TEST REPORT

CERTIFICATE OF CONFORMITY

Standard:	**47 CFR FCC Part 96** **47 CFR FCC Part 2**
Report No.:	RFCDVB-WTW-P25040434-1
FCC ID:	QYLLN920V12
Product:	LN920 radio module
Brand:	Getac
Model No.:	LN920A12-WW
Received Date:	2025/4/21
Test Date:	2025/5/23 ~ 2025/6/26
Issued Date:	2025/7/11
Applicant:	Getac Technology Corporation.
Address:	5F., Building A, No. 209, Sec.1, Nangang Rd.,Nangang Dist., Taipei City 115018, Taiwan, R.O.C.
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location(1):	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
Test Location(2):	No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
FCC Registration / Designation Number:	Test Location:788550 / TW0003 for Test Location(1) 281270 / TW0032 for Test Location(2)

Approved by: Jeremy . Lin , **Date:** **2025/7/11**

Jeremy Lin / Project Engineer

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Prepared by : Gina Liu / Specialist

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RFCDVB-WTW-P25040434-1	Original release.	2025/7/11

1 Certificate

Product:	LN920 radio module
Brand:	Getac
Test Model:	LN920A12-WW
Sample Status:	Engineering sample
Applicant:	Getac Technology Corporation.
Test Date:	2025/5/23 ~ 2025/6/26
Standard:	47 CFR FCC Part 96 47 CFR FCC Part 2
Measurement procedure:	ANSI/TIA/EIA-603-E 2016 ANSI C63.26-2015 KDB 971168 D01 Power Meas License Digital Systems v03r01 KDB 940660 D01 Part 96 CBRS Eqpt v03

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

2 Summary of Test Results

Standard / Clause	Test Item	Result	Remark
Part 2.1046 Part 96.41(b)	Maximum EIRP	Pass	Meet the requirement of limit.
Part 2.1047	Modulation Characteristics	N/A	Refer to Note
Part 2.1046 Part 96.41(b)	Maximum Power Spectral Density	N/A	Refer to Note
Part 96.41(g)	Peak to Average Ratio	N/A	Refer to Note
Part 2.1049	Bandwidth	N/A	Refer to Note
Part 2.1051 Part 96.41(e)	Conducted Spurious Emissions	N/A	Refer to Note
Part 2.1053 Part 96.41(e)	Radiated Spurious Emissions below 1GHz	Pass	Minimum passing margin is -4.98 dB at 349.13 MHz
Part 2.1053 Part 96.41(e)	Radiated Spurious Emissions above 1GHz	Pass	Minimum passing margin is -3.26 dB at 7250.00 MHz
Part 2.1055	Frequency Stability	N/A	Refer to Note

Note:

1. Only test item of Radiated Spurious Emissions, Effective Radiated Power and Equivalent Isotropically Radiated Power were performed for this report. Other testing data please refer to SGS Taiwan Ltd. report no.: TERF2206000794ER for module (Brand: Telit, Model: LN920A12-WW)
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Parameter	Specification	Uncertainty (±)
Effective Radiated Power and Equivalent Isotropically Radiated Power	-	1.371 dB
Radiated Spurious Emissions below 1GHz	9 kHz ~ 30 MHz	3 dB
	30 MHz ~ 1 GHz	2.92 dB
Radiated Spurious Emissions above 1GHz	1 GHz ~ 18 GHz	1.76 dB
	18 GHz ~ 40 GHz	1.77 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	LN920 radio module
Brand	Getac
Test Model	LN920A12-WW
Status of EUT	Engineering sample
Power Supply Rating	Refer to Note
EUT Category	Mobile station
Modulation Type	LTE: QPSK, 16QAM, 64QAM
LTE support SISO bands	B42, B43, B48
Band Covered Information	LTE Band 48 cover LTE Band 42 and 43 (Part 96)

Note:

1. The EUT is authorized for use in specific End-product.

Product	Brand	Model	Difference
Notebook	Getac	V120	marketing purpose
		V120Y(Y= 10 characters, Y can be 0 to 9, A to Z, a to z, "/", "\", "-", "_" or blank for marketing purpose)	

2. The End-product uses following accessories.

Item	Brand	Model	Specification
Battery 1	Getac	BP2S1P4070P	Power Rating : Rating: 7.74Vdc , 3800mAh, 29.42Wh Typical Capacity: 4070mAh, 31.51Wh
Battery 2	Getac	BP3S1P4070P	Power Rating : Rating: 11.61Vdc , 3800mAh, 44.12Wh Typical Capacity: 4070mAh, 47.26Wh
AC Adapter	FSP	FSP065-RBBN3	AC Input : 100-240 Vac； 50-60 Hz； 1.5 A DC Output : 19.0Vdc； 3.42A, 65.0W DC Output Cable : 1.45M / 1core AC Power Cord : 1.75M
Touch Pen	Getac	340GA8900001	-

* After pre-tested all the modes and found battery 1 was the worst.

