Partial FCC Test Report
(Part 90 – LTE B14/B26)

Report No.:	RFCDVB-WTW-P22100073-3
FCC ID:	QYLLN920V
Test Model:	LN920A12-WW
Received Date:	Oct. 11, 2022
Test Date:	Oct. 27 ~ Oct. 28, 2022
Issued Date:	Dec. 27, 2022
Applicant:	Getac Technology Corporation.
Address:	5F., Building A, No. 209, Sec.1, Nangang Rd., Nangang Dist., Taipei City 11568, 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:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN
FCC Registration / Designation Number:	788550 / TW0003

Testing Laboratory
2021

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RFCDVB-WTW-P22100073-3	Original release	Dec. 27, 2022

1 Certificate of Conformity

Product:	Radio Module
Brand:	Getac
Test Model:	LN920A12-WW
Sample Status:	Engineering sample
Applicant:	Getac Technology Corporation.
Test Date:	Oct. 27 ~ Oct. 28, 2022
Standards:	FCC Part 90, Subpart I, S, R

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.

Prepared by : Celine Chou , **Date:** Dec. 27, 2022

Celine Chou / Senior Specialist

Approved by : Jeremy Lin , **Date:** Dec. 27, 2022

Jeremy Lin / Project Engineer

2 Summary of Test Results

For LTE Band 14

Applied Standard: FCC Part 90 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 90.542 (a)(7)	Effective Radiated Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	N/A	Refer to Note
2.1055 90.539 (e)	Frequency Stability	N/A	Refer to Note
2.1049	Occupied Bandwidth	N/A	Refer to Note
90.210 (n)	Emission Masks	N/A	Refer to Note
2.1053 90.543 (e)(2)(3)	Band Edge Measurements	N/A	Refer to Note
2.1051 90.543 (e)(3)	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 90.543 (e)(f)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -0.68dB at 1581.00MHz.

Note:

1. This report is a Class II change partial report. Therefore, only test item of Radiated Spurious Emissions tests and Effective Radiated Power were performed for this report. Other testing data please refer to SGS Taiwan Ltd. report no.: TERF2206000793ER 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.

For LTE Band 26

Applied Standard: FCC Part 90 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 90.635 (b)	Effective Radiated Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	N/A	Refer to Note
2.1055 90.213	Frequency Stability	N/A	Refer to Note
2.1049 90.209	Occupied Bandwidth	N/A	Refer to Note
90.691	Emission Mask	N/A	Refer to Note
2.1051 90.691	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 90.691	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -30.55dB at 1643.00MHz.

Note:

1. This report is a Class II change partial report. Therefore, only test item of Radiated Spurious Emissions tests and Effective Radiated Power were performed for this report. Other testing data please refer to SGS Taiwan Ltd. report no.: TERF2206000793ER 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:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.59 dB
	30MHz ~ 200MHz	3.63 dB
	200MHz ~1000MHz	3.64 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver R&S	ESCI	100424	Dec. 30, 2021	Dec. 29, 2022
Spectrum Analyzer R&S	FSW43	101582	Apr. 13, 2022	Apr. 12, 2023
Loop Antenna TESEQ	HLA 6121	45745	Jul. 27, 2022	Jul. 26, 2023
Pre-amplifier EMCI	EMC001340	980201	Sep. 23, 2022	Sep. 22, 2023
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	Jan. 15, 2022	Jan. 14, 2023
Preamplifier Agilent	8447D	2944A10631	May 14, 2022	May 13, 2023
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Nov. 01, 2021	Oct. 31, 2022
RF Coaxial Cable EMCI	EMC102-KM-KM-3000	150929	Jul. 09, 2022	Jul. 08, 2023
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	Jul. 09, 2022	Jul. 08, 2023
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Oct. 20, 2022	Oct. 19, 2023
Preamplifier KEYSIGHT	83017A	MY53270295	May 14, 2022	May 13, 2023
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	May 14, 2022	May 13, 2023
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	May 14, 2022	May 13, 2023
Pre-Amplifier EMCI	EMC 184045	980116	Oct. 01, 2022	Sep. 30, 2023
RF Coaxial Cable HUBER+SUHNER&EMCI	SUCOFLEX 104& EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	Jan. 15, 2022	Jan. 14, 2023
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Jan. 15, 2022	Jan. 14, 2023
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight antenna tower fixture BV	BAF-02	5	NA	NA
Radio Communication Analyzer Anritsu	MT8820C	6201300640	Aug. 26, 2021	Aug. 22, 2023

Note: 1. The calibration interval of the above test instruments is 12/24 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HY - 966 chamber 3.

