



FCC RF Test Report

APPLICANT : Innowi Inc.
EQUIPMENT : ChecOut M
BRAND NAME : Innowi
MODEL NAME : IWCHT-M102
FCC ID : 2AO2Y-IWCHTM102
STANDARD : 47 CFR Part 2, 22(H), 24(E), 27(L), 27(H), 27(F)
CLASSIFICATION : PCS Licensed Transmitter (PCB)

The product was received on Aug. 08, 2018 and completely tested on Aug. 16, 2018. We, Sporton International (Shenzhen) Inc., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

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

Eric Shih



Approved by: Eric Shih / Manager

Sporton International (Shenzhen) Inc.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG7D0101-01B	Rev. 01	Initial issue of report	Sep. 27, 2018

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§22.913(a)(5)	Effective Radiated Power (Band 5)	ERP < 7 Watt	PASS	
	§27.50(b)(10) §27.50(c)(10)	Effective Radiated Power (Band 12) (Band 13)	ERP < 3 Watt	PASS	
	§24.232(c)	Equivalent Isotropic Radiated Power (Band 2)	EIRP < 2Watt	PASS	
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt	PASS	
4.4	§2.1053 §22.917(a) §24.238(a) §27.53(c)(2) §27.53(g) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13)	< 43+10log ₁₀ (P[Watts])	PASS	Under limit 1.15 dB at 1559.500 MHz



1 General Description

1.1 Applicant

Innowi Inc.

3240 Scott Blvd. Santa Clara CA 95054 USA

1.2 Manufacturer

Innowi Inc.

3240 Scott Blvd. Santa Clara CA 95054 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	ChecOut M
Brand Name	Innowi
Model Name	IWCHT-M102
FCC ID	2AO2Y-IWCHTM102
EUT supports Radios application	WCDMA/HSPA/HSPA+(16QAM uplink is not supported)/ LTE/NFC WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT80 Bluetooth BR / EDR / LE
HW Version	ChecOut M HW v1.
SW Version	ChecOut M A-LTE v1.0
EUT Stage	Identical Prototype

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	LTE Band 2 : 1850.7 MHz ~ 1909.3 MHz LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz LTE Band 5 : 824.7 MHz ~ 848.3 MHz LTE Band 12 : 699.7 MHz ~ 715.3 MHz LTE Band 13 : 779.5 MHz ~ 784.5 MHz
Rx Frequency	LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz LTE Band 5 : 869.7 MHz ~ 893.3 MHz LTE Band 12 : 729.7 MHz ~ 745.3 MHz LTE Band 13 : 748.5 MHz ~ 753.5 MHz
Bandwidth	LTE Band 2 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 13 : 5MHz / 10MHz
Maximum Output Power to Antenna	LTE Band 2 : 22.53 dBm LTE Band 4 : 22.38 dBm LTE Band 5 : 22.71 dBm LTE Band 12 : 22.62 dBm LTE Band 13 : 22.45 dBm
Antenna Gain	LTE Band 2 : 2.11 dBi LTE Band 4 : 0.62 dBi LTE Band 5 : -4.56 dBi LTE Band 12 : -3.85 dBi LTE Band 13 : -3.68 dBi
Type of Modulation	QPSK / 16QAM

1.5 Modification of EUT

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



1.6 Re-use of Measured Data

1.6.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model: IWCHT-M102, FCC ID: 2AO2Y-IWCHTM102) is electrically identical to the reference device (Model: LE910-NA V2, FCC ID: RI7LE910NAV2) for the portions of the circuitry corresponding to the data being re-used, as treated by KDB Publication 996369 D01v02.

1.6.2 Difference Section

For details concerning the similarity with respect to component placement, mechanical/electrical design etc., please refer to the Product Equality Declaration.

The re-used RF data includes the following bands provided in Appendix D (RF Report No. 1506FR21-01 for the reference device Model: LE910-NA V2, FCC ID: RI7LE910NAV2).

1.6.3 Reference detail Section:

Equipment Class	Reference FCC ID	Folder Test	Report Title/Section
PCE (2G/3G)	RI7LE910NAV2	Part22H.24E.27L(1506FR22-01)	All conducted sections applicable
PCE (LTE)	RI7LE910NAV2	Part22H.24E.27L.27M.27F.27H (1506FR21-01)	All conducted (except LTE Band 17) sections applicable

**1.6.4 Spot Check Verification Data Section**

In order to confirm hardware similarity of the subject device with the reference device, spot check measurements were performed on the subject device for the following test items, the test result were consistent with FCC ID: RI7LE910NAV2.

Assertions concerning the similarity of these devices are based on representations by the applicant. The applicant accepts full responsibility for the validity of the similarity claim, and for the determination that verification test data are sufficient to support it.

Test Item	Mode	RI7LE910NAV2 Worst Result	2AO2Y-IWCHTM102 Worst Result	Difference (dB)
Average Conducted Power (dBm)	WCDMA Band II	23.66	22.59	1.07
	WCDMA Band V	23.59	23.19	0.40
	LTE Band 2	23.43	22.53	0.90
	LTE Band 4	23.12	22.38	0.74
	LTE Band 5	22.90	22.71	0.19
	LTE Band 12	22.86	22.62	0.24
	LTE Band 13	22.88	22.45	0.43