3. EUT Overview

LTE Band 48

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm)
5 MHz	3552.5 ~ 3697.5	QPSK	0.188	22.75
		16QAM	0.149	21.72
		64QAM	0.119	20.75
10 MHz	3555 ~ 3695	QPSK	0.188	22.75
		16QAM	0.150	21.75
		64QAM	0.117	20.67
15 MHz	3557.5 ~ 3692.5	QPSK	0.186	22.69
		16QAM	0.148	21.69
		64QAM	0.117	20.67
20 MHz	3560 ~ 3690	QPSK	0.194	22.87
		16QAM	0.151	21.78
		64QAM	0.121	20.82

4. For detailed information about each WWAN bands frequency range, bandwidth mode of the product, please refer to section 3.3 of the report.
5. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna Type	Antenna Connector	Band	Peak Gain (dBi)	
			Ant 1 - Main Gain (dBi)	Ant 2 - AUX Gain (dBi)
PIFA	IPEX I	LTE 42	1.46	0.03
		LTE 43	1.46	0.03
		LTE 48	1.46	0.03

*The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

* WWAN test were fixed on Main Antenna.

3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis/NB-axis. Pre-scan these ways and find the worst case as a representative test condition. 2. For radiated spurious emissions, choose the maximum EIRP/ERP power and 1RB offset worst case for final test.
Worst Case:	X-axis/ Y-axis/ Z-axis/NB-axis Worst Condition: NB-axis