3 General Information

3.1 General Description of EUT

Product	Radio Module			
Brand	Getac			
Test Model	LN920A12-WW			
Sample Status	Engineering sample			
Power Supply Rating	3.3Vdc			
Modulation Type	QPSK, 16QAM, 64QAM			
Operating Frequency	LTE Band 14 (Channel Bandwidth 5MHz)	790.5MHz ~ 795.5MHz		
	LTE Band 14 (Channel Bandwidth 10MHz)	793.0MHz		
	LTE Band 26 (Channel Bandwidth 1.4MHz)	814.7MHz ~ 823.3MHz		
	LTE Band 26 (Channel Bandwidth 3MHz)	815.5MHz ~ 822.5MHz		
	LTE Band 26 (Channel Bandwidth 5MHz)	816.5MHz ~ 821.5MHz		
	LTE Band 26 (Channel Bandwidth 10MHz)	819.0MHz		
Max. ERP Power		QPSK	16QAM	64QAM
	LTE Band 14 (Channel Bandwidth 5MHz)	131.522mW (21.19dBm)	109.396mW (20.39dBm)	83.368mW (19.21dBm)
	LTE Band 14 (Channel Bandwidth 10MHz)	135.207mW (21.31dBm)	112.202mW (20.50dBm)	86.298mW (19.36dBm)
	LTE Band 26 (Channel Bandwidth 1.4MHz)	96.605mW (19.85dBm)	77.446mW (18.89dBm)	60.256mW (17.80dBm)
	LTE Band 26 (Channel Bandwidth 3MHz)	94.189mW (19.74dBm)	78.343mW (18.94dBm)	59.429mW (17.74dBm)
	LTE Band 26 (Channel Bandwidth 5MHz)	96.161mW (19.83dBm)	78.886mW (18.97dBm)	60.117mW (17.79dBm)
	LTE Band 26 (Channel Bandwidth 10MHz)	92.045mW (19.64dBm)	76.736mW (18.85dBm)	59.293mW (17.73dBm)
Antenna Type	Refer to Note as below			
Antenna Connector	Refer to Note as below			
Accessory Device	NA			
Cable Supplied	NA			

Note:

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

Product	Brand	Model	Difference
Notebook	Getac	V110	For marketing purpose
		V110G7	
		V110Y (Y= 10 characters, Y can be 0 to 9, A to Z, a to z, "/", "\", "-", " _" or blank)	

* The model of the V110G7 was chosen for final test.

2. The End-product contains following accessory devices.

Part	Brand	Model	Specification
Adapter 1	FSP	FSP065-RBBN3	I/P: 100-240Vac, 50-60Hz, 1.5A O/P: 19.0Vdc, 3.42A 1.5m DC power cable with one core attached on adapter
Adapter 2	Getac	MTA190474W4	I/P: 100-240Vac, 50-60Hz, 1.6A O/P: 19.0Vdc, 4.74A 1.55m DC power cable with two cores attached on adapter
Battery	Getac	BP3S1P2100-S	Rating: 11.1Vdc, 2040mAh, 23Wh Typical name: 2100mAh, 24Wh
Digitizer Pen	EMpen Technology Corp	DIGITIZER PEN	-

3. The End-product has three SKUs for sale, after pre-test. SKU 2 was chosen for final test and presented in the test report.

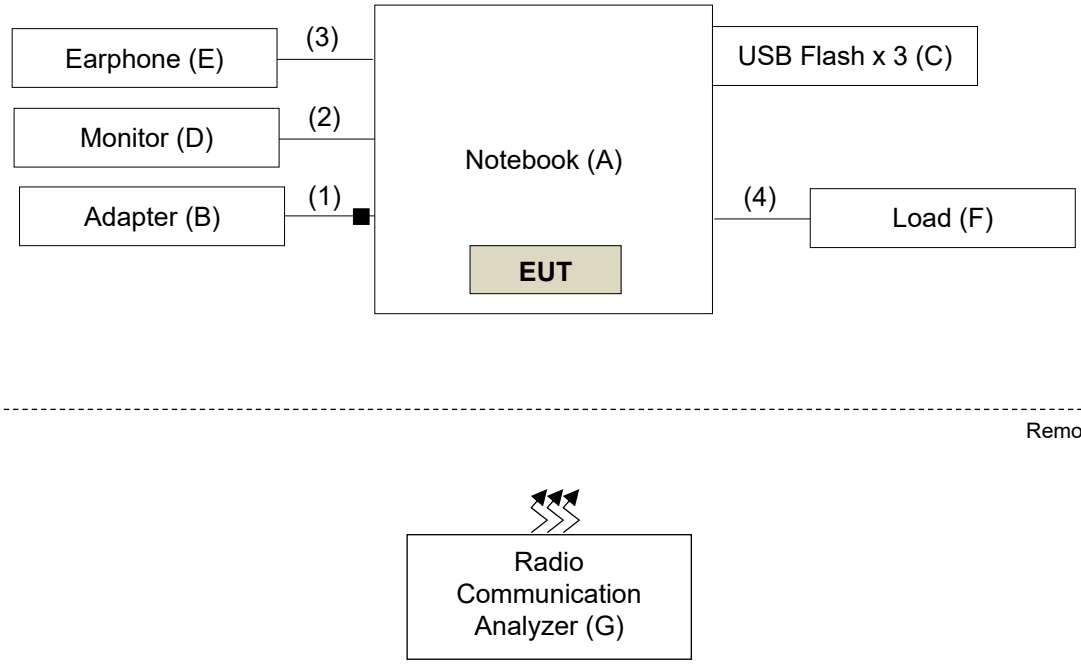
Part	Brand	Model	Specification	Configuration		
				SKU 1	SKU 2	SKU 3
CPU	Intel	Alder Lake	i5-1235U (Non Vpro)	V		V
			i7-1265U (Vpro)		V	
DDR	Kingston	---	16GB (8GB+8GB)	V		
		---	32GB (16GB+16GB)		V	
		---	64GB (32GB+32GB)			V
SSD	SSSTC	---	256GB	V		
		---	512GB		V	
		---	1TB			V
LCD Panel	AUO	G116HAN01	11.6"	V	V	V
Touchscreen	Getac	---	---	V	V	V
Finger Print	Egistec	---	---	V	V	V
WLAN Module	Intel	AX211NGW	---	V	V	V
WWAN Module	Telit	LN920A12-WW	---	V	V	V
GPS	GlobalSat	MC1010G	---	V	V	V
RFID Module	NXP	PN-7462	---		V	V
Digitizer Module	Getac	EMR116-UA00	---		V	V
Bottom Camera	FOXLINK	FN80AF-443H	---	V	V	V
	Chicony	CKAM816	---	V	V	V
Camera	FOXLINK	FN20FF-679H	---	V	V	V
IR Camera	FOXLINK	FN23FF-678H	---		V	V
Option Bay	Honeywell	N6703	Barcode	V		V
	Getac	---	SD Card reader		V	
	Getac	---	Smart Card		V	

