



CTC Laboratories, Inc.

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TEST REPORT

Report No.: **CTC20210136E02**

FCC ID.....: **2AC88-GLMB20A01**

Applicant.....: **HONGKONG UCLOUDLINK NETWORK TECHNOLOGY LIMITED**

Address.....: Suite 603, 6/F, Laws Commercial Plaza, 788 Cheung Sha Wan Road, Kowloon, Hong Kong

Manufacturer.....: HONGKONG UCLOUDLINK NETWORK TECHNOLOGY LIMITED

Address.....: Suite 603, 6/F, Laws Commercial Plaza, 788 Cheung Sha Wan Road, Kowloon, Hong Kong

Product Name.....: **LTE Module**

Trade Mark.....: GlocalMe

Model/Type reference.....: SC20-A

Listed Model(s): N/A

Standard.....: **FCC CFR47 PART 22H, 24E, 27L AND 90S**

Date of receipt of test sample.: Feb. 02, 2020

Date of testing.....: Feb. 03, 2021 ~ Mar. 14, 2021

Date of issue.....: Mar. 15, 2021

Result.....: **PASS**

Compiled by:

(Printed name+signature) Terry Su

Supervised by:

(Printed name+signature) Miller Ma

Approved by:

(Printed name+signature) Walter Chen

Testing Laboratory Name...: CTC Laboratories, Inc.

Address.....: 1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

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1. SUMMARY

1.1. Test Standards

[FCC Rules Part 2](#): FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

[FCC Rules Part 22](#): PRIVATE LAND MOBILE RADIO SERVICES.

[FCC Rules Part 24](#): PUBLIC MOBILE SERVICES

[FCC Rules Part 27](#): MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

[FCC Rules Part 90S](#): Regulations Governing Licensing and Use of Frequencies in the 806-824, 851-869, 896-901, and 935-940 MHz Bands

[TIA/EIA 603 E March 2016](#): Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

[ANSI C63.26: 2015](#): American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services

[KDB 971168 D01 Power Meas License Digital Systems v03](#): MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS

[RSS-Gen Issue 5](#): General Requirements for Compliance of Radio Apparatus.

[RSS-132 Issue 3](#): Cellular Telephone Systems Operating in the Bands 824-849MHz and 869-894MHz.

[RSS-133 Issue 6](#): 2 GHz Personal Communications Services.

[RSS-139 Issue 3](#): Advanced Wireless Services (AWS) Equipment Operating in the Bands 1710-1780 MHz and 2110-2180 MHz.

1.2. Report version

Revised No.	Date of issue	Description
01	Mar. 15, 2021	Original



1.3. Test Description

Test Item	Section in CFR 47	RSS Rule	Result	Test Engineer
Conducted Output Power	Part 2.1046 Part 22.913(a) Part 24.232(c) Part 27.50	RSS-132(5.4) RSS-133(6.4) RSS-139(6.5)	N/A	N/A
Peak-to-Average Ratio	Part 24.232 Part 27.50	RSS-132(5.4) RSS-133(6.4)	N/A	N/A
99% Occupied Bandwidth & 26 dB Bandwidth	Part 2.1049 Part 22.917(b) Part 24.238(b) Part 27.53	RSS-GEN(6.6) RSS-133(6.5)	N/A	N/A
Band Edge	Part 2.1051 Part 22.917 Part 24.238 Part 27.53	RSS-132(5.5) RSS-133(6.5)	N/A	N/A
Conducted Spurious Emissions	Part 2.1051 Part 22.917 Part 24.238 Part 27.53	RSS-132(5.5) RSS-133(6.5) RSS-139(6.6)	N/A	N/A
Frequency stability vs temperature	Part 2.1055(a)(1)(b) Part 22.355 Part 24.235 Part 27.54	RSS-GEN(6.11) RSS-132(5.3) RSS-139(6.4)	N/A	N/A
Frequency stability vs voltage	Part 2.1055(d)(1)(2) Part 22.355 Part 24.235 Part 27.54	RSS-GEN(6.11) RSS-132(5.3) RSS-139(6.4)	N/A	N/A
ERP and EIRP	Part 22.913(a) Part 24.232(b) Part 27.50	RSS-132(5.4) RSS-133(6.4) RSS-139(6.5)	Pass	Rod Luo
Radiated Spurious Emissions	Part 2.1053 Part 22.917 Part 24.238 Part 27.53	RSS-132(5.5) RSS-133(6.5) RSS-139(6.6)	Pass	Rod Luo

Note: The measurement uncertainty is not included in the test result.

