



FCC RADIO TEST REPORT

FCC ID : PKRISGFX31001
Equipment : Indoor Router
Brand Name : Inseego
Model Name : FX3100-1
Marketing Name : FX3100
Applicant : Inseego Corp.
9710 Scranton Road Suite 200, San Diego,, CA 92121
Manufacturer : Inseego Corp.
9710 Scranton Road Suite 200, San Diego,, CA 92121
Standard : FCC 47 CFR Part 2, 96

The product was received on Mar. 13, 2023 and testing was performed from Mar. 13, 2023 to Apr. 18, 2023. We, Sporton International (USA) Inc., 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 (USA) Inc., the test report shall not be reproduced except in full.

Approved by: Lance Tang

Sporton International (USA) Inc.
1175 Montague Expressway, Milpitas, CA 95035



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History of this test report

Report No.	Version	Description	Issue Date
FG220902006B	01	Initial issue of report	Apr. 18, 2023
FG220902006B	02	<ol style="list-style-type: none">Add Conducted Output Power and Effective Isotropic Radiated PowerThis report is an updated version, replacing the report issued on Apr. 18, 2023.	Apr. 19, 2023



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Reporting only	-
3.3	§96.41	Effective Isotropic Radiated Power	Pass	-
4.4	§2.1051 §96.41	Radiated Spurious Emission	Pass	Under limit 0.74 dB at 7230.000 MHz

Conformity Assessment Condition:

1. 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/manufacturee who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. Please refer to the section "Uncertainty of Evaluation" for 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 Product Feature of Equipment Under Test

Product Feature	
Equipment Type : Indoor Router	
General Specs 4G-LTE, 5G-FR1, Wi-Fi 2.4GHz 802.11 b/g/n/ax, Wi-Fi 5GHz 802.11 a/n/ac/ax, and GNSS	
Antenna Type WWAN: Fixed Internal Antenna WLAN: Fixed Internal Antenna GNSS: Fixed Internal Antenna	
Antenna Gain	LTE Band 48: 1.5 dBi

Remark: The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.

1.2 Modification of EUT

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

1.3 Testing Location

Test Site	Sporton International (USA) Inc.	
Test Site Location	1175 Montague Expressway, Milpitas, CA 95035 TEL : 408 9043300	
Test Site No.	Sporton Site No.	
	TH01-CA	03CH01-CA
Test Engineer	Venkata Kondepudi	Leo Liu
Temperature (°C)	18.2~22.4	18~21
Relative Humidity (%)	34.7~64.7	37~41

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

FCC Designation No.: US1250



1.4 Applied 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, 96
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 940660 D01 Part 96 CBRS Eqpt v03
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.



2 Test Configuration of Equipment Under Test

2.1 Test Mode

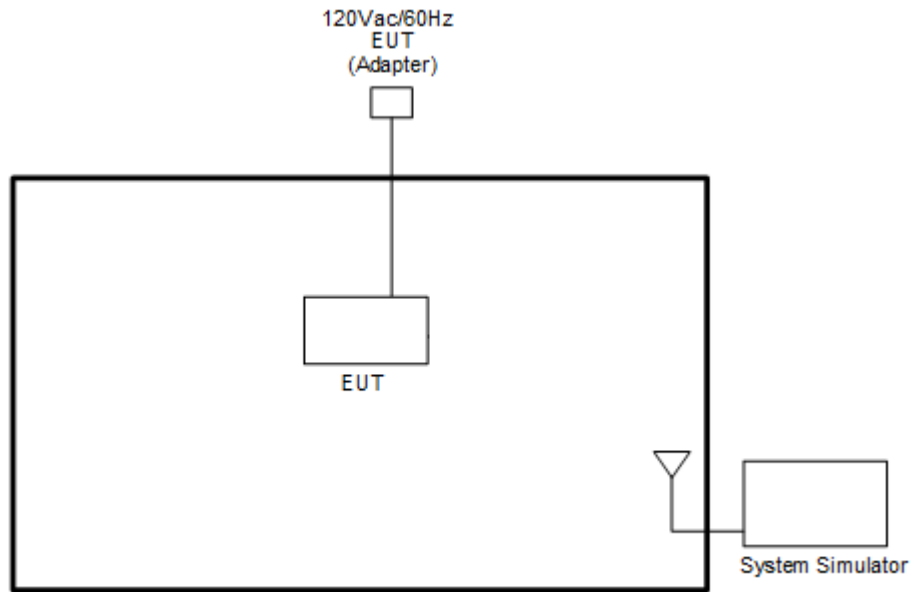
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

For radiated measurement, 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 only the worst case emissions were reported in this report.

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		
Max. Output Power	48	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v		
E.I.R.P	48	-	-	v	v	v	v	v	v	v	v	Max. Power							
Radiated Spurious Emission	48	-	-					v	v					v			v	v	v
Remark	<ol style="list-style-type: none"> The mark "v" means that this configuration is chosen for testing The mark "-" means that this bandwidth is not supported. 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. 																		

