

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 96
47 CFR FCC Part 2
Report No.: RFCDVB-WTW-P25100257-3
FCC ID: QYLFN990G14
Product: 5G NR Module
Brand: Getac
Model No.: FN990A28G14
Received Date: 2025/9/16
Test Date: 2025/11/16 ~ 2025/11/27
Issued Date: 2025/12/11

Applicant: Getac Technology Corporation.

Address: 5F., Building A, No. 209, Sec. 1, Nangang Rd., Nangang Dist., Taipei City 115018, Taiwan, R.O.C.

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

Test Location(1): No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan

Test Location(2): No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

FCC Registration / 788550 / TW0003 for Test Location(1)

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

Approved by: Jeremy Lin, **Date:** 2025/12/11
Jeremy Lin / Project Engineer

This test report consists of 57 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The test results in the report only apply to the tested sample. The test results in this report are traceable to the national or international standards.



Prepared by : Celine Chou / Senior Specialist

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

Table of Contents

Release Control Record	3
1 Certificate.....	4
2 Summary of Test Results	5
2.1 Measurement Uncertainty	5
2.2 Supplementary Information	5
3 General Information	6
3.1 General Description of EUT	6
3.2 Antenna Description of EUT	9
3.3 Test Mode Applicability and Tested Channel Detail.....	10
3.3.1 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz)	10
3.4 Test Program Used and Operation Descriptions	12
3.5 Connection Diagram of EUT and Peripheral Devices	12
3.6 Configuration of Peripheral Devices and Cable Connections	12
4 Test Instruments	13
4.1 Maximum EIRP	13
4.2 Radiated Spurious Emissions below 1GHz	14
4.3 Radiated Spurious Emissions above 1GHz	15
5 Limits of Test Items.....	16
5.1 Maximum EIRP	16
5.2 Radiated Spurious Emissions below 1GHz	16
5.3 Radiated Spurious Emissions above 1GHz	16
6 Test Arrangements	17
6.1 Maximum EIRP	17
6.1.1 Test Setup	17
6.1.2 Test Procedure	18
6.2 Radiated Spurious Emissions below 1GHz	20
6.2.1 Test Setup	20
6.2.2 Test Procedure	21
6.3 Radiated Spurious Emissions above 1GHz	22
6.3.1 Test Setup	22
6.3.2 Test Procedure	22
7 Test Results of Test Item	23
7.1 Maximum EIRP	23
7.1.1 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) - SISO	23
7.1.2 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) - MIMO	33
7.2 Radiated Spurious Emissions below 1GHz	42
7.2.1 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) - SISO	42
7.3 Radiated Spurious Emissions above 1GHz	44
7.3.1 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) - SISO	44
7.3.2 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) - MIMO	50
8 Pictures of Test Arrangements	56
9 Information of the Testing Laboratories	57

Release Control Record

Issue No.	Description	Date Issued
RFCDVB-WTW-P25100257-3	Original release.	2025/12/11

1 Certificate

Product: 5G NR Module

Brand: Getac

Test Model: FN990A28G14

Sample Status: Engineering sample

Applicant: Getac Technology Corporation.

Test Date: 2025/11/16 ~ 2025/11/27

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

Measurement ANSI/TIA/EIA-603-E 2016

procedure: 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	N/A	Refer to Note 1
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	N/A	Refer to Note 1
Part 2.1049	Bandwidth	N/A	Refer to Note 1
Part 2.1051 Part 96.41(e)	Conducted Spurious Emissions	N/A	Refer to Note 1
Part 2.1053 Part 96.41(e)	Radiated Spurious Emissions below 1GHz	Pass	Minimum passing margin is -9.45 dB at 538.28 MHz
Part 2.1053 Part 96.41(e)	Radiated Spurious Emissions above 1GHz	Pass	Minimum passing margin is -1.12 dB at 7249.98 MHz
Part 2.1055	Frequency Stability	N/A	Refer to Note 1

Note:

- Only test item of Maximum EIRP and Radiated Spurious Emissions were performed for this report. Other testing data please refer to WWAN module (FCC ID: R17FN990A28) certified report.
- 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	-	1.371 dB
Radiated Spurious Emissions below 1GHz	9 kHz ~ 30 MHz	3.00 dB
	30 MHz ~ 1 GHz	2.92 dB
Radiated Spurious Emissions above 1GHz	1 GHz ~ 18 GHz	1.76 dB
	18 GHz ~ 40 GHz	1.77 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	5G NR Module
Brand	Getac
Test Model	FN990A28G14
Status of EUT	Engineering sample
Power Supply Rating	Refer to note
EUT Category	End User Device
Modulation Type	DFT-s-OFDM, CP-OFDM
5G NR support SISO bands	n48
5G NR support MIMO bands	n48
5G NR bands support CA mode	-
PC3 for Power Class	n48
PC2 for Power Class	-
PC1.5 for Power Class	-
Band Covered Information	-

Note:

1. The EUT is authorized for use in specific End-product.

Product	Brand	Model	Difference
Tablet	Getac	G140	marketing purpose
		G140Y (Y = 10 Characters, Y can be 0 to 9, A to Z, a to z, "/", "\", "-", "_ " or blank for marketing purpose)	

2. The End-product uses following accessories.

Item	Brand	Model	Specification
Battery 1	Getac	BP2S1P4070P	Power Rating: 7.74 Vdc, 3800 mAh, 29.42 Wh 4070 mAh, 31.5 1Wh
Battery 2	Getac	BP3S1P4070P	Power Rating: 11.61 Vdc, 3800 mAh, 44.12 Wh 4070mAh, 47.26Wh
AC Adapter 1	FSP	FSP065-RBBN3	AC Input: 100-240 Vac, 50-60 Hz, 1.5 A DC Output: 19.0 Vdc, 3.42 A, 65.0 W DC Output Cable: 1.45m / 1 core
AC Adapter 2 (Option)	Getac	MTA190474W4	AC Input: 100-240 Vac, 50-60 Hz, 1.6 A DC Output: 19.0 Vdc, 4.74 A, 90.0 W
Digitizer Pen	EMRight	GT-090S	-

3. EUT Overview

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

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm)
10 MHz	3555 ~ 3694.98	BPSK	0.187	22.73
		QPSK	0.189	22.77
		16QAM	0.131	21.18
		64QAM	0.119	20.76
		256QAM	0.072	18.59
15 MHz (Full Power)	3557.52 ~ 3692.49	BPSK	0.189	22.77
		QPSK	0.191	22.81
		16QAM	0.132	21.22
		64QAM	0.121	20.83
		256QAM	0.073	18.61
15 MHz (dBm/10 MHz)		BPSK	0.187	22.73
		QPSK	0.188	22.74
		16QAM	0.130	21.15
		64QAM	0.121	20.82
		256QAM	0.072	18.56
20 MHz (Full Power)	3560.01 ~ 3690	BPSK	0.190	22.79
		QPSK	0.194	22.87
		16QAM	0.136	21.35
		64QAM	0.125	20.96
		256QAM	0.074	18.71
20 MHz (dBm/10 MHz)		BPSK	0.188	22.74
		QPSK	0.191	22.8
		16QAM	0.134	21.28
		64QAM	0.124	20.94
		256QAM	0.074	18.7
30 MHz (Full Power)	3565.02 ~ 3684.99	BPSK	0.191	22.82
		QPSK	0.195	22.91
		16QAM	0.139	21.44
		64QAM	0.126	20.99
		256QAM	0.075	18.73
30 MHz (dBm/10 MHz)		BPSK	0.190	22.78
		QPSK	0.192	22.83
		16QAM	0.138	21.41
		64QAM	0.123	20.89
		256QAM	0.074	18.69

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm)
40 MHz (Full Power)	3570 ~ 3679.98	BPSK	0.192	22.83
		QPSK	0.197	22.94
		16QAM	0.140	21.45
		64QAM	0.127	21.04
		256QAM	0.075	18.77
40 MHz (dBm/10 MHz)		BPSK	0.191	22.8
		QPSK	0.194	22.87
		16QAM	0.139	21.43
		64QAM	0.125	20.96
		256QAM	0.074	18.67

4. For detailed information about each WWAN bands frequency range, bandwidth mode of the product, please refer to section 3.3 of the report.
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.

Ant. 0		Ant. 1	
Antenna Type	PIFA	Antenna Type	PIFA
Brand	AWAN	Brand	AWAN
Model	422GC2400001	Model	422GC2400002
Ant. 2		Ant. 3	
Antenna Type	PIFA	Antenna Type	PIFA
Brand	AWAN	Brand	AWAN
Model	422GC2400003	Model	422GC2400004

Band		Freq. Range	Ant. 0 Gain (dBi)	Ant. 1 Gain (dBi)	Ant. 2 Gain (dBi)	Ant. 3 Gain (dBi)
5GNR n2	1TX (Ant. 0)	1850 ~ 1910	1.22	-2.18	2.79	1.50
5GNR n5	1TX (Ant. 0)	824 ~ 849	0.77	-2.65	-	-
5GNR n7	1TX (Ant. 0)	2500 ~ 2570	2.03	1.32	2.16	1.43
5GNR n12	1TX (Ant. 0)	698 ~ 716	-1.13	-6.04	-	-
5GNR n13	1TX (Ant. 0)	777 ~ 787	-0.51	-4.52	-	-
5GNR n14	1TX (Ant. 0)	788 ~ 798	-0.30	-4.61	-	-
5GNR n25	1TX (Ant. 0)	1850 ~ 1915	1.22	-2.18	2.79	1.5
5GNR n26	1TX (Ant. 0)	814 ~ 849	0.77	-2.65	-	-
5GNR n38	1TX (Ant. 2) 2TX (Ant. 0 + 2)	2570 ~ 2620	0.64	1.44	2.12	1.22
5GNR n41	1TX (Ant. 2) 2TX (Ant. 0 + 2)	2496 ~ 2690	2.03	1.46	2.16	1.43
5GNR n48	1TX (Ant. 3) 2TX (Ant. 1 + 3)	3550 ~ 3700	1.99	3.12	4.62	1.49
5GNR n66	1TX (Ant. 0)	1710 ~ 1780	1.73	-4.3	2.73	0.35
5GNR n71	1TX (Ant. 0)	663 ~ 698	-1.32	-6.36	-	-
5GNR n77	1TX (Ant. 3) 2TX (Ant. 1 + 3)	3300 ~ 4200	3.35	3.12	4.62	1.7
5GNR n78	1TX (Ant. 3) 2TX (Ant. 1 + 3)	3300 ~ 3800	3.35	3.12	4.62	1.7

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

* The Directional Gain for SISO transmit signals are completely correlated, while MIMO signals are uncorrelated.

