6.2 RADIATED OUTPUT POWER

6.2.1 MEASUREMENT METHOD

The measurements procedures specified in ANSI/TIA-603-D-2010 were applied.

1 In an anechoic antenna test chamber, a half-wave dipole antenna for the frequency band of interest is placed at the reference centre of the chamber. An RF Signal source for the frequency band of interest is connected to the dipole with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A known (measured) power (Pin) is applied to the input of the dipole, and the power received (Pr) at the chamber's probe antenna is recorded.

2 The substitution method is used. Substitution values at each frequency are measured before and saved to the test software. A "reference path loss" is established as ARpl=Pin + 2.15 - Pr. The ARpl is the attenuation of “reference path loss”, and including the gain of receive antenna, the cable loss and the air loss. The measurement results are obtained as described below: Power=PMea+ARpl

3 The EUT is substituted for the dipole at the reference centre of the chamber and a scan is performed to obtain the radiation pattern.

4 From the radiation pattern, the co-ordinates where the maximum antenna gain occurs are identified.

5 The EUT is then put into continuously transmitting mode at its maximum power level.

6 Power mode measurements are performed with the receiving antenna placed at the coordinates determined in Step 3 to determine the output power as defined in Rule 27.50(d)(4). The "reference path loss" from Step1 is added to this result.

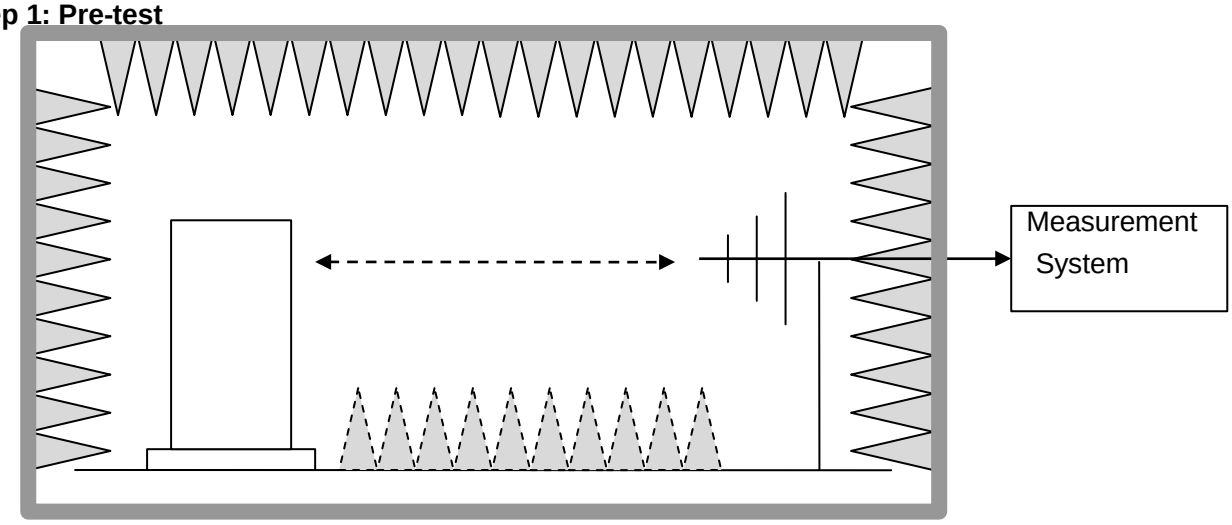
7 This value is EIRP since the measurement is calibrated using a half-wave dipole antenna of known gain (2.15 dBi) and known input power (Pin).

8 ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi..

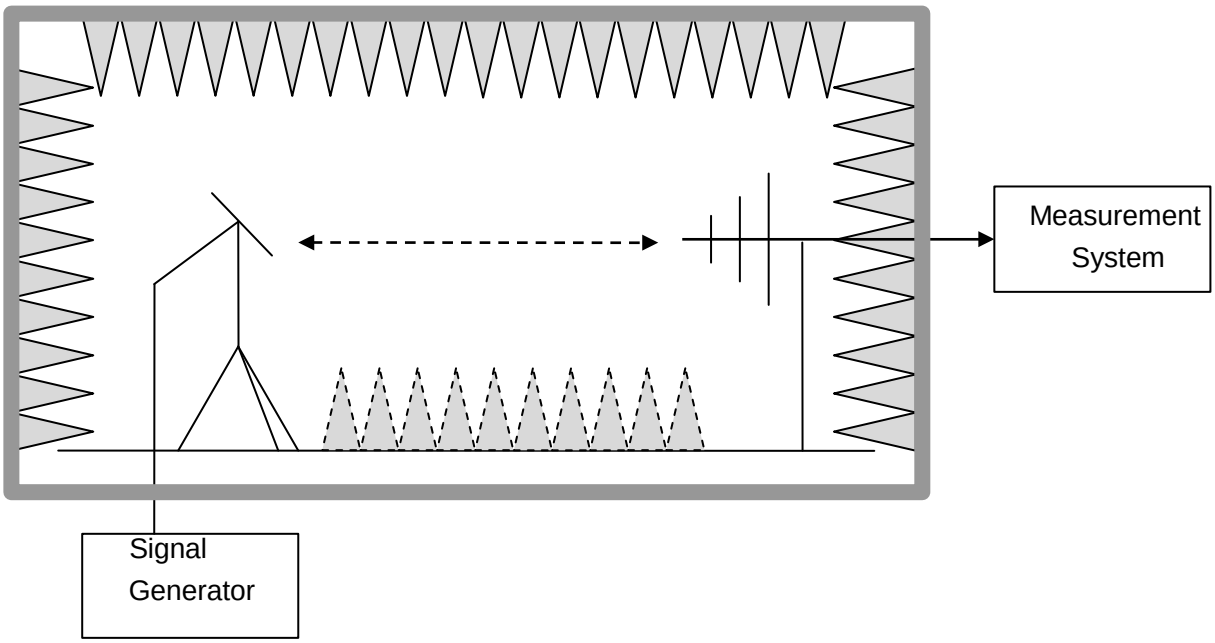
Test Setup

NOTE: Effective radiated power (ERP) refers to the radiation power output of the EUT, assuming all emissions are radiated from half-wave dipole antennas.

Step 1: Pre-test



Step 2: Substitution method to verify the maximum ERP



6.2.2 PROVISIONS APPLICABLE

This is the test for the maximum radiated power from the EUT. Rule Part 27.50(d) specifies, “Mobile/portable stations are limited to 1 watts e.i.r.p.

Rule Part 27.50(c)(10) specifies “Portable stations (hand-held devices) are limited to 3 watts ERP”.

