



FCC RADIO TEST REPORT

FCC ID : AK8VTG100
Equipment : Visilion Tracker G100
Brand Name : Sony Group Corporation
Applicant : Sony Group Corporation
1-7-1 Konan Minato-ku, Tokyo, 108-0075 Japan
Manufacturer : Sony Network Communications Europe B.V.
Taurusavenue 16, 2132LS Hoofddorp, Netherlands
Standard : FCC 47 CFR Part 2, 22(H), 24(E), 27

The product was received on Apr. 16, 2021 and testing was started from May 13, 2021 and completed on May 29, 2021. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The test results in this partial report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issued Date
FG140729-02B	01	Initial issue of report	Aug. 13, 2021

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Reporting only	-
	§22.913 (a)(5)	Effective Radiated Power (Band 5) (Band 26)	Pass	
	§27.50 (b)(10) §27.50 (c)(10)	Effective Radiated Power (Band 12) (Band 13)		
	§24.232 (c)	Equivalent Isotropic Radiated Power (Band 2)		
	§27.50 (d)(4)	Equivalent Isotropic Radiated Power (Band 4)		
-	§24.232 (d) §27.50 (d)(5)	Peak-to-Average Ratio	-	See Note
-	§2.1049	Occupied Bandwidth	-	See Note
-	§2.1051 §22.917 (a) §24.238 (a) §27.53 (c)(2)(4) §27.53 (g) §27.53 (h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 26)	-	See Note
-	§2.1051 §22.917 (a) §24.238 (a) §27.53 (c)(2) §27.53 (g) §27.53 (h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 26)	-	See Note
-	§2.1055 §22.355 §24.235 §27.54	Frequency Stability Temperature & Voltage	-	See Note



Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
4.2	§2.1053 §22.917 (a) §24.238 (a) §27.53 (c)(2) §27.53 (f) §27.53 (g) §27.53 (h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 26)	Pass	Under limit 11.48 dB at 1560.000 MHz

Note: The module (Model: BG95-M3) makes no difference after verifying output power, this report reuses test data from the module report.

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Keven Cheng

Report Producer: Vivian Hsu



1 General Description

1.1 Product Feature of Equipment Under Test

GSM/LTE, Bluetooth - LE and GNSS.

Product Specification subjective to this standard	
Antenna Type	PIFA Antenna
Antenna Gain	LTE Band 2: 2.82 dBi LTE Band 4: 2.85 dBi LTE Band 5: -0.70 dBi LTE Band 12: -2.99 dBi LTE Band 13: -1.35 dBi LTE Band 26: -0.90 dBi

Remark: The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.

EUT Information List			
HW Version	SW Version	IMEI	Performed Test Item
0B	0.0.0	867730050909229	Conducted Measurement
	1.11-fac	864475047644835	Radiated Spurious Emission
	0.0.0	867730050909229	ERP/EIRP Test

Accessory List	
AC Adapter	Model Name : UCH32
	S/N : 6218W30200191
USB Cable	Model Name : UCB24
	S/N : N/A

Note:

1. Above EUT list used are electrically identical per declared by manufacturer.
2. Above the accessories list are used to exercise the EUT during test, and the serial number of each type of accessories is listed in each section of this report. .
3. For other wireless features of this EUT, test report will be issued separately.

1.2 Modification of EUT

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



1.3 Emission Designator

LTE Band 2		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1850.7~1909.3	-	-	0.2168	-	-	0.1795
3	1851.5~1908.5	-	-	0.2143	-	-	0.1950
5	1852.5~1907.5	-	-	0.2070	-	-	0.2009
10	1855.0~1905.0	-	-	0.2061	-	-	0.2014
15	1857.5~1902.5	-	-	0.2113	-	-	0.2028
20	1860.0~1900.0	-	-	0.2104	-	-	0.2014
LTE Band 4		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1710.7~1754.3	-	-	0.2535	-	-	0.2317
3	1711.5~1753.5	-	-	0.2535	-	-	0.2360
5	1712.5~1752.5	-	-	0.2535	-	-	0.2529
10	1715.0~1750.0	-	-	0.2506	-	-	0.2432
15	1717.5~1747.5	-	-	0.2455	-	-	0.2460
20	1720.0~1745.0	-	-	0.2432	-	-	0.2438
LTE Band 5		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	824.7~848.3	-	-	0.0687	-	-	0.0530
3	825.5~847.5	-	-	0.0681	-	-	0.0525
5	826.5~846.5	-	-	0.0665	-	-	0.0640
10	829.0~844.0	-	-	0.0632	-	-	0.0653
LTE Band 12		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	699.7~715.3	-	-	0.0299	-	-	0.0256
3	700.5~714.5	-	-	0.0301	-	-	0.0251
5	701.5~713.5	-	-	0.0298	-	-	0.0282
10	704.0~711.0	-	-	0.0294	-	-	0.0304
LTE Band 13		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
5	779.5 ~ 784.5	-	-	0.0281	-	-	0.0272
10	782.0	-	-	0.0274	-	-	0.0284



LTE Band 26		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	824.7~848.3	-	-	0.0352	-	-	0.0279
3	825.5~847.5	-	-	0.0350	-	-	0.0285
5	826.5~846.5	-	-	0.0324	-	-	0.0325
10	829.0~844.0	-	-	0.0326	-	-	0.0345
15	831.5~841.5	-	-	0.0333	-	-	0.0340

1.4 Testing Location

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	Sporton Site No. TH03-HY
Test Engineer	Benjamin Lin
Temperature	23.2~25.1℃
Relative Humidity	49.9~52.4%

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No. 03CH12-HY (TAF Code: 3786)
Test Engineer	Jack Cheng, Lance Chiang and Chuan Chu
Temperature	22.5~26.8℃
Relative Humidity	54.6~66.8%
Remark	The Radiated Spurious Emissions test item subcontracted to Sporton International Inc. Wensan Laboratory.

