5.599%&26DB BANDWIDTH

Test Requirement: FCC 47 CFR Part 2.1049(h)

Test Method: ANSI C63.26-2015 & KDB 971168 D01v03r01 Section 4

Limit: No Limit, for reporting purposes only.

Test Procedure:

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The 99% and -26dB bandwidths was also measured and recorded.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup: Refer to section 4.2.2 for details.

Instruments Used: Refer to section 3 for details

Test Mode: Link mode

Test Results: Pass

Test Data: **Please refer to Appendix A3**

5.6 BAND EDGE AT ANTENNA TERMINALS

Test Requirement: **LTE Band 2:** FCC 47 CFR Part 24.238(a)
LTE Band 4: FCC 47 CFR Part 27.53(h)(1)
LTE Band 5: FCC 47 CFR Part 22.917(a)
LTE Band 7& Band 38 & Band 41:: FCC 47 CFR Part 27.53(m)(4)
LTE Band 40: FCC 47 CFR Part 27.53(a)(4

Test Method: ANSI C63.26-2015 & KDB 971168 D01v03r01

Limit:

FCC 47 CFR Part 24.238(a), 27.53(h)(1), 22.917(a):
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to -13 dBm.

FCC 47 CFR Part 27.53(m)(4):
For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

FCC 47 CFR Part 27.53(a)(4): For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:
(i) By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz;
(ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz;
(iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

FCC 47 CFR Part 27.53(a)(5): Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the channel blocks at 2305, 2310, 2315, 2320, 2345, 2350, 2355, and 2360 MHz, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e., 1 MHz). 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 emissions are attenuated at least 26 dB below the transmitter power.

Test Procedure:
The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer.
For each band edge measurement:
1) Set the spectrum analyzer span to include the block edge frequency.
2) Set a marker to point the corresponding band edge frequency in each test case.
3) Set display line at -13 dBm
4) Set resolution bandwidth to at least 1% of emission bandwidth.
5) Set spectrum analyzer with RMS detector.
6) Record the max trace plot into the test report

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup:	Refer to section 4.2.2 for details.
Instruments Used:	Refer to section 3 for details
Test Mode:	Link mode
Test Results:	Pass
Test Data:	**Please refer to Appendix A4**

5.7 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Test Requirement: **LTE Band 2:** FCC 47 CFR Part 24.238(a)
LTE Band 4: FCC 47 CFR Part 27.53(h)
LTE Band 5: FCC 47 CFR Part 22.917(a)
LTE Band 7& Band 38 & Band 41:: FCC 47 CFR Part 27.53(m)(4)
LTE Band 40: FCC 47 CFR Part 27.53(a)(4)

Test Method: ANSI C63.26-2015 & KDB 971168 D01v03r01

Limit:

FCC 47 CFR Part 24.238(a), 27.53(h)(1), 22.917(a), 27.53(c)(2):
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to -13 dBm.

FCC 47 CFR Part 27.53(m)(4):
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 55 + 10 log(P) dB. The emission limit equal to -25 dBm.

FCC 47 CFR Part 27.53(a)(4): For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:
(i) By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz;
(ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz;
(iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

Test Procedure:
The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range. b. Measuring frequency range is from 30 MHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower. Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup: Refer to section 4.2.2 for details.
Instruments Used: Refer to section 3 for details
Test Mode: Link mode
Test Results: Pass
Test Data: **Please refer to Appendix A5**

5.8 FIELD STRENGTH OF SPURIOUS RADIATION

Test Requirement: **LTE Band 2:** FCC 47 CFR Part 24.238(a)
LTE Band 4: FCC 47 CFR Part 27.53(h)
LTE Band 5: FCC 47 CFR Part 22.917(a)
LTE Band 7& Band 38 & Band 41:: FCC 47 CFR Part 27.53(m)(4)
LTE Band 40: FCC 47 CFR Part 27.53(a)(4)

Test Method: ANSI C63.26-2015 & KDB 971168 D01v03r01

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
0.009 MHz-30 MHz	Peak	10 kHz	30 KHz	Peak
30 MHz-1 GHz	Quasi-peak	100 kHz	300 KHz	Peak
Above 1 GHz	Peak	1 MHz	3 MHz	Peak

Limits:

FCC 47 CFR Part 24.238(a), 27.53(h)(1), 22.917(a):
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to -13 dBm.

