

FCC TEST REPORT

(PART 27)

Applicant:	InHand Networks, Inc.
Address:	43671 Trade Center Place, Suite 100, Dulles, VA 20166 United States

Manufacturer or Supplier:	InHand Networks, Inc.
Address:	43671 Trade Center Place, Suite 100, Dulles, VA 20166 United States
Product:	Edge Computer
Brand Name:	inhand
Model Name:	EC3320,EC3310,EC3340
FCC ID:	2BPWU-EC3320
Date of tests:	Mar. 31, 2025 ~Apr.30, 2025

The tests have been carried out according to the requirements of the following standard:

- ☒ **FCC Part 27** ☒ **ANSI/TIA/EIA-603-D**
☒ **FCC Part 2** ☒ **ANSI/TIA/EIA-603-E** ☒ **ANSI C63.26-2015**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Hanwen Xu Engineer / Mobile Department	Approved by Peibo Sun Manager / Mobile Department
 Date: Apr.30, 2025	 Date: Apr.30, 2025

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-NQN2504020112RF04	Original release	Apr.30, 2025

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 27 & PART 2			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	TEST LAB*
§2.1046	Conducted Output Power	Compliance	A
§27.50(d)(4) §27.50(h)(2) §27.50(k)(3)	Equivalent Isotropically Radiated Power (Band 4) (Band 38) (Band 41) (Band 42) (Band 43) (Band 66)	Compliance	A
§2.1055 §27.54	Frequency Stability	See Note	A
§2.1049	Occupied Bandwidth	See Note	A
§2.1051 §27.53(h) §27.53(m)(4)(6) §27.53(n)(2)	Conducted Band Edge Measurements (Band 4) (Band 38) (Band 41) (Band 42) (Band 43) (Band 66)	See Note	A
§2.1051 §27.53(h) §27.53(m)(4)(6) §27.53(n)(2)	Conducted Spurious Emissions (Band 4) (Band 38) (Band 41) (Band 42) (Band 43) (Band 66)	See Note	A
§2.1053 §27.53(h) §27.53(m)(4)(6) §27.53(n)(2)	Radiated Spurious Emissions (Band 4) (Band 38) (Band 41) (Band 42) (Band 43) (Band 66)	See Note	A
§27.50(k)(4)	Peak to average ratio	See Note	A

Note: Please Refer to module EM60K(C2PC), EM120K and EM120K-GL(C2PC) report.

For module EM60K(C2PC): Report No.: 2309RSU052-U1,2309RSU052-U7

FCC ID: XMR2022EM060KGL

For module EM120K: Report No.: 2203RSU046-U2

FCC ID: XMR2022EM120KGL

For module EM120K(C2PC): Report No.: SEWM2312000500RG01

FCC ID: XMR2022EM120KGL

Test Model No.: EC3320

Series Model No.: EC3310, EC3340

These models are the same in these: appearance, PCB layout and basic software function; The only difference is that the products are used in different markets.



Test Report No.: PSU-NQN2504020112RF04

***Test Lab Information Reference**

Lab A:

Huarui 7Layers High Technology (Suzhou) Co., Ltd.

Lab Address:

Tower N, Innovation Center, 88 Zuyi Road, High-tech District, Suzhou City, Anhui Province

Accredited Test Lab Cert 6613.01

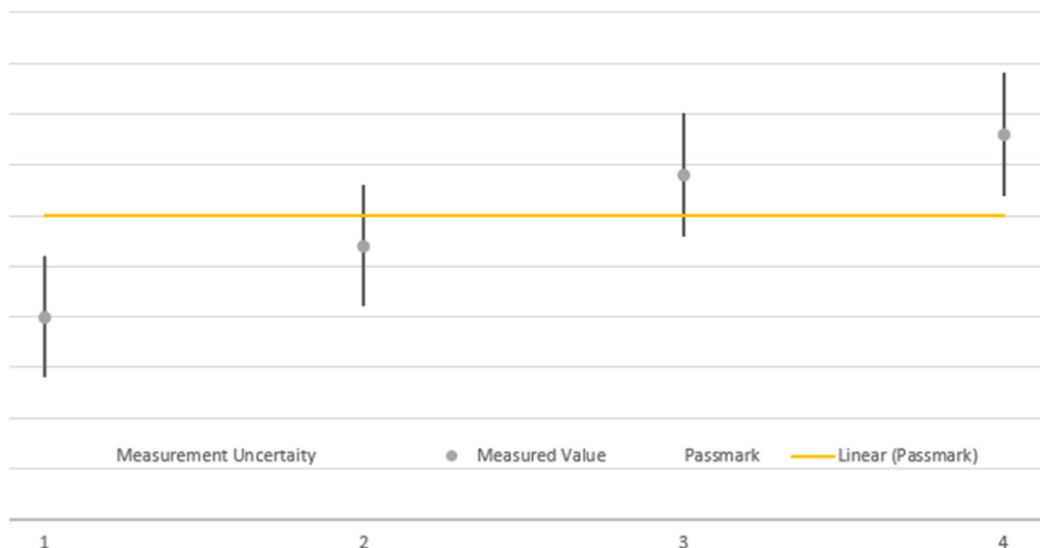
The FCC Site Registration No. is 434559; The Designation No. is CN1325.

1.1 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	UNCERTAINTY
Frequency Stability	$\pm 76.97\text{Hz}$
Radiated emissions (9KHz~30MHz)	$\pm 2.68\text{dB}$
Radiated emissions & Radiated Power (30MHz~1GHz)	$\pm 4.98\text{dB}$
Radiated emissions & Radiated Power (1GHz ~6GHz)	$\pm 4.70\text{dB}$
Radiated emissions (6GHz ~18GHz)	$\pm 4.60\text{dB}$
Radiated emissions (18GHz ~40GHz)	$\pm 4.12\text{dB}$
Conducted emissions	$\pm 4.01\text{dB}$
Occupied Channel Bandwidth	$\pm 43.58\text{KHz}$
Conducted Output power	$\pm 2.06\text{dB}$
Band Edge Measurements	$\pm 4.70\text{dB}$

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.



The verdicts in this test report are given according the above diagram:

Case	Measured Value	Uncertainty Range	Verdict
1	below pass mark	below pass mark	Passed
2	below pass mark	within pass mark	Passed
3	above pass mark	within pass mark	Failed
4	above pass mark	above pass mark	Failed

That means, the laboratory applies, as decision rule (see ISO/IEC 17025:2017), the so-called shared risk principle.

1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.30,23	Aug.29,25
Pre-Amplifier	R&S	SCU08F1	101028	Jan.22,24	Jan.21,26
Vector Signal Generator	R&S	SMBV100B	102176	Mar.29,24	Mar.28,26
Signal Generator	R&S	SMB100A	182185	Mar.29,24	Mar.28,26
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-01Chamber	Nov.25,22	Nov.24,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-02Chamber	Nov.25,22	Nov.24,25
EMI TEST Receiver	R&S	ESR26	101734	Mar.28,24	Mar.27,26
EMI TEST Receiver	R&S	ESW44	101973	Mar.28,24	Mar.27,26
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Dec.26,23	Dec.25,25
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.22,23	Aug.21,25
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Jul.15,24	Jul.14,26
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.22,23	Aug.21,25
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.23,25	Feb.22,27
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.19,24	Jun.18,26
Test Software	EMC32	EMC32	N/A	N/A	N/A
6DB attenuator	Tonscend Technology Co., Ltd	N/A	23062787	N/A	N/A
Test Software	ELEKTRA	ELEKTRA4.32	N/A	N/A	N/A
Open Switch and Control Unit	R&S	OSP220	101964	N/A	N/A
DC Source	HYELEC	HY3010B	551016	Aug.31,23	Aug.30,25
Hygrothermograph	DELI	20210528	SZ014	Sep.06,23	Sep.05,25
PC	LENOVO	E14	HRSW0024	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-7.00M	N/A	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-4.00M	N/A	N/A	N/A
CABLE	R&S	W13.02	N/A	Apr.27,25	Apr.26,26
CABLE	R&S	W12.14	N/A	Apr.27,25	Apr.26,26
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Apr.27,25	Apr.26,26
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Apr.27,25	Apr.26,26
Temperature Chamber	votsch	VT4002	58566078100050	May.30,24	May.29,26



Test Report No.: PSU-NQN2504020112RF04

- NOTE:**
1. The calibration interval of the above test instruments is 12 / 24/ 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
 2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
 3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Site Registration No. is 434559; The Designation No. is CN1325.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT*	Edge Computer	
BRAND NAME*	inhand	
MODEL NAME*	EC3320,EC3310,EC3340	
NOMINAL VOLTAGE*	12.0Vdc	
MODULATION TECHNOLOGY*	LTE	QPSK,16QAM
FREQUENCY RANGE	LTE Band 4 Channel Bandwidth: 1.4MHz	1710.7MHz ~ 1754.3MHz
	LTE Band 4 Channel Bandwidth: 3MHz	1711.5MHz ~ 1753.5MHz
	LTE Band 4 Channel Bandwidth: 5MHz	1712.5MHz ~ 1752.5MHz
	LTE Band 4 Channel Bandwidth: 10MHz	1715MHz ~ 1750MHz
	LTE Band 4 Channel Bandwidth: 15MHz	1717.5MHz ~ 1747.5 MHz
	LTE Band 4 Channel Bandwidth: 20MHz	1720MHz ~ 1745MHz
	LTE Band 38 Channel Bandwidth: 5MHz	2572.5MHz ~ 2617.5MHz
	LTE Band 38 Channel Bandwidth: 10MHz	2575MHz ~ 2615MHz
	LTE Band 38 Channel Bandwidth: 15MHz	2577.5MHz ~ 2612.5MHz
	LTE Band 38 Channel Bandwidth: 20MHz	2580MHz ~ 2610MHz
	LTE Band 41 Channel Bandwidth: 5MHz	2498.5MHz ~ 2687.5MHz
	LTE Band 41 Channel Bandwidth: 10MHz	2501MHz ~ 2685MHz
	LTE Band 41 Channel Bandwidth: 15MHz	2503.5MHz ~ 2682.5MHz
	LTE Band 41 Channel Bandwidth: 20MHz	2506MHz ~ 2680MHz
	LTE Band 42 Channel Bandwidth: 5MHz	3452.5MHz ~ 3547.5MHz
	LTE Band 42 Channel Bandwidth: 10MHz	3455MHz ~ 3545MHz
	LTE Band 42 Channel Bandwidth: 15MHz	3457.5MHz ~ 3542.5MHz
	LTE Band 42 Channel Bandwidth: 20MHz	3460MHz ~ 3540MHz