Mode	Nominal Peak Power
LTE Band 2	<=30 dBm (1W)
LTE Band 4	<=30 dBm (1W)
LTE Band 12	<=34.77dBm(3W)
LTE Band 17	<=34.77dBm(3W)

6.2.3 MEASUREMENT RESULT

EIRP for LTE Band2

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	11.45	V	7.95	0.79	18.61	30
1880.0	1.4	QPSK	1/0	11.38	V	7.95	0.79	18.54	30
1909.3	1.4	QPSK	1/0	12.54	V	7.95	0.79	19.70	30
1850.7	1.4	QPSK	1/0	11.30	H	7.95	0.79	18.46	30
1880.0	1.4	QPSK	1/0	10.10	H	7.95	0.79	17.26	30
1909.3	1.4	QPSK	1/0	11.30	H	7.95	0.79	18.46	30
1850.7	1.4	16-QAM	1/5	12.49	V	7.95	0.79	19.65	30
1880.0	1.4	16-QAM	1/0	10.80	V	7.95	0.79	17.96	30
1909.3	1.4	16-QAM	1/0	10.61	V	7.95	0.79	17.77	30
1850.7	1.4	16-QAM	1/5	10.43	H	7.95	0.79	17.59	30
1880.0	1.4	16-QAM	1/0	11.81	H	7.95	0.79	18.97	30
1909.3	1.4	16-QAM	1/0	10.03	H	7.95	0.79	17.19	30
1851.5	3	QPSK	1/0	11.60	V	7.95	0.79	18.76	30
1880.0	3	QPSK	1/0	11.03	V	7.95	0.79	18.19	30
1908.5	3	QPSK	1/0	11.77	V	7.95	0.79	18.93	30
1851.5	3	QPSK	1/0	9.35	H	7.95	0.79	16.51	30
1880.0	3	QPSK	1/0	9.80	H	7.95	0.79	16.96	30
1908.5	3	QPSK	1/0	10.17	H	7.95	0.79	17.33	30
1851.5	3	16-QAM	1/0	11.65	V	7.95	0.79	18.81	30
1880.0	3	16-QAM	1/0	10.99	V	7.95	0.79	18.15	30
1908.5	3	16-QAM	1/0	10.75	V	7.95	0.79	17.91	30
1851.5	3	16-QAM	1/0	10.76	H	7.95	0.79	17.92	30
1880.0	3	16-QAM	1/0	12.20	H	7.95	0.79	19.36	30
1908.5	3	16-QAM	1/0	10.02	H	7.95	0.79	17.18	30
1852.5	5	QPSK	1/0	12.04	V	7.95	0.79	19.20	30
1880.0	5	QPSK	1/0	11.48	V	7.95	0.79	18.64	30
1907.5	5	QPSK	1/24	12.27	V	7.95	0.79	19.43	30
1852.5	5	QPSK	1/0	11.94	H	7.95	0.79	19.10	30
1880.0	5	QPSK	1/0	11.68	H	7.95	0.79	18.84	30
1907.5	5	QPSK	1/24	10.13	H	7.95	0.79	17.29	30
1852.5	5	16-QAM	1/0	11.75	V	7.95	0.79	18.91	30
1880.0	5	16-QAM	1/0	12.34	V	7.95	0.79	19.50	30
1907.5	5	16-QAM	1/24	10.88	V	7.95	0.79	18.04	30
1852.5	5	16-QAM	1/0	10.66	H	7.95	0.79	17.82	30
1880.0	5	16-QAM	1/0	11.41	H	7.95	0.79	18.57	30

1907.5	5	16-QAM	1/24	10.78	H	7.95	0.79	17.94	30
1855	10	QPSK	1/0	11.25	V	7.95	0.79	18.41	30
1880	10	QPSK	1/49	12.17	V	7.95	0.79	19.33	30
1905	10	QPSK	1/0	11.86	V	7.95	0.79	19.02	30
1855	10	QPSK	1/0	10.74	H	7.95	0.79	17.90	30
1880	10	QPSK	1/49	11.01	H	7.95	0.79	18.17	30
1905	10	QPSK	1/0	11.21	H	7.95	0.79	18.37	30
1855	10	16-QAM	1/0	11.22	V	7.95	0.79	18.38	30
1880	10	16-QAM	1/49	12.42	V	7.95	0.79	19.58	30
1905	10	16-QAM	1/0	12.48	V	7.95	0.79	19.64	30
1855	10	16-QAM	1/0	11.15	H	7.95	0.79	18.31	30
1880	10	16-QAM	1/49	11.40	H	7.95	0.79	18.56	30
1905	10	16-QAM	1/0	11.09	H	7.95	0.79	18.25	30
1857.5	15	QPSK	1/0	11.75	V	7.95	0.79	18.91	30
1880	15	QPSK	1/74	10.68	V	7.95	0.79	17.84	30
1902.5	15	QPSK	1/0	12.21	V	7.95	0.79	19.37	30
1857.5	15	QPSK	1/0	11.11	H	7.95	0.79	18.27	30
1880	15	QPSK	1/74	11.34	H	7.95	0.79	18.50	30
1902.5	15	QPSK	1/0	10.31	H	7.95	0.79	17.47	30
1857.5	15	16-QAM	1/0	10.47	V	7.95	0.79	17.63	30
1880	15	16-QAM	1/74	13.17	V	7.95	0.79	20.33	30
1902.5	15	16-QAM	1/0	11.67	V	7.95	0.79	18.83	30
1857.5	15	16-QAM	1/0	10.03	H	7.95	0.79	17.19	30
1880	15	16-QAM	1/74	10.66	H	7.95	0.79	17.82	30
1902.5	15	16-QAM	1/0	11.40	H	7.95	0.79	18.56	30
1860	20	QPSK	1/99	12.17	V	7.95	0.79	19.33	30
1880	20	QPSK	1/99	10.91	V	7.95	0.79	18.07	30
1900	20	QPSK	1/0	11.52	V	7.95	0.79	18.68	30
1860	20	QPSK	1/99	12.47	H	7.95	0.79	19.63	30
1880	20	QPSK	1/99	10.46	H	7.95	0.79	17.62	30
1900	20	QPSK	1/0	10.45	H	7.95	0.79	17.61	30
1860	20	16-QAM	1/99	10.89	V	7.95	0.79	18.05	30
1880	20	16-QAM	1/99	11.16	V	7.95	0.79	18.32	30
1900	20	16-QAM	1/0	11.41	V	7.95	0.79	18.57	30
1860	20	16-QAM	1/99	10.60	H	7.95	0.79	17.76	30
1880	20	16-QAM	1/99	11.98	H	7.95	0.79	19.14	30
1900	20	16-QAM	1/0	11.18	H	7.95	0.79	18.34	30