1.7 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator

LTE Band 2		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Maximum EIRP(W)
1.4	1850.7 ~ 1909.3	0.2723	0.2339
3	1851.5 ~ 1908.5	0.2704	0.2296
5	1852.5 ~ 1907.5	0.2710	0.2355
10	1855.0 ~ 1905.0	0.2831	0.2443
15	1857.5 ~ 1902.5	0.2884	0.2535
20	1860.0 ~ 1900.0	0.2911	0.2477
LTE Band 4		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Maximum EIRP(W)
1.4	1710.7 ~ 1754.3	0.1795	0.1521
3	1711.5 ~ 1753.5	0.1795	0.1483
5	1712.5 ~ 1752.5	0.1786	0.1510
10	1715.0 ~ 1750.0	0.1892	0.1603
15	1717.5 ~ 1747.5	0.1995	0.1641
20	1720.0 ~ 1745.0	0.2009	0.1633
LTE Band 5		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Maximum ERP(W)
1.4	824.7 ~ 848.3	0.0397	0.0337
3	825.5 ~ 847.5	0.0397	0.0334
5	826.5 ~ 846.5	0.0394	0.0337
10	829.0 ~ 844.0	0.0398	0.0327
LTE Band 12		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Maximum ERP(W)
1.4	699.7 ~ 715.3	0.0446	0.0390
3	700.5 ~ 714.5	0.0444	0.0385
5	701.5 ~ 713.5	0.0450	0.0385
10	704.0 ~ 711.0	0.0459	0.0382
LTE Band 13		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Maximum ERP(W)
5	779.5 ~ 784.5	0.0453	0.0382
10	782.0	0.0459	0.0366



1.8 Testing Location

Sporton International (Shenzhen) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0).

Test Site	Sporton International (Shenzhen) Inc.		
Test Site Location	No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan District, Shenzhen City, Guangdong Province 518055, China TEL: +86-755- 3320-2398		
Test Site No.	Sporton Site No.	FCC designation No.	FCC Test Firm Registration No.
	03CH02-SZ	CN5019	577730

1.9 Applicable Standards

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

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

Remark:

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



2 Test Configuration of Equipment Under Test

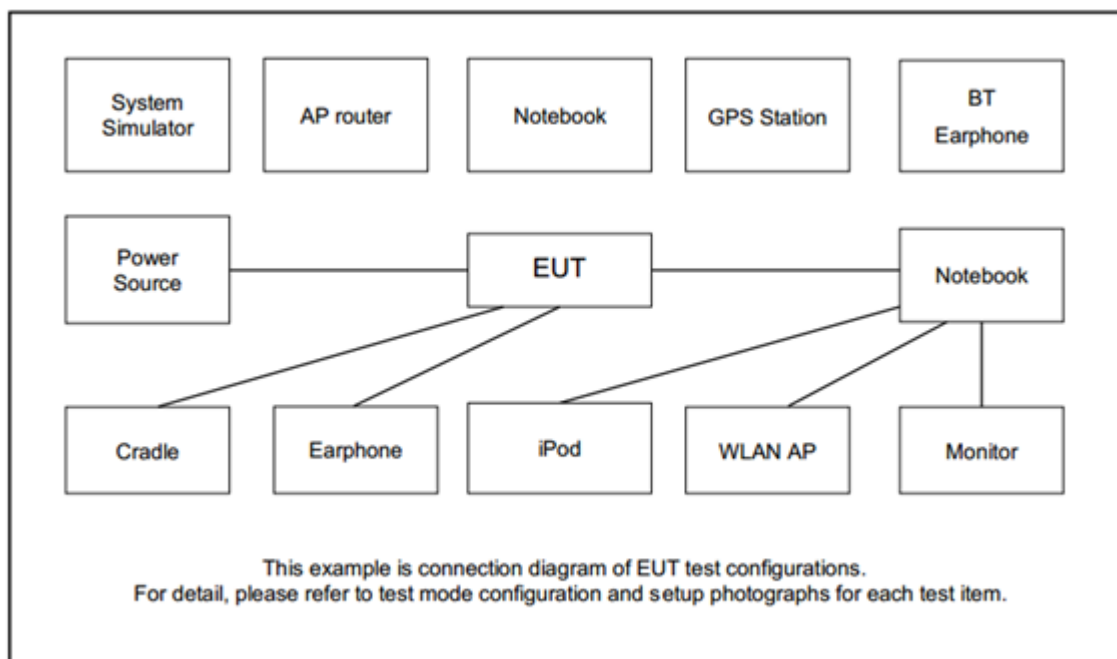
2.1 Test Mode

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

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

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
E.R.P / E.I.R.P	2	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
	5	v	v	v	v	-	-	v	v	-	v			v	v	v
	12	v	v	v	v	-	-	v	v	-	v			v	v	v
	13	-	-	v	v	-	-	v	v	-	v			v	v	v
Radiated Spurious Emission	2	Worst Case													v	
	4	Worst Case													v	
	5	Worst Case													v	
	12	Worst Case													v	
	13	Worst Case													v	
Note	1. The mark "v " means that this configuration is chosen for testing 2. The mark "- " means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.															

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8820C	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

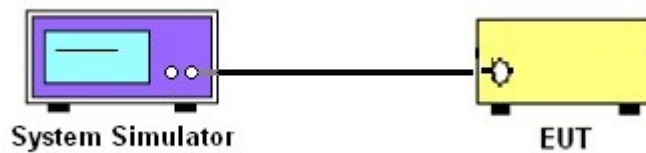
3 Conducted Test Items

3.1 Measuring Instruments

See list of measuring instruments of this test report.

3.2 Test Setup

3.2.1 Conducted Output Power



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and ERP/EIRP

3.4.1 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.

