

FCC TEST REPORT

Product Name: Handheld Smart Terminal

Trade Mark:  or RHINO

Model No.: T5se

Add. Model No.: N/A

Report Number: 220412017RFM-1

Test Standards: FCC 47 CFR Part 22
FCC 47 CFR Part 24
FCC 47 CFR Part 27
FCC 47 CFR Part 90

FCC ID: 2AUOUT5SE

Test Result: PASS

Date of Issue: August 8, 2022

Prepared for:

Rhino Mobility LLC
8 The Green, Suite A, Dover, Delaware, 19901, USA

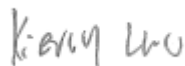
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UTTR-RF-FCC4G-V1.1

Version

Version No.	Date	Description
V1.0	August 8, 2022	Original



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CONTENTS

1. GENERAL INFORMATION	6
1.1 CLIENT INFORMATION	6
1.2 EUT INFORMATION	6
1.2.1 GENERAL DESCRIPTION OF EUT	6
1.2.2 DESCRIPTION OF ACCESSORIES	7
1.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD	8
1.4 DESCRIPTION OF SUPPORT UNITS	14
1.5 TEST LOCATION	14
1.6 TEST FACILITY	14
1.7 DEVIATION FROM STANDARDS	15
1.8 ABNORMALITIES FROM STANDARD CONDITIONS	15
1.9 OTHER INFORMATION REQUESTED BY THE CUSTOMER	15
1.10 MEASUREMENT UNCERTAINTY	15
2. TEST SUMMARY	16
3. EQUIPMENT LIST	20
4. TEST CONFIGURATION	21
4.1 ENVIRONMENTAL CONDITIONS FOR TESTING	21
4.2 TEST SETUP	22
4.2.1 FOR RADIATED EMISSIONS TEST SETUP	22
4.2.2 FOR CONDUCTED RF TEST SETUP	23
4.3 TEST CHANNELS	24
4.4 SYSTEM TEST CONFIGURATION	27
4.5 PRE-SCAN	28
5. RADIO TECHNICAL REQUIREMENTS SPECIFICATION	32
5.1 REFERENCE DOCUMENTS FOR TESTING	32
5.2 CONDUCTED OUTPUT POWER	32
5.2.1 LTE BAND 2	34
5.2.2 LTE BAND 4	35
5.2.3 LTE BAND 5	36
5.2.4 LTE BAND 7	37
5.2.5 LTE BAND 12	38
5.2.6 LTE BAND 13	39
5.2.7 LTE BAND 17	39
5.2.8 LTE BAND 25	40
5.2.9 LTE BAND 26	41
5.2.10 LTE BAND 26 (PART 90S)	42
5.2.11 LTE BAND 30	43
5.2.12 LTE BAND 41	43
5.2.13 LTE BAND 66	44
5.2.14 LTE BAND 71	45
5.3 ERP OR EIRP	46
5.3.1 LTE BAND 2	48
5.3.2 LTE BAND 4	49
5.3.3 LTE BAND 5	50
5.3.4 LTE BAND 7	50
5.3.5 LTE BAND 12	51
5.3.6 LTE BAND 13	51
5.3.7 LTE BAND 17	51
5.3.8 LTE BAND 25	52
5.3.9 LTE BAND 26	53
5.3.10 LTE BAND 26 (PART 90S)	53
5.3.11 LTE BAND 30	54
5.3.12 LTE BAND 41	54

5.3.13	LTE BAND 66	55
5.3.14	LTE BAND 71	56
5.4	PEAK-TO-AVERAGE RATIO	57
5.4.1	LTE BAND 2	58
5.4.2	LTE BAND 4	59
5.4.3	LTE BAND 5	60
5.4.4	LTE BAND 7	61
5.4.5	LTE BAND 12	62
5.4.6	LTE BAND 13	63
5.4.7	LTE BAND 17	64
5.4.8	LTE BAND 25	65
5.4.9	LTE BAND 26	66
5.4.10	LTE BAND 26 (PART 90S).....	67
5.4.11	LTE BAND 30	69
5.4.12	LTE BAND 41	70
5.4.13	LTE BAND 66	71
5.4.14	LTE BAND 71	72
5.5	99%&26dB BANDWIDTH	73
5.5.1	LTE BAND 2	73
5.5.2	LTE BAND 4	81
5.5.3	LTE BAND 5	89
5.5.4	LTE BAND 7	95
5.5.5	LTE BAND 12	101
5.5.6	LTE BAND 13	107
5.5.7	LTE BAND 17	110
5.5.8	LTE BAND 25	116
5.5.9	LTE BAND 26	124
5.5.10	LTE BAND 26 (PART 90S).....	132
5.5.11	LTE BAND 30	138
5.5.12	LTE BAND 41	140
5.5.13	LTE BAND 66	147
5.5.14	LTE BAND 71	155
5.6	BAND EDGE AT ANTENNA TERMINALS	161
5.6.1	LTE BAND 2	163
5.6.2	LTE BAND 4	181
5.6.3	LTE BAND 5	199
5.6.4	LTE BAND 7	211
5.6.5	LTE BAND 12	223
5.6.6	LTE BAND 13	235
5.6.7	LTE BAND 17	241
5.6.8	LTE BAND 25	247
5.6.9	LTE BAND 26	265
5.6.10	LTE BAND 26 (PART 90S).....	280
5.6.11	LTE BAND 30	292
5.6.12	LTE BAND 41	298
5.6.13	LTE BAND 66	310
5.6.14	LTE BAND 71	328
5.7	SPURIOUS EMISSIONS AT ANTENNA TERMINALS	340
5.7.1	LTE BAND 2	341
5.7.2	LTE BAND 4	348
5.7.3	LTE BAND 5	355
5.7.4	LTE BAND 7	360
5.7.5	LTE BAND 12	366
5.7.6	LTE BAND 13	371
5.7.7	LTE BAND 17	373
5.7.8	LTE BAND 25	376
5.7.9	LTE BAND 26	383
5.7.10	LTE BAND 26 (PART 90S).....	390
5.7.11	LTE BAND 30	395
5.7.12	LTE BAND 41	398

5.7.13	LTE BAND 66	404
5.7.14	LTE BAND 71	411
5.8	FIELD STRENGTH OF SPURIOUS RADIATION.....	416
5.8.1	LTE BAND 2	417
5.8.2	LTE BAND 4	418
5.8.3	LTE BAND 5	419
5.8.4	LTE BAND 7	420
5.8.5	LTE BAND 12	421
5.8.6	LTE BAND 13	422
5.8.7	LTE BAND 17	423
5.8.8	LTE BAND 25	424
5.8.9	LTE BAND 26	425
5.8.10	LTE BAND 26 (PART 90S).....	426
5.8.11	LTE BAND 30	427
5.8.12	LTE BAND 41	428
5.8.13	LTE BAND 66	429
5.8.14	LTE BAND 71	430
5.9	FREQUENCY STABILITY	431
APPENDIX 1 PHOTOS OF TEST SETUP		439
APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS.....		439

1. GENERAL INFORMATION

1.1 CLIENT INFORMATION

Applicant:	Rhino Mobility LLC
Address of Applicant:	8 The Green, Suite A, Dover, Delaware,19901, USA
Manufacturer:	Rhino Mobility LLC
Address of Manufacturer:	8 The Green, Suite A, Dover, Delaware,19901, USA

1.2 EUT INFORMATION

1.2.1 General Description of EUT

Product Name:	Handheld Smart Terminal		
Model No.:	T5se		
Add. Model No.:	N/A		
Trade Mark:	 or RHINO		
DUT Stage:	Identical Prototype		
EUT Supports Function: (Provided by the customer)	UTRA Bands:	Band II/ Band IV/ Band V	
	E-UTRA Bands:	FDD Band 2/ Band 4/ Band 5/ Band 7/ Band 12/ Band 13/ Band 14/ Band 17/ Band 25/ Band 26/ Band 30/ Band 66/ Band 71	
		TDD Band 41	
	2.4 GHz ISM Band:	IEEE 802.11b/g/n	
		Bluetooth V4.2	
	5 GHz U-NII Bands:	5 150 MHz to 5 250 MHz	IEEE 802.11a/n/ac
		5 250 MHz to 5 350 MHz	IEEE 802.11a/n/ac
		5 725 MHz to 5 850 MHz	IEEE 802.11a/n/ac
RNSS Bands:	1559 MHz to 1610 MHz	GPS/ Galileo/ GLONASS	
NFC:	13.553 MHz to 13.567 MHz		
Software Version:	T5se(001)_20220624 (Provided by the customer)		
Hardware Version:	AL_Z06_MB_V12 (Provided by the customer)		
Sample Received Date:	April 13, 2022		
Sample Tested Date:	April 15, 2022 to June 27, 2022		
Note: The T5se have two LCD modules from different vendors. This report has evaluated and pre-testing of two batches of LCD modules, with only the worst data recorded in the report.			
Remark: The above EUT's information was provided by customer. Please refer to the specifications or user's manual for more detailed description.			

