



FCC RF Test Report

APPLICANT : Rolling Wireless S.a r.l.
EQUIPMENT : 5G module
BRAND NAME : Rolling Wireless
MODEL NAME : RW350R-GL
FCC ID : 2AX2URW350RGL
STANDARD : 47 CFR Part 2, 22(H), 24(E), 27(L), 27(M), 27(H), 27(F),
27(D), 27(Q), 90(R), 96
CLASSIFICATION : PCS Licensed Transmitter (PCB)
TEST DATE(S) : Apr. 24, 2024

We, Sporton International Inc. (ShenZhen), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (ShenZhen), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia



Sporton International Inc. (ShenZhen)

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People's Republic of China



TABLE OF CONTENTS

REVISION HISTORY	3
SUMMARY OF TEST RESULT	4
1 GENERAL DESCRIPTION	5
1.1 Applicant	5
1.2 Manufacturer	5
1.3 Product Feature of Equipment Under Test	5
1.4 Product Specification of Equipment Under Test	5
1.5 Modification of EUT	6
1.6 Testing Location	6
1.7 Test Software	7
1.8 Applicable Standards	7
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	8
2.1 Test Mode	8
2.2 Connection Diagram of Test System	9
2.3 Support Unit used in test configuration and system	9
2.4 Frequency List of Low/Middle/High Channels	10
3 RADIATED TEST ITEMS	16
3.1 Measuring Instruments	16
3.2 Test Setup	16
3.3 Test Result of Radiated Test	17
3.4 Radiated Spurious Emission	18
4 LIST OF MEASURING EQUIPMENT	20
5 MEASUREMENT UNCERTAINTY	21
APPENDIX A. TEST RESULTS OF RADIATED TEST	
APPENDIX B. TEST SETUP PHOTOGRAPHS	



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG430728J	Rev. 01	Initial issue of report	Jun. 13, 2024

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1053 §22.917(a) §24.238(a) §27.53(c)(2) §27.53(f) §27.53(g) §27.53(h) §90.543 (e)(3) §90.543 (f)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 25) (Band 26) (Band 66) (Band 14)	$< 43 + 10\log_{10}(P[\text{Watts}])$	PASS	Under limit 9.98 dB at 14264.00 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 7) (Band 38) (Band 41)	$< 55 + 10\log_{10}(P[\text{Watts}])$		
	§2.1053 §27.53 (n)(2)	Radiated Spurious Emission (Band 42)	-13dBm/MHz		
	§2.1053 §27.53 (a)(4)	Radiated Spurious Emission (Band 30)	$< 70 + 10\log_{10}(P[\text{Watts}])$		
	§2.1051 §96.41	Radiated Spurious Emission (Band 48)	-40dBm/MHz		

Remark 1 : The conducted test items of inter band CA were cover by LTE single carrier due to the CA power is reduced according to 3GPP MPR.

Conformity Assessment Condition:

- The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
- The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty"

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.



1 General Description

1.1 Applicant

Rolling Wireless S.a r.l.

8-10, rue Mathias Hardt 1717, Luxembourg

1.2 Manufacturer

Rolling Wireless S.a r.l.

8-10, rue Mathias Hardt 1717, Luxembourg

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	5G module
Brand Name	Rolling Wireless
Model Name	RW350R-GL
FCC ID	2AX2URW350RGL
IMEI Code	Radiation: 356413950000682 for Sample 1 356413950001417 for Sample 2
HW Version	V1.1
SW Version	81601.0000.00.29.24.13
EUT Stage	Production Unit

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	LTE Band 2 : 1850 MHz ~ 1910 MHz LTE Band 4 : 1710 MHz ~ 1755 MHz LTE Band 5 : 824 MHz ~ 849 MHz LTE Band 7 : 2500 MHz ~ 2570 MHz LTE Band 12 : 699 MHz ~ 716 MHz LTE Band 13 : 777 MHz ~ 787 MHz LTE Band 14 : 788 MHz ~ 798 MHz LTE Band 25 : 1850 MHz ~ 1915 MHz LTE Band 26 : 824 MHz ~ 849 MHz LTE Band 30 : 2305 MHz ~ 2315 MHz LTE Band 41 : 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550 MHz LTE Band 48 : 3550 MHz ~ 3700 MHz LTE Band 66 : 1710 MHz ~ 1780 MHz
Rx Frequency	LTE Band 2 : 1930 MHz ~ 1990 MHz LTE Band 4 : 2110 MHz ~ 2155 MHz LTE Band 5 : 869 MHz ~ 894 MHz LTE Band 7 : 2620 MHz ~ 2690 MHz LTE Band 12 : 729 MHz ~ 746 MHz LTE Band 13 : 746 MHz ~ 756 MHz LTE Band 14 : 758 MHz ~ 768 MHz

	LTE Band 25 : 1850 MHz ~ 1915 MHz LTE Band 26 : 824 MHz ~ 849 MHz LTE Band 30 : 2350 MHz ~ 2360 MHz LTE Band 41 : 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550 MHz LTE Band 48 : 3550 MHz ~ 3700 MHz LTE Band 66 : 2110 MHz~ 2200 MHz		
Uplink CA Bands	2A-5A	5A-7A	13A-48A
	2A-12A	5A-66A	13A-66A
	2A-14A	5A-30A	14A-30A
	2A-48A	5A-48A	14A-66A
	4A-5A	12A-30A	25A-26A
	4A-12A	12A-66A	41A-42A
	4A-13A	2A-13A	48A-66A
Type of Modulation	QPSK / 16QAM / 64QAM / 256QAM		

Remark:

1. The device has two optional antennas, they are same antenna gain, RSE pretest the two antennas, choose worst antenna to perform final test and recorded in the report.
2. There are two samples under test, sample 1 is 1st source and sample 2 is 2nd source, the detailed differences could be referred to the RW350R-GL_Operational Description of Product Equality Declaration which is exhibit separately. According to the differences, sample 1 perform full test, sample 2 verify conducted power and found less than sample 1, and sample 2 additional verify the worst case of RSE.

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Testing Location

Sporton International Inc. (ShenZhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People's Republic of China TEL: +86-755-86066985		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH03-SZ	CN1256	421272



1.7 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH03-SZ	AUDIX	E3	6.2009-8-24

1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR Part 2, 22(H), 24(E), 27(L), 27(M), 27(H), 27(F), 27(D), 27(Q), 90(R), 96
- ♦ ANSI C63.26-2015
- ♦ FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

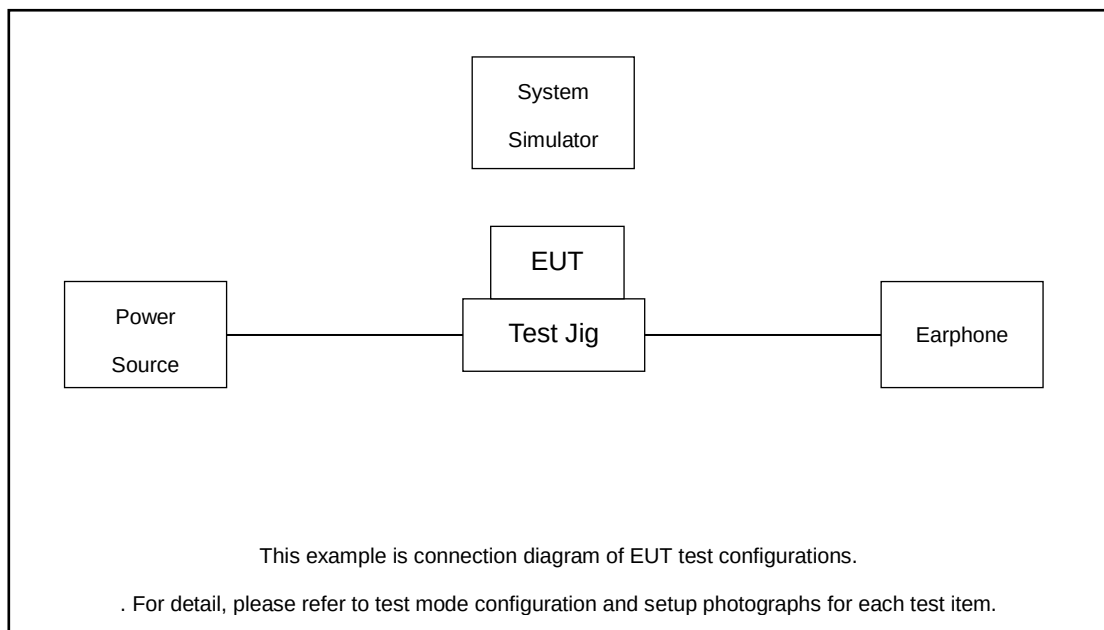
2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission. (X-Plane)

Test Items	Band	Bandwidth (MHz)						Modulation				RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Radiated Spurious Emission	2A-5A	Worst Case												v	v	v	
	2A-12A	Worst Case												v	v	v	
	2A-13A	Worst Case												v	v	v	
	2A-14A	Worst Case												v	v	v	
	2A-48A	Worst Case												v	v	v	
	4A-5A	Worst Case												v	v	v	
	4A-12A	Worst Case												v	v	v	
	4A-13A	Worst Case												v	v	v	
	5A-7A	Worst Case												v	v	v	
	5A-30A	Worst Case												v	v	v	
	5A-66A	Worst Case												v	v	v	
	12A-30A	Worst Case												v	v	v	
	12A-66A	Worst Case												v	v	v	
	13A-48A	Worst Case												v	v	v	
	13A-66A	Worst Case												v	v	v	
	14A-30A	Worst Case												v	v	v	
	14A-66A	Worst Case												v	v	v	
	25A-26A	Worst Case												v	v	v	
41A-42A	Worst Case												v	v	v		
48A-66A	Worst Case												v	v	v		
Note	1. The mark “v ” means that this configuration is chosen for testing 2. The mark “-“ means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.																

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
2.	Antenna	N/A	N/A	N/A	N/A	N/A
3.	Adapter	N/A	N/A	N/A	N/A	N/A
4.	Test Jig	N/A	N/A	N/A	N/A	N/A



2.4 Frequency List of Low/Middle/High Channels

LTE Band 2 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	18700	18900	19100
	Frequency	1860	1880	1900
15	Channel	18675	18900	19125
	Frequency	1857.5	1880	1902.5
10	Channel	18650	18900	19150
	Frequency	1855	1880	1905
5	Channel	18625	18900	19175
	Frequency	1852.5	1880	1907.5
3	Channel	18615	18900	19185
	Frequency	1851.5	1880	1908.5
1.4	Channel	18607	18900	19193
	Frequency	1850.7	1880	1909.3

LTE Band 4 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20050	20175	20300
	Frequency	1720	1732.5	1745
15	Channel	20025	20175	20325
	Frequency	1717.5	1732.5	1747.5
10	Channel	20000	20175	20350
	Frequency	1715	1732.5	1750
5	Channel	19975	20175	20375
	Frequency	1712.5	1732.5	1752.5
3	Channel	19965	20175	20385
	Frequency	1711.5	1732.5	1753.5
1.4	Channel	19957	20175	20393
	Frequency	1710.7	1732.5	1754.3



LTE Band 5 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	20450	20525	20600
	Frequency	829	836.5	844
5	Channel	20425	20525	20625
	Frequency	826.5	836.5	846.5
3	Channel	20415	20525	20635
	Frequency	825.5	836.5	847.5
1.4	Channel	20407	20525	20643
	Frequency	824.7	836.5	848.3

LTE Band 7 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20850	21100	21350
	Frequency	2510	2535	2560
15	Channel	20825	21100	21375
	Frequency	2507.5	2535	2562.5
10	Channel	20800	21100	21400
	Frequency	2505	2535	2565
5	Channel	20775	21100	21425
	Frequency	2502.5	2535	2567.5

LTE Band 12 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	23060	23095	23130
	Frequency	704	707.5	711
5	Channel	23035	23095	23155
	Frequency	701.5	707.5	713.5
3	Channel	23025	23095	23165
	Frequency	700.5	707.5	714.5
1.4	Channel	23017	23095	23173
	Frequency	699.7	707.5	715.3



LTE Band 13 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	23230	-
	Frequency	-	782	-
5	Channel	23205	23230	23255
	Frequency	779.5	782	784.5

LTE Band 14 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	23330	-
	Frequency	-	793	-
5	Channel	23305	23330	23355
	Frequency	790.5	793	795.5

LTE Band 25 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	26140	26340	26590
	Frequency	1860	1880	1905
15	Channel	26115	26340	26615
	Frequency	1857.5	1880	1907.5
10	Channel	26090	26340	26640
	Frequency	1855	1880	1910
5	Channel	26065	26340	26665
	Frequency	1852.5	1880	1912.5
3	Channel	26055	26340	26675
	Frequency	1851.5	1880	1913.5
1.4	Channel	26047	26340	26683
	Frequency	1850.7	1880	1914.3