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: TW1190 and TW3786



1.5 Applicable Standards

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

- ♦ ANSI C63.26-2015
- ♦ ANSI / TIA-603-E
- ♦ FCC 47 CFR Part 2, 22(H), 24(E), 27
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- ♦ FCC KDB 414788 D01 Radiated Test Site 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.
3. The TAF code is not including all the FCC KDB listed without accreditation.



2 Test Configuration of Equipment Under Test

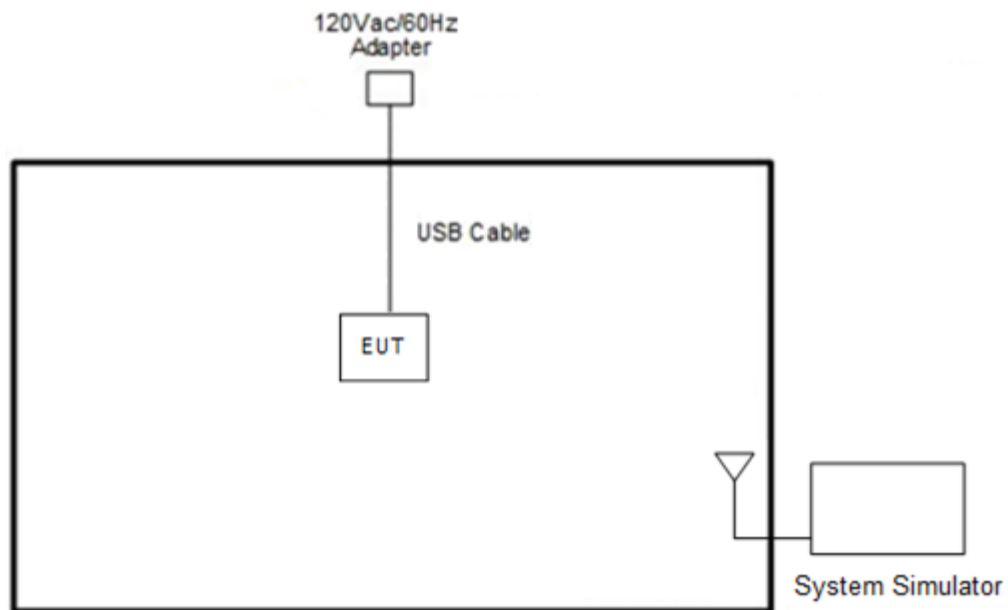
2.1 Test Mode

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.

The measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.26 exploratory test procedures and find X Plane for LTE Band 2, 5; Y Plane for LTE Band 4, 12, 13, 26 as worst plane.

Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	2	v	v	v	v	v	v	v	v	-	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	-	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	-	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	-	v	v	v	v	v	v
	13	-	-	v	v	-	-	v	v	-	v	v	v	v	v	v
	26	v	v	v	v	v	-	v	v	-	v	v	v	v	v	v
E.R.P / E.I.R.P	2	v	v	v	v	v	v	v	v	-	Max. Power					
	4	v	v	v	v	v	v	v	v	-	Max. Power					
	5	v	v	v	v	-	-	v	v	-	Max. Power					
	12	v	v	v	v	-	-	v	v	-	Max. Power					
	13	-	-	v	v	-	-	v	v	-	Max. Power					
	26	v	v	v	v	v	-	v	v	-	Max. Power					
Radiated Spurious Emission	2						v	v		-	v			v	v	v
	4						v	v		-	v			v	v	v
	5				v	-	-	v		-	v			v	v	v
	12				v	-	-	v		-	v			v	v	v
	13	-	-	v	v	-	-	v		-	v			v	v	v
	26					v	-	v		-	v			v	v	v
Remark	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	Brand Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m



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 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 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	829.0	836.5	844.0
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

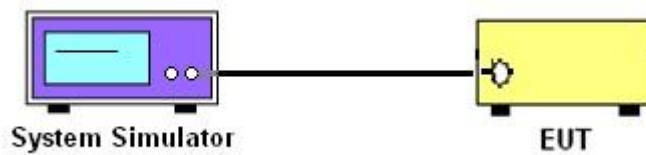
3 Conducted Test Items

3.1 Measuring Instruments

See list of measuring instruments of this test report.

3.1.1 Test Setup

3.1.2 Conducted Output Power



3.1.3 Test Result of Conducted Test

Please refer to Appendix A.

3.2 Conducted Output Power and ERP/EIRP

3.2.1 Description of the Conducted Output Power Measurement and ERP/EIRP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 7 Watts for LTE Band 5 and Band 26

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12 and Band 13

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2

The EIRP of mobile transmitters must not exceed 1 Watts for LTE Band 4

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$, $ERP = EIRP - 2.15$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.2.2 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through the system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.