1.2.2 Description of Accessories

Adapter	
Model No.:	XY-PP018U1
Input:	100-240 V~50/60 Hz 0.5A
Output:	3.6-6.0 V $\Rightarrow$ 3.0A, 6.0-9.0 V $\Rightarrow$ 2.0A, 9.0-12.0 V $\Rightarrow$ 1.5A
AC Cable:	N/A
DC Cable:	N/A

Internal Battery	
Model No.:	BPT5se
Battery Type:	Lithium-ion Rechargeable Battery
Rated Voltage:	3.85 Vdc
Limited Charge Voltage:	4.4 Vdc
Rated Capacity:	3000 mAh

External Battery Pack	
Model No.:	T5SE-EBAT-3K-BLK
Battery Type:	Lithium-ion Rechargeable Battery
Rated Voltage:	3.85 Vdc
Limited Charge Voltage:	4.4 Vdc
Rated Capacity:	3030 mAh

Cable	
Description:	USB Type-C Plug Cable
Cable Type:	Shielded without ferrite
Length:	1 Meter

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1.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD

Support Networks:	Single Carrier: LTE Band 2/4/5/7/12/13/17/25/26/30/41/66/71	
	UL CA: Not Support	
	DL CA: CA_2-5, CA_4-5, CA_25-26, CA_5-66, CA_5-30	
Type of Modulation:	QPSK, 16QAM, 64QAM	
Antenna Type: (Provided by the customer)	LDS Antenna	
Antenna Gain: (Provided by the customer)	LTE Band 2:	0.86 dBi
	LTE Band 4:	0.35 dBi
	LTE Band 5:	-0.54 dBi
	LTE Band 7:	2.35 dBi
	LTE Band 12:	-1.21 dBi
	LTE Band 13:	-0.77 dBi
	LTE Band 17:	-1.31 dBi
	LTE Band 25:	0.43 dBi
	LTE Band 26:	-0.62 dBi
	LTE Band 30:	1.98 dBi
	LTE Band 41:	2.08 dBi
	LTE Band 66:	0.35 dBi
	LTE Band 71:	-2.89 dBi
IEMI:	Radiated: 354657110011383	
	Conducted: 354657110011581, 354657110011771	
Normal Test Voltage:	3.85 Vdc	
Extreme Test Voltage:	3.4 to 4.4Vdc	
Extreme Test Temperature:	-30 °C to +50 °C	

Summary of Results:								
Bands	BW	Modulation	Frequency Range	Max RF Output Power (dBm)		ERP / EIRP	99% BW	Emission Designator
	(MHz)		(MHz)	Conducted (Average)	ERP/EIRP (Average)	(W)	(MHz)	
2	1.4	QPSK	1850.7-1909.3	23.58	24.44	0.2780	1.09	1M09G7D
		16QAM		22.95	23.81	0.2404	1.09	1M09W7D
		64QAM		22.09	22.95	0.1972	1.10	1M10W7D
	3	QPSK	1851.5-1908.5	23.66	24.52	0.2831	2.70	2M70G7D
		16QAM		23.14	24.00	0.2512	2.70	2M70W7D
		64QAM		22.31	23.17	0.2075	2.70	2M70W7D
	5	QPSK	1852.5-1907.5	23.49	24.35	0.2723	4.51	4M51G7D
		16QAM		22.58	23.44	0.2208	4.53	4M53W7D
		64QAM		21.74	22.60	0.1820	4.52	4M52W7D
	10	QPSK	1855.0-1905.0	23.71	24.57	0.2864	8.99	8M99G7D
		16QAM		23.11	23.97	0.2495	9.02	9M02W7D
		64QAM		22.31	23.17	0.2075	9.01	9M01W7D
	15	QPSK	1857.5-1902.5	23.60	24.46	0.2793	13.53	13M5G7D
		16QAM		23.10	23.96	0.2489	13.51	13M5W7D
		64QAM		22.35	23.21	0.2094	13.55	13M6W7D
	20	QPSK	1860.0-1900.0	23.73	24.59	0.2877	18.08	18M1G7D
		16QAM		22.88	23.74	0.2366	18.08	18M1W7D
		64QAM		22.02	22.88	0.1941	18.09	18M1W7D
4	1.4	QPSK	1710.7-1754.3	23.52	23.87	0.2438	1.10	1M10G7D
		16QAM		23.00	23.35	0.2163	1.09	1M09W7D
		64QAM		22.16	22.51	0.1782	1.10	1M10W7D
	3	QPSK	1711.5-1753.5	23.76	24.11	0.2576	2.69	2M69G7D
		16QAM		23.24	23.59	0.2286	2.70	2M70W7D
		64QAM		22.46	22.81	0.1910	2.70	2M70W7D
	5	QPSK	1712.5-1752.5	23.49	23.84	0.2421	4.55	4M55G7D
		16QAM		22.56	22.91	0.1954	4.52	4M52W7D
		64QAM		21.80	22.15	0.1641	4.52	4M52W7D
	10	QPSK	1715-1750	23.70	24.05	0.2541	9.01	9M01G7D
		16QAM		23.26	23.61	0.2296	9.00	9M00W7D
		64QAM		22.43	22.78	0.1897	9.01	9M01W7D
	15	QPSK	1717.5-1747.5	23.53	23.88	0.2443	13.52	13M5G7D
		16QAM		23.21	23.56	0.2270	13.52	13M5W7D
		64QAM		22.32	22.67	0.1849	13.51	13M5W7D
	20	QPSK	1720-1745	23.83	24.18	0.2618	17.99	18M0G7D
		16QAM		23.16	23.51	0.2244	17.96	18M0W7D
		64QAM		22.25	22.60	0.1820	18.00	18M0W7D

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Bands	BW	Modulation	Frequency Range	Max RF Output Power (dBm)		ERP / EIRP	99% BW	Emission Designator
	(MHz)		(MHz)	Conducted (Average)	ERP/EIRP (Average)	(W)	(MHz)	
5	1.4	QPSK	824.7-848.3	24.39	21.79	0.1510	1.10	1M10G7D
		16QAM		23.85	21.25	0.1334	1.10	1M10W7D
		64QAM		23.10	20.50	0.1122	1.10	1M10W7D
	3	QPSK	825.5-847.5	24.38	21.78	0.1507	2.70	2M70 G7D
		16QAM		23.93	21.33	0.1358	2.69	2M69 W7D
		64QAM		23.18	20.58	0.1143	2.69	2M69W7D
	5	QPSK	826.5-846.5	24.24	21.64	0.1459	4.52	4M52G7D
		16QAM		23.30	20.70	0.1175	4.52	4M52W7D
		64QAM		22.42	19.82	0.0959	4.51	4M51W7D
	10	QPSK	829-844	24.55	21.95	0.1567	9.01	9M01G7D
		16QAM		23.64	21.04	0.1271	9.02	9M02W7D
		64QAM		22.87	20.27	0.1064	9.00	9M00W7D
7	5	QPSK	2502.5-2567.5	23.70	26.05	0.4027	4.52	4M52G7D
		16QAM		22.61	24.96	0.3133	4.53	4M53W7D
		64QAM		21.74	24.09	0.2564	4.53	4M53W7D
	10	QPSK	2505-2565	23.68	26.03	0.4009	9.00	9M00G7D
		16QAM		23.00	25.35	0.3428	9.01	9M01W7D
		64QAM		22.12	24.47	0.2799	9.01	9M01W7D
	15	QPSK	2507.5-2562.5	23.73	26.08	0.4055	13.50	13M5G7D
		16QAM		23.17	25.52	0.3565	13.51	13M5W7D
		64QAM		22.33	24.68	0.2938	13.51	13M5W7D
	20	QPSK	2510-2560	23.80	26.15	0.4121	17.98	18M0G7D
		16QAM		23.15	25.50	0.3548	17.99	18M0W7D
		64QAM		22.33	24.68	0.2938	18.01	18M0W7D
12	1.4	QPSK	699.7-715.3	24.39	21.03	0.2748	1.09	1M09G7D
		16QAM		23.83	20.47	0.2415	1.09	1M09G7D
		64QAM		23.01	19.65	0.2000	1.09	1M09W7D
	3	QPSK	700.5-714.5	24.41	21.05	0.2761	2.70	2M70G7D
		16QAM		23.82	20.46	0.2410	2.69	2M69W7D
		64QAM		23.01	19.65	0.2000	2.69	2M69W7D
	5	QPSK	701.5-713.5	24.25	20.89	0.2661	4.52	4M52G7D
		16QAM		23.16	19.80	0.2070	4.52	4M52W7D
		64QAM		22.35	18.99	0.1718	4.52	4M52W7D
	10	QPSK	704-711	24.47	21.11	0.2799	9.00	9M00G7D
		16QAM		23.58	20.22	0.2280	9.00	9M00W7D
		64QAM		22.74	19.38	0.1879	9.04	9M04W7D

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Bands	BW	Modulation	Frequency Range	Max RF Output Power (dBm)		ERP / EIRP (W)	99% BW (MHz)	Emission Designator
	(MHz)		(MHz)	Conducted (Average)	ERP/EIRP (Average)			
13	5	QPSK	779.5-784.5	24.22	21.30	0.1349	4.51	4M51G7D
		16QAM		23.28	20.36	0.1086	4.52	4M52W7D
		64QAM		22.40	19.48	0.0887	4.53	4M53W7D
	10	QPSK	782-782	24.27	21.35	0.1365	9.01	9M01G7D
		16QAM		23.89	20.97	0.1250	9.01	9M01W7D
		64QAM		23.06	20.14	0.1033	9.03	9M03W7D
17	5	QPSK	706.5-713.5	24.20	20.74	0.1186	4.52	4M52G7D
		16QAM		23.14	19.68	0.0929	4.54	4M54W7D
		64QAM		22.35	18.89	0.0774	4.53	4M53W7D
	10	QPSK	709-711	24.39	20.93	0.1239	9.02	9M02G7D
		16QAM		23.79	20.33	0.1079	9.01	9M01W7D
		64QAM		22.99	19.53	0.0897	9.01	9M01W7D
25	1.4	QPSK	1850.7-1914.3	23.68	24.11	0.2576	1.10	1M10G7D
		16QAM		23.02	23.45	0.2213	1.09	1M09W7D
		64QAM		22.19	22.62	0.1828	1.09	1M09W7D
	3	QPSK	1851.5-1913.5	23.56	23.99	0.2506	2.70	2M70G7D
		16QAM		22.91	23.34	0.2158	2.69	2M69W7D
		64QAM		21.99	22.42	0.1746	2.70	2M70W7D
	5	QPSK	1852.5-1912.5	23.57	24.00	0.2512	4.54	4M54G7D
		16QAM		22.53	22.96	0.1977	4.53	4M53W7D
		64QAM		21.72	22.15	0.1641	4.54	4M54W7D
	10	QPSK	1855.0-1910.0	23.67	24.10	0.2570	9.00	9M00G7D
		16QAM		23.26	23.69	0.2339	9.03	9M03W7D
		64QAM		22.40	22.83	0.1919	9.02	9M02W7D
	15	QPSK	1857.5-1907.5	23.60	24.03	0.2529	13.54	13M5G7D
		16QAM		23.23	23.66	0.2323	13.55	13M6W7D
		64QAM		22.44	22.87	0.1936	13.54	13M5W7D
	20	QPSK	1860.0-1905.0	23.71	24.14	0.2594	18.09	18M1G7D
		16QAM		23.08	23.51	0.2244	18.11	18M1W7D
		64QAM		22.23	22.66	0.1845	18.12	18M1W7D