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

3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

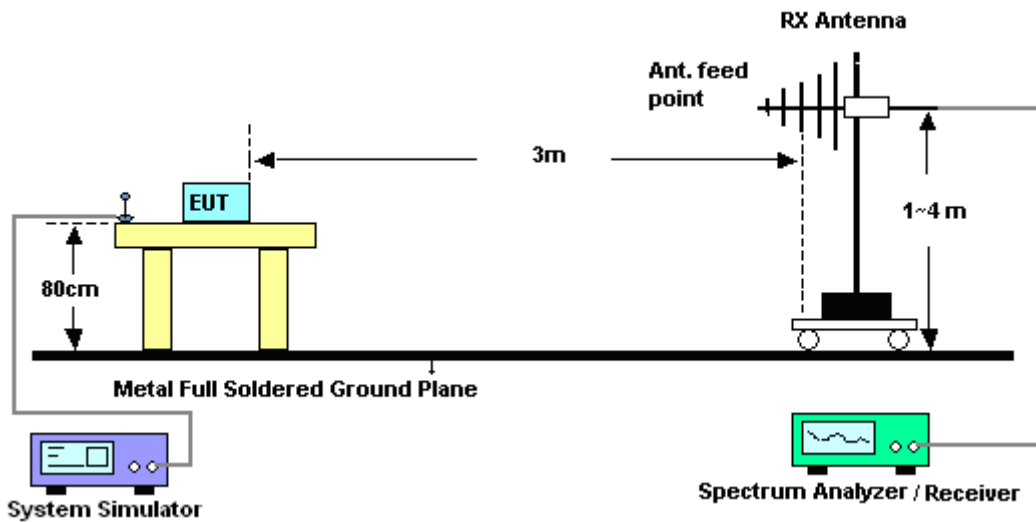
4 Radiated Test Items

4.1 Measuring Instruments

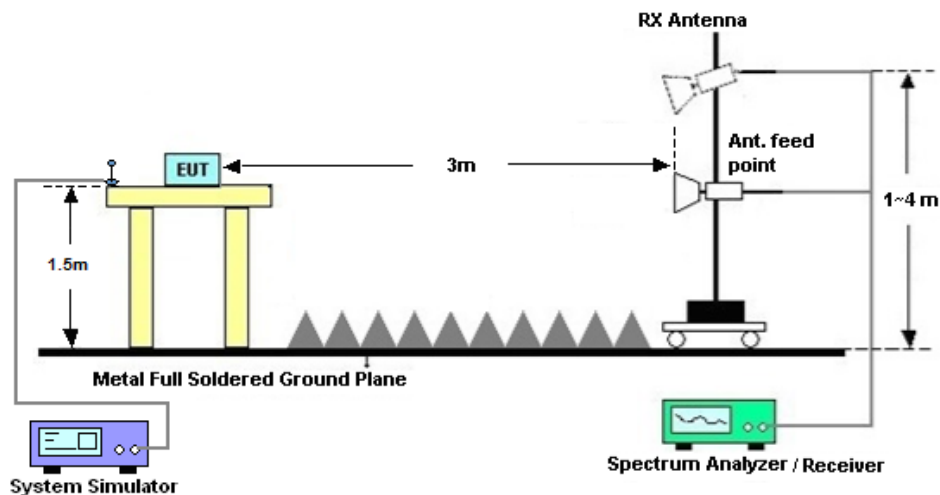
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test from 30MHz to 1GHz



4.2.2 For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.



4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission

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

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. $\text{EIRP (dBm)} = \text{S.G. Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$
11. $\text{ERP (dBm)} = \text{EIRP} - 2.15$
12. 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)
 $= P(W) - [43 + 10\log(P)] \text{ (dB)}$
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$
 $= -13\text{dBm}.$



5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101041	10kHz~40GHz;Ma x 30dBm	Oct. 19, 2017	Aug. 16, 2018	Oct. 18, 2018	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	May 10, 2018	Aug. 16, 2018	May 09, 2019	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1285	1GHz~18GHz	Dec. 13, 2017	Aug. 16, 2018	Dec. 12, 2018	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 30, 2018	Aug. 16, 2018	Jul.29, 2019	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Mar. 30, 2018	Aug. 16, 2018	Mar. 29, 2019	Radiation (03CH02-SZ)
LF Amplifier	Burgeon	BPA-530	102211	0.01~3000Mhz	Oct. 19, 2017	Aug. 16, 2018	Oct. 18, 2018	Radiation (03CH02-SZ)
HF Amplifier	Agilent	8449B	3008A01023	1GHz~26.5GHz	Oct. 19, 2017	Aug. 16, 2018	Oct. 18, 2018	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010002470	N/A	NCR	Aug. 16, 2018	NCR	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Aug. 16, 2018	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Aug. 16, 2018	NCR	Radiation (03CH02-SZ)

NCR: No Calibration Required



6 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.5 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.3 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.7 dB
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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	22.47	22.35	22.53
20	1	49		22.02	22.16	22.33
20	1	99		21.97	22.05	22.13
20	50	0		21.20	21.24	21.41
20	50	24		21.07	20.95	21.17
20	50	50		20.97	20.91	21.14
20	100	0		21.18	21.20	21.29
20	1	0	16-QAM	21.83	21.71	21.81
20	1	49		21.32	21.10	21.41
20	1	99		20.93	21.02	21.26
20	50	0		20.51	20.34	20.53
20	50	24		20.23	20.05	20.27
20	50	50		20.10	19.98	20.23
20	100	0		20.25	20.16	20.34
15	1	0	QPSK	22.49	22.39	22.46
15	1	37		22.11	21.89	22.15
15	1	74		21.86	21.93	22.10
15	36	0		21.38	21.28	21.40
15	36	20		21.15	21.07	21.21
15	36	39		21.07	21.04	21.19
15	75	0		21.22	21.19	21.33
15	1	0	16-QAM	21.92	21.77	21.93
15	1	37		21.54	21.29	21.50
15	1	74		21.34	21.33	21.48
15	36	0		20.53	20.39	20.53
15	36	20		20.30	20.15	20.31
15	36	39		20.21	20.12	20.29
15	75	0		20.34	20.24	20.39