4. The following antennas were provided to the End-product.

Ant.	Type	Connector	Gain (dBi)								
			WCDMA B2	WCDMA B4	WCDMA B5	LTE B2	LTE B4	LTE B5	LTE B7	LTE B12	LTE B13
Main (TX / RX)	PIFA	I-PEX	2.48	2.28	-0.69	2.48	2.28	-0.69	1.92	3.16	0.87
			LTE B14	LTE B25	LTE B26	LTE B38	LTE B41	LTE B48	LTE B66	LTE B71	
			0.78	2.48	-0.69	2.15	2.82	-1.30	2.28	2.65	
Ant.	Type	Connector	Gain (dBi)								
			WCDMA B2	WCDMA B4	WCDMA B5	LTE B2	LTE B4	LTE B5	LTE B7	LTE B12	LTE B13
Aux (RX only)	PIFA	I-PEX	4.17	2.69	-1.49	4.17	2.69	-1.49	-0.11	-3.06	0.60
			LTE B14	LTE B25	LTE B26	LTE B38	LTE B41	LTE B48	LTE B66	LTE B71	
			0.82	4.17	-1.49	0.48	1.31	-0.99	2.89	-4.84	

* Detail antenna specification please refer to antenna datasheet an antenna gain measurement report.

3.2 Configuration of System under Test



3.2.1 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	Getac	V110G7	NA	NA	Provided by manufacturer
B.	Adapter	FSP	FSP065-RBBN3	NA	NA	Provided by manufacturer
C.	USB Flash x 3	SanDisk	SDDDC3-032G	NA	NA	-
D.	Monitor	ASUS	VA24EHE	LCLMTF243824	NA	-
E.	Earphone	Apple	MB77PFEB	NA	NA	-
F.	Load	NA	NA	NA	NA	-
G.	Radio Communication Analyzer	Anritsu	MT8820C	6201300640	NA	-

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item G acted as a communication partner to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Power Cable	1	1.5	N	1	Provided by manufacturer Attached on adapter
2.	HDMI Cable	1	1.0	Y	0	-
3.	Earphone Cable	1	1.5	N	0	-
4.	RJ45 Cable	1	1.5	N	0	-

Note: The core(s) is(are) originally attached to the cable(s).

3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis, NB mode and tablet mode. The worst case was found when positioned as the table below. Following channel(s) was (were) selected for the final test as listed below:

Band	Radiated Emission
LTE Band 14	NB mode
LTE Band 26	NB mode

LTE Band 14

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	RB #
-	ERP	23305 to 23355	23305 (790.5MHz), 23330 (793.0MHz), 23355 (795.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 Half Full
		23330	23330 (793.0MHz)	10MHz	QPSK / 16QAM / 64QAM	1 Half Full
-	Radiated Emission Below 1GHz	23305 to 23355	23305 (790.5MHz)	5MHz	QPSK	1
-	Radiated Emission Above 1GHz	23305 to 23355	23305 (790.5MHz), 23330 (793.0MHz), 23355 (795.5MHz)	5MHz	QPSK	1
		23330	23330 (793.0MHz)	10MHz	QPSK	1

Note:

1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.
2. For radiated emission below 1GHz, select the worst radiated emission channel (above 1GHz) for final testing.
3. For radiated emission above 1GHz, according to 3GPP 36.521 Section 6.6.3.1.4, choose the lowest & highest channel bandwidth for final test.

LTE Band 26

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	RB #
-	ERP	26697 to 26783	26697 (814.7MHz), 26740 (819.0MHz), 26783 (823.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1 Half Full
		26705 to 26775	26705 (815.5MHz), 26740 (819.0MHz), 26775 (822.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1 Half Full
		26715 to 26765	26715 (816.5MHz), 26740 (819.0MHz), 26765 (821.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 Half Full
		26740	26740 (819.0MHz)	10MHz	QPSK / 16QAM / 64QAM	1 Half Full
-	Radiated Emission Below 1GHz	26715 to 26765	26765 (821.5MHz)	5MHz	QPSK	1
-	Radiated Emission Above 1GHz	26697 to 26783	26697 (814.7MHz), 26740 (819.0MHz), 26783 (823.3MHz)	1.4MHz	QPSK	1
		26715 to 26765	26715 (816.5MHz), 26740 (819.0MHz), 26765 (821.5MHz)	5MHz	QPSK	1
		26740	26740 (819.0MHz)	10MHz	QPSK	1

Note:
1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.
2. For radiated emission below 1GHz, select the worst radiated emission channel (above 1GHz) for final testing.
3. For radiated emission above 1GHz, according to 3GPP 36.521 Section 6.6.3.1.4, choose the lowest, 5MHz & highest channel bandwidth for final test.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
ERP	25deg. C, 60%RH	120Vac, 60Hz (System)	Willy Cheng
Radiated Emission	23deg. C, 68%RH, 24deg. C, 68%RH	120Vac, 60Hz (System)	Luis Lee

3.4 EUT Operating Conditions

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

3.5 General Description of Applied Standards and References

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test Standard:

FCC 47 CFR Part 2
FCC 47 CFR Part 90
ANSI 63.26-2015

All test items have been performed and recorded as per the above standards.