EIRP for LTE Band4

Frequency	Channel Bandwidth	Mode.	RB	Substituted level	Antenna Polarization	Antenna Gain correction	Cable Loss	Absolute Level	Limit (dBm)
1710.7	1.4	QPSK	1/0	11.98	V	7.95	0.79	19.14	30
1732.5	1.4	QPSK	1/0	11.02	V	7.95	0.79	18.18	30
1754.3	1.4	QPSK	1/0	12.60	V	7.95	0.79	19.76	30
1710.7	1.4	QPSK	1/0	11.54	H	7.95	0.79	18.70	30
1732.5	1.4	QPSK	1/0	9.93	H	7.95	0.79	17.09	30
1754.3	1.4	QPSK	1/0	10.93	H	7.95	0.79	18.09	30
1710.7	1.4	16-QAM	1/5	13.10	V	7.95	0.79	20.26	30
1732.5	1.4	16-QAM	1/0	10.75	V	7.95	0.79	17.91	30
1754.3	1.4	16-QAM	1/0	12.67	V	7.95	0.79	19.83	30
1710.7	1.4	16-QAM	1/5	11.51	H	7.95	0.79	18.67	30
1732.5	1.4	16-QAM	1/0	11.01	H	7.95	0.79	18.17	30
1754.3	1.4	16-QAM	1/0	11.39	H	7.95	0.79	18.55	30
1711.5	3	QPSK	1/0	12.16	V	7.95	0.79	19.32	30
1732.5	3	QPSK	1/0	11.93	V	7.95	0.79	19.09	30
1753.5	3	QPSK	1/0	12.82	V	7.95	0.79	19.98	30
1711.5	3	QPSK	1/0	9.72	H	7.95	0.79	16.88	30
1732.5	3	QPSK	1/0	10.89	H	7.95	0.79	18.05	30
1753.5	3	QPSK	1/0	10.82	H	7.95	0.79	17.98	30
1711.5	3	16-QAM	1/0	12.38	V	7.95	0.79	19.54	30
1732.5	3	16-QAM	1/0	11.09	V	7.95	0.79	18.25	30
1753.5	3	16-QAM	1/0	12.01	V	7.95	0.79	19.17	30
1711.5	3	16-QAM	1/0	10.62	H	7.95	0.79	17.78	30
1732.5	3	16-QAM	1/0	10.77	H	7.95	0.79	17.93	30
1753.5	3	16-QAM	1/0	11.02	H	7.95	0.79	18.18	30
1712.5	5	QPSK	1/0	11.86	V	7.95	0.79	19.02	30
1732.5	5	QPSK	1/0	12.16	V	7.95	0.79	19.32	30
1752.5	5	QPSK	1/24	12.95	V	7.95	0.79	20.11	30
1712.5	5	QPSK	1/0	11.46	H	7.95	0.79	18.62	30
1732.5	5	QPSK	1/0	10.24	H	7.95	0.79	17.40	30
1752.5	5	QPSK	1/24	11.14	H	7.95	0.79	18.30	30
1712.5	5	16-QAM	1/0	12.37	V	7.95	0.79	19.53	30
1732.5	5	16-QAM	1/0	11.38	V	7.95	0.79	18.54	30
1752.5	5	16-QAM	1/24	12.44	V	7.95	0.79	19.60	30
1712.5	5	16-QAM	1/0	9.84	H	7.95	0.79	17.00	30
1732.5	5	16-QAM	1/0	10.56	H	7.95	0.79	17.72	30
1752.5	5	16-QAM	1/24	9.52	H	7.95	0.79	16.68	30

1715	10	QPSK	1/0	12.46	V	7.95	0.79	19.62	30
1732.5	10	QPSK	1/49	12.26	V	7.95	0.79	19.42	30
1750	10	QPSK	1/0	11.69	V	7.95	0.79	18.85	30
1715	10	QPSK	1/0	11.82	H	7.95	0.79	18.98	30
1732.5	10	QPSK	1/49	10.43	H	7.95	0.79	17.59	30
1750	10	QPSK	1/0	10.69	H	7.95	0.79	17.85	30
1715	10	16-QAM	1/0	12.06	V	7.95	0.79	19.22	30
1732.5	10	16-QAM	1/49	10.94	V	7.95	0.79	18.10	30
1750	10	16-QAM	1/0	12.57	V	7.95	0.79	19.73	30
1715	10	16-QAM	1/0	12.17	H	7.95	0.79	19.33	30
1732.5	10	16-QAM	1/49	10.75	H	7.95	0.79	17.91	30
1750	10	16-QAM	1/0	10.46	H	7.95	0.79	17.62	30
1717.5	15	QPSK	1/0	11.67	V	7.95	0.79	18.83	30
1732.5	15	QPSK	1/74	11.84	V	7.95	0.79	19.00	30
1747.5	15	QPSK	1/0	11.46	V	7.95	0.79	18.62	30
1717.5	15	QPSK	1/0	11.85	H	7.95	0.79	19.01	30
1732.5	15	QPSK	1/74	10.10	H	7.95	0.79	17.26	30
1747.5	15	QPSK	1/0	10.67	H	7.95	0.79	17.83	30
1717.5	15	16-QAM	1/0	10.54	V	7.95	0.79	17.70	30
1732.5	15	16-QAM	1/74	11.12	V	7.95	0.79	18.28	30
1747.5	15	16-QAM	1/0	11.61	V	7.95	0.79	18.77	30
1717.5	15	16-QAM	1/0	11.71	H	7.95	0.79	18.87	30
1732.5	15	16-QAM	1/74	10.00	H	7.95	0.79	17.16	30
1747.5	15	16-QAM	1/0	11.60	H	7.95	0.79	18.76	30
1720	20	QPSK	1/99	11.76	V	7.95	0.79	18.92	30
1732.5	20	QPSK	1/99	12.27	V	7.95	0.79	19.43	30
1745	20	QPSK	1/0	11.62	V	7.95	0.79	18.78	30
1720	20	QPSK	1/99	11.71	H	7.95	0.79	18.87	30
1732.5	20	QPSK	1/99	10.09	H	7.95	0.79	17.25	30
1745	20	QPSK	1/0	12.29	H	7.95	0.79	19.45	30
1720	20	16-QAM	1/99	11.18	V	7.95	0.79	18.34	30
1732.5	20	16-QAM	1/99	12.44	V	7.95	0.79	19.60	30
1745	20	16-QAM	1/0	12.53	V	7.95	0.79	19.69	30
1720	20	16-QAM	1/99	11.14	H	7.95	0.79	18.30	30
1732.5	20	16-QAM	1/99	11.50	H	7.95	0.79	18.66	30
1745	20	16-QAM	1/0	11.01	H	7.95	0.79	18.17	30

EIRP for LTE Band12

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	14.36	V	6.7	0.49	20.57	34.77
707.5	1.4	QPSK	1/0	12.35	V	6.7	0.49	18.56	34.77
715.3	1.4	QPSK	1/0	13.30	V	6.7	0.49	19.51	34.77
699.7	1.4	QPSK	1/0	12.44	H	6.7	0.49	18.65	34.77
707.5	1.4	QPSK	1/0	11.97	H	6.7	0.49	18.18	34.77
715.3	1.4	QPSK	1/0	11.84	H	6.7	0.49	18.05	34.77
699.7	1.4	16-QAM	1/0	10.59	V	6.7	0.49	16.80	34.77
707.5	1.4	16-QAM	1/0	13.16	V	6.7	0.49	19.37	34.77
715.3	1.4	16-QAM	1/0	13.63	V	6.7	0.49	19.84	34.77
699.7	1.4	16-QAM	1/0	12.26	H	6.7	0.49	18.47	34.77
707.5	1.4	16-QAM	1/0	11.40	H	6.7	0.49	17.61	34.77
715.3	1.4	16-QAM	1/0	11.51	H	6.7	0.49	17.72	34.77
700.5	3	QPSK	1/0	13.81	V	6.7	0.49	20.02	34.77
707.5	3	QPSK	1/0	11.99	V	6.7	0.49	18.20	34.77
714.5	3	QPSK	1/0	10.71	V	6.7	0.49	16.92	34.77
700.5	3	QPSK	1/0	12.11	H	6.7	0.49	18.32	34.77
707.5	3	QPSK	1/0	11.94	H	6.7	0.49	18.15	34.77
714.5	3	QPSK	1/0	13.44	H	6.7	0.49	19.65	34.77
700.5	3	16-QAM	1/0	11.62	V	6.7	0.49	17.83	34.77
707.5	3	16-QAM	1/0	13.29	V	6.7	0.49	19.50	34.77
714.5	3	16-QAM	1/0	10.89	V	6.7	0.49	17.10	34.77
700.5	3	16-QAM	1/0	12.14	H	6.7	0.49	18.35	34.77
707.5	3	16-QAM	1/0	12.59	H	6.7	0.49	18.80	34.77
714.5	3	16-QAM	1/0	11.70	H	6.7	0.49	17.91	34.77
701.5	5	QPSK	1/0	14.02	V	6.7	0.49	20.23	34.77
707.5	5	QPSK	1/0	11.79	V	6.7	0.49	18.00	34.77
713.5	5	QPSK	1/0	13.05	V	6.7	0.49	19.26	34.77
701.5	5	QPSK	1/0	12.68	H	6.7	0.49	18.89	34.77
707.5	5	QPSK	1/0	12.70	H	6.7	0.49	18.91	34.77
713.5	5	QPSK	1/0	12.53	H	6.7	0.49	18.74	34.77
701.5	5	16-QAM	1/0	12.29	V	6.7	0.49	18.50	34.77
707.5	5	16-QAM	1/0	14.47	V	6.7	0.49	20.68	34.77
713.5	5	16-QAM	1/0	14.00	V	6.7	0.49	20.21	34.77
701.5	5	16-QAM	1/0	12.16	H	6.7	0.49	18.37	34.77
707.5	5	16-QAM	1/0	13.01	H	6.7	0.49	19.22	34.77
713.5	5	16-QAM	1/0	13.42	H	6.7	0.49	19.63	34.77