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, Part 22, Part 24, Part 27, and Part 90, FCC KDB 971168 D01 v03r01/ D02 v02r01, KDB 412172 D01 v01r01, ANSI C63.26:2015, IC RSS-132, RSS-133 and RSS-139.

The antenna was replaced, Only test item for Radiated Spurious Emissions and ERP or EIRP test was performed for this report. For other test data, Refer to report number: FG741007A.



1.4. Test Facility

Address of the report laboratory

CTC Laboratories, Inc.

Add: 1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Laboratory accreditation

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

CNAS-Lab Code: L5365

CTC Laboratories, Inc. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025:2017 General Requirements) the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No.: 4340.01

CTC Laboratories, Inc. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

Industry Canada (Registration No.: 9783A, CAB Identifier: CN0029)

CTC Laboratories, Inc. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration NO.: 9783A on Jan, 2016.

FCC (Registration No.: 951311, Designation Number CN1208)

CTC Laboratories, Inc. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 951311, Aug 26, 2017.

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1.5. Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the CTC Laboratories, Inc. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for General Testing & Inspection laboratory is reported:

Test Items	Measurement Uncertainty	Notes
Frequency stability	25 Hz	(1)
Transmitter power conducted	0.57 dB	(1)
Transmitter power Radiated	2.20 dB	(1)
Conducted spurious emission 9KHz-12.75 GHz	1.60 dB	(1)
Conducted Emission 9KHz-30MHz	3.39 dB	(1)
Radiated Emission 30~1000MHz	4.24 dB	(1)
Radiated Emission 1~18GHz	5.16 dB	(1)
Radiated Emission 18-40GHz	5.54 dB	(1)
Occupied Bandwidth	-----	(1)
Emission Mask	-----	(1)
Modulation Characteristic	-----	(1)
Transmitter Frequency Behavior	-----	(1)

Note: (1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

1.6. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature:	20°C-25°C
Relative Humidity:	50 %-55 %
Air Pressure:	101kPa



2. GENERAL INFORMATION

2.1. Client Information

Applicant:	HONGKONG UCLOUDLINK NETWORK TECHNOLOGY LIMITED
Address:	Suite 603, 6/F, Laws Commercial Plaza, 788 Cheung Sha Wan Road, Kowloon, Hong Kong
Manufacturer:	HONGKONG UCLOUDLINK NETWORK TECHNOLOGY LIMITED
Address:	Suite 603, 6/F, Laws Commercial Plaza, 788 Cheung Sha Wan Road, Kowloon, Hong Kong
Factory:	Shenzhen uCloudlink Network Technology Co., Ltd.
Address:	3rd Floor, A part of Building 1, Shenzhen Software Industry Base, Nanshan District Xuefu Road, 518057 Shenzhen City, Guangdong, China

CTC Laboratories, Inc.

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2.2. General Description of EUT

Product Name:	LTE Module
Trade Mark:	GlocalMe
Model/Type reference:	SC20-A
Listed Model(s):	N/A
Hardware version:	R1.0
Software version:	SC20ASAR04A03H8G
GSM	
Operation Band:	GSM850: UL: 824.2MHz~848.8MHz, DL: 869.2MHz~893.8MHz PCS1900: UL: 1850.2MHz~1909.8, DL: 1930.2MHz~1989.8MHz
Supported Type:	GPRS/EGPRS
Modulation Type:	GMSK for GPRS, 8PSK for EGPRS
Antenna Type:	FPC Antenna
Antenna Gain:	Main Antenna: GPRS/EDGE850: 2.18dBi Max GPRS/EDGE1900: 3.49dBi Max
WCDMA	
Operation Band:	Band II: UL: 1852.4MHz~1907.6MHz, DL: 1932.4MHz~1987.6MHz Band IV: UL: 1712.4MHz~1752.6MHz, DL: 2112.4MHz~2152.6MHz Band V: UL: 826.4MHz~846.6MHz, DL: 871.4MHz~891.6MHz
Modulation Type:	QPSK for WCDMA/HSUPA/HSDPA
Antenna Type:	FPC Antenna
Antenna Gain:	Main Antenna: WCDMA II: 3.49dBi Max WCDMA IV: 4.95dBi Max WCDMA V: 2.20dBi Max



2.3. Description of Test Modes and Test Frequency

The EUT has been tested under typical operating condition. The CMW500 used to control the EUT staying in continuous transmitting and receiving mode for testing.

