

Diversity Antenna

Channel	Maximum EIRP (dBm)				Maximum EIRP (W)				Result
	QPSK	16QAM	64QAM	Limit (dBm)	QPSK	16QAM	64QAM	Limit (W)	
Channel Bandwidth: 1.4MHz									
Lowest	23.37	22.45	21.82	33.01	0.2173	0.1758	0.1521	2	Pass
Middle	23.15	22.23	21.60	33.01	0.2065	0.1671	0.1445	2	Pass
Highest	23.02	22.11	21.48	33.01	0.2004	0.1626	0.1406	2	Pass
Channel Bandwidth: 3MHz									
Lowest	23.32	22.15	21.64	33.01	0.2148	0.1641	0.1459	2	Pass
Middle	23.08	22.59	21.33	33.01	0.2032	0.1816	0.1358	2	Pass
Highest	22.89	21.90	21.72	33.01	0.1945	0.1549	0.1486	2	Pass
Channel Bandwidth: 5MHz									
Lowest	23.32	22.22	21.56	33.01	0.2148	0.1667	0.1432	2	Pass
Middle	23.09	21.91	21.27	33.01	0.2037	0.1552	0.1340	2	Pass
Highest	22.98	22.07	21.48	33.01	0.1986	0.1611	0.1406	2	Pass
Channel Bandwidth: 10MHz									
Lowest	23.69	22.50	21.68	33.01	0.2339	0.1778	0.1472	2	Pass
Middle	23.49	22.99	22.11	33.01	0.2234	0.1991	0.1626	2	Pass
Highest	23.30	22.32	21.43	33.01	0.2138	0.1706	0.1390	2	Pass
Channel Bandwidth: 15MHz									
Lowest	23.52	22.71	21.83	33.01	0.2249	0.1866	0.1524	2	Pass
Middle	23.39	22.87	22.00	33.01	0.2183	0.1936	0.1585	2	Pass
Highest	23.16	22.22	21.26	33.01	0.2070	0.1667	0.1337	2	Pass
Channel Bandwidth: 20MHz									
Lowest	23.74	22.82	21.82	33.01	0.2366	0.1914	0.1521	2	Pass
Middle	23.56	22.92	22.01	33.01	0.2270	0.1959	0.1589	2	Pass
Highest	23.57	22.41	21.55	33.01	0.2275	0.1742	0.1429	2	Pass

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

UTTR-RF-FCC4G-V1.1

5.3.2 LTE Band 4

Main Antenna

Channel	Maximum EIRP (dBm)				Maximum EIRP (W)				Result
	QPSK	16QAM	64QAM	Limit (dBm)	QPSK	16QAM	64QAM	Limit (W)	
Channel Bandwidth: 1.4MHz									
Lowest	18.60	17.60	16.90	30.00	0.0724	0.0575	0.0490	1	Pass
Middle	18.45	17.45	16.74	30.00	0.0700	0.0556	0.0472	1	Pass
Highest	18.57	17.66	16.96	30.00	0.0719	0.0583	0.0497	1	Pass
Channel Bandwidth: 3MHz									
Lowest	18.49	17.25	16.60	30.00	0.0706	0.0531	0.0457	1	Pass
Middle	18.36	17.81	17.13	30.00	0.0685	0.0604	0.0516	1	Pass
Highest	18.52	17.46	16.75	30.00	0.0711	0.0557	0.0473	1	Pass
Channel Bandwidth: 5MHz									
Lowest	18.69	17.76	16.88	30.00	0.0740	0.0597	0.0488	1	Pass
Middle	18.57	17.45	16.50	30.00	0.0719	0.0556	0.0447	1	Pass
Highest	18.68	17.42	16.55	30.00	0.0738	0.0552	0.0452	1	Pass
Channel Bandwidth: 10MHz									
Lowest	18.83	17.84	16.71	30.00	0.0764	0.0608	0.0469	1	Pass
Middle	18.78	17.55	17.30	30.00	0.0755	0.0569	0.0537	1	Pass
Highest	18.86	18.30	16.79	30.00	0.0769	0.0676	0.0478	1	Pass
Channel Bandwidth: 15MHz									
Lowest	18.68	16.98	17.81	30.00	0.0738	0.0499	0.0604	1	Pass
Middle	18.63	18.05	17.15	30.00	0.0729	0.0638	0.0519	1	Pass
Highest	18.72	17.63	16.76	30.00	0.0745	0.0579	0.0474	1	Pass
Channel Bandwidth: 20MHz									
Lowest	18.89	17.93	16.97	30.00	0.0774	0.0621	0.0498	1	Pass
Middle	18.72	18.17	17.26	30.00	0.0745	0.0656	0.0532	1	Pass
Highest	18.79	17.95	17.05	30.00	0.0757	0.0624	0.0507	1	Pass

Diversity Antenna

Channel	Maximum EIRP (dBm)				Maximum EIRP (W)				Result
	QPSK	16QAM	64QAM	Limit (dBm)	QPSK	16QAM	64QAM	Limit (W)	
Channel Bandwidth: 1.4MHz									
Lowest	22.84	21.60	20.95	30.00	0.1923	0.1445	0.1245	1	Pass
Middle	22.71	22.16	21.48	30.00	0.1866	0.1644	0.1406	1	Pass
Highest	22.87	21.81	21.10	30.00	0.1936	0.1517	0.1288	1	Pass
Channel Bandwidth: 3MHz									
Lowest	23.04	22.11	21.23	30.00	0.2014	0.1626	0.1327	1	Pass
Middle	22.92	21.80	20.85	30.00	0.1959	0.1514	0.1216	1	Pass
Highest	23.03	21.77	20.90	30.00	0.2009	0.1503	0.1230	1	Pass
Channel Bandwidth: 5MHz									
Lowest	23.18	22.19	21.06	30.00	0.2080	0.1656	0.1276	1	Pass
Middle	23.13	21.90	21.65	30.00	0.2056	0.1549	0.1462	1	Pass
Highest	23.21	22.65	21.14	30.00	0.2094	0.1841	0.1300	1	Pass
Channel Bandwidth: 10MHz									
Lowest	23.03	21.33	22.16	30.00	0.2009	0.1358	0.1644	1	Pass
Middle	22.98	22.40	21.50	30.00	0.1986	0.1738	0.1413	1	Pass
Highest	23.07	21.98	21.11	30.00	0.2028	0.1578	0.1291	1	Pass
Channel Bandwidth: 15MHz									
Lowest	23.03	21.33	22.16	30.00	0.2009	0.1358	0.1644	1	Pass
Middle	22.98	22.40	21.50	30.00	0.1986	0.1738	0.1413	1	Pass
Highest	23.07	21.98	21.11	30.00	0.2028	0.1578	0.1291	1	Pass
Channel Bandwidth: 20MHz									
Lowest	23.24	22.28	21.32	30.00	0.2109	0.1690	0.1355	1	Pass
Middle	23.07	22.52	21.61	30.00	0.2028	0.1786	0.1449	1	Pass
Highest	23.14	22.30	21.40	30.00	0.2061	0.1698	0.1380	1	Pass

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

UTTR-RF-FCC4G-V1.1

5.3.3 LTE Band 5

Channel	Maximum ERP (dBm)				Maximum ERP (W)				Result
	QPSK	16QAM	64QAM	Limit (dBm)	QPSK	16QAM	64QAM	Limit (W)	
Channel Bandwidth: 1.4MHz									
Lowest	19.21	18.27	17.85	38.45	0.0834	0.0671	0.0610	7	Pass
Middle	19.18	18.21	17.80	38.45	0.0828	0.0662	0.0603	7	Pass
Highest	19.30	18.42	17.97	38.45	0.0851	0.0695	0.0627	7	Pass
Channel Bandwidth: 3MHz									
Lowest	19.10	17.96	17.52	38.45	0.0813	0.0625	0.0565	7	Pass
Middle	19.04	18.60	18.13	38.45	0.0802	0.0724	0.0650	7	Pass
Highest	19.22	18.24	17.83	38.45	0.0836	0.0667	0.0607	7	Pass
Channel Bandwidth: 5MHz									
Lowest	19.11	18.05	17.54	38.45	0.0815	0.0638	0.0568	7	Pass
Middle	19.12	17.98	17.44	38.45	0.0817	0.0628	0.0555	7	Pass
Highest	19.23	18.37	17.91	38.45	0.0838	0.0687	0.0618	7	Pass
Channel Bandwidth: 10MHz									
Lowest	19.26	18.90	17.76	38.45	0.0843	0.0776	0.0597	7	Pass
Middle	19.24	18.26	17.58	38.45	0.0839	0.0670	0.0573	7	Pass
Highest	19.31	18.21	18.29	38.45	0.0853	0.0662	0.0675	7	Pass

5.3.1 LTE Band 7

Main Antenna

Channel	Maximum EIRP (dBm)				Maximum EIRP (W)				Result
	QPSK	16QAM	64QAM	Limit (dBm)	QPSK	16QAM	64QAM	Limit (W)	
Channel Bandwidth: 5MHz									
Lowest	17.59	16.34	15.66	33.01	0.0574	0.0431	0.0368	2	Pass
Middle	17.45	16.66	15.50	33.01	0.0556	0.0463	0.0355	2	Pass
Highest	17.56	16.47	15.96	33.01	0.0570	0.0444	0.0394	2	Pass
Channel Bandwidth: 10MHz									
Lowest	17.73	16.51	15.69	33.01	0.0593	0.0448	0.0371	2	Pass
Middle	17.67	17.16	16.30	33.01	0.0585	0.0520	0.0427	2	Pass
Highest	17.74	16.74	15.91	33.01	0.0594	0.0472	0.0390	2	Pass
Channel Bandwidth: 15MHz									
Lowest	17.52	17.06	15.97	33.01	0.0565	0.0508	0.0395	2	Pass
Middle	17.51	16.52	16.19	33.01	0.0564	0.0449	0.0416	2	Pass
Highest	17.63	16.81	16.00	33.01	0.0579	0.0480	0.0398	2	Pass
Channel Bandwidth: 20MHz									
Lowest	17.72	16.86	16.26	33.01	0.0592	0.0485	0.0423	2	Pass
Middle	17.59	16.64	16.26	33.01	0.0574	0.0461	0.0423	2	Pass
Highest	17.79	17.12	16.04	33.01	0.0601	0.0515	0.0402	2	Pass

