-QAM	1/49	12.05	V	7.95	0.79	19.21	33
1910.0	10	16-QAM	1/0	13.02	V	7.95	0.79	20.18	33
1855.0	10	16-QAM	1/0	15.38	H	7.95	0.79	22.54	33
1882.5	10	16-QAM	1/49	14.47	H	7.95	0.79	21.63	33
1910.0	10	16-QAM	1/0	15.38	H	7.95	0.79	22.54	33
1857.5	15	QPSK	1/0	11.91	V	7.95	0.79	19.07	33
1882.5	15	QPSK	1/74	10.99	V	7.95	0.79	18.15	33
1907.5	15	QPSK	1/0	11.61	V	7.95	0.79	18.77	33
1857.5	15	QPSK	1/0	14.27	H	7.95	0.79	21.43	33
1882.5	15	QPSK	1/74	13.51	H	7.95	0.79	20.67	33
1907.5	15	QPSK	1/0	14.03	H	7.95	0.79	21.19	33
1857.5	15	16-QAM	1/0	10.62	V	7.95	0.79	17.78	33
1882.5	15	16-QAM	1/74	10.77	V	7.95	0.79	17.93	33
1907.5	15	16-QAM	1/0	11.54	V	7.95	0.79	18.7	33
1857.5	15	16-QAM	1/0	13.28	H	7.95	0.79	20.44	33
1882.5	15	16-QAM	1/74	13.29	H	7.95	0.79	20.45	33
1907.5	15	16-QAM	1/0	13.96	H	7.95	0.79	21.12	33

1860.0	20	QPSK	1/99	11.14	V	7.95	0.79	18.3	33
1882.5	20	QPSK	1/99	10.09	V	7.95	0.79	17.25	33
1905.0	20	QPSK	1/0	10.97	V	7.95	0.79	18.13	33
1860.0	20	QPSK	1/99	13.50	H	7.95	0.79	20.66	33
1882.5	20	QPSK	1/99	12.78	H	7.95	0.79	19.94	33
1905.0	20	QPSK	1/0	13.51	H	7.95	0.79	20.67	33
1860.0	20	16-QAM	1/99	10.15	V	7.95	0.79	17.31	33
1882.5	20	16-QAM	1/99	11.39	V	7.95	0.79	18.55	33
1905.0	20	16-QAM	1/0	10.61	V	7.95	0.79	17.77	33
1860.0	20	16-QAM	1/99	12.56	H	7.95	0.79	19.72	33
1882.5	20	16-QAM	1/99	13.74	H	7.95	0.79	20.9	33
1905.0	20	16-QAM	1/0	13.12	H	7.95	0.79	20.28	33

Note: Above is the worst mode data.

6.3. PEAK-TO-AVERAGE RATIO

6.3.1 MEASUREMENT METHOD

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB. The PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time or other Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

According to KDB 971168 D01v03 - Section 5.7:

a)Refer to instrument’s analyzer instruction manual for details on how to use the power statistics /CCDF function;

b) Set resolution/measurement bandwidth ≥ signal’s occupied bandwidth;

c) Set the number of counts to a value that stabilizes the measured CCDF curve;

d) Set the measurement interval to 1 ms

e) Record the maximum PAPR level associated with a probability of 0.1%

6.3.2 PROVISIONS APPLICABLE

This is the test for the Peak-to-Average Ratio from the EUT.

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument’s resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

6.3.3 MEASUREMENT RESULT

LTE Band 2

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio (dB)	Limit (dB)	Verdict
		Size	Offset			
QPSK	LCH	1	0	2.93	<13	PASS
		1	3	3.62	<13	PASS
		1	5	2.89	<13	PASS
		3	0	4.16	<13	PASS
		3	2	3.47	<13	PASS
		3	3	4.00	<13	PASS
		6	0	3.26	<13	PASS
	MCH	1	0	4.05	<13	PASS
		1	3	2.83	<13	PASS
		1	5	3.66	<13	PASS
		3	0	3.09	<13	PASS
		3	2	3.40	<13	PASS
		3	3	3.32	<13	PASS
		6	0	4.80	<13	PASS
	HCH	1	0	4.98	<13	PASS
		1	3	3.67	<13	PASS
		1	5	3.89	<13	PASS
		3	0	3.98	<13	PASS
		3	2	4.28	<13	PASS
		3	3	5.19	<13	PASS
		6	0	5.14	<13	PASS
16QAM	LCH	1	0	3.38	<13	PASS
		1	3	5.39	<13	PASS
		1	5	5.85	<13	PASS
		3	0	5.15	<13	PASS
		3	2	5.57	<13	PASS
		3	3	5.73	<13	PASS
		6	0	6.30	<13	PASS
	MCH	1	0	4.34	<13	PASS
		1	3	4.63	<13	PASS
		1	5	3.82	<13	PASS
		3	0	3.48	<13	PASS
		3	2	3.55	<13	PASS

		3	3	3.63	<13	PASS
		6	0	4.40	<13	PASS
	HCH	1	0	5.70	<13	PASS
		1	3	5.18	<13	PASS
		1	5	4.91	<13	PASS
		3	0	4.95	<13	PASS
		3	2	5.46	<13	PASS
		3	3	5.45	<13	PASS
		6	0	6.05	<13	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth: 3 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	3.21	<13	PASS
		1	7	3.27	<13	PASS
		1	14	3.21	<13	PASS
		8	0	3.80	<13	PASS
		8	4	3.65	<13	PASS
		8	7	3.32	<13	PASS
		15	0	4.69	<13	PASS
	MCH	1	0	3.39	<13	PASS
		1	7	3.71	<13	PASS
		1	14	3.37	<13	PASS
		8	0	3.85	<13	PASS
		8	4	4.81	<13	PASS
		8	7	4.06	<13	PASS
		15	0	5.36	<13	PASS
	HCH	1	0	4.16	<13	PASS
		1	7	4.67	<13	PASS
		1	14	4.61	<13	PASS
		8	0	4.76	<13	PASS
		8	4	4.34	<13	PASS
		8	7	4.21	<13	PASS
		15	0	5.56	<13	PASS
16QAM	LCH	1	0	3.74	<13	PASS
		1	7	5.79	<13	PASS

		1	14	4.74	<13	PASS
		8	0	6.09	<13	PASS
		8	4	5.52	<13	PASS
		8	7	5.41	<13	PASS
		15	0	6.49	<13	PASS
	MCH	1	0	4.55	<13	PASS
		1	7	4.42	<13	PASS
		1	14	4.54	<13	PASS
		8	0	4.50	<13	PASS
		8	4	5.32	<13	PASS
		8	7	5.52	<13	PASS
		15	0	4.43	<13	PASS
	HCH	1	0	4.93	<13	PASS
		1	7	5.12	<13	PASS
		1	14	4.45	<13	PASS
		8	0	5.96	<13	PASS
		8	4	5.39	<13	PASS
		8	7	5.73	<13	PASS
		15	0	4.80	<13	PASS

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	3.16	<13	PASS
		1	12	3.55	<13	PASS
		1	24	3.61	<13	PASS
		12	0	4.09	<13	PASS
		12	6	4.57	<13	PASS
		12	13	4.05	<13	PASS
		25	0	4.36	<13	PASS
	MCH	1	0	4.51	<13	PASS
		1	12	4.44	<13	PASS
		1	24	3.26	<13	PASS
		12	0	4.39	<13	PASS
		12	6	3.82	<13	PASS