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.36	22.20	22.41
10	1	25		22.08	21.89	22.15
10	1	49		22.01	21.92	22.05
10	25	0		21.25	21.13	21.31
10	25	12		21.11	21.03	21.22
10	25	25		21.09	20.99	21.19
10	50	0		21.18	21.10	21.28
10	1	0	16-QAM	21.73	21.55	21.77
10	1	25		21.47	21.31	21.49
10	1	49		21.41	21.31	21.44
10	25	0		20.42	20.25	20.46
10	25	12		20.27	20.11	20.33
10	25	25		20.22	20.10	20.35
10	50	0		20.32	20.20	20.37
5	1	0	QPSK	22.13	21.97	22.22
5	1	12		22.10	21.96	22.20
5	1	24		21.94	21.85	22.14
5	12	0		21.19	21.07	21.31
5	12	7		21.10	21.00	21.18
5	12	13		21.09	20.96	21.18
5	25	0		21.12	21.01	21.27
5	1	0	16-QAM	21.52	21.33	21.59
5	1	12		21.47	21.30	21.61
5	1	24		21.38	21.23	21.46
5	12	0		20.35	20.18	20.39
5	12	7		20.32	20.16	20.36
5	12	13		20.24	20.08	20.31
5	25	0		20.27	20.13	20.39



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.11	21.93	22.21
3	1	8		22.07	21.92	22.20
3	1	14		22.05	21.87	22.14
3	8	0		21.14	21.03	21.31
3	8	4		21.11	20.99	21.27
3	8	7		21.10	20.99	21.22
3	15	0		21.12	21.00	21.24
3	1	0	16-QAM	21.42	21.18	21.50
3	1	8		21.41	21.20	21.47
3	1	14		21.30	21.16	21.41
3	8	0		20.30	20.15	20.39
3	8	4		20.24	20.09	20.35
3	8	7		20.28	20.10	20.37
3	15	0		20.31	20.16	20.38
1.4	1	0	QPSK	22.09	21.96	22.23
1.4	1	3		22.10	21.92	22.21
1.4	1	5		22.11	21.94	22.21
1.4	3	0		22.15	22.02	22.24
1.4	3	1		22.06	21.96	22.18
1.4	3	3		22.12	21.99	22.19
1.4	6	0		21.10	20.99	21.22
1.4	1	0	16-QAM	21.49	21.32	21.58
1.4	1	3		21.49	21.31	21.58
1.4	1	5		21.47	21.30	21.54
1.4	3	0		21.25	21.13	21.39
1.4	3	1		21.26	21.12	21.41
1.4	3	3		21.25	21.13	21.36
1.4	6	0		20.31	20.17	20.43



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	22.21	22.38	22.19
20	1	49		22.01	22.05	21.96
20	1	99		21.73	21.74	21.66
20	50	0		21.04	21.11	20.98
20	50	24		20.78	20.83	20.64
20	50	50		20.69	20.63	20.53
20	100	0		20.84	20.93	20.74
20	1	0	16-QAM	21.41	21.48	21.45
20	1	49		20.94	20.92	20.84
20	1	99		20.69	20.62	20.57
20	50	0		20.07	20.08	19.99
20	50	24		19.79	19.79	19.69
20	50	50		19.69	19.67	19.58
20	100	0		19.85	19.83	19.77
15	1	0	QPSK	22.26	22.35	22.26
15	1	37		21.80	21.84	21.71
15	1	74		21.72	21.75	21.61
15	36	0		21.00	21.09	20.95
15	36	20		20.79	20.81	20.68
15	36	39		20.76	20.75	20.63
15	75	0		20.88	20.91	20.78
15	1	0	16-QAM	21.41	21.40	21.50
15	1	37		21.11	21.08	20.98
15	1	74		21.02	20.98	20.92
15	36	0		20.09	20.05	20.01
15	36	20		19.89	19.78	19.75
15	36	39		19.83	19.75	19.67
15	75	0		19.91	19.88	19.81



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.12	22.10	22.01
10	1	25		21.84	21.78	21.68
10	1	49		21.77	21.70	21.64
10	25	0		20.87	20.89	20.82
10	25	12		20.76	20.76	20.67
10	25	25		20.73	20.70	20.64
10	50	0		20.81	20.81	20.72
10	1	0	16-QAM	21.40	21.34	21.29
10	1	25		21.13	21.05	20.96
10	1	49		21.08	20.95	20.88
10	25	0		19.99	19.97	19.89
10	25	12		19.85	19.81	19.74
10	25	25		19.83	19.76	19.71
10	50	0		19.90	19.89	19.81
5	1	0	QPSK	21.87	21.86	21.76
5	1	12		21.84	21.74	21.70
5	1	24		21.75	21.67	21.59
5	12	0		20.85	20.82	20.72
5	12	7		20.81	20.74	20.62
5	12	13		20.78	20.71	20.62
5	25	0		20.77	20.72	20.65
5	1	0	16-QAM	21.09	21.14	21.03
5	1	12		21.04	21.03	20.92
5	1	24		21.00	20.94	20.84
5	12	0		19.90	19.89	19.80
5	12	7		19.81	19.81	19.77
5	12	13		19.81	19.77	19.71
5	25	0		19.84	19.79	19.74



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	21.89	21.88	21.78
3	1	8		21.82	21.83	21.68
3	1	14		21.77	21.77	21.63
3	8	0		20.80	20.80	20.66
3	8	4		20.79	20.76	20.63
3	8	7		20.76	20.73	20.61
3	15	0		20.79	20.73	20.64
3	1	0	16-QAM	21.06	21.01	20.95
3	1	8		21.04	20.97	20.93
3	1	14		20.99	20.90	20.85
3	8	0		19.89	19.86	19.76
3	8	4		19.89	19.78	19.70
3	8	7		19.87	19.81	19.75
3	15	0		19.89	19.84	19.77
1.4	1	0	QPSK	21.86	21.85	21.77
1.4	1	3		21.83	21.83	21.76
1.4	1	5		21.86	21.84	21.75
1.4	3	0		21.87	21.89	21.78
1.4	3	1		21.85	21.88	21.73
1.4	3	3		21.85	21.88	21.75
1.4	6	0		20.79	20.76	20.62
1.4	1	0	16-QAM	21.17	21.13	21.01
1.4	1	3		21.17	21.16	21.01
1.4	1	5		21.08	21.12	20.95
1.4	3	0		20.87	20.90	20.80
1.4	3	1		20.85	20.89	20.77
1.4	3	3		20.85	20.86	20.76
1.4	6	0		19.90	19.89	19.77