3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. The Battery has the following models: Battery 1/ Battery 2. Pre-scan these models of batteries and find the worst case as a representative test condition. 2. The AC Adapter has the following models: Adapter 1/ Adapter 2. Pre-scan these models of AC Adapters and find the worst case as a representative test condition. 3. The end-product 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. Battery Worst Condition: Battery 1. 2. AC Adapter Worst Condition: AC Adapter 1. 3. X-axis/ Y-axis/ Z-axis Worst Condition: Z-axis.

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

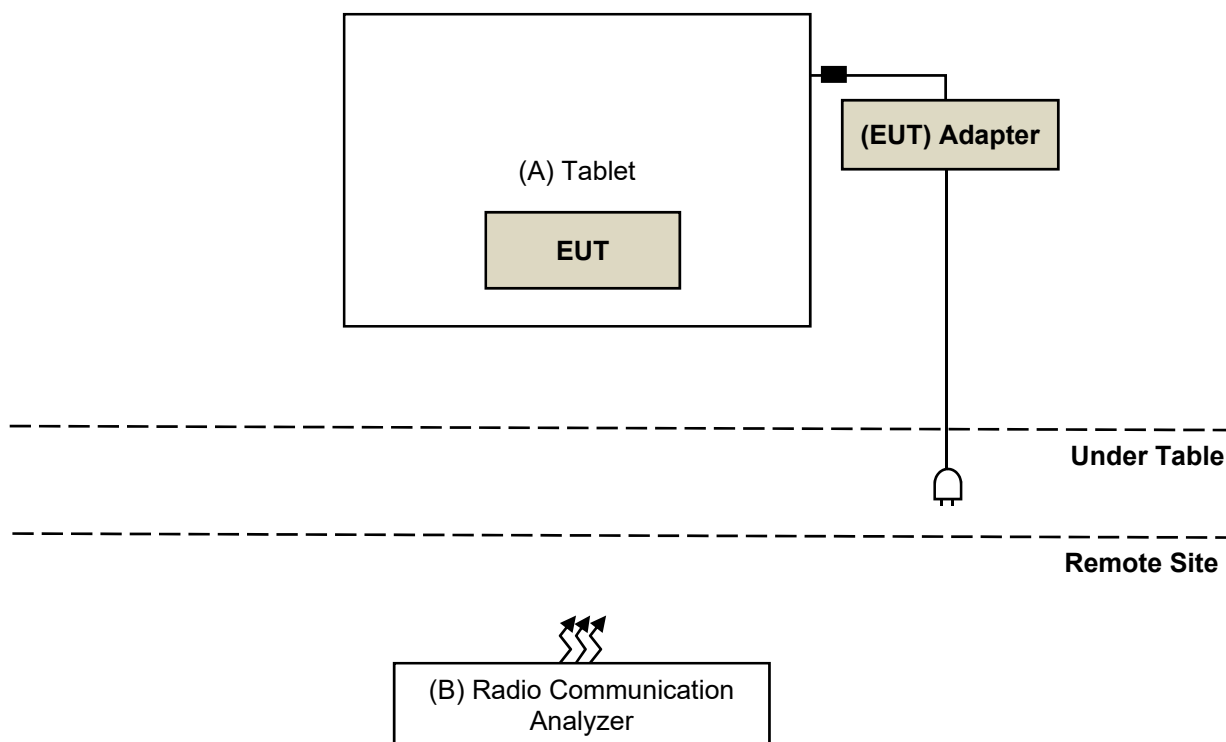
Test Item	TX/RX Condition	Tested Channel	Channel Bandwidth	Modulation	Mode
Maximum EIRP	1TX,	637000(3555.00 MHz) 641666(3624.99 MHz) 646332(3694.98 MHz)	10 MHz	BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB Half RB Full RB
		637168(3557.52 MHz) 641666(3624.99 MHz) 646166(3692.49 MHz)	15 MHz	BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB Half RB Full RB
		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
		637668(3565.02 MHz) 641666(3624.99 MHz) 645666(3684.99 MHz)	30 MHz	BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB Half RB Full RB
		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
	2TX	637000(3555.00 MHz) 641666(3624.99 MHz) 646332(3694.98 MHz)	10 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB 1 Offset
		637168(3557.52 MHz) 641666(3624.99 MHz) 646166(3692.49 MHz)	15 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB 1 Offset
		637334(3560.01 MHz) 641666(3624.99 MHz) 646000(3690.00 MHz)	20 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB 1 Offset
		637668(3565.02 MHz) 641666(3624.99 MHz) 645666(3684.99 MHz)	30 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB 1 Offset
		638000(3570.00 MHz) 641666(3624.99 MHz) 645332(3679.98 MHz)	40 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB 1 Offset

Test Item	TX/RX Condition	Tested Channel	Channel Bandwidth	Modulation	Mode
Radiated Spurious Emissions below 1GHz	1TX	638000(3570.00 MHz)	40 MHz	QPSK	1 RB
Radiated Spurious Emissions above 1GHz	1TX, 2TX	637000(3555.00 MHz) 641666(3624.99 MHz) 646332(3694.98 MHz)	10 MHz	QPSK	1 RB
		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 Radio Communication Analyzer 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	Tablet	Getac	G140	N/A	N/A	Supplied by applicant
B	Radio Communication Test Station	Anritsu	MT8000A	6272278596	N/A	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

SISO

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	00800A1K01A-10	00800A1K01A-10-01	2025/5/23	2026/5/22
PXA Signal Analyzer Keysight	N9030B	MY57140938	2025/3/24	2026/3/23
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A
UXM 5G Wireless Test Platform Keysight	E7515B	MY60102115	2025/5/26	2026/5/25

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2025/11/23

MIMO

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower KaiTuo	N/A	N/A	N/A	N/A
Antenna Tower Controller KaiTuo	KT-2000	N/A	N/A	N/A
Horn Antenna RFSPIN	DRH18-E	210104A18E	2025/11/9	2026/11/8
Horn Antenna Schwarzbeck	BBHA 9170	9170-1048	2025/11/9	2026/11/8
MXE EMI Receiver Agilent	N9038A	MY52260177	2025/10/3	2026/10/2
Preamplifier EMCI	EMC118A45SE	980810	2024/12/26	2025/12/25
	EMC184045SE	980787	2025/1/14	2026/1/13
PXA Signal Analyzer Keysight	N9030B	MY57140488	2025/3/11	2026/3/10
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	210101	2025/1/14	2026/1/13
	EMC104-SM-SM-3000	201242	2025/1/14	2026/1/13
	EMC104-SM-SM-9000	201230	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	MFT-151SS-0.5T	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208675	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 7.
2. Tested Date: 2025/11/28

4.2 Radiated Spurious Emissions below 1GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower KaiTuo	N/A	N/A	N/A	N/A
Antenna Tower Controller KaiTuo	KT-2000	N/A	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-995	2025/9/17	2026/9/16
Loop Antenna TESEQ	HLA 6121	45745	2025/9/1	2026/8/31
MXE EMI Receiver Agilent	N9038A	MY52260177	2025/10/3	2026/10/2
Preamplifier EMCI	EMC330N	980783	2025/1/14	2026/1/13
PXA Signal Analyzer Keysight	N9030B	MY57140488	2025/3/11	2026/3/10
RF Coaxial Cable EMCI	EMCCFD400-NM-NM-500	201245	2025/1/14	2026/1/13
	EMCCFD400-NM-NM-3000	201250	2025/1/14	2026/1/13
	EMCCFD400-NM-NM-9000	201252(with PAD)	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	MFT-151SS-0.5T	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208675	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 7.
2. Tested Date: 2025/11/22

4.3 Radiated Spurious Emissions above 1GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower KaiTuo	N/A	N/A	N/A	N/A
Antenna Tower Controller KaiTuo	KT-2000	N/A	N/A	N/A
Horn Antenna RFSPIN	DRH18-E	210104A18E	2025/11/9	2026/11/8
Horn Antenna Schwarzbeck	BBHA 9170	9170-1048	2025/11/9	2026/11/8
MXE EMI Receiver Agilent	N9038A	MY52260177	2025/10/3	2026/10/2
Preamplifier EMCI	EMC118A45SE	980810	2024/12/26	2025/12/25
	EMC184045SE	980787	2025/1/14	2026/1/13
PXA Signal Analyzer Keysight	N9030B	MY57140488	2025/3/11	2026/3/10
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	210101	2025/1/14	2026/1/13
	EMC104-SM-SM-3000	201242	2025/1/14	2026/1/13
	EMC104-SM-SM-9000	201230	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	MFT-151SS-0.5T	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208675	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 7.
2. Tested Date: 2025/11/16 ~ 2025/11/17

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):