Test Frequency:

GSM 850		PCS 1900	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
128	824.20	512	1850.20
190	836.60	661	1880.00
251	848.80	810	1909.80

WCDMA Band II		WCDMA Band IV		WCDMA Band V	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
9262	1852.40	1312	1712.40	4132	826.40
9400	1880.00	1413	1732.60	4183	836.60
9538	1907.60	1513	1752.60	4233	846.60



2.4. Measurement Instruments List

Output Power (Radiated) & Radiated Spurious Emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	EMI Test Receiver	R&S	ESCI	100967	Dec. 25, 2021
2	High pass filter	Compliance Direction systems	BSU-6	34202	Dec. 25, 2021
3	Log-Bicon Antenna	Schwarzbeck	CBL6141A	4180	Dec. 25, 2021
4	Log-Bicon Antenna	Schwarzbeck	CBL6141A	4181	Dec. 25, 2021
5	Spectrum Analyzer	HP	8563E	02052	Dec. 25, 2021
6	Horn Antenna	Schwarzbeck	BBHA 9120D	648	Dec. 25, 2021
7	Horn Antenna	Schwarzbeck	BBHA 9120D	649	Dec. 25, 2021
8	Ultra-Broadband Antenna	ShwarzBeck	BBHA9170	25841	Dec. 25, 2021
9	Ultra-Broadband Antenna	ShwarzBeck	BBHA9170	25842	Dec. 25, 2021
10	Pre-Amplifier	HP	8447D	1937A03050	Dec. 25, 2021
11	Pre-Amplifier	EMCI	EMC051835	980075	Dec. 25, 2021
12	Splitter	Mini-Circuit	ZAPD-4	400059	Dec. 25, 2021
13	Signal Generator	Agilent	N5182A	1019356	Dec. 25, 2021
14	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	116410	Dec. 25, 2021
15	Antenna Mast	UC	UC3000	N/A	N/A
16	Antenna mast	MATURO	TAM-4.0-P	N/A	N/A
17	Turn Table	UC	UC3000	N/A	N/A
18	Cable Below 1GHz	Schwarzbeck	AK9515E	33155	Dec. 25, 2021
19	Cable Above 1GHz	Hubersuhner	SUCOFLEX102	DA1580	Dec. 25, 2021

Output Power(Conducted) & Occupied Bandwidth & Emission Bandwidth & Band Edge Compliance & Conducted Spurious Emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	116410	Dec. 25, 2021
2	Spectrum Analyzer	Rohde & Schwarz	FSU	100105	Dec. 25, 2021
3	Spectrum Analyzer	Rohde & Schwarz	FUV40-N	101331	Mar. 15, 2021
4	Splitter	Mini-Circuit	ZAPD-4	400059	Dec. 25, 2021
5	RF Connection Cable	HUBER+SUHNER	RE-7-FL	N/A	Dec. 25, 2021
6	RF Connection Cable	Chengdu E-Microwave	---	---	Dec. 25, 2021
7	Attenuator	Chengdu E-Microwave	EMCAXX-10RN Z-3	---	Dec. 25, 2021

Frequency Stability					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	116410	Dec. 25, 2021
2	Spectrum Analyzer	Rohde & Schwarz	FSU	100105	Dec. 25, 2021

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3	Spectrum Analyzer	Rohde & Schwarz	FUV40-N	101331	Mar. 15, 2021
4	Splitter	Mini-Circuit	ZAPD-4	400059	Dec. 25, 2021
5	Climate Chamber	ESPEC	EL-10KA	05107008	Dec. 25, 2021

Note: 1. The Cal. Interval was one year.

