

Partial FCC Test Report (Part 22 – WCDMA B5, LTE B5/B26)

Report No.: RFCDVB-WTW-P22100073

FCC ID: QYLLN920V

Test Model: LN920A12-WW

Received Date: Oct. 11, 2022

Test Date: Oct. 27 ~ Oct. 31, 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 / 788550 / TW0003
Designation Number:



This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

Table of Contents

Release Control Record	3
1 Certificate of Conformity.....	4
2 Summary of Test Results	5
2.1 Measurement Uncertainty	5
2.2 Test Site and Instruments.....	6
3 General Information.....	7
3.1 General Description of EUT	7
3.2 Configuration of System under Test.....	10
3.2.1 Description of Support Units.....	10
3.3 Test Mode Applicability and Tested Channel Detail	11
3.4 EUT Operating Conditions	14
3.5 General Description of Applied Standards and References	14
4 Test Types and Results	15
4.1 Output Power Measurement	15
4.1.1 Limits of Output Power Measurement.....	15
4.1.2 Test Procedures.....	15
4.1.3 Test Setup.....	15
4.1.4 Test Results	16
4.2 Radiated Emission Measurement	36
4.2.1 Limits of Radiated Emission Measurement.....	36
4.2.2 Test Procedure	36
4.2.3 Deviation from Test Standard	36
4.2.4 Test Setup.....	37
4.2.5 Test Results	38
5 Pictures of Test Arrangements.....	58
Appendix – Information of the Testing Laboratories	59

Release Control Record

Issue No.	Description	Date Issued
RFCDVB-WTW-P22100073	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. 31, 2022

Standards: FCC Part 22, Subpart H

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

Applied Standard: FCC Part 22 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 22.913 (a)	Effective radiated power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	N/A	Refer to Note
22.913 (d)	Peak To Average Ratio	N/A	Refer to Note
2.1055 22.355	Frequency Stability	N/A	Refer to Note
2.1049	Occupied Bandwidth	N/A	Refer to Note
22.917	Band Edge Measurements	N/A	Refer to Note
2.1051 22.917	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 22.917	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -28.00dB at 901.06MHz.

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.: TERF2206000792ER and 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) ($\pm$)
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	WCDMA: BPSK, QPSK HSDPA: BPSK HSUPA: QPSK LTE: QPSK, 16QAM, 64QAM		
Operating Frequency	WCDMA Band 5	826.4MHz ~ 846.6MHz	
	LTE Band 5 (Channel Bandwidth 1.4MHz)	824.7MHz ~ 848.3MHz	
	LTE Band 5 (Channel Bandwidth 3MHz)	825.5MHz ~ 847.5MHz	
	LTE Band 5 (Channel Bandwidth 5MHz)	826.5MHz ~ 846.5MHz	
	LTE Band 5 (Channel Bandwidth 10MHz)	829.0MHz ~ 844.0MHz	
	LTE Band 26 (Channel Bandwidth 1.4MHz)	824.7MHz ~ 848.3MHz	
	LTE Band 26 (Channel Bandwidth 3MHz)	825.5MHz ~ 847.5MHz	
	LTE Band 26 (Channel Bandwidth 5MHz)	826.5MHz ~ 846.5MHz	
	LTE Band 26 (Channel Bandwidth 10MHz)	829.0MHz ~ 844.0MHz	
	LTE Band 26 (Channel Bandwidth 15MHz)	831.5MHz ~ 841.5MHz	
Max. ERP Power	WCDMA Band 5	109.144mW (20.38dBm)	
		QPSK	16QAM 64QAM
	LTE Band 5 (Channel Bandwidth 1.4MHz)	93.111mW (19.69dBm)	82.414mW (19.16dBm) 55.976mW (17.48dBm)
	LTE Band 5 (Channel Bandwidth 3MHz)	93.541mW (19.71dBm)	82.794mW (19.18dBm) 59.841mW (17.77dBm)
	LTE Band 5 (Channel Bandwidth 5MHz)	94.189mW (19.74dBm)	82.794mW (19.18dBm) 60.674mW (17.83dBm)
	LTE Band 5 (Channel Bandwidth 10MHz)	97.051mW (19.87dBm)	84.918mW (19.29dBm) 60.814mW (17.84dBm)
	LTE Band 26 (Channel Bandwidth 1.4MHz)	92.683mW (19.67dBm)	75.162mW (18.76dBm) 59.979mW (17.78dBm)
	LTE Band 26 (Channel Bandwidth 3MHz)	92.045mW (19.64dBm)	76.560mW (18.84dBm) 59.429mW (17.74dBm)
	LTE Band 26 (Channel Bandwidth 5MHz)	95.060mW (19.78dBm)	77.804mW (18.91dBm) 59.704mW (17.76dBm)
	LTE Band 26 (Channel Bandwidth 10MHz)	97.499mW (19.89dBm)	79.616mW (19.01dBm) 60.814mW (17.84dBm)
	LTE Band 26 (Channel Bandwidth 15MHz)	97.949mW (19.91dBm)	79.799mW (19.02dBm) 61.094mW (17.86dBm)

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.