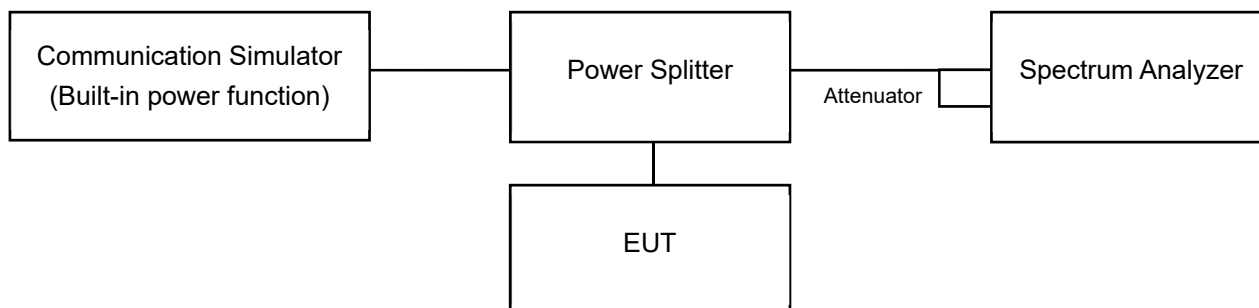
The power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

6 Test Arrangements

6.1 Maximum EIRP

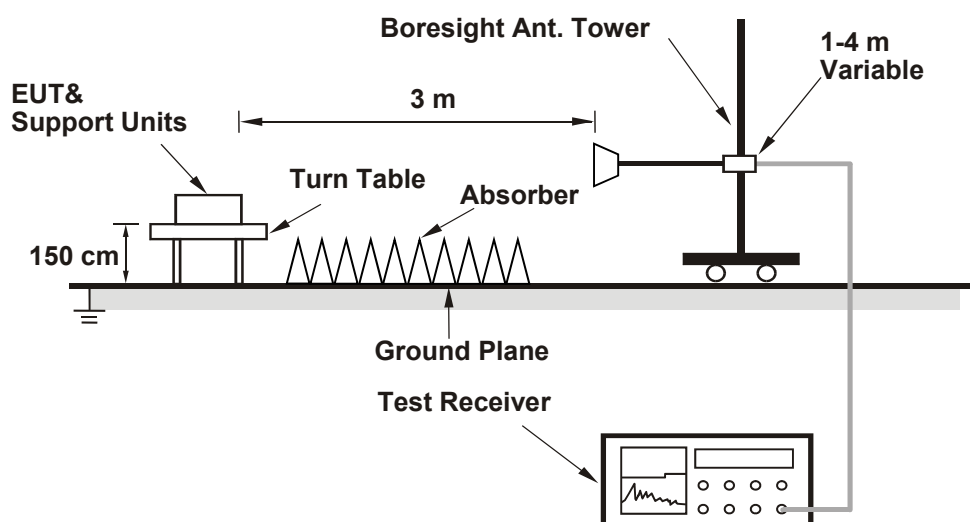
6.1.1 Test Setup

Conducted Power Measurement:



Radiated Power EIRP / ERP Measurement:

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

Conducted Power Measurement:

The EUT is configured by test software or key-in commands to set data modulation and maximum power using WWAN technology and link to spectrum analyzer measurements. Set the EUT to transmit under low, middle and high channel and record the power level shown on spectrum analyzer. Power measurements use detector average (rms).

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. Use the Band/Channel Power function to determine the integrated power per 10 MHz bandwidth and full bandwidth, according to the 47 CFR FCC Part 96 standard.
- 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.

Maximum EIRP / ERP

The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation as follows:

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

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

where

ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively

(expressed in the same units as P_{Meas} , e.g., dBm or dBW)

P_{Meas} measured transmitter output power or PSD, in dBm or dBW

G_T gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

Radiated Power EIRP / ERP Measurement:

The EUT is configured by test software or key-in commands 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:

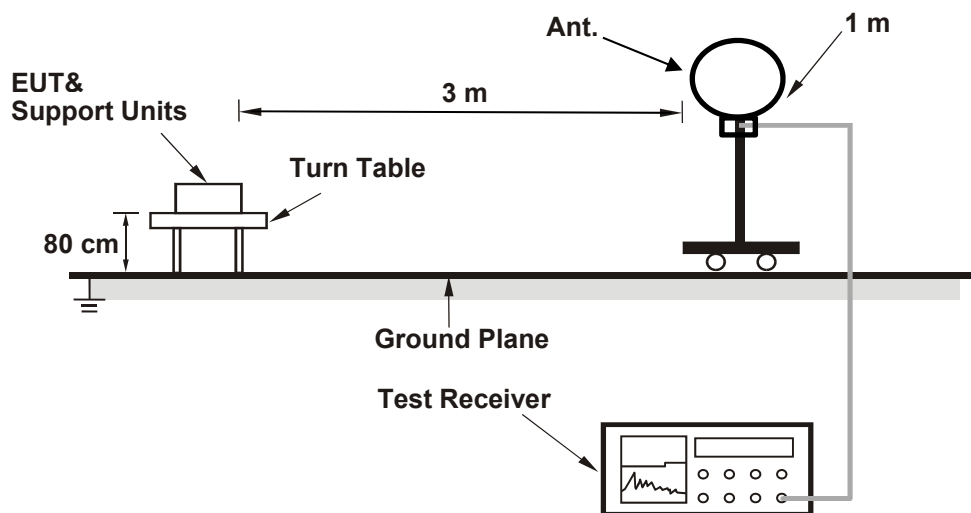
Measurement method refers to ANSI C63.26 section 5.2.4.4.

- 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. Use the Band/Channel Power function to determine the integrated power per 10 MHz bandwidth and full bandwidth, according to the 47 CFR FCC Part 96 standard.
- 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.

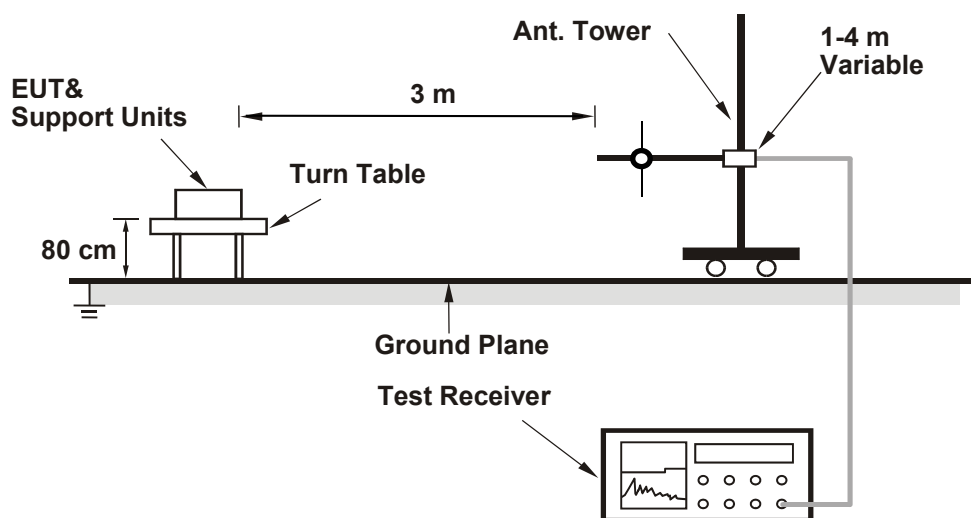
6.2 Radiated Spurious Emissions below 1GHz

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.

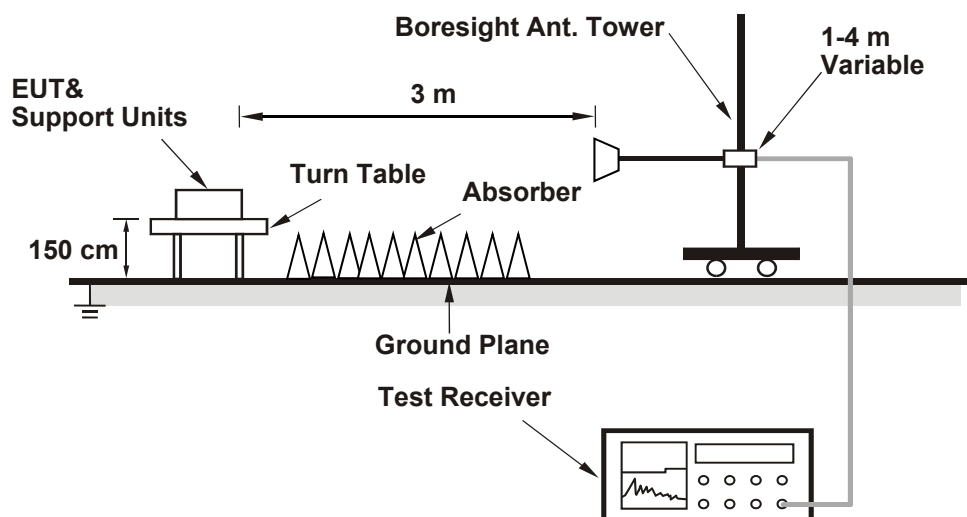
Note:

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:	23°C, 62% RH	Tested By:	Charles Hsiao
---------------------------	--------------	------------	---------------

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

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

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 637000	CH 641666	CH 646332
			3555 MHz	3624.99 MHz	3694.98 MHz
BPSK	1	1	21.24	20.89	20.81
	1	0	19.92	19.85	19.71
QPSK	1	1	21.28	21.07	21.03
	1	0	20.01	19.89	19.77
	1	11	21.03	20.81	20.79
	1	22	20.99	20.72	20.76
	1	23	20.15	20.27	20.02
	12	0	20.16	20.03	20.07
	12	6	21.01	20.89	20.80
	12	12	20.20	20.01	19.96
	24	0	20.25	19.89	19.90
16QAM	1	0	19.69	19.67	19.42
64QAM	1	0	19.27	19.24	19.13
256QAM	1	0	17.10	16.72	16.79

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	19.71	21.24	21.20	22.73	23
QPSK	19.77	21.28	21.26	22.77	23
16QAM	19.42	19.69	20.91	21.18	23
64QAM	19.13	19.27	20.62	20.76	23
256QAM	16.72	17.10	18.21	18.59	23

