

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 96
47 CFR FCC Part 2

Report No.: RFBEDV-WTW-P23030565A-3

FCC ID: G95RG525FNA

Product: Module

Brand: Vantiva

Model No.: RG525FNA

Received Date: 2023/3/16

Test Date: 2024/11/12 ~ 2025/1/16

Issued Date: 2025/2/3

Applicant: Vantiva USA LLC

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / 788550 / TW0003 for Test Location(1)

Designation Number: 281270 / TW0032 for Test Location(2)

Approved by: Jeremy Lin, Date: 2025/2/3
Jeremy Lin / Project Engineer

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Prepared by : Pettie Chen / Senior Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBEDV-WTW-P23030565A-3	Original release.	2025/2/3

1 Certificate

Product: Module

Brand: Vantiva

Test Model: RG525FNA

Sample Status: Engineering sample

Applicant: Vantiva USA LLC

Test Date: 2024/11/12 ~ 2025/1/16

Standard: 47 CFR FCC Part 96
47 CFR FCC Part 2

Measurement Procedure: ANSI/TIA/EIA-603-E 2016
ANSI C63.26-2015
KDB 971168 D01 Power Meas License Digital Systems v03r01
KDB 940660 D01 Part 96 CBRS Eqpt v03

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

2 Summary of Test Results

Standard / Clause	Test Item	Result	Remark
Part 2.1046 Part 96.41(b)	Maximum EIRP	Pass	Meet the requirement of limit.
Part 2.1047	Modulation Characteristics	NA	Refer to Note
Part 2.1046 Part 96.41(b)	Maximum Power Spectral Density	N/A	This device is End User Device.
Part 96.41(g)	Peak to Average Ratio	NA	Refer to Note
Part 2.1049	Bandwidth	NA	Refer to Note
Part 2.1051 Part 96.41(e)	Conducted Spurious Emissions	NA	Refer to Note
Part 2.1053 Part 96.41(e)	Radiated Spurious Emissions below 1GHz	Pass	Minimum passing margin is -3.01 dB at 189.08 MHz
Part 2.1053 Part 96.41(e)	Radiated Spurious Emissions above 1GHz	Pass	Minimum passing margin is -8.81 dB at 7249.98 MHz
Part 2.1055	Frequency Stability	NA	Refer to Note

Note:

1. This report is issued as a supplementary report. Therefore, only test item of Maximum EIRP and Radiated Spurious Emissions tests were performed for this report. Other testing data please refer to MRT Technology (Suzhou) Co., Ltd report no.: 2211RSU034-U10 for module (Brand: Quectel, Model: RG525F-NA).
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Parameter	Specification	Uncertainty (±)
Effective Radiated Power and Equivalent Isotropically Radiated Power	18 GHz ~ 40 GHz	1.77 dB
	1 GHz ~ 18 GHz	1.76 dB
Radiated Spurious Emissions below 1GHz	9 kHz ~ 30 MHz	2.44 dB
	30 MHz ~ 1 GHz	2.95 dB
Radiated Spurious Emissions above 1GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Module
Brand	Vantiva
Test Model	RG525FNA
Status of EUT	Engineering sample
Power Supply Rating	Refer to Note
EUT Category	Mobile station

Note:

1. This report is a supplementary report to BV CPS report no.: RFBEDV-WTW-P23030565-4. The differences compared with the original report are to enable LTE Band: Band 14, 17, 29 (down link only), 30, 42, 43 & LTE Band 42, 43 (HPUE PC2) & 5GNR Band: n7, n14, n26, n30, n48 by software and add host marketing name. Therefore, only the Effective Radiated Power and Equivalent Isotropically Radiated Power and Radiated Spurious Emissions test had been an addendum test to this report. Refer to original report for the other test data.

2. EUT Overview

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz)

Output Power: Full Power

1TX

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm)
10 MHz	3555 ~ 3694.98	BPSK	0.116	20.63
		QPSK	0.122	20.85
		16QAM	0.098	19.91
		64QAM	0.077	18.89
		256QAM	0.042	16.26
20 MHz	3560.01 ~ 3690	BPSK	0.117	20.67
		QPSK	0.124	20.95
		16QAM	0.103	20.11
		64QAM	0.076	18.79
		256QAM	0.042	16.23
30 MHz	3565.02 ~ 3684.99	BPSK	0.116	20.64
		QPSK	0.125	20.97
		16QAM	0.102	20.08
		64QAM	0.078	18.91
		256QAM	0.042	16.25
40 MHz	3570 ~ 3679.98	BPSK	0.118	20.72
		QPSK	0.122	20.88
		16QAM	0.103	20.13
		64QAM	0.079	18.95
		256QAM	0.042	16.22

2TX

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm)
10 MHz	3555 ~ 3694.98	QPSK	0.083	19.17
		16QAM	0.068	18.31
		64QAM	0.050	17.01
		256QAM	0.028	14.44
20 MHz	3560.01 ~ 3690	QPSK	0.084	19.25
		16QAM	0.066	18.17
		64QAM	0.051	17.04
		256QAM	0.027	14.34
30 MHz	3565.02 ~ 3684.99	QPSK	0.080	19.05
		16QAM	0.065	18.13
		64QAM	0.049	16.89
		256QAM	0.026	14.08
40 MHz	3570 ~ 3679.98	QPSK	0.083	19.17
		16QAM	0.068	18.33
		64QAM	0.049	16.92
		256QAM	0.026	14.18

Output Power: dBm/10 MHz

1TX

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm)
20 MHz	3560.01 ~ 3690	BPSK	0.112	20.49
		QPSK	0.123	20.9
		16QAM	0.098	19.93
		64QAM	0.072	18.59
		256QAM	0.040	16.03
30 MHz	3565.02 ~ 3684.99	BPSK	0.111	20.47
		QPSK	0.122	20.86
		16QAM	0.098	19.9
		64QAM	0.074	18.7
		256QAM	0.040	16.04
40 MHz	3570 ~ 3679.98	BPSK	0.113	20.53
		QPSK	0.124	20.95
		16QAM	0.099	19.94
		64QAM	0.075	18.77
		256QAM	0.041	16.11

2TX

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm)
20 MHz	3560.01 ~ 3690	QPSK	0.082	19.14
		16QAM	0.062	17.95
		64QAM	0.048	16.83
		256QAM	0.026	14.19
30 MHz	3565.02 ~ 3684.99	QPSK	0.078	18.93
		16QAM	0.063	17.96
		64QAM	0.048	16.81
		256QAM	0.026	14.1
40 MHz	3570 ~ 3679.98	QPSK	0.082	19.13
		16QAM	0.065	18.11
		64QAM	0.049	16.94
		256QAM	0.026	14.16

3. The EUT is authorized for use in specific End-product. Please refer to below for more details. (New model is marked in boldface.)

Item	Brand	Model	Note
WIFI Gateway	Vantiva	MGA5331	Model difference only for marketing strategy.
		MGA5331VBV5	

*The RF characteristics of the above two host models are the same as the newly added frequency band of this module.

4. The adapter for the End-product.

AC Adapter		
Brand	Model	Specification
HONOR	ADS-42FI-12 12042EPCU-L	AC Input: 100-120V~ 50/60Hz 1.2A max. DC Output: 12VDC, 3.5A, 42W DC Output Cable: 1.5m, Non-Shielded

5. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna Type	PCB			
Antenna Connector	Ipx(MHF)			
Item	Band	TX Ant	Gain (dBi)	
			ANT0	ANT3
5G NR FR1	n48	Ant 0	4.47	4.85

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

3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan these ways and find the worst case as a representative test condition.
Worst Case:	1. X-axis/ Y-axis/ Z-axis Worst Condition: X-axis 2. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation. Therefore, only EIRP had been tested under BPSK, QPSK, 16QAM, 64QAM and 256QAM mode, the other items were performed under QPSK mode only. 3. For transmitter unwanted emissions, choose the maximum EIRP power and 1RB mode worst case were selected for the final test.