FCC 47 CFR Part 27.53(m)(4):
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 55 + 10 log(P) dB. The emission limit equal to -25 dBm.

FCC 47 CFR Part 27.53(a)(4): For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:
(i) By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz;
(ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz;
(iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

Test Setup: Refer to section 4.2.1 for details.

Test Procedures: KDB 971168 D01v03r01 Section 7

Equipment Used: Refer to section 3 for details.

Test Result: Pass

The worst measurement data as follows:

5.8.1 LTE Band 2

LTE Band 2_ 20 MHz_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
Lowest Channel							
1	760.287	-79.76	11.63	-68.13	-13.00	-55.13	Horizontal
2	833.013	-80.42	13.24	-67.18	-13.00	-54.18	Horizontal
3	986.044	-81.51	15.44	-66.07	-13.00	-53.07	Horizontal
4	3702.714	-53.09	7.46	-45.63	-13.00	-32.63	Horizontal
5	5554.060	-59.20	10.97	-48.23	-13.00	-35.23	Horizontal
6	7376.898	-54.96	13.05	-41.91	-13.00	-28.91	Horizontal
7	723.793	-80.53	11.58	-68.95	-13.00	-55.95	Vertical
8	804.252	-80.19	12.75	-67.44	-13.00	-54.44	Vertical
9	958.714	-80.68	14.93	-65.75	-13.00	-52.75	Vertical
10	3702.714	-55.88	7.46	-48.42	-13.00	-35.42	Vertical
11	5580.000	-59.51	11.04	-48.47	-13.00	-35.47	Vertical
12	7376.898	-56.57	13.05	-43.52	-13.00	-30.52	Vertical
Middle Channel							
1	838.887	-80.10	13.30	-66.80	-13.00	-53.80	Horizontal
2	919.132	-80.44	14.53	-65.91	-13.00	-52.91	Horizontal
3	986.044	-81.41	15.44	-65.97	-13.00	-52.97	Horizontal
4	3724.224	-54.76	7.56	-47.20	-13.00	-34.20	Horizontal
5	5640.000	-61.17	11.18	-49.99	-13.00	-36.99	Horizontal
6	7462.854	-54.41	13.07	-41.34	-13.00	-28.34	Horizontal
7	13089.280	-55.04	17.01	-38.03	-13.00	-25.03	Horizontal
8	804.252	-80.19	12.75	-67.44	-13.00	-54.44	Vertical
9	887.398	-80.74	14.17	-66.57	-13.00	-53.57	Vertical
10	986.044	-80.92	15.44	-65.48	-13.00	-52.48	Vertical
11	3724.224	-56.07	7.56	-48.51	-13.00	-35.51	Vertical
12	5640.000	-61.36	11.18	-50.18	-13.00	-37.18	Vertical
13	7462.854	-57.75	13.07	-44.68	-13.00	-31.68	Vertical
Highest Channel							
1	838.887	-80.10	13.30	-66.80	-13.00	-53.80	Horizontal
2	881.184	-80.45	14.07	-66.38	-13.00	-53.38	Horizontal
3	919.132	-80.44	14.53	-65.91	-13.00	-52.91	Horizontal
4	3767.619	-55.67	7.77	-47.90	-13.00	-34.90	Horizontal
5	5700.000	-60.62	11.33	-49.29	-13.00	-36.29	Horizontal
6	7549.811	-56.16	13.06	-43.10	-13.00	-30.10	Horizontal
7	13241.800	-56.50	17.32	-39.18	-13.00	-26.18	Horizontal
8	881.184	-81.26	14.07	-67.19	-13.00	-54.19	Vertical
9	925.613	-81.22	14.46	-66.76	-13.00	-53.76	Vertical
10	986.044	-81.60	15.44	-66.16	-13.00	-53.16	Vertical
11	3767.619	-52.54	7.77	-44.77	-13.00	-31.77	Vertical
12	5700.000	-60.59	11.33	-49.26	-13.00	-36.26	Vertical
13	7334.292	-58.11	13.05	-45.06	-13.00	-32.06	Vertical
14	13241.800	-56.91	17.32	-39.59	-13.00	-26.59	Vertical

