



Test Report No.: PSU-NQN2505120312RF04



Certificate #6613.01

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:	Industrial Cellular Router
Brand Name:	inhand
Model Name:	IR302-FQ38-WLAN v2, IR352-FQ38-WLAN v2, IR392-FQ38-WLAN v2
FCC ID:	2BPWU-IR302
Date of tests:	Apr. 28, 2025 ~ May. 21, 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: May. 21, 2025

Date: May. 21, 2025

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-NQN2505120312RF04	Original release	May. 21, 2025



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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)	Equivalent Isotropically Radiated Power (Band 4) (Band 66)	Compliance	A
§2.1055 §27.54	Frequency Stability	Compliance	A
§2.1049	Occupied Bandwidth	Compliance	A
§2.1051 §27.53(h)	Conducted Band Edge Measurements (Band 4) (Band 66)	Compliance	A
§2.1051 §27.53(h)	Conducted Spurious Emissions (Band 4) (Band 66)	Compliance	A
§2.1053 §27.53(h)	Radiated Spurious Emissions (Band 4) (Band 66)	Compliance	A
§27.50(d)(5)	Peak to average ratio	Compliance	A



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***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, China

Accredited Test Lab Cert 6613.01

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



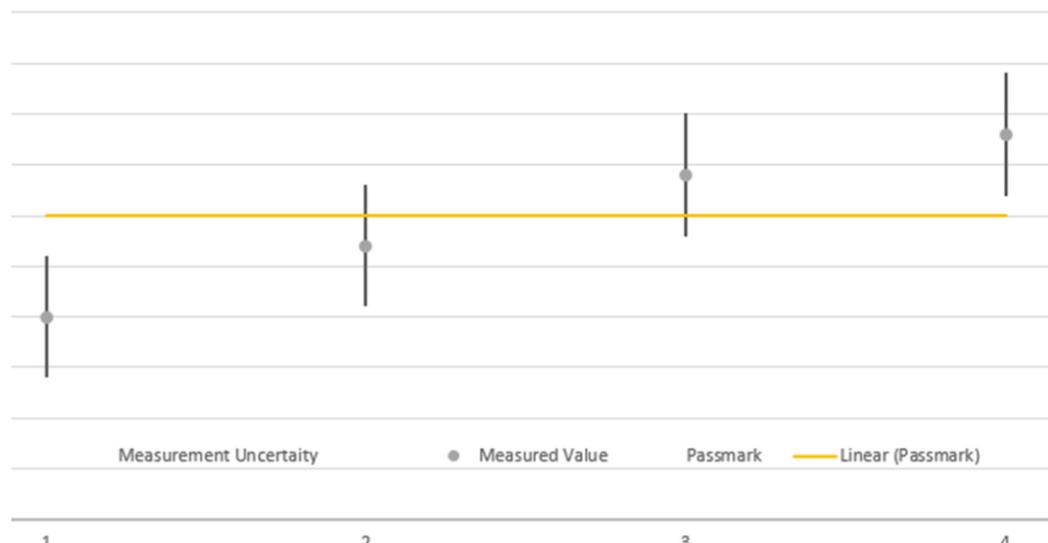
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1.1 MEASUREMENT UNCERTAINTY

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	±76.97Hz
Radiated emissions (9KHz~30MHz)	±2.68dB
Radiated emissions & Radiated Power (30MHz~1GHz)	±4.98dB
Radiated emissions & Radiated Power (1GHz ~6GHz)	±4.70dB
Radiated emissions (6GHz ~18GHz)	±4.60dB
Radiated emissions (18GHz ~40GHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Conducted Output power	±2.06dB
Band Edge Measurements	±4.70dB

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.22,25	Feb.21,27
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



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NOTE:

1. The calibration interval of the above test instruments is 12 / 24/ 36 months and the calibrations are traceable to CEPREI/CHINA, GRRG/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*	Industrial Cellular Router	
BRAND NAME*	inhand	
MODEL NAME*	IR302-FQ38-WLAN v2, IR352-FQ38-WLAN v2, IR392-FQ38-WLAN v2	
NOMINAL VOLTAGE*	12.0Vdc(adapter or host equipment)	
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 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 Channel Bandwidth: 5MHz	208.9mW
	LTE Band 66 Channel Bandwidth: 5MHz	437.5mW
ANTENNA TYPE*	4G sucker antenna Antenna with 2.94dBi gain for LTE B4/ LTE B66	
HW VERSION*	V2.0	
SW VERSION*	V3.5	
I/O PORTS*	Refer to user's manual	
EXTREME TEMPERATURE*	-20°C~70 °C	



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EXTREME VOLTAGE*	9 Vdc~36Vdc
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Please refer to Note 3 for the model description

NOTE1: This product uses the module model EC25-AFXD; EC25-AFXD MINIPCIE and supports LTE frequency bands 2/4/5/12/13/14/66/71. Therefore, for this product, we referred to the test data reported by the EC25-AFXD; EC25-AFXD MINIPCIE module and reevaluated the spectrum of radiated emissions and EIRP.

Please Refer to Module report EC25-AFXD; EC25-AFXD MINIPCIE

(Report No.: R2203A0238-R3 FCC ID: XMR202008EC25AFXD)

NOTE2:

1. *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.
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 two receiver.

MODULATION MODE	TX FUNCTION
LTE	1TX/2RX

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.

NOTE3 DIFFERENCE DESCRIPTION:

Test Model No.: IR302-FQ38-WLAN v2

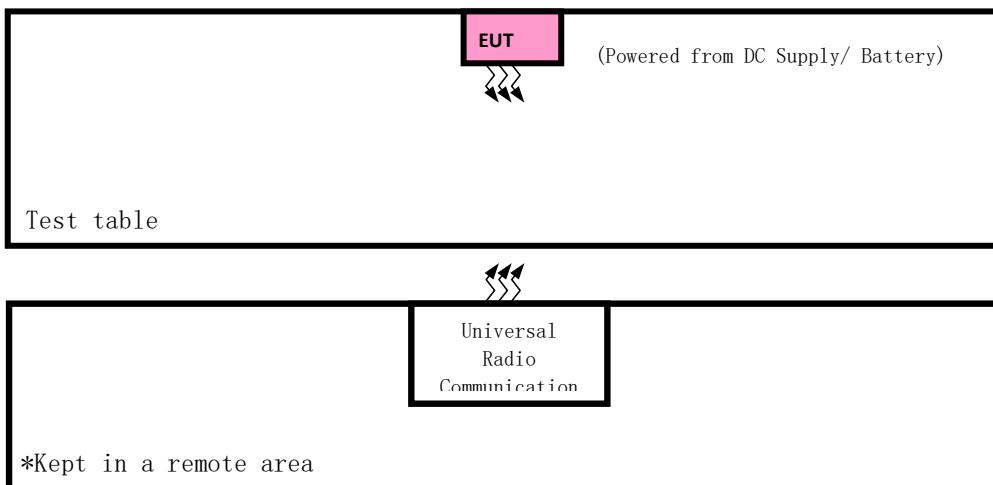
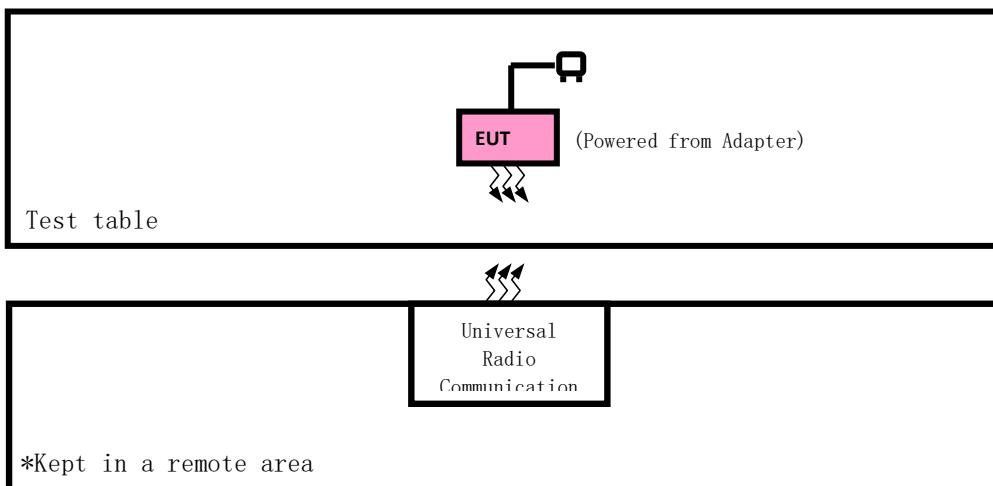
Series Models NO: IR352-FQ38-WLAN v2, IR392-FQ38-WLAN v2