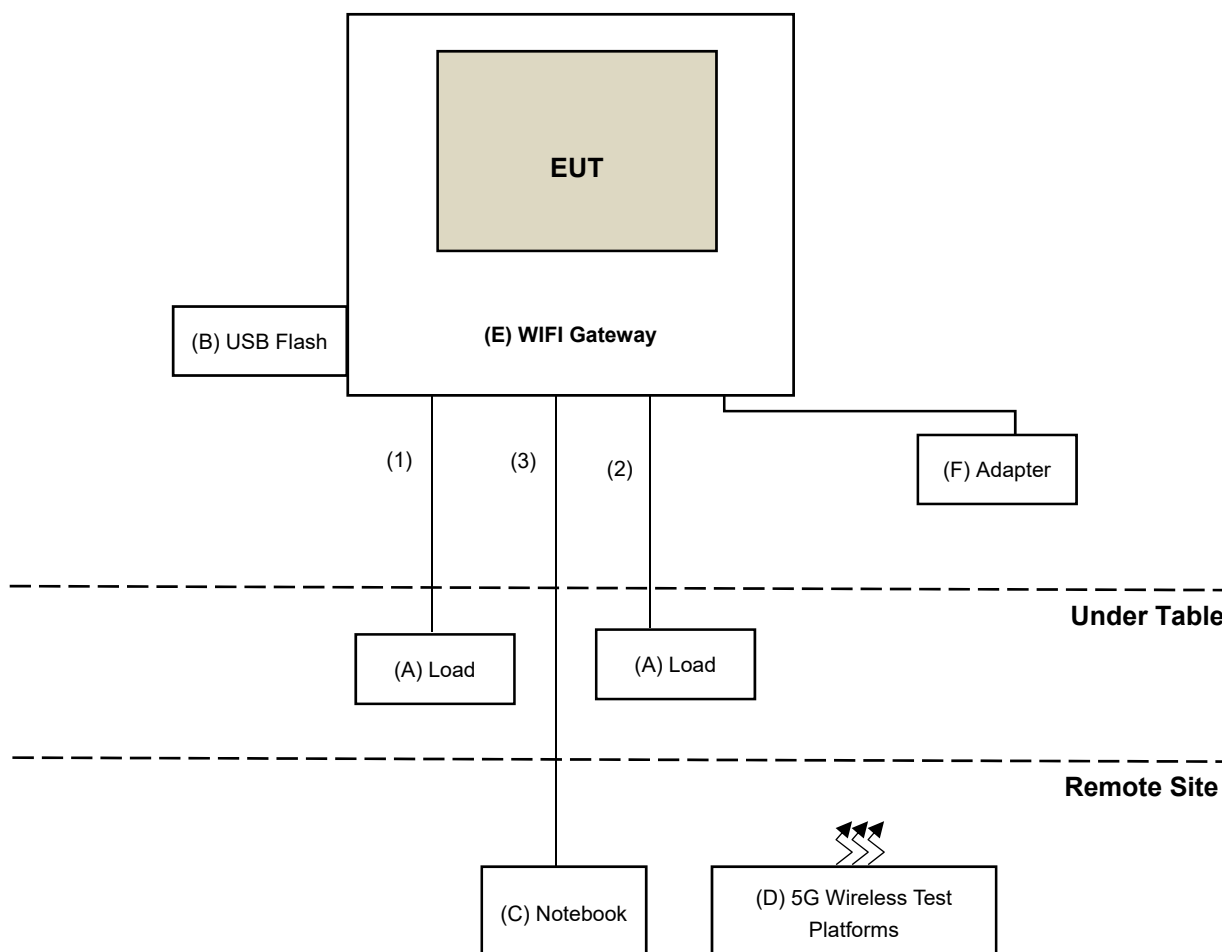
3.3.1 NR n48 SCS 15 kHz

Test Item	Tx Condition	Tested Channel	Channel Bandwidth	Modulation	Mode
EIRP	1Tx, 2Tx	637000(3555.00 MHz) 641666(3624.99 MHz) 646332(3694.98 MHz)	10 MHz	BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB Half RB Full RB
	1Tx, 2Tx	637334(3560.01 MHz) 641666(3624.99 MHz) 646000(3690.00 MHz)	20 MHz	BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB Half RB Full RB
	1Tx, 2Tx	637668(3560.02 MHz) 641666(3624.99 MHz) 646666(3684.99 MHz)	30 MHz	BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB Half RB Full RB
	1Tx, 2Tx	638000(3570.00 MHz) 641666(3624.99 MHz) 645332(3679.98 MHz)	40 MHz	BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB Half RB Full RB
Radiated Spurious Emissions below 1GHz	1Tx	641666(3624.99 MHz)	40 MHz	QPSK	1 RB
Radiated Spurious Emissions above 1GHz	1Tx	637000(3555.00 MHz) 641666(3624.99 MHz) 646332(3694.98 MHz)	10 MHz	QPSK	1 RB
	1Tx	637334(3560.01 MHz) 641666(3624.99 MHz) 646000(3690.00 MHz)	20 MHz	QPSK	1 RB
	1Tx	638000(3570.00 MHz) 641666(3624.99 MHz) 645332(3679.98 MHz)	40 MHz	QPSK	1 RB

3.4 Test Program Used and Operation Descriptions

There is no need to controlling software during the test, and the EUT can be paired with the 5G Wireless Test Platforms to test the connection when it is powered on.

3.5 Connection Diagram of EUT and Peripheral Devices



3.6 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Load*2	N/A	N/A	N/A	N/A	Provided by Lab
B	USB Flash	SanDisk	SDDDC3-032G	N/A	N/A	Provided by Lab
C	Notebook	Lenovo	X250ALT5	PC06HPSE	N/A	Provided by Lab
D	5G Wireless Test Platforms	Keysight	E7515B	MY60102114	N/A	Provided by Lab
E	WIFI Gateway	Vantiva	MGA5331	N/A	N/A	Provided by applicant
F	Adapter	HONOR	ADS-42FI-12 12042EPCU-L	N/A	N/A	Provided by applicant

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	RJ11 Cable	1	1.5	No	0	Provided by Lab
2	RJ45 Cable	4	1.5	No	0	Provided by Lab
3	RJ45 Cable	1	10	No	0	Provided by Lab

4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.1 Maximum EIRP

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	MFT-151SS-0.5T	N/A	N/A	N/A
EXA Signal Analyzer Agilent	N9010A	MY52220207	2024/12/30	2025/12/29
Horn Antenna RFSPIN	DRH18-E	210103A18E	2024/11/10	2025/11/9
Horn Antenna Schwarzbeck	BBHA 9170	9170-1049	2024/11/10	2025/11/9
MXE EMI Receiver Keysight	N9038B	MY60180019	2025/1/15	2026/1/14
Preamplifier EMCI	EMC118A45SE	980808	2024/12/26	2025/12/25
	EMC184045SE	980788	2025/1/14	2026/1/13
RF Coaxial Cable EMCI	EMC101G-KM-KM-2000	201254	2025/1/14	2026/1/13
	EMC101G-KM-KM-3000	201258	2025/1/14	2026/1/13
	EMC101G-KM-KM-5000	201261	2025/1/14	2026/1/13
	EMC104-SM-SM-1000	210102	2025/1/14	2026/1/13
	EMC104-SM-SM-3000	201231	2025/1/14	2026/1/13
	EMC104-SM-SM-9000	201243	2025/1/14	2026/1/13
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MF-7802BS	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208674	N/A	N/A
UXM 5G Wireless Test Platform Keysight	E7515B	MY60102115	2024/5/26	2025/5/25

Notes:

1. The test was performed in WM - 966 chamber 8.
2. Tested Date: 2025/1/16

4.2 Radiated Spurious Emissions below 1GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Max-Full	MFA-440H	AT93021705	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-472	2024/10/14	2025/10/13
EXA Signal Analyzer Agilent	N9010A	MY52220207	2023/12/28	2024/12/27
Loop Antenna TESEQ	HLA 6121	45745	2024/8/21	2025/8/20
MXE EMI Receiver Keysight	N9038A	MY55420137	2024/5/8	2025/5/7
Preamplifier EMCI	EMC 330H	980112	2024/9/24	2025/9/23
	EMC001340	980201	2024/9/24	2025/9/23
RF Coaxial Cable Woken	8D-FB	Cable-Ch10-01	2024/9/24	2025/9/23
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MFT-201SS	N/A	N/A	N/A
Turn Table Controller Max-Full	MG-7802	N/A	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 5.
2. Tested Date: 2024/11/13 ~ 2024/11/21