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UTTR-RF-FCC4G-V1.1

Bands	BW	Modulation	Frequency Range	Max RF Output Power (dBm)		ERP / EIRP	99% BW	Emission Designator
	(MHz)		(MHz)	Conducted (Average)	ERP/EIRP (Average)	(W)	(MHz)	
26	1.4	QPSK	824.7-848.3	23.90	21.13	0.1297	1.09	1M09G7D
		16QAM		22.92	20.15	0.1035	1.09	1M09W7D
		64QAM		22.14	19.37	0.0865	1.10	1M10W7D
	3	QPSK	825.5-847.5	23.80	21.03	0.1268	2.70	2M70G7D
		16QAM		22.82	20.05	0.1012	2.70	2M70W7D
		64QAM		22.03	19.26	0.0843	2.70	2M70W7D
	5	QPSK	826.5-846.5	23.78	21.01	0.1262	4.50	4M50G7D
		16QAM		22.75	19.98	0.0995	4.51	4M51W7D
		64QAM		21.96	19.19	0.0830	4.50	4M50W7D
	10	QPSK	829-844	23.82	21.05	0.1274	8.98	8M98G7D
		16QAM		22.84	20.07	0.1016	9.00	9M00W7D
		64QAM		22.06	19.29	0.0849	9.00	9M00W7D
	15	QPSK	831.5-841.5	23.98	21.21	0.1321	13.47	13M5G7D
		16QAM		22.96	20.19	0.1045	13.48	13M5W7D
		64QAM		22.20	19.43	0.0877	13.48	13M5W7D
26 (Part 90S)	1.4	QPSK	814.7-823.3	23.74	20.97	0.1250	1.09	1M09G7D
		16QAM		22.74	19.97	0.0993	1.10	1M10W7D
		64QAM		21.97	19.20	0.0832	1.10	1M10W7D
	3	QPSK	815.5-822.5	23.63	20.86	0.1219	2.70	2M70G7D
		16QAM		22.64	19.87	0.0971	2.69	2M69W7D
		64QAM		21.84	19.07	0.0807	2.70	2M70W7D
	5	QPSK	816.5-821.5	23.61	20.84	0.1213	4.50	4M50G7D
		16QAM		22.60	19.83	0.0962	4.50	4M50W7D
		64QAM		21.81	19.04	0.0802	4.50	4M50W7D
	10	QPSK	819	23.64	20.87	0.1222	8.97	8M97G7D
		16QAM		22.61	19.84	0.0964	8.97	8M97W7D
		64QAM		21.84	19.07	0.0807	8.97	8M97W7D
	15	QPSK	821.5	23.78	21.01	0.1262	13.46	13M5G7D
		16QAM		23.07	20.30	0.1072	13.46	13M5W7D
		64QAM		22.14	19.37	0.0865	13.44	13M5W7D

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Bands	BW	Modulation	Frequency Range	Max RF Output Power (dBm)		ERP / EIRP	99% BW	Emission Designator
	(MHz)		(MHz)	Conducted (Average)	ERP/EIRP (Average)	(W)	(MHz)	
30	5	QPSK	2307.5-2312.5	23.30	25.28	0.3373	4.51	4M51G7D
		16QAM		22.34	24.32	0.2704	4.50	4M50W7D
		64QAM		21.52	23.50	0.2239	4.50	4M50W7D
	10	QPSK	2310-2310	23.53	25.51	0.3556	8.97	8M97G7D
		16QAM		22.51	24.49	0.2812	8.96	8M96W7D
		64QAM		21.74	23.72	0.2355	8.95	8M95W7D
41	5	QPSK	2498.5-2687.5	25.29	27.37	0.5458	4.51	4M51G7D
		16QAM		24.25	26.33	0.4295	4.51	4M51W7D
		64QAM		23.46	25.54	0.3581	4.50	4M50W7D
	10	QPSK	2501-2685	25.27	27.35	0.5433	9.00	9M00G7D
		16QAM		24.38	26.46	0.4426	8.98	8M98W7D
		64QAM		23.53	25.61	0.3639	9.00	9M00W7D
	15	QPSK	2503.5-2682.5	25.38	27.46	0.5572	13.51	13M5G7D
		16QAM		24.24	26.32	0.4285	13.48	13M5W7D
		64QAM		23.42	25.50	0.3548	13.53	13M5W7D
	20	QPSK	2506-2680	25.51	27.59	0.5741	18.01	18M0G7D
		16QAM		24.32	26.40	0.4365	17.96	18M0W7D
		64QAM		23.43	25.51	0.3556	17.95	18M0W7D
66	1.4	QPSK	1710.7-1779.3	23.52	23.87	0.2438	1.10	1M10G7D
		16QAM		23.04	23.39	0.2183	1.10	1M10W7D
		64QAM		22.20	22.55	0.1799	1.10	1M10W7D
	3	QPSK	1711.5-1778.5	23.67	24.02	0.2523	2.70	2M70G7D
		16QAM		23.24	23.59	0.2286	2.70	2M70W7D
		64QAM		22.36	22.71	0.1866	2.70	2M70W7D
	5	QPSK	1712.5-1777.5	23.54	23.89	0.2449	4.54	4M54G7D
		16QAM		22.56	22.91	0.1954	4.53	4M52W7D
		64QAM		21.68	22.03	0.1596	4.54	4M54W7D
	10	QPSK	1715-1775	23.65	24.00	0.2512	9.02	9M02G7D
		16QAM		23.25	23.60	0.2291	9.01	9M01W7D
		64QAM		22.45	22.80	0.1905	9.01	9M01W7D
	15	QPSK	1717.5-1772.5	23.57	23.92	0.2466	13.50	13M5G7D
		16QAM		23.29	23.64	0.2312	13.52	13M5W7D
		64QAM		22.46	22.81	0.1910	13.48	13M5W7D
	20	QPSK	1720-1770	23.81	24.16	0.2606	17.99	18M0G7D
		16QAM		23.05	23.40	0.2188	17.98	18M0W7D
		64QAM		22.26	22.61	0.1824	18.00	18M0W7D

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Bands	BW	Modulation	Frequency Range	Max RF Output Power (dBm)		ERP / EIRP	99% BW	Emission Designator
	(MHz)		(MHz)	Conducted (Average)	ERP/EIRP (Average)	(W)	(MHz)	
71	5	QPSK	665.5-695.5	24.25	19.21	0.0834	4.52	4M52G7D
		16QAM		23.21	18.17	0.0656	4.53	4M53W7D
		64QAM		22.45	17.41	0.0551	4.53	4M53W7D
	10	QPSK	668-693	24.43	19.39	0.0869	9.06	9M06G7D
		16QAM		23.76	18.72	0.0745	9.05	9M05W7D
		64QAM		22.89	17.85	0.0610	9.03	9M03W7D
	15	QPSK	670.5-690.5	24.36	19.32	0.0855	13.52	13M5G7D
		16QAM		23.94	18.90	0.0776	13.51	13M5W7D
		64QAM		23.04	18.00	0.0631	13.51	13M5W7D
	20	QPSK	673-688	24.55	19.51	0.0893	17.97	18M0G7D
		16QAM		23.87	18.83	0.0764	17.94	17M9W7D
		64QAM		22.94	17.90	0.0617	17.94	17M9W7D

1.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested with associated equipment below.

1) Support Equipment

Description	Manufacturer	Model No.	Serial Number	Supplied by
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2) Support Cable

Cable No.	Description	Connector	Length	Supplied by
1	Antenna Cable	SMA	0.3 Meter	UnionTrust

1.5 TEST LOCATION

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, China 518109

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Fax: +86 (0) 755 2823 0886

1.6 TEST FACILITY

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L9069

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

A2LA-Lab Certificate No.: 4312.01

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UTTR-RF-FCC4G-V1.1

Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

ISED Wireless Device Testing Laboratories

CAB identifier: CN0032

FCC Accredited Lab.

Designation Number: CN1194

Test Firm Registration Number: 259480

1.7 DEVIATION FROM STANDARDS

None.

1.8 ABNORMALITIES FROM STANDARD CONDITIONS

None.

1.9 OTHER INFORMATION REQUESTED BY THE CUSTOMER

None.

1.10 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Measurement Uncertainty
1	Conducted Output Power	±0.7 dB
2	99%&26dB Bandwidth	±1.86 %
3	Emission Mask	±2.7 dBm
4	Spurious emissions at antenna terminals	±2.7 dBm
5	Field strength of spurious radiation	30 MHz-1 GHz: ±4.9 dB 1 GHz-18 GHz: ±4.8 dB 18 GHz-40 GHz: ±5.1 dB
6	Frequency stability	±6.5 x 10 ⁻⁸
7	Humidity	±3.9 %
8	Temperature	±0.62 °C
9	DC Voltages	±0.68 %

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2. TEST SUMMARY

FCC 47 CFR Part 24 Test Cases (Band 2 & Band 25)			
Test Item	Test Requirement	Test Method	Result
Equivalent Isotropic Radiated Power (EIRP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 24.232(c)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 24.232(c)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	FCC 47 CFR Part 24.232(d)	KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h) & FCC 47 CFR Part 24.238(b)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 24.238(a)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 24.238(a)(b)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 24.238(a)(b)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 24.235	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS

FCC 47 CFR Part 27 Test Cases (LTE Band 4 & Band 66)			
Test Item	Test Requirement	Test Method	Result
Equivalent Isotropic Radiated Power (EIRP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(d)(4)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(d)(4)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	FCC 47 CFR Part 27.50(d)(5)	KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h) & FCC 47 CFR Part 27.53(h)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 27.53(h)(1)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(h)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(h)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS

FCC 47 CFR Part 22 Test Cases (Band 5 & Band 26)			
Test Item	Test Requirement	Test Method	Result
Effective Radiated Power (ERP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 22.913(a)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 22.913(a)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	FCC 47 CFR Part 22.913(a)	KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 22.917(a)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 22.917(a)(b)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 22.917(a)(b)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 22.355	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS

FCC 47 CFR Part 27 Test Cases (LTE Band 7 & 41)			
Test Item	Test Requirement	Test Method	Result
Equivalent Isotropic Radiated Power (EIRP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(h)(2)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(h)(2)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	FCC 47 CFR Part 27.50(d)(5)	KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 27.53(m)(4)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(m)(4)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(m)(4)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS

FCC 47 CFR Part 27 Test Cases (LTE Band 12 & 17 & 71)			
Test Item	Test Requirement	Test Method	Result
Effective Radiated Power (ERP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(c)(10)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(c)(10)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	FCC 47 CFR Part 27.50(d)(5)	KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h) FCC 47 CFR Part 27.53(g)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 27.53(g)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(g)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(g)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS

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FCC 47 CFR Part 27 Test Cases (LTE Band 13)			
Test Item	Test Requirement	Test Method	Result
Effective Radiated Power (ERP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(b)(10)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(b)(10)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	FCC 47 CFR Part 27.50(d)(5)	KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 27.53	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS

FCC 47 CFR Part 90 Test Cases (LTE Band 26)			
Test Item	Test Requirement	Test Method	Result
Effective Radiated Power (ERP)	FCC 47 CFR Part 2.1046 & FCC 47 CFR Part 90.635	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 90.635	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	N/A	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Emission Mask	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 90.691	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 90.691	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 90.691	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 90.213	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS

FCC 47 CFR Part 27 Test Cases (LTE Band 30)			
Test Item	Test Requirement	Test Method	Result
Equivalent Isotropic Radiated Power (EIRP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(a)(3)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(a)(3)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	FCC 47 CFR Part 27.50(a)(1)(i)(B)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h) FCC 47 CFR Part 27.50(a)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 27.53(a)(4)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(a) (4)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(a) (4)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS

Disclaimer and Explanations:

The declared of product specification and data (e.g. antenna gain, RF specification, etc) for EUT presented in the report are provided by the customer, and the customer takes all the responsibilities for the accuracy of product specification.

