Partial FCC Test Report
(ENDC: n2/n5/n66/n71 + LTE B5/B7/B12)

Report No.:	RFBASM-WTW-P21060063-6
FCC ID:	QYLEM9190K
Test Model:	EM9190
Received Date:	Jun. 02, 2021
Test Date:	Jul. 07 ~ Jul. 09, 2021
Issued Date:	Nov. 16, 2021
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. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
FCC Registration / Designation Number:	281270 / TW0032

Testing Laboratory
2021

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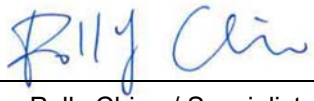
Release Control Record

Issue No.	Description	Date Issued
RFBASM-WTW-P21060063-6	Original release	Nov. 16, 2021

1 Certificate of Conformity

Product:	Wireless Module
Brand:	Getac
Test Model:	EM9190
Sample Status:	Identical Prototype
Applicant:	Getac Technology Corporation.
Test Date:	Jul. 07 ~ Jul. 09, 2021
Standards:	FCC Part 22, Subpart H FCC Part 24, Subpart E FCC Part 27, Subpart C, H, L, M, N

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 :  , **Date:** Nov. 16, 2021

Polly Chien / Specialist

Approved by :  , **Date:** Nov. 16, 2021

Bruce Chen / Senior Engineer

2 Summary of Test Results

For n2

Applied Standard: FCC Part 24 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 24.232	Equivalent Isotropically Radiated Power	Pass	Meet the requirement of limit.
24.232 (d)	Peak To Average Ratio	N/A	Refer to Note
2.1047	Modulation Characteristics	N/A	Refer to Note
2.1055 24.235	Frequency Stability	N/A	Refer to Note
2.1049	Occupied Bandwidth	N/A	Refer to Note
24.238	Band Edge Measurements	N/A	Refer to Note
2.1051 24.238	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 24.238	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -35.09dB at 35.62MHz.

For n5

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 -36.99dB at 35.62MHz.

For n66:

Applied Standard: FCC Part 27 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50 (d)(4)	Equivalent Isotropically Radiated Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	N/A	Refer to Note
27.50 (d)(5)	Peak To Average Ratio	N/A	Refer to Note
2.1055 27.54	Frequency Stability Stay with the authorized bands of operation	N/A	Refer to Note
2.1049	Occupied Bandwidth	N/A	Refer to Note
2.1051 27.53 (h)	Band Edge Measurements	N/A	Refer to Note
2.1051 27.53 (h)	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 27.53 (h)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -34.91dB at 35.62MHz.

For n71:

Applied Standard: FCC Part 27 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50 (c)	Effective Radiated Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	N/A	Refer to Note
----	Peak To Average Ratio	N/A	Refer to Note
2.1055 27.54	Frequency Stability Stay with the authorized bands of operation	N/A	Refer to Note
2.1049	Occupied Bandwidth	N/A	Refer to Note
2.1051 27.53 (g)	Band Edge / Out of Band Emissions Measurements	N/A	Refer to Note
2.1051 27.53 (g)	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 27.53 (g)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -36.44dB at 35.62MHz.

Note:

1. This report is a partial report. Therefore, only test item of Equivalent Isotropically Radiated Power, Effective radiated power and Radiated Spurious Emissions tests were performed for this report. Other testing data please refer to Sporton International (Shenzhen) Inc. report no.: FG021501G_Rev. 03 for module (Brand: Airprime, Model: EM9190).
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

For LTE Band 5

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 -37.41dB at 35.62MHz.

Note:
1. This report is a Class II change partial report. Therefore, only test item of Effective radiated power and Radiated Spurious Emissions tests were performed for this report. Other testing data please refer to Sporton International (Shenzhen) Inc. report no.: FG021501G_Rev. 03 for module (Brand: Airprime, Model: EM9190).
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

For LTE Band 7:

Applied Standard: FCC Part 27 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50 (h)(2)	Equivalent Isotropically Radiated Power	Pass	Meet the requirement.
2.1047	Modulation Characteristics	N/A	Refer to Note
----	Peak To Average Ratio	N/A	Refer to Note
2.1055 27.54	Frequency Stability Stay with the authorized bands of operation	N/A	Refer to Note
2.1049	Occupied Bandwidth	N/A	Refer to Note
2.1051 27.53 (m)(4)(6)	Band Edge / Out of Band Emissions Measurements	N/A	Refer to Note
2.1051 27.53 (m)(4)(6)	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 27.53 (m)(4)(6)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -21.57dB at 34.22MHz.

Note:
1. This report is a Class II change partial report. Therefore, only test item of Equivalent Isotropically Radiated Power and Radiated Spurious Emissions tests were performed for this report. Other testing data please refer to Sporton International (Shenzhen) Inc. report no.: FG021501G_Rev. 03 for module (Brand: Airprime, Model: EM9190).
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

For LTE Band 12:

Applied Standard: FCC Part 27 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50 (c)	Effective Radiated Power	Pass	Meet the requirement.
2.1047	Modulation Characteristics	Pass	Refer to Note 1
----	Peak To Average Ratio	Pass	Refer to Note 1
2.1055 27.54	Frequency Stability Stay with the authorized bands of operation	Pass	Refer to Note 1
2.1049	Occupied Bandwidth	Pass	Refer to Note 1
2.1051 27.53 (g)	Band Edge Measurements	Pass	Refer to Note 1
2.1051 27.53 (g)	Conducted Spurious Emissions	Pass	Refer to Note 1
2.1053 27.53 (g)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -35.53dB at 35.62MHz.

Note:
1. This report is a Class II change partial report. Therefore, only test item of Effective radiated power and Radiated Spurious Emissions tests were performed for this report. Other testing data please refer to Sporton International (Shenzhen) Inc. report no.: FG021501G_Rev. 03 for module (Brand: Airprime, Model: EM9190).
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	3.00 dB
	30MHz ~ 200MHz	2.91 dB
	200MHz ~1000MHz	2.93 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	1.76 dB
	18GHz ~ 40GHz	1.77 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver Rohde & Schwarz	N9038A	MY55420137	Apr. 09, 2021	Apr. 08, 2022
Spectrum Analyzer KEYSIGHT	N9020B	MY60110440	Dec. 18, 2020	Dec. 17, 2021
BILOG Antenna SCHWARZBECK	VULB9168	1213	Nov. 04, 2020	Nov. 03, 2021
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Nov. 22, 2020	Nov. 21, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	995	Nov. 22, 2020	Nov. 21, 2021
Loop Antenna EMCI	EM-6879	269	Sep. 17, 2020	Sep. 16, 2021
Loop Antenna TESEQ	HLA 6121	45745	Jul. 21, 2021	Jul. 20, 2022
Preamplifier EMCI	EMC330N	980782	Jan. 12, 2021	Jan. 11, 2022
Preamplifier EMCI	EMC118A45SE	980808	Jan. 12, 2021	Jan. 11, 2022
Preamplifier EMCI	EMC184045SE	980788	Jan. 12, 2021	Jan. 11, 2022
RF signal cable EMCI	EMC104-SM-SM-(9000+2000+1000)	201243+ 201231+ 210102	Jan. 12, 2021	Jan. 11, 2022
RF signal cable EMCI	EMCCFD400-NM-NM-(9000+300+500)	201236+ 201235+ 201233	Jan. 12, 2021	Jan. 11, 2022
RF signal cable EMCI	EMC101G-KM-KM-(5000+3000+2000)	201260+201257+201254	Jan. 12, 2021	Jan. 11, 2022
Software BV ADT	ADT_Radiated_V7.6.15.9.5	NA	NA	NA
Antenna Tower Max-Full	MFT-151SS-0.5T	NA	NA	NA
Turn Table Max-Full	MF-7802BS	NA	NA	NA
Turn Table Controller Max-Full	MF-7802BS	MF780208674	NA	NA
UXM 5G Wireless Test Platform Keysight	E7515B	MY60102114	May 21, 2021	May 20, 2022

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in WM Chamber 8.

3 General Information

3.1 General Description of EUT

Product	Wireless Module
Brand	Getac
Test Model	EM9190
Sample Status	Identical Prototype
Power Supply Rating	3.3 Vdc (Host equipment)

n2

Modulation Type	$\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM	
Waveform Type	CP-OFDM, DFT-s-OFDM	
Operating Frequency	n2 (Channel Bandwidth 5MHz)	1852.5MHz ~ 1907.5MHz
	n2 (Channel Bandwidth 10MHz)	1855.0MHz ~ 1905.0MHz
	n2 (Channel Bandwidth 15MHz)	1857.5MHz ~ 1902.5MHz
	n2 (Channel Bandwidth 20MHz)	1860.0MHz ~ 1900.0MHz
Max. EIRP Power	n2 (Channel Bandwidth 5MHz)	280.543mW(24.48dBm)
	n2 (Channel Bandwidth 10MHz)	283.139mW(24. 52dBm)
	n2 (Channel Bandwidth 15MHz)	284.446mW(24.54dBm)
	n2 (Channel Bandwidth 20MHz)	286.418mW(24.57dBm)

n5

Modulation Type	$\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM	
Waveform Type	CP-OFDM, DFT-s-OFDM	
Operating Frequency	n5 (Channel Bandwidth 5MHz)	826.5MHz ~ 846.5MHz
	n5 (Channel Bandwidth 10MHz)	829.0MHz ~ 844.0MHz
	n5 (Channel Bandwidth 15MHz)	831.5MHz ~ 841.5MHz
	n5 (Channel Bandwidth 20MHz)	834.0MHz ~ 839.0MHz
Max. ERP Power	n5 (Channel Bandwidth 5MHz)	186.638mW(22.71dBm)
	n5 (Channel Bandwidth 10MHz)	190.985mW(22.81dBm)
	n5 (Channel Bandwidth 15MHz)	192.309mW(22.84dBm)
	n5 (Channel Bandwidth 20MHz)	195.434mW(22.91dBm)

n66

Modulation Type	$\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM	
Waveform Type	CP-OFDM, DFT-s-OFDM	
Operating Frequency	n66 (Channel Bandwidth 5MHz)	1712.5MHz ~ 1777.5MHz
	n66 (Channel Bandwidth 10MHz)	1715.0MHz ~ 1775.0MHz
	n66 (Channel Bandwidth 15MHz)	1717.5MHz ~ 1772.5MHz
	n66 (Channel Bandwidth 20MHz)	1720.0MHz ~ 1770.0MHz
Max. EIRP Power	n66 (Channel Bandwidth 5MHz)	247.172mW(23.93dBm)
	n66 (Channel Bandwidth 10MHz)	249.460mW(23.97dBm)
	n66 (Channel Bandwidth 15MHz)	250.611mW(23.99dBm)
	n66 (Channel Bandwidth 20MHz)	252.348mW(24.02dBm)

n71

Modulation Type	$\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM	
Waveform Type	CP-OFDM, DFT-s-OFDM	
Operating Frequency	n71 (Channel Bandwidth 5MHz)	665.5MHz ~ 695.5MHz
	n71 (Channel Bandwidth 10MHz)	668.0MHz ~ 693.0MHz
	n71 (Channel Bandwidth 15MHz)	670.5MHz ~ 690.5MHz
	n71 (Channel Bandwidth 20MHz)	673.0MHz ~ 688.0MHz
Max. ERP Power	n71 (Channel Bandwidth 5MHz)	145.546mW(21.63dBm)
	n71 (Channel Bandwidth 10MHz)	146.893mW(21.67dBm)
	n71 (Channel Bandwidth 15MHz)	147.571mW(21.69dBm)
	n71 (Channel Bandwidth 20MHz)	148.594mW(21.72dBm)

LTE Band

Modulation Type	QPSK, 16QAM, 64QAM, 256QAM	
Operating Frequency	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 7 (Channel Bandwidth 5MHz)	2502.5MHz ~ 2567.5MHz
	LTE Band 7 (Channel Bandwidth 10MHz)	2505.0MHz ~ 2565.0MHz
	LTE Band 7 (Channel Bandwidth 15MHz)	2507.5MHz ~ 2562.5MHz
	LTE Band 7 (Channel Bandwidth 20MHz)	2510.0MHz ~ 2560.0MHz
	LTE Band 12 (Channel Bandwidth 1.4MHz)	699.7MHz ~ 715.3MHz
	LTE Band 12 (Channel Bandwidth 3MHz)	700.5MHz ~ 714.5MHz
	LTE Band 12 (Channel Bandwidth 5MHz)	701.5MHz ~ 713.5MHz
	LTE Band 12 (Channel Bandwidth 10MHz)	704.0MHz ~ 711.0MHz
Max. ERP Power	n66 + LTE Band 5:	
	LTE Band 5 (Channel Bandwidth 1.4MHz)	103.276mW(20.14dBm)
	LTE Band 5 (Channel Bandwidth 3MHz)	96.383mW(19.84dBm)
	LTE Band 5 (Channel Bandwidth 5MHz)	100.925mW(20.04dBm)
	LTE Band 5 (Channel Bandwidth 10MHz)	101.158mW(20.05dBm)
	n2 + LTE Band 12:	
	LTE Band 12 (Channel Bandwidth 1.4MHz)	145.546mW(21.63dBm)
	LTE Band 12 (Channel Bandwidth 3MHz)	141.906mW(21.52dBm)
	LTE Band 12 (Channel Bandwidth 5MHz)	148.594mW(21.72dBm)
	LTE Band 12 (Channel Bandwidth 10MHz)	150.314mW(21.77dBm)
Max. EIRP Power	n5 + LTE Band 7:	
	LTE Band 7 (Channel Bandwidth 5MHz)	169.434mW(22.29dBm)
	LTE Band 7 (Channel Bandwidth 10MHz)	167.880mW(22.25dBm)
	LTE Band 7 (Channel Bandwidth 15MHz)	178.649mW(22.52dBm)
	LTE Band 7 (Channel Bandwidth 20MHz)	174.985mW(22.43dBm)
	n71 + LTE Band 7:	
	LTE Band 7 (Channel Bandwidth 5MHz)	159.221mW(22.02dBm)
	LTE Band 7 (Channel Bandwidth 10MHz)	161.808mW(22.09dBm)
	LTE Band 7 (Channel Bandwidth 15MHz)	160.694mW(22.06dBm)
	LTE Band 7 (Channel Bandwidth 20MHz)	162.181mW(22.10dBm)

Antenna Type	Refer to Note as below
Antenna Connector	Refer to Note as below
Accessory Device	N/A
Cable Supplied	N/A

Note:

1. The EUT is authorized for use in specific End-product. The model of the K120 was chosen for final test.

Product	Brand	Model	Description
Tablet	Getac	K120	For marketing purpose
		K120G2	
		K120Y (Y= 10 , Y can be 0-9, a-z, A-Z, "-", "_" or blank for marketing purpose)	

2. The End-product contains following accessory devices.

Product	Brand	Model	Description
Adapter 1	Getac	MTA190474W4	I/P: 100-240Vac, 1.6A, 50-60Hz O/P: 19.0Vdc, 4.74A (90.0W)
Adapter 2	Chicony	A15-090P1A	I/P: 100-240Vac, 1.2A, 50-60Hz O/P: 19.0Vdc, 4.74A (90.0W)
Battery 1	Getac	BP3S1P2100S-01	11.1Vdc , 2040mAh, 24Wh
Battery 2	Getac	BP4S1P3450P-01	14.4Vdc , 3300mAh, 48Wh
Touch Pen	Getac	340142000064	-
Dock	Getac	K120 Keyboard Dock	-

3. The following antennas were provided to the EUT.

LTE Band					
Ant. No.	Type	Connector	Gain (dBi)		
			B5	B7	B12
Man	PIFA	I-PEX	1.60	4.30	1.05
AUX	PIFA	I-PEX	0.63	4.29	-1.51

5G FR1 Band						
Ant. No.	Type	Connector	Gain (dBi)			
			n2	n5	n66	n71
Man	PIFA	I-PEX	3.49	1.60	3.36	0.68
AUX	PIFA	I-PEX	1.38	0.63	-0.17	-2.43

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

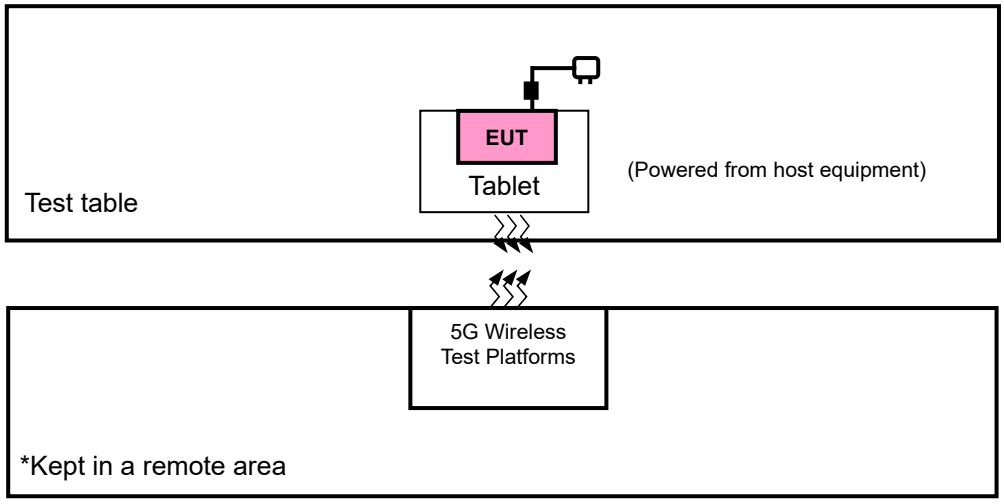
4. The EUT supports the following ENDC configuration.

	FCC 5G FR1			ENDC
	Band	SCS	Bandwidth (MHz)	
5GNR	n2	15kHz	5/10/15/20	Band 5/12
	n5	15kHz	5/10/15/20	Band 2/7/30/66
	n66	15kHz	5/10/15/20	Band 5/12/13
	n71	15kHz	5/10/15/20	Band 2/7/66

*The ENDC configuration only selected the worse case for testing. The test configuration is as follows: n2 + LTE B12, n5 + LTE B7, n66 + LTE B5, n71 + LTE B7.