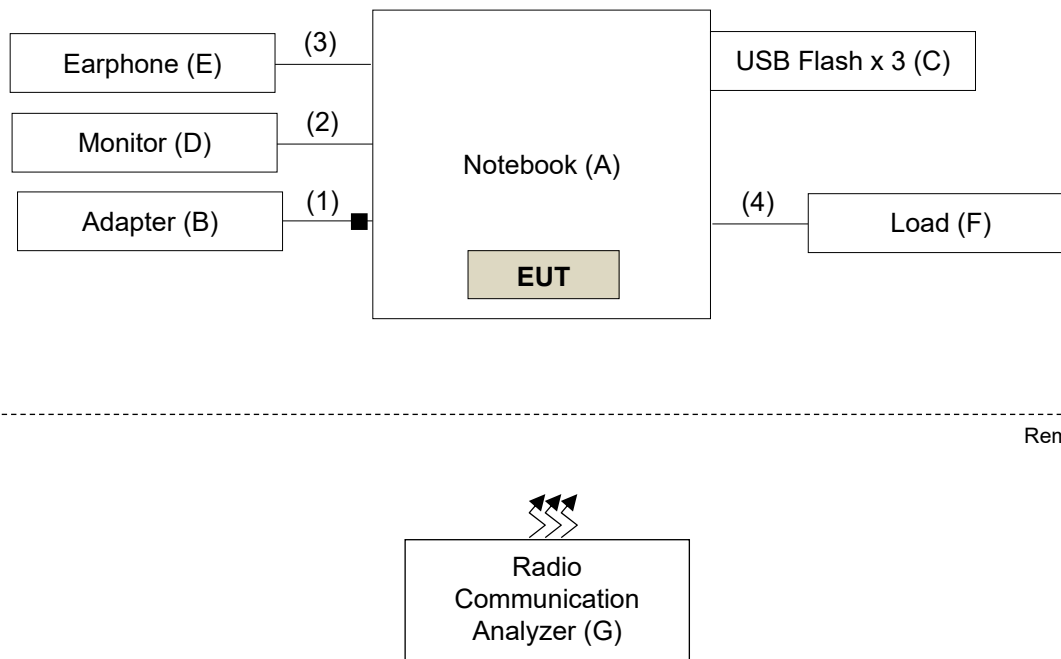
Part	Brand	Model	Specification	Configuration		
				SKU 1	SKU 2	SKU 3
CPU	Intel	Alder Lake	i5-1235U (Non Vpro)	V		V
			i7-1265U (Vpro)		V	
DDR	Kingston	---	16GB (8GB+8GB)	V		
		---	32GB (16GB+16GB)		V	
		---	64GB (32GB+32GB)			V
SSD	SSSTC	---	256GB	V		
		---	512GB		V	
		---	1TB			V
LCD Panel	AUO	G116HAN01	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
WCDMA Band 5	NB mode
LTE Band 5	NB mode
LTE Band 26	NB mode

WCDMA Band 5

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
-	ERP	4132 to 4233	4132 (826.4MHz), 4182 (836.4MHz), 4233 (846.6MHz)	WCDMA, HSDPA, HSUPA
-	Radiated Emission Below 1GHz	4132 to 4233	4233 (846.6MHz)	WCDMA
-	Radiated Emission Above 1GHz	4132 to 4233	4132 (826.4MHz), 4182 (836.4MHz), 4233 (846.6MHz)	WCDMA

Note: For radiated emission below 1GHz, select the worst radiated emission channel (above 1GHz) for final testing.

LTE Band 5

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	ERP	20407 to 20643	20407 (824.7MHz), 20525 (836.5MHz), 20643 (848.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1 Half Full
		20415 to 20635	20415 (825.5MHz), 20525 (836.5MHz), 20635 (847.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1 Half Full
		20425 to 20625	20425 (826.5MHz), 20525 (836.5MHz), 20625 (846.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 Half Full
		20450 to 20600	20450 (829.0MHz), 20525 (836.5MHz), 20600 (844.0MHz)	10MHz	QPSK / 16QAM / 64QAM	1 Half Full
-	Radiated Emission Below 1GHz	20425 to 20625	20625 (846.5MHz)	5MHz	QPSK	1
-	Radiated Emission Above 1GHz	20407 to 20643	20407 (824.7MHz), 20525 (836.5MHz), 20643 (848.3MHz)	1.4MHz	QPSK	1
		20425 to 20625	20425 (826.5MHz), 20525 (836.5MHz), 20625 (846.5MHz)	5MHz	QPSK	1
		20450 to 20600	20450 (829.0MHz), 20525 (836.5MHz), 20600 (844.0MHz)	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.

LTE Band 26

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	ERP	26797 to 27033	26797 (824.7MHz), 26915 (836.5MHz), 27033 (848.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1 Half Full
		26805 to 27025	26805 (825.5MHz), 26915 (836.5MHz), 27025 (847.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1 Half Full
		26815 to 27015	26815 (826.5MHz), 26915 (836.5MHz), 27015 (846.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 Half Full
		26840 to 26990	26840 (829.0MHz), 26915 (836.5MHz), 26990 (844.0MHz)	10MHz	QPSK / 16QAM / 64QAM	1 Half Full
		26865 to 26965	26865 (831.5MHz), 26915 (836.5MHz), 26965 (841.5MHz)	15MHz	QPSK / 16QAM / 64QAM	1 Half Full
-	Radiated Emission Below 1GHz	26797 to 27033	27033 (848.3MHz)	1.4MHz	QPSK	1
-	Radiated Emission Above 1GHz	26797 to 27033	26797 (824.7MHz), 26915 (836.5MHz), 27033 (848.3MHz)	1.4MHz	QPSK	1
		26815 to 27015	26815 (826.5MHz), 26915 (836.5MHz), 27015 (846.5MHz)	5MHz	QPSK	1
		26865 to 26965	26865 (831.5MHz), 26915 (836.5MHz), 26965 (841.5MHz)	15MHz	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 22

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

References Test Guidance:

KDB 971168 D01 Power Meas License Digital Systems v03r01

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

4 Test Types and Results

4.1 Output Power Measurement

4.1.1 Limits of Output Power Measurement

Mobile / Portable station are limited to 7 watts e.r.p.

4.1.2 Test Procedures

Conducted Power Measurement:

The EUT was set up for the maximum power with WCDMA, 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:

$$\text{EIRP} = P_{\text{Meas}} + G_T$$

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

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)

Band	WCDMA V		
TX Channel	4132	4182	4233
Frequency	826.4	836.4	846.6
RMC 12.2K	23.07	23.22	23.13
HSDPA Subtest-1	22.58	22.73	22.68
HSDPA Subtest-2	22.56	22.78	22.65
HSDPA Subtest-3	22.14	22.28	22.12
HSDPA Subtest-4	22.03	22.25	22.08
DC-HSDPA Subtest-1	22.52	22.75	22.62
DC-HSDPA Subtest-2	22.46	22.68	22.57
DC-HSDPA Subtest-3	21.96	22.21	22.02
DC-HSDPA Subtest-4	21.88	22.19	21.92
HSUPA Subtest-1	22.58	22.67	22.66
HSUPA Subtest-2	20.56	20.63	20.66
HSUPA Subtest-3	21.53	21.69	21.57
HSUPA Subtest-4	20.63	20.76	20.61
HSUPA Subtest-5	22.41	22.71	22.68