4.3 Radiated Spurious Emissions above 1GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Max-Full	MFA-440H	AT93021705	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	7	N/A	N/A
EXA Signal Analyzer Agilent	N9010A	MY52220207	2023/12/28	2024/12/27
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-969	2024/11/10	2025/11/9
	BBHA 9170	148	2024/11/10	2025/11/9
MXE EMI Receiver Keysight	N9038A	MY55420137	2024/5/8	2025/5/7
Preamplifier EMCI	EMC 012645	980115	2024/9/24	2025/9/23
	EMC 184045	980116	2024/9/24	2025/9/23
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	2024/7/6	2025/7/5
	EMC102-KM-KM-3000	150929	2024/7/6	2025/7/5
	EMC104-SM-SM-8000+3000	171005	2024/9/24	2025/9/23
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	EMC104-SM-SM-1000(140807)	2024/9/24	2025/9/23
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MFT-201SS	N/A	N/A	N/A
Turn Table Controller Max-Full	MG-7802	N/A	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 5.
2. Tested Date: 2024/11/12 ~ 2024/12/6

5 Limits of Test Items

5.1 Maximum EIRP

For NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz):

Device Category	Maximum EIRP (dBm/10 MHz)
End User Device	23
Category A CBSD	30
Category B CBSD	47

5.2 Radiated Spurious Emissions below 1GHz

For NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz):

The power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz.

5.3 Radiated Spurious Emissions above 1GHz

For NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz):

The power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

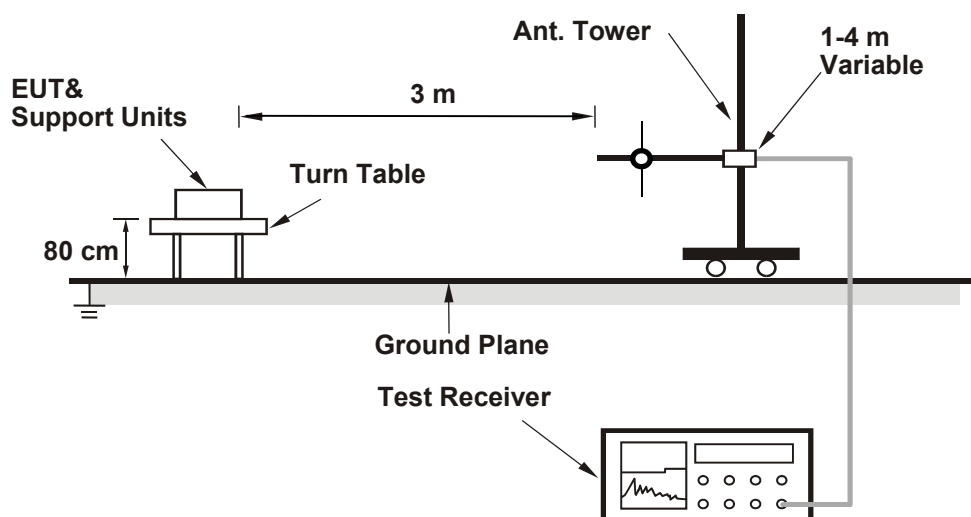
6 Test Arrangements

6.1 Maximum EIRP

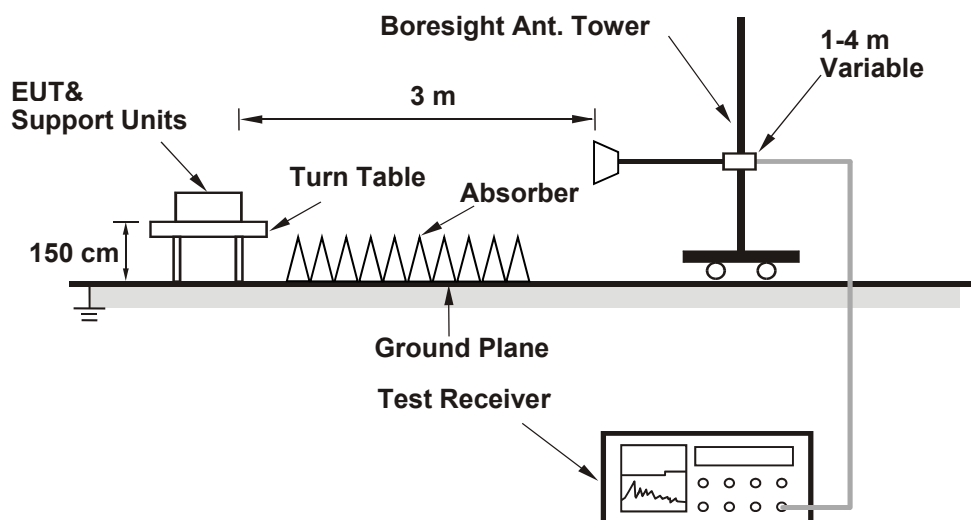
6.1.1 Test Setup

Radiated Power EIRP / ERP Measurement:

For Radiated Emission below or equal 1 GHz



For Radiated Emission above 1 GHz



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

6.1.2 Test Procedure

Radiated Power EIRP / ERP Measurement:

The EUT is configured by emulator to set data modulation and maximum power using WWAN technology.

Set the EUT to transmit under low, middle and high channel and record the power level shown on spectrum analyzer.

- a. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 1 GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
 - b. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
 - c. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.
 - d. Following C63.26 section 5.5 and 5.2.7. Set the detector to power averaging (rms) detector.
- $EIRP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.
 - $ERP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8 - 2.15$; where D is the measurement distance (in the far field region) in m.

Spectrum analyzer setting as below:

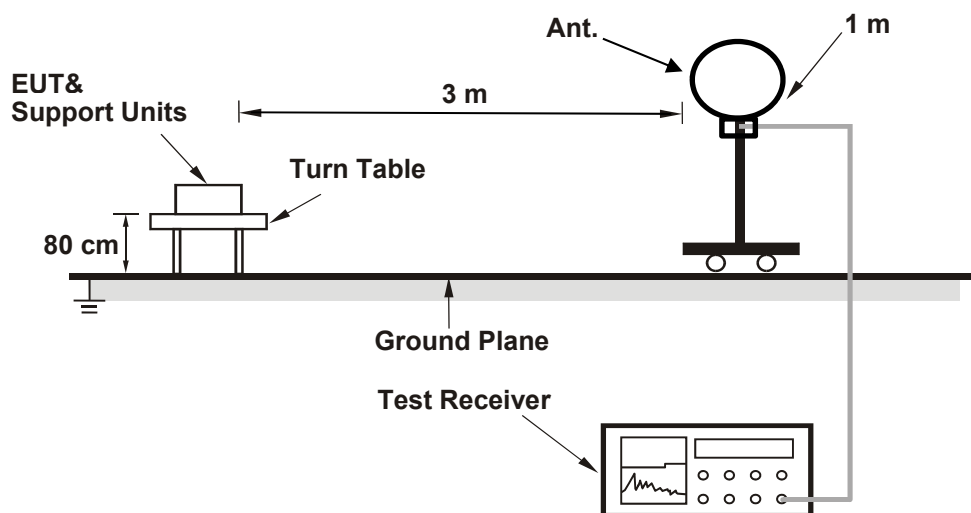
Measurement method refers to ANSI C63.26 section 5.2.4.4.

- a. Set span to $2 \times$ to $3 \times$ the OBW.
- b. Set RBW = 1% to 5% of the OBW.
- c. Set VBW $\geq 3 \times$ RBW.
- d. Set number of measurement points in sweep $\geq 2 \times$ span / RBW.
- e. Set Sweep time = auto-couple.
- f. Detector = power averaging (rms).
- g. Set sweep trigger to "free run."
- h. Trace average at least 100 traces in power averaging (rms) mode.
- i. Compute power by integrating the spectrum across the OBW of the signal using the instrument's band or channel power measurement function with band/channel limits set equal to the OBW band edges.
- j. If Duty cycle < 98%, Add $10 \log (1/\text{duty cycle})$ to the measured power level to compute the average power during continuous transmission.