These three 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.



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2.2 CONFIGURATION OF SYSTEM UNDER TEST FOR RADIATION EMISSION TEST





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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	1 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20MHz	QPSK,16QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20MHz	QPSK,16QAM	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.



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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	1 RB / 0 RB Offset
		131987 to 132657	131987,132322,132657	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
		131997 to 132647	131997,132322,132647	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
		132022 to 132622	132022,132322,132622	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
		132047 to 132597	132047,132322,132597	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
		132072 to 132572	132072,132322,132572	20MHz	QPSK,16QAM	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	DC12V By Adapter	Hanwen Xu
RADIATED EMISSION	23deg. C, 70%RH	DC12V 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 measured 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 in 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 determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_T - L_c$$

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.



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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

CONDUCTED OUTPUT POWER (dBm)

Note: The gain of this product has changed, therefore Power has been reevaluated test.
Please refer to the referenced module report for other test item results

B4_1.4MHz_EIRP

Modulation	Frequency (MHz)	Band: 4 / Bandwidth: 1.4MHz / NTVN						Verdict
		RB Allocation	Conducted Power (dBm)	Gain (dBi)	EIRP (dBm)			
Size	Offset	Result	Limit					
QPSK	1710.7	0	23.66	2.94	26.60	<=30	Pass	
		1	23.25	2.94	26.19	<=30	Pass	
		5	23.76	2.94	26.70	<=30	Pass	
		0	23.34	2.94	26.28	<=30	Pass	
		3	23.44	2.94	26.38	<=30	Pass	
		2	23.43	2.94	26.37	<=30	Pass	
	1732.5	6	22.62	2.94	25.56	<=30	Pass	
		0	23.47	2.94	26.41	<=30	Pass	
		1	23.56	2.94	26.50	<=30	Pass	
		5	23.54	2.94	26.48	<=30	Pass	
		0	23.55	2.94	26.49	<=30	Pass	
		3	23.47	2.94	26.41	<=30	Pass	
	1754.3	3	23.52	2.94	26.46	<=30	Pass	
		6	22.48	2.94	25.42	<=30	Pass	
		0	23.41	2.94	26.35	<=30	Pass	
		1	23.70	2.94	26.64	<=30	Pass	
		5	23.69	2.94	26.63	<=30	Pass	
		0	23.60	2.94	26.54	<=30	Pass	
16QAM	1710.7	3	23.58	2.94	26.52	<=30	Pass	
		2	23.78	2.94	26.72	<=30	Pass	
		3	23.78	2.94	26.72	<=30	Pass	
		6	22.75	2.94	25.69	<=30	Pass	
		0	21.98	2.94	24.92	<=30	Pass	
		1	22.33	2.94	25.27	<=30	Pass	
	1732.5	5	22.37	2.94	25.31	<=30	Pass	
		0	22.47	2.94	25.41	<=30	Pass	
		3	22.48	2.94	25.42	<=30	Pass	
		2	22.63	2.94	25.57	<=30	Pass	
		3	22.63	2.94	25.57	<=30	Pass	
		6	21.56	2.94	24.50	<=30	Pass	
	1754.3	0	22.64	2.94	25.58	<=30	Pass	
		1	22.71	2.94	25.65	<=30	Pass	
		5	22.74	2.94	25.68	<=30	Pass	
		0	22.45	2.94	25.39	<=30	Pass	
		3	22.56	2.94	25.50	<=30	Pass	
		2	22.52	2.94	25.46	<=30	Pass	
	1754.3	6	21.56	2.94	24.50	<=30	Pass	
		0	22.48	2.94	25.42	<=30	Pass	
		1	22.71	2.94	25.65	<=30	Pass	
		5	22.46	2.94	25.40	<=30	Pass	
		0	22.46	2.94	25.40	<=30	Pass	
		3	22.44	2.94	25.38	<=30	Pass	
Note1: EIRP=Conducted Power+Antenna Gain								



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B4 3MHz EIRP

Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	EIRP (dBm)		Verdict	
		Size	Offset			Result	Limit		
			0	7					
QPSK	1711.5	1	0	23.33	2.94	26.27	<=30	Pass	
		1	7	23.53	2.94	26.47	<=30	Pass	
		1	14	23.38	2.94	26.32	<=30	Pass	
		8	0	22.66	2.94	25.60	<=30	Pass	
		8	4	22.65	2.94	25.59	<=30	Pass	
		8	7	22.62	2.94	25.56	<=30	Pass	
		15	0	22.56	2.94	25.50	<=30	Pass	
		1	0	23.44	2.94	26.38	<=30	Pass	
	1732.5	1	7	23.61	2.94	26.55	<=30	Pass	
		1	14	23.36	2.94	26.30	<=30	Pass	
		8	0	22.38	2.94	25.32	<=30	Pass	
		8	4	22.66	2.94	25.60	<=30	Pass	
		8	7	22.79	2.94	25.73	<=30	Pass	
		15	0	22.54	2.94	25.48	<=30	Pass	
		1	0	23.62	2.94	26.56	<=30	Pass	
		1	7	23.80	2.94	26.74	<=30	Pass	
16QAM	1753.5	1	14	23.71	2.94	26.65	<=30	Pass	
		8	0	22.65	2.94	25.59	<=30	Pass	
		8	4	22.69	2.94	25.63	<=30	Pass	
		8	7	22.52	2.94	25.46	<=30	Pass	
		15	0	22.68	2.94	25.62	<=30	Pass	
		1	0	22.47	2.94	25.41	<=30	Pass	
		1	7	22.51	2.94	25.45	<=30	Pass	
		1	14	22.49	2.94	25.43	<=30	Pass	
16QAM	1711.5	8	0	21.33	2.94	24.27	<=30	Pass	
		8	4	21.49	2.94	24.43	<=30	Pass	
		8	7	21.52	2.94	24.46	<=30	Pass	
		15	0	21.50	2.94	24.44	<=30	Pass	
		1	0	22.05	2.94	24.99	<=30	Pass	
		1	7	22.18	2.94	25.12	<=30	Pass	
		1	14	22.25	2.94	25.19	<=30	Pass	
		8	0	21.39	2.94	24.33	<=30	Pass	
16QAM	1732.5	8	4	21.42	2.94	24.36	<=30	Pass	
		8	7	21.55	2.94	24.49	<=30	Pass	
		15	0	21.42	2.94	24.36	<=30	Pass	
		1	0	22.26	2.94	25.20	<=30	Pass	
		1	7	22.26	2.94	25.20	<=30	Pass	
		1	14	22.24	2.94	25.18	<=30	Pass	
		8	0	21.63	2.94	24.57	<=30	Pass	
		8	4	21.62	2.94	24.56	<=30	Pass	
16QAM	1753.5	8	7	21.61	2.94	24.55	<=30	Pass	
		15	0	21.57	2.94	24.51	<=30	Pass	

