



FCC RADIO TEST REPORT

FCC ID : A4RG025I
Equipment : Phone
Model Name : G025I, G025H
Applicant : Google LLC
1600 Amphitheatre Parkway,
Mountain View, California, 94043 USA
Standard : FCC 47 CFR Part 2, 96

The product was received on May 12, 2020 and testing was started from May 25, 2020 and completed on Jul. 01, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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



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History of this test report

Report No.	Version	Description	Issued Date
FG022521-04G	01	Initial issue of report	Jul. 09, 2020
FG022521-04G	02	Revising the remark description in summary.	Jul. 23, 2020

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Reporting only	-
-	§96.41	Peak-to-Average Ratio	Pass	
3.3	§96.41	Effective Isotropic Radiated Power	Pass	-
-	§2.1049 §96.41	Occupied Bandwidth	Not Required	-
-	§2.1051 §96.41	Conducted Band Edge Measurement	Not Required	-
-	§2.1051 §96.41	Conducted Spurious Emission	Not Required	
-	§2.1055	Frequency Stability for Temperature & Voltage	Not Required	-
4.4	§2.1051 §96.41	Radiated Spurious Emission	Pass	Under limit 8.24 dB at 28411.000 MHz for Primary Antenna Under limit 3.62 dB at 7120.000 MHz for ASDIV Antenna

Remark:

- Not required means after assessing, test items are not necessary to carry out.
- This is a variant report which can be referred Product Equality Declaration. After spot-checking the tests, the parent test results were worse than variant test results, thus this test report was reuse parent test data, all the test cases were performed on original report which can be referred to Sporton Report Number FG022521-02H.

Declaration of Conformity:

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

Comments and Explanations:

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

Reviewed by: Wii Chang
Report Producer: Yimin Ho

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Phone
Model Name	G025I, G025H
FCC ID	A4RG025I
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/LTE/5G NR/ NFC/GNSS WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE

Remark: The above EUT's information was declared by manufacturer.

EUT Information List	
S/N	Performed Test Item
04271FQCB00019	Conducted Measurement EIRP
04241FQCB00338	Radiated Spurious Emission

1.2 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx Frequency	3552.5 MHz ~ 3697.5 MHz
Rx Frequency	3552.5 MHz ~ 3697.5 MHz
Bandwidth	5 MHz / 10 MHz / 15 MHz / 20 MHz
Maximum Output Power to Antenna	<Primary Antenna>: LTE Band 48: 23.11 dBm LTE Band 48_CA: 16.53 dBm <ASDIV Antenna>: LTE Band 48: 21.61 dBm LTE Band 48_CA: 14.29 dBm
Antenna Type	<Primary Antenna>: Monopole Antenna type <ASDIV Antenna>: Monopole Antenna type
Type of Modulation	QPSK / 16QAM / 64QAM

<Primary Antenna>

Radio Tech	Band Number	Antenna name	Gain
LTE	B48	Ant 7	-1.8

<ASDIV Antenna>

Radio Tech	Band Number	Antenna name	Gain
LTE	B48	Ant 2	-0.5

1.3 Modification of EUT

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

1.4 Testing Location

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	Sporton Site No. TH05-HY
Test Engineer	Luffy Lin
Temperature	22~24°C
Relative Humidity	51~55%

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

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
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. 03CH12-HY
Test Engineer	Jack Cheng, Lance Chiang and Chuan Chu
Temperature	20~26°C
Relative Humidity	52~66%

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

FCC Designation No.: TW1190 and TW0007



1.5 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 v01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.
3. The TAF code is not including all the FCC KDB listed without accreditation.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

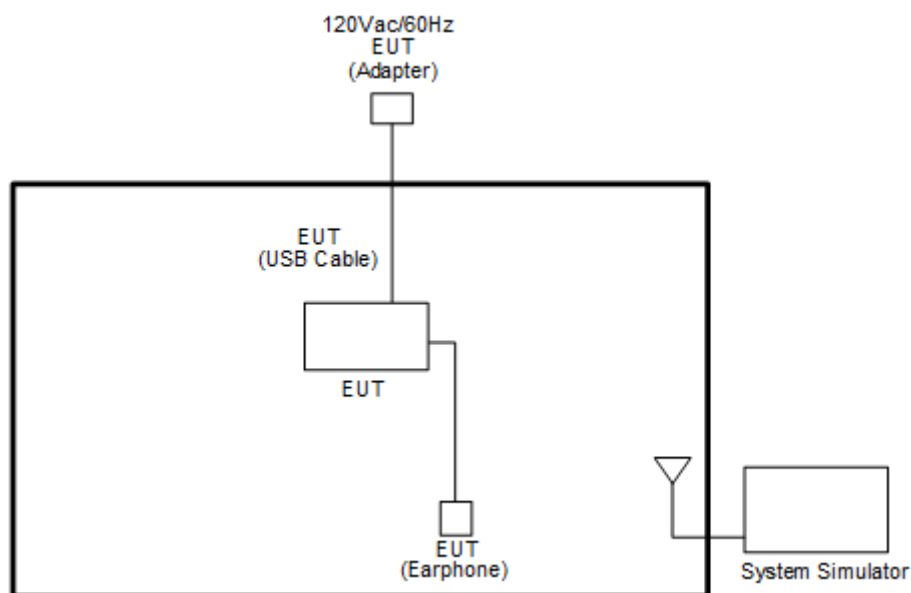
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y Plane) were recorded in this report.

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	48	-	-	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			v	v	v
Radiated Spurious Emission	48	Worst Case												v		
Remark	1. The mark "v " means that this configuration is chosen for testing 2. The mark "- " means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. All the radiated test cases were performed with Adapter 1 and USB Cable 1.															

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	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
E.I.R.P.	48_CA	v	v	v	v	v	v	v	-	-	-	v	v	v	v			v	v	v
Remark	- 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	Trade 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 48 Channel and Frequency List_CA					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
20 + 20	PCC	Channel	55340	55891	56442
		Frequency	3560.0	3565.1	3570.2
	SCC	Channel	55538	56089	56640
		Frequency	3579.8	3634.9	3690
20 + 15	PCC	Channel	55340	55916	56491
		Frequency	3560.0	3617.6	3675.1
	SCC	Channel	55511	56087	56662
		Frequency	3577.1	3634.7	3692.2
15 + 20	PCC	Channel	55318	55893	56469
		Frequency	3557.8	3615.3	3672.9
	SCC	Channel	55489	56064	56640
		Frequency	3574.9	3632.4	3690
20 + 10	PCC	Channel	55340	55941	56541
		Frequency	3560	3620.1	3680.1
	SCC	Channel	55484	56085	56685
		Frequency	3574.4	3634.5	3694.5
10 + 20	PCC	Channel	55295	55896	56496
		Frequency	3555.5	3615.6	3675.6
	SCC	Channel	55439	56040	56640
		Frequency	3569.9	3630	3690
20 + 5	PCC	Channel	55340	55965	56590
		Frequency	3560	3622.5	3685
	SCC	Channel	55457	56082	56707
		Frequency	3571.7	3634.2	3696.7
5 + 20	PCC	Channel	55273	55898	56523
		Frequency	3553.3	3615.8	3678.3
	SCC	Channel	55390	56015	56640
		Frequency	3565	3627.5	3690

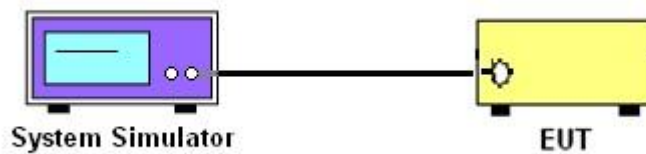
3 Conducted Test Items

3.1 Measuring Instruments

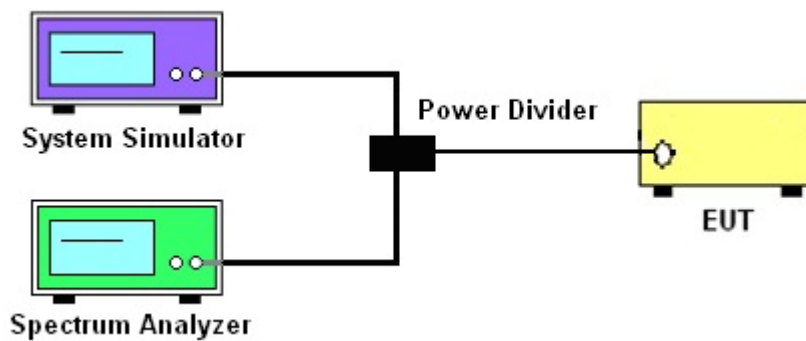
See list of measuring instruments of this test report.