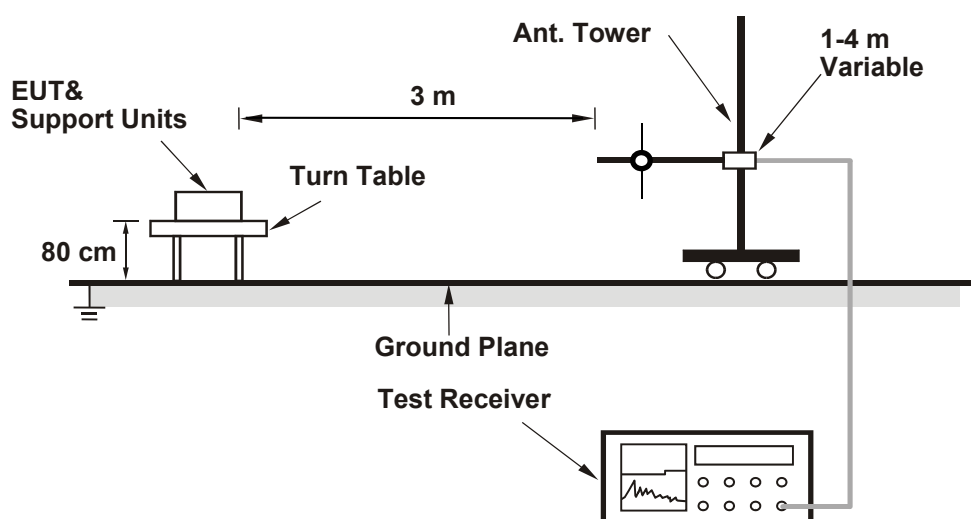
6.2 Radiated Spurious Emissions below 1GHz

6.2.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



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

6.2.2 Test Procedure

The EUT is configured to set data modulation and maximum power using WWAN technology.

- a. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) height of turn table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- c. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.
- d. Following ANSI C63.26 section 5.5 and 5.2.7
- e. $EIRP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.
- f. $ERP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8 - 2.15$; where D is the measurement distance (in the far field region) in m.

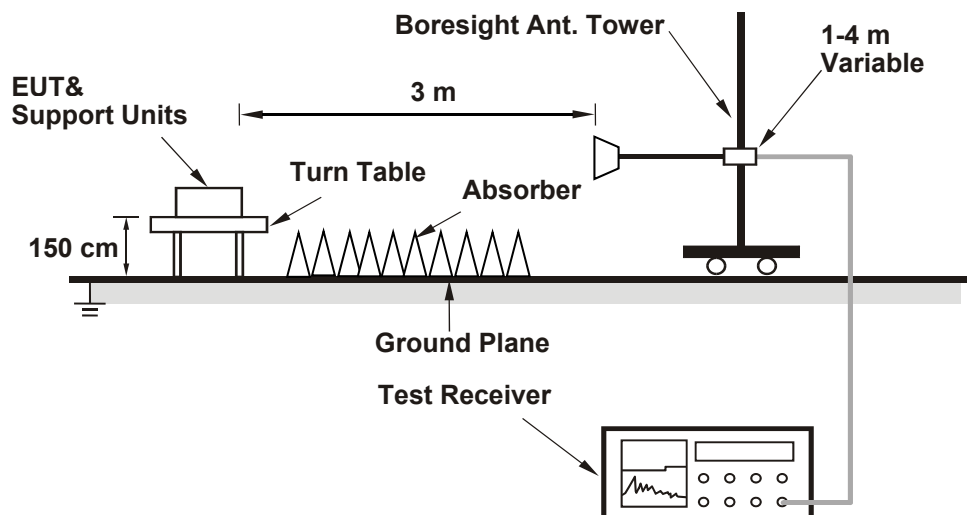
Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz. Set detector = average.
2. The amplitude of spurious emissions in the range 9 kHz to 30 MHz which are attenuated more than 20 dB below the permissible value need not be reported.

6.3 Radiated Spurious Emissions above 1GHz

6.3.1 Test Setup

For radiated emission above 1 GHz



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

6.3.2 Test Procedure

The EUT is configured to set data modulation and maximum power using WWAN technology.

- In the semi-anechoic chamber, EUT placed on the 1.5 m height of turn table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.
- Following ANSI C63.26 section 5.5 and 5.2.7
- $EIRP \text{ (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.
- $ERP \text{ (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8 - 2.15$; where D is the measurement distance (in the far field region) in m.

Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz. Set detector = average.

7 Test Results of Test Item

7.1 Maximum EIRP

Environmental Conditions:	25°C, 60% RH	Tested By:	Wade Huang
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1TX

7.1.1 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz)

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 10 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
BPSK	637000	3555	115.88	-95.26	115.345	20.62	23
	641666	3624.99	115.45	-95.26	104.472	20.19	23
	646332	3694.98	115.89	-95.26	115.611	20.63	23
QPSK	637000	3555	116.08	-95.26	120.781	20.82	23
	641666	3624.99	115.54	-95.26	106.66	20.28	23
	646332	3694.98	116.11	-95.26	121.619	20.85	23
16QAM	637000	3555	115.1	-95.26	96.383	19.84	23
	641666	3624.99	115.17	-95.26	97.949	19.91	23
	646332	3694.98	115.14	-95.26	97.275	19.88	23
64QAM	637000	3555	114.15	-95.26	77.446	18.89	23
	641666	3624.99	113.83	-95.26	71.945	18.57	23
	646332	3694.98	113.99	-95.26	74.645	18.73	23
256QAM	637000	3555	111.49	-95.26	41.976	16.23	23
	641666	3624.99	111.52	-95.26	42.267	16.26	23
	646332	3694.98	111.39	-95.26	41.02	16.13	23

Notes:

1. EIRP (dBm) = Field Strength (dBμV/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 20 MHz, Output Power: Full Power

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dB μ V/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
BPSK	637334	3560.01	115.75	-95.26	111.944	20.49	23
	641666	3624.99	115.93	-95.26	116.681	20.67	23
	646000	3690	115.73	-95.26	111.429	20.47	23
QPSK	637334	3560.01	116.13	-95.26	122.18	20.87	23
	641666	3624.99	116.21	-95.26	124.451	20.95	23
	646000	3690	116.12	-95.26	121.899	20.86	23
16QAM	637334	3560.01	115.2	-95.26	98.628	19.94	23
	641666	3624.99	115.37	-95.26	102.565	20.11	23
	646000	3690	115.17	-95.26	97.949	19.91	23
64QAM	637334	3560.01	113.98	-95.26	74.473	18.72	23
	641666	3624.99	114.05	-95.26	75.683	18.79	23
	646000	3690	113.94	-95.26	73.79	18.68	23
256QAM	637334	3560.01	111.45	-95.26	41.591	16.19	23
	641666	3624.99	111.49	-95.26	41.976	16.23	23
	646000	3690	111.47	-95.26	41.783	16.21	23

Notes:

1. EIRP (dBm) = Field Strength (dB μ V/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 30 MHz, Output Power: Full Power

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dB μ V/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
BPSK	637668	3565.02	115.86	-95.26	114.815	20.6	23
	641666	3624.99	115.9	-95.26	115.878	20.64	23
	645666	3684.99	115.81	-95.26	113.501	20.55	23
QPSK	637668	3565.02	116.19	-95.26	123.88	20.93	23
	641666	3624.99	116.23	-95.26	125.026	20.97	23
	645666	3684.99	116.18	-95.26	123.595	20.92	23
16QAM	637668	3565.02	115.24	-95.26	99.541	19.98	23
	641666	3624.99	115.34	-95.26	101.859	20.08	23
	645666	3684.99	115.2	-95.26	98.628	19.94	23
64QAM	637668	3565.02	114.08	-95.26	76.208	18.82	23
	641666	3624.99	114.17	-95.26	77.804	18.91	23
	645666	3684.99	114.06	-95.26	75.858	18.8	23
256QAM	637668	3565.02	111.38	-95.26	40.926	16.12	23
	641666	3624.99	111.51	-95.26	42.17	16.25	23
	645666	3684.99	111.23	-95.26	39.537	15.97	23

Notes:

1. EIRP (dBm) = Field Strength (dB μ V/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 40 MHz, Output Power: Full Power