3. EQUIPMENT LIST

Radiated Emission Test Equipment List						
Used	Equipment	Manufacturer	Model No.	Serial Number	Cal. date	Cal. Due date
☒	3M Chamber & Accessory Equipment	ETS-LINDGREN	3M	Euroshiedpn-CT001270-1317	22-Jan-2021	21-Jan-2024
☒	Receiver	R&S	ESIB26	100114	5-Nov-2021	4-Nov-2022
☐	EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY51440197	15-Apr-2022	14-Apr-2023
☐	Loop Antenna	ETS-LINDGREN	6502	00202525	11-Nov-2021	10-Nov-2023
☒	Broadband Antenna	ETS-LINDGREN	3142E	00201566	11-Nov-2021	10-Nov-2023
☒	6dB Attenuator	Talent	RA6A5-N-18	18103001	11-Nov-2021	10-Nov-2023
☒	Preamplifier	HP	8447F	2805A02960	5-Nov-2021	4-Nov-2022
☐	Broadband Antenna (Pre-amplifier)	ETS-LINDGREN	3142E-PA	00201891	30-Apr-2021	29-Apr-2023
☐	6dB Attenuator	Talent	RA6A5-N-18	18103002	5-Nov-2021	4-Nov-2022
☐	Horn Antenna	ETS-LINDGREN	3117	00164202	11-Nov-2021	10-Nov-2023
☒	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3117-PA	00201874	17-Apr-2022	16-Apr-2024
☒	Pre-amplifier	ETS-LINDGREN	00118385	00201874	6-Nov-2021	5-Nov-2022
☐	Horn Antenna	ETS-LINDGREN	3116C	00200180	17-Apr-2022	16-Apr-2024
☒	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3116C-PA	00202652	14-Nov-2020	13-Nov-2022
☒	Pre-amplifier	ETS-LINDGREN	00118384	00202652	17-Nov-2020	16-Nov-2022
☒	Multi device Controller	ETS-LINDGREN	7006-001	00160105	N/A	N/A
☒	Test Software	Audix	e3	Software Version: 9.160323		

RF Conducted Test Equipment List						
Used	Equipment	Manufacturer	Model No.	Serial Number	Cal. date	Cal. Due date
☐	EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY51440197	15-Apr-2022	14-Apr-2023
☒	EXA Spectrum Analyzer	KEYSIGHT	N9020A	MY51286807	5-Nov-2021	4-Nov-2022
☒	Spectrum analyzer	R&S	FSV40-N	101653	15-Apr-2022	14-Apr-2023
☒	DC Source	KIKUSUI	PWR400L	LK003024	20-Aug-2021	19-Aug-2022
☐	Temp & Humidity chamber	Espec	GL(U)04KA(W)	16921H201P3	20-Aug-2021	19-Aug-2022
☒	Temp & Humidity chamber	Votisch	VT4002	58566133290020	15-Apr-2022	14-Apr-2023
☐	Wideband Radio Communication Tester	R&S	CMW500	119583	15-Apr-2022	14-Apr-2023
☒	Wideband Radio Communication Tester	R&S	CMW500	120932	15-Apr-2022	14-Apr-2023

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UTTR-RF-FCC4G-V1.1

4. TEST CONFIGURATION

4.1 ENVIRONMENTAL CONDITIONS FOR TESTING

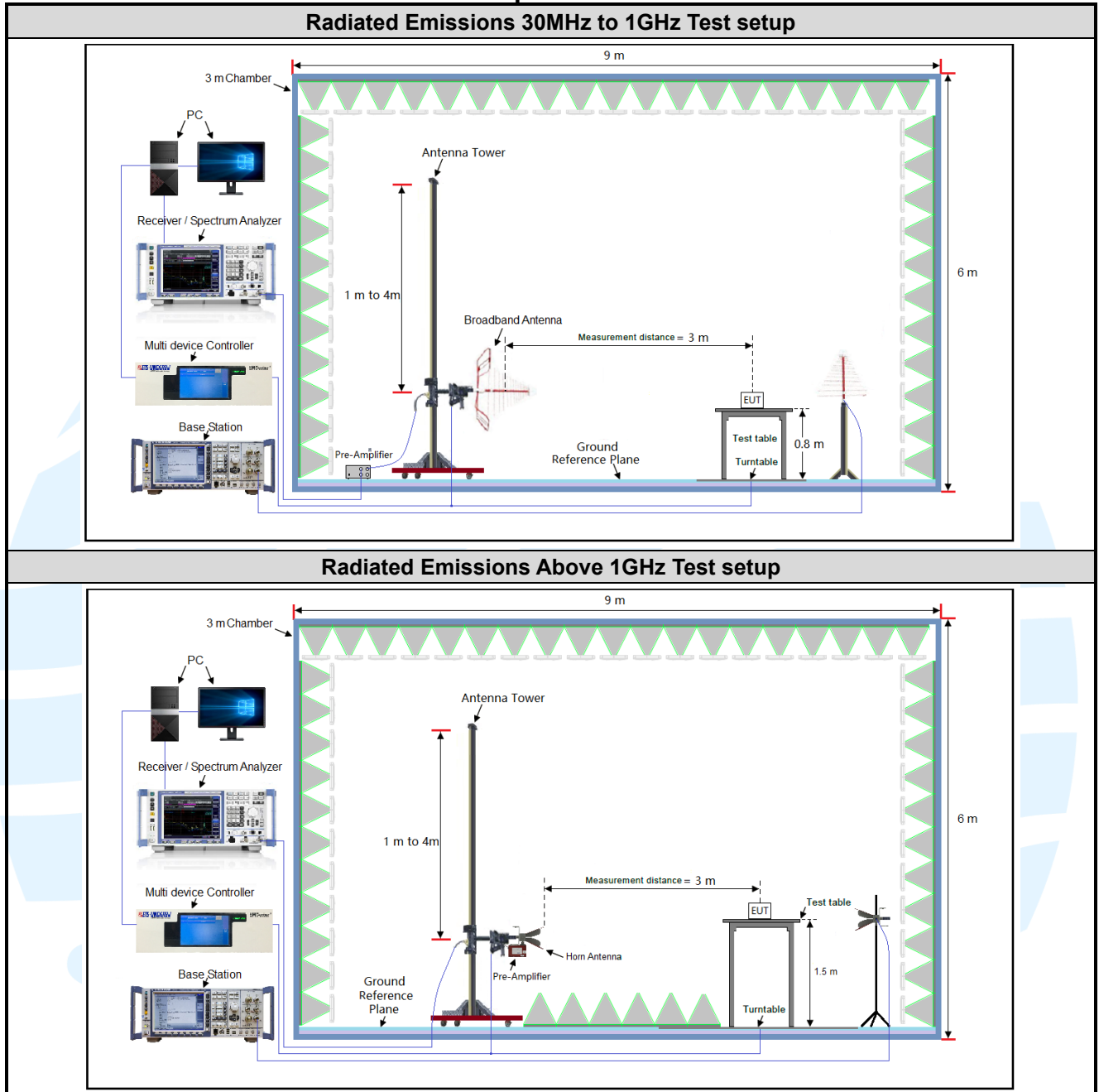
Test Environment	Selected Values During Tests		
Test Condition	Ambient		
	Temperature (°C)	Voltage (V)	Relative Humidity (%)
TN/VN	+15 to +35	3.85	20 to 75
TL/VL	-30	3.4	20 to 75
TH/VL	+50	3.4	20 to 75
TL/VH	-30	4.4	20 to 75
TH/VH	+50	4.4	20 to 75

Remark:

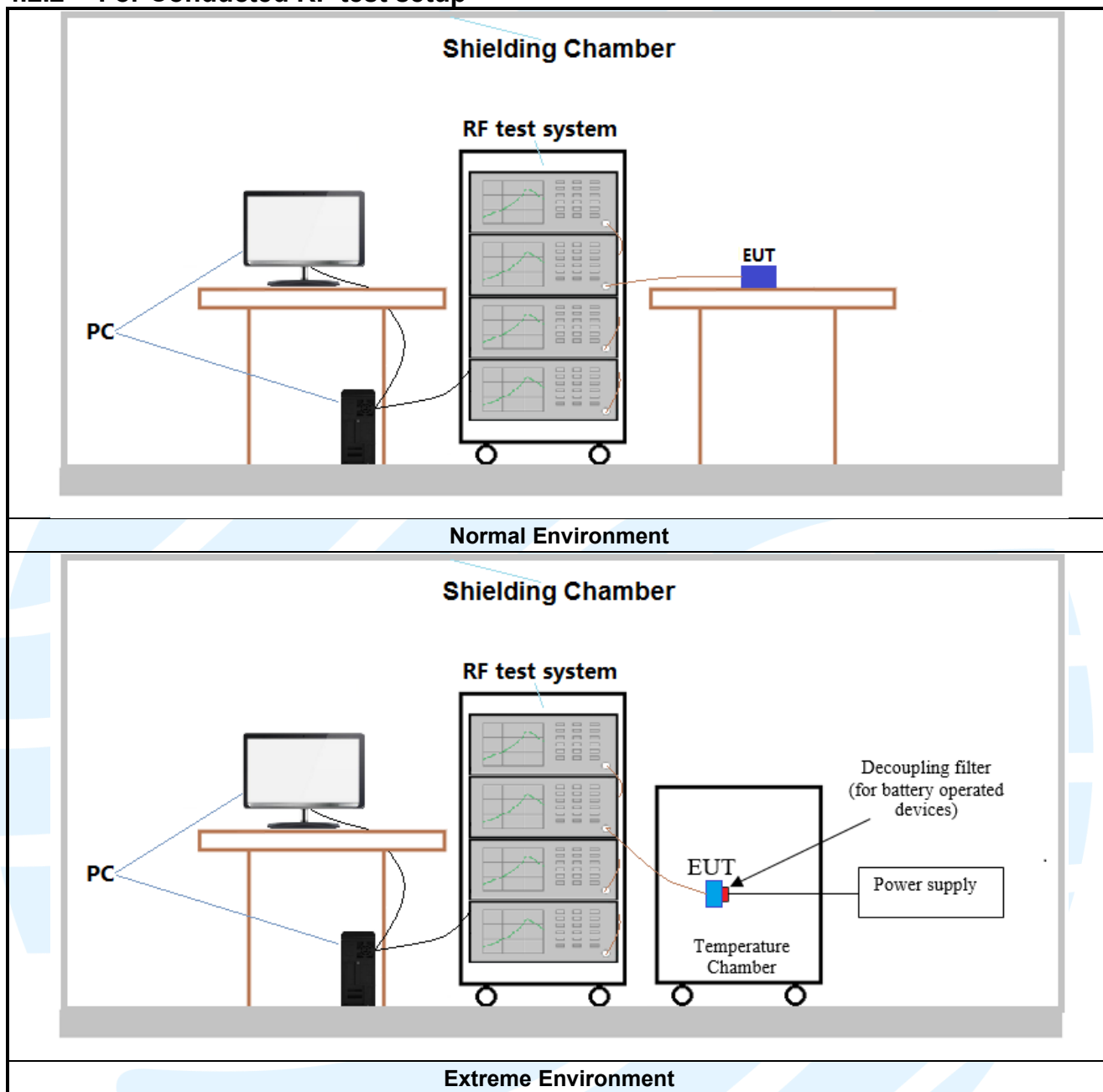
- 1) The EUT just work in such extreme temperature of -30 °C to +50 °C and the extreme voltage of 3.4 V to 4.4 V, so here the EUT is tested in the temperature of -30 °C to +50 °C and the voltage of 3.4 V to 4.4 V.
- 2) VN: Normal Voltage; TN: Normal Temperature;
TL: Low Extreme Test Temperature; TH: High Extreme Test Temperature;
VL: Low Extreme Test Voltage; VH: High Extreme Test Voltage.

4.2 TEST SETUP

4.2.1 For Radiated Emissions test setup



4.2.2 For Conducted RF test setup



4.3 TEST CHANNELS

Band	Test Frequency ID	Bandwidth (MHz)	Number [UL]	Frequency of Uplink (MHz)
LTE Band 2 TX: 1850-1910MHz	Low Range	1.4	18607	1850.7
		3	18615	1851.5
		5	18625	1852.5
		10	18650	1855
		15	18675	1857.5
		20	18700	1860
	Middle Range	1.4/3/5/10/15/20	18900	1880
	High Range	1.4	19193	1909.3
		3	19185	1908.5
		5	19175	1907.5
		10	19150	1905
		15	19125	1902.5
		20	19100	1900
LTE Band 4 TX: 1710-1755MHz	Low Range	1.4	19957	1710.7
		3	19965	1711.5
		5	19975	1712.5
		10	20000	1715
		15	20025	1717.5
		20	20050	1720
	Middle Range	1.4/3/5/10/ 15/20	20175	1732.5
	High Range	1.4	20393	1754.3
		3	20385	1753.5
		5	20375	1752.5
		10	20350	1750
		15	20325	1747.5
		20	20300	1745
LTE band 5 TX: 824-849MHz	Low Range	1.4	20407	824.7
		3	20415	825.5
		5	20425	826.5
		10	20450	829
	Middle Range	1.4/3/5/10	20525	836.5
	High Range	1.4	20643	848.3
		3	20635	847.5
		5	20625	846.5
		10	20600	844
LTE Band 7 TX: 2500-2570MHz	Low Range	5	20775	2502.5
		10	20800	2505
		15	20825	2507.5
		20	20850	2510
	Middle Range	5/10/15/20	21100	2535
	High Range	5	21425	2567.5
		10	21400	2565
		15	21375	2562.5

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UTTR-RF-FCC4G-V1.1

		20	21350	2560
LTE Band 12 TX: 699-716MHz	Low Range	1.4	23017	699.7
		3	23025	700.5
		5	23035	701.5
		10	23060	704
	Middle Range	1.4/3/5/10	23095	707.5
	High Range	1.4	23173	715.3
		3	23165	714.5
		5	23155	713.5
		10	23130	711
LTE Band 13 TX: 777-787MHz	Low Range	5	23205	779.5
		10	--	--
	Middle Range	5/10	23230	782
	High Range	5	23255	784.5
		10	--	--
LTE Band 17 TX: 704-716MHz	Low Range	5	23755	706.5
		10	23780	709
	Middle Range	5/10	23790	710
	High Range	5	23825	713.5
		10	23800	711
LTE Band 25 TX: 1850-1915MHz	Low Range	1.4	26047	1850.7
		3	26055	1851.5
		5	26065	1852.5
		10	26090	1855
		15	26115	1857.5
		20	26140	1860
	Middle Range	1.4/3/5/10/15/20	26340	1880
	High Range	1.4	26683	1914.3
		3	26675	1913.5
		5	26665	1912.5
		10	26640	1910
		15	26615	1907.5
		20	26590	1905
LTE band 26 TX: 814-824MHz	Low Range	1.4	26697	814.7
		3	26705	815.5
		5	26715	816.5
		10	/	/
		15	26765	821.5
	Middle Range	1.4/3/5/10	26740	819
	High Range	1.4	26783	823.3
		3	26775	822.5
		5	26765	821.5
		10	/	/
		15	/	/
LTE band 26 TX: 824-849MHz	Low Range	1.4	26797	824.7
		3	26805	825.5

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		5	26815	826.5
		10	26840	829
		15	26865	831.5
	Middle Range	1.4/3/5/10/15	26915	836.5
	High Range	1.4	27033	848.3
		3	27025	847.5
		5	27015	846.5
		10	26990	844
		15	26965	841.5
LTE Band 30 TX: 2305-2315MHz	Low Range	5	27685	2307.5
		10	/	/
	Middle Range	5/10	27710	2310
	High Range	5	27735	2312.5
		10	/	/
LTE Band 41 TX: 2496-2690MHz	Low Range	5	39675	2498.5
		10	39700	2501
		15	39725	2503.5
		20	39750	2506
	Middle Range	5/10/ 15/20	40620	2593
	High Range	5	41565	2687.5
		10	41540	2685
		15	41515	2682.5
		20	41490	2680
LTE Band 66 TX: 1710-1780MHz	Low Range	1.4	131979	1710.7
		3	131987	1711.5
		5	131997	1712.5
		10	132022	1715
		15	132047	1717.5
		20	132072	1720
	Middle Range	1.4/3/5/10/ 15/20	132322	1745
	High Range	1.4	132665	1779.3
		3	132657	1778.5
		5	132647	1777.5
		10	132622	1775
		15	132597	1772.5
		20	132572	1770
LTE Band 71 TX: 663-698MHz	Low Range	5	133147	665.5
		10	133172	668
		15	133197	670.5
		20	133222	673
	Middle Range	5/10/15	133297	680.5
		20	133322	683
	High Range	5	133447	695.5
		10	133422	693
		15	133397	690.5
		20	133372	688

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4.4 SYSTEM TEST CONFIGURATION

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, radiated emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario. It was powered by a 3.85V battery. Only the worst case data were recorded in this test report.

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, X/Y/Z axis, and antenna ports.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000MHz. The resolution is 1 MHz or greater for frequencies above 1000MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

4.5 PRE-SCAN

Pre-scan all bandwidth and RB, find worse case mode are chosen to the report, the LTE worse case mode applicability and tested channel detail as below:

Item	Band	Bandwidth(MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Conducted output power	2	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
	4	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
	5	☑	☑	☑	☑	--	--	☑	☑	☑	☑	☑	☑	☑	☑	☑
	7	-	-	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
	12	☑	☑	☑	☑	-	-	☑	☑	☑	☑	☑	☑	☑	☑	☑
	13	-	-	☑	☑	-	-	☑	☑	☑	☑	☑	☑	☑	☑	☑
	17	-	-	☑	☑	-	-	☑	☑	☑	☑	☑	☑	☑	☑	☑
	25	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
	26	☑	☑	☑	☑	☑	--	☑	☑	☑	☑	☑	☑	☑	☑	☑
	30	-	-	☑	☑	-	-	☑	☑	☑	☑	☑	☑	☑	☑	☑
	41	-	-	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
	66	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
99%&26dB Bandwidth	71	-	-	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
	2	☑	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☑	☑	☑	☑
	4	☑	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☑	☑	☑	☑
	5	☑	☑	☑	☑	--	--	☑	☑	☑	☐	☐	☑	☑	☑	☑
	7	-	-	☑	☑	☑	☑	☑	☑	☑	☐	☐	☑	☑	☑	☑
	12	☑	☑	☑	☑	-	-	☑	☑	☑	☐	☐	☑	☑	☑	☑
	13	-	-	☑	☑	-	-	☑	☑	☑	☐	☐	☑	☑	☑	☑
	17	-	-	☑	☑	-	-	☑	☑	☑	☐	☐	☑	☑	☑	☑
	25	☑	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☑	☑	☑	☑
	26	☑	☑	☑	☑	☑	--	☑	☑	☑	☐	☐	☑	☑	☑	☑
	30	-	-	☑	☑	-	-	☑	☑	☑	☐	☐	☑	☑	☑	☑
	41	-	-	☑	☑	☑	☑	☑	☑	☑	☐	☐	☑	☑	☑	☑
	66	☑	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☑	☑	☑	☑
	71	-	-	☑	☑	☑	☑	☑	☑	☑	☐	☐	☑	☑	☑	☑