		12	13	4.16	<13	PASS
		25	0	4.07	<13	PASS
	HCH	1	0	3.37	<13	PASS
		1	12	4.87	<13	PASS
		1	24	4.31	<13	PASS
		12	0	4.93	<13	PASS
		12	6	5.00	<13	PASS
		12	13	4.24	<13	PASS
		25	0	5.02	<13	PASS
16QAM	LCH	1	0	4.06	<13	PASS
		1	12	5.88	<13	PASS
		1	24	4.49	<13	PASS
		12	0	5.89	<13	PASS
		12	6	6.86	<13	PASS
		12	13	6.10	<13	PASS
		25	0	5.52	<13	PASS
	MCH	1	0	5.02	<13	PASS
		1	12	4.93	<13	PASS
		1	24	3.19	<13	PASS
		12	0	5.77	<13	PASS
		12	6	5.78	<13	PASS
		12	13	5.76	<13	PASS
		25	0	5.74	<13	PASS
	HCH	1	0	4.08	<13	PASS
		1	12	4.88	<13	PASS
		1	24	5.51	<13	PASS
		12	0	4.70	<13	PASS
		12	6	5.59	<13	PASS
		12	13	5.45	<13	PASS
		25	0	4.95	<13	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	5.38	<13	PASS
		1	24	5.93	<13	PASS
		1	49	5.77	<13	PASS
		25	0	5.93	<13	PASS
		25	12	5.92	<13	PASS
		25	25	6.04	<13	PASS
		50	0	5.95	<13	PASS
	MCH	1	0	5.16	<13	PASS
		1	24	5.18	<13	PASS
		1	49	4.25	<13	PASS
		25	0	5.23	<13	PASS
		25	12	5.22	<13	PASS
		25	25	5.03	<13	PASS
		50	0	5.13	<13	PASS
	HCH	1	0	5.66	<13	PASS
		1	24	6.02	<13	PASS
		1	49	3.93	<13	PASS
		25	0	5.95	<13	PASS
		25	12	5.96	<13	PASS
		25	25	6.11	<13	PASS
		50	0	5.51	<13	PASS
16QAM	LCH	1	0	5.84	<13	PASS
		1	24	6.61	<13	PASS
		1	49	6.21	<13	PASS
		25	0	6.56	<13	PASS
		25	12	6.61	<13	PASS
		25	25	6.74	<13	PASS
		50	0	6.57	<13	PASS
	MCH	1	0	5.51	<13	PASS
		1	24	5.43	<13	PASS
		1	49	4.71	<13	PASS
		25	0	5.76	<13	PASS

		25	12	5.89	<13	PASS
		25	25	5.62	<13	PASS
		50	0	5.65	<13	PASS
	HCH	1	0	6.28	<13	PASS
		1	24	6.29	<13	PASS
		1	49	4.46	<13	PASS
		25	0	6.54	<13	PASS
		25	12	6.53	<13	PASS
		25	25	5.73	<13	PASS
		50	0	6.13	<13	PASS

Channel Bandwidth: 15 MHz

Channel Bandwidth: 15 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	5.33	<13	PASS
		1	37	6.18	<13	PASS
		1	74	5.77	<13	PASS
		37	0	6.35	<13	PASS
		37	18	6.34	<13	PASS
		37	38	6.33	<13	PASS
		75	0	6.31	<13	PASS
	MCH	1	0	5.16	<13	PASS
		1	37	4.76	<13	PASS
		1	74	4.25	<13	PASS
		37	0	5.33	<13	PASS
		37	18	5.39	<13	PASS
		37	38	5.31	<13	PASS
		75	0	5.31	<13	PASS
	HCH	1	0	5.28	<13	PASS
		1	37	5.65	<13	PASS
		1	74	3.81	<13	PASS
		37	0	5.95	<13	PASS
		37	18	5.91	<13	PASS
		37	38	5.92	<13	PASS
		75	0	5.92	<13	PASS
16QAM	LCH	1	0	5.41	<13	PASS
		1	37	6.95	<13	PASS
		1	74	6.17	<13	PASS

		37	0	6.36	<13	PASS
		37	18	6.35	<13	PASS
		37	38	6.33	<13	PASS
		75	0	6.73	<13	PASS
	MCH	1	0	5.78	<13	PASS
		1	37	5.48	<13	PASS
		1	74	4.64	<13	PASS
		37	0	5.31	<13	PASS
		37	18	5.29	<13	PASS
		37	38	5.31	<13	PASS
		75	0	5.67	<13	PASS
	HCH	1	0	5.89	<13	PASS
		1	37	6.42	<13	PASS
		1	74	4.42	<13	PASS
		37	0	5.97	<13	PASS
		37	18	5.98	<13	PASS
		37	38	5.95	<13	PASS
		75	0	6.33	<13	PASS

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	4.68	<13	PASS
		1	49	5.77	<13	PASS
		1	99	5.48	<13	PASS
		50	0	5.89	<13	PASS
		50	25	5.87	<13	PASS
		50	50	6.01	<13	PASS
		100	0	6.05	<13	PASS
	MCH	1	0	5.41	<13	PASS
		1	49	4.58	<13	PASS
		1	99	4.37	<13	PASS
		50	0	5.31	<13	PASS
		50	25	5.32	<13	PASS
		50	50	4.87	<13	PASS
		100	0	5.27	<13	PASS
	HCH	1	0	4.75	<13	PASS
		1	49	5.77	<13	PASS

		1	99	3.65	<13	PASS
		50	0	5.81	<13	PASS
		50	25	5.86	<13	PASS
		50	50	5.48	<13	PASS
		100	0	5.74	<13	PASS
16QAM	LCH	1	0	5.04	<13	PASS
		1	49	6.66	<13	PASS
		1	99	5.88	<13	PASS
		50	0	6.48	<13	PASS
		50	25	6.51	<13	PASS
		50	50	6.61	<13	PASS
		100	0	6.65	<13	PASS
	MCH	1	0	5.77	<13	PASS
		1	49	5.33	<13	PASS
		1	99	4.74	<13	PASS
		50	0	5.92	<13	PASS
		50	25	5.89	<13	PASS
		50	50	5.42	<13	PASS
		100	0	5.86	<13	PASS
	HCH	1	0	4.96	<13	PASS
		1	49	6.55	<13	PASS
		1	99	4.16	<13	PASS
		50	0	6.39	<13	PASS
		50	25	6.45	<13	PASS
		50	50	6.17	<13	PASS
		100	0	6.36	<13	PASS

LTE Band 4

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio (dB)	Limit (dB)	Verdict
		Size	Offset			
QPSK	LCH	1	0	4.88	<13	PASS
		1	3	3.89	<13	PASS
		1	5	4.92	<13	PASS
		3	0	5.14	<13	PASS
		3	2	4.84	<13	PASS
		3	3	4.85	<13	PASS
		6	0	4.58	<13	PASS
	MCH	1	0	4.13	<13	PASS
		1	3	4.05	<13	PASS
		1	5	4.37	<13	PASS
		3	0	3.50	<13	PASS
		3	2	3.66	<13	PASS
		3	3	4.28	<13	PASS
		6	0	5.07	<13	PASS
	HCH	1	0	4.97	<13	PASS
		1	3	5.25	<13	PASS
		1	5	4.49	<13	PASS
		3	0	5.34	<13	PASS
		3	2	5.38	<13	PASS
		3	3	4.69	<13	PASS
		6	0	4.84	<13	PASS
16QAM	LCH	1	0	4.81	<13	PASS
		1	3	6.39	<13	PASS
		1	5	6.24	<13	PASS
		3	0	6.03	<13	PASS
		3	2	7.00	<13	PASS
		3	3	6.50	<13	PASS
		6	0	7.37	<13	PASS
	MCH	1	0	4.14	<13	PASS
		1	3	4.06	<13	PASS
		1	5	4.59	<13	PASS
		3	0	4.07	<13	PASS
		3	2	3.96	<13	PASS
		3	3	3.75	<13	PASS

		6	0	4.82	<13	PASS
	HCH	1	0	5.05	<13	PASS
		1	3	5.46	<13	PASS
		1	5	5.86	<13	PASS
		3	0	4.92	<13	PASS
		3	2	4.78	<13	PASS
		3	3	5.49	<13	PASS
		6	0	4.88	<13	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth: 3 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	3.88	<13	PASS
		1	7	4.87	<13	PASS
		1	14	4.69	<13	PASS
		8	0	5.29	<13	PASS
		8	4	4.07	<13	PASS
		8	7	4.64	<13	PASS
		15	0	4.39	<13	PASS
	MCH	1	0	4.17	<13	PASS
		1	7	5.05	<13	PASS
		1	14	4.53	<13	PASS
		8	0	5.27	<13	PASS
		8	4	4.51	<13	PASS
		8	7	5.35	<13	PASS
		15	0	4.07	<13	PASS
	HCH	1	0	5.00	<13	PASS
		1	7	4.88	<13	PASS
		1	14	4.92	<13	PASS
		8	0	5.22	<13	PASS
		8	4	5.66	<13	PASS
		8	7	4.27	<13	PASS
		15	0	5.77	<13	PASS
16QAM	LCH	1	0	5.31	<13	PASS
		1	7	6.05	<13	PASS
		1	14	6.23	<13	PASS
		8	0	6.63	<13	PASS
		8	4	7.12	<13	PASS