5.8.2 LTE Band 4

LTE Band 4_ 20 MHz_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
Lowest Channel							
1	765.648	-79.74	11.85	-67.89	-13.00	-54.89	Horizontal
2	827.179	-79.91	13.16	-66.75	-13.00	-53.75	Horizontal
3	979.139	-81.47	15.25	-66.22	-13.00	-53.22	Horizontal
4	3414.304	-52.68	6.38	-46.30	-13.00	-33.30	Horizontal
5	5160.000	-59.72	10.10	-49.62	-13.00	-36.62	Horizontal
6	6841.814	-55.77	13.00	-42.77	-13.00	-29.77	Horizontal
7	8526.351	-57.11	13.62	-43.49	-13.00	-30.49	Horizontal
8	13710.090	-57.92	18.41	-39.51	-13.00	-26.51	Horizontal
9	856.760	-80.62	13.67	-66.95	-13.00	-53.95	Vertical
10	906.304	-81.15	14.53	-66.62	-13.00	-53.62	Vertical
11	979.139	-80.71	15.25	-65.46	-13.00	-52.46	Vertical
12	3414.304	-52.15	6.38	-45.77	-13.00	-32.77	Vertical
13	5160.000	-60.35	10.10	-50.25	-13.00	-37.25	Vertical
Middle Channel							
1	862.802	-79.83	13.74	-66.09	-13.00	-53.09	Horizontal
2	887.398	-80.09	14.17	-65.92	-13.00	-52.92	Horizontal
3	965.474	-80.70	14.91	-65.79	-13.00	-52.79	Horizontal
4	3434.138	-54.57	6.41	-48.16	-13.00	-35.16	Horizontal
5	5197.500	-61.01	10.18	-50.83	-13.00	-37.83	Horizontal
6	6881.560	-56.56	13.01	-43.55	-13.00	-30.55	Horizontal
7	13789.740	-57.74	18.60	-39.14	-13.00	-26.14	Horizontal
8	809.924	-80.85	12.89	-67.96	-13.00	-54.96	Vertical
9	887.398	-81.07	14.17	-66.90	-13.00	-53.90	Vertical
10	952.000	-80.85	14.82	-66.03	-13.00	-53.03	Vertical
11	3434.138	-55.67	6.41	-49.26	-13.00	-36.26	Vertical
12	5197.500	-61.65	10.18	-51.47	-13.00	-38.47	Vertical
Highest Channel							
1	838.887	-80.96	13.30	-67.66	-13.00	-54.66	Horizontal
2	919.132	-80.88	14.53	-66.35	-13.00	-53.35	Horizontal
3	992.997	-81.80	15.56	-66.24	-13.00	-53.24	Horizontal
4	3454.087	-53.04	6.45	-46.59	-13.00	-33.59	Horizontal
5	5235.000	-60.13	10.26	-49.87	-13.00	-36.87	Horizontal
6	856.760	-80.54	13.67	-66.87	-13.00	-53.87	Vertical
7	912.695	-80.97	14.49	-66.48	-13.00	-53.48	Vertical
8	986.044	-81.26	15.44	-65.82	-13.00	-52.82	Vertical
9	3454.087	-52.66	6.45	-46.21	-13.00	-33.21	Vertical
10	5235.000	-59.75	10.26	-49.49	-13.00	-36.49	Vertical

