

**Shenzhen UnionTrust Quality and Technology Co., Ltd.**

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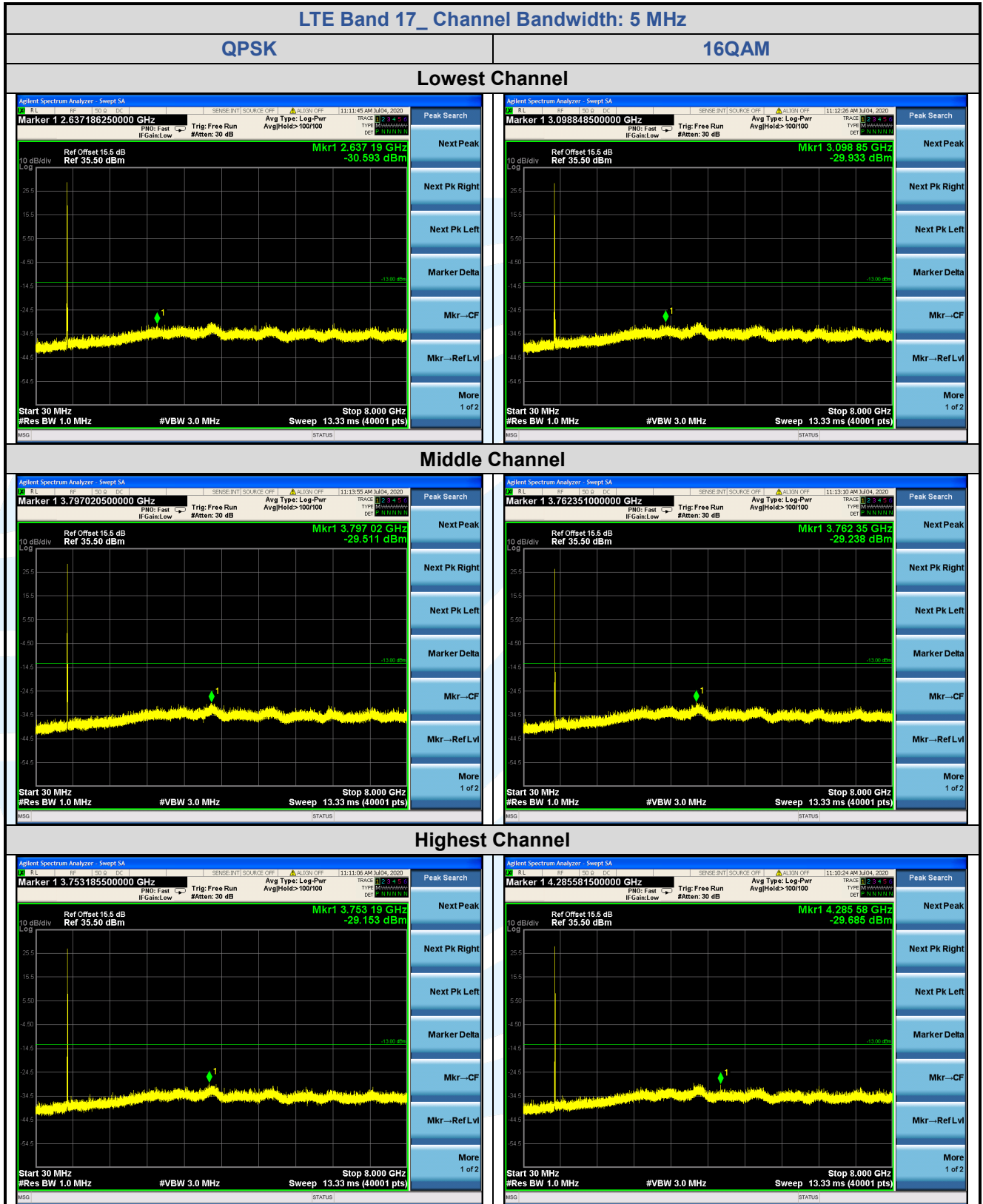