	LTE Band 66 Channel Bandwidth: 1.4MHz	1710.7MHz ~ 1779.3MHz
	LTE Band 66 Channel Bandwidth: 3MHz	1711.5MHz ~ 1778.5MHz
	LTE Band 66 Channel Bandwidth: 5MHz	1712.5MHz ~ 1777.5MHz
	LTE Band 66 Channel Bandwidth: 10MHz	1715MHz ~ 1775MHz
	LTE Band 66 Channel Bandwidth: 15MHz	1717.5MHz ~ 1772.5MHz
	LTE Band 66 Channel Bandwidth: 20MHz	1720MHz ~ 1770MHz
MAX. EIRP POWER	LTE Band 4/66 Channel Bandwidth: 20MHz	409.26mW
	LTE Band 38/41 Channel Bandwidth: 20MHz	397.19mW
	LTE Band 42 Channel Bandwidth: 15MHz	139mW
ANTENNA TYPE*	Sucker Antenna with 2.94dBi gain for LTE B4/66 Sucker Antenna with 2.6dBi gain for LTE B38/41 Sucker Antenna with -2.0dBi gain for LTE B42	
HW VERSION*	V2.2	
SW VERSION*	V2.0	
I/O PORTS*	Refer to user's manual	
EXTREME TEMPERATURE*	-20°C~60 °C	
EXTREME VOLTAGE*	9 Vdc~36Vdc	

NOTE1: This product uses the module model EM060K-GL and supports LTE frequency bands 2/4/5/7/12/13/14/17/25/26/30/38/41/42/48/66/71. Therefore, for this product, we referred to the test data reported by the EM060K-GL(C2PC) module and revaluated the spectrum of radiated emissions and EIRP.

EM060K-GL and EM120K-GL support the same bands, use the same chips, share the same software and hardware design. The data of EM060K-GL is cited from the data of EM120K-GL.

The output power of Band42 refers to the module reports EM60K(C2PC) and EM120K(C2PC).

For module EM60K(C2PC): Report No.: 2309RSU052-U1,2309RSU052-U7

FCC ID: XMR2022EM060KGL

For module EM120K: Report No.: 2203RSU046-U2

FCC ID: XMR2022EM120KGL

For module EM120K(C2PC): Report No.: SEWM2312000500RG01

FCC ID: XMR2022EM120KGL

NOTE2:

- *Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, Test Lab is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.



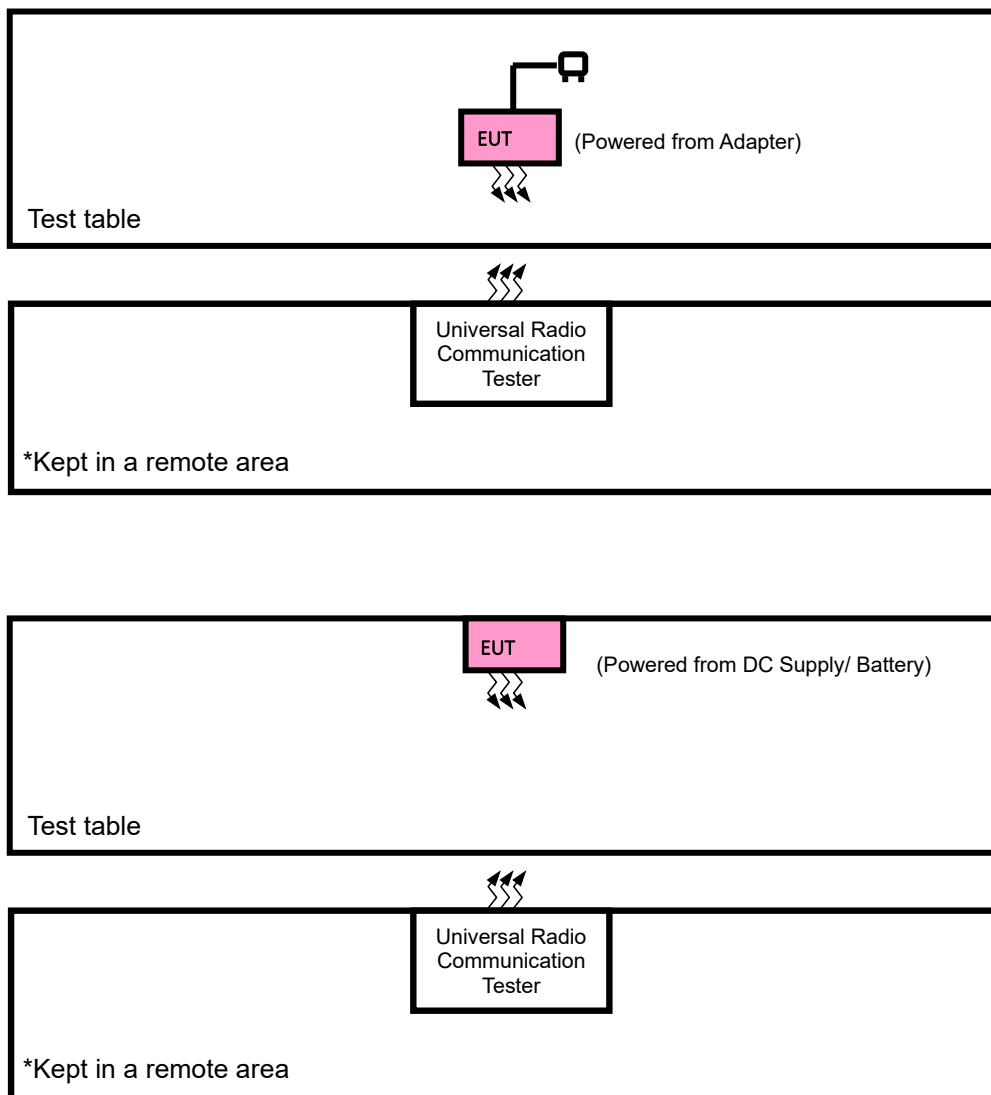
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2. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
3. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
LTE	1TX/1RX

4. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
5. Antenna gain and EUT conducted cable loss are provided by the customer, and the laboratory will record the results based on these items that involve these two parameters.

2.2 CONFIGURATION OF SYSTEM UNDER TEST FOR RADIATION EMISSION TEST



2.3 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
1	DC Source	HYELEC	HY3010B	551016	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.8m

2.4 TEST ITEM AND TEST CONFIGURATION

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 on Y-plane for EIRP and X-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + Adapter + USB Cable with LTE link
B	EUT + DC Supply with LTE link

LTE BAND 4 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset

Note: 1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

2. LTE Band 4 are covered by LTE Band 66, Because it is a subset of LTE Band 66 with the same output power and supported bandwidths, So the conducted test data and RSE test data please refer to LTE Band 66

LTE BAND 38 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	37775 to 38225	37775, 38000, 38225	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		37800 to 38200	37800, 38000, 38200	10MHz	QPSK,16QAM,64QAM	1 RB / 0RB Offset
		37825 to 38175	37825, 38000, 38175	15MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		37850 to 38150	37850, 38000, 38150	20MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset

Note: 1.This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

2. LTE Band 38 are covered by LTE Band 41, Because it is a subset of LTE Band 41 with the same output power and supported bandwidths, So the conducted test data and RSE test data please refer to LTE Band 41

LTE BAND 41 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	39675 to 41565	39675, 40620, 41565	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		39700 to 41540	39700, 40620,41540	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0RB Offset
		39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	39700 to 41540	39700, 40620,41540	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	39675 to 41565	39675, 40620, 41565	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		39700 to 41540	39700, 40620,41540	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
		39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM, 64QAM	75 RB / 0 RB Offset
		39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 100 RB / 0 RB Offset
A	BAND EDGE	39675 to 41565	39675	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 25 RB / 0 RB Offset
			41565	5MHz	QPSK, 16QAM, 64QAM	1 RB / 24 RB Offset 25 RB / 0 RB Offset
		39700 to 41540	39700	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset 50 RB / 0 RB Offset
			41540	10MHz	QPSK, 16QAM, 64QAM	1 RB / 49 RB Offset

						50 RB / 0 RB Offset
		39725 to 41515	39725	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
						75 RB / 0 RB Offset
			41515	15MHz	QPSK, 16QAM, 64QAM	1 RB / 74 RB Offset
						75 RB / 0 RB Offset
		39750 to 41490	39750	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
						100 RB / 0 RB Offset
			41490	20MHz	QPSK, 16QAM, 64QAM	1 RB / 99 RB Offset
						100 RB / 0 RB Offset
A	CONDUCTED EMISSION	39675 to 41565	39675, 40620, 41565	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		39700 to 41540	39700, 40620, 41540	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	39675 to 41565	40620	5MHz	QPSK	1 RB / 0 RB Offset
		39700 to 41540	39700, 40620, 41540	10MHz	QPSK	1 RB / 0 RB Offset
		39725 to 41515	40620	15MHz	QPSK	1 RB / 0 RB Offset
		39750 to 41490	40620	20MHz	QPSK	1 RB / 0 RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