Test Items	Band	Bandwidth (MHz)										Modulation				RB #			Test Channel			
		20+20	20+15	15+20	20+10	10+20	20+5	5+20	15+15	15+10	10+15	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H	
Max. Output Power	48_CA	v	v	v	v	v	v	v	-	-	-	v	v	v	v	v	v	v	v	v	v	
E.I.R.P	48_CA	v	v	v	v	v	v	v	-	-	-	v	v	v	v	Max. Power						
Radiated Spurious Emission	48_CA	v										v					v			v	v	v
Remark	<ol style="list-style-type: none"> The mark "v" means that this configuration is chosen for testing The mark "-" means that this bandwidth is not supported. 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

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 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 48C Channel and Frequency List_CA					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
20 + 20	PCC	Channel	55340	55641	55942
		Frequency	3560	3590.1	3620.2
	SCC	Channel	55538	55839	56140
		Frequency	3579.8	3609.9	3640
20 + 15	PCC	Channel	55340	55667	55994
		Frequency	3560	3592.7	3625.4
	SCC	Channel	55511	55838	56165
		Frequency	3577.1	3609.8	3642.5
15 + 20	PCC	Channel	55315	55642	55969
		Frequency	3557.5	3590.2	3622.9
	SCC	Channel	55486	55813	56140
		Frequency	3574.6	3607.3	3640
20 + 10	PCC	Channel	55340	55693	56046
		Frequency	3560	3595.3	3630.6
	SCC	Channel	55484	55837	56190
		Frequency	3574.4	3609.7	3645
10 + 20	PCC	Channel	55290	55643	55996
		Frequency	3555	3590.3	3625.6
	SCC	Channel	55434	55787	56140
		Frequency	3569.4	3604.7	3640
20 + 5	PCC	Channel	55340	55719	56098
		Frequency	3560	3597.9	3635.8
	SCC	Channel	55457	55836	56215
		Frequency	3571.7	3609.6	3647.5
5 + 20	PCC	Channel	55265	55644	56023
		Frequency	3552.5	3590.4	3628.3
	SCC	Channel	55382	55761	56140
		Frequency	3564.2	3602.1	3640

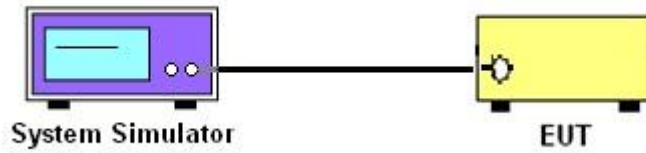
3 Conducted Test Items

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

3.2.1 Description of the Conducted Output Power 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.

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.



3.3 EIRP

3.3.1 Description of the EIRP Measurement

The EIRP of mobile transmitters must not exceed 23 dBm /10 megahertz.

The testing follows ANSI C63.26-2015 Section 5.2.5.5

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$, 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

Device	Maximum EIRP (dBm/10 MHz)	Maximum PSD (dBm/MHz)
End User Device	23	n/a

Remark: Total channel power is complied with EIRP limit 23dBm/10MHz.

3.3.1 Test Procedures

The testing follows procedure in Section 5.2 of ANSI C63.26-2015 and KDB 940660 D01 Part 96 CBRS Eqpt v03 Section 3.2(b)(2)

Determine the EIRP by adding the effective antenna gain to the measured average conducted power level.