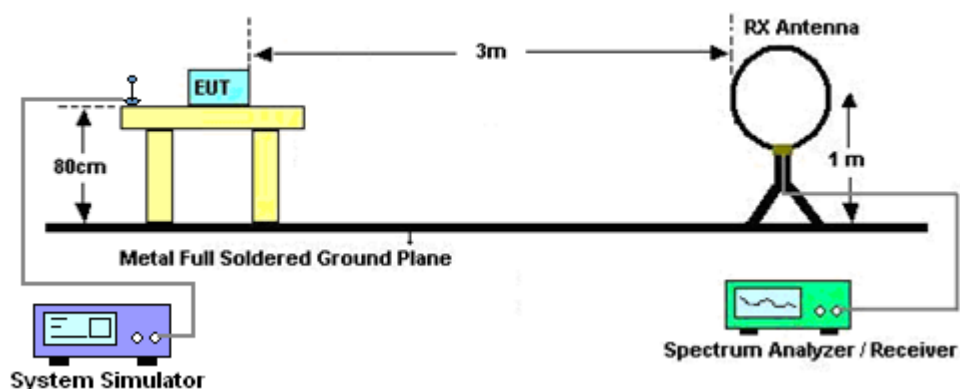
4 Radiated Test Items

4.1 Measuring Instruments

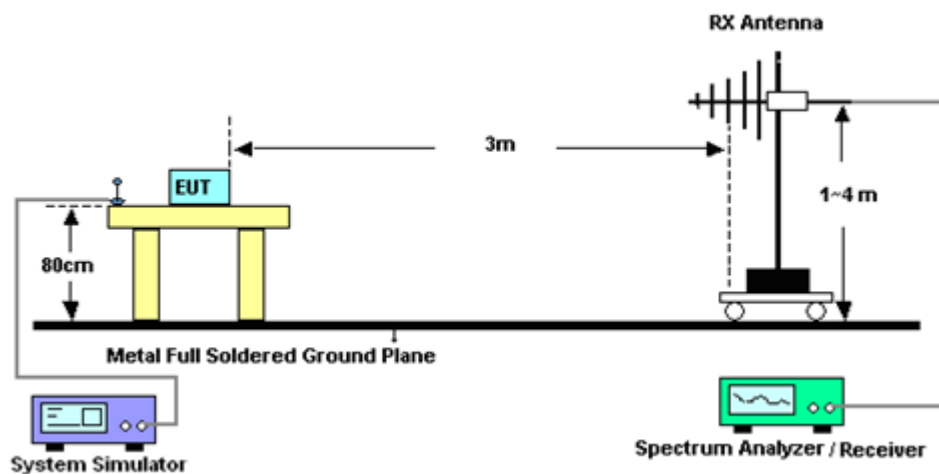
See list of measuring instruments of this test report.

4.1.1 Test Setup

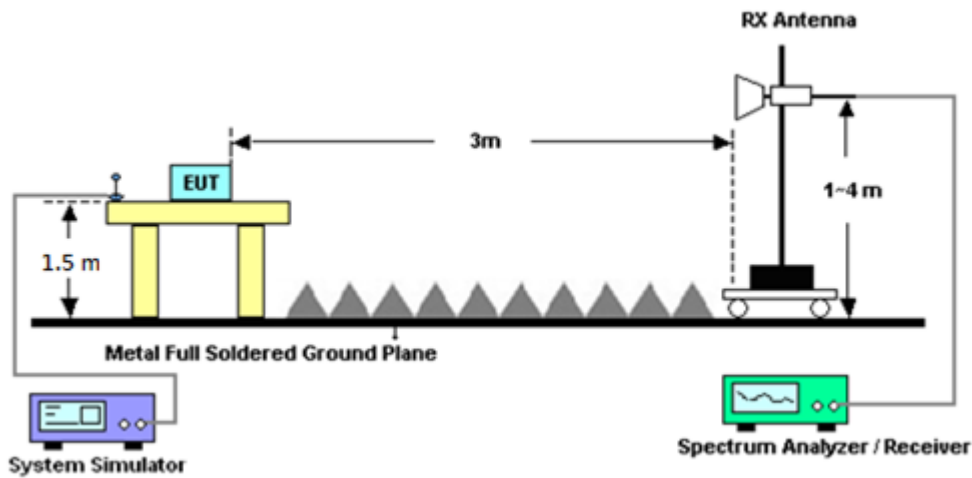
For radiated test below 30MHz



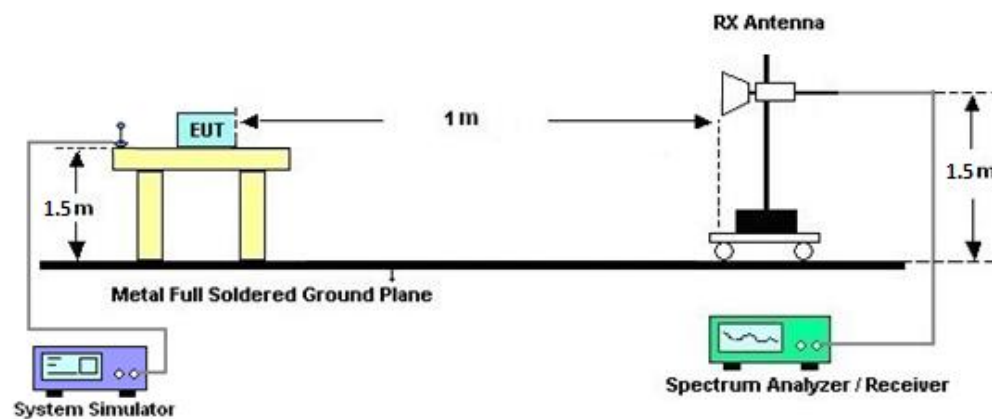
For radiated test from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



4.1.2 Test Result of Radiated Test

Please refer to Appendix B.

Note:

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.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.