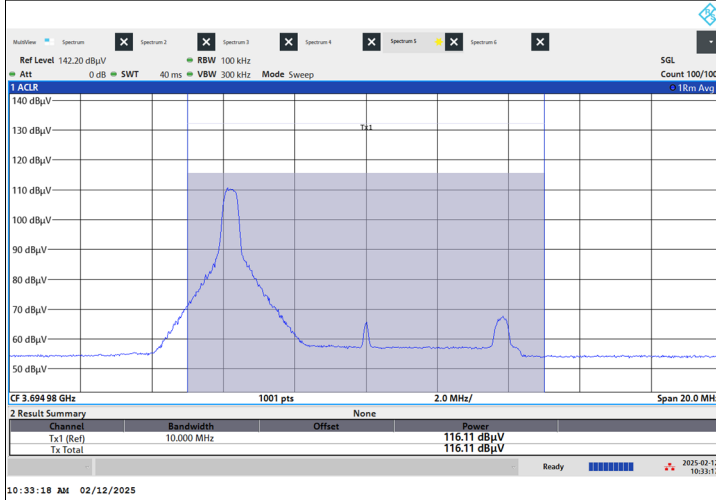
Modulation	Channel	Channel Frequency (MHz)	Field Strength (dB μ V/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
BPSK	638000	3570	115.94	-95.26	116.95	20.68	23
	641666	3624.99	115.98	-95.26	118.032	20.72	23
	645332	3679.98	115.92	-95.26	116.413	20.66	23
QPSK	638000	3570	116.11	-95.26	121.619	20.85	23
	641666	3624.99	116.14	-95.26	122.462	20.88	23
	645332	3679.98	116.08	-95.26	120.781	20.82	23
16QAM	638000	3570	115.33	-95.26	101.625	20.07	23
	641666	3624.99	115.39	-95.26	103.039	20.13	23
	645332	3679.98	115.37	-95.26	102.565	20.11	23
64QAM	638000	3570	114	-95.26	74.817	18.74	23
	641666	3624.99	114.21	-95.26	78.524	18.95	23
	645332	3679.98	114.1	-95.26	76.56	18.84	23
256QAM	638000	3570	111.44	-95.26	41.495	16.18	23
	641666	3624.99	111.48	-95.26	41.879	16.22	23
	645332	3679.98	111.3	-95.26	40.179	16.04	23

Notes:

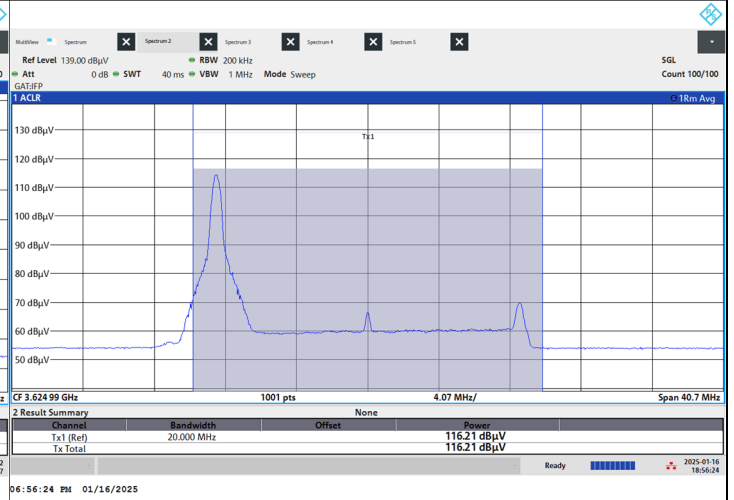
1. EIRP (dBm) = Field Strength (dB μ V/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

Spectrum Plot of Worst Value

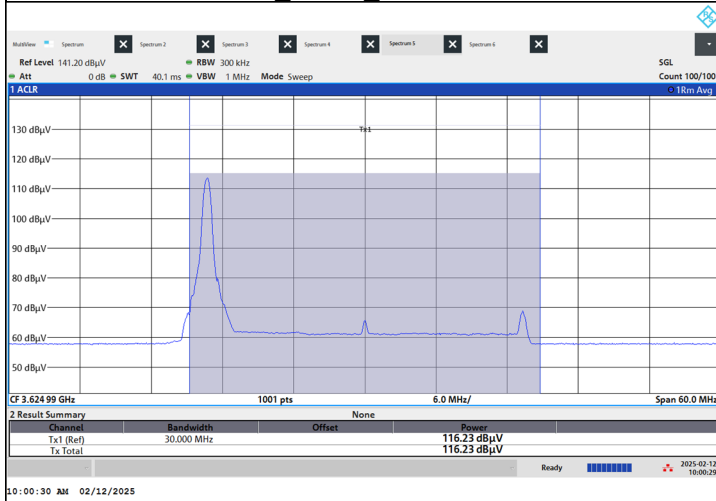
10M QPSK CH646332



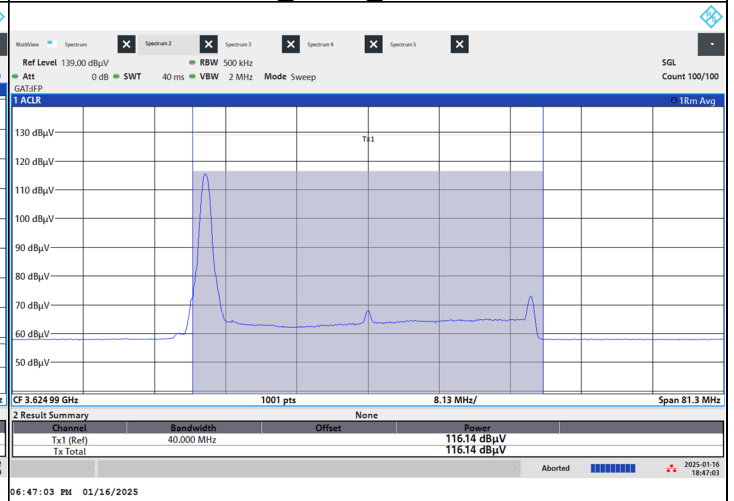
20M QPSK CH641666



30M QPSK CH641666



40M QPSK CH641666



NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 20 MHz, Output Power: dBm/10 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
BPSK	637334	3560.01	115.58	-95.26	107.647	20.32	23
	641666	3624.99	115.75	-95.26	111.944	20.49	23
	646000	3690	115.55	-95.26	106.905	20.29	23
QPSK	637334	3560.01	115.96	-95.26	117.49	20.7	23
	641666	3624.99	116.16	-95.26	123.027	20.9	23
	646000	3690	115.94	-95.26	116.95	20.68	23
16QAM	637334	3560.01	115.01	-95.26	94.406	19.75	23
	641666	3624.99	115.19	-95.26	98.401	19.93	23
	646000	3690	115.16	-95.26	97.724	19.9	23
64QAM	637334	3560.01	113.76	-95.26	70.795	18.5	23
	641666	3624.99	113.85	-95.26	72.277	18.59	23
	646000	3690	113.77	-95.26	70.958	18.51	23
256QAM	637334	3560.01	111.25	-95.26	39.719	15.99	23
	641666	3624.99	111.27	-95.26	39.902	16.01	23
	646000	3690	111.29	-95.26	40.087	16.03	23

Notes:

1. EIRP (dBm) = Field Strength (dBμV/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 30 MHz, Output Power: dBm/10 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
BPSK	637668	3565.02	115.67	-95.26	109.901	20.41	23
	641666	3624.99	115.73	-95.26	111.429	20.47	23
	645666	3684.99	115.61	-95.26	108.393	20.35	23
QPSK	637668	3565.02	116.01	-95.26	118.85	20.75	23
	641666	3624.99	116.12	-95.26	121.899	20.86	23
	645666	3684.99	115.98	-95.26	118.032	20.72	23
16QAM	637668	3565.02	115.02	-95.26	94.624	19.76	23
	641666	3624.99	115.16	-95.26	97.724	19.9	23
	645666	3684.99	114.98	-95.26	93.756	19.72	23
64QAM	637668	3565.02	113.87	-95.26	72.611	18.61	23
	641666	3624.99	113.96	-95.26	74.131	18.7	23
	645666	3684.99	113.88	-95.26	72.778	18.62	23
256QAM	637668	3565.02	111.17	-95.26	38.994	15.91	23
	641666	3624.99	111.3	-95.26	40.179	16.04	23
	645666	3684.99	111.03	-95.26	37.757	15.77	23

Notes:

1. EIRP (dBm) = Field Strength (dBμV/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 40 MHz, Output Power: dBm/10 MHz