3.1.1 Test Setup

3.1.2 Conducted Output Power



3.1.3 EIRP



3.1.4 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 for LTE Band 48.

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)
End User Device	23

3.3.1 Test Procedures

The testing follows procedure in Section 5.2 of ANSI C63.26-2015 and KDB 940660 D01 Part 96 Eqpt v02 Section 3.2(b)(2)

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

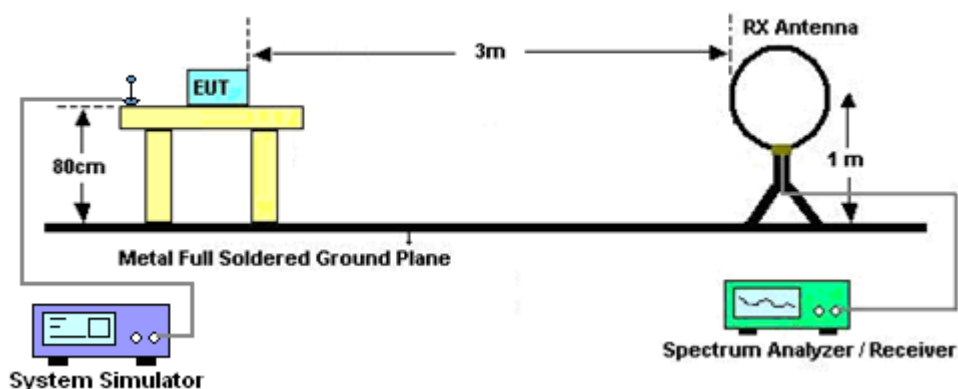
4 Radiated Test Items

4.1 Measuring Instruments

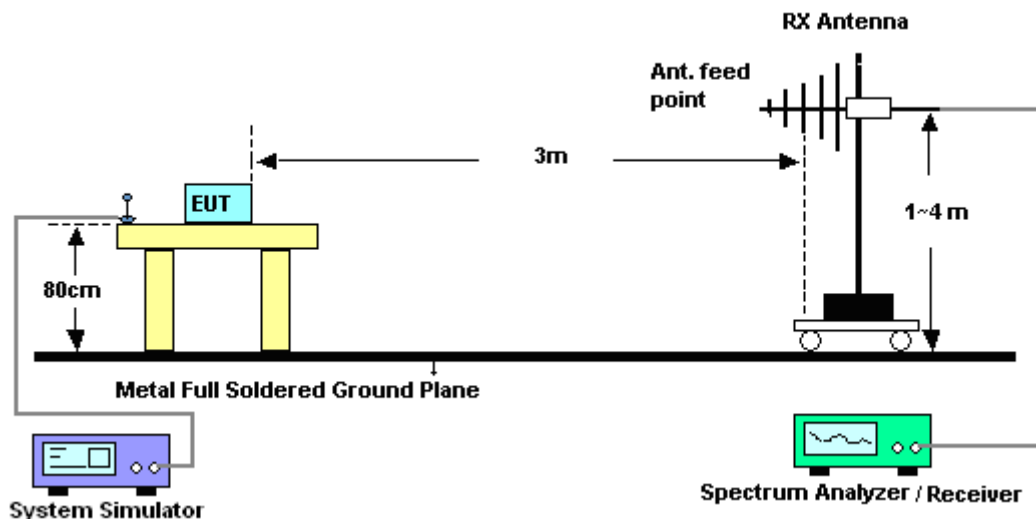
See list of measuring instruments of this test report.

4.2 Test Setup

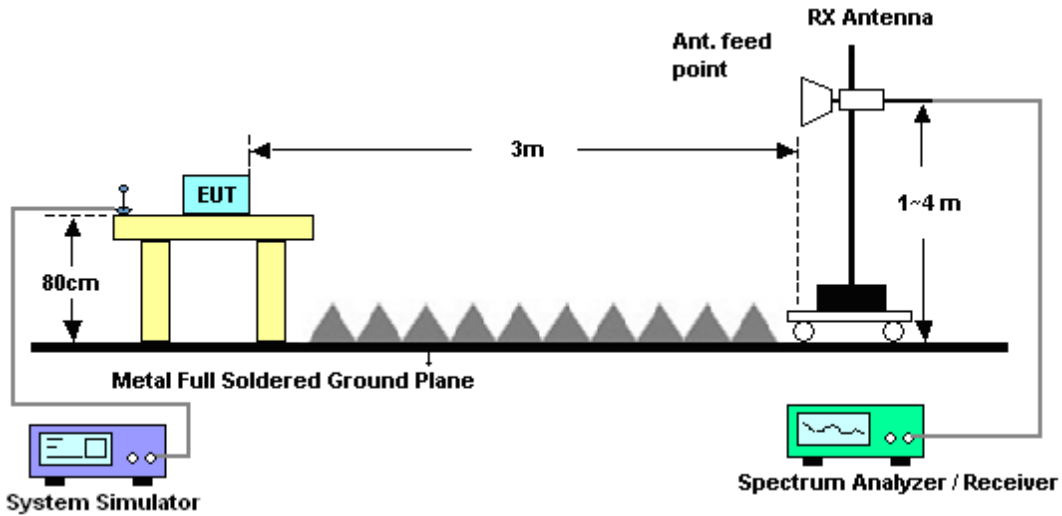
For radiated emissions below 30MHz



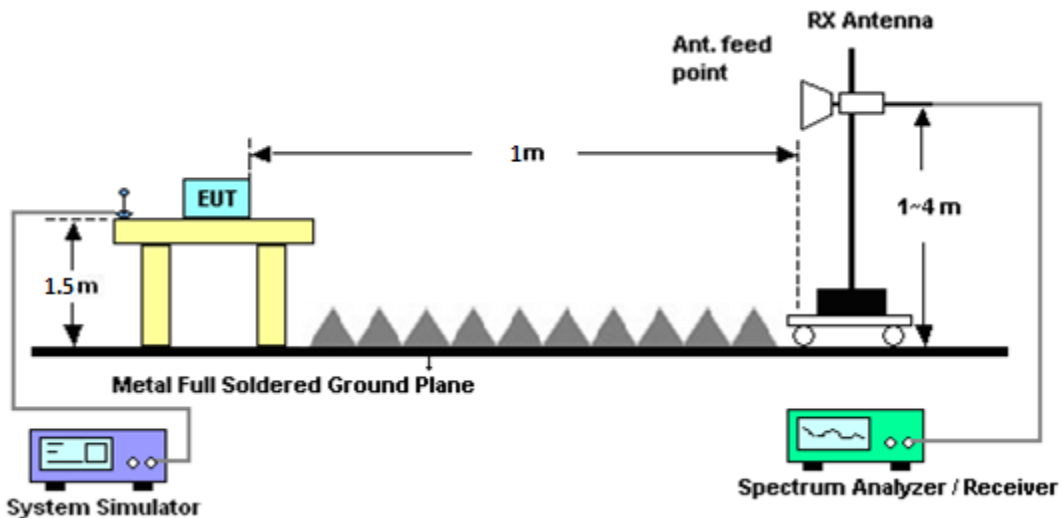
For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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 a comparison data 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.
$$\text{EIRP (dBm)} = \text{S.G. Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$$
$$\text{ERP (dBm)} = \text{EIRP} - 2.15$$
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
The limit line is -40dBm/MHz