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20450	20525	20600
		Frequency (MHz)		829	836.5	844
10M	QPSK	1	0	22.62	22.71	22.54
		1	24	22.65	22.66	22.61
		1	49	22.49	22.55	22.43
		25	0	21.69	21.72	21.68
		25	12	21.66	21.71	21.66
		25	25	21.55	21.62	21.48
		50	0	21.57	21.59	21.49
10M	16QAM	1	0	22.12	22.13	22.10
		1	24	22.04	22.06	21.98
		1	49	21.89	21.98	21.80
		25	0	20.70	20.74	20.69
		25	12	20.58	20.66	20.55
		25	25	20.56	20.64	20.52
		50	0	20.50	20.59	20.43
10M	64QAM	1	0	20.60	20.68	20.51
		1	24	20.53	20.61	20.51
		1	49	20.49	20.55	20.41
		25	0	19.70	19.78	19.65
		25	12	19.68	19.73	19.67
		25	25	19.68	19.68	19.66
		50	0	19.60	19.70	19.54

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20425	20525	20625
		Frequency (MHz)		826.5	836.5	846.5
5M	QPSK	1	0	22.50	22.58	22.36
		1	12	22.45	22.53	22.41
		1	24	22.29	22.35	22.30
		12	0	21.57	21.62	21.55
		12	6	21.56	21.51	21.49
		12	13	21.35	21.46	21.34
		25	0	21.43	21.49	21.39
5M	16QAM	1	0	22.02	21.94	21.91
		1	12	21.86	21.87	21.82
		1	24	21.79	21.88	21.60
		12	0	20.51	20.56	20.58
		12	6	20.45	20.50	20.45
		12	13	20.39	20.54	20.34
		25	0	20.39	20.40	20.23
5M	64QAM	1	0	20.51	20.67	20.45
		1	12	20.48	20.55	20.49
		1	24	20.39	20.47	20.35
		12	0	19.69	19.72	19.56
		12	6	19.66	19.63	19.60
		12	13	19.67	19.58	19.59
		25	0	19.58	19.69	19.53

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20415	20525	20635
		Frequency (MHz)		825.5	836.5	847.5
3M	QPSK	1	0	22.47	22.55	22.32
		1	7	22.55	22.52	22.42
		1	14	22.38	22.45	22.28
		8	0	21.54	21.62	21.54
		8	3	21.53	21.58	21.49
		8	7	21.45	21.50	21.36
		15	0	21.45	21.46	21.36
3M	16QAM	1	0	22.02	21.95	21.91
		1	7	21.92	21.89	21.78
		1	14	21.74	21.85	21.64
		8	0	20.57	20.56	20.56
		8	3	20.43	20.46	20.42
		8	7	20.42	20.51	20.39
		15	0	20.32	20.39	20.29
3M	64QAM	1	0	20.51	20.61	20.49
		1	7	20.48	20.54	20.43
		1	14	20.42	20.55	20.31
		8	0	19.60	19.72	19.56
		8	3	19.65	19.63	19.62
		8	7	19.63	19.58	19.61
		15	0	19.54	19.70	19.47

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20407	20525	20643
		Frequency (MHz)		824.7	836.5	848.3
1.4M	QPSK	1	0	22.43	22.42	22.25
		1	2	22.35	22.39	22.29
		1	5	22.21	22.30	22.18
		3	0	22.43	22.50	22.47
		3	1	22.35	22.53	22.45
		3	3	22.22	22.48	22.20
		6	0	21.30	21.28	21.16
1.4M	16QAM	1	0	21.84	22.00	21.99
		1	2	21.83	21.76	21.75
		1	5	21.70	21.78	21.64
		3	0	21.57	21.52	21.39
		3	1	21.40	21.37	21.35
		3	3	21.36	21.52	21.20
		6	0	20.29	20.28	20.29
1.4M	64QAM	1	0	20.19	20.32	20.23
		1	2	20.15	20.25	20.19
		1	5	20.01	20.17	20.07
		3	0	20.12	20.22	20.13
		3	1	20.06	20.16	20.09
		3	3	20.07	20.11	20.07
		6	0	19.96	20.13	20.03

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26865	26915	26965
		Frequency (MHz)		831.5	836.5	841.5
15M	QPSK	1	0	22.75	22.69	22.64
		1	37	22.62	22.60	22.46
		1	74	22.59	22.55	22.51
		36	0	21.76	21.71	21.66
		36	19	21.72	21.65	21.55
		36	39	21.66	21.58	21.58
		75	0	21.64	21.56	21.48
15M	16QAM	1	0	21.86	21.80	21.71
		1	37	21.79	21.78	21.64
		1	74	21.78	21.72	21.61
		36	0	20.73	20.63	20.71
		36	19	20.65	20.61	20.57
		36	39	20.61	20.61	20.50
		75	0	20.55	20.49	20.47
15M	64QAM	1	0	20.70	20.67	20.52
		1	37	20.64	20.59	20.58
		1	74	20.59	20.51	20.51
		36	0	19.77	19.76	19.59
		36	19	19.73	19.67	19.55
		36	39	19.67	19.65	19.57
		75	0	19.70	19.66	19.59

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26840	26915	26990
		Frequency (MHz)		829	836.5	844
10M	QPSK	1	0	22.73	22.57	22.50
		1	24	22.58	22.60	22.36
		1	49	22.59	22.42	22.31
		25	0	21.72	21.59	21.51
		25	12	21.67	21.57	21.43
		25	25	21.63	21.46	21.43
		50	0	21.57	21.52	21.38
10M	16QAM	1	0	21.85	21.69	21.59
		1	24	21.75	21.68	21.48
		1	49	21.71	21.60	21.46
		25	0	20.62	20.48	20.51
		25	12	20.60	20.58	20.43
		25	25	20.52	20.53	20.33
		50	0	20.40	20.49	20.36
10M	64QAM	1	0	20.68	20.62	20.44
		1	24	20.58	20.50	20.51
		1	49	20.45	20.42	20.49
		25	0	19.75	19.66	19.54
		25	12	19.71	19.52	19.46
		25	25	19.63	19.53	19.56
		50	0	19.61	19.59	19.56

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26815	26915	27015
		Frequency (MHz)		826.5	836.5	846.5
5M	QPSK	1	0	22.62	22.47	22.48
		1	12	22.46	22.50	22.27
		1	24	22.49	22.37	22.36
		12	0	21.70	21.57	21.56
		12	6	21.66	21.45	21.43
		12	13	21.54	21.32	21.47
		25	0	21.49	21.37	21.32
5M	16QAM	1	0	21.73	21.56	21.53
		1	12	21.75	21.64	21.44
		1	24	21.70	21.52	21.41
		12	0	20.57	20.35	20.56
		12	6	20.56	20.49	20.42
		12	13	20.38	20.43	20.40
		25	0	20.38	20.35	20.33
5M	64QAM	1	0	20.59	20.60	20.43
		1	12	20.49	20.43	20.55
		1	24	20.31	20.31	20.50
		12	0	19.62	19.59	19.59
		12	6	19.69	19.49	19.47
		12	13	19.50	19.53	19.48
		25	0	19.59	19.51	19.57