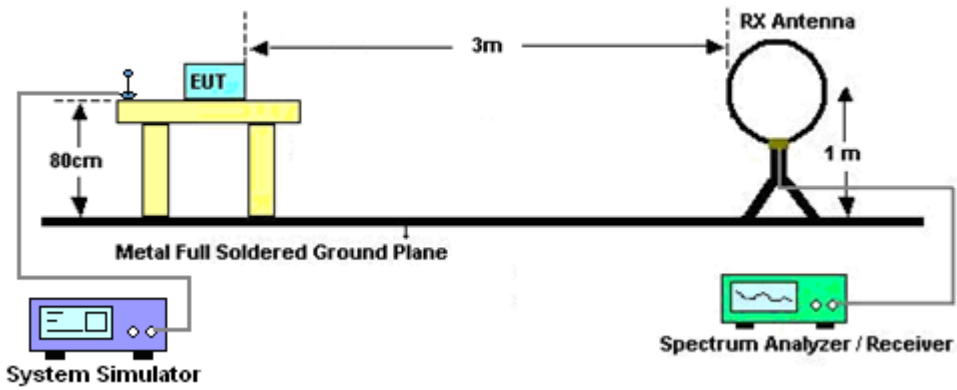
4 Radiated Test Items

4.1 Measuring Instruments

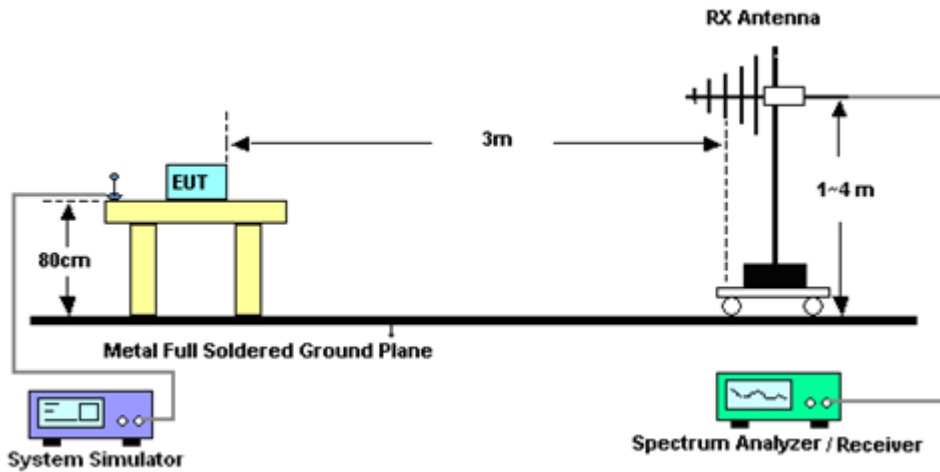
See list of measuring instruments of this test report.

4.2 Test Setup

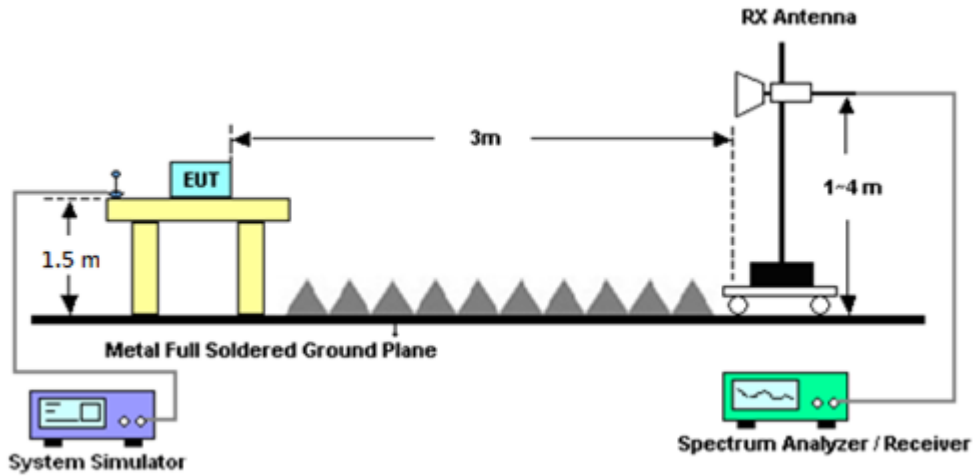
For radiated emissions below 30MHz



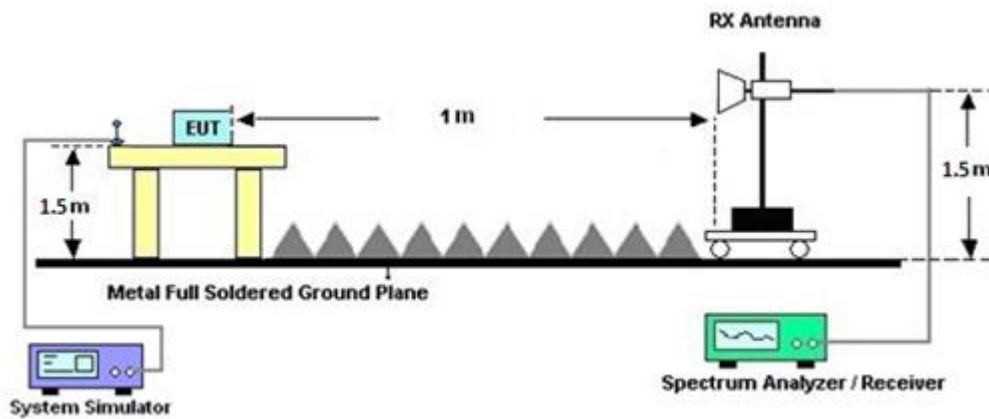
For radiated emissions from 30MHz to 1GHz



For radiated emissions from 1GHz to 18GHz



For radiated emissions above 18GHz



4.3 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.