Note1: EIRP=Conducted Power+Antenna Gain



Test Report No.: PSU-NQN2505120312RF04

BUREAU
VERITAS

B4 5MHz EIRP

Modulation	Frequency (MHz)	Band: 4 / Bandwidth: 5MHz / NTNV					
		RB Allocation		Conducted Power (dBm)	Gain (dBi)	EIRP (dBm)	Verdict
		Size	Offset			Result	
QPSK	1712.5	1	0	23.44	2.94	26.38	<=30 Pass
			13	23.43	2.94	26.37	<=30 Pass
			24	23.28	2.94	26.22	<=30 Pass
		12	0	22.36	2.94	25.30	<=30 Pass
			6	22.36	2.94	25.30	<=30 Pass
			13	22.39	2.94	25.33	<=30 Pass
	1732.5	1	0	22.38	2.94	25.32	<=30 Pass
			13	23.44	2.94	26.38	<=30 Pass
			24	23.59	2.94	26.53	<=30 Pass
		12	0	23.56	2.94	26.50	<=30 Pass
			6	22.34	2.94	25.28	<=30 Pass
			13	22.46	2.94	25.40	<=30 Pass
	1752.5	1	0	22.34	2.94	25.41	<=30 Pass
			13	22.34	2.94	25.28	<=30 Pass
			24	23.43	2.94	26.37	<=30 Pass
		12	0	23.65	2.94	26.59	<=30 Pass
			6	23.73	2.94	26.67	<=30 Pass
			13	22.47	2.94	25.61	<=30 Pass
16QAM	1712.5	1	0	22.67	2.94	25.51	<=30 Pass
			13	22.57	2.94	25.51	<=30 Pass
			24	22.73	2.94	25.67	<=30 Pass
		12	0	22.65	2.94	25.59	<=30 Pass
			6	22.65	2.94	25.59	<=30 Pass
			13	22.65	2.94	25.59	<=30 Pass
	1732.5	1	0	22.21	2.94	25.15	<=30 Pass
			13	22.30	2.94	25.24	<=30 Pass
			24	22.29	2.94	25.23	<=30 Pass
		12	0	21.43	2.94	24.37	<=30 Pass
			6	21.60	2.94	24.54	<=30 Pass
			13	21.55	2.94	24.49	<=30 Pass
	1752.5	1	0	21.58	2.94	24.52	<=30 Pass
			13	21.88	2.94	24.82	<=30 Pass
			24	22.17	2.94	25.11	<=30 Pass
		12	0	22.29	2.94	25.23	<=30 Pass
			6	21.24	2.94	24.18	<=30 Pass
			13	21.18	2.94	24.12	<=30 Pass
		25	0	21.58	2.94	24.52	<=30 Pass
			13	21.39	2.94	24.33	<=30 Pass
			24	21.39	2.94	24.33	<=30 Pass

Note1: EIRP=Conducted Power+Antenna Gain



Test Report No.: PSU-NQN2505120312RF04

BUREAU
VERITAS

B4 10MHz EIRP

Modulation	Frequency (MHz)	Band: 4 / Bandwidth: 10MHz / NTN				EIRP (dBm)	Verdict	
		RB Allocation	Conducted Power (dBm)	Gain (dBi)	Result			
QPSK	1715	0	23.64	2.94	26.58	<=30	Pass	
		1	23.60	2.94	26.54	<=30	Pass	
		49	23.46	2.94	26.40	<=30	Pass	
		0	22.59	2.94	25.53	<=30	Pass	
		25	22.30	2.94	25.24	<=30	Pass	
		25	22.31	2.94	25.25	<=30	Pass	
		50	0	22.54	2.94	25.48	<=30	Pass
		0	23.24	2.94	26.18	<=30	Pass	
	1732.5	1	23.78	2.94	26.72	<=30	Pass	
		49	23.46	2.94	26.40	<=30	Pass	
		0	22.28	2.94	25.22	<=30	Pass	
		25	22.41	2.94	25.35	<=30	Pass	
		25	22.44	2.94	25.38	<=30	Pass	
		50	0	22.34	2.94	25.28	<=30	Pass
		0	23.51	2.94	26.45	<=30	Pass	
		1	23.68	2.94	26.62	<=30	Pass	
16QAM	1750	49	23.45	2.94	26.39	<=30	Pass	
		0	22.56	2.94	25.50	<=30	Pass	
		25	22.63	2.94	25.57	<=30	Pass	
		25	22.48	2.94	25.42	<=30	Pass	
		50	0	22.70	2.94	25.64	<=30	Pass
		0	22.18	2.94	25.12	<=30	Pass	
		1	22.28	2.94	25.22	<=30	Pass	
		49	22.06	2.94	25.00	<=30	Pass	
	1715	0	21.69	2.94	24.63	<=30	Pass	
		25	21.17	2.94	24.11	<=30	Pass	
		25	21.07	2.94	24.01	<=30	Pass	
		50	0	21.49	2.94	24.43	<=30	Pass
		0	22.21	2.94	25.15	<=30	Pass	
		1	22.15	2.94	25.09	<=30	Pass	
		49	22.01	2.94	24.95	<=30	Pass	
		0	21.30	2.94	24.24	<=30	Pass	
16QAM	1732.5	25	21.45	2.94	24.39	<=30	Pass	
		25	21.11	2.94	24.05	<=30	Pass	
		50	0	21.33	2.94	24.27	<=30	Pass
		0	22.19	2.94	25.13	<=30	Pass	
		1	22.47	2.94	25.41	<=30	Pass	
		49	22.34	2.94	25.28	<=30	Pass	
		0	21.50	2.94	24.44	<=30	Pass	
		25	21.50	2.94	24.44	<=30	Pass	
	1750	25	21.59	2.94	24.53	<=30	Pass	
		50	0	21.71	2.94	24.65	<=30	Pass