2. The cable loss has calculated in test result which connection between each test instruments.

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3. TEST ITEM AND RESULTS

3.1. Radiated Power Measurement

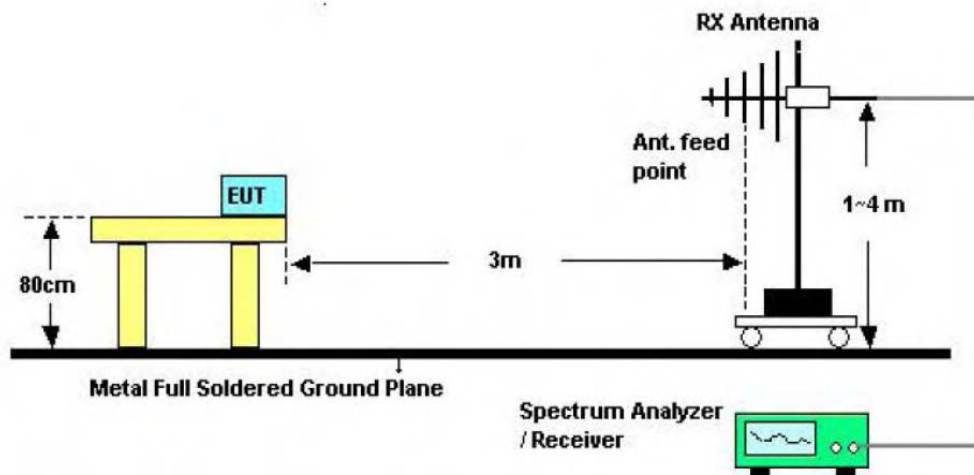
LIMIT

FCC: §2.1046, §22.913, §24.232, §27.50 and §90.635

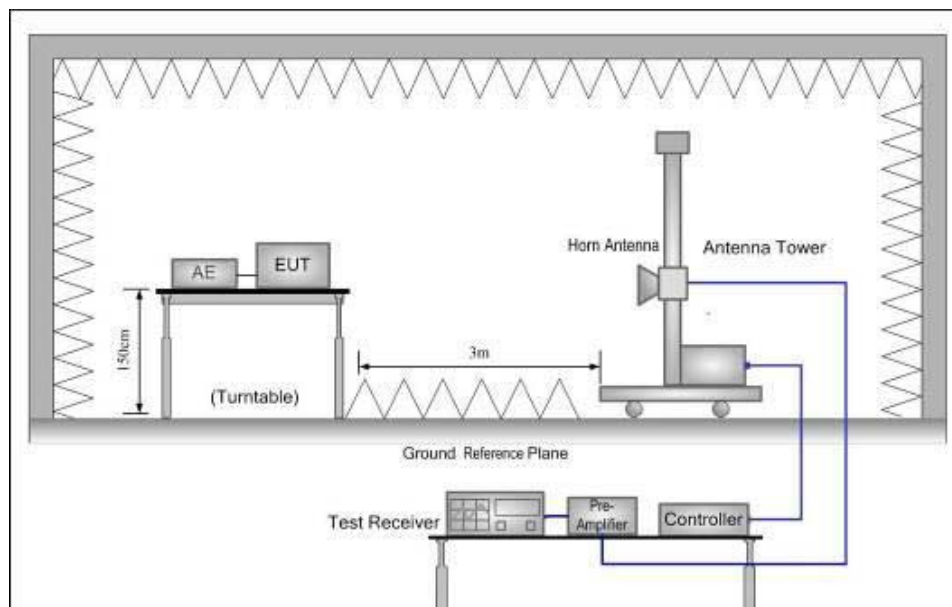
IC: RSS132§5.4; RSS133§6.4 and RSS139§6.5.

TEST CONFIGURATION

For the actual test configuration, please refer to the related Item – EUT Test Photos.



Below 1GHz



Above 1GHz

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TEST PROCEDURE

1. EUT was placed on a 1.50 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.50m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.
2. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
3. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=1MHz, VBW=3MHz, and the maximum value of the receiver should be recorded as (Pr).
4. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjusts the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
5. An amplifier should be connected to the Signal Source output port. And the cable should be connecting between the Amplifier and the Substitution Antenna. The cable loss (Pcl), the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
6. The measurement results are obtained as described below:
$$\text{Power(EIRP)} = \text{PMea} - \text{PAg} - \text{Pcl} + \text{Ga}$$

We used N5182A microwave signal generator which signal level can up to 33dBm, so we not used power Amplifier for substitution test; The measurement results are amend as described below:
$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
7. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.
ERP can be calculated from EIRP by subtracting the gain of the dipole, $\text{ERP} = \text{EIRP} - 2.15\text{dBi}$.