704	10	QPSK	1/0	12.35	V	6.7	0.49	18.56	34.77
707.5	10	QPSK	1/0	11.40	V	6.7	0.49	17.61	34.77
711	10	QPSK	1/0	12.46	V	6.7	0.49	18.67	34.77
704	10	QPSK	1/0	13.30	H	6.7	0.49	19.51	34.77
707.5	10	QPSK	1/0	12.32	H	6.7	0.49	18.53	34.77
711	10	QPSK	1/0	12.68	H	6.7	0.49	18.89	34.77
704	10	16-QAM	1/0	13.26	V	6.7	0.49	19.47	34.77
707.5	10	16-QAM	1/0	12.86	V	6.7	0.49	19.07	34.77
711	10	16-QAM	1/0	11.84	V	6.7	0.49	18.05	34.77
704	10	16-QAM	1/0	12.74	H	6.7	0.49	18.95	34.77
707.5	10	16-QAM	1/0	13.35	H	6.7	0.49	19.56	34.77
711	10	16-QAM	1/0	11.95	H	6.7	0.49	18.16	34.77

ERP for LTE Band17

Frequency	Channel BW	Mode.	RB	Substituted level	Antenna Polarization	Antenna Gain correction	Cable Loss	Absolute Level	Limit (dBm)
706.5	5	QPSK	1/0	11.09	H	6.7	0.49	17.30	34.77
710	5	QPSK	1/0	13.52	H	6.7	0.49	19.73	34.77
713.5	5	QPSK	1/0	12.74	H	6.7	0.49	18.95	34.77
706.5	5	QPSK	1/0	12.23	V	6.7	0.49	18.44	34.77
710	5	QPSK	1/0	11.14	V	6.7	0.49	17.35	34.77
713.5	5	QPSK	1/0	11.09	V	6.7	0.49	17.30	34.77
706.5	5	16-QAM	1/0	12.02	H	6.7	0.49	18.23	34.77
710	5	16-QAM	1/0	12.50	H	6.7	0.49	18.71	34.77
713.5	5	16-QAM	1/0	12.45	H	6.7	0.49	18.66	34.77
706.5	5	16-QAM	1/0	11.48	V	6.7	0.49	17.69	34.77
710	5	16-QAM	1/0	12.66	V	6.7	0.49	18.87	34.77
713.5	5	16-QAM	1/0	12.25	V	6.7	0.49	18.46	34.77

Frequency	Channel BW	Mode.	RB	Substituted level	Antenna Polarization	Antenna Gain correction	Cable Loss	Absolute Level	Limit (dBm)
709	10	QPSK	1/0	12.09	H	6.7	0.49	18.30	34.77
710	10	QPSK	1/0	12.01	H	6.7	0.49	18.22	34.77
711	10	QPSK	1/0	12.46	H	6.7	0.49	18.67	34.77
709	10	QPSK	1/0	12.99	V	6.7	0.49	19.20	34.77
710	10	QPSK	1/0	12.11	V	6.7	0.49	18.32	34.77
711	10	QPSK	1/0	10.80	V	6.7	0.49	17.01	34.77
709	10	16-QAM	1/0	11.79	H	6.7	0.49	18.00	34.77
710	10	16-QAM	1/0	12.65	H	6.7	0.49	18.86	34.77

711	10	16-QAM	1/0	13.38	H	6.7	0.49	19.59	34.77
709	10	16-QAM	1/0	11.55	V	6.7	0.49	17.76	34.77
710	10	16-QAM	1/0	12.42	V	6.7	0.49	18.63	34.77
711	10	16-QAM	1/0	11.88	V	6.7	0.49	18.09	34.77

Note: Above is the worst mode data.

6.3. Peak-to-Average Ratio

6.3.1 MEASUREMENT METHOD

FCC: 27.50(a)

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 v02r01 5.7.1:

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	3.85	<13	PASS
		1	3	3.89	<13	PASS
		1	5	3.86	<13	PASS
		3	0	3.41	<13	PASS
		3	2	3.84	<13	PASS
		3	3	3.9	<13	PASS
		6	0	4.41	<13	PASS

	MCH	1	0	3.81	<13	PASS
		1	3	3.86	<13	PASS
		1	5	3.92	<13	PASS
		3	0	3.89	<13	PASS
		3	2	3.91	<13	PASS
		3	3	3.93	<13	PASS
		6	0	4.45	<13	PASS
	HCH	1	0	2.84	<13	PASS
		1	3	2.88	<13	PASS
		1	5	2.86	<13	PASS
		3	0	2.84	<13	PASS
		3	2	2.85	<13	PASS
		3	3	2.83	<13	PASS
		6	0	3.65	<13	PASS
16QAM	LCH	1	0	4.75	<13	PASS
		1	3	4.58	<13	PASS
		1	5	4.35	<13	PASS
		3	0	4.62	<13	PASS
		3	2	4.81	<13	PASS
		3	3	4.67	<13	PASS
		6	0	5.15	<13	PASS
	MCH	1	0	4.43	<13	PASS
		1	3	4.42	<13	PASS
		1	5	4.47	<13	PASS
		3	0	4.62	<13	PASS
		3	2	4.53	<13	PASS
		3	3	4.79	<13	PASS
		6	0	5.31	<13	PASS
	HCH	1	0	3.38	<13	PASS
		1	3	3.41	<13	PASS
		1	5	3.46	<13	PASS
		3	0	4.51	<13	PASS
		3	2	4.67	<13	PASS
		3	3	3.74	<13	PASS
		6	0	4.76	<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	3.81	<13	PASS
		1	14	3.76	<13	PASS
		8	0	3.95	<13	PASS
		8	4	3.97	<13	PASS
		8	7	4.15	<13	PASS
		15	0	4.39	<13	PASS
	MCH	1	0	3.85	<13	PASS
		1	7	3.92	<13	PASS
		1	14	3.9	<13	PASS
		8	0	3.97	<13	PASS
		8	4	4.15	<13	PASS
		8	7	4.29	<13	PASS
		15	0	4.39	<13	PASS
	HCH	1	0	3.05	<13	PASS
		1	7	2.95	<13	PASS
		1	14	2.88	<13	PASS
		8	0	3.14	<13	PASS
		8	4	3.41	<13	PASS
		8	7	3.6	<13	PASS
		15	0	3.71	<13	PASS
16QAM	LCH	1	0	4.55	<13	PASS
		1	7	4.72	<13	PASS
		1	14	4.43	<13	PASS
		8	0	4.34	<13	PASS
		8	4	3.96	<13	PASS
		8	7	4.55	<13	PASS
		15	0	5.23	<13	PASS
	MCH	1	0	5.20	<13	PASS
		1	7	3.99	<13	PASS
		1	14	5.24	<13	PASS
		8	0	5.37	<13	PASS
		8	4	4.60	<13	PASS
		8	7	5.56	<13	PASS
		15	0	5.58	<13	PASS
	HCH	1	0	4.69	<13	PASS
		1	7	3.62	<13	PASS
		1	14	4.65	<13	PASS
		8	0	4.53	<13	PASS
		8	4	5.13	<13	PASS