LTE band 42

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	42115 to 43065	42115 (3452.5MHz), 42590 (3500.0MHz), 43065 (3547.5MHz)	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		42140 to 43040	42140 (3455.0MHz), 42590 (3500.0MHz), 43040 (3545.0MHz)	10MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		42165 to 43015	42165 (3457.5MHz), 42590 (3500.0MHz), 43015 (3542.5MHz)	15MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		42190 to 42990	42190 (3460.0MHz), 42590 (3500.0MHz), 42990 (3540.0MHz)	20MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	42140 to 43040	42140 (3455.0MHz), 42590 (3500.0MHz), 43040 (3545.0MHz)	10MHz	QPSK,16QAM,64QAM	50 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	42115 to 43065	42115 (3452.5MHz), 42590 (3500.0MHz), 43065 (3547.5MHz)	5MHz	QPSK,16QAM,64QAM	25 RB / 0 RB Offset
		42140 to 43040	42140 (3455.0MHz), 42590 (3500.0MHz), 43040 (3545.0MHz)	10MHz	QPSK,16QAM,64QAM	50 RB / 0 RB Offset
		42165 to 43015	42165 (3457.5MHz), 42590 (3500.0MHz), 43015 (3542.5MHz)	15MHz	QPSK,16QAM,64QAM	75 RB / 0 RB Offset
		42190 to 42990	42190 (3460.0MHz), 42590 (3500.0MHz), 42990 (3540.0MHz)	20MHz	QPSK,16QAM,64QAM	100 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	42190 to 42990	42190 (3460.0MHz), 42590 (3500.0MHz), 42990 (3540.0MHz)	20MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset 100 RB / 0 RB Offset
A	BAND EDGE	42115 to 43065	42115	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset 25 RB / 0 RB Offset
			43065	5MHz	QPSK,16QAM,64QAM	1 RB / 24 RB Offset 25 RB / 0 RB Offset
		42140 to 43040	42140	10MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset 50 RB / 0 RB Offset
			43040	10MHz	QPSK,16QAM,64QAM	1 RB / 49 RB Offset 50 RB / 0 RB Offset
		42165 to 43015	42165	15MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset 75 RB / 0 RB Offset
			43015	15MHz	QPSK,16QAM,64QAM	1 RB / 74 RB Offset 75 RB / 0 RB Offset
		42190 to 42990	42190	20MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset 100 RB / 0 RB Offset



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			42990	20MHz	QPSK,16QAM,64QAM	1 RB / 99 RB Offset 100 RB / 0 RB Offset
A	CONDUCTED EMISSION	42115 to 43065	42115 (3452.5MHz), 42590 (3500.0MHz), 43065 (3547.5MHz)	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		42140 to 43040	42140 (3455.0MHz), 42590 (3500.0MHz), 43040 (3545.0MHz)	10MHz	QPSK,16QAM,64QAM	1 RB / 0RB Offset
		42165 to 43015	42165 (3457.50MHz), 42590 (3500.0MHz), 43015 (3542.5MHz)	15MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		42190 to 42990	42190 (3460.0MHz), 42590 (3500.0MHz), 42990 (3540.0MHz)	20MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	42115 to 43065	42590 (3500.0MHz),	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		42140 to 43040	42590 (3500.0MHz),	10MHz	QPSK,16QAM,64QAM	1 RB / 0RB Offset
		42165 to 43015	42590 (3500.0MHz),	15MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		42190 to 42990	42190 (3460.0MHz), 42590 (3500.0MHz), 42990 (3540.0MHz)	20MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

LTE BAND 66 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	131979 to 132665	131979,132322,132665	1.4MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		131987 to 132657	131987,132322,132657	3MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		131997 to 132647	131997,132322,132647	5MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		132022 to 132622	132022,132322,132622	10MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		132047 to 132597	132047,132322,132597	15MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
		132072 to 132572	132072,132322,132572	20MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	132022 to 132622	132022,132322,132622	10MHz	QPSK,16QAM,64QAM	50 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	131979 to 132665	131979,132322,132665	1.4MHz	QPSK,16QAM,64QAM	6 RB / 0 RB Offset
		131987 to 132657	131987,132322,132657	3MHz	QPSK,16QAM,64QAM	15 RB / 0 RB Offset
		131997 to 132647	131997,132322,132647	5MHz	QPSK,16QAM,64QAM	25 RB / 0 RB Offset
		132022 to 132622	132022,132322,132622	10MHz	QPSK,16QAM,64QAM	50 RB / 0 RB Offset
		132047 to 132597	132047,132322,132597	15MHz	QPSK,16QAM,64QAM	75 RB / 0 RB Offset
		132072 to 132572	132072,132322,132572	20MHz	QPSK,16QAM,64QAM	100 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	132072 to 132572	132072, 132572	20MHz	QPSK,16QAM,64QAM	1 RB / 0 RB Offset 100 RB / 0 RB Offset
A	BAND EDGE	131979 to 132322	131979	1.4MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset 6 RB / 0 RB Offset
			132322	1.4MHz	QPSK,16QAM, 64QAM	1 RB / 5 RB Offset 6 RB / 0 RB Offset
		131987 to 132657	131987	3MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset 15 RB / 0 RB Offset
			132657	3MHz	QPSK,16QAM, 64QAM	1 RB / 14 RB Offset 15 RB / 0 RB Offset
		131997 to 132647	131997	5MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset 25 RB / 0 RB Offset
			132647	5MHz	QPSK,16QAM, 64QAM	1 RB / 24 RB Offset 25 RB / 0 RB Offset
		132022 to 132622	132022	10MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset 50 RB / 0 RB Offset
			132622	10MHz	QPSK,16QAM, 64QAM	1 RB / 49 RB Offset 50 RB / 0 RB Offset
		132047 to 132597	132047	15MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset 75 RB / 0 RB Offset
			132597	15MHz	QPSK,16QAM, 64QAM	1 RB / 74 RB Offset 75 RB / 0 RB Offset
		132072 to 132572	132072	20MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset 100 RB / 0 RB Offset
			132572	20MHz	QPSK,16QAM, 64QAM	1 RB / 99 RB Offset 100 RB / 0 RB Offset
A	CONDUCTED EMISSION	131979 to 132665	131979,132322,132665	1.4MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
		131987 to 132657	131987,132322,132657	3MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
		131997 to 132647	131997,132322,132647	5MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset



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		132022 to 132622	132022,132322,132622	10MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
		132047 to 132597	132047,132322,132597	15MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
		132072 to 132572	132072,132322,132572	20MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	131979 to 132665	132322	1.4MHz	QPSK	1 RB / 0 RB Offset
		131987 to 132657	132322	3MHz	QPSK	1 RB / 0 RB Offset
		131997 to 132647	132322	5MHz	QPSK	1 RB / 0 RB Offset
		132022 to 132622	132022,132322,132622	10MHz	QPSK	1 RB / 0 RB Offset
		132047 to 132597	132322	15MHz	QPSK	1 RB / 0 RB Offset
		132072 to 132572	132322	20MHz	QPSK	1 RB / 0 RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP&EIRP	23deg. C, 70%RH	DC 12V By Adapter	Hanwen Xu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 12V By Adapter	Hanwen Xu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 12V By Adapter	Hanwen Xu
BAND EDGE	23deg. C, 70%RH	DC 12V By Adapter	Hanwen Xu
CONDUCTED EMISSION	23deg. C, 70%RH	DC 12V By Adapter	Hanwen Xu
RADIATED EMISSION	23deg. C, 70%RH	DC 12V By Adapter	Hanwen Xu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 12V By Adapter	Hanwen Xu



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2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 47 CFR Part 2

FCC 47 CFR Part 27

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

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

3 TEST TYPES AND RESULTS

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

The radiated peak output power shall be according to the specific rule Part 27.50(h)(2) that “User stations are limited to 2 watts” and 27.50(i) specific that “Peak transmit power must be measure over any interval of continuous transmission using instrumentation calibration in terms of rms-equivalent voltage.”

Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP

According to the specific rule Part 27.50 (k)(3) Mobile devices are limited to 1Watt (30 dBm) EIRP, Mobile devices operating inl these bands must employ a means for limiting power to the minimum necessary for successful communications

3.1.2 TEST PROCEDURES

EIRP MEASUREMENT:

Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determing the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_{\text{T}} - L_{\text{C}}$$

Where:

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

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);

L_{C} = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

CONDUCTED POWER MEASUREMENT:

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

3.1.3 TEST SETUP

CONDUCTED POWER MEASUREMENT:



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

3.1.4 TEST RESULTS

LTE Band 4/66

Channel Bandwidth (MHz)	Frequency (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK						
1.4	1710.7	1	0	22.93	25.87	< 30.00
	1745			23	25.94	< 30.00
	1779.3			22.94	25.88	< 30.00
1.4	1710.7	1	2	22.96	25.9	< 30.00
	1745			23.11	26.05	< 30.00
	1779.3			22.98	25.92	< 30.00
1.4	1710.7	1	6	22.91	25.85	< 30.00
	1745			23.04	25.98	< 30.00
	1779.3			22.92	25.86	< 30.00
1.4	1710.7	6	0	22.01	24.95	< 30.00
	1745			22.13	25.07	< 30.00
	1779.3			21.98	24.92	< 30.00
3	1711.5	1	0	22.99	25.93	< 30.00
	1745			23.04	25.98	< 30.00
	1778.5			23	25.94	< 30.00
3	1711.5	1	7	23.06	26	< 30.00
	1745			23.18	26.12	< 30.00
	1778.5			23.18	26.12	< 30.00
3	1711.5	1	14	23.05	25.99	< 30.00
	1745			23.04	25.98	< 30.00
	1778.5			23.03	25.97	< 30.00
3	1711.5	15	0	22	24.94	< 30.00
	1745			22.18	25.12	< 30.00
	1778.5			22.1	25.04	< 30.00
5	1712.5	1	0	22.97	25.91	< 30.00
	1745			23	25.94	< 30.00
	1777.5			22.93	25.87	< 30.00
5	1712.5	1	12	22.95	25.89	< 30.00
	1745			22.98	25.92	< 30.00
	1777.5			22.98	25.92	< 30.00
5	1712.5	1	24	22.97	25.91	< 30.00
	1745			23.03	25.97	< 30.00
	1777.5			22.99	25.93	< 30.00
5	1712.5	25	0	22.08	25.02	< 30.00
	1745			22.14	25.08	< 30.00
	1777.5			22.09	25.03	< 30.00