		8	7	6.14	<13	PASS
		15	0	6.16	<13	PASS
	MCH	1	0	4.78	<13	PASS
		1	7	4.85	<13	PASS
		1	14	4.33	<13	PASS
		8	0	5.09	<13	PASS
		8	4	4.47	<13	PASS
		8	7	4.87	<13	PASS
		15	0	4.83	<13	PASS
	HCH	1	0	4.31	<13	PASS
		1	7	5.17	<13	PASS
		1	14	5.06	<13	PASS
		8	0	5.10	<13	PASS
		8	4	5.81	<13	PASS
		8	7	6.13	<13	PASS
		15	0	5.20	<13	PASS

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	4.00	<13	PASS
		1	12	5.18	<13	PASS
		1	24	4.80	<13	PASS
		12	0	4.23	<13	PASS
		12	6	4.83	<13	PASS
		12	13	4.09	<13	PASS
		25	0	5.35	<13	PASS
	MCH	1	0	4.47	<13	PASS
		1	12	3.61	<13	PASS
		1	24	4.21	<13	PASS
		12	0	4.62	<13	PASS
		12	6	5.39	<13	PASS
		12	13	4.03	<13	PASS
		25	0	5.21	<13	PASS
	HCH	1	0	4.83	<13	PASS
		1	12	4.13	<13	PASS
		1	24	5.45	<13	PASS
		12	0	4.13	<13	PASS

		12	6	5.53	<13	PASS
		12	13	5.78	<13	PASS
		25	0	5.15	<13	PASS
16QAM	LCH	1	0	4.93	<13	PASS
		1	12	6.20	<13	PASS
		1	24	6.34	<13	PASS
		12	0	6.55	<13	PASS
		12	6	7.01	<13	PASS
		12	13	6.28	<13	PASS
		25	0	6.74	<13	PASS
	MCH	1	0	5.14	<13	PASS
		1	12	4.23	<13	PASS
		1	24	4.69	<13	PASS
		12	0	4.46	<13	PASS
		12	6	5.29	<13	PASS
		12	13	4.49	<13	PASS
		25	0	5.53	<13	PASS
	HCH	1	0	4.76	<13	PASS
		1	12	5.50	<13	PASS
		1	24	4.66	<13	PASS
		12	0	5.98	<13	PASS
		12	6	4.89	<13	PASS
		12	13	5.71	<13	PASS
		25	0	5.80	<13	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 20 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	4.37	<13	PASS
		1	49	3.65	<13	PASS
		1	99	3.85	<13	PASS
		50	0	4.25	<13	PASS
		50	25	4.39	<13	PASS
		50	50	4.81	<13	PASS
		100	0	5.09	<13	PASS
	MCH	1	0	4.36	<13	PASS
		1	49	4.14	<13	PASS
		1	99	4.28	<13	PASS

		50	0	4.47	<13	PASS
		50	25	4.30	<13	PASS
		50	50	4.33	<13	PASS
		100	0	4.09	<13	PASS
	HCH	1	0	4.01	<13	PASS
		1	49	5.05	<13	PASS
		1	99	4.45	<13	PASS
		50	0	4.73	<13	PASS
		50	25	4.09	<13	PASS
		50	50	5.21	<13	PASS
		100	0	4.74	<13	PASS
16QAM	LCH	1	0	4.99	<13	PASS
		1	49	7.04	<13	PASS
		1	99	4.95	<13	PASS
		50	0	7.50	<13	PASS
		50	25	6.23	<13	PASS
		50	50	6.36	<13	PASS
		100	0	7.45	<13	PASS
	MCH	1	0	4.44	<13	PASS
		1	49	4.96	<13	PASS
		1	99	3.69	<13	PASS
		50	0	4.82	<13	PASS
		50	25	4.79	<13	PASS
		50	50	5.11	<13	PASS
		100	0	4.58	<13	PASS
	HCH	1	0	3.77	<13	PASS
		1	49	4.91	<13	PASS
		1	99	5.08	<13	PASS
		50	0	5.11	<13	PASS
		50	25	5.60	<13	PASS
		50	50	5.27	<13	PASS
		100	0	5.37	<13	PASS

Channel Bandwidth: 15 MHz

Channel Bandwidth: 15 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	3.99	<13	PASS
		1	37	4.54	<13	PASS
		1	74	2.62	<13	PASS
		37	0	5.78	<13	PASS
		37	18	5.75	<13	PASS
		37	38	4.66	<13	PASS
		75	0	4.66	<13	PASS
	MCH	1	0	3.23	<13	PASS
		1	37	4.72	<13	PASS
		1	74	3.68	<13	PASS
		37	0	4.24	<13	PASS
		37	18	4.14	<13	PASS
		37	38	4.52	<13	PASS
		75	0	5.34	<13	PASS
	HCH	1	0	2.44	<13	PASS
		1	37	3.93	<13	PASS
		1	74	4.00	<13	PASS
		37	0	4.75	<13	PASS
		37	18	5.59	<13	PASS
		37	38	4.55	<13	PASS
		75	0	5.21	<13	PASS
16QAM	LCH	1	0	2.99	<13	PASS
		1	37	7.16	<13	PASS
		1	74	4.72	<13	PASS
		37	0	7.45	<13	PASS
		37	18	6.25	<13	PASS
		37	38	6.30	<13	PASS
		75	0	7.45	<13	PASS
	MCH	1	0	3.85	<13	PASS
		1	37	4.69	<13	PASS
		1	74	2.23	<13	PASS
		37	0	5.45	<13	PASS
		37	18	4.87	<13	PASS
		37	38	5.63	<13	PASS
		75	0	5.75	<13	PASS

	HCH	1	0	3.52	<13	PASS
		1	37	4.89	<13	PASS
		1	74	4.16	<13	PASS
		37	0	5.69	<13	PASS
		37	18	4.42	<13	PASS
		37	38	5.46	<13	PASS
		75	0	6.00	<13	PASS

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	3.28	<13	PASS
		1	49	4.02	<13	PASS
		1	99	3.71	<13	PASS
		50	0	4.71	<13	PASS
		50	25	4.79	<13	PASS
		50	50	4.68	<13	PASS
		100	0	4.39	<13	PASS
	MCH	1	0	3.19	<13	PASS
		1	49	4.68	<13	PASS
		1	99	2.57	<13	PASS
		50	0	4.28	<13	PASS
		50	25	3.92	<13	PASS
		50	50	5.02	<13	PASS
		100	0	4.05	<13	PASS
	HCH	1	0	2.13	<13	PASS
		1	49	4.97	<13	PASS
		1	99	3.13	<13	PASS
		50	0	3.85	<13	PASS
		50	25	4.33	<13	PASS
		50	50	4.17	<13	PASS
		100	0	5.46	<13	PASS
16QAM	LCH	1	0	3.47	<13	PASS
		1	49	6.93	<13	PASS
		1	99	2.68	<13	PASS
		50	0	7.16	<13	PASS
		50	25	6.19	<13	PASS
		50	50	7.19	<13	PASS

		100	0	7.11	<13	PASS
	MCH	1	0	2.52	<13	PASS
		1	49	4.72	<13	PASS
		1	99	2.41	<13	PASS
		50	0	4.71	<13	PASS
		50	25	5.46	<13	PASS
		50	50	4.65	<13	PASS
		100	0	4.72	<13	PASS
	HCH	1	0	2.85	<13	PASS
		1	49	5.31	<13	PASS
		1	99	3.26	<13	PASS
		50	0	4.59	<13	PASS
		50	25	5.27	<13	PASS
		50	50	5.87	<13	PASS
		100	0	5.90	<13	PASS

LTE Band 7
Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	4.13	<13	PASS
		1	12	4.04	<13	PASS
		1	24	3.57	<13	PASS
		12	0	4.07	<13	PASS
		12	6	4.03	<13	PASS
		12	13	3.84	<13	PASS
		25	0	3.92	<13	PASS
	MCH	1	0	4.59	<13	PASS
		1	12	4.69	<13	PASS
		1	24	4.46	<13	PASS
		12	0	5.11	<13	PASS
		12	6	5.12	<13	PASS
		12	13	4.95	<13	PASS
		25	0	4.88	<13	PASS
	HCH	1	0	4.38	<13	PASS
		1	12	4.99	<13	PASS
		1	24	4.71	<13	PASS
		12	0	4.93	<13	PASS
		12	6	4.96	<13	PASS
		12	13	5.16	<13	PASS
		25	0	5.06	<13	PASS
16QAM	LCH	1	0	4.05	<13	PASS
		1	12	4.18	<13	PASS
		1	24	3.66	<13	PASS
		12	0	4.48	<13	PASS
		12	6	4.49	<13	PASS
		12	13	4.25	<13	PASS
		25	0	4.38	<13	PASS
	MCH	1	0	5.17	<13	PASS
		1	12	5.32	<13	PASS
		1	24	4.97	<13	PASS
		12	0	5.42	<13	PASS
		12	6	5.38	<13	PASS

