



FCC RF Test Report

APPLICANT : Sony Mobile Communications Inc.
EQUIPMENT : GSM/WCDMA/LTE Phone+Bluetooth, DTS/UNII
a/b/g/n/ac and NFC
BRAND NAME : Sony
FCC ID : PY7-78553D
STANDARD : 47 CFR Part 2, 22(H), 24(E), 27
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)

This is a variant report which is only valid together with the original test report. The product was received on Jun. 27, 2017 and completely tested on Oct. 31, 2017. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E-2016 and the testing has shown the tested sample to be in compliance with the applicable technical standards. The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.

SPORTON INTERNATIONAL INC.

TEL : 886-3-327-3456

FAX : 886-3-328-4978

FCC ID : PY7-78553D

Page Number : 1 of 18

Report Issued Date : Nov. 06, 2017

Report Version : Rev. 01

Report Template No.: BU5-FGLTE Version 2.0



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG762711-01B	Rev. 01	Initial issue of report	Nov. 06, 2017

**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)(2)	Effective Radiated Power (Band 5)	ERP < 7 Watt		
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 7)	EIRP < 2Watt		
4.4	§2.1053 §22.917(a) §24.238(a)	Radiated Spurious Emission (Band 2) (Band 5)	< 43+10log ₁₀ (P[Watts])	PASS	Under limit 14.32 dB at 10008.000 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 7)	< 55+10log ₁₀ (P[Watts])		



1 General Description

1.1 Applicant

Sony Mobile Communications Inc.

4-12-3 Higashi-Shinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan

1.2 Manufacturer

Sony Mobile Communications Inc.

4-12-3 Higashi-Shinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan

1.3 Product Feature of Equipment Under Test

GSM/WCDMA/LTE, Bluetooth, DTS/UNII a/b/g/n/ac, FM Receiver, NFC, and GPS

Standards-related Product Specification	
Antenna Type	Main Antenna : PIFA Antenna Aux. Antenna : PIFA Antenna

Remark: This is a variant report. All the test cases were performed on original report which can be referred to Sporton Report Number FG762713-01B.

EUT Information List			
HW Version	SW Version	S/N	Performed Test Item
A	2.27	CQ3000017K	Conducted Measurement ERP/EIRP Test Radiated Spurious Emission

Accessory List	
AC Adapter	Model No. : UCH12
	S/N : VB17W34100199
Earphone 1	Model No. : MH410c
	S/N : N/A
USB Cable	Model No. : UCB20
	S/N : N/A

Note:

1. Above EUT list and accessory list used are electrically identical per declared by manufacturer.
2. Above the accessories list are used to exercise the EUT during test.
3. For other wireless features of this EUT, test report will be issued separately.

1.4 Modification of EUT

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



1.5 Emission Designator

LTE Band 2		QPSK	16QAM	64QAM
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Maximum EIRP(W)	Maximum EIRP(W)
1.4	1850.7 ~ 1909.3	0.2594	0.2089	0.1652
3	1851.5 ~ 1908.5	0.2570	0.2089	0.1660
5	1852.5 ~ 1907.5	0.2588	0.2075	0.1652
10	1855.0 ~ 1905.0	0.2559	0.2089	0.1656
15	1857.5 ~ 1902.5	0.2541	0.2084	0.1641
20	1860.0 ~ 1900.0	0.2600	0.2080	0.1637
LTE Band 5		QPSK	16QAM	64QAM
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Maximum ERP(W)	Maximum ERP(W)
1.4	824.7 ~ 848.3	0.0885	0.0736	0.0577
3	825.5 ~ 847.5	0.0883	0.0741	0.0583
5	826.5 ~ 846.5	0.0885	0.0748	0.0582
10	829.0 ~ 844.0	0.0914	0.0760	0.0604
LTE Band 7		QPSK	16QAM	64QAM
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Maximum EIRP(W)	Maximum EIRP(W)
5	2502.5 ~ 2567.5	0.2897	0.2339	0.1854
10	2505.0 ~ 2565.0	0.2891	0.2328	0.1854
15	2507.5 ~ 2562.5	0.2897	0.2339	0.1858
20	2510.0 ~ 2560.0	0.2904	0.2339	0.1858

1.6 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 and No. TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	Sporton Site No.
	TH05-HY

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd. Guishan Dist, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No.
	03CH11-HY

1.7 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
- ANSI / TIA-603-E-2016
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03
- 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

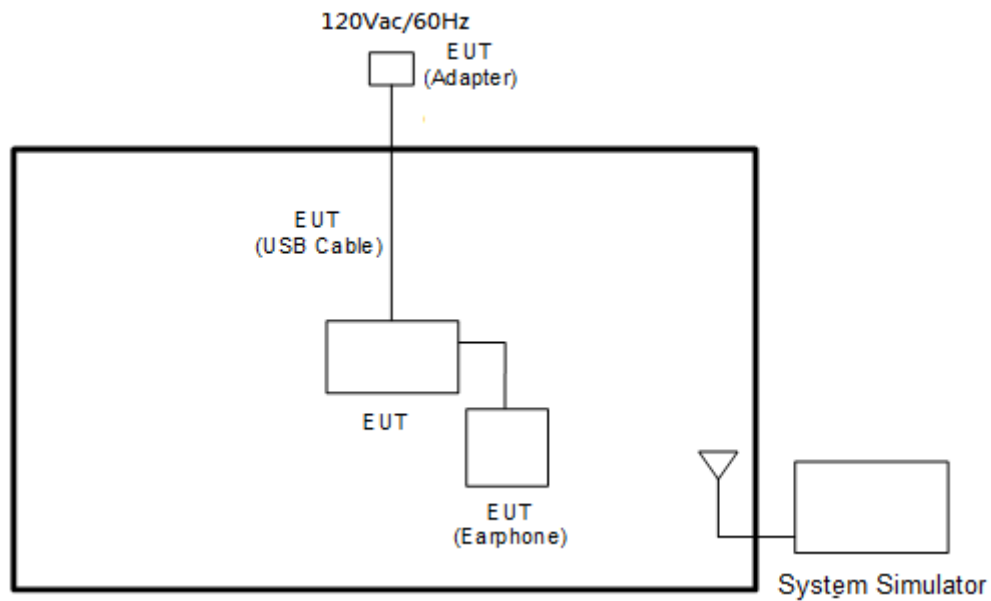
2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03 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	v
	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	7	-	-	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	v	v	v		v	v	v
	5	v	v	v	v	-	-	v	v	v	v	v		v	v	v
	7	-	-	v	v	v	v	v	v	v	v			v	v	v
Radiated Spurious Emission	2	v	v	v	v	v	v	v			v				v	
	5	v	v	v	v	-	-	v			v			v		v
	7	-	-	v	v	v	v	v			v			v	v	
Note	- 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 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 5 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	20450	20525	20600
	Frequency	829	836.5	844
5	Channel	20425	20525	20625
	Frequency	826.5	836.5	846.5
3	Channel	20415	20525	20635
	Frequency	825.5	836.5	847.5
1.4	Channel	20407	20525	20643
	Frequency	824.7	836.5	848.3