5.8.3 LTE Band 5

LTE Band 5_ 10 MHz_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
Lowest Channel							
1	651.383	-80.13	9.85	-70.28	-13.00	-57.28	Horizontal
2	739.214	-80.52	11.58	-68.94	-13.00	-55.94	Horizontal
3	893.656	-80.22	14.20	-66.02	-13.00	-53.02	Horizontal
4	1645.658	-48.48	-0.32	-48.80	-13.00	-35.80	Horizontal
5	2487.000	-59.24	3.50	-55.74	-13.00	-42.74	Horizontal
6	3278.635	-50.97	6.14	-44.83	-13.00	-31.83	Horizontal
7	739.214	-80.35	11.58	-68.77	-13.00	-55.77	Vertical
8	919.132	-81.09	14.53	-66.56	-13.00	-53.56	Vertical
9	979.139	-81.40	15.25	-66.15	-13.00	-53.15	Vertical
10	1645.658	-45.40	-0.32	-45.72	-13.00	-32.72	Vertical
11	2487.000	-59.59	3.50	-56.09	-13.00	-43.09	Vertical
12	3278.635	-47.00	6.14	-40.86	-13.00	-27.86	Vertical
Middle Channel							
1	739.214	-79.90	11.58	-68.32	-13.00	-55.32	Horizontal
2	809.924	-80.60	12.89	-67.71	-13.00	-54.71	Horizontal
3	986.044	-80.58	15.44	-65.14	-13.00	-52.14	Horizontal
4	1664.833	-54.49	-0.17	-54.66	-13.00	-41.66	Horizontal
5	2509.500	-59.76	3.58	-56.18	-13.00	-43.18	Horizontal
6	3316.838	-52.27	6.21	-46.06	-13.00	-33.06	Horizontal
7	739.214	-80.45	11.58	-68.87	-13.00	-55.87	Vertical
8	919.132	-81.23	14.53	-66.70	-13.00	-53.70	Vertical
9	972.283	-81.45	15.04	-66.41	-13.00	-53.41	Vertical
10	1664.833	-52.28	-0.17	-52.45	-13.00	-39.45	Vertical
11	2509.500	-60.41	3.58	-56.83	-13.00	-43.83	Vertical
12	3316.838	-50.82	6.21	-44.61	-13.00	-31.61	Vertical
Highest Channel							
1	809.924	-80.95	12.89	-68.06	-13.00	-55.06	Horizontal
2	945.334	-80.88	14.69	-66.19	-13.00	-53.19	Horizontal
3	979.139	-81.35	15.25	-66.10	-13.00	-53.10	Horizontal
4	1674.504	-55.53	-0.11	-55.64	-13.00	-42.64	Horizontal
5	2532.000	-59.45	3.68	-55.77	-13.00	-42.77	Horizontal
6	3355.486	-54.85	6.27	-48.58	-13.00	-35.58	Horizontal
7	754.963	-80.33	11.60	-68.73	-13.00	-55.73	Vertical
8	893.656	-80.42	14.20	-66.22	-13.00	-53.22	Vertical
9	925.613	-80.87	14.46	-66.41	-13.00	-53.41	Vertical
10	1674.504	-51.76	-0.11	-51.87	-13.00	-38.87	Vertical
11	2532.000	-60.10	3.68	-56.42	-13.00	-43.42	Vertical
12	3355.486	-54.27	6.27	-48.00	-13.00	-35.00	Vertical