LTE Band 26 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
15	Channel	26865	26915	26965
	Frequency	831.5	836.5	841.5
10	Channel	26840	26915	26990
	Frequency	829	836.5	844
5	Channel	26815	26915	27015
	Frequency	826.5	836.5	846.5
3	Channel	26805	26915	27025
	Frequency	825.5	836.5	847.5
1.4	Channel	26797	26915	27033
	Frequency	824.7	836.5	848.3

LTE Band 30 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	27710	-
	Frequency	-	2310	-
5	Channel	27685	27710	27735
	Frequency	2307.5	2310	2312.5

LTE Band 41 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	39750	40620	41490
	Frequency	2506	2593	2680
15	Channel	39725	40620	41515
	Frequency	2503.5	2593	2682.5
10	Channel	39700	40620	41540
	Frequency	2501	2593	2685
5	Channel	39675	40620	41565
	Frequency	2498.5	2593	2687.5



LTE Band 42 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	42190	42590	42990
	Frequency	3460	3500	3540
15	Channel	42165	42590	43015
	Frequency	3457.5	3500	3542.5
10	Channel	42140	42590	43040
	Frequency	3455	3500	3545
5	Channel	42115	42590	43065
	Frequency	3452.5	3500	3547.5

LTE Band 48 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	55340	55990	56640
	Frequency	3560.0	3625.0	3690.0
15	Channel	55315	55990	56665
	Frequency	3557.5	3625.0	3692.5
10	Channel	55290	55990	56690
	Frequency	3555.0	3625.0	3695.0
5	Channel	55265	55990	56715
	Frequency	3552.5	3625.0	3697.5



LTE Band 66 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	132072	132322	132572
	Frequency	1720	1745	1770
15	Channel	132047	132322	132597
	Frequency	1717.5	1745	1772.5
10	Channel	132022	132322	132622
	Frequency	1715	1745	1775
5	Channel	131997	132322	132647
	Frequency	1712.5	1745	1777.5
3	Channel	131987	132322	132657
	Frequency	1711.5	1745	1778.5
1.4	Channel	131979	132322	132665
	Frequency	1710.7	1745	1779.3

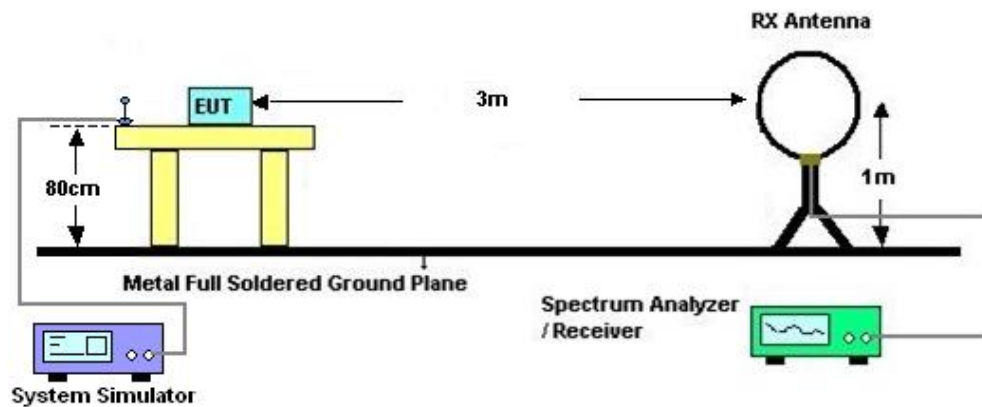
3 Radiated Test Items

3.1 Measuring Instruments

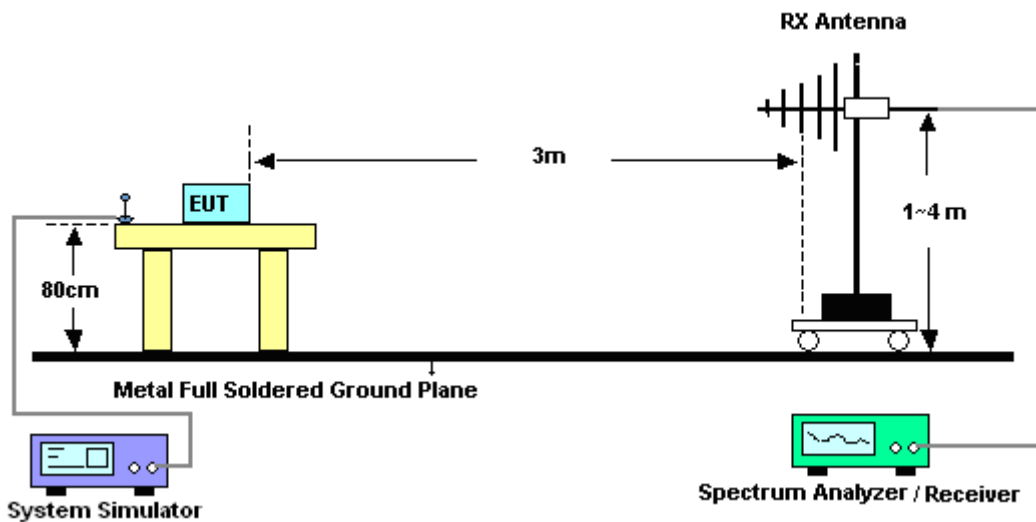
See list of measuring instruments of this test report.

3.2 Test Setup

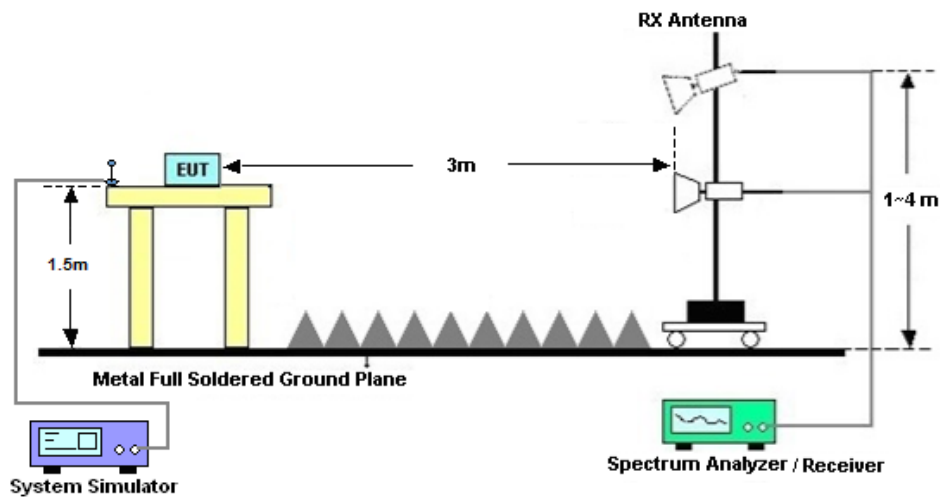
3.2.1 For radiated test below 30MHz



3.2.2 For radiated test from 30MHz to 1GHz



3.2.3 For radiated test above 1GHz



3.3 Test Result of Radiated Test

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

Please refer to Appendix A.



3.4 Radiated Spurious Emission

3.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26.

For LTE Band 2, 4, 5, 12, 25, 26, 66

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For Band 7, 41

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $55 + 10 \log (P)$ dB.

For Band 42

The power of any emission outside of the authorized operating frequency ranges shall not exceed -13 dBm/MHz.

For LTE Band 13

For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

For LTE Band 14

For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

For LTE Band 30

The radiated spurious emission was measured by substitution method according to ANSI/TIA-603-E. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $70 + 10 \log (P)$ dB.

For LTE Band 48

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least -40 dBm / MHz.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP - 2.15
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

For Band 2, 4, 5, 12, 13, 14, 25, 26, 66:

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
= $P(W) - [43 + 10\log(P)]$ (dB)
= $[30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
= -13dBm.

For Band 30:

The limit line is derived from $70 + 10\log(P)$ dB below the transmitter power P(Watts)
= $P(W) - [70 + 10\log(P)]$ (dB)
= $[30 + 10\log(P)]$ (dBm) - $[70 + 10\log(P)]$ (dB)
= -40dBm.

For Band 7, 41:

The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)

For Band 42:

The limit line is -13dBm/MHz

For Band 48:

The limit line is -40dBm/MHz



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	Apr. 09, 2024	Apr. 24, 2024	Apr. 08, 2025	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 28, 2022	Apr. 24, 2024	Jun. 27, 2024	Radiation (03CH03-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 09, 2024	Apr. 24, 2024	Apr. 08, 2025	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz~2GHz	Aug. 20, 2023	Apr. 24, 2024	Aug. 19, 2025	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	Apr. 09, 2024	Apr. 24, 2024	Apr. 08, 2025	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 18, 2023	Apr. 24, 2024	Oct. 17, 2024	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 07, 2023	Apr. 24, 2024	Jul.06, 2024	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 09, 2024	Apr. 24, 2024	Apr. 08, 2025	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Dec. 27, 2023	Apr. 24, 2024	Dec. 26, 2024	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010002729	N/A	Oct. 18, 2023	Apr. 24, 2024	Oct. 17, 2024	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Apr. 24, 2024	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Apr. 24, 2024	NCR	Radiation (03CH03-SZ)

NCR: No Calibration Required



5 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage $K=2$ to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.0B
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.6dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.8dB
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Appendix A. Test Results of Radiated Test

Radiated Spurious Emission

Test Engineer :	Qingsheng He/Zhaohui Liang	Temperature :	22~25°C
		Relative Humidity :	48~52%