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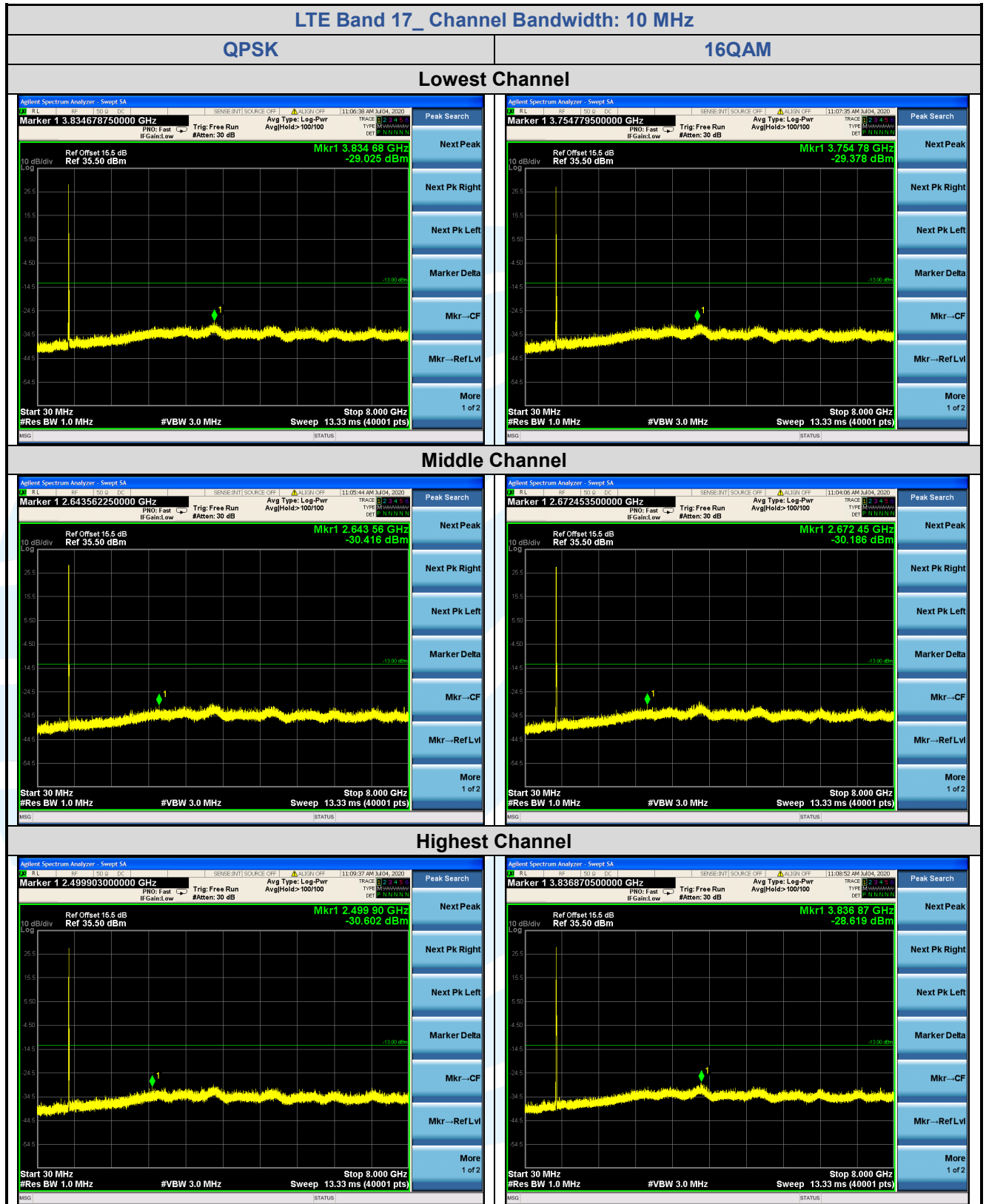
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UTTR-RF-FCC4G-V1.0