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.71	22.53	22.37
10	1	25		22.63	22.43	22.37
10	1	49		22.39	22.17	22.20
10	25	0		21.63	21.48	21.37
10	25	12		21.57	21.40	21.31
10	25	25		21.51	21.31	21.29
10	50	0		21.58	21.41	21.34
10	1	0	16-QAM	21.86	21.85	21.75
10	1	25		21.81	21.77	21.71
10	1	49		21.75	21.55	21.53
10	25	0		20.69	20.53	20.40
10	25	12		20.60	20.46	20.38
10	25	25		20.52	20.34	20.29
10	50	0		20.60	20.45	20.39
5	1	0	QPSK	22.67	22.44	22.28
5	1	12		22.60	22.42	22.31
5	1	24		22.52	22.29	22.26
5	12	0		21.67	21.47	21.32
5	12	7		21.62	21.42	21.33
5	12	13		21.59	21.35	21.29
5	25	0		21.63	21.42	21.35
5	1	0	16-QAM	21.98	21.79	21.70
5	1	12		21.95	21.74	21.71
5	1	24		21.82	21.61	21.61
5	12	0		20.69	20.53	20.40
5	12	7		20.65	20.50	20.36
5	12	13		20.62	20.42	20.34
5	25	0		20.62	20.48	20.40



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.70	22.44	22.31
3	1	8		22.62	22.42	22.36
3	1	14		22.58	22.38	22.31
3	8	0		21.66	21.43	21.34
3	8	4		21.67	21.42	21.34
3	8	7		21.64	21.40	21.35
3	15	0		21.65	21.43	21.35
3	1	0	16-QAM	21.95	21.72	21.61
3	1	8		21.95	21.71	21.65
3	1	14		21.83	21.59	21.59
3	8	0		20.67	20.51	20.43
3	8	4		20.66	20.45	20.35
3	8	7		20.63	20.45	20.39
3	15	0		20.73	20.52	20.44
1.4	1	0	QPSK	22.70	22.49	22.38
1.4	1	3		22.64	22.44	22.40
1.4	1	5		22.70	22.47	22.39
1.4	3	0		22.67	22.47	22.38
1.4	3	1		22.67	22.45	22.38
1.4	3	3		22.67	22.47	22.40
1.4	6	0		21.60	21.46	21.40
1.4	1	0	16-QAM	21.99	21.86	21.68
1.4	1	3		21.94	21.84	21.65
1.4	1	5		21.98	21.82	21.66
1.4	3	0		21.77	21.56	21.41
1.4	3	1		21.75	21.55	21.42
1.4	3	3		21.79	21.54	21.45
1.4	6	0		20.70	20.52	20.40



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.62	22.47	22.34
10	1	25		22.40	22.34	22.33
10	1	49		22.26	22.23	22.18
10	25	0		21.51	21.42	21.35
10	25	12		21.45	21.39	21.30
10	25	25		21.40	21.38	21.27
10	50	0		21.42	21.41	21.40
10	1	0	16-QAM	21.77	21.82	21.80
10	1	25		21.78	21.79	21.78
10	1	49		21.60	21.64	21.66
10	25	0		20.58	20.59	20.54
10	25	12		20.55	20.51	20.49
10	25	25		20.50	20.48	20.51
10	50	0		20.49	20.51	20.53
5	1	0	QPSK	22.44	22.32	22.26
5	1	12		22.53	22.33	22.31
5	1	24		22.37	22.26	22.25
5	12	0		21.54	21.43	21.41
5	12	7		21.48	21.39	21.37
5	12	13		21.45	21.38	21.37
5	25	0		21.47	21.39	21.37
5	1	0	16-QAM	21.86	21.76	21.70
5	1	12		21.84	21.72	21.72
5	1	24		21.69	21.64	21.63
5	12	0		20.60	20.55	20.52
5	12	7		20.63	20.51	20.50
5	12	13		20.59	20.51	20.48
5	25	0		20.57	20.49	20.53



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.46	22.34	22.28
3	1	8		22.47	22.32	22.31
3	1	14		22.47	22.31	22.29
3	8	0		21.56	21.42	21.39
3	8	4		21.55	21.43	21.38
3	8	7		21.48	21.37	21.36
3	15	0		21.50	21.42	21.37
3	1	0	16-QAM	21.79	21.73	21.63
3	1	8		21.86	21.73	21.70
3	1	14		21.75	21.65	21.62
3	8	0		20.61	20.52	20.54
3	8	4		20.61	20.50	20.47
3	8	7		20.63	20.51	20.50
3	15	0		20.67	20.56	20.53
1.4	1	0	QPSK	22.43	22.37	22.34
1.4	1	3		22.43	22.35	22.35
1.4	1	5		22.46	22.38	22.38
1.4	3	0		22.44	22.37	22.36
1.4	3	1		22.49	22.39	22.36
1.4	3	3		22.40	22.37	22.38
1.4	6	0		21.55	21.43	21.42
1.4	1	0	16-QAM	21.87	21.76	21.78
1.4	1	3		21.91	21.78	21.75
1.4	1	5		21.87	21.76	21.85
1.4	3	0		21.70	21.58	21.55
1.4	3	1		21.69	21.56	21.53
1.4	3	3		21.70	21.54	21.54
1.4	6	0		20.67	20.55	20.53