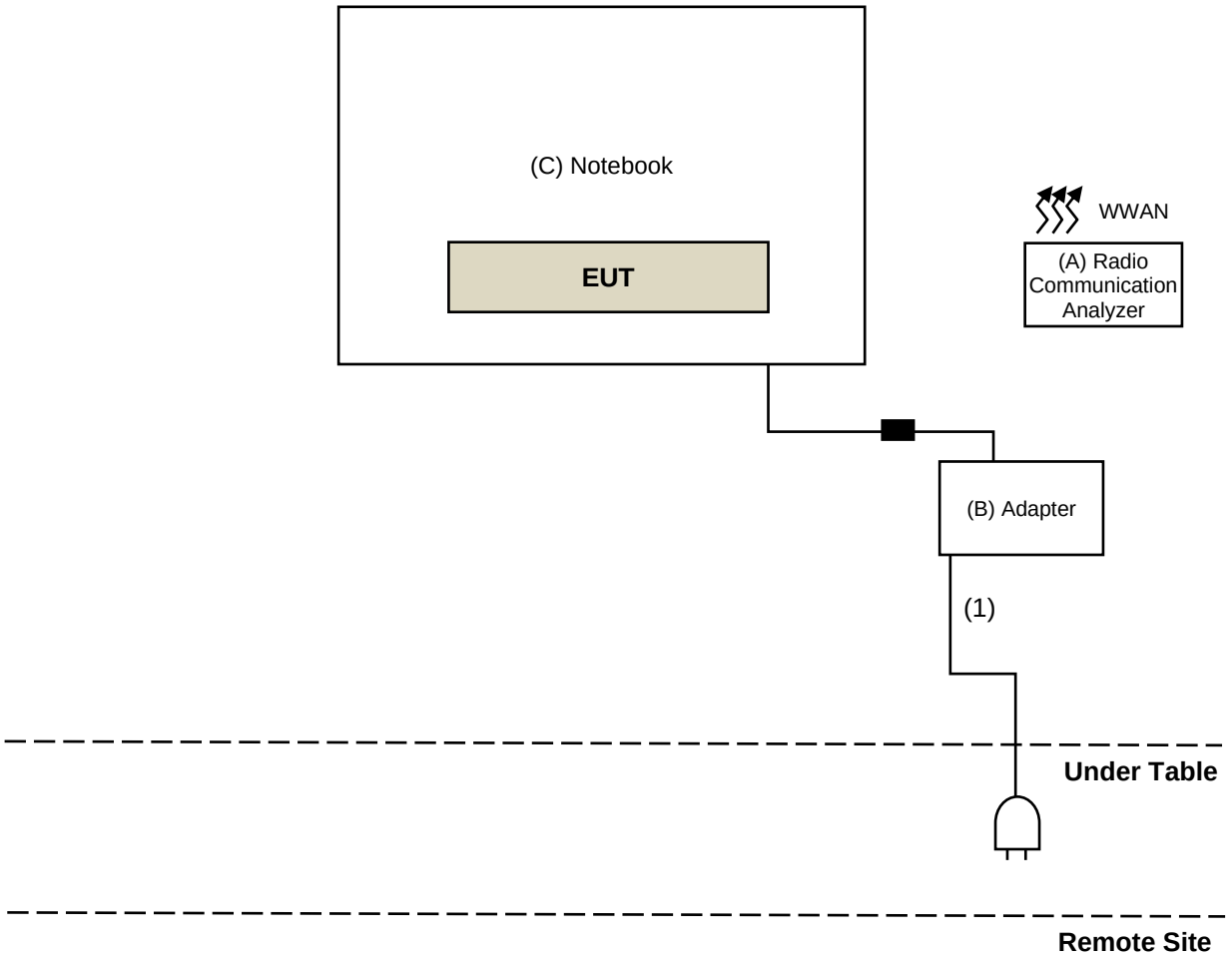
3.3.1 LTE Band 48

Test Item	Tested Channel	Channel Bandwidth	Modulation	Mode
Maximum EIRP	55265(3552.50 MHz) 55990(3625.00 MHz) 56715(3697.50 MHz)	5 MHz	QPSK / 16QAM / 64QAM	1 RB Half RB Full RB
	55290(3555.00 MHz) 55990(3625.00 MHz) 56690(3695.00 MHz)	10 MHz	QPSK / 16QAM / 64QAM	1 RB Half RB Full RB
	55315(3557.50 MHz) 55990(3625.00 MHz) 56665(3692.50 MHz)	15 MHz	QPSK / 16QAM / 64QAM	1 RB Half RB Full RB
	55340(3560.00 MHz) 55990(3625.00 MHz) 56640(3690.00 MHz)	20 MHz	QPSK / 16QAM / 64QAM	1 RB Half RB Full RB
Radiated Spurious Emissions below 1GHz	55340(3560.00 MHz)	20 MHz	QPSK	1 RB
Radiated Spurious Emissions above 1GHz	55265(3552.50 MHz) 55990(3625.00 MHz) 56715(3697.50 MHz)	5 MHz	QPSK	1 RB
	55340(3560.00 MHz) 55990(3625.00 MHz) 56640(3690.00 MHz)	20 MHz	QPSK	1 RB
Note: LTE Band 42 and Band 43 is already covered by the current test results of LTE Band 48.				

3.4 Test Program Used and Operation Descriptions

There is no need to controlling software during the test, and the EUT can be paired with the Radio Communication Analyzer to test the connection when it is powered on.

3.5 Connection Diagram of EUT and Peripheral Devices



3.6 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Radio Communication Analyzer	Anritsu	MT8821C	6201462755	NA	Provided by Lab
B	Adapter	FSP	FSP065-RBBN3	NA	NA	Supplied by applicant
C	Notebook	Getac	V120	N/A	N/A	Supplied by applicant

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	Power cable	1	1.75	No	No	Supplied by applicant

4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.1 Maximum EIRP

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	00800A1K01A-10	00800A1K01A-10-01	2025/5/23	2026/5/22
PXA Signal Analyzer Keysight	N9030B	MY57140938	2025/3/24	2026/3/23
Radio Communication Analyzer Anritsu	MT8821C	6261806803	2025/2/19	2026/2/18
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2025/6/22 ~ 2025/6/26

4.2 Radiated Spurious Emissions below 1GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower KaiTuo	N/A	N/A	N/A	N/A
Antenna Tower Controller KaiTuo	KT-2000	N/A	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-995	2024/10/9	2025/10/8
Loop Antenna TESEQ	HLA 6121	45745	2024/8/21	2025/8/20
MXE EMI Receiver Agilent	N9038A	MY52260177	2024/9/19	2025/9/18
Preamplifier EMCI	EMC330N	980783	2025/1/14	2026/1/13
PXA Signal Analyzer Keysight	N9030B	MY57140488	2025/3/11	2026/3/10
RF Coaxial Cable EMCI	EMCCFD400-NM-NM-500	201245	2025/1/14	2026/1/13
	EMCCFD400-NM-NM-3000	201250	2025/1/14	2026/1/13
	EMCCFD400-NM-NM-9000	201252(with PAD)	2025/1/14	2026/1/13
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MFT-151SS-0.5T	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208675	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 7.
2. Tested Date: 2025/6/15

4.3 Radiated Spurious Emissions above 1GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower KaiTuo	N/A	N/A	N/A	N/A
Antenna Tower Controller KaiTuo	KT-2000	N/A	N/A	N/A
Horn Antenna RFSPIN	DRH18-E	210104A18E	2024/11/10	2025/11/9
Horn Antenna Schwarzbeck	BBHA 9170	9170-1048	2024/11/10	2025/11/9
MXE EMI Receiver Agilent	N9038A	MY52260177	2024/9/19	2025/9/18
Preamplifier EMCI	EMC118A45SE	980810	2024/12/26	2025/12/25
	EMC184045SE	980787	2025/1/14	2026/1/13
PXA Signal Analyzer Keysight	N9030B	MY57140488	2025/3/11	2026/3/10
RF Coaxial Cable EMCI	EMC101G-KM-KM-2000	201254	2025/1/14	2026/1/13
	EMC101G-KM-KM-3000	201258	2025/1/14	2026/1/13
	EMC101G-KM-KM-5000	201261	2025/1/14	2026/1/13
	EMC104-SM-SM-1000	210101	2025/1/14	2026/1/13
	EMC104-SM-SM-3000	201242	2025/1/14	2026/1/13
	EMC104-SM-SM-9000	201230	2025/1/14	2026/1/13
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MFT-151SS-0.5T	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208675	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 7.
2. Tested Date: 2025/5/23 ~ 2025/6/18

5 Limits of Test Items

5.1 Maximum EIRP

For LTE Band 48:

Device Category	Maximum EIRP (dBm/10 MHz)
End User Device	23
Category A CBSD	30
Category B CBSD	47

5.2 Radiated Spurious Emissions below 1GHz

For LTE Band 48:

The power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40 dBm/MHz.