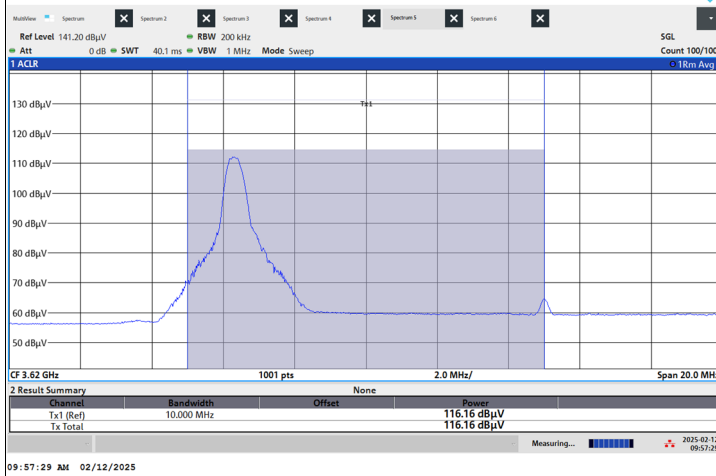
Modulation	Channel	Channel Frequency (MHz)	Field Strength (dB μ V/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
BPSK	638000	3570	115.75	-95.26	111.944	20.49	23
	641666	3624.99	115.79	-95.26	112.98	20.53	23
	645332	3679.98	115.7	-95.26	110.662	20.44	23
QPSK	638000	3570	116.1	-95.26	121.339	20.84	23
	641666	3624.99	116.21	-95.26	124.451	20.95	23
	645332	3679.98	116.07	-95.26	120.504	20.81	23
16QAM	638000	3570	115.12	-95.26	96.828	19.86	23
	641666	3624.99	115.18	-95.26	98.175	19.92	23
	645332	3679.98	115.2	-95.26	98.628	19.94	23
64QAM	638000	3570	113.8	-95.26	71.45	18.54	23
	641666	3624.99	114.03	-95.26	75.336	18.77	23
	645332	3679.98	113.88	-95.26	72.778	18.62	23
256QAM	638000	3570	111.22	-95.26	39.446	15.96	23
	641666	3624.99	111.37	-95.26	40.832	16.11	23
	645332	3679.98	111.09	-95.26	38.282	15.83	23

Notes:

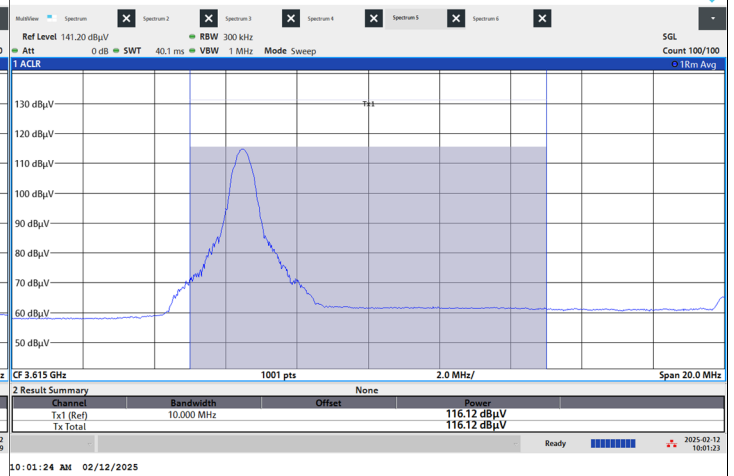
1. EIRP (dBm) = Field Strength (dB μ V/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

Spectrum Plot of Worst Value

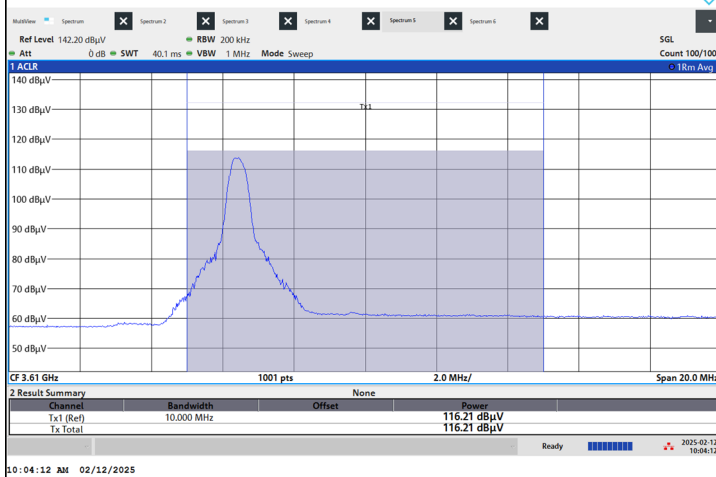
20M_QPSK_CH641666



30M_QPSK_CH641666



40M_QPSK_CH641666



2TX

7.1.2 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz)

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 10 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	637000	3555	114.09	-95.26	76.384	18.83	23
	641666	3624.99	114.43	-95.26	82.604	19.17	23
	646332	3694.98	114.32	-95.26	80.538	19.06	23
16QAM	637000	3555	113.4	-95.26	65.163	18.14	23
	641666	3624.99	113.57	-95.26	67.764	18.31	23
	646332	3694.98	113.55	-95.26	67.453	18.29	23
64QAM	637000	3555	112.23	-95.26	49.774	16.97	23
	641666	3624.99	112.27	-95.26	50.234	17.01	23
	646332	3694.98	112.25	-95.26	50.003	16.99	23
256QAM	637000	3555	109.12	-95.26	24.322	13.86	23
	641666	3624.99	109.7	-95.26	27.797	14.44	23
	646332	3694.98	109.49	-95.26	26.485	14.23	23

Notes:

1. EIRP (dBm) = Field Strength (dBμV/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 20 MHz, Output Power: Full Power

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	637334	3560.01	114.42	-95.26	82.414	19.16	23
	641666	3624.99	114.51	-95.26	84.14	19.25	23
	646000	3690	114.41	-95.26	82.224	19.15	23
16QAM	637334	3560.01	113.34	-95.26	64.269	18.08	23
	641666	3624.99	113.43	-95.26	65.615	18.17	23
	646000	3690	113.42	-95.26	65.464	18.16	23
64QAM	637334	3560.01	112.19	-95.26	49.317	16.93	23
	641666	3624.99	112.3	-95.26	50.582	17.04	23
	646000	3690	112.1	-95.26	48.306	16.84	23
256QAM	637334	3560.01	109.6	-95.26	27.164	14.34	23
	641666	3624.99	109.45	-95.26	26.242	14.19	23
	646000	3690	109.3	-95.26	25.351	14.04	23

Notes:

1. EIRP (dBm) = Field Strength (dBμV/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 30 MHz, Output Power: Full Power

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	637668	3565.02	114.22	-95.26	78.705	18.96	23
	641666	3624.99	114.31	-95.26	80.353	19.05	23
	645666	3684.99	114.29	-95.26	79.983	19.03	23
16QAM	637668	3565.02	113.28	-95.26	63.387	18.02	23
	641666	3624.99	113.32	-95.26	63.973	18.06	23
	645666	3684.99	113.39	-95.26	65.013	18.13	23
64QAM	637668	3565.02	112.06	-95.26	47.863	16.8	23
	641666	3624.99	112.15	-95.26	48.865	16.89	23
	645666	3684.99	112.05	-95.26	47.753	16.79	23
256QAM	637668	3565.02	109.21	-95.26	24.831	13.95	23
	641666	3624.99	109.34	-95.26	25.586	14.08	23
	645666	3684.99	109.24	-95.26	25.003	13.98	23

Notes:

1. EIRP (dBm) = Field Strength (dBμV/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 40 MHz, Output Power: Full Power