LTE Band 13 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK		22.09	
10	1	25			22.45	
10	1	49			22.03	
10	25	0			21.41	
10	25	12			21.35	
10	25	25			21.26	
10	50	0			21.31	
10	1	0	16-QAM		21.32	
10	1	25			21.46	
10	1	49			20.95	
10	25	0			20.40	
10	25	12			20.37	
10	25	25			20.34	
10	50	0			20.42	
5	1	0	QPSK	22.37	22.35	22.34
5	1	12		22.37	22.39	22.32
5	1	24		22.32	22.24	22.23
5	12	0		21.39	21.36	21.37
5	12	7		21.37	21.35	21.30
5	12	13		21.31	21.33	21.24
5	25	0		21.31	21.31	21.29
5	1	0	16-QAM	21.61	21.63	21.65
5	1	12		21.64	21.61	21.58
5	1	24		21.54	21.53	21.46
5	12	0		20.44	20.48	20.43
5	12	7		20.42	20.47	20.37
5	12	13		20.41	20.43	20.35
5	25	0		20.39	20.38	20.37

**ERP/EIRP**

LTE Band 2 (GT - LC = 2.11 dBi) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	18607	18900	19193	18615	18900	19185	18625	18900	19175
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	1850.7	1880	1909.3	1851.5	1880	1908.5	1852.5	1880	1907.5
(MHz)									
Conducted Power (dBm)	22.15	22.02	22.24	22.11	21.93	22.21	22.13	21.97	22.22
Conducted Power (Watts)	0.1641	0.1592	0.1675	0.1626	0.1560	0.1663	0.1633	0.1574	0.1667
EIRP(dBm)	24.26	24.13	24.35	24.22	24.04	24.32	24.24	24.08	24.33
EIRP(Watts)	0.2667	0.2588	0.2723	0.2642	0.2535	0.2704	0.2655	0.2559	0.2710

LTE Band 2 (GT - LC = 2.11 dBi) QPSK									
Bandwidth	10M			15M			20M		
Channel	18650	18900	19150	18675	18900	19125	18650	18900	19100
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	1855	1880	1905	1857.5	1880	1902.5	1860	1880	1900
(MHz)									
Conducted Power (dBm)	22.36	22.20	22.41	22.49	22.39	22.46	22.47	22.35	22.53
Conducted Power (Watts)	0.1722	0.1660	0.1742	0.1774	0.1734	0.1762	0.1766	0.1718	0.1791
EIRP(dBm)	24.47	24.31	24.52	24.60	24.50	24.57	24.58	24.46	24.64
EIRP(Watts)	0.2799	0.2698	0.2831	0.2884	0.2818	0.2864	0.2871	0.2793	0.2911



LTE Band 2 (GT - LC = 2.11 dBi) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	18607	18900	19193	18615	18900	19185	18625	18900	19175
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	1850.7	1880	1909.3	1851.5	1880	1908.5	1852.5	1880	1907.5
(MHz)									
Conducted Power (dBm)	21.49	21.32	21.58	21.42	21.18	21.50	21.47	21.30	21.61
Conducted Power (Watts)	0.1409	0.1355	0.1439	0.1387	0.1312	0.1413	0.1403	0.1349	0.1449
EIRP(dBm)	23.60	23.43	23.69	23.53	23.29	23.61	23.58	23.41	23.72
EIRP(Watts)	0.2291	0.2203	0.2339	0.2254	0.2133	0.2296	0.2280	0.2193	0.2355

LTE Band 2 (GT - LC = 2.11 dBi) 16QAM									
Bandwidth	10M			15M			20M		
Channel	18650	18900	19150	18675	18900	19125	18650	18900	19100
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	1855	1880	1905	1857.5	1880	1902.5	1860	1880	1900
(MHz)									
Conducted Power (dBm)	21.73	21.55	21.77	21.92	21.77	21.93	21.83	21.71	21.81
Conducted Power (Watts)	0.1489	0.1429	0.1503	0.1556	0.1503	0.1560	0.1524	0.1483	0.1517
EIRP(dBm)	23.84	23.66	23.88	24.03	23.88	24.04	23.94	23.82	23.92
EIRP(Watts)	0.2421	0.2323	0.2443	0.2529	0.2443	0.2535	0.2477	0.2410	0.2466



LTE Band 4 (GT - LC = 0.65 dBi) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	19957	20175	20393	19965	20175	20385	19975	20175	20375
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	1710.7	1732.5	1754.3	1711.5	1732.5	1753.5	1712.5	1732.5	1752.5
(MHz)									
Conducted Power (dBm)	21.87	21.89	21.78	21.89	21.88	21.78	21.87	21.86	21.76
Conducted Power (Watts)	0.1538	0.1545	0.1507	0.1545	0.1542	0.1507	0.1538	0.1535	0.1500
EIRP(dBm)	22.52	22.54	22.43	22.54	22.53	22.43	22.52	22.51	22.41
EIRP(Watts)	0.1786	0.1795	0.1750	0.1795	0.1791	0.1750	0.1786	0.1782	0.1742

LTE Band 4 (GT - LC = 0.65 dBi) QPSK									
Bandwidth	10M			15M			20M		
Channel	20000	20175	20350	20025	20175	20325	20050	20175	20300
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	1715	1732.5	1750	1717.5	1732.5	1747.5	1720	1732.5	1745
(MHz)									
Conducted Power (dBm)	22.12	22.10	22.01	22.26	22.35	22.26	22.21	22.38	22.19
Conducted Power (Watts)	0.1629	0.1622	0.1589	0.1683	0.1718	0.1683	0.1663	0.1730	0.1656
EIRP(dBm)	22.77	22.75	22.66	22.91	23.00	22.91	22.86	23.03	22.84
EIRP(Watts)	0.1892	0.1884	0.1845	0.1954	0.1995	0.1954	0.1932	0.2009	0.1923



LTE Band 4 (GT - LC = 0.65 dBi) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	19957	20175	20393	19965	20175	20385	19975	20175	20375
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	1710.7	1732.5	1754.3	1711.5	1732.5	1753.5	1712.5	1732.5	1752.5
(MHz)									
Conducted Power (dBm)	21.17	21.16	21.01	21.06	21.01	20.95	21.09	21.14	21.03
Conducted Power (Watts)	0.1309	0.1306	0.1262	0.1276	0.1262	0.1245	0.1285	0.1300	0.1268
EIRP(dBm)	21.82	21.81	21.66	21.71	21.66	21.60	21.74	21.79	21.68
EIRP(Watts)	0.1521	0.1517	0.1466	0.1483	0.1466	0.1445	0.1493	0.1510	0.1472