5.3 Radiated Spurious Emissions above 1GHz

For LTE Band 48:

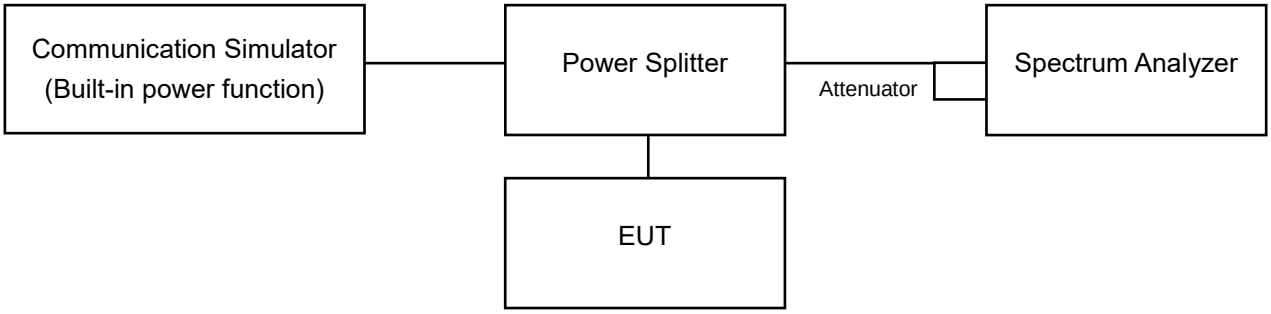
The power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

6 Test Arrangements

6.1 Maximum EIRP

6.1.1 Test Setup

Conducted Power Measurement:



6.1.2 Test Procedure

Conducted Power Measurement:

The EUT is configured by emulator to set data modulation and maximum power using WWAN technology and link to spectrum analyzer measurements. Set the EUT to transmit under low, middle and high channel and record the power level shown on spectrum analyzer. Power measurements use detector average (rms).

Measurement method refers to ANSI C63.26 section 5.2.4.4.

a. Set span to 2 × to 3 × the OBW.
b. Set RBW = 1% to 5% of the OBW.
c. Set VBW ≥ 3 × RBW.
d. Set number of measurement points in sweep ≥ 2 × span / RBW.
e. Set Sweep time = auto-couple.
f. Detector = power averaging (rms).
g. Set sweep trigger to “free run.”
h. Trace average at least 100 traces in power averaging (rms) mode.
i. Use the Band/Channel Power function to determine the integrated power per 10 MHz bandwidth and full bandwidth, according to the 47 CFR FCC Part 96 standard.
j. If Duty cycle < 98%, Add 10 log (1/duty cycle) to the measured power level to compute the average power during continuous transmission.

Maximum EIRP / ERP

The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation as follows:

$EIRP = P_{Meas} + G_T$

$ERP = P_{Meas} + G_T - 2.15$

where

ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, e.g., dBm or dBW)

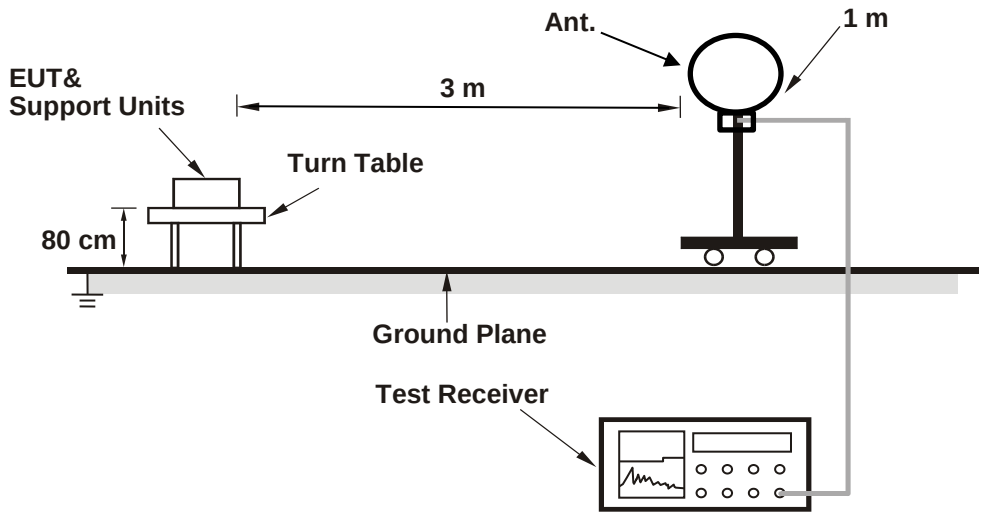
P_{Meas} measured transmitter output power or PSD, in dBm or dBW