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), SISO, Channel Bandwidth: 15 MHz, Output Power: Full Power

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 637168	CH 641666	CH 646166
			3557.52 MHz	3624.99 MHz	3692.49 MHz
BPSK	1	1	21.28	20.98	20.90
	1	0	19.97	19.84	19.75
QPSK	1	1	21.32	21.13	21.03
	1	0	20.07	19.89	19.85
	1	19	21.12	20.82	20.82
	1	36	21.09	20.84	20.84
	1	37	20.19	20.32	20.02
	18	0	20.23	20.14	20.14
	18	10	21.07	20.90	20.87
	18	20	20.20	20.02	20.05
	36	0	20.27	19.98	19.96
	38	0	18.00	17.89	17.76
16QAM	1	0	19.73	19.67	19.43
64QAM	1	0	19.34	19.34	19.14
256QAM	1	0	17.12	16.85	16.81

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	19.75	21.28	21.24	22.77	23
QPSK	17.76	21.32	19.25	22.81	23
16QAM	19.43	19.73	20.92	21.22	23
64QAM	19.14	19.34	20.63	20.83	23
256QAM	16.81	17.12	18.30	18.61	23

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

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

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 637334	CH 641666	CH 646000
			3560.01 MHz	3624.99 MHz	3690 MHz
BPSK	1	1	21.30	21.16	20.98
	1	0	20.14	19.90	19.85
QPSK	1	1	21.38	21.13	21.08
	1	0	20.24	19.99	19.98
	1	26	21.22	20.96	20.96
	1	49	21.11	21.02	20.95
	1	50	20.15	20.02	20.03
	25	0	20.30	20.18	20.20
	25	13	21.17	21.02	21.02
	25	26	20.24	20.11	20.13
	50	0	20.31	20.11	20.02
	51	0	18.10	17.98	17.93
16QAM	1	0	19.86	19.73	19.57
64QAM	1	0	19.47	19.44	19.30
256QAM	1	0	17.22	17.05	16.95

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	19.85	21.30	21.34	22.79	23
QPSK	17.93	21.38	19.42	22.87	23
16QAM	19.57	19.86	21.06	21.35	23
64QAM	19.30	19.47	20.79	20.96	23
256QAM	16.95	17.22	18.44	18.71	23

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

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

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 637668	CH 641666	CH 645666
			3565.02 MHz	3624.99 MHz	3684.99 MHz
BPSK	1	1	21.33	21.19	21.05
	1	0	20.19	19.92	19.90
QPSK	1	1	21.42	21.13	21.08
	1	0	20.27	20.07	20.00
	1	39	21.22	21.07	21.05
	1	76	21.20	21.09	21.01
	1	77	20.19	20.10	20.04
	36	0	20.38	20.29	20.28
	36	21	21.18	21.04	21.10
	36	42	20.31	20.18	20.20
	75	0	20.32	20.08	20.03
	78	0	18.16	18.05	17.95
16QAM	1	0	19.95	19.74	19.67
64QAM	1	0	19.50	19.37	19.40
256QAM	1	0	17.24	17.07	17.02

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	19.90	21.33	21.39	22.82	23
QPSK	17.95	21.42	19.44	22.91	23
16QAM	19.67	19.95	21.16	21.44	23
64QAM	19.37	19.50	20.86	20.99	23
256QAM	17.02	17.24	18.51	18.73	23

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

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

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 638000	CH 641666	CH 645332
			3570 MHz	3624.99 MHz	3679.98 MHz
BPSK	1	1	21.34	21.14	21.08
	1	0	20.21	20.06	19.98
QPSK	1	1	21.45	21.23	21.18
	1	0	20.28	20.11	20.02
	1	53	21.31	21.13	21.14
	1	104	21.25	21.08	21.05
	1	105	20.25	20.11	20.09
	50	0	20.42	20.35	20.29
	50	28	21.28	21.19	21.10
	50	56	20.32	20.22	20.22
	100	0	20.36	20.11	20.12
	106	0	18.17	17.97	17.98
16QAM	1	0	19.96	19.75	19.71
64QAM	1	0	19.55	19.42	19.43
256QAM	1	0	17.28	17.13	17.10

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	19.98	21.34	21.47	22.83	23
QPSK	17.97	21.45	19.46	22.94	23
16QAM	19.71	19.96	21.20	21.45	23
64QAM	19.42	19.55	20.91	21.04	23
256QAM	17.10	17.28	18.59	18.77	23

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), SISO, Channel Bandwidth: 15 MHz, Output Power: dBm/10 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 637168	CH 641666	CH 646166
			3557.52 MHz	3624.99 MHz	3692.49 MHz
BPSK	1	1	21.24	20.89	20.89
	1	0	19.91	19.75	19.66
QPSK	1	1	21.25	21.07	21.02
	1	0	20.06	19.87	19.79
	1	19	21.04	20.75	20.77
	1	36	21.07	20.82	20.74
	1	37	20.16	20.27	20
	18	0	20.21	20.08	20.1
	18	10	21	20.89	20.83
	18	20	20.17	19.95	20.01
	36	0	18.77	18.39	18.38
	38	0	16.41	16.36	16.2
16QAM	1	0	19.66	19.63	19.39
64QAM	1	0	19.26	19.33	19.1
256QAM	1	0	17.07	16.75	16.72

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	19.66	21.24	21.15	22.73	23
QPSK	16.2	21.25	17.69	22.74	23
16QAM	19.39	19.66	20.88	21.15	23
64QAM	19.1	19.33	20.59	20.82	23
256QAM	16.72	17.07	18.21	18.56	23

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

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

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 637334	CH 641666	CH 646000
			3560.01 MHz	3624.99 MHz	3690 MHz
BPSK	1	1	21.25	21.1	20.97
	1	0	20.05	19.83	19.75
QPSK	1	1	21.31	21.03	20.98
	1	0	20.14	19.96	19.94
	1	26	21.19	20.95	20.88
	1	49	21.01	20.97	20.92
	1	50	20.1	19.93	19.94
	25	0	20.26	20.15	20.14
	25	13	21.12	20.95	20.96
	25	26	20.15	20.07	20.1
	50	0	17.72	17.55	17.43
	51	0	15.59	15.41	15.4
16QAM	1	0	19.79	19.7	19.54
64QAM	1	0	19.45	19.38	19.22
256QAM	1	0	17.21	17	16.93

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	19.75	21.25	21.24	22.74	23
QPSK	15.4	21.31	16.89	22.8	23
16QAM	19.54	19.79	21.03	21.28	23
64QAM	19.22	19.45	20.71	20.94	23
256QAM	16.93	17.21	18.42	18.7	23

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

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

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 637668	CH 641666	CH 645666
			3565.02 MHz	3624.99 MHz	3684.99 MHz
BPSK	1	1	21.29	21.14	21.04
	1	0	20.16	19.85	19.89
QPSK	1	1	21.34	21.1	20.98
	1	0	20.2	20	19.93
	1	39	21.13	21.01	21.03
	1	76	21.19	21.04	20.99
	1	77	20.1	20.07	19.97
	36	0	19.31	19.25	19.2
	36	21	20.14	19.97	20.1
	36	42	19.26	19.1	19.16
	75	0	16.08	15.8	15.83
	78	0	13.88	13.85	13.71
16QAM	1	0	19.92	19.65	19.61
64QAM	1	0	19.4	19.29	19.39
256QAM	1	0	17.2	16.97	16.94

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	19.85	21.29	21.34	22.78	23
QPSK	13.71	21.34	15.2	22.83	23
16QAM	19.61	19.92	21.1	21.41	23
64QAM	19.29	19.4	20.78	20.89	23
256QAM	16.94	17.2	18.43	18.69	23

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

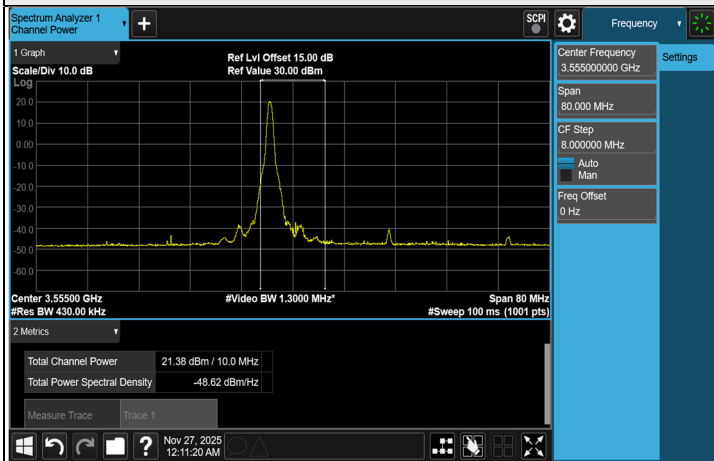
NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), SISO, Channel Bandwidth: 40 MHz, Output Power: dBm/10 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 638000	CH 641666	CH 645332
			3570 MHz	3624.99 MHz	3679.98 MHz
BPSK	1	1	21.31	21.06	21.06
	1	0	20.19	20.04	19.91
QPSK	1	1	21.38	21.16	21.08
	1	0	20.22	20.06	20
	1	53	21.21	21.07	21.08
	1	104	21.2	21.06	21.04
	1	105	20.2	20.01	20
	50	0	17.72	17.64	17.54
	50	28	18.57	18.49	18.39
	50	56	17.54	17.44	17.47
	100	0	14.83	14.65	14.62
	106	0	12.7	12.43	12.52
16QAM	1	0	19.94	19.73	19.67
64QAM	1	0	19.47	19.35	19.34
256QAM	1	0	17.18	17.03	17.03

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	19.91	21.31	21.4	22.8	23
QPSK	12.43	21.38	13.92	22.87	23
16QAM	19.67	19.94	21.16	21.43	23
64QAM	19.34	19.47	20.83	20.96	23
256QAM	17.03	17.18	18.52	18.67	23