LTE Band 4 (GT - LC = 0.65 dBi) 16QAM									
Bandwidth	10M			15M			20M		
Channel	20000	20175	20350	20025	20175	20325	20050	20175	20300
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	1715	1732.5	1750	1717.5	1732.5	1747.5	1720	1732.5	1745
(MHz)									
Conducted Power (dBm)	21.40	21.34	21.29	21.41	21.40	21.50	21.41	21.48	21.45
Conducted Power (Watts)	0.1380	0.1361	0.1346	0.1384	0.1380	0.1413	0.1384	0.1406	0.1396
EIRP(dBm)	22.05	21.99	21.94	22.06	22.05	22.15	22.06	22.13	22.10
EIRP(Watts)	0.1603	0.1581	0.1563	0.1607	0.1603	0.1641	0.1607	0.1633	0.1622



LTE Band 5 (GT - LC = -4.56 dBi) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	20407	20525	20643	20415	20525	20635	20425	20525	20625
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	824.7	836.5	848.3	825.5	836.5	847.5	826.5	836.5	846.5
(MHz)									
Conducted Power (dBm)	22.70	22.49	22.38	22.70	22.44	22.31	22.67	22.44	22.28
Conducted Power (Watts)	0.1862	0.1774	0.1730	0.1862	0.1754	0.1702	0.1849	0.1754	0.1690
ERP(dBm)	15.99	15.78	15.67	15.99	15.73	15.60	15.96	15.73	15.57
ERP(Watts)	0.0397	0.0378	0.0369	0.0397	0.0374	0.0363	0.0394	0.0374	0.0361

LTE Band 5 (GT - LC = -4.56 dBi) QPSK			
Bandwidth	10M		
Channel	20450	20525	20600
	(Low)	(Mid)	(High)
Frequency	829	836.5	844
(MHz)			
Conducted Power (dBm)	22.71	22.53	22.37
Conducted Power (Watts)	0.1866	0.1791	0.1726
ERP(dBm)	16.00	15.82	15.66
ERP(Watts)	0.0398	0.0382	0.0368



LTE Band 5 (GT - LC = -4.56 dBi) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	20407	20525	20643	20415	20525	20635	20425	20525	20625
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	824.7	836.5	848.3	825.5	836.5	847.5	826.5	836.5	846.5
(MHz)									
Conducted Power (dBm)	21.99	21.86	21.68	21.95	21.72	21.61	21.98	21.79	21.70
Conducted Power (Watts)	0.1581	0.1535	0.1472	0.1567	0.1486	0.1449	0.1578	0.1510	0.1479
ERP(dBm)	15.28	15.15	14.97	15.24	15.01	14.90	15.27	15.08	14.99
ERP(Watts)	0.0337	0.0327	0.0314	0.0334	0.0317	0.0309	0.0337	0.0322	0.0316

LTE Band 5 (GT - LC = -4.56 dBi) 16QAM			
Bandwidth	10M		
Channel	20450	20525	20600
	(Low)	(Mid)	(High)
Frequency	829	836.5	844
(MHz)			
Conducted Power (dBm)	21.86	21.85	21.75
Conducted Power (Watts)	0.1535	0.1531	0.1496
ERP(dBm)	15.15	15.14	15.04
ERP(Watts)	0.0327	0.0327	0.0319



LTE Band 12 (GT - LC = -3.85 dBi) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	23017	23095	23173	23025	23095	23165	23035	23095	23155
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	699.7	707.5	715.3	700.5	707.5	714.5	701.5	707.5	713.5
(MHz)									
Conducted Power (dBm)	22.49	22.39	22.36	22.47	22.32	22.31	22.53	22.33	22.31
Conducted Power (Watts)	0.1774	0.1734	0.1722	0.1766	0.1706	0.1702	0.1791	0.1710	0.1702
ERP(dBm)	16.49	16.39	16.36	16.47	16.32	16.31	16.53	16.33	16.31
ERP(Watts)	0.0446	0.0436	0.0433	0.0444	0.0429	0.0428	0.0450	0.0430	0.0428

LTE Band 12 (GT - LC = -3.85 dBi) QPSK			
Bandwidth	10M		
Channel	23060	23095	23130
	(Low)	(Mid)	(High)
Frequency	704	707.5	711
(MHz)			
Conducted Power (dBm)	22.62	22.47	22.34
Conducted Power (Watts)	0.1828	0.1766	0.1714
ERP(dBm)	16.62	16.47	16.34
ERP(Watts)	0.0459	0.0444	0.0431



LTE Band 12 (GT - LC = -3.85 dBi) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	23017	23095	23173	23025	23095	23165	23035	23095	23155
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	699.7	707.5	715.3	700.5	707.5	714.5	701.5	707.5	713.5
Conducted Power (dBm)	21.91	21.78	21.75	21.86	21.73	21.70	21.86	21.76	21.70
Conducted Power (Watts)	0.1552	0.1507	0.1496	0.1535	0.1489	0.1479	0.1535	0.1500	0.1479
ERP(dBm)	15.91	15.78	15.75	15.86	15.73	15.70	15.86	15.76	15.70
ERP(Watts)	0.0390	0.0378	0.0376	0.0385	0.0374	0.0372	0.0385	0.0377	0.0372

LTE Band 12 (GT - LC = -3.85 dBi) 16QAM			
Bandwidth	10M		
Channel	23060	23095	23130
	(Low)	(Mid)	(High)
Frequency (MHz)	704	707.5	711
Conducted Power (dBm)	21.77	21.82	21.80
Conducted Power (Watts)	0.1503	0.1521	0.1514
ERP(dBm)	15.77	15.82	15.80
ERP(Watts)	0.0378	0.0382	0.0380