ULCA 2A-5A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B2 BW 20MHz Lowest 1RB0,QPSK	3702.18	-62.27	-13	-49.27	-76.81	-69.03	5.82	12.58	H
	5553.27	-63.22	-13	-50.22	-80.75	-68.94	7.28	13.00	H
	7404.36	-56.61	-13	-43.61	-79.32	-59.77	8.32	11.48	H
	3702.18	-63.02	-13	-50.02	-77.85	-69.78	5.82	12.58	V
	5553.27	-63.16	-13	-50.16	-80.74	-68.88	7.28	13.00	V
	7404.36	-56.69	-13	-43.69	-79.44	-59.85	8.32	11.48	V
LTE B5 BW 10MHz Lowest 1RB0,QPSK	1649.18	-67.92	-13	-54.92	-74.18	-71.15	3.98	9.36	H
	2473.77	-65.32	-13	-52.32	-75.67	-68.87	4.85	10.55	H
	3298.36	-64.79	-13	-51.79	-77.20	-69.72	5.50	12.58	H
	1649.18	-67.93	-13	-54.93	-74.07	-71.16	3.98	9.36	V
	2473.77	-64.92	-13	-51.92	-75.63	-68.47	4.85	10.55	V
	3298.36	-64.67	-13	-51.67	-77.54	-69.60	5.50	12.58	V
LTE B2 BW 20MHz Middle 1RB0,QPSK	3742.18	-60.08	-13	-47.08	-74.71	-66.83	5.85	12.60	H
	5613.27	-59.70	-13	-46.70	-77.42	-65.50	7.30	13.10	H
	7484.36	-56.68	-13	-43.68	-79.09	-59.83	8.35	11.50	H
	3742.18	-63.35	-13	-50.35	-78.19	-70.10	5.85	12.60	V
	5613.27	-62.35	-13	-49.35	-79.98	-68.15	7.30	13.10	V
	7484.36	-56.84	-13	-43.84	-79.18	-59.99	8.35	11.50	V
LTE B5 BW 10MHz Middle 1RB0,QPSK	1664.18	-67.90	-13	-54.90	-74.15	-71.15	4.00	9.40	H
	2496.27	-65.32	-13	-52.32	-75.61	-68.89	4.88	10.60	H
	3328.36	-65.62	-13	-52.62	-77.79	-70.55	5.52	12.60	H
	1664.18	-68.01	-13	-55.01	-74.03	-71.26	4.00	9.40	V
	2496.27	-64.79	-13	-51.79	-75.42	-68.36	4.88	10.60	V
	3328.36	-65.19	-13	-52.19	-77.77	-70.12	5.52	12.60	V
LTE B2 BW 20MHz Highest 1RB0,QPSK	3782.18	-61.82	-13	-48.82	-76.52	-68.56	5.88	12.62	H
	5673.27	-59.14	-13	-46.14	-77.01	-64.95	7.32	13.13	H
	7564.36	-56.10	-13	-43.10	-78.30	-59.26	8.38	11.54	H
	3782.18	-62.45	-13	-49.45	-77.28	-69.19	5.88	12.62	V
	5673.27	-59.36	-13	-46.36	-77.2	-65.17	7.32	13.13	V
	7564.36	-56.56	-13	-43.56	-78.58	-59.72	8.38	11.54	V
LTE B5 BW 10MHz Highest 1RB0,QPSK	1679.18	-68.23	-13	-55.23	-74.51	-71.40	4.10	9.42	H
	2518.77	-65.64	-13	-52.64	-75.92	-69.22	4.90	10.63	H
	3358.36	-65.80	-13	-52.80	-77.82	-70.72	5.55	12.62	H
	1679.18	-68.20	-13	-55.20	-74.22	-71.37	4.10	9.42	V
	2518.77	-64.99	-13	-51.99	-75.60	-68.57	4.90	10.63	V
	3358.36	-65.12	-13	-52.12	-77.56	-70.04	5.55	12.62	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_2A-12A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B2 BW 20MHz Lowest 1RB0,QPSK	3702.18	-63.49	-13	-50.49	-78.03	-70.25	5.82	12.58	H
	5553.27	-62.62	-13	-49.62	-80.15	-68.34	7.28	13.00	H
	7404.36	-56.76	-13	-43.76	-79.47	-59.92	8.32	11.48	H
	3702.18	-62.82	-13	-49.82	-77.65	-69.58	5.82	12.58	V
	5553.27	-61.21	-13	-48.21	-78.79	-66.93	7.28	13.00	V
	7404.36	-56.32	-13	-43.32	-79.07	-59.48	8.32	11.48	V
LTE B12 BW 10MHz Lowest 1RB0,QPSK	1399	-65.19	-13	-52.19	-73.33	-68.42	3.98	9.36	H
	2098.5	-64.57	-13	-51.57	-74.15	-68.12	4.85	10.55	H
	2798	-64.32	-13	-51.32	-76.30	-69.25	5.50	12.58	H
	1399	-65.09	-13	-52.09	-73.29	-68.32	3.98	9.36	V
	2098.5	-64.40	-13	-51.40	-74.36	-67.95	4.85	10.55	V
	2798	-64.23	-13	-51.23	-76.45	-69.16	5.50	12.58	V
LTE B2 BW 20MHz Middle 1RB0,QPSK	3742.18	-63.11	-13	-50.11	-77.74	-69.86	5.85	12.60	H
	5613.27	-58.45	-13	-45.45	-76.17	-64.25	7.30	13.10	H
	7484.36	-56.65	-13	-43.65	-79.06	-59.80	8.35	11.50	H
	3742.18	-62.14	-13	-49.14	-76.98	-68.89	5.85	12.60	V
	5613.27	-55.11	-13	-42.11	-72.74	-60.91	7.30	13.10	V
	7484.36	-56.40	-13	-43.40	-78.74	-59.55	8.35	11.50	V
LTE B12 BW 10MHz Middle 1RB0,QPSK	1406	-64.90	-13	-51.90	-72.98	-68.15	4.00	9.40	H
	2109	-64.38	-13	-51.38	-74.14	-67.95	4.88	10.60	H
	2812	-63.60	-13	-50.60	-75.62	-68.53	5.52	12.60	H
	1406	-64.69	-13	-51.69	-72.85	-67.94	4.00	9.40	V
	2109	-63.93	-13	-50.93	-74.06	-67.50	4.88	10.60	V
	2812	-63.62	-13	-50.62	-75.88	-68.55	5.52	12.60	V
LTE B2 BW 20MHz Highest 1RB0,QPSK	3782.18	-62.27	-13	-49.27	-76.97	-69.01	5.88	12.62	H
	5673.27	-56.31	-13	-43.31	-74.18	-62.12	7.32	13.13	H
	7564.36	-56.78	-13	-43.78	-78.98	-59.94	8.38	11.54	H
	3782.18	-60.71	-13	-47.71	-75.54	-67.45	5.88	12.62	V
	5673.27	-54.47	-13	-41.47	-72.31	-60.28	7.32	13.13	V
	7564.36	-56.57	-13	-43.57	-78.59	-59.73	8.38	11.54	V
LTE B12 BW 10MHz Highest 1RB0,QPSK	1413	-64.93	-13	-51.93	-72.93	-68.10	4.10	9.42	H
	2119.5	-64.98	-13	-51.98	-74.94	-68.56	4.90	10.63	H
	2826	-63.56	-13	-50.56	-75.62	-68.48	5.55	12.62	H
	1413	-65.08	-13	-52.08	-73.16	-68.25	4.10	9.42	V
	2119.5	-64.46	-13	-51.46	-74.79	-68.04	4.90	10.63	V
	2826	-63.44	-13	-50.44	-75.75	-68.36	5.55	12.62	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_2A-13A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B2 BW 20MHz Lowest 1RB0,QPSK	3702.18	-63.32	-13	-50.32	-77.86	-70.08	5.82	12.58	H
	5553.27	-63.30	-13	-50.30	-80.83	-69.02	7.28	13.00	H
	7404.36	-56.06	-13	-43.06	-78.77	-59.22	8.32	11.48	H
	3702.18	-62.80	-13	-49.80	-77.63	-69.56	5.82	12.58	V
	5553.27	-61.57	-13	-48.57	-79.15	-67.29	7.28	13.00	V
	7404.36	-56.04	-13	-43.04	-78.79	-59.20	8.32	11.48	V
LTE B13 BW 10MHz Lowest 1RB0,QPSK	1554.5	-65.88	-13	-52.88	-72.72	-69.11	3.98	9.36	H
	2331.75	-64.32	-13	-51.32	-75.13	-67.87	4.85	10.55	H
	3109	-63.42	-13	-50.42	-76.27	-68.35	5.50	12.58	H
	1554.5	-66.12	-13	-53.12	-73.16	-69.35	3.98	9.36	V
	2331.75	-63.78	-13	-50.78	-74.98	-67.33	4.85	10.55	V
	3109	-62.72	-13	-49.72	-76.07	-67.65	5.50	12.58	V
LTE B2 BW 20MHz Middle 1RB0,QPSK	3742.18	-63.36	-13	-50.36	-77.99	-70.11	5.85	12.60	H
	5613.27	-57.28	-13	-44.28	-75.00	-63.08	7.30	13.10	H
	7484.36	-56.82	-13	-43.82	-79.23	-59.97	8.35	11.50	H
	3742.18	-62.90	-13	-49.90	-77.74	-69.65	5.85	12.60	V
	5613.27	-55.25	-13	-42.25	-72.88	-61.05	7.30	13.10	V
	7484.36	-56.62	-13	-43.62	-78.96	-59.77	8.35	11.50	V
LTE B13 BW 10MHz Middle 1RB0,QPSK	1559.5	-65.80	-42.15	-23.65	-72.58	-69.05	4.00	9.40	H
	2339.25	-63.99	-13	-50.99	-74.78	-67.56	4.88	10.60	H
	3119	-62.90	-13	-49.90	-75.79	-67.83	5.52	12.60	H
	1559.5	-65.69	-42.15	-23.54	-72.68	-68.94	4.00	9.40	V
	2339.25	-63.74	-13	-50.74	-74.92	-67.31	4.88	10.60	V
	3119	-62.44	-13	-49.44	-75.84	-67.37	5.52	12.60	V
LTE B2 BW 20MHz Highest 1RB0,QPSK	3782.18	-62.96	-13	-49.96	-77.66	-69.70	5.88	12.62	H
	5673.27	-61.37	-13	-48.37	-79.24	-67.18	7.32	13.13	H
	7564.36	-56.74	-13	-43.74	-78.94	-59.90	8.38	11.54	H
	3782.18	-60.75	-13	-47.75	-75.58	-67.49	5.88	12.62	V
	5673.27	-59.73	-13	-46.73	-77.57	-65.54	7.32	13.13	V
	7564.36	-56.35	-13	-43.35	-78.37	-59.51	8.38	11.54	V
LTE B13 BW 10MHz Highest 1RB0,QPSK	1564.5	-66.28	-42.15	-24.13	-73.00	-69.45	4.10	9.42	H
	2346.75	-64.45	-13	-51.45	-75.20	-68.03	4.90	10.63	H
	3129	-63.07	-42.15	-20.92	-75.99	-67.99	5.55	12.62	H
	1564.5	-66.28	-13	-53.28	-73.22	-69.45	4.10	9.42	V
	2346.75	-64.41	-13	-51.41	-75.55	-67.99	4.90	10.63	V
	3129	-62.82	-13	-49.82	-76.27	-67.74	5.55	12.62	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_2A-14A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B2 BW 20MHz Lowest 1RB0,QPSK	3702.18	-63.45	-13	-50.45	-77.99	-70.21	5.82	12.58	H
	5553.27	-62.51	-13	-49.51	-80.04	-68.23	7.28	13.00	H
	7404.36	-56.52	-13	-43.52	-79.23	-59.68	8.32	11.48	H
	3702.18	-62.95	-13	-49.95	-77.78	-69.71	5.82	12.58	V
	5553.27	-60.46	-13	-47.46	-78.04	-66.18	7.28	13.00	V
	7404.36	-55.55	-13	-42.55	-78.3	-58.71	8.32	11.48	V
LTE B14 BW 10MHz Lowest 1RB0,QPSK	1576.5	-66.44	-42.15	-24.29	-73.06	-69.67	3.98	9.36	H
	2364.75	-64.54	-13	-51.54	-75.21	-68.09	4.85	10.55	H
	3153	-63.33	-13	-50.33	-76.34	-68.26	5.50	12.58	H
	1576.5	-66.10	-42.15	-23.95	-72.95	-69.33	3.98	9.36	V
	2364.75	-64.18	-13	-51.18	-75.26	-67.73	4.85	10.55	V
	3153	-62.77	-13	-49.77	-76.34	-67.70	5.50	12.58	V
LTE B2 BW 20MHz Middle 1RB0,QPSK	3742.18	-63.39	-13	-50.39	-78.02	-70.14	5.85	12.60	H
	5613.27	-56.53	-13	-43.53	-74.25	-62.33	7.30	13.10	H
	7484.36	-56.60	-13	-43.60	-79.01	-59.75	8.35	11.50	H
	3742.18	-62.81	-13	-49.81	-77.65	-69.56	5.85	12.60	V
	5613.27	-54.16	-13	-41.16	-71.79	-59.96	7.30	13.10	V
	7484.36	-55.94	-13	-42.94	-78.28	-59.09	8.35	11.50	V
LTE B14 BW 10MHz Middle 1RB0,QPSK	1577	-66.61	-42.15	-24.46	-73.23	-69.86	4.00	9.40	H
	2365.5	-64.44	-13	-51.44	-75.11	-68.01	4.88	10.60	H