4.2 Radiated Spurious Emission Measurement

4.2.1 Description of Radiated Spurious Emission Measurement

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

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.

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

4.2.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI / TIA-603-E Section 2.2.12.

1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)

$EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$

$ERP \text{ (dBm)} = EIRP - 2.15$



5 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Jul. 14, 2020	May 13, 2021~ May 29, 2021	Jul. 13, 2021	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N -06	37059 & 01	30MHz~1GHz	Oct. 11, 2020	May 13, 2021~ May 29, 2021	Oct. 10, 2021	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & N-6-06	35414 & AT-N0602	30MHz~1GHz	Oct. 11, 2020	May 13, 2021~ May 29, 2021	Oct. 10, 2021	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-1328	1GHz~18GHz	Nov. 23, 2020	May 13, 2021~ May 29, 2021	Nov. 22, 2021	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-1212	1GHz~18GHz	May 20, 2020	May 13, 2021~ May 18, 2021	May 19, 2021	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-1212	1GHz~18GHz	May 18, 2021	May 19, 2021~ May 29, 2021	May 17, 2022	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	00993	18GHz~40GHz	Dec. 19, 2020	May 13, 2021~ May 29, 2021	Dec. 18, 2021	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA917058 4	18GHz~40GHz	Dec. 11, 2020	May 13, 2021~ May 29, 2021	Dec. 10, 2021	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103	161075	10MHz~1GHz	Mar. 24, 2021	May 13, 2021~ May 29, 2021	Mar. 23, 2022	Radiation (03CH12-HY)
Preamplifier	Keysight	83017A	MY57280120	1GHz~26.5GHz	Jul. 20, 2020	May 13, 2021~ May 29, 2021	Jul. 19, 2021	Radiation (03CH12-HY)
Preamplifier	E-INSTRUME NT TECH LTD.	ERA-100M-18 G-56-01-A70	EC1900249	1GHz~18GHz	Dec. 05, 2020	May 13, 2021~ May 29, 2021	Dec. 04, 2021	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060801	18GHz~40GHz	Jun. 15, 2020	May 13, 2021~ May 29, 2021	Jun. 14, 2021	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 11, 2020	May 13, 2021~ May 29, 2021	Dec. 10, 2021	Radiation (03CH12-HY)
Spectrum Analyzer	Agilent	N9010A	MY53470118	10Hz~44GHz	Sep. 14, 2020	May 13, 2021~ May 29, 2021	Sep. 13, 2021	Radiation (03CH12-HY)
Signal Generator	Rohde & Schwarz	SMB100A	101107	100kHz~40GHz	Dec. 04, 2020	May 13, 2021~ May 29, 2021	Dec. 03, 2021	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30MHz~18GHz	Dec. 11, 2020	May 13, 2021~ May 29, 2021	Dec. 10, 2021	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz~40GHz	Feb. 22, 2021	May 13, 2021~ May 29, 2021	Feb. 21, 2022	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30MHz~40GHz	Feb. 22, 2021	May 13, 2021~ May 29, 2021	Feb. 21, 2022	Radiation (03CH12-HY)
Filter	Wainwright	WLKS1200-12 SS	SN2	1.2GHz Low Pass Filter	Mar. 17, 2021	May 13, 2021~ May 29, 2021	Mar. 16, 2022	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-1080 -1200-15000-6 OSS	SN1	1.2GHz High Pass Filter	Mar. 17, 2021	May 13, 2021~ May 29, 2021	Mar. 16, 2022	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-2700 -3000-18000-6 OST	SN2	3GHz High Pass Filter	Jul. 14, 2020	May 13, 2021~ May 29, 2021	Jul. 13, 2021	Radiation (03CH12-HY)



Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	TECPEL	DTM-303B	TP140349	N/A	Oct. 02, 2020	May 13, 2021~ May 29, 2021	Oct. 01, 2021	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	May 13, 2021~ May 29, 2021	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	May 13, 2021~ May 29, 2021	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	May 13, 2021~ May 29, 2021	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	May 13, 2021~ May 29, 2021	N/A	Radiation (03CH12-HY)
Base Station (Measure)	Anritsu	MT8821C	6262002534 1	N/A	Oct. 05, 2020	May 18, 2021	Oct. 04, 2021	Conducted (TH03-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Nov. 27, 2020	May 18, 2021	Nov. 26, 2021	Conducted (TH03-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890094	1V~20V 0.5A~5A	Oct. 05, 2020	May 18, 2021	Oct. 04, 2021	Conducted (TH03-HY)
Coupler	Warison	20dB 25W SMA Directional Coupler	#B	1-18GHz	Jan. 09, 2021	May 18, 2021	Jan. 08, 2022	Conducted (TH03-HY)



6 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.07 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.21 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.80 dB
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Appendix A. Test Results of Conducted Test

Conducted Output Power (Average power & ERP/EIRP)