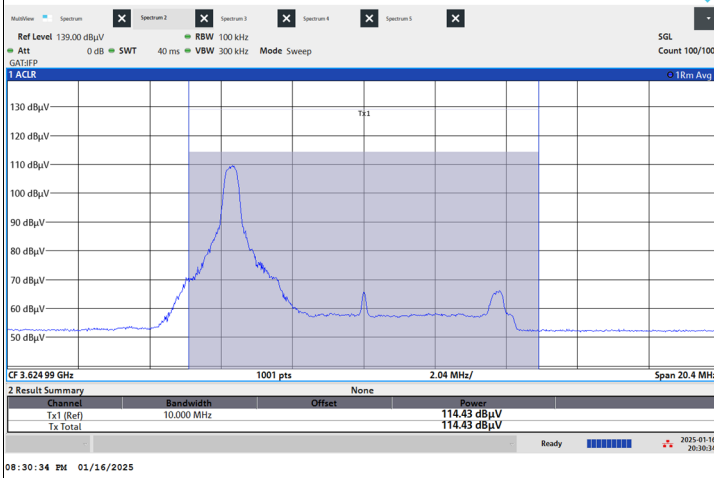
Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	638000	3570	114.26	-95.26	79.433	19	23
	641666	3624.99	114.43	-95.26	82.604	19.17	23
	645332	3679.98	114.32	-95.26	80.538	19.06	23
16QAM	638000	3570	113.47	-95.26	66.222	18.21	23
	641666	3624.99	113.59	-95.26	68.077	18.33	23
	645332	3679.98	113.3	-95.26	63.68	18.04	23
64QAM	638000	3570	111.95	-95.26	46.666	16.69	23
	641666	3624.99	112.18	-95.26	49.204	16.92	23
	645332	3679.98	112.14	-95.26	48.753	16.88	23
256QAM	638000	3570	109.32	-95.26	25.468	14.06	23
	641666	3624.99	109.44	-95.26	26.182	14.18	23
	645332	3679.98	109.33	-95.26	25.527	14.07	23

Notes:

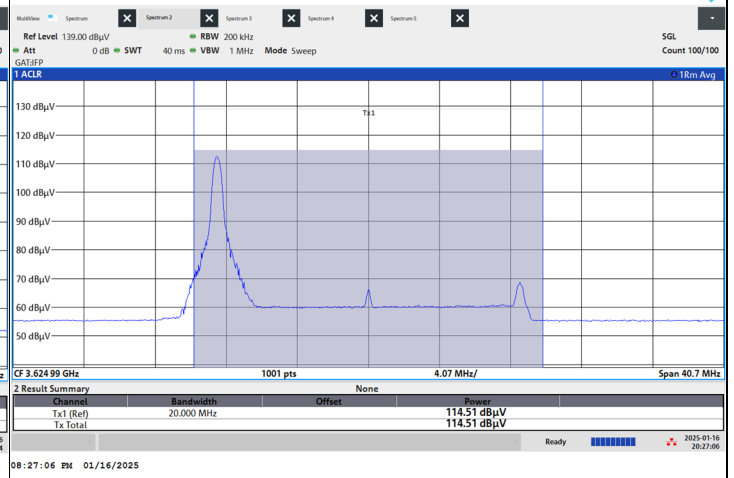
1. EIRP (dBm) = Field Strength (dBμV/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

Spectrum Plot of Worst Value

10M_QPSK_CH641666



20M_QPSK_CH641666



30M_QPSK_CH641666



40M_QPSK_CH641666



NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 20 MHz, Output Power: dBm/10 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	637334	3560.01	114.23	-95.26	78.886	18.97	23
	641666	3624.99	114.4	-95.26	82.035	19.14	23
	646000	3690	114.21	-95.26	78.524	18.95	23
16QAM	637334	3560.01	113.17	-95.26	61.802	17.91	23
	641666	3624.99	113.21	-95.26	62.373	17.95	23
	646000	3690	113.2	-95.26	62.23	17.94	23
64QAM	637334	3560.01	112.01	-95.26	47.315	16.75	23
	641666	3624.99	112.09	-95.26	48.195	16.83	23
	646000	3690	111.93	-95.26	46.452	16.67	23
256QAM	637334	3560.01	109.42	-95.26	26.062	14.16	23
	641666	3624.99	109.45	-95.26	26.242	14.19	23
	646000	3690	109.31	-95.26	25.41	14.05	23

Notes:

1. EIRP (dBm) = Field Strength (dBμV/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 30 MHz, Output Power: dBm/10 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	637668	3565.02	114.07	-95.26	76.033	18.81	23
	641666	3624.99	114.19	-95.26	78.163	18.93	23
	645666	3684.99	114.15	-95.26	77.446	18.89	23
16QAM	637668	3565.02	113.07	-95.26	60.395	17.81	23
	641666	3624.99	113.1	-95.26	60.814	17.84	23
	645666	3684.99	113.22	-95.26	62.517	17.96	23
64QAM	637668	3565.02	111.96	-95.26	46.774	16.7	23
	641666	3624.99	112.07	-95.26	47.973	16.81	23
	645666	3684.99	111.99	-95.26	47.098	16.73	23
256QAM	637668	3565.02	109.25	-95.26	25.061	13.99	23
	641666	3624.99	109.36	-95.26	25.704	14.1	23
	645666	3684.99	109.26	-95.26	25.119	14	23

Notes:

1. EIRP (dBm) = Field Strength (dBμV/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 40 MHz, Output Power: dBm/10 MHz

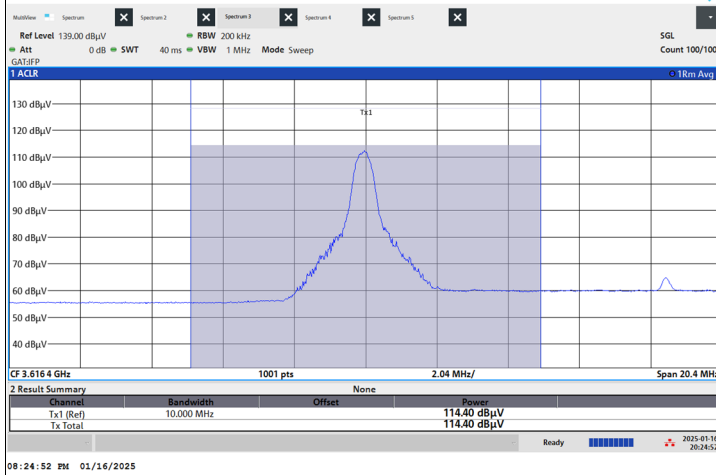
Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	638000	3570	114.22	-95.26	78.705	18.96	23
	641666	3624.99	114.39	-95.26	81.846	19.13	23
	645332	3679.98	114.15	-95.26	77.446	18.89	23
16QAM	638000	3570	113.25	-95.26	62.951	17.99	23
	641666	3624.99	113.37	-95.26	64.714	18.11	23
	645332	3679.98	113.11	-95.26	60.954	17.85	23
64QAM	638000	3570	112	-95.26	47.206	16.74	23
	641666	3624.99	112.2	-95.26	49.431	16.94	23
	645332	3679.98	112.05	-95.26	47.753	16.79	23
256QAM	638000	3570	109.32	-95.26	25.468	14.06	23
	641666	3624.99	109.42	-95.26	26.062	14.16	23
	645332	3679.98	109.32	-95.26	25.468	14.06	23

Notes:

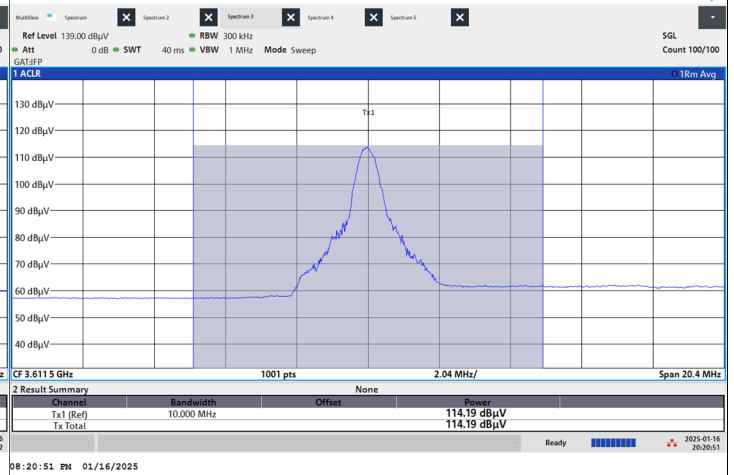
1. EIRP (dBm) = Field Strength (dBμV/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