5.8.4 LTE Band 7

LTE Band 7_ 20 MHz_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
Lowest Channel							
1	925.613	-81.25	14.46	-66.79	-25.00	-41.79	Horizontal
2	958.714	-81.30	14.93	-66.37	-25.00	-41.37	Horizontal
3	992.997	-81.62	15.56	-66.06	-25.00	-41.06	Horizontal
4	5020.000	-59.15	9.79	-49.36	-25.00	-24.36	Horizontal
5	7506.207	-52.12	13.07	-39.05	-25.00	-14.05	Horizontal
6	10027.650	-53.77	15.07	-38.70	-25.00	-13.70	Horizontal
7	868.886	-79.88	13.80	-66.08	-25.00	-41.08	Vertical
8	945.334	-80.02	14.69	-65.33	-25.00	-40.33	Vertical
9	992.997	-79.80	15.56	-64.24	-25.00	-39.24	Vertical
10	5020.000	-59.22	9.79	-49.43	-25.00	-24.43	Vertical
11	7506.207	-53.76	13.07	-40.69	-25.00	-15.69	Vertical
Middle Channel							
1	815.635	-80.51	13.04	-67.47	-25.00	-42.47	Horizontal
2	899.958	-80.76	14.32	-66.44	-25.00	-41.44	Horizontal
3	958.714	-81.30	14.93	-66.37	-25.00	-41.37	Horizontal
4	5033.218	-55.66	9.81	-45.85	-25.00	-20.85	Horizontal
5	7549.811	-52.67	13.06	-39.61	-25.00	-14.61	Horizontal
6	10085.910	-54.13	15.08	-39.05	-25.00	-14.05	Horizontal
7	798.620	-80.72	12.53	-68.19	-25.00	-43.19	Vertical
8	844.803	-80.36	13.42	-66.94	-25.00	-41.94	Vertical
9	887.398	-80.64	14.17	-66.47	-25.00	-41.47	Vertical
10	5070.000	-59.40	9.90	-49.50	-25.00	-24.50	Vertical
11	7549.811	-56.22	13.06	-43.16	-25.00	-18.16	Vertical
Highest Channel							
1	718.725	-79.99	11.51	-68.48	-25.00	-43.48	Horizontal
2	821.387	-80.23	13.20	-67.03	-25.00	-42.03	Horizontal
3	925.613	-79.34	14.46	-64.88	-25.00	-39.88	Horizontal
4	5091.865	-54.84	9.94	-44.90	-25.00	-19.90	Horizontal
5	7637.782	-57.87	13.02	-44.85	-25.00	-19.85	Horizontal
6	10203.430	-56.17	15.11	-41.06	-25.00	-16.06	Horizontal
7	12789.500	-57.06	16.31	-40.75	-25.00	-15.75	Horizontal
8	804.252	-79.81	12.75	-67.06	-25.00	-42.06	Vertical
9	899.958	-80.36	14.32	-66.04	-25.00	-41.04	Vertical
10	992.997	-81.52	15.56	-65.96	-25.00	-40.96	Vertical
11	5091.865	-57.29	9.94	-47.35	-25.00	-22.35	Vertical
12	7680.000	-59.87	13.02	-46.85	-25.00	-21.85	Vertical
13	10203.430	-58.25	15.11	-43.14	-25.00	-18.14	Vertical

5.8.5 LTE Band 38

LTE Band 38_ 20 MHz_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
Lowest Channel							
1	850.760	-81.41	13.57	-67.84	-25.00	-42.84	Horizontal
2	881.184	-81.86	14.07	-67.79	-25.00	-42.79	Horizontal
3	932.141	-81.02	14.41	-66.61	-25.00	-41.61	Horizontal
4	5121.445	-55.91	10.01	-45.90	-25.00	-20.90	Horizontal
5	7682.150	-56.19	13.02	-43.17	-25.00	-18.17	Horizontal
6	10262.700	-55.73	15.10	-40.63	-25.00	-15.63	Horizontal
7	815.635	-81.50	13.04	-68.46	-25.00	-43.46	Vertical
8	868.886	-81.34	13.80	-67.54	-25.00	-42.54	Vertical
9	912.695	-81.09	14.49	-66.60	-25.00	-41.60	Vertical
10	5121.445	-56.85	10.01	-46.84	-25.00	-21.84	Vertical
11	7682.150	-57.87	13.02	-44.85	-25.00	-19.85	Vertical
12	10262.700	-58.38	15.10	-43.28	-25.00	-18.28	Vertical
Middle Channel							
1	798.620	-79.83	12.53	-67.30	-25.00	-42.30	Horizontal
2	881.184	-81.06	14.07	-66.99	-25.00	-41.99	Horizontal
3	938.714	-81.09	14.52	-66.57	-25.00	-41.57	Horizontal
4	5151.196	-58.20	10.07	-48.13	-25.00	-23.13	Horizontal
5	7785.000	-59.46	12.99	-46.47	-25.00	-21.47	Horizontal
6	833.013	-80.35	13.24	-67.11	-25.00	-42.11	Vertical
7	912.695	-81.09	14.49	-66.60	-25.00	-41.60	Vertical
8	979.139	-81.16	15.25	-65.91	-25.00	-40.91	Vertical
9	5190.000	-61.11	10.16	-50.95	-25.00	-25.95	Vertical
10	7785.000	-60.45	12.99	-47.46	-25.00	-22.46	Vertical
Highest Channel							
1	821.387	-80.27	13.20	-67.07	-25.00	-42.07	Horizontal
2	868.886	-80.12	13.80	-66.32	-25.00	-41.32	Horizontal
3	986.044	-81.21	15.44	-65.77	-25.00	-40.77	Horizontal
4	5181.120	-57.02	10.13	-46.89	-25.00	-21.89	Horizontal
5	7771.663	-57.31	13.00	-44.31	-25.00	-19.31	Horizontal
6	10382.280	-55.19	15.12	-40.07	-25.00	-15.07	Horizontal
7	833.013	-80.39	13.24	-67.15	-25.00	-42.15	Vertical
8	893.656	-81.04	14.20	-66.84	-25.00	-41.84	Vertical
9	979.139	-80.75	15.25	-65.50	-25.00	-40.50	Vertical
10	5220.000	-61.65	10.23	-51.42	-25.00	-26.42	Vertical
11	7830.000	-59.62	12.98	-46.64	-25.00	-21.64	Vertical
12	10382.280	-59.00	15.12	-43.88	-25.00	-18.88	Vertical