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 2.82 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	20.39	20.27	20.41	23.23	0.2104
20	1	5		20.15	20.13	20.16		
20	6	0		20.35	20.37	20.37		
20	1	0	16-QAM	20.15	20.00	20.22	23.04	0.2014
20	1	5		19.91	19.82	19.86		
20	5	0		20.17	20.22	20.20		
15	1	0	QPSK	20.43	20.30	20.28	23.25	0.2113
15	1	5		20.24	20.11	20.08		
15	6	0		20.35	20.32	20.30		
15	1	0	16-QAM	20.02	19.86	19.82	23.07	0.2028
15	1	5		19.85	19.97	19.93		
15	5	0		20.25	20.20	20.15		
10	1	0	QPSK	20.32	20.29	20.32	23.14	0.2061
10	1	5		20.18	20.03	20.10		
10	6	0		19.45	19.35	19.40		
10	1	0	16-QAM	20.03	20.03	19.94	23.04	0.2014
10	1	5		19.88	19.73	19.74		
10	5	0		20.22	20.14	20.12		
5	1	0	QPSK	20.34	20.26	20.28	23.16	0.2070
5	1	5		20.19	20.06	20.30		
5	6	0		19.44	19.41	19.51		
5	1	0	16-QAM	20.21	19.94	20.02	23.03	0.2009
5	1	5		19.96	19.93	19.85		
5	5	0		19.39	19.19	19.27		
3	1	0	QPSK	20.40	20.33	20.49	23.31	0.2143
3	1	5		20.26	20.13	20.26		
3	6	0		18.48	18.42	18.46		
3	1	0	16-QAM	19.60	20.05	20.08	22.90	0.1950
3	1	5		20.01	19.93	19.55		
3	5	0		18.62	18.55	18.60		
1.4	1	0	QPSK	20.54	20.39	20.44	23.36	0.2168
1.4	1	5		20.26	20.15	20.29		
1.4	6	0		18.42	18.41	18.48		
1.4	1	0	16-QAM	19.72	19.54	19.57	22.54	0.1795
1.4	1	5		19.50	19.38	19.42		
1.4	5	0		18.60	18.51	18.60		
Limit	EIRP < 2W			Result			Pass	



LTE Band 4 Maximum Average Power [dBm] (GT - LC = 2.85 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	20.73	20.93	20.95	23.86	0.2432
20	1	5		20.59	20.90	20.83		
20	6	0		20.68	21.01	21.00		
20	1	0	16-QAM	20.63	21.02	20.92	23.87	0.2438
20	1	5		20.40	20.84	20.75		
20	6	0		20.73	20.82	20.94		
15	1	0	QPSK	20.73	21.04	20.91	23.90	0.2455
15	1	5		20.56	20.84	20.75		
15	6	0		20.59	20.84	21.05		
15	1	0	16-QAM	20.57	21.00	21.03	23.91	0.2460
15	1	5		20.34	20.67	20.97		
15	6	0		20.51	20.81	21.06		
10	1	0	QPSK	20.80	20.98	21.14	23.99	0.2506
10	1	5		20.67	20.97	20.91		
10	6	0		19.61	19.87	20.02		
10	1	0	16-QAM	20.56	20.88	21.00	23.86	0.2432
10	1	5		20.33	21.01	20.83		
10	6	0		20.90	21.00	21.00		
5	1	0	QPSK	20.84	21.04	21.19	24.04	0.2535
5	1	5		20.64	20.94	20.97		
5	6	0		19.60	20.00	20.08		
5	1	0	16-QAM	20.50	21.18	21.03	24.03	0.2529
5	1	5		20.37	20.95	20.84		
5	6	0		19.46	19.81	19.93		
3	1	0	QPSK	20.66	21.19	21.07	24.04	0.2535
3	1	5		20.45	21.03	21.03		
3	6	0		18.57	19.01	19.00		
3	1	0	16-QAM	19.97	20.38	20.88	23.73	0.2360
3	1	5		19.86	20.21	20.70		
3	6	0		18.80	19.25	19.27		
1.4	1	0	QPSK	20.77	21.02	21.19	24.04	0.2535
1.4	1	5		20.56	20.85	21.00		
1.4	6	0		18.50	18.95	19.10		
1.4	1	0	16-QAM	19.93	19.66	20.54	23.65	0.2317
1.4	1	5		19.78	19.44	20.80		
1.4	6	0		18.73	19.08	19.32		
Limit	EIRP < 1W			Result			Pass	



LTE Band 5 Maximum Average Power [dBm] (GT - LC = -0.7 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	20.75	20.86	20.73	18.01	0.0632
10	1	5		20.47	20.75	20.55		
10	6	0		19.72	19.96	19.81		
10	1	0	16-QAM	20.57	20.75	20.70	18.15	0.0653
10	1	5		20.32	20.47	20.44		
10	6	0		20.80	21.00	21.00		
5	1	0	QPSK	20.66	21.08	20.85	18.23	0.0665
5	1	5		20.63	20.94	20.66		
5	6	0		19.83	20.16	19.88		
5	1	0	16-QAM	20.70	20.91	20.83	18.06	0.0640
5	1	5		20.49	20.72	20.58		
5	6	0		19.71	20.03	19.85		
3	1	0	QPSK	20.92	21.09	21.18	18.33	0.0681
3	1	5		20.80	20.87	20.98		
3	6	0		18.80	18.85	19.00		
3	1	0	16-QAM	19.86	20.05	20.00	17.20	0.0525
3	1	5		19.79	19.87	19.71		
3	6	0		18.63	18.73	18.80		
1.4	1	0	QPSK	21.09	21.22	21.13	18.37	0.0687
1.4	1	5		20.91	20.98	20.95		
1.4	6	0		18.97	18.97	19.00		
1.4	1	0	16-QAM	20.06	20.09	20.06	17.24	0.0530
1.4	1	5		19.84	19.88	19.85		
1.4	6	0		18.70	18.83	18.89		
Limit	ERP < 7W			Result			Pass	