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

Spectrum Plot of Worst Value



QPSK CH 638000 (3570 MHz)

Environmental Conditions:	25°C, 60% RH	Tested By:	Luis Lee
---------------------------	--------------	------------	----------

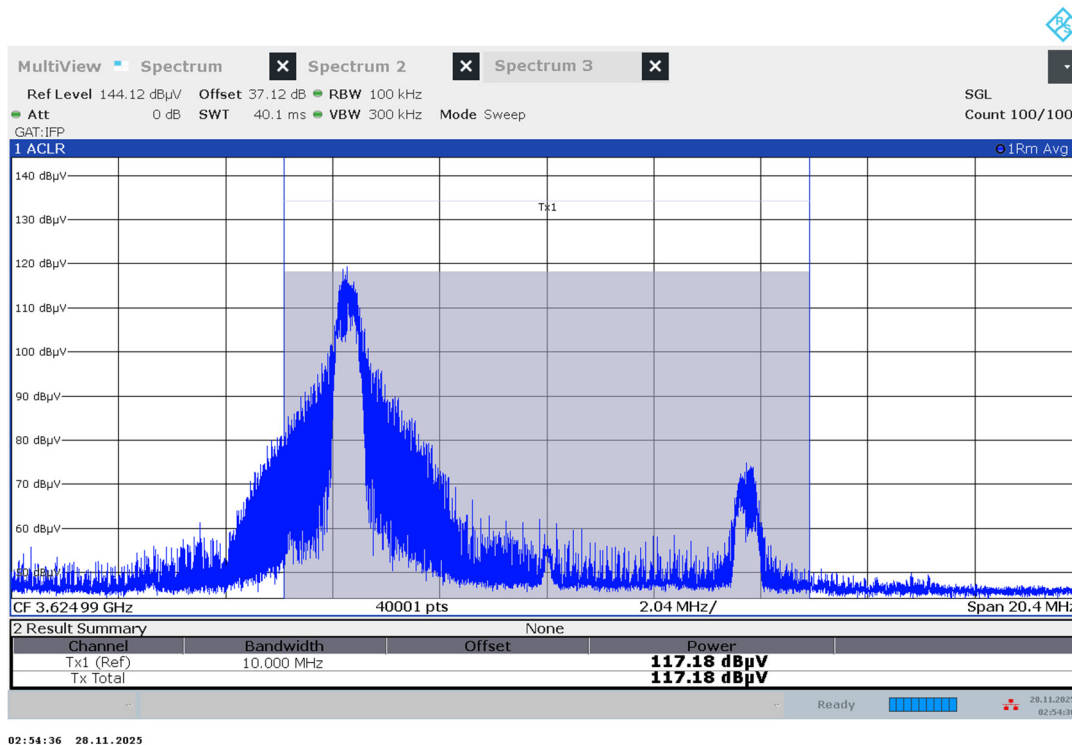
7.1.2 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) - MIMO

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO, 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	116.48	-95.26	132.434	21.22	23
	641666	3624.99	117.18	-95.26	155.597	21.92	23
	646333	3694.98	116.57	-95.26	135.207	21.31	23
16QAM	637000	3555	116.46	-95.26	131.826	21.2	23
	641666	3624.99	116.94	-95.26	147.231	21.68	23
	646333	3694.98	116.33	-95.26	127.938	21.07	23
64QAM	637000	3555	115.61	-95.26	108.393	20.35	23
	641666	3624.99	116.02	-95.26	119.124	20.76	23
	646333	3694.98	115.4	-95.26	103.276	20.14	23
256QAM	637000	3555	113.42	-95.26	65.464	18.16	23
	641666	3624.99	114.16	-95.26	77.625	18.9	23
	646333	3694.98	113.36	-95.26	64.565	18.1	23

Notes:

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

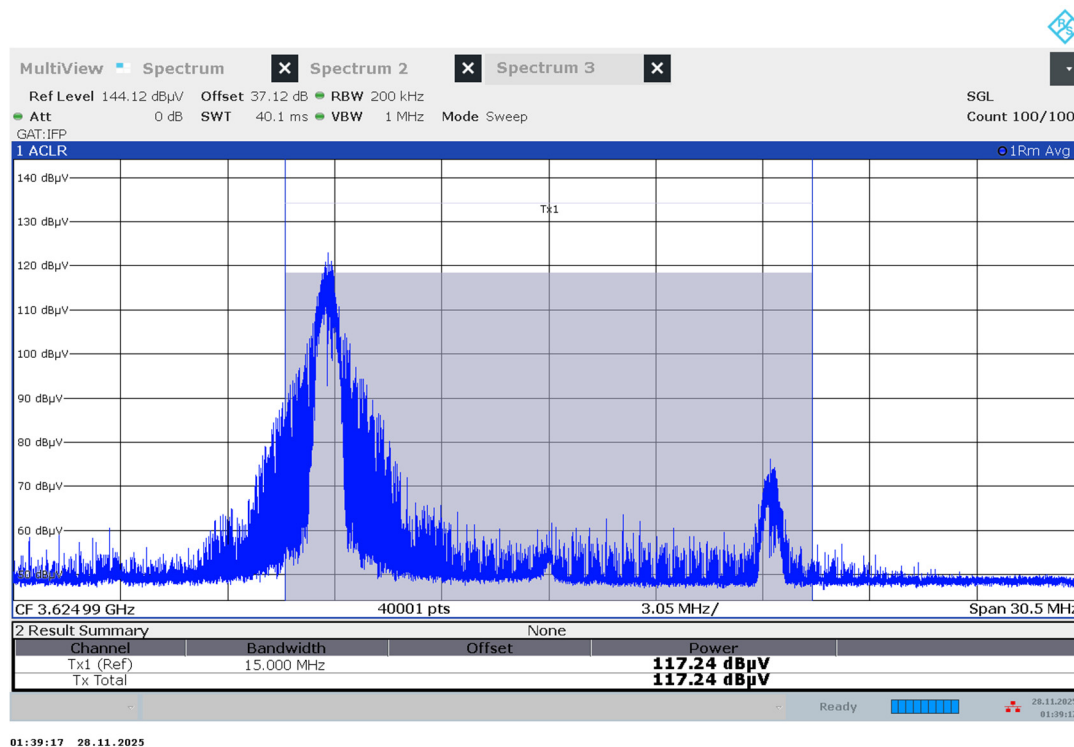


NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO, Channel Bandwidth: 15 MHz, Output Power: Full Power

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	637168	3557.52	116.4	-95.26	130.017	21.14	23
	641666	3624.99	117.24	-95.26	157.761	21.98	23
	646166	3692.49	116.6	-95.26	136.144	21.34	23
16QAM	637168	3557.52	116.43	-95.26	130.918	21.17	23
	641666	3624.99	117.18	-95.26	155.597	21.92	23
	646166	3692.49	116.48	-95.26	132.434	21.22	23
64QAM	637168	3557.52	115.49	-95.26	105.439	20.23	23
	641666	3624.99	116.03	-95.26	119.399	20.77	23
	646166	3692.49	115.53	-95.26	106.414	20.27	23
256QAM	637168	3557.52	113.85	-95.26	72.277	18.59	23
	641666	3624.99	114.09	-95.26	76.384	18.83	23
	646166	3692.49	113.49	-95.26	66.527	18.23	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.

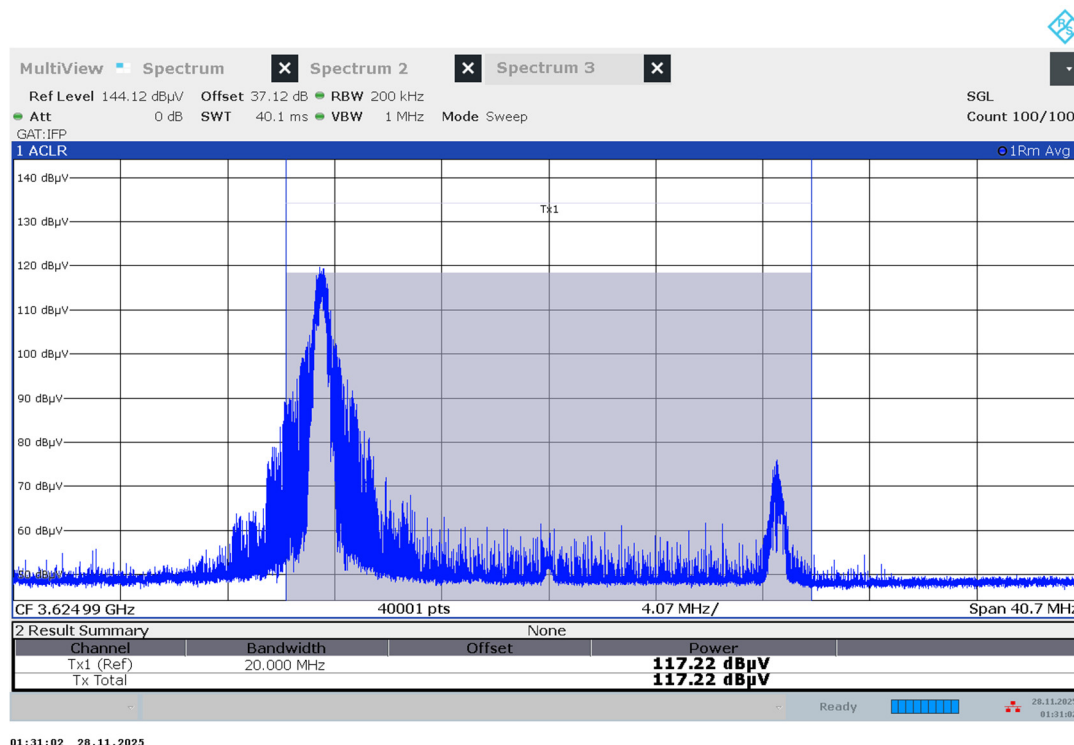


NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO, Channel Bandwidth: 20 MHz, Output Power: Full Power

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	637334	3560.01	116.56	-95.26	134.896	21.3	23
	641666	3624.99	117.22	-95.26	157.036	21.96	23
	646000	3690	116.47	-95.26	132.13	21.21	23
16QAM	637334	3560.01	116.47	-95.26	132.13	21.21	23
	641666	3624.99	116.99	-95.26	148.936	21.73	23
	646000	3690	116.5	-95.26	133.045	21.24	23
64QAM	637334	3560.01	115.68	-95.26	110.154	20.42	23
	641666	3624.99	116.23	-95.26	125.026	20.97	23
	646000	3690	115.42	-95.26	103.753	20.16	23
256QAM	637334	3560.01	113.55	-95.26	67.453	18.29	23
	641666	3624.99	114.19	-95.26	78.163	18.93	23
	646000	3690	113.52	-95.26	66.988	18.26	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.