3.2 Configuration of System under Test

<Radiated Emission Test>



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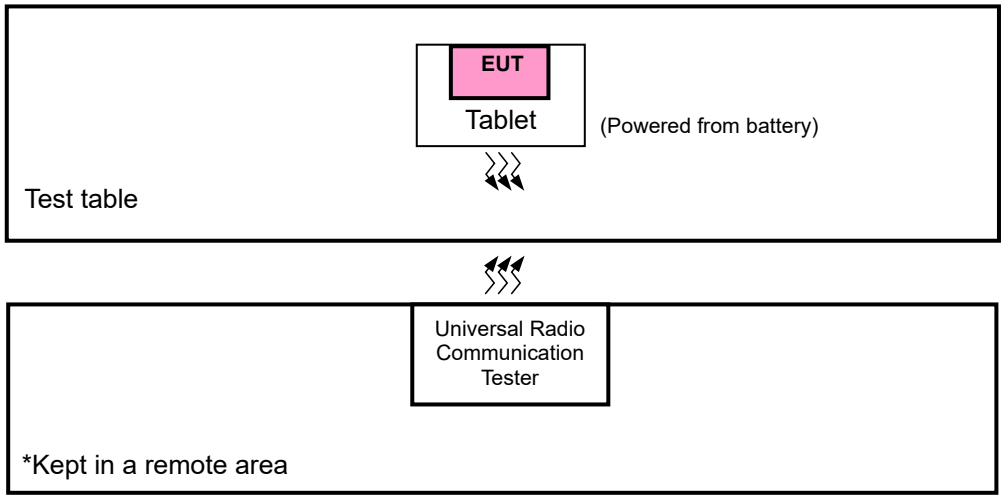


3.2.1 Description of Support Units

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.

No.	Product	Brand	Model No.	Serial No.	FCC ID
A.	Tablet	Getac	K120	N/A	N/A
B.	5G Wireless Test Platforms	Keysight	E7515B	MY58300759	NA

No.	Signal Cable Description Of The Above Support Units
1.	N/A

Note:

1. All power cords of the above support units are non-shielded (1.8m).

2. Item 1 was provided by client.

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 and antenna ports. 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
n2	X-plane
n5	X-plane
n66	X-plane
n71	X-plane
LTE Band 5	X-plane
LTE Band 7	X-plane
LTE Band 12	X-plane

n2

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	EIRP	370500 to 381500	370500 (1852.5MHz), 376000 (1880.0MHz), 381500 (1907.5MHz)	5MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 13 RB Offset 1 RB / 23 RB Offset 12 RB / 0 RB Offset 12 RB / 7 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		371000 to 381000	371000 (1855.0MHz), 376000 (1880.0MHz), 381000 (1905.0MHz)	10MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 26 RB Offset 1 RB / 50 RB Offset 25 RB / 0 RB Offset 25 RB / 14 RB Offset 25 RB / 27 RB Offset 50 RB / 0 RB Offset
		371500 to 380500	371500 (1857.5MHz), 376000 (1880.0MHz), 380500 (1902.5MHz)	15MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 40 RB Offset 1 RB / 77 RB Offset 36 RB / 0 RB Offset 36 RB / 22 RB Offset 36 RB / 43 RB Offset 75 RB / 0 RB Offset
		372000 to 380000	372000 (1860.0MHz), 376000 (1880.0MHz), 380000 (1900.0MHz)	20MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 53 RB Offset 1 RB / 104 RB Offset 50RB / 0 RB Offset 50 RB / 28 RB Offset 50 RB / 56 RB Offset 100 RB / 0 RB Offset
-	Radiated Emission Below 1GHz	372000 to 380000	376000 (1880.0MHz)	20MHz	QPSK	1 RB / 1 RB Offset
-	Radiated Emission Above 1GHz	370500 to 381500	370500 (1852.5MHz), 376000 (1880.0MHz), 381500 (1907.5MHz)	5MHz	QPSK	1 RB / 1 RB Offset
		372000 to 380000	372000 (1860.0MHz), 376000 (1880.0MHz), 380000 (1900.0MHz)	20MHz	QPSK	1 RB / 1 RB Offset

Note:

1. For radiated emission below 1GHz, select the worst radiated emission channel (above 1GHz) for final testing.
2. For radiated emission above 1GHz, according to 3GPP 38.521-1 Section 6.5.3.1.4, choose the lowest and highest channel bandwidth for final test.
3. Only output power, modulation characteristics, occupied bandwidth and Peak to average ratio items had been tested under $\pi/2$ BPSK, QPSK, 16QAM, 64QAM and 256QAM modes, the other test items were performed under worse mode according to the maximum output power.

n5

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	ERP	165300 to 169300	165300 (826.5MHz), 167300 (836.5MHz), 169300 (846.5MHz)	5MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 13 RB Offset 1 RB / 23 RB Offset 12 RB / 0 RB Offset 12 RB / 7 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		165800 to 168800	165800 (829.0MHz), 167300 (836.5MHz), 168800 (844.0MHz)	10MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 26 RB Offset 1 RB / 50 RB Offset 25 RB / 0 RB Offset 25 RB / 14 RB Offset 25 RB / 27 RB Offset 50 RB / 0 RB Offset
		166300 to 168300	166300 (831.5MHz), 167300 (836.5MHz), 168300 (841.5MHz)	15MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 40 RB Offset 1 RB / 77 RB Offset 36 RB / 0 RB Offset 36 RB / 22 RB Offset 36 RB / 43 RB Offset 75 RB / 0 RB Offset
		166800 to 167800	166800 (834.0MHz), 167300 (836.5MHz), 167800 (839.0MHz)	20MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 53 RB Offset 1 RB / 104 RB Offset 50RB / 0 RB Offset 50 RB / 28 RB Offset 50 RB / 56 RB Offset 100 RB / 0 RB Offset
-	Radiated Emission Below 1GHz	166800 to 167800	167300 (836.5MHz)	20MHz	QPSK	1 RB / 1 RB Offset
-	Radiated Emission Above 1GHz	165300 to 169300	165300 (826.5MHz), 167300 (836.5MHz), 169300 (846.5MHz)	5MHz	QPSK	1 RB / 1 RB Offset
		166800 to 167800	166800 (834.0MHz), 167300 (836.5MHz), 167800 (839.0MHz)	20MHz	QPSK	1 RB / 1 RB Offset

Note:

1. For radiated emission below 1GHz, select the worst radiated emission channel (above 1GHz) for final testing.
2. For radiated emission above 1GHz, according to 3GPP 38.521-1 Section 6.5.3.1.4, choose the lowest and highest channel bandwidth for final test.
3. Only output power, modulation characteristics, occupied bandwidth and Peak to average ratio items had been tested under $\pi/2$ BPSK, QPSK, 16QAM, 64QAM and 256QAM modes, the other test items were performed under worse mode according to the maximum output power.

n66

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	342500 to 355500	342500 (1712.5MHz), 349000 (1745.0MHz), 355500 (1777.5MHz)	5MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 13 RB Offset 1 RB / 23 RB Offset 12 RB / 0 RB Offset 12 RB / 7 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		343000 to 355000	343000 (1715.0MHz), 349000 (1745.0MHz), 355000 (1775.0MHz)	10MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 26 RB Offset 1 RB / 50 RB Offset 25 RB / 0 RB Offset 25 RB / 14 RB Offset 25 RB / 27 RB Offset 50 RB / 0 RB Offset
		343500 to 354500	343500 (1717.5MHz), 349000 (1745.0MHz), 354500 (1772.5MHz)	15MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 40 RB Offset 1 RB / 77 RB Offset 36 RB / 0 RB Offset 36 RB / 22 RB Offset 36 RB / 43 RB Offset 75 RB / 0 RB Offset
		344000 to 354000	344000 (1720.0MHz), 349000 (1745.0MHz), 354000 (1770.0MHz)	20MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 53 RB Offset 1 RB / 104 RB Offset 50RB / 0 RB Offset 50 RB / 28 RB Offset 50 RB / 56 RB Offset 100 RB / 0 RB Offset
-	Radiated Emission Below 1GHz	342500 to 355500	355500 (1777.5MHz)	5MHz	QPSK	1 RB / 1 RB Offset
-	Radiated Emission Above 1GHz	342500 to 355500	342500 (1712.5MHz), 349000 (1745.0MHz), 355500 (1777.5MHz)	5MHz	QPSK	1 RB / 1 RB Offset
		344000 to 354000	344000 (1720.0MHz), 349000 (1745.0MHz), 354000 (1770.0MHz)	20MHz	QPSK	1 RB / 1 RB Offset

Note:

1. Only output power, modulation characteristics, occupied bandwidth and Peak to average ratio items had been tested under $\pi/2$ BPSK, QPSK, 16QAM, 64QAM and 256QAM modes, the other test items were performed under worst mode according to the maximum output power.
2. For radiated emission, according to 3GPP 38.521-1 Section 6.5.3.1.4, choose the lowest, middlest & highest channel bandwidth for final test.
3. For radiated emissions below 1 GHz, select the worst radiated emission channel (above 1GHz) for final testing.

n71

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	ERP	133100 to 139100	133100 (665.5MHz), 136100 (680.5MHz), 139100 (695.5MHz)	5 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 13 RB Offset 1 RB / 23 RB Offset 12 RB / 0 RB Offset 12 RB / 7 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		133600 to 138600	133600 (668.0MHz), 136100 (680.5MHz), 138600 (693.0MHz)	10 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 26 RB Offset 1 RB / 50 RB Offset 25 RB / 0 RB Offset 25 RB / 14 RB Offset 25 RB / 27 RB Offset 50 RB / 0 RB Offset
		134100 to 138100	134100 (670.5MHz), 136100 (680.5MHz), 138100 (690.5MHz)	15 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 40 RB Offset 1 RB / 77 RB Offset 36 RB / 0 RB Offset 36 RB / 22 RB Offset 36 RB / 43 RB Offset 75 RB / 0 RB Offset
		134600 to 137600	134600 (673.0MHz), 136100 (680.5MHz), 137600 (688.0MHz)	20 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 53 RB Offset 1 RB / 104 RB Offset 50 RB / 0 RB Offset 50 RB / 28 RB Offset 50 RB / 56 RB Offset 100 RB / 0 RB Offset
-	Radiated Emission Below 1GHz	134600 to 137600	136100 (680.5MHz)	20 MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	133100 to 139100	133100 (665.5MHz), 136100 (680.5MHz), 139100 (695.5MHz)	5 MHz	QPSK	1 RB / 0 RB Offset
		134600 to 137600	134600 (673.0MHz), 136100 (680.5MHz), 137600 (688.0MHz)	20 MHz	QPSK	1 RB / 0 RB Offset

Note: Only output power, modulation characteristics, occupied bandwidth and Peak to average ratio items had been tested under $\pi/2$ BPSK, QPSK, 16QAM, 64QAM and 256QAM modes, the other test items were performed under worst mode according to the maximum output power.

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 / 256QAM	1 RB / 0 RB Offset 1 RB / 2 RB Offset 1 RB / 5 RB Offset 3 RB / 0 RB Offset 3 RB / 1 RB Offset 3 RB / 3 RB Offset 6 RB / 0 RB Offset
		20415 to 20635	20415 (825.5MHz), 20525 (836.5MHz), 20635 (847.5MHz)	3MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 7 RB Offset 1 RB / 14 RB Offset 8 RB / 0 RB Offset 8 RB / 3 RB Offset 8 RB / 7 RB Offset 15 RB / 0 RB Offset
		20425 to 20625	20425 (826.5MHz), 20525 (836.5MHz), 20625 (846.5MHz)	5MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 12 RB Offset 1 RB / 24 RB Offset 12 RB / 0 RB Offset 12 RB / 6 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		20450 to 20600	20450 (829.0MHz), 20525 (836.5MHz), 20600 (844.0MHz)	10MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 24 RB Offset 1 RB / 49 RB Offset 25 RB / 0 RB Offset 25 RB / 12 RB Offset 25 RB / 25 RB Offset 50 RB / 0 RB Offset
-	Radiated Emission Below 1GHz	20450 to 20600	20525 (836.5MHz)	10MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	20407 to 20643	20407 (824.7MHz), 20525 (836.5MHz), 20643 (848.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		20425 to 20625	20425 (826.5MHz), 20525 (836.5MHz), 20625 (846.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		20450 to 20600	20450 (829.0MHz), 20525 (836.5MHz), 20600 (844.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset

Note:

1. For radiated emission below 1GHz, select the worst radiated emission channel (above 1GHz) for final testing.
2. 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.
3. The output power for QPSK, 16QAM, 64QAM and 256QAM, measured value of QPSK is higher than 16QAM, 64QAM and 256QAM mode. Therefore the radiated emission test items was performed under QPSK mode only.

LTE Band 7

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	EIRP	20775 to 21425	20775 (2502.5MHz), 21100 (2535.0MHz), 21425 (2567.5MHz)	5 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 12 RB Offset 1 RB / 24 RB Offset 12 RB / 0 RB Offset 12 RB / 6 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		20800 to 21400	20800 (2505.0MHz), 21100 (2535.0MHz), 21400 (2565.0MHz)	10 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 24 RB Offset 1 RB / 49 RB Offset 25 RB / 0 RB Offset 25 RB / 12 RB Offset 25 RB / 25 RB Offset 50 RB / 0 RB Offset
		20825 to 21375	20825 (2507.5MHz), 21100 (2535.0MHz), 21375 (2562.5MHz)	15 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 37 RB Offset 1 RB / 74 RB Offset 36 RB / 0 RB Offset 36 RB / 19 RB Offset 36 RB / 39 RB Offset 75 RB / 0 RB Offset
		20850 to 21350	20850 (2510.0MHz), 21100 (2535.0MHz), 21350 (2560.0MHz)	20 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 50 RB Offset 1 RB / 99 RB Offset 50 RB / 0 RB Offset 50 RB / 25 RB Offset 50 RB / 50 RB Offset 100 RB / 0 RB Offset
-	Radiated Emission Below 1GHz	20850 to 21350	21100 (2535.0MHz)	20 MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	20775 to 21425	20775 (2502.5MHz), 21100 (2535.0MHz), 21425 (2567.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		20850 to 21350	20850 (2510.0MHz), 21100 (2535.0MHz), 21350 (2560.0MHz)	20MHz	QPSK	1 RB / 0 RB Offset

Note:

1. The conducted output power for QPSK, 16QAM, 64QAM and 256QAM, measured value of QPSK is higher than 16QAM, 64QAM and 256QAM mode. Therefore, only Modulation characteristics, occupied bandwidth and Peak to average ratio items had been tested under QPSK, 16QAM, 64QAM and 256QAM modes, the other test items were performed under QPSK mode only.
2. For radiated emission above 1GHz, according to 3GPP 36.521 Section 6.6.3.1.4, choose the 5MHz & highest channel bandwidth for final test.
3. For radiated emissions below 1 GHz, select the worst radiated emission channel (above 1GHz) for final testing.

LTE Band 12

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	ERP	23017 to 23173	23017 (699.7MHz), 23095 (707.5MHz), 23173 (715.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 2 RB Offset 1 RB / 5 RB Offset 3 RB / 0 RB Offset 3 RB / 1 RB Offset 3 RB / 3 RB Offset 6 RB / 0 RB Offset
		23025 to 23165	23025 (700.5MHz), 23095 (707.5MHz), 23165 (714.5MHz)	3MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 7 RB Offset 1 RB / 14 RB Offset 8 RB / 0 RB Offset 8 RB / 3 RB Offset 8 RB / 7 RB Offset 15 RB / 0 RB Offset
		23035 to 23155	23035 (701.5MHz), 23095 (707.5MHz), 23155 (713.5MHz)	5MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 12 RB Offset 1 RB / 24 RB Offset 12 RB / 0 RB Offset 12 RB / 6 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		23060 to 23130	23060 (704.0MHz), 23095 (707.5MHz), 23130 (711.0 MHz)	10MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 24 RB Offset 1 RB / 49 RB Offset 25 RB / 0 RB Offset 25 RB / 12 RB Offset 25 RB / 25 RB Offset 50 RB / 0 RB Offset
-	Radiated Emission Below 1GHz	23060 to 23130	23095 (707.5MHz)	10MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	23017 to 23173	23017 (699.7MHz), 23095 (707.5MHz), 23173 (715.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		23035 to 23155	23035 (701.5MHz), 23095 (707.5MHz), 23155 (713.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		23060 to 23130	23060 (704.0MHz), 23095 (707.5MHz), 23130 (711.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset

Note:

1. For radiated emission below 1GHz, select the worst radiated emission channel (above 1GHz) for final testing.
2. 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.
3. The output power for QPSK, 16QAM, 64QAM and 256QAM, measured value of QPSK is higher than 16QAM, 64QAM and 256QAM mode. Therefore the radiated emission test items was performed under QPSK mode only.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
EIRP / ERP	25deg. C, 60%RH	3.3 Vdc	James Yang
Radiated Emission	23deg. C, 67%RH	120 Vac, 60 Hz	Adair Peng

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

FCC 47 CFR Part 24

FCC 47 CFR Part 27

ANSI/TIA/EIA-603-D-2010

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

References Test Guidance:

KDB 971168 D01 Power Meas License Digital Systems v03r01

KDB 971168 D02 Misc Rev Approv License Devices v02r01

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

For n2:
Mobile / Portable station are limited to 2 watts e.i.r.p.

For n66:
Mobile / Portable station are limited to 1 watts e.i.r.p.

For n71, LTE Band 12:
Control and mobile stations in the 698-746 MHz band are limited to 30 watts ERP.
Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

For LTE Band 5:
Mobile / Portable station are limited to 7 watts e.r.p.