Note1: EIRP=Conducted Power+Antenna Gain



Test Report No.: PSU-NQN2505120312RF04

BUREAU
VERITAS

B4_15MHz_EIRP

Modulation	Frequency (MHz)	Band: 4 / Bandwidth: 15MHz / NTN				EIRP (dBm)		Verdict	
		RB Allocation	Conducted Power (dBm)	Gain (dBi)	Result	Limit			
QPSK	1717.5	1	0	23.56	2.94	26.50	<=30	Pass	
			38	23.49	2.94	26.43	<=30	Pass	
			74	23.50	2.94	26.44	<=30	Pass	
		36	0	22.56	2.94	25.50	<=30	Pass	
			18	22.30	2.94	25.24	<=30	Pass	
			39	22.35	2.94	25.29	<=30	Pass	
			75	0	22.53	2.94	25.47	<=30	Pass
		1732.5	0	23.59	2.94	26.53	<=30	Pass	
			1	23.64	2.94	26.58	<=30	Pass	
			74	23.27	2.94	26.21	<=30	Pass	
			0	22.21	2.94	25.15	<=30	Pass	
			36	22.38	2.94	25.32	<=30	Pass	
			39	22.43	2.94	25.37	<=30	Pass	
			75	0	22.32	2.94	25.26	<=30	Pass
			0	23.48	2.94	26.42	<=30	Pass	
16QAM	1747.5	1	38	23.64	2.94	26.58	<=30	Pass	
			74	23.60	2.94	26.54	<=30	Pass	
			0	22.50	2.94	25.44	<=30	Pass	
		36	18	22.47	2.94	25.41	<=30	Pass	
			39	22.49	2.94	25.43	<=30	Pass	
			75	0	22.53	2.94	25.47	<=30	Pass
		1717.5	0	22.39	2.94	25.33	<=30	Pass	
			1	22.24	2.94	25.18	<=30	Pass	
			74	22.16	2.94	25.10	<=30	Pass	
			0	21.38	2.94	24.32	<=30	Pass	
			36	21.17	2.94	24.11	<=30	Pass	
			39	21.36	2.94	24.30	<=30	Pass	
			75	0	21.68	2.94	24.62	<=30	Pass
			0	21.99	2.94	24.93	<=30	Pass	
16QAM	1732.5	1	38	22.15	2.94	25.09	<=30	Pass	
			74	21.85	2.94	24.79	<=30	Pass	
			0	21.25	2.94	24.19	<=30	Pass	
		36	18	21.45	2.94	24.39	<=30	Pass	
			39	21.51	2.94	24.45	<=30	Pass	
			75	0	21.28	2.94	24.22	<=30	Pass
		1747.5	0	22.12	2.94	25.06	<=30	Pass	
			1	22.15	2.94	25.09	<=30	Pass	
			74	22.28	2.94	25.22	<=30	Pass	
			0	21.54	2.94	24.48	<=30	Pass	
			36	21.38	2.94	24.32	<=30	Pass	
			39	21.38	2.94	24.32	<=30	Pass	
			75	0	21.60	2.94	24.54	<=30	Pass

Note1: EIRP=Conducted Power+Antenna Gain



Test Report No.: PSU-NQN2505120312RF04

BUREAU
VERITAS

B4 20MHz EIRP

Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	EIRP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	1720	1	0	23.39	2.94	26.33	<=30	Pass
			50	23.41	2.94	26.35	<=30	Pass
			99	23.65	2.94	26.59	<=30	Pass
		50	0	22.35	2.94	25.29	<=30	Pass
			25	22.21	2.94	25.15	<=30	Pass
			50	22.36	2.94	25.30	<=30	Pass
			100	0	22.40	2.94	25.34	<=30
		1	0	23.52	2.94	26.46	<=30	Pass
			50	23.52	2.94	26.46	<=30	Pass
			99	23.64	2.94	26.58	<=30	Pass
	1732.5	50	0	22.31	2.94	25.25	<=30	Pass
			25	22.42	2.94	25.36	<=30	Pass
			50	22.40	2.94	25.34	<=30	Pass
		100	0	22.27	2.94	25.21	<=30	Pass
			50	23.54	2.94	26.48	<=30	Pass
			99	23.53	2.94	26.47	<=30	Pass
		1	0	23.58	2.94	26.52	<=30	Pass
			50	22.48	2.94	25.42	<=30	Pass
			50	22.52	2.94	25.46	<=30	Pass
16QAM	1745	50	0	22.44	2.94	25.38	<=30	Pass
			100	0	22.42	2.94	25.36	<=30
		1	0	21.99	2.94	24.93	<=30	Pass
			50	21.76	2.94	24.70	<=30	Pass
			99	22.32	2.94	25.26	<=30	Pass
		50	0	21.42	2.94	24.36	<=30	Pass
			25	21.30	2.94	24.24	<=30	Pass
			50	21.37	2.94	24.31	<=30	Pass
		100	0	21.42	2.94	24.36	<=30	Pass
	1720	1	0	22.00	2.94	24.94	<=30	Pass
			50	22.30	2.94	25.24	<=30	Pass
			99	22.19	2.94	25.13	<=30	Pass
		50	0	21.01	2.94	23.95	<=30	Pass
			25	21.59	2.94	24.53	<=30	Pass
			50	21.28	2.94	24.22	<=30	Pass
		100	0	21.25	2.94	24.19	<=30	Pass
			50	22.15	2.94	25.09	<=30	Pass
			100	22.27	2.94	25.21	<=30	Pass
	1732.5	1	99	22.11	2.94	25.05	<=30	Pass
			0	21.50	2.94	24.44	<=30	Pass
			50	21.55	2.94	24.49	<=30	Pass
		50	25	21.38	2.94	24.32	<=30	Pass
			50	21.38	2.94	24.32	<=30	Pass
			100	0	21.38	2.94	24.32	<=30

Note1: EIRP=Conducted Power+Antenna Gain



Test Report No.: PSU-NQN2505120312RF04

BUREAU
VERITAS

B66_1.4MHz_EIRP

Modulation	Frequency (MHz)	Band: 66 / Bandwidth: 1.4MHz / NTN					
		RB Allocation		Conducted Power (dBm)	Gain (dBi)	EIRP (dBm)	Verdict
		Size	Offset			Result	
QPSK	1710.7	1	0	23.78	2.94	26.72	<=30 Pass
			2	24.02	2.94	26.96	<=30 Pass
			5	23.89	2.94	26.83	<=30 Pass
		3	0	23.83	2.94	26.77	<=30 Pass
			2	23.82	2.94	26.76	<=30 Pass
			3	23.74	2.94	26.68	<=30 Pass
	1745	1	0	22.83	2.94	25.77	<=30 Pass
			2	23.58	2.94	26.52	<=30 Pass
			5	24.03	2.94	26.97	<=30 Pass
		3	0	23.88	2.94	26.82	<=30 Pass
			2	23.77	2.94	26.71	<=30 Pass
			3	23.53	2.94	26.47	<=30 Pass
	1779.3	1	0	23.52	2.94	26.46	<=30 Pass
			2	22.78	2.94	25.72	<=30 Pass
			5	23.83	2.94	26.77	<=30 Pass
		3	0	24.00	2.94	26.94	<=30 Pass
			2	23.79	2.94	26.73	<=30 Pass
			3	23.99	2.94	26.93	<=30 Pass
16QAM	1710.7	1	0	23.83	2.94	26.77	<=30 Pass
			2	24.00	2.94	26.94	<=30 Pass
			5	23.79	2.94	26.73	<=30 Pass
		3	0	23.99	2.94	26.93	<=30 Pass
			2	23.83	2.94	26.77	<=30 Pass
			3	23.68	2.94	26.62	<=30 Pass
	1745	1	0	22.84	2.94	25.78	<=30 Pass
			2	22.12	2.94	25.06	<=30 Pass
			5	22.30	2.94	25.24	<=30 Pass
		3	0	22.36	2.94	25.30	<=30 Pass
			2	22.71	2.94	25.65	<=30 Pass
			3	22.88	2.94	25.82	<=30 Pass
	1779.3	1	0	22.99	2.94	25.93	<=30 Pass
			2	21.86	2.94	24.80	<=30 Pass
			5	22.65	2.94	25.59	<=30 Pass
		3	0	22.35	2.94	25.29	<=30 Pass
			2	22.23	2.94	25.17	<=30 Pass
			3	22.79	2.94	25.73	<=30 Pass
	1710.7	1	0	22.85	2.94	25.79	<=30 Pass
			2	23.01	2.94	25.95	<=30 Pass
			3	21.82	2.94	24.76	<=30 Pass
		3	0	22.54	2.94	25.48	<=30 Pass
			2	22.62	2.94	25.56	<=30 Pass
			5	22.17	2.94	25.11	<=30 Pass
	1745	1	0	22.69	2.94	25.63	<=30 Pass
			2	22.82	2.94	25.76	<=30 Pass
			3	22.58	2.94	25.52	<=30 Pass
		3	0	21.92	2.94	24.86	<=30 Pass
			2	22.62	2.94	25.56	<=30 Pass
			5	22.17	2.94	25.11	<=30 Pass
Note1: EIRP=Conducted Power+Antenna Gain							