5.7.6 LTE Band 17





**Remark:**

1) All the above radiation data, the fundamental frequency is not marked, it may exceed the limit, please ignore it.

### 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: FCC 47 CFR Part 27.53(m)(4)  
 LTE Band 12 & Band 17: FCC 47 CFR Part 27.53(g)

**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), 27.53(g), 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:**

(c) 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.

(f) Emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals. (-70 dBW/MHz = -40dBm/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 measurement data as follows:**

5.8.1 LTE Band 2

LTE Band 2_20 MHz_QPSK_Below 1G							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>Lowest Channel</b>							
1	32.184	-90.54	37.38	-53.16	-13.00	-40.16	Horizontal
2	225.427	-83.31	35.76	-47.55	-13.00	-34.55	Horizontal
3	1000.000	-86.96	53.15	-33.81	-13.00	-20.81	Horizontal
4	30.639	-86.07	38.91	-47.16	-13.00	-34.16	Vertical
5	133.081	-86.73	32.72	-54.01	-13.00	-41.01	Vertical
6	979.139	-87.33	52.09	-35.24	-13.00	-22.24	Vertical
<b>Middle Channel</b>							
1	31.735	-90.32	37.66	-52.66	-13.00	-39.66	Horizontal
2	228.617	-83.52	35.89	-47.63	-13.00	-34.63	Horizontal
3	992.997	-87.66	52.85	-34.81	-13.00	-21.81	Horizontal
4	41.158	-80.55	32.10	-48.45	-13.00	-35.45	Vertical
5	535.038	-88.47	44.50	-43.97	-13.00	-30.97	Vertical
6	979.139	-87.93	52.09	-35.84	-13.00	-22.84	Vertical
<b>Highest Channel</b>							
1	250.486	-86.70	36.80	-49.90	-13.00	-36.90	Horizontal
2	703.731	-88.09	47.62	-40.47	-13.00	-27.47	Horizontal
3	992.997	-88.11	52.85	-35.26	-13.00	-22.26	Horizontal
4	30.855	-88.28	38.75	-49.53	-13.00	-36.53	Vertical
5	42.630	-81.64	31.76	-49.88	-13.00	-36.88	Vertical
6	958.714	-86.50	51.68	-34.82	-13.00	-21.82	Vertical

LTE Band 2_20 MHz_QPSK_Above 1G							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>Lowest Channel</b>							
1	3760.000	-67.41	15.54	-51.87	-13.00	-38.87	Horizontal
2	7520.000	-64.40	18.70	-45.70	-13.00	-32.70	Horizontal
3	3760.000	-67.67	15.29	-52.38	-13.00	-39.38	Vertical
4	7520.000	-64.41	18.41	-46.00	-13.00	-33.00	Vertical
<b>Middle Channel</b>							
1	3760.000	-67.41	15.54	-51.87	-13.00	-38.87	Horizontal
2	7520.000	-64.40	18.70	-45.70	-13.00	-32.70	Horizontal
3	3760.000	-67.67	15.29	-52.38	-13.00	-39.38	Vertical
4	7520.000	-64.41	18.41	-46.00	-13.00	-33.00	Vertical
<b>Highest Channel</b>							
1	3800.000	-56.65	15.67	-40.98	-13.00	-27.98	Horizontal
2	5700.000	-63.60	17.40	-46.20	-13.00	-33.20	Horizontal
3	3800.000	-62.85	15.43	-47.42	-13.00	-34.42	Vertical
4	5700.000	-63.80	17.20	-46.60	-13.00	-33.60	Vertical