For LTE Band 7:
Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

4.1.2 Test Procedures

Conducted Power Measurement:

The EUT was set up for the maximum power with 5GNR and 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)

NR Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		372000	376000	380000
		Frequency (MHz)		1860	1880	1900
20M	$\pi/2$ BPSK	1	1	20.99	21.02	20.97
20M	QPSK	1	1	21.05	21.08	21.03
		1	53	20.98	21.01	20.96
		1	104	20.95	20.98	20.93
		50	0	20.02	20.05	20.00
		50	28	20.99	21.02	20.97
		50	56	19.98	20.01	19.96
		100	0	19.95	19.98	19.93
20M	16QAM	1	1	19.99	20.02	19.97
20M	64QAM	1	1	18.49	18.52	18.47
20M	256QAM	1	1	16.48	16.51	16.46
BW	MCS Index	Channel		371500	376000	380500
		Frequency (MHz)		1857.5	1880	1902.5
15M	$\pi/2$ BPSK	1	1	20.96	20.99	20.94
15M	QPSK	1	1	21.02	21.05	21.00
		1	40	20.95	20.98	20.93
		1	77	20.92	20.95	20.90
		36	0	19.99	20.02	19.97
		36	22	20.96	20.99	20.94
		36	43	19.95	19.98	19.93
		75	0	19.92	19.95	19.90
15M	16QAM	1	1	19.96	19.99	19.94
15M	64QAM	1	1	18.46	18.49	18.44
15M	256QAM	1	1	16.45	16.48	16.43

NR Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		371000	376000	381000
		Frequency (MHz)		1855	1880	1905
10M	$\pi/2$ BPSK	1	1	20.94	20.97	20.92
10M	QPSK	1	1	21.00	21.03	20.98
		1	26	20.93	20.96	20.91
		1	50	20.90	20.93	20.88
		25	0	19.97	20.00	19.95
		25	14	20.94	20.97	20.92
		25	27	19.93	19.96	19.91
		50	0	19.90	19.93	19.88
10M	16QAM	1	1	19.94	19.97	19.92
10M	64QAM	1	1	18.44	18.47	18.42
10M	256QAM	1	1	16.43	16.46	16.41
BW	MCS Index	Channel		370500	376000	381500
		Frequency (MHz)		1852.5	1880	1907.5
5M	$\pi/2$ BPSK	1	1	20.90	20.93	20.88
5M	QPSK	1	1	20.96	20.99	20.94
		1	13	20.89	20.92	20.87
		1	23	20.86	20.89	20.84
		12	0	19.93	19.96	19.91
		12	7	20.90	20.93	20.88
		12	13	19.89	19.92	19.87
		25	0	19.86	19.89	19.84
5M	16QAM	1	1	19.90	19.93	19.88
5M	64QAM	1	1	18.40	18.43	18.38
5M	256QAM	1	1	16.39	16.42	16.37

NR Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		166800	167300	167800
		Frequency (MHz)		834	836.5	839
20M	$\pi/2$ BPSK	1	1	23.03	23.23	23.38
20M	QPSK	1	1	23.11	23.31	23.46
		1	53	22.84	23.04	23.19
		1	104	22.80	23.00	23.15
		50	0	22.04	22.24	22.39
		50	28	22.92	23.12	23.27
		50	56	21.96	22.16	22.31
		100	0	21.86	22.06	22.21
20M	16QAM	1	1	22.08	22.28	22.43
20M	64QAM	1	1	20.50	20.70	20.85
20M	256QAM	1	1	17.97	18.17	18.32
BW	MCS Index	Channel		166300	167300	168300
		Frequency (MHz)		831.5	836.5	841.5
15M	$\pi/2$ BPSK	1	1	23.01	23.19	23.32
15M	QPSK	1	1	23.01	23.27	23.39
		1	40	22.78	23.00	23.10
		1	77	22.80	22.93	23.14
		36	0	22.03	22.17	22.34
		36	22	22.92	23.03	23.26
		36	43	21.86	22.11	22.26
		75	0	21.84	22.03	22.18
15M	16QAM	1	1	21.99	22.27	22.39
15M	64QAM	1	1	20.45	20.60	20.80
15M	256QAM	1	1	17.96	18.09	18.24

NR Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		165800	167300	168800
		Frequency (MHz)		829	836.5	844
10M	$\pi/2$ BPSK	1	1	23.07	23.11	23.25
10M	QPSK	1	1	22.89	23.19	23.36
		1	26	22.69	23.02	23.11
		1	50	22.67	22.85	23.04
		25	0	21.86	22.10	22.29
		25	14	22.78	23.01	23.11
		25	27	21.82	22.04	22.10
		50	0	21.72	21.84	22.08
10M	16QAM	1	1	22.02	22.09	22.28
10M	64QAM	1	1	20.40	20.67	20.74
10M	256QAM	1	1	17.75	18.04	18.09
BW	MCS Index	Channel		165300	167300	169300
		Frequency (MHz)		826.5	836.5	846.5
5M	$\pi/2$ BPSK	1	1	23.02	23.08	23.19
5M	QPSK	1	1	23.04	23.12	23.26
		1	13	22.69	22.95	22.86
		1	23	22.68	22.90	22.80
		12	0	21.97	22.11	22.15
		12	7	22.71	22.93	23.12
		12	13	21.87	21.98	22.14
		25	0	21.61	21.98	22.17
5M	16QAM	1	1	21.92	22.11	22.39
5M	64QAM	1	1	20.39	20.51	20.64
5M	256QAM	1	1	17.88	17.99	18.15

5GNR Band 66						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		344000	349000	354000
		Frequency (MHz)		1720	1745	1770
20M	$\pi/2$ BPSK	1	1	20.54	20.45	20.59
20M	PSK	1	1	20.61	20.52	20.66
		1	53	20.56	20.47	20.61
		1	104	20.50	20.41	20.55
		50	0	19.60	19.51	19.65
		50	28	20.53	20.44	20.58
		50	56	19.56	19.47	19.61
		100	0	19.54	19.45	19.59
20M	16QAM	1	1	19.50	19.41	19.55
20M	64QAM	1	1	18.10	18.01	18.15
20M	256QAM	1	1	16.07	15.98	16.12
BW	MCS Index	Channel		343500	349000	354500
		Frequency (MHz)		1717.5	1745	1772.5
15M	$\pi/2$ BPSK	1	1	20.51	20.42	20.56
15M	PSK	1	1	20.58	20.49	20.63
		1	40	20.53	20.44	20.58
		1	77	20.47	20.38	20.52
		36	0	19.57	19.48	19.62
		36	22	20.50	20.41	20.55
		36	43	19.53	19.44	19.58
		75	0	19.51	19.42	19.56
15M	16QAM	1	1	19.47	19.38	19.52
15M	64QAM	1	1	18.07	17.98	18.12
15M	256QAM	1	1	16.04	15.95	16.09

5GNR Band 66						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		343000	349000	355000
		Frequency (MHz)		1715	1745	1775
10M	$\pi/2$ BPSK	1	1	20.49	20.40	20.54
10M	PSK	1	1	20.56	20.47	20.61
		1	26	20.51	20.42	20.56
		1	50	20.45	20.36	20.50
		25	0	19.55	19.46	19.60
		25	14	20.48	20.39	20.53
		25	27	19.51	19.42	19.56
		50	0	19.49	19.40	19.54
10M	16QAM	1	1	19.45	19.36	19.50
10M	64QAM	1	1	18.05	17.96	18.10
10M	256QAM	1	1	16.02	15.93	16.07
BW	MCS Index	Channel		342500	349000	355500
		Frequency (MHz)		1712.5	1745	1777.5
5M	$\pi/2$ BPSK	1	1	20.45	20.36	20.50
5M	PSK	1	1	20.52	20.43	20.57
		1	13	20.47	20.38	20.52
		1	23	20.41	20.32	20.46
		12	0	19.51	19.42	19.56
		12	7	20.44	20.35	20.49
		12	13	19.47	19.38	19.52
		25	0	19.45	19.36	19.50
5M	16QAM	1	1	19.41	19.32	19.46
5M	64QAM	1	1	18.01	17.92	18.06
5M	256QAM	1	1	15.98	15.89	16.03

NR Band 71						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		134600	136100	137600
		Frequency (MHz)		673	680.5	688
20M	$\pi/2$ BPSK	1	1	23.14	23.02	22.91
20M	PSK	1	1	23.19	23.07	22.96
		1	53	23.17	23.05	22.94
		1	104	23.13	23.01	22.90
		50	0	22.24	22.12	22.01
		50	28	23.18	23.06	22.95
		50	56	22.20	22.08	21.97
		100	0	22.14	22.02	21.91
20M	16QAM	1	1	22.00	21.88	21.77
20M	64QAM	1	1	20.65	20.53	20.42
20M	256QAM	1	1	18.64	18.52	18.41
BW	MCS Index	Channel		134100	136100	138100
		Frequency (MHz)		670.5	680.5	690.5
15M	$\pi/2$ BPSK	1	1	23.11	22.99	22.88
15M	PSK	1	1	23.16	23.04	22.93
		1	40	23.14	23.02	22.91
		1	77	23.10	22.98	22.87
		36	0	22.21	22.09	21.98
		36	22	23.15	23.03	22.92
		36	43	22.17	22.05	21.94
		75	0	22.11	21.99	21.88
15M	16QAM	1	1	21.97	21.85	21.74
15M	64QAM	1	1	20.62	20.50	20.39
15M	256QAM	1	1	18.61	18.49	18.38

NR Band 71						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		133600	136100	138600
		Frequency (MHz)		668	680.5	693
10M	$\pi/2$ BPSK	1	1	23.09	22.97	22.86
10M	PSK	1	1	23.14	23.02	22.91
		1	26	23.12	23.00	22.89
		1	50	23.08	22.96	22.85
		25	0	22.19	22.07	21.96
		25	14	23.13	23.01	22.90
		25	27	22.15	22.03	21.92
		50	0	22.09	21.97	21.86
10M	16QAM	1	1	21.95	21.83	21.72
10M	64QAM	1	1	20.60	20.48	20.37
10M	256QAM	1	1	18.59	18.47	18.36
BW	MCS Index	Channel		133100	136100	139100
		Frequency (MHz)		665.5	680.5	695.5
5M	$\pi/2$ BPSK	1	1	23.05	22.93	22.82
5M	PSK	1	1	23.10	22.98	22.87
		1	13	23.08	22.96	22.85
		1	23	23.04	22.92	22.81
		12	0	22.15	22.03	21.92
		12	7	23.09	22.97	22.86
		12	13	22.11	21.99	21.88
		25	0	22.05	21.93	21.82
5M	16QAM	1	1	21.91	21.79	21.68
5M	64QAM	1	1	20.56	20.44	20.33
5M	256QAM	1	1	18.55	18.43	18.32

n2 + LTE Band 12:

LTE Band 12						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23060	23095	23130
		Frequency (MHz)		704	707.5	711
10M	QPSK	1	0	22.84	22.73	22.87
		1	24	22.60	22.72	22.76
		1	49	22.66	22.85	22.65
		25	0	21.98	22.01	21.90
		25	12	21.72	21.60	21.81
		25	25	21.80	21.52	21.89
		50	0	21.69	22.10	21.81
10M	16QAM	1	0	22.03	22.20	21.93
		1	24	21.98	22.25	21.97
		1	49	22.06	21.88	22.29
		25	0	20.84	20.65	21.04
		25	12	20.65	20.73	20.82
		25	25	20.91	21.00	20.61
		50	0	21.01	20.88	21.05
10M	64QAM	1	0	21.01	21.22	20.96
		1	24	20.86	20.90	20.79
		1	49	20.66	21.20	20.91
		25	0	19.52	19.87	19.93
		25	12	19.65	19.54	20.02
		25	25	19.83	19.78	19.51
		50	0	19.79	19.64	20.02
10M	256QAM	1	0	18.19	18.10	18.43
		1	24	18.01	17.89	18.06
		1	49	17.83	17.62	17.86
		25	0	17.61	17.95	17.86
		25	12	17.46	17.80	17.71
		25	25	17.92	17.46	17.63
		50	0	17.99	17.69	17.71

LTE Band 12						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23035	23095	23155
		Frequency (MHz)		701.5	707.5	713.5
5M	QPSK	1	0	22.48	22.46	22.70
		1	12	22.75	22.40	22.82
		1	24	22.76	22.27	22.53
		12	0	21.74	21.77	21.63
		12	6	21.87	21.51	21.53
		12	13	21.71	21.43	21.34
		25	0	21.50	21.49	21.72
5M	16QAM	1	0	21.66	22.09	22.20
		1	12	21.62	21.93	21.97
		1	24	21.98	21.83	21.98
		12	0	20.90	20.72	20.51
		12	6	20.72	20.49	20.65
		12	13	20.59	20.78	20.63
		25	0	20.46	20.48	20.81
5M	64QAM	1	0	21.03	21.30	20.86
		1	12	20.76	21.09	20.56
		1	24	20.47	20.97	20.85
		12	0	19.57	19.51	19.88
		12	6	19.64	19.69	19.92
		12	13	19.32	19.60	19.41
		25	0	19.64	19.55	19.48
5M	256QAM	1	0	18.19	18.24	17.96
		1	12	17.97	18.09	18.02
		1	24	18.00	18.03	17.86
		12	0	17.50	18.05	17.93
		12	6	17.86	17.92	17.65
		12	13	17.64	17.53	17.76
		25	0	17.85	17.85	17.65

LTE Band 12						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23025	23095	23165
		Frequency (MHz)		700.5	707.5	714.5
3M	QPSK	1	0	22.54	22.51	22.58
		1	7	22.50	22.38	22.22
		1	14	22.41	22.62	22.18
		8	0	21.62	21.73	21.53
		8	3	21.62	21.50	21.61
		8	7	21.81	21.79	21.87
		15	0	21.65	21.69	21.52
3M	16QAM	1	0	22.13	22.17	22.05
		1	7	21.55	21.85	21.60
		1	14	21.63	21.85	21.88
		8	0	20.80	20.54	20.82
		8	3	20.73	20.75	20.72
		8	7	20.46	20.69	20.62
		15	0	20.93	20.61	20.98
3M	64QAM	1	0	20.78	20.94	20.90
		1	7	20.86	20.95	21.03
		1	14	20.46	20.61	21.15
		8	0	19.50	19.89	19.70
		8	3	19.91	19.50	19.41
		8	7	19.64	19.81	19.43
		15	0	19.68	19.67	19.39
3M	256QAM	1	0	17.84	18.25	17.87
		1	7	17.74	17.94	17.96
		1	14	17.78	17.95	17.96
		8	0	17.88	17.99	18.03
		8	3	17.82	17.72	17.61
		8	7	17.73	17.83	17.69
		15	0	17.53	17.70	17.75

LTE Band 12						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23017	23095	23173
		Frequency (MHz)		699.7	707.5	715.3
1.4M	QPSK	1	0	22.46	22.45	22.47
		1	2	22.46	22.45	22.40
		1	5	22.44	22.54	22.42
		3	0	22.50	22.58	22.36
		3	1	22.57	22.39	22.73
		3	3	22.70	22.52	22.39
		6	0	21.77	21.49	21.90
1.4M	16QAM	1	0	22.09	22.20	22.02
		1	2	22.14	22.17	21.89
		1	5	21.91	22.12	22.01
		3	0	21.44	21.60	21.58
		3	1	21.91	21.48	21.77
		3	3	21.76	21.67	21.42
		6	0	20.55	20.85	20.97
1.4M	64QAM	1	0	21.01	20.81	21.20
		1	2	21.08	20.60	20.49
		1	5	20.71	20.98	21.08
		3	0	20.70	20.45	20.43
		3	1	20.56	20.64	20.87
		3	3	20.55	20.83	20.72
		6	0	19.61	19.79	20.01
1.4M	256QAM	1	0	17.91	17.81	17.90
		1	2	17.91	17.79	17.89
		1	5	17.63	17.82	18.01
		3	0	17.84	17.89	17.71
		3	1	17.49	17.44	17.83
		3	3	17.62	17.44	17.36
		6	0	17.83	17.65	17.78

n5 + LTE Band 7:

LTE Band 7						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20850	21100	21350
		Frequency (MHz)		2510	2535	2560
20M	QPSK	1	0	18.13	17.89	17.93
		1	50	17.95	17.90	18.01
		1	99	17.92	18.03	18.02
		50	0	17.12	17.00	17.20
		50	25	17.02	17.03	17.02
		50	50	17.30	16.85	16.76
		100	0	17.06	17.03	17.03
20M	16QAM	1	0	16.86	17.37	17.25
		1	50	17.32	16.80	16.80
		1	99	17.17	17.25	17.11
		50	0	16.28	15.83	15.90
		50	25	16.15	16.40	16.14
		50	50	16.13	16.33	15.74
		100	0	15.99	16.15	16.35
20M	64QAM	1	0	16.36	15.88	15.88
		1	50	15.81	16.06	15.94
		1	99	16.08	16.23	15.80
		50	0	14.82	15.38	15.27
		50	25	14.78	15.18	15.26
		50	50	15.21	15.19	14.96
		100	0	14.97	15.07	15.19
20M	256QAM	1	0	13.38	13.34	13.19
		1	50	13.32	12.94	12.87
		1	99	13.01	12.97	13.07
		50	0	13.02	13.08	12.74
		50	25	12.97	13.12	13.00
		50	50	12.82	13.03	13.10
		100	0	13.27	12.94	13.01

LTE Band 7						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20825	21100	21375
		Frequency (MHz)		2507.5	2535	2562.5
15M	QPSK	1	0	18.04	17.99	18.11
		1	37	18.08	18.03	18.07
		1	74	18.12	17.94	18.22
		36	0	17.24	17.18	17.06
		36	19	17.02	17.21	16.72
		36	39	17.19	16.80	16.98
		75	0	17.19	17.13	17.12
15M	16QAM	1	0	17.27	17.31	17.16
		1	37	17.22	17.13	17.08
		1	74	16.83	16.97	17.18
		36	0	16.23	15.78	15.78
		36	19	16.37	15.78	16.21
		36	39	16.04	15.77	16.24
		75	0	15.76	16.25	16.04
15M	64QAM	1	0	16.08	15.99	15.96
		1	37	16.09	15.79	15.95
		1	74	15.77	16.10	16.00
		36	0	14.96	14.87	14.93
		36	19	14.98	14.94	15.06
		36	39	14.90	15.21	14.91
		75	0	15.16	14.77	14.74
15M	256QAM	1	0	13.16	12.90	13.32
		1	37	13.14	13.05	13.23
		1	74	12.99	13.24	12.94
		36	0	12.93	13.05	12.74
		36	19	13.01	12.90	13.23
		36	39	13.20	12.70	13.24
		75	0	13.25	12.89	13.24

