

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBEDW-WTW-P25030825-6

FCC ID: GKRRXLN3N

Product: LGA Module

Brand: COMPAL

Model No.: RXL-N3n

Received Date: 2025/3/27

Test Date: 2025/5/6 ~ 2025/7/15

Issued Date: 2025/7/23

Applicant: Compal Electronics, Inc.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration /
Designation Number: 788550 / TW0003

Approved by: Jeremy Lin, **Date:** 2025/7/23
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
RFBEDW-WTW-P25030825-6	Original release.	2025/7/23

1 Certificate

Product: LGA Module

Brand: COMPAL

Test Model: RXL-N3n

Sample Status: Engineering sample

Applicant: Compal Electronics, Inc.

Test Date: 2025/5/6 ~ 2025/7/15

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
KDB 662911 D01 Multiple Transmitter Output v02r01

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	Pass	Meet the requirement of limit.
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	Pass	Meet the requirement of limit.
Part 2.1049	Bandwidth	Pass	Meet the requirement of limit.
Part 2.1051 Part 96.41(e)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
Part 2.1053 Part 96.41(e)	Radiated Spurious Emissions below 1GHz	Pass	Minimum passing margin is -7.21 dB at 34.85 MHz
Part 2.1053 Part 96.41(e)	Radiated Spurious Emissions above 1GHz	Pass	Minimum passing margin is -0.97 dB at 7110.00 MHz
Part 2.1055	Frequency Stability	Pass	Meet the requirement of limit.

Note: 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
Peak to Average Ratio	-	0.920 dB
Bandwidth	-	960 Hz
Conducted Spurious Emissions	-	2.12 dB
Radiated Spurious Emissions below 1GHz	9 kHz ~ 30 MHz	3.59 dB
	30 MHz ~ 1 GHz	3.6 dB
Radiated Spurious Emissions above 1GHz	1 GHz ~ 18 GHz	2.29 dB
	18 GHz ~ 40 GHz	2.29 dB
Frequency Stability	-	0.176 ppm

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	LGA Module
Brand	COMPAL
Test Model	RXL-N3n
Status of EUT	Engineering sample
Power Supply Rating	3.8Vdc
EUT Category	End User Device
Modulation Type	DFT-s-OFDM, CP-OFDM

Note:

1. The EUT supports the following ENDC configuration.

5G NR	FCC 5G FR1			ENDC
	Band	SCS	Bandwidth (MHz)	
	n48	30 kHz	10/15/20/30/40	Band 71

*For 5G NR ENDC mode configuration, please consult the manufacturer to declare the test mode.

2. EUT Overview

Output Power: Full Power

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

Ant. 0

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm)	Emission Designator
10 MHz	3555 ~ 3694.98	BPSK	0.063	17.96	8M61G7D
		QPSK	0.163	22.13	8M57G7D
		16QAM	0.061	17.88	8M59D7W
		64QAM	0.056	17.48	8M59D7W
		256QAM	0.052	17.15	8M58D7W
15 MHz	3557.52 ~ 3692.49	BPSK	0.063	17.99	13M5G7D
		QPSK	0.169	22.29	13M6G7D
		16QAM	0.062	17.89	13M6D7W
		64QAM	0.056	17.51	13M6D7W
		256QAM	0.051	17.11	13M6D7W
20 MHz	3560.01 ~ 3690	BPSK	0.064	18.04	18M0G7D
		QPSK	0.169	22.28	18M2G7D
		16QAM	0.064	18.04	18M2D7W
		64QAM	0.057	17.57	18M2D7W
		256QAM	0.053	17.22	18M2D7W
30 MHz	3565.02 ~ 3684.99	BPSK	0.065	18.15	27M7G7D
		QPSK	0.167	22.24	27M8G7D
		16QAM	0.065	18.11	27M8D7W
		64QAM	0.058	17.66	27M8D7W
		256QAM	0.054	17.3	27M8D7W
40 MHz	3570 ~ 3679.98	BPSK	0.073	18.65	37M4G7D
		QPSK	0.189	22.76	37M9G7D
		16QAM	0.073	18.65	37M8D7W
		64QAM	0.066	18.2	37M8D7W
		256QAM	0.060	17.81	37M8D7W

MIMO

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm)	Emission Designator
10 MHz	3555 ~ 3694.98	BPSK	0.071	18.52	8M58G7D
		QPSK	0.185	22.68	8M57G7D
		16QAM	0.074	18.69	8M58D7W
		64QAM	0.073	18.61	8M58D7W
		256QAM	0.069	18.39	8M58D7W
15 MHz	3557.52 ~ 3692.49	BPSK	0.071	18.53	12M9G7D
		QPSK	0.188	22.74	13M6G7D
		16QAM	0.074	18.70	13M6D7W
		64QAM	0.074	18.67	13M6D7W
		256QAM	0.068	18.34	13M6D7W
20 MHz	3560.01 ~ 3690	BPSK	0.072	18.60	17M9G7D
		QPSK	0.188	22.75	18M2G7D
		16QAM	0.074	18.68	18M2D7W
		64QAM	0.075	18.75	18M2D7W
		256QAM	0.070	18.43	18M2D7W
30 MHz	3565.02 ~ 3684.99	BPSK	0.073	18.64	26M8G7D
		QPSK	0.191	22.82	27M9G7D
		16QAM	0.075	18.77	27M8D7W
		64QAM	0.076	18.80	27M8D7W
		256QAM	0.071	18.50	27M8D7W
40 MHz	3570 ~ 3679.98	BPSK	0.074	18.71	35M7G7D
		QPSK	0.193	22.86	37M9G7D
		16QAM	0.076	18.81	37M9D7W
		64QAM	0.076	18.82	37M9D7W
		256QAM	0.071	18.52	37M9D7W

Output Power: dBm/10 MHz

Ant. 0

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm)	Emission Designator
15 MHz	3557.52 ~ 3692.49	DFT-S BPSK	0.061	17.83	12M9G7D
		DFT-S QPSK	0.164	22.14	13M6G7D
		DFT-S 16QAM	0.061	17.86	13M6D7W
		DFT-S 64QAM	0.055	17.43	13M6D7W
		DFT-S 256QAM	0.051	17.05	13M6D7W
20 MHz	3560.01 ~ 3690	DFT-S BPSK	0.063	18	17M9G7D
		DFT-S QPSK	0.166	22.2	18M2G7D
		DFT-S 16QAM	0.062	17.93	18M2D7W
		DFT-S 64QAM	0.056	17.48	18M2D7W
		DFT-S 256QAM	0.053	17.21	18M2D7W
30 MHz	3565.02 ~ 3684.99	DFT-S BPSK	0.065	18.11	26M8G7D
		DFT-S QPSK	0.164	22.16	27M9G7D
		DFT-S 16QAM	0.064	18.04	27M8D7W
		DFT-S 64QAM	0.058	17.64	27M8D7W
		DFT-S 256QAM	0.053	17.22	27M8D7W
40 MHz	3570 ~ 3679.98	DFT-S BPSK	0.073	18.62	35M7G7D
		DFT-S QPSK	0.186	22.70	37M9G7D
		DFT-S 16QAM	0.072	18.55	37M9D7W
		DFT-S 64QAM	0.065	18.11	37M9D7W
		DFT-S 256QAM	0.058	17.64	37M9D7W

MIMO

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm)	Emission Designator
15 MHz	3557.52 ~ 3692.49	BPSK	0.016	12.02	12M9G7D
		QPSK	0.185	22.67	13M6G7D
		16QAM	0.015	11.8	13M6D7W
		64QAM	0.015	11.83	13M6D7W
		256QAM	0.015	11.87	13M6D7W
20 MHz	3560.01 ~ 3690	BPSK	0.016	12.06	17M9G7D
		QPSK	0.185	22.68	18M2G7D
		16QAM	0.015	11.84	18M2D7W
		64QAM	0.016	11.91	18M2D7W
		256QAM	0.015	11.88	18M2D7W
30 MHz	3565.02 ~ 3684.99	BPSK	0.016	12.09	26M8G7D
		QPSK	0.186	22.69	27M9G7D
		16QAM	0.015	11.84	27M8D7W
		64QAM	0.015	11.9	27M8D7W
		256QAM	0.016	12.03	27M8D7W
40 MHz	3570 ~ 3679.98	BPSK	0.016	12.13	35M7G7D
		QPSK	0.190	22.79	37M9G7D
		16QAM	0.016	11.96	37M9D7W
		64QAM	0.016	11.97	37M9D7W
		256QAM	0.016	12.05	37M9D7W

3. The EUT uses following support units.

Jig	
Brand	Compal
Model	ZYN6
Adapter	
Brand	ChenzhouFrecom Electronics Co. Ltd
Model	F24L5-120200SPA
Input Power	100-240V~50/60Hz 0.6A
Output Power	12.0V $\Rightarrow$ 2.0A 24.0W

4. The EUT uses following accessories.

Item	Brand	Model
Ant	INPAQ	ANT0/1/2/3 GNSS

- n48 overlaps the entire frequency range of n42 (3550 ~ 3600 MHz), support Bandwidth 10M/15M/20M/30M/40M and n43 (3600 ~ 3700 MHz), support Bandwidth 10M/15M/20M/30M/40M. Therefore, test data provided in this report covers n48 as well as n42 and n43
- 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.
- For detailed information about each WWAN bands frequency range, bandwidth mode of the product, please refer to section 3.3 of the report.
- 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.

Type	External				
Brand	I-pex				
Band	Freq. Range (MHz)	Peak Gain without cable loss (dBi)			
		Ant. 0 (Main)	Ant. 1 (DRx)	Ant. 2 (DRx)	Ant. 3 (Aux)
NR n48 (Ant 0)	3550 ~ 3700	-1	-1	-1	-1

Ant. No.	Cable Loss (dB)	Cable Length (mm)
Ant. 0	1.5	141.1
Ant. 1	1.3	120.3
Ant. 2	1	78.2
Ant. 3	1.3	121.2

* 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 MIMO mode is completely uncorrelated, so the directional gain is selected the maximum gain among all antennas.

* For MIMO mode:

i). The MIMO mode signal was uncorrelated signal.

ii). Regarding EIRP calculation that we will use the maximum antenna gain/frequency band as calculation parameters.

$$\text{Directional gain} = 10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10})/2] \text{ dBi.}$$

3.3 Test Mode Applicability and Tested Channel Detail

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

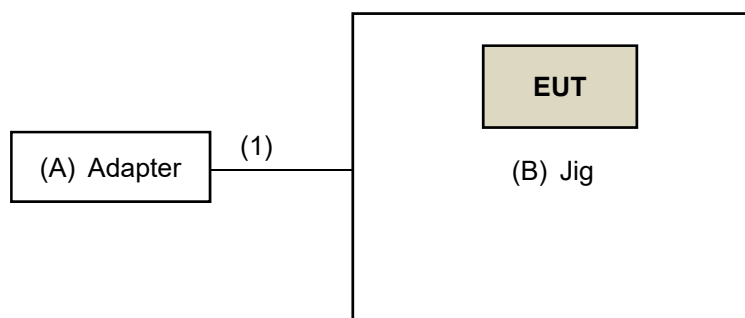
Test Item	Tx/Rx condition	Tested Channel	Channel Bandwidth	Modulation	Mode
Maximum EIRP	PC3 (2TX), PC3 (1TX)	637000(3555.00 MHz) 641666(3624.99 MHz) 646332(3694.98 MHz)	10 MHz	BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB Half RB Full RB
		637168(3557.52 MHz) 641666(3624.99 MHz) 646166(3692.49 MHz)	15 MHz	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
Modulation Characteristics	PC3 (2TX)	641666(3624.99 MHz)	40 MHz	BPSK / QPSK / 16QAM / 64QAM / 256QAM	Full RB
Peak to Average Ratio	PC3 (2TX)	641666(3624.99 MHz)	40 MHz	BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB
Bandwidth	PC3 (2TX)	641666(3624.99 MHz)	10 MHz	BPSK / QPSK / 16QAM / 64QAM / 256QAM	Full RB
			15 MHz	BPSK / QPSK / 16QAM / 64QAM / 256QAM	Full RB
			20 MHz	BPSK / QPSK / 16QAM / 64QAM / 256QAM	Full RB
			30 MHz	BPSK / QPSK / 16QAM / 64QAM / 256QAM	Full RB
			40 MHz	BPSK / QPSK / 16QAM / 64QAM / 256QAM	Full RB

Test Item	Tx/Rx condition	Tested Channel	Channel Bandwidth	Modulation	Mode
Conducted Spurious Emissions	PC3 (2TX)	637000(3555.00 MHz) 646332(3694.98 MHz)	10 MHz	QPSK*2 / 256QAM*2	1 RB Full RB
		637168(3557.52 MHz) 646166(3692.49 MHz)	15 MHz	QPSK*2 / 256QAM*2	1 RB Full RB
		637334(3560.01 MHz) 646000(3690.00 MHz)	20 MHz	QPSK*2 / 256QAM*2	1 RB Full RB
		637668(3565.02 MHz) 645666(3684.99 MHz)	30 MHz	QPSK*2 / 256QAM*2	1 RB Full RB
		638000(3570.00 MHz) 641666(3624.99 MHz)*3 645332(3679.98 MHz)	40 MHz	QPSK*2 / 256QAM*2	1 RB Full RB*2
Radiated Spurious Emissions below 1GHz	PC3 (2TX)	637000(3555.00 MHz)	10 MHz	QPSK	1 RB
Radiated Spurious Emissions above 1GHz	PC3 (2TX)	637000(3555.00 MHz) 641666(3624.99 MHz) 646332(3694.98 MHz)	10 MHz	QPSK	1 RB
		637334(3560.01 MHz) 641666(3624.99 MHz) 646000(3690.00 MHz)	20 MHz	QPSK	1 RB
		638000(3570.00 MHz) 641666(3624.99 MHz) 645332(3679.98 MHz)	40 MHz	QPSK	1 RB
Frequency Stability	PC3 (2TX)	641666(3624.99 MHz)	40 MHz	QPSK	Full RB
Note: *1 Conducted emission and Band edge 、*2 Conducted Band edge 、*3 Conducted emission only					

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 UXM 5G Wireless Test Platform to test the connection when it is powered on.