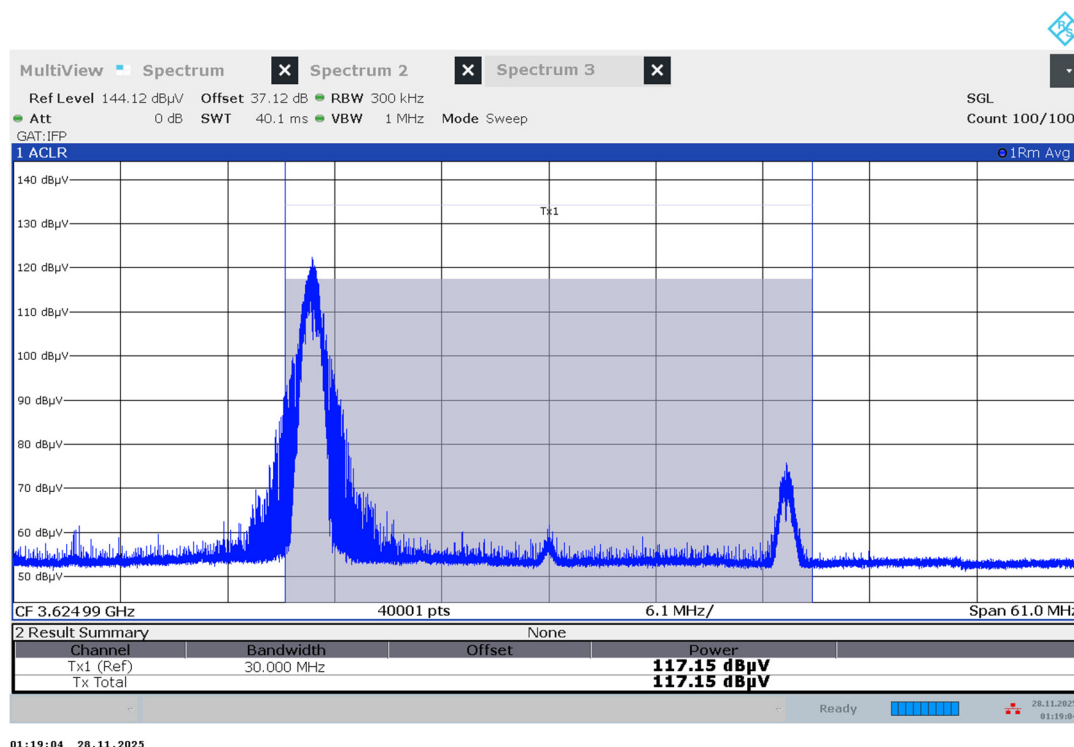


NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO, Channel Bandwidth: 30 MHz, Output Power: Full Power

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	637668	3565.02	116.42	-95.26	130.617	21.16	23
	641666	3624.99	117.15	-95.26	154.525	21.89	23
	645666	3684.99	116.44	-95.26	131.22	21.18	23
16QAM	637668	3565.02	116.36	-95.26	128.825	21.1	23
	641666	3624.99	117.13	-95.26	153.815	21.87	23
	645666	3684.99	116.52	-95.26	133.66	21.26	23
64QAM	637668	3565.02	115.52	-95.26	106.17	20.26	23
	641666	3624.99	116.02	-95.26	119.124	20.76	23
	645666	3684.99	115.12	-95.26	96.828	19.86	23
256QAM	637668	3565.02	113.71	-95.26	69.984	18.45	23
	641666	3624.99	114.24	-95.26	79.068	18.98	23
	645666	3684.99	113.19	-95.26	62.087	17.93	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.

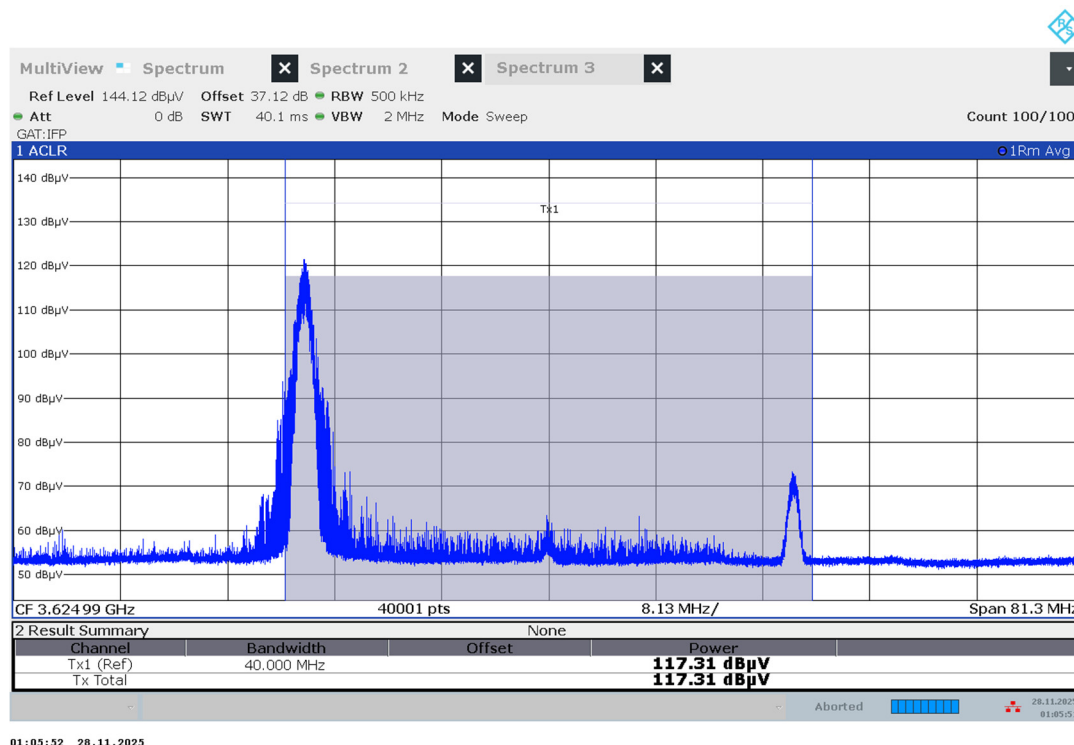


NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO, Channel Bandwidth: 40 MHz, Output Power: Full Power

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	638000	3570	116.71	-95.26	139.637	21.45	23
	641666	3624.99	117.31	-95.26	160.325	22.05	23
	645332	3679.98	116.67	-95.26	138.357	21.41	23
16QAM	638000	3570	116.65	-95.26	137.721	21.39	23
	641666	3624.99	117.25	-95.26	158.125	21.99	23
	645332	3679.98	116.61	-95.26	136.458	21.35	23
64QAM	638000	3570	115.59	-95.26	107.895	20.33	23
	641666	3624.99	116.12	-95.26	121.899	20.86	23
	645332	3679.98	115.54	-95.26	106.66	20.28	23
256QAM	638000	3570	113.62	-95.26	68.549	18.36	23
	641666	3624.99	114.34	-95.26	80.91	19.08	23
	645332	3679.98	113.83	-95.26	71.945	18.57	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.