LTE Band 7						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20800	21100	21400
		Frequency (MHz)		2505	2535	2565
10M	QPSK	1	0	17.95	17.95	17.95
		1	24	17.92	17.79	17.86
		1	49	17.94	17.80	17.68
		25	0	17.02	16.83	16.80
		25	12	16.75	16.91	16.84
		25	25	17.24	16.86	17.12
		50	0	16.70	17.07	16.91
10M	16QAM	1	0	16.85	16.82	16.72
		1	24	17.19	17.24	16.86
		1	49	17.00	16.81	17.07
		25	0	16.06	15.67	15.95
		25	12	15.72	15.74	15.92
		25	25	15.80	15.80	16.14
		50	0	15.94	16.16	16.09
10M	64QAM	1	0	15.94	15.94	16.13
		1	24	15.73	16.11	15.78
		1	49	16.18	15.75	16.05
		25	0	15.09	14.76	15.11
		25	12	14.81	14.83	14.67
		25	25	15.07	14.98	14.97
		50	0	14.95	15.22	15.10
10M	256QAM	1	0	13.20	13.22	12.83
		1	24	13.14	12.84	12.67
		1	49	12.68	12.80	12.83
		25	0	12.66	12.82	12.93
		25	12	12.79	12.83	12.70
		25	25	12.69	12.77	12.90
		50	0	12.59	12.89	12.98

LTE Band 7						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20775	21100	21425
		Frequency (MHz)		2502.5	2535	2567.5
5M	QPSK	1	0	17.99	17.77	17.99
		1	12	17.75	17.90	17.93
		1	24	17.90	17.91	17.84
		12	0	16.93	16.82	16.70
		12	6	16.65	17.20	16.87
		12	13	16.98	17.23	17.10
		25	0	17.08	17.04	16.67
5M	16QAM	1	0	16.79	16.71	16.67
		1	12	17.33	16.74	16.87
		1	24	17.12	16.86	17.14
		12	0	15.73	16.07	16.06
		12	6	16.22	15.84	16.13
		12	13	16.00	15.88	15.81
		25	0	15.73	15.70	15.70
5M	64QAM	1	0	16.15	15.84	15.94
		1	12	15.61	15.65	16.12
		1	24	15.93	16.21	15.70
		12	0	15.01	15.05	14.92
		12	6	14.77	15.23	14.65
		12	13	15.14	15.12	14.65
		25	0	14.72	14.63	14.73
5M	256QAM	1	0	12.75	12.97	12.99
		1	12	13.29	13.28	13.26
		1	24	12.95	12.77	12.74
		12	0	13.06	13.06	13.08
		12	6	12.88	12.87	12.75
		12	13	12.67	12.87	12.85
		25	0	12.60	13.24	12.91

n66 + LTE Band 5:

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	20.60	20.56	20.24
		1	24	20.53	20.28	20.51
		1	49	20.57	20.46	20.50
		25	0	19.80	19.40	19.40
		25	12	19.71	19.53	19.27
		25	25	19.36	19.53	19.40
		50	0	19.45	19.38	19.62
10M	16QAM	1	0	19.87	19.70	19.37
		1	24	19.82	19.38	19.39
		1	49	19.31	19.71	19.40
		25	0	18.57	18.75	18.72
		25	12	18.62	18.70	18.37
		25	25	18.59	18.58	18.19
		50	0	18.41	18.37	18.22
10M	64QAM	1	0	18.56	18.54	18.49
		1	24	18.49	18.21	18.24
		1	49	18.79	18.25	18.51
		25	0	17.38	17.72	17.32
		25	12	17.31	17.56	17.40
		25	25	17.73	17.59	17.30
		50	0	17.52	17.64	17.54
10M	256QAM	1	0	15.41	15.73	15.72
		1	24	15.28	15.73	15.41
		1	49	15.41	15.60	15.34
		25	0	15.27	15.64	15.32
		25	12	15.45	15.30	15.56
		25	25	15.58	15.65	15.38
		50	0	15.45	15.65	15.35

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	20.51	20.59	20.55
		1	12	20.23	20.50	20.58
		1	24	20.59	20.54	20.48
		12	0	19.79	19.70	19.69
		12	6	19.58	19.69	19.35
		12	13	19.30	19.61	19.10
		25	0	19.76	19.23	19.23
5M	16QAM	1	0	19.78	19.55	19.42
		1	12	19.41	19.30	19.15
		1	24	19.68	19.22	19.57
		12	0	18.86	18.60	18.39
		12	6	18.61	18.49	18.36
		12	13	18.49	18.44	18.33
		25	0	18.76	18.26	18.57
5M	64QAM	1	0	18.47	18.76	18.62
		1	12	18.47	18.29	18.46
		1	24	18.40	18.40	18.31
		12	0	17.47	17.34	17.35
		12	6	17.39	17.31	17.35
		12	13	17.32	17.18	17.63
		25	0	17.77	17.66	17.40
5M	256QAM	1	0	15.50	15.31	15.70
		1	12	15.66	15.78	15.52
		1	24	15.47	15.54	15.22
		12	0	15.17	15.29	15.61
		12	6	15.65	15.20	15.43
		12	13	15.18	15.28	15.43
		25	0	15.65	15.73	15.42

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	20.37	20.39	20.26
		1	7	20.28	20.25	20.25
		1	14	20.34	20.32	20.18
		8	0	19.62	19.18	19.48
		8	3	19.32	19.40	19.48
		8	7	19.37	19.44	19.08
		15	0	19.46	19.28	19.26
3M	16QAM	1	0	19.56	19.65	19.59
		1	7	19.63	19.41	19.20
		1	14	19.38	19.42	19.41
		8	0	18.73	18.47	18.03
		8	3	18.65	18.44	18.56
		8	7	18.29	18.51	18.42
		15	0	18.02	18.60	18.37
3M	64QAM	1	0	18.37	18.55	18.68
		1	7	18.49	18.28	18.22
		1	14	18.30	18.12	18.32
		8	0	17.44	17.15	17.58
		8	3	17.70	17.29	17.41
		8	7	16.96	17.60	17.18
		15	0	17.27	17.24	17.63
3M	256QAM	1	0	15.23	15.47	15.30
		1	7	15.32	15.61	15.67
		1	14	15.30	15.80	15.26
		8	0	15.65	15.47	15.69
		8	3	15.71	15.72	15.28
		8	7	15.22	15.31	15.38
		15	0	15.33	15.40	15.32

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	20.44	20.47	20.44
		1	2	20.42	20.29	20.42
		1	5	20.41	20.08	20.43
		3	0	20.16	20.38	20.21
		3	1	20.69	20.13	20.12
		3	3	20.52	20.13	20.16
		6	0	19.68	19.26	19.36
1.4M	16QAM	1	0	19.32	19.47	19.56
		1	2	19.55	19.26	19.64
		1	5	19.08	19.37	19.46
		3	0	19.44	19.42	19.51
		3	1	19.14	19.46	19.33
		3	3	19.31	19.39	19.07
		6	0	18.15	18.42	18.33
1.4M	64QAM	1	0	18.69	18.25	18.54
		1	2	18.41	18.15	18.30
		1	5	18.12	18.67	18.19
		3	0	18.22	18.12	18.71
		3	1	18.22	18.49	18.21
		3	3	18.69	17.98	18.08
		6	0	17.23	17.58	17.42
1.4M	256QAM	1	0	15.61	15.35	15.46
		1	2	15.29	15.47	15.33
		1	5	15.28	15.17	15.57
		3	0	15.45	15.57	15.30
		3	1	15.39	15.58	15.60
		3	3	15.55	15.46	15.55
		6	0	15.34	15.36	15.20

n71 + LTE Band 7:

LTE Band 7						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20850	21100	21350
		Frequency (MHz)		2510	2535	2560
20M	QPSK	1	0	17.57	17.80	17.59
		1	50	17.28	17.51	17.54
		1	99	17.25	17.56	17.39
		50	0	17.10	17.04	16.67
		50	25	16.64	16.76	16.87
		50	50	16.42	16.68	16.35
		100	0	16.85	16.90	16.63
20M	16QAM	1	0	16.65	17.09	16.62
		1	50	16.69	16.98	16.36
		1	99	16.84	16.69	16.63
		50	0	16.05	16.11	15.88
		50	25	16.12	16.11	15.75
		50	50	15.14	15.93	15.94
		100	0	15.47	15.97	15.88
20M	64QAM	1	0	15.84	15.52	15.80
		1	50	16.10	15.84	15.57
		1	99	15.70	15.96	15.55
		50	0	14.34	14.34	14.45
		50	25	14.78	14.64	14.79
		50	50	14.65	15.03	14.30
		100	0	14.57	14.48	15.07
20M	256QAM	1	0	12.48	12.64	12.77
		1	50	13.03	12.77	12.99
		1	99	12.99	12.87	13.15
		50	0	12.52	12.88	12.32
		50	25	12.18	12.70	12.66
		50	50	12.51	12.50	12.48
		100	0	12.50	12.53	12.58

LTE Band 7						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20825	21100	21375
		Frequency (MHz)		2507.5	2535	2562.5
15M	QPSK	1	0	17.68	17.76	17.74
		1	37	17.70	17.69	17.64
		1	74	17.72	17.71	17.71
		36	0	17.27	17.19	16.77
		36	19	16.80	17.30	16.68
		36	39	16.85	16.82	16.81
		75	0	16.82	16.89	16.83
15M	16QAM	1	0	17.02	16.75	16.80
		1	37	17.25	16.77	16.83
		1	74	17.25	17.01	16.97
		36	0	15.98	15.85	16.30
		36	19	15.78	16.01	15.84
		36	39	16.28	15.83	16.00
		75	0	16.19	16.26	16.19
15M	64QAM	1	0	16.02	15.78	15.92
		1	37	15.67	16.23	15.89
		1	74	15.99	16.10	15.72
		36	0	15.22	15.13	15.12
		36	19	15.25	15.08	15.27
		36	39	14.98	15.21	14.76
		75	0	15.11	14.79	14.63
15M	256QAM	1	0	13.26	12.96	13.38
		1	37	13.01	12.85	13.24
		1	74	12.95	13.06	13.26
		36	0	12.96	12.92	12.84
		36	19	12.86	12.98	12.73
		36	39	12.83	13.09	13.14
		75	0	13.09	13.18	12.98

LTE Band 7						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20800	21100	21400
		Frequency (MHz)		2505	2535	2565
10M	QPSK	1	0	17.79	17.72	17.69
		1	24	17.75	17.73	17.61
		1	49	17.72	17.72	17.77
		25	0	17.10	17.07	16.67
		25	12	16.73	16.97	17.28
		25	25	16.87	16.85	16.85
		50	0	16.74	16.73	17.76
10M	16QAM	1	0	17.01	17.12	17.09
		1	24	17.07	17.11	16.96
		1	49	17.14	16.92	17.09
		25	0	15.80	15.70	15.69
		25	12	16.09	16.04	15.99
		25	25	16.14	16.01	15.99
		50	0	15.82	16.15	16.23
10M	64QAM	1	0	15.61	15.98	15.81
		1	24	15.73	15.69	15.99
		1	49	16.11	16.00	15.64
		25	0	14.82	15.24	15.20
		25	12	15.00	15.20	14.83
		25	25	15.08	15.22	14.92
		50	0	15.04	15.08	15.12
10M	256QAM	1	0	13.10	13.25	12.65
		1	24	12.84	13.01	13.04
		1	49	12.82	12.76	12.85
		25	0	13.19	12.88	12.92
		25	12	13.03	13.13	12.68
		25	25	13.04	13.10	12.95
		50	0	12.93	13.15	13.18

LTE Band 7						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20775	21100	21425
		Frequency (MHz)		2502.5	2535	2567.5
5M	QPSK	1	0	17.71	17.70	17.72
		1	12	17.58	17.65	17.65
		1	24	17.68	17.67	17.72
		12	0	16.76	17.01	16.61
		12	6	17.00	17.22	16.87
		12	13	17.02	17.18	16.82
		25	0	17.26	16.84	16.44
5M	16QAM	1	0	16.98	17.09	17.09
		1	12	17.05	17.26	16.97
		1	24	16.99	17.03	16.72
		12	0	15.91	15.81	15.85
		12	6	15.91	15.95	16.16
		12	13	15.72	15.73	15.91
		25	0	16.07	15.86	16.04
5M	64QAM	1	0	15.86	16.17	15.74
		1	12	15.94	15.79	15.88
		1	24	16.00	15.74	16.11
		12	0	14.93	14.67	14.74
		12	6	14.86	15.23	14.69
		12	13	14.76	14.89	14.96
		25	0	14.58	14.96	14.63
5M	256QAM	1	0	12.84	13.03	12.84
		1	12	12.95	12.81	13.29
		1	24	13.14	12.91	12.78
		12	0	13.13	12.89	13.18
		12	6	13.26	12.89	12.81
		12	13	12.80	12.90	12.92
		25	0	12.91	12.84	12.82

EIRP / ERP Power (dBm)

NR Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		372000	376000	380000
		Frequency (MHz)		1860	1880	1900
20M	$\pi/2$ BPSK	1	1	24.48	24.51	24.46
20M	QPSK	1	1	24.54	**24.57**	24.52
		1	53	24.47	24.50	24.45
		1	104	24.44	24.47	24.42
		50	0	23.51	23.54	23.49
		50	28	24.48	24.51	24.46
		50	56	23.47	23.50	23.45
		100	0	23.44	23.47	23.42
20M	16QAM	1	1	23.48	23.51	23.46
20M	64QAM	1	1	21.98	22.01	21.96
20M	256QAM	1	1	19.97	20.00	19.95
BW	MCS Index	Channel		371500	376000	380500
		Frequency (MHz)		1857.5	1880	1902.5
15M	$\pi/2$ BPSK	1	1	24.45	24.48	24.43
15M	QPSK	1	1	24.51	**24.54**	24.49
		1	40	24.44	24.47	24.42
		1	77	24.41	24.44	24.39
		36	0	23.48	23.51	23.46
		36	22	24.45	24.48	24.43
		36	43	23.44	23.47	23.42
		75	0	23.41	23.44	23.39
15M	16QAM	1	1	23.45	23.48	23.43
15M	64QAM	1	1	21.95	21.98	21.93
15M	256QAM	1	1	19.94	19.97	19.92

*EIRP = Conducted + antenna gain (3.49dBi)

NR Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		371000	376000	381000
		Frequency (MHz)		1855	1880	1905
10M	$\pi/2$ BPSK	1	1	24.43	24.46	24.41
10M	QPSK	1	1	24.49	**24.52**	24.47
		1	26	24.42	24.45	24.40
		1	50	24.39	24.42	24.37
		25	0	23.46	23.49	23.44
		25	14	24.43	24.46	24.41
		25	27	23.42	23.45	23.40
		50	0	23.39	23.42	23.37
10M	16QAM	1	1	23.43	23.46	23.41
10M	64QAM	1	1	21.93	21.96	21.91
10M	256QAM	1	1	19.92	19.95	19.90
BW	MCS Index	Channel		370500	376000	381500
		Frequency (MHz)		1852.5	1880	1907.5
5M	$\pi/2$ BPSK	1	1	24.39	24.42	24.37
5M	QPSK	1	1	24.45	**24.48**	24.43
		1	13	24.38	24.41	24.36
		1	23	24.35	24.38	24.33
		12	0	23.42	23.45	23.40
		12	7	24.39	24.42	24.37
		12	13	23.38	23.41	23.36
		25	0	23.35	23.38	23.33
5M	16QAM	1	1	23.39	23.42	23.37
5M	64QAM	1	1	21.89	21.92	21.87
5M	256QAM	1	1	19.88	19.91	19.86

*EIRP = Conducted + antenna gain (3.49dBi)

NR Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		166800	167300	167800
		Frequency (MHz)		834	836.5	839
20M	$\pi/2$ BPSK	1	1	22.48	22.68	22.83
20M	QPSK	1	1	22.56	22.76	**22.91**
		1	53	22.29	22.49	22.64
		1	104	22.25	22.45	22.60
		50	0	21.49	21.69	21.84
		50	28	22.37	22.57	22.72
		50	56	21.41	21.61	21.76
		100	0	21.31	21.51	21.66
20M	16QAM	1	1	21.53	21.73	21.88
20M	64QAM	1	1	19.95	20.15	20.30
20M	256QAM	1	1	17.42	17.62	17.77
BW	MCS Index	Channel		166300	167300	168300
		Frequency (MHz)		831.5	836.5	841.5
15M	$\pi/2$ BPSK	1	1	22.46	22.64	22.77
15M	QPSK	1	1	22.46	22.72	**22.84**
		1	40	22.23	22.45	22.55
		1	77	22.25	22.38	22.59
		36	0	21.48	21.62	21.79
		36	22	22.37	22.48	22.71
		36	43	21.31	21.56	21.71
		75	0	21.29	21.48	21.63
15M	16QAM	1	1	21.44	21.72	21.84
15M	64QAM	1	1	19.90	20.05	20.25
15M	256QAM	1	1	17.41	17.54	17.69