TEST RESULTS

Remark:

1. By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "X axis" position was the worst, and test data recorded in this report.



Measurement Data (worst case) :

Mode	Channel	Antenna Pol.	ERP	Limit (dBm)	Result
GPRS850	128	V	32.52	38.45	Pass
		H	27.75		
	190	V	33.52		
		H	25.69		
	251	V	31.38		
		H	27.49		
EGPRS850	128	V	31.62	38.45	Pass
		H	25.12		
	190	V	31.81		
		H	25.06		
	251	V	31.18		
		H	25.46		

Mode	Channel	Antenna Pol.	ERIP	Limit (dBm)	Result
GPRS1900	512	V	29.45	33.00	Pass
		H	25.34		
	661	V	29.82		
		H	24.52		
	810	V	28.82		
		H	24.21		
EGPRS1900	512	V	28.79	33.00	Pass
		H	24.02		
	661	V	29.09		
		H	24.21		
	810	V	29.19		
		H	25.46		



Mode	Channel	Antenna Pol.	EIRP	Limit (dBm)	Result
WCDMA Band II (QPSK)	9262	V	27.78	33.00	Pass
		H	24.34		
	9400	V	27.25		
		H	24.65		
	9538	V	27.81		
		H	24.42		

Mode	Channel	Antenna Pol.	EIRP	Limit (dBm)	Result
WCDMA Band IV (QPSK)	1312	V	27.90	33.00	Pass
		H	23.86		
	1413	V	27.40		
		H	23.39		
	1513	V	27.11		
		H	23.67		

Mode	Channel	Antenna Pol.	ERP	Limit (dBm)	Result
WCDMA Band V (QPSK)	4132	V	26.16	38.45	Pass
		H	23.50		
	4183	V	26.31		
		H	23.69		
	4233	V	26.79		
		H	23.45		

3.2. Radiated Spurious Emission

LIMIT

FCC: §22.917(a), §24.238(a), §27.53 (h), §90.691

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

RSS132§5.5

Mobile and base station equipment shall comply with the limits in (i) and (ii) below.

(i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$ (watts).

(ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$ (watts). If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

RSS133§6.5

Equipment shall comply with the limits in (i) and (ii) below.

(i) In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$ (watts).

(ii) After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$ (watts). If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required.

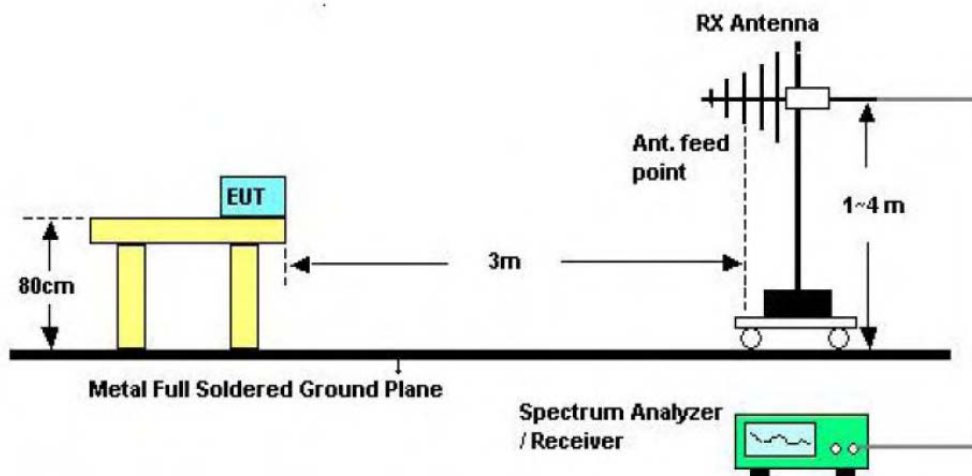
RSS139§6.6

(i) In the first 1.0 MHz bands immediately outside and adjacent to the equipment's smallest operating frequency block, Footnote 2 which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least $43 + 10 \log_{10} p$ (watts) dB.