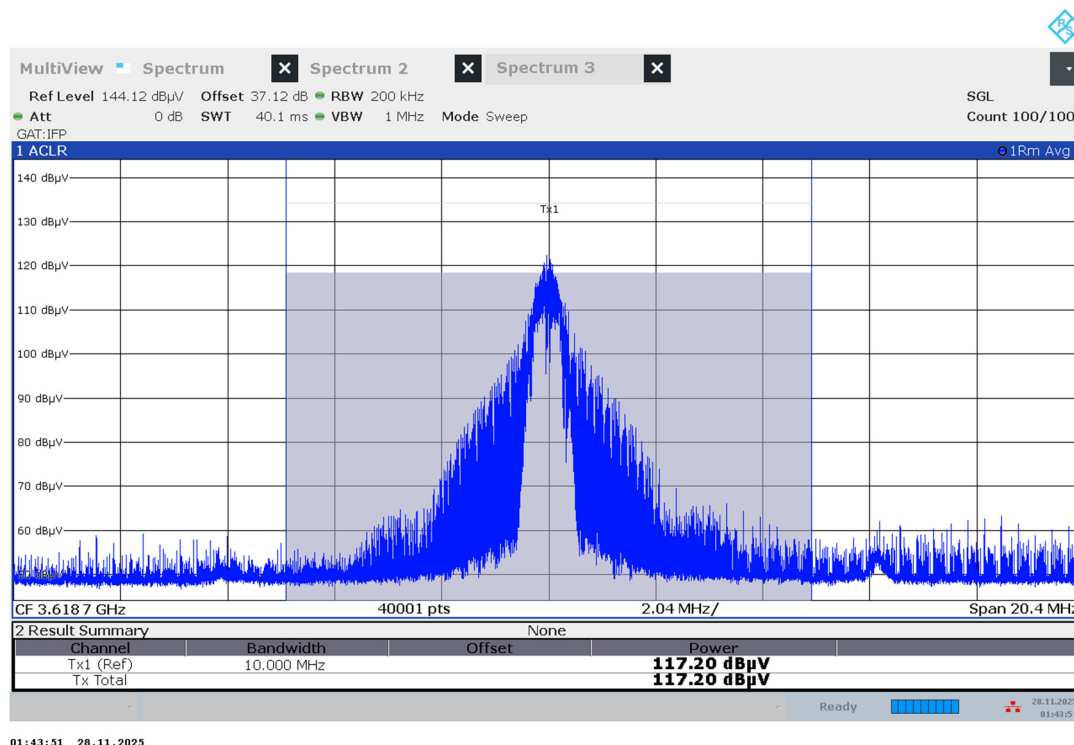


NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO, Channel Bandwidth: 15 MHz, Output Power: dBm/10 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	637168	3557.52	116.35	-95.26	128.529	21.09	23
	641666	3624.99	117.2	-95.26	156.315	21.94	23
	646166	3692.49	116.52	-95.26	133.66	21.26	23
16QAM	637168	3557.52	116.59	-95.26	135.831	21.33	23
	641666	3624.99	117.01	-95.26	149.624	21.75	23
	646166	3692.49	116.36	-95.26	128.825	21.1	23
64QAM	637168	3557.52	115.53	-95.26	106.414	20.27	23
	641666	3624.99	115.95	-95.26	117.22	20.69	23
	646166	3692.49	115.17	-95.26	97.949	19.91	23
256QAM	637168	3557.52	113.74	-95.26	70.469	18.48	23
	641666	3624.99	114.25	-95.26	79.25	18.99	23
	646166	3692.49	113.4	-95.26	65.163	18.14	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.

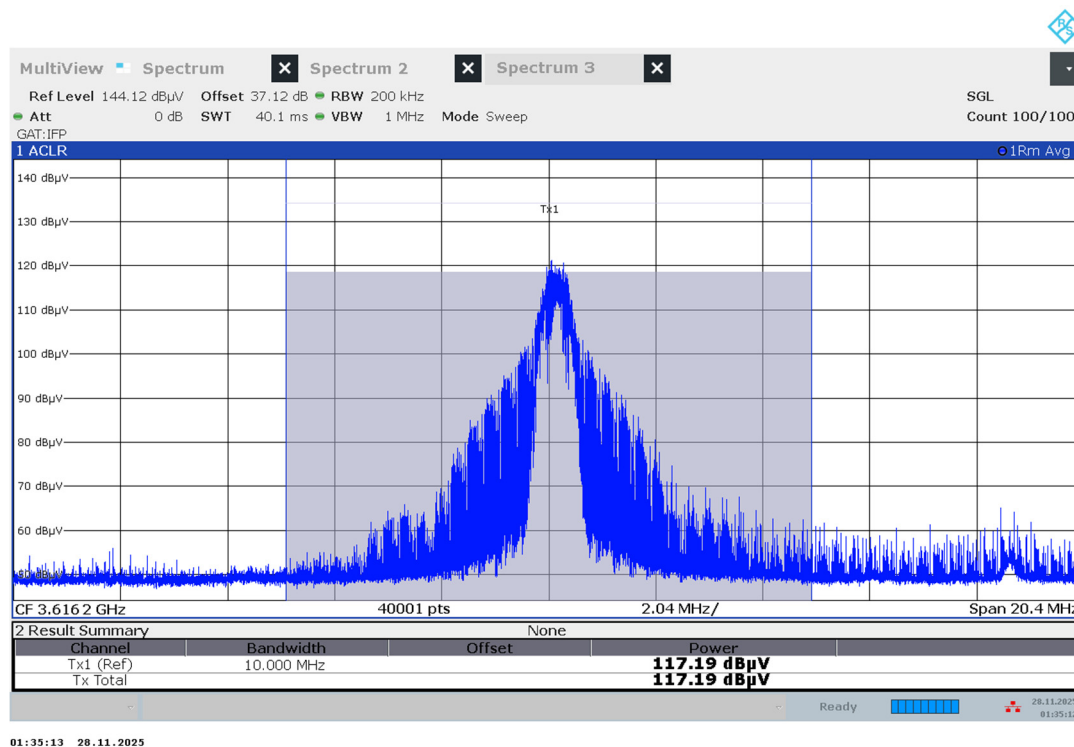


NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO, Channel Bandwidth: 20 MHz, Output Power: dBm/10 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	637334	3560.01	116.35	-95.26	128.529	21.09	23
	641666	3624.99	117.19	-95.26	155.955	21.93	23
	646000	3690	116.51	-95.26	133.352	21.25	23
16QAM	637334	3560.01	116.54	-95.26	134.276	21.28	23
	641666	3624.99	117.13	-95.26	153.815	21.87	23
	646000	3690	116.46	-95.26	131.826	21.2	23
64QAM	637334	3560.01	115.6	-95.26	108.143	20.34	23
	641666	3624.99	115.77	-95.26	112.46	20.51	23
	646000	3690	115.44	-95.26	104.232	20.18	23
256QAM	637334	3560.01	113.4	-95.26	65.163	18.14	23
	641666	3624.99	113.88	-95.26	72.778	18.62	23
	646000	3690	113.57	-95.26	67.764	18.31	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.

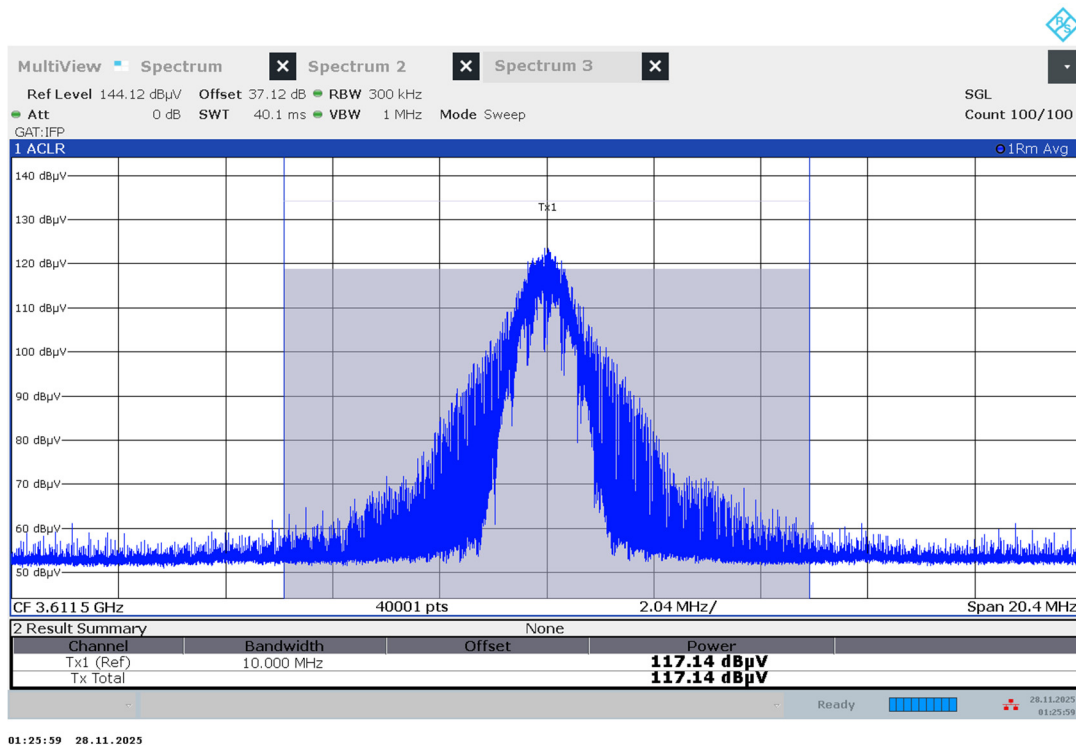


NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO, Channel Bandwidth: 30 MHz, Output Power: dBm/10 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	637668	3565.02	116.43	-95.26	130.918	21.17	23
	641666	3624.99	117.14	-95.26	154.17	21.88	23
	645666	3684.99	116.47	-95.26	132.13	21.21	23
16QAM	637668	3565.02	116.39	-95.26	129.718	21.13	23
	641666	3624.99	117	-95.26	149.279	21.74	23
	645666	3684.99	116.27	-95.26	126.183	21.01	23
64QAM	637668	3565.02	115.53	-95.26	106.414	20.27	23
	641666	3624.99	116.01	-95.26	118.85	20.75	23
	645666	3684.99	115.46	-95.26	104.713	20.2	23
256QAM	637668	3565.02	113.61	-95.26	68.391	18.35	23
	641666	3624.99	113.94	-95.26	73.79	18.68	23
	645666	3684.99	113.8	-95.26	71.45	18.54	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.