*ERP = Conducted + antenna gain (1.6dBi)-2.15

NR Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		165800	167300	168800
		Frequency (MHz)		829	836.5	844
10M	$\pi/2$ BPSK	1	1	22.52	22.56	22.70
10M	QPSK	1	1	22.34	22.64	**22.81**
		1	26	22.14	22.47	22.56
		1	50	22.12	22.30	22.49
		25	0	21.31	21.55	21.74
		25	14	22.23	22.46	22.56
		25	27	21.27	21.49	21.55
		50	0	21.17	21.29	21.53
10M	16QAM	1	1	21.47	21.54	21.73
10M	64QAM	1	1	19.85	20.12	20.19
10M	256QAM	1	1	17.20	17.49	17.54
BW	MCS Index	Channel		165300	167300	169300
		Frequency (MHz)		826.5	836.5	846.5
5M	$\pi/2$ BPSK	1	1	22.47	22.53	22.64
5M	QPSK	1	1	22.49	22.57	**22.71**
		1	13	22.14	22.40	22.31
		1	23	22.13	22.35	22.25
		12	0	21.42	21.56	21.60
		12	7	22.16	22.38	22.57
		12	13	21.32	21.43	21.59
		25	0	21.06	21.43	21.62
5M	16QAM	1	1	21.37	21.56	21.84
5M	64QAM	1	1	19.84	19.96	20.09
5M	256QAM	1	1	17.33	17.44	17.60

*ERP = Conducted + antenna gain (1.6dBi)-2.15

NR Band 66						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		344000	349000	354000
		Frequency (MHz)		1720	1745	1770
20M	$\pi/2$ BPSK	1	1	23.90	23.81	23.95
20M	PSK	1	1	23.97	23.88	**24.02**
		1	53	23.92	23.83	23.97
		1	104	23.86	23.77	23.91
		50	0	22.96	22.87	23.01
		50	28	23.89	23.80	23.94
		50	56	22.92	22.83	22.97
		100	0	22.90	22.81	22.95
20M	16QAM	1	1	22.86	22.77	22.91
20M	64QAM	1	1	21.46	21.37	21.51
20M	256QAM	1	1	19.43	19.34	19.48
BW	MCS Index	Channel		343500	349000	354500
		Frequency (MHz)		1717.5	1745	1772.5
15M	$\pi/2$ BPSK	1	1	23.87	23.78	23.92
15M	PSK	1	1	23.94	23.85	**23.99**
		1	40	23.89	23.80	23.94
		1	77	23.83	23.74	23.88
		36	0	22.93	22.84	22.98
		36	22	23.86	23.77	23.91
		36	43	22.89	22.80	22.94
		75	0	22.87	22.78	22.92
15M	16QAM	1	1	22.83	22.74	22.88
15M	64QAM	1	1	21.43	21.34	21.48
15M	256QAM	1	1	19.40	19.31	19.45

*ERP = Conducted + antenna gain (1.6dBi)-2.15

NR Band 66						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		343000	349000	355000
		Frequency (MHz)		1715	1745	1775
10M	$\pi/2$ BPSK	1	1	23.85	23.76	23.90
10M	PSK	1	1	23.92	23.83	**23.97**
		1	26	23.87	23.78	23.92
		1	50	23.81	23.72	23.86
		25	0	22.91	22.82	22.96
		25	14	23.84	23.75	23.89
		25	27	22.87	22.78	22.92
		50	0	22.85	22.76	22.90
10M	16QAM	1	1	22.81	22.72	22.86
10M	64QAM	1	1	21.41	21.32	21.46
10M	256QAM	1	1	19.38	19.29	19.43
BW	MCS Index	Channel		342500	349000	355500
		Frequency (MHz)		1712.5	1745	1777.5
5M	$\pi/2$ BPSK	1	1	23.81	23.72	23.86
5M	PSK	1	1	23.88	23.79	**23.93**
		1	13	23.83	23.74	23.88
		1	23	23.77	23.68	23.82
		12	0	22.87	22.78	22.92
		12	7	23.80	23.71	23.85
		12	13	22.83	22.74	22.88
		25	0	22.81	22.72	22.86
5M	16QAM	1	1	22.77	22.68	22.82
5M	64QAM	1	1	21.37	21.28	21.42
5M	256QAM	1	1	19.34	19.25	19.39

*EIRP = Conducted + antenna gain (3.36dBi)

NR Band 71						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		134600	136100	137600
		Frequency (MHz)		673	680.5	688
20M	$\pi/2$ BPSK	1	1	21.67	21.55	21.44
20M	PSK	1	1	**21.72**	21.60	21.49
		1	53	21.70	21.58	21.47
		1	104	21.66	21.54	21.43
		50	0	20.77	20.65	20.54
		50	28	21.71	21.59	21.48
		50	56	20.73	20.61	20.50
		100	0	20.67	20.55	20.44
20M	16QAM	1	1	20.53	20.41	20.30
20M	64QAM	1	1	19.18	19.06	18.95
20M	256QAM	1	1	17.17	17.05	16.94
BW	MCS Index	Channel		134100	136100	138100
		Frequency (MHz)		670.5	680.5	690.5
15M	$\pi/2$ BPSK	1	1	21.64	21.52	21.41
15M	PSK	1	1	**21.69**	21.57	21.46
		1	40	21.67	21.55	21.44
		1	77	21.63	21.51	21.40
		36	0	20.74	20.62	20.51
		36	22	21.68	21.56	21.45
		36	43	20.70	20.58	20.47
		75	0	20.64	20.52	20.41
15M	16QAM	1	1	20.50	20.38	20.27
15M	64QAM	1	1	19.15	19.03	18.92
15M	256QAM	1	1	17.14	17.02	16.91

*EIRP = Conducted + antenna gain (3.36dBi)

NR Band 71						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		133600	136100	138600
		Frequency (MHz)		668	680.5	693
10M	$\pi/2$ BPSK	1	1	21.62	21.50	21.39
10M	PSK	1	1	**21.67**	21.55	21.44
		1	26	21.65	21.53	21.42
		1	50	21.61	21.49	21.38
		25	0	20.72	20.60	20.49
		25	14	21.66	21.54	21.43
		25	27	20.68	20.56	20.45
		50	0	20.62	20.50	20.39
10M	16QAM	1	1	20.48	20.36	20.25
10M	64QAM	1	1	19.13	19.01	18.90
10M	256QAM	1	1	17.12	17.00	16.89
BW	MCS Index	Channel		133100	136100	139100
		Frequency (MHz)		665.5	680.5	695.5
5M	$\pi/2$ BPSK	1	1	21.58	21.46	21.35
5M	PSK	1	1	**21.63**	21.51	21.40
		1	13	21.61	21.49	21.38
		1	23	21.57	21.45	21.34
		12	0	20.68	20.56	20.45
		12	7	21.62	21.50	21.39
		12	13	20.64	20.52	20.41
		25	0	20.58	20.46	20.35
5M	16QAM	1	1	20.44	20.32	20.21
5M	64QAM	1	1	19.09	18.97	18.86
5M	256QAM	1	1	17.08	16.96	16.85

*EIRP = Conducted + antenna gain (3.36dBi)

n2 + LTE Band 12:

LTE Band 12						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23060	23095	23130
		Frequency (MHz)		704	707.5	711
10M	QPSK	1	0	21.74	21.63	**21.77**
		1	24	21.50	21.62	21.66
		1	49	21.56	21.75	21.55
		25	0	20.88	20.91	20.80
		25	12	20.62	20.50	20.71
		25	25	20.70	20.42	20.79
		50	0	20.59	21.00	20.71
10M	16QAM	1	0	20.93	21.10	20.83
		1	24	20.88	21.15	20.87
		1	49	20.96	20.78	21.19
		25	0	19.74	19.55	19.94
		25	12	19.55	19.63	19.72
		25	25	19.81	19.90	19.51
		50	0	19.91	19.78	19.95
10M	64QAM	1	0	19.91	20.12	19.86
		1	24	19.76	19.80	19.69
		1	49	19.56	20.10	19.81
		25	0	18.42	18.77	18.83
		25	12	18.55	18.44	18.92
		25	25	18.73	18.68	18.41
		50	0	18.69	18.54	18.92
10M	256QAM	1	0	17.09	17.00	17.33
		1	24	16.91	16.79	16.96
		1	49	16.73	16.52	16.76
		25	0	16.51	16.85	16.76
		25	12	16.36	16.70	16.61
		25	25	16.82	16.36	16.53
		50	0	16.89	16.59	16.61

*ERP = Conducted + antenna gain (1.05dBi)-2.15

LTE Band 12						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23035	23095	23155
		Frequency (MHz)		701.5	707.5	713.5
5M	QPSK	1	0	21.38	21.36	21.60
		1	12	21.65	21.30	**21.72**
		1	24	21.66	21.17	21.43
		12	0	20.64	20.67	20.53
		12	6	20.77	20.41	20.43
		12	13	20.61	20.33	20.24
		25	0	20.40	20.39	20.62
5M	16QAM	1	0	20.56	20.99	21.10
		1	12	20.52	20.83	20.87
		1	24	20.88	20.73	20.88
		12	0	19.80	19.62	19.41
		12	6	19.62	19.39	19.55
		12	13	19.49	19.68	19.53
		25	0	19.36	19.38	19.71
5M	64QAM	1	0	19.93	20.20	19.76
		1	12	19.66	19.99	19.46
		1	24	19.37	19.87	19.75
		12	0	18.47	18.41	18.78
		12	6	18.54	18.59	18.82
		12	13	18.22	18.50	18.31
		25	0	18.54	18.45	18.38
5M	256QAM	1	0	17.09	17.14	16.86
		1	12	16.87	16.99	16.92
		1	24	16.90	16.93	16.76
		12	0	16.40	16.95	16.83
		12	6	16.76	16.82	16.55
		12	13	16.54	16.43	16.66
		25	0	16.75	16.75	16.55

*ERP = Conducted + antenna gain (1.05dBi)-2.15

LTE Band 12						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23025	23095	23165
		Frequency (MHz)		700.5	707.5	714.5
3M	QPSK	1	0	21.44	21.41	21.48
		1	7	21.40	21.28	21.12
		1	14	21.31	**21.52**	21.08
		8	0	20.52	20.63	20.43
		8	3	20.52	20.40	20.51
		8	7	20.71	20.69	20.77
		15	0	20.55	20.59	20.42
3M	16QAM	1	0	21.03	21.07	20.95
		1	7	20.45	20.75	20.50
		1	14	20.53	20.75	20.78
		8	0	19.70	19.44	19.72
		8	3	19.63	19.65	19.62
		8	7	19.36	19.59	19.52
		15	0	19.83	19.51	19.88
3M	64QAM	1	0	19.68	19.84	19.80
		1	7	19.76	19.85	19.93
		1	14	19.36	19.51	20.05
		8	0	18.40	18.79	18.60
		8	3	18.81	18.40	18.31
		8	7	18.54	18.71	18.33
		15	0	18.58	18.57	18.29
3M	256QAM	1	0	16.74	17.15	16.77
		1	7	16.64	16.84	16.86
		1	14	16.68	16.85	16.86
		8	0	16.78	16.89	16.93
		8	3	16.72	16.62	16.51
		8	7	16.63	16.73	16.59
		15	0	16.43	16.60	16.65

*ERP = Conducted + antenna gain (1.05dBi)-2.15

LTE Band 12						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23017	23095	23173
		Frequency (MHz)		699.7	707.5	715.3
1.4M	QPSK	1	0	21.36	21.35	21.37
		1	2	21.36	21.35	21.30
		1	5	21.34	21.44	21.32
		3	0	21.40	21.48	21.26
		3	1	21.47	21.29	**21.63**
		3	3	21.60	21.42	21.29
		6	0	20.67	20.39	20.80
1.4M	16QAM	1	0	20.99	21.10	20.92
		1	2	21.04	21.07	20.79
		1	5	20.81	21.02	20.91
		3	0	20.34	20.50	20.48
		3	1	20.81	20.38	20.67
		3	3	20.66	20.57	20.32
		6	0	19.45	19.75	19.87
1.4M	64QAM	1	0	19.91	19.71	20.10
		1	2	19.98	19.50	19.39
		1	5	19.61	19.88	19.98
		3	0	19.60	19.35	19.33
		3	1	19.46	19.54	19.77
		3	3	19.45	19.73	19.62
		6	0	18.51	18.69	18.91
1.4M	256QAM	1	0	16.81	16.71	16.80
		1	2	16.81	16.69	16.79
		1	5	16.53	16.72	16.91
		3	0	16.74	16.79	16.61
		3	1	16.39	16.34	16.73
		3	3	16.52	16.34	16.26
		6	0	16.73	16.55	16.68

*ERP = Conducted + antenna gain (1.05dBi)-2.15

n5 + LTE Band 7:

LTE Band 7						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20850	21100	21350
		Frequency (MHz)		2510	2535	2560
20M	QPSK	1	0	**22.43**	22.19	22.23
		1	50	22.25	22.20	22.31
		1	99	22.22	22.33	22.32
		50	0	21.42	21.30	21.50
		50	25	21.32	21.33	21.32
		50	50	21.60	21.15	21.06
		100	0	21.36	21.33	21.33
20M	16QAM	1	0	21.16	21.67	21.55
		1	50	21.62	21.10	21.10
		1	99	21.47	21.55	21.41
		50	0	20.58	20.13	20.20
		50	25	20.45	20.70	20.44
		50	50	20.43	20.63	20.04
		100	0	20.29	20.45	20.65
20M	64QAM	1	0	20.66	20.18	20.18
		1	50	20.11	20.36	20.24
		1	99	20.38	20.53	20.10
		50	0	19.12	19.68	19.57
		50	25	19.08	19.48	19.56
		50	50	19.51	19.49	19.26
		100	0	19.27	19.37	19.49
20M	256QAM	1	0	17.68	17.64	17.49
		1	50	17.62	17.24	17.17
		1	99	17.31	17.27	17.37
		50	0	17.32	17.38	17.04
		50	25	17.27	17.42	17.30
		50	50	17.12	17.33	17.40
		100	0	17.57	17.24	17.31

*EIRP = Conducted + antenna gain (4.3dBi)

LTE Band 7						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20825	21100	21375
		Frequency (MHz)		2507.5	2535	2562.5
15M	QPSK	1	0	22.34	22.29	22.41
		1	37	22.38	22.33	22.37
		1	74	22.42	22.24	**22.52**
		36	0	21.54	21.48	21.36
		36	19	21.32	21.51	21.02
		36	39	21.49	21.10	21.28
		75	0	21.49	21.43	21.42
15M	16QAM	1	0	21.57	21.61	21.46
		1	37	21.52	21.43	21.38
		1	74	21.13	21.27	21.48
		36	0	20.53	20.08	20.08
		36	19	20.67	20.08	20.51
		36	39	20.34	20.07	20.54
		75	0	20.06	20.55	20.34
15M	64QAM	1	0	20.38	20.29	20.26
		1	37	20.39	20.09	20.25
		1	74	20.07	20.40	20.30
		36	0	19.26	19.17	19.23
		36	19	19.28	19.24	19.36
		36	39	19.20	19.51	19.21
		75	0	19.46	19.07	19.04
15M	256QAM	1	0	17.46	17.20	17.62
		1	37	17.44	17.35	17.53
		1	74	17.29	17.54	17.24
		36	0	17.23	17.35	17.04
		36	19	17.31	17.20	17.53
		36	39	17.50	17.00	17.54
		75	0	17.55	17.19	17.54

*EIRP = Conducted + antenna gain (4.3dBi)

LTE Band 7						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20800	21100	21400
		Frequency (MHz)		2505	2535	2565
10M	QPSK	1	0	22.25	22.25	**22.25**
		1	24	22.22	22.09	22.16
		1	49	22.24	22.10	21.98
		25	0	21.32	21.13	21.10
		25	12	21.05	21.21	21.14
		25	25	21.54	21.16	21.42
		50	0	21.00	21.37	21.21
10M	16QAM	1	0	21.15	21.12	21.02
		1	24	21.49	21.54	21.16
		1	49	21.30	21.11	21.37
		25	0	20.36	19.97	20.25
		25	12	20.02	20.04	20.22
		25	25	20.10	20.10	20.44
		50	0	20.24	20.46	20.39
10M	64QAM	1	0	20.24	20.24	20.43
		1	24	20.03	20.41	20.08
		1	49	20.48	20.05	20.35
		25	0	19.39	19.06	19.41
		25	12	19.11	19.13	18.97
		25	25	19.37	19.28	19.27
		50	0	19.25	19.52	19.40
10M	256QAM	1	0	17.50	17.52	17.13
		1	24	17.44	17.14	16.97
		1	49	16.98	17.10	17.13
		25	0	16.96	17.12	17.23
		25	12	17.09	17.13	17.00
		25	25	16.99	17.07	17.20
		50	0	16.89	17.19	17.28

*EIRP = Conducted + antenna gain (4.3dBi)

LTE Band 7						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20775	21100	21425
		Frequency (MHz)		2502.5	2535	2567.5
5M	QPSK	1	0	**22.29**	22.07	22.29
		1	12	22.05	22.20	22.23
		1	24	22.20	22.21	22.14
		12	0	21.23	21.12	21.00
		12	6	20.95	21.50	21.17
		12	13	21.28	21.53	21.40
		25	0	21.38	21.34	20.97
5M	16QAM	1	0	21.09	21.01	20.97
		1	12	21.63	21.04	21.17
		1	24	21.42	21.16	21.44
		12	0	20.03	20.37	20.36
		12	6	20.52	20.14	20.43
		12	13	20.30	20.18	20.11
		25	0	20.03	20.00	20.00
5M	64QAM	1	0	20.45	20.14	20.24
		1	12	19.91	19.95	20.42
		1	24	20.23	20.51	20.00
		12	0	19.31	19.35	19.22
		12	6	19.07	19.53	18.95
		12	13	19.44	19.42	18.95
		25	0	19.02	18.93	19.03
5M	256QAM	1	0	17.05	17.27	17.29
		1	12	17.59	17.58	17.56
		1	24	17.25	17.07	17.04
		12	0	17.36	17.36	17.38
		12	6	17.18	17.17	17.05
		12	13	16.97	17.17	17.15
		25	0	16.90	17.54	17.21

*EIRP = Conducted + antenna gain (4.3dBi)

n66 + LTE Band 5:

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	**20.05**	20.01	19.69
		1	24	19.98	19.73	19.96
		1	49	20.02	19.91	19.95
		25	0	19.25	18.85	18.85
		25	12	19.16	18.98	18.72
		25	25	18.81	18.98	18.85
		50	0	18.90	18.83	19.07
10M	16QAM	1	0	19.32	19.15	18.82
		1	24	19.27	18.83	18.84
		1	49	18.76	19.16	18.85
		25	0	18.02	18.20	18.17
		25	12	18.07	18.15	17.82
		25	25	18.04	18.03	17.64
		50	0	17.86	17.82	17.67
10M	64QAM	1	0	18.01	17.99	17.94
		1	24	17.94	17.66	17.69
		1	49	18.24	17.70	17.96
		25	0	16.83	17.17	16.77
		25	12	16.76	17.01	16.85
		25	25	17.18	17.04	16.75
		50	0	16.97	17.09	16.99
10M	256QAM	1	0	14.86	15.18	15.17
		1	24	14.73	15.18	14.86
		1	49	14.86	15.05	14.79
		25	0	14.72	15.09	14.77
		25	12	14.90	14.75	15.01
		25	25	15.03	15.10	14.83
		50	0	14.90	15.10	14.80

*ERP = Conducted + antenna gain (1.6dBi)-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	19.96	**20.04**	20.00
		1	12	19.68	19.95	20.03
		1	24	20.04	19.99	19.93
		12	0	19.24	19.15	19.14
		12	6	19.03	19.14	18.80
		12	13	18.75	19.06	18.55
		25	0	19.21	18.68	18.68
5M	16QAM	1	0	19.23	19.00	18.87
		1	12	18.86	18.75	18.60
		1	24	19.13	18.67	19.02
		12	0	18.31	18.05	17.84
		12	6	18.06	17.94	17.81
		12	13	17.94	17.89	17.78
		25	0	18.21	17.71	18.02
5M	64QAM	1	0	17.92	18.21	18.07
		1	12	17.92	17.74	17.91
		1	24	17.85	17.85	17.76
		12	0	16.92	16.79	16.80
		12	6	16.84	16.76	16.80
		12	13	16.77	16.63	17.08
		25	0	17.22	17.11	16.85
5M	256QAM	1	0	14.95	14.76	15.15
		1	12	15.11	15.23	14.97
		1	24	14.92	14.99	14.67
		12	0	14.62	14.74	15.06
		12	6	15.10	14.65	14.88
		12	13	14.63	14.73	14.88
		25	0	15.10	15.18	14.87

*ERP = Conducted + antenna gain (1.6dBi)-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	19.82	**19.84**	19.71
		1	7	19.73	19.70	19.70
		1	14	19.79	19.77	19.63
		8	0	19.07	18.63	18.93
		8	3	18.77	18.85	18.93
		8	7	18.82	18.89	18.53
		15	0	18.91	18.73	18.71
3M	16QAM	1	0	19.01	19.10	19.04
		1	7	19.08	18.86	18.65
		1	14	18.83	18.87	18.86
		8	0	18.18	17.92	17.48
		8	3	18.10	17.89	18.01
		8	7	17.74	17.96	17.87
		15	0	17.47	18.05	17.82
3M	64QAM	1	0	17.82	18.00	18.13
		1	7	17.94	17.73	17.67
		1	14	17.75	17.57	17.77
		8	0	16.89	16.60	17.03
		8	3	17.15	16.74	16.86
		8	7	16.41	17.05	16.63
		15	0	16.72	16.69	17.08
3M	256QAM	1	0	14.68	14.92	14.75
		1	7	14.77	15.06	15.12
		1	14	14.75	15.25	14.71
		8	0	15.10	14.92	15.14
		8	3	15.16	15.17	14.73
		8	7	14.67	14.76	14.83
		15	0	14.78	14.85	14.77

*ERP = Conducted + antenna gain (1.6dBi)-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	19.89	19.92	19.89
		1	2	19.87	19.74	19.87
		1	5	19.86	19.53	19.88
		3	0	19.61	19.83	19.66
		3	1	**20.14**	19.58	19.57
		3	3	19.97	19.58	19.61
		6	0	19.13	18.71	18.81
1.4M	16QAM	1	0	18.77	18.92	19.01
		1	2	19.00	18.71	19.09
		1	5	18.53	18.82	18.91
		3	0	18.89	18.87	18.96
		3	1	18.59	18.91	18.78
		3	3	18.76	18.84	18.52
		6	0	17.60	17.87	17.78
1.4M	64QAM	1	0	18.14	17.70	17.99
		1	2	17.86	17.60	17.75
		1	5	17.57	18.12	17.64
		3	0	17.67	17.57	18.16
		3	1	17.67	17.94	17.66
		3	3	18.14	17.43	17.53
		6	0	16.68	17.03	16.87
1.4M	256QAM	1	0	15.06	14.80	14.91
		1	2	14.74	14.92	14.78
		1	5	14.73	14.62	15.02
		3	0	14.90	15.02	14.75
		3	1	14.84	15.03	15.05
		3	3	15.00	14.91	15.00
		6	0	14.79	14.81	14.65

*ERP = Conducted + antenna gain (1.6dBi)-2.15

n71 + LTE Band 7:

LTE Band 7						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20850	21100	21350
		Frequency (MHz)		2510	2535	2560
20M	QPSK	1	0	21.87	**22.10**	21.89
		1	50	21.58	21.81	21.84
		1	99	21.55	21.86	21.69
		50	0	21.40	21.34	20.97
		50	25	20.94	21.06	21.17
		50	50	20.72	20.98	20.65
		100	0	21.15	21.20	20.93
20M	16QAM	1	0	20.95	21.39	20.92
		1	50	20.99	21.28	20.66
		1	99	21.14	20.99	20.93
		50	0	20.35	20.41	20.18
		50	25	20.42	20.41	20.05
		50	50	19.44	20.23	20.24
		100	0	19.77	20.27	20.18
20M	64QAM	1	0	20.14	19.82	20.10
		1	50	20.40	20.14	19.87
		1	99	20.00	20.26	19.85
		50	0	18.64	18.64	18.75
		50	25	19.08	18.94	19.09
		50	50	18.95	19.33	18.60
		100	0	18.87	18.78	19.37
20M	256QAM	1	0	16.78	16.94	17.07
		1	50	17.33	17.07	17.29
		1	99	17.29	17.17	17.45
		50	0	16.82	17.18	16.62
		50	25	16.48	17.00	16.96
		50	50	16.81	16.80	16.78
		100	0	16.80	16.83	16.88

*EIRP = Conducted + antenna gain (4.3dBi)

LTE Band 7						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20825	21100	21375
		Frequency (MHz)		2507.5	2535	2562.5
15M	QPSK	1	0	21.98	**22.06**	22.04
		1	37	22.00	21.99	21.94
		1	74	22.02	22.01	22.01
		36	0	21.57	21.49	21.07
		36	19	21.10	21.60	20.98
		36	39	21.15	21.12	21.11
		75	0	21.12	21.19	21.13
15M	16QAM	1	0	21.32	21.05	21.10
		1	37	21.55	21.07	21.13
		1	74	21.55	21.31	21.27
		36	0	20.28	20.15	20.60
		36	19	20.08	20.31	20.14
		36	39	20.58	20.13	20.30
		75	0	20.49	20.56	20.49
15M	64QAM	1	0	20.32	20.08	20.22
		1	37	19.97	20.53	20.19
		1	74	20.29	20.40	20.02
		36	0	19.52	19.43	19.42
		36	19	19.55	19.38	19.57
		36	39	19.28	19.51	19.06
		75	0	19.41	19.09	18.93
15M	256QAM	1	0	17.56	17.26	17.68
		1	37	17.31	17.15	17.54
		1	74	17.25	17.36	17.56
		36	0	17.26	17.22	17.14
		36	19	17.16	17.28	17.03
		36	39	17.13	17.39	17.44
		75	0	17.39	17.48	17.28

*EIRP = Conducted + antenna gain (4.3dBi)

LTE Band 7						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20800	21100	21400
		Frequency (MHz)		2505	2535	2565
10M	QPSK	1	0	**22.09**	22.02	21.99
		1	24	22.05	22.03	21.91
		1	49	22.02	22.02	22.07
		25	0	21.40	21.37	20.97
		25	12	21.03	21.27	21.58
		25	25	21.17	21.15	21.15
		50	0	21.04	21.03	22.06
10M	16QAM	1	0	21.31	21.42	21.39
		1	24	21.37	21.41	21.26
		1	49	21.44	21.22	21.39
		25	0	20.10	20.00	19.99
		25	12	20.39	20.34	20.29
		25	25	20.44	20.31	20.29
		50	0	20.12	20.45	20.53
10M	64QAM	1	0	19.91	20.28	20.11
		1	24	20.03	19.99	20.29
		1	49	20.41	20.30	19.94
		25	0	19.12	19.54	19.50
		25	12	19.30	19.50	19.13
		25	25	19.38	19.52	19.22
		50	0	19.34	19.38	19.42
10M	256QAM	1	0	17.40	17.55	16.95
		1	24	17.14	17.31	17.34
		1	49	17.12	17.06	17.15
		25	0	17.49	17.18	17.22
		25	12	17.33	17.43	16.98
		25	25	17.34	17.40	17.25
		50	0	17.23	17.45	17.48

*EIRP = Conducted + antenna gain (4.3dBi)

LTE Band 7						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20775	21100	21425
		Frequency (MHz)		2502.5	2535	2567.5
5M	QPSK	1	0	22.01	22.00	**22.02**
		1	12	21.88	21.95	21.95
		1	24	21.98	21.97	**22.02**
		12	0	21.06	21.31	20.91
		12	6	21.30	21.52	21.17
		12	13	21.32	21.48	21.12
		25	0	21.56	21.14	20.74
5M	16QAM	1	0	21.28	21.39	21.39
		1	12	21.35	21.56	21.27
		1	24	21.29	21.33	21.02
		12	0	20.21	20.11	20.15
		12	6	20.21	20.25	20.46
		12	13	20.02	20.03	20.21
		25	0	20.37	20.16	20.34
5M	64QAM	1	0	20.16	20.47	20.04
		1	12	20.24	20.09	20.18
		1	24	20.30	20.04	20.41
		12	0	19.23	18.97	19.04
		12	6	19.16	19.53	18.99
		12	13	19.06	19.19	19.26
		25	0	18.88	19.26	18.93
5M	256QAM	1	0	17.14	17.33	17.14
		1	12	17.25	17.11	17.59
		1	24	17.44	17.21	17.08
		12	0	17.43	17.19	17.48
		12	6	17.56	17.19	17.11
		12	13	17.10	17.20	17.22
		25	0	17.21	17.14	17.12

*EIRP = Conducted + antenna gain (4.3dBi)

4.2 Radiated Emission Measurement

4.2.1 Limits of Radiated Emission Measurement

For n2, n5, n66, LTE Band 5:
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.

For n71, LTE Band 12:
According to FCC 27.53(g) for operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater.

For LTE Band 7:
In the FCC 27.53(m)(4),On any frequency outside a licensee’s frequency block, The power of any emission shall be attenuated below the transmitter power (P) by at least 55 + 10 log (P) dB. The emission limit equal to –25dBm.

4.2.2 Test Procedure

a. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) 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 1m to 4m 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.

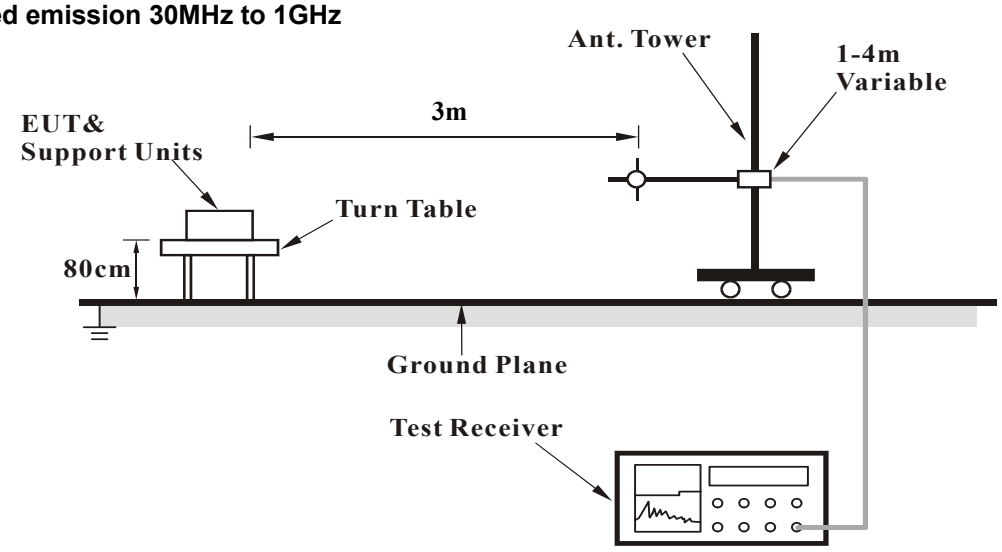
Note:
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.
2. The emission levels were against the limit of frequency range 9 kHz ~ 30 MHz:
   The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

4.2.3 Deviation from Test Standard

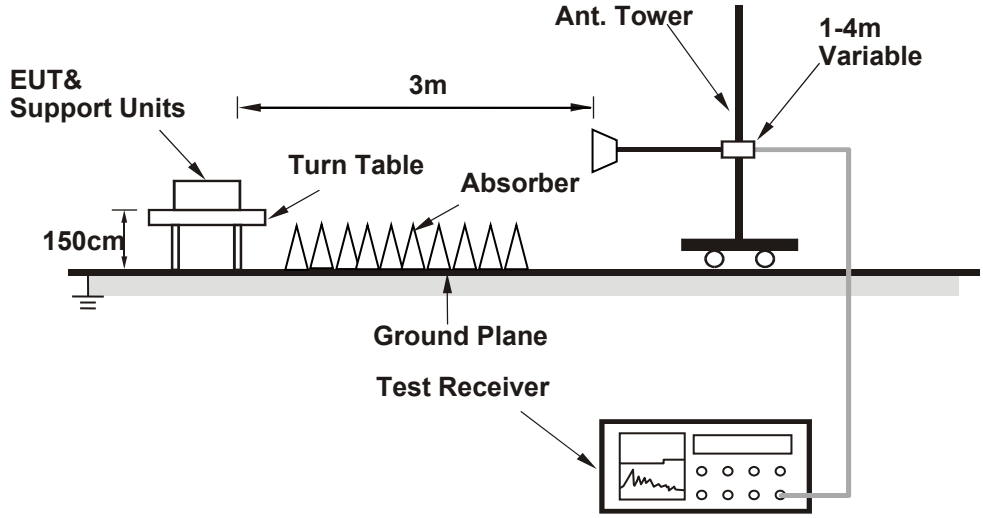
No deviation.

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:

n2 + LTE Band 12:

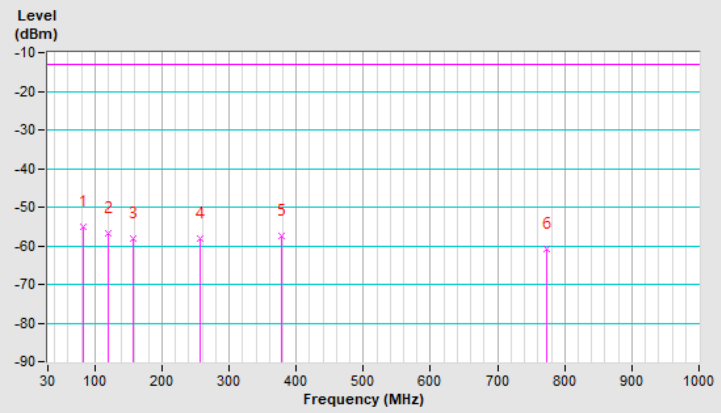
n2, Channel Bandwidth 20MHz

Mode	TX channel 376000 (1880.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	83.42	-55.14	-13.00	-42.14	1.99 H	267	64.30	-119.44
2	119.97	-56.63	-13.00	-43.63	1.00 H	100	59.15	-115.78
3	156.52	-58.18	-13.00	-45.18	1.99 H	253	55.12	-113.30
4	257.74	-58.16	-13.00	-45.16	1.00 H	244	56.35	-114.51
5	378.64	-57.34	-13.00	-44.34	1.00 H	2	53.57	-110.91
6	772.26	-61.00	-13.00	-48.00	1.00 H	246	42.06	-103.06

Remarks:

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

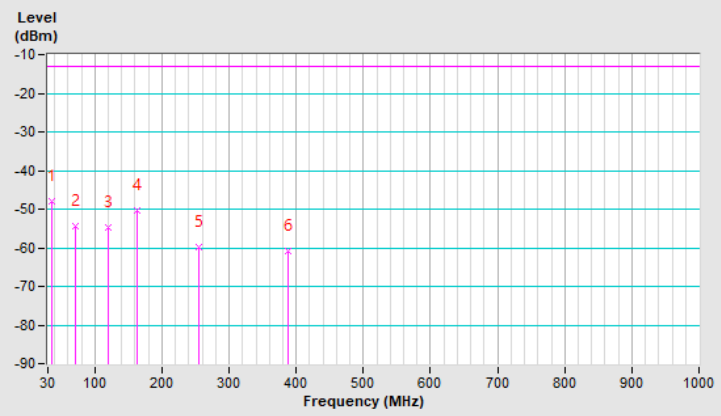


Mode	TX channel 376000 (1880.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	**35.62**	**-48.09**	**-13.00**	**-35.09**	**1.01 V**	**24**	**66.65**	**-114.74**
2	70.77	-54.47	-13.00	-41.47	1.01 V	248	61.95	-116.42
3	119.97	-54.71	-13.00	-41.71	1.01 V	143	61.07	-115.78
4	163.55	-50.17	-13.00	-37.17	1.01 V	182	63.30	-113.47
5	254.93	-59.87	-13.00	-46.87	1.01 V	198	54.75	-114.62
6	388.48	-60.95	-13.00	-47.95	1.51 V	34	49.71	-110.66

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.