References Test Guidance:

KDB 971168 D01 Power Meas License Digital Systems v03r01
KDB 971168 D02 Misc Rev Approv License Devices v02r01
ANSI/TIA/EIA-603-E 2016

All test items have been performed as a reference to the above KDB test guidance.

4 Test Types and Results

4.1 Output Power Measurement

4.1.1 Limits of Output Power Measurement

For LTE Band 14:
Control stations and mobile stations transmitting in the 758-768 MHz band and the 788-798 MHz band are limited to 30 watts ERP. Portable stations (hand-held devices) transmitting in the 758-768 MHz band and the 788-798 MHz band are limited to 3 watts ERP.

For LTE Band 26:
The output power shall be according to the specific rule Part 90.635 that “Mobile station are limited to 100 watts e.r.p”.

4.1.2 Test Procedures

Conducted Power Measurement:

The EUT was set up for the maximum power with LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

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)

4.1.3 Test Setup

Conducted Power Measurement:

4.1.4 Test Results

Conducted Output Power (dBm)

LTE Band 14				
BW	MCS Index	RB Size	RB Offset	Mid
		Channel		23330
		Frequency (MHz)		793
10M	QPSK	1	0	**22.68**
		1	24	22.59
		1	49	22.58
		25	0	21.76
		25	12	21.74
		25	25	21.69
		50	0	21.62
10M	16QAM	1	0	21.87
		1	24	21.81
		1	49	21.77
		25	0	20.76
		25	12	20.72
		25	25	20.69
		50	0	20.62
10M	64QAM	1	0	20.73
		1	24	20.68
		1	49	20.62
		25	0	19.80
		25	12	19.75
		25	25	19.69
		50	0	19.72

LTE Band 14						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23305	23330	23355
		Frequency (MHz)		790.5	793	795.5
5M	QPSK	1	0	22.56	22.52	22.45
		1	12	22.36	22.49	22.34
		1	24	22.45	22.42	22.39
		12	0	21.46	21.56	21.42
		12	6	21.49	21.56	21.51
		12	13	21.53	21.52	21.45
		25	0	21.33	21.50	21.36
5M	16QAM	1	0	21.58	21.76	21.54
		1	12	21.60	21.66	21.59
		1	24	21.54	21.66	21.57
		12	0	20.56	20.62	20.49
		12	6	20.52	20.57	20.45
		12	13	20.52	20.58	20.45
		25	0	20.44	20.42	20.43
5M	64QAM	1	0	20.48	20.58	20.42
		1	12	20.50	20.51	20.42
		1	24	20.39	20.46	20.32
		12	0	19.64	19.72	19.64
		12	6	19.65	19.65	19.57
		12	13	19.54	19.60	19.44
		25	0	19.59	19.63	19.55

LTE Band 26				
BW	MCS Index	RB Size	RB Offset	Mid
		Channel		26740
		Frequency (MHz)		819
10M	QPSK	1	0	22.48
		1	24	22.40
		1	49	22.44
		25	0	21.49
		25	12	21.49
		25	25	21.51
		50	0	21.40
10M	16QAM	1	0	21.69
		1	24	21.55
		1	49	21.56
		25	0	20.62
		25	12	20.40
		25	25	20.31
		50	0	20.35
10M	64QAM	1	0	20.53
		1	24	20.57
		1	49	20.47
		25	0	19.66
		25	12	19.64
		25	25	19.56
		50	0	19.61

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26715	26740	26765
		Frequency (MHz)		816.5	819	821.5
5M	QPSK	1	0	22.51	22.48	22.67
		1	12	22.36	22.40	22.55
		1	24	22.42	22.44	22.54
		12	0	21.56	21.49	21.71
		12	6	21.47	21.49	21.63
		12	13	21.46	21.51	21.65
		25	0	21.39	21.40	21.56
5M	16QAM	1	0	21.64	21.69	21.81
		1	12	21.56	21.55	21.72
		1	24	21.56	21.56	21.70
		12	0	20.53	20.62	20.73
		12	6	20.43	20.40	20.58
		12	13	20.41	20.31	20.51
		25	0	20.32	20.35	20.52
5M	64QAM	1	0	20.54	20.53	20.61
		1	12	20.63	20.57	20.63
		1	24	20.51	20.47	20.52
		12	0	19.60	19.66	19.67
		12	6	19.63	19.64	19.65
		12	13	19.55	19.56	19.65
		25	0	19.63	19.61	19.67

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26705	26740	26775
		Frequency (MHz)		815.5	819	822.5
3M	QPSK	1	0	22.50	22.41	22.58
		1	7	22.44	22.31	22.55
		1	14	22.40	22.43	22.52
		8	0	21.52	21.35	21.60
		8	3	21.48	21.39	21.58
		8	7	21.46	21.37	21.61
		15	0	21.38	21.38	21.45
3M	16QAM	1	0	21.65	21.59	21.78
		1	7	21.58	21.50	21.70
		1	14	21.55	21.53	21.62
		8	0	20.56	20.50	20.70
		8	3	20.41	20.31	20.43
		8	7	20.37	20.27	20.43
		15	0	20.42	20.31	20.47
3M	64QAM	1	0	20.55	20.42	20.50
		1	7	20.58	20.50	20.50
		1	14	20.47	20.35	20.51
		8	0	19.61	19.52	19.56
		8	3	19.57	19.54	19.56
		8	7	19.60	19.45	19.64
		15	0	19.63	19.48	19.52