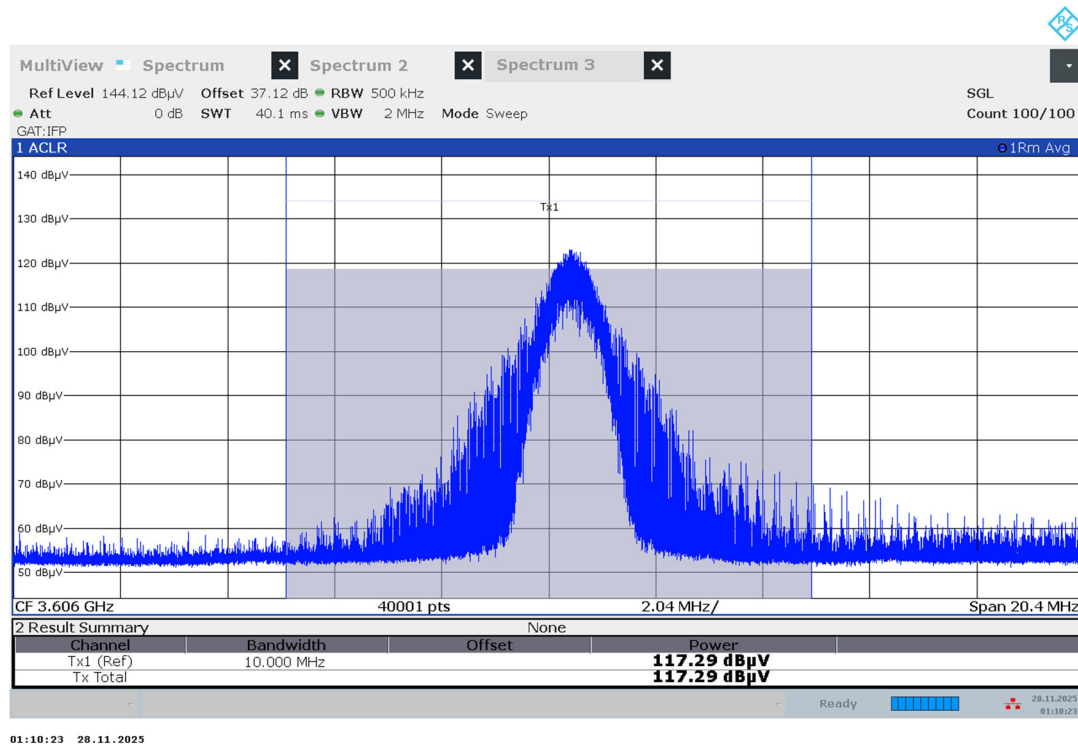


NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO, Channel Bandwidth: 40 MHz, Output Power: dBm/10 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	638000	3570	116.64	-95.26	137.404	21.38	23
	641666	3624.99	117.29	-95.26	159.588	22.03	23
	645332	3679.98	116.58	-95.26	135.519	21.32	23
16QAM	638000	3570	116.64	-95.26	137.404	21.38	23
	641666	3624.99	117.24	-95.26	157.761	21.98	23
	645332	3679.98	116.54	-95.26	134.276	21.28	23
64QAM	638000	3570	115.6	-95.26	108.143	20.34	23
	641666	3624.99	116.07	-95.26	120.504	20.81	23
	645332	3679.98	115.46	-95.26	104.713	20.2	23
256QAM	638000	3570	113.81	-95.26	71.614	18.55	23
	641666	3624.99	114.36	-95.26	81.283	19.1	23
	645332	3679.98	113.38	-95.26	64.863	18.12	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.



7.2 Radiated Spurious Emissions below 1GHz

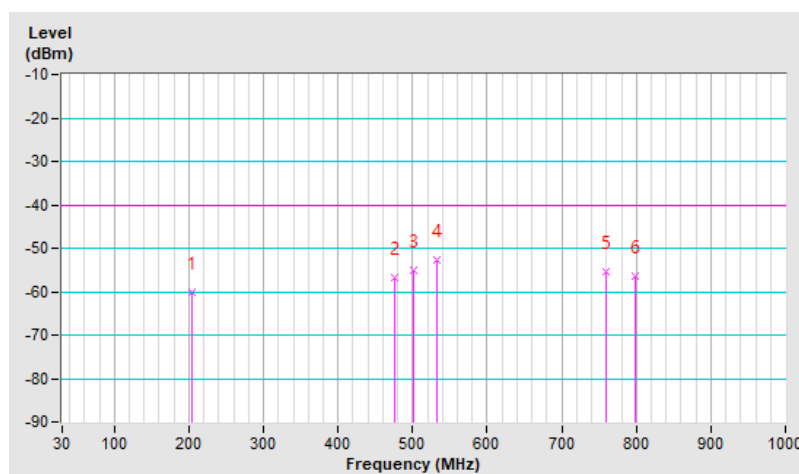
7.2.1 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) - SISO

RF Mode	NR n48 - MIMO SCS 30 kHz (3.55 GHz ~ 3.7 GHz) Channel Bandwidth: 40MHz	Channel	CH 638000 : 3570 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	22 °C, 67% RH
Tested By	Wade Huang		

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	204.60	-60.04	-40.00	-20.04	1.50 H	124	51.54	-111.58
2	475.23	-56.82	-40.00	-16.82	1.00 H	5	46.35	-103.17
3	500.45	-54.99	-40.00	-14.99	1.99 H	2	47.94	-102.93
4	533.43	-52.75	-40.00	-12.75	1.50 H	3	49.47	-102.22
5	760.41	-55.58	-40.00	-15.58	1.50 H	7	42.13	-97.71
6	798.24	-56.32	-40.00	-16.32	1.99 H	212	41.01	-97.33

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.

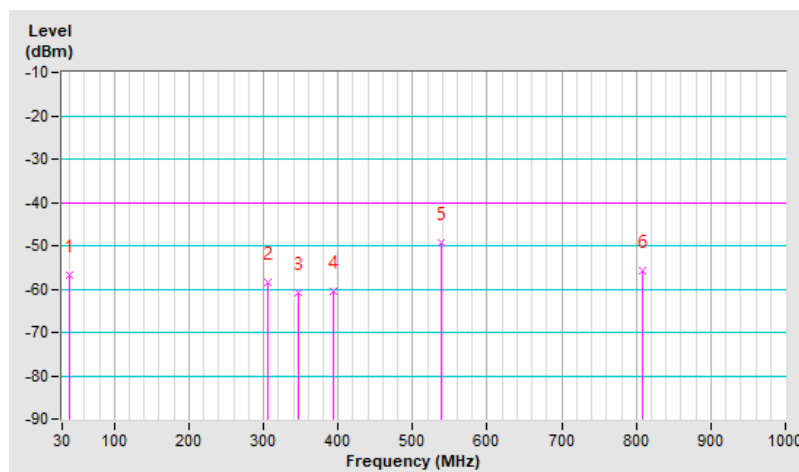


RF Mode	NR n48 - MIMO SCS 30 kHz (3.55 GHz ~ 3.7 GHz) Channel Bandwidth: 40MHz	Channel	CH 638000 : 3570 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	22 °C, 67% RH
Tested By	Wade Huang		

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	40.67	-56.71	-40.00	-16.71	1.00 V	92	52.03	-108.74
2	305.48	-58.45	-40.00	-18.45	1.49 V	240	48.92	-107.37
3	346.22	-61.00	-40.00	-21.00	2.00 V	156	45.52	-106.52
4	392.78	-60.34	-40.00	-20.34	1.49 V	4	44.97	-105.31
5	538.28	-49.45	-40.00	-9.45	1.00 V	230	52.71	-102.16
6	808.91	-55.83	-40.00	-15.83	1.00 V	45	41.45	-97.28

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) - SISO

RF Mode	NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) 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	22 °C, 67% RH
Tested By	Wade Huang		

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	-41.66	-40.00	-1.66	1.53 H	277	40.55	-82.21
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	7110.00	-41.81	-40.00	-1.81	1.40 V	184	40.40	-82.21

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.

RF Mode	NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) 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	22 °C, 67% RH
Tested By	Wade Huang		

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	-41.25	-40.00	-1.25	1.62 H	279	40.64	-81.89
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	-41.86	-40.00	-1.86	1.36 V	179	40.03	-81.89

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 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) 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	22 °C, 67% RH
Tested By	Wade Huang		

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	-41.45	-40.00	-1.45	1.57 H	277	40.55	-82.00
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	-42.04	-40.00	-2.04	1.42 V	182	39.96	-82.00

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 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) 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	22 °C, 67% RH
Tested By	Wade Huang		

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	-41.60	-40.00	-1.60	1.54 H	276	40.65	-82.25
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	7140.00	-41.97	-40.00	-1.97	1.39 V	180	40.28	-82.25

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 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) 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	22 °C, 67% RH
Tested By	Wade Huang		

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	-41.12	-40.00	-1.12	1.61 H	272	40.77	-81.89
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	-41.31	-40.00	-1.31	1.45 V	179	40.58	-81.89

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 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) 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	22 °C, 67% RH
Tested By	Wade Huang		

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	-41.90	-40.00	-1.90	1.57 H	276	40.05	-81.95
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	-42.04	-40.00	-2.04	1.41 V	180	39.91	-81.95

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.

7.3.2 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) - MIMO

RF Mode	NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) 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	22 °C, 67% RH
Tested By	Wade Huang		

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	-41.90	-40.00	-1.90	1.73 H	133	40.31	-82.21
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	7110.00	-42.29	-40.00	-2.29	1.36 V	206	39.92	-82.21

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.

RF Mode	NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) 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	22 °C, 67% RH
Tested By	Wade Huang		

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	-41.91	-40.00	-1.91	1.68 H	138	39.98	-81.89
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	-42.13	-40.00	-2.13	1.37 V	207	39.76	-81.89

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 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) 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	22 °C, 67% RH
Tested By	Wade Huang		

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	-41.92	-40.00	-1.92	1.75 H	133	40.08	-82.00
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	-42.15	-40.00	-2.15	1.37 V	209	39.85	-82.00

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 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) 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	22 °C, 67% RH
Tested By	Wade Huang		

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	-42.10	-40.00	-2.10	1.70 H	137	40.15	-82.25
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	7140.00	-42.47	-40.00	-2.47	1.37 V	206	39.78	-82.25

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 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) 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	22 °C, 67% RH
Tested By	Wade Huang		

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	-41.24	-40.00	-1.24	1.69 H	132	40.65	-81.89
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	-41.41	-40.00	-1.41	1.33 V	210	40.48	-81.89

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 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) 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	22 °C, 67% RH
Tested By	Wade Huang		

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	-41.84	-40.00	-1.84	1.72 H	137	40.11	-81.95
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	-42.16	-40.00	-2.16	1.30 V	206	39.79	-81.95

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:

Lin Kou EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@bureauveritas.com

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

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

--- END ---