10	1715	1	0	23	25.94	< 30.00
	1745			23.08	26.02	< 30.00
	1775			22.89	25.83	< 30.00
10	1715	1	24	23.06	26	< 30.00
	1745			23.07	26.01	< 30.00
	1775			23.05	25.99	< 30.00
10	1715	1	49	23.1	26.04	< 30.00
	1745			23.11	26.05	< 30.00
	1775			22.97	25.91	< 30.00
10	1715	50	0	22.09	25.03	< 30.00
	1745			22.14	25.08	< 30.00
	1775			22.11	25.05	< 30.00
15	1717.5	1	0	22.94	25.88	< 30.00
	1745			23.02	25.96	< 30.00
	1772.5			22.92	25.86	< 30.00
15	1717.5	1	37	23.03	25.97	< 30.00
	1745			23.03	25.97	< 30.00
	1772.5			22.91	25.85	< 30.00
15	1717.5	1	74	23.14	26.08	< 30.00
	1745			23.13	26.07	< 30.00
	1772.5			23	25.94	< 30.00
15	1717.5	75	0	22.1	25.04	< 30.00
	1745			22.15	25.09	< 30.00
	1772.5			22.2	25.14	< 30.00
20	1720	1	0	22.95	25.89	< 30.00
	1745			23.02	25.96	< 30.00
	1770			22.95	25.89	< 30.00
20	1720	1	49	23.13	26.07	< 30.00
	1745			23.08	26.02	< 30.00
	1770			22.92	25.86	< 30.00
20	1720	1	99	23.12	26.06	< 30.00
	1745			23.02	25.96	< 30.00
	1770			22.96	25.9	< 30.00
20	1720	100	0	22.13	25.07	< 30.00
	1745			22.17	25.11	< 30.00
	1770			22.11	25.05	< 30.00



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Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM						
1710.7	1.4	1	0	22.04	24.98	< 30.00
1745				22.13	25.07	< 30.00
1779.3				22.09	25.03	< 30.00
1710.7	1.4	1	2	22.1	25.04	< 30.00
1745				22.22	25.16	< 30.00
1779.3				22.03	24.97	< 30.00
1710.7	1.4	1	6	22.06	25	< 30.00
1745				22.11	25.05	< 30.00
1779.3				21.99	24.93	< 30.00
1710.7	1.4	6	0	21.05	23.99	< 30.00
1745				21.13	24.07	< 30.00
1779.3				20.99	23.93	< 30.00
1711.5	3	1	0	22.25	25.19	< 30.00
1745				22.37	25.31	< 30.00
1778.5				22.2	25.14	< 30.00
1711.5	3	1	7	22.33	25.27	< 30.00
1745				22.27	25.21	< 30.00
1778.5				22.36	25.3	< 30.00
1711.5	3	1	14	22.34	25.28	< 30.00
1745				22.23	25.17	< 30.00
1778.5				22.27	25.21	< 30.00
1711.5	3	15	0	21.13	24.07	< 30.00
1745				21.1	24.04	< 30.00
1778.5				21.06	24	< 30.00
1712.5	5	1	0	22.34	25.28	< 30.00
1745				22.22	25.16	< 30.00
1777.5				22.13	25.07	< 30.00
1712.5	5	1	12	22.19	25.13	< 30.00
1745				22.18	25.12	< 30.00
1777.5				22.23	25.17	< 30.00
1712.5	5	1	24	22.28	25.22	< 30.00
1745				22.33	25.27	< 30.00
1777.5				22.07	25.01	< 30.00
1712.5	5	25	0	21.09	24.03	< 30.00
1745				21.13	24.07	< 30.00
1777.5				21.06	24	< 30.00
1715	10	1	0	22.11	25.05	< 30.00
1745				22.18	25.12	< 30.00
1775				22.02	24.96	< 30.00



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1715	10	1	24	22.27	25.21	< 30.00
1745				22.3	25.24	< 30.00
1775				22.12	25.06	< 30.00
1715	10	1	49	22.3	25.24	< 30.00
1745				22.17	25.11	< 30.00
1775				22.04	24.98	< 30.00
1715	10	50	0	21.09	24.03	< 30.00
1745				21.16	24.1	< 30.00
1775				21.06	24	< 30.00
1717.5	15	1	0	22.23	25.17	< 30.00
1745				22.35	25.29	< 30.00
1772.5				22.15	25.09	< 30.00
1717.5	15	1	37	22.38	25.32	< 30.00
1745				22.29	25.23	< 30.00
1772.5				22.19	25.13	< 30.00
1717.5	15	1	74	22.42	25.36	< 30.00
1745				22.28	25.22	< 30.00
1772.5				22.25	25.19	< 30.00
1717.5	15	75	0	21.15	24.09	< 30.00
1745				21.18	24.12	< 30.00
1772.5				21.1	24.04	< 30.00
1720	20	1	0	22.23	25.17	< 30.00
1745				22.34	25.28	< 30.00
1770				22.2	25.14	< 30.00
1720	20	1	49	22.34	25.28	< 30.00
1745				22.22	25.16	< 30.00
1770				22.33	25.27	< 30.00
1720	20	1	99	22.44	25.38	< 30.00
1745				22.33	25.27	< 30.00
1770				22.24	25.18	< 30.00
1720	20	100	0	21.13	24.07	< 30.00
1745				21.18	24.12	< 30.00
1770				21.09	24.03	< 30.00
64QAM						
1710.7	1.4	1	0	21.12	24.06	< 30.00
1745				21.21	24.15	< 30.00
1779.3				21.16	24.1	< 30.00
1710.7	1.4	1	2	21.16	24.1	< 30.00
1745				21.33	24.27	< 30.00
1779.3				21.24	24.18	< 30.00
1710.7	1.4	1	6	21.15	24.09	< 30.00
1745				21.22	24.16	< 30.00
1779.3				21.04	23.98	< 30.00
1710.7				20.07	23.01	< 30.00



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1745	1.4	6	0	20.05	22.99	< 30.00
1779.3				20.05	22.99	< 30.00
1711.5	3	1	0	21.17	24.11	< 30.00
1745				21.25	24.19	< 30.00
1778.5				21.06	24	< 30.00
1711.5	3	1	7	21.33	24.27	< 30.00
1745				21.33	24.27	< 30.00
1778.5				21.25	24.19	< 30.00
1711.5	3	1	14	21.24	24.18	< 30.00
1745				21.18	24.12	< 30.00
1778.5				21.23	24.17	< 30.00
1711.5	3	15	0	20.09	23.03	< 30.00
1745				20.15	23.09	< 30.00
1778.5				20.05	22.99	< 30.00
1712.5	5	1	0	21.16	24.1	< 30.00
1745				21.23	24.17	< 30.00
1777.5				21.12	24.06	< 30.00
1712.5	5	1	12	21.15	24.09	< 30.00
1745				21.31	24.25	< 30.00
1777.5				21.04	23.98	< 30.00
1712.5	5	1	24	21.2	24.14	< 30.00
1745				21.25	24.19	< 30.00
1777.5				21.12	24.06	< 30.00
1712.5	5	25	0	20.07	23.01	< 30.00
1745				20.18	23.12	< 30.00
1777.5				20.03	22.97	< 30.00
1715	10	1	0	21.2	24.14	< 30.00
1745				21.27	24.21	< 30.00
1775				21.01	23.95	< 30.00
1715	10	1	24	21.24	24.18	< 30.00
1745				21.36	24.3	< 30.00
1775				21.25	24.19	< 30.00
1715	10	1	49	21.33	24.27	< 30.00
1745				21.28	24.22	< 30.00
1775				21.17	24.11	< 30.00
1715	10	50	0	20.11	23.05	< 30.00
1745				20.19	23.13	< 30.00
1775				20.08	23.02	< 30.00
1717.5	15	1	0	21.25	24.19	< 30.00
1745				21.21	24.15	< 30.00
1772.5				21.17	24.11	< 30.00
1717.5	15	1	37	21.35	24.29	< 30.00
1745				21.22	24.16	< 30.00
1772.5				21.12	24.06	< 30.00



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1717.5	15	1	74	21.37	24.31	< 30.00
1745				21.34	24.28	< 30.00
1772.5				21.14	24.08	< 30.00
1717.5	15	75	0	20.06	23	< 30.00
1745				20.12	23.06	< 30.00
1772.5				20.14	23.08	< 30.00
1720	20	1	0	21.22	24.16	< 30.00
1745				21.27	24.21	< 30.00
1770				21.03	23.97	< 30.00
1720	20	1	49	21.17	24.11	< 30.00
1745				21.21	24.15	< 30.00
1770				21.17	24.11	< 30.00
1720	20	1	99	21.32	24.26	< 30.00
1745				21.29	24.23	< 30.00
1770				21.16	24.1	< 30.00
1720	20	100	0	20.14	23.08	< 30.00
1745				20.14	23.08	< 30.00
1770				20.18	23.12	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)						



**BUREAU
VERITAS**

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LTE Band 38/41

Channel Bandwidth (MHz)	Frequency (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK						
5	2498.5	1	0	22.85	25.45	< 33.01
	2593			23.32	25.92	< 33.01
	2687.5			23.2	25.8	< 33.01
5	2498.5	1	12	22.87	25.47	< 33.01
	2593			23.3	25.9	< 33.01
	2687.5			23.3	25.9	< 33.01
5	2498.5	1	24	22.84	25.44	< 33.01
	2593			23.34	25.94	< 33.01
	2687.5			23.25	25.85	< 33.01
5	2498.5	25	0	21.91	24.51	< 33.01
	2593			22.27	24.87	< 33.01
	2687.5			22.26	24.86	< 33.01
10	2501	1	0	22.76	25.36	< 33.01
	2593			23.24	25.84	< 33.01
	2685			23.16	25.76	< 33.01
10	2501	1	24	22.76	25.36	< 33.01
	2593			23.18	25.78	< 33.01
	2685			23.12	25.72	< 33.01
10	2501	1	49	22.83	25.43	< 33.01
	2593			23.26	25.86	< 33.01
	2685			23.19	25.79	< 33.01
10	2501	50	0	21.95	24.55	< 33.01
	2593			22.26	24.86	< 33.01
	2685			22.27	24.87	< 33.01
15	2503.5	1	0	22.96	25.56	< 33.01
	2593			23.38	25.98	< 33.01
	2682.5			23.25	25.85	< 33.01
15	2503.5	1	37	22.89	25.49	< 33.01
	2593			23.35	25.95	< 33.01
	2682.5			23.27	25.87	< 33.01
15	2503.5	1	74	22.99	25.59	< 33.01
	2593			23.39	25.99	< 33.01
	2682.5			23.29	25.89	< 33.01
15	2503.5	75	0	21.97	24.57	< 33.01
	2593			22.3	24.9	< 33.01
	2682.5			22.22	24.82	< 33.01
20	2506	1	0	22.88	25.48	< 33.01
	2593			23.37	25.97	< 33.01
	2680			23.31	25.91	< 33.01