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26697	26740	26783
		Frequency (MHz)		814.7	819	823.3
1.4M	QPSK	1	0	22.44	22.38	22.65
		1	2	22.30	22.31	22.43
		1	5	22.40	22.42	22.54
		3	0	22.56	22.35	22.69
		3	1	22.37	22.37	22.48
		3	3	22.35	22.36	22.64
		6	0	21.25	21.37	21.47
1.4M	16QAM	1	0	21.55	21.56	21.73
		1	2	21.50	21.48	21.72
		1	5	21.51	21.51	21.67
		3	0	21.46	21.49	21.62
		3	1	21.40	21.26	21.48
		3	3	21.41	21.23	21.37
		6	0	20.18	20.24	20.46
1.4M	64QAM	1	0	20.35	20.49	20.54
		1	2	20.30	20.43	20.61
		1	5	20.22	20.39	20.48
		3	0	20.23	20.56	20.56
		3	1	20.20	20.64	20.63
		3	3	20.18	20.46	20.59
		6	0	19.36	19.58	19.56

ERP Power (dBm)

LTE Band 14				
BW	MCS Index	RB Size	RB Offset	Mid
		Channel		23330
		Frequency (MHz)		793
10M	QPSK	1	0	21.31
		1	24	21.22
		1	49	21.21
		25	0	20.39
		25	12	20.37
		25	25	20.32
		50	0	20.25
10M	16QAM	1	0	20.50
		1	24	20.44
		1	49	20.40
		25	0	19.39
		25	12	19.35
		25	25	19.32
		50	0	19.25
10M	64QAM	1	0	19.36
		1	24	19.31
		1	49	19.25
		25	0	18.43
		25	12	18.38
		25	25	18.32
		50	0	18.35

*ERP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15

LTE Band 14						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23305	23330	23355
		Frequency (MHz)		790.5	793	795.5
5M	QPSK	1	0	21.19	21.15	21.08
		1	12	20.99	21.12	20.97
		1	24	21.08	21.05	21.02
		12	0	20.09	20.19	20.05
		12	6	20.12	20.19	20.14
		12	13	20.16	20.15	20.08
		25	0	19.96	20.13	19.99
5M	16QAM	1	0	20.21	20.39	20.17
		1	12	20.23	20.29	20.22
		1	24	20.17	20.29	20.20
		12	0	19.19	19.25	19.12
		12	6	19.15	19.20	19.08
		12	13	19.15	19.21	19.08
		25	0	19.07	19.05	19.06
5M	64QAM	1	0	19.11	19.21	19.05
		1	12	19.13	19.14	19.05
		1	24	19.02	19.09	18.95
		12	0	18.27	18.35	18.27
		12	6	18.28	18.28	18.20
		12	13	18.17	18.23	18.07
		25	0	18.22	18.26	18.18

*ERP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15

LTE Band 26				
BW	MCS Index	RB Size	RB Offset	Mid
		Channel		26740
		Frequency (MHz)		819
10M	QPSK	1	0	19.64
		1	24	19.56
		1	49	19.60
		25	0	18.65
		25	12	18.65
		25	25	18.67
		50	0	18.56
10M	16QAM	1	0	18.85
		1	24	18.71
		1	49	18.72
		25	0	17.78
		25	12	17.56
		25	25	17.47
		50	0	17.51
10M	64QAM	1	0	17.69
		1	24	17.73
		1	49	17.63
		25	0	16.82
		25	12	16.80
		25	25	16.72
		50	0	16.77

*ERP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26715	26740	26765
		Frequency (MHz)		816.5	819	821.5
5M	QPSK	1	0	19.67	19.64	19.83
		1	12	19.52	19.56	19.71
		1	24	19.58	19.60	19.70
		12	0	18.72	18.65	18.87
		12	6	18.63	18.65	18.79
		12	13	18.62	18.67	18.81
		25	0	18.55	18.56	18.72
5M	16QAM	1	0	18.80	18.85	18.97
		1	12	18.72	18.71	18.88
		1	24	18.72	18.72	18.86
		12	0	17.69	17.78	17.89
		12	6	17.59	17.56	17.74
		12	13	17.57	17.47	17.67
		25	0	17.48	17.51	17.68
5M	64QAM	1	0	17.70	17.69	17.77
		1	12	17.79	17.73	17.79
		1	24	17.67	17.63	17.68
		12	0	16.76	16.82	16.83
		12	6	16.79	16.80	16.81
		12	13	16.71	16.72	16.81
		25	0	16.79	16.77	16.83

*ERP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26705	26740	26775
		Frequency (MHz)		815.5	819	822.5
3M	QPSK	1	0	19.66	19.57	19.74
		1	7	19.60	19.47	19.71
		1	14	19.56	19.59	19.68
		8	0	18.68	18.51	18.76
		8	3	18.64	18.55	18.74
		8	7	18.62	18.53	18.77
		15	0	18.54	18.54	18.61
3M	16QAM	1	0	18.81	18.75	18.94
		1	7	18.74	18.66	18.86
		1	14	18.71	18.69	18.78
		8	0	17.72	17.66	17.86
		8	3	17.57	17.47	17.59
		8	7	17.53	17.43	17.59
		15	0	17.58	17.47	17.63
3M	64QAM	1	0	17.71	17.58	17.66
		1	7	17.74	17.66	17.66
		1	14	17.63	17.51	17.67
		8	0	16.77	16.68	16.72
		8	3	16.73	16.70	16.72
		8	7	16.76	16.61	16.80
		15	0	16.79	16.64	16.68