LTE Band 12 Maximum Average Power [dBm] (GT - LC = -2.99 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	19.49	19.65	19.83	14.69	0.0294
10	1	5		19.41	19.48	19.76		
10	6	0		18.72	18.80	18.88		
10	1	0	16-QAM	19.32	19.33	19.62	14.83	0.0304
10	1	5		19.11	19.18	19.46		
10	6	0		19.71	19.79	19.97		
5	1	0	QPSK	19.53	19.75	19.88	14.74	0.0298
5	1	5		19.32	19.54	19.72		
5	6	0		18.64	18.67	18.92		
5	1	0	16-QAM	19.31	19.45	19.65	14.51	0.0282
5	1	5		19.19	19.23	19.42		
5	6	0		18.54	18.72	18.74		
3	1	0	QPSK	19.55	19.85	19.93	14.79	0.0301
3	1	5		19.48	19.85	19.68		
3	6	0		17.61	17.82	18.02		
3	1	0	16-QAM	18.72	19.13	18.98	13.99	0.0251
3	1	5		18.63	18.88	18.88		
3	6	0		17.49	17.74	17.84		
1.4	1	0	QPSK	19.61	19.84	19.90	14.76	0.0299
1.4	1	5		19.45	19.71	19.88		
1.4	6	0		17.67	17.83	17.93		
1.4	1	0	16-QAM	18.68	18.97	19.23	14.09	0.0256
1.4	1	5		18.56	18.83	19.12		
1.4	6	0		17.39	17.74	17.88		
Limit	ERP < 3W			Result			Pass	



LTE Band 13 Maximum Average Power [dBm] (GT - LC = -1.35 dB)									
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)	
10	1	0	QPSK	-	19.52	-	14.38	0.0274	
10	1	5			19.28				
10	6	0			18.57				
10	1	0	16-QAM		19.35		-	14.54	0.0284
10	1	5			19.19				
10	6	0			19.68				
5	1	0	QPSK	19.50	19.49	19.63	14.49	0.0281	
5	1	5		19.28	19.38	19.40			
5	6	0		18.64	18.62	18.62			
5	1	0	16-QAM	19.37	19.48	19.42	14.34	0.0272	
5	1	5		19.32	19.42	19.38			
5	6	0		18.51	18.58	18.57			
Limit	ERP < 3W			Result			Pass		



LTE Band 26 Maximum Average Power [dBm] (GT - LC = -0.9 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
15	1	0	QPSK	20.06	20.06	20.10	15.23	0.0333
15	1	5		19.97	19.96	20.06		
15	6	0		20.28	20.32	20.37		
15	1	0	16-QAM	20.05	20.08	20.15	15.32	0.0340
15	1	5		19.84	19.91	20.00		
15	6	0		20.25	20.46	20.43		
10	1	0	QPSK	20.12	20.18	20.27	15.13	0.0326
10	1	5		20.00	19.89	20.07		
10	6	0		19.47	19.37	19.60		
10	1	0	16-QAM	20.11	20.00	20.16	15.38	0.0345
10	1	5		19.81	19.85	20.00		
10	6	0		20.36	20.40	20.52		
5	1	0	QPSK	20.15	20.14	20.25	15.11	0.0324
5	1	5		19.94	20.00	20.06		
5	6	0		19.34	19.45	19.58		
5	1	0	16-QAM	20.15	20.15	20.26	15.12	0.0325
5	1	5		19.91	19.89	20.15		
5	6	0		19.30	19.40	19.65		
3	1	0	QPSK	20.40	20.44	20.58	15.44	0.0350
3	1	5		20.28	20.21	20.42		
3	6	0		18.38	18.35	18.58		
3	1	0	16-QAM	19.43	19.50	19.69	14.55	0.0285
3	1	5		19.35	19.39	19.52		
3	6	0		18.36	18.39	18.63		
1.4	1	0	QPSK	20.34	20.35	20.60	15.46	0.0352
1.4	1	5		20.17	20.19	20.39		
1.4	6	0		18.31	18.32	18.46		
1.4	1	0	16-QAM	19.36	19.38	19.60	14.46	0.0279
1.4	1	5		19.11	19.24	19.43		
1.4	6	0		18.23	18.25	18.56		
Limit	ERP < 7W			Result			Pass	



Appendix B. Test Results of Radiated Test

LTE Cat M1 Band 2

LTE Cat M1 Band 2 / 20MHz / QPSK									
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)
Lowest	3702	-53.99	-13	-40.99	-71.92	-65.20	1.41	12.62	H
	5553	-50.71	-13	-37.71	-73.87	-62.27	1.74	13.30	H
	7404	-47.27	-13	-34.27	-74.08	-56.59	1.94	11.25	H
									H
									H
									H
	3702	-53.43	-13	-40.43	-71.51	-64.64	1.41	12.62	V
	5553	-50.65	-13	-37.65	-73.34	-62.21	1.74	13.30	V
	7404	-47.60	-13	-34.60	-74.26	-56.92	1.94	11.25	V
									V
									V
									V
Middle	3742	-53.34	-13	-40.34	-71.45	-64.56	1.42	12.65	H
	5613	-50.98	-13	-37.98	-74.06	-62.54	1.74	13.30	H
	7484	-47.37	-13	-34.37	-73.81	-56.51	1.98	11.13	H
									H
									H
									H
	3742	-52.93	-13	-39.93	-71.24	-64.15	1.42	12.65	V
	5613	-49.08	-13	-36.08	-71.82	-60.64	1.74	13.30	V
	7484	-47.46	-13	-34.46	-73.85	-56.60	1.98	11.13	V
									V
									V
									V