G_T gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

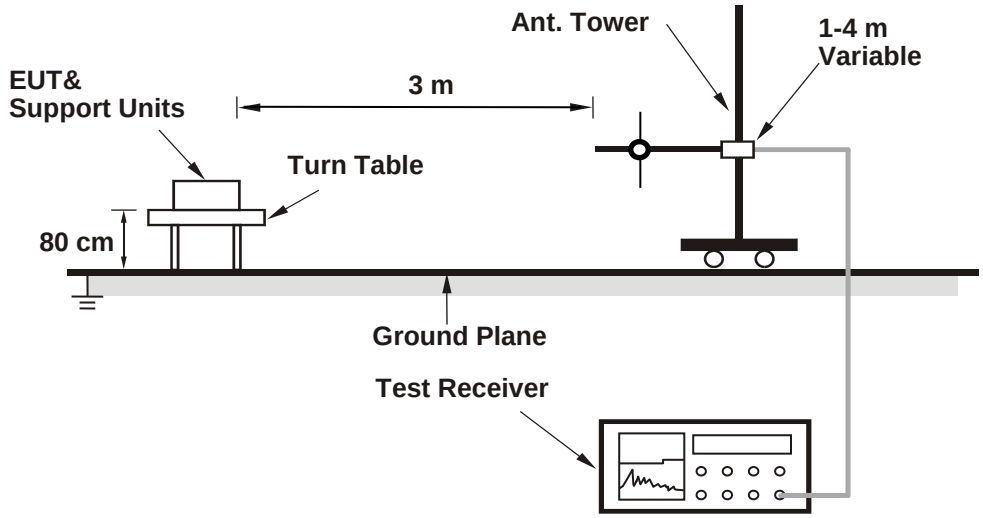
6.2 Radiated Spurious Emissions below 1GHz

6.2.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.2.2 Test Procedure

The EUT is configured to set data modulation and maximum power using WWAN technology.

a. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) height of turn table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

b. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

c. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.

d. Following ANSI C63.26 section 5.5 and 5.2.7

e. EIRP (dBm) = E (dBµV/m) + 20log(D) - 104.8; where D is the measurement distance (in the far field region) in m.

f. ERP (dBm) = E (dBμV/m) + 20log(D) - 104.8 - 2.15; where D is the measurement distance (in the far field region) in m.

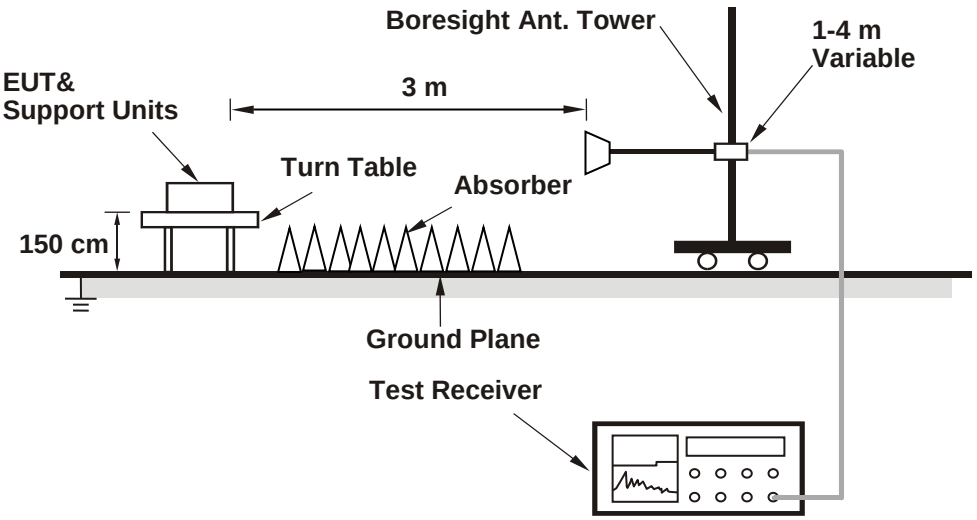
Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz. Set detector = average.
2. The amplitude of spurious emissions in the range 9 kHz to 30 MHz which are attenuated more than 20 dB below the permissible value need not be reported.

6.3 Radiated Spurious Emissions above 1GHz

6.3.1 Test Setup

For radiated emission above 1 GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.3.2 Test Procedure

The EUT is configured to set data modulation and maximum power using WWAN technology.

a. In the semi-anechoic chamber, EUT placed on the 1.5 m height of turn table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
b. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
c. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.
d. Following ANSI C63.26 section 5.5 and 5.2.7
e. EIRP (dBm) = E (dBμV/m) + 20log(D) - 104.8; where D is the measurement distance (in the far field region) in m.
f. ERP (dBm) = E (dBμV/m) + 20log(D) - 104.8 - 2.15; where D is the measurement distance (in the far field region) in m.

Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz. Set detector = average.