	3154	-63.70	-13	-50.70	-76.72	-68.63	5.52	12.60	H
	1577	-66.48	-42.15	-24.33	-73.32	-69.73	4.00	9.40	V
	2365.5	-64.36	-13	-51.36	-75.43	-67.93	4.88	10.60	V
	3154	-63.26	-13	-50.26	-76.83	-68.19	5.52	12.60	V
LTE B2 BW 20MHz Highest 1RB0,QPSK	3782.18	-62.32	-13	-49.32	-77.02	-69.06	5.88	12.62	H
	5673.27	-59.52	-13	-46.52	-77.39	-65.33	7.32	13.13	H
	7564.36	-56.40	-13	-43.40	-78.60	-59.56	8.38	11.54	H
	3782.18	-61.21	-13	-48.21	-76.04	-67.95	5.88	12.62	V
	5673.27	-56.94	-13	-43.94	-74.78	-62.75	7.32	13.13	V
	7564.36	-56.70	-13	-43.70	-78.72	-59.86	8.38	11.54	V
LTE B14 BW 10MHz Highest 1RB0,QPSK	1586.5	-66.52	-42.15	-24.37	-73.03	-69.69	4.10	9.42	H
	2379.75	-64.33	-13	-51.33	-74.93	-67.91	4.90	10.63	H
	3173	-63.28	-13	-50.28	-76.37	-68.20	5.55	12.62	H
	1586.5	-66.34	-42.15	-24.19	-73.08	-69.51	4.10	9.42	V
	2379.75	-63.96	-13	-50.96	-74.97	-67.54	4.90	10.63	V
	3173	-62.97	-13	-49.97	-76.64	-67.89	5.55	12.62	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_2A-48A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B2 BW 20MHz Lowest 1RB0,QPSK	3702.18	-58.74	-13	-45.74	-62.48	-65.50	5.82	12.58	H
	5553.27	-58.87	-13	-45.87	-64.27	-64.59	7.28	13.00	H
	7404.36	-57.97	-13	-44.97	-66.89	-61.13	8.32	11.48	H
	3702.18	-57.00	-13	-44.00	-62.43	-63.76	5.82	12.58	V
	5553.27	-58.34	-13	-45.34	-64.17	-64.06	7.28	13.00	V
	7404.36	-57.56	-13	-44.56	-66.45	-60.72	8.32	11.48	V
LTE B48 BW 20MHz Lowest 1RB0,QPSK	7102.00	-57.25	-40	-17.25	-65.44	-60.58	8.25	11.58	H
	10653.00	-54.87	-40	-14.87	-67.75	-56.42	10.45	12.00	H
	14204.00	-53.82	-40	-13.82	-69.70	-55.53	11.74	13.45	H
	7102.00	-56.32	-40	-16.32	-65.67	-59.65	8.25	11.58	V
	10653.00	-52.45	-40	-12.45	-67.79	-54.00	10.45	12.00	V
	14204.00	-54.27	-40	-14.27	-69.54	-55.98	11.74	13.45	V
LTE B2 BW 20MHz Middle 1RB0,QPSK	3742.18	-59.41	-13	-46.41	-63.05	-66.16	5.85	12.60	H
	5613.27	-58.82	-13	-45.82	-64.08	-64.62	7.30	13.10	H
	7484.36	-57.93	-13	-44.93	-66.59	-61.08	8.35	11.50	H
	3742.18	-57.23	-13	-44.23	-62.88	-63.98	5.85	12.60	V
	5613.27	-58.11	-13	-45.11	-64.22	-63.91	7.30	13.10	V
	7484.36	-57.84	-13	-44.84	-66.48	-60.99	8.35	11.50	V
LTE B48 BW 20MHz Middle 1RB0,QPSK	7232.00	-56.97	-40	-16.97	-65.65	-60.27	8.30	11.60	H
	10848.00	-53.99	-40	-13.99	-67.70	-55.51	10.48	12.00	H
	14464.00	-53.06	-40	-13.06	-69.28	-54.76	11.80	13.50	H
	7232.00	-55.61	-40	-15.61	-66.02	-58.91	8.30	11.60	V
	10848.00	-52.80	-40	-12.80	-68.13	-54.32	10.48	12.00	V
	14464.00	-53.54	-40	-13.54	-69.35	-55.24	11.80	13.50	V
LTE B2 BW 20MHz Highest 1RB0,QPSK	3782.18	-59.43	-13	-46.43	-63.42	-66.17	5.88	12.62	H
	5673.27	-59.21	-13	-46.21	-64.50	-65.02	7.32	13.13	H
	7564.36	-57.98	-13	-44.98	-66.35	-61.14	8.38	11.54	H
	3782.18	-57.67	-13	-44.67	-63.15	-64.41	5.88	12.62	V
	5673.27	-58.42	-13	-45.42	-64	-64.23	7.32	13.13	V
	7564.36	-57.54	-13	-44.54	-65.9	-60.70	8.38	11.54	V
LTE B48 BW 20MHz Highest 1RB0,QPSK	7362.00	-57.57	-40	-17.57	-66.48	-60.87	8.32	11.62	H
	11043.00	-53.60	-40	-13.60	-67.98	-55.28	10.52	12.20	H
	14724.00	-53.35	-40	-13.35	-70.19	-55.05	11.85	13.55	H
	7362.00	-57.55	-40	-17.55	-66.82	-60.85	8.32	11.62	V
	11043.00	-52.57	-40	-12.57	-68.3	-54.25	10.52	12.20	V
	14724.00	-53.27	-40	-13.27	-70.20	-54.97	11.85	13.55	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA 4A-5A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B4 BW 20MHz Lowest 1RB0,QPSK	3422.18	-64.83	-13	-51.83	-77.09	-71.71	5.60	12.48	H
	5133.27	-62.49	-13	-49.49	-79.98	-68.17	7.10	12.78	H
	6844.36	-57.55	-13	-44.55	-78.00	-60.94	8.38	11.77	H
	3422.18	-63.81	-13	-50.81	-76.63	-70.69	5.60	12.48	V
	5133.27	-62.88	-13	-49.88	-80.31	-68.56	7.10	12.78	V
	6844.36	-57.57	-13	-44.57	-77.78	-60.96	8.38	11.77	V
LTE B5 BW 10MHz Lowest 1RB0,QPSK	1649.18	-67.67	-13	-54.67	-73.93	-70.90	3.98	9.36	H
	2473.77	-64.50	-13	-51.50	-74.85	-68.05	4.85	10.55	H
	3298.36	-64.27	-13	-51.27	-76.68	-69.20	5.50	12.58	H
	1649.18	-67.63	-13	-54.63	-73.77	-70.86	3.98	9.36	V
	2473.77	-64.59	-13	-51.59	-75.30	-68.14	4.85	10.55	V
	3298.36	-63.57	-13	-50.57	-76.44	-68.50	5.50	12.58	V
LTE B4 BW 20MHz Middle 1RB0,QPSK	3447.18	-64.00	-13	-51.00	-76.54	-70.85	5.65	12.50	H
	5170.77	-62.62	-13	-49.62	-80.15	-68.29	7.13	12.80	H
	6894.36	-56.41	-13	-43.41	-77.09	-59.81	8.40	11.80	H
	3447.18	-63.62	-13	-50.62	-76.71	-70.47	5.65	12.50	V
	5170.77	-62.66	-13	-49.66	-80.14	-68.33	7.13	12.80	V
	6894.36	-56.10	-13	-43.10	-76.69	-59.50	8.40	11.80	V
LTE B5 BW 10MHz Middle 1RB0,QPSK	1664.18	-67.47	-13	-54.47	-73.72	-70.72	4.00	9.40	H
	2496.27	-64.61	-13	-51.61	-74.90	-68.18	4.88	10.60	H
	3328.36	-64.88	-13	-51.88	-77.05	-69.81	5.52	12.60	H
	1664.18	-67.51	-13	-54.51	-73.53	-70.76	4.00	9.40	V
	2496.27	-64.26	-13	-51.26	-74.89	-67.83	4.88	10.60	V
	3328.36	-64.47	-13	-51.47	-77.05	-69.40	5.52	12.60	V
LTE B4 BW 20MHz Highest 1RB0,QPSK	3472.18	-64.74	-13	-51.74	-77.56	-71.58	5.68	12.52	H
	5208.27	-62.78	-13	-49.78	-80.24	-68.45	7.15	12.82	H
	6944.36	-56.83	-13	-43.83	-77.74	-60.26	8.42	11.85	H
	3472.18	-64.04	-13	-51.04	-77.41	-70.88	5.68	12.52	V
	5208.27	-62.86	-13	-49.86	-80.27	-68.53	7.15	12.82	V
	6944.36	-56.67	-13	-43.67	-77.63	-60.10	8.42	11.85	V
LTE B5 BW 10MHz Highest 1RB0,QPSK	1679.18	-67.24	-13	-54.24	-73.52	-70.41	4.10	9.42	H
	2518.77	-64.93	-13	-51.93	-75.21	-68.51	4.90	10.63	H
	3358.36	-64.79	-13	-51.79	-76.81	-69.71	5.55	12.62	H
	1679.18	-67.73	-13	-54.73	-73.75	-70.90	4.10	9.42	V
	2518.77	-64.87	-13	-51.87	-75.48	-68.45	4.90	10.63	V
	3358.36	-64.67	-13	-51.67	-77.11	-69.59	5.55	12.62	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_4A-12A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B4 BW 20MHz Lowest 1RB0,QPSK	3422.18	-57.07	-13	-44.07	-69.33	-63.95	5.60	12.48	H
	5133.27	-62.89	-13	-49.89	-80.38	-68.57	7.10	12.78	H
	6844.36	-59.01	-13	-46.01	-79.46	-62.40	8.38	11.77	H
	3422.18	-64.18	-13	-51.18	-77	-71.06	5.60	12.48	V
	5133.27	-62.92	-13	-49.92	-80.35	-68.60	7.10	12.78	V
	6844.36	-58.85	-13	-45.85	-79.06	-62.24	8.38	11.77	V
LTE B12 BW 10MHz Lowest 1RB0,QPSK	1399	-65.04	-13	-52.04	-73.18	-68.27	3.98	9.36	H
	2098.5	-65.57	-13	-52.57	-75.15	-69.12	4.85	10.55	H
	2798	-64.50	-13	-51.50	-76.48	-69.43	5.50	12.58	H
	1399	-64.90	-13	-51.90	-73.10	-68.13	3.98	9.36	V
	2098.5	-64.97	-13	-51.97	-74.93	-68.52	4.85	10.55	V
	2798	-64.24	-13	-51.24	-76.46	-69.17	5.50	12.58	V
LTE B4 BW 20MHz Middle 1RB0,QPSK	3447.18	-64.76	-13	-51.76	-77.30	-71.61	5.65	12.50	H
	5170.77	-62.27	-13	-49.27	-79.80	-67.94	7.13	12.80	H
	6894.36	-58.56	-13	-45.56	-79.24	-61.96	8.40	11.80	H
	3447.18	-64.24	-13	-51.24	-77.33	-71.09	5.65	12.50	V
	5170.77	-62.81	-13	-49.81	-80.29	-68.48	7.13	12.80	V
	6894.36	-59.20	-13	-46.20	-79.79	-62.60	8.40	11.80	V
LTE B12 BW 10MHz Middle 1RB0,QPSK	1406	-65.74	-13	-52.74	-73.82	-68.99	4.00	9.40	H
	2109	-65.30	-13	-52.30	-75.06	-68.87	4.88	10.60	H
	2812	-64.05	-13	-51.05	-76.07	-68.98	5.52	12.60	H
	1406	-65.19	-13	-52.19	-73.35	-68.44	4.00	9.40	V
	2109	-64.57	-13	-51.57	-74.70	-68.14	4.88	10.60	V
	2812	-63.68	-13	-50.68	-75.94	-68.61	5.52	12.60	V
LTE B4 BW 20MHz Highest 1RB0,QPSK	3472.18	-65.17	-13	-52.17	-77.99	-72.01	5.68	12.52	H
	5208.27	-63.27	-13	-50.27	-80.73	-68.94	7.15	12.82	H
	6944.36	-59.27	-13	-46.27	-80.18	-62.70	8.42	11.85	H
	3472.18	-64.64	-13	-51.64	-78.01	-71.48	5.68	12.52	V
	5208.27	-63.20	-13	-50.20	-80.61	-68.87	7.15	12.82	V
	6944.36	-59.20	-13	-46.20	-80.16	-62.63	8.42	11.85	V
LTE B12 BW 10MHz Highest 1RB0,QPSK	1413	-64.89	-13	-51.89	-72.89	-68.06	4.10	9.42	H
	2119.5	-65.16	-13	-52.16	-75.12	-68.74	4.90	10.63	H
	2826	-64.01	-13	-51.01	-76.07	-68.93	5.55	12.62	H
	1413	-65.13	-13	-52.13	-73.21	-68.30	4.10	9.42	V
	2119.5	-64.80	-13	-51.80	-75.13	-68.38	4.90	10.63	V
	2826	-63.63	-13	-50.63	-75.94	-68.55	5.55	12.62	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_4A-13A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B4 BW 20MHz Lowest 1RB0,QPSK	3422.18	-60.20	-13	-47.20	-72.46	-67.08	5.60	12.48	H
	5133.27	-63.12	-13	-50.12	-80.61	-68.80	7.10	12.78	H
	6844.36	-58.88	-13	-45.88	-79.33	-62.27	8.38	11.77	H