		8	7	4.38	<13	PASS
		15	0	4.63	<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	3.65	<13	PASS
		1	12	3.63	<13	PASS
		1	24	3.56	<13	PASS
		12	0	6.69	<13	PASS
		12	6	3.72	<13	PASS
		12	13	3.87	<13	PASS
		25	0	4.23	<13	PASS
	MCH	1	0	3.82	<13	PASS
		1	12	3.74	<13	PASS
		1	24	3.68	<13	PASS
		12	0	3.67	<13	PASS
		12	6	3.81	<13	PASS
		12	13	4.22	<13	PASS
		25	0	4.53	<13	PASS
	HCH	1	0	3.27	<13	PASS
		1	12	3.22	<13	PASS
		1	24	3.05	<13	PASS
		12	0	3.41	<13	PASS
		12	6	3.52	<13	PASS
		12	13	3.6	<13	PASS
		25	0	3.65	<13	PASS
16QAM	LCH	1	0	4.88	<13	PASS
		1	12	4.56	<13	PASS
		1	24	4.06	<13	PASS
		12	0	4.33	<13	PASS
		12	6	4.69	<13	PASS
		12	13	4.62	<13	PASS
		25	0	4.33	<13	PASS
	MCH	1	0	4.17	<13	PASS
		1	12	3.92	<13	PASS
		1	24	4.75	<13	PASS
		12	0	3.94	<13	PASS
		12	6	4.97	<13	PASS
		12	13	4.07	<13	PASS

		25	0	5.25	<13	PASS
	HCH	1	0	5.54	<13	PASS
		1	12	4.31	<13	PASS
		1	24	4.42	<13	PASS
		12	0	4.07	<13	PASS
		12	6	3.85	<13	PASS
		12	13	4.23	<13	PASS
		25	0	4.12	<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	3.31	<13	PASS
		1	24	3.78	<13	PASS
		1	49	3.03	<13	PASS
		25	0	4.51	<13	PASS
		25	12	3.50	<13	PASS
		25	25	3.35	<13	PASS
		50	0	4.45	<13	PASS
	MCH	1	0	3.04	<13	PASS
		1	24	4.17	<13	PASS
		1	49	3.88	<13	PASS
		25	0	4.09	<13	PASS
		25	12	3.55	<13	PASS
		25	25	4.54	<13	PASS
		50	0	3.93	<13	PASS
	HCH	1	0	3.84	<13	PASS
		1	24	3.01	<13	PASS
		1	49	3.62	<13	PASS
		25	0	3.85	<13	PASS
		25	12	3.72	<13	PASS
		25	25	3.35	<13	PASS
		50	0	4.26	<13	PASS
16QAM	LCH	1	0	3.92	<13	PASS
		1	24	4.25	<13	PASS
		1	49	4.65	<13	PASS
		25	0	4.17	<13	PASS
		25	12	3.87	<13	PASS
		25	25	3.86	<13	PASS

		50	0	5.03	<13	PASS
	MCH	1	0	3.71	<13	PASS
		1	24	4.51	<13	PASS
		1	49	3.41	<13	PASS
		25	0	3.88	<13	PASS
		25	12	3.59	<13	PASS
		25	25	3.74	<13	PASS
		50	0	4.53	<13	PASS
	HCH	1	0	3.26	<13	PASS
		1	24	4.02	<13	PASS
		1	49	3.41	<13	PASS
		25	0	3.85	<13	PASS
		25	12	4.39	<13	PASS
		25	25	4.40	<13	PASS
		50	0	5.18	<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	4.36	<13	PASS
		1	37	3.97	<13	PASS
		1	74	3.18	<13	PASS
		37	0	4.20	<13	PASS
		37	18	4.64	<13	PASS
		37	38	4.32	<13	PASS
		75	0	3.77	<13	PASS
	MCH	1	0	3.27	<13	PASS
		1	37	4.20	<13	PASS
		1	74	3.97	<13	PASS
		37	0	3.51	<13	PASS
		37	18	3.10	<13	PASS
		37	38	4.50	<13	PASS
		75	0	4.88	<13	PASS
	HCH	1	0	3.59	<13	PASS
		1	37	4.14	<13	PASS
		1	74	3.46	<13	PASS
		37	0	3.36	<13	PASS
		37	18	4.19	<13	PASS
		37	38	4.00	<13	PASS

		75	0	5.12	<13	PASS
16QAM	LCH	1	0	4.31	<13	PASS
		1	37	4.40	<13	PASS
		1	74	4.38	<13	PASS
		37	0	4.32	<13	PASS
		37	18	4.34	<13	PASS
		37	38	4.65	<13	PASS
		75	0	5.49	<13	PASS
	MCH	1	0	4.39	<13	PASS
		1	37	4.14	<13	PASS
		1	74	4.81	<13	PASS
		37	0	3.81	<13	PASS
		37	18	5.16	<13	PASS
		37	38	4.85	<13	PASS
		75	0	5.56	<13	PASS
	HCH	1	0	4.78	<13	PASS
		1	37	3.79	<13	PASS
		1	74	4.31	<13	PASS
		37	0	4.39	<13	PASS
		37	18	5.34	<13	PASS
		37	38	4.31	<13	PASS
		75	0	4.40	<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	4.00	<13	PASS
		1	49	3.28	<13	PASS
		1	99	3.31	<13	PASS
		50	0	4.18	<13	PASS
		50	25	5.00	<13	PASS
		50	50	3.80	<13	PASS
		100	0	4.95	<13	PASS
	MCH	1	0	3.91	<13	PASS
		1	49	3.74	<13	PASS
		1	99	4.52	<13	PASS
		50	0	3.83	<13	PASS
		50	25	4.32	<13	PASS
		50	50	4.12	<13	PASS