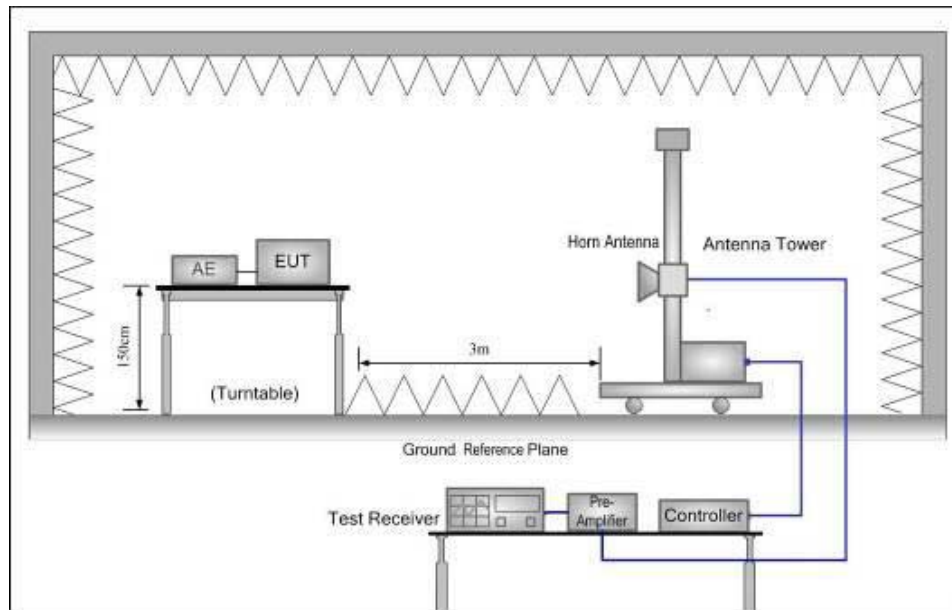
(ii) After the first 1.0 MHz outside the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least $43 + 10 \log_{10} p$ (watts) dB.

TEST CONFIGURATION

For the actual test configuration, please refer to the related Item – EUT Test Photos.



Below 1GHz



Above 1GHz

TEST PROCEDURE

1. EUT was placed on a 1.50 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.50m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.
2. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
3. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=1MHz, VBW=3MHz, and the maximum value of the receiver should be recorded as (Pr).
4. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjusts the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
5. An amplifier should be connected to the Signal Source output port. And the cable should be connecting between the Amplifier and the Substitution Antenna. The cable loss (Pcl), the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
6. The measurement results are obtained as described below:

$$\text{Power(EIRP)} = \text{PMea} - \text{PAg} - \text{Pcl} + \text{Ga}$$



We used SMF100A microwave signal generator which signal level can up to 33dBm,so we not used power Amplifier for substitution test; The measurement results are amend as described below:

$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$

7. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15dBi) and known input power.

ERP can be calculated from EIRP by subtracting the gain of the dipole, $\text{ERP} = \text{EIRP} - 2.15\text{dBi}$.

8. Test frequency range should extend to 10th harmonic of highest fundamental frequency.

TEST RESULTS

Remark:

1. By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "Z axis" position was the worst, and test data recorded in this report.



GPRS 850					
Channel	Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
		Polarization	Level (dBm)		
128	1648.8	Vertical	-35.46	-13.00	Pass
	2473.2	Vertical	-48.77		
	1648.8	Horizontal	-45.72		
	2473.2	Horizontal	-51.75		
190	1673.2	Vertical	-40.98		
	2509.8	Vertical	-47.24		
	1673.2	Horizontal	-43.49		
	2509.8	Horizontal	-54.25		
251	1697.6	Vertical	-35.57		
	2546.4	Vertical	-42.05		
	1697.6	Horizontal	-41.22		
	2546.4	Horizontal	-48.53		

EGPRS 850					
Channel	Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
		Polarization	Level (dBm)		
128	1648.8	Vertical	-36.29	-13.00	Pass
	2473.2	Vertical	-49.78		
	1648.8	Horizontal	-49.27		
	2473.2	Horizontal	-51.71		
190	1673.2	Vertical	-40.13		
	2509.8	Vertical	-45.62		
	1673.2	Horizontal	-42.58		
	2509.8	Horizontal	-52.54		
251	1697.6	Vertical	-34.32		
	2546.4	Vertical	-40.11		
	1697.6	Horizontal	-44.13		
	2546.4	Horizontal	-46.92		