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**5.8.2 LTE Band 4**

LTE Band 4_20 MHz_QPSK_Below 1G							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>Lowest Channel</b>							
1	159.759	-85.09	33.24	-51.85	-13.00	-38.85	Horizontal
2	223.848	-85.16	35.67	-49.49	-13.00	-36.49	Horizontal
3	992.997	-87.50	52.85	-34.65	-13.00	-21.65	Horizontal
4	30.000	-87.20	39.35	-47.85	-13.00	-34.85	Vertical
5	39.737	-82.00	32.57	-49.43	-13.00	-36.43	Vertical
6	498.730	-82.01	43.34	-38.67	-13.00	-25.67	Vertical
<b>Middle Channel</b>							
1	32.184	-89.46	37.38	-52.08	-13.00	-39.08	Horizontal
2	225.427	-84.89	35.76	-49.13	-13.00	-36.13	Horizontal
3	986.044	-87.24	52.55	-34.69	-13.00	-21.69	Horizontal
4	39.737	-82.52	32.57	-49.95	-13.00	-36.95	Vertical
5	130.305	-86.60	32.73	-53.87	-13.00	-40.87	Vertical
6	498.730	-82.96	43.34	-39.62	-13.00	-26.62	Vertical
<b>Highest Channel</b>							
1	225.427	-83.15	35.76	-47.39	-13.00	-34.39	Horizontal
2	523.876	-88.84	44.76	-44.08	-13.00	-31.08	Horizontal
3	1000.000	-87.41	53.15	-34.26	-13.00	-21.26	Horizontal
4	39.737	-83.38	32.57	-50.81	-13.00	-37.81	Vertical
5	189.108	-88.08	33.55	-54.53	-13.00	-41.53	Vertical
6	992.997	-86.82	52.79	-34.03	-13.00	-21.03	Vertical

LTE Band 4_20 MHz_QPSK_Above 1G							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>Lowest Channel</b>							
1	3440.000	-66.36	13.89	-52.47	-13.00	-39.47	Horizontal
2	5160.000	-67.78	16.46	-51.32	-13.00	-38.32	Horizontal
3	3440.000	-67.28	13.59	-53.69	-13.00	-40.69	Vertical
4	5160.000	-64.20	16.13	-48.07	-13.00	-35.07	Vertical
<b>Middle Channel</b>							
1	3465.000	-63.54	14.07	-49.47	-13.00	-36.47	Horizontal
2	3465.000	-67.51	13.77	-53.74	-13.00	-40.74	Vertical
3	5197.500	-68.02	16.29	-51.73	-13.00	-38.73	Vertical
<b>Highest Channel</b>							
1	3490.000	-65.38	14.23	-51.15	-13.00	-38.15	Horizontal
2	5235.000	-68.69	16.67	-52.02	-13.00	-39.02	Horizontal
3	3490.000	-65.29	13.93	-51.36	-13.00	-38.36	Vertical
4	5235.000	-63.65	16.37	-47.28	-13.00	-34.28	Vertical

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**5.8.3 LTE Band 5**

LTE Band 5_ 10 MHz_ QPSK_ Below 1G							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>Lowest Channel</b>							
1	250.486	-84.03	36.80	-47.23	-13.00	-34.23	Horizontal
2	368.668	-84.63	39.35	-45.28	-13.00	-32.28	Horizontal
3	881.184	-80.54	48.47	-32.07	-13.00	-19.07	Horizontal
4	41.741	-80.52	31.97	-48.55	-13.00	-35.55	Vertical
5	113.220	-87.15	32.46	-54.69	-13.00	-41.69	Vertical
6	502.247	-83.84	43.49	-40.35	-13.00	-27.35	Vertical
<b>Middle Channel</b>							
1	178.770	-85.07	33.52	-51.55	-13.00	-38.55	Horizontal
2	220.724	-82.49	35.46	-47.03	-13.00	-34.03	Horizontal
3	887.398	-80.17	48.69	-31.48	-13.00	-18.48	Horizontal
4	40.584	-80.76	32.24	-48.52	-13.00	-35.52	Vertical
5	433.340	-85.64	41.32	-44.32	-13.00	-31.32	Vertical
6	498.730	-83.50	43.34	-40.16	-13.00	-27.16	Vertical
<b>Highest Channel</b>							
1	159.759	-84.21	33.24	-50.97	-13.00	-37.97	Horizontal
2	230.230	-83.60	35.96	-47.64	-13.00	-34.64	Horizontal
3	893.656	-80.59	48.90	-31.69	-13.00	-18.69	Horizontal
4	41.158	-80.09	32.10	-47.99	-13.00	-34.99	Vertical
5	498.730	-84.60	43.34	-41.26	-13.00	-28.26	Vertical
6	986.044	-87.12	52.44	-34.68	-13.00	-21.68	Vertical