Diversity Antenna

Channel	Maximum EIRP (dBm)				Maximum EIRP (W)				Result
	QPSK	16QAM	64QAM	Limit (dBm)	QPSK	16QAM	64QAM	Limit (W)	
Channel Bandwidth: 5MHz									
Lowest	19.89	18.64	17.96	33.01	0.0975	0.0731	0.0625	2	Pass
Middle	19.75	18.96	17.80	33.01	0.0944	0.0787	0.0603	2	Pass
Highest	19.86	18.77	18.26	33.01	0.0968	0.0753	0.0670	2	Pass
Channel Bandwidth: 10MHz									
Lowest	20.03	18.81	17.99	33.01	0.1007	0.0760	0.0630	2	Pass
Middle	19.97	19.46	18.60	33.01	0.0993	0.0883	0.0724	2	Pass
Highest	20.04	19.04	18.21	33.01	0.1009	0.0802	0.0662	2	Pass
Channel Bandwidth: 15MHz									
Lowest	19.82	19.36	18.27	33.01	0.0959	0.0863	0.0671	2	Pass
Middle	19.81	18.82	18.49	33.01	0.0957	0.0762	0.0706	2	Pass
Highest	19.93	19.11	18.30	33.01	0.0984	0.0815	0.0676	2	Pass
Channel Bandwidth: 20MHz									
Lowest	20.02	19.16	18.56	33.01	0.1005	0.0824	0.0718	2	Pass
Middle	19.89	18.94	18.56	33.01	0.0975	0.0783	0.0718	2	Pass
Highest	20.09	19.42	18.34	33.01	0.1021	0.0875	0.0682	2	Pass

5.3.2 LTE Band 12

Channel	Maximum ERP (dBm)				Maximum ERP (W)				Result
	QPSK	16QAM	64QAM	Limit (dBm)	QPSK	16QAM	64QAM	Limit (W)	
Channel Bandwidth: 1.4MHz									
Lowest	19.68	18.76	17.87	34.77	0.0929	0.0752	0.0612	3	Pass
Middle	19.69	18.65	17.76	34.77	0.0931	0.0733	0.0597	3	Pass
Highest	19.59	18.62	17.77	34.77	0.0910	0.0728	0.0598	3	Pass
Channel Bandwidth: 3MHz									
Lowest	19.59	18.40	17.50	34.77	0.0910	0.0692	0.0562	3	Pass
Middle	19.55	19.09	18.16	34.77	0.0902	0.0811	0.0655	3	Pass
Highest	19.47	18.47	17.56	34.77	0.0885	0.0703	0.0570	3	Pass
Channel Bandwidth: 5MHz									
Lowest	19.56	18.41	17.54	34.77	0.0904	0.0693	0.0568	3	Pass
Middle	19.61	18.34	17.42	34.77	0.0914	0.0682	0.0552	3	Pass
Highest	19.54	18.62	17.71	34.77	0.0899	0.0728	0.0590	3	Pass
Channel Bandwidth: 10MHz									
Lowest	19.66	18.48	17.77	34.77	0.0925	0.0705	0.0598	3	Pass
Middle	19.70	19.10	17.58	34.77	0.0933	0.0813	0.0573	3	Pass
Highest	19.61	18.61	18.22	34.77	0.0914	0.0726	0.0664	3	Pass

5.3.3 LTE Band 17

Channel	Maximum ERP (dBm)				Maximum ERP (W)				Result
	QPSK	16QAM	64QAM	Limit (dBm)	QPSK	16QAM	64QAM	Limit (W)	
Channel Bandwidth: 5MHz									
Lowest	19.56	18.42	17.49	34.77	0.0904	0.0695	0.0561	3	Pass
Middle	19.55	18.27	17.37	34.77	0.0902	0.0671	0.0546	3	Pass
Highest	19.52	18.63	17.74	34.77	0.0895	0.0729	0.0594	3	Pass
Channel Bandwidth: 10MHz									
Lowest	19.71	18.48	17.74	34.77	0.0935	0.0705	0.0594	3	Pass
Middle	19.67	19.11	17.48	34.77	0.0927	0.0815	0.0560	3	Pass
Highest	19.65	18.69	18.23	34.77	0.0923	0.0740	0.0665	3	Pass

5.3.4 LTE Band 66

Main Antenna

Channel	Maximum EIRP (dBm)				Maximum EIRP (W)				Result
	QPSK	16QAM	64QAM	Limit (dBm)	QPSK	16QAM	64QAM	Limit (W)	
Channel Bandwidth: 1.4MHz									
Lowest	18.88	17.86	16.96	30.00	0.0773	0.0611	0.0497	1	Pass
Middle	18.86	17.87	16.85	30.00	0.0769	0.0612	0.0484	1	Pass
Highest	19.06	18.11	17.21	30.00	0.0805	0.0647	0.0526	1	Pass
Channel Bandwidth: 3MHz									
Lowest	18.77	17.52	16.63	30.00	0.0753	0.0565	0.0460	1	Pass
Middle	18.71	18.14	17.22	30.00	0.0743	0.0652	0.0527	1	Pass
Highest	18.91	17.89	16.98	30.00	0.0778	0.0615	0.0499	1	Pass
Channel Bandwidth: 5MHz									
Lowest	18.73	17.64	16.67	30.00	0.0746	0.0581	0.0465	1	Pass
Middle	18.69	17.39	16.57	30.00	0.0740	0.0548	0.0454	1	Pass
Highest	18.96	18.04	17.14	30.00	0.0787	0.0637	0.0518	1	Pass
Channel Bandwidth: 10MHz									
Lowest	18.94	17.64	16.76	30.00	0.0783	0.0581	0.0474	1	Pass
Middle	18.85	18.37	17.42	30.00	0.0767	0.0687	0.0552	1	Pass
Highest	19.07	18.02	17.15	30.00	0.0807	0.0634	0.0519	1	Pass
Channel Bandwidth: 15MHz									
Lowest	18.76	17.93	16.99	30.00	0.0752	0.0621	0.0500	1	Pass
Middle	18.79	18.23	17.27	30.00	0.0757	0.0665	0.0533	1	Pass
Highest	19.00	17.95	17.05	30.00	0.0794	0.0624	0.0507	1	Pass
Channel Bandwidth: 20MHz									
Lowest	18.97	18.03	16.97	30.00	0.0789	0.0635	0.0498	1	Pass
Middle	18.91	18.01	17.35	30.00	0.0778	0.0632	0.0543	1	Pass
Highest	19.09	18.46	17.21	30.00	0.0811	0.0701	0.0526	1	Pass

Diversity Antenna

Channel	Maximum EIRP (dBm)				Maximum EIRP (W)				Result
	QPSK	16QAM	64QAM	Limit (dBm)	QPSK	16QAM	64QAM	Limit (W)	
Channel Bandwidth: 1.4MHz									
Lowest	23.23	22.21	21.31	30.00	0.2104	0.1663	0.1352	1	Pass
Middle	23.21	22.22	21.20	30.00	0.2094	0.1667	0.1318	1	Pass
Highest	23.41	22.46	21.56	30.00	0.2193	0.1762	0.1432	1	Pass
Channel Bandwidth: 3MHz									
Lowest	23.12	21.87	20.98	30.00	0.2051	0.1538	0.1253	1	Pass
Middle	23.06	22.49	21.57	30.00	0.2023	0.1774	0.1435	1	Pass
Highest	23.26	22.24	21.33	30.00	0.2118	0.1675	0.1358	1	Pass
Channel Bandwidth: 5MHz									
Lowest	23.08	21.99	21.02	30.00	0.2032	0.1581	0.1265	1	Pass
Middle	23.04	21.74	20.92	30.00	0.2014	0.1493	0.1236	1	Pass
Highest	23.31	22.39	21.49	30.00	0.2143	0.1734	0.1409	1	Pass
Channel Bandwidth: 10MHz									
Lowest	23.29	21.99	21.11	30.00	0.2133	0.1581	0.1291	1	Pass
Middle	23.20	22.72	21.77	30.00	0.2089	0.1871	0.1503	1	Pass
Highest	23.42	22.37	21.50	30.00	0.2198	0.1726	0.1413	1	Pass
Channel Bandwidth: 15MHz									
Lowest	23.11	22.28	21.34	30.00	0.2046	0.1690	0.1361	1	Pass
Middle	23.14	22.58	21.62	30.00	0.2061	0.1811	0.1452	1	Pass
Highest	23.35	22.30	21.40	30.00	0.2163	0.1698	0.1380	1	Pass
Channel Bandwidth: 20MHz									
Lowest	23.32	22.38	21.32	30.00	0.2148	0.1730	0.1355	1	Pass
Middle	23.26	22.36	21.70	30.00	0.2118	0.1722	0.1479	1	Pass
Highest	23.44	22.81	21.56	30.00	0.2208	0.1910	0.1432	1	Pass

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

UTTR-RF-FCC4G-V1.1

5.4 PEAK-TO-AVERAGE RATIO

Test Requirement:	LTE Band 2: FCC 47 CFR Part 24.232(d)
	LTE Band 4 & LTE Band 66: FCC 47 CFR Part 27.50(d)(5)
	LTE Band 5: FCC 47 CFR Part 22.913(a)
	LTE Band 7: FCC 47 CFR Part 27.50(d)(5)
	LTE Band 12 & Band 17: FCC 47 CFR Part 27.50(d)(5)
Test Method:	KDB 971168 D01v03r01 Section 5.7
Limit:	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
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. a) Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth b) Set the number of counts to a value that stabilizes the measured CCDF curve c) Record the maximum PAPR level associated with a probability of 0.1 %
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 A

5.5 99%&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 A

5.6 BAND EDGE AT ANTENNA TERMINALS

Test Requirement: LTE Band 2: FCC 47 CFR Part 24.238(a)
LTE Band 4 & LTE Band 66: FCC 47 CFR Part 27.53(h)(1)
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

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(g):

For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log(P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

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 than $43 + 10 \log(P)$ 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.