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Dec. 26, 2019	Jun. 23, 2020~ Jul. 01, 2020	Dec. 25, 2020	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01 N-06	37059 & 01	30MHz~1GHz	Oct. 12, 2019	Jun. 23, 2020~ Jul. 01, 2020	Oct. 11, 2020	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120D	9120D-132 8	1GHz ~ 18GHz	Nov. 14, 2019	Jun. 23, 2020~ Jul. 01, 2020	Nov. 13, 2020	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120D	9120D-152 2	1GHz ~ 18GHz	Sep. 19, 2019	Jun. 23, 2020~ Jul. 01, 2020	Sep. 18, 2020	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170 584	18GHz ~ 40GHz	Dec. 10, 2019	Jun. 23, 2020~ Jul. 01, 2020	Dec. 09, 2020	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170 980	18GHz ~ 40GHz	Jan. 10, 2019	Jun. 23, 2020~ Jul. 01, 2020	Jan. 09, 2021	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103	161075	10MHz~1GHz	Mar. 25, 2020	Jun. 23, 2020~ Jul. 01, 2020	Mar. 24, 2021	Radiation (03CH12-HY)
Preamplifier	Jet-Power	JPA00101800 -30-10P	160118000 2	1GHz~18GHz	Feb. 07, 2020	Jun. 23, 2020~ Jul. 01, 2020	Feb. 06, 2021	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz ~ 40GHz	Dec. 13, 2019	Jun. 23, 2020~ Jul. 01, 2020	Dec. 12, 2020	Radiation (03CH12-HY)
Preamplifier	Keysight	83017A	MY532701 48	1GHz~26.5GHz	Dec. 20, 2019	Jun. 23, 2020~ Jul. 01, 2020	Dec. 19, 2020	Radiation (03CH12-HY)
Signal Analyzer	Agilent	N9010A	MY534701 18	10Hz~44GHz	Mar. 12, 2020	Jun. 23, 2020~ Jul. 01, 2020	Mar. 11, 2021	Radiation (03CH12-HY)
Signal Generator	Rohde & Schwarz	SMB100A	101107	100kHz~40GHz	Aug. 27, 2019	Jun. 23, 2020~ Jul. 01, 2020	Aug. 26, 2020	Radiation (03CH12-HY)
Hygrometer	TECEPEL	DTN-303B	TP140325	N/A	Nov. 07, 2019	Jun. 23, 2020~ Jul. 01, 2020	Nov. 06, 2020	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30M-18G	Dec. 12, 2019	Jun. 23, 2020~ Jul. 01, 2020	Dec. 11, 2020	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30M~40GHz	Feb. 25, 2020	Jun. 23, 2020~ Jul. 01, 2020	Feb. 24, 2021	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30M~40GHz	Feb. 25, 2020	Jun. 23, 2020~ Jul. 01, 2020	Feb. 24, 2021	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Jun. 23, 2020~ Jul. 01, 2020	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500- B	N/A	1m~4m	N/A	Jun. 23, 2020~ Jul. 01, 2020	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Jun. 23, 2020~ Jul. 01, 2020	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-00098 9	N/A	N/A	Jun. 23, 2020~ Jul. 01, 2020	N/A	Radiation (03CH12-HY)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
LTE Base Station	Anritsu	MT8821C	626200253 41	-	Oct. 24, 2019	May 25, 2020~ Jul. 01, 2020	Oct. 23, 2020	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Nov. 15, 2019	May 25, 2020~ Jul. 01, 2020	Nov. 14, 2020	Conducted (TH05-HY)
Temperature Chamber	ESPEC	SH-641	92013720	-40℃~90℃	Sep. 02, 2019	May 25, 2020~ Jul. 01, 2020	Sep. 01, 2020	Conducted (TH05-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890094	1V~20V 0.5A~5A	Oct. 09, 2019	May 25, 2020~ Jul. 01, 2020	Oct. 08, 2020	Conducted (TH05-HY)
Coupler	Warison	20dB 25W SMA Directional Coupler	#A	1-18GHz	Jan. 13, 2020	May 25, 2020~ Jul. 01, 2020	Jan. 12, 2021	Conducted (TH05-HY)

6 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.24
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.62
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.06
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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

<Primary Antenna>

LTE Band 48 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.07	22.92	23.11
20	1	49		22.79	22.72	22.89
20	1	99		22.82	22.83	22.89
20	50	0		22.09	21.94	22.09
20	50	24		22.05	21.90	22.07
20	50	50		21.85	21.92	22.07
20	100	0		22.06	21.90	22.07
20	1	0	16-QAM	22.11	22.00	22.29
20	1	49		21.96	21.93	21.93
20	1	99		21.98	21.82	21.95
20	50	0		21.07	21.15	21.16
20	50	24		21.01	20.76	21.06
20	50	50		20.93	20.72	21.01
20	100	0		21.04	21.02	21.08
20	1	0	64-QAM	20.88	20.63	20.93
20	1	49		20.69	20.48	20.71
20	1	99		20.65	20.57	20.78
20	50	0		20.15	19.85	20.14
20	50	24		20.11	19.97	20.15
20	50	50		19.92	19.86	20.01
20	100	0		20.05	20.06	20.14
15	1	0	QPSK	22.93	22.83	23.00
15	1	37		22.83	22.91	22.91
15	1	74		22.82	22.87	22.92
15	36	0		22.01	22.01	22.11
15	36	20		21.90	21.93	22.06
15	36	39		21.89	21.87	22.00
15	75	0		21.99	21.83	22.08
15	1	0	16-QAM	22.06	21.93	22.20
15	1	37		21.87	21.66	21.96
15	1	74		22.04	21.91	22.08
15	36	0		20.96	20.96	21.02
15	36	20		20.88	20.97	21.03
15	36	39		20.80	20.79	21.01
15	75	0		21.00	21.09	21.12
15	1	0	64-QAM	20.82	20.61	20.86
15	1	37		20.76	20.63	20.75
15	1	74		20.67	20.58	20.83
15	36	0		20.08	20.17	20.18
15	36	20		19.91	19.98	20.08
15	36	39		19.92	19.98	20.03
15	75	0		19.99	19.83	20.02