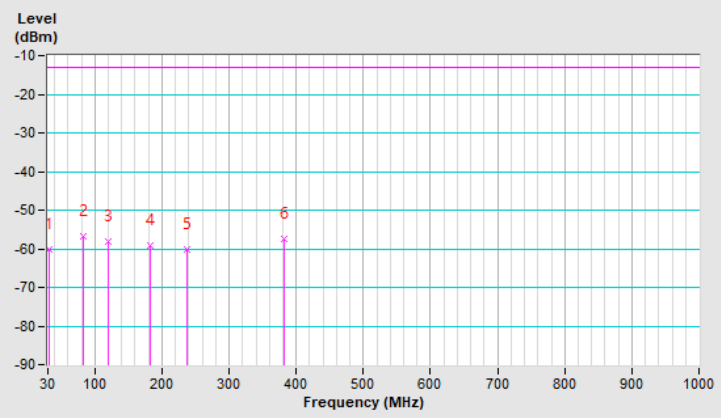
LTE Band 12, Channel Bandwidth 10MHz

Mode	TX channel 23095 (707.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	32.81	-60.27	-13.00	-47.27	2.00 H	97	56.91	-117.18
2	83.42	-56.74	-13.00	-43.74	2.00 H	143	64.85	-121.59
3	119.97	-58.10	-13.00	-45.10	2.00 H	84	59.83	-117.93
4	181.83	-59.16	-13.00	-46.16	1.51 H	140	58.25	-117.41
5	236.65	-60.15	-13.00	-47.15	1.01 H	265	57.25	-117.40
6	381.45	-57.60	-13.00	-44.60	1.01 H	2	55.41	-113.01

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.

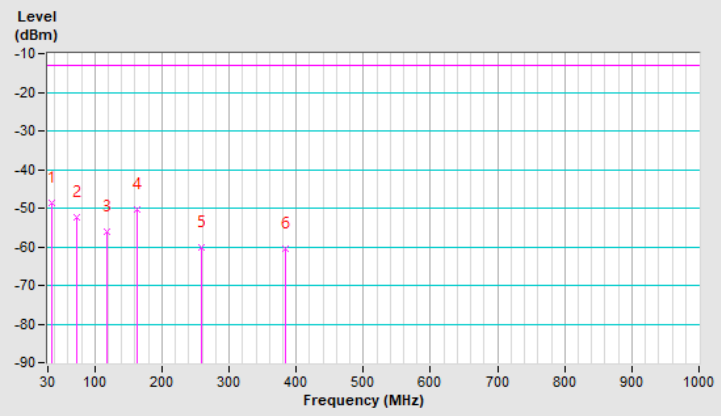


Mode	TX channel 23095 (707.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	**35.62**	**-48.53**	**-13.00**	**-35.53**	**1.00 V**	**137**	**68.36**	**-116.89**
2	72.17	-52.30	-13.00	-39.30	1.00 V	313	66.72	-119.02
3	118.57	-56.04	-13.00	-43.04	1.49 V	157	61.95	-117.99
4	163.55	-50.50	-13.00	-37.50	1.00 V	161	65.12	-115.62
5	259.14	-60.25	-13.00	-47.25	1.00 V	176	56.37	-116.62
6	384.26	-60.46	-13.00	-47.46	1.49 V	31	52.47	-112.93

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.



n5 + LTE Band 7

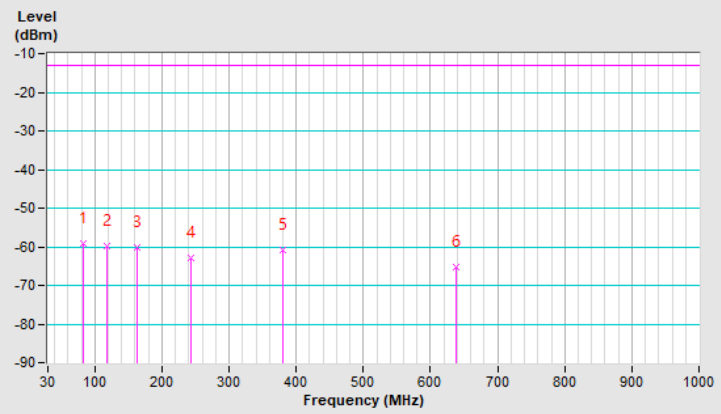
n5, Channel Bandwidth 20MHz

Mode	TX channel 167300 (836.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	83.42	-59.01	-13.00	-46.01	2.00 H	267	62.58	-121.59
2	118.57	-59.70	-13.00	-46.70	2.00 H	78	58.29	-117.99
3	162.14	-60.30	-13.00	-47.30	1.01 H	122	55.21	-115.51
4	243.68	-63.00	-13.00	-50.00	1.01 H	252	54.06	-117.06
5	380.04	-60.86	-13.00	-47.86	1.01 H	6	52.18	-113.04
6	637.30	-65.30	-13.00	-52.30	1.51 H	126	42.00	-107.30

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.

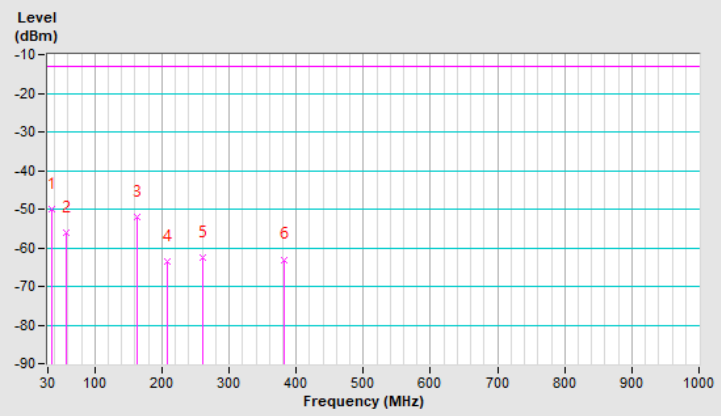


Mode	TX channel 167300 (836.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	**35.62**	**-49.99**	**-13.00**	**-36.99**	**1.00 V**	**338**	**66.90**	**-116.89**
2	56.71	-55.94	-13.00	-42.94	1.49 V	11	60.49	-116.43
3	162.14	-52.03	-13.00	-39.03	1.00 V	216	63.48	-115.51
4	208.54	-63.72	-13.00	-50.72	1.00 V	185	55.46	-119.18
5	260.55	-62.43	-13.00	-49.43	1.00 V	152	54.14	-116.57
6	382.86	-63.05	-13.00	-50.05	1.00 V	42	49.91	-112.96

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.



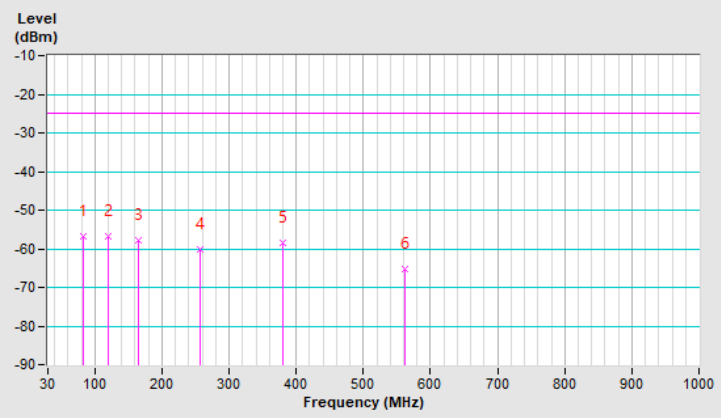
LTE Band 7, Channel Bandwidth 20MHz

Mode	TX channel 21100 (2535.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	83.42	-56.67	-25.00	-31.67	1.99 H	308	62.77	-119.44
2	119.97	-56.91	-25.00	-31.91	1.49 H	236	58.87	-115.78
3	164.96	-57.85	-25.00	-32.85	1.99 H	104	55.74	-113.59
4	256.33	-60.14	-25.00	-35.14	1.49 H	265	54.43	-114.57
5	380.04	-58.62	-25.00	-33.62	1.00 H	360	52.27	-110.89
6	561.39	-65.21	-25.00	-40.21	1.49 H	11	41.73	-106.94

Remarks:

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

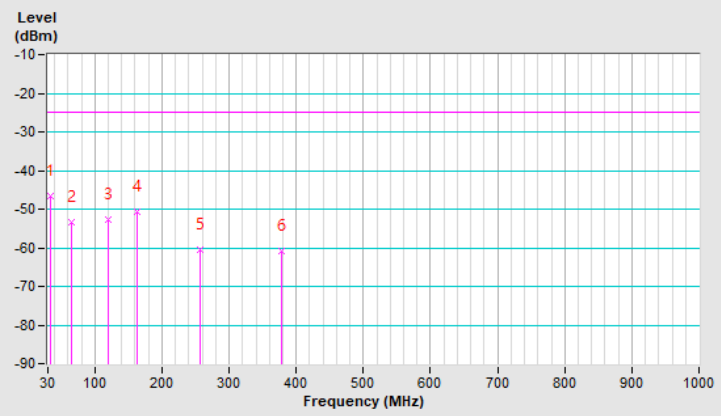


Mode	TX channel 21100 (2535.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	**34.22**	**-46.57**	**-25.00**	**-21.57**	**1.51 V**	**102**	**68.15**	**-114.72**
2	65.14	-53.48	-25.00	-28.48	1.01 V	2	61.98	-115.46
3	119.97	-52.62	-25.00	-27.62	1.01 V	175	63.16	-115.78
4	162.14	-50.72	-25.00	-25.72	1.01 V	142	62.64	-113.36
5	256.33	-60.56	-25.00	-35.56	1.01 V	181	54.01	-114.57
6	378.64	-60.97	-25.00	-35.97	1.51 V	15	49.94	-110.91

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.



n66 + LTE Band 5:

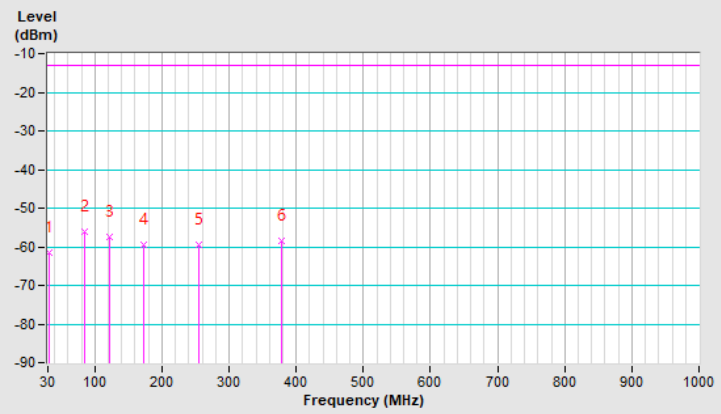
n66, Channel Bandwidth: 5MHz

Mode	TX channel 355500 (1777.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	32.81	-61.57	-13.00	-48.57	2.00 H	155	53.46	-115.03
2	84.83	-55.97	-13.00	-42.97	2.00 H	294	63.65	-119.62
3	121.38	-57.58	-13.00	-44.58	1.51 H	93	58.01	-115.59
4	173.39	-59.39	-13.00	-46.39	2.00 H	135	54.73	-114.12
5	254.93	-59.54	-13.00	-46.54	1.01 H	258	55.08	-114.62
6	378.64	-58.57	-13.00	-45.57	1.01 H	2	52.34	-110.91

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.

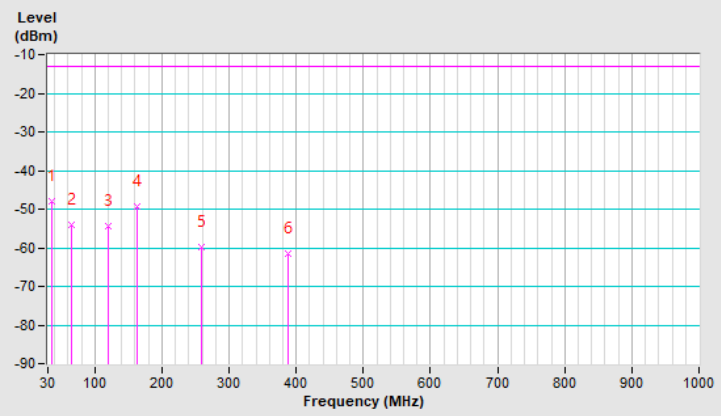


Mode	TX channel 355500 (1777.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	**35.62**	**-47.91**	**-13.00**	**-34.91**	**1.49 V**	**350**	**66.83**	**-114.74**
2	65.14	-53.93	-13.00	-40.93	1.49 V	2	61.53	-115.46
3	119.97	-54.37	-13.00	-41.37	1.49 V	163	61.41	-115.78
4	162.14	-49.47	-13.00	-36.47	1.00 V	184	63.89	-113.36
5	259.14	-59.90	-13.00	-46.90	1.00 V	202	54.57	-114.47
6	387.07	-61.39	-13.00	-48.39	1.49 V	23	49.32	-110.71

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.



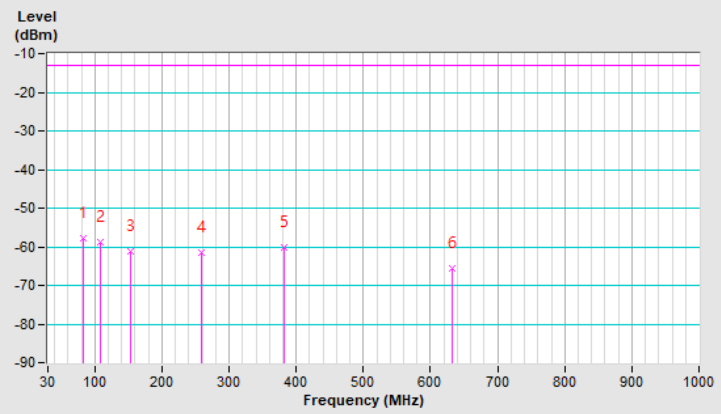
LTE Band 5, Channel Bandwidth: 10MHz

Mode	TX channel 20525 (836.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	83.42	-57.74	-13.00	-44.74	1.99 H	253	63.85	-121.59
2	108.72	-58.76	-13.00	-45.76	1.49 H	297	60.10	-118.86
3	153.71	-61.23	-13.00	-48.23	1.99 H	273	54.17	-115.40
4	259.14	-61.41	-13.00	-48.41	1.00 H	242	55.21	-116.62
5	381.45	-60.33	-13.00	-47.33	1.00 H	10	52.68	-113.01
6	633.09	-65.74	-13.00	-52.74	1.49 H	134	41.66	-107.40

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.

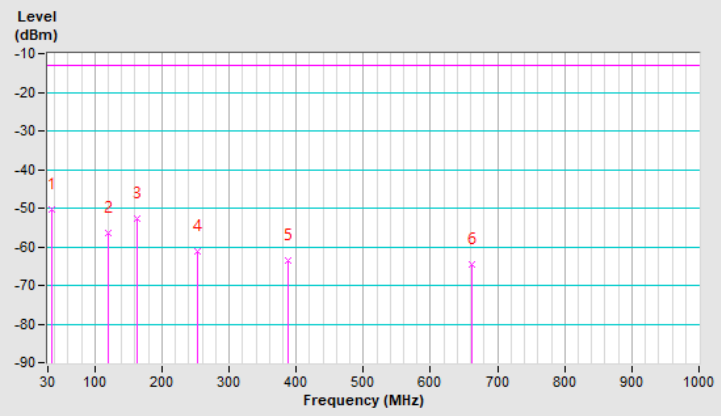


Mode	TX channel 20525 (836.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	**35.62**	**-50.41**	**-13.00**	**-37.41**	**1.51 V**	**16**	**66.48**	**-116.89**
2	119.97	-56.38	-13.00	-43.38	1.01 V	186	61.55	-117.93
3	162.14	-52.74	-13.00	-39.74	1.01 V	147	62.77	-115.51
4	253.52	-61.23	-13.00	-48.23	1.01 V	197	55.57	-116.80
5	388.48	-63.41	-13.00	-50.41	1.51 V	18	49.40	-112.81
6	661.20	-64.54	-13.00	-51.54	1.01 V	2	42.64	-107.18

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.



n71 + LTE Band 7:

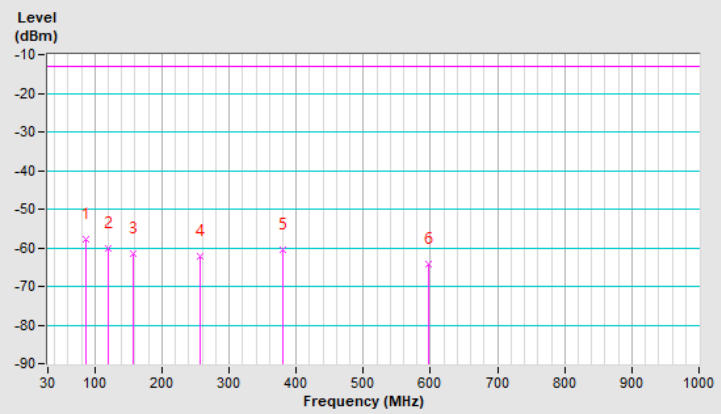
n71, Channel Bandwidth: 20MHz

Mode	TX channel 136100 (680.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	86.23	-57.87	-13.00	-44.87	2.00 H	277	64.08	-121.95
2	119.97	-60.22	-13.00	-47.22	1.51 H	116	57.71	-117.93
3	157.93	-61.38	-13.00	-48.38	1.51 H	256	54.10	-115.48
4	257.74	-62.06	-13.00	-49.06	1.51 H	235	54.60	-116.66
5	380.04	-60.47	-13.00	-47.47	1.00 H	359	52.57	-113.04
6	597.94	-64.21	-13.00	-51.21	1.51 H	138	43.56	-107.77

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.