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

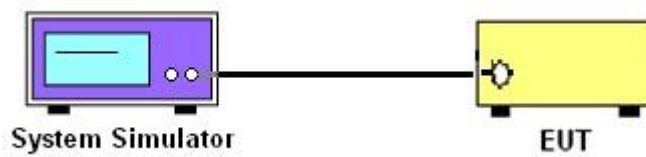
3 Conducted Test Items

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 EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2 and Band 7

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 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.

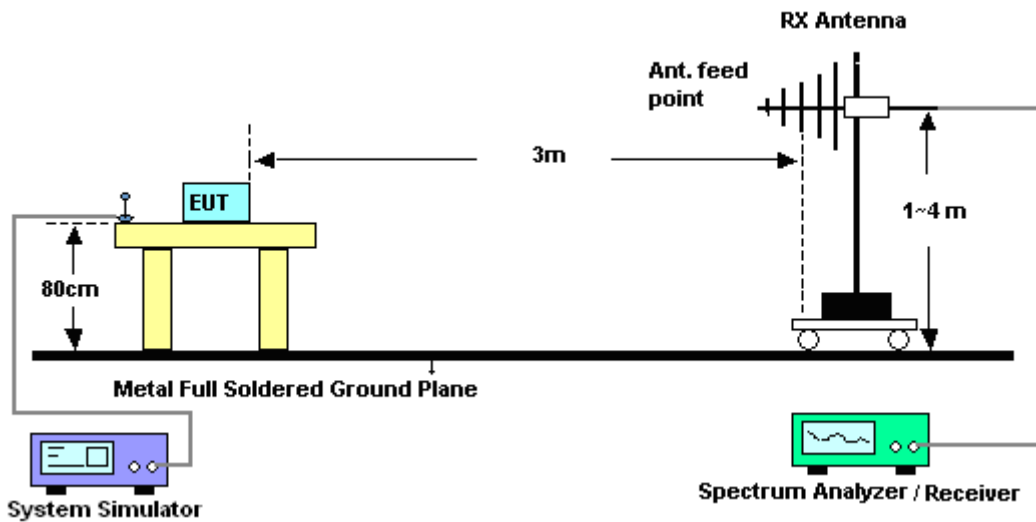
4 Radiated Test Items

4.1 Measuring Instruments

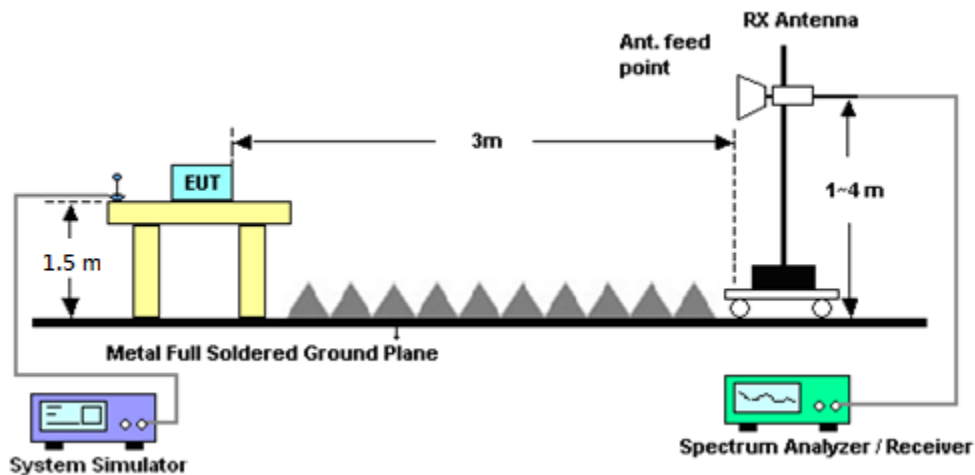
See list of measuring instruments of this test report.

4.2 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 / TIA-603-E-2016. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For Band 7:

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

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

4.4.2 Test Procedures

1. The testing follows FCC KDB 971168 v03 Section 5.8 and ANSI / TIA-603-E-2016 Section 2.2.12.
2. 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.
3. The EUT was set 3 meters from the receiving antenna, which was 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 one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
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.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. 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)
12. For Band 7:
The limit line is derived from $55 + 10\log(P)$ 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	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	Testo	608-H2	41410069	N/A	Aug. 21, 2017	Oct. 31, 2017	Aug. 20, 2018	Conducted (TH05-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890001	1V~20V 0.5A~5A	Jan. 12, 2017	Oct. 31, 2017	Jan. 11, 2018	Conducted (TH05-HY)
LTE Base Station	Anritsu	MT8820C	6201432821	GSM/GPRS /WCDMA/LTE	Oct. 13, 2017	Oct. 31, 2017	Oct. 12, 2018	Conducted (TH05-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY84209521	1GHz~26GHz	Dec. 02, 2016	Oct. 31, 2017	Dec. 01, 2017	Conducted (TH05-HY)
Bilog Antenna	TESEQ	CBL 6111D&N-6-	35414&AT-N06 02	30MHz~1GHz	Oct. 15, 2016	Oct. 11, 2017 ~ Oct. 12, 2017	Oct. 14, 2017	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1212	1GHz ~ 18GHz	Mar. 17, 2017	Oct. 11, 2017 ~ Oct. 12, 2017	Mar. 16, 2018	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 08, 2016	Oct. 11, 2017 ~ Oct. 12, 2017	Nov. 07, 2017	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 10, 2016	Oct. 11, 2017 ~ Oct. 12, 2017	Nov. 09, 2017	Radiation (03CH11-HY)
Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz,VS WR : 2.5:1 max	Jul. 18, 2017	Oct. 11, 2017 ~ Oct. 12, 2017	Jul. 17, 2018	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 10, 2016	Oct. 11, 2017 ~ Oct. 12, 2017	Nov. 09, 2017	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz ~ 44GHz	Oct. 17, 2016	Oct. 11, 2017 ~ Oct. 12, 2017	Oct. 16, 2017	Radiation (03CH11-HY)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Oct. 11, 2017 ~ Oct. 12, 2017	N/A	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-450 0-B	N/A	1~4m	N/A	Oct. 11, 2017 ~ Oct. 12, 2017	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Oct. 11, 2017 ~ Oct. 12, 2017	N/A	Radiation (03CH11-HY)
Hygrometer	TECPEL	DTN-303B	TP140325	N/A	Nov. 14, 2016	Oct. 11, 2017 ~ Oct. 12, 2017	Nov. 13, 2017	Radiation (03CH11-HY)
Signal Generator	Rohde & Schwarz	SMF100A	101107	100kHz~40GHz	May 22, 2017	Oct. 11, 2017 ~ Oct. 12, 2017	May 21, 2018	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4 MY28419/4MY	25GHz~40GHz	Sep. 11, 2017	Oct. 11, 2017 ~ Oct. 12, 2017	Sep. 10, 2018	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4 MY28419/4MY	30MHz~1GHz	Sep. 11, 2017	Oct. 11, 2017 ~ Oct. 12, 2017	Sep. 10, 2018	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4 MY28419/4MY	1GHz~25GHz	Sep. 11, 2017	Oct. 11, 2017 ~ Oct. 12, 2017	Sep. 10, 2018	Radiation (03CH11-HY)
Filter	Wainwright	WHKX12-1080-1200-150	SN2	1.2G High Pass	Sep. 18, 2017	Oct. 11, 2017 ~ Oct. 12, 2017	Sep. 17, 2018	Radiation (03CH11-HY)
Filter	Wainwright	WLKX12-2700-3000-180	SN3	2.7G High Pass	Sep. 18, 2017	Oct. 11, 2017 ~ Oct. 12, 2017	Sep. 17, 2018	Radiation (03CH11-HY)
Filter	Wainwright	WLKS1200-12SS	SN2	1.2G Low Pass	Sep. 18, 2017	Oct. 11, 2017 ~ Oct. 12, 2017	Sep. 17, 2018	Radiation (03CH11-HY)
Notch Filter	Wainwright	WRCT/800/960-0.2/40-8	SN11	GSM850	Jul. 06, 2017	Oct. 11, 2017 ~ Oct. 12, 2017	Jul. 05, 2018	Radiation (03CH11-HY)
Notch Filter	Wainwright	WRCT1850/1910-40/8S	SN21	1900	Jul. 06, 2017	Oct. 11, 2017 ~ Oct. 12, 2017	Jul. 05, 2018	Radiation (03CH11-HY)
Notch Filter	Wainwright	WRCT2500/2570-10/40-	SN1 R	LTE Band7	Aug. 24, 2017	Oct. 11, 2017 ~ Oct. 12, 2017	Aug. 23, 2018	Radiation (03CH11-HY)
Test Software	N/A	E3	6.2009-8-24	N/A	N/A	Oct. 11, 2017 ~ Oct. 12, 2017	N/A	Radiation (03CH11-HY)



6 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.37
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.67
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.03
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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	23.63	23.95	23.54
20	1	49		23.61	23.94	23.09
20	1	99		23.83	23.51	23.13
20	50	0		22.57	22.89	22.44
20	50	24		22.74	22.95	22.27
20	50	50		22.84	22.89	22.05
20	100	0		22.72	22.95	22.20
20	1	0	16-QAM	22.60	22.88	22.78
20	1	49		22.74	22.96	22.28
20	1	99		22.98	22.77	22.50
20	50	0		21.62	21.90	21.47
20	50	24		21.74	21.95	21.26
20	50	50		21.85	21.88	21.01
20	100	0		21.73	21.91	21.20
20	1	0	64-QAM	21.62	21.84	21.72
20	1	49		21.78	21.81	21.28
20	1	99		21.94	21.71	21.64
20	50	0		20.61	20.88	20.46
20	50	24		20.75	20.95	20.26
20	50	50		20.87	20.89	20.03
20	100	0		20.72	20.92	20.18
15	1	0	QPSK	23.20	23.68	23.32
15	1	37		23.41	23.85	23.31
15	1	74		23.64	23.60	23.26
15	36	0		22.44	22.82	22.24
15	36	20		22.60	22.97	22.13
15	36	39		22.63	22.84	22.09
15	75	0		22.57	23.00	22.14
15	1	0	16-QAM	22.56	22.96	22.61
15	1	37		22.66	22.99	22.25
15	1	74		22.89	22.88	22.21
15	36	0		21.42	21.84	21.27
15	36	20		21.58	21.91	21.12
15	36	39		21.62	21.85	21.13
15	75	0		21.62	21.99	21.12
15	1	0	64-QAM	21.55	21.95	21.57
15	1	37		21.66	21.91	21.23
15	1	74		21.91	21.83	21.00
15	36	0		20.46	20.85	20.29
15	36	20		20.62	20.91	20.12
15	36	39		20.62	20.84	20.13
15	75	0		20.60	20.96	20.10