Highest	3782	-51.75	-13	-38.75	-70.04	-61.96	2.02	12.23	H
	5673	-50.77	-13	-37.77	-74.16	-61.10	2.12	12.44	H
	7564	-48.23	-13	-35.23	-74.27	-56.35	2.11	10.23	H
									H
									H
									H
									H
	3782	-53.09	-13	-40.09	-71.63	-63.30	2.02	12.23	V
	5673	-48.18	-13	-35.18	-71.08	-58.51	2.12	12.44	V
	7564	-47.68	-13	-34.68	-73.67	-55.80	2.11	10.23	V
									V
									V
									V
									V

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

**LTE Cat M1 Band 4**

LTE Cat M1 Band 4 / 20MHz / QPSK									
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)
Lowest	3422	-55.51	-13	-42.51	-71.45	-66.48	1.35	12.31	H
	5133	-51.92	-13	-38.92	-73.87	-63.06	1.64	12.79	H
	6844	-48.71	-13	-35.71	-74.08	-59.09	1.74	12.12	H
									H
									H
									H
									H
	3422	-54.33	-13	-41.33	-70.69	-65.30	1.35	12.31	V
	5133	-52.72	-13	-39.72	-74.42	-63.86	1.64	12.79	V
	6844	-48.86	-13	-35.86	-73.83	-59.24	1.74	12.12	V
									V
									V
									V
									V
Middle	3447	-54.20	-13	-41.20	-70.39	-60.38	1.59	7.77	H
	5171	-52.10	-13	-39.10	-74.05	-59.36	2.44	9.70	H
	6894	-48.31	-13	-35.31	-73.94	-56.36	2.62	10.67	H
									H
									H
									H
									H
	3447	-53.41	-13	-40.41	-69.99	-59.59	1.59	7.77	V
	5171	-52.51	-13	-39.51	-74.26	-59.77	2.44	9.70	V
	6894	-48.77	-13	-35.77	-73.97	-56.82	2.62	10.67	V
									V
									V
									V
									V



Highest	3472	-55.45	-13	-42.45	-71.87	-66.53	1.35	12.43	H
	5208	-52.50	-13	-39.50	-74.46	-63.73	1.66	12.89	H
	6944	-47.66	-13	-34.66	-73.54	-57.91	1.73	11.98	H
									H
									H
									H
									H
	3472	-53.30	-13	-40.30	-70.1	-64.38	1.35	12.43	V
	5208	-52.62	-13	-39.62	-74.41	-63.85	1.66	12.89	V
	6944	-48.23	-13	-35.23	-73.65	-58.48	1.73	11.98	V
									V
									V
									V
									V

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

**LTE Cat M1 Band 5**

LTE Cat M1 Band 5 / 10MHz / QPSK									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1649	-50.69	-13	-37.69	-59.11	-56.29	0.92	8.67	H
	2474	-44.35	-13	-31.35	-57.8	-51.72	1.14	10.66	H
	3298	-57.24	-13	-44.24	-72.56	-65.78	1.32	12.02	H
									H
									H
									H
									H
	1649	-53.11	-13	-40.11	-61	-58.71	0.92	8.67	V
	2474	-47.79	-13	-34.79	-61.39	-55.16	1.14	10.66	V
	3298	-57.31	-13	-44.31	-73.1	-65.85	1.32	12.02	V
									V
									V
									V
									V
Middle	1664	-50.81	-13	-37.81	-59.28	-56.46	0.93	8.72	H
	2496	-44.97	-13	-31.97	-58.46	-52.37	1.15	10.69	H
	3328	-57.68	-13	-44.68	-72.94	-66.29	1.33	12.09	H
									H
									H
									H
									H
	1664	-52.30	-13	-39.30	-60.18	-57.95	0.93	8.72	V
	2496	-47.18	-13	-34.18	-60.88	-54.58	1.15	10.69	V
	3328	-56.98	-13	-43.98	-72.7	-65.59	1.33	12.09	V
									V
									V
									V
									V



Highest	1680	-50.73	-13	-37.73	-59.24	-56.43	0.93	8.78	H
	2519	-42.33	-13	-29.33	-55.83	-49.75	1.15	10.72	H
	3358	-57.28	-13	-44.28	-72.47	-65.95	1.33	12.16	H
									H
									H
									H
									H
	1680	-54.33	-13	-41.33	-62.2	-60.03	0.93	8.78	V
	2519	-45.99	-13	-32.99	-59.66	-53.41	1.15	10.72	V
	3358	-57.18	-13	-44.18	-72.82	-65.85	1.33	12.16	V
									V
									V
									V
									V

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

**LTE Cat M1 Band 12**

LTE Cat M1 Band 12 / 10MHz / QPSK									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1400	-52.46	-13	-39.46	-61.91	-57.11	0.84	7.64	H
	2096	-43.98	-13	-30.98	-56.52	-50.90	1.06	10.13	H
	2798	-57.43	-13	-44.43	-71.70	-65.12	1.22	11.06	H
									H
									H
									H
									H
	1400	-49.46	-13	-36.46	-57.68	-54.11	0.84	7.64	V
	2096	-46.11	-13	-33.11	-57.55	-53.03	1.06	10.13	V
	2798	-57.95	-13	-44.95	-69.42	-65.64	1.22	11.06	V
									V
									V
									V
									V
Middle	1408	-54.93	-13	-41.93	-64.35	-59.61	0.85	7.68	H
	2112	-43.99	-13	-30.99	-56.81	-50.93	1.06	10.16	H
	2812	-57.97	-13	-44.97	-72.30	-65.67	1.22	11.07	H
									H
									H
									H
									H
	1408	-50.54	-13	-37.54	-58.74	-55.22	0.85	7.68	V
	2112	-45.97	-13	-32.97	-57.67	-52.91	1.06	10.16	V
	2812	-57.86	-13	-44.86	-72.14	-65.56	1.22	11.07	V
									V
									V
									V
									V