LTE Band 48 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.05	22.93	23.04
10	1	25		22.79	22.83	22.85
10	1	49		22.72	22.58	22.81
10	25	0		21.98	21.91	22.03
10	25	12		21.95	21.90	21.97
10	25	25		21.79	21.84	21.96
10	50	0		21.95	21.86	22.01
10	1	0	16-QAM	22.01	22.18	22.24
10	1	25		21.95	21.74	21.96
10	1	49		21.89	21.58	21.88
10	25	0		21.09	21.08	21.16
10	25	12		20.91	20.93	21.02
10	25	25		20.89	20.89	21.05
10	50	0		20.96	21.03	21.06
10	1	0	64-QAM	20.74	20.77	20.87
10	1	25		20.59	20.48	20.65
10	1	49		20.69	20.53	20.71
10	25	0		20.14	20.00	20.10
10	25	12		20.01	19.91	20.03
10	25	25		19.94	19.71	19.97
10	50	0		19.94	19.79	20.05
5	1	0	QPSK	22.89	22.79	23.04
5	1	12		22.88	22.80	22.95
5	1	24		22.88	22.69	22.97
5	12	0		22.06	22.03	22.15
5	12	7		22.02	22.04	22.14
5	12	13		22.00	22.01	22.09
5	25	0		21.99	22.02	22.10
5	1	0	16-QAM	22.05	22.06	22.14
5	1	12		22.15	21.99	22.18
5	1	24		22.11	22.03	22.07
5	12	0		21.03	20.87	21.11
5	12	7		21.10	20.88	21.06
5	12	13		21.07	20.88	21.01
5	25	0		21.12	20.98	21.12
5	1	0	64-QAM	20.81	20.86	20.93
5	1	12		20.89	20.55	20.83
5	1	24		20.85	20.79	20.82
5	12	0		20.17	19.90	20.15
5	12	7		20.09	19.99	20.22
5	12	13		20.06	20.09	20.10
5	25	0		20.09	19.88	20.11



LTE Band 48C_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest
	RB Size	RB Offset	RB Size	RB Offset				
20+20	1	0	1	0	QPSK	7.77	16.37	7.70
20+20	1	99	1	0		7.94	16.36	7.55
20+20	0	0	1	99		7.43	16.08	7.20
20+20	1	0	1	0	16-QAM	7.31	16.18	7.50
20+20	1	99	1	0		7.81	16.53	8.53
20+20	0	0	1	99		7.77	16.22	8.46
20+20	1	0	1	0	64-QAM	7.60	16.25	7.57
20+20	1	99	1	0		7.34	16.21	7.87
20+20	0	0	1	99		7.17	16.10	7.57
20+15	100	0	75	0	QPSK	7.56	16.31	7.62
20+15	1	0	1	74		7.92	16.15	7.44
20+15	1	74	1	0		7.42	16.05	6.94
20+15	100	0	75	0	16-QAM	7.14	15.98	7.45
20+15	1	0	1	74		7.60	16.30	8.51
20+15	1	74	1	0		7.65	16.20	8.24
20+15	100	0	75	0	64-QAM	7.33	16.19	7.37
20+15	1	0	1	74		7.34	16.08	7.71
20+15	1	74	1	0		6.89	16.08	7.29
15+20	75	0	100	0	QPSK	7.65	16.36	7.57
15+20	1	0	1	99		7.88	16.33	7.42
15+20	1	74	1	0		7.28	15.87	7.16
15+20	75	0	100	0	16-QAM	7.22	16.11	7.23
15+20	1	0	1	99		7.58	16.26	8.42
15+20	1	74	1	0		7.63	16.17	8.17
15+20	75	0	100	0	64-QAM	7.54	15.97	7.43
15+20	1	0	1	99		7.04	16.12	7.66
15+20	1	74	1	0		7.11	15.94	7.41



LTE Band 48C_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest
	RB Size	RB Offset	RB Size	RB Offset				
20+10	100	0	50	0	QPSK	7.68	16.31	7.67
20+10	1	0	1	49		7.82	16.24	7.44
20+10	1	99	1	0		7.42	16.07	6.95
20+10	100	0	50	0	16-QAM	7.18	15.95	7.44
20+10	1	0	1	49		7.52	16.26	8.40
20+10	1	99	1	0		7.71	15.95	8.42
20+10	100	0	50	0	64-QAM	7.33	16.17	7.49
20+10	1	0	1	49		7.27	16.06	7.70
20+10	1	99	1	0		7.03	15.99	7.49
10+20	50	0	100	0	QPSK	7.64	16.30	7.47
10+20	1	0	1	99		7.82	16.17	7.27
10+20	1	49	1	0		7.39	15.81	7.10
10+20	50	0	100	0	16-QAM	7.20	16.14	7.42
10+20	1	0	1	99		7.79	16.53	8.45
10+20	1	49	1	0		7.52	16.02	8.41
10+20	50	0	100	0	64-QAM	7.49	16.04	7.42
10+20	1	0	1	99		7.32	16.09	7.83
10+20	1	49	1	0		7.05	15.94	7.28
20+5	100	0	25	0	QPSK	7.63	16.23	7.70
20+5	1	0	1	24		7.71	16.28	7.45
20+5	1	99	1	0		7.24	15.97	7.17
20+5	100	0	25	0	16-QAM	7.04	16.17	7.28
20+5	1	0	1	24		7.73	16.25	8.36
20+5	1	99	1	0		7.67	16.22	8.22
20+5	100	0	25	0	64-QAM	7.46	16.17	7.51
20+5	1	0	1	24		7.08	15.98	7.76
20+5	1	99	1	0		6.94	16.03	7.31
5+20	25	0	100	0	QPSK	7.65	16.31	7.59
5+20	1	0	1	99		7.82	16.25	7.30
5+20	1	24	1	0		7.38	15.90	7.04
5+20	25	0	100	0	16-QAM	7.12	15.99	7.20
5+20	1	0	1	99		7.55	16.39	8.33
5+20	1	24	1	0		7.74	16.16	8.18
5+20	25	0	100	0	64-QAM	7.43	16.01	7.41
5+20	1	0	1	99		7.14	15.95	7.66
5+20	1	24	1	0		7.03	16.10	7.52

**<ASDIV Antenna>**

LTE Band 48 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	21.54	21.61	21.48
20	1	49		21.40	21.41	21.19
20	1	99		21.39	21.34	21.07
20	50	0		20.63	20.65	20.47
20	50	24		20.60	20.61	20.36
20	50	50		20.52	20.45	20.26
20	100	0		20.55	20.49	20.35
20	1	0	16-QAM	20.68	20.76	20.59
20	1	49		20.51	20.48	20.28
20	1	99		20.52	20.45	20.18
20	50	0		19.65	19.67	19.49
20	50	24		19.61	19.61	19.43
20	50	50		19.57	19.47	19.29
20	100	0		19.59	19.50	19.40
20	1	0	64-QAM	19.44	19.48	19.32
20	1	49		19.26	19.24	19.02
20	1	99		19.31	19.16	18.93
20	50	0		18.64	18.67	18.51
20	50	24		18.63	18.66	18.42
20	50	50		18.57	18.48	18.31
20	100	0		18.61	18.53	18.41
15	1	0	QPSK	21.50	21.53	21.34
15	1	37		21.39	21.39	21.14
15	1	74		21.43	21.34	21.09
15	36	0		20.61	20.64	20.43
15	36	20		20.57	20.59	20.32
15	36	39		20.55	20.47	20.27
15	75	0		20.57	20.50	20.34
15	1	0	16-QAM	20.63	20.67	20.51
15	1	37		20.45	20.44	20.21
15	1	74		20.59	20.52	20.26
15	36	0		19.58	19.58	19.39
15	36	20		19.53	19.53	19.31
15	36	39		19.51	19.40	19.22
15	75	0		19.60	19.51	19.37
15	1	0	64-QAM	19.37	19.43	19.24
15	1	37		19.29	19.27	19.03
15	1	74		19.32	19.22	18.99
15	36	0		18.62	18.63	18.44
15	36	20		18.59	18.59	18.34
15	36	39		18.55	18.46	18.26
15	75	0		18.59	18.52	18.37