4.4 Radiated Spurious Emission

4.4.1 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 -40dBm / MHz .
The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.4.2 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 height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna 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 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
5. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
ERP (dBm) = EIRP - 2.15
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



5 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Signal Generator	Rohde & Schwarz	SMF100A	105544	9kHz~44GHz	May 17, 2022	Apr. 04, 2023~ Apr. 10, 2023	May 16, 2023	Radiation (03CH01-CA)
Loop Antenna	R&S	HFH2-Z2E	100840	9kHz~30MHz	Jul. 05, 2022	Apr. 04, 2023~ Apr. 10, 2023	Jul. 04, 2023	Radiation (03CH01-CA)
Bilog Antenna	TESEQ	6111D	50392	30MHz~1GHz	Jul. 11, 2022	Apr. 04, 2023~ Apr. 10, 2023	Jul. 10, 2023	Radiation (03CH01-CA)
Bilog Antenna	TESEQ	6111D	54683	30MHz~1GHz	Nov. 01, 2022	Apr. 04, 2023~ Apr. 10, 2023	Oct. 31, 2023	Radiation (03CH01-CA)
Horn Antenna	SCHWARZBECK	BBHA 9120D	02115	1GHz~18GHz	Aug. 16, 2022	Apr. 04, 2023~ Apr. 10, 2023	Aug. 15, 2023	Radiation (03CH01-CA)
Horn Antenna	SCHWARZBECK	BBHA 9120D	02113	1GHz~18GHz	Jun. 22, 2022	Apr. 04, 2023~ Apr. 10, 2023	Jun. 21, 2023	Radiation (03CH01-CA)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA9170	00842	18GHz~40GHz	Aug. 16, 2022	Apr. 04, 2023~ Apr. 10, 2023	Aug. 15, 2023	Radiation (03CH01-CA)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA9170	00841	18GHz~40GHz	Sep. 12, 2022	Apr. 04, 2023~ Apr. 10, 2023	Sep. 11, 2023	Radiation (03CH01-CA)
Filter	Wainwright	WHKX8-5872.5-6750-18000-40ST	SN8	6.75GHz High Pass Filter	Jul. 21, 2022	Apr. 04, 2023~ Apr. 10, 2023	Jul. 20, 2023	Radiation (03CH01-CA)
Preamplifier	EMEC	00675	EMC18G40G	060725	May 10, 2022	Apr. 04, 2023~ Apr. 10, 2023	May 09, 2023	Radiation (03CH01-CA)
Preamplifier	SONOMA	310N	372241	9kHz~1GHz	May 09, 2022	Apr. 04, 2023~ Apr. 10, 2023	May 08, 2023	Radiation (03CH01-CA)
Preamplifier	E-instrument	ERA-100M-18G-56-01-A70	EC1900252	1GHz~18GHz	May 09, 2022	Apr. 04, 2023~ Apr. 10, 2023	May 08, 2023	Radiation (03CH01-CA)
Spectrum Analyzer	R&S	FW43	104042	2Hz~43GHz	Dec. 11, 2022	Apr. 04, 2023~ Apr. 10, 2023	Dec. 10, 2023	Radiation (03CH01-CA)
EMI Test Receiver	R&S	ESU26	100049	20Hz~26.5GHz	Jun. 01, 2022	Apr. 04, 2023~ Apr. 10, 2023	May 31, 2023	Radiation (03CH01-CA)
RF Cable	HUBER+SUHNER	SUCOFLEX 102	8015932/2, 8015762/2, 804938/2	N/A	Mar. 06, 2023	Apr. 04, 2023~ Apr. 10, 2023	Mar. 05, 2024	Radiation (03CH01-CA)
Hygrometer	TESTO	608-H1	45141354	N/A	Jul. 27, 2022	Apr. 04, 2023~ Apr. 10, 2023	Jul. 26, 2023	Radiation (03CH01-CA)
Controller	Chaintek	EM-1000	060881	Control Turn Table & Antenna Mast	N/A	Apr. 04, 2023~ Apr. 10, 2023	N/A	Radiation (03CH01-CA)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Apr. 04, 2023~ Apr. 10, 2023	N/A	Radiation (03CH01-CA)
Test Software	Audix E3	E6.2009-8-24d	PK-002093	N/A	N/A	Apr. 04, 2023~ Apr. 10, 2023	N/A	Radiation (03CH01-CA)
Hygrometer	Testo	608-H1	45141354	N/A	Jul. 27, 2022	Mar. 13, 2023~ Apr. 18, 2023	Jul. 26, 2023	Conducted (TH01-CA)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101089	10Hz-40GHz	Jun. 01, 2022	Mar. 13, 2023~ Apr. 18, 2023	May 31, 2023	Conducted (TH01-CA)
Radio Communication Test Station	Anritsu	MT8000A	6262208375	N/A	Jun. 08, 2022	Mar. 13, 2023~ Apr. 18, 2023	Jun. 07, 2023	Conducted (TH01-CA)
Radio communication analyzer	Anritsu	MT8821C	6262257889	N/A	Aug. 17, 2022	Mar. 13, 2023~ Apr. 18, 2023	Aug. 16, 2023	Conducted (TH01-CA)