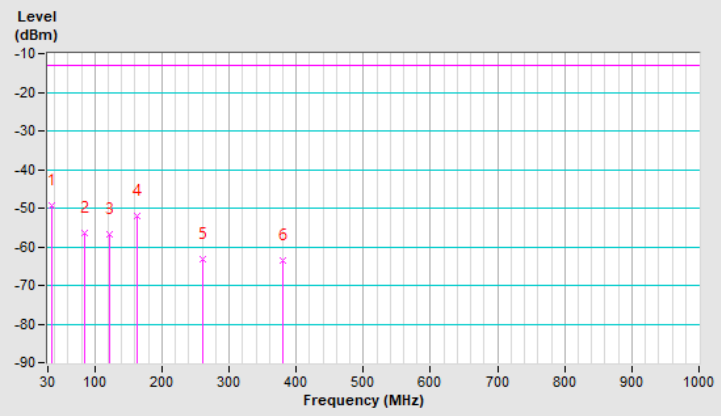


Mode	TX channel 136100 (680.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	**35.62**	**-49.44**	**-13.00**	**-36.44**	**1.00 V**	**355**	**67.45**	**-116.89**
2	84.83	-56.55	-13.00	-43.55	1.99 V	169	65.22	-121.77
3	121.38	-56.90	-13.00	-43.90	1.00 V	174	60.84	-117.74
4	163.55	-52.10	-13.00	-39.10	1.00 V	177	63.52	-115.62
5	260.55	-63.20	-13.00	-50.20	1.00 V	185	53.37	-116.57
6	380.04	-63.60	-13.00	-50.60	1.49 V	44	49.44	-113.04

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.



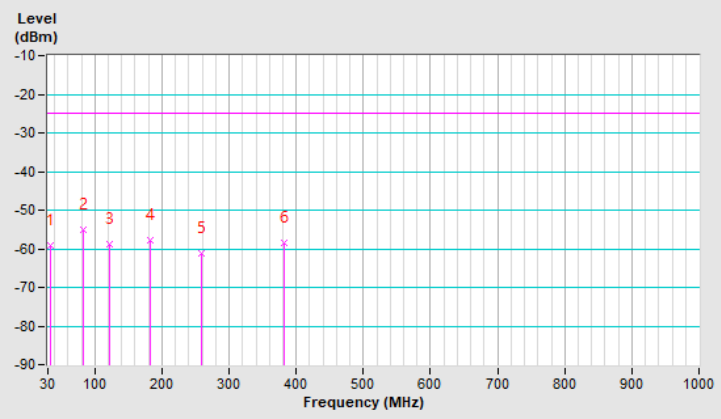
LTE Band 7, Channel Bandwidth: 20MHz

Mode	TX channel 21100 (2535MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	34.22	-59.30	-25.00	-34.30	1.49 H	144	55.42	-114.72
2	82.01	-55.06	-25.00	-30.06	1.99 H	263	64.17	-119.23
3	121.38	-58.93	-25.00	-33.93	1.99 H	120	56.66	-115.59
4	183.23	-57.84	-25.00	-32.84	1.99 H	132	57.54	-115.38
5	259.14	-61.10	-25.00	-36.10	1.49 H	245	53.37	-114.47
6	382.86	-58.55	-25.00	-33.55	1.00 H	4	52.26	-110.81

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.

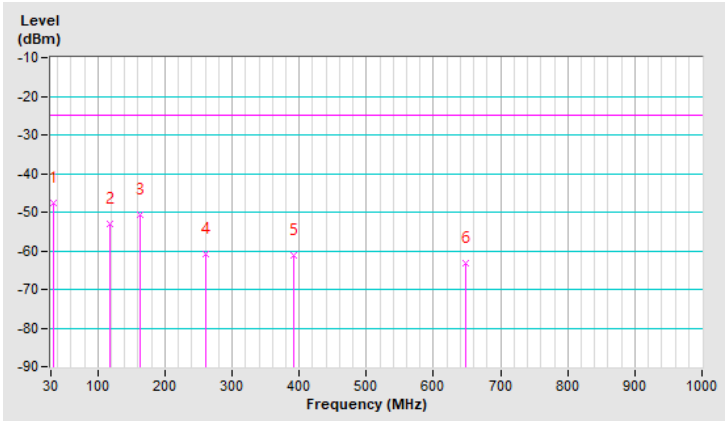


Mode	TX channel 21100 (2535MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	34.22	-47.79	-25.00	-22.79	1.01 V	2	66.93	-114.72
2	118.57	-52.99	-25.00	-27.99	1.01 V	157	62.85	-115.84
3	163.55	-50.74	-25.00	-25.74	1.01 V	190	62.73	-113.47
4	260.55	-60.72	-25.00	-35.72	1.01 V	220	53.70	-114.42
5	392.70	-61.10	-25.00	-36.10	1.01 V	38	49.48	-110.58
6	648.55	-63.29	-25.00	-38.29	1.01 V	2	41.69	-104.98

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.



Above 1GHz

n2 + LTE Band 12:

n2, Channel Bandwidth 5MHz

Mode	TX channel 370500 (1852.5MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	3705.00	-51.02	-13.00	-38.02	1.58 H	76	45.11	-96.13
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3705.00	-49.47	-13.00	-36.47	2.97 V	107	46.66	-96.13

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 376000 (1880.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	3760.00	-50.73	-13.00	-37.73	1.63 H	75	45.14	-95.87
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-49.75	-13.00	-36.75	3.00 V	107	46.12	-95.87

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 381500 (1907.5MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	3815.00	-50.23	-13.00	-37.23	1.53 H	77	45.45	-95.68
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3815.00	-49.50	-13.00	-36.50	2.98 V	109	46.18	-95.68

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.

n2, Channel Bandwidth 20MHz

Mode	TX channel 372000 (1860.0MHz),	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	3720.00	-50.88	-13.00	-37.88	1.62 H	76	45.19	-96.07
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3720.00	-49.61	-13.00	-36.61	2.97 V	111	46.46	-96.07

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 376000 (1880.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	3760.00	-50.09	-13.00	-37.09	1.54 H	72	45.78	-95.87
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-49.26	-13.00	-36.26	2.96 V	106	46.61	-95.87

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 380000 (1900.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	3800.00	-50.89	-13.00	-37.89	1.61 H	74	44.79	-95.68
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3800.00	-49.72	-13.00	-36.72	2.99 V	111	45.96	-95.68

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 12, Channel Bandwidth 1.4MHz

Mode	TX channel 23017 (699.7MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1399.40	-53.33	-13.00	-40.33	1.45 H	15	51.23	-104.56
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	1399.40	-55.18	-13.00	-42.18	2.56 V	121	49.38	-104.56

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 23095 (707.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1415.00	-52.52	-13.00	-39.52	1.47 H	15	52.02	-104.54
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	1415.00	-55.29	-13.00	-42.29	2.52 V	119	49.25	-104.54

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) + 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 23173 (715.3MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1430.60	-52.63	-13.00	-39.63	1.55 H	20	51.89	-104.52
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	1430.60	-54.80	-13.00	-41.80	2.53 V	121	49.72	-104.52

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 12, Channel Bandwidth 5MHz

Mode	TX channel 23035 (701.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1403.00	-53.21	-13.00	-40.21	1.52 H	17	51.35	-104.56
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	1403.00	-54.82	-13.00	-41.82	2.58 V	115	49.74	-104.56

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 23095 (707.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1415.00	-52.80	-13.00	-39.80	1.47 H	19	51.74	-104.54
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	1415.00	-55.11	-13.00	-42.11	2.56 V	115	49.43	-104.54

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) + 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 23155 (713.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1427.00	-53.32	-13.00	-40.32	1.46 H	16	51.22	-104.54
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	1427.00	-54.68	-13.00	-41.68	2.54 V	113	49.86	-104.54

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) + 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 12, Channel Bandwidth 10MHz

Mode	TX channel 23060 (704.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1408.00	-53.07	-13.00	-40.07	1.55 H	22	51.49	-104.56
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	1408.00	-55.27	-13.00	-42.27	2.49 V	120	49.29	-104.56

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 23095 (707.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1415.00	-52.39	-13.00	-39.39	1.53 H	19	52.15	-104.54
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	1415.00	-54.39	-13.00	-41.39	2.58 V	121	50.15	-104.54

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) + 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 23130 (711.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1422.00	-52.85	-13.00	-39.85	1.49 H	15	51.69	-104.54
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	1422.00	-55.31	-13.00	-42.31	2.57 V	119	49.23	-104.54

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) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

n5 + LTE Band 7:

n5, Channel Bandwidth 5MHz

Mode	TX channel 165300 (826.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	-57.87	-13.00	-44.87	1.88 H	312	46.45	-104.32
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	1653.00	-57.98	-13.00	-44.98	1.49 V	334	46.34	-104.32

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 167300 (836.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	-57.92	-13.00	-44.92	1.92 H	309	46.39	-104.31
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	1673.00	-58.16	-13.00	-45.16	1.51 V	334	46.15	-104.31

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) + 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 169300 (846.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	-58.10	-13.00	-45.10	1.85 H	313	46.18	-104.28
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	1693.00	-57.91	-13.00	-44.91	1.48 V	337	46.37	-104.28

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) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

n5, Channel Bandwidth 20MHz

Mode	TX channel 166800 (834.0MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1668.00	-57.94	-13.00	-44.94	1.94 H	306	46.37	-104.31
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	1668.00	-58.28	-13.00	-45.28	1.55 V	334	46.03	-104.31

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) + 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 167300 (836.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	-57.59	-13.00	-44.59	1.85 H	313	46.72	-104.31
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	1673.00	-57.60	-13.00	-44.60	1.48 V	340	46.71	-104.31

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) + 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 167800 (839.0MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1678.00	-58.15	-13.00	-45.15	1.92 H	306	46.14	-104.29
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	1678.00	-58.02	-13.00	-45.02	1.54 V	335	46.27	-104.29

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) + 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 7, Channel Bandwidth 5MHz

Mode	TX channel 20775 (2502.5MHz)	Frequency Range	1GHz ~ 27GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	5005.00	-47.88	-25.00	-22.88	1.36 H	61	45.48	-93.36
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5005.00	-47.38	-25.00	-22.38	3.60 V	98	45.98	-93.36

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 21100 (2535.0MHz)	Frequency Range	1GHz ~ 27GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	5070.00	-47.59	-25.00	-22.59	1.29 H	60	45.76	-93.35
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5070.00	-47.94	-25.00	-22.94	3.54 V	95	45.41	-93.35

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 21425 (2567.5MHz)	Frequency Range	1GHz ~ 27GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	5135.00	-47.72	-25.00	-22.72	1.34 H	59	45.63	-93.35
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5135.00	-47.13	-25.00	-22.13	3.62 V	91	46.22	-93.35

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 7, Channel Bandwidth 20MHz

Mode	TX channel 20850 (2510.0MHz)	Frequency Range	1GHz ~ 27GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	5020.00	-47.79	-25.00	-22.79	1.31 H	62	45.57	-93.36
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5020.00	-48.01	-25.00	-23.01	3.56 V	98	45.35	-93.36

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 21100 (2535.0MHz)	Frequency Range	1GHz ~ 27GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	5070.00	-47.07	-25.00	-22.07	1.30 H	64	46.28	-93.35
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5070.00	-47.00	-25.00	-22.00	3.53 V	96	46.35	-93.35

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 21350 (2560.0MHz)	Frequency Range	1GHz ~ 27GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	5120.00	-47.49	-25.00	-22.49	1.27 H	66	45.86	-93.35
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5120.00	-47.70	-25.00	-22.70	3.63 V	94	45.65	-93.35

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.

n66 + LTE Band 5:

n66, Channel Bandwidth: 5MHz

Mode	TX channel 342500 (1712.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	3425.00	-50.84	-13.00	-37.84	1.46 H	72	46.30	-97.14
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3425.00	-50.64	-13.00	-37.64	3.33 V	120	46.50	-97.14

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 349000 (1745.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	3490.00	-51.12	-13.00	-38.12	1.48 H	75	45.79	-96.91
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3490.00	-50.81	-13.00	-37.81	3.30 V	124	46.10	-96.91

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 355500 (1777.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	3555.00	-50.27	-13.00	-37.27	1.49 H	71	46.44	-96.71
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3555.00	-49.94	-13.00	-36.94	3.31 V	117	46.77	-96.71

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.

n66, Channel Bandwidth: 20MHz

Mode	TX channel 344000 (1720.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	3440.00	-51.66	-13.00	-38.66	1.45 H	86	45.44	-97.10
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3440.00	-51.22	-13.00	-38.22	3.23 V	133	45.88	-97.10

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 349000 (1745.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	3490.00	-51.17	-13.00	-38.17	1.45 H	86	45.74	-96.91
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3490.00	-51.00	-13.00	-38.00	3.30 V	125	45.91	-96.91

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 354000 (1770.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	3540.00	-51.82	-13.00	-38.82	1.40 H	90	44.94	-96.76
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3540.00	-51.67	-13.00	-38.67	3.00 V	100	45.09	-96.76

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 5, Channel Bandwidth: 1.4MHz

Mode	TX channel 20407 (824.7MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	-52.95	-13.00	-39.95	1.51 H	280	51.39	-104.34
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	1649.40	-51.93	-13.00	-38.93	3.56 V	254	52.41	-104.34

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 20525 (836.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	-52.70	-13.00	-39.70	1.50 H	282	51.61	-104.31
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	1673.00	-51.83	-13.00	-38.83	3.64 V	254	52.48	-104.31

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) + 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 20643 (848.3MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	-53.36	-13.00	-40.36	1.53 H	277	50.91	-104.27
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	1696.60	-51.75	-13.00	-38.75	3.64 V	253	52.52	-104.27

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 5, Channel Bandwidth: 5MHz

Mode	TX channel 20425 (826.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	-53.08	-13.00	-40.08	1.57 H	280	51.24	-104.32
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	1653.00	-52.59	-13.00	-39.59	3.56 V	254	51.73	-104.32

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 20525 (836.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	-53.06	-13.00	-40.06	1.49 H	278	51.25	-104.31
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	1673.00	-52.19	-13.00	-39.19	3.55 V	256	52.12	-104.31

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) + 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 20625 (846.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	-53.17	-13.00	-40.17	1.58 H	277	51.11	-104.28
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	1693.00	-52.51	-13.00	-39.51	3.62 V	255	51.77	-104.28

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) + 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 5, Channel Bandwidth: 10MHz

Mode	TX channel 20450 (829.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	-52.82	-13.00	-39.82	1.48 H	283	51.49	-104.31
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	1658.00	-52.59	-13.00	-39.59	3.66 V	257	51.72	-104.31

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) + 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 20525 (836.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	-52.40	-13.00	-39.40	1.55 H	277	51.91	-104.31
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	1673.00	-51.69	-13.00	-38.69	3.56 V	251	52.62	-104.31

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) + 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 20600 (844.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	-52.95	-13.00	-39.95	1.49 H	281	51.34	-104.29
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	1688.00	-52.43	-13.00	-39.43	3.64 V	256	51.86	-104.29

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) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

n71 + LTE Band 7:

n71, Channel Bandwidth: 5MHz

Mode	TX channel 133100 (665.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1331.00	-58.73	-13.00	-45.73	1.92 H	72	45.91	-104.64
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	1331.00	-58.69	-13.00	-45.69	1.36 V	189	45.95	-104.64

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 136100 (680.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1361.00	-58.71	-13.00	-45.71	1.91 H	71	45.89	-104.60
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	1361.00	-58.03	-13.00	-45.03	1.39 V	190	46.57	-104.60

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 139100 (695.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1391.00	-58.74	-13.00	-45.74	1.92 H	76	45.82	-104.56
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	1391.00	-58.42	-13.00	-45.42	1.43 V	188	46.14	-104.56

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.

n71, Channel Bandwidth: 20MHz

Mode	TX channel 134600 (673.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1346.00	-58.52	-13.00	-45.52	1.85 H	73	46.11	-104.63
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	1346.00	-58.58	-13.00	-45.58	1.37 V	184	46.05	-104.63

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 136100 (680.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1361.00	-57.88	-13.00	-44.88	1.93 H	71	46.72	-104.60
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	1361.00	-57.77	-13.00	-44.77	1.39 V	184	46.83	-104.60

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 137600 (688.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	1376.00	-58.00	-13.00	-45.00	1.95 H	74	46.59	-104.59
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	1376.00	-57.88	-13.00	-44.88	1.40 V	188	46.71	-104.59

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 7, Channel Bandwidth: 5MHz

Mode	TX channel 20775 (2502.5MHz)	Frequency Range	1GHz ~ 27GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	5005.00	-47.97	-25.00	-22.97	1.27 H	55	45.39	-93.36
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5005.00	-47.50	-25.00	-22.50	3.46 V	84	45.86	-93.36

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 21100 (2535MHz)	Frequency Range	1GHz ~ 27GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	5070.00	-47.73	-25.00	-22.73	1.29 H	54	45.62	-93.35
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5070.00	-47.71	-25.00	-22.71	3.52 V	83	45.64	-93.35

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 21425 (2567.5MHz)	Frequency Range	1GHz ~ 27GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	5135.00	-47.66	-25.00	-22.66	1.28 H	55	45.69	-93.35
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5135.00	-47.59	-25.00	-22.59	3.50 V	86	45.76	-93.35

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 7, Channel Bandwidth: 20MHz

Mode	TX channel 20850 (2510MHz)	Frequency Range	1GHz ~ 27GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	5020.00	-48.00	-25.00	-23.00	1.28 H	55	45.36	-93.36
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5020.00	-47.95	-25.00	-22.95	3.45 V	86	45.41	-93.36

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 21100 (2535MHz)	Frequency Range	1GHz ~ 27GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	5070.00	-47.24	-25.00	-22.24	1.29 H	57	46.11	-93.35
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5070.00	-47.13	-25.00	-22.13	3.44 V	82	46.22	-93.35

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 21350 (2560MHz)	Frequency Range	1GHz ~ 27GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	5120.00	-47.52	-25.00	-22.52	1.23 H	53	45.83	-93.35
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5120.00	-47.81	-25.00	-22.81	3.47 V	88	45.54	-93.35

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.

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.

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

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