Test Report No.: PSU-NQN2505120312RF04

BUREAU
VERITAS

B66 3MHz EIRP

Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	EIRP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	1711.5	1	0	23.77	2.94	26.71	<=30	Pass
			7	23.74	2.94	26.68	<=30	Pass
			14	23.61	2.94	26.55	<=30	Pass
		8	0	22.94	2.94	25.88	<=30	Pass
			4	22.89	2.94	25.83	<=30	Pass
			7	22.83	2.94	25.77	<=30	Pass
	1745	1	0	22.74	2.94	25.68	<=30	Pass
			7	23.80	2.94	26.74	<=30	Pass
			14	23.91	2.94	26.85	<=30	Pass
		8	0	23.67	2.94	26.61	<=30	Pass
			4	22.85	2.94	25.79	<=30	Pass
			7	22.71	2.94	25.65	<=30	Pass
	1778.5	1	0	22.73	2.94	25.67	<=30	Pass
			15	0	22.61	2.94	25.55	<=30
		8	0	23.81	2.94	26.75	<=30	Pass
			7	23.96	2.94	26.90	<=30	Pass
			14	23.78	2.94	26.72	<=30	Pass
16QAM	1711.5	1	0	22.84	2.94	25.78	<=30	Pass
			7	22.89	2.94	25.83	<=30	Pass
			14	22.78	2.94	25.72	<=30	Pass
		8	0	22.84	2.94	25.78	<=30	Pass
			4	22.89	2.94	25.83	<=30	Pass
			7	22.78	2.94	25.72	<=30	Pass
	1745	1	0	22.84	2.94	25.78	<=30	Pass
			7	22.70	2.94	25.64	<=30	Pass
			14	22.53	2.94	25.47	<=30	Pass
		8	0	22.11	2.94	25.05	<=30	Pass
			4	21.52	2.94	24.46	<=30	Pass
			7	21.87	2.94	24.81	<=30	Pass
	1778.5	1	0	21.91	2.94	24.85	<=30	Pass
			15	0	21.61	2.94	24.55	<=30
		8	0	22.53	2.94	25.47	<=30	Pass
			7	22.11	2.94	25.05	<=30	Pass
			14	21.90	2.94	24.84	<=30	Pass
	1711.5	1	0	21.80	2.94	24.74	<=30	Pass
			7	21.81	2.94	24.75	<=30	Pass
			14	21.84	2.94	24.78	<=30	Pass
		8	0	21.78	2.94	24.72	<=30	Pass
			4	21.78	2.94	24.72	<=30	Pass
			7	21.78	2.94	24.72	<=30	Pass
	1745	1	0	22.58	2.94	25.52	<=30	Pass
			7	22.68	2.94	25.62	<=30	Pass
			14	22.28	2.94	25.22	<=30	Pass
		8	0	22.09	2.94	25.03	<=30	Pass
			4	22.00	2.94	24.94	<=30	Pass
			7	21.98	2.94	24.92	<=30	Pass
	1778.5	1	0	21.75	2.94	24.69	<=30	Pass
			7	21.75	2.94	24.69	<=30	Pass
			14	21.75	2.94	24.69	<=30	Pass

Note1: EIRP=Conducted Power+Antenna Gain



Test Report No.: PSU-NQN2505120312RF04

BUREAU
VERITAS

B66 5MHz EIRP

Modulation	Frequency (MHz)	Band: 66 / Bandwidth: 5MHz / NTN				EIRP (dBm)	Verdict	
		RB Allocation	Conducted Power (dBm)	Gain (dBi)	Result			
QPSK	1712.5	0	23.68	2.94	26.62	<=30	Pass	
		1	23.58	2.94	26.52	<=30	Pass	
		24	23.47	2.94	26.41	<=30	Pass	
		0	22.73	2.94	25.67	<=30	Pass	
		12	22.77	2.94	25.71	<=30	Pass	
		13	22.52	2.94	25.46	<=30	Pass	
	1745	25	0	22.61	2.94	25.55	<=30	Pass
		0	23.51	2.94	26.45	<=30	Pass	
		1	23.55	2.94	26.49	<=30	Pass	
		24	23.75	2.94	26.69	<=30	Pass	
		0	22.83	2.94	25.77	<=30	Pass	
		12	22.76	2.94	25.70	<=30	Pass	
	1777.5	13	22.65	2.94	25.59	<=30	Pass	
		25	0	22.69	2.94	25.63	<=30	Pass
		0	23.75	2.94	26.69	<=30	Pass	
		1	23.77	2.94	26.71	<=30	Pass	
		24	23.60	2.94	26.54	<=30	Pass	
		0	22.87	2.94	25.81	<=30	Pass	
16QAM	1712.5	12	22.93	2.94	25.87	<=30	Pass	
		13	22.73	2.94	25.67	<=30	Pass	
		25	0	22.84	2.94	25.78	<=30	Pass
		0	22.40	2.94	25.34	<=30	Pass	
		1	22.67	2.94	25.61	<=30	Pass	
		24	22.51	2.94	25.45	<=30	Pass	
	1745	0	21.50	2.94	24.44	<=30	Pass	
		12	21.85	2.94	24.79	<=30	Pass	
		6	21.75	2.94	24.69	<=30	Pass	
		13	21.66	2.94	24.60	<=30	Pass	
		25	0	21.43	2.94	25.37	<=30	Pass
		1	22.29	2.94	25.23	<=30	Pass	
	1777.5	24	22.37	2.94	25.31	<=30	Pass	
		0	21.47	2.94	24.41	<=30	Pass	
		12	21.76	2.94	24.70	<=30	Pass	
		6	21.67	2.94	24.61	<=30	Pass	
		13	21.90	2.94	24.84	<=30	Pass	
		25	0	22.50	2.94	25.44	<=30	Pass