Item	Band	Bandwidth(MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
peak-to-average ratio	2	☐	☐	☐	☐	☐	☒	☒	☒	☒	☐	☐	☒	☐	☒	☐
	4	☐	☐	☐	☐	☐	☒	☒	☒	☒	☐	☐	☒	☐	☒	☐
	5	☐	☐	☐	☒	--	--	☒	☒	☒	☐	☐	☒	☐	☒	☐
	7	-	-	☐	☐	☐	☒	☒	☒	☒	☐	☐	☒	☐	☒	☐
	12	☐	☐	☐	☒	-	-	☒	☒	☒	☐	☐	☒	☐	☒	☐
	13	-	-	☐	☒	-	-	☒	☒	☒	☐	☐	☒	☐	☒	☐
	17	-	-	☒	☒	-	-	☒	☒	☒	☐	☐	☒	☐	☒	☐
	25	☐	☐	☐	☐	☐	☒	☒	☒	☒	☐	☐	☒	☐	☒	☐
	26	☐	☐	☐	☐	☒	--	☒	☒	☒	☐	☐	☒	☐	☒	☐
	30	-	-	☒	☒	-	-	☒	☒	☒	☐	☐	☒	☐	☒	☐
	41	-	-	☐	☐	☐	☒	☒	☒	☒	☐	☐	☒	☐	☒	☐
	66	☐	☐	☐	☐	☐	☒	☒	☒	☒	☐	☐	☒	☐	☒	☐
	71	-	-	☐	☐	☐	☒	☒	☒	☒	☐	☐	☒	☐	☒	☐
Band Edge at antenna terminals	2	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	4	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	5	☒	☒	☒	☒	--	--	☒	☒	☒	☒	☐	☒	☒	☐	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	12	☒	☒	☒	☒	-	-	☒	☒	☒	☒	☐	☒	☒	☐	☒
	13	-	-	☒	☒	-	-	☒	☒	☒	☒	☐	☒	☒	☐	☒
	17	-	-	☒	☒	-	-	☒	☒	☒	☒	☐	☒	☒	☐	☒
	25	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	26	☒	☒	☒	☒	☒	--	☒	☒	☒	☒	☐	☒	☒	☐	☒
	30	-	-	☒	☒	-	-	☒	☒	☒	☒	☐	☒	☒	☐	☒
	41	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	66	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	71	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒

Item	Band	Bandwidth(MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Spurious emissions at antenna terminals	2	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	4	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	5	☒	☒	☒	☒	--	--	☒	☒	☒	☒	☐	☐	☒	☒	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	12	☒	☒	☒	☒	-	-	☒	☒	☒	☒	☐	☐	☒	☒	☒
	13	-	-	☒	☒	-	-	☒	☒	☒	☒	☐	☐	☒	☒	☒
	17	-	-	☒	☒	-	-	☒	☒	☒	☒	☐	☐	☒	☒	☒
	25	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	26	☒	☒	☒	☒	☒	--	☒	☒	☒	☒	☐	☐	☒	☒	☒
	30	-	-	☒	☒	-	-	☒	☒	☒	☒	☐	☐	☒	☒	☒
	41	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	66	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
Field strength of spurious radiation	2	☐	☐	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
	4	☐	☐	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
	5	☐	☐	☐	☒	--	--	☒	☐	☐	☒	☐	☐	☒	☒	☒
	7	-	-	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
	12	☐	☐	☐	☒	-	-	☒	☐	☐	☒	☐	☐	☒	☒	☒
	13	-	-	☐	☒	-	-	☒	☐	☐	☒	☐	☐	☒	☒	☒
	17	-	-	☒	☒	-	-	☒	☐	☐	☒	☐	☐	☐	☒	☐
	25	☐	☐	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
	26	☐	☐	☐	☐	☒	--	☒	☐	☐	☒	☐	☐	☒	☒	☒
	30	-	-	☒	☒	-	-	☒	☐	☐	☒	☐	☐	☐	☒	☐
	41	-	-	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
	66	☐	☐	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
	71	-	-	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒

Item	Band	Bandwidth(MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Frequency stability	2	☐	☐	☐	☐	☐	☒	☒	☐	☐	☐	☐	☒	☐	☒	☐
	4	☐	☐	☐	☐	☐	☒	☒	☐	☐	☐	☐	☒	☐	☒	☐
	5	☐	☐	☐	☒	--	--	☒	☐	☐	☐	☐	☒	☐	☒	☐
	7	-	-	☐	☐	☐	☒	☒	☐	☐	☐	☐	☒	☐	☒	☐
	12	☐	☐	☐	☒	-	-	☒	☐	☐	☐	☐	☒	☐	☒	☐
	13	-	-	☐	☒	-	-	☒	☐	☐	☐	☐	☒	☐	☒	☐
	17	-	-	☒	☒	-	-	☒	☐	☐	☐	☐	☒	☐	☒	☐
	25	☐	☐	☐	☐	☐	☒	☒	☐	☐	☐	☐	☒	☐	☒	☐
	26	☐	☐	☐	☐	☒	--	☒	☐	☐	☐	☐	☒	☐	☒	☐
	30	-	-	☒	☒	-	-	☒	☐	☐	☐	☐	☒	☐	☒	☐
	41	-	-	☐	☐	☐	☒	☒	☐	☐	☐	☐	☒	☐	☒	☐
	66	☐	☐	☐	☐	☐	☒	☒	☐	☐	☐	☐	☒	☐	☒	☐
	71	-	-	☐	☐	☐	☒	☒	☐	☐	☐	☐	☒	☐	☒	☐

Remark:

The mark "☒" means is chosen for testing; The mark "☐" means is not chosen for testing;

The mark "-" means is not supported bandwidth

5. RADIO TECHNICAL REQUIREMENTS SPECIFICATION

5.1 REFERENCE DOCUMENTS FOR TESTING

No.	Identity	Document Title
1	FCC 47 CFR Part 2	Frequency allocations and radio treaty matters; general rules and regulations
2	FCC 47 CFR Part 22	Public Mobile Services
3	FCC 47 CFR Part 27	Miscellaneous Wireless Communications Services
4	FCC 47 CFR Part 24	Personal Communications Services
5	FCC 47 CFR Part 90	Private Land Mobile Radio Services
6	ANSI C63.26-2015	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services
7	KDB 971168 D01	KDB 971168 D01 Power Meas License Digital Systems v03r01

5.2 CONDUCTED OUTPUT POWER

Test Requirement: FCC 47 CFR Part 2.1046(a)
LTE Band 2 & LTE Band 25: FCC 47 CFR Part 24.232(c)
LTE Band 4 & LTE Band 66: FCC 47 CFR Part 27.50(d)(4)
LTE Band 5 & LTE Band 26: FCC 47 CFR Part 22.913(a)
LTE Band 7 & Band 41: FCC 47 CFR Part 27.50(h)(2)
LTE Band 12 & Band 17 & Band 71: FCC 47 CFR Part 27.50(c)(10)
LTE Band 13: FCC 47 CFR Part 27.50(b)(10)
LTE Band 26: FCC 47 CFR Part 90.635
LTE Band 30: FCC 47 CFR Part 27.50(a)(3)
Test Method: KDB 971168 D01v03r01 & ANSI C63.26-2015

Limit:

FCC 47 CFR Part 22.913(a):

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

FCC 47 CFR Part 24.232(c):

Mobile and portable stations are limited to 2 watts EIRP.

FCC 47 CFR Part 27.50(a)(3): For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth. For mobile and portable stations using time division duplexing (TDD) technology, the duty cycle must not exceed 38 percent in the 2305-2315 MHz and 2350-2360 MHz bands. Mobile and portable stations using FDD technology are restricted to transmitting in the 2305-2315 MHz band. Power averaging shall not include intervals in which the transmitter is off.

FCC 47 CFR Part 27.50(d)(4):

Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

FCC 47 CFR Part 27.50(c)(10):

Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

FCC 47 CFR Part 27.50(h)(2):

Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

FCC 47 CFR Part 27.50(b)(10):

Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz

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UTTR-RF-FCC4G-V1.1

bands are limited to 3 watts ERP.

FCC 47 CFR Part 90.635:

(a) The effective radiated power and antenna height for base stations may not exceed 1 kilowatt (30 dBw) and 304 m. (1,000 ft.) above average terrain (AAT), respectively, or the equivalent thereof as determined from the Table. These are maximum values, and applicants will be required to justify power levels and antenna heights requested.

(b) The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw).

Table—Equivalent Power and Antenna Heights for Base Stations in the 851–869 MHz and 935–940 MHz Bands Which Have a Requirement for a 32 km (20 mi) Service Area Radius

Antenna height (ATT) meters (feet)	Effective radiated power (watts) ^{1 2 4}
Above 1,372 (4,500)	65
Above 1,220 (4,000) to 1,372 (4,500)	70
Above 1,067 (3,500) to 1,220 (4,000)	75
Above 915 (3,000) to 1,067 (3,500)	100
Above 763 (2,500) to 915 (3,000)	140
Above 610 (2,000) to 763 (2,500)	200
Above 458 (1,500) to 610 (2,000)	350
Above 305 (1,000) to 458 (1,500)	600
Up to 305 (1,000)	³ 1,000

1. Power is given in terms of effective radiated power (ERP).
2. Applicants in the Los Angeles, CA, area who demonstrate a need to serve both the downtown and fringe areas will be permitted to utilize an ERP of 1 kw at the following mountaintop sites: Santiago Park, Sierra Peak, Mount Lukens, and Mount Wilson.
3. Stations with antennas below 305 m (1,000 ft) (AAT) will be restricted to a maximum power of 1 kw (ERP).
4. Licensees in San Diego, CA, will be permitted to utilize an ERP of 500 watts at the following mountaintop sites: Palomar, Otay, Woodson and Miguel.