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 A

5.7 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Test Requirement: LTE Band 2: FCC 47 CFR Part 24.238(a)
LTE Band 4 & LTE Band 66: 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

Limit:

FCC 47 CFR Part 24.238(a), 27.53(h)(1), 22.917(a), 27.53(g):

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.

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 A

5.8 FIELD STRENGTH OF SPURIOUS RADIATION

Test Requirement: LTE Band 2: FCC 47 CFR Part 24.238(a)
LTE Band 4 & LTE Band 66: 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):

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.

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

Main Antenna

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	713.692	-80.6	11.2	-69.4	-13.0	-56.4	Horizontal
2	798.620	-81.2	12.0	-69.2	-13.0	-56.2	Horizontal
3	912.695	-81.7	14.0	-67.7	-13.0	-54.7	Horizontal
4	3720	-62.6	7.7	-55.0	-13.0	-42.0	Horizontal
5	5580	-64.9	11.7	-53.2	-13.0	-40.2	Horizontal
6	611.462	-80.2	9.0	-71.2	-13.0	-58.2	Vertical
7	689.051	-81.2	10.8	-70.4	-13.0	-57.4	Vertical
8	932.141	-81.9	14.1	-67.8	-13.0	-54.8	Vertical
9	3720	-62.9	7.7	-55.2	-13.0	-42.2	Vertical
10	5580	-65.7	11.7	-54.0	-13.0	-41.0	Vertical
Middle Channel							
1	723.793	-80.8	11.4	-69.4	-13.0	-56.4	Horizontal
2	804.252	-80.6	12.2	-68.4	-13.0	-55.4	Horizontal
3	972.283	-82.4	14.4	-68.0	-13.0	-55.0	Horizontal
4	3760	-61.0	7.8	-53.3	-13.0	-40.3	Horizontal
5	5640	-62.3	11.6	-50.7	-13.0	-37.7	Horizontal
6	684.226	-80.2	10.6	-69.6	-13.0	-56.6	Vertical
7	760.287	-80.3	11.5	-68.8	-13.0	-55.8	Vertical
8	945.334	-82.2	14.2	-68.0	-13.0	-55.0	Vertical
9	3760	-62.8	7.8	-55.0	-13.0	-42.0	Vertical
10	5640	-65.7	11.6	-54.1	-13.0	-41.1	Vertical
Highest Channel							
1	607.181	-79.7	8.9	-70.7	-13.0	-57.7	Horizontal
2	793.028	-79.4	11.8	-67.6	-13.0	-54.6	Horizontal
3	965.474	-81.4	14.3	-67.1	-13.0	-54.1	Horizontal
4	3800	-62.2	7.9	-54.3	-13.0	-41.3	Horizontal
5	5700	-65.8	11.4	-54.4	-13.0	-41.4	Horizontal
6	611.462	-79.0	9.0	-70.0	-13.0	-57.0	Vertical
7	850.760	-80.6	13.0	-67.6	-13.0	-54.6	Vertical
8	906.304	-80.7	13.9	-66.8	-13.0	-53.8	Vertical
9	3800	-61.8	7.9	-53.9	-13.0	-40.9	Vertical
10	5700	-65.9	11.4	-54.4	-13.0	-41.4	Vertical

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

UTTR-RF-FCC4G-V1.1

Diversity Antenna

LTE Band 2_ 20 MHz_ QPSK							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
Lowest Channel							
1	713.692	-81.9	11.2	-70.7	-13.0	-57.7	Horizontal
2	833.013	-81.4	12.6	-68.8	-13.0	-55.8	Horizontal
3	952	-82.6	14.3	-68.3	-13.0	-55.3	Horizontal
4	3720	-64.7	7.7	-57.1	-13.0	-44.1	Horizontal
5	5580	-66.6	11.7	-54.9	-13.0	-41.9	Horizontal
6	744.427	-81.4	11.5	-69.9	-13.0	-56.9	Vertical
7	875.013	-82.5	13.5	-69.0	-13.0	-56.0	Vertical
8	992.997	-83.1	14.8	-68.3	-13.0	-55.3	Vertical
9	3720	-64.6	7.7	-57.0	-13.0	-44.0	Vertical
10	5580	-65.8	11.7	-54.1	-13.0	-41.1	Vertical
Middle Channel							
1	798.62	-81.4	12.0	-69.4	-13.0	-56.4	Horizontal
2	938.714	-83.3	14.2	-69.1	-13.0	-56.1	Horizontal
3	992.997	-83.7	14.8	-68.9	-13.0	-55.9	Horizontal
4	3760	-64.1	7.8	-56.3	-13.0	-43.3	Horizontal
5	5640	-66.3	11.6	-54.8	-13.0	-41.8	Horizontal
6	765.648	-81.8	11.7	-70.1	-13.0	-57.1	Vertical
7	815.635	-81.1	12.2	-68.9	-13.0	-55.9	Vertical
8	992.997	-82.8	14.8	-68.1	-13.0	-55.1	Vertical
9	3760	-67.1	7.8	-59.3	-13.0	-46.3	Vertical
10	5640	-67.3	11.6	-55.8	-13.0	-42.8	Vertical
Highest Channel							
1	565.978	-80.8	8.0	-72.8	-13.0	-59.8	Horizontal
2	708.694	-81.1	11.1	-70.1	-13.0	-57.1	Horizontal
3	912.695	-82.8	14.0	-68.9	-13.0	-55.9	Horizontal
4	3800	-64.3	7.9	-56.3	-13.0	-43.3	Horizontal
5	5700	-66.9	11.4	-55.5	-13.0	-42.5	Horizontal
6	565.978	-80.5	8.0	-72.5	-13.0	-59.5	Vertical
7	674.677	-81.1	10.3	-70.8	-13.0	-57.8	Vertical
8	919.132	-81.4	14.0	-67.3	-13.0	-54.3	Vertical
9	3800	-65.4	7.9	-57.5	-13.0	-44.5	Vertical
10	5700	-67.9	11.4	-56.5	-13.0	-43.5	Vertical

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

UTTR-RF-FCC4G-V1.1

5.8.2 LTE Band 4

Main Antenna

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	868.886	-81.7	13.2	-68.5	-13.0	-55.5	Horizontal
2	919.132	-81.8	14.0	-67.8	-13.0	-54.8	Horizontal
3	979.139	-82.0	14.4	-67.5	-13.0	-54.5	Horizontal
4	3440	-66.3	6.5	-59.8	-13.0	-46.8	Horizontal
5	5160	-65.6	10.1	-55.5	-13.0	-42.5	Horizontal
6	728.897	-81.4	11.5	-69.9	-13.0	-56.9	Vertical
7	919.132	-82.2	14.0	-68.2	-13.0	-55.2	Vertical
8	992.997	-82.6	14.8	-67.8	-13.0	-54.8	Vertical
9	3440	-67.2	6.5	-60.6	-13.0	-47.6	Vertical
10	5160	-65.9	10.1	-55.8	-13.0	-42.8	Vertical
Middle Channel							
1	642.292	-81.0	9.9	-71.1	-13.0	-58.1	Horizontal
2	749.676	-80.7	11.5	-69.2	-13.0	-56.2	Horizontal
3	906.304	-82.4	13.9	-68.5	-13.0	-55.5	Horizontal
4	3465	-64.1	6.6	-57.5	-13.0	-44.5	Horizontal
5	5198	-63.3	10.3	-53.0	-13.0	-40.0	Horizontal
6	674.677	-79.8	10.3	-69.5	-13.0	-56.5	Vertical
7	815.635	-80.8	12.2	-68.7	-13.0	-55.7	Vertical
8	919.132	-81.2	14.0	-67.2	-13.0	-54.2	Vertical
9	3465	-63.8	6.6	-57.2	-13.0	-44.2	Vertical
10	5198	-64.2	10.3	-53.9	-13.0	-40.9	Vertical
Highest Channel							
1	754.963	-80.7	11.3	-69.4	-13.0	-56.4	Horizontal
2	899.958	-81.8	13.9	-68.0	-13.0	-55.0	Horizontal
3	965.474	-82.4	14.3	-68.0	-13.0	-55.0	Horizontal
4	3490	-64.2	6.7	-57.5	-13.0	-44.5	Horizontal
5	5235	-62.4	10.4	-52.0	-13.0	-39.0	Horizontal
6	569.969	-79.2	7.9	-71.3	-13.0	-58.3	Vertical
7	765.648	-81.4	11.7	-69.7	-13.0	-56.7	Vertical
8	932.141	-82.6	14.1	-68.5	-13.0	-55.5	Vertical
9	3490	-65.0	6.7	-58.3	-13.0	-45.3	Vertical
10	5235	-64.4	10.4	-54.0	-13.0	-41.0	Vertical