	3422.18	-64.79	-13	-51.79	-77.61	-71.67	5.60	12.48	V
	5133.27	-62.83	-13	-49.83	-80.26	-68.51	7.10	12.78	V
	6844.36	-58.74	-13	-45.74	-78.95	-62.13	8.38	11.77	V
LTE B13 BW 10MHz Lowest 1RB0,QPSK	1554.5	-66.75	-13	-53.75	-73.59	-69.98	3.98	9.36	H
	2331.75	-64.92	-13	-51.92	-75.73	-68.47	4.85	10.55	H
	3109	-63.89	-13	-50.89	-76.74	-68.82	5.50	12.58	H
	1554.5	-66.62	-13	-53.62	-73.66	-69.85	3.98	9.36	V
	2331.75	-64.22	-13	-51.22	-75.42	-67.77	4.85	10.55	V
	3109	-63.38	-13	-50.38	-76.73	-68.31	5.50	12.58	V
LTE B4 BW 20MHz Middle 1RB0,QPSK	3447.18	-65.05	-13	-52.05	-77.59	-71.90	5.65	12.50	H
	5170.77	-63.03	-13	-50.03	-80.56	-68.70	7.13	12.80	H
	6894.36	-59.17	-13	-46.17	-79.85	-62.57	8.40	11.80	H
	3447.18	-64.30	-13	-51.30	-77.39	-71.15	5.65	12.50	V
	5170.77	-63.40	-13	-50.40	-80.88	-69.07	7.13	12.80	V
	6894.36	-58.80	-13	-45.80	-79.39	-62.20	8.40	11.80	V
LTE B13 BW 10MHz Middle 1RB0,QPSK	1559.5	-66.80	-42.15	-24.65	-73.58	-70.05	4.00	9.40	H
	2339.25	-64.77	-13	-51.77	-75.56	-68.34	4.88	10.60	H
	3119	-64.02	-13	-51.02	-76.91	-68.95	5.52	12.60	H
	1559.5	-66.56	-42.15	-24.41	-73.55	-69.81	4.00	9.40	V
	2339.25	-64.65	-13	-51.65	-75.83	-68.22	4.88	10.60	V
	3119	-63.45	-13	-50.45	-76.85	-68.38	5.52	12.60	V
LTE B4 BW 20MHz Highest 1RB0,QPSK	3472.18	-65.12	-13	-52.12	-77.94	-71.96	5.68	12.52	H
	5208.27	-63.24	-13	-50.24	-80.70	-68.91	7.15	12.82	H
	6944.36	-59.05	-13	-46.05	-79.96	-62.48	8.42	11.85	H
	3472.18	-64.32	-13	-51.32	-77.69	-71.16	5.68	12.52	V
	5208.27	-63.39	-13	-50.39	-80.8	-69.06	7.15	12.82	V
	6944.36	-59.32	-13	-46.32	-80.28	-62.75	8.42	11.85	V
LTE B13 BW 10MHz Highest 1RB0,QPSK	1564.5	-66.97	-42.15	-24.82	-73.69	-70.14	4.10	9.42	H
	2346.75	-64.91	-13	-51.91	-75.66	-68.49	4.90	10.63	H
	3129	-63.74	-13	-50.74	-76.66	-68.66	5.55	12.62	H
	1564.5	-66.59	-42.15	-24.44	-73.53	-69.76	4.10	9.42	V
	2346.75	-64.80	-13	-51.80	-75.94	-68.38	4.90	10.63	V
	3129	-63.56	-13	-50.56	-77.01	-68.48	5.55	12.62	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA 5A-7A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B5 BW 10MHz Lowest 1RB0,QPSK	1649.18	-67.67	-13	-54.67	-73.93	-70.90	3.98	9.36	H
	2473.77	-64.98	-13	-51.98	-75.33	-68.53	4.85	10.55	H
	3298.36	-64.39	-13	-51.39	-76.80	-69.32	5.50	12.58	H
	1649.18	-67.94	-13	-54.94	-74.08	-71.17	3.98	9.36	V
	2473.77	-64.62	-13	-51.62	-75.33	-68.17	4.85	10.55	V
	3298.36	-63.73	-13	-50.73	-76.60	-68.66	5.50	12.58	V
LTE B7 BW 20MHz Lowest 1RB0,QPSK	5002.18	-62.76	-25	-37.76	-80.13	-68.32	7.12	12.68	H
	7503.27	-55.69	-25	-30.69	-78.02	-59.02	8.26	11.59	H
	10004.36	-51.04	-25	-26.04	-78.17	-52.57	10.45	11.98	H
	5002.18	-62.96	-25	-37.96	-80.25	-68.52	7.12	12.68	V
	7503.27	-56.02	-25	-31.02	-78.25	-59.35	8.26	11.59	V
	10004.36	-51.90	-25	-26.90	-78.42	-53.43	10.45	11.98	V
LTE B5 BW 10MHz Middle 1RB0,QPSK	1664.18	-67.54	-13	-54.54	-73.79	-70.79	4.00	9.40	H
	2496.27	-65.02	-13	-52.02	-75.31	-68.59	4.88	10.60	H
	3328.36	-64.85	-13	-51.85	-77.02	-69.78	5.52	12.60	H
	1664.18	-67.90	-13	-54.90	-73.92	-71.15	4.00	9.40	V
	2496.27	-64.68	-13	-51.68	-75.31	-68.25	4.88	10.60	V
	3328.36	-64.61	-13	-51.61	-77.19	-69.54	5.52	12.60	V
LTE B7 BW 20MHz Middle 1RB0,QPSK	5052.18	-61.74	-25	-36.74	-79.16	-67.30	7.14	12.70	H
	7578.27	-55.75	-25	-30.75	-77.94	-59.05	8.30	11.60	H
	10104.36	-51.07	-25	-26.07	-78.16	-52.59	10.48	12.00	H
	5052.18	-61.94	-25	-36.94	-79.29	-67.50	7.14	12.70	V
	7578.27	-56.19	-25	-31.19	-78.18	-59.49	8.30	11.60	V
	10104.36	-51.83	-25	-26.83	-78.43	-53.35	10.48	12.00	V
LTE B5 BW 10MHz Highest 1RB0,QPSK	1679.18	-67.85	-13	-54.85	-74.13	-71.02	4.10	9.42	H
	2518.77	-64.64	-13	-51.64	-74.92	-68.22	4.90	10.63	H
	3358.36	-65.07	-13	-52.07	-77.09	-69.99	5.55	12.62	H
	1679.18	-68.11	-13	-55.11	-74.13	-71.28	4.10	9.42	V
	2518.77	-64.70	-13	-51.70	-75.31	-68.28	4.90	10.63	V
	3358.36	-64.61	-13	-51.61	-77.05	-69.53	5.55	12.62	V
LTE B7 BW 20MHz Highest 1RB0,QPSK	5102.18	-62.35	-25	-37.35	-79.82	-67.91	7.16	12.72	H
	7653.27	-56.02	-25	-31.02	-78.35	-59.32	8.33	11.63	H
	10204.36	-51.36	-25	-26.36	-78.42	-52.96	10.50	12.10	H
	5102.18	-62.60	-25	-37.60	-80	-68.16	7.16	12.72	V
	7653.27	-56.15	-25	-31.15	-78.32	-59.45	8.33	11.63	V
	10204.36	-51.95	-25	-26.95	-78.63	-53.55	10.50	12.10	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_5A-30A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B5 BW 10MHz Lowest 1RB0,QPSK	1649.18	-54.21	-13	-41.21	-66.30	-57.44	3.98	9.36	H
	2473.77	-56.77	-13	-43.77	-76.02	-60.32	4.85	10.55	H
	3298.36	-61.92	-13	-48.92	-63.33	-66.85	5.50	12.58	H
	1649.18	-58.46	-13	-45.46	-71.19	-61.69	3.98	9.36	V
	2473.77	-58.75	-13	-45.75	-78.32	-62.30	4.85	10.55	V
	3298.36	-61.35	-13	-48.35	-63.65	-66.28	5.50	12.58	V
LTE B30 BW 10MHz Lowest 1RB0,QPSK	4611.00	-59.15	-40	-19.15	-64.10	-65.40	6.45	12.70	H
	6916.50	-58.66	-40	-18.66	-66.16	-62.06	8.40	11.80	H
	9222.00	-58.04	-40	-18.04	-67.56	-60.39	9.65	12.00	H
	4611.00	-59.05	-40	-19.05	-64.13	-65.30	6.45	12.70	V
	6916.50	-57.40	-40	-17.40	-66	-60.80	8.40	11.80	V
LTE B5 BW 10MHz Middle 1RB0,QPSK	9222.00	-56.29	-40	-16.29	-68.04	-58.64	9.65	12.00	V
	1664.18	-53.57	-13	-40.57	-65.77	-56.82	4.00	9.40	H
	2496.27	-56.22	-13	-43.22	-75.59	-59.79	4.88	10.60	H
	3328.36	-62.03	-13	-49.03	-63.64	-66.96	5.52	12.60	H
	1664.18	-58.52	-13	-45.52	-71.39	-61.77	4.00	9.40	V
	2496.27	-58.38	-13	-45.38	-78.01	-61.95	4.88	10.60	V
LTE B30 BW 10MHz Middle 1RB0,QPSK	3328.36	-61.64	-13	-48.64	-63.75	-66.57	5.52	12.60	V
	4611.00	-59.07	-40	-19.07	-64.02	-65.32	6.45	12.70	H
	6916.50	-58.33	-40	-18.33	-65.83	-61.73	8.40	11.80	H
	9222.00	-58.28	-40	-18.28	-67.80	-60.63	9.65	12.00	H
	4611.00	-58.53	-40	-18.53	-63.61	-64.78	6.45	12.70	V
	6916.50	-57.71	-40	-17.71	-66.31	-61.11	8.40	11.80	V
LTE B5 BW 10MHz Highest 1RB0,QPSK	9222.00	-56.41	-40	-16.41	-68.16	-58.76	9.65	12.00	V
	1679.18	-55.39	-13	-42.39	-67.69	-58.56	4.10	9.42	H
	2518.77	-56.37	-13	-43.37	-75.86	-59.95	4.90	10.63	H
	3358.36	-62.00	-13	-49.00	-63.29	-66.92	5.55	12.62	H
	1679.18	-58.41	-13	-45.41	-71.42	-61.58	4.10	9.42	V
	2518.77	-58.28	-13	-45.28	-77.98	-61.86	4.90	10.63	V
LTE B30 BW 10MHz Highest 1RB0,QPSK	3358.36	-61.85	-13	-48.85	-63.79	-66.77	5.55	12.62	V
	4611.00	-59.07	-40	-19.07	-64.02	-65.32	6.45	12.70	H
	6916.50	-58.35	-40	-18.35	-65.85	-61.75	8.40	11.80	H
	9222.00	-58.74	-40	-18.74	-68.26	-61.09	9.65	12.00	H
	4611.00	-58.87	-40	-18.87	-63.95	-65.12	6.45	12.70	V
	6916.50	-57.59	-40	-17.59	-66.19	-60.99	8.40	11.80	V
	9222.00	-55.82	-40	-15.82	-67.57	-58.17	9.65	12.00	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_5A-48A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B5 BW 10MHz Lowest 1RB0,QPSK	1649.18	-69.88	-13	-56.88	-62.86	-73.11	3.98	9.36	H
	2473.77	-64.81	-13	-51.81	-64.35	-68.36	4.85	10.55	H
	3298.36	-63.19	-13	-50.19	-64.60	-68.12	5.50	12.58	H
	1649.18	-69.34	-13	-56.34	-62.96	-72.57	3.98	9.36	V
	2473.77	-64.50	-13	-51.50	-64.36	-68.05	4.85	10.55	V
	3298.36	-62.33	-13	-49.33	-64.63	-67.26	5.50	12.58	V
LTE B48 BW 20MHz Lowest 1RB0,QPSK	7102.00	-57.03	-40	-17.03	-65.22	-60.36	8.25	11.58	H
	10653.00	-54.89	-40	-14.89	-67.77	-56.44	10.45	12.00	H
	14204.00	-53.65	-40	-13.65	-69.53	-55.36	11.74	13.45	H
	7102.00	-55.85	-40	-15.85	-65.2	-59.18	8.25	11.58	V
	10653.00	-52.47	-40	-12.47	-67.81	-54.02	10.45	12.00	V
	14204.00	-54.22	-40	-14.22	-69.49	-55.93	11.74	13.45	V
LTE B5 BW 10MHz Middle 1RB0,QPSK	1664.18	-69.46	-13	-56.46	-62.51	-72.71	4.00	9.40	H
	2496.27	-64.64	-13	-51.64	-64.31	-68.21	4.88	10.60	H
	3328.36	-63.26	-13	-50.26	-64.87	-68.19	5.52	12.60	H
	1664.18	-69.07	-13	-56.07	-62.79	-72.32	4.00	9.40	V
	2496.27	-64.43	-13	-51.43	-64.36	-68.00	4.88	10.60	V
	3328.36	-62.83	-13	-49.83	-64.94	-67.76	5.52	12.60	V
LTE B48 BW 20MHz Middle 1RB0,QPSK	7232.00	-57.37	-40	-17.37	-66.05	-60.67	8.30	11.60	H
	10848.00	-54.38	-40	-14.38	-68.09	-55.90	10.48	12.00	H
	14464.00	-53.44	-40	-13.44	-69.66	-55.14	11.80	13.50	H
	7232.00	-55.72	-40	-15.72	-66.13	-59.02	8.30	11.60	V
	10848.00	-53.22	-40	-13.22	-68.55	-54.74	10.48	12.00	V