*ERP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26697	26740	26783
		Frequency (MHz)		814.7	819	823.3
1.4M	QPSK	1	0	19.60	19.54	19.81
		1	2	19.46	19.47	19.59
		1	5	19.56	19.58	19.70
		3	0	19.72	19.51	19.85
		3	1	19.53	19.53	19.64
		3	3	19.51	19.52	19.80
		6	0	18.41	18.53	18.63
1.4M	16QAM	1	0	18.71	18.72	18.89
		1	2	18.66	18.64	18.88
		1	5	18.67	18.67	18.83
		3	0	18.62	18.65	18.78
		3	1	18.56	18.42	18.64
		3	3	18.57	18.39	18.53
		6	0	17.34	17.40	17.62
1.4M	64QAM	1	0	17.51	17.65	17.70
		1	2	17.46	17.59	17.77
		1	5	17.38	17.55	17.64
		3	0	17.39	17.72	17.72
		3	1	17.36	17.80	17.79
		3	3	17.34	17.62	17.75
		6	0	16.52	16.74	16.72

*ERP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15

4.2 Radiated Emission Measurement

4.2.1 Limits of Radiated Emission Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 $\log_{10}$(P) dB. The limit of emission equal to –13dBm.

For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to −70 dBW/MHz. The limit of emissions is equal to -40 dBm.

4.2.2 Test Procedure

a. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 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 C63.26 section 5.5 and 5.2.7.
EIRP (dBm) = E (dBμV/m) + 20log (D) - 104.8; where D is the measurement distance (in the far field region) in m.
ERP (dBm) = E (dBμV/m) + 20log (D) - 104.8 - 2.15; where D is the measurement distance (in the far field region) in m.

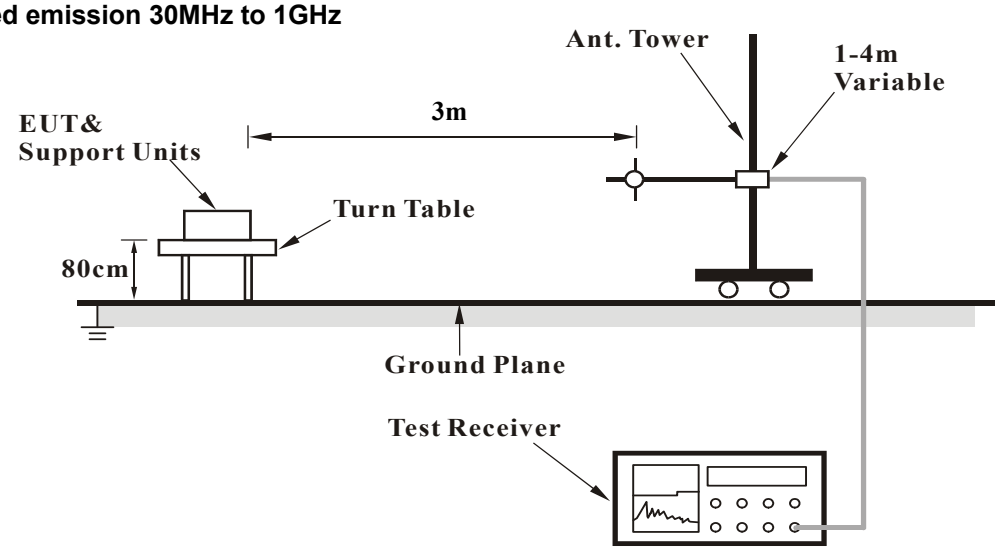
Note:
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.
2. The emission levels were against the limit of frequency range 9 kHz ~ 30 MHz:
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

4.2.3 Deviation from Test Standard

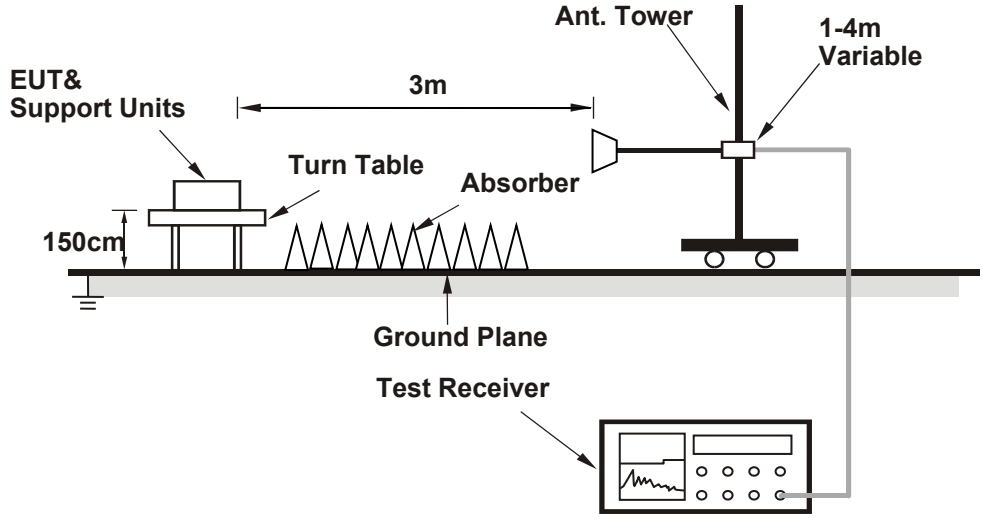
No deviation.