3.5 Connection Diagram of EUT and Peripheral Devices



Under Table

Remote Site



(C) UXM 5G
Wireless Test
Platform

3.6 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Adapter	ChenzhouFrecom Electronics Co. Ltd	F24L5-120200SPAU	NA	NA	Supplied by applicant
B	Jig	Compal	ZYN6	NA	NA	Supplied by applicant
C	UXM 5G Wireless Test Platform	Keysight	E7515B	MY60102115	NA	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	AC Cable	1	1	No	0	Supplied by applicant

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
Fixed Attenuator Woken	00800A1K01A-10	00800A1K01A-10-01	2024/5/29 2025/5/23	2025/5/28 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	2024/5/26 2025/5/26	2025/5/25 2026/5/25

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2025/5/6 ~ 2025/7/15

4.2 Modulation Characteristics

Refer to section 4.1 to get the tested date and information of the instruments.

4.3 Peak to Average Ratio

Refer to section 4.1 to get the tested date and information of the instruments.

4.4 Bandwidth

Refer to section 4.1 to get the tested date and information of the instruments.

4.5 Conducted Spurious Emissions

Refer to section 4.1 to get the tested date and information of the instruments.

4.6 Radiated Spurious Emissions below 1GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn BV ADT	AT100	AT93021705	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-160	2024/10/9	2025/10/8
MXE EMI Receiver Agilent	N9038A	MY51210203	2024/8/27	2025/8/26
Preamplifier Agilent	8447D	2944A10638	2025/4/27	2026/4/26
RF Coaxial Cable Woken	8D-FB	Cable-CH9-01	2025/4/27	2026/4/26
Signal & Spectrum Analyzer R&S	FSW43	101866	2025/3/25	2026/3/24
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 4.
2. Tested Date: 2025/6/10

4.7 Radiated Spurious Emissions above 1GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn BV ADT	AT100	AT93021705	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	5	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-1169	2024/11/10	2025/11/9
	BBHA 9170	9170-480	2024/11/10	2025/11/9
		BBHA9170243	2024/11/10	2025/11/9
MXE EMI Receiver Agilent	N9038A	MY51210203	2024/8/27	2025/8/26
Preamplifier Agilent	8449B	3008A02367	2025/1/5	2026/1/4
Preamplifier EMCI	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
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	2025/1/5	2026/1/4
RF Coaxial Cable HUBER+SUHNER&EMCI	SUCOFLEX 104& EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	2025/1/5	2026/1/4
Signal & Spectrum Analyzer R&S	FSW43	101866	2025/3/25	2026/3/24
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 4.
2. Tested Date: 2025/6/9

4.8 Frequency Stability

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
3-channel DC power supply OWON	ODP3033	ODP30332128138	N/A	N/A
Digital Multimeter Fluke	8050A	4660081	2025/6/6	2026/6/5
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
Temperature & Humidity Chamber Terchy	MHU-225AU	920842	2025/6/25	2026/6/24
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: 2025/7/15

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 Modulation Characteristics

Systems operating in the Citizens Broadband Radio Service must use digital modulation techniques.

A curve or equivalent data which shows that the equipment will meet the modulation requirements of the rules under which the equipment is to be licensed.

5.3 Peak to Average Ratio

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

5.4 Bandwidth

According to FCC 47 CFR part 2.1049, the occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5% of the total mean power radiated by a given emission.

5.5 Conducted Spurious Emissions

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

The conducted power of any emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed -13 dBm/MHz within 0 to B MHz (where B is the bandwidth in MHz of the assigned channel or multiple contiguous channels of the End User Device) above the upper CBSD-assigned channel edge and within 0 to B MHz below the lower CBSD-assigned channel edge. At all frequencies greater than B MHz above the upper CBSD assigned channel edge and less than B MHz below the lower CBSD-assigned channel edge, the conducted power of any end user device emission shall not exceed -25 dBm/MHz.

Additional protection levels: The conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed -25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

Note: This device can be implement MIMO function, so the limit of emission mask / conducted emissions needs to be reduced by $10 \cdot \log(\text{Numbers}_{\text{Ant}})$ according to FCC KDB 662911 D01 guidance.

5.6 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.

5.7 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.

5.8 Frequency Stability

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

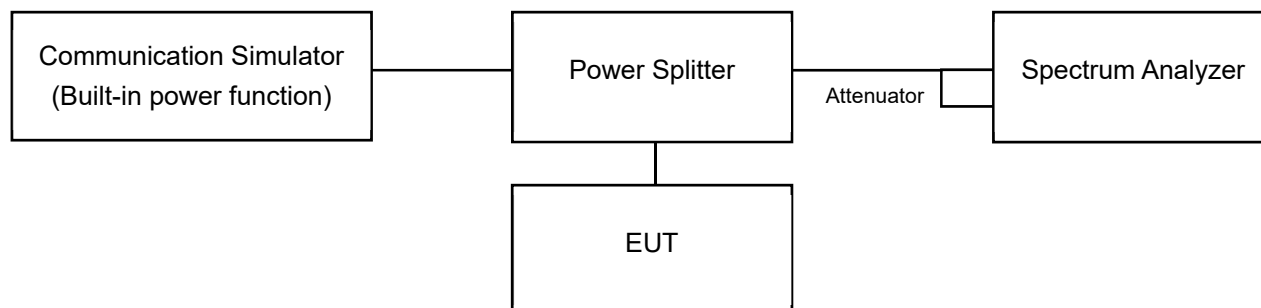
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation (authorized frequency block).

6 Test Arrangements

6.1 Maximum EIRP

6.1.1 Test Setup

Conducted Power Measurement:



6.1.2 Test Procedure

Conducted Power Measurement:

The EUT is configured by emulator 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.

- Set span to 2 × to 3 × the OBW.
- Set RBW = 1% to 5% of the OBW.
- Set VBW ≥ 3 × RBW.
- Set number of measurement points in sweep ≥ 2 × span / RBW.
- Set Sweep time = auto-couple.
- Detector = power averaging (rms).
- Set sweep trigger to “free run.”
- Trace average at least 100 traces in power averaging (rms) mode.
- 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.
- If Duty cycle < 98%, Add 10 log (1/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

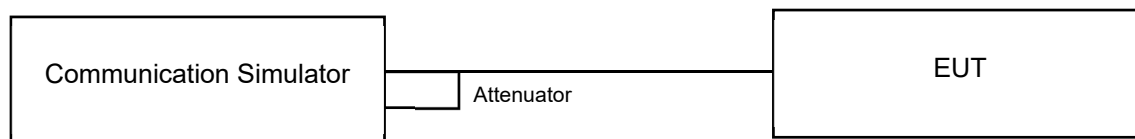
(expressed in the same units as P_{Meas} , e.g., dBm or dBW)

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)

6.2 Modulation Characteristics

6.2.1 Test Setup

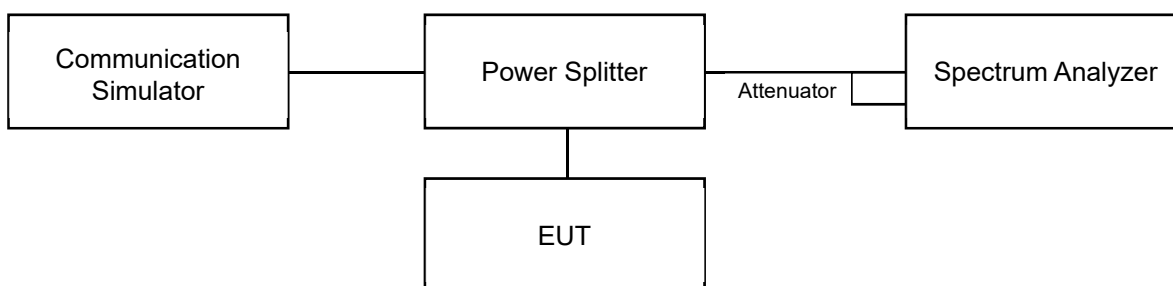


6.2.2 Test Procedure

Connect the EUT to Communication Simulator via the antenna connector, the frequency band is set as EUT supported Modulation and Channels, the EUT output is matched with 50 ohm load, the waveform quality and constellation of the EUT was tested.

6.3 Peak to Average Ratio

6.3.1 Test Setup

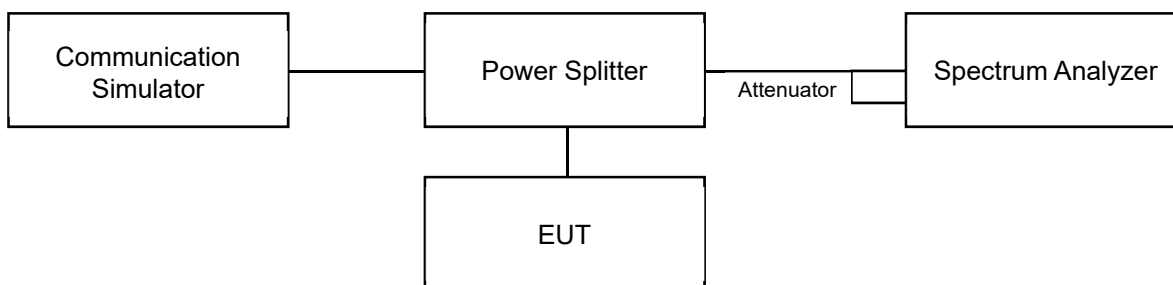


6.3.2 Test Procedure

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

6.4 Bandwidth

6.4.1 Test Setup



6.4.2 Test Procedure

For the 26 dBc bandwidth measurement method, please refer to section 5.4.3 of ANSI C63.26.

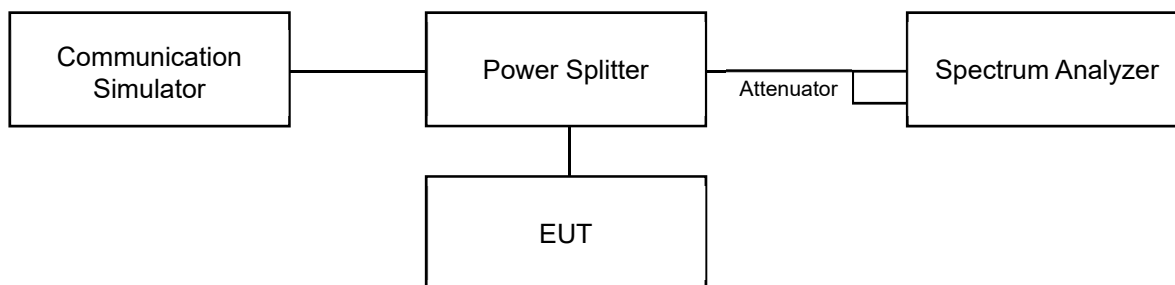
- The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be wide enough to see sufficient roll off of the signal to make the measurement.
- The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set $\geq 3 \times$ RBW.
- Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.2.3.
- The dynamic range of the spectrum analyzer at the selected RBW shall be more than 10 dB below the target “-X dB” requirement, i.e., if the requirement calls for measuring the -26 dB OBW, the spectrum analyzer noise floor at the selected RBW shall be at least 36 dB below the reference level.
- Set spectrum analyzer detection mode to peak, and the trace mode to max hold.
- Determine the following reference values: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).
- Determine the “-X dB amplitude” as equal to (Reference Value - X). Alternatively, this calculation can be performed on the spectrum analyzer using the delta-marker measurement function.
- Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “-X dB amplitude” determined in step f). If a marker is below this “-X dB amplitude” value it should be as close as possible to this value. The OBW is the positive frequency difference between the two markers.
- The OBW shall be reported by providing plot(s) of the measuring instrument display, to include markers depicting the relevant frequency and amplitude information (e.g., marker table). The frequency and amplitude axis and scale shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

For the occupied bandwidth measurement method, please refer to section 5.4.4 of ANSI C63.26.