LTE Band 5_ 10 MHz_ QPSK_ Above 1G							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>Lowest Channel</b>							
1	1658.000	-67.73	4.58	-63.15	-13.00	-50.15	Horizontal
2	2487.000	-69.01	10.87	-58.14	-13.00	-45.14	Horizontal
3	1658.000	-69.42	3.81	-65.61	-13.00	-52.61	Vertical
4	2487.000	-68.52	10.47	-58.05	-13.00	-45.05	Vertical
<b>Middle Channel</b>							
1	1693.000	-71.84	4.82	-67.02	-13.00	-54.02	Horizontal
2	2539.540	-72.18	10.91	-61.27	-13.00	-48.27	Horizontal
3	1693.000	-69.96	4.08	-65.88	-13.00	-52.88	Vertical
4	2539.500	-71.72	10.48	-61.24	-13.00	-48.24	Vertical
<b>Highest Channel</b>							
1	1688.000	-70.05	4.79	-65.26	-13.00	-52.26	Horizontal
2	2532.000	-71.52	10.90	-60.62	-13.00	-47.62	Horizontal
3	1688.000	-69.05	4.04	-65.01	-13.00	-52.01	Vertical
4	2532.000	-71.78	10.48	-61.30	-13.00	-48.30	Vertical

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5.8.4 LTE Band 7

LTE Band 7_ 20 MHz_ QPSK_ Below 1G							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>Lowest Channel</b>							
1	31.073	-91.83	38.07	-53.76	-25.00	-28.76	Horizontal
2	231.853	-86.54	36.02	-50.52	-25.00	-25.52	Horizontal
3	992.997	-87.69	52.85	-34.84	-25.00	-9.84	Horizontal
4	41.741	-80.77	31.97	-48.80	-25.00	-23.80	Vertical
5	128.486	-86.53	32.73	-53.80	-25.00	-28.80	Vertical
6	502.247	-83.89	43.49	-40.40	-25.00	-15.40	Vertical
<b>Middle Channel</b>							
1	220.724	-80.49	35.46	-45.03	-25.00	-20.03	Horizontal
2	637.795	-86.42	46.26	-40.16	-25.00	-15.16	Horizontal
3	986.044	-86.50	52.55	-33.95	-25.00	-8.95	Horizontal
4	41.448	-80.64	32.04	-48.60	-25.00	-23.60	Vertical
5	118.096	-87.79	32.62	-55.17	-25.00	-30.17	Vertical
6	992.997	-88.26	52.79	-35.47	-25.00	-10.47	Vertical
<b>Highest Channel</b>							
1	31.073	-90.46	38.07	-52.39	-25.00	-27.39	Horizontal
2	225.427	-84.02	35.76	-48.26	-25.00	-23.26	Horizontal
3	1000.000	-87.61	53.15	-34.46	-25.00	-9.46	Horizontal
4	41.448	-80.08	32.04	-48.04	-25.00	-23.04	Vertical
5	132.149	-86.76	32.72	-54.04	-25.00	-29.04	Vertical
6	952.000	-86.98	51.61	-35.37	-25.00	-10.37	Vertical

LTE Band 7_ 20 MHz_ QPSK_ Above 1G							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>Lowest Channel</b>							
1	5020.000	-66.74	15.43	-51.31	-25.00	-26.31	Horizontal
2	7530.000	-65.87	18.13	-47.74	-25.00	-22.74	Horizontal
3	5020.000	-65.54	15.73	-49.81	-25.00	-24.81	Vertical
4	7530.000	-66.57	18.23	-48.34	-25.00	-23.34	Vertical
<b>Middle Channel</b>							
1	5070.000	-65.81	15.60	-50.21	-25.00	-25.21	Horizontal
2	7605.000	-67.32	18.24	-49.08	-25.00	-24.08	Horizontal
3	5070.000	-67.77	15.92	-51.85	-25.00	-26.85	Vertical
4	7605.000	-67.79	18.34	-49.45	-25.00	-24.45	Vertical
<b>Highest Channel</b>							
1	5120.000	-67.81	15.77	-52.04	-25.00	-27.04	Horizontal
2	7680.000	-65.38	18.36	-47.02	-25.00	-22.02	Horizontal
3	5120.000	-67.51	16.11	-51.40	-25.00	-26.40	Vertical
4	7680.000	-66.34	18.46	-47.88	-25.00	-22.88	Vertical