7 Test Results of Test Item

7.1 Maximum EIRP

Input Power:	7.74 Vdc	Environmental Conditions:	23°C, 74% RH	Tested By:	Noah Chang

7.1.1 LTE Band 48

LTE Band 48, Channel Bandwidth: 5 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 55265	CH 55990	CH 56715
			3552.5 MHz	3625 MHz	3697.5 MHz
QPSK	1	0	21.29	21.22	21.04
	1	12	21.22	21.13	20.96
	1	24	21.15	21.14	20.91
	12	0	20.26	20.20	20.05
	12	6	20.21	20.17	20.02
	12	13	20.15	20.20	19.94
	25	0	20.21	20.15	20.01
16QAM	1	0	20.18	20.12	19.97
	1	12	20.26	20.07	19.94
	1	24	20.20	20.15	19.92
	12	0	19.16	19.20	18.96
	12	6	19.28	19.29	19.01
	12	13	19.16	19.11	19.03
	25	0	19.25	19.20	19.00
64QAM	1	0	19.29	19.23	18.98
	1	12	19.17	19.27	18.99
	1	24	19.22	19.08	19.00
	12	0	18.28	18.17	18.01
	12	6	18.16	18.28	17.92
	12	13	18.24	18.16	18.06
	25	0	18.20	18.21	17.98

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	19.94	21.29	21.40	22.75	23.00
16QAM	18.96	20.26	20.42	21.72	23.00
64QAM	17.92	19.29	19.38	20.75	23.00

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

LTE Band 48, Channel Bandwidth: 10 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 55290	CH 55990	CH 56690
			3555 MHz	3625 MHz	3695 MHz
QPSK	1	0	21.29	21.26	21.07
	1	24	21.12	21.17	21.01
	1	49	21.14	21.14	20.95
	25	0	20.28	20.28	20.07
	25	12	20.23	20.15	19.98
	25	25	20.18	20.17	19.94
	50	0	20.24	20.18	20.00
16QAM	1	0	20.16	20.18	19.97
	1	24	20.29	20.27	19.92
	1	49	20.17	20.05	19.91
	25	0	19.16	19.23	19.07
	25	12	19.29	19.26	19.00
	25	25	19.27	19.19	19.07
	50	0	19.13	19.15	19.03
64QAM	1	0	19.13	19.17	18.99
	1	24	19.17	19.16	18.91
	1	49	19.20	19.21	18.99
	25	0	18.19	18.24	18.08
	25	12	18.24	18.17	17.92
	25	25	18.18	18.12	17.93
	50	0	18.26	18.08	18.09

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	19.94	21.29	21.40	22.75	23.00
16QAM	19.00	20.29	20.46	21.75	23.00
64QAM	17.92	19.21	19.38	20.67	23.00

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

LTE Band 48, Channel Bandwidth: 15 MHz, Output Power: Full Power

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 55315	CH 55990	CH 56665
			3557.5 MHz	3625 MHz	3692.5 MHz
QPSK	1	0	21.23	21.22	21.04
	1	37	21.20	21.14	20.99
	1	74	21.13	21.17	20.97
	36	0	20.26	20.19	20.07
	36	19	20.21	20.22	19.99
	36	39	20.18	20.09	19.93
	75	0	20.21	20.21	20.02
16QAM	1	0	20.14	20.23	20.01
	1	37	20.16	20.15	20.03
	1	74	20.16	20.07	20.07
	36	0	19.29	19.27	19.09
	36	19	19.28	19.16	19.03
	36	39	19.20	19.16	19.04
	75	0	19.21	19.18	19.08
64QAM	1	0	19.12	19.17	18.99
	1	37	19.13	19.21	19.00
	1	74	19.19	19.09	18.91
	36	0	18.13	18.28	17.99
	36	19	18.20	18.26	18.00
	36	39	18.29	18.13	17.98
	75	0	18.12	18.05	18.04

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	19.93	21.23	21.39	22.69	23.00
16QAM	19.03	20.23	20.49	21.69	23.00
64QAM	17.98	19.21	19.44	20.67	23.00

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

LTE Band 48, Channel Bandwidth: 20 MHz, Output Power: Full Power

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 55340	CH 55990	CH 56640
			3560 MHz	3625 MHz	3690 MHz
QPSK	1	0	21.41	21.34	21.20
	1	50	21.24	21.36	21.02
	1	99	21.30	21.35	21.10
	50	0	20.37	20.45	20.16
	50	25	20.34	20.39	20.13
	50	50	20.26	20.26	20.07
	100	0	20.32	20.31	20.08
16QAM	1	0	20.31	20.32	20.12
	1	50	20.23	20.25	20.17
	1	99	20.23	20.20	20.09
	50	0	19.35	19.25	19.18
	50	25	19.27	19.26	19.02
	50	50	19.31	19.12	19.16
	100	0	19.33	19.24	19.02
64QAM	1	0	19.35	19.22	19.14
	1	50	19.36	19.20	19.10
	1	99	19.26	19.11	19.05
	50	0	18.30	18.37	18.17
	50	25	18.39	18.27	18.06
	50	50	18.25	18.28	18.03
	100	0	18.38	18.25	18.15

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	20.07	21.41	21.53	22.87	23.00
16QAM	19.02	20.32	20.48	21.78	23.00
64QAM	18.03	19.36	19.49	20.82	23.00