LTE Band 48 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	21.50	21.44	21.31
10	1	25		21.30	21.37	21.14
10	1	49		21.34	21.33	21.01
10	25	0		20.57	20.63	20.43
10	25	12		20.49	20.53	20.25
10	25	25		20.53	20.47	20.26
10	50	0		20.53	20.44	20.30
10	1	0	16-QAM	20.61	20.58	20.45
10	1	25		20.38	20.41	20.11
10	1	49		20.59	20.47	20.23
10	25	0		19.55	19.58	19.34
10	25	12		19.50	19.50	19.31
10	25	25		19.42	19.40	19.14
10	50	0		19.53	19.42	19.31
10	1	0	64-QAM	19.29	19.34	19.17
10	1	25		19.29	19.19	18.97
10	1	49		19.24	19.21	18.90
10	25	0		18.56	18.55	18.41
10	25	12		18.59	18.55	18.31
10	25	25		18.54	18.40	18.26
10	50	0		18.49	18.50	18.37
5	1	0	QPSK	21.46	21.47	21.27
5	1	12		21.41	21.42	21.18
5	1	24		21.40	21.40	21.11
5	12	0		20.54	20.61	20.38
5	12	7		20.62	20.64	20.34
5	12	13		20.54	20.55	20.28
5	25	0		20.58	20.58	20.30
5	1	0	16-QAM	20.55	20.61	20.36
5	1	12		20.64	20.66	20.36
5	1	24		20.56	20.59	20.30
5	12	0		19.55	19.61	19.31
5	12	7		19.55	19.59	19.33
5	12	13		19.55	19.58	19.31
5	25	0		19.58	19.64	19.38
5	1	0	64-QAM	19.36	19.36	19.10
5	1	12		19.36	19.33	19.08
5	1	24		19.33	19.33	19.04
5	12	0		18.62	18.63	18.40
5	12	7		18.65	18.66	18.42
5	12	13		18.64	18.65	18.31
5	25	0		18.66	18.65	18.40



LTE Band 48C_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest
	RB Size	RB Offset	RB Size	RB Offset				
20+20	1	0	1	0	QPSK	5.73	14.21	5.45
20+20	1	99	1	0		5.88	14.21	5.38
20+20	0	0	1	99		5.33	13.85	4.99
20+20	1	0	1	0	16-QAM	5.10	14.05	5.46
20+20	1	99	1	0		5.80	14.29	6.47
20+20	0	0	1	99		5.53	14.07	6.24
20+20	1	0	1	0	64-QAM	5.39	14.17	5.27
20+20	1	99	1	0		5.25	13.95	5.72
20+20	0	0	1	99		4.96	14.00	5.41
20+15	100	0	75	0	QPSK	5.50	14.27	5.68
20+15	1	0	1	74		5.82	14.07	5.52
20+15	1	74	1	0		5.14	14.02	5.19
20+15	100	0	75	0	16-QAM	5.11	13.93	5.30
20+15	1	0	1	74		5.80	14.24	6.47
20+15	1	74	1	0		5.73	14.06	6.29
20+15	100	0	75	0	64-QAM	5.58	14.09	5.52
20+15	1	0	1	74		5.13	13.92	5.83
20+15	1	74	1	0		5.16	14.06	5.49
15+20	75	0	100	0	QPSK	5.73	14.21	5.41
15+20	1	0	1	99		5.91	14.18	5.33
15+20	1	74	1	0		5.24	13.86	4.96
15+20	75	0	100	0	16-QAM	5.17	14.02	5.37
15+20	1	0	1	99		5.76	14.27	6.43
15+20	1	74	1	0		5.74	13.98	6.37
15+20	75	0	100	0	64-QAM	5.36	13.95	5.49
15+20	1	0	1	99		5.19	14.17	5.80
15+20	1	74	1	0		5.14	13.92	5.34



LTE Band 48C_CA Maximum Average Power [dBm]								
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest
	RB Size	RB Offset	RB Size	RB Offset				
20+10	100	0	50	0	QPSK	5.50	14.09	5.45
20+10	1	0	1	49		5.83	14.18	5.48
20+10	1	99	1	0		5.27	13.82	5.11
20+10	100	0	50	0	16-QAM	5.09	14.03	5.27
20+10	1	0	1	49		5.55	14.25	6.42
20+10	1	99	1	0		5.65	14.10	6.46
20+10	100	0	50	0	64-QAM	5.53	14.12	5.49
20+10	1	0	1	49		5.28	14.06	5.85
20+10	1	99	1	0		5.05	14.01	5.42
10+20	50	0	100	0	QPSK	5.68	14.27	5.55
10+20	1	0	1	99		5.67	14.23	5.54
10+20	1	49	1	0		5.21	14.08	5.02
10+20	50	0	100	0	16-QAM	5.22	14.06	5.24
10+20	1	0	1	99		5.68	14.25	6.53
10+20	1	49	1	0		5.53	14.17	6.22
10+20	50	0	100	0	64-QAM	5.49	13.96	5.30
10+20	1	0	1	99		5.33	14.12	5.64
10+20	1	49	1	0		5.00	14.03	5.27
20+5	100	0	25	0	QPSK	5.47	14.26	5.50
20+5	1	0	1	24		5.84	14.09	5.49
20+5	1	99	1	0		5.42	13.79	4.95
20+5	100	0	25	0	16-QAM	5.26	14.14	5.36
20+5	1	0	1	24		5.56	14.26	6.38
20+5	1	99	1	0		5.57	14.02	6.34
20+5	100	0	25	0	64-QAM	5.49	14.15	5.56
20+5	1	0	1	24		5.24	14.05	5.61
20+5	1	99	1	0		4.92	13.93	5.40
5+20	25	0	100	0	QPSK	5.55	14.19	5.70
5+20	1	0	1	99		5.81	14.18	5.36
5+20	1	24	1	0		5.40	14.07	4.94
5+20	25	0	100	0	16-QAM	5.30	13.93	5.42
5+20	1	0	1	99		5.70	14.29	6.42
5+20	1	24	1	0		5.59	14.03	6.24
5+20	25	0	100	0	64-QAM	5.49	14.01	5.56
5+20	1	0	1	99		5.31	13.99	5.66
5+20	1	24	1	0		4.98	13.96	5.48



Appendix B. Test Results of EIRP and Radiated Test

EIRP

<Primary Antenna>

LTE Band 48 / 5MHz (Average) (GT - LC = -1.8 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.89	0.1945	21.09	0.1285
Middle		1	0	22.79	0.1901	20.99	0.1256
Highest		1	0	23.04	0.2014	21.24	0.1330
Lowest	16QAM	1	12	22.15	0.1641	20.35	0.1084
Middle		1	12	21.99	0.1581	20.19	0.1045
Highest		1	12	22.18	0.1652	20.38	0.1091
Lowest	64QAM	1	0	20.81	0.1205	19.01	0.0796
Middle		1	0	20.86	0.1219	19.06	0.0805
Highest		1	0	20.93	0.1239	19.13	0.0818

LTE Band 48 / 10MHz (Average) (GT - LC = -1.8 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	23.05	0.2018	21.25	0.1334
Middle		1	0	22.93	0.1963	21.13	0.1297
Highest		1	0	23.04	0.2014	21.24	0.1330
Lowest	16QAM	1	0	22.01	0.1589	20.21	0.1050
Middle		1	0	22.18	0.1652	20.38	0.1091
Highest		1	0	22.24	0.1675	20.44	0.1107
Lowest	64QAM	1	0	20.74	0.1186	18.94	0.0783
Middle		1	0	20.77	0.1194	18.97	0.0789
Highest		1	0	20.87	0.1222	19.07	0.0807