	14464.00	-53.83	-40	-13.83	-69.64	-55.53	11.80	13.50	V
LTE B5 BW 10MHz Highest 1RB0,QPSK	1679.18	-69.58	-13	-56.58	-62.68	-72.75	4.10	9.42	H
	2518.77	-64.48	-13	-51.48	-64.28	-68.06	4.90	10.63	H
	3358.36	-63.65	-13	-50.65	-64.94	-68.57	5.55	12.62	H
	1679.18	-69.23	-13	-56.23	-63.04	-72.40	4.10	9.42	V
	2518.77	-64.36	-13	-51.36	-64.37	-67.94	4.90	10.63	V
	3358.36	-63.19	-13	-50.19	-65.13	-68.11	5.55	12.62	V
LTE B48 BW 20MHz Highest 1RB0,QPSK	7362.00	-57.65	-40	-17.65	-66.56	-60.95	8.32	11.62	H
	11043.00	-54.05	-40	-14.05	-68.43	-55.73	10.52	12.20	H
	14724.00	-53.45	-40	-13.45	-70.29	-55.15	11.85	13.55	H
	7362.00	-57.32	-40	-17.32	-66.59	-60.62	8.32	11.62	V
	11043.00	-52.69	-40	-12.69	-68.42	-54.37	10.52	12.20	V
	14724.00	-53.37	-40	-13.37	-70.30	-55.07	11.85	13.55	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_5A-66A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B5 BW 10MHz Lowest 1RB0,QPSK	1649.18	-67.81	-13	-54.81	-74.07	-71.04	3.98	9.36	H
	2473.77	-65.17	-13	-52.17	-75.52	-68.72	4.85	10.55	H
	3298.36	-64.45	-13	-51.45	-76.86	-69.38	5.50	12.58	H
	1649.18	-68.14	-13	-55.14	-74.28	-71.37	3.98	9.36	V
	2473.77	-64.67	-13	-51.67	-75.38	-68.22	4.85	10.55	V
	3298.36	-64.05	-13	-51.05	-76.92	-68.98	5.50	12.58	V
LTE B66 BW 20MHz Lowest 1RB0,QPSK	3422	-63.97	-13	-50.97	-76.23	-70.85	5.60	12.48	H
	5133	-62.46	-13	-49.46	-79.95	-68.14	7.10	12.78	H
	6844	-56.31	-13	-43.31	-76.76	-59.70	8.38	11.77	H
	3422	-63.30	-13	-50.30	-76.12	-70.18	5.60	12.48	V
	5133	-62.49	-13	-49.49	-79.92	-68.17	7.10	12.78	V
	6844	-56.52	-13	-43.52	-76.73	-59.91	8.38	11.77	V
LTE B5 BW 10MHz Middle 1RB0,QPSK	1664.18	-67.71	-13	-54.71	-73.96	-70.96	4.00	9.40	H
	2496.27	-65.04	-13	-52.04	-75.33	-68.61	4.88	10.60	H
	3328.36	-64.85	-13	-51.85	-77.02	-69.78	5.52	12.60	H
	1664.18	-68.06	-13	-55.06	-74.08	-71.31	4.00	9.40	V
	2496.27	-64.70	-13	-51.70	-75.33	-68.27	4.88	10.60	V
	3328.36	-64.67	-13	-51.67	-77.25	-69.60	5.52	12.60	V
LTE B66 BW 20MHz Middle 1RB0,QPSK	3472	-62.57	-13	-49.57	-75.39	-69.42	5.65	12.50	H
	5208	-62.87	-13	-49.87	-80.33	-68.54	7.13	12.80	H
	6944	-56.12	-13	-43.12	-77.03	-59.52	8.40	11.80	H
	3472	-61.87	-13	-48.87	-75.24	-68.72	5.65	12.50	V
	5208	-62.92	-13	-49.92	-80.33	-68.59	7.13	12.80	V
	6944	-58.47	-13	-45.47	-79.43	-61.87	8.40	11.80	V
LTE B5 BW 10MHz Highest 1RB0,QPSK	1679.18	-67.81	-13	-54.81	-74.09	-70.98	4.10	9.42	H
	2518.77	-65.10	-13	-52.10	-75.38	-68.68	4.90	10.63	H
	3358.36	-64.88	-13	-51.88	-76.90	-69.80	5.55	12.62	H
	1679.18	-64.90	-13	-51.90	-70.92	-68.07	4.10	9.42	V
	2518.77	-65.16	-13	-52.16	-75.77	-68.74	4.90	10.63	V
	3358.36	-64.58	-13	-51.58	-77.02	-69.50	5.55	12.62	V
LTE B66 BW 20MHz Highest 1RB0,QPSK	3522	-59.06	-13	-46.06	-72.46	-65.90	5.68	12.52	H
	5283	-63.12	-13	-50.12	-80.08	-68.79	7.15	12.82	H
	7044	-55.52	-13	-42.52	-76.85	-58.95	8.42	11.85	H
	3522	-62.54	-13	-49.54	-76.47	-69.38	5.68	12.52	V
	5283	-62.71	-13	-49.71	-79.72	-68.38	7.15	12.82	V
	7044	-57.73	-13	-44.73	-79.24	-61.16	8.42	11.85	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_12A-30A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B12 BW 10MHz Lowest 1RB0,QPSK	1399	-57.47	-13	-44.47	-68.74	-60.70	3.98	9.36	H
	2098.5	-61.98	-13	-48.98	-80.13	-65.53	4.85	10.55	H
	2798	-61.20	-13	-48.20	-80.58	-66.13	5.50	12.58	H
	1399	-54.31	-13	-41.31	-66.61	-57.54	3.98	9.36	V
	2098.5	-62.34	-13	-49.34	-80.28	-65.89	4.85	10.55	V
	2798	-60.38	-13	-47.38	-80.52	-65.31	5.50	12.58	V
LTE B30 BW 10MHz Lowest 1RB0,QPSK	4611.00	-58.95	-40	-18.95	-63.90	-65.20	6.45	12.70	H
	6916.50	-58.17	-40	-18.17	-65.67	-61.57	8.40	11.80	H
	9222.00	-58.15	-40	-18.15	-67.67	-60.50	9.65	12.00	H
	4611.00	-58.78	-40	-18.78	-63.86	-65.03	6.45	12.70	V
	6916.50	-57.25	-40	-17.25	-65.85	-60.65	8.40	11.80	V
	9222.00	-56.14	-40	-16.14	-67.89	-58.49	9.65	12.00	V
LTE B12 BW 10MHz Middle 1RB0,QPSK	1406	-58.81	-13	-45.81	-70.07	-62.06	4.00	9.40	H
	2109	-61.98	-13	-48.98	-80.13	-65.55	4.88	10.60	H
	2812	-61.01	-13	-48.01	-80.45	-65.94	5.52	12.60	H
	1406	-55.51	-13	-42.51	-67.83	-58.76	4.00	9.40	V
	2109	-62.22	-13	-49.22	-80.16	-65.79	4.88	10.60	V
	2812	-60.23	-13	-47.23	-80.48	-65.16	5.52	12.60	V
LTE B30 BW 10MHz Middle 1RB0,QPSK	4611.00	-58.36	-40	-18.36	-63.31	-64.61	6.45	12.70	H
	6916.50	-58.64	-40	-18.64	-66.14	-62.04	8.40	11.80	H
	9222.00	-58.26	-40	-18.26	-67.78	-60.61	9.65	12.00	H
	4611.00	-58.73	-40	-18.73	-63.81	-64.98	6.45	12.70	V
	6916.50	-57.46	-40	-17.46	-66.06	-60.86	8.40	11.80	V
	9222.00	-56.07	-40	-16.07	-67.82	-58.42	9.65	12.00	V
LTE B12 BW 10MHz Highest 1RB0,QPSK	1413	-59.00	-13	-46.00	-70.26	-62.17	4.10	9.42	H
	2119.5	-61.89	-13	-48.89	-80.12	-65.47	4.90	10.63	H
	2826	-60.96	-13	-47.96	-80.39	-65.88	5.55	12.62	H
	1413	-56.10	-13	-43.10	-68.42	-59.27	4.10	9.42	V
	2119.5	-61.94	-13	-48.94	-79.94	-65.52	4.90	10.63	V
	2826	-60.17	-13	-47.17	-80.41	-65.09	5.55	12.62	V
LTE B30 BW 10MHz Highest 1RB0,QPSK	4611.00	-58.73	-40	-18.73	-63.68	-64.98	6.45	12.70	H
	6916.50	-58.33	-40	-18.33	-65.83	-61.73	8.40	11.80	H
	9222.00	-58.11	-40	-18.11	-67.63	-60.46	9.65	12.00	H
	4611.00	-57.92	-40	-17.92	-63	-64.17	6.45	12.70	V
	6916.50	-57.02	-40	-17.02	-65.62	-60.42	8.40	11.80	V
	9222.00	-56.19	-40	-16.19	-67.94	-58.54	9.65	12.00	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_12A-66A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B12 BW 10MHz Lowest 1RB0,QPSK	1399	-65.19	-13	-52.19	-73.33	-68.42	3.98	9.36	H
	2098.5	-65.17	-13	-52.17	-74.75	-68.72	4.85	10.55	H
	2798	-64.22	-13	-51.22	-76.20	-69.15	5.50	12.58	H
	1399	-64.86	-13	-51.86	-73.06	-68.09	3.98	9.36	V
	2098.5	-65.37	-13	-52.37	-75.33	-68.92	4.85	10.55	V
	2798	-63.75	-13	-50.75	-75.97	-68.68	5.50	12.58	V
LTE B66 BW 20MHz Lowest 1RB0,QPSK	3422	-64.02	-13	-51.02	-76.28	-70.90	5.60	12.48	H
	5133	-62.34	-13	-49.34	-79.83	-68.02	7.10	12.78	H
	6844	-58.74	-13	-45.74	-79.19	-62.13	8.38	11.77	H
	3422	-61.87	-13	-48.87	-74.69	-68.75	5.60	12.48	V
	5133	-62.55	-13	-49.55	-79.98	-68.23	7.10	12.78	V
	6844	-54.61	-13	-41.61	-74.82	-58.00	8.38	11.77	V
LTE B12 BW 10MHz Middle 1RB0,QPSK	1406	-65.25	-13	-52.25	-73.33	-68.50	4.00	9.40	H
	2109	-65.03	-13	-52.03	-74.79	-68.60	4.88	10.60	H
	2812	-63.68	-13	-50.68	-75.70	-68.61	5.52	12.60	H
	1406	-65.27	-13	-52.27	-73.43	-68.52	4.00	9.40	V
	2109	-65.04	-13	-52.04	-75.17	-68.61	4.88	10.60	V
	2812	-63.45	-13	-50.45	-75.71	-68.38	5.52	12.60	V
LTE B66 BW 20MHz Middle 1RB0,QPSK	3472	-63.55	-13	-50.55	-76.37	-70.40	5.65	12.50	H
	5208	-62.50	-13	-49.50	-79.96	-68.17	7.13	12.80	H
	6944	-58.39	-13	-45.39	-79.30	-61.79	8.40	11.80	H
	3472	-60.15	-13	-47.15	-73.52	-67.00	5.65	12.50	V
	5208	-62.47	-13	-49.47	-79.88	-68.14	7.13	12.80	V
	6944	-55.40	-13	-42.40	-76.36	-58.80	8.40	11.80	V
LTE B12 BW 10MHz Highest 1RB0,QPSK	1413	-65.09	-13	-52.09	-73.09	-68.26	4.10	9.42	H
	2119.5	-65.43	-13	-52.43	-75.39	-69.01	4.90	10.63	H
	2826	-63.68	-13	-50.68	-75.74	-68.60	5.55	12.62	H
	1413	-64.92	-13	-51.92	-73.00	-68.09	4.10	9.42	V
	2119.5	-64.68	-13	-51.68	-75.01	-68.26	4.90	10.63	V
	2826	-63.40	-13	-50.40	-75.71	-68.32	5.55	12.62	V
LTE B66 BW 20MHz Highest 1RB0,QPSK	3522	-62.09	-13	-49.09	-75.49	-68.93	5.68	12.52	H
	5283	-62.99	-13	-49.99	-79.95	-68.66	7.15	12.82	H
	7044	-56.88	-13	-43.88	-78.21	-60.31	8.42	11.85	H
	3522	-58.75	-13	-45.75	-72.68	-65.59	5.68	12.52	V
	5283	-62.04	-13	-49.04	-79.05	-67.71	7.15	12.82	V
	7044	-57.21	-13	-44.21	-78.72	-60.64	8.42	11.85	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_13A-48A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B13 BW 10MHz Lowest 1RB0,QPSK	1555	-69.61	-13	-56.61	-62.41	-72.86	4.00	9.40	H
	2332.5	-65.33	-13	-52.33	-64.24	-68.90	4.88	10.60	H
	3110	-63.67	-13	-50.67	-64.27	-68.60	5.52	12.60	H
	1555	-68.39	-13	-55.39	-61.81	-71.64	4.00	9.40	V
	2332.5	-65.15	-13	-52.15	-64.34	-68.72	4.88	10.60	V
	3110	-62.07	-13	-49.07	-64.40	-67.00	5.52	12.60	V
LTE B48 BW 20MHz Lowest 1RB0,QPSK	7102.00	-57.35	-40	-17.35	-65.54	-60.68	8.25	11.58	H
	10653.00	-55.28	-40	-15.28	-68.16	-56.83	10.45	12.00	H