20	2506	1	49	22.87	25.47	< 33.01
	2593			23.28	25.88	< 33.01
	2680			23.11	25.71	< 33.01
20	2506	1	99	22.9	25.5	< 33.01
	2593			23.23	25.83	< 33.01
	2680			23.2	25.8	< 33.01
20	2506	100	0	22.05	24.65	< 33.01
	2593			22.27	24.87	< 33.01
	2680			22.21	24.81	< 33.01

Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM						
2498.5	5	1	0	22.04	24.64	< 33.01
2593				22.62	25.22	< 33.01
2687.5				22.48	25.08	< 33.01
2498.5	5	1	12	22.03	24.63	< 33.01
2593				22.53	25.13	< 33.01
2687.5				22.57	25.17	< 33.01
2498.5	5	1	24	22.01	24.61	< 33.01
2593				22.58	25.18	< 33.01
2687.5				22.57	25.17	< 33.01
2498.5	5	25	0	20.9	23.5	< 33.01
2593				21.38	23.98	< 33.01
2687.5				21.35	23.95	< 33.01
2501	10	1	0	21.94	24.54	< 33.01
2593				22.39	24.99	< 33.01
2685				22.41	25.01	< 33.01
2501	10	1	24	21.89	24.49	< 33.01
2593				22.32	24.92	< 33.01
2685				22.26	24.86	< 33.01
2501	10	1	49	21.94	24.54	< 33.01
2593				22.35	24.95	< 33.01
2685				22.38	24.98	< 33.01
2501	10	50	0	20.86	23.46	< 33.01
2593				21.29	23.89	< 33.01
2685				21.25	23.85	< 33.01
2503.5	15	1	0	22.17	24.77	< 33.01
2593				22.64	25.24	< 33.01
2682.5				22.62	25.22	< 33.01
2503.5				22.1	24.7	< 33.01



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2593	15	1	37	22.67	25.27	< 33.01
2682.5				22.6	25.2	< 33.01
2503.5	15	1	74	22.22	24.82	< 33.01
2593				22.68	25.28	< 33.01
2682.5				22.65	25.25	< 33.01
2503.5	15	75	0	20.92	23.52	< 33.01
2593				21.35	23.95	< 33.01
2682.5				21.37	23.97	< 33.01
2506	20	1	0	22.11	24.71	< 33.01
2593				22.64	25.24	< 33.01
2680				22.58	25.18	< 33.01
2506	20	1	49	22.04	24.64	< 33.01
2593				22.61	25.21	< 33.01
2680				22.51	25.11	< 33.01
2506	20	1	99	22.15	24.75	< 33.01
2593				22.53	25.13	< 33.01
2680				22.47	25.07	< 33.01
2506	20	100	0	21.01	23.61	< 33.01
2593				21.42	24.02	< 33.01
2680				21.33	23.93	< 33.01
64QAM						
2498.5	5	1	0	20.97	23.57	< 33.01
2593				21.56	24.16	< 33.01
2687.5				21.52	24.12	< 33.01
2498.5	5	1	12	21.03	23.63	< 33.01
2593				21.56	24.16	< 33.01
2687.5				21.6	24.2	< 33.01
2498.5	5	1	24	21.01	23.61	< 33.01
2593				21.55	24.15	< 33.01
2687.5				21.56	24.16	< 33.01
2498.5	5	25	0	19.96	22.56	< 33.01
2593				20.38	22.98	< 33.01
2687.5				20.38	22.98	< 33.01
2501	10	1	0	21	23.6	< 33.01
2593				21.54	24.14	< 33.01
2685				21.56	24.16	< 33.01
2501	10	1	24	21.04	23.64	< 33.01
2593				21.57	24.17	< 33.01
2685				21.5	24.1	< 33.01
2501	10	1	49	21.03	23.63	< 33.01
2593				21.49	24.09	< 33.01
2685				21.55	24.15	< 33.01
2501				19.95	22.55	< 33.01



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2593	10	50	0	20.37	22.97	< 33.01
2685				20.34	22.94	< 33.01
2503.5	15	1	0	21.09	23.69	< 33.01
2593				21.61	24.21	< 33.01
2682.5				21.53	24.13	< 33.01
2503.5	15	1	37	21.02	23.62	< 33.01
2593				21.6	24.2	< 33.01
2682.5				21.5	24.1	< 33.01
2503.5	15	1	74	21.08	23.68	< 33.01
2593				21.6	24.2	< 33.01
2682.5				21.55	24.15	< 33.01
2503.5	15	75	0	19.99	22.59	< 33.01
2593				20.39	22.99	< 33.01
2682.5				20.4	23	< 33.01
2506	20	1	0	21.09	23.69	< 33.01
2593				21.54	24.14	< 33.01
2680				21.6	24.2	< 33.01
2506	20	1	49	21.04	23.64	< 33.01
2593				21.51	24.11	< 33.01
2680				21.53	24.13	< 33.01
2506	20	1	99	21.1	23.7	< 33.01
2593				21.5	24.1	< 33.01
2680				21.47	24.07	< 33.01
2506	20	100	0	19.93	22.53	< 33.01
2593				20.37	22.97	< 33.01
2680				20.33	22.93	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)						



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LTE Band 42

Channel Bandwidth (MHz)	Frequency (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK						
5	3452.5	1	0	21.42	19.42	< 30.00
	3500			21.31	19.31	< 30.00
	3547.5			21.42	19.42	< 30.00
5	3452.5	1	12	21.43	19.43	< 30.00
	3500			21.33	19.33	< 30.00
	3547.5			21.44	19.44	< 30.00
5	3452.5	1	24	21.39	19.39	< 30.00
	3500			21.28	19.28	< 30.00
	3547.5			21.39	19.39	< 30.00
5	3452.5	25	0	20.38	18.38	< 30.00
	3500			20.29	18.29	< 30.00
	3547.5			20.41	18.41	< 30.00
10	3455	1	0	21.44	19.44	< 30.00
	3500			21.33	19.33	< 30.00
	3545			21.29	19.29	< 30.00
10	3455	1	24	21.41	19.41	< 30.00
	3500			21.29	19.29	< 30.00
	3545			21.31	19.31	< 30.00
10	3455	1	49	21.43	19.43	< 30.00
	3500			21.29	19.29	< 30.00
	3545			21.38	19.38	< 30.00
	3455			20.45	18.45	< 30.00

10	3500	50	0	20.31	18.31	< 30.00
	3545			20.37	18.37	< 30.00
15	3457.5	1	0	21.39	19.39	< 30.00
	3500			21.32	19.32	< 30.00
	3542.5			21.28	19.28	< 30.00
15	3457.5	1	37	21.38	19.38	< 30.00
	3500			21.29	19.29	< 30.00
	3542.5			21.31	19.31	< 30.00
15	3457.5	1	74	21.45	19.45	< 30.00
	3500			21.33	19.33	< 30.00
	3542.5			21.39	19.39	< 30.00
15	3457.5	75	0	20.42	18.42	< 30.00
	3500			20.34	18.34	< 30.00
	3542.5			20.41	18.41	< 30.00
20	3460	1	0	21.39	19.39	< 30.00
	3500			21.38	19.38	< 30.00
	3540			21.29	19.29	< 30.00
20	3460	1	49	21.33	19.33	< 30.00
	3500			21.32	19.32	< 30.00
	3540			21.31	19.31	< 30.00
20	3460	1	99	21.38	19.38	< 30.00
	3500			21.41	19.41	< 30.00
	3540			21.46	19.46	< 30.00
20	3460	100	0	20.39	18.39	< 30.00
	3500			20.36	18.36	< 30.00
	3540			20.35	18.35	< 30.00
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi)						

Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	EIRP(dBm)	Limit(dBm)
5MHz	QPSK	42115	1RB#12	23.29	21.29	30
5MHz	QPSK	42115	1RB#24	23.3	21.3	30
5MHz	QPSK	42115	25RB#0	22.34	20.34	30
5MHz	QPSK	42590	1RB#0	23.22	21.22	30
5MHz	QPSK	42590	1RB#12	23.19	21.19	30
5MHz	QPSK	42590	1RB#24	23.2	21.2	30
5MHz	QPSK	42590	25RB#0	22.32	20.32	30
5MHz	QPSK	43065	1RB#0	23.32	21.32	30
5MHz	QPSK	43065	1RB#12	23.27	21.27	30
5MHz	QPSK	43065	1RB#24	23.3	21.3	30
5MHz	QPSK	43065	25RB#0	22.42	20.42	30
10MHz	QPSK	42140	1RB#0	23.3	21.3	30
10MHz	QPSK	42140	1RB#24	23.3	21.3	30
10MHz	QPSK	42140	1RB#49	23.37	21.37	30
10MHz	QPSK	42140	50RB#0	22.51	20.51	30
10MHz	QPSK	42590	1RB#0	23.23	21.23	30
10MHz	QPSK	42590	1RB#24	23.23	21.23	30
10MHz	QPSK	42590	1RB#49	23.24	21.24	30
10MHz	QPSK	42590	50RB#0	22.35	20.35	30
10MHz	QPSK	43040	1RB#0	23.31	21.31	30
10MHz	QPSK	43040	1RB#24	23.3	21.3	30
10MHz	QPSK	43040	1RB#49	23.27	21.27	30
10MHz	QPSK	43040	50RB#0	22.44	20.44	30
15MHz	QPSK	42165	1RB#0	23.21	21.21	30
15MHz	QPSK	42165	1RB#38	23.38	21.38	30
15MHz	QPSK	42165	1RB#74	23.43	21.43	30
15MHz	QPSK	42165	75RB#0	22.5	20.5	30