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**5.8.5 LTE Band 12**

LTE Band 12_ 10 MHz_ QPSK_ Below 1G							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>Lowest Channel</b>							
1	30.425	-88.81	38.49	-50.32	-13.00	-37.32	Horizontal
2	240.144	-81.22	36.38	-44.84	-13.00	-31.84	Horizontal
3	965.474	-85.67	51.80	-33.87	-13.00	-20.87	Horizontal
4	30.212	-86.47	39.20	-47.27	-13.00	-34.27	Vertical
5	106.281	-86.74	32.15	-54.59	-13.00	-41.59	Vertical
6	992.997	-87.40	52.79	-34.61	-13.00	-21.61	Vertical
<b>Middle Channel</b>							
1	33.335	-90.04	36.66	-53.38	-13.00	-40.38	Horizontal
2	240.144	-83.30	36.38	-46.92	-13.00	-33.92	Horizontal
3	558.079	-87.69	44.64	-43.05	-13.00	-30.05	Horizontal
4	30.212	-86.57	39.20	-47.37	-13.00	-34.37	Vertical
5	498.730	-84.92	43.34	-41.58	-13.00	-28.58	Vertical
6	965.474	-86.78	51.75	-35.03	-13.00	-22.03	Vertical
<b>Highest Channel</b>							
1	31.073	-89.85	38.07	-51.78	-13.00	-38.78	Horizontal
2	240.144	-84.51	36.38	-48.13	-13.00	-35.13	Horizontal
3	992.997	-86.20	52.85	-33.35	-13.00	-20.35	Horizontal
4	31.073	-88.28	38.60	-49.68	-13.00	-36.68	Vertical
5	502.247	-84.80	43.49	-41.31	-13.00	-28.31	Vertical
6	992.997	-86.20	52.79	-33.41	-13.00	-20.41	Vertical

LTE Band 12_ 10 MHz_ QPSK_ Above 1G							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>Lowest Channel</b>							
1	1408.000	-67.20	3.39	-63.81	-13.00	-50.81	Horizontal
2	2112.000	-70.31	7.64	-62.67	-13.00	-49.67	Horizontal
3	1408.000	-68.01	2.62	-65.39	-13.00	-52.39	Vertical
4	2112.000	-71.26	7.16	-64.10	-13.00	-51.10	Vertical
<b>Middle Channel</b>							
1	1415.000	-69.29	3.40	-65.89	-13.00	-52.89	Horizontal
2	2122.500	-74.05	7.68	-66.37	-13.00	-53.37	Horizontal
3	1415.000	-67.61	2.62	-64.99	-13.00	-51.99	Vertical
4	2122.500	-73.61	7.21	-66.40	-13.00	-53.40	Vertical
<b>Highest Channel</b>							
1	1422.000	-69.16	3.41	-65.75	-13.00	-52.75	Horizontal
2	2133.000	-72.47	7.74	-64.73	-13.00	-51.73	Horizontal
3	1422.000	-68.56	2.62	-65.94	-13.00	-52.94	Vertical
4	2133.000	-72.71	7.26	-65.45	-13.00	-52.45	Vertical