Test Procedure:

The EUT was set up for the maximum power with CMW500, and LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

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

5.2.1 LTE Band 2

Conducted Power(dBm)											
Modulation			QPSK			16QAM			64QAM		
Band	Bandwidth (MHz)	RB	18607	18900	19193	18607	18900	19193	18607	18900	19193
			1850.7	1880	1909.3	1850.7	1880	1909.3	1850.7	1880	1909.3
2	1.4	1@0	23.29	23.36	23.42	22.42	22.94	22.49	21.60	22.09	21.61
		1@3	23.47	23.37	23.58	22.60	22.95	22.43	21.78	22.04	21.60
		1@5	23.42	23.50	23.54	22.65	22.89	22.54	21.84	22.06	21.59
		3@0	22.66	22.68	22.61	21.53	21.61	21.59	20.65	20.75	20.78
		3@1	22.71	22.39	22.61	21.63	21.51	21.53	20.83	20.70	20.71
		3@3	22.57	22.47	22.59	21.67	21.41	21.51	20.81	20.53	20.62
		6@0	22.61	22.51	22.64	21.71	21.55	21.68	20.79	20.60	20.85
Band	Bandwidth (MHz)	RB	18615	18900	19185	18615	18900	19185	18615	18900	19185
			1851.5	1880	1908.5	1851.5	1880	1908.5	1851.5	1880	1908.5
2	3	1@0	23.47	23.60	23.66	22.51	23.14	22.72	21.69	22.31	21.89
		1@8	23.54	23.51	23.62	22.62	23.09	22.56	21.79	22.26	21.80
		1@14	23.57	23.49	23.65	22.52	23.12	22.66	21.73	22.25	21.78
		8@0	22.51	22.67	22.76	21.39	21.83	21.68	20.52	20.93	20.92
		8@4	22.47	22.50	22.58	21.38	21.75	21.58	20.47	20.99	20.71
		8@7	22.53	22.63	22.67	21.52	21.84	21.67	20.63	21.02	20.87
		15@0	22.53	22.57	22.61	21.66	21.69	21.57	20.83	20.80	20.67
Band	Bandwidth (MHz)	RB	18625	18900	19175	18625	18900	19175	18625	18900	19175
			1852.5	1880	1907.5	1852.5	1880	1907.5	1852.5	1880	1907.5
2	5	1@0	23.16	23.47	23.45	22.29	22.58	22.31	21.42	21.74	21.51
		1@12	23.30	23.48	23.48	22.40	22.45	22.34	21.54	21.55	21.45
		1@24	23.27	23.49	23.49	22.36	22.46	22.40	21.49	21.66	21.58
		12@0	22.39	22.63	22.66	21.53	21.71	21.60	20.72	20.88	20.65
		12@7	22.43	22.50	22.56	21.38	21.61	21.49	20.57	20.76	20.74
		12@13	22.40	22.53	22.53	21.46	21.63	21.57	20.62	20.68	20.72
		25@0	22.52	22.54	22.59	21.56	21.56	21.67	20.71	20.74	20.76
Band	Bandwidth (MHz)	RB	18650	18900	19150	18650	18900	19150	18650	18900	19150
			1855	1880	1905	1855	1880	1905	1855	1880	1905
2	10	1@0	23.37	23.62	23.67	22.93	22.57	22.68	22.12	21.69	21.86
		1@25	23.35	23.51	23.66	23.08	22.61	22.69	22.28	21.77	21.89
		1@49	23.38	23.50	23.71	23.11	22.63	22.68	22.31	21.87	21.90
		25@0	22.58	22.63	22.60	21.71	21.70	21.77	20.88	20.78	20.98
		25@12	22.40	22.55	22.54	21.64	21.62	21.65	20.82	20.75	20.76
		25@25	22.48	22.61	22.53	21.61	21.53	21.74	20.77	20.70	20.83
		50@0	22.58	22.71	22.59	21.60	21.74	21.60	20.68	20.97	20.79
Band	Bandwidth (MHz)	RB	18675	18900	19125	18675	18900	19125	18675	18900	19125
			1857.5	1880	1902.5	1857.5	1880	1902.5	1857.5	1880	1902.5
2	15	1@0	23.23	23.60	23.43	22.91	22.58	23.00	21.98	21.75	22.11
		1@37	23.36	23.48	23.53	23.10	22.50	22.92	22.21	21.61	22.15
		1@74	23.38	23.46	23.52	23.10	22.47	22.93	22.35	21.66	22.11
		36@0	22.59	22.72	22.72	21.65	21.64	21.65	20.89	20.72	20.88
		36@20	22.52	22.46	22.66	21.60	21.50	21.63	20.72	20.73	20.76
		36@39	22.54	22.63	22.74	21.50	21.53	21.63	20.60	20.71	20.82
		75@0	22.55	22.60	22.65	21.59	21.61	21.62	20.65	20.67	20.73
Band	Bandwidth (MHz)	RB	18700	18900	19100	18700	18900	19100	18700	18900	19100
			1860	1880	1900	1860	1880	1900	1860	1880	1900
2	20	1@0	23.32	23.57	23.62	22.34	22.52	22.49	21.44	21.63	21.74
		1@49	23.39	23.61	23.62	22.34	22.58	22.43	21.41	21.70	21.60
		1@99	23.43	23.58	23.62	22.37	22.56	22.54	21.44	21.79	21.76
		50@0	23.64	23.59	23.67	22.83	22.52	21.59	22.02	21.66	20.70
		50@24	23.63	23.57	23.73	22.88	22.62	21.53	21.93	21.86	20.74
		50@50	23.50	23.67	23.70	22.88	22.55	21.51	21.98	21.69	20.63
		100@0	22.39	22.64	22.70	21.38	21.71	21.68	20.45	20.90	20.75

5.2.2 LTE Band 4

Conducted Power(dBm)											
Modulation			QPSK			16QAM			64QAM		
Band	Bandwidth	RB	19957	20175	20393	19957	20175	20393	19957	20175	20393
	(MHz)		1710.7	1732.5	1754.3	1710.7	1732.5	1754.3	1710.7	1732.5	1754.3
4	1.4	1@0	23.45	23.38	23.41	22.58	23.00	22.49	21.64	22.16	21.67
		1@3	23.43	23.32	23.39	22.64	22.85	22.52	21.78	21.91	21.70
		1@5	23.52	23.34	23.42	22.66	22.87	22.46	21.79	22.04	21.57
		3@0	22.45	22.58	22.54	21.56	21.57	21.50	20.71	20.65	20.58
		3@1	22.69	22.70	22.62	21.57	21.60	21.58	20.68	20.82	20.81
		3@3	22.56	22.65	22.73	21.61	21.67	21.54	20.81	20.75	20.69
		6@0	22.57	22.63	22.59	21.60	21.55	21.56	20.75	20.64	20.65
Band	Bandwidth	RB	19965	20175	20385	19965	20175	20385	19965	20175	20385
	(MHz)		1711.5	1732.5	1753.5	1711.5	1732.5	1753.5	1711.5	1732.5	1753.5
4	3	1@0	23.45	23.62	23.59	23.24	22.65	22.59	22.40	21.89	21.83
		1@8	23.45	23.53	23.76	23.24	22.62	22.68	22.46	21.84	21.80
		1@14	23.44	23.58	23.69	23.24	22.62	22.64	22.38	21.87	21.70
		8@0	22.66	22.63	22.56	21.78	21.57	21.59	21.02	20.77	20.83
		8@4	22.65	22.46	22.61	21.82	21.66	21.60	20.88	20.79	20.84
		8@7	22.58	22.58	22.60	21.91	21.57	21.61	21.04	20.75	20.82
		15@0	22.67	22.62	22.58	21.76	21.47	21.79	20.89	20.53	20.93
Band	Bandwidth	RB	19975	20175	20375	19975	20175	20375	19975	20175	20375
	(MHz)		1712.5	1732.5	1752.5	1712.5	1732.5	1752.5	1712.5	1732.5	1752.5
4	5	1@0	23.40	23.44	23.43	22.34	22.56	22.55	21.45	21.62	21.80
		1@12	23.47	23.36	23.49	22.35	22.42	22.49	21.57	21.60	21.59
		1@24	23.40	23.46	23.40	22.33	22.51	22.51	21.55	21.72	21.60
		12@0	22.61	22.64	22.59	21.44	21.60	21.67	20.50	20.78	20.89
		12@7	22.58	22.67	22.57	21.67	21.65	21.75	20.81	20.88	20.94
		12@13	22.65	22.59	22.52	21.54	21.53	21.60	20.62	20.65	20.70
		25@0	22.64	22.69	22.58	21.61	21.67	21.59	20.85	20.84	20.83
Band	Bandwidth	RB	20000	20175	20350	20000	20175	20350	20000	20175	20350
	(MHz)		1715	1732.5	1750	1715	1732.5	1750	1715	1732.5	1750
4	10	1@0	23.58	23.58	23.61	22.66	23.26	22.65	21.75	22.35	21.78
		1@25	23.69	23.50	23.54	22.71	23.21	22.51	21.83	22.43	21.74
		1@49	23.70	23.51	23.59	22.70	23.18	22.56	21.93	22.36	21.80
		25@0	22.62	22.61	22.70	21.65	21.75	21.63	20.85	20.81	20.81
		25@12	22.72	22.61	22.59	21.77	21.75	21.62	20.93	20.94	20.84
		25@25	22.62	22.62	22.59	21.78	21.74	21.60	21.00	20.80	20.80
		50@0	22.62	22.67	22.62	21.67	21.71	21.75	20.81	20.87	20.83
Band	Bandwidth	RB	20025	20175	20325	20025	20175	20325	20025	20175	20325
	(MHz)		1717.5	1732.5	1747.5	1717.5	1732.5	1747.5	1717.5	1732.5	1747.5
4	15	1@0	23.49	23.48	23.53	23.02	23.21	22.53	22.10	22.27	21.76
		1@37	23.43	23.40	23.47	22.94	23.09	22.50	22.06	22.25	21.60
		1@74	23.42	23.32	23.50	22.95	23.19	22.52	22.06	22.32	21.68
		36@0	22.59	22.60	22.54	21.59	21.54	21.51	20.78	20.73	20.57
		36@20	22.68	22.69	22.66	21.60	21.58	21.58	20.81	20.78	20.79
		36@39	22.60	22.60	22.62	21.58	21.63	21.67	20.69	20.74	20.88
		75@0	22.61	22.62	22.62	21.64	21.60	21.64	20.80	20.80	20.86
Band	Bandwidth	RB	20050	20175	20300	20050	20175	20300	20050	20175	20300
	(MHz)		1720	1732.5	1745	1720	1732.5	1745	1720	1732.5	1745
4	20	1@0	23.49	23.50	23.67	22.61	22.56	22.65	21.71	21.64	21.75
		1@49	23.58	23.50	23.60	22.54	22.58	22.64	21.73	21.66	21.72
		1@99	23.61	23.56	23.53	22.58	22.63	22.63	21.77	21.77	21.81
		50@0	23.68	23.66	23.56	22.92	22.61	22.75	22.02	21.86	21.99
		50@24	23.78	23.55	23.66	22.97	22.55	22.62	22.08	21.78	21.69
		50@50	23.64	23.83	23.63	23.16	22.47	22.59	22.25	21.70	21.79
		100@0	22.57	22.61	22.54	21.73	21.74	21.42	20.97	20.88	20.50