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

UTTR-RF-FCC4G-V1.1

Diversity Antenna

LTE Band 4_ 20 MHz_ QPSK							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
Lowest Channel							
1	765.648	-82.2	11.7	-70.5	-13.0	-57.5	Horizontal
2	887.398	-82.9	13.7	-69.2	-13.0	-56.2	Horizontal
3	992.997	-82.5	14.8	-67.7	-13.0	-54.7	Horizontal
4	3440	-65.3	6.5	-58.8	-13.0	-45.8	Horizontal
5	5160	-66.6	10.1	-56.5	-13.0	-43.5	Horizontal
6	611.462	-79.7	9.0	-70.7	-13.0	-57.7	Vertical
7	833.013	-81.7	12.6	-69.2	-13.0	-56.2	Vertical
8	881.184	-81.5	13.6	-67.9	-13.0	-54.9	Vertical
9	3440	-66.7	6.5	-60.2	-13.0	-47.2	Vertical
10	5160	-66.3	10.1	-56.2	-13.0	-43.2	Vertical
Middle Channel							
1	535.038	-80.8	7.7	-73.1	-13.0	-60.1	Horizontal
2	642.292	-81.6	9.9	-71.7	-13.0	-58.7	Horizontal
3	893.656	-82.1	13.9	-68.2	-13.0	-55.2	Horizontal
4	3465	-66.2	6.6	-59.6	-13.0	-46.6	Horizontal
5	5197.5	-67.9	10.3	-57.6	-13.0	-44.6	Horizontal
6	655.977	-80.8	10.1	-70.7	-13.0	-57.7	Vertical
7	850.76	-81.4	13.0	-68.4	-13.0	-55.4	Vertical
8	986.044	-82.7	14.6	-68.0	-13.0	-55.0	Vertical
9	3465	-66.2	6.6	-59.5	-13.0	-46.5	Vertical
10	5197.5	-65.6	10.3	-55.4	-13.0	-42.4	Vertical
Highest Channel							
1	651.383	-81.5	10.0	-71.6	-13.0	-58.6	Horizontal
2	734.037	-80.8	11.4	-69.4	-13.0	-56.4	Horizontal
3	919.132	-81.8	14.0	-67.8	-13.0	-54.8	Horizontal
4	3490	-66.6	6.7	-59.9	-13.0	-46.9	Horizontal
5	5235	-67.4	10.4	-56.9	-13.0	-43.9	Horizontal
6	723.793	-82.5	11.4	-71.1	-13.0	-58.1	Vertical
7	827.179	-81.0	12.5	-68.5	-13.0	-55.5	Vertical
8	992.997	-82.5	14.8	-67.7	-13.0	-54.7	Vertical
9	3490	-66.8	6.7	-60.1	-13.0	-47.1	Vertical
10	5235	-65.6	10.4	-55.1	-13.0	-42.1	Vertical

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

UTTR-RF-FCC4G-V1.1

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	723.793	-88.6	40.7	-47.9	-13.0	-34.9	Horizontal
2	754.963	-88.1	40.6	-47.5	-13.0	-34.5	Horizontal
3	893.656	-88.1	42.8	-45.3	-13.0	-32.3	Horizontal
4	1658	-65.1	0.3	-64.8	-13.0	-51.8	Horizontal
5	2487	-66.5	3.6	-62.8	-13.0	-49.8	Horizontal
6	708.694	-88.3	40.4	-47.8	-13.0	-34.8	Vertical
7	919.132	-86.9	42.9	-44.0	-13.0	-31.0	Vertical
8	965.474	-86.9	43.1	-43.8	-13.0	-30.8	Vertical
9	1658	-62.6	0.3	-62.4	-13.0	-49.4	Vertical
10	2487	-62.5	3.6	-58.9	-13.0	-45.9	Vertical
Middle Channel							
1	542.61	-88.6	37.1	-51.5	-13.0	-38.5	Horizontal
2	693.91	-89.1	40.3	-48.8	-13.0	-35.8	Horizontal
3	765.648	-88.9	41.0	-48.0	-13.0	-35.0	Horizontal
4	1673	-63.9	0.4	-63.5	-13.0	-50.5	Horizontal
5	2509.5	-65.6	3.7	-61.9	-13.0	-48.9	Horizontal
6	689.051	-89.1	40.2	-48.9	-13.0	-35.9	Vertical
7	804.252	-87.5	41.4	-46.1	-13.0	-33.1	Vertical
8	906.304	-87.8	42.8	-45.0	-13.0	-32.0	Vertical
9	1673	-63.2	0.4	-62.8	-13.0	-49.8	Vertical
10	2509.5	-62.1	3.7	-58.4	-13.0	-45.4	Vertical
Highest Channel							
1	455.189	-88.6	34.8	-53.8	-13.0	-40.8	Horizontal
2	611.462	-89.1	38.4	-50.7	-13.0	-37.7	Horizontal
3	713.692	-87.6	40.5	-47.1	-13.0	-34.1	Horizontal
4	1688	-63.3	0.5	-62.9	-13.0	-49.9	Horizontal
5	2532	-64.5	3.8	-60.8	-13.0	-47.8	Horizontal
6	620.117	-88.8	38.6	-50.2	-13.0	-37.2	Vertical
7	739.214	-88.4	40.9	-47.5	-13.0	-34.5	Vertical
8	945.334	-87.9	43.0	-45.0	-13.0	-32.0	Vertical
9	1688	-62.9	0.5	-62.4	-13.0	-49.4	Vertical
10	2532	-61.8	3.8	-58.1	-13.0	-45.1	Vertical

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

UTTR-RF-FCC4G-V1.1

5.8.1 LTE Band 7

Main Antenna

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	655.977	-80.5	10.1	-70.4	-25.0	-45.4	Horizontal
2	906.304	-80.8	13.9	-66.9	-25.0	-41.9	Horizontal
3	958.714	-81.4	14.3	-67.1	-25.0	-42.1	Horizontal
4	5020	-66.1	9.6	-56.5	-25.0	-31.5	Horizontal
5	7530	-66.1	13.7	-52.4	-25.0	-27.4	Horizontal
6	458.399	-79.1	5.9	-73.2	-25.0	-48.2	Vertical
7	550.290	-79.4	7.7	-71.7	-25.0	-46.7	Vertical
8	912.695	-81.6	14.0	-67.6	-25.0	-42.6	Vertical
9	5020	-65.0	9.6	-55.5	-25.0	-30.5	Vertical
10	7530	-65.4	13.7	-51.7	-25.0	-26.7	Vertical
Middle Channel							
1	646.822	-80.7	10.0	-70.7	-25.0	-45.7	Horizontal
2	776.485	-81.0	11.6	-69.4	-25.0	-44.4	Horizontal
3	893.656	-82.4	13.9	-68.6	-25.0	-43.6	Horizontal
4	5070	-64.1	9.8	-54.3	-25.0	-29.3	Horizontal
5	7605	-65.5	13.8	-51.7	-25.0	-26.7	Horizontal
6	713.692	-81.0	11.2	-69.8	-25.0	-44.8	Vertical
7	815.635	-81.3	12.2	-69.2	-25.0	-44.2	Vertical
8	919.132	-82.1	14.0	-68.1	-25.0	-43.1	Vertical
9	5070	-64.1	9.8	-54.3	-25.0	-29.3	Vertical
10	7605	-66.0	13.8	-52.2	-25.0	-27.2	Vertical
Highest Channel							
1	787.475	-80.9	11.8	-69.2	-25.0	-44.2	Horizontal
2	862.802	-81.5	13.1	-68.4	-25.0	-43.4	Horizontal
3	979.139	-82.2	14.4	-67.7	-25.0	-42.7	Horizontal
4	5120	-64.1	10.0	-54.2	-25.0	-29.2	Horizontal
5	7680	-65.3	13.9	-51.4	-25.0	-26.4	Horizontal
6	793.028	-80.5	11.8	-68.7	-25.0	-43.7	Vertical
7	850.760	-80.5	13.0	-67.5	-25.0	-42.5	Vertical
8	992.997	-82.1	14.8	-67.4	-25.0	-42.4	Vertical
9	5120	-65.1	10.0	-55.2	-25.0	-30.2	Vertical
10	7680	-65.7	13.9	-51.8	-25.0	-26.8	Vertical