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

LTE Band 48, Channel Bandwidth: 15 MHz, Output Power: dBm/10 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 55315	CH 55990	CH 56665
			3557.5 MHz	3625 MHz	3692.5 MHz
QPSK	1	0	21.12	21.12	20.94
	1	37	21.1	20.99	20.98
	1	74	21.12	21.02	20.91
	36	0	20.18	20.15	20.01
	36	19	20.07	20.18	19.86
	36	39	20.17	19.99	19.82
	75	0	18.97	18.87	18.71
16QAM	1	0	20.13	20.15	20
	1	37	20.14	20	19.93
	1	74	20.07	19.94	19.94
	36	0	19.23	19.18	19.07
	36	19	19.27	19.1	18.91
	36	39	19.13	19.08	18.9
	75	0	17.88	17.84	17.84
64QAM	1	0	19.05	19.02	18.87
	1	37	19.02	19.07	18.93
	1	74	19.1	18.95	18.87
	36	0	18.01	18.15	17.95
	36	19	18.12	18.14	17.97
	36	39	18.25	18.01	17.95
	75	0	16.81	16.71	16.75

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	18.71	21.12	20.17	22.58	23.00
16QAM	17.84	20.15	19.30	21.61	23.00
64QAM	16.71	19.10	18.17	20.56	23.00

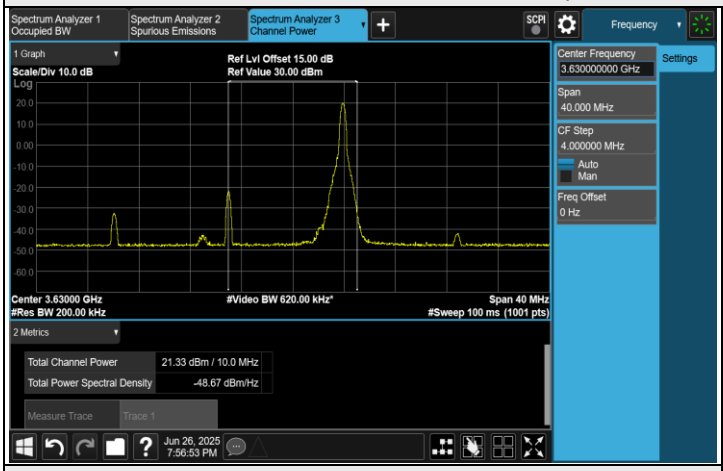
Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

LTE Band 48, Channel Bandwidth: 20 MHz, Output Power: dBm/10 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 55340	CH 55990	CH 56640
			3560 MHz	3625 MHz	3690 MHz
QPSK	1	0	21.3	21.28	21.18
	1	50	21.13	21.23	21
	1	99	21.23	21.33	21
	50	0	20.36	20.33	20.06
	50	25	20.26	20.24	20.09
	50	50	20.21	20.11	20.01
	100	0	17.52	17.5	17.19
16QAM	1	0	20.18	20.25	20.07
	1	50	20.16	20.2	20.09
	1	99	20.13	20.17	20.06
	50	0	19.33	19.15	19.07
	50	25	19.22	19.18	18.96
	50	50	19.19	19.02	19.11
	100	0	16.49	16.4	16.19
64QAM	1	0	19.31	19.2	19.03
	1	50	19.23	19.06	19.02
	1	99	19.19	19.01	19
	50	0	18.29	18.35	18.1
	50	25	18.32	18.13	18.05
	50	50	18.1	18.2	17.92
	100	0	15.63	15.45	15.27

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	17.19	21.33	18.65	22.79	23.00
16QAM	16.19	20.25	17.65	21.71	23.00
64QAM	15.27	19.31	16.73	20.77	23.00

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

Spectrum Plot of Worst Value	
	
QPSK CH 55990 (3625 MHz)	

Note: For the channel bandwidth is less than or equal to 10 MHz, the full power test data please refer to the power per 10 MHz corresponding to the channel bandwidth.