- a. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be wide enough to see sufficient roll off of the signal to make the measurement.
- b. The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set $\geq 3 \times$ RBW.
- c. Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.2.3.
- d. The dynamic range of the spectrum analyzer at the selected RBW shall be more than 10 dB below the target “-X dB” requirement, i.e., if the requirement calls for measuring the -26 dB OBW, the spectrum analyzer noise floor at the selected RBW shall be at least 36 dB below the reference level.
- e. Set spectrum analyzer detection mode to peak, and the trace mode to max hold.
- f. Determine the reference value by either of the following:
 - g. 1) Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).
 - h. 2) Set the EUT to transmit an unmodulated carrier. Set the spectrum analyzer marker to the level of the carrier.
- i. Determine the “-X dB amplitude” as equal to (Reference Value - X). Alternatively, this calculation can be performed on the spectrum analyzer using the delta-marker measurement function.
- j. If the reference value was determined using an unmodulated carrier, turn the EUT modulation on, then either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise the trace from step f) shall be used for step i).
- k. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “-X dB amplitude” determined in step f). If a marker is below this “-X dB amplitude” value it should be as close as possible to this value. The OBW is the positive frequency difference between the two markers. The spectral envelope can cross the “-X dB amplitude” at multiple points. The lowest or highest frequency shall be selected as the frequencies that are the farthest away from the center frequency at which the spectral envelope crosses the “-X dB amplitude.”
- l. The OBW shall be reported by providing plot(s) of the measuring instrument display, to include markers depicting the relevant frequency and amplitude information (e.g., marker table). The frequency and amplitude axis and scale shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

6.5 Conducted Spurious Emissions

6.5.1 Test Setup



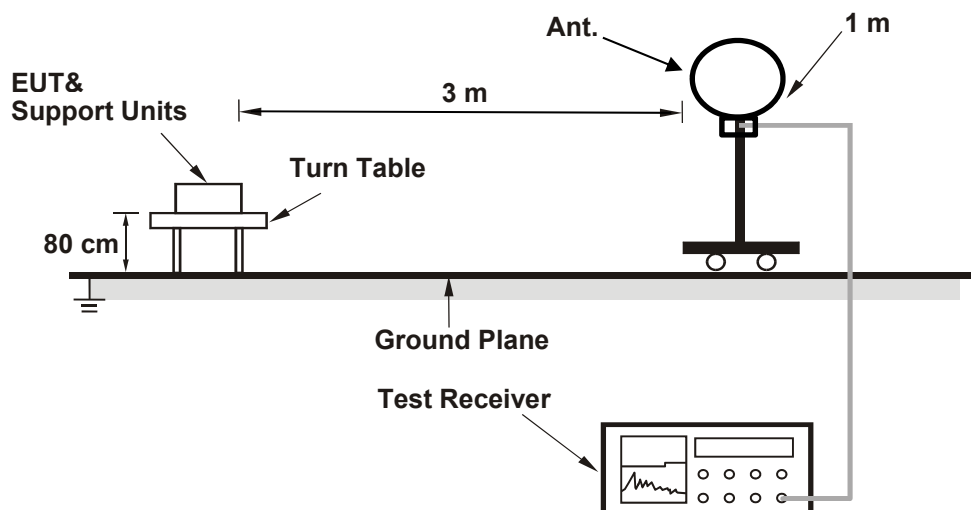
6.5.2 Test Procedure

- Measurement refer to ANSI C63.26 section 5.7.
- All measurements were done at 3 channels: low, middle and high operational frequency range.
- Measuring frequency range is from 9 kHz up to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower. 20 dB attenuation pad is connected with spectrum.
- The fundamental frequency above 1 GHz, the spectrum set RBW = 1 MHz, VBW = 3 MHz, Detector = Average.
- The fundamental frequency below 1 GHz, the spectrum set RBW $\geq$ 100 kHz, VBW $\geq$ 3 x RBW, Detector = Average.
- Measuring frequency band edge, narrow RBW (no less than 1% of the OBW) is used for conducted emission measurement.
- For the emissions measurement method, certain channel BW modes demonstrate compliance by integrating with the smaller RBW allowed by the rule.
For example: Where Reference RBW = 1 MHz and a smaller RBW = 100 kHz is used, worst-case integrated BW power = [Max Measured Value (dBm) with RBW = 100 kHz] + $10 \cdot \log(1000/100)$. To compensate for this integration before comparison to the value, the adjusted reference level offset was increase by 10 dB accordingly.
- The device has MIMO function, so the limit of conducted spurious emissions need to be measurement add $10\log(\text{Numbers}_{\text{ANT}})$ according to FCC KDB 662911 D01 guidance. Therefore, the $10\log(\text{Numbers}_{\text{ANT}})$ value is added to the spectrum Ref. level offset during testing. For example, the band edge and conducted spurious emission plots for the MIMO (2TX) WWAN bands show that a reference level offset of 18.01 dB is used (15 dB includes attenuation and cable loss + $10 \cdot \log(2)$ to account for MIMO WWAN bands reference level = $15 + 3.01 = 18.01$ dB).
- Record the maximum power value test plot.

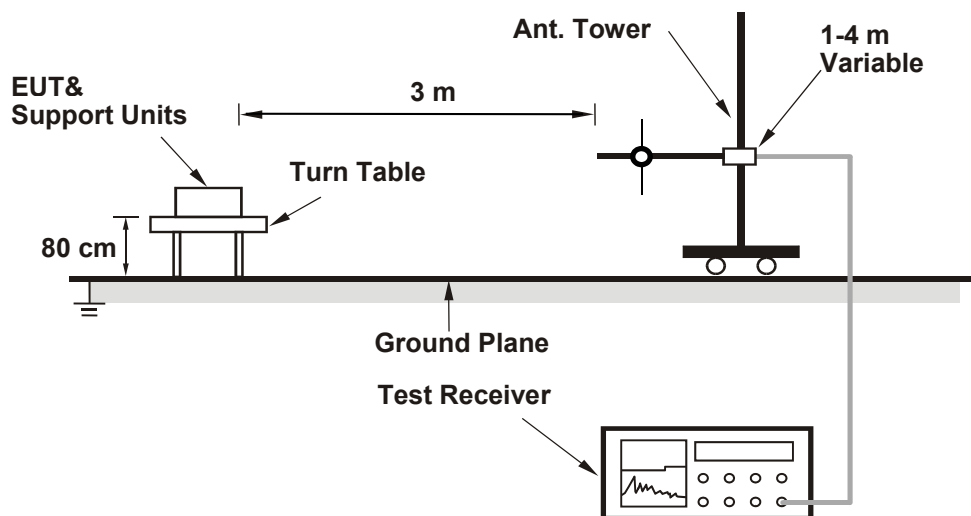
6.6 Radiated Spurious Emissions below 1GHz

6.6.1 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).

6.6.2 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.

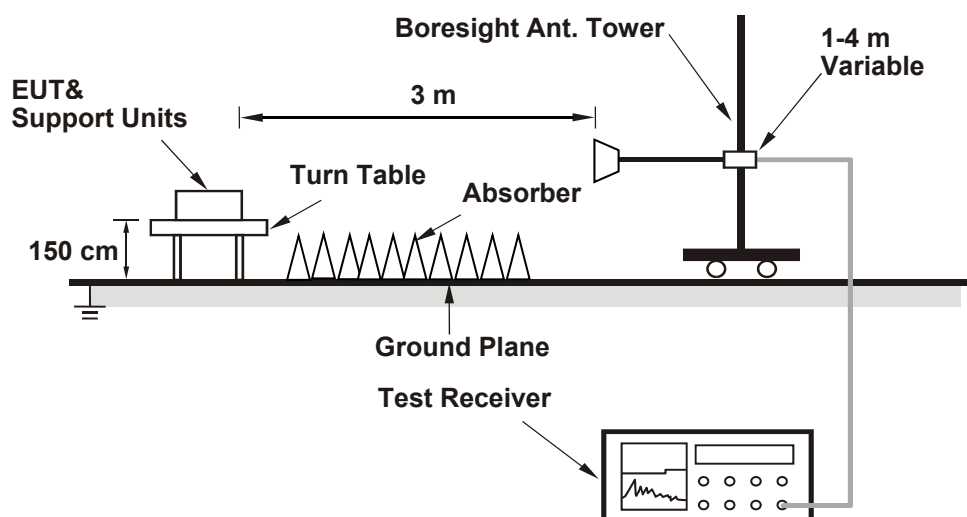
Note:

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.

6.7 Radiated Spurious Emissions above 1GHz

6.7.1 Test Setup

For radiated emission above 1 GHz



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

6.7.2 Test Procedure

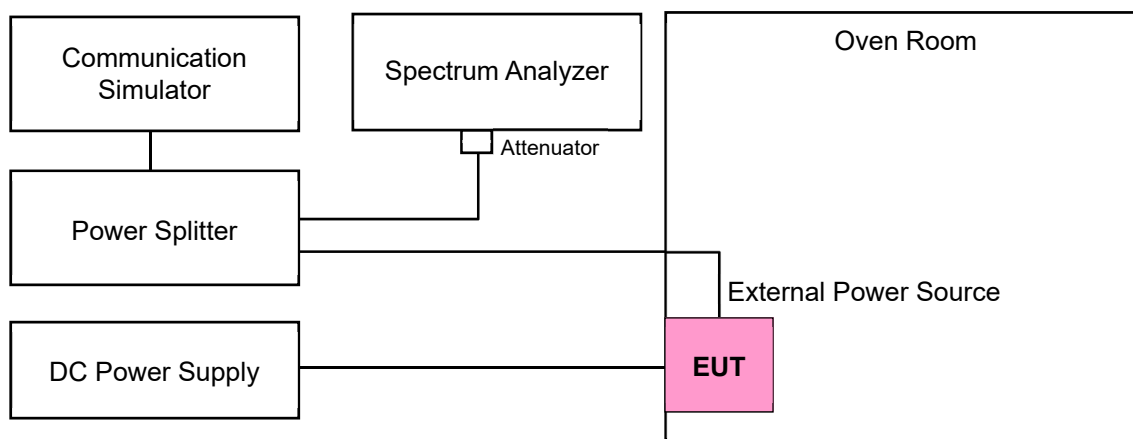
The EUT is configured to set data modulation and maximum power using WWAN technology.

- 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
- $EIRP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8$; 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.

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

6.8 Frequency Stability

6.8.1 Test Setup



6.8.2 Test Procedure

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

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

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

7 Test Results of Test Item

7.1 Maximum EIRP

Input Power:	3.8 Vdc	Environmental Conditions:	23°C, 62% RH	Tested By:	Charles Hsiao
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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	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	11.85	18.96	12.47
	1	0	12.42	18.86	12.49
QPSK	1	1	12.45	18.95	12.30
	1	0	12.43	18.96	12.47
	1	11	23.00	23.13	23.12
	1	22	12.32	18.95	12.55
	1	23	12.44	19.14	12.72
	12	0	12.50	21.83	16.99
	12	6	12.60	23.12	12.44
	12	12	16.95	21.86	12.57
	24	0	17.01	21.91	12.54
16QAM	1	0	11.54	18.88	11.86
64QAM	1	0	11.19	18.48	11.45
256QAM	1	0	11.01	18.15	11.63

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	11.85	18.96	10.85	17.96	23
QPSK	12.3	23.13	11.3	22.13	23
16QAM	11.54	18.88	10.54	17.88	23
64QAM	11.19	18.48	10.19	17.48	23
256QAM	11.01	18.15	10.01	17.15	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), 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	12.43	18.99	12.44
	1	0	12.41	18.89	12.46
QPSK	1	1	12.38	19.08	12.39
	1	0	12.46	18.88	12.39
	1	19	23.03	23.20	23.07
	1	36	12.31	19.07	12.64
	1	37	12.40	19.13	12.65
	18	0	12.58	22.08	17.14
	18	10	12.51	23.29	12.63
	18	20	17.04	22.10	12.68
	36	0	12.54	18.55	12.58
	38	0	12.37	18.54	12.53
16QAM	1	0	11.69	18.89	11.82
64QAM	1	0	11.04	18.51	11.58
256QAM	1	0	11.06	18.11	11.49

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	12.41	18.99	11.41	17.99	23
QPSK	12.31	23.29	11.31	22.29	23
16QAM	11.69	18.89	10.69	17.89	23
64QAM	11.04	18.51	10.04	17.51	23
256QAM	11.06	18.11	10.06	17.11	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), 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	12.62	18.99	12.48
	1	0	12.58	19.04	12.50
QPSK	1	1	12.49	19.04	12.45
	1	0	12.53	19.11	12.50
	1	26	23.06	23.21	23.18
	1	49	12.39	19.07	12.62
	1	50	12.53	19.15	12.67
	25	0	12.58	22.11	17.16
	25	13	12.57	23.28	12.60
	25	26	17.15	22.15	12.75
	50	0	12.60	18.61	12.66
	51	0	12.45	18.56	12.65
16QAM	1	0	11.69	19.04	11.90
64QAM	1	0	11.13	18.57	11.55
256QAM	1	0	11.15	18.22	11.56

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	12.48	19.04	11.48	18.04	23
QPSK	12.39	23.28	11.39	22.28	23
16QAM	11.69	19.04	10.69	18.04	23
64QAM	11.13	18.57	10.13	17.57	23
256QAM	11.15	18.22	10.15	17.22	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), 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	12.57	19.15	12.57
	1	0	12.62	19.12	12.54
QPSK	1	1	12.53	19.15	12.53
	1	0	12.56	19.12	12.60
	1	39	23.16	23.20	23.18
	1	76	12.41	19.20	12.69
	1	77	12.58	19.22	12.76
	36	0	12.59	22.17	17.25
	36	21	12.61	23.24	12.69
	36	42	17.12	22.11	12.74
	75	0	12.70	18.66	12.66
	78	0	12.52	18.62	12.68
16QAM	1	0	11.69	19.11	11.94
64QAM	1	0	11.28	18.66	11.63
256QAM	1	0	11.21	18.30	11.61