		12	13	5.36	<13	PASS
		25	0	5.38	<13	PASS
	HCH	1	0	4.89	<13	PASS
		1	12	5.35	<13	PASS
		1	24	5.35	<13	PASS
		12	0	5.24	<13	PASS
		12	6	5.28	<13	PASS
		12	13	5.48	<13	PASS
		25	0	5.38	<13	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	3.62	<13	PASS
		1	24	3.87	<13	PASS
		1	49	3.19	<13	PASS
		25	0	3.9	<13	PASS
		25	12	3.93	<13	PASS
		25	25	3.64	<13	PASS
		50	0	3.63	<13	PASS
	MCH	1	0	4.34	<13	PASS
		1	24	4.68	<13	PASS
		1	49	3.99	<13	PASS
		25	0	5.01	<13	PASS
		25	12	5.04	<13	PASS
		25	25	4.84	<13	PASS
		50	0	4.92	<13	PASS
	HCH	1	0	3.93	<13	PASS
		1	24	4.59	<13	PASS
		1	49	4.72	<13	PASS
		25	0	4.87	<13	PASS
		25	12	4.87	<13	PASS
		25	25	5.04	<13	PASS
		50	0	4.79	<13	PASS
16QAM	LCH	1	0	4.25	<13	PASS
		1	24	3.98	<13	PASS
		1	49	3.32	<13	PASS
		25	0	4.39	<13	PASS

		25	12	4.36	<13	PASS
		25	25	4.06	<13	PASS
		50	0	4.07	<13	PASS
	MCH	1	0	4.96	<13	PASS
		1	24	5.17	<13	PASS
		1	49	4.46	<13	PASS
		25	0	5.48	<13	PASS
		25	12	5.44	<13	PASS
		25	25	5.36	<13	PASS
		50	0	5.38	<13	PASS
	HCH	1	0	4.21	<13	PASS
		1	24	4.89	<13	PASS
		1	49	4.77	<13	PASS
		25	0	5.13	<13	PASS
		25	12	5.1	<13	PASS
		25	25	5.42	<13	PASS
		50	0	5.04	<13	PASS

Channel Bandwidth: 15 MHz

Channel Bandwidth: 15 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	3.57	<13	PASS
		1	37	3.54	<13	PASS
		1	74	3.54	<13	PASS
		37	0	4.23	<13	PASS
		37	18	4.26	<13	PASS
		37	38	4.25	<13	PASS
		75	0	4.26	<13	PASS
	MCH	1	0	4.33	<13	PASS
		1	37	4.73	<13	PASS
		1	74	3.96	<13	PASS
		37	0	5.3	<13	PASS
		37	18	5.3	<13	PASS
		37	38	5.29	<13	PASS
		75	0	5.29	<13	PASS
	HCH	1	0	3.62	<13	PASS
		1	37	4.67	<13	PASS
		1	74	4.44	<13	PASS

		37	0	5.27	<13	PASS
		37	18	5.28	<13	PASS
		37	38	5.26	<13	PASS
		75	0	4.94	<13	PASS
16QAM	LCH	1	0	4.22	<13	PASS
		1	37	3.92	<13	PASS
		1	74	3.62	<13	PASS
		37	0	4.24	<13	PASS
		37	18	4.24	<13	PASS
		37	38	4.24	<13	PASS
		75	0	4.56	<13	PASS
	MCH	1	0	4.79	<13	PASS
		1	37	5.48	<13	PASS
		1	74	4.32	<13	PASS
		37	0	5.29	<13	PASS
		37	18	5.29	<13	PASS
		37	38	5.35	<13	PASS
		75	0	5.66	<13	PASS
	HCH	1	0	4.15	<13	PASS
		1	37	4.82	<13	PASS
		1	74	4.76	<13	PASS
		37	0	5.26	<13	PASS
		37	18	4.99	<13	PASS
		37	38	4.91	<13	PASS
		75	0	5.41	<13	PASS

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	3.77	<13	PASS
		1	49	3.33	<13	PASS
		1	99	3.48	<13	PASS
		50	0	3.62	<13	PASS
		50	25	3.63	<13	PASS
		50	50	3.92	<13	PASS
		100	0	4.41	<13	PASS
	MCH	1	0	4.35	<13	PASS
		1	49	4.62	<13	PASS

		1	99	3.91	<13	PASS
		50	0	5.08	<13	PASS
		50	25	5.07	<13	PASS
		50	50	4.83	<13	PASS
		100	0	5.24	<13	PASS
	HCH	1	0	3.68	<13	PASS
		1	49	4.14	<13	PASS
		1	99	4.33	<13	PASS
		50	0	4.31	<13	PASS
		50	25	4.33	<13	PASS
		50	50	4.87	<13	PASS
		100	0	5.15	<13	PASS
16QAM	LCH	1	0	3.83	<13	PASS
		1	49	3.44	<13	PASS
		1	99	3.73	<13	PASS
		50	0	4.07	<13	PASS
		50	25	4.09	<13	PASS
		50	50	4.31	<13	PASS
		100	0	4.82	<13	PASS
	MCH	1	0	4.97	<13	PASS
		1	49	5.15	<13	PASS
		1	99	4.33	<13	PASS
		50	0	5.55	<13	PASS
		50	25	5.53	<13	PASS
		50	50	5.26	<13	PASS
		100	0	5.72	<13	PASS
	HCH	1	0	3.87	<13	PASS
		1	49	4.65	<13	PASS
		1	99	4.68	<13	PASS
		50	0	4.87	<13	PASS
		50	25	4.88	<13	PASS
		50	50	5.09	<13	PASS
		100	0	5.41	<13	PASS

LTE BAND 12

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio (dB)	Limit (dB)	Verdict
		Size	Offset			
QPSK	LCH	1	0	2.52	<13	PASS
		1	3	2.03	<13	PASS
		1	5	2.02	<13	PASS
		3	0	4.91	<13	PASS
		3	2	3.93	<13	PASS
		3	3	5.98	<13	PASS
		6	0	4.61	<13	PASS
	MCH	1	0	3.07	<13	PASS
		1	3	2.96	<13	PASS
		1	5	2.84	<13	PASS
		3	0	3.07	<13	PASS
		3	2	3.04	<13	PASS
		3	3	2.84	<13	PASS
		6	0	2.96	<13	PASS
	HCH	1	0	3.03	<13	PASS
		1	3	2.97	<13	PASS
		1	5	2.74	<13	PASS
		3	0	2.95	<13	PASS
		3	2	2.98	<13	PASS
		3	3	2.8	<13	PASS
		6	0	2.67	<13	PASS
16QAM	LCH	1	0	2.78	<13	PASS
		1	3	4.82	<13	PASS
		1	5	3.87	<13	PASS
		3	0	4.77	<13	PASS
		3	2	3.73	<13	PASS
		3	3	5.78	<13	PASS
		6	0	5.46	<13	PASS
	MCH	1	0	2.88	<13	PASS
		1	3	3.07	<13	PASS
		1	5	2.95	<13	PASS
		3	0	2.85	<13	PASS
		3	2	2.91	<13	PASS
		3	3	2.98	<13	PASS

		6	0	3.3	<13	PASS
	HCH	1	0	2.96	<13	PASS
		1	3	2.92	<13	PASS
		1	5	2.81	<13	PASS
		3	0	2.89	<13	PASS
		3	2	2.9	<13	PASS
		3	3	2.75	<13	PASS
		6	0	3.29	<13	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth: 3 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	3.84	<13	PASS
		1	7	3.45	<13	PASS
		1	14	4.05	<13	PASS
		8	0	5.71	<13	PASS
		8	4	4.73	<13	PASS
		8	7	6.81	<13	PASS
		15	0	4.14	<13	PASS
	MCH	1	0	4.91	<13	PASS
		1	7	3.56	<13	PASS
		1	14	3.08	<13	PASS
		8	0	3.05	<13	PASS
		8	4	3.03	<13	PASS
		8	7	3.14	<13	PASS
		15	0	3.21	<13	PASS
	HCH	1	0	2.84	<13	PASS
		1	7	3.25	<13	PASS
		1	14	2.93	<13	PASS
		8	0	2.94	<13	PASS
		8	4	2.97	<13	PASS
		8	7	3.08	<13	PASS
		15	0	3.05	<13	PASS
16QAM	LCH	1	0	2.67	<13	PASS
		1	7	2.25	<13	PASS
		1	14	3.86	<13	PASS
		8	0	4.56	<13	PASS
		8	4	4.49	<13	PASS