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LTE Band 17_ 10 MHz_ QPSK_ Below 1G							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>Lowest Channel</b>							
1	30.212	-90.19	38.61	-51.58	-13.00	-38.58	Horizontal
2	240.144	-82.97	36.38	-46.59	-13.00	-33.59	Horizontal
3	1000.000	-87.20	53.15	-34.05	-13.00	-21.05	Horizontal
4	41.158	-80.67	32.10	-48.57	-13.00	-35.57	Vertical
5	222.281	-89.61	35.32	-54.29	-13.00	-41.29	Vertical
6	442.572	-88.20	41.50	-46.70	-13.00	-33.70	Vertical
<b>Middle Channel</b>							
1	30.212	-90.19	38.61	-51.58	-13.00	-38.58	Horizontal
2	159.759	-83.75	33.24	-50.51	-13.00	-37.51	Horizontal
3	240.144	-81.19	36.38	-44.81	-13.00	-31.81	Horizontal
4	30.000	-86.25	39.35	-46.90	-13.00	-33.90	Vertical
5	132.149	-87.33	32.72	-54.61	-13.00	-41.61	Vertical
6	952.000	-86.86	51.61	-35.25	-13.00	-22.25	Vertical
<b>Highest Channel</b>							
1	30.855	-90.14	38.21	-51.93	-13.00	-38.93	Horizontal
2	240.144	-84.52	36.38	-48.14	-13.00	-35.14	Horizontal
3	620.117	-87.72	46.06	-41.66	-13.00	-28.66	Horizontal
4	30.212	-88.51	39.20	-49.31	-13.00	-36.31	Vertical
5	130.305	-87.64	32.73	-54.91	-13.00	-41.91	Vertical
6	502.247	-83.94	43.49	-40.45	-13.00	-27.45	Vertical

LTE Band 17_ 10 MHz_ QPSK_ Above 1G							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>Lowest Channel</b>							
1	1418.000	-68.72	3.40	-65.32	-13.00	-52.32	Horizontal
2	2127.000	-72.14	7.70	-64.44	-13.00	-51.44	Horizontal
3	1418.000	-68.49	2.62	-65.87	-13.00	-52.87	Vertical
4	2127.000	-72.03	7.22	-64.81	-13.00	-51.81	Vertical
<b>Middle Channel</b>							
1	1420.000	-70.66	3.40	-67.26	-13.00	-54.26	Horizontal
2	2130.000	-75.41	7.71	-67.70	-13.00	-54.70	Horizontal
3	1420.000	-68.86	2.61	-66.25	-13.00	-53.25	Vertical
4	2130.000	-72.31	7.24	-65.07	-13.00	-52.07	Vertical
<b>Highest Channel</b>							
1	1422.000	-70.01	3.41	-66.60	-13.00	-53.60	Horizontal
2	2133.000	-75.34	7.74	-67.60	-13.00	-54.60	Horizontal
3	1422.000	-69.28	2.62	-66.66	-13.00	-53.66	Vertical
4	2133.000	-73.52	7.26	-66.26	-13.00	-53.26	Vertical

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UTTR-RF-FCC4G-V1.0

## 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
4. All the above radiation data, the fundamental frequency is not marked, it may exceed the limit, please ignore it.
5. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test. Subsequently, only the worst case emissions are reported.

### 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  $\pm 2.5$  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 or CMU 200 with Frequency Error measurement capability.
  - a) Temp. =  $-30^{\circ}$  to  $+50^{\circ}\text{C}$
  - b) Voltage = low voltage, 3.6 Vdc, Normal, 3.85 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  $20^{\circ}\text{C}$  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  $+50^{\circ}\text{C}$  is reached.

- 3) Frequency Stability vs Voltage:

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

**Equipment Used:** Refer to section 3 for details.

**Test Result:** Pass

#### 5.9.1 LTE Band 2

Modulation	Channel/ Frequency (MHz)	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
		(Vdc)	( $^{\circ}\text{C}$ )	(Hz)	(ppm)	(ppm)	
<b>LTE Band 2 / 20MHz / Full RB</b>							
QPSK	18900 / 1880.0	VL	TN	27	0.0144	N/A	Pass
		VN		24	0.0128		Pass
		VH		26	0.0138		Pass
		VN	50	31	0.0165		Pass
			40	27	0.0144		Pass
			30	31	0.0165		Pass
			20	33	0.0176		Pass
			10	24	0.0128		Pass
			0	33	0.0176		Pass
			-10	28	0.0149		Pass
			-20	35	0.0186		Pass
			-30	31	0.0165		Pass