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

UTTR-RF-FCC4G-V1.1

Diversity Antenna

LTE Band 7_ 20 MHz_ QPSK							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
Lowest Channel							
1	558.079	-80.3	7.8	-72.5	-25.0	-47.5	Horizontal
2	718.725	-82.0	11.3	-70.7	-25.0	-45.7	Horizontal
3	932.141	-83.2	14.1	-69.1	-25.0	-44.1	Horizontal
4	5020	-67.4	9.6	-57.8	-25.0	-32.8	Horizontal
5	7530	-67.2	13.7	-53.6	-25.0	-28.6	Horizontal
6	856.760	-82.5	13.1	-69.4	-25.0	-44.4	Vertical
7	899.958	-82.4	13.9	-68.5	-25.0	-43.5	Vertical
8	965.474	-81.9	14.3	-67.6	-25.0	-42.6	Vertical
9	5020	-67.2	9.6	-57.6	-25.0	-32.6	Vertical
10	7530	-69.1	13.7	-55.4	-25.0	-30.4	Vertical
Middle Channel							
1	809.924	-81.9	12.2	-69.7	-25.0	-44.7	Horizontal
2	844.803	-81.8	12.7	-69.1	-25.0	-44.1	Horizontal
3	893.656	-82.2	13.9	-68.4	-25.0	-43.4	Horizontal
4	5070	-65.0	9.8	-55.2	-25.0	-30.2	Horizontal
5	7605	-67.5	13.8	-53.8	-25.0	-28.8	Horizontal
6	655.977	-81.0	10.1	-70.9	-25.0	-45.9	Vertical
7	827.179	-82.1	12.5	-69.7	-25.0	-44.7	Vertical
8	938.714	-83.1	14.2	-69.0	-25.0	-44.0	Vertical
9	5070	-64.7	9.8	-54.9	-25.0	-29.9	Vertical
10	7605	-66.1	13.8	-52.3	-25.0	-27.3	Vertical
Highest Channel							
1	718.725	-81.5	11.3	-70.2	-25.0	-45.2	Horizontal
2	906.304	-82.8	13.9	-68.9	-25.0	-43.9	Horizontal
3	938.714	-82.8	14.2	-68.7	-25.0	-43.7	Horizontal
4	5120	-65.7	10.0	-55.8	-25.0	-30.8	Horizontal
5	7680	-67.2	13.9	-53.3	-25.0	-28.3	Horizontal
6	749.676	-81.3	11.5	-69.8	-25.0	-44.8	Vertical
7	893.656	-81.4	13.9	-67.5	-25.0	-42.5	Vertical
8	972.283	-82.0	14.4	-67.6	-25.0	-42.6	Vertical
9	5120	-66.0	10.0	-56.1	-25.0	-31.1	Vertical
10	7680	-68.4	13.9	-54.6	-25.0	-29.6	Vertical

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

UTTR-RF-FCC4G-V1.1

5.8.2 LTE Band 12

LTE Band 12_ 10 MHz_ QPSK							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
Lowest Channel							
1	637.795	-88.9	39.1	-49.8	-13.0	-36.8	Horizontal
2	734.037	-88.4	40.7	-47.8	-13.0	-34.8	Horizontal
3	945.334	-86.4	43.0	-43.5	-13.0	-30.5	Horizontal
4	1408	-63.1	-0.9	-64.0	-13.0	-51.0	Horizontal
5	2112	-64.6	2.4	-62.2	-13.0	-49.2	Horizontal
6	562.014	-87.6	37.2	-50.4	-13.0	-37.4	Vertical
7	833.013	-87.2	41.6	-45.5	-13.0	-32.5	Vertical
8	972.283	-87.5	43.1	-44.4	-13.0	-31.4	Vertical
9	1408	-61.1	-0.9	-62.0	-13.0	-49.0	Vertical
10	2112	-64.0	2.4	-61.6	-13.0	-48.6	Vertical
Middle Channel							
1	582.112	-88.8	37.5	-51.3	-13.0	-38.3	Horizontal
2	655.977	-88.6	39.5	-49.1	-13.0	-36.1	Horizontal
3	856.76	-88.4	42.1	-46.3	-13.0	-33.3	Horizontal
4	1415	-62.5	-0.9	-63.3	-13.0	-50.3	Horizontal
5	2122.5	-65.6	2.5	-63.1	-13.0	-50.1	Horizontal
6	598.707	-88.4	38.2	-50.2	-13.0	-37.2	Vertical
7	798.62	-87.8	41.2	-46.6	-13.0	-33.6	Vertical
8	868.886	-87.9	42.2	-45.7	-13.0	-32.7	Vertical
9	1415	-61.2	-0.9	-62.0	-13.0	-49.0	Vertical
10	2122.5	-63.0	2.5	-60.5	-13.0	-47.5	Vertical
Highest Channel							
1	542.61	-88.8	37.1	-51.7	-13.0	-38.7	Horizontal
2	665.261	-87.9	39.8	-48.1	-13.0	-35.1	Horizontal
3	821.387	-87.5	41.4	-46.0	-13.0	-33.0	Horizontal
4	1422	-62.6	-0.8	-63.5	-13.0	-50.5	Horizontal
5	2133	-63.8	2.5	-61.4	-13.0	-48.4	Horizontal
6	765.648	-87.8	41.0	-46.8	-13.0	-33.8	Vertical
7	844.803	-87.8	41.8	-46.0	-13.0	-33.0	Vertical
8	979.139	-87.6	43.1	-44.5	-13.0	-31.5	Vertical
9	1422	-61.1	-0.8	-61.9	-13.0	-48.9	Vertical
10	2133	-62.9	2.5	-60.4	-13.0	-47.4	Vertical

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

UTTR-RF-FCC4G-V1.1

5.8.3 LTE Band 17

LTE Band 17_ 5 MHz_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
Lowest Channel							
1	527.571	-88.8	36.5	-52.3	-13.0	-39.3	Horizontal
2	679.435	-87.6	39.8	-47.8	-13.0	-34.8	Horizontal
3	925.613	-87.5	42.9	-44.6	-13.0	-31.6	Horizontal
4	1418	-63.8	-0.8	-64.7	-13.0	-51.7	Horizontal
5	2127	-64.2	2.5	-61.7	-13.0	-48.7	Horizontal
6	598.707	-88.8	38.2	-50.6	-13.0	-37.6	Vertical
7	739.214	-87.6	40.9	-46.7	-13.0	-33.7	Vertical
8	979.139	-86.9	43.1	-43.8	-13.0	-30.8	Vertical
9	1418	-62.3	-0.8	-63.2	-13.0	-50.2	Vertical
10	2127	-64.2	2.5	-61.8	-13.0	-48.8	Vertical
Middle Channel							
1	495.238	-88.6	35.9	-52.6	-13.0	-39.6	Horizontal
2	821.387	-88.4	41.4	-47.0	-13.0	-34.0	Horizontal
3	925.613	-87.6	42.9	-44.7	-13.0	-31.7	Horizontal
4	1420	-63.0	-0.8	-63.8	-13.0	-50.8	Horizontal
5	2130	-64.4	2.5	-61.9	-13.0	-48.9	Horizontal
6	502.247	-89.5	36.2	-53.3	-13.0	-40.3	Vertical
7	607.181	-89.1	38.4	-50.8	-13.0	-37.8	Vertical
8	919.132	-87.9	42.9	-45.1	-13.0	-32.1	Vertical
9	1420	-61.0	-0.8	-61.9	-13.0	-48.9	Vertical
10	2130	-63.3	2.5	-60.9	-13.0	-47.9	Vertical
Highest Channel							
1	538.811	-88.2	37.0	-51.2	-13.0	-38.2	Horizontal
2	760.287	-88.1	40.8	-47.3	-13.0	-34.3	Horizontal
3	965.474	-86.7	43.1	-43.7	-13.0	-30.7	Horizontal
4	1422	-63.9	-0.8	-64.7	-13.0	-51.7	Horizontal
5	2133	-65.7	2.5	-63.2	-13.0	-50.2	Horizontal
6	582.112	-89.1	37.5	-51.6	-13.0	-38.6	Vertical
7	674.677	-89.1	39.7	-49.4	-13.0	-36.4	Vertical
8	827.179	-89.1	41.6	-47.6	-13.0	-34.6	Vertical
9	1422	-61.4	-0.8	-62.2	-13.0	-49.2	Vertical
10	2133	-63.6	2.5	-61.2	-13.0	-48.2	Vertical

5.8.4 LTE Band 66

Main Antenna

LTE Band 66_ 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	793.028	-80.7	11.8	-68.9	-13.0	-55.9	Horizontal
2	881.184	-82.0	13.6	-68.4	-13.0	-55.4	Horizontal
3	958.714	-82.1	14.3	-67.8	-13.0	-54.8	Horizontal
4	3440	-62.4	6.5	-55.9	-13.0	-42.9	Horizontal
5	5160	-63.0	10.1	-52.9	-13.0	-39.9	Horizontal
6	693.910	-80.7	11.0	-69.7	-13.0	-56.7	Vertical
7	744.427	-79.8	11.5	-68.3	-13.0	-55.3	Vertical
8	952.000	-82.1	14.3	-67.8	-13.0	-54.8	Vertical
9	3440	-64.4	6.5	-57.9	-13.0	-44.9	Vertical
10	5160	-64.8	10.1	-54.7	-13.0	-41.7	Vertical
Middle Channel							
1	728.897	-81.4	11.5	-69.9	-13.0	-56.9	Horizontal
2	868.886	-81.7	13.2	-68.5	-13.0	-55.5	Horizontal
3	992.997	-82.6	14.8	-67.9	-13.0	-54.9	Horizontal
4	3490	-64.1	6.7	-57.4	-13.0	-44.4	Horizontal
5	5235	-64.3	10.4	-53.9	-13.0	-40.9	Horizontal
6	744.427	-81.2	11.5	-69.7	-13.0	-56.7	Vertical
7	862.802	-81.4	13.1	-68.3	-13.0	-55.3	Vertical
8	945.334	-81.9	14.2	-67.7	-13.0	-54.7	Vertical
9	3490	-64.7	6.7	-58.0	-13.0	-45.0	Vertical
10	5235	-65.2	10.4	-54.7	-13.0	-41.7	Vertical
Highest Channel							
1	723.793	-81.1	11.4	-69.7	-13.0	-56.7	Horizontal
2	793.028	-81.1	11.8	-69.3	-13.0	-56.3	Horizontal
3	919.132	-80.8	14.0	-66.8	-13.0	-53.8	Horizontal
4	3540	-63.8	6.9	-56.9	-13.0	-43.9	Horizontal
5	5310	-64.0	10.9	-53.2	-13.0	-40.2	Horizontal
6	703.731	-80.7	11.1	-69.6	-13.0	-56.6	Vertical
7	833.013	-80.7	12.6	-68.2	-13.0	-55.2	Vertical
8	992.997	-82.4	14.8	-67.6	-13.0	-54.6	Vertical
9	3540	-64.2	6.9	-57.3	-13.0	-44.3	Vertical
10	5310	-64.8	10.9	-54.0	-13.0	-41.0	Vertical