		8	7	2.65	<13	PASS
		15	0	2.85	<13	PASS
	MCH	1	0	2.76	<13	PASS
		1	7	3.45	<13	PASS
		1	14	3.05	<13	PASS
		8	0	3.47	<13	PASS
		8	4	3.45	<13	PASS
		8	7	3.48	<13	PASS
		15	0	3.64	<13	PASS
	HCH	1	0	2.91	<13	PASS
		1	7	3.43	<13	PASS
		1	14	2.84	<13	PASS
		8	0	3.56	<13	PASS
		8	4	3.55	<13	PASS
		8	7	3.63	<13	PASS
		15	0	3.64	<13	PASS

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	2.18	<13	PASS
		1	12	2.56	<13	PASS
		1	24	2.62	<13	PASS
		12	0	1.86	<13	PASS
		12	6	1.87	<13	PASS
		12	13	2.06	<13	PASS
		25	0	1.97	<13	PASS
	MCH	1	0	2.67	<13	PASS
		1	12	3.33	<13	PASS
		1	24	2.85	<13	PASS
		12	0	2.57	<13	PASS
		12	6	2.58	<13	PASS
		12	13	2.99	<13	PASS
		25	0	3.19	<13	PASS
	HCH	1	0	2.86	<13	PASS
		1	12	3.41	<13	PASS
		1	24	3.06	<13	PASS
		12	0	2.72	<13	PASS

		12	6	2.73	<13	PASS
		12	13	3.33	<13	PASS
		25	0	3.07	<13	PASS
16QAM	LCH	1	0	2.01	<13	PASS
		1	12	2.25	<13	PASS
		1	24	2.33	<13	PASS
		12	0	2.48	<13	PASS
		12	6	2.66	<13	PASS
		12	13	2.93	<13	PASS
		25	0	2.61	<13	PASS
	MCH	1	0	2.27	<13	PASS
		1	12	3.39	<13	PASS
		1	24	2.83	<13	PASS
		12	0	3.37	<13	PASS
		12	6	3.34	<13	PASS
		12	13	3.54	<13	PASS
		25	0	3.66	<13	PASS
	HCH	1	0	2.81	<13	PASS
		1	12	3.15	<13	PASS
		1	24	2.97	<13	PASS
		12	0	3.37	<13	PASS
		12	6	3.36	<13	PASS
		12	13	3.65	<13	PASS
		25	0	3.64	<13	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	3.54	<13	PASS
		1	24	4.62	<13	PASS
		1	49	4.03	<13	PASS
		25	0	3.30	<13	PASS
		25	12	3.14	<13	PASS
		25	25	4.93	<13	PASS
		50	0	3.30	<13	PASS
	MCH	1	0	5.34	<13	PASS
		1	24	4.82	<13	PASS
		1	49	4.33	<13	PASS

		25	0	4.08	<13	PASS
		25	12	3.34	<13	PASS
		25	25	5.32	<13	PASS
		50	0	2.33	<13	PASS
	HCH	1	0	3.47	<13	PASS
		1	24	3.93	<13	PASS
		1	49	3.18	<13	PASS
		25	0	3.23	<13	PASS
		25	12	3.93	<13	PASS
		25	25	3.26	<13	PASS
		50	0	5.75	<13	PASS
16QAM	LCH	1	0	2.33	<13	PASS
		1	24	4.92	<13	PASS
		1	49	6.43	<13	PASS
		25	0	5.44	<13	PASS
		25	12	4.81	<13	PASS
		25	25	4.61	<13	PASS
		50	0	3.24	<13	PASS
	MCH	1	0	4.17	<13	PASS
		1	24	4.11	<13	PASS
		1	49	2.56	<13	PASS
		25	0	5.39	<13	PASS
		25	12	6.25	<13	PASS
		25	25	5.40	<13	PASS
		50	0	5.29	<13	PASS
	HCH	1	0	3.03	<13	PASS
		1	24	2.15	<13	PASS
		1	49	2.95	<13	PASS
		25	0	4.81	<13	PASS
		25	12	3.08	<13	PASS
		25	25	4.27	<13	PASS
		50	0	4.22	<13	PASS

LTE BAND 13

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	3.06	<13	PASS
		1	12	4.37	<13	PASS
		1	24	4.67	<13	PASS
		12	0	3.6	<13	PASS
		12	6	3.62	<13	PASS
		12	13	4.58	<13	PASS
		25	0	4.13	<13	PASS
	MCH	1	0	4.21	<13	PASS
		1	12	4.72	<13	PASS
		1	24	3.69	<13	PASS
		12	0	4.53	<13	PASS
		12	6	4.45	<13	PASS
		12	13	3.98	<13	PASS
		25	0	4.25	<13	PASS
	HCH	1	0	4.62	<13	PASS
		1	12	3.67	<13	PASS
		1	24	2.74	<13	PASS
		12	0	3.93	<13	PASS
		12	6	3.93	<13	PASS
		12	13	2.84	<13	PASS
		25	0	3.42	<13	PASS
16QAM	LCH	1	0	3.33	<13	PASS
		1	12	4.56	<13	PASS
		1	24	4.5	<13	PASS
		12	0	3.87	<13	PASS
		12	6	3.9	<13	PASS
		12	13	4.91	<13	PASS
		25	0	4.42	<13	PASS
	MCH	1	0	4.35	<13	PASS
		1	12	4.83	<13	PASS
		1	24	3.69	<13	PASS
		12	0	5.06	<13	PASS
		12	6	5.04	<13	PASS
		12	13	4.66	<13	PASS

		25	0	4.86	<13	PASS
	HCH	1	0	4.48	<13	PASS
		1	12	3.62	<13	PASS
		1	24	2.68	<13	PASS
		12	0	4.62	<13	PASS
		12	6	4.58	<13	PASS
		12	13	3.49	<13	PASS
		25	0	4.11	<13	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	2.93	<13	PASS
		1	24	4.81	<13	PASS
		1	49	2.68	<13	PASS
		25	0	4.49	<13	PASS
		25	12	0.84	<13	PASS
		25	25	0.98	<13	PASS
		50	0	3.01	<13	PASS
	MCH	1	0	3.84	<13	PASS
		1	24	4.09	<13	PASS
		1	49	3.63	<13	PASS
		25	0	3.91	<13	PASS
		25	12	4.16	<13	PASS
		25	25	5.50	<13	PASS
		50	0	6.18	<13	PASS
	HCH	1	0	2.95	<13	PASS
		1	24	5.08	<13	PASS
		1	49	5.09	<13	PASS
		25	0	3.15	<13	PASS
		25	12	3.10	<13	PASS
		25	25	4.87	<13	PASS
		50	0	4.15	<13	PASS
16QAM	LCH	1	0	3.76	<13	PASS
		1	24	7.48	<13	PASS
		1	49	7.60	<13	PASS
		25	0	7.49	<13	PASS
		25	12	7.17	<13	PASS

		25	25	8.46	<13	PASS
		50	0	7.88	<13	PASS
	MCH	1	0	2.32	<13	PASS
		1	24	5.71	<13	PASS
		1	49	2.12	<13	PASS
		25	0	3.18	<13	PASS
		25	12	2.44	<13	PASS
		25	25	2.46	<13	PASS
		50	0	4.82	<13	PASS
	HCH	1	0	4.72	<13	PASS
		1	24	2.38	<13	PASS
		1	49	5.75	<13	PASS
		25	0	3.84	<13	PASS
		25	12	3.38	<13	PASS
		25	25	4.17	<13	PASS
		50	0	2.53	<13	PASS