7.2 Radiated Spurious Emissions below 1GHz

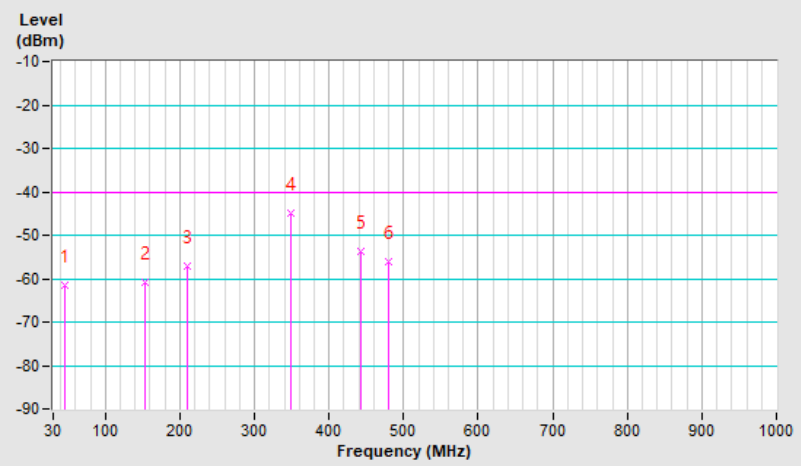
7.2.1 LTE Band 48

RF Mode	LTE Band 48 Channel Bandwidth: 20MHz	**Channel**	CH 55340：3560 MHz
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	22 °C, 67% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	45.52	-61.48	-40.00	-21.48	2.00 H	154	46.78	-108.26
2	154.16	-60.91	-40.00	-20.91	1.51 H	229	46.81	-107.72
3	209.45	-57.23	-40.00	-17.23	1.51 H	196	54.41	-111.64
4	**349.13**	**-44.98**	**-40.00**	**-4.98**	**1.01 H**	**2**	**61.24**	**-106.22**
5	442.25	-53.72	-40.00	-13.72	2.00 H	292	49.65	-103.37
6	479.11	-55.99	-40.00	-15.99	2.00 H	281	46.81	-102.80

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

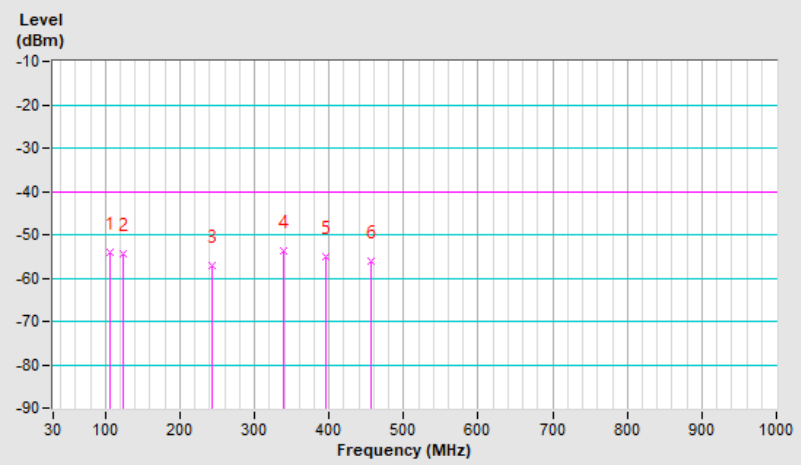


RF Mode	LTE Band 48 Channel Bandwidth: 20MHz	**Channel**	CH 55340：3560 MHz
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	22 °C, 67% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	106.63	-54.23	-40.00	-14.23	1.01 V	184	57.37	-111.60
2	123.12	-54.42	-40.00	-14.42	1.01 V	147	55.57	-109.99
3	242.43	-56.96	-40.00	-16.96	1.01 V	278	52.50	-109.46
4	339.43	-53.56	-40.00	-13.56	1.51 V	62	52.73	-106.29
5	396.66	-55.17	-40.00	-15.17	1.51 V	96	49.77	-104.94
6	455.83	-56.15	-40.00	-16.15	1.51 V	100	46.89	-103.04

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



7.3 Radiated Spurious Emissions above 1GHz

7.3.1 LTE Band 48

RF Mode	LTE Band 48 Channel Bandwidth: 5MHz	**Channel**	CH 55265：3552.5 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	22 °C, 68% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7105.00	-45.19	-40.00	-5.19	1.61 H	259	37.83	-83.02
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7105.00	-45.28	-40.00	-5.28	1.46 V	231	37.74	-83.02

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

RF Mode	LTE Band 48 Channel Bandwidth: 5MHz	**Channel**	CH 55990：3625 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	22 °C, 68% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7250.00	-43.92	-40.00	-3.92	1.54 H	258	38.85	-82.77
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7250.00	-44.38	-40.00	-4.38	1.45 V	228	38.39	-82.77

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

RF Mode	LTE Band 48 Channel Bandwidth: 5MHz	**Channel**	CH 56715：3697.5 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	22 °C, 68% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7395.00	-44.55	-40.00	-4.55	1.55 H	252	38.39	-82.94
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7395.00	-44.98	-40.00	-4.98	1.39 V	234	37.96	-82.94

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

RF Mode	LTE Band 48 Channel Bandwidth: 20MHz	**Channel**	CH 55340：3560 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	22 °C, 68% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7120.00	-44.27	-40.00	-4.27	1.53 H	259	38.79	-83.06
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7120.00	-45.60	-40.00	-5.60	1.38 V	228	37.46	-83.06

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

RF Mode	LTE Band 48 Channel Bandwidth: 20MHz	**Channel**	CH 55990：3625 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	22 °C, 68% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	**7250.00**	**-43.26**	**-40.00**	**-3.26**	**1.57 H**	**259**	**39.51**	**-82.77**
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7250.00	-43.49	-40.00	-3.49	1.43 V	231	39.28	-82.77

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

RF Mode	LTE Band 48 Channel Bandwidth: 20MHz	**Channel**	CH 56640：3690 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	22 °C, 68% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7380.00	-44.01	-40.00	-4.01	1.53 H	259	39.02	-83.03
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7380.00	-45.13	-40.00	-5.13	1.42 V	234	37.90	-83.03

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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The address and road map of all our labs can be found in our web site also.

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