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.32	23.75	23.13
10	1	25		23.28	23.88	22.91
10	1	49		23.43	23.81	22.98
10	25	0		22.32	22.91	22.15
10	25	12		22.39	22.98	22.01
10	25	25		22.45	22.84	22.03
10	50	0		22.39	22.96	22.01
10	1	0	16-QAM	22.48	22.98	22.33
10	1	25		22.47	22.91	22.13
10	1	49		22.64	23.00	22.02
10	25	0		21.31	21.90	21.11
10	25	12		21.37	21.96	21.00
10	25	25		21.40	21.81	21.03
10	50	0		21.36	21.96	21.01
10	1	0	64-QAM	21.48	21.96	21.27
10	1	25		21.46	21.92	21.10
10	1	49		21.56	21.99	21.08
10	25	0		20.32	20.90	20.14
10	25	12		20.37	20.97	19.99
10	25	25		20.40	20.85	20.07
10	50	0		20.38	20.97	20.02
5	1	0	QPSK	23.30	23.87	23.38
5	1	12		23.24	23.93	23.21
5	1	24		23.29	23.82	23.17
5	12	0		22.28	22.87	22.27
5	12	7		22.28	22.96	22.29
5	12	13		22.34	22.91	22.25
5	25	0		22.26	22.96	22.28
5	1	0	16-QAM	22.40	22.97	22.55
5	1	12		22.40	22.95	22.41
5	1	24		22.43	22.91	22.32
5	12	0		21.27	21.88	21.26
5	12	7		21.31	22.00	21.29
5	12	13		21.34	21.95	21.25
5	25	0		21.26	21.96	21.25
5	1	0	64-QAM	21.44	21.98	21.53
5	1	12		21.34	21.91	21.38
5	1	24		21.49	21.97	21.38
5	12	0		20.31	20.90	20.31
5	12	7		20.33	20.91	20.31
5	12	13		20.38	20.96	20.27
5	25	0		20.24	20.95	20.23



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.09	23.82	23.17
3	1	8		23.04	23.90	23.13
3	1	14		23.03	23.88	23.07
3	8	0		22.16	22.92	22.26
3	8	4		22.28	22.96	22.29
3	8	7		22.24	22.90	22.26
3	15	0		22.24	22.91	22.22
3	1	0	16-QAM	22.37	23.00	22.34
3	1	8		22.36	22.91	22.31
3	1	14		22.29	22.98	22.24
3	8	0		21.30	21.99	21.28
3	8	4		21.29	21.99	21.28
3	8	7		21.25	21.96	21.28
3	15	0		21.25	21.96	21.27
3	1	0	64-QAM	21.35	22.00	21.35
3	1	8		21.37	21.98	21.30
3	1	14		21.31	21.96	21.31
3	8	0		20.29	20.96	20.26
3	8	4		20.28	20.97	20.30
3	8	7		20.26	20.95	20.28
3	15	0		20.26	20.94	20.24
1.4	1	0	QPSK	23.11	23.81	23.08
1.4	1	3		23.16	23.84	23.06
1.4	1	5		23.14	23.80	22.92
1.4	3	0		23.19	23.89	23.10
1.4	3	1		23.20	23.94	23.08
1.4	3	3		23.15	23.90	22.95
1.4	6	0		22.18	22.84	22.14
1.4	1	0	16-QAM	22.32	23.00	22.25
1.4	1	3		22.38	22.97	22.28
1.4	1	5		22.29	22.91	22.20
1.4	3	0		22.16	22.85	22.12
1.4	3	1		22.22	22.89	22.18
1.4	3	3		22.16	22.84	22.10
1.4	6	0		21.25	21.93	21.23
1.4	1	0	64-QAM	21.36	21.95	21.31
1.4	1	3		21.40	21.98	21.35
1.4	1	5		21.31	21.92	21.35
1.4	3	0		21.28	21.98	21.23
1.4	3	1		21.31	21.93	21.28
1.4	3	3		21.26	21.98	21.24
1.4	6	0		20.18	20.86	20.15



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	24.26	24.18	24.19
10	1	25		24.15	24.10	24.22
10	1	49		24.12	24.14	24.21
10	25	0		23.26	23.19	23.31
10	25	12		23.26	23.15	23.29
10	25	25		23.18	23.20	23.35
10	50	0		23.23	23.13	23.27
10	1	0	16-QAM	23.46	23.40	23.39
10	1	25		23.42	23.40	23.38
10	1	49		23.37	23.33	23.35
10	25	0		22.25	22.14	22.29
10	25	12		22.25	22.17	22.30
10	25	25		22.18	22.17	22.33
10	50	0		22.23	22.15	22.25
10	1	0	64-QAM	22.46	22.39	22.36
10	1	25		22.46	22.33	22.35
10	1	49		22.35	22.34	22.40
10	25	0		21.23	21.15	21.26
10	25	12		21.25	21.14	21.30
10	25	25		21.16	21.17	21.33
10	50	0		21.22	21.13	21.29
5	1	0	QPSK	24.12	23.98	24.06
5	1	12		24.09	23.96	24.04
5	1	24		24.03	24.02	24.12
5	12	0		23.11	22.98	23.08
5	12	7		23.12	22.98	23.19
5	12	13		23.10	23.06	23.15
5	25	0		23.12	22.99	23.17
5	1	0	16-QAM	23.39	23.26	23.27
5	1	12		23.31	23.26	23.31
5	1	24		23.31	23.30	23.27
5	12	0		22.12	21.98	22.09
5	12	7		22.12	22.03	22.17
5	12	13		22.08	22.08	22.16
5	25	0		22.08	21.95	22.15
5	1	0	64-QAM	22.27	22.22	22.21
5	1	12		22.23	22.09	22.30
5	1	24		22.19	22.18	22.29
5	12	0		21.13	21.02	21.11
5	12	7		21.12	20.99	21.22
5	12	13		21.09	21.06	21.09
5	25	0		21.05	20.95	21.12



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	24.06	23.95	24.11
3	1	8		24.05	23.92	24.10
3	1	14		24.02	23.98	24.07
3	8	0		23.11	22.99	23.18
3	8	4		23.12	23.00	23.20
3	8	7		23.08	22.94	23.16
3	15	0		23.10	22.98	23.15
3	1	0	16-QAM	23.34	23.28	23.29
3	1	8		23.35	23.25	23.28
3	1	14		23.29	23.32	23.24
3	8	0		22.15	22.03	22.21
3	8	4		22.16	22.05	22.22
3	8	7		22.12	22.00	22.20
3	15	0		22.12	22.00	22.17
3	1	0	64-QAM	22.21	22.14	22.31
3	1	8		22.23	22.14	22.31
3	1	14		22.21	22.19	22.27
3	8	0		21.10	20.98	21.18
3	8	4		21.15	21.00	21.20
3	8	7		21.10	20.95	21.16
3	15	0		21.08	20.94	21.16
1.4	1	0	QPSK	23.98	23.85	23.96
1.4	1	3		24.01	23.91	24.06
1.4	1	5		23.96	23.84	24.00
1.4	3	0		24.06	23.93	24.08
1.4	3	1		24.09	23.97	24.12
1.4	3	3		24.05	23.92	24.11
1.4	6	0		23.04	22.87	23.07
1.4	1	0	16-QAM	23.28	23.18	23.20
1.4	1	3		23.32	23.29	23.28
1.4	1	5		23.26	23.18	23.19
1.4	3	0		23.05	22.93	23.05
1.4	3	1		23.10	22.96	23.11
1.4	3	3		23.03	22.91	23.06
1.4	6	0		22.10	21.96	22.13
1.4	1	0	64-QAM	22.15	22.05	22.24
1.4	1	3		22.21	22.00	22.26
1.4	1	5		22.17	21.99	22.21
1.4	3	0		22.16	22.05	22.16
1.4	3	1		22.21	22.08	22.21
1.4	3	3		22.17	22.04	22.17
1.4	6	0		21.04	20.88	21.05