LTE Band 25

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio (dB)	Limit (dB)	Verdict
		Size	Offset			
QPSK	LCH	1	0	5.14	<13	PASS
		1	3	5.19	<13	PASS
		1	5	5.13	<13	PASS
		3	0	5.22	<13	PASS
		3	2	5.21	<13	PASS
		3	3	5.11	<13	PASS
		6	0	5.52	<13	PASS
	MCH	1	0	4.15	<13	PASS
		1	3	4.26	<13	PASS
		1	5	4.22	<13	PASS
		3	0	4.16	<13	PASS
		3	2	4.18	<13	PASS
		3	3	4.23	<13	PASS
		6	0	4.48	<13	PASS
	HCH	1	0	4.37	<13	PASS
		1	3	4.41	<13	PASS
		1	5	4.6	<13	PASS
		3	0	4.38	<13	PASS
		3	2	4.38	<13	PASS
		3	3	4.53	<13	PASS
		6	0	4.65	<13	PASS
16QAM	LCH	1	0	5.68	<13	PASS
		1	3	5.58	<13	PASS
		1	5	5.75	<13	PASS
		3	0	5.62	<13	PASS
		3	2	5.57	<13	PASS
		3	3	5.69	<13	PASS
		6	0	6.22	<13	PASS
	MCH	1	0	4.71	<13	PASS
		1	3	4.68	<13	PASS
		1	5	4.63	<13	PASS
		3	0	4.64	<13	PASS
		3	2	4.72	<13	PASS
		3	3	4.68	<13	PASS

		6	0	5.20	<13	PASS
	HCH	1	0	4.83	<13	PASS
		1	3	4.92	<13	PASS
		1	5	4.83	<13	PASS
		3	0	4.88	<13	PASS
		3	2	8.57	<13	PASS
		3	3	4.74	<13	PASS
		6	0	5.15	<13	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth: 3 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	5.13	<13	PASS
		1	7	5.53	<13	PASS
		1	14	5.33	<13	PASS
		8	0	5.85	<13	PASS
		8	4	5.77	<13	PASS
		8	7	5.86	<13	PASS
		15	0	5.96	<13	PASS
	MCH	1	0	4.25	<13	PASS
		1	7	4.46	<13	PASS
		1	14	4.15	<13	PASS
		8	0	4.68	<13	PASS
		8	4	4.67	<13	PASS
		8	7	4.69	<13	PASS
		15	0	4.73	<13	PASS
	HCH	1	0	3.96	<13	PASS
		1	7	4.67	<13	PASS
		1	14	4.71	<13	PASS
		8	0	4.52	<13	PASS
		8	4	4.55	<13	PASS
		8	7	4.83	<13	PASS
		15	0	4.79	<13	PASS
16QAM	LCH	1	0	5.85	<13	PASS
		1	7	6.44	<13	PASS
		1	14	5.91	<13	PASS
		8	0	6.43	<13	PASS
		8	4	6.44	<13	PASS

		8	7	6.43	<13	PASS
		15	0	6.52	<13	PASS
	MCH	1	0	4.92	<13	PASS
		1	7	5.09	<13	PASS
		1	14	4.74	<13	PASS
		8	0	5.28	<13	PASS
		8	4	5.32	<13	PASS
		8	7	5.28	<13	PASS
		15	0	5.34	<13	PASS
	HCH	1	0	4.44	<13	PASS
		1	7	5.06	<13	PASS
		1	14	5.26	<13	PASS
		8	0	5.01	<13	PASS
		8	4	5.06	<13	PASS
		8	7	5.39	<13	PASS
		15	0	5.3	<13	PASS

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	5.33	<13	PASS
		1	12	5.77	<13	PASS
		1	24	5.58	<13	PASS
		12	0	5.83	<13	PASS
		12	6	5.94	<13	PASS
		12	13	5.97	<13	PASS
		25	0	5.93	<13	PASS
	MCH	1	0	4.57	<13	PASS
		1	12	4.57	<13	PASS
		1	24	4.23	<13	PASS
		12	0	4.73	<13	PASS
		12	6	4.73	<13	PASS
		12	13	4.64	<13	PASS
		25	0	4.67	<13	PASS
	HCH	1	0	3.84	<13	PASS
		1	12	4.32	<13	PASS
		1	24	4.72	<13	PASS
		12	0	4.27	<13	PASS

		12	6	4.24	<13	PASS
		12	13	4.83	<13	PASS
		25	0	4.57	<13	PASS
16QAM	LCH	1	0	5.94	<13	PASS
		1	12	6.23	<13	PASS
		1	24	6.18	<13	PASS
		12	0	6.53	<13	PASS
		12	6	6.47	<13	PASS
		12	13	6.57	<13	PASS
		25	0	6.57	<13	PASS
	MCH	1	0	4.92	<13	PASS
		1	12	5.09	<13	PASS
		1	24	4.75	<13	PASS
		12	0	5.35	<13	PASS
		12	6	5.31	<13	PASS
		12	13	5.28	<13	PASS
		25	0	5.28	<13	PASS
	HCH	1	0	4.36	<13	PASS
		1	12	4.71	<13	PASS
		1	24	5.22	<13	PASS
		12	0	4.86	<13	PASS
		12	6	4.81	<13	PASS
		12	13	5.26	<13	PASS
		25	0	5.11	<13	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 20 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	5.16	<13	PASS
		1	49	5.67	<13	PASS
		1	99	5.33	<13	PASS
		50	0	5.75	<13	PASS
		50	25	5.71	<13	PASS
		50	50	5.81	<13	PASS
		100	0	5.81	<13	PASS
	MCH	1	0	4.35	<13	PASS
		1	49	4.62	<13	PASS
		1	99	4.12	<13	PASS

		50	0	4.76	<13	PASS
		50	25	4.79	<13	PASS
		50	50	4.63	<13	PASS
		100	0	4.74	<13	PASS
	HCH	1	0	4.56	<13	PASS
		1	49	4.05	<13	PASS
		1	99	4.13	<13	PASS
		50	0	4.78	<13	PASS
		50	25	4.78	<13	PASS
		50	50	4.49	<13	PASS
		100	0	4.76	<13	PASS
16QAM	LCH	1	0	5.26	<13	PASS
		1	49	6.43	<13	PASS
		1	99	5.78	<13	PASS
		50	0	6.56	<13	PASS
		50	25	6.46	<13	PASS
		50	50	6.56	<13	PASS
		100	0	6.54	<13	PASS
	MCH	1	0	5.05	<13	PASS
		1	49	5.04	<13	PASS
		1	99	4.38	<13	PASS
		50	0	5.44	<13	PASS
		50	25	5.4	<13	PASS
		50	50	5.23	<13	PASS
		100	0	5.31	<13	PASS
	HCH	1	0	5.25	<13	PASS
		1	49	4.67	<13	PASS
		1	99	4.83	<13	PASS
		50	0	5.43	<13	PASS
		50	25	5.43	<13	PASS
		50	50	5.52	<13	PASS
		100	0	5.38	<13	PASS

Channel Bandwidth: 15 MHz

Channel Bandwidth: 15 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	5.04	<13	PASS
		1	37	5.73	<13	PASS
		1	74	5.34	<13	PASS
		37	0	6.15	<13	PASS
		37	18	6.11	<13	PASS
		37	38	6.16	<13	PASS
		75	0	6.14	<13	PASS
	MCH	1	0	4.59	<13	PASS
		1	37	4.65	<13	PASS
		1	74	4.19	<13	PASS
		37	0	5.11	<13	PASS
		37	18	5.12	<13	PASS
		37	38	5.12	<13	PASS
		75	0	5.18	<13	PASS
	HCH	1	0	5.19	<13	PASS
		1	37	4.75	<13	PASS
		1	74	4.16	<13	PASS
		37	0	5.39	<13	PASS
		37	18	5.39	<13	PASS
		37	38	5.38	<13	PASS
		75	0	5.37	<13	PASS
16QAM	LCH	1	0	5.26	<13	PASS
		1	37	6.52	<13	PASS
		1	74	6.06	<13	PASS
		37	0	6.15	<13	PASS
		37	18	6.13	<13	PASS
		37	38	6.11	<13	PASS
		75	0	6.62	<13	PASS
	MCH	1	0	5.12	<13	PASS
		1	37	5.07	<13	PASS
		1	74	4.67	<13	PASS
		37	0	5.13	<13	PASS
		37	18	5.11	<13	PASS
		37	38	5.12	<13	PASS
		75	0	5.53	<13	PASS

	HCH	1	0	5.78	<13	PASS
		1	37	5.24	<13	PASS
		1	74	4.72	<13	PASS
		37	0	5.39	<13	PASS
		37	18	5.37	<13	PASS
		37	38	5.39	<13	PASS
		75	0	5.81	<13	PASS