LTE Band 48 / 15MHz (Average) (GT - LC = -1.8 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.93	0.1963	21.13	0.1297
Middle		1	0	22.83	0.1919	21.03	0.1268
Highest		1	0	23.00	0.1995	21.20	0.1318
Lowest	16QAM	1	0	22.06	0.1607	20.26	0.1062
Middle		1	0	21.93	0.1560	20.13	0.1030
Highest		1	0	22.20	0.1660	20.40	0.1096
Lowest	64QAM	1	0	20.82	0.1208	19.02	0.0798
Middle		1	0	20.61	0.1151	18.81	0.0760
Highest		1	0	20.86	0.1219	19.06	0.0805



LTE Band 48 / 20MHz (Average) (GT - LC = -1.8 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	23.07	0.2028	21.27	0.1340
Middle		1	0	22.92	0.1959	21.12	0.1294
Highest		1	0	23.11	0.2046	21.31	0.1352
Lowest	16QAM	1	0	22.11	0.1626	20.31	0.1074
Middle		1	0	22.00	0.1585	20.20	0.1047
Highest		1	0	22.29	0.1694	20.49	0.1119
Lowest	64QAM	1	0	20.88	0.1225	19.08	0.0809
Middle		1	0	20.63	0.1156	18.83	0.0764
Highest		1	0	20.93	0.1239	19.13	0.0818



EIRP

LTE Band 48 / Conducted Power (dBm/10MHz)									
BW	1.4MHz			3MHz			5MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	-	-	-	-	-	-	22.89	22.15	20.81
Middle CH	-	-	-	-	-	-	22.79	21.99	20.86
Highest CH	-	-	-	-	-	-	23.04	22.18	20.93
LTE Band 48 / Conducted Power (dBm/10MHz)									
BW	10MHz			15MHz			20MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	23.05	22.01	20.74	22.93	22.06	20.82	23.07	22.11	20.88
Middle CH	22.93	22.18	20.77	22.83	21.93	20.61	22.92	22.00	20.63
Highest CH	23.04	22.24	20.87	23.00	22.20	20.86	23.11	22.29	20.93

LTE Band 48 / EIRP Power (dBm/10MHz)									
BW	1.4MHz			3MHz			5MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	-	-	-	-	-	-	21.09	20.35	19.01
Middle CH	-	-	-	-	-	-	20.99	20.19	19.06
Highest CH	-	-	-	-	-	-	21.24	20.38	19.13
LTE Band 48 / EIRP Power (dBm/10MHz)									
BW	10MHz			15MHz			20MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	21.25	20.21	18.94	21.13	20.26	19.02	21.27	20.31	19.08
Middle CH	21.13	20.38	18.97	21.03	20.13	18.81	21.12	20.20	18.83
Highest CH	21.24	20.44	19.07	21.20	20.40	19.06	21.31	20.49	19.13
Antenna Gain	-1.8 dBi								
Limit	23dBm / 10MHz								
Result	PASS								



LTE Band 48C_CA / 20 + 20 MHz (GT - LC = -1.8 dB)									
Channel	Mode	PCC		SCC		Conducted		EIRP	
		RB		RB					
		Size	Offset	Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	1	0	7.77	0.0060	5.97	0.0040
Middle		1	0	1	0	16.37	0.0434	14.57	0.0286
Highest		1	0	1	0	7.70	0.0059	5.90	0.0039
Lowest	16QAM	1	99	1	0	7.81	0.0060	6.01	0.0040
Middle		1	99	1	0	16.53	0.0450	14.73	0.0297
Highest		1	99	1	0	8.53	0.0071	6.73	0.0047
Lowest	64QAM	1	0	1	0	7.60	0.0058	5.80	0.0038
Middle		1	0	1	0	16.25	0.0422	14.45	0.0279
Highest		1	0	1	0	7.57	0.0057	5.77	0.0038
Limit	EIRP < 0.2W					Result		PASS	

LTE Band 48C_CA / 20 + 15 MHz (GT - LC = -1.8 dB)									
Channel	Mode	PCC		SCC		Conducted		EIRP	
		RB		RB					
		Size	Offset	Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	100	0	75	0	7.56	0.0057	5.76	0.0038
Middle		100	0	75	0	16.31	0.0428	14.51	0.0282
Highest		100	0	75	0	7.62	0.0058	5.82	0.0038
Lowest	16QAM	1	0	1	74	7.60	0.0058	5.80	0.0038
Middle		1	0	1	74	16.30	0.0427	14.50	0.0282
Highest		1	0	1	74	8.51	0.0071	6.71	0.0047
Lowest	64QAM	100	0	75	0	7.33	0.0054	5.53	0.0036
Middle		100	0	75	0	16.19	0.0416	14.39	0.0275
Highest		100	0	75	0	7.37	0.0055	5.57	0.0036
Limit	EIRP < 0.2W					Result		PASS	

LTE Band 48C_CA / 15 + 20 MHz (GT - LC = -1.8 dB)									
Channel	Mode	PCC		SCC		Conducted		EIRP	
		RB		RB					
		Size	Offset	Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	75	0	100	0	7.65	0.0058	5.85	0.0038
Middle		75	0	100	0	16.36	0.0433	14.56	0.0286
Highest		75	0	100	0	7.57	0.0057	5.77	0.0038
Lowest	16QAM	1	0	1	99	7.58	0.0057	5.78	0.0038
Middle		1	0	1	99	16.26	0.0423	14.46	0.0279
Highest		1	0	1	99	8.42	0.0070	6.62	0.0046
Lowest	64QAM	1	0	1	99	7.04	0.0051	5.24	0.0033
Middle		1	0	1	99	16.12	0.0409	14.32	0.0270
Highest		1	0	1	99	7.66	0.0058	5.86	0.0039
Limit	EIRP < 0.2W					Result		PASS	



LTE Band 48C_CA / 20 + 10 MHz (GT - LC = -1.8 dB)									
Channel	Mode	PCC		SCC		Conducted		EIRP	
		RB		RB					
		Size	Offset	Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	100	0	50	0	7.68	0.0059	5.88	0.0039
Middle		100	0	50	0	16.31	0.0428	14.51	0.0282
Highest		100	0	50	0	7.67	0.0058	5.87	0.0039
Lowest	16QAM	1	0	1	49	7.52	0.0056	5.72	0.0037
Middle		1	0	1	49	16.26	0.0423	14.46	0.0279
Highest		1	0	1	49	8.40	0.0069	6.60	0.0046
Lowest	64QAM	100	0	50	0	7.33	0.0054	5.53	0.0036
Middle		100	0	50	0	16.17	0.0414	14.37	0.0274
Highest		100	0	50	0	7.49	0.0056	5.69	0.0037
Limit	EIRP < 0.2W					Result		PASS	

LTE Band 48C_CA / 10 + 20 MHz (GT - LC = -1.8 dB)									
Channel	Mode	PCC		SCC		Conducted		EIRP	
		RB		RB					
		Size	Offset	Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	50	0	100	0	7.64	0.0058	5.84	0.0038
Middle		50	0	100	0	16.30	0.0427	14.50	0.0282
Highest		50	0	100	0	7.47	0.0056	5.67	0.0037
Lowest	16QAM	1	0	1	99	7.79	0.0060	5.99	0.0040
Middle		1	0	1	99	16.53	0.0450	14.73	0.0297
Highest		1	0	1	99	8.45	0.0070	6.65	0.0046
Lowest	64QAM	1	0	1	99	7.32	0.0054	5.52	0.0036
Middle		1	0	1	99	16.09	0.0406	14.29	0.0269
Highest		1	0	1	99	7.83	0.0061	6.03	0.0040
Limit	EIRP < 0.2W					Result		PASS	