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.93	23.88	23.63
20	1	49		23.90	23.91	23.81
20	1	99		23.86	23.92	23.76
20	50	0		22.97	22.90	22.79
20	50	24		22.92	22.98	22.83
20	50	50		22.96	22.99	22.86
20	100	0		22.93	22.95	22.81
20	1	0	16-QAM	22.90	22.94	22.92
20	1	49		22.96	22.92	22.94
20	1	99		22.92	22.90	22.99
20	50	0		21.99	21.92	21.77
20	50	24		21.94	22.00	21.83
20	50	50		21.94	21.99	21.84
20	100	0		21.89	21.95	21.81
20	1	0	64-QAM	21.95	21.93	21.84
20	1	49		21.91	21.92	21.91
20	1	99		21.96	21.97	21.99
20	50	0		20.98	20.92	20.77
20	50	24		20.97	20.99	20.82
20	50	50		20.94	21.00	20.86
20	100	0		20.93	20.96	20.81
15	1	0	QPSK	23.65	23.83	23.68
15	1	37		23.76	23.92	23.73
15	1	74		23.63	23.92	23.75
15	36	0		22.76	22.91	22.79
15	36	20		22.81	22.91	22.86
15	36	39		22.71	23.00	22.85
15	75	0		22.77	22.95	22.81
15	1	0	16-QAM	22.93	22.90	22.99
15	1	37		22.99	22.94	22.92
15	1	74		22.95	22.92	22.91
15	36	0		21.77	21.92	21.78
15	36	20		21.86	21.91	21.84
15	36	39		21.72	21.97	21.83
15	75	0		21.78	21.97	21.81
15	1	0	64-QAM	21.89	21.93	21.89
15	1	37		21.99	21.93	21.96
15	1	74		21.84	21.91	21.98
15	36	0		20.77	20.93	20.78
15	36	20		20.85	20.98	20.85
15	36	39		20.73	21.00	20.85
15	75	0		20.78	20.94	20.79



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.71	23.88	23.72
10	1	25		23.81	23.91	23.80
10	1	49		23.71	23.90	23.82
10	25	0		22.77	22.93	22.78
10	25	12		22.80	23.00	22.83
10	25	25		22.83	23.00	22.83
10	50	0		22.80	22.95	22.78
10	1	0	16-QAM	22.95	22.90	22.93
10	1	25		22.95	22.93	22.97
10	1	49		22.93	22.92	22.97
10	25	0		21.78	21.94	21.76
10	25	12		21.81	21.91	21.85
10	25	25		21.78	21.96	21.80
10	50	0		21.78	21.96	21.79
10	1	0	64-QAM	21.87	21.94	21.86
10	1	25		21.96	21.90	21.95
10	1	49		21.81	21.98	21.91
10	25	0		20.78	20.93	20.77
10	25	12		20.85	20.99	20.83
10	25	25		20.80	20.96	20.80
10	50	0		20.80	20.95	20.80
5	1	0	QPSK	23.78	23.92	23.73
5	1	12		23.80	23.90	23.76
5	1	24		23.80	23.92	23.75
5	12	0		22.77	22.93	22.75
5	12	7		22.87	22.91	22.82
5	12	13		22.81	23.00	22.81
5	25	0		22.82	22.95	22.81
5	1	0	16-QAM	22.99	22.96	22.92
5	1	12		22.98	22.90	22.99
5	1	24		22.94	22.97	22.96
5	12	0		21.81	21.95	21.75
5	12	7		21.88	21.93	21.80
5	12	13		21.82	21.96	21.81
5	25	0		21.83	21.96	21.76
5	1	0	64-QAM	21.93	21.98	21.89
5	1	12		21.94	21.98	21.91
5	1	24		21.93	21.90	21.91
5	12	0		20.82	20.97	20.80
5	12	7		20.88	20.92	20.83
5	12	13		20.84	21.00	20.83
5	25	0		20.81	20.95	20.78



Appendix B. Test Results of ERP/EIRP and Radiated Test

ERP/EIRP

LTE Band 2 / 1.4MHz (Average) (GT - LC = 0.2 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	3	1	23.20	0.2089	23.40	0.2188
Middle		3	1	23.94	0.2477	24.14	0.2594
Highest		3	1	23.08	0.2032	23.28	0.2128
Lowest	16QAM	1	0	22.32	0.1706	22.52	0.1786
Middle		1	0	23.00	0.1995	23.20	0.2089
Highest		1	0	22.25	0.1679	22.45	0.1758
Lowest	64QAM	1	3	21.40	0.1380	21.60	0.1445
Middle		1	3	21.98	0.1578	22.18	0.1652
Highest		1	3	21.35	0.1365	21.55	0.1429
Limit	EIRP < 2W			Result		PASS	

LTE Band 2 / 3MHz (Average) (GT - LC = 0.2 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	8	23.04	0.2014	23.24	0.2109
Middle		1	8	23.90	0.2455	24.10	0.2570
Highest		1	8	23.13	0.2056	23.33	0.2153
Lowest	16QAM	1	0	22.37	0.1726	22.57	0.1807
Middle		1	0	23.00	0.1995	23.20	0.2089
Highest		1	0	22.34	0.1714	22.54	0.1795
Lowest	64QAM	1	0	21.35	0.1365	21.55	0.1429
Middle		1	0	22.00	0.1585	22.20	0.1660
Highest		1	0	21.35	0.1365	21.55	0.1429
Limit	EIRP < 2W			Result		PASS	