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

UTTR-RF-FCC4G-V1.1

Diversity Antenna

LTE Band 66_ 20 MHz_ QPSK							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
Lowest Channel							
1	660.602	-81.5	10.2	-71.4	-13.0	-58.4	Horizontal
2	703.731	-81.0	11.1	-69.9	-13.0	-56.9	Horizontal
3	919.132	-81.4	14.0	-67.4	-13.0	-54.4	Horizontal
4	3440	-66.3	6.5	-59.8	-13.0	-46.8	Horizontal
5	5160	-65.3	10.1	-55.2	-13.0	-42.2	Horizontal
6	674.677	-81.7	10.3	-71.3	-13.0	-58.3	Vertical
7	771.047	-81.8	11.7	-70.1	-13.0	-57.1	Vertical
8	899.958	-82.6	13.9	-68.7	-13.0	-55.7	Vertical
9	3440	-68.5	6.5	-62.0	-13.0	-49.0	Vertical
10	5160	-64.6	10.1	-54.5	-13.0	-41.5	Vertical
Middle Channel							
1	633.328	-80.3	9.5	-70.8	-13.0	-57.8	Horizontal
2	899.958	-82.2	13.9	-68.3	-13.0	-55.3	Horizontal
3	952	-82.7	14.3	-68.4	-13.0	-55.4	Horizontal
4	3490	-65.1	6.7	-58.4	-13.0	-45.4	Horizontal
5	5235	-65.0	10.4	-54.5	-13.0	-41.5	Horizontal
6	698.804	-81.3	11.0	-70.3	-13.0	-57.3	Vertical
7	844.803	-81.7	12.7	-69.0	-13.0	-56.0	Vertical
8	887.398	-82.5	13.7	-68.8	-13.0	-55.8	Vertical
9	3490	-65.1	6.7	-58.4	-13.0	-45.4	Vertical
10	5235	-65.1	10.4	-54.7	-13.0	-41.7	Vertical
Highest Channel							
1	598.707	-80.8	8.8	-72.1	-13.0	-59.1	Horizontal
2	703.731	-81.7	11.1	-70.6	-13.0	-57.6	Horizontal
3	912.695	-82.3	14.0	-68.3	-13.0	-55.3	Horizontal
4	3540	-66.2	6.9	-59.3	-13.0	-46.3	Horizontal
5	5310	-66.8	10.9	-56.0	-13.0	-43.0	Horizontal
6	655.977	-81.4	10.1	-71.3	-13.0	-58.3	Vertical
7	833.013	-81.8	12.6	-69.3	-13.0	-56.3	Vertical
8	881.184	-82.7	13.6	-69.2	-13.0	-56.2	Vertical
9	3540	-65.8	6.9	-58.9	-13.0	-45.9	Vertical
10	5310	-64.7	10.9	-53.9	-13.0	-40.9	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

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

UTTR-RF-FCC4G-V1.1

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 Part 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 $+50^{\circ}\text{C}$

b) Voltage = low voltage, 3.4 Vdc, Normal, 3.87 Vdc and High voltage, 4.45 Vdc.

2) Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to 20°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

Modulation	Channel/ Frequency (MHz)	Voltage (Vdc)	Temperature ($^{\circ}\text{C}$)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
LTE Band 2 / 20MHz / Full RB							
QPSK	18900 / 1880.0	VL	TN	-5.94	-0.0032	Note 1	Pass
		VN		-5.31	-0.0028		Pass
		VH		-1.10	-0.0006		Pass
		VN	50	-13.75	-0.0073		Pass
			40	-14.22	-0.0076		Pass
			30	-10.67	-0.0057		Pass
			20	-5.31	-0.0028		Pass
			10	-8.51	-0.0045		Pass
			0	-10.19	-0.0054		Pass
			-10	-12.70	-0.0068		Pass
			-20	-2.66	-0.0014		Pass
			-30	2.39	0.0013		Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
LTE Band 4 / 20MHz / Full RB							
QPSK	20175 / 1732.5	VL	TN	-4.43	-0.0026	Note 1	Pass
		VN		-15.46	-0.0089		Pass
		VH		-11.01	-0.0064		Pass
		VN	50	-8.80	-0.0051		Pass
			40	-11.1	-0.0064		Pass
			30	-15.96	-0.0092		Pass
			20	-15.46	-0.0089		Pass
			10	-0.50	-0.0003		Pass
			0	-1.19	-0.0007		Pass
			-10	-5.99	-0.0035		Pass
			-20	-1.17	-0.0007		Pass
			-30	3.76	0.0022		Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
LTE Band 5 / 10MHz / Full RB							
QPSK	20525 / 836.5	VL	TN	-8.40	-0.0100	± 2.5	Pass
		VN		-8.90	-0.0106	± 2.5	Pass
		VH		-10.53	-0.0126	± 2.5	Pass
		VN	50	-3.23	-0.0039	± 2.5	Pass
			40	-4.71	-0.0056	± 2.5	Pass
			30	-6.41	-0.0077	± 2.5	Pass
			20	-8.90	-0.0106	± 2.5	Pass
			10	-5.94	-0.0071	± 2.5	Pass
			0	-4.13	-0.0049	± 2.5	Pass
			-10	-10.26	-0.0123	± 2.5	Pass
			-20	-7.88	-0.0094	± 2.5	Pass
			-30	-3.48	-0.0042	± 2.5	Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
LTE Band 7 / 20MHz / Full RB							
QPSK	21100 / 2535	VL	TN	-13.75	-0.0079	N/A	Pass
		VN		-15.85	-0.0091		Pass
		VH		-2.06	-0.0012		Pass
		VN	50	-8.90	-0.0051		Pass
			40	-10.10	-0.0058		Pass
			30	-11.87	-0.0069		Pass
			20	-15.85	-0.0091		Pass
			10	-8.24	-0.0048		Pass
			0	-4.36	-0.0025		Pass
			-10	-2.02	-0.0012		Pass
			-20	-2.72	-0.0016		Pass
			-30	-4.32	-0.0025		Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
LTE Band 12 / 10MHz / Full RB							
QPSK	23095 / 707.5	VL	TN	-6.59	-0.0093	Note 1	Pass
		VN		-12.86	-0.0182		Pass
		VH		-6.12	-0.0087		Pass
		VN	50	-7.91	-0.0112		Pass
			40	-4.49	-0.0063		Pass
			30	-9.20	-0.0130		Pass
			20	-12.86	-0.0182		Pass
			10	-9.91	-0.0140		Pass
			0	-8.27	-0.0117		Pass
			-10	-8.31	-0.0117		Pass
			-20	-7.37	-0.0104		Pass
			-30	-5.39	-0.0076		Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
LTE Band 17 / 10MHz / Full RB							
QPSK	23790 / 710	VL	TN	-13.25	-0.0187	Note 1	Pass
		VN		-11.52	-0.0162		Pass
		VH		-10.36	-0.0146		Pass
		VN	50	-5.31	-0.0075		Pass
			40	-4.99	-0.0070		Pass
			30	-4.79	-0.0067		Pass
			20	-11.52	-0.0162		Pass
			10	-7.07	-0.0100		Pass
			0	-8.55	-0.0120		Pass
			-10	-3.89	-0.0055		Pass
			-20	-3.00	-0.0042		Pass
			-30	-5.09	-0.0072		Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
LTE Band 66/ 20MHz / Full RB							
QPSK	132322 / 1745	VL	TN	-4.31	-0.0025	Note 1	Pass
		VN		-8.03	-0.0046		Pass
		VH		-10.77	-0.0062		Pass
		VN	50	-1.32	-0.0008		Pass
			40	-3.50	-0.0020		Pass
			30	-4.12	-0.0024		Pass
			20	-8.33	-0.0048		Pass
			10	-8.03	-0.0046		Pass
			0	-12.55	-0.0072		Pass
			-10	-12.60	-0.0072		Pass
			-20	-10.34	-0.0059		Pass
			-30	-8.90	-0.0051		Pass

APPENDIX A RF TEST DATA

A.1 LTE BAND 2

Peak to Average Ratio

Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
2	20.0	18700	1860.0	QPSK	100@0	5.63	13	PASS
2	20.0	18700	1860.0	16QAM	100@0	6.30	13	PASS
2	20.0	18700	1860.0	64QAM	100@0	6.34	13	PASS
2	20.0	18900	1880.0	QPSK	100@0	5.47	13	PASS
2	20.0	18900	1880.0	16QAM	100@0	6.27	13	PASS
2	20.0	18900	1880.0	64QAM	100@0	6.07	13	PASS
2	20.0	19100	1900.0	QPSK	100@0	5.44	13	PASS
2	20.0	19100	1900.0	16QAM	100@0	6.26	13	PASS
2	20.0	19100	1900.0	64QAM	100@0	6.26	13	PASS