5.8.6 LTE Band 40A

LTE Band 40_ 10 MHz_ QPSK							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
1	893.656	-80.72	14.20	-66.52	-40.00	-26.52	Horizontal
2	952.000	-80.93	14.82	-66.11	-40.00	-26.11	Horizontal
3	992.997	-80.73	15.56	-65.17	-40.00	-25.17	Horizontal
4	4620.000	-61.34	9.59	-51.75	-40.00	-11.75	Horizontal
5	6930.000	-56.83	13.01	-43.82	-40.00	-3.82	Horizontal
6	862.802	-81.44	13.74	-67.70	-40.00	-27.70	Vertical
7	932.141	-81.41	14.41	-67.00	-40.00	-27.00	Vertical
8	965.474	-80.99	14.91	-66.08	-40.00	-26.08	Vertical
9	4620.000	-60.20	9.59	-50.61	-40.00	-10.61	Vertical
10	6930.000	-58.73	13.01	-45.72	-40.00	-5.72	Vertical

5.8.7 LTE Band 40B

LTE Band 40_ 10 MHz_ QPSK							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
1	815.635	-80.44	13.04	-67.40	-40.00	-27.40	Horizontal
2	919.132	-81.62	14.53	-67.09	-40.00	-27.09	Horizontal
3	972.283	-81.13	15.04	-66.09	-40.00	-26.09	Horizontal
4	4710.000	-59.46	9.63	-49.83	-40.00	-9.83	Horizontal
5	7065.000	-59.12	13.02	-46.10	-40.00	-6.10	Horizontal
6	815.635	-80.43	13.04	-67.39	-40.00	-27.39	Vertical
7	862.802	-80.76	13.74	-67.02	-40.00	-27.02	Vertical
8	912.695	-80.72	14.49	-66.23	-40.00	-26.23	Vertical
9	4710.000	-59.64	9.63	-50.01	-40.00	-10.01	Vertical
10	7065.000	-59.12	13.02	-46.10	-40.00	-6.10	Vertical