Note1: EIRP=Conducted Power+Antenna Gain



Test Report No.: PSU-NQN2505120312RF04

BUREAU
VERITAS

B66_10MHz_EIRP

Modulation	Frequency (MHz)	Band: 66 / Bandwidth: 10MHz / NTV					
		RB Allocation		Conducted Power (dBm)	Gain (dBi)	EIRP (dBm)	Verdict
		Size	Offset			Result	
QPSK	1715	1	0	23.66	2.94	26.60	<=30 Pass
			25	23.93	2.94	26.87	<=30 Pass
			49	23.81	2.94	26.75	<=30 Pass
		25	0	22.80	2.94	25.74	<=30 Pass
			13	22.75	2.94	25.69	<=30 Pass
			25	22.63	2.94	25.57	<=30 Pass
	1745	1	0	22.75	2.94	25.69	<=30 Pass
			25	23.85	2.94	26.79	<=30 Pass
			49	24.07	2.94	27.01	<=30 Pass
		25	0	23.72	2.94	26.66	<=30 Pass
			13	22.81	2.94	25.75	<=30 Pass
			25	22.85	2.94	25.79	<=30 Pass
	1775	1	0	22.85	2.94	25.79	<=30 Pass
			25	23.90	2.94	26.84	<=30 Pass
			49	24.15	2.94	27.09	<=30 Pass
		25	0	23.74	2.94	26.68	<=30 Pass
			13	22.82	2.94	25.76	<=30 Pass
			25	22.83	2.94	25.77	<=30 Pass
16QAM	1715	1	0	22.77	2.94	25.71	<=30 Pass
			25	22.65	2.94	25.59	<=30 Pass
		25	0	21.74	2.94	24.68	<=30 Pass
			13	22.42	2.94	25.36	<=30 Pass
			25	22.56	2.94	25.50	<=30 Pass
			49	22.36	2.94	25.30	<=30 Pass
	1745	1	0	21.87	2.94	24.81	<=30 Pass
			25	21.86	2.94	24.80	<=30 Pass
			13	21.64	2.94	24.58	<=30 Pass
		25	0	21.79	2.94	24.73	<=30 Pass
			13	21.83	2.94	24.77	<=30 Pass
			25	21.69	2.94	24.63	<=30 Pass
	1775	1	0	21.72	2.94	24.66	<=30 Pass
			25	22.09	2.94	25.03	<=30 Pass
			49	22.66	2.94	25.60	<=30 Pass
		25	0	22.47	2.94	25.41	<=30 Pass
			13	21.79	2.94	24.73	<=30 Pass
			25	21.83	2.94	24.77	<=30 Pass
		50	0	21.69	2.94	24.63	<=30 Pass
			13	21.72	2.94	24.66	<=30 Pass
			50	21.72	2.94	24.66	<=30 Pass

Note1: EIRP=Conducted Power+Antenna Gain



BUREAU
VERITAS

Test Report No.: PSU-NQN2505120312RF04

B66_15MHz_EIRP

Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	EIRP (dBm)		Verdict	
		Size	Offset			Result	Limit		
QPSK	1717.5	1	0	23.69	2.94	26.63	<=30	Pass	
			38	23.62	2.94	26.56	<=30	Pass	
			74	23.68	2.94	26.62	<=30	Pass	
		36	0	22.75	2.94	25.69	<=30	Pass	
			18	22.57	2.94	25.51	<=30	Pass	
			39	22.63	2.94	25.57	<=30	Pass	
			75	0	22.71	2.94	25.65	<=30	Pass
		1	0	23.55	2.94	26.49	<=30	Pass	
			38	23.65	2.94	26.59	<=30	Pass	
			74	23.69	2.94	26.63	<=30	Pass	
	1745	36	0	22.78	2.94	25.72	<=30	Pass	
			18	22.84	2.94	25.78	<=30	Pass	
			39	22.63	2.94	25.57	<=30	Pass	
		75	0	22.70	2.94	25.64	<=30	Pass	
			0	23.92	2.94	26.86	<=30	Pass	
			38	23.94	2.94	26.88	<=30	Pass	
			74	23.67	2.94	26.61	<=30	Pass	
		1772.5	0	22.77	2.94	25.71	<=30	Pass	
			36	22.80	2.94	25.74	<=30	Pass	
			39	22.84	2.94	25.78	<=30	Pass	
16QAM	1717.5	1	0	22.67	2.94	25.61	<=30	Pass	
			38	22.57	2.94	25.51	<=30	Pass	
			74	22.51	2.94	25.45	<=30	Pass	
		36	0	22.14	2.94	25.08	<=30	Pass	
			18	21.65	2.94	24.59	<=30	Pass	
			39	21.71	2.94	24.65	<=30	Pass	
			75	0	21.38	2.94	24.32	<=30	Pass
		1	0	21.87	2.94	24.81	<=30	Pass	
	1745		38	22.28	2.94	25.22	<=30	Pass	
			74	22.58	2.94	25.52	<=30	Pass	
			0	22.38	2.94	25.32	<=30	Pass	
	36	18	21.72	2.94	24.66	<=30	Pass		
		39	21.81	2.94	24.75	<=30	Pass		
		75	0	21.63	2.94	24.57	<=30	Pass	
	1	0	21.76	2.94	24.70	<=30	Pass		
		38	22.38	2.94	25.32	<=30	Pass		
		74	22.57	2.94	25.51	<=30	Pass		
	1772.5	36	0	22.30	2.94	25.24	<=30	Pass	
			18	21.48	2.94	24.42	<=30	Pass	
			39	21.81	2.94	24.75	<=30	Pass	
		75	0	21.84	2.94	24.78	<=30	Pass	
			0	21.73	2.94	24.67	<=30	Pass	

Note1: EIRP=Conducted Power+Antenna Gain



Test Report No.: PSU-NQN2505120312RF04

BUREAU
VERITAS

B66_20MHz_EIRP

Modulation	Frequency (MHz)	Band: 66 / Bandwidth: 20MHz / NTV					
		RB Allocation		Conducted Power (dBm)	Gain (dBi)	EIRP (dBm)	Verdict
		Size	Offset			Result	
QPSK	1720	1	0	23.49	2.94	26.43	<=30 Pass
			50	23.51	2.94	26.45	<=30 Pass
			99	23.84	2.94	26.78	<=30 Pass
		50	0	22.67	2.94	25.61	<=30 Pass
			25	22.65	2.94	25.59	<=30 Pass
			50	22.63	2.94	25.57	<=30 Pass
	1745	1	0	22.74	2.94	25.68	<=30 Pass
			50	23.64	2.94	26.58	<=30 Pass
			99	24.03	2.94	26.97	<=30 Pass
		50	0	23.96	2.94	26.90	<=30 Pass
			25	22.81	2.94	25.75	<=30 Pass
			50	22.97	2.94	25.91	<=30 Pass
	1770	1	0	22.62	2.94	25.56	<=30 Pass
			100	0	22.56	2.94	25.50 <=30 Pass
		1	0	23.97	2.94	26.91	<=30 Pass
			50	24.09	2.94	27.03	<=30 Pass
			99	24.00	2.94	26.94	<=30 Pass
16QAM	1720	1	0	22.93	2.94	25.87	<=30 Pass
			50	22.91	2.94	25.85	<=30 Pass
			50	22.86	2.94	25.80	<=30 Pass
		50	0	22.75	2.94	25.69	<=30 Pass
			25	22.57	2.94	25.51	<=30 Pass
			99	22.54	2.94	25.48	<=30 Pass
	1745	1	0	22.20	2.94	25.14	<=30 Pass
			50	21.69	2.94	24.63	<=30 Pass
			25	21.49	2.94	24.43	<=30 Pass
		50	0	21.72	2.94	24.66	<=30 Pass
			25	21.65	2.94	24.59	<=30 Pass
			50	21.53	2.94	24.47	<=30 Pass
	1770	1	0	21.83	2.94	24.77	<=30 Pass
			50	21.89	2.94	24.83	<=30 Pass
			99	22.71	2.94	25.65	<=30 Pass
		50	0	22.38	2.94	25.32	<=30 Pass
			25	21.65	2.94	24.59	<=30 Pass
			50	21.96	2.94	24.90	<=30 Pass
		100	0	21.53	2.94	24.47	<=30 Pass
			25	21.63	2.94	24.57	<=30 Pass
			100	0	21.63	2.94	24.57 <=30 Pass