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	12.54	19.15	11.54	18.15	23
QPSK	12.41	23.24	11.41	22.24	23
16QAM	11.69	19.11	10.69	18.11	23
64QAM	11.28	18.66	10.28	17.66	23
256QAM	11.21	18.3	10.21	17.3	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), 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	12.65	19.65	13.12
	1	0	13.14	19.64	13.11
QPSK	1	1	13.11	19.66	13.06
	1	0	13.13	19.67	13.10
	1	53	23.66	23.65	23.76
	1	104	13.01	19.75	13.29
	1	105	13.12	19.76	13.32
	50	0	13.18	22.71	17.75
	50	28	13.20	23.76	13.24
	50	56	17.71	22.68	13.30
	100	0	13.23	19.17	13.19
	106	0	13.09	19.21	13.21
16QAM	1	0	12.26	19.65	12.53
64QAM	1	0	11.78	19.20	12.21
256QAM	1	0	11.74	18.81	12.20

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	12.65	19.65	11.65	18.65	23
QPSK	13.01	23.76	12.01	22.76	23
16QAM	12.26	19.65	11.26	18.65	23
64QAM	11.78	19.2	10.78	18.2	23
256QAM	11.74	18.81	10.74	17.81	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), 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	12.26	18.83	12.26
	1	0	12.34	18.83	12.45
QPSK	1	1	12.28	18.88	12.37
	1	0	12.33	18.71	12.22
	1	19	22.83	23.04	22.93
	1	36	12.15	18.99	12.61
	1	37	12.21	19.06	12.53
	18	0	12.43	21.93	17.04
	18	10	12.42	23.14	12.58
	18	20	17.03	22.05	12.49
	36	0	10.95	16.92	10.97
	38	0	10.64	16.82	10.95
16QAM	1	0	11.57	18.86	11.75
64QAM	1	0	10.93	18.43	11.55
256QAM	1	0	10.95	18.05	11.42

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	12.26	18.83	11.26	17.83	23
QPSK	10.64	23.14	9.64	22.14	23
16QAM	11.57	18.86	10.57	17.86	23
64QAM	10.93	18.43	9.93	17.43	23
256QAM	10.95	18.05	9.95	17.05	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), 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	12.6	18.97	12.3
	1	0	12.48	19	12.34
QPSK	1	1	12.34	19.02	12.25
	1	0	12.34	18.93	12.38
	1	26	22.99	23.02	23.14
	1	49	12.29	18.93	12.45
	1	50	12.45	19.02	12.56
	25	0	12.38	21.98	17.08
	25	13	12.46	23.2	12.52
	25	26	16.95	22.14	12.6
	50	0	9.53	15.49	9.64
	51	0	9.32	15.4	9.48
16QAM	1	0	11.61	18.93	11.76
64QAM	1	0	11.03	18.48	11.42
256QAM	1	0	11.12	18.21	11.55

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	12.3	19	11.3	18	23
QPSK	9.32	23.2	8.32	22.2	23
16QAM	11.61	18.93	10.61	17.93	23
64QAM	11.03	18.48	10.03	17.48	23
256QAM	11.12	18.21	10.12	17.21	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), 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	12.43	19.11	12.47
	1	0	12.42	19.01	12.47
QPSK	1	1	12.4	18.98	12.44
	1	0	12.49	19.1	12.58
	1	39	22.98	23.16	23.12
	1	76	12.27	19.02	12.66
	1	77	12.43	19.2	12.6
	36	0	11.42	20.94	15.93
	36	21	11.27	22.03	11.45
	36	42	15.93	20.81	11.55
	75	0	7.86	13.92	7.86
	78	0	7.71	13.79	7.87
16QAM	1	0	11.68	19.04	11.75
64QAM	1	0	11.23	18.64	11.44
256QAM	1	0	11.12	18.22	11.51

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	12.42	19.11	11.42	18.11	23
QPSK	7.71	23.16	6.71	22.16	23
16QAM	11.68	19.04	10.68	18.04	23
64QAM	11.23	18.64	10.23	17.64	23
256QAM	11.12	18.22	10.12	17.22	23

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

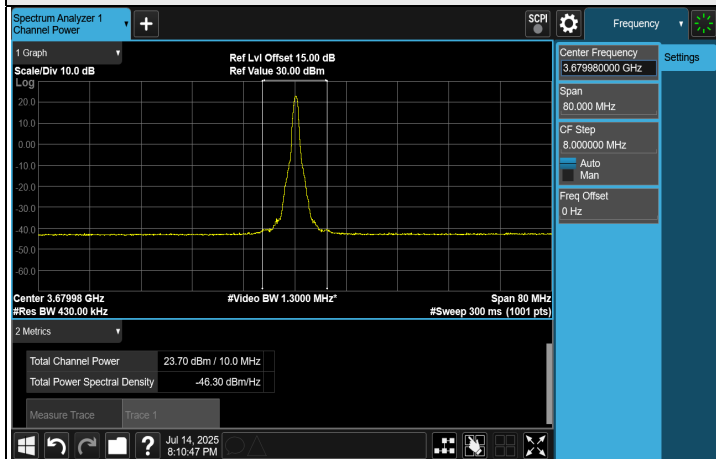
NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 40 MHz, Output Power: dBm/10 MHz

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	12.57	19.52	13.01
	1	0	13.04	19.62	12.97
QPSK	1	1	12.91	19.46	12.99
	1	0	13.04	19.5	13.03
	1	53	23.48	23.58	23.70
	1	104	12.87	19.56	13.24
	1	105	13.01	19.64	13.25
	50	0	10.68	20.13	15.18
	50	28	10.68	21.14	10.73
	50	56	15.09	20.15	10.8
	100	0	6.92	12.93	6.99
	106	0	6.85	12.95	6.96
16QAM	1	0	12.06	19.55	12.48
64QAM	1	0	11.75	19.11	12.07
256QAM	1	0	11.72	18.64	12

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	12.57	19.62	11.57	18.62	23
QPSK	6.85	23.70	5.85	22.70	23
16QAM	12.06	19.55	11.06	18.55	23
64QAM	11.75	19.11	10.75	18.11	23
256QAM	11.72	18.64	10.72	17.64	23

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

Spectrum Plot of Worst Value



QPSK CH 645332 (3679.98 MHz)

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), MIMO, Channel Bandwidth: 10 MHz

NR n48 SCS 30 kHz 10M											
Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)								
			CH 637000			CH 641666			CH 646332		
			3555 MHz			3624.99 MHz			3694.98 MHz		
			TX 1	TX 2	Total	TX 1	TX 2	Total	TX 1	TX 2	Total
BPSK	1	1	9.98	10.01	13.01	16.53	16.49	19.52	9.96	9.92	12.95
QPSK	1	1	9.91	10.22	13.08	16.41	16.68	19.56	9.90	10.05	12.99
	1	0	9.89	10.25	13.08	16.61	16.82	19.73	9.90	10.15	13.04
	1	11	20.57	20.76	23.68	20.44	20.55	23.51	20.60	20.53	23.58
	1	22	9.84	10.11	12.99	16.51	16.71	19.62	10.09	10.26	13.19
	1	23	9.86	10.26	13.07	16.43	16.84	19.65	10.08	10.28	13.19
	12	0	9.98	10.56	13.29	19.60	19.74	22.68	14.48	14.79	17.65
	12	6	9.98	10.25	13.13	20.52	20.71	23.63	10.03	10.21	13.13
	12	12	14.54	14.86	17.71	19.73	19.80	22.78	10.15	10.28	13.23
	24	0	10.01	10.26	13.15	16.04	16.31	19.19	10.06	10.33	13.21
16QAM	1	0	9.61	10.05	12.85	16.49	16.87	19.69	9.68	9.80	12.75
64QAM	1	0	9.70	9.96	12.84	16.41	16.79	19.61	9.53	9.85	12.70
256QAM	1	0	9.66	10.07	12.88	16.20	16.55	19.39	9.71	9.91	12.82

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	12.95	19.52	11.95	18.52	23
QPSK	12.99	23.68	11.99	22.68	23
16QAM	12.75	19.69	11.75	18.69	23
64QAM	12.70	19.61	11.70	18.61	23
256QAM	12.82	19.39	11.82	18.39	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), MIMO, Channel Bandwidth: 15 MHz, Output Power: Full Power

NR n48 SCS 30 kHz 15M											
Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)								
			CH 637168			CH 641666			CH 646166		
			3557.52 MHz			3624.99 MHz			3692.49 MHz		
			TX 1	TX 2	Total	TX 1	TX 2	Total	TX 1	TX 2	Total
BPSK	1	1	10.10	10.08	13.10	16.48	16.55	19.53	9.94	9.96	12.96
QPSK	1	1	10.07	10.29	13.19	16.39	16.81	19.62	9.87	10.20	13.05
	1	0	10.05	10.40	13.24	16.54	16.87	19.72	9.98	10.15	13.08
	1	19	20.63	20.83	23.74	20.51	20.53	23.53	20.61	20.64	23.64
	1	36	9.85	10.19	13.03	16.55	16.71	19.64	10.20	10.21	13.22
	1	37	9.90	10.21	13.07	16.60	16.88	19.75	10.13	10.41	13.28
	18	0	10.18	10.45	13.33	19.42	19.90	22.68	14.70	14.80	17.76
	18	10	10.08	10.32	13.21	20.61	20.71	23.67	10.14	10.41	13.29
	18	20	14.69	14.95	17.83	19.64	19.80	22.73	10.22	10.35	13.30
	36	0	10.14	10.42	13.29	16.08	16.26	19.18	10.03	10.27	13.16
16QAM	1	0	9.63	10.10	12.88	16.50	16.87	19.70	9.65	9.94	12.81
64QAM	1	0	9.74	10.05	12.91	16.44	16.87	19.67	9.60	9.81	12.72
256QAM	1	0	9.76	10.14	12.96	16.17	16.48	19.34	9.63	9.86	12.76

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	12.96	19.53	11.96	18.53	23
QPSK	13.03	23.74	12.03	22.74	23
16QAM	12.81	19.70	11.81	18.70	23
64QAM	12.72	19.67	11.72	18.67	23
256QAM	12.76	19.34	11.76	18.34	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), MIMO, Channel Bandwidth: 20 MHz, Output Power: Full Power

NR n48 SCS 30 kHz 20M											
Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)								
			CH 637334			CH 641666			CH 646000		
			3560.01 MHz			3624.99 MHz			3690 MHz		
			TX 1	TX 2	Total	TX 1	TX 2	Total	TX 1	TX 2	Total
BPSK	1	1	10.18	10.17	13.19	16.55	16.62	19.60	9.92	10.01	12.98
QPSK	1	1	10.06	10.34	13.21	16.55	16.77	19.67	9.98	10.12	13.06
	1	0	9.95	10.34	13.16	16.56	16.88	19.73	10.04	10.21	13.14
	1	26	20.66	20.77	23.73	20.44	20.66	23.56	20.65	20.72	23.70
	1	49	9.93	10.32	13.14	16.54	16.74	19.65	10.16	10.31	13.25
	1	50	9.91	10.42	13.18	16.59	16.82	19.72	10.25	10.39	13.33
	25	0	10.19	10.56	13.39	19.58	19.89	22.75	14.67	14.93	17.81
	25	13	10.14	10.37	13.27	20.72	20.76	23.75	10.16	10.47	13.33
	25	26	14.57	15.01	17.81	19.67	19.95	22.82	10.14	10.38	13.27
	50	0	10.11	10.37	13.25	16.17	16.36	19.28	10.11	10.44	13.29
16QAM	1	0	9.77	10.08	12.94	16.53	16.81	19.68	9.75	9.88	12.83
64QAM	1	0	9.77	10.11	12.95	16.59	16.89	19.75	9.67	9.87	12.78
256QAM	1	0	9.73	10.13	12.94	16.24	16.60	19.43	9.74	10.00	12.88

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	12.98	19.60	11.98	18.60	23
QPSK	13.06	23.75	12.06	22.75	23
16QAM	12.83	19.68	11.83	18.68	23
64QAM	12.78	19.75	11.78	18.75	23
256QAM	12.88	19.43	11.88	18.43	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), MIMO, Channel Bandwidth: 30 MHz, Output Power: Full Power

NR n48 SCS 30 kHz 30M											
Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)								
			CH 637668			CH 641666			CH 645666		
			3565.02 MHz			3624.99 MHz			3684.99 MHz		
			TX 1	TX 2	Total	TX 1	TX 2	Total	TX 1	TX 2	Total
BPSK	1	1	10.14	10.17	13.17	16.61	16.65	19.64	10.00	10.07	13.05
QPSK	1	1	10.08	10.48	13.29	16.52	16.87	19.71	10.01	10.24	13.14
	1	0	10.06	10.50	13.30	16.65	16.90	19.79	10.13	10.31	13.23
	1	39	20.65	20.88	23.78	20.56	20.63	23.61	20.74	20.72	23.74
	1	76	9.92	10.37	13.16	16.70	16.90	19.81	10.17	10.39	13.29
	1	77	10.03	10.40	13.23	16.74	16.86	19.81	10.18	10.37	13.29
	36	0	10.20	10.56	13.39	19.60	19.93	22.78	14.69	14.98	17.85
	36	21	10.23	10.41	13.33	20.80	20.82	23.82	10.21	10.48	13.36
	36	42	14.68	15.05	17.88	19.78	19.98	22.89	10.26	10.45	13.37
	75	0	10.16	10.45	13.32	16.15	16.40	19.29	10.19	10.39	13.30
16QAM	1	0	9.80	10.11	12.97	16.63	16.89	19.77	9.76	10.00	12.89
64QAM	1	0	9.78	10.18	12.99	16.63	16.94	19.80	9.73	9.89	12.82
256QAM	1	0	9.83	10.24	13.05	16.31	16.66	19.50	9.80	9.91	12.87