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26805	26915	27025
		Frequency (MHz)		825.5	836.5	847.5
3M	QPSK	1	0	22.43	22.41	22.48
		1	7	22.47	22.30	22.28
		1	14	22.29	22.18	22.39
		8	0	21.47	21.50	21.51
		8	3	21.44	21.40	21.35
		8	7	21.44	21.31	21.44
		15	0	21.38	21.24	21.31
3M	16QAM	1	0	21.59	21.49	21.57
		1	7	21.68	21.37	21.45
		1	14	21.50	21.33	21.51
		8	0	20.36	20.42	20.61
		8	3	20.50	20.30	20.37
		8	7	20.52	20.30	20.35
		15	0	20.48	20.30	20.31
3M	64QAM	1	0	20.57	20.33	20.50
		1	7	20.37	20.45	20.58
		1	14	20.27	20.36	20.46
		8	0	19.53	19.41	19.49
		8	3	19.44	19.36	19.54
		8	7	19.49	19.52	19.56
		15	0	19.53	19.49	19.52

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26797	26915	27033
		Frequency (MHz)		824.7	836.5	848.3
1.4M	QPSK	1	0	22.47	22.46	22.41
		1	2	22.51	22.32	22.18
		1	5	22.35	22.19	22.32
		3	0	22.49	22.51	22.45
		3	1	22.42	22.32	22.33
		3	3	22.39	22.36	22.41
		6	0	21.45	21.31	21.17
1.4M	16QAM	1	0	21.60	21.45	21.52
		1	2	21.56	21.36	21.39
		1	5	21.45	21.32	21.40
		3	0	21.35	21.47	21.42
		3	1	21.54	21.38	21.30
		3	3	21.38	21.29	21.35
		6	0	20.35	20.31	20.24
1.4M	64QAM	1	0	20.62	20.41	20.25
		1	2	20.46	20.50	20.22
		1	5	20.29	20.39	20.13
		3	0	20.56	20.47	20.13
		3	1	20.39	20.36	20.18
		3	3	20.51	20.43	20.14
		6	0	19.51	19.49	19.38

ERP Power (dBm)

Band	WCDMA V		
TX Channel	4132	4182	4233
Frequency	826.4	836.4	846.6
RMC 12.2K	20.23	20.38	20.29
HSDPA Subtest-1	19.74	19.89	19.84
HSDPA Subtest-2	19.72	19.94	19.81
HSDPA Subtest-3	19.30	19.44	19.28
HSDPA Subtest-4	19.19	19.41	19.24
DC-HSDPA Subtest-1	19.68	19.91	19.78
DC-HSDPA Subtest-2	19.62	19.84	19.73
DC-HSDPA Subtest-3	19.12	19.37	19.18
DC-HSDPA Subtest-4	19.04	19.35	19.08
HSUPA Subtest-1	19.74	19.83	19.82
HSUPA Subtest-2	17.72	17.79	17.82
HSUPA Subtest-3	18.69	18.85	18.73
HSUPA Subtest-4	17.79	17.92	17.77
HSUPA Subtest-5	19.57	19.87	19.84

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

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20450	20525	20600
		Frequency (MHz)		829	836.5	844
10M	QPSK	1	0	19.78	19.87	19.70
		1	24	19.81	19.82	19.77
		1	49	19.65	19.71	19.59
		25	0	18.85	18.88	18.84
		25	12	18.82	18.87	18.82
		25	25	18.71	18.78	18.64
		50	0	18.73	18.75	18.65
10M	16QAM	1	0	19.28	19.29	19.26
		1	24	19.20	19.22	19.14
		1	49	19.05	19.14	18.96
		25	0	17.86	17.90	17.85
		25	12	17.74	17.82	17.71
		25	25	17.72	17.80	17.68
		50	0	17.66	17.75	17.59
10M	64QAM	1	0	17.76	17.84	17.67
		1	24	17.69	17.77	17.67
		1	49	17.65	17.71	17.57
		25	0	16.86	16.94	16.81
		25	12	16.84	16.89	16.83
		25	25	16.84	16.84	16.82
		50	0	16.76	16.86	16.70

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

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20425	20525	20625
		Frequency (MHz)		826.5	836.5	846.5
5M	QPSK	1	0	19.66	19.74	19.52
		1	12	19.61	19.69	19.57
		1	24	19.45	19.51	19.46
		12	0	18.73	18.78	18.71
		12	6	18.72	18.67	18.65
		12	13	18.51	18.62	18.50
		25	0	18.59	18.65	18.55
5M	16QAM	1	0	19.18	19.10	19.07
		1	12	19.02	19.03	18.98
		1	24	18.95	19.04	18.76
		12	0	17.67	17.72	17.74
		12	6	17.61	17.66	17.61
		12	13	17.55	17.70	17.50
		25	0	17.55	17.56	17.39
5M	64QAM	1	0	17.67	17.83	17.61
		1	12	17.64	17.71	17.65
		1	24	17.55	17.63	17.51
		12	0	16.85	16.88	16.72
		12	6	16.82	16.79	16.76
		12	13	16.83	16.74	16.75
		25	0	16.74	16.85	16.69

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

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20415	20525	20635
		Frequency (MHz)		825.5	836.5	847.5
3M	QPSK	1	0	19.63	19.71	19.48
		1	7	19.71	19.68	19.58
		1	14	19.54	19.61	19.44
		8	0	18.70	18.78	18.70
		8	3	18.69	18.74	18.65
		8	7	18.61	18.66	18.52
		15	0	18.61	18.62	18.52
3M	16QAM	1	0	19.18	19.11	19.07
		1	7	19.08	19.05	18.94
		1	14	18.90	19.01	18.80
		8	0	17.73	17.72	17.72
		8	3	17.59	17.62	17.58
		8	7	17.58	17.67	17.55
		15	0	17.48	17.55	17.45
3M	64QAM	1	0	17.67	17.77	17.65
		1	7	17.64	17.70	17.59
		1	14	17.58	17.71	17.47
		8	0	16.76	16.88	16.72
		8	3	16.81	16.79	16.78
		8	7	16.79	16.74	16.77
		15	0	16.70	16.86	16.63