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))	3.40 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))	3.60 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))	4.30 dB
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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power & EIRP)

LTE Band 48 Maximum Average Power [dBm] (GT - LC = 1.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	21.28	21.48	19.73	22.98	0.1986
20	1	49		21.38	21.11	19.67		
20	1	99		19.40	20.88	19.61		
20	50	0		20.38	20.14	18.80		
20	50	24		20.44	20.22	18.74		
20	50	50		20.33	19.95	18.75		
20	100	0		20.53	20.02	18.72		
20	1	0	16-QAM	20.64	20.49	19.31	22.21	0.1663
20	1	49		20.50	20.71	19.05		
20	1	99		20.36	20.04	18.53		
20	50	0		19.47	19.21	17.97		
20	50	24		19.55	19.21	17.78		
20	50	50		19.40	19.00	17.64		
20	100	0		19.46	19.11	17.74		
20	1	0	64-QAM	20.51	19.89	19.56	22.01	0.1589
20	1	49		20.37	20.30	18.75		
20	1	99		20.47	19.65	18.45		
20	50	0		19.49	19.13	17.91		
20	50	24		19.52	19.02	17.75		
20	50	50		19.43	19.11	17.59		
20	100	0		19.29	19.03	17.75		
20	1	0	256-QAM	15.83	16.25	15.10	18.31	0.0678
20	1	49		16.81	16.20	15.02		
20	1	99		15.97	16.14	14.63		
20	50	0		16.50	16.11	14.77		
20	50	24		16.43	16.02	14.72		
20	50	50		16.48	15.94	14.71		
20	100	0		16.57	16.07	14.86		
Limit	EIRP < 23dBm/10MHz			Result			Pass	

Total EIRP power is less than partial EIRP limit 23 dBm/10MHz.



LTE Band 48 Maximum Average Power [dBm] (GT - LC = 1.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	21.40	21.11	19.66	22.90	0.1950
15	1	37		21.39	21.00	19.54		
15	1	74		21.40	20.70	19.45		
15	36	0		20.48	20.06	18.73		
15	36	20		20.41	19.97	18.68		
15	36	39		20.43	19.92	18.58		
15	75	0		20.42	19.93	18.64		
15	1	0	16-QAM	20.51	20.26	18.88	22.07	0.1611
15	1	37		20.57	20.21	18.89		
15	1	74		20.54	20.12	18.70		
15	36	0		19.44	19.11	17.69		
15	36	20		19.42	19.07	17.73		
15	36	39		19.40	19.04	17.60		
15	75	0		19.44	19.05	17.69		
15	1	0	64-QAM	19.76	19.28	17.98	21.26	0.1337
15	1	37		19.71	19.34	17.93		
15	1	74		19.49	19.14	17.78		
15	36	0		18.44	18.15	16.68		
15	36	20		18.45	18.04	16.70		
15	36	39		18.40	18.03	16.59		
15	75	0		18.49	18.05	16.67		
15	1	0	256-QAM	16.61	16.23	14.81	18.11	0.0647
15	1	37		16.57	16.26	14.79		
15	1	74		16.49	16.08	14.60		
15	36	0		16.47	16.18	14.78		
15	36	20		16.42	16.09	14.70		
15	36	39		16.45	16.05	14.62		
15	75	0		16.45	16.05	14.67		
Limit	EIRP < 23dBm/10MHz			Result			Pass	

Total EIRP power is less than partial EIRP limit 23 dBm/10MHz.



LTE Band 48 Maximum Average Power [dBm] (GT - LC = 1.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	21.38	21.41	19.85	22.91	0.1954
10	1	25		21.21	21.40	19.79		
10	1	49		21.38	21.24	19.72		
10	25	0		20.57	20.31	18.83		
10	25	12		20.62	20.24	18.80		
10	25	25		20.57	20.21	18.75		
10	50	0		20.55	20.90	18.79		
10	1	0	16-QAM	20.87	20.53	19.01	22.37	0.1726
10	1	25		20.81	20.46	19.01		
10	1	49		20.80	20.47	18.92		
10	25	0		19.67	19.32	17.81		
10	25	12		19.67	19.26	17.89		
10	25	25		19.62	19.20	17.73		
10	50	0		19.59	19.19	17.79		
10	1	0	64-QAM	19.92	19.59	18.11	21.42	0.1387
10	1	25		19.89	19.50	18.15		
10	1	49		19.87	19.46	18.05		
10	25	0		18.63	18.29	16.83		
10	25	12		18.66	18.24	16.85		
10	25	25		18.61	18.20	16.72		
10	50	0		18.59	18.17	16.77		
10	1	0	256-QAM	16.70	14.88	14.70	18.23	0.0665
10	1	25		16.67	14.87	14.85		
10	1	49		16.73	14.80	14.86		
10	25	0		16.63	14.80	14.81		
10	25	12		16.61	14.88	14.78		
10	25	25		16.65	14.71	14.75		
10	50	0		16.63	14.79	14.76		
Limit	EIRP < 23dBm/10MHz			Result			Pass	

Total EIRP power is less than partial EIRP limit 23 dBm/10MHz.