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	13.05	19.64	12.05	18.64	23
QPSK	13.14	23.82	12.14	22.82	23
16QAM	12.89	19.77	11.89	18.77	23
64QAM	12.82	19.80	11.82	18.80	23
256QAM	12.87	19.50	11.87	18.50	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), MIMO, Channel Bandwidth: 40 MHz, Output Power: Full Power

NR n48 SCS 30 kHz 40M											
Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)								
			CH 638000			CH 641666			CH 645332		
			3570 MHz			3624.99 MHz			3679.98 MHz		
			TX 1	TX 2	Total	TX 1	TX 2	Total	TX 1	TX 2	Total
BPSK	1	1	10.20	10.21	13.22	16.68	16.71	19.71	10.09	10.08	13.10
QPSK	1	1	10.14	10.48	13.32	16.62	16.93	19.79	10.09	10.32	13.22
	1	0	10.15	10.50	13.34	16.68	16.99	19.85	10.15	10.33	13.25
	1	53	20.73	20.93	23.84	20.63	20.72	23.69	20.77	20.78	23.79
	1	104	10.02	10.41	13.23	16.70	16.90	19.81	10.22	10.43	13.34
	1	105	10.04	10.43	13.25	16.74	16.96	19.86	10.28	10.46	13.38
	50	0	10.28	10.64	13.47	19.70	19.96	22.84	14.74	15.00	17.88
	50	28	10.26	10.50	13.39	20.80	20.89	23.86	10.22	10.52	13.38
	50	56	14.72	15.05	17.90	19.82	20.03	22.94	10.28	10.50	13.40
	100	0	10.26	10.54	13.41	16.22	16.47	19.36	10.20	10.46	13.34
16QAM	1	0	9.84	10.21	13.04	16.64	16.95	19.81	9.85	10.03	12.95
64QAM	1	0	9.83	10.22	13.04	16.65	16.96	19.82	9.78	9.98	12.89
256QAM	1	0	9.86	10.32	13.11	16.32	16.70	19.52	9.82	10.01	12.93

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	13.10	19.71	12.10	18.71	23
QPSK	13.22	23.86	12.22	22.86	23
16QAM	12.95	19.81	11.95	18.81	23
64QAM	12.89	19.82	11.89	18.82	23
256QAM	12.93	19.52	11.93	18.52	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), MIMO, Channel Bandwidth: 15 MHz, Output Power: dBm/10 MHz

NR n48 SCS 30 kHz 15M											
Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)								
			CH 637168			CH 641666			CH 646166		
			3557.52 MHz			3624.99 MHz			3692.49 MHz		
			TX 1	TX 2	Total	TX 1	TX 2	Total	TX 1	TX 2	Total
BPSK	1	1	10.03	9.99	13.02	16.37	16.51	19.45	9.94	9.96	12.88
QPSK	1	1	9.92	10.27	13.11	16.38	16.74	19.57	9.87	10.20	12.97
	1	0	9.94	10.38	13.18	16.43	16.74	19.60	9.98	10.15	12.98
	1	19	20.55	20.77	23.67	20.48	20.39	23.45	20.61	20.64	23.57
	1	36	9.79	10.13	12.97	16.49	16.64	19.58	10.20	10.21	13.18
	1	37	9.79	10.14	12.98	16.58	16.86	19.73	10.13	10.41	13.14
	18	0	10.09	10.3	13.21	19.32	19.78	22.57	14.70	14.80	17.68
	18	10	10.04	10.3	13.18	20.57	20.67	23.63	10.14	10.41	13.19
	18	20	14.67	14.87	17.78	19.57	19.74	22.67	10.22	10.35	13.19
	36	0	8.56	8.82	11.70	14.5	14.71	17.62	10.03	10.27	11.60
16QAM	1	0	9.49	10.07	12.80	16.47	16.82	19.66	9.65	9.94	12.75
64QAM	1	0	9.64	9.99	12.83	16.43	16.73	19.59	9.60	9.81	12.64
256QAM	1	0	9.71	10	12.87	16.14	16.35	19.26	9.63	9.86	12.68

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	13.02	13.02	12.02	12.02	23
QPSK	11.7	23.67	10.7	22.67	23
16QAM	12.8	12.8	11.8	11.8	23
64QAM	12.83	12.83	11.83	11.83	23
256QAM	12.87	12.87	11.87	11.87	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), MIMO, Channel Bandwidth: 20 MHz, Output Power: dBm/10 MHz

NR n48 SCS 30 kHz 20M											
Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)								
			CH 637334			CH 641666			CH 646000		
			3560.01 MHz			3624.99 MHz			3690 MHz		
			TX 1	TX 2	Total	TX 1	TX 2	Total	TX 1	TX 2	Total
BPSK	1	1	10.04	10.06	13.06	16.46	16.48	19.48	9.82	9.96	12.90
QPSK	1	1	10.01	10.19	13.11	16.45	16.7	19.59	9.92	10.02	12.98
	1	0	9.87	10.21	13.05	16.5	16.74	19.63	9.96	10.18	13.08
	1	26	20.57	20.76	23.68	20.3	20.55	23.44	20.57	20.64	23.62
	1	49	9.92	10.23	13.09	16.47	16.66	19.58	10.15	10.28	13.23
	1	50	9.79	10.36	13.09	16.44	16.68	19.57	10.13	10.28	13.22
	25	0	10.16	10.48	13.33	19.52	19.8	22.67	14.6	14.8	17.71
	25	13	10.07	10.26	13.18	20.7	20.66	23.69	10.14	10.34	13.25
	25	26	14.43	14.98	17.72	19.59	19.84	22.73	10.13	10.25	13.20
	50	0	7.04	7.27	10.17	13.04	13.2	16.13	6.92	7.26	10.10
16QAM	1	0	9.66	10	12.84	16.43	16.76	19.61	9.63	9.77	12.71
64QAM	1	0	9.73	10.06	12.91	16.47	16.8	19.65	9.64	9.79	12.73
256QAM	1	0	9.69	10.04	12.88	16.21	16.53	19.38	9.67	9.85	12.77

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	13.06	13.06	12.06	12.06	23
QPSK	10.17	23.68	9.17	22.68	23
16QAM	12.84	12.84	11.84	11.84	23
64QAM	12.91	12.91	11.91	11.91	23
256QAM	12.88	12.88	11.88	11.88	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), MIMO, Channel Bandwidth: 30 MHz, Output Power: dBm/10 MHz

NR n48 SCS 30 kHz 30M											
Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)								
			CH 637668			CH 641666			CH 645666		
			3565.02 MHz			3624.99 MHz			3684.99 MHz		
			TX 1	TX 2	Total	TX 1	TX 2	Total	TX 1	TX 2	Total
BPSK	1	1	10.01	10.14	13.09	16.47	16.63	19.56	9.93	9.93	12.94
QPSK	1	1	10.05	10.41	13.24	16.48	16.73	19.62	9.95	10.2	13.09
	1	0	9.94	10.36	13.17	16.56	16.88	19.73	10	10.16	13.09
	1	39	20.51	20.85	23.69	20.44	20.5	23.48	20.6	20.59	23.61
	1	76	9.87	10.36	13.13	16.64	16.75	19.71	10.16	10.24	13.21
	1	77	9.92	10.28	13.11	16.67	16.82	19.76	10.03	10.33	13.19
	36	0	8.99	9.44	12.23	18.46	18.73	21.61	13.49	13.74	16.63
	36	21	9.04	9.27	12.17	19.63	19.69	22.67	9.08	9.28	12.19
	36	42	13.57	13.9	16.75	18.61	18.85	21.74	9.1	9.31	12.22
	75	0	5.57	5.86	8.73	11.46	11.82	14.65	5.58	5.81	8.71
16QAM	1	0	9.68	9.98	12.84	16.57	16.79	19.69	9.67	9.89	12.79
64QAM	1	0	9.72	10.06	12.90	16.56	16.9	19.74	9.61	9.88	12.76
256QAM	1	0	9.82	10.22	13.03	16.16	16.65	19.42	9.78	9.82	12.81

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	13.09	13.09	12.09	12.09	23
QPSK	8.73	23.69	7.73	22.69	23
16QAM	12.84	12.84	11.84	11.84	23
64QAM	12.9	12.9	11.9	11.9	23
256QAM	13.03	13.03	12.03	12.03	23

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

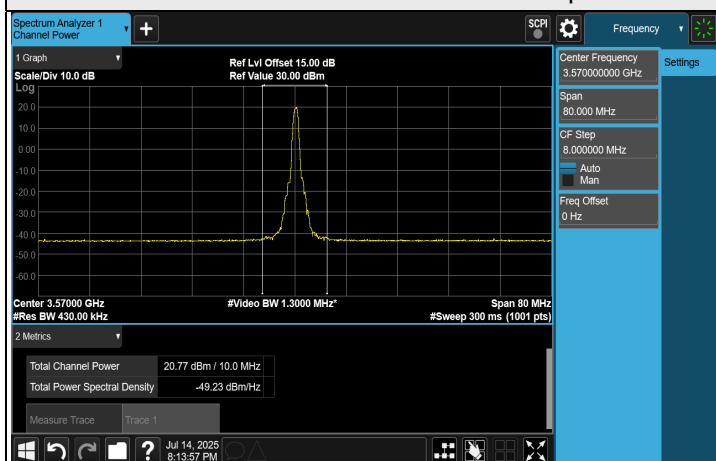
NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO, Channel Bandwidth: 40 MHz, Output Power: dBm/10 MHz

NR n48 SCS 30 kHz 40M											
Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)								
			CH 638000			CH 641666			CH 645332		
			3570 MHz			3624.99 MHz			3679.98 MHz		
			TX 1	TX 2	Total	TX 1	TX 2	Total	TX 1	TX 2	Total
BPSK	1	1	10.1	10.14	13.13	16.56	16.65	19.62	10.05	10.03	13.05
QPSK	1	1	10.01	10.42	13.23	16.53	16.84	19.70	10.04	10.31	13.19
	1	0	10.04	10.36	13.21	16.59	16.85	19.73	10	10.2	13.11
	1	53	20.77	20.78	23.79	20.59	20.66	23.64	20.76	20.65	23.72
	1	104	9.96	10.39	13.19	16.66	16.8	19.74	10.2	10.29	13.26
	1	105	9.95	10.37	13.18	16.65	16.89	19.78	10.24	10.41	13.34
	50	0	7.61	7.96	10.80	17.06	17.4	20.24	12.09	12.32	15.22
	50	28	7.67	7.87	10.78	18.18	18.32	21.26	7.6	7.91	10.77
	50	56	12.16	12.39	15.29	17.17	17.49	20.34	7.63	7.87	10.76
	100	0	4.12	4.39	7.27	10.14	10.3	13.23	4.1	4.32	7.22
16QAM	1	0	9.69	10.2	12.96	16.51	16.8	19.67	9.82	9.89	12.87
64QAM	1	0	9.79	10.13	12.97	16.5	16.91	19.72	9.65	9.93	12.80
256QAM	1	0	9.78	10.28	13.05	16.18	16.55	19.38	9.7	9.96	12.84

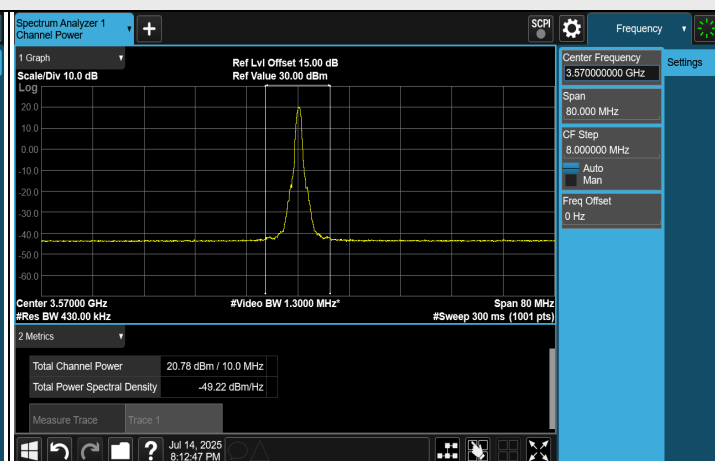
Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
BPSK	13.13	13.13	12.13	12.13	23
QPSK	7.27	23.79	6.27	22.79	23
16QAM	12.96	12.96	11.96	11.96	23
64QAM	12.97	12.97	11.97	11.97	23
256QAM	13.05	13.05	12.05	12.05	23