Channel Bandwidth: 20 MHz

Channel Bandwidth: 20 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	4.41	<13	PASS
		1	49	5.94	<13	PASS
		1	99	4.95	<13	PASS
		50	0	5.81	<13	PASS
		50	25	5.83	<13	PASS
		50	50	5.91	<13	PASS
		100	0	6.02	<13	PASS
	MCH	1	0	4.93	<13	PASS
		1	49	4.37	<13	PASS
		1	99	4.23	<13	PASS
		50	0	4.94	<13	PASS
		50	25	4.95	<13	PASS
		50	50	4.83	<13	PASS
		100	0	5.15	<13	PASS
	HCH	1	0	5.15	<13	PASS
		1	49	5.09	<13	PASS
		1	99	4.06	<13	PASS
		50	0	5.81	<13	PASS
		50	25	5.77	<13	PASS
		50	50	4.75	<13	PASS
		100	0	5.33	<13	PASS
16QAM	LCH	1	0	4.78	<13	PASS
		1	49	6.43	<13	PASS
		1	99	5.45	<13	PASS
		50	0	6.59	<13	PASS
		50	25	6.54	<13	PASS
		50	50	6.53	<13	PASS

		100	0	6.73	<13	PASS
	MCH	1	0	5.33	<13	PASS
		1	49	4.88	<13	PASS
		1	99	4.57	<13	PASS
		50	0	5.63	<13	PASS
		50	25	5.56	<13	PASS
		50	50	5.37	<13	PASS
		100	0	5.72	<13	PASS
	HCH	1	0	5.48	<13	PASS
		1	49	5.95	<13	PASS
		1	99	4.49	<13	PASS
		50	0	6.48	<13	PASS
		50	25	6.45	<13	PASS
		50	50	5.34	<13	PASS
		100	0	5.98	<13	PASS

7. SPURIOUS EMISSION

7.1 CONDUCTED SPURIOUS EMISSION

7.1.1 MEASUREMENT METHOD

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

The minimum permissible attenuation level of any spurious emission is 43 + log10(P[Watts]), where P is the transmitter power in Watts.

For FCC rules§27.53(m)
(i) 40 + 10 log10 p from the channel edges to 5 MHz away
(ii) 43 + 10 log10 p between 5 MHz and X MHz from the channel edges, and
(iii) 55 + 10 log10 p at X MHz and beyond from the channel edges

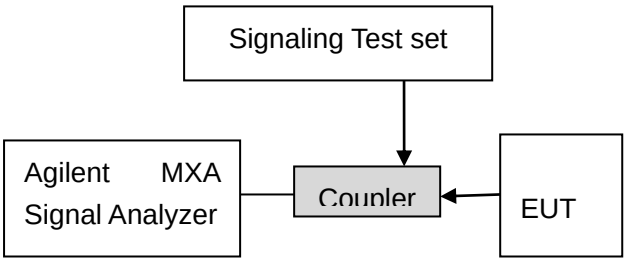
Test Procedure Used
KDB 971168 D01v03 – Section 6.0

Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to at least 10 * the fundamental frequency (separated into at least two plots per channel)
2. Detector = RMS
3. Trace mode = max hold
4. Sweep time = auto couple
5. The trace was allowed to stabilize
6. Please see test notes below for RBW and VBW settings

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Test Instrument & Measurement Setup

shall be attenuated below the transmitter power (P, in Watts) by at least 43+10Log(P) dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.

Test Note

Compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and 1 MHz or greater for frequencies greater than 1 GHz. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

7.1.2 MEASUREMENT RESULT

PLEASE REFER TO: APPENDIX A TEST PLOTS FOR CONDUCTED SPURIOUS EMISSION

Note: 1. No emission found in standby or receive mode, no recording in this report.

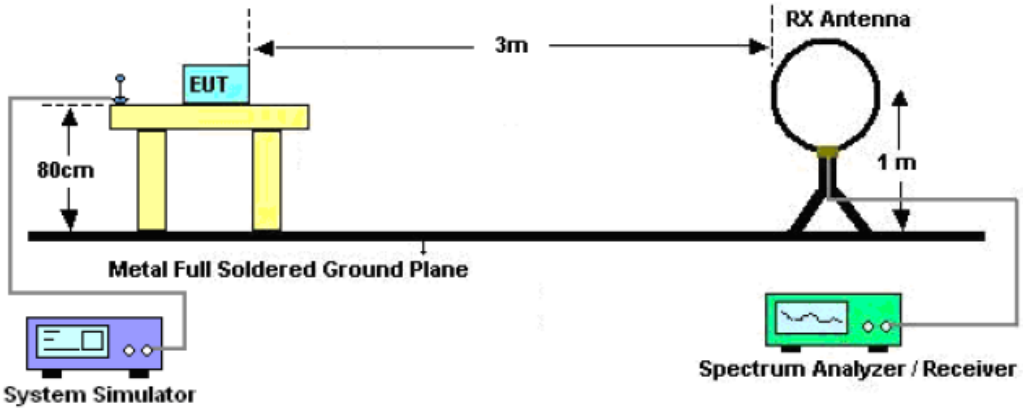
7.2 RADIATED SPURIOUS EMISSION

7.2.1. MEASUREMENT PROCEDURE

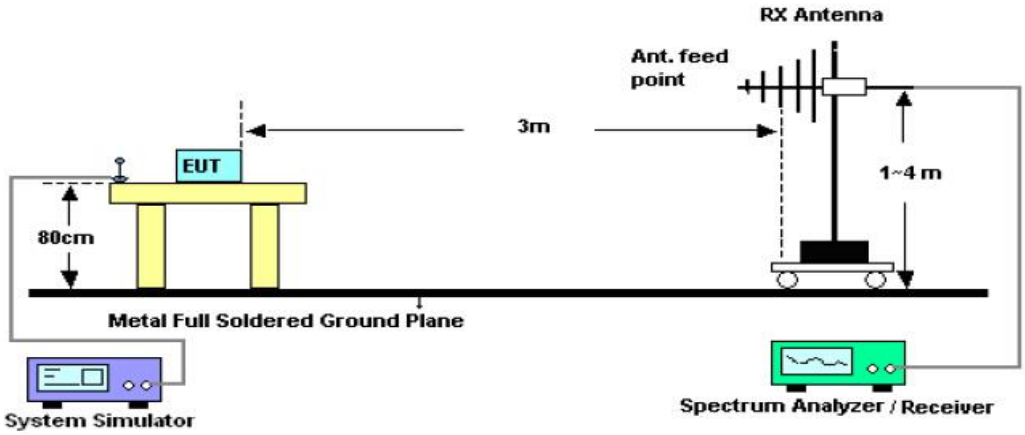
1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

7.2.2. TEST SETUP

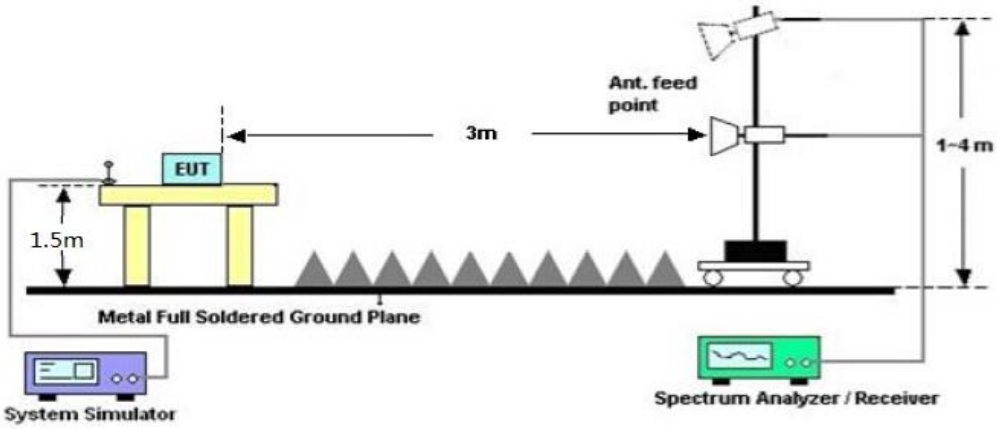
Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



7.2.3 PROVISIONS APPLICABLE

(a) On any frequency outside a licensee's frequency block (e.g. A, D, B, etc.) within the USPCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least 43+10Log(P) dB. The specification that emissions shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

Note: Only record the worst condition of each test mode:

7.2.4 MEASUREMENT RESULT

LTE Band 2
Low channel

Frequency (MHz)	Polarity (H/V)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
3720	V	-49.40	-13	-36.40
896.5	V	-36.43	-13	-23.43
796.4	V	-28.26	-13	-15.26
3720	H	-49.73	-13	-36.73
654.7	H	-37.32	-13	-24.32
588.3	H	-28.83	-13	-15.83