LTE Band 48 Maximum Average Power [dBm] (GT - LC = 1.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	21.40	21.26	19.63	22.90	0.1950
5	1	12		21.32	21.37	19.86		
5	1	24		21.33	21.24	19.73		
5	12	0		20.58	20.27	18.71		
5	12	7		20.60	20.22	18.71		
5	12	13		20.59	20.19	18.63		
5	25	0		20.58	20.17	18.71		
5	1	0	16-QAM	20.77	20.35	19.08	22.30	0.1698
5	1	12		20.80	20.58	18.91		
5	1	24		20.76	20.42	18.87		
5	12	0		19.57	19.34	17.73		
5	12	7		19.66	19.27	17.77		
5	12	13		19.60	19.21	17.67		
5	25	0		19.57	19.21	17.73		
5	1	0	64-QAM	19.81	19.46	17.98	21.45	0.1396
5	1	12		19.95	19.65	18.05		
5	1	24		19.79	19.61	17.91		
5	12	0		18.62	18.27	16.73		
5	12	7		18.65	18.25	16.74		
5	12	13		18.55	18.23	16.60		
5	25	0		18.56	18.24	16.70		
5	1	0	256-QAM	16.67	16.37	14.72	19.70	0.0933
5	1	12		16.82	16.46	14.81		
5	1	24		16.66	18.20	14.77		
5	12	0		16.57	16.25	14.68		
5	12	7		16.59	16.23	14.73		
5	12	13		16.58	16.18	14.60		
5	25	0		16.57	16.19	14.70		
Limit	EIRP < 23dBm/10MHz			Result			Pass	

Total EIRP power is less than partial EIRP limit 23 dBm/10MHz.



LTE Band 48C_CA Maximum Average Power [dBm] (GT - LC = 1.5 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
20+20	100	0	100	0	QPSK	17.22	16.90	15.87	18.92	0.0780
20+20	1	0	1	99		17.28	16.98	16.09		
20+20	1	99	1	0		17.42	16.65	15.45		
20+20	100	0	100	0	16-QAM	17.17	16.88	15.87	18.90	0.0776
20+20	1	0	1	99		17.39	17.26	16.57		
20+20	1	99	1	0		17.40	17.17	15.93		
20+20	100	0	100	0	64-QAM	17.15	16.92	15.89	18.86	0.0769
20+20	1	0	1	99		17.29	17.36	16.43		
20+20	1	99	1	0		17.13	17.10	15.82		
20+20	100	0	100	0	256-QAM	17.21	16.92	15.88	18.78	0.0755
20+20	1	0	1	99		17.28	17.20	16.32		
20+20	1	99	1	0		17.18	16.94	15.62		
20+15	100	0	75	0	QPSK	17.25	16.90	15.81	18.80	0.0759
20+15	1	0	1	74		17.30	16.95	16.00		
20+15	1	74	1	0		16.96	16.63	15.34		
20+15	100	0	75	0	16-QAM	17.22	16.90	15.84	18.90	0.0776
20+15	1	0	1	74		17.39	17.16	16.45		
20+15	1	74	1	0		17.40	17.09	15.83		
20+15	100	0	75	0	64-QAM	17.21	16.90	15.80	18.88	0.0773
20+15	1	0	1	74		17.31	17.34	16.47		
20+15	1	74	1	0		17.38	17.19	15.79		
20+15	100	0	75	0	256-QAM	17.28	16.95	15.83	18.87	0.0771
20+15	1	0	1	74		17.37	17.28	16.27		
20+15	1	74	1	0		17.31	17.06	15.71		
15+20	75	0	100	0	QPSK	17.24	16.98	15.86	18.74	0.0748
15+20	1	0	1	99		17.00	16.96	15.97		
15+20	1	74	1	0		17.01	16.69	15.44		
15+20	75	0	100	0	16-QAM	17.26	16.97	15.93	18.85	0.0767
15+20	1	0	1	99		17.35	17.21	16.51		
15+20	1	74	1	0		17.23	17.11	16.13		
15+20	75	0	100	0	64-QAM	17.24	16.99	15.90	18.90	0.0776
15+20	1	0	1	99		17.29	17.40	16.51		
15+20	1	74	1	0		17.37	17.29	16.04		
15+20	75	0	100	0	256-QAM	17.27	17.02	15.93	18.84	0.0766
15+20	1	0	1	99		17.27	17.33	16.25		
15+20	1	74	1	0		17.34	17.06	15.86		
Limit	EIRP < 23dBm/10MHz				Result			Pass		

Total EIRP power is less than partial EIRP limit 23 dBm/10MHz.