	14204.00	-54.08	-40	-14.08	-69.96	-55.79	11.74	13.45	H
	7102.00	-56.05	-40	-16.05	-65.4	-59.38	8.25	11.58	V
	10653.00	-52.48	-40	-12.48	-67.82	-54.03	10.45	12.00	V
	14204.00	-54.26	-40	-14.26	-69.53	-55.97	11.74	13.45	V
LTE B13 BW 10MHz Middle 1RB0,QPSK	1555	-69.53	-13	-56.53	-62.33	-72.78	4.00	9.40	H
	2332.5	-65.41	-13	-52.41	-64.32	-68.98	4.88	10.60	H
	3110	-63.85	-13	-50.85	-64.45	-68.78	5.52	12.60	H
	1555	-67.95	-13	-54.95	-61.37	-71.20	4.00	9.40	V
	2332.5	-64.93	-13	-51.93	-64.12	-68.50	4.88	10.60	V
	3110	-62.03	-13	-49.03	-64.36	-66.96	5.52	12.60	V
LTE B48 BW 20MHz Middle 1RB0,QPSK	7232.00	-56.93	-40	-16.93	-65.61	-60.23	8.30	11.60	H
	10848.00	-54.13	-40	-14.13	-67.84	-55.65	10.48	12.00	H
	14464.00	-53.45	-40	-13.45	-69.67	-55.15	11.80	13.50	H
	7232.00	-55.17	-40	-15.17	-65.58	-58.47	8.30	11.60	V
	10848.00	-52.72	-40	-12.72	-68.05	-54.24	10.48	12.00	V
	14464.00	-53.91	-40	-13.91	-69.72	-55.61	11.80	13.50	V
LTE B13 BW 10MHz Highest 1RB0,QPSK	1555	-69.53	-13	-56.53	-62.33	-72.78	4.00	9.40	H
	2332.5	-65.17	-13	-52.17	-64.08	-68.74	4.88	10.60	H
	3110	-63.89	-13	-50.89	-64.49	-68.82	5.52	12.60	H
	1555	-68.06	-13	-55.06	-61.48	-71.31	4.00	9.40	V
	2332.5	-64.92	-13	-51.92	-64.11	-68.49	4.88	10.60	V
	3110	-61.96	-13	-48.96	-64.29	-66.89	5.52	12.60	V
LTE B48 BW 20MHz Highest 1RB0,QPSK	7362.00	-57.67	-40	-17.67	-66.58	-60.97	8.32	11.62	H
	11043.00	-54.27	-40	-14.27	-68.65	-55.95	10.52	12.20	H
	14724.00	-53.31	-40	-13.31	-70.15	-55.01	11.85	13.55	H
	7362.00	-57.53	-40	-17.53	-66.8	-60.83	8.32	11.62	V
	11043.00	-53.23	-40	-13.23	-68.96	-54.91	10.52	12.20	V
	14724.00	-53.27	-40	-13.27	-70.20	-54.97	11.85	13.55	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_13A-66A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B13 BW 10MHz Lowest 1RB0,QPSK	1554.5	-66.81	-13	-53.81	-73.65	-70.04	3.98	9.36	H
	2331.75	-64.97	-13	-51.97	-75.78	-68.52	4.85	10.55	H
	3109	-63.64	-13	-50.64	-76.49	-68.57	5.50	12.58	H
	1554.5	-66.72	-13	-53.72	-73.76	-69.95	3.98	9.36	V
	2331.75	-64.57	-13	-51.57	-75.77	-68.12	4.85	10.55	V
	3109	-63.43	-13	-50.43	-76.78	-68.36	5.50	12.58	V
LTE B66 BW 20MHz Lowest 1RB0,QPSK	3422	-64.58	-13	-51.58	-76.84	-71.46	5.60	12.48	H
	5133	-62.74	-13	-49.74	-80.23	-68.42	7.10	12.78	H
	6844	-56.43	-13	-43.43	-76.88	-59.82	8.38	11.77	H
	3422	-64.37	-13	-51.37	-77.19	-71.25	5.60	12.48	V
	5133	-62.68	-13	-49.68	-80.11	-68.36	7.10	12.78	V
	6844	-59.13	-13	-46.13	-79.34	-62.52	8.38	11.77	V
LTE B13 BW 10MHz Middle 1RB0,QPSK	1559.5	-66.88	-42.15	-24.73	-73.66	-70.13	4.00	9.40	H
	2339.25	-64.94	-13	-51.94	-75.73	-68.51	4.88	10.60	H
	3119	-63.65	-13	-50.65	-76.54	-68.58	5.52	12.60	H
	1559.5	-66.52	-42.15	-24.37	-73.51	-69.77	4.00	9.40	V
	2339.25	-64.59	-13	-51.59	-75.77	-68.16	4.88	10.60	V
	3119	-63.11	-13	-50.11	-76.51	-68.04	5.52	12.60	V
LTE B66 BW 20MHz Middle 1RB0,QPSK	3472	-60.16	-13	-47.16	-72.98	-67.01	5.65	12.50	H
	5208	-62.95	-13	-49.95	-80.41	-68.62	7.13	12.80	H
	6944	-56.93	-13	-43.93	-77.84	-60.33	8.40	11.80	H
	3472	-63.59	-13	-50.59	-76.96	-70.44	5.65	12.50	V
	5208	-62.81	-13	-49.81	-80.22	-68.48	7.13	12.80	V
	6944	-58.56	-13	-45.56	-79.52	-61.96	8.40	11.80	V
LTE B13 BW 10MHz Highest 1RB0,QPSK	1564.5	-66.88	-42.15	-24.73	-73.60	-70.05	4.10	9.42	H
	2346.75	-65.13	-13	-52.13	-75.88	-68.71	4.90	10.63	H
	3129	-63.65	-13	-50.65	-76.57	-68.57	5.55	12.62	H
	1564.5	-66.52	-42.15	-24.37	-73.46	-69.69	4.10	9.42	V
	2346.75	-64.64	-13	-51.64	-75.78	-68.22	4.90	10.63	V
	3129	-63.16	-13	-50.16	-76.61	-68.08	5.55	12.62	V
LTE B66 BW 20MHz Highest 1RB0,QPSK	3522	-59.47	-13	-46.47	-72.87	-66.31	5.68	12.52	H
	5283	-62.78	-13	-49.78	-79.74	-68.45	7.15	12.82	H
	7044	-56.91	-13	-43.91	-78.24	-60.34	8.42	11.85	H
	3522	-62.63	-13	-49.63	-76.56	-69.47	5.68	12.52	V
	5283	-62.96	-13	-49.96	-79.97	-68.63	7.15	12.82	V
	7044	-57.08	-13	-44.08	-78.59	-60.51	8.42	11.85	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_14A-30A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B14 BW 10MHz Lowest 1RB0,QPSK	1576.5	-66.70	-42.15	-24.55	-78.53	-69.93	3.98	9.36	H
	2364.75	-60.96	-13	-47.96	-79.56	-64.51	4.85	10.55	H
	3153	-61.88	-13	-48.88	-62.61	-66.81	5.50	12.58	H
	1576.5	-66.02	-42.15	-23.87	-78.42	-69.25	3.98	9.36	V
	2364.75	-60.69	-13	-47.69	-79.75	-64.24	4.85	10.55	V
	3153	-60.12	-13	-47.12	-62.78	-65.05	5.50	12.58	V
LTE B30 BW 10MHz Lowest 1RB0,QPSK	4611.00	-59.04	-40	-19.04	-63.99	-65.29	6.45	12.70	H
	6916.50	-58.46	-40	-18.46	-65.96	-61.86	8.40	11.80	H
	9222.00	-58.47	-40	-18.47	-67.99	-60.82	9.65	12.00	H
	4611.00	-58.77	-40	-18.77	-63.85	-65.02	6.45	12.70	V
	6916.50	-57.38	-40	-17.38	-65.98	-60.78	8.40	11.80	V
	9222.00	-55.73	-40	-15.73	-67.48	-58.08	9.65	12.00	V
LTE B14 BW 10MHz Middle 1RB0,QPSK	1581.5	-66.05	-42.15	-23.90	-77.88	-69.30	4.00	9.40	H
	2372.25	-60.68	-13	-47.68	-79.28	-64.25	4.88	10.60	H
	3163	-62.18	-13	-49.18	-62.91	-67.11	5.52	12.60	H
	1581.5	-65.69	-42.15	-23.54	-78.09	-68.94	4.00	9.40	V
	2372.25	-60.13	-13	-47.13	-79.27	-63.70	4.88	10.60	V
	3163	-60.36	-13	-47.36	-63.02	-65.29	5.52	12.60	V
LTE B30 BW 10MHz Middle 1RB0,QPSK	4611.00	-59.14	-40	-19.14	-64.09	-65.39	6.45	12.70	H
	6916.50	-58.47	-40	-18.47	-65.97	-61.87	8.40	11.80	H
	9222.00	-58.36	-40	-18.36	-67.88	-60.71	9.65	12.00	H
	4611.00	-59.02	-40	-19.02	-64.1	-65.27	6.45	12.70	V
	6916.50	-57.27	-40	-17.27	-65.87	-60.67	8.40	11.80	V
	9222.00	-55.77	-40	-15.77	-67.52	-58.12	9.65	12.00	V
LTE B14 BW 10MHz Highest 1RB0,QPSK	1586.5	-66.63	-42.15	-24.48	-78.46	-69.80	4.10	9.42	H
	2379.75	-61.04	-13	-48.04	-79.64	-64.62	4.90	10.63	H
	3173	-62.02	-13	-49.02	-62.80	-66.94	5.55	12.62	H
	1586.5	-66.27	-42.15	-24.12	-78.67	-69.44	4.10	9.42	V
	2379.75	-60.49	-13	-47.49	-79.63	-64.07	4.90	10.63	V
	3173	-60.23	-13	-47.23	-63.00	-65.15	5.55	12.62	V
LTE B30 BW 10MHz Highest 1RB0,QPSK	4611.00	-59.01	-40	-19.01	-63.96	-65.26	6.45	12.70	H
	6916.50	-58.25	-40	-18.25	-65.75	-61.65	8.40	11.80	H
	9222.00	-58.48	-40	-18.48	-68.00	-60.83	9.65	12.00	H
	4611.00	-58.66	-40	-18.66	-63.74	-64.91	6.45	12.70	V
	6916.50	-56.65	-40	-16.65	-65.25	-60.05	8.40	11.80	V
	9222.00	-56.42	-40	-16.42	-68.17	-58.77	9.65	12.00	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_14A-66A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B14 BW 10MHz Lowest 1RB0,QPSK	1576.5	-67.22	-42.15	-25.07	-73.84	-70.45	3.98	9.36	H
	2364.75	-64.90	-13	-51.90	-75.57	-68.45	4.85	10.55	H
	3153	-63.98	-13	-50.98	-76.99	-68.91	5.50	12.58	H
	1576.5	-66.82	-42.15	-24.67	-73.67	-70.05	3.98	9.36	V
	2364.75	-64.58	-13	-51.58	-75.66	-68.13	4.85	10.55	V
	3153	-63.20	-13	-50.20	-76.77	-68.13	5.50	12.58	V
LTE B66 BW 20MHz Lowest 1RB0,QPSK	3422	-61.98	-13	-48.98	-74.24	-68.86	5.60	12.48	H
	5133	-62.32	-13	-49.32	-79.81	-68.00	7.10	12.78	H
	6844	-56.93	-13	-43.93	-77.38	-60.32	8.38	11.77	H
	3422	-63.89	-13	-50.89	-76.71	-70.77	5.60	12.48	V
	5133	-62.74	-13	-49.74	-80.17	-68.42	7.10	12.78	V
	6844	-58.13	-13	-45.13	-78.34	-61.52	8.38	11.77	V
LTE B14 BW 10MHz Middle 1RB0,QPSK	1581.5	-67.09	-42.15	-24.94	-73.65	-70.34	4.00	9.40	H
	2372.25	-64.71	-13	-51.71	-75.35	-68.28	4.88	10.60	H
	3163	-63.86	-13	-50.86	-76.91	-68.79	5.52	12.60	H
	1581.5	-66.76	-42.15	-24.61	-73.56	-70.01	4.00	9.40	V
	2372.25	-64.65	-13	-51.65	-75.69	-68.22	4.88	10.60	V
	3163	-63.07	-13	-50.07	-76.69	-68.00	5.52	12.60	V
LTE B66 BW 20MHz Middle 1RB0,QPSK	3472	-59.89	-13	-46.89	-72.71	-66.74	5.65	12.50	H
	5208	-62.82	-13	-49.82	-80.28	-68.49	7.13	12.80	H
	6944	-57.87	-13	-44.87	-78.78	-61.27	8.40	11.80	H
	3472	-63.76	-13	-50.76	-77.13	-70.61	5.65	12.50	V
	5208	-62.82	-13	-49.82	-80.23	-68.49	7.13	12.80	V
	6944	-58.61	-13	-45.61	-79.57	-62.01	8.40	11.80	V
LTE B14 BW 10MHz Highest 1RB0,QPSK	1586.5	-67.25	-42.15	-25.10	-73.76	-70.42	4.10	9.42	H
	2379.75	-64.75	-13	-51.75	-75.35	-68.33	4.90	10.63	H
	3173	-63.64	-13	-50.64	-76.73	-68.56	5.55	12.62	H
	1586.5	-67.07	-42.15	-24.92	-73.81	-70.24	4.10	9.42	V
	2379.75	-64.38	-13	-51.38	-75.39	-67.96	4.90	10.63	V
	3173	-63.21	-13	-50.21	-76.88	-68.13	5.55	12.62	V
LTE B66 BW 20MHz Highest 1RB0,QPSK	3522	-61.52	-13	-48.52	-74.92	-68.36	5.68	12.52	H