B2(20.0M) QPSK 100@0 18700 CH



B2(20.0M) 16QAM 100@0 18700 CH



B2(20.0M) QPSK 100@0 18900 CH



B2(20.0M) 16QAM 100@0 18900 CH



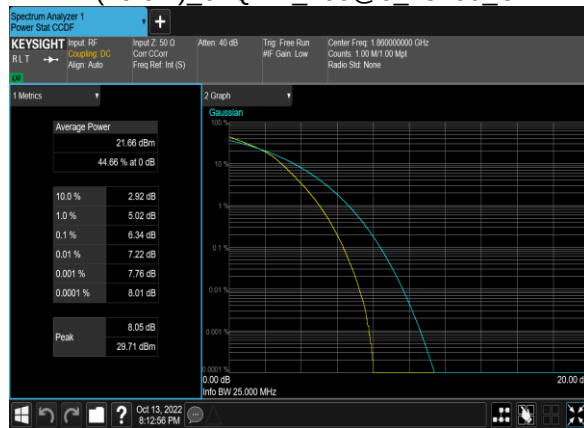
B2(20.0M) QPSK 100@0 19100 CH



B2(20.0M) 16QAM 100@0 19100 CH



B2(20.0M) 64QAM 100@0 18700 CH



B2(20.0M) 64QAM 100@0 18900 CH



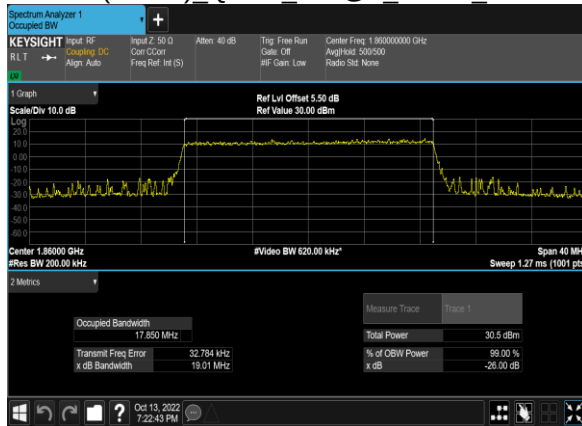
B2(20.0M) 64QAM 100@0 19100 CH



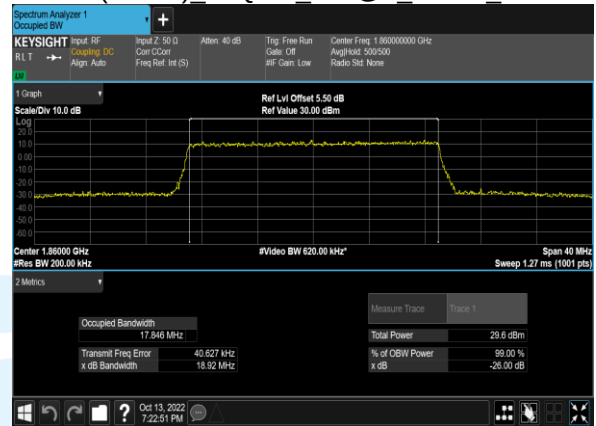
Occupied Bandwidth

Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
2	20.0	18700	1860.0	QPSK	100@0	17.850	19.01
2	20.0	18700	1860.0	16QAM	100@0	17.846	18.92
2	20.0	18700	1860.0	64QAM	100@0	17.859	18.90
2	20.0	18900	1880.0	QPSK	100@0	17.878	18.77
2	20.0	18900	1880.0	16QAM	100@0	17.899	18.77
2	20.0	18900	1880.0	64QAM	100@0	17.875	18.87
2	20.0	19100	1900.0	QPSK	100@0	17.826	18.90
2	20.0	19100	1900.0	16QAM	100@0	17.812	18.82
2	20.0	19100	1900.0	64QAM	100@0	17.803	18.88
2	15.0	18675	1857.5	QPSK	75@0	13.435	14.45
2	15.0	18675	1857.5	16QAM	75@0	13.405	14.09
2	15.0	18675	1857.5	64QAM	75@0	13.414	14.27
2	15.0	18900	1880.0	QPSK	75@0	13.398	14.37
2	15.0	18900	1880.0	16QAM	75@0	13.410	14.23
2	15.0	18900	1880.0	64QAM	75@0	13.408	14.27
2	15.0	19125	1902.5	QPSK	75@0	13.372	14.20
2	15.0	19125	1902.5	16QAM	75@0	13.372	14.20
2	15.0	19125	1902.5	64QAM	75@0	13.392	14.13
2	10.0	18650	1855.0	QPSK	50@0	8.9409	9.493
2	10.0	18650	1855.0	16QAM	50@0	8.9605	9.573
2	10.0	18650	1855.0	64QAM	50@0	8.9612	9.540
2	10.0	18900	1880.0	QPSK	50@0	8.9447	9.549
2	10.0	18900	1880.0	16QAM	50@0	8.9453	9.510
2	10.0	18900	1880.0	64QAM	50@0	8.9484	9.466
2	10.0	19150	1905.0	QPSK	50@0	8.9236	9.477
2	10.0	19150	1905.0	16QAM	50@0	8.9258	9.478
2	10.0	19150	1905.0	64QAM	50@0	8.9281	9.488
2	5.0	18625	1852.5	QPSK	25@0	4.4602	4.788
2	5.0	18625	1852.5	16QAM	25@0	4.4609	4.838
2	5.0	18625	1852.5	64QAM	25@0	4.4656	4.844
2	5.0	18900	1880.0	QPSK	25@0	4.4629	4.855
2	5.0	18900	1880.0	16QAM	25@0	4.4647	4.773
2	5.0	18900	1880.0	64QAM	25@0	4.4672	4.818
2	5.0	19175	1907.5	QPSK	25@0	4.4648	4.831
2	5.0	19175	1907.5	16QAM	25@0	4.4663	4.837
2	5.0	19175	1907.5	64QAM	25@0	4.4609	4.823
2	3.0	18615	1851.5	QPSK	15@0	2.6756	2.845
2	3.0	18615	1851.5	16QAM	15@0	2.6735	2.861
2	3.0	18615	1851.5	64QAM	15@0	2.6754	2.846
2	3.0	18900	1880.0	QPSK	15@0	2.6717	2.843
2	3.0	18900	1880.0	16QAM	15@0	2.6724	2.847
2	3.0	18900	1880.0	64QAM	15@0	2.6693	2.845
2	3.0	19185	1908.5	QPSK	15@0	2.6776	2.850
2	3.0	19185	1908.5	16QAM	15@0	2.6785	2.837
2	3.0	19185	1908.5	64QAM	15@0	2.6746	2.846
2	1.4	18607	1850.7	QPSK	6@0	1.0786	1.237
2	1.4	18607	1850.7	16QAM	6@0	1.0768	1.236
2	1.4	18607	1850.7	64QAM	6@0	1.0783	1.233
2	1.4	18900	1880.0	QPSK	6@0	1.0791	1.250
2	1.4	18900	1880.0	16QAM	6@0	1.0793	1.263
2	1.4	18900	1880.0	64QAM	6@0	1.0804	1.270
2	1.4	19193	1909.3	QPSK	6@0	1.0783	1.248
2	1.4	19193	1909.3	16QAM	6@0	1.0738	1.222
2	1.4	19193	1909.3	64QAM	6@0	1.0752	1.210