LTE Band 2 / 5MHz (Average) (GT - LC = 0.2 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	12	23.24	0.2109	23.44	0.2208
Middle		1	12	23.93	0.2472	24.13	0.2588
Highest		1	12	23.21	0.2094	23.41	0.2193
Lowest	16QAM	1	0	22.40	0.1738	22.60	0.1820
Middle		1	0	22.97	0.1982	23.17	0.2075
Highest		1	0	22.55	0.1799	22.75	0.1884
Lowest	64QAM	1	0	21.44	0.1393	21.64	0.1459
Middle		1	0	21.98	0.1578	22.18	0.1652
Highest		1	0	21.53	0.1422	21.73	0.1489
Limit	EIRP < 2W			Result		PASS	



LTE Band 2 / 10MHz (Average) (GT - LC = 0.2 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	25	23.28	0.2128	23.48	0.2228
Middle		1	25	23.88	0.2443	24.08	0.2559
Highest		1	25	22.91	0.1954	23.11	0.2046
Lowest	16QAM	1	49	22.64	0.1837	22.84	0.1923
Middle		1	49	23.00	0.1995	23.20	0.2089
Highest		1	49	22.02	0.1592	22.22	0.1667
Lowest	64QAM	1	49	21.56	0.1432	21.76	0.1500
Middle		1	49	21.99	0.1581	22.19	0.1656
Highest		1	49	21.08	0.1282	21.28	0.1343
Limit	EIRP < 2W			Result		PASS	

LTE Band 2 / 15MHz (Average) (GT - LC = 0.2 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	37	23.41	0.2193	23.61	0.2296
Middle		1	37	23.85	0.2427	24.05	0.2541
Highest		1	37	23.31	0.2143	23.51	0.2244
Lowest	16QAM	1	37	22.66	0.1845	22.86	0.1932
Middle		1	37	22.99	0.1991	23.19	0.2084
Highest		1	37	22.25	0.1679	22.45	0.1758
Lowest	64QAM	1	0	21.55	0.1429	21.75	0.1496
Middle		1	0	21.95	0.1567	22.15	0.1641
Highest		1	0	21.57	0.1435	21.77	0.1503
Limit	EIRP < 2W			Result		PASS	

LTE Band 2 / 20MHz (Average) (GT - LC = 0.2 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	23.63	0.2307	23.83	0.2415
Middle		1	0	23.95	0.2483	24.15	0.2600
Highest		1	0	23.54	0.2259	23.74	0.2366
Lowest	16QAM	1	99	22.98	0.1986	23.18	0.2080
Middle		1	99	22.77	0.1892	22.97	0.1982
Highest		1	99	22.50	0.1778	22.70	0.1862
Lowest	64QAM	1	99	21.94	0.1563	22.14	0.1637
Middle		1	99	21.71	0.1483	21.91	0.1552
Highest		1	99	21.64	0.1459	21.84	0.1528
Limit	EIRP < 2W			Result		PASS	



LTE Band 5 / 1.4MHz (Average) (GT - LC = -2.5 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	3	1	24.09	0.2564	19.44	0.0879
Middle		3	1	23.97	0.2495	19.32	0.0855
Highest		3	1	24.12	0.2582	19.47	0.0885
Lowest	16QAM	1	3	23.32	0.2148	18.67	0.0736
Middle		1	3	23.29	0.2133	18.64	0.0731
Highest		1	3	23.28	0.2128	18.63	0.0729
Lowest	64QAM	1	3	22.21	0.1663	17.56	0.0570
Middle		1	3	22.00	0.1585	17.35	0.0543
Highest		1	3	22.26	0.1683	17.61	0.0577
Limit	ERP < 7W			Result		PASS	

LTE Band 5 / 3MHz (Average) (GT - LC = -2.5 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	24.06	0.2547	19.41	0.0873
Middle		1	0	23.95	0.2483	19.30	0.0851
Highest		1	0	24.11	0.2576	19.46	0.0883
Lowest	16QAM	1	8	23.35	0.2163	18.70	0.0741
Middle		1	8	23.25	0.2113	18.60	0.0724
Highest		1	8	23.28	0.2128	18.63	0.0729
Lowest	64QAM	1	0	22.21	0.1663	17.56	0.0570
Middle		1	0	22.14	0.1637	17.49	0.0561
Highest		1	0	22.31	0.1702	17.66	0.0583
Limit	ERP < 7W			Result		PASS	

LTE Band 5 / 5MHz (Average) (GT - LC = -2.5 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	24.12	0.2582	19.47	0.0885
Middle		1	0	23.98	0.2500	19.33	0.0857
Highest		1	0	24.06	0.2547	19.41	0.0873
Lowest	16QAM	1	0	23.39	0.2183	18.74	0.0748
Middle		1	0	23.26	0.2118	18.61	0.0726
Highest		1	0	23.27	0.2123	18.62	0.0728
Lowest	64QAM	1	12	22.23	0.1671	17.58	0.0573
Middle		1	12	22.09	0.1618	17.44	0.0555
Highest		1	12	22.30	0.1698	17.65	0.0582
Limit	ERP < 7W			Result		PASS	



LTE Band 5 / 10MHz (Average) (GT - LC = -2.5 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	24.26	0.2667	19.61	0.0914
Middle		1	0	24.18	0.2618	19.53	0.0897
Highest		1	0	24.19	0.2624	19.54	0.0899
Lowest	16QAM	1	0	23.46	0.2218	18.81	0.0760
Middle		1	0	23.40	0.2188	18.75	0.0750
Highest		1	0	23.39	0.2183	18.74	0.0748
Lowest	64QAM	1	0	22.46	0.1762	17.81	0.0604
Middle		1	0	22.39	0.1734	17.74	0.0594
Highest		1	0	22.36	0.1722	17.71	0.0590
Limit	ERP < 7W			Result		PASS	



LTE Band 7 / 5MHz (Average) (GT - LC = 0.7 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	23.78	0.2388	24.48	0.2805
Middle		1	0	23.92	0.2466	24.62	0.2897
Highest		1	0	23.73	0.2360	24.43	0.2773
Lowest	16QAM	1	0	22.99	0.1991	23.69	0.2339
Middle		1	0	22.96	0.1977	23.66	0.2323
Highest		1	0	22.92	0.1959	23.62	0.2301
Lowest	64QAM	1	0	21.93	0.1560	22.63	0.1832
Middle		1	0	21.98	0.1578	22.68	0.1854
Highest		1	0	21.89	0.1545	22.59	0.1816
Limit	EIRP < 2W			Result		PASS	