LTE Band 13 (GT - LC = -3.68 dBi) QPSK						
Bandwidth	5M			10M		
Channel	23205	23230	23255	23230		
	(Low)	(Mid)	(High)	-	(Mid)	-
Frequency	779.5	782	784.5	-	782	-
(MHz)						
Conducted Power (dBm)	22.37	22.39	22.32		22.45	-
Conducted Power (Watts)	0.1726	0.1734	0.1706		0.1758	-
ERP(dBm)	16.54	16.56	16.49		16.62	-
ERP(Watts)	0.0451	0.0453	0.0446		0.0459	-

LTE Band 13 (GT - LC = -3.68 dBi) 16QAM						
Bandwidth	5M			10M		
Channel	23205	23230	23255	23230		
	(Low)	(Mid)	(High)	-	(Mid)	-
Frequency	779.5	782	784.5	-	782	-
(MHz)						
Conducted Power (dBm)	21.61	21.63	21.65		21.46	-
Conducted Power (Watts)	0.1449	0.1455	0.1462		0.1400	-
ERP(dBm)	15.78	15.80	15.82		15.63	-
ERP(Watts)	0.0378	0.0380	0.0382		0.0366	-



Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

LTE 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)
Middle	1664.18	-43.53	-13	-30.53	-54.02	-46.78	4.00	9.40	H
	2496.27	-57.93	-13	-44.93	-72.93	-61.50	4.88	10.60	H
	3328.36	-59.10	-13	-46.10	-76.10	-64.03	5.52	12.60	H
	1664.18	-43.89	-13	-30.89	-54.10	-47.14	4.00	9.40	V
	2496.27	-58.22	-13	-45.22	-73.11	-61.79	4.88	10.60	V
	3328.36	-59.72	-13	-46.72	-76.75	-64.65	5.52	12.60	V

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

LTE Band 2 / 10MHz / 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)
Middle	3751.18	-55.05	-13	-42.05	-73.55	-61.80	5.85	12.60	H
	5626.77	-56.96	-13	-43.96	-79.31	-62.76	7.30	13.10	H
	7502	-42.97	-13	-29.97	-70.89	-46.12	8.35	11.50	H
	9379.95	-47.26	-13	-34.26	-78.90	-49.41	9.85	12.00	H
	11255.34	-48.27	-13	-35.27	-80.74	-49.17	10.90	11.80	H
	13131.65	-41.91	-13	-28.91	-77.56	-43.43	11.98	13.50	H
	3751.18	-54.36	-13	-41.36	-72.9	-61.11	5.85	12.60	V
	5626.77	-56.83	-13	-43.83	-79.45	-62.63	7.30	13.10	V
	7502	-43.87	-13	-30.87	-71.55	-47.02	8.35	11.50	V
	9379.95	-48.74	-13	-35.74	-79.1	-50.89	9.85	12.00	V
	11255.34	-48.12	-13	-35.12	-80.86	-49.02	10.90	11.80	V
	13131.65	-42.27	-13	-29.27	-77.26	-43.79	11.98	13.50	V

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



LTE Band 4 / 5MHz / 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)
Middle	3460.68	-56.00	-13	-43.00	-73.12	-62.85	5.65	12.50	H
	5191.02	-58.69	-13	-45.69	-80.36	-64.36	7.13	12.80	H
	6921.36	-36.84	-13	-23.84	-63.55	-40.24	8.40	11.80	H
	8651.7	-50.49	-13	-37.49	-79.81	-53.34	8.75	11.60	H
	10382.04	-46.60	-13	-33.60	-78.38	-48.02	10.58	12.00	H
	12112.38	-48.25	-13	-35.25	-81.91	-49.67	11.78	13.20	H
	13842.72	-44.98	-13	-31.98	-79.59	-44.26	12.52	11.80	H
	3460.68	-56.62	-13	-43.62	-73.77	-63.47	5.65	12.50	V
	5191.02	-58.90	-13	-45.90	-81.02	-64.57	7.13	12.80	V
	6921.36	-35.55	-13	-22.55	-62.4	-38.95	8.40	11.80	V
	8651.7	-51.13	-13	-38.13	-80.17	-53.98	8.75	11.60	V
	10382.04	-47.61	-13	-34.61	-79.1	-49.03	10.58	12.00	V
	12112.38	-48.47	-13	-35.47	-81.73	-49.89	11.78	13.20	V
	13842.72	-44.77	-13	-31.77	-79.01	-44.05	12.52	11.80	V

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

LTE 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)
Middle	1406	-40.78	-13	-27.78	-51.79	-44.03	4.00	9.40	H
	2109	-60.34	-13	-47.34	-74.57	-63.91	4.88	10.60	H
	2812	-63.34	-13	-50.34	-78.75	-68.27	5.52	12.60	H
	1406	-39.92	-13	-26.92	-50.89	-43.17	4.00	9.40	V
	2109	-60.18	-13	-47.18	-74.34	-63.75	4.88	10.60	V
	2812	-62.59	-13	-49.59	-78.61	-67.52	5.52	12.60	V

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



LTE 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)
Middle	1559.5	-41.15	-40	-1.15	-54.27	-46.55	4.00	9.40	H
	2339.25	-59.58	-13	-46.58	-74.79	-63.15	4.88	10.60	H
	3119	-60.65	-13	-47.65	-77.91	-65.58	5.52	12.60	H
	1559.5	-42.54	-40	-2.54	-55.16	-47.94	4.00	9.40	V
	2339.25	-59.70	-13	-46.70	-74.96	-63.27	4.88	10.60	V
	3119	-60.96	-13	-47.96	-78.15	-65.89	5.52	12.60	V

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



Appendix D. Reference Report

Please refer to report number 1506FR21-01 which is issued separately.