Spectrum Plot of Worst Value

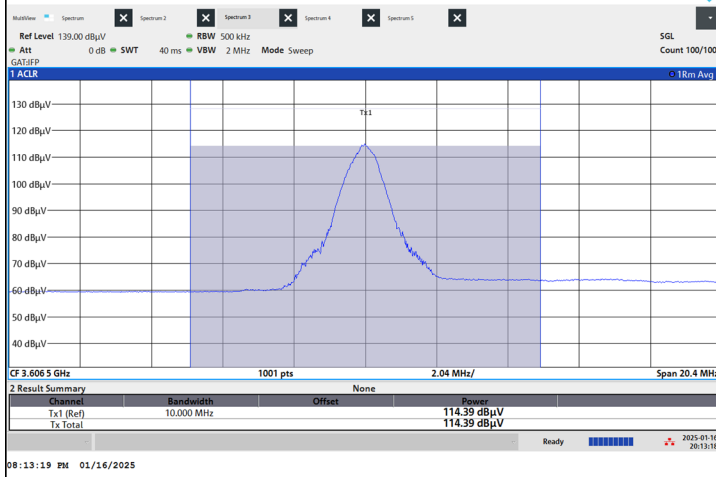
20M_QPSK_CH641666



30M_QPSK_CH641666



40M_QPSK_CH641666



7.2 Radiated Spurious Emissions below 1GHz

7.2.1 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz)

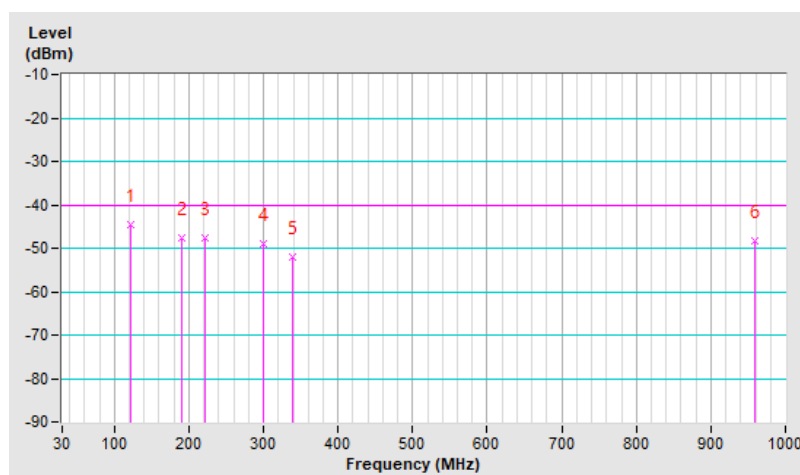
1TX

RF Mode	NR n48 Channel Bandwidth: 40MHz	Channel	CH 641666 : 3624.99 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 65 % RH
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	121.18	-44.50	-40.00	-4.50	1.00 H	81	64.74	-109.24
2	190.05	-47.61	-40.00	-7.61	1.49 H	124	62.62	-110.23
3	222.06	-47.58	-40.00	-7.58	1.49 H	103	63.30	-110.88
4	299.66	-48.98	-40.00	-8.98	1.00 H	245	57.89	-106.87
5	339.43	-51.93	-40.00	-11.93	2.00 H	196	54.07	-106.00
6	958.29	-48.25	-40.00	-8.25	1.49 H	71	46.27	-94.52

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

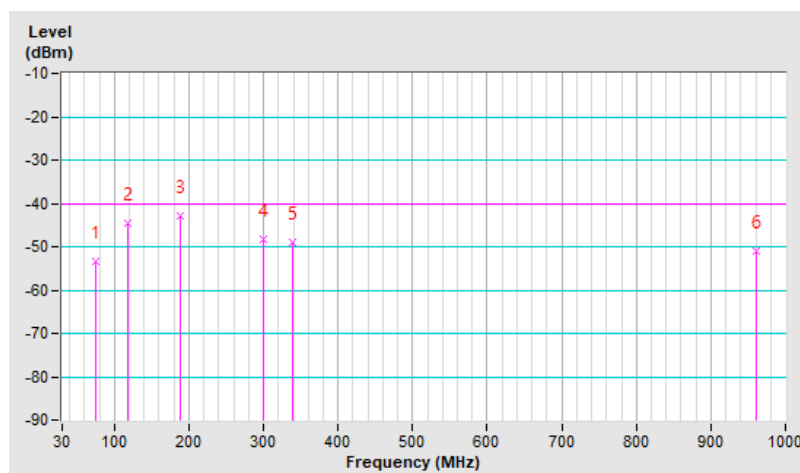


RF Mode	NR n48 Channel Bandwidth: 40MHz	Channel	CH 641666 : 3624.99 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 65 % RH
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	74.62	-53.39	-40.00	-13.39	1.01 V	2	57.42	-110.81
2	118.27	-44.59	-40.00	-4.59	1.01 V	12	64.95	-109.54
3	189.08	-43.01	-40.00	-3.01	2.00 V	123	67.11	-110.12
4	300.63	-48.33	-40.00	-8.33	1.51 V	176	58.51	-106.84
5	339.43	-48.84	-40.00	-8.84	1.51 V	204	57.16	-106.00
6	960.23	-50.99	-40.00	-10.99	1.01 V	58	43.49	-94.48

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



7.3 Radiated Spurious Emissions above 1GHz

7.3.1 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz)

1TX

RF Mode	NR n48 Channel Bandwidth: 10MHz	Channel	CH 637000 : 3555 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 65 % RH
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7110.00	-50.03	-40.00	-10.03	1.18 H	145	35.22	-85.25
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7110.00	-49.13	-40.00	-9.13	1.78 V	171	36.12	-85.25

Remarks:

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

RF Mode	NR n48 Channel Bandwidth: 10MHz	Channel	CH 641666 : 3624.99 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 65 % RH
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7249.98	-49.98	-40.00	-9.98	1.23 H	151	35.62	-85.60
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7249.98	-49.18	-40.00	-9.18	1.89 V	183	36.42	-85.60

Remarks:

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

RF Mode	NR n48 Channel Bandwidth: 10MHz	Channel	CH 646332 : 3694.98 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 65 % RH
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7389.96	-50.11	-40.00	-10.11	1.23 H	147	35.04	-85.15
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7389.96	-49.25	-40.00	-9.25	1.71 V	182	35.90	-85.15

Remarks:

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

RF Mode	NR n48 Channel Bandwidth: 20MHz	Channel	CH 637334 : 3560.01 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 65 % RH
Tested By	Vincent Chen		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7120.02	-50.30	-40.00	-10.30	1.23 H	149	34.99	-85.29
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7120.02	-49.64	-40.00	-9.64	1.77 V	171	35.65	-85.29

Remarks:

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

RF Mode	NR n48 Channel Bandwidth: 20MHz	Channel	CH 641666 : 3624.99 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 65 % RH
Tested By	Vincent Chen		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7249.98	-51.01	-40.00	-11.01	1.14 H	142	34.59	-85.60
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7249.98	-49.72	-40.00	-9.72	1.77 V	172	35.88	-85.60

Remarks:

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

RF Mode	NR n48 Channel Bandwidth: 20MHz	Channel	CH 646000 : 3690 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 65 % RH
Tested By	Vincent Chen		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7380.00	-50.43	-40.00	-10.43	1.14 H	145	34.74	-85.17
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7380.00	-49.85	-40.00	-9.85	1.79 V	174	35.32	-85.17

Remarks:

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

RF Mode	NR n48 Channel Bandwidth: 40MHz	Channel	CH 638000 : 3570 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 65 % RH
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7140.00	-49.66	-40.00	-9.66	1.23 H	153	35.71	-85.37
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7140.00	-48.94	-40.00	-8.94	1.72 V	183	36.43	-85.37

Remarks:

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

RF Mode	NR n48 Channel Bandwidth: 40MHz	Channel	CH 641666 : 3624.99 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 65 % RH
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7249.98	-49.69	-40.00	-9.69	1.31 H	144	35.91	-85.60
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7249.98	-48.81	-40.00	-8.81	1.73 V	198	36.79	-85.60

Remarks:

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

RF Mode	NR n48 Channel Bandwidth: 40MHz	Channel	CH 645332 : 3679.98 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 65 % RH
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7359.96	-49.92	-40.00	-9.92	1.21 H	138	35.29	-85.21
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7359.96	-49.40	-40.00	-9.40	1.66 V	178	35.81	-85.21

Remarks:

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

8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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

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Web Site: <http://ee.bureauveritas.com.tw>

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

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