	5283	-62.46	-13	-49.46	-79.42	-68.13	7.15	12.82	H
	7044	-55.93	-13	-42.93	-77.26	-59.36	8.42	11.85	H
	3522	-63.55	-13	-50.55	-77.48	-70.39	5.68	12.52	V
	5283	-63.02	-13	-50.02	-80.03	-68.69	7.15	12.82	V
	7044	-57.62	-13	-44.62	-79.13	-61.05	8.42	11.85	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_25A-26A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B25 BW 20MHz Lowest 1RB0,QPSK	3702	-63.41	-13	-50.41	-77.95	-70.17	5.82	12.58	H
	5553	-63.08	-13	-50.08	-80.61	-68.80	7.28	13.00	H
	7404	-56.49	-13	-43.49	-79.20	-59.65	8.32	11.48	H
	3702	-63.32	-13	-50.32	-78.15	-70.08	5.82	12.58	V
	5553	-61.18	-13	-48.18	-78.76	-66.90	7.28	13.00	V
	7404	-56.43	-13	-43.43	-79.18	-59.59	8.32	11.48	V
LTE B26 BW 15MHz Lowest 1RB0,QPSK	1649.5	-67.96	-13	-54.96	-74.22	-71.19	3.98	9.36	H
	2474.25	-65.15	-13	-52.15	-75.50	-68.70	4.85	10.55	H
	3299	-64.96	-13	-51.96	-77.37	-69.89	5.50	12.58	H
	1649.5	-67.60	-13	-54.60	-73.74	-70.83	3.98	9.36	V
	2474.25	-64.66	-13	-51.66	-75.36	-68.21	4.85	10.55	V
	3299	-64.14	-13	-51.14	-77.00	-69.07	5.50	12.58	V
LTE B25 BW 20MHz Middle 1RB0,QPSK	3747	-63.50	-13	-50.50	-78.13	-70.25	5.85	12.60	H
	5620.5	-56.38	-13	-43.38	-74.11	-62.18	7.30	13.10	H
	7494	-56.95	-13	-43.95	-79.30	-60.10	8.35	11.50	H
	3747	-63.37	-13	-50.37	-78.21	-70.12	5.85	12.60	V
	5620.5	-53.11	-13	-40.11	-70.75	-58.91	7.30	13.10	V
	7494	-56.47	-13	-43.47	-78.74	-59.62	8.35	11.50	V
LTE B26 BW 15MHz Middle 1RB0,QPSK	1649.5	-67.72	-13	-54.72	-73.98	-70.97	4.00	9.40	H
	2474.25	-64.97	-13	-51.97	-75.32	-68.54	4.88	10.60	H
	3299	-64.87	-13	-51.87	-77.28	-69.80	5.52	12.60	H
	1649.5	-68.10	-13	-55.10	-74.24	-71.35	4.00	9.40	V
	2474.25	-64.26	-13	-51.26	-74.96	-67.83	4.88	10.60	V
	3299	-64.27	-13	-51.27	-77.13	-69.20	5.52	12.60	V
LTE B25 BW 20MHz Highest 1RB0,QPSK	3792	-63.06	-13	-50.06	-77.77	-69.80	5.88	12.62	H
	5688	-56.57	-13	-43.57	-74.49	-62.38	7.32	13.13	H
	7584	-56.81	-13	-43.81	-78.99	-59.97	8.38	11.54	H
	3792	-62.99	-13	-49.99	-77.82	-69.73	5.88	12.62	V
	5688	-56.10	-13	-43.10	-74.02	-61.91	7.32	13.13	V
	7584	-56.11	-13	-43.11	-78.08	-59.27	8.38	11.54	V
LTE B26 BW 15MHz Highest 1RB0,QPSK	1669.5	-68.04	-13	-55.04	-74.27	-71.21	4.10	9.42	H
	2504.25	-65.49	-13	-52.49	-75.75	-69.07	4.90	10.63	H
	3339	-65.41	-13	-52.41	-77.50	-70.33	5.55	12.62	H
	1669.5	-68.27	-13	-55.27	-74.24	-71.44	4.10	9.42	V
	2504.25	-64.95	-13	-51.95	-75.55	-68.53	4.90	10.63	V
	3339	-65.41	-13	-52.41	-77.89	-70.33	5.55	12.62	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_41A-42A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B41 BW 20MHz Lowest 1RB0,QPSK	4994.00	-63.20	-25	-38.20	-80.58	-68.76	7.12	12.68	H
	7491.00	-59.58	-25	-34.58	-56.74	-62.91	8.26	11.59	H
	9988.00	-55.32	-25	-30.32	-56.23	-56.85	10.45	11.98	H
	4994.00	-63.27	-25	-38.27	-80.58	-68.83	7.12	12.68	V
	7491.00	-59.85	-25	-34.85	-56.93	-63.18	8.26	11.59	V
	9988.00	-55.88	-25	-30.88	-56.2	-57.41	10.45	11.98	V
LTE B42 BW 20MHz Lowest 1RB0,QPSK	7102.00	-59.49	-40	-19.49	-55.61	-62.82	8.25	11.58	H
	10653.00	-53.93	-13	-40.93	-55.98	-55.48	10.45	12.00	H
	14204.00	-50.91	-40	-10.91	-57.58	-52.62	11.74	13.45	H
	7102.00	-59.47	-40	-19.47	-55.72	-62.80	8.25	11.58	V
	10653.00	-54.42	-40	-14.42	-56.34	-55.97	10.45	12.00	V
	14204.00	-51.50	-40	-11.50	-57.86	-53.21	11.74	13.45	V
LTE B41 BW 20MHz Middle 1RB0,QPSK	5168.00	-61.86	-25	-36.86	-79.38	-67.42	7.14	12.70	H
	7752.00	-59.39	-25	-34.39	-56.50	-62.69	8.30	11.60	H
	10336.00	-55.60	-25	-30.60	-56.71	-57.12	10.48	12.00	H
	5168.00	-61.89	-25	-36.89	-79.36	-67.45	7.14	12.70	V
	7752.00	-58.37	-25	-33.37	-55.45	-61.67	8.30	11.60	V
	10336.00	-55.86	-25	-30.86	-56.74	-57.38	10.48	12.00	V
LTE B42 BW 20MHz Middle 1RB0,QPSK	7132.00	-59.96	-40	-19.96	-56.22	-63.26	8.30	11.60	H
	10698.00	-54.27	-40	-14.27	-56.55	-55.79	10.48	12.00	H
	14264.00	-49.98	-40	-9.98	-56.80	-51.68	11.80	13.50	H
	7132.00	-59.55	-40	-19.55	-55.91	-62.85	8.30	11.60	V
	10698.00	-54.56	-40	-14.56	-56.68	-56.08	10.48	12.00	V
	14264.00	-50.91	-40	-10.91	-57.45	-52.61	11.80	13.50	V
LTE B41 BW 20MHz Highest 1RB0,QPSK	5342.00	-64.40	-25	-39.40	-81.35	-69.96	7.16	12.72	H
	8013.00	-58.68	-25	-33.68	-56.64	-61.98	8.33	11.63	H
	10684.00	-54.35	-25	-29.35	-56.57	-55.95	10.50	12.10	H
	5342.00	-63.03	-25	-38.03	-80.22	-68.59	7.16	12.72	V
	8013.00	-58.62	-25	-33.62	-56.64	-61.92	8.33	11.63	V
	10684.00	-54.62	-25	-29.62	-56.69	-56.22	10.50	12.10	V
LTE B42 BW 20MHz Highest 1RB0,QPSK	7162.00	-51.21	-40	-11.21	-47.61	-54.51	8.32	11.62	H
	10743.00	-54.20	-40	-14.20	-56.73	-55.88	10.52	12.20	H
	14324.00	-50.04	-40	-10.04	-57.03	-51.74	11.85	13.55	H
	7162.00	-53.17	-40	-13.17	-49.64	-56.47	8.32	11.62	V
	10743.00	-54.41	-40	-14.41	-56.76	-56.09	10.52	12.20	V
	14324.00	-50.13	-40	-10.13	-56.86	-51.83	11.85	13.55	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_48A-66A / Sample 1 & Monopole Antenna									
Channel	Frequency (MHz)	ERP/EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B48 BW 20MHz Lowest 1RB0,QPSK	7102.00	-57.42	-40	-17.42	-65.61	-60.75	8.25	11.58	H
	10653.00	-54.68	-40	-14.68	-67.56	-56.23	10.45	12.00	H
	14204.00	-53.45	-40	-13.45	-69.33	-55.16	11.74	13.45	H
	7102.00	-53.91	-40	-13.91	-63.26	-57.24	8.25	11.58	V
	10653.00	-52.31	-40	-12.31	-67.65	-53.86	10.45	12.00	V
	14204.00	-54.29	-40	-14.29	-69.56	-56.00	11.74	13.45	V
LTE B66 BW 20MHz Lowest 1RB0,QPSK	3422	-60.37	-13	-47.37	-61.62	-67.25	5.60	12.48	H
	5133	-59.35	-13	-46.35	-64.04	-65.03	7.10	12.78	H
	6844	-58.46	-13	-45.46	-65.76	-61.85	8.38	11.77	H
	3422	-60.88	-13	-47.88	-63.33	-67.76	5.60	12.48	V
	5133	-58.78	-13	-45.78	-64.21	-64.46	7.10	12.78	V
	6844	-56.05	-13	-43.05	-65.18	-59.44	8.38	11.77	V
LTE B48 BW 20MHz Middle 1RB0,QPSK	7232.00	-57.01	-40	-17.01	-65.69	-60.31	8.30	11.60	H
	10848.00	-54.43	-40	-14.43	-68.14	-55.95	10.48	12.00	H
	14464.00	-53.48	-40	-13.48	-69.70	-55.18	11.80	13.50	H
	7232.00	-54.88	-40	-14.88	-65.29	-58.18	8.30	11.60	V
	10848.00	-52.48	-40	-12.48	-67.81	-54.00	10.48	12.00	V
	14464.00	-53.84	-40	-13.84	-69.65	-55.54	11.80	13.50	V
LTE B66 BW 20MHz Middle 1RB0,QPSK	3472	-59.50	-13	-46.50	-62.14	-66.35	5.65	12.50	H
	5208	-58.63	-13	-45.63	-63.85	-64.30	7.13	12.80	H
	6944	-58.21	-13	-45.21	-65.82	-61.61	8.40	11.80	H
	3472	-60.21	-13	-47.21	-62.65	-67.06	5.65	12.50	V
	5208	-58.30	-13	-45.30	-63.69	-63.97	7.13	12.80	V
	6944	-56.99	-13	-43.99	-65.33	-60.39	8.40	11.80	V
LTE B48 BW 20MHz Highest 1RB0,QPSK	7362.00	-57.34	-40	-17.34	-66.25	-60.64	8.32	11.62	H
	11043.00	-54.28	-40	-14.28	-68.66	-55.96	10.52	12.20	H
	14724.00	-53.34	-40	-13.34	-70.18	-55.04	11.85	13.55	H
	7362.00	-57.17	-40	-17.17	-66.44	-60.47	8.32	11.62	V
	11043.00	-52.41	-40	-12.41	-68.14	-54.09	10.52	12.20	V
	14724.00	-52.95	-40	-12.95	-69.88	-54.65	11.85	13.55	V
LTE B66 BW 20MHz Highest 1RB0,QPSK	3522	-60.20	-13	-47.20	-63.23	-67.04	5.68	12.52	H
	5283	-58.91	-13	-45.91	-64.35	-64.58	7.15	12.82	H
	7044	-57.50	-13	-44.50	-65.48	-60.93	8.42	11.85	H
	3522	-60.30	-13	-47.30	-63.73	-67.14	5.68	12.52	V
	5283	-59.09	-13	-46.09	-64.32	-64.76	7.15	12.82	V
	7044	-57.23	-13	-44.23	-65.88	-60.66	8.42	11.85	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ULCA_41A-42A / Sample 2 & Monopole Antenna									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
LTE B41 BW 20MHz Middle 1RB0,QPSK	5168.00	-59.38	-25	-34.38	-64.31	-64.94	7.14	12.70	H
	7752.00	-57.49	-25	-32.49	-65.37	-60.79	8.30	11.60	H
	10336.00	-56.80	-25	-31.80	-68.79	-58.32	10.48	12.00	H
	5168.00	-59.65	-25	-34.65	-65.08	-65.21	7.14	12.70	V
	7132.00	-56.19	-25	-31.19	-65.39	-59.49	8.30	11.60	V
	10336.00	-55.22	-25	-30.22	-68.96	-56.74	10.48	12.00	V
LTE B42 BW 20MHz Middle 1RB0,QPSK	7132.00	-57.43	-40	-17.43	-65.76	-60.73	8.30	11.60	H
	10698.00	-55.15	-40	-15.15	-68.18	-56.67	10.48	12.00	H
	14264.00	-53.50	-40	-13.50	-69.45	-55.20	11.80	13.50	H
	7132.00	-56.19	-40	-16.19	-66	-59.49	8.30	11.60	V
	10698.00	-52.25	-40	-12.25	-67.77	-53.77	10.48	12.00	V
	14264.00	-54.45	-40	-14.45	-69.83	-56.15	11.80	13.50	V