Highest	1416	-56.78	-13	-43.78	-66.17	-61.50	0.85	7.71	H
	2120	-43.41	-13	-30.41	-56.36	-50.36	1.07	10.17	H
	2826	-44.93	-13	-31.93	-72.31	-52.64	1.23	11.09	H
									H
									H
									H
									H
	1416	-52.49	-13	-39.49	-60.67	-57.21	0.85	7.71	V
	2120	-47.44	-13	-34.44	-59.26	-54.39	1.07	10.17	V
	2826	-57.84	-13	-44.84	-72.19	-65.55	1.23	11.09	V
									V
									V
									V
									V

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

**LTE Cat M1 Band 13**

LTE Cat M1 Band 13 / 5MHz / QPSK									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1552	-56.09	-13	-43.09	-64.75	-61.35	0.89	8.30	H
	2336	-42.04	-13	-29.04	-55.72	-49.25	1.11	10.47	H
	3109	-57.21	-13	-44.21	-72.57	-65.33	1.29	11.56	H
									H
									H
									H
									H
	1552	-52.67	-13.00	-39.67	-60.62	-57.93	0.89	8.30	V
	2336	-45.21	-13	-32.21	-58.46	-52.42	1.11	10.47	V
	3109	-56.96	-13	-43.96	-72.66	-65.08	1.29	11.56	V
									V
									V
									V
									V
Middle	1560	-55.81	-42.15	-13.66	-64.40	-61.10	0.89	8.33	H
	2336	-42.98	-13	-29.98	-56.66	-50.19	1.11	10.47	H
	3119	-56.82	-13	-43.82	-72.21	-64.96	1.29	11.59	H
									H
									H
									H
									H
	1560	-53.63	-42.15	-11.48	-61.58	-58.92	0.89	8.33	V
	2336	-44.39	-13	-31.39	-57.64	-51.60	1.11	10.47	V
	3119	-55.64	-13	-42.64	-71.39	-63.78	1.29	11.59	V
									V
									V
									V
									V



Highest	1568	-56.10	-42.15	-13.95	-64.63	-61.42	0.89	8.36	H
	2344	-43.66	-13	-30.66	-57.29	-50.88	1.12	10.48	H
	3128	-56.98	-13	-43.98	-72.38	-65.14	1.29	11.61	H
									H
									H
									H
									H
	1568	-54.45	-42.15	-12.30	-62.39	-59.77	0.89	8.36	V
	2344	-42.85	-13	-29.85	-56.11	-50.07	1.12	10.48	V
	3128	-56.59	-13	-43.59	-72.37	-64.75	1.29	11.61	V
									V
									V
									V
									V

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



LTE Cat M1 Band 13 / 10MHz / QPSK									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1552	-55.75	-13	-42.75	-64.41	-61.01	0.89	8.30	H
	2336	-43.41	-13	-30.41	-57.09	-50.62	1.11	10.47	H
	3110	-57.35	-13	-44.35	-72.71	-65.47	1.29	11.56	H
									H
									H
									H
									H
	1552	-53.78	-13	-40.78	-61.73	-59.04	0.89	8.30	V
	2336	-44.30	-13	-31.30	-57.55	-51.51	1.11	10.47	V
	3110	-56.91	-13	-43.91	-72.62	-65.03	1.29	11.56	V
									V
									V
									V
									V

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

**LTE Cat M1 Band 26**

LTE Cat M1 Band 26 / 15MHz / QPSK									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1650	-49.99	-13	-36.99	-58.42	-55.59	0.92	8.67	H
	2475	-44.47	-13	-31.47	-57.92	-51.84	1.14	10.67	H
	3299	-57.66	-13	-44.66	-72.98	-66.20	1.32	12.02	H
									H
									H
									H
									H
	1650	-52.15	-13	-39.15	-60.04	-57.75	0.92	8.67	V
	2475	-43.73	-13	-30.73	-57.34	-51.10	1.14	10.67	V
	3299	-56.84	-13	-43.84	-72.63	-65.38	1.32	12.02	V
									V
									V
									V
									V
Middle	1660	-50.95	-13	-37.95	-59.4	-56.58	0.92	8.71	H
	2490	-43.60	-13	-30.60	-57.08	-50.99	1.15	10.69	H
	3319	-57.78	-13	-44.78	-73.06	-66.37	1.33	12.07	H
									H
									H
									H
									H
	1660	-52.24	-13	-39.24	-60.11	-57.87	0.92	8.71	V
	2490	-45.02	-13	-32.02	-58.69	-52.41	1.15	10.69	V
	3319	-56.31	-13	-43.31	-72.05	-64.90	1.33	12.07	V
									V
									V
									V
									V



Highest	1670	-53.23	-13	-40.23	-61.72	-58.90	0.93	8.75	H
	2505	-44.71	-13	-31.71	-58.21	-52.11	1.15	10.71	H
	3339	-57.25	-13	-44.25	-72.48	-65.88	1.33	12.11	H
									H
									H
									H
									H
	1670	-53.08	-13	-40.08	-60.95	-58.75	0.93	8.75	V
	2505	-42.73	-13	-29.73	-56.43	-50.13	1.15	10.71	V
	3339	-57.14	-13	-44.14	-72.83	-65.77	1.33	12.11	V
									V
									V
									V
									V

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

————THE END————