**5.9.2 LTE Band 4**

Modulation	Channel/ Frequency (MHz)	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Pass/ Fail
<b>LTE Band 4 / 20MHz / Full RB</b>							
QPSK	20175 / 1732.5	VL	TN	24	0.0139	N/A	Pass
		VN		27	0.0156		Pass
		VH		33	0.0190		Pass
		VN	50	32	0.0185		Pass
			40	29	0.0167		Pass
			30	25	0.0144		Pass
			20	31	0.0179		Pass
			10	24	0.0139		Pass
			0	33	0.0190		Pass
			-10	28	0.0162		Pass
			-20	23	0.0133		Pass
			-30	31	0.0179		Pass

**5.9.3 LTE Band 5**

Modulation	Channel/ Frequency (MHz)	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
<b>LTE Band 5 / 10MHz / Full RB</b>							
QPSK	20525 / 836.5	VL	TN	23	0.0275	± 2.5	Pass
		VN		21	0.0251	± 2.5	Pass
		VH		21	0.0251	± 2.5	Pass
		VN	50	27	0.0323	± 2.5	Pass
			40	25	0.0299	± 2.5	Pass
			30	21	0.0251	± 2.5	Pass
			20	19	0.0227	± 2.5	Pass
			10	23	0.0275	± 2.5	Pass
			0	17	0.0203	± 2.5	Pass
			-10	26	0.0311	± 2.5	Pass
			-20	23	0.0275	± 2.5	Pass
			-30	21	0.0251	± 2.5	Pass

**5.9.4 LTE Band 7**

Modulation	Channel/ Frequency (MHz)	Voltage	Temperature	Deviation	Deviation	Limit	Result
		(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
<b>LTE Band 7 / 20MHz / Full RB</b>							
QPSK	21100 / 2535	VL	TN	26	0.0103	N/A	Pass
		VN		31	0.0122		Pass
		VH		29	0.0114		Pass
		VN	50	38	0.0150		Pass
			40	33	0.0130		Pass
			30	33	0.0130		Pass
			20	33	0.0130		Pass
			10	28	0.0110		Pass
			0	21	0.0083		Pass
			-10	23	0.0091		Pass
			-20	28	0.0110		Pass
			-30	34	0.0134		Pass

**5.9.5 LTE Band 12**

Modulation	Channel/ Frequency (MHz)	Voltage	Temperature	Deviation	Deviation	Limit	Result
		(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
<b>LTE Band 12 / 10MHz / Full RB</b>							
QPSK	23095 / 707.5	VL	TN	28	0.0396	N/A	Pass
		VN		22	0.0311		Pass
		VH		25	0.0353		Pass
		VN	50	31	0.0438		Pass
			40	32	0.0452		Pass
			30	26	0.0367		Pass
			20	26	0.0367		Pass
			10	28	0.0396		Pass
			0	33	0.0466		Pass
			-10	29	0.0410		Pass
			-20	31	0.0438		Pass
			-30	26	0.0367		Pass

**5.9.6 LTE Band 17**

Modulation	Channel/ Frequency (MHz)	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
<b>LTE Band 17 / 10MHz / Full RB</b>							
QPSK	23790 / 710	VL	TN	-27	-0.0345	N/A	Pass
		VN		-32	-0.0409		Pass
		VH		-34	-0.0435		Pass
		VN	50	-26	-0.0332		Pass
			40	-31	-0.0396		Pass
			30	-33	-0.0422		Pass
			20	-24	-0.0307		Pass
			10	-33	-0.0422		Pass
			0	-27	-0.0345		Pass
			-10	-32	-0.0409		Pass
			-20	-33	-0.0422		Pass
			-30	-24	-0.0307		Pass

## 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 \*\*\*

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