15MHz	QPSK	42590	1RB#0	23.21	21.21	30
15MHz	QPSK	42590	1RB#38	23.24	21.24	30
15MHz	QPSK	42590	1RB#74	23.29	21.29	30
15MHz	QPSK	42590	75RB#0	22.35	20.35	30
15MHz	QPSK	43015	1RB#0	23.24	21.24	30
15MHz	QPSK	43015	1RB#38	23.3	21.3	30
15MHz	QPSK	43015	1RB#74	23.32	21.32	30
15MHz	QPSK	43015	75RB#0	22.44	20.44	30
20MHz	QPSK	42190	1RB#0	23.19	21.19	30
20MHz	QPSK	42190	1RB#49	23.33	21.33	30
20MHz	QPSK	42190	1RB#99	23.39	21.39	30
20MHz	QPSK	42190	100RB#0	22.48	20.48	30
20MHz	QPSK	42590	1RB#0	23.21	21.21	30
20MHz	QPSK	42590	1RB#49	23.19	21.19	30
20MHz	QPSK	42590	1RB#99	23.29	21.29	30
20MHz	QPSK	42590	100RB#0	22.37	20.37	30
20MHz	QPSK	42990	1RB#0	23.25	21.25	30
20MHz	QPSK	42990	1RB#49	23.3	21.3	30
20MHz	QPSK	42990	1RB#99	23.31	21.31	30
20MHz	QPSK	42990	100RB#0	22.45	20.45	30

Channel Bandwidth (MHz)	Frequency (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM						
5	3452.5	1	0	20.63	18.63	< 30.00
	3500			20.69	18.69	< 30.00
	3547.5			20.53	18.53	< 30.00
	3452.5			20.64	18.64	< 30.00

5	3500	1	12	20.73	18.73	< 30.00
	3547.5			20.6	18.6	< 30.00
5	3452.5	1	24	20.57	18.57	< 30.00
	3500			20.68	18.68	< 30.00
	3547.5			20.51	18.51	< 30.00
5	3452.5	25	0	19.62	17.62	< 30.00
	3500			19.39	17.39	< 30.00
	3547.5			19.54	17.54	< 30.00
10	3455	1	0	20.46	18.46	< 30.00
	3500			20.53	18.53	< 30.00
	3545			20.65	18.65	< 30.00
10	3455	1	24	20.48	18.48	< 30.00
	3500			20.48	18.48	< 30.00
	3545			20.66	18.66	< 30.00
10	3455	1	49	20.51	18.51	< 30.00
	3500			20.5	18.5	< 30.00
	3545			20.75	18.75	< 30.00
10	3455	50	0	19.57	17.57	< 30.00
	3500			19.44	17.44	< 30.00
	3545			19.52	17.52	< 30.00
15	3457.5	1	0	20.77	18.77	< 30.00
	3500			20.6	18.6	< 30.00
	3542.5			20.35	18.35	< 30.00
15	3457.5	1	37	20.75	18.75	< 30.00
	3500			20.55	18.55	< 30.00
	3542.5			20.41	18.41	< 30.00
	3457.5			20.83	18.83	< 30.00

15	3500	1	74	20.6	18.6	< 30.00
	3542.5			20.52	18.52	< 30.00
15	3457.5	75	0	19.61	17.61	< 30.00
	3500			19.37	17.37	< 30.00
	3542.5			19.5	17.5	< 30.00
20	3460	1	0	20.53	18.53	< 30.00
	3500			20.76	18.76	< 30.00
	3540			20.45	18.45	< 30.00
20	3460	1	49	20.52	18.52	< 30.00
	3500			20.65	18.65	< 30.00
	3540			20.51	18.51	< 30.00
20	3460	1	99	20.57	18.57	< 30.00
	3500			20.76	18.76	< 30.00
	3540			20.65	18.65	< 30.00
20	3460	100	0	19.6	17.6	< 30.00
	3500			19.51	17.51	< 30.00
	3540			19.52	17.52	< 30.00

Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	EIRP(dBm)	Limit(dBm)
5MHz	16QAM	42115	1RB#0	22.54	20.54	30
5MHz	16QAM	42115	1RB#12	22.53	20.53	30
5MHz	16QAM	42115	1RB#24	22.51	20.51	30
5MHz	16QAM	42115	25RB#0	21.38	19.38	30
5MHz	16QAM	42590	1RB#0	22.47	20.47	30
5MHz	16QAM	42590	1RB#12	22.46	20.46	30
5MHz	16QAM	42590	1RB#24	22.47	20.47	30
5MHz	16QAM	42590	25RB#0	21.38	19.38	30

5MHz	16QAM	43065	1RB#0	22.58	20.58	30
5MHz	16QAM	43065	1RB#12	22.55	20.55	30
5MHz	16QAM	43065	1RB#24	22.53	20.53	30
5MHz	16QAM	43065	25RB#0	21.43	19.43	30
5MHz	64QAM	42115	1RB#0	22.44	20.44	30
5MHz	64QAM	42115	1RB#12	22.41	20.41	30
5MHz	64QAM	42115	1RB#24	22.39	20.39	30
5MHz	64QAM	42115	25RB#0	21.32	19.32	30
5MHz	64QAM	42590	1RB#0	22.38	20.38	30
5MHz	64QAM	42590	1RB#12	22.35	20.35	30
5MHz	64QAM	42590	1RB#24	22.36	20.36	30
5MHz	64QAM	42590	25RB#0	21.3	19.3	30
5MHz	64QAM	43065	1RB#0	22.48	20.48	30
5MHz	64QAM	43065	1RB#12	22.43	20.43	30
5MHz	64QAM	43065	1RB#24	22.46	20.46	30
5MHz	64QAM	43065	25RB#0	21.38	19.38	30
10MHz	16QAM	42140	1RB#0	22.55	20.55	30
10MHz	16QAM	42140	1RB#24	22.53	20.53	30
10MHz	16QAM	42140	1RB#49	22.62	20.62	30
10MHz	16QAM	42140	50RB#0	21.56	19.56	30
10MHz	16QAM	42590	1RB#0	22.51	20.51	30
10MHz	16QAM	42590	1RB#24	22.5	20.5	30
10MHz	16QAM	42590	1RB#49	22.49	20.49	30
10MHz	16QAM	42590	50RB#0	21.4	19.4	30
10MHz	16QAM	43040	1RB#0	22.56	20.56	30
10MHz	16QAM	43040	1RB#24	22.52	20.52	30
10MHz	16QAM	43040	1RB#49	22.53	20.53	30
10MHz	16QAM	43040	50RB#0	21.47	19.47	30



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10MHz	64QAM	42140	1RB#0	21.32	19.32	30
10MHz	64QAM	42140	1RB#24	21.33	19.33	30
10MHz	64QAM	42140	1RB#49	21.43	19.43	30
10MHz	64QAM	42140	50RB#0	20.56	18.56	30
10MHz	64QAM	42590	1RB#0	21.27	19.27	30
10MHz	64QAM	42590	1RB#24	21.26	19.26	30
10MHz	64QAM	42590	1RB#49	21.28	19.28	30
10MHz	64QAM	42590	50RB#0	20.4	18.4	30
10MHz	64QAM	43040	1RB#0	21.35	19.35	30
10MHz	64QAM	43040	1RB#24	21.34	19.34	30
10MHz	64QAM	43040	1RB#49	21.35	19.35	30
10MHz	64QAM	43040	50RB#0	20.45	18.45	30
15MHz	16QAM	42165	1RB#0	22.46	20.46	30
15MHz	16QAM	42165	1RB#38	22.6	20.6	30
15MHz	16QAM	42165	1RB#74	22.7	20.7	30
15MHz	16QAM	42165	75RB#0	21.53	19.53	30
15MHz	16QAM	42590	1RB#0	22.44	20.44	30
15MHz	16QAM	42590	1RB#38	22.46	20.46	30
15MHz	16QAM	42590	1RB#74	22.52	20.52	30
15MHz	16QAM	42590	75RB#0	21.39	19.39	30
15MHz	16QAM	43015	1RB#0	22.52	20.52	30
15MHz	16QAM	43015	1RB#38	22.57	20.57	30
15MHz	16QAM	43015	1RB#74	22.54	20.54	30
15MHz	16QAM	43015	75RB#0	21.46	19.46	30
15MHz	64QAM	42165	1RB#0	21.28	19.28	30
15MHz	64QAM	42165	1RB#38	21.4	19.4	30
15MHz	64QAM	42165	1RB#74	21.46	19.46	30
15MHz	64QAM	42165	75RB#0	20.54	18.54	30