LTE Band 7 / 10MHz (Average) (GT - LC = 0.7 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	25	23.81	0.2404	24.51	0.2825
Middle		1	25	23.91	0.2460	24.61	0.2891
Highest		1	25	23.80	0.2399	24.50	0.2818
Lowest	16QAM	1	25	22.95	0.1972	23.65	0.2317
Middle		1	25	22.93	0.1963	23.63	0.2307
Highest		1	25	22.97	0.1982	23.67	0.2328
Lowest	64QAM	1	49	21.81	0.1517	22.51	0.1782
Middle		1	49	21.98	0.1578	22.68	0.1854
Highest		1	49	21.91	0.1552	22.61	0.1824
Limit	EIRP < 2W			Result		PASS	

LTE Band 7 / 15MHz (Average) (GT - LC = 0.7 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	37	23.76	0.2377	24.46	0.2793
Middle		1	37	23.92	0.2466	24.62	0.2897
Highest		1	37	23.73	0.2360	24.43	0.2773
Lowest	16QAM	1	0	22.93	0.1963	23.63	0.2307
Middle		1	0	22.90	0.1950	23.60	0.2291
Highest		1	0	22.99	0.1991	23.69	0.2339
Lowest	64QAM	1	37	21.99	0.1581	22.69	0.1858
Middle		1	37	21.93	0.1560	22.63	0.1832
Highest		1	37	21.96	0.1570	22.66	0.1845
Limit	EIRP < 2W			Result		PASS	



LTE Band 7 / 20MHz (Average) (GT - LC = 0.7 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	23.93	0.2472	24.63	0.2904
Middle		1	0	23.88	0.2443	24.58	0.2871
Highest		1	0	23.63	0.2307	24.33	0.2710
Lowest	16QAM	1	99	22.92	0.1959	23.62	0.2301
Middle		1	99	22.90	0.1950	23.60	0.2291
Highest		1	99	22.99	0.1991	23.69	0.2339
Lowest	64QAM	1	99	21.96	0.1570	22.66	0.1845
Middle		1	99	21.97	0.1574	22.67	0.1849
Highest		1	99	21.99	0.1581	22.69	0.1858
Limit	EIRP < 2W			Result		PASS	

**Radiated Spurious Emission****LTE Band 2**

LTE Band 2 / 1.4MHz / 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	3759	-58.09	-13	-45.09	-75.17	-69.9	0.69	12.50	H
	5640	-47.47	-13	-34.47	-68.77	-59.6	0.98	13.12	H
	7517	-51.53	-13	-38.53	-76.04	-60.8	1.18	10.45	H
	9399	-44.07	-13	-31.07	-73.3	-54.1	1.45	11.48	H
									H
									H
									H
	3759	-57.29	-13	-44.29	-75.37	-69.1	0.69	12.50	V
	5640	-51.97	-13	-38.97	-73.65	-64.1	0.98	13.12	V
	7517	-51.63	-13	-38.63	-76.18	-60.9	1.18	10.45	V
	9399	-45.77	-13	-32.77	-75.09	-55.8	1.45	11.48	V
									V
									V
									V

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



LTE Band 2 / 3MHz / 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	3757	-58.10	-13	-45.10	-75.05	-69.9	0.69	12.50	H
	5634	-46.66	-13	-33.66	-68.09	-58.8	0.98	13.12	H
	7514	-51.34	-13	-38.34	-76.07	-60.6	1.18	10.44	H
	9399	-44.77	-13	-31.77	-73.49	-54.8	1.45	11.48	H
									H
									H
									H
	3757	-56.80	-13	-43.80	-74.78	-68.6	0.69	12.50	V
	5634	-51.16	-13	-38.16	-72.85	-63.3	0.98	13.12	V
	7514	-51.44	-13	-38.44	-76.26	-60.7	1.18	10.44	V
	9399	-45.17	-13	-32.17	-74.27	-55.2	1.45	11.48	V
									V
									V
									V

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



LTE Band 2 / 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	3756	-58.10	-13	-45.10	-75.13	-69.9	0.69	12.50	H
	5634	-47.16	-13	-34.16	-68.5	-59.3	0.98	13.12	H
	7510	-51.65	-13	-38.65	-76.28	-60.9	1.18	10.43	H
	9388	-44.43	-13	-31.43	-73.58	-54.5	1.45	11.51	H
									H
									H
									H
	3756	-56.90	-13	-43.90	-75.05	-68.7	0.69	12.50	V
	5634	-52.66	-13	-39.66	-74.3	-64.8	0.98	13.12	V
	7510	-51.55	-13	-38.55	-76.44	-60.8	1.18	10.43	V
	9388	-45.63	-13	-32.63	-74.63	-55.7	1.45	11.51	V
									V
									V
									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	3750	-58.10	-13	-45.10	-74.97	-69.9	0.70	12.50	H
	5628	-46.56	-13	-33.56	-68.17	-58.7	0.98	13.12	H
	7500	-51.78	-13	-38.78	-76.14	-61	1.18	10.40	H
	9378	-45.10	-13	-32.10	-74.11	-55.2	1.44	11.54	H
									H
									H
									H
	3750	-57.10	-13	-44.10	-75.11	-68.9	0.70	12.50	V
	5628	-52.16	-13	-39.16	-73.81	-64.3	0.98	13.12	V
	7500	-51.98	-13	-38.98	-76.37	-61.2	1.18	10.40	V
	9378	-45.30	-13	-32.30	-74.47	-55.4	1.44	11.54	V
									V
									V
									V

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



LTE Band 2 / 15MHz / 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	3744	-57.80	-13	-44.80	-74.75	-69.6	0.70	12.50	H
	5622	-46.95	-13	-33.95	-68.21	-59.1	0.98	13.13	H
	7490	-52.06	-13	-39.06	-76.68	-61.3	1.18	10.42	H
	9367	-45.77	-13	-32.77	-74.69	-55.9	1.44	11.57	H
									H
									H
									H
	3744	-56.80	-13	-43.80	-75.06	-68.6	0.70	12.50	V
	5622	-51.95	-13	-38.95	-73.35	-64.1	0.98	13.13	V
	7490	-51.86	-13	-38.86	-76.58	-61.1	1.18	10.42	V
	9367	-46.07	-13	-33.07	-74.95	-56.2	1.44	11.57	V
									V
									V
									V