Note1: EIRP=Conducted Power+Antenna Gain

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

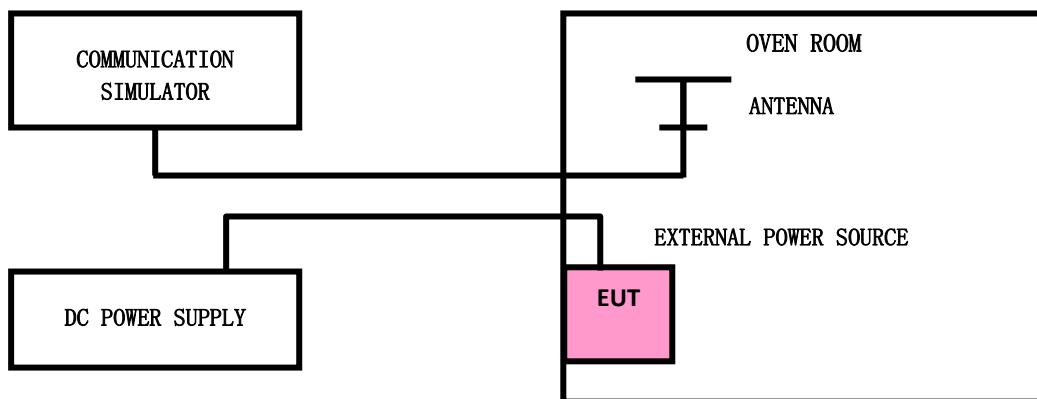
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

3.2.2 TEST PROCEDURE

- a. 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.
- b. 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.
- c. 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



3.2.4 TEST RESULTS

Please Refer to module EC25-AFXD; EC25-AFXD MINI PCIe report.

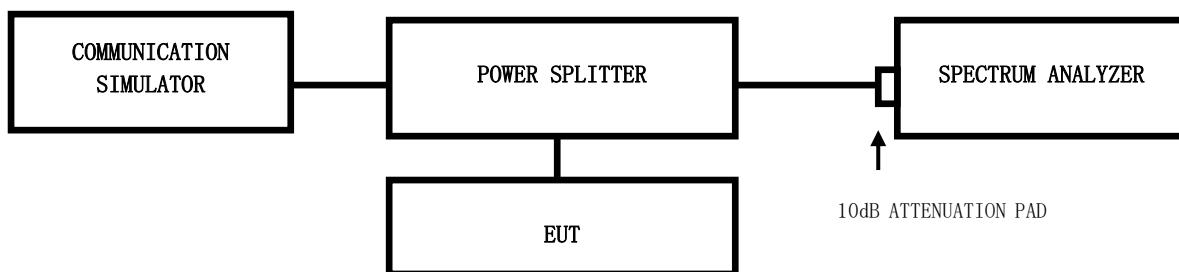
(Report No.: R2203A0238-R1 FCC ID : XMR202008EC25AFXD)

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.

3.3.4 TEST RESULTS

Please Refer to module EC25-AFXD; EC25-AFXD MINI PCIe report.
(Report No.: R2203A0238-R1 FCC ID : XMR202008EC25AFXD)



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.

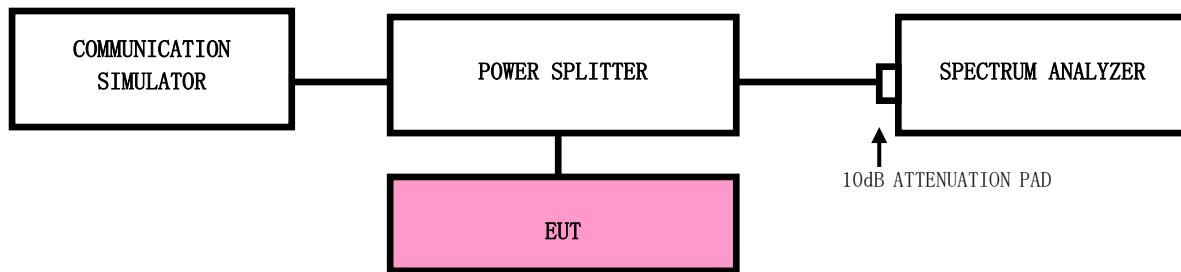
According to FCC Part 27.53(m)(4) specified that For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz 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.



Test Report No.: PSU-NQN2505120312RF04

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.

3.4.4 TEST RESULTS

Please Refer to module EC25-AFXD; EC25-AFXD MINI PCIe report.

(Report No.: R2203A0238-R1 FCC ID : XMR202008EC25AFXD)

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 -13 dBm.

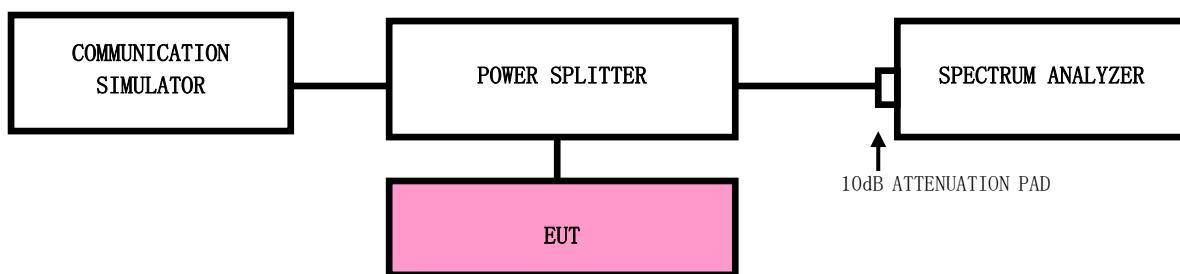
For: LTE Band7/Band41

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 -25 dBm.

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



3.5.4 TEST RESULTS

Please Refer to module EC25-AFXD; EC25-AFXD MINI PCIe report.
(Report No.: R2203A0238-R1 FCC ID : XMR202008EC25AFXD)



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 -13 dBm.

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 -25 dBm.

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, E.R.P power = E.I.P.R power - 2.15dBi.