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

Spectrum Plot of Worst Value



QPSK CH 638000 (3570 MHz) Ant.0



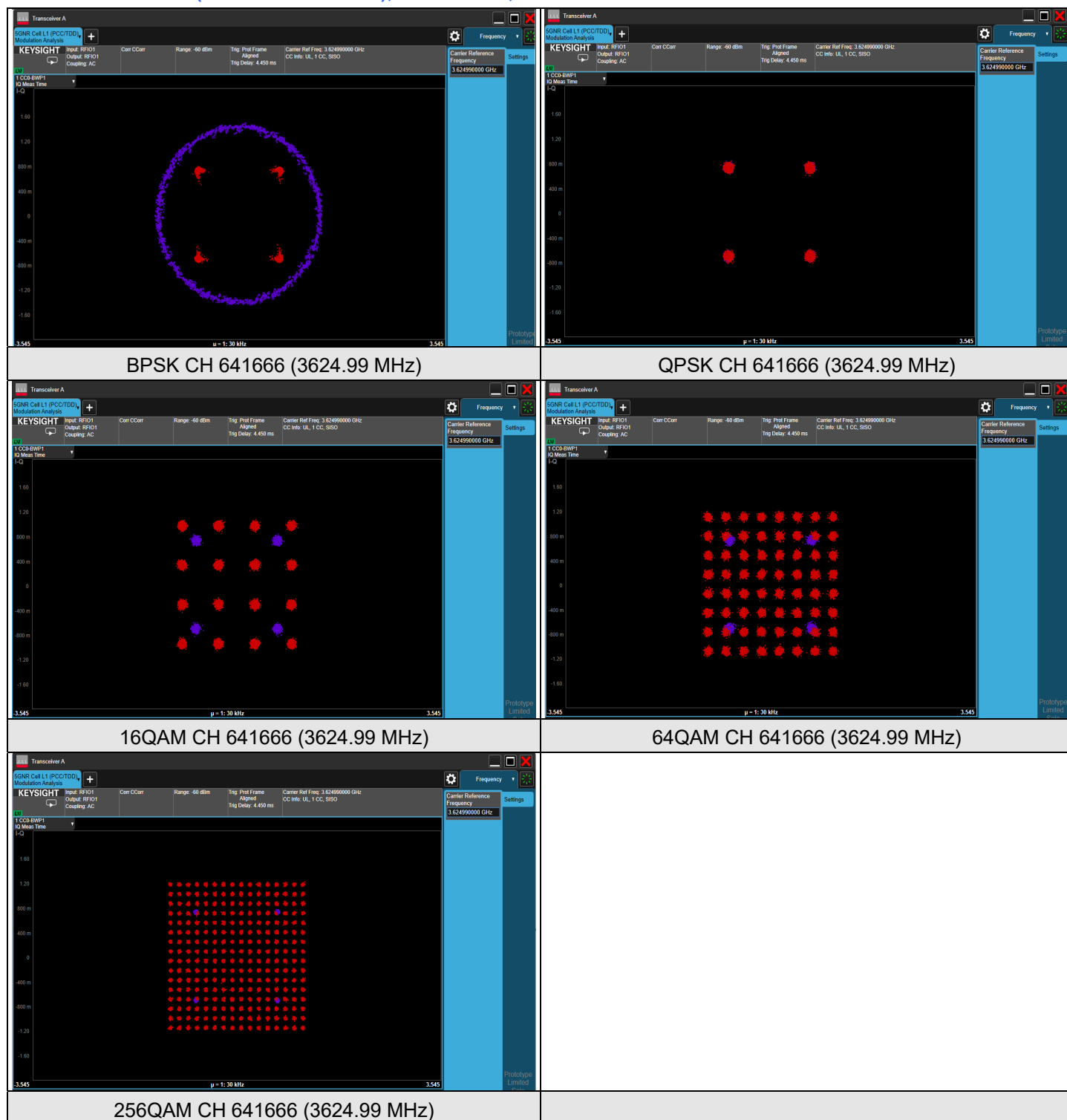
QPSK CH 638000 (3570 MHz) Ant.3

7.2 Modulation Characteristics

Input Power:	3.8 Vdc	Environmental Conditions:	22°C, 73% RH	Tested By:	Noah Chang
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7.2.1 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz)

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO-Ant 0, Channel Bandwidth: 40 MHz



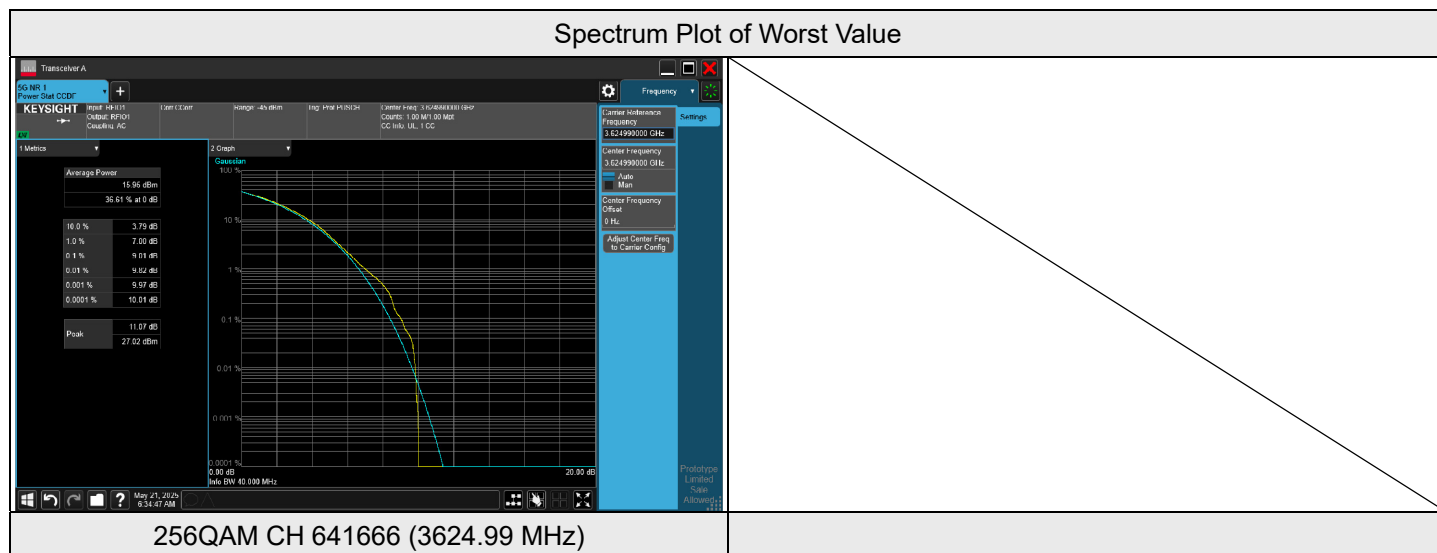
7.3 Peak to Average Ratio

Input Power:	3.8 Vdc	Environmental Conditions:	22°C, 73% RH	Tested By:	Noah Chang
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7.3.1 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz)

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO-Ant 0, Channel Bandwidth: 40 MHz

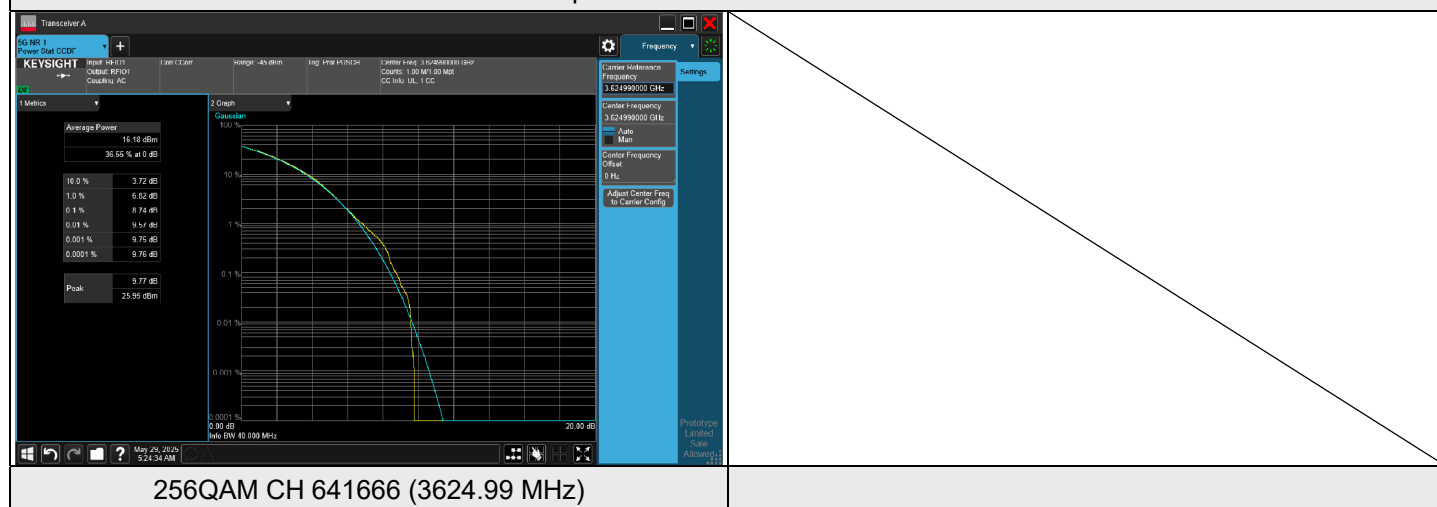
Modulation	RB Size	RB Offset	Peak To Average Ratio (dB)
			CH 641666
			3624.99 MHz
BPSK	1	105	4.65
	1	0	4.76
QPSK	1	105	8.07
	1	0	7.75
16QAM	1	105	7.84
	1	0	7.78
64QAM	1	105	8.34
	1	0	8.18
256QAM	1	105	8.41
	1	0	9.01



NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO-Ant 3, Channel Bandwidth: 40 MHz

Modulation	RB Size	RB Offset	Peak To Average Ratio (dB)
			CH 641666
			3624.99 MHz
BPSK	1	105	4.52
	1	0	4.69
QPSK	1	105	7.86
	1	0	7.91
16QAM	1	105	8.23
	1	0	7.90
64QAM	1	105	8.52
	1	0	8.16
256QAM	1	105	8.68
	1	0	8.74

Spectrum Plot of Worst Value



7.4 Bandwidth

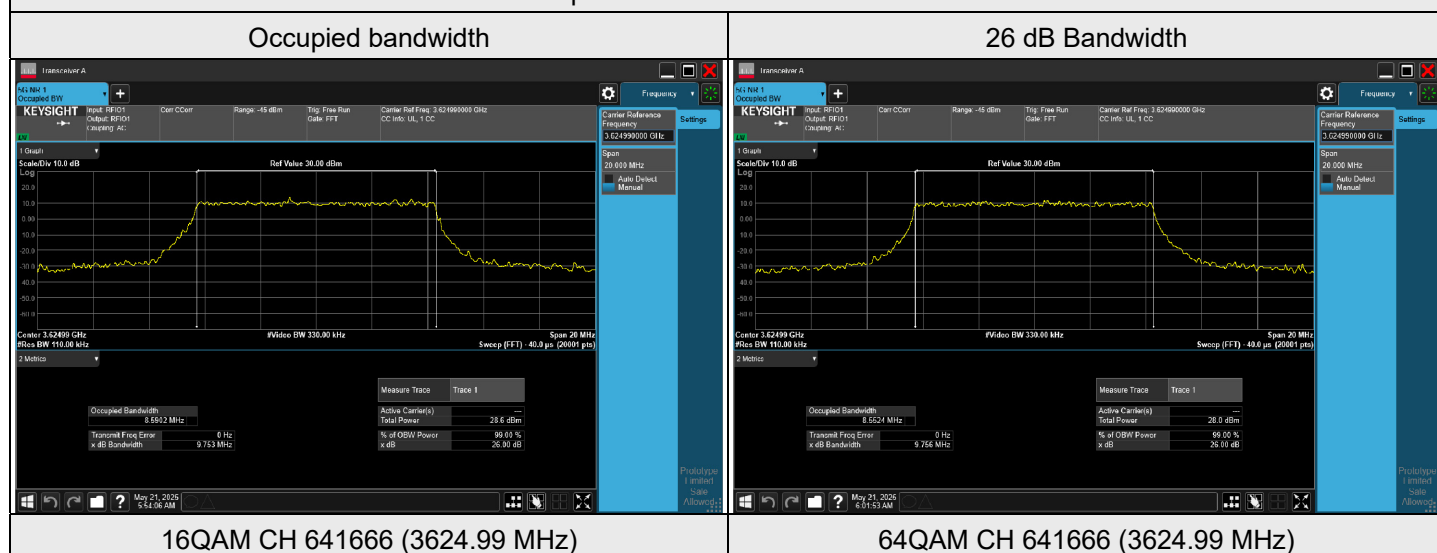
Input Power:	3.8 Vdc	Environmental Conditions:	22°C, 73% RH	Tested By:	Noah Chang
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7.4.1 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz)

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO-Ant 0, Channel Bandwidth: 10 MHz