LTE Band 48C_CA / 20 + 5 MHz (GT - LC = -1.8 dB)									
Channel	Mode	PCC		SCC		Conducted		EIRP	
		RB		RB					
		Size	Offset	Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	1	24	7.71	0.0059	5.91	0.0039
Middle		1	0	1	24	16.28	0.0425	14.48	0.0281
Highest		1	0	1	24	7.45	0.0056	5.65	0.0037
Lowest	16QAM	1	0	1	24	7.73	0.0059	5.93	0.0039
Middle		1	0	1	24	16.25	0.0422	14.45	0.0279
Highest		1	0	1	24	8.36	0.0069	6.56	0.0045
Lowest	64QAM	1	0	1	24	7.46	0.0056	5.66	0.0037
Middle		1	0	1	24	16.17	0.0414	14.37	0.0274
Highest		1	0	1	24	7.51	0.0056	5.71	0.0037
Limit	EIRP < 0.2W					Result		PASS	



LTE Band 48C_CA / 5 + 20 MHz (GT - LC = -1.8 dB)									
Channel	Mode	PCC		SCC		Conducted		EIRP	
		RB		RB					
		Size	Offset	Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	25	0	100	0	7.65	0.0058	5.85	0.0038
Middle		25	0	100	0	16.31	0.0428	14.51	0.0282
Highest		25	0	100	0	7.59	0.0057	5.79	0.0038
Lowest	16QAM	1	0	1	99	7.55	0.0057	5.75	0.0038
Middle		1	0	1	99	16.39	0.0436	14.59	0.0288
Highest		1	0	1	99	8.33	0.0068	6.53	0.0045
Lowest	64QAM	1	24	1	0	7.03	0.0050	5.23	0.0033
Middle		1	24	1	0	16.10	0.0407	14.30	0.0269
Highest		1	24	1	0	7.52	0.0056	5.72	0.0037
Limit	EIRP < 0.2W					Result		PASS	



<ASDIV Antenna>

LTE Band 48 / 5MHz (Average) (GT - LC = -0.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	21.46	0.1400	20.96	0.1247
Middle		1	0	21.47	0.1403	20.97	0.1250
Highest		1	0	21.27	0.1340	20.77	0.1194
Lowest	16QAM	1	12	20.64	0.1159	20.14	0.1033
Middle		1	12	20.66	0.1164	20.16	0.1038
Highest		1	12	20.36	0.1086	19.86	0.0968
Lowest	64QAM	1	0	19.36	0.0863	18.86	0.0769
Middle		1	0	19.36	0.0863	18.86	0.0769
Highest		1	0	19.10	0.0813	18.60	0.0724

LTE Band 48 / 10MHz (Average) (GT - LC = -0.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	21.50	0.1413	21.00	0.1259
Middle		1	0	21.44	0.1393	20.94	0.1242
Highest		1	0	21.31	0.1352	20.81	0.1205
Lowest	16QAM	1	0	20.61	0.1151	20.11	0.1026
Middle		1	0	20.58	0.1143	20.08	0.1019
Highest		1	0	20.45	0.1109	19.95	0.0989
Lowest	64QAM	1	0	19.29	0.0849	18.79	0.0757
Middle		1	0	19.34	0.0859	18.84	0.0766
Highest		1	0	19.17	0.0826	18.67	0.0736

LTE Band 48 / 15MHz (Average) (GT - LC = -0.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	21.50	0.1413	21.00	0.1259
Middle		1	0	21.53	0.1422	21.03	0.1268
Highest		1	0	21.34	0.1361	20.84	0.1213
Lowest	16QAM	1	0	20.63	0.1156	20.13	0.1030
Middle		1	0	20.67	0.1167	20.17	0.1040
Highest		1	0	20.51	0.1125	20.01	0.1002
Lowest	64QAM	1	0	19.37	0.0865	18.87	0.0771
Middle		1	0	19.43	0.0877	18.93	0.0782
Highest		1	0	19.24	0.0839	18.74	0.0748



LTE Band 48 / 20MHz (Average) (GT - LC = -0.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	21.54	0.1426	21.04	0.1271
Middle		1	0	21.61	0.1449	21.11	0.1291
Highest		1	0	21.48	0.1406	20.98	0.1253
Lowest	16QAM	1	0	20.68	0.1169	20.18	0.1042
Middle		1	0	20.76	0.1191	20.26	0.1062
Highest		1	0	20.59	0.1146	20.09	0.1021
Lowest	64QAM	1	0	19.44	0.0879	18.94	0.0783
Middle		1	0	19.48	0.0887	18.98	0.0791
Highest		1	0	19.32	0.0855	18.82	0.0762



EIRP

LTE Band 48 / Conducted Power (dBm/10MHz)									
BW	1.4MHz			3MHz			5MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	-	-	-	-	-	-	21.46	20.64	19.36
Middle CH	-	-	-	-	-	-	21.47	20.66	19.36
Highest CH	-	-	-	-	-	-	21.27	20.36	19.10
LTE Band 48 / Conducted Power (dBm/10MHz)									
BW	10MHz			15MHz			20MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	21.50	20.61	19.29	21.50	20.63	19.37	21.54	20.68	19.44
Middle CH	21.44	20.58	19.34	21.53	20.67	19.43	21.61	20.76	19.48
Highest CH	21.31	20.45	19.17	21.34	20.51	19.24	21.48	20.59	19.32

LTE Band 48 / EIRP Power (dBm/10MHz)									
BW	1.4MHz			3MHz			5MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	-	-	-	-	-	-	20.96	20.14	18.86
Middle CH	-	-	-	-	-	-	20.97	20.16	18.86
Highest CH	-	-	-	-	-	-	20.77	19.86	18.60
LTE Band 48 / EIRP Power (dBm/10MHz)									
BW	10MHz			15MHz			20MHz		
Mod.	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Lowest CH	21.00	20.11	18.79	21.00	20.13	18.87	21.04	20.18	18.94
Middle CH	20.94	20.08	18.84	21.03	20.17	18.93	21.11	20.26	18.98
Highest CH	20.81	19.95	18.67	20.84	20.01	18.74	20.98	20.09	18.82
Antenna Gain	-0.5 dBi								
Limit	23dBm / 10MHz								
Result	PASS								



LTE Band 48C_CA / 20 + 20 MHz (GT - LC = -0.5 dB)									
Channel	Mode	PCC		SCC		Conducted		EIRP	
		RB		RB					
		Size	Offset	Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	1	0	5.73	0.0037	5.23	0.0033
Middle		1	0	1	0	14.21	0.0264	13.71	0.0235
Highest		1	0	1	0	5.45	0.0035	4.95	0.0031
Lowest	16QAM	1	99	1	0	5.80	0.0038	5.30	0.0034
Middle		1	99	1	0	14.29	0.0269	13.79	0.0239
Highest		1	99	1	0	6.47	0.0044	5.97	0.0040
Lowest	64QAM	1	0	1	0	5.39	0.0035	4.89	0.0031
Middle		1	0	1	0	14.17	0.0261	13.67	0.0233
Highest		1	0	1	0	5.27	0.0034	4.77	0.0030
Limit	EIRP < 0.2W					Result		PASS	

LTE Band 48C_CA / 20 + 15 MHz (GT - LC = -0.5 dB)									
Channel	Mode	PCC		SCC		Conducted		EIRP	
		RB		RB					
		Size	Offset	Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	100	0	75	0	5.50	0.0035	5.00	0.0032
Middle		100	0	75	0	14.27	0.0267	13.77	0.0238
Highest		100	0	75	0	5.68	0.0037	5.18	0.0033
Lowest	16QAM	1	0	1	74	5.80	0.0038	5.30	0.0034
Middle		1	0	1	74	14.24	0.0265	13.74	0.0237
Highest		1	0	1	74	6.47	0.0044	5.97	0.0040
Lowest	64QAM	100	0	75	0	5.58	0.0036	5.08	0.0032
Middle		100	0	75	0	14.09	0.0256	13.59	0.0229
Highest		100	0	75	0	5.52	0.0036	5.02	0.0032
Limit	EIRP < 0.2W					Result		PASS	