5.2.3 LTE Band 5

Conducted Power(dBm)											
Modulation			QPSK			16QAM			64QAM		
Band	Bandwidth (MHz)	RB	20407	20525	20643	20407	20525	20643	20407	20525	20643
5	1.4	1@0	24.32	24.29	24.35	23.43	23.85	23.31	22.57	22.97	22.37
		1@3	24.38	24.21	24.38	23.34	23.85	23.34	22.50	23.10	22.41
		1@5	24.39	24.29	24.39	23.38	23.84	23.23	22.59	23.00	22.42
		3@0	23.34	23.32	23.34	22.58	22.50	22.29	21.77	21.61	21.47
		3@1	23.38	23.31	23.27	22.42	22.38	22.25	21.66	21.54	21.36
		3@3	23.33	23.34	23.26	22.49	22.40	22.24	21.57	21.65	21.33
		6@0	23.45	23.43	23.37	22.48	22.32	22.31	21.66	21.55	21.54
5	3	20415	20525	20635	20415	20525	20635	20415	20525	20635	
		825.5	836.5	847.5	825.5	836.5	847.5	825.5	836.5	847.5	
		1@0	24.13	24.36	24.31	23.93	23.37	23.35	23.18	22.42	22.49
		1@8	24.19	24.35	24.36	23.92	23.37	23.26	23.01	22.46	22.45
		1@14	24.30	24.38	24.36	23.90	23.34	23.29	23.00	22.45	22.44
		8@0	23.29	23.40	23.24	22.53	22.37	22.16	21.77	21.54	21.37
		8@4	23.45	23.35	23.35	22.54	22.19	22.13	21.62	21.35	21.31
5	5	8@7	23.42	23.36	23.23	22.52	22.25	22.30	21.64	21.40	21.47
		15@0	23.28	23.34	23.35	22.37	22.24	22.36	21.45	21.31	21.60
		20425	20525	20625	20425	20525	20625	20425	20525	20625	
		826.5	836.5	846.5	826.5	836.5	846.5	826.5	836.5	846.5	
		1@0	24.16	24.23	24.13	23.21	23.18	23.04	22.42	22.41	22.27
		1@12	24.24	24.15	24.14	23.14	23.30	23.06	22.23	22.38	22.16
		1@24	24.24	24.21	24.13	23.21	23.20	23.05	22.30	22.41	22.28
5	10	12@0	23.31	23.32	23.38	22.29	22.33	22.24	21.39	21.39	21.34
		12@7	23.30	23.30	23.20	22.25	22.37	22.14	21.34	21.56	21.37
		12@13	23.37	23.30	23.22	22.26	22.32	22.17	21.47	21.50	21.28
		25@0	23.41	23.28	23.24	22.43	22.32	22.32	21.68	21.47	21.53
		20450	20525	20600	20450	20525	20600	20450	20525	20600	
		829	836.5	844	829	836.5	844	829	836.5	844	
		1@0	24.19	24.31	24.26	23.30	23.23	23.28	22.50	22.35	22.33
5	10	1@25	24.27	24.32	24.24	23.28	23.32	23.27	22.35	22.53	22.39
		1@49	24.38	24.32	24.23	23.34	23.29	23.32	22.42	22.50	22.56
		25@0	24.38	24.31	24.25	23.64	23.00	23.28	22.87	22.25	22.46
		25@12	24.24	24.33	24.29	23.63	23.08	23.24	22.73	22.16	22.38
		25@25	24.55	24.39	24.51	23.61	23.03	23.23	22.86	22.20	22.45
		50@0	23.44	23.42	23.43	22.35	22.41	22.05	21.46	21.63	21.16

5.2.4 LTE Band 7

Conducted Power(dBm)											
Modulation			QPSK			16QAM			64QAM		
Band	Bandwidth (MHz)	RB	20775	21100	21425	20775	21100	21425	20775	21100	21425
			2502.5	2535	2567.5	2502.5	2535	2567.5	2502.5	2535	2567.5
7	5	1@0	23.56	23.52	23.57	22.43	22.51	22.61	21.49	21.62	21.61
		1@12	23.56	23.62	23.59	22.39	22.54	22.54	21.55	21.61	21.68
		1@24	23.55	23.55	23.70	22.45	22.48	22.60	21.57	21.68	21.74
		12@0	22.65	22.71	22.76	21.60	21.63	21.76	20.68	20.68	20.84
		12@7	22.65	22.68	22.66	21.55	21.61	21.76	20.74	20.71	20.93
		12@13	22.63	22.68	22.65	21.55	21.63	21.70	20.66	20.81	20.76
		25@0	22.72	22.63	22.67	21.65	21.65	21.71	20.72	20.72	20.78
Band	Bandwidth (MHz)	RB	20800	21100	21400	20800	21100	21400	20800	21100	21400
			2505	2535	2565	2505	2535	2565	2505	2535	2565
7	10	1@0	23.47	23.68	23.61	22.49	22.65	22.98	21.68	21.82	22.09
		1@25	23.51	23.59	23.56	22.50	22.68	22.93	21.51	21.83	22.12
		1@49	23.41	23.61	23.53	22.41	22.67	23.00	21.53	21.77	22.01
		25@0	22.58	22.74	22.66	21.64	21.67	21.68	20.70	20.72	20.88
		25@12	22.78	22.71	22.66	21.65	21.60	21.53	20.67	20.72	20.67
		25@25	22.79	22.67	22.54	21.70	21.66	21.51	20.78	20.81	20.66
		50@0	22.71	22.82	22.59	21.72	21.69	21.71	20.84	20.71	20.80
Band	Bandwidth (MHz)	RB	20825	21100	21375	20825	21100	21375	20825	21100	21375
			2507.5	2535	2562.5	2507.5	2535	2562.5	2507.5	2535	2562.5
7	15	1@0	23.48	23.65	23.68	22.97	23.12	22.71	22.10	22.17	21.76
		1@37	23.48	23.62	23.67	23.00	23.17	22.69	22.15	22.33	21.70
		1@74	23.46	23.60	23.73	22.87	23.13	22.67	22.07	22.25	21.78
		36@0	22.81	22.75	22.83	21.64	21.73	21.75	20.82	20.73	20.90
		36@20	22.80	22.72	22.78	21.63	21.74	21.65	20.82	20.78	20.79
		36@39	22.80	22.75	22.75	21.69	21.77	21.71	20.73	20.88	20.78
		75@0	22.73	22.68	22.72	21.63	21.76	21.79	20.66	20.78	20.91
Band	Bandwidth (MHz)	RB	20850	21100	21350	20850	21100	21350	20850	21100	21350
			2510	2535	2560	2510	2535	2560	2510	2535	2560
7	20	1@0	23.58	23.69	23.64	22.71	22.78	23.14	21.90	21.91	22.33
		1@49	23.69	23.80	23.72	22.67	22.78	23.15	21.79	21.94	22.31
		1@99	23.67	23.78	23.70	22.71	22.76	23.15	21.91	21.88	22.23
		50@0	22.69	22.68	22.69	21.76	21.78	21.89	20.88	20.83	20.94
		50@24	22.67	22.73	22.67	21.79	21.86	21.82	20.93	20.87	21.02
		50@50	22.74	22.78	22.71	21.81	21.85	21.75	20.98	20.99	20.92
		100@0	22.78	22.72	22.75	21.73	21.78	21.69	20.92	20.91	20.87

5.2.5 LTE Band 12

Conducted Power(dBm)											
Modulation			QPSK			16QAM			64QAM		
Band	Bandwidth (MHz)	RB	23017	23095	23173	23017	23095	23173	23017	23095	23173
12	1.4	1@0	24.20	24.22	24.33	23.74	23.26	23.28	22.98	22.46	22.48
		1@3	24.19	24.31	24.35	23.83	23.25	23.36	23.01	22.47	22.57
		1@5	24.29	24.33	24.39	23.77	23.29	23.28	22.92	22.40	22.47
		3@0	23.35	23.31	23.47	22.31	22.32	22.53	21.38	21.52	21.71
		3@1	23.30	23.30	23.30	22.42	22.35	22.45	21.55	21.52	21.50
		3@3	23.35	23.26	23.28	22.43	22.30	22.37	21.54	21.47	21.46
		6@0	23.31	23.30	23.36	22.39	22.38	22.37	21.45	21.47	21.49
12	3	1@0	24.35	24.31	24.26	23.72	23.29	23.34	22.88	22.43	22.49
		1@8	24.17	24.31	24.35	23.82	23.26	23.28	22.88	22.37	22.45
		1@14	24.18	24.34	24.41	23.82	23.19	23.33	23.01	22.35	22.44
		8@0	23.25	23.29	23.29	22.42	22.22	22.26	21.65	21.45	21.41
		8@4	23.34	23.20	23.31	22.48	22.18	22.21	21.70	21.32	21.35
		8@7	23.29	23.19	23.25	22.49	22.20	22.26	21.73	21.45	21.41
		15@0	23.20	23.29	23.23	22.35	22.09	22.37	21.49	21.18	21.44
12	5	1@0	24.12	24.16	24.20	23.01	23.16	23.04	22.14	22.35	22.28
		1@12	24.19	24.14	24.14	23.10	23.13	23.04	22.17	22.18	22.21
		1@24	24.23	24.25	24.11	23.09	23.10	23.08	22.22	22.33	22.30
		12@0	23.27	23.21	23.38	22.22	22.36	22.24	21.44	21.61	21.34
		12@7	23.29	23.26	23.26	22.15	22.31	22.18	21.26	21.51	21.36
		12@13	23.23	23.27	23.19	22.18	22.36	22.08	21.40	21.61	21.15
		25@0	23.24	23.23	23.19	22.35	22.23	22.24	21.54	21.46	21.33
12	10	1@0	24.25	24.32	24.27	23.25	23.19	23.27	22.34	22.35	22.43
		1@25	24.30	24.22	24.33	23.15	23.24	23.27	22.20	22.37	22.50
		1@49	24.26	24.30	24.30	23.22	23.15	23.26	22.36	22.36	22.34
		25@0	24.40	24.35	24.35	23.46	23.08	23.15	22.69	22.19	22.31
		25@12	24.24	24.24	24.44	23.43	23.12	23.24	22.52	22.35	22.46
		25@25	24.33	24.23	24.47	23.58	23.08	23.29	22.74	22.33	22.52
		50@0	23.26	23.31	23.37	22.21	22.29	22.01	21.38	21.35	21.14