LTE Band 48C_CA Maximum Average Power [dBm] (GT - LC = 1.5 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
20+10	100	0	50	0	QPSK	17.28	16.94	15.76	18.88	0.0773
20+10	1	0	1	49		17.38	17.01	15.87		
20+10	1	99	1	0		16.88	16.60	15.32		
20+10	100	0	50	0	16-QAM	17.27	16.96	15.77	18.88	0.0773
20+10	1	0	1	49		17.38	17.02	15.89		
20+10	1	99	1	0		16.90	16.61	15.34		
20+10	100	0	50	0	64-QAM	17.25	16.93	15.79	18.85	0.0767
20+10	1	0	1	49		17.35	17.05	15.88		
20+10	1	99	1	0		16.87	16.60	15.41		
20+10	100	0	50	0	256-QAM	17.27	16.90	15.75	18.83	0.0764
20+10	1	0	1	49		17.33	17.00	15.80		
20+10	1	99	1	0		16.92	16.62	15.35		
10+20	50	0	100	0	QPSK	17.27	17.00	15.88	18.86	0.0769
10+20	1	0	1	99		17.36	17.06	15.92		
10+20	1	49	1	0		17.01	16.81	15.53		
10+20	50	0	100	0	16-QAM	17.25	17.01	15.88	18.89	0.0774
10+20	1	0	1	99		17.39	17.12	15.91		
10+20	1	49	1	0		17.02	16.85	15.54		
10+20	50	0	100	0	64-QAM	17.27	17.03	15.85	18.83	0.0764
10+20	1	0	1	99		17.33	17.13	15.89		
10+20	1	49	1	0		17.03	16.90	15.55		
10+20	50	0	100	0	256-QAM	17.22	17.01	15.90	18.83	0.0764
10+20	1	0	1	99		17.33	17.11	15.92		
10+20	1	49	1	0		17.00	16.80	15.54		
20+5	100	0	25	0	QPSK	17.27	16.95	15.65	18.89	0.0774
20+5	1	0	1	24		17.39	17.12	15.88		
20+5	1	99	1	0		16.93	16.54	15.21		
20+5	100	0	25	0	16-QAM	17.29	16.95	15.67	18.90	0.0776
20+5	1	0	1	24		17.40	17.13	15.89		
20+5	1	99	1	0		16.97	16.55	15.22		
20+5	100	0	25	0	64-QAM	17.23	16.99	15.65	18.91	0.0778
20+5	1	0	1	24		17.41	17.19	15.85		
20+5	1	99	1	0		16.99	16.60	15.19		
20+5	100	0	25	0	256-QAM	17.21	16.92	15.64	18.87	0.0771
20+5	1	0	1	24		17.37	17.22	15.88		
20+5	1	99	1	0		16.97	16.61	15.25		
Limit	EIRP < 23dBm/10MHz					Result			Pass	

Total EIRP power is less than partial EIRP limit 23 dBm/10MHz.



LTE Band 48C_CA Maximum Average Power [dBm] (GT - LC = 1.5 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
5+20	25	0	100	0	QPSK	17.02	17.00	15.87	18.73	0.0746
5+20	1	0	1	99		17.23	17.05	15.99		
5+20	1	24	1	0		16.96	16.85	15.69		
5+20	25	0	100	0	16-QAM	17.01	16.99	15.85	18.74	0.0748
5+20	1	0	1	99		17.24	17.09	16.05		
5+20	1	24	1	0		17.13	16.87	15.73		
5+20	25	0	100	0	64-QAM	17.09	16.98	15.89	18.83	0.0764
5+20	1	0	1	99		17.33	17.11	16.06		
5+20	1	24	1	0		17.05	16.85	15.72		
5+20	25	0	100	0	256-QAM	17.11	16.90	15.85	18.84	0.0766
5+20	1	0	1	99		17.34	17.02	16.01		
5+20	1	24	1	0		17.10	16.88	15.69		
Limit	EIRP < 23dBm/10MHz					Result			Pass	

Total EIRP power is less than partial EIRP limit 23 dBm/10MHz.



Appendix B. Test Results of Radiated Test

LTE Band 48

Mode	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	7100	-44.53	-40	-4.53	-44.53	-54.25	1.18	10.90	H
	10650	-55.90	-40	-15.90	-55.9	-65.95	1.48	11.53	H
	14199.7	-55.42	-40	-15.42	-55.42	-65.63	1.68	11.89	H
	7100	-43.69	-40	-3.69	-43.69	-53.41	1.18	10.90	V
	10650	-56.87	-40	-16.87	-56.87	-66.92	1.48	11.53	V
	14199.7	-54.69	-40	-14.69	-54.69	-64.90	1.68	11.89	V