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

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20407	20525	20643
		Frequency (MHz)		824.7	836.5	848.3
1.4M	QPSK	1	0	19.59	19.58	19.41
		1	2	19.51	19.55	19.45
		1	5	19.37	19.46	19.34
		3	0	19.59	19.66	19.63
		3	1	19.51	19.69	19.61
		3	3	19.38	19.64	19.36
		6	0	18.46	18.44	18.32
1.4M	16QAM	1	0	19.00	19.16	19.15
		1	2	18.99	18.92	18.91
		1	5	18.86	18.94	18.80
		3	0	18.73	18.68	18.55
		3	1	18.56	18.53	18.51
		3	3	18.52	18.68	18.36
		6	0	17.45	17.44	17.45
1.4M	64QAM	1	0	17.35	17.48	17.39
		1	2	17.31	17.41	17.35
		1	5	17.17	17.33	17.23
		3	0	17.28	17.38	17.29
		3	1	17.22	17.32	17.25
		3	3	17.23	17.27	17.23
		6	0	17.12	17.29	17.19

*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		26865	26915	26965
		Frequency (MHz)		831.5	836.5	841.5
15M	QPSK	1	0	19.91	19.85	19.80
		1	37	19.78	19.76	19.62
		1	74	19.75	19.71	19.67
		36	0	18.92	18.87	18.82
		36	19	18.88	18.81	18.71
		36	39	18.82	18.74	18.74
		75	0	18.80	18.72	18.64
15M	16QAM	1	0	19.02	18.96	18.87
		1	37	18.95	18.94	18.80
		1	74	18.94	18.88	18.77
		36	0	17.89	17.79	17.87
		36	19	17.81	17.77	17.73
		36	39	17.77	17.77	17.66
		75	0	17.71	17.65	17.63
15M	64QAM	1	0	17.86	17.83	17.68
		1	37	17.80	17.75	17.74
		1	74	17.75	17.67	17.67
		36	0	16.93	16.92	16.75
		36	19	16.89	16.83	16.71
		36	39	16.83	16.81	16.73
		75	0	16.86	16.82	16.75

*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		26840	26915	26990
		Frequency (MHz)		829	836.5	844
10M	QPSK	1	0	19.89	19.73	19.66
		1	24	19.74	19.76	19.52
		1	49	19.75	19.58	19.47
		25	0	18.88	18.75	18.67
		25	12	18.83	18.73	18.59
		25	25	18.79	18.62	18.59
		50	0	18.73	18.68	18.54
10M	16QAM	1	0	19.01	18.85	18.75
		1	24	18.91	18.84	18.64
		1	49	18.87	18.76	18.62
		25	0	17.78	17.64	17.67
		25	12	17.76	17.74	17.59
		25	25	17.68	17.69	17.49
		50	0	17.56	17.65	17.52
10M	64QAM	1	0	17.84	17.78	17.60
		1	24	17.74	17.66	17.67
		1	49	17.61	17.58	17.65
		25	0	16.91	16.82	16.70
		25	12	16.87	16.68	16.62
		25	25	16.79	16.69	16.72
		50	0	16.77	16.75	16.72

*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		26815	26915	27015
		Frequency (MHz)		826.5	836.5	846.5
5M	QPSK	1	0	19.78	19.63	19.64
		1	12	19.62	19.66	19.43
		1	24	19.65	19.53	19.52
		12	0	18.86	18.73	18.72
		12	6	18.82	18.61	18.59
		12	13	18.70	18.48	18.63
		25	0	18.65	18.53	18.48
5M	16QAM	1	0	18.89	18.72	18.69
		1	12	18.91	18.80	18.60
		1	24	18.86	18.68	18.57
		12	0	17.73	17.51	17.72
		12	6	17.72	17.65	17.58
		12	13	17.54	17.59	17.56
		25	0	17.54	17.51	17.49
5M	64QAM	1	0	17.75	17.76	17.59
		1	12	17.65	17.59	17.71
		1	24	17.47	17.47	17.66
		12	0	16.78	16.75	16.75
		12	6	16.85	16.65	16.63
		12	13	16.66	16.69	16.64
		25	0	16.75	16.67	16.73

*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		26805	26915	27025
		Frequency (MHz)		825.5	836.5	847.5
3M	QPSK	1	0	19.59	19.57	19.64
		1	7	19.63	19.46	19.44
		1	14	19.45	19.34	19.55
		8	0	18.63	18.66	18.67
		8	3	18.60	18.56	18.51
		8	7	18.60	18.47	18.60
		15	0	18.54	18.40	18.47
3M	16QAM	1	0	18.75	18.65	18.73
		1	7	18.84	18.53	18.61
		1	14	18.66	18.49	18.67
		8	0	17.52	17.58	17.77
		8	3	17.66	17.46	17.53
		8	7	17.68	17.46	17.51
		15	0	17.64	17.46	17.47
3M	64QAM	1	0	17.73	17.49	17.66
		1	7	17.53	17.61	17.74
		1	14	17.43	17.52	17.62
		8	0	16.69	16.57	16.65
		8	3	16.60	16.52	16.70
		8	7	16.65	16.68	16.72
		15	0	16.69	16.65	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		26797	26915	27033
		Frequency (MHz)		824.7	836.5	848.3
1.4M	QPSK	1	0	19.63	19.62	19.57
		1	2	19.67	19.48	19.34
		1	5	19.51	19.35	19.48
		3	0	19.65	19.67	19.61
		3	1	19.58	19.48	19.49
		3	3	19.55	19.52	19.57
		6	0	18.61	18.47	18.33
1.4M	16QAM	1	0	18.76	18.61	18.68
		1	2	18.72	18.52	18.55
		1	5	18.61	18.48	18.56
		3	0	18.51	18.63	18.58
		3	1	18.70	18.54	18.46
		3	3	18.54	18.45	18.51
		6	0	17.51	17.47	17.40
1.4M	64QAM	1	0	17.78	17.57	17.41
		1	2	17.62	17.66	17.38
		1	5	17.45	17.55	17.29
		3	0	17.72	17.63	17.29
		3	1	17.55	17.52	17.34
		3	3	17.67	17.59	17.30
		6	0	16.67	16.65	16.54

*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 of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13dBm .