5.8.8 LTE Band 41

LTE Band 41_ 20 MHz_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
Lowest Channel							
1	728.897	-79.84	11.61	-68.23	-25.00	-43.23	Horizontal
2	815.635	-80.53	13.04	-67.49	-25.00	-42.49	Horizontal
3	906.304	-80.80	14.53	-66.27	-25.00	-41.27	Horizontal
4	5090.000	-59.61	9.94	-49.67	-25.00	-24.67	Horizontal
5	7593.669	-54.19	13.04	-41.15	-25.00	-16.15	Horizontal
6	10144.500	-55.38	15.09	-40.29	-25.00	-15.29	Horizontal
7	689.051	-79.92	11.04	-68.88	-25.00	-43.88	Vertical
8	833.013	-79.32	13.24	-66.08	-25.00	-41.08	Vertical
9	979.139	-81.06	15.25	-65.81	-25.00	-40.81	Vertical
10	5090.000	-59.20	9.94	-49.26	-25.00	-24.26	Vertical
11	7593.669	-55.31	13.04	-42.27	-25.00	-17.27	Vertical
Middle Channel							
1	739.214	-80.24	11.58	-68.66	-25.00	-43.66	Horizontal
2	844.803	-81.06	13.42	-67.64	-25.00	-42.64	Horizontal
3	932.141	-80.42	14.41	-66.01	-25.00	-41.01	Horizontal
4	5190.000	-60.12	10.16	-49.96	-25.00	-24.96	Horizontal
5	7785.000	-59.60	12.99	-46.61	-25.00	-21.61	Horizontal
6	10322.320	-55.84	15.11	-40.73	-25.00	-15.73	Horizontal
7	856.760	-81.04	13.67	-67.37	-25.00	-42.37	Vertical
8	932.141	-81.20	14.41	-66.79	-25.00	-41.79	Vertical
9	979.139	-81.29	15.25	-66.04	-25.00	-41.04	Vertical
10	5190.000	-61.31	10.16	-51.15	-25.00	-26.15	Vertical
11	7785.000	-59.29	12.99	-46.30	-25.00	-21.30	Vertical
Highest Channel							
1	833.013	-80.44	13.24	-67.20	-25.00	-42.20	Horizontal
2	919.132	-80.08	14.53	-65.55	-25.00	-40.55	Horizontal
3	992.997	-81.09	15.56	-65.53	-25.00	-40.53	Horizontal
4	5290.000	-62.43	10.38	-52.05	-25.00	-27.05	Horizontal
5	7907.891	-49.82	12.96	-36.86	-25.00	-11.86	Horizontal
6	13165.320	-56.83	17.17	-39.66	-25.00	-14.66	Horizontal
7	821.387	-79.90	13.20	-66.70	-25.00	-41.70	Vertical
8	868.886	-80.47	13.80	-66.67	-25.00	-41.67	Vertical
9	979.139	-81.65	15.25	-66.40	-25.00	-41.40	Vertical
10	5290.000	-62.82	10.38	-52.44	-25.00	-27.44	Vertical
11	7907.891	-52.35	12.96	-39.39	-25.00	-14.39	Vertical
12	10564.270	-57.14	15.00	-42.14	-25.00	-17.14	Vertical

Remark:

1. Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain, the value was added to Original Receiver Reading by the software automatically.
2. Result = Reading + Correct Factor.
3. Margin = Result – Limit

5.9 FREQUENCY STABILITY

Test Requirement:	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 22.355 & FCC 47 CFR Part 24.235 & FCC 47 CFR Part 27.54
Test Method:	ANSI C63.26-2015 & KDB 971168 D01v03r01

Limits:

FCC 47 CFR Part 22.355, FCC 47 CFR Par 90.213

The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

FCC 47 CFR Part 24.235, FCC 47 CFR Part 27.54

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Setup: Refer to section 4.2.2 for details.

Test Procedures:

1) Use CMW 500 with Frequency Error measurement capability.
   a) Temp. = −30° to + 50°Ca
   b) Voltage =low voltage, 3.5 Vdc, Normal, 3.8 Vdc and High voltage, 4.3 Vdc.
2) Frequency Stability vs Temperature:

The EUT is place inside a temperature chamber. The temperature is set to 20ºC and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until +50ºC is reached.

3) Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

Equipment Used: Refer to section 3 for details.

Test Results: Pass

Test Data: **Please refer to Appendix A6**

APPENDIX 1 PHOTOS OF TEST SETUP

See test photos attached in Appendix 1 for the actual connections between Product and support equipment.

APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix 2 for EUT external and internal photos.

*** End of Report ***