4.2.4 Test Setup

For radiated emission 30MHz to 1GHz



For radiated emission above 1GHz



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

4.2.5 Test Results

Below 1GHz

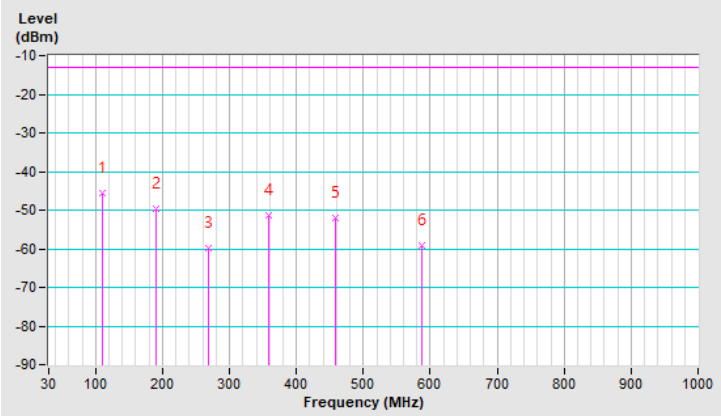
LTE Band 14, Channel Bandwidth 5MHz

Mode	TX channel 23305 (790.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	109.54	-45.69	-13.00	-32.69	1.00 H	144	63.57	-109.26
2	191.02	-49.83	-13.00	-36.83	1.00 H	152	58.70	-108.53
3	268.62	-59.77	-13.00	-46.77	1.00 H	124	45.96	-105.73
4	357.86	-51.35	-13.00	-38.35	1.00 H	173	52.59	-103.94
5	458.74	-51.99	-13.00	-38.99	1.00 H	132	50.05	-102.04
6	586.78	-59.19	-13.00	-46.19	1.49 H	178	40.49	-99.68

Remarks:

1. ERP(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 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

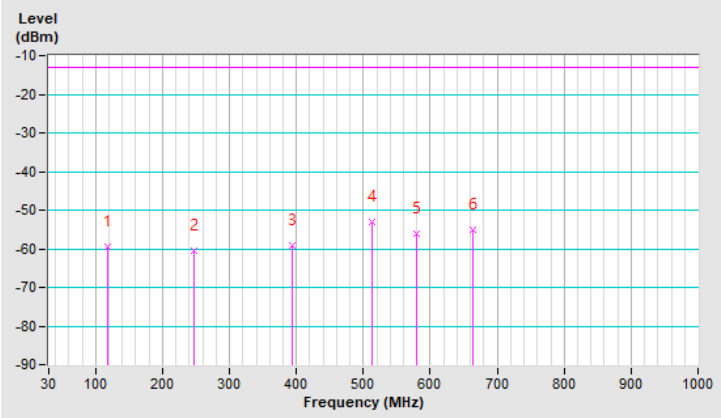


Mode	TX channel 23305 (790.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	117.30	-59.43	-13.00	-46.43	1.01 V	24	49.10	-108.53
2	247.28	-60.34	-13.00	-47.34	1.49 V	124	46.28	-106.62
3	394.72	-59.12	-13.00	-46.12	1.01 V	254	44.24	-103.36
4	513.06	-53.15	-13.00	-40.15	1.49 V	10	48.23	-101.38
5	579.02	-56.09	-13.00	-43.09	1.49 V	128	43.87	-99.96
6	664.38	-55.10	-13.00	-42.10	1.49 V	25	42.98	-98.08

Remarks:

1. ERP(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 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.



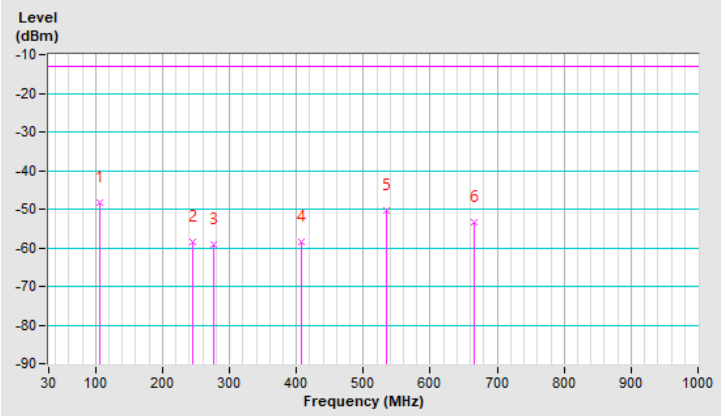
LTE Band 26, Channel Bandwidth 5MHz

Mode	TX channel 26765 (821.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	105.66	-48.38	-13.00	-35.38	1.01 H	117	61.38	-109.76
2	245.34	-58.43	-13.00	-45.43	1.01 H	95	48.27	-106.70
3	276.38	-59.32	-13.00	-46.32	1.01 H	287	46.07	-105.39
4	408.30	-58.49	-13.00	-45.49	1.01 H	273	44.71	-103.20
5	534.40	-50.31	-13.00	-37.31	1.50 H	115	50.74	-101.05
6	666.32	-53.52	-13.00	-40.52	1.01 H	16	44.55	-98.07

Remarks:

1. ERP(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 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

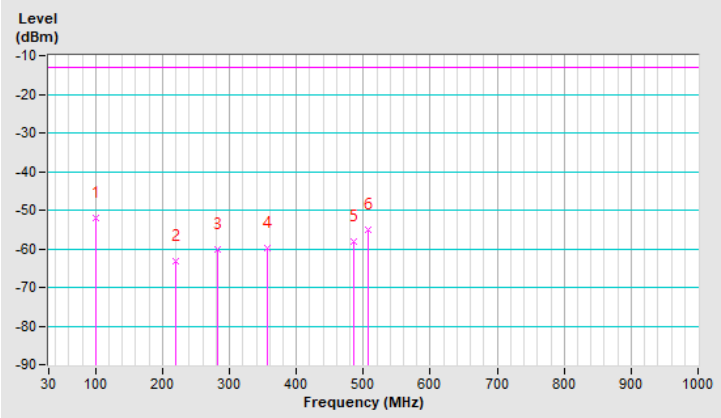


Mode	TX channel 26765 (821.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	99.84	-51.97	-13.00	-38.97	1.49 V	73	58.63	-110.60
2	220.12	-63.25	-13.00	-50.25	1.00 V	220	45.30	-108.55
3	282.20	-60.09	-13.00	-47.09	1.00 V	299	45.13	-105.22
4	355.92	-59.93	-13.00	-46.93	1.00 V	97	44.05	-103.98
5	485.90	-58.23	-13.00	-45.23	1.49 V	187	43.70	-101.93
6	507.24	-54.92	-13.00	-41.92	1.49 V	143	46.52	-101.44

Remarks:

1. ERP(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 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.



Above 1GHz

LTE Band 14, Channel Bandwidth 5MHz

Mode	TX channel 23305 (790.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

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	**1581.00**	**-40.68**	**-40.00**	**-0.68**	**1.57 H**	**129**	**56.52**	**-97.20**
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	1581.00	-45.06	-40.00	-5.06	1.00 V	109	52.14	-97.20

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.

Mode	TX channel 23330 (793.0MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

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	1586.00	-41.19	-40.00	-1.19	1.53 H	127	56.01	-97.20
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	1586.00	-45.33	-40.00	-5.33	1.00 V	114	51.87	-97.20

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.

Mode	TX channel 23355 (795.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

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	1591.00	-40.91	-40.00	-0.91	1.56 H	132	56.29	-97.20
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	1591.00	-45.11	-40.00	-5.11	1.00 V	113	52.09	-97.20

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.

LTE Band 14, Channel Bandwidth 10MHz

Mode	TX channel 23330 (793.0MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

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	1586.00	-40.82	-40.00	-0.82	1.61 H	129	56.38	-97.20
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	1586.00	-44.59	-40.00	-4.59	1.05 V	111	52.61	-97.20

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.

LTE Band 26, Channel Bandwidth 1.4MHz

Mode	TX channel 26697 (814.7MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1629.40	-43.79	-13.00	-30.79	1.23 H	54	55.54	-99.33
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1629.40	-45.23	-13.00	-32.23	1.13 V	108	54.10	-99.33

Remarks:

1. ERP(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 - 2.15
3. Margin value = ERP – Limit value.
4. The other ERP levels were very low against the limit.

Mode	TX channel 26740 (819.0MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1638.00	-43.74	-13.00	-30.74	1.23 H	53	55.59	-99.33
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1638.00	-44.79	-13.00	-31.79	1.17 V	110	54.54	-99.33

Remarks:

1. ERP(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 - 2.15
3. Margin value = ERP – Limit value.
4. The other ERP levels were very low against the limit.

Mode	TX channel 26783 (823.3MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1646.60	-43.97	-13.00	-30.97	1.25 H	50	55.36	-99.33
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1646.60	-45.37	-13.00	-32.37	1.10 V	113	53.96	-99.33

Remarks:

1. ERP(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 - 2.15
3. Margin value = ERP – Limit value.
4. The other ERP levels were very low against the limit.

LTE Band 26, Channel Bandwidth 5MHz

Mode	TX channel 26715 (816.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1633.00	-43.74	-13.00	-30.74	1.32 H	50	55.60	-99.34
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1633.00	-45.21	-13.00	-32.21	1.08 V	106	54.13	-99.34

Remarks:

1. ERP(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 - 2.15
3. Margin value = ERP – Limit value.
4. The other ERP levels were very low against the limit.

Mode	TX channel 26740 (819.0MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1638.00	-44.04	-13.00	-31.04	1.29 H	54	55.29	-99.33
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1638.00	-44.85	-13.00	-31.85	1.12 V	108	54.48	-99.33

Remarks:

1. ERP(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 - 2.15
3. Margin value = ERP – Limit value.
4. The other ERP levels were very low against the limit.

Mode	TX channel 26765 (821.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	**1643.00**	**-43.55**	**-13.00**	**-30.55**	**1.23 H**	**52**	**55.78**	**-99.33**
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1643.00	-45.37	-13.00	-32.37	1.13 V	110	53.96	-99.33

Remarks:

1. ERP(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 - 2.15
3. Margin value = ERP – Limit value.
4. The other ERP levels were very low against the limit.

LTE Band 26, Channel Bandwidth 10MHz

Mode	TX channel 26740 (819.0MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1638.00	-44.04	-13.00	-31.04	1.29 H	54	55.29	-99.33
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1638.00	-45.06	-13.00	-32.06	1.13 V	113	54.27	-99.33

Remarks:

1. ERP(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 - 2.15
3. Margin value = ERP – Limit value.
4. The other ERP levels were very low against the limit.

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – 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 and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

--- END ---