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.
 $\text{EIRP (dBm)} = E (\text{dB}\mu\text{V/m}) + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.
 $\text{ERP (dBm)} = E (\text{dB}\mu\text{V/m}) + 20\log(D) - 104.8 - 2.15$; where D is the measurement distance (in the far field region) in m.

Note:

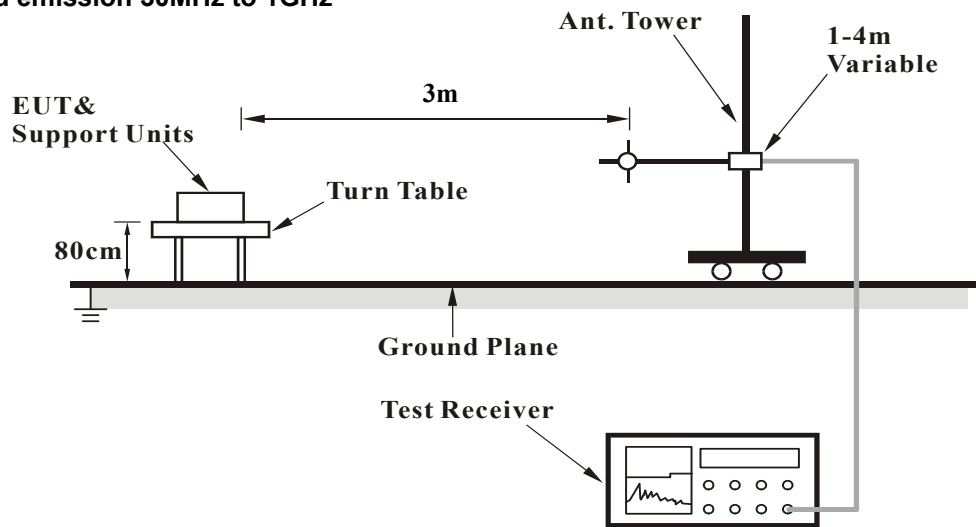
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.
2. The emission levels were against the limit of frequency range 9 kHz ~ 30 MHz:
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

4.2.3 Deviation from Test Standard

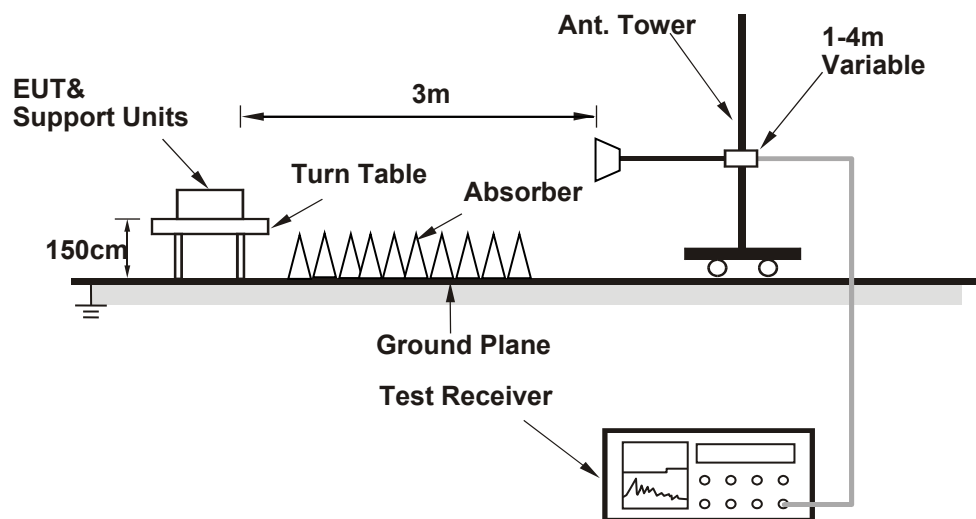
No deviation.

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

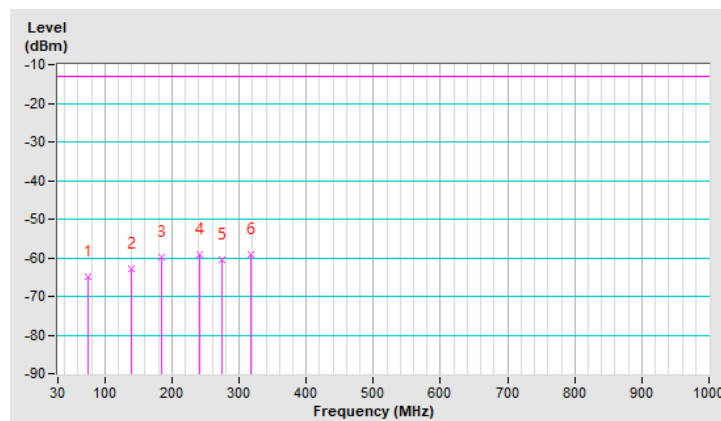
WCDMA Band 5

Mode	TX channel 4233 (846.6MHz)	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	74.62	-64.77	-13.00	-51.77	1.00 H	350	44.07	-108.84
2	138.64	-62.83	-13.00	-49.83	1.49 H	72	43.68	-106.51
3	185.20	-59.86	-13.00	-46.86	1.00 H	177	48.12	-107.98
4	241.46	-59.09	-13.00	-46.09	1.49 H	274	47.85	-106.94
5	274.44	-60.61	-13.00	-47.61	1.49 H	297	44.84	-105.45
6	317.12	-59.15	-13.00	-46.15	1.49 H	15	45.23	-104.38

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

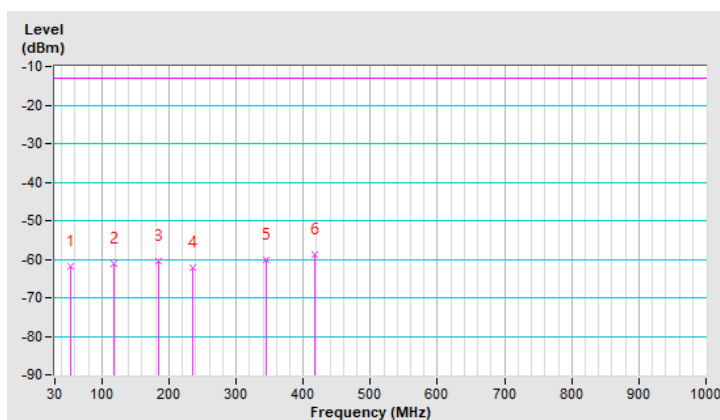


Mode	TX channel 4233 (846.6MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Vertical at 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	53.28	-61.71	-13.00	-48.71	1.01 V	31	44.58	-106.29
2	117.30	-61.04	-13.00	-48.04	1.01 V	271	47.49	-108.53
3	185.20	-60.50	-13.00	-47.50	1.01 V	178	47.48	-107.98
4	235.64	-62.23	-13.00	-49.23	1.50 V	205	45.26	-107.49
5	344.28	-60.07	-13.00	-47.07	1.50 V	14	44.14	-104.21
6	418.00	-58.73	-13.00	-45.73	1.01 V	145	44.18	-102.91

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.