Test Report No.: PSU-NQN2504020112RF04

15MHz	64QAM	42590	1RB#0	21.25	19.25	30
15MHz	64QAM	42590	1RB#38	21.27	19.27	30
15MHz	64QAM	42590	1RB#74	21.35	19.35	30
15MHz	64QAM	42590	75RB#0	20.39	18.39	30
15MHz	64QAM	43015	1RB#0	21.32	19.32	30
15MHz	64QAM	43015	1RB#38	21.31	19.31	30
15MHz	64QAM	43015	1RB#74	21.37	19.37	30
15MHz	64QAM	43015	75RB#0	20.45	18.45	30
20MHz	16QAM	42190	1RB#0	22.43	20.43	30
20MHz	16QAM	42190	1RB#49	22.61	20.61	30
20MHz	16QAM	42190	1RB#99	22.64	20.64	30
20MHz	16QAM	42190	100RB#0	21.54	19.54	30
20MHz	16QAM	42590	1RB#0	22.44	20.44	30
20MHz	16QAM	42590	1RB#49	22.45	20.45	30
20MHz	16QAM	42590	1RB#99	22.51	20.51	30
20MHz	16QAM	42590	100RB#0	21.39	19.39	30
20MHz	16QAM	42990	1RB#0	22.5	20.5	30
20MHz	16QAM	42990	1RB#49	22.54	20.54	30
20MHz	16QAM	42990	1RB#99	22.56	20.56	30
20MHz	16QAM	42990	100RB#0	21.47	19.47	30
20MHz	64QAM	42190	1RB#0	21.2	19.2	30
20MHz	64QAM	42190	1RB#49	21.38	19.38	30
20MHz	64QAM	42190	1RB#99	21.45	19.45	30
20MHz	64QAM	42190	100RB#0	20.53	18.53	30
20MHz	64QAM	42590	1RB#0	21.23	19.23	30
20MHz	64QAM	42590	1RB#49	21.25	19.25	30
20MHz	64QAM	42590	1RB#99	21.33	19.33	30
20MHz	64QAM	42590	100RB#0	20.41	18.41	30



BUREAU
VERITAS

Test Report No.: PSU-NQN2504020112RF04

20MHz	64QAM	42990	1RB#0	21.31	19.31	30
20MHz	64QAM	42990	1RB#49	21.36	19.36	30
20MHz	64QAM	42990	1RB#99	21.39	19.39	30
20MHz	64QAM	42990	100RB#0	20.46	18.46	30
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi)						

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

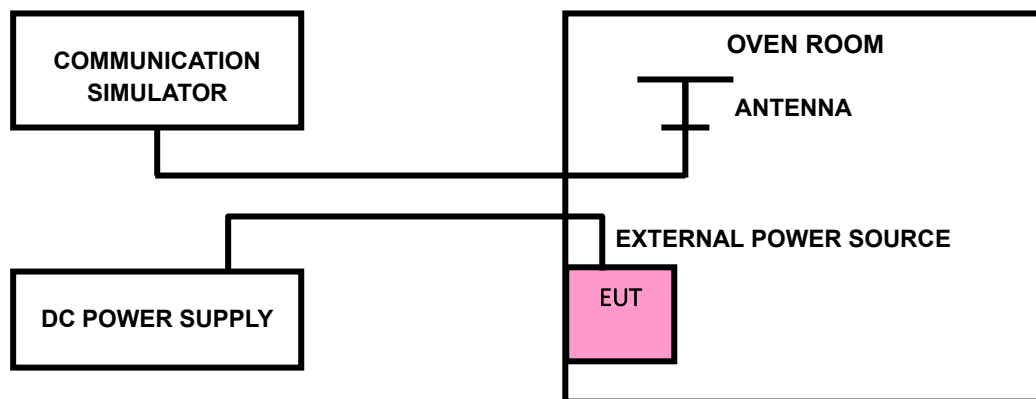
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

3.2.2 TEST PROCEDURE

- Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

NOTE: The frequency error was recorded frequency error from the communication simulator.

3.2.3 TEST SETUP





Test Report No.: PSU-NQN2504020112RF04

3.2.4 TEST RESULTS

Please Refer to module EM60K(C2PC), EM120K and EM120K-GL(C2PC) report.

For module EM60K(C2PC): Report No.: 2309RSU052-U1,2309RSU052-U7

FCC ID: XMR2022EM060KGL

For module EM120K: Report No.: 2203RSU046-U2

FCC ID: XMR2022EM120KGL

For module EM120K(C2PC): Report No.: SEWM2312000500RG01

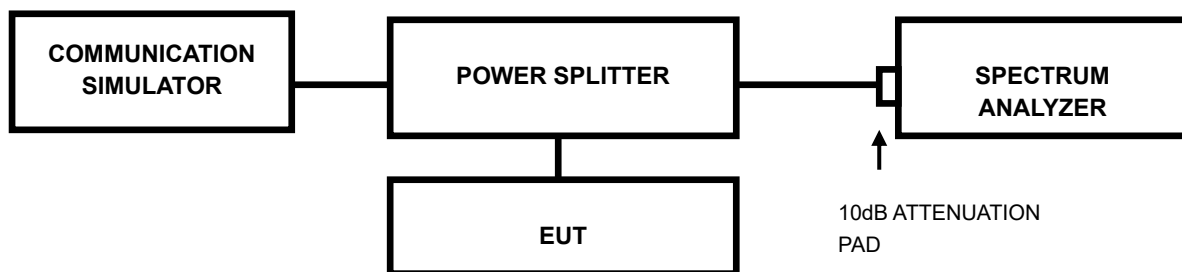
FCC ID: XMR2022EM120KGL

3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

3.3.2 TEST SETUP



3.3.3 TEST PROCEDURES

- The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.



Test Report No.: PSU-NQN2504020112RF04

3.3.4 TEST RESULTS

Please Refer to module EM60K(C2PC), EM120K and EM120K-GL(C2PC) report.

For module EM60K(C2PC): Report No.: 2309RSU052-U1,2309RSU052-U7

FCC ID: XMR2022EM060KGL

For module EM120K: Report No.: 2203RSU046-U2

FCC ID: XMR2022EM120KGL

For module EM120K(C2PC): Report No.: SEWM2312000500RG01

FCC ID: XMR2022EM120KGL

3.4 BAND EDGE MEASUREMENT

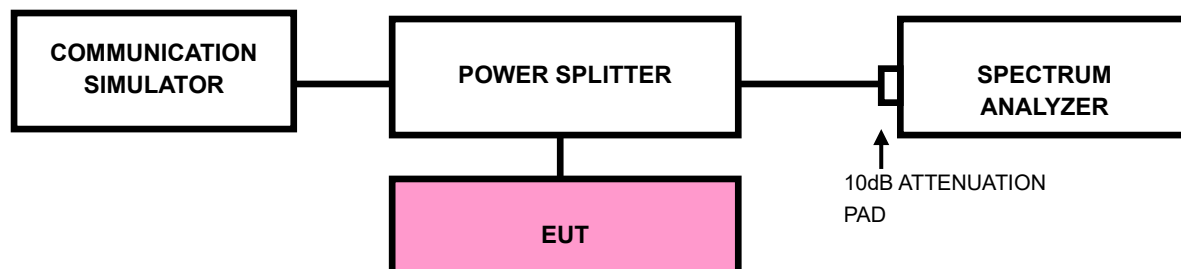
3.4.1 LIMITS OF BAND EDGE MEASUREMENT

According to FCC Part 27.53(h) specified that For operations in the 1710-1755 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. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

According to FCC Part 27.53(m)(4) specified that For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees. For mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed.

According to FCC Part 27.53 (n)(2) For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.

3.4.2 TEST SETUP



3.4.3 TEST PROCEDURES

- a) Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.
- b) Tune the analyzer to the nominal center frequency of the emission bandwidth (EBW).
- c) Set the resolution bandwidth (RBW) $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
- d) Beyond the 1MHz band from the band edge, RBW=1MHz was used.
- e) Set the video bandwidth (VBW) to $\geq 3 \times$ RBW.
- f) Select the average power (RMS) display detector.
- g) Set the number of measurement points to ≥ 1001 .
- h) Use auto-coupled sweep time.
- i) Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.
- j) The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 10KHz or 100KHz.
- k) Record the max trace plot into the test report.



Test Report No.: PSU-NQN2504020112RF04

3.4.4 TEST RESULTS

Please Refer to module EM60K(C2PC), EM120K and EM120K-GL(C2PC) report.

For module EM60K(C2PC): Report No.: 2309RSU052-U1,2309RSU052-U7

FCC ID: XMR2022EM060KGL

For module EM120K: Report No.: 2203RSU046-U2

FCC ID: XMR2022EM120KGL

For module EM120K(C2PC): Report No.: SEWM2312000500RG01

FCC ID: XMR2022EM120KGL

3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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

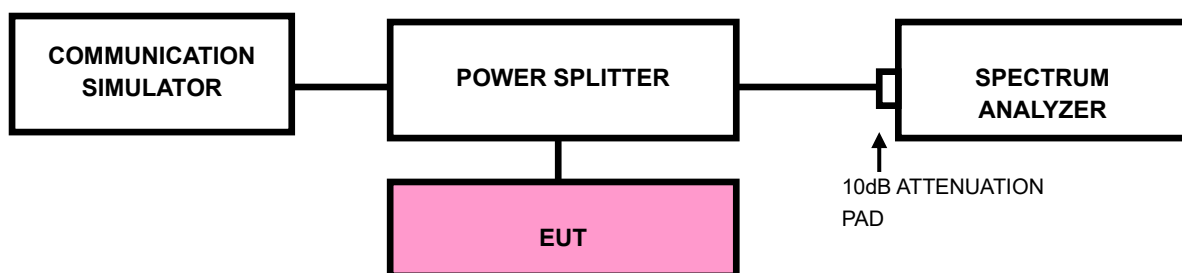
For: LTE Band7/Band41

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $55 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -25dBm .

3.5.2 TEST PROCEDURE

- a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- b. Measuring frequency range is from 9kHz up to a frequency including its 10th harmonic. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.3 TEST SETUP





Test Report No.: PSU-NQN2504020112RF04

3.5.4 TEST RESULTS

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

Please Refer to module EM60K(C2PC), EM120K and EM120K-GL(C2PC) report.

For module EM60K(C2PC): Report No.: 2309RSU052-U1,2309RSU052-U7

FCC ID: XMR2022EM060KGL

For module EM120K: Report No.: 2203RSU046-U2

FCC ID: XMR2022EM120KGL

For module EM120K(C2PC): Report No.: SEWM2312000500RG01

FCC ID: XMR2022EM120KGL

3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

For: LTE Band41

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $55 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -25dBm .

3.6.2 TEST PROCEDURES

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m 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 substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step a. Record the power level of S.G.
- c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,
 $\text{E.R.P power} = \text{E.I.P.R power} - 2.15\text{dBi}$.