		100	0	4.04	<13	PASS
	HCH	1	0	3.98	<13	PASS
		1	49	3.85	<13	PASS
		1	99	3.87	<13	PASS
		50	0	4.07	<13	PASS
		50	25	3.87	<13	PASS
		50	50	4.59	<13	PASS
		100	0	5.55	<13	PASS
16QAM	LCH	1	0	4.00	<13	PASS
		1	49	3.28	<13	PASS
		1	99	3.31	<13	PASS
		50	0	4.18	<13	PASS
		50	25	5.00	<13	PASS
		50	50	3.80	<13	PASS
		100	0	4.95	<13	PASS
	MCH	1	0	3.91	<13	PASS
		1	49	3.74	<13	PASS
		1	99	4.52	<13	PASS
		50	0	3.83	<13	PASS
		50	25	4.32	<13	PASS
		50	50	4.12	<13	PASS
		100	0	5.04	<13	PASS
	HCH	1	0	3.98	<13	PASS
		1	49	4.85	<13	PASS
		1	99	4.87	<13	PASS
		50	0	5.07	<13	PASS
		50	25	4.87	<13	PASS
		50	50	4.59	<13	PASS
		100	0	5.55	<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	4.33	<13	PASS
		1	3	4.41	<13	PASS
		1	5	4.37	<13	PASS
		3	0	4.43	<13	PASS
		3	2	4.52	<13	PASS
		3	3	4.48	<13	PASS
		6	0	4.99	<13	PASS
	MCH	1	0	4.82	<13	PASS
		1	3	4.76	<13	PASS
		1	5	4.78	<13	PASS
		3	0	4.64	<13	PASS
		3	2	4.85	<13	PASS
		3	3	4.86	<13	PASS
		6	0	5.09	<13	PASS
	HCH	1	0	4.42	<13	PASS
		1	3	4.46	<13	PASS
		1	5	4.41	<13	PASS
		3	0	4.62	<13	PASS
		3	2	4.53	<13	PASS
		3	3	4.55	<13	PASS
		6	0	4.89	<13	PASS
16QAM	LCH	1	0	5.1	<13	PASS
		1	3	5.06	<13	PASS
		1	5	5.02	<13	PASS
		3	0	5.24	<13	PASS
		3	2	5.34	<13	PASS
		3	3	5.37	<13	PASS
		6	0	5.87	<13	PASS
	MCH	1	0	5.69	<13	PASS
		1	3	5.57	<13	PASS
		1	5	5.65	<13	PASS
		3	0	5.62	<13	PASS
		3	2	5.78	<13	PASS
		3	3	5.81	<13	PASS
		6	0	6.09	<13	PASS

	HCH	1	0	5.15	<13	PASS
		1	3	5.29	<13	PASS
		1	5	5.21	<13	PASS
		3	0	5.32	<13	PASS
		3	2	5.26	<13	PASS
		3	3	5.43	<13	PASS
		6	0	5.91	<13	PASS

Channel Bandwidth: 3 MHz

Channel Bandwidth: 3 MHz						
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
Modulation	Channel	RB Configuration		Peak-to-Average Ratio [dB]	Limit [dB]	Verdict
		Size	Offset			
QPSK	LCH	1	0	4.39	<13	PASS
		1	7	4.34	<13	PASS
		1	14	4.29	<13	PASS
		8	0	4.52	<13	PASS
		8	4	4.65	<13	PASS
		8	7	4.74	<13	PASS
		15	0	4.91	<13	PASS
	MCH	1	0	4.8	<13	PASS
		1	7	4.71	<13	PASS
		1	14	4.73	<13	PASS
		8	0	4.82	<13	PASS
		8	4	4.91	<13	PASS
		8	7	5.05	<13	PASS
		15	0	5.16	<13	PASS
	HCH	1	0	4.29	<13	PASS
		1	7	4.62	<13	PASS
		1	14	4.51	<13	PASS
		8	0	4.85	<13	PASS
		8	4	4.78	<13	PASS
		8	7	4.86	<13	PASS
		15	0	4.98	<13	PASS
16QAM	LCH	1	0	5.09	<13	PASS
		1	7	5.04	<13	PASS
		1	14	4.98	<13	PASS
		8	0	4.91	<13	PASS
		8	4	5.32	<13	PASS

		8	7	5.64	<13	PASS
		15	0	5.8	<13	PASS
	MCH	1	0	5.61	<13	PASS
		1	7	5.48	<13	PASS
		1	14	5.58	<13	PASS
		8	0	5.38	<13	PASS
		8	4	5.64	<13	PASS
		8	7	5.93	<13	PASS
		15	0	6.03	<13	PASS
	HCH	1	0	5.01	<13	PASS
		1	7	5.14	<13	PASS
		1	14	5.1	<13	PASS
		8	0	5.41	<13	PASS
		8	4	5.24	<13	PASS
		8	7	5.68	<13	PASS
		15	0	5.89	<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	4.35	<13	PASS
		1	12	4.26	<13	PASS
		1	24	4.02	<13	PASS
		12	0	4.35	<13	PASS
		12	6	4.15	<13	PASS
		12	13	4.54	<13	PASS
		25	0	4.94	<13	PASS
	MCH	1	0	4.5	<13	PASS
		1	12	4.51	<13	PASS
		1	24	4.2	<13	PASS
		12	0	4.61	<13	PASS
		12	6	4.52	<13	PASS
		12	13	4.94	<13	PASS
		25	0	5.21	<13	PASS
	HCH	1	0	3.88	<13	PASS
		1	12	3.95	<13	PASS
		1	24	4.01	<13	PASS
		12	0	4.27	<13	PASS

		12	6	4.64	<13	PASS
		12	13	4.73	<13	PASS
		25	0	4.99	<13	PASS
16QAM	LCH	1	0	5.12	<13	PASS
		1	12	4.85	<13	PASS
		1	24	4.76	<13	PASS
		12	0	4.91	<13	PASS
		12	6	5.21	<13	PASS
		12	13	5.39	<13	PASS
		25	0	5.79	<13	PASS
	MCH	1	0	5.37	<13	PASS
		1	12	5.16	<13	PASS
		1	24	5.01	<13	PASS
		12	0	5.34	<13	PASS
		12	6	5.48	<13	PASS
		12	13	5.78	<13	PASS
		25	0	5.96	<13	PASS
	HCH	1	0	4.93	<13	PASS
		1	12	4.68	<13	PASS
		1	24	4.74	<13	PASS
		12	0	4.37	<13	PASS
		12	6	4.81	<13	PASS
		12	13	5.67	<13	PASS
		25	0	5.81	<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	4.32	<13	PASS
		1	24	4.51	<13	PASS
		1	49	4.24	<13	PASS
		25	0	4.36	<13	PASS
		25	12	4.62	<13	PASS
		25	25	4.64	<13	PASS
		50	0	4.97	<13	PASS
	MCH	1	0	4.67	<13	PASS
		1	24	4.84	<13	PASS
		1	49	4.89	<13	PASS

		25	0	4.62	<13	PASS
		25	12	4.38	<13	PASS
		25	25	4.94	<13	PASS
		50	0	5.19	<13	PASS
	HCH	1	0	3.64	<13	PASS
		1	24	4.15	<13	PASS
		1	49	4.46	<13	PASS
		25	0	4.32	<13	PASS
		25	12	4.55	<13	PASS
		25	25	4.68	<13	PASS
		50	0	4.72	<13	PASS
16QAM	LCH	1	0	4.91	<13	PASS
		1	24	5.11	<13	PASS
		1	49	5.29	<13	PASS
		25	0	5.14	<13	PASS
		25	12	5.63	<13	PASS
		25	25	5.51	<13	PASS
		50	0	5.73	<13	PASS
	MCH	1	0	5.36	<13	PASS
		1	24	5.49	<13	PASS
		1	49	5.51	<13	PASS
		25	0	5.26	<13	PASS
		25	12	5.31	<13	PASS
		25	25	5.8	<13	PASS
		50	0	5.86	<13	PASS
	HCH	1	0	4.94	<13	PASS
		1	24	4.81	<13	PASS
		1	49	5.25	<13	PASS
		25	0	5.16	<13	PASS
		25	12	5.42	<13	PASS
		25	25	5.64	<13	PASS
		50	0	5.49	<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	4.13	<13	PASS
		1	37	4.26	<13	PASS
		1	74	4.42	<13	PASS