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



LTE 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)
Middle	3740	-58.30	-13	-45.30	-75.1	-70.1	0.70	12.50	H
	5616	-47.45	-13	-34.45	-69.06	-59.6	0.98	13.13	H
	7480	-50.84	-13	-37.84	-75.54	-60.1	1.18	10.44	H
	9357	-45.33	-13	-32.33	-74.75	-55.5	1.43	11.60	H
									H
									H
									H
	3740	-57.30	-13	-44.30	-75.07	-69.1	0.70	12.50	V
	5616	-52.05	-13	-39.05	73.78	-64.2	0.98	13.13	V
	7480	-51.14	-13	-38.14	-75.58	-60.4	1.18	10.44	V
	9357	-46.03	-13	-33.03	-75.19	-56.2	1.43	11.60	V
									V
									V
									V

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

**LTE Band 5**

LTE Band 5 / 1.4MHz / 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)
Highest	1696	-57.65	-13	-44.65	-67.41	-64.7	0.53	9.73	H
	2543	-60.69	-13	-47.69	-74.03	-68.7	0.67	10.83	H
	3390	-58.75	-13	-45.75	-74.63	-68.1	0.77	12.27	H
									H
									H
									H
									H
	1696	-58.55	-13	-45.55	-68.15	-65.6	0.53	9.73	V
	2543	-60.39	-13	-47.39	-74.01	-68.4	0.67	10.83	V
	3390	-58.85	-13	-45.85	-74.68	-68.2	0.77	12.27	V
									V
									V
									V
									V

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



LTE Band 5 / 3MHz / 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)
Highest	1696	-56.55	-13	-43.55	-66.33	-63.6	0.53	9.73	H
	2538	-60.59	-13	-47.59	-73.65	-68.6	0.66	10.82	H
	3384	-58.67	-13	-45.67	-74.78	-68	0.77	12.25	H
									H
									H
									H
									H
	1696	-58.25	-13	-45.25	-67.98	-65.3	0.53	9.73	V
	2538	-60.19	-13	-47.19	-73.79	-68.2	0.66	10.82	V
	3384	-59.47	-13	-46.47	-75.06	-68.8	0.77	12.25	V
									V
									V
									V
									V

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



LTE Band 5 / 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	1648	-57.85	-13	-44.85	-67.37	-64.8	0.53	9.63	H
	2472	-60.12	-13	-47.12	-73.46	-68.1	0.65	10.78	H
	3296	-58.52	-13	-45.52	-74.24	-67.6	0.76	11.99	H
									H
									H
									H
									H
	1648	-58.25	-13	-45.25	-67.89	-65.2	0.53	9.63	V
	2472	-59.92	-13	-46.92	-73.58	-67.9	0.65	10.78	V
	3296	-58.72	-13	-45.72	-74.49	-67.8	0.76	11.99	V
									V
									V
									V
									V

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



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)
Lowest	1648	-55.25	-13	-42.25	-65	-62.2	0.53	9.63	H
	2472	-60.12	-13	-47.12	-73.53	-68.1	0.65	10.78	H
	3296	-59.62	-13	-46.62	-74.68	-68.7	0.76	11.99	H
									H
									H
									H
									H
	1648	-56.25	-13	-43.25	-65.87	-63.2	0.53	9.63	V
	2472	-59.12	-13	-46.12	-72.75	-67.1	0.65	10.78	V
	3296	-59.02	-13	-46.02	-74.73	-68.1	0.76	11.99	V
									V
									V
									V
									V

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



LTE Band 7

LTE Band 7 / 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	5064	-53.52	-25	-28.52	-74.09	-64.89	0.95	12.33	H
	7596	-48.17	-25	-23.17	-73.28	-57.66	1.18	10.67	H
	10134	-40.31	-25	-15.31	-71.31	-50.78	1.38	11.85	H
									H
									H
									H
									H
	5064	-52.60	-25	-27.60	-73.34	-63.97	0.95	12.33	V
	7596	-49.12	-25	-24.12	-73.93	-58.61	1.18	10.67	V
	10134	-42.01	-25	-17.01	-72.73	-52.48	1.38	11.85	V
									V
									V
									V
									V

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



LTE Band 7 / 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	5064	-52.67	-25	-27.67	-73.24	-64.04	0.95	12.33	H
	7590	-47.99	-25	-22.99	-73.11	-57.46	1.18	10.65	H
	10116	-40.74	-25	-15.74	-71.75	-51.24	1.38	11.88	H
									H
									H
									H
									H
	5064	-52.71	-25	-27.71	-73.45	-64.08	0.95	12.33	V
	7590	-48.54	-25	-23.54	-73.36	-58.01	1.18	10.65	V
	10116	-42.58	-25	-17.58	-73.3	-53.08	1.38	11.88	V
									V
									V
									V
									V

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



LTE Band 7 / 15MHz / 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	5058	-52.47	-25	-27.47	-73.04	-63.83	0.95	12.32	H
	7584	-47.52	-25	-22.52	-72.59	-56.97	1.18	10.64	H
	10116	-40.62	-25	-15.62	-71.63	-51.12	1.38	11.88	H
									H
									H
									H
									H
	5058	-52.03	-25	-27.03	-72.77	-63.39	0.95	12.32	V
	7584	-48.60	-25	-23.60	-73.46	-58.05	1.18	10.64	V
	10116	-42.96	-25	-17.96	-73.68	-53.46	1.38	11.88	V
									V
									V
									V
									V

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



LTE Band 7 / 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	5004	-51.78	-25	-26.78	-72.26	-63.05	0.94	12.21	H
	7506	-46.20	-25	-21.20	-71.07	-55.44	1.18	10.42	H
	10008	-39.32	-25	-14.32	-70.37	-50.04	1.37	12.08	H
									H
									H
									H
									H
	5004	-52.23	-25	-27.23	-72.89	-63.5	0.94	12.21	V
	7506	-46.07	-25	-21.07	-71.08	-55.31	1.18	10.42	V
	10008	-41.57	-25	-16.57	-72.29	-52.29	1.37	12.08	V
									V
									V
									V
									V

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



Appendix C. Original Report

Please refer to Sporton report number FG762713-01B