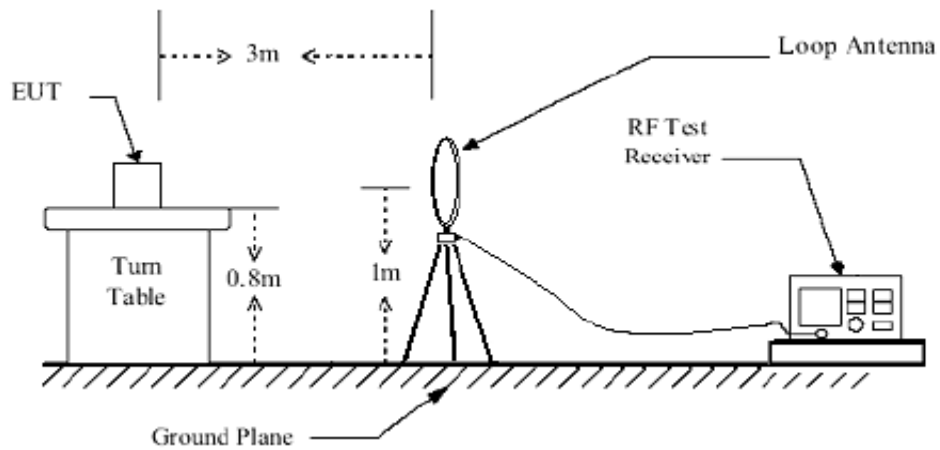
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.6.3 DEVIATION FROM TEST STANDARD

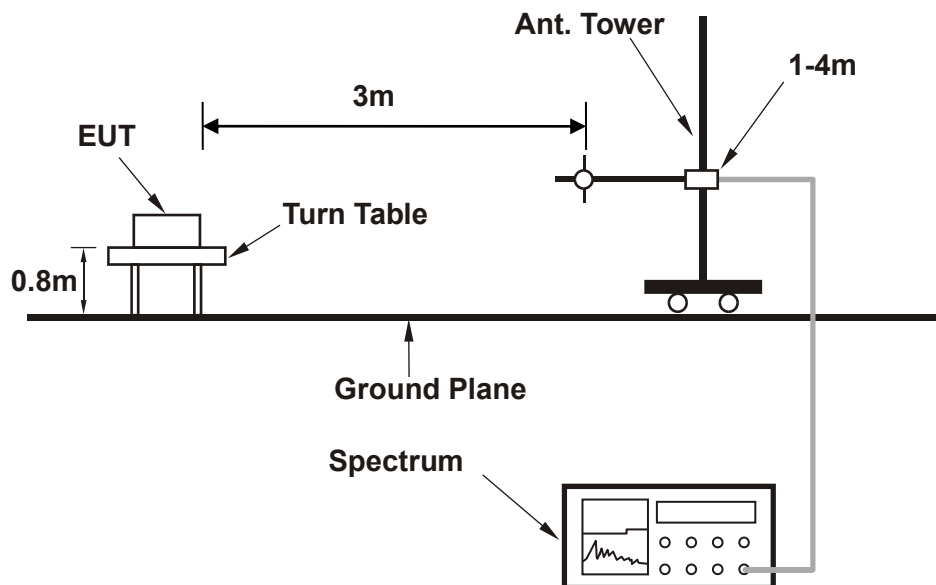
No deviation

3.6.4 TEST SETUP

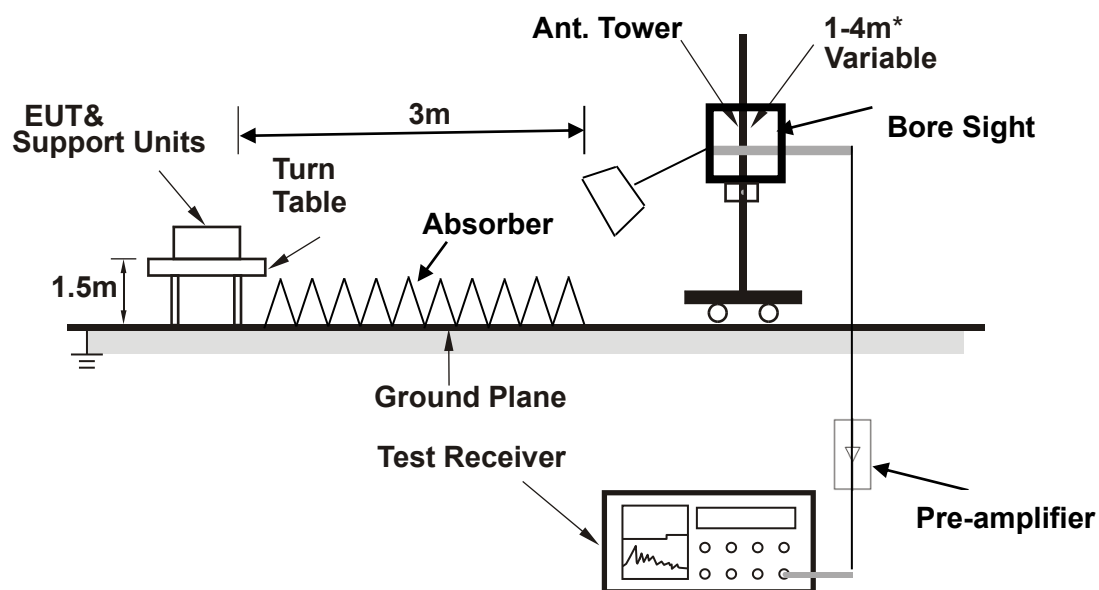
< Frequency Range below 30MHz >



< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

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

3.6.5 TEST RESULTS

NOTE1: The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

NOTE2: The measurement range is 30M to the tenth harmonic of the highest fundamental frequency, For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

LTE-B4

Frequency (MHz)	Power (dBm)	Limited (dBm)	Polarization
1126.00	-82.02	-13	PV
1431.20	-78.52	-13	PV
2468.55	-62.62	-13	PV
3102.00	-83.09	-13	PV
3561.00	-81.31	-13	PV
4719.00	-87.94	-13	PV

LTE-B38

Frequency (MHz)	Power (dBm)	Limited (dBm)	Polarization
1072.80	-83.60	-25	PV
1298.20	-80.63	-25	PV
1499.80	-77.01	-25	PV
3081.00	-83.07	-25	PV
3573.00	-80.92	-25	PV
4080.00	-90.38	-25	PV

LTE-B41

Frequency (MHz)	Power (dBm)	Limited (dBm)	Polarization
766.51	-80.64	-25	PV
1151.20	-80.80	-25	PV
1515.20	-77.24	-25	PV
3111.00	-82.91	-25	PV
3585.00	-81.31	-25	PV
4524.00	-88.68	-25	PV

LTE-B42

Frequency (MHz)	Power (dBm)	Limited (dBm)	Polarization
1208.60	-80.56	-25	PV
1504.00	-76.80	-25	PV
2464.55	-78.65	-25	PV
3102.00	-82.69	-25	PV
4215.00	-89.05	-25	PV
4461.00	-88.89	-25	PV

LTE-B66

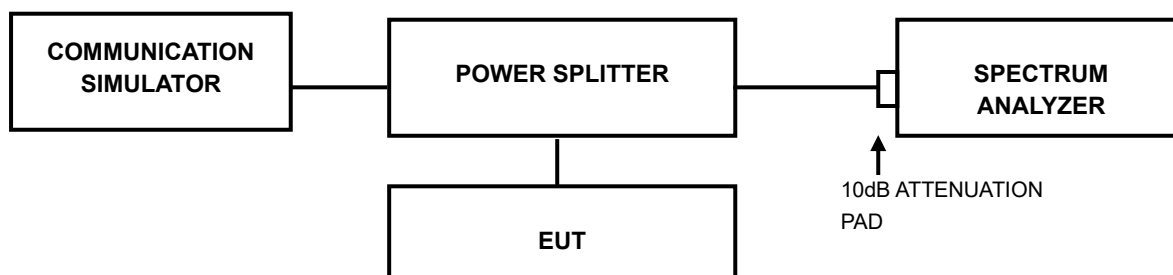
Frequency (MHz)	Power (dBm)	Limited (dBm)	Polarization
766.51	-80.64	-13	PV
2479.83	-63.09	-13	PV
2607.98	-81.93	-13	PV
3081.00	-83.07	-13	PV
3531.00	-81.07	-13	PV
4164.00	-89.43	-13	PV

3.7 PEAK TO AVERAGE RATIO

3.7.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

3.7.2 TEST SETUP



3.7.3 TEST PROCEDURES

1. Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

3.7.4 TEST RESULTS

Please Refer to module EM60K(C2PC), EM120K and EM120K-GL(C2PC) report.

For module EM60K(C2PC): Report No.: 2309RSU052-U1,2309RSU052-U7

FCC ID: XMR2022EM060KGL

For module EM120K: Report No.: 2203RSU046-U2

FCC ID: XMR2022EM120KGL

For module EM120K(C2PC): Report No.: SEWM2312000500RG01

FCC ID: XMR2022EM120KGL



Test Report No.: PSU-NQN2504020112RF04

4 INFORMATION ON THE TESTING LABORATORIES

We, Huarui 7layers High Technology (Suzhou) Co., Ltd. ,were founded in 2020 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

Huarui 7Layers High Technology (Suzhou) Co., Ltd.

Lab Address:

Tower N, Innovation Center, 88 Zuyi Road, High-tech District, Suzhou City, Anhui Province

Accredited Test Lab Cert 6613.01

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

Suzhou EMC/RF Lab:

Tel: +86 (0557) 368 1008



Test Report No.: PSU-NQN2504020112RF04

5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.



Test Report No.: PSU-NQN2504020112RF04

6 APPENDIX

Please Refer to module EM60K(C2PC), EM120K and EM120K-GL(C2PC) report.

For module EM60K(C2PC): Report No.: 2309RSU052-U1,2309RSU052-U7

FCC ID: XMR2022EM060KGL

For module EM120K: Report No.: 2203RSU046-U2

FCC ID: XMR2022EM120KGL

For module EM120K(C2PC): Report No.: SEWM2312000500RG01

FCC ID: XMR2022EM120KGL

---END---