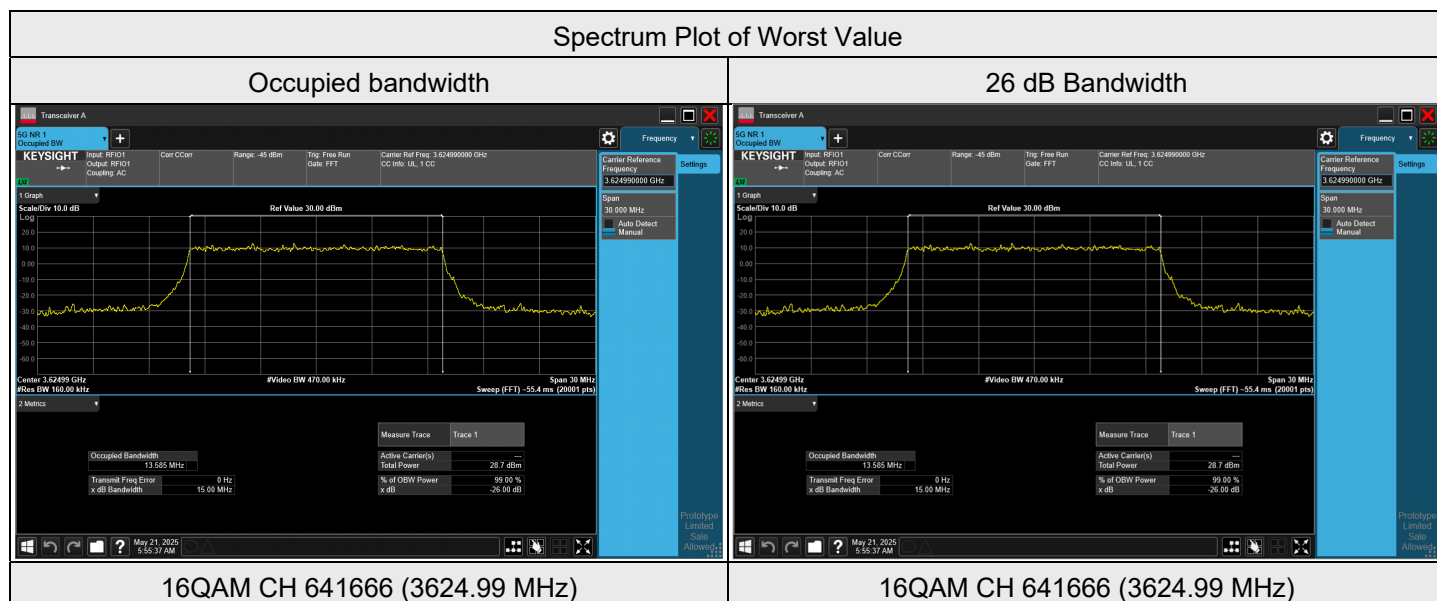
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
BPSK	641666	3624.99	8.5723	9.490
QPSK	641666	3624.99	8.5743	9.615
16QAM	641666	3624.99	8.5902	9.753
64QAM	641666	3624.99	8.5524	9.756
256QAM	641666	3624.99	8.5802	9.715

Spectrum Plot of Worst Value



NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO-Ant 0, Channel Bandwidth: 15 MHz

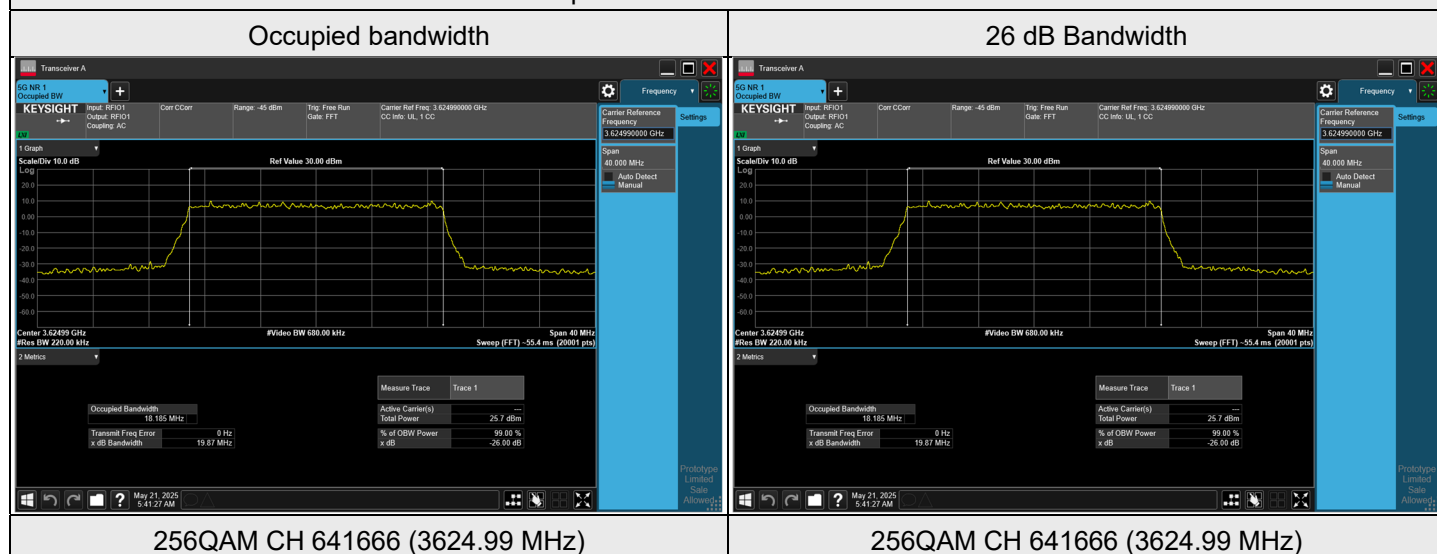
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
BPSK	641666	3624.99	13.480	14.12
QPSK	641666	3624.99	13.552	14.76
16QAM	641666	3624.99	13.585	15.00
64QAM	641666	3624.99	13.564	14.83
256QAM	641666	3624.99	13.539	14.68



NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO-Ant 0, Channel Bandwidth: 20 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
BPSK	641666	3624.99	18.001	19.42
QPSK	641666	3624.99	18.177	19.76
16QAM	641666	3624.99	18.176	19.63
64QAM	641666	3624.99	18.183	19.82
256QAM	641666	3624.99	18.185	19.87

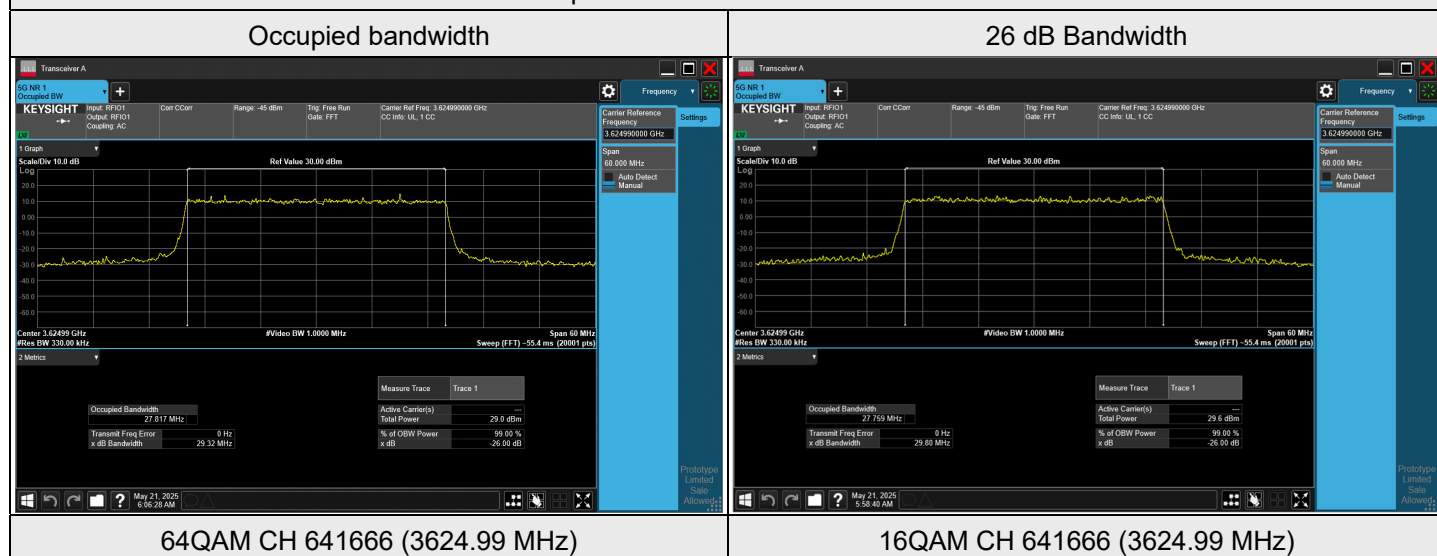
Spectrum Plot of Worst Value



NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO-Ant 0, Channel Bandwidth: 30 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
BPSK	641666	3624.99	27.668	28.83
QPSK	641666	3624.99	27.805	29.62
16QAM	641666	3624.99	27.759	29.80
64QAM	641666	3624.99	27.817	29.32
256QAM	641666	3624.99	27.762	29.41

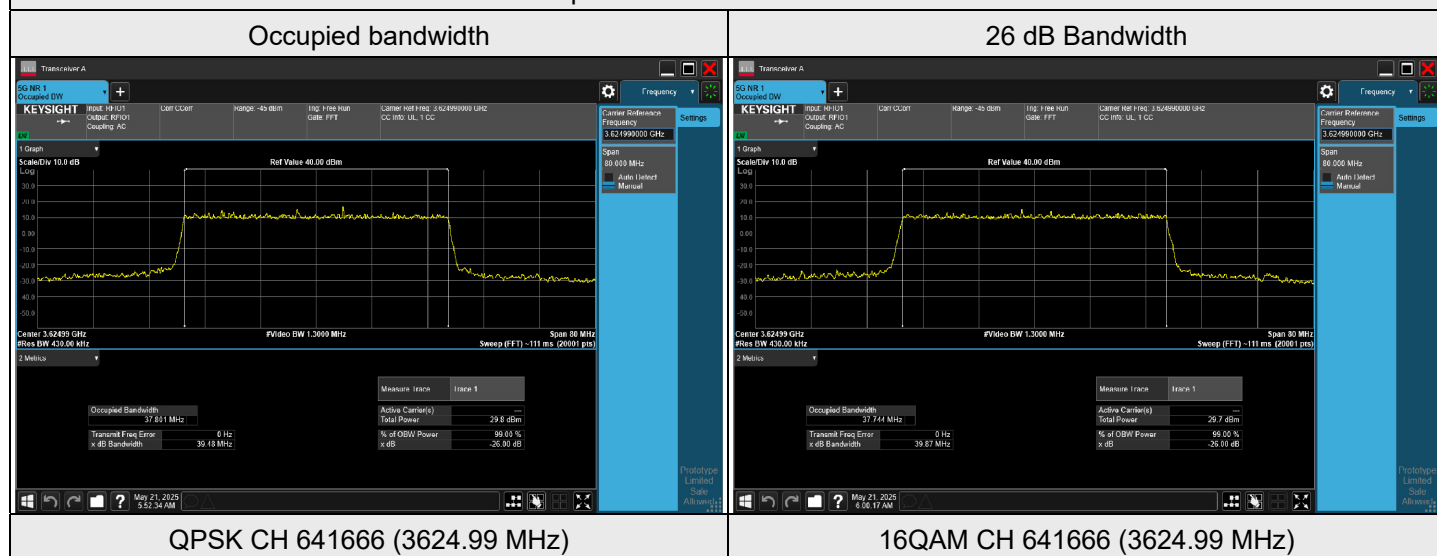
Spectrum Plot of Worst Value



NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO-Ant 0, Channel Bandwidth: 40 MHz

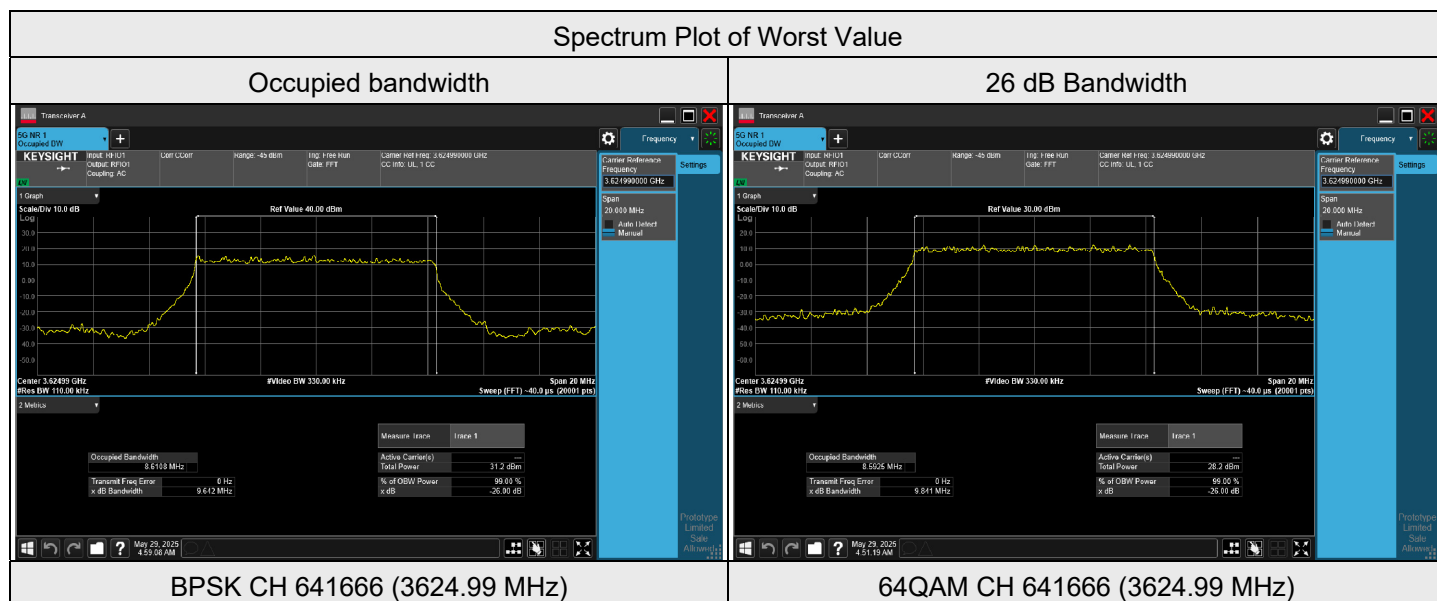
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
BPSK	641666	3624.99	37.363	37.54
QPSK	641666	3624.99	37.801	39.48
16QAM	641666	3624.99	37.744	39.87
64QAM	641666	3624.99	37.690	39.75
256QAM	641666	3624.99	37.778	39.73