LTE Band 48C_CA / 15 + 20 MHz (GT - LC = -0.5 dB)									
Channel	Mode	PCC		SCC		Conducted		EIRP	
		RB		RB					
		Size	Offset	Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	75	0	100	0	5.73	0.0037	5.23	0.0033
Middle		75	0	100	0	14.21	0.0264	13.71	0.0235
Highest		75	0	100	0	5.41	0.0035	4.91	0.0031
Lowest	16QAM	1	0	1	99	5.76	0.0038	5.26	0.0034
Middle		1	0	1	99	14.27	0.0267	13.77	0.0238
Highest		1	0	1	99	6.43	0.0044	5.93	0.0039
Lowest	64QAM	1	0	1	99	5.19	0.0033	4.69	0.0029
Middle		1	0	1	99	14.17	0.0261	13.67	0.0233
Highest		1	0	1	99	5.80	0.0038	5.30	0.0034
Limit	EIRP < 0.2W					Result		PASS	



LTE Band 48C_CA / 20 + 10 MHz (GT - LC = -0.5 dB)									
Channel	Mode	PCC		SCC		Conducted		EIRP	
		RB		RB					
		Size	Offset	Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	1	49	5.83	0.0038	5.33	0.0034
Middle		1	0	1	49	14.18	0.0262	13.68	0.0233
Highest		1	0	1	49	5.48	0.0035	4.98	0.0031
Lowest	16QAM	1	0	1	49	5.55	0.0036	5.05	0.0032
Middle		1	0	1	49	14.25	0.0266	13.75	0.0237
Highest		1	0	1	49	6.42	0.0044	5.92	0.0039
Lowest	64QAM	100	0	50	0	5.53	0.0036	5.03	0.0032
Middle		100	0	50	0	14.12	0.0258	13.62	0.0230
Highest		100	0	50	0	5.49	0.0035	4.99	0.0032
Limit	EIRP < 0.2W					Result		PASS	

LTE Band 48C_CA / 10 + 20 MHz (GT - LC = -0.5 dB)									
Channel	Mode	PCC		SCC		Conducted		EIRP	
		RB		RB					
		Size	Offset	Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	50	0	100	0	5.68	0.0037	5.18	0.0033
Middle		50	0	100	0	14.27	0.0267	13.77	0.0238
Highest		50	0	100	0	5.55	0.0036	5.05	0.0032
Lowest	16QAM	1	0	1	99	5.68	0.0037	5.18	0.0033
Middle		1	0	1	99	14.25	0.0266	13.75	0.0237
Highest		1	0	1	99	6.53	0.0045	6.03	0.0040
Lowest	64QAM	1	0	1	99	5.33	0.0034	4.83	0.0030
Middle		1	0	1	99	14.12	0.0258	13.62	0.0230
Highest		1	0	1	99	5.64	0.0037	5.14	0.0033
Limit	EIRP < 0.2W					Result		PASS	

LTE Band 48C_CA / 20 + 5 MHz (GT - LC = -0.5 dB)									
Channel	Mode	PCC		SCC		Conducted		EIRP	
		RB		RB					
		Size	Offset	Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	100	0	25	0	5.47	0.0035	4.97	0.0031
Middle		100	0	25	0	14.26	0.0267	13.76	0.0238
Highest		100	0	25	0	5.50	0.0035	5.00	0.0032
Lowest	16QAM	100	0	25	0	5.56	0.0036	5.06	0.0032
Middle		100	0	25	0	14.26	0.0267	13.76	0.0238
Highest		100	0	25	0	6.38	0.0043	5.88	0.0039
Lowest	64QAM	1	0	1	24	5.49	0.0035	4.99	0.0032
Middle		1	0	1	24	14.15	0.0260	13.65	0.0232
Highest		1	0	1	24	5.56	0.0036	5.06	0.0032
Limit	EIRP < 0.2W					Result		PASS	



LTE Band 48C_CA / 5 + 20 MHz (GT - LC = -0.5 dB)									
Channel	Mode	PCC		SCC		Conducted		EIRP	
		RB		RB					
		Size	Offset	Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	25	0	100	0	5.55	0.0036	5.05	0.0032
Middle		25	0	100	0	14.19	0.0262	13.69	0.0234
Highest		25	0	100	0	5.70	0.0037	5.20	0.0033
Lowest	16QAM	1	0	1	99	5.70	0.0037	5.20	0.0033
Middle		1	0	1	99	14.29	0.0269	13.79	0.0239
Highest		1	0	1	99	6.42	0.0044	5.92	0.0039
Lowest	64QAM	25	0	100	0	5.49	0.0035	4.99	0.0032
Middle		25	0	100	0	14.01	0.0252	13.51	0.0224
Highest		25	0	100	0	5.56	0.0036	5.06	0.0032
Limit	EIRP < 0.2W					Result		PASS	

**Radiated Spurious Emission**

<Primary Antenna>

<Ant. 7>

LTE Band 48

LTE Band 48 / 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	7100	-58.33	-40	-18.33	-60.3	-68.30	1.77	11.74	H
	10655	-55.88	-40	-15.88	-58.16	-64.31	2.47	10.90	H
	14205	-56.15	-40	-16.15	-63.21	-64.99	2.87	11.71	H
	21307	-54.27	-40	-14.27	-76.12	-70.99	1.98	18.70	H
	24859	-52.02	-40	-12.02	-76.68	-68.03	2.07	18.07	H
	28411	-50.67	-40	-10.67	-76.19	-67.92	2.32	19.56	H
									H
	7100	-58.76	-40	-18.76	-60.34	-68.73	1.77	11.74	V
	10655	-54.27	-40	-14.27	-56.29	-62.70	2.47	10.90	V
	14205	-56.34	-40	-16.34	-63.12	-65.18	2.87	11.71	V
	21307	-54.24	-40	-14.24	-75.96	-70.96	1.98	18.70	V
	24859	-51.12	-40	-11.12	-76.99	-67.13	2.07	18.07	V
	28411	-48.24	-40	-8.24	-75.58	-65.49	2.32	19.56	V
									V

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



<ASDIV Antenna>

<Ant. 2>

LTE Band 48

LTE Band 48 / 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	7120	-43.62	-40	-3.62	-45.67	-53.54	1.78	11.71	H
	10680	-57.05	-40	-17.05	-59.33	-65.47	2.48	10.90	H
	14240	-56.13	-40	-16.13	-63.21	-64.89	2.87	11.62	H
	21359	-54.12	-40	-14.12	-75.82	-70.85	1.97	18.70	H
	24919	-50.65	-40	-10.65	-75.31	-66.75	2.07	18.17	H
	28479	-50.47	-40	-10.47	-75.99	-67.76	2.30	19.59	H
									H
	7120	-48.05	-40	-8.05	-49.73	-57.97	1.78	11.71	V
	10680	-58.68	-40	-18.68	-60.72	-67.10	2.48	10.90	V
	14240	-56.01	-40	-16.01	-62.74	-64.77	2.87	11.62	V
	21359	-55.35	-40	-15.35	-76.97	-72.08	1.97	18.70	V
	24919	-52.10	-40	-12.10	-77.94	-68.20	2.07	18.17	V
	28479	-48.10	-40	-8.10	-75.5	-65.39	2.30	19.59	V
									V

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

————THE END————