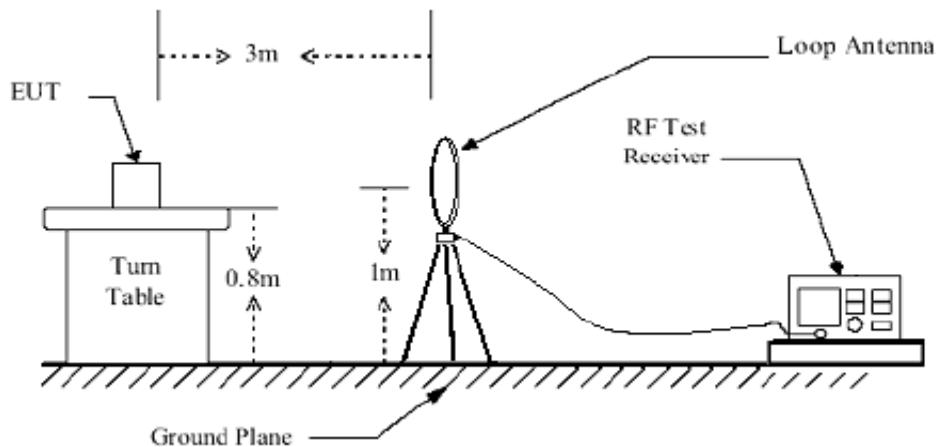
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.6.3 DEVIATION FROM TEST STANDARD

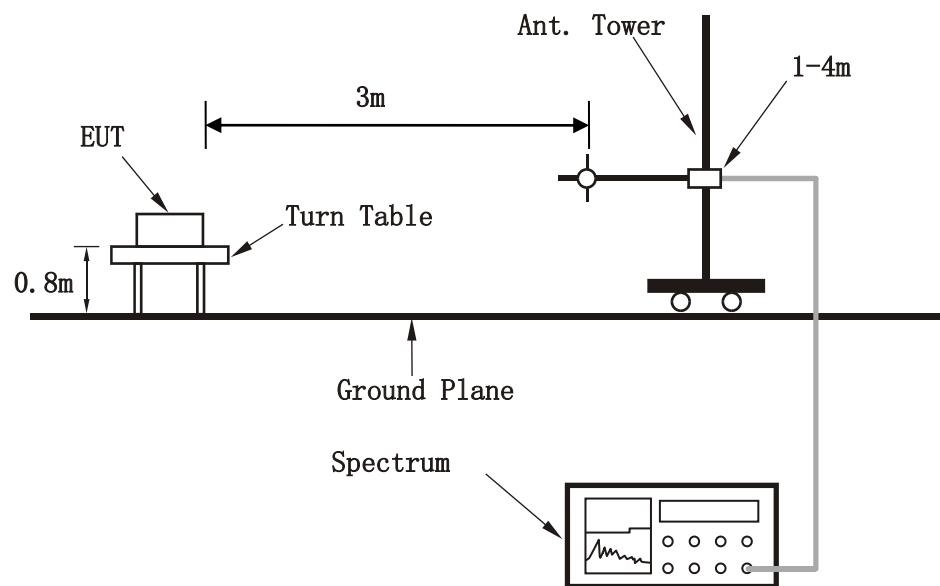
No deviation

3.6.4 TEST SETUP

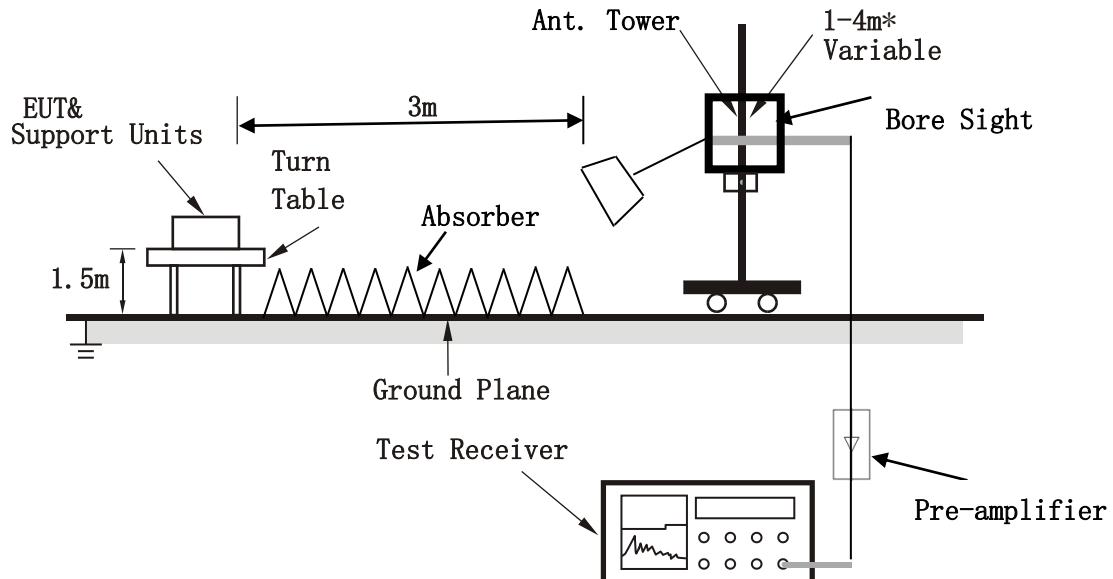
< Frequency Range below 30MHz >



< 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 band 4

Test result:

ANT1 Channel: 20175

Frequency (MHz)	Power (dBm)	Limited (dBm)	Polarization
368.24	-85.25	-13.00	Vertical
1221.20	-80.62	-13.00	Vertical
2444.92	-75.52	-13.00	Vertical
3084.00	-82.97	-13.00	Vertical
3543.00	-80.92	-13.00	Vertical
4725.00	-88.27	-13.00	Vertical

LTE band 66

Test result

ANT1 Channel : 132322

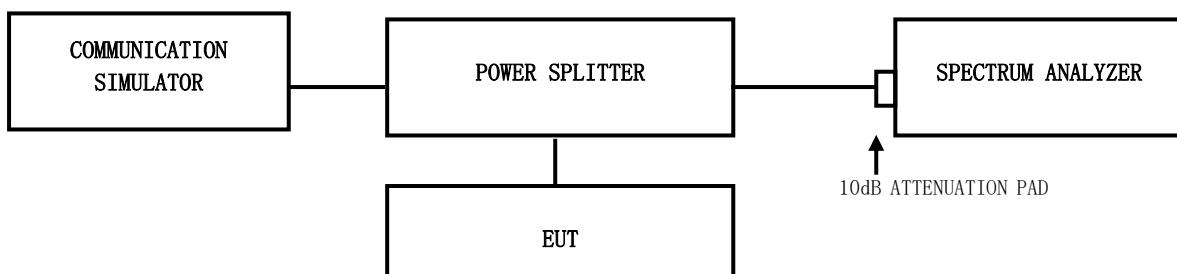
Frequency (MHz)	Power (dBm)	Limited (dBm)	Polarization
319.08	-89.06	-13.00	Vertical
368.24	-85.25	-13.00	Vertical
1152.60	-80.27	-13.00	Vertical
3117.00	-83.01	-13.00	Vertical
3522.00	-81.03	-13.00	Vertical
4686.00	-87.52	-13.00	Vertical

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 EC25-AFXD; EC25-AFXD MINI PCIe report.
(Report No.: R2203A0238-R1 FCC ID : XMR202008EC25AFXD)



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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, China
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

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.

6 APPENDIX

Please Refer to module EC25-AFXD; EC25-AFXD MINI PCIe report.
(Report No.: R2203A0238-R1 FCC ID : XMR202008EC25AFXD)

---END---