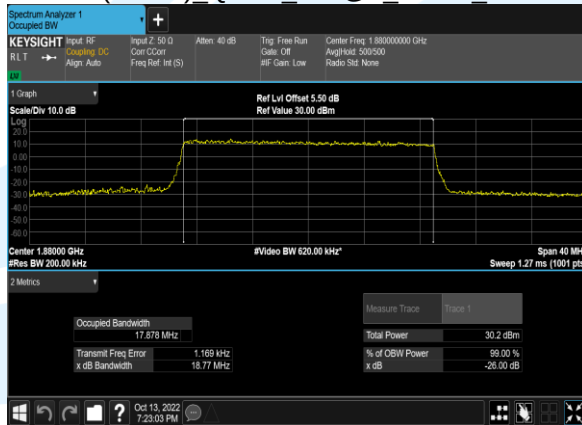
B2(20.0M) QPSK 100@0 18700 CH



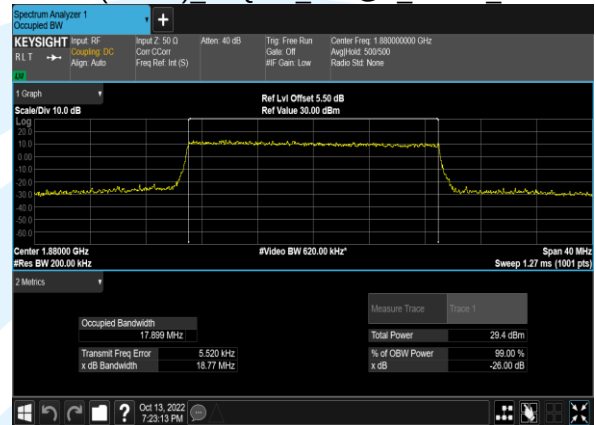
B2(20.0M) 16QAM 100@0 18700 CH



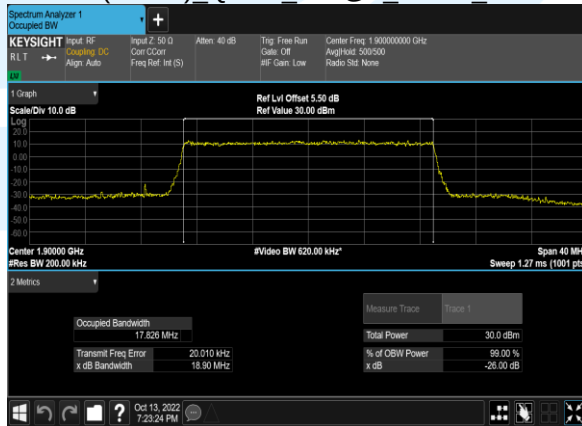
B2(20.0M) QPSK 100@0 18900 CH



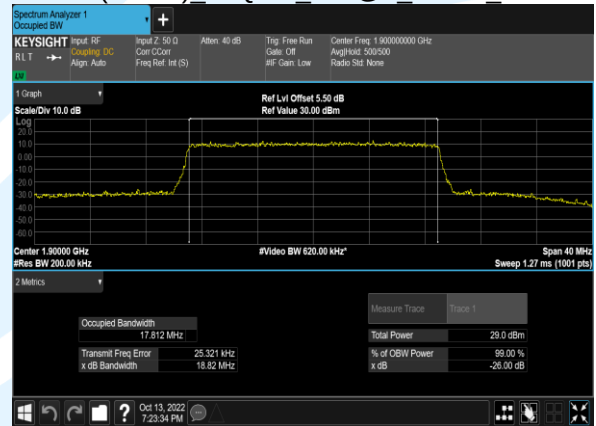
B2(20.0M) 16QAM 100@0 18900 CH



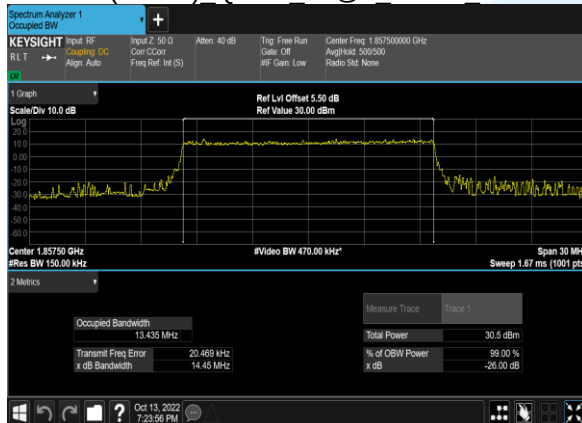
B2(20.0M) QPSK 100@0 19100 CH



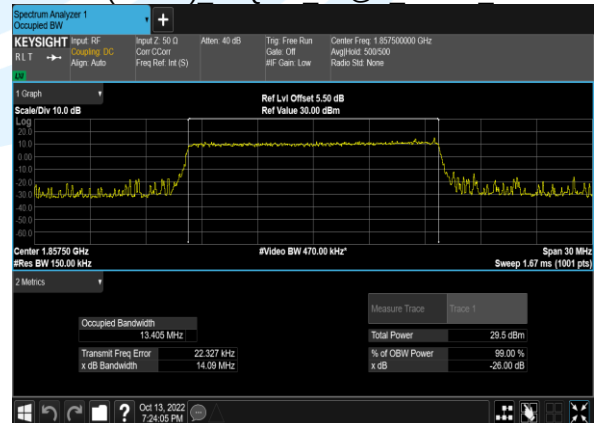
B2(20.0M) 16QAM 100@0 19100 CH



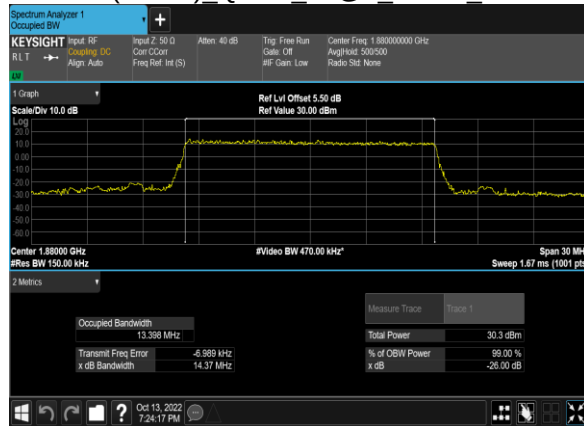
B2(15.0M) QPSK 75@0 18675 CH



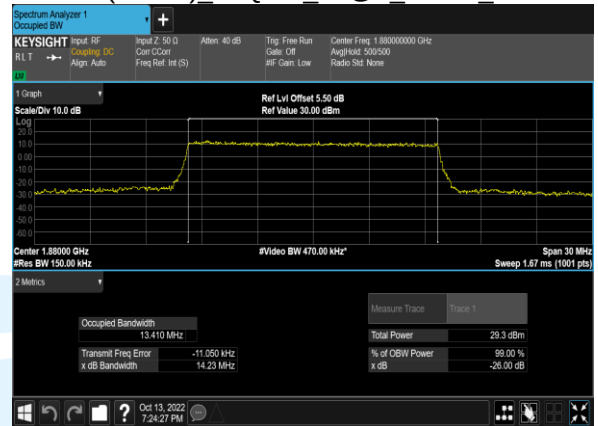
B2(15.0M) 16QAM 75@0 18675 CH



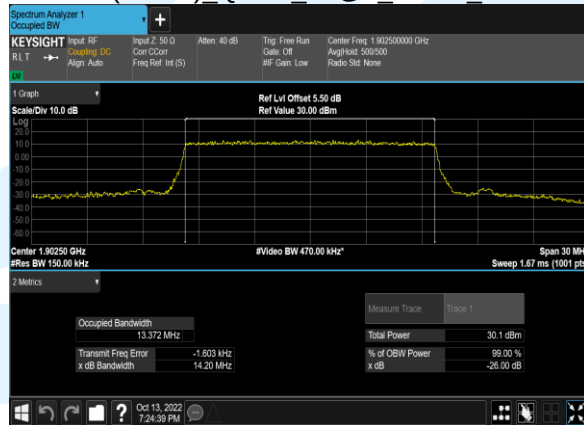
B2(15.0M) QPSK 75@0 18900 CH



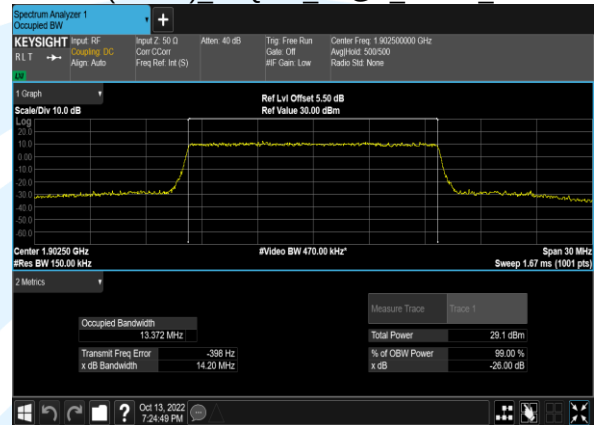
B2(15.0M) 16QAM 75@0 18900 CH



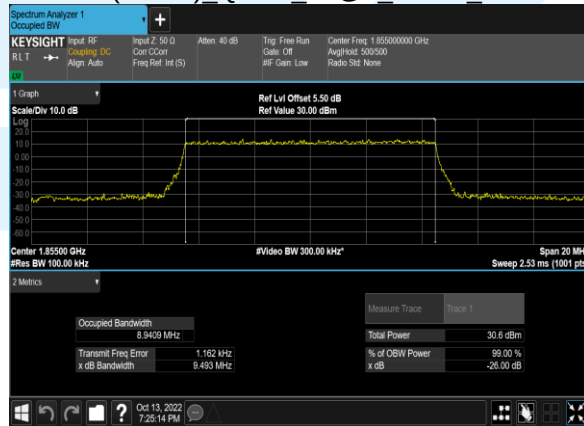
B2(15.0M) QPSK 75@0 19125 CH



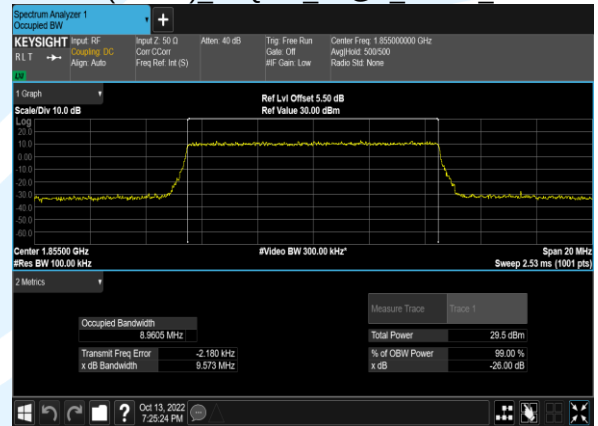
B2(15.0M) 16QAM 75@0 19125 CH



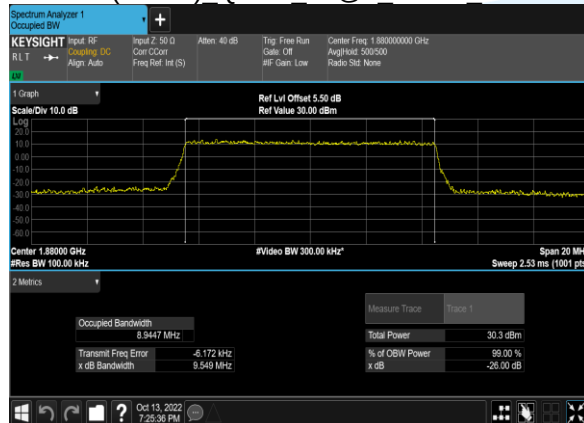
B2(10.0M) QPSK 50@0 18650 CH



B2(10.0M) 16QAM 50@0 18650 CH



B2(10.0M) QPSK 50@0 18900 CH



B2(10.0M) 16QAM 50@0 18900 CH