Middle channel

Frequency (MHz)	Polarity (H/V)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
3760	V	-50.41	-13	-37.41
775.9	V	-36.51	-13	-23.51
486.7	V	-29.02	-13	-16.02
3760	H	-49.70	-13	-36.70
712.5	H	-37.53	-13	-24.53
583.0	H	-29.22	-13	-16.22

High channel

Frequency (MHz)	Polarity (H/V)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
3800	V	-49.85	-13	-36.85
498.1	V	-35.07	-13	-22.07
326.3	V	-27.98	-13	-14.98
3800	H	-50.10	-13	-37.10
655.1	H	-37.67	-13	-24.67
520.9	H	-29.17	-13	-16.17

LTE Band 4

Low channel

Frequency (MHz)	Polarity (H/V)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
3440	V	-49.66	-13	-36.66
569.4	V	-36.66	-13	-23.66
436.7	V	-28.46	-13	-15.46
3440	H	-50.49	-13	-37.49
612.1	H	-36.61	-13	-23.61
520.2	H	-28.21	-13	-15.21

Middle channel

Frequency (MHz)	Polarity (H/V)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
3465	V	-49.91	-13	-36.91
649.5	V	-35.54	-13	-22.54
596.4	V	-27.79	-13	-14.79
3465	H	-49.50	-13	-36.50
691.2	H	-38.04	-13	-25.04
523.1	H	-28.05	-13	-15.05

High channel

Frequency (MHz)	Polarity (H/V)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
3490	V	-49.40	-13	-36.40
661.3	V	-36.49	-13	-23.49
532.8	V	-27.17	-13	-14.17
3490	H	-49.62	-13	-36.62
612.3	H	-36.50	-13	-23.50
528.5	H	-28.03	-13	-15.03

LTE Band 7

Low channel

Frequency (MHz)	Polarity (H/V)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
5020	V	-50.87	-13	-37.87
774.3	V	-35.87	-13	-22.87
628.5	V	-28.09	-13	-15.09
5020	H	-49.25	-13	-36.25
712.1	H	-37.25	-13	-24.25
612.3	H	-28.88	-13	-15.88

Middle channel

Frequency (MHz)	Polarity (H/V)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
5070	V	-48.67	-13	-35.67
774.5	V	-35.89	-13	-22.89
629.8	V	-27.64	-13	-14.64
5070	H	-48.63	-13	-35.63
581.7	H	-37.34	-13	-24.34
421.8	H	-28.46	-13	-15.46

High channel

Frequency (MHz)	Polarity (H/V)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
5120	V	-48.32	-13	-35.32
712.6	V	-35.76	-13	-22.76
586.1	V	-27.56	-13	-14.56
5120	H	-49.08	-13	-36.08
642.3	H	-37.42	-13	-24.42
512.5	H	-28.40	-13	-15.40

LTE Band 12
Low channel

Frequency (MHz)	Polarity (H/V)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
1408	V	-40.39	-13	-27.39
786.3	V	-47.34	-13	-34.34
612.8	V	-46.08	-13	-33.08
1408	H	-39.76	-13	-26.76
552.8	H	-47.28	-13	-34.28
413.2	H	-47.43	-13	-34.43

Middle channel

Frequency (MHz)	Polarity (H/V)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
1415	V	-48.10	-13	-35.10
748.3	V	-35.36	-13	-22.36
693.8	V	-28.31	-13	-15.31
1415	H	-49.38	-13	-36.38
712.1	H	-36.84	-13	-23.84
699.1	H	-29.13	-13	-16.13

High channel

Frequency (MHz)	Polarity (H/V)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
1422	V	-47.66	-13	-34.66
698.5	V	-36.35	-13	-23.35
596.4	V	-27.18	-13	-14.18
1422	H	-50.30	-13	-37.30
588.3	H	-37.65	-13	-24.65
471.1	H	-28.52	-13	-15.52

LTE Band 13

Middle channel

Frequency (MHz)	Polarity (H/V)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
1564	V	-40.55	-13	-27.55
615.2	V	-45.11	-13	-32.11
513.8	V	-46.98	-13	-33.98
1564	H	-40.74	-13	-27.74
585.9	H	-44.84	-13	-31.84
413.7	H	-48.66	-13	-35.66

LTE Band 25

Low channel

Frequency (MHz)	Polarity (H/V)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
3720	V	-49.02	-13	-36.02
714.1	V	-36.08	-13	-23.08
628.9	V	-29.86	-13	-16.86
3720	H	-50.48	-13	-37.48
743.2	H	-38.02	-13	-25.02
525.4	H	-29.43	-13	-16.43

Middle channel

Frequency (MHz)	Polarity (H/V)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
3765	V	-50.34	-13	-37.34
695.4	V	-37.01	-13	-24.01
512.3	V	-31.07	-13	-18.07
3765	H	-50.91	-13	-37.91
582.1	H	-38.80	-13	-25.80
479.2	H	-28.70	-13	-15.70

High channel

Frequency (MHz)	Polarity (H/V)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
3810	V	-49.02	-13	-36.02
741.3	V	-37.40	-13	-24.40
612.8	V	-31.32	-13	-18.32
3810	H	-51.96	-13	-38.96
712.3	H	-38.94	-13	-25.94
628.8	H	-29.86	-13	-16.86

Note: 1. Margin = Emission Level -Limit

2. (30MHz-26GHz) Below 30MHZ no Spurious found and above is the worst mode data

8. FREQUENCY STABILITY

8.1 MEASUREMENT METHOD

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a “call mode”. This is accomplished with the use of R&S CMW500 DIGITAL RADIO COMMUNICATION TESTER.

1 Measure the carrier frequency at room temperature.

2 Subject the EUT to overnight soak at -10℃. With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on channel 20175 for LTE band 4 measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.

3 Repeat the above measurements at 10℃ increments from -10℃ to +50℃. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.

4 Re-measure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments re-measuring carrier frequency at each voltage. Pause at nominal voltage for 1 1/2 hours unpowered, to allow any self-heating to stabilize, before continuing.

5 Subject the EUT to overnight soak at +50℃.

6 With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on the centre channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.

7 Repeat the above measurements at 10℃ increments from +50℃ to -10℃. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.

8 At all temperature levels hold the temperature to +/- 0.5℃ during the measurement procedure.

8.2 PROVISIONS APPLICABLE

8.2.1 For Hand carried battery powered equipment

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-E-2016. The frequency stability of the transmitter is measured by:

a.) Temperature: The temperature is varied from -10°C to +50°C in 10°C increments using an environmental chamber.

b.) Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 22, the frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5 ppm) of the center frequency. For Part 22, Part 24 and Part 27, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

8.2.2 For equipment powered by primary supply voltage

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -10°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.
4. The EUT doesn’t work below -10℃

8.3 MEASUREMENT RESULT (WORST)

LTE Band 2

Middle Channel, f_O = 1880 MHz			
Temperature (℃)	Power Supplied (VDC)	Frequency Error (Hz)	Frequency Error (ppm)
-10	3.80	-12.20	-0.006593
0		-15.49	-0.008371
10		7.62	0.004056
20		9.81	0.005220
30		-9.28	-0.004863
40		-4.98	-0.002607
50		16.95	0.009156
25	4.35	-17.97	-0.009708
	3.23	-21.34	-0.011533

Note: Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

LTE Band 4

Middle Channel, f_O = 1732.5 MHz				
Temperature (℃)	Power Supplied (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-10	3.85	10.20	0.005962	±2.5
0		19.05	0.011138	±2.5
10		-41.86	-0.024160	±2.5
20		7.34	0.004236	±2.5
30		12.79	0.007290	±2.5
40		-27.75	-0.015819	±2.5
50		14.53	0.008496	±2.5
25	4.35	-8.75	-0.005053	±2.5
	3.23	-8.41	-0.004855	±2.5

LTE Band 7

Middle Channel, f_O = 2535 MHz			
Temperature (℃)	Power Supplied (VDC)	Frequency Error (Hz)	Frequency Error (ppm)
-10	3.80	-19.45	-0.007774
0		-18.53	-0.007403
10		-15.09	-0.005953
20		-14.13	-0.005575
30		5.18	0.002017
40		-26.82	-0.010447
50		11.79	0.004650
25	4.35	32.22	0.012873
	3.23	26.01	0.010392

Note: Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.