Remark :

1. The emission levels of below 1 GHz are very lower than the limit above 10dB and not show in test report.

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GPRS 1900					
Channel	Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
		Polarization	Level (dBm)		
512	3700.4	Vertical	-46.66	-13.00	Pass
	5550.6	Vertical	-49.12		
	3700.4	Horizontal	-52.56		
	5550.6	Horizontal	-54.37		
661	3760	Vertical	-46.08		
	5640	Vertical	-50.92		
	3760	Horizontal	-45.13		
	5640	Horizontal	-55.49		
810	3819.6	Vertical	-38.73		
	5729.4	Vertical	-46.77		
	3819.6	Horizontal	-47.44		
	5729.4	Horizontal	-51.88		

EGPRS 1900					
Channel	Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
		Polarization	Level (dBm)		
512	3700.4	Vertical	-43.35	-13.00	Pass
	5550.6	Vertical	-50.23		
	3700.4	Horizontal	-51.84		
	5550.6	Horizontal	-54.04		
661	3760	Vertical	-45.31		
	5640	Vertical	-53.17		
	3760	Horizontal	-44.47		
	5640	Horizontal	-54.41		
810	3819.6	Vertical	-36.17		
	5729.4	Vertical	-42.14		
	3819.6	Horizontal	-44.13		
	5729.4	Horizontal	-50.29		

Remark :

1. The emission levels of below 1 GHz are very lower than the limit above 10dB and not show in test report.

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WCDMA Band II									
Channel	Frequency (MHz)	Spurious Emission		Limit (dBm)	Result				
		Polarization	Level (dBm)						
9262	3705.20	Vertical	-44.65	-13.00	Pass				
	5557.80	Vertical	-55.62						
	3705.20	Horizontal	-47.98						
	5557.80	Horizontal	-54.06						
9400	3760.00	Vertical	-50.07			-13.00	Pass		
	5640.00	Vertical	-55.19						
	3760.00	Horizontal	-51.08						
	5640.00	Horizontal	-51.68						
9538	3814.80	Vertical	-53.41					-13.00	Pass
	5722.20	Vertical	-55.65						
	3814.80	Horizontal	-51.01						
	5722.20	Horizontal	-52.28						

Remark :

1. The emission levels of below 1 GHz are very lower than the limit above 10dB and not show in test report.

WCDMA Band IV									
Channel	Frequency (MHz)	Spurious Emission		Limit (dBm)	Result				
		Polarization	Level (dBm)						
1312	3425.20	Vertical	-41.74	-13.00	Pass				
	5137.80	Vertical	-53.30						
	3425.20	Horizontal	-47.76						
	5137.80	Horizontal	-54.16						
1413	3465.20	Vertical	-40.89			-13.00	Pass		
	5197.80	Vertical	-53.27						
	3465.20	Horizontal	-42.03						
	5197.80	Horizontal	-50.97						
1513	3504.80	Vertical	-41.25					-13.00	Pass
	5257.20	Vertical	-54.69						
	3504.80	Horizontal	-40.70						
	5257.20	Horizontal	-48.76						

Remark :

1. The emission levels of below 1 GHz are very lower than the limit above 10dB and not show in test report.

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WCDMA Band V									
Channel	Frequency (MHz)	Spurious Emission		Limit (dBm)	Result				
		Polarization	Level (dBm)						
4132	1653.20	Vertical	-41.06	-13.00	Pass				
	2479.80	Vertical	-51.90						
	1653.20	Horizontal	-48.32						
	2479.80	Horizontal	-54.64						
4183	1672.80	Vertical	-44.08			-13.00	Pass		
	2509.20	Vertical	-54.34						
	1672.80	Horizontal	-45.14						
	2509.20	Horizontal	-54.05						
4233	1692.80	Vertical	-38.48					-13.00	Pass
	2539.20	Vertical	-54.70						
	1692.80	Horizontal	-44.68						
	2539.20	Horizontal	-53.99						

Remark :

1. The emission levels of below 1 GHz are very lower than the limit above 10dB and not show in test report.

*****THE END*****