		37	0	4.32	<13	PASS
		37	18	4.58	<13	PASS
		37	38	4.67	<13	PASS
		75	0	5.11	<13	PASS
	MCH	1	0	4.6	<13	PASS
		1	37	4.33	<13	PASS
		1	74	4.28	<13	PASS
		37	0	4.26	<13	PASS
		37	18	4.48	<13	PASS
		37	38	4.92	<13	PASS
		75	0	5.35	<13	PASS
	HCH	1	0	3.95	<13	PASS
		1	37	4.38	<13	PASS
		1	74	4.52	<13	PASS
		37	0	4.36	<13	PASS
		37	18	4.45	<13	PASS
		37	38	4.58	<13	PASS
		75	0	4.97	<13	PASS
16QAM	LCH	1	0	5.21	<13	PASS
		1	37	5.18	<13	PASS
		1	74	5.43	<13	PASS
		37	0	5.33	<13	PASS
		37	18	5.46	<13	PASS
		37	38	5.56	<13	PASS
		75	0	5.88	<13	PASS
	MCH	1	0	5.41	<13	PASS
		1	37	5.41	<13	PASS
		1	74	5.03	<13	PASS
		37	0	5.14	<13	PASS
		37	18	5.64	<13	PASS
		37	38	5.75	<13	PASS
		75	0	6.06	<13	PASS
	HCH	1	0	4.75	<13	PASS
		1	37	4.66	<13	PASS
		1	74	5.2	<13	PASS
		37	0	5.48	<13	PASS
		37	18	5.45	<13	PASS
		37	38	5.48	<13	PASS
		75	0	5.68	<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	4.28	<13	PASS
		1	49	4.56	<13	PASS
		1	99	4.78	<13	PASS
		50	0	5.15	<13	PASS
		50	25	4.80	<13	PASS
		50	50	5.12	<13	PASS
		100	0	4.38	<13	PASS
	MCH	1	0	4.59	<13	PASS
		1	49	4.22	<13	PASS
		1	99	4.47	<13	PASS
		50	0	4.57	<13	PASS
		50	25	4.78	<13	PASS
		50	50	4.46	<13	PASS
		100	0	5.83	<13	PASS
	HCH	1	0	5.23	<13	PASS
		1	49	4.63	<13	PASS
		1	99	5.68	<13	PASS
		50	0	5.58	<13	PASS
		50	25	5.08	<13	PASS
		50	50	5.21	<13	PASS
		100	0	5.52	<13	PASS
16QAM	LCH	1	0	4.07	<13	PASS
		1	49	4.71	<13	PASS
		1	99	4.74	<13	PASS
		50	0	4.13	<13	PASS
		50	25	4.87	<13	PASS
		50	50	5.24	<13	PASS
		100	0	5.13	<13	PASS
	MCH	1	0	4.94	<13	PASS
		1	49	5.31	<13	PASS
		1	99	5.65	<13	PASS
		50	0	5.31	<13	PASS
		50	25	4.87	<13	PASS
		50	50	5.87	<13	PASS
		100	0	5.26	<13	PASS

	HCH	1	0	5.08	<13	PASS
		1	49	5.09	<13	PASS
		1	99	5.48	<13	PASS
		50	0	5.38	<13	PASS
		50	25	4.53	<13	PASS
		50	50	4.30	<13	PASS
		100	0	5.21	<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	3.83	<13	PASS
		1	3	3.97	<13	PASS
		1	5	3.65	<13	PASS
		3	0	3.53	<13	PASS
		3	2	4.16	<13	PASS
		3	3	3.82	<13	PASS
		6	0	5.14	<13	PASS
	MCH	1	0	4.38	<13	PASS
		1	3	3.93	<13	PASS
		1	5	4.81	<13	PASS
		3	0	4.35	<13	PASS
		3	2	4.42	<13	PASS
		3	3	4.10	<13	PASS
		6	0	3.96	<13	PASS
	HCH	1	0	4.89	<13	PASS
		1	3	4.15	<13	PASS
		1	5	3.82	<13	PASS
		3	0	5.13	<13	PASS
		3	2	3.94	<13	PASS
		3	3	4.01	<13	PASS
		6	0	5.24	<13	PASS
16QAM	LCH	1	0	5.57	<13	PASS
		1	3	4.91	<13	PASS
		1	5	5.14	<13	PASS
		3	0	5.27	<13	PASS
		3	2	5.06	<13	PASS
		3	3	5.18	<13	PASS
		6	0	4.84	<13	PASS
	MCH	1	0	5.23	<13	PASS
		1	3	4.90	<13	PASS
		1	5	4.87	<13	PASS
		3	0	4.88	<13	PASS
		3	2	4.67	<13	PASS
		3	3	5.85	<13	PASS
		6	0	5.52	<13	PASS

	HCH	1	0	4.47	<13	PASS
		1	3	5.90	<13	PASS
		1	5	5.25	<13	PASS
		3	0	5.64	<13	PASS
		3	2	4.76	<13	PASS
		3	3	4.85	<13	PASS
		6	0	5.29	<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	3.81	<13	PASS
		1	7	4.77	<13	PASS
		1	14	3.26	<13	PASS
		8	0	3.62	<13	PASS
		8	4	3.73	<13	PASS
		8	7	5.07	<13	PASS
		15	0	4.04	<13	PASS
	MCH	1	0	4.93	<13	PASS
		1	7	3.32	<13	PASS
		1	14	3.51	<13	PASS
		8	0	4.92	<13	PASS
		8	4	5.11	<13	PASS
		8	7	4.62	<13	PASS
		15	0	4.35	<13	PASS
	HCH	1	0	4.67	<13	PASS
		1	7	4.83	<13	PASS
		1	14	4.53	<13	PASS
		8	0	3.59	<13	PASS
		8	4	4.28	<13	PASS
		8	7	3.91	<13	PASS
		15	0	5.39	<13	PASS
16QAM	LCH	1	0	4.56	<13	PASS
		1	7	4.62	<13	PASS
		1	14	4.77	<13	PASS
		8	0	4.55	<13	PASS
		8	4	4.66	<13	PASS
		8	7	4.47	<13	PASS
		15	0	5.48	<13	PASS