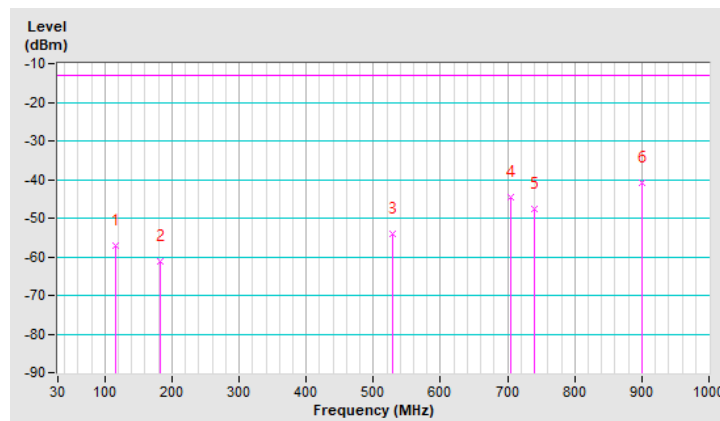
LTE Band 5, Channel Bandwidth 5MHz

Mode	TX channel 20625 (846.5MHz)	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	115.36	-57.25	-13.00	-44.25	1.01 H	318	51.49	-108.74
2	183.26	-61.22	-13.00	-48.22	1.01 H	321	46.50	-107.72
3	528.58	-53.99	-13.00	-40.99	1.01 H	329	47.13	-101.12
4	705.12	-44.62	-13.00	-31.62	1.01 H	296	52.73	-97.35
5	740.04	-47.76	-13.00	-34.76	1.01 H	357	48.41	-96.17
6	901.06	-41.00	-13.00	-28.00	1.50 H	26	51.54	-92.54

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

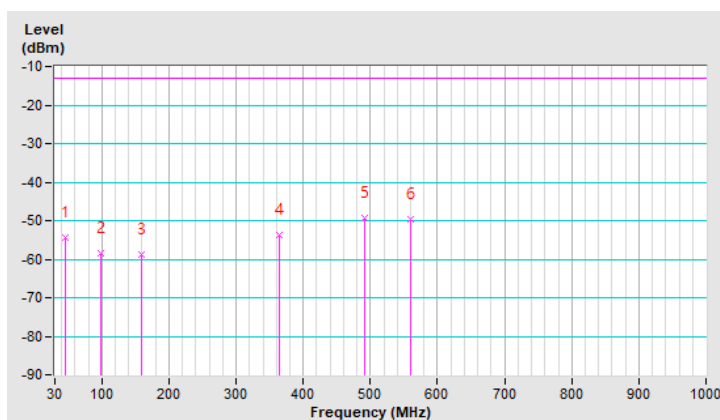


Mode	TX channel 20625 (846.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Vertical at 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	45.52	-54.54	-13.00	-41.54	1.49 V	225	51.78	-106.32
2	97.90	-58.32	-13.00	-45.32	1.00 V	284	52.65	-110.97
3	159.98	-58.79	-13.00	-45.79	1.49 V	123	47.06	-105.85
4	363.68	-53.77	-13.00	-40.77	1.00 V	125	50.04	-103.81
5	491.72	-49.25	-13.00	-36.25	1.00 V	123	52.58	-101.83
6	559.62	-49.70	-13.00	-36.70	1.00 V	121	50.91	-100.61

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.



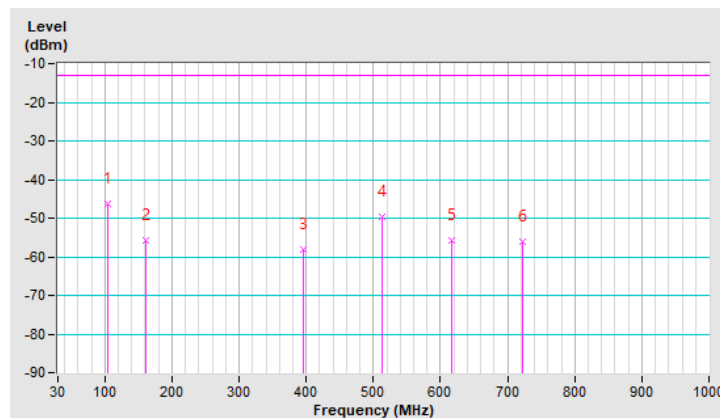
LTE Band 26, Channel Bandwidth 1.4MHz

Mode	TX channel 27033 (848.3MHz)	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	103.72	-46.30	-13.00	-33.30	1.00 H	256	63.68	-109.98
2	161.92	-55.85	-13.00	-42.85	1.49 H	16	50.09	-105.94
3	396.66	-58.17	-13.00	-45.17	1.00 H	255	45.20	-103.37
4	513.06	-49.62	-13.00	-36.62	1.49 H	13	51.76	-101.38
5	615.88	-55.87	-13.00	-42.87	1.49 H	16	42.80	-98.67
6	722.58	-56.11	-13.00	-43.11	1.00 H	6	40.68	-96.79