Mode	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)
Middle	7230	-40.74	-40	-0.74	-40.74	-49.95	1.20	10.40	H
	10845	-56.28	-40	-16.28	-56.28	-66.46	1.48	11.67	H
	14462	-55.55	-40	-15.55	-55.55	-66.25	1.71	12.42	H
	7230	-45.01	-40	-5.01	-45.01	-54.22	1.20	10.40	V
	10845	-56.89	-40	-16.89	-56.89	-67.07	1.48	11.67	V
	14462	-55.41	-40	-15.41	-55.41	-66.11	1.71	12.42	V



Mode	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)
Highest	7360	-42.31	-40	-2.31	-42.31	-51.96	1.18	10.83	H
	11040	-55.54	-40	-15.54	-55.54	-66.22	1.49	12.17	H
	14718.2	-55.70	-40	-15.70	-55.7	-66.55	1.72	12.57	H
	7360	-44.65	-40	-4.65	-44.65	-54.30	1.18	10.83	V
	11040	-56.17	-40	-16.17	-56.17	-66.85	1.49	12.17	V
	14718.2	-54.38	-40	-14.38	-54.38	-65.23	1.72	12.57	V



LTE Band 48 CA

Mode	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	7140	-49.16	-40	-9.16	-49.16	-58.69	1.19	10.72	H
	10710	-55.95	-40	-15.95	-55.95	-65.96	1.48	11.49	H
	14279	-55.11	-40	-15.11	-55.11	-65.40	1.69	11.98	H
	7140	-50.32	-40	-10.32	-50.32	-59.85	1.19	10.72	V
	10710	-56.99	-40	-16.99	-56.99	-67.00	1.48	11.49	V
	14279	-55.13	-40	-15.13	-55.13	-65.42	1.69	11.98	V

Mode	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)
Middle	7250	-48.29	-40	-8.29	-48.29	-57.46	1.19	10.36	H
	10870	-56.27	-40	-16.27	-56.27	-66.52	1.48	11.74	H
	14449.8	-56.24	-40	-16.24	-56.24	-66.93	1.71	12.40	H
	7250	-51.43	-40	-11.43	-51.43	-60.60	1.19	10.36	V
	10870	-57.15	-40	-17.15	-57.15	-67.40	1.48	11.74	V
	14449.8	-54.66	-40	-14.66	-54.66	-65.35	1.71	12.40	V



Mode	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)
Highest	7360	-41.05	-40	-1.05	-41.05	-50.70	1.18	10.83	H
	11040	-55.14	-40	-15.14	-55.14	-65.82	1.49	12.17	H
	14720	-55.79	-40	-15.79	-55.79	-66.64	1.72	12.58	H
	7360	-44.52	-40	-4.52	-44.52	-54.17	1.18	10.83	V
	11040	-56.19	-40	-16.19	-56.19	-66.87	1.49	12.17	V
	14720	-54.24	-40	-14.24	-54.24	-65.09	1.72	12.58	V

Appendix C. Setup Photographs

<Radiated Emission>

Y Plane

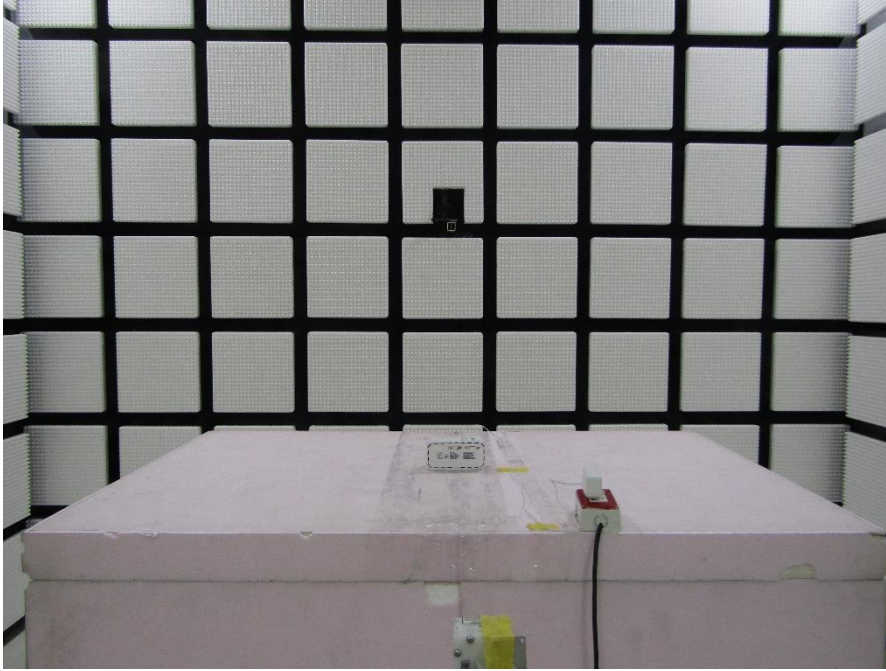
LF



HF



SHF



————THE END————