	MCH	1	0	4.55	<13	PASS
		1	7	5.45	<13	PASS
		1	14	4.84	<13	PASS
		8	0	4.30	<13	PASS
		8	4	4.38	<13	PASS
		8	7	4.97	<13	PASS
		15	0	4.89	<13	PASS
	HCH	1	0	4.82	<13	PASS
		1	7	4.47	<13	PASS
		1	14	5.41	<13	PASS
		8	0	4.63	<13	PASS
		8	4	5.76	<13	PASS
		8	7	5.79	<13	PASS
		15	0	4.92	<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	4.19	<13	PASS
		1	12	4.01	<13	PASS
		1	24	3.11	<13	PASS
		12	0	3.67	<13	PASS
		12	6	4.61	<13	PASS
		12	13	4.23	<13	PASS
		25	0	5.29	<13	PASS
	MCH	1	0	3.77	<13	PASS
		1	12	4.97	<13	PASS
		1	24	3.58	<13	PASS
		12	0	4.74	<13	PASS
		12	6	4.56	<13	PASS
		12	13	4.69	<13	PASS
		25	0	5.16	<13	PASS
	HCH	1	0	4.88	<13	PASS
		1	12	4.75	<13	PASS
		1	24	3.92	<13	PASS
		12	0	3.86	<13	PASS
		12	6	3.98	<13	PASS
		12	13	3.86	<13	PASS
		25	0	4.30	<13	PASS
16QAM	LCH	1	0	4.64	<13	PASS

		1	12	5.17	<13	PASS
		1	24	4.77	<13	PASS
		12	0	4.59	<13	PASS
		12	6	5.57	<13	PASS
		12	13	5.04	<13	PASS
		25	0	4.63	<13	PASS
	MCH	1	0	5.55	<13	PASS
		1	12	5.23	<13	PASS
		1	24	5.41	<13	PASS
		12	0	6.03	<13	PASS
		12	6	6.20	<13	PASS
		12	13	5.92	<13	PASS
		25	0	5.29	<13	PASS
	HCH	1	0	5.02	<13	PASS
		1	12	4.95	<13	PASS
		1	24	5.78	<13	PASS
		12	0	5.73	<13	PASS
		12	6	4.79	<13	PASS
		12	13	5.59	<13	PASS
		25	0	5.43	<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	3.55	<13	PASS
		1	24	3.66	<13	PASS
		1	49	3.65	<13	PASS
		25	0	4.75	<13	PASS
		25	12	4.19	<13	PASS
		25	25	5.13	<13	PASS
		50	0	3.94	<13	PASS
	MCH	1	0	4.88	<13	PASS
		1	24	4.21	<13	PASS
		1	49	4.30	<13	PASS
		25	0	4.24	<13	PASS
		25	12	5.11	<13	PASS
		25	25	4.61	<13	PASS
		50	0	5.12	<13	PASS
	HCH	1	0	3.86	<13	PASS

		1	24	4.09	<13	PASS
		1	49	3.95	<13	PASS
		25	0	4.53	<13	PASS
		25	12	4.85	<13	PASS
		25	25	5.50	<13	PASS
		50	0	3.99	<13	PASS
16QAM	LCH	1	0	5.03	<13	PASS
		1	24	4.58	<13	PASS
		1	49	4.45	<13	PASS
		25	0	5.88	<13	PASS
		25	12	5.20	<13	PASS
		25	25	5.77	<13	PASS
		50	0	4.99	<13	PASS
	MCH	1	0	5.08	<13	PASS
		1	24	4.78	<13	PASS
		1	49	4.58	<13	PASS
		25	0	5.53	<13	PASS
		25	12	5.02	<13	PASS
		25	25	5.34	<13	PASS
		50	0	4.90	<13	PASS
	HCH	1	0	4.68	<13	PASS
		1	24	4.32	<13	PASS
		1	49	4.55	<13	PASS
		25	0	5.31	<13	PASS
		25	12	4.95	<13	PASS
		25	25	4.81	<13	PASS
		50	0	5.99	<13	PASS

LTE Band 17

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	4.44	<13	PASS
		1	12	4.49	<13	PASS
		1	24	3.81	<13	PASS
		12	0	4.41	<13	PASS
		12	6	4.57	<13	PASS
		12	13	5.34	<13	PASS
		25	0	5.63	<13	PASS
	MCH	1	0	4.68	<13	PASS
		1	12	3.91	<13	PASS
		1	24	3.27	<13	PASS
		12	0	3.82	<13	PASS
		12	6	4.99	<13	PASS
		12	13	4.13	<13	PASS
		25	0	5.14	<13	PASS
	HCH	1	0	2.49	<13	PASS
		1	12	3.10	<13	PASS
		1	24	3.63	<13	PASS
		12	0	3.75	<13	PASS
		12	6	4.72	<13	PASS
		12	13	5.31	<13	PASS
		25	0	4.77	<13	PASS
16QAM	LCH	1	0	5.83	<13	PASS
		1	12	4.87	<13	PASS
		1	24	4.63	<13	PASS
		12	0	5.37	<13	PASS
		12	6	5.22	<13	PASS
		12	13	5.48	<13	PASS
		25	0	5.73	<13	PASS
	MCH	1	0	5.60	<13	PASS
		1	12	5.83	<13	PASS
		1	24	5.80	<13	PASS
		12	0	4.84	<13	PASS
		12	6	4.82	<13	PASS
		12	13	5.53	<13	PASS

		25	0	5.76	<13	PASS
	HCH	1	0	5.20	<13	PASS
		1	12	5.11	<13	PASS
		1	24	5.30	<13	PASS
		12	0	5.85	<13	PASS
		12	6	5.54	<13	PASS
		12	13	5.01	<13	PASS
		25	0	5.49	<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	4.64	<13	PASS
		1	24	4.22	<13	PASS
		1	49	5.15	<13	PASS
		25	0	4.77	<13	PASS
		25	12	5.76	<13	PASS
		25	25	4.74	<13	PASS
		50	0	5.54	<13	PASS
	MCH	1	0	4.52	<13	PASS
		1	24	4.83	<13	PASS
		1	49	4.02	<13	PASS
		25	0	5.27	<13	PASS
		25	12	4.37	<13	PASS
		25	25	4.49	<13	PASS
		50	0	4.39	<13	PASS
	HCH	1	0	4.15	<13	PASS
		1	24	4.41	<13	PASS
		1	49	4.13	<13	PASS
		25	0	4.45	<13	PASS
		25	12	5.61	<13	PASS
		25	25	5.84	<13	PASS
		50	0	4.82	<13	PASS
16QAM	LCH	1	0	3.71	<13	PASS
		1	24	4.54	<13	PASS
		1	49	4.68	<13	PASS
		25	0	5.61	<13	PASS
		25	12	4.53	<13	PASS
		25	25	5.60	<13	PASS

		50	0	5.33	<13	PASS
	MCH	1	0	4.04	<13	PASS
		1	24	4.13	<13	PASS
		1	49	4.38	<13	PASS
		25	0	4.48	<13	PASS
		25	12	4.28	<13	PASS
		25	25	4.95	<13	PASS
		50	0	5.83	<13	PASS
	HCH	1	0	3.95	<13	PASS
		1	24	3.23	<13	PASS
		1	49	4.52	<13	PASS
		25	0	4.02	<13	PASS
		25	12	3.75	<13	PASS
		25	25	4.10	<13	PASS
		50	0	3.81	<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.

Test Procedure Used

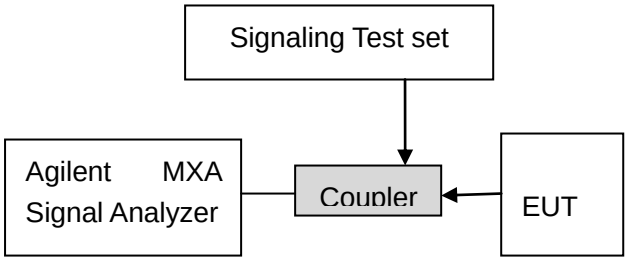
KDB 971168 v02r01 – Section 6.0

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.