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

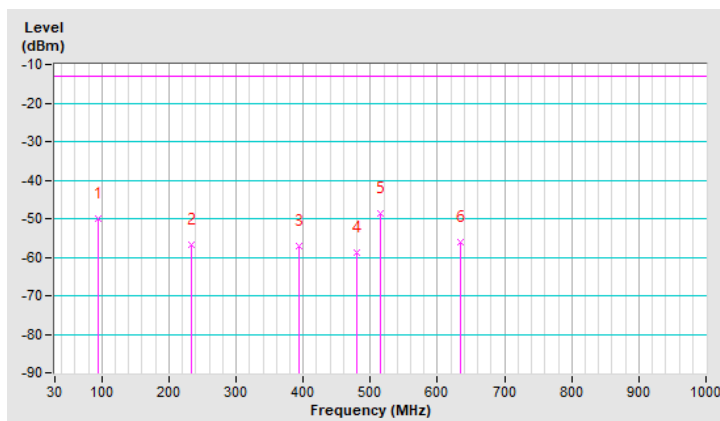


Mode	TX channel 27033 (848.3MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 68%RH	Input Power	120Vac, 60Hz (System)
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Vertical at 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	94.02	-49.84	-13.00	-36.84	1.01 V	100	61.60	-111.44
2	233.70	-56.65	-13.00	-43.65	1.01 V	109	51.12	-107.77
3	394.72	-56.96	-13.00	-43.96	1.01 V	254	46.40	-103.36
4	480.08	-58.90	-13.00	-45.90	1.50 V	167	43.08	-101.98
5	515.00	-48.56	-13.00	-35.56	1.50 V	152	52.81	-101.37
6	633.34	-56.08	-13.00	-43.08	1.01 V	16	42.37	-98.45

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.



Above 1GHz
WCDMA Band 5

Mode	TX channel 4132 (826.4MHz)	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	1652.80	-51.43	-13.00	-38.43	1.22 H	326	47.88	-99.31
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	1652.80	-50.35	-13.00	-37.35	1.16 V	108	48.96	-99.31

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

Mode	TX channel 4182 (836.4MHz)	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	1672.80	-51.68	-13.00	-38.68	1.25 H	326	47.56	-99.24
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	1672.80	-50.82	-13.00	-37.82	1.14 V	108	48.42	-99.24

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

Mode	TX channel 4233 (846.6MHz)	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	1693.20	-51.57	-13.00	-38.57	1.20 H	326	47.58	-99.15
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	1693.20	-50.11	-13.00	-37.11	1.21 V	108	49.04	-99.15

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

LTE Band 5, Channel Bandwidth 1.4MHz

Mode	TX channel 20407 (824.7MHz)	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	1649.40	-50.99	-13.00	-37.99	1.14 H	220	48.34	-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	1649.40	-49.66	-13.00	-36.66	1.03 V	334	49.67	-99.33

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

Mode	TX channel 20525 (836.5MHz)	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	1673.00	-50.40	-13.00	-37.40	1.06 H	220	48.84	-99.24
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	1673.00	-50.01	-13.00	-37.01	1.07 V	335	49.23	-99.24

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

Mode	TX channel 20643 (848.3MHz)	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	1696.60	-50.85	-13.00	-37.85	1.14 H	218	48.29	-99.14
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	1696.60	-49.88	-13.00	-36.88	1.11 V	334	49.26	-99.14

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

LTE Band 5, Channel Bandwidth 5MHz

Mode	TX channel 20425 (826.5MHz)	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	1653.00	-50.87	-13.00	-37.87	1.11 H	214	48.44	-99.31
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	1653.00	-50.01	-13.00	-37.01	1.10 V	332	49.30	-99.31

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 20525 (836.5MHz)	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	1673.00	-50.84	-13.00	-37.84	1.09 H	219	48.40	-99.24
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	1673.00	-49.52	-13.00	-36.52	1.09 V	339	49.72	-99.24

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 20625 (846.5MHz)	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	1693.00	-50.40	-13.00	-37.40	1.05 H	215	48.75	-99.15
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	1693.00	-49.34	-13.00	-36.34	1.09 V	335	49.81	-99.15

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

LTE Band 5, Channel Bandwidth 10MHz

Mode	TX channel 20450 (829.0MHz)	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	1658.00	-50.61	-13.00	-37.61	1.05 H	220	48.68	-99.29
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	1658.00	-50.12	-13.00	-37.12	1.11 V	337	49.17	-99.29

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 20525 (836.5MHz)	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	1673.00	-50.56	-13.00	-37.56	1.12 H	213	48.68	-99.24
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	1673.00	-49.50	-13.00	-36.50	1.02 V	334	49.74	-99.24

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 20600 (844.0MHz)	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	1688.00	-50.64	-13.00	-37.64	1.08 H	215	48.53	-99.17
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	1688.00	-49.49	-13.00	-36.49	1.09 V	334	49.68	-99.17

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

LTE Band 26, Channel Bandwidth 1.4MHz

Mode	TX channel 26797 (824.7MHz)	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	1649.40	-43.67	-13.00	-30.67	1.26 H	48	55.66	-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	1649.40	-44.80	-13.00	-31.80	1.10 V	113	54.53	-99.33

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 26915 (836.5MHz)	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	1673.00	-43.77	-13.00	-30.77	1.27 H	54	55.47	-99.24
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	1673.00	-45.20	-13.00	-32.20	1.16 V	111	54.04	-99.24

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 27033 (848.3MHz)	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	1696.60	-43.21	-13.00	-30.21	1.26 H	53	55.93	-99.14
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	1696.60	-44.49	-13.00	-31.49	1.16 V	110	54.65	-99.14

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
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 26815 (826.5MHz)	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	1653.00	-43.82	-13.00	-30.82	1.28 H	54	55.49	-99.31
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	1653.00	-44.89	-13.00	-31.89	1.16 V	106	54.42	-99.31

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 26915 (836.5MHz)	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	1673.00	-43.93	-13.00	-30.93	1.26 H	48	55.31	-99.24
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	1673.00	-45.31	-13.00	-32.31	1.12 V	109	53.93	-99.24

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 27015 (846.5MHz)	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	1693.00	-43.32	-13.00	-30.32	1.30 H	53	55.83	-99.15
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	1693.00	-44.99	-13.00	-31.99	1.16 V	112	54.16	-99.15

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

LTE Band 26, Channel Bandwidth 15MHz

Mode	TX channel 26865 (831.5MHz)	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	1663.00	-43.56	-13.00	-30.56	1.27 H	49	55.72	-99.28
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	1663.00	-44.74	-13.00	-31.74	1.09 V	106	54.54	-99.28

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 26915 (836.5MHz)	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	1673.00	-43.88	-13.00	-30.88	1.32 H	48	55.36	-99.24
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	1673.00	-45.18	-13.00	-32.18	1.16 V	112	54.06	-99.24

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 26965 (841.5MHz)	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	1683.00	-43.73	-13.00	-30.73	1.28 H	48	55.47	-99.20
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	1683.00	-44.66	-13.00	-31.66	1.10 V	108	54.54	-99.20

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
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:

Lin Kou 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 ---