Spectrum Plot of Worst Value



NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO-Ant 3, Channel Bandwidth: 10 MHz

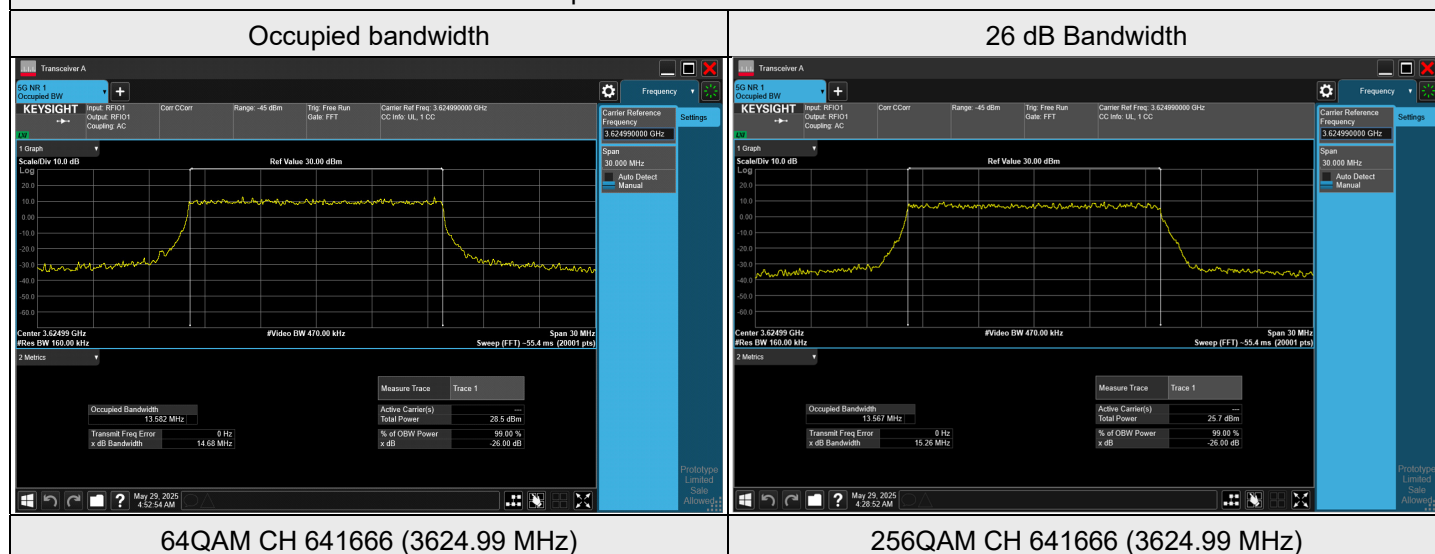
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
BPSK	641666	3624.99	8.6108	9.642
QPSK	641666	3624.99	8.5620	9.473
16QAM	641666	3624.99	8.5687	9.666
64QAM	641666	3624.99	8.5925	9.841
256QAM	641666	3624.99	8.5700	9.661



NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO-Ant 3, Channel Bandwidth: 15 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
BPSK	641666	3624.99	13.444	14.03
QPSK	641666	3624.99	13.531	14.84
16QAM	641666	3624.99	13.575	14.98
64QAM	641666	3624.99	13.582	14.68
256QAM	641666	3624.99	13.567	15.26

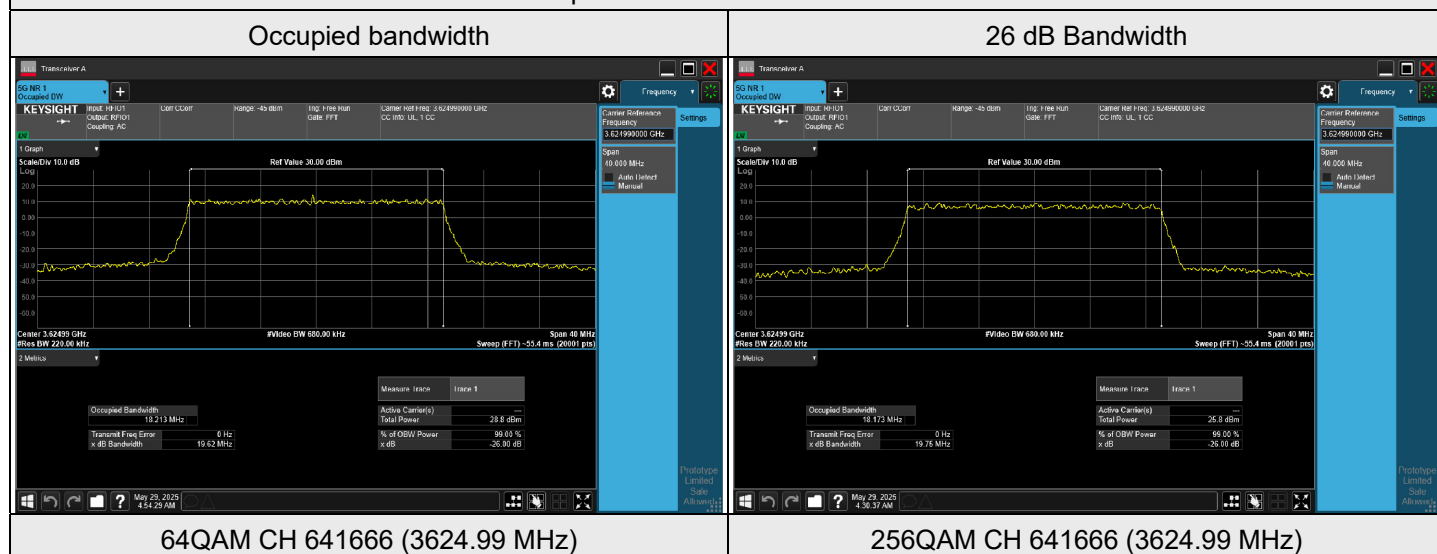
Spectrum Plot of Worst Value



NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO-Ant 3, Channel Bandwidth: 20 MHz

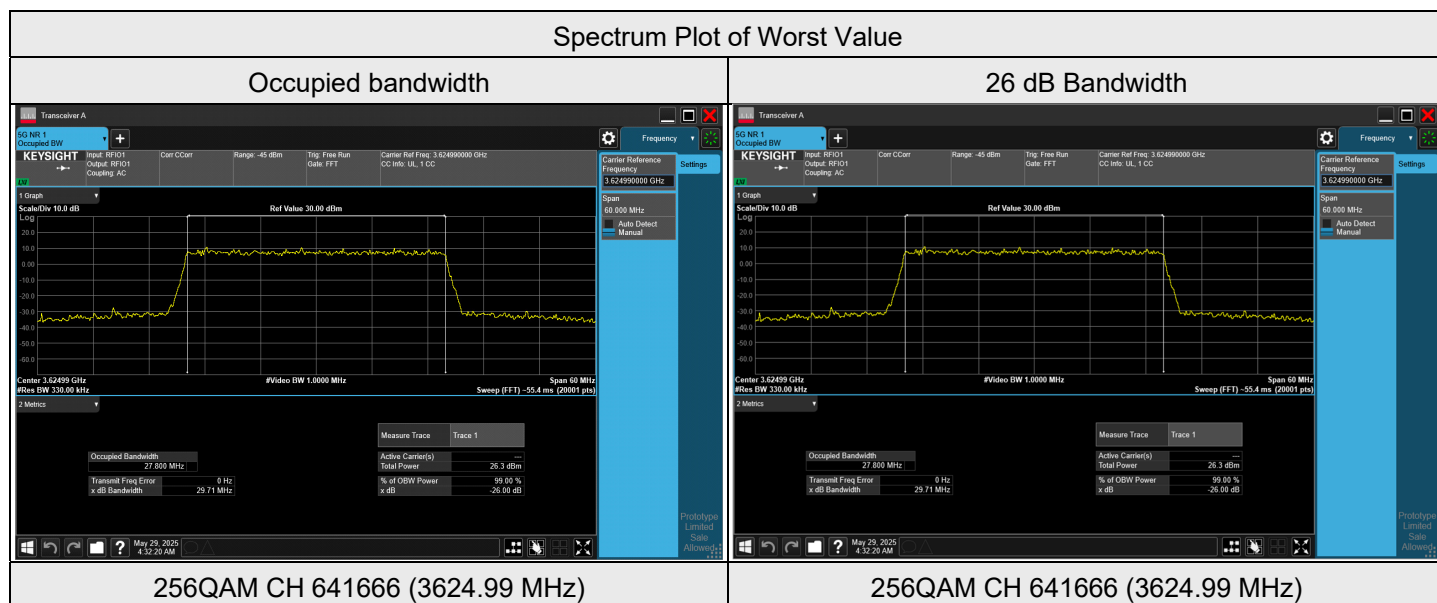
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
BPSK	641666	3624.99	17.996	18.94
QPSK	641666	3624.99	18.156	19.46
16QAM	641666	3624.99	18.177	19.23
64QAM	641666	3624.99	18.213	19.62
256QAM	641666	3624.99	18.173	19.75

Spectrum Plot of Worst Value



NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO-Ant 3, Channel Bandwidth: 30 MHz

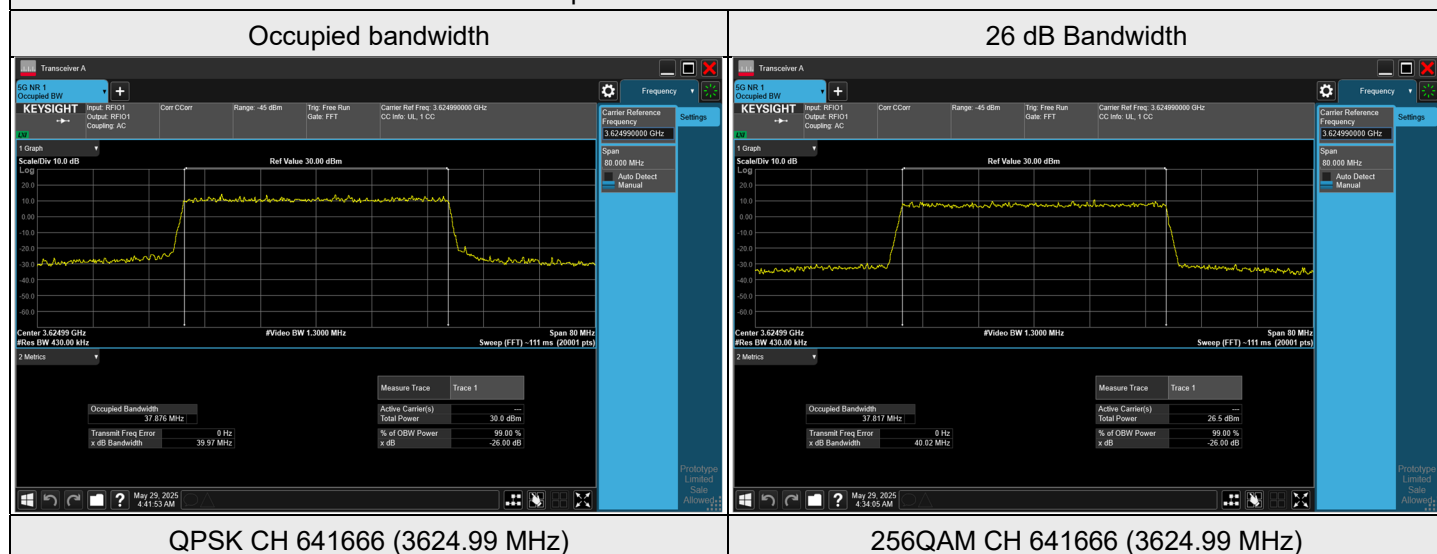
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
BPSK	641666	3624.99	27.594	28.81
QPSK	641666	3624.99	27.769	29.61
16QAM	641666	3624.99	27.763	29.40
64QAM	641666	3624.99	27.795	29.54
256QAM	641666	3624.99	27.800	29.71



NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO-Ant 3, Channel Bandwidth: 40 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
BPSK	641666	3624.99	37.428	37.67
QPSK	641666	3624.99	37.876	39.97
16QAM	641666	3624.99	37.793	39.86
64QAM	641666	3624.99	37.763	39.73
256QAM	641666	3624.99	37.817	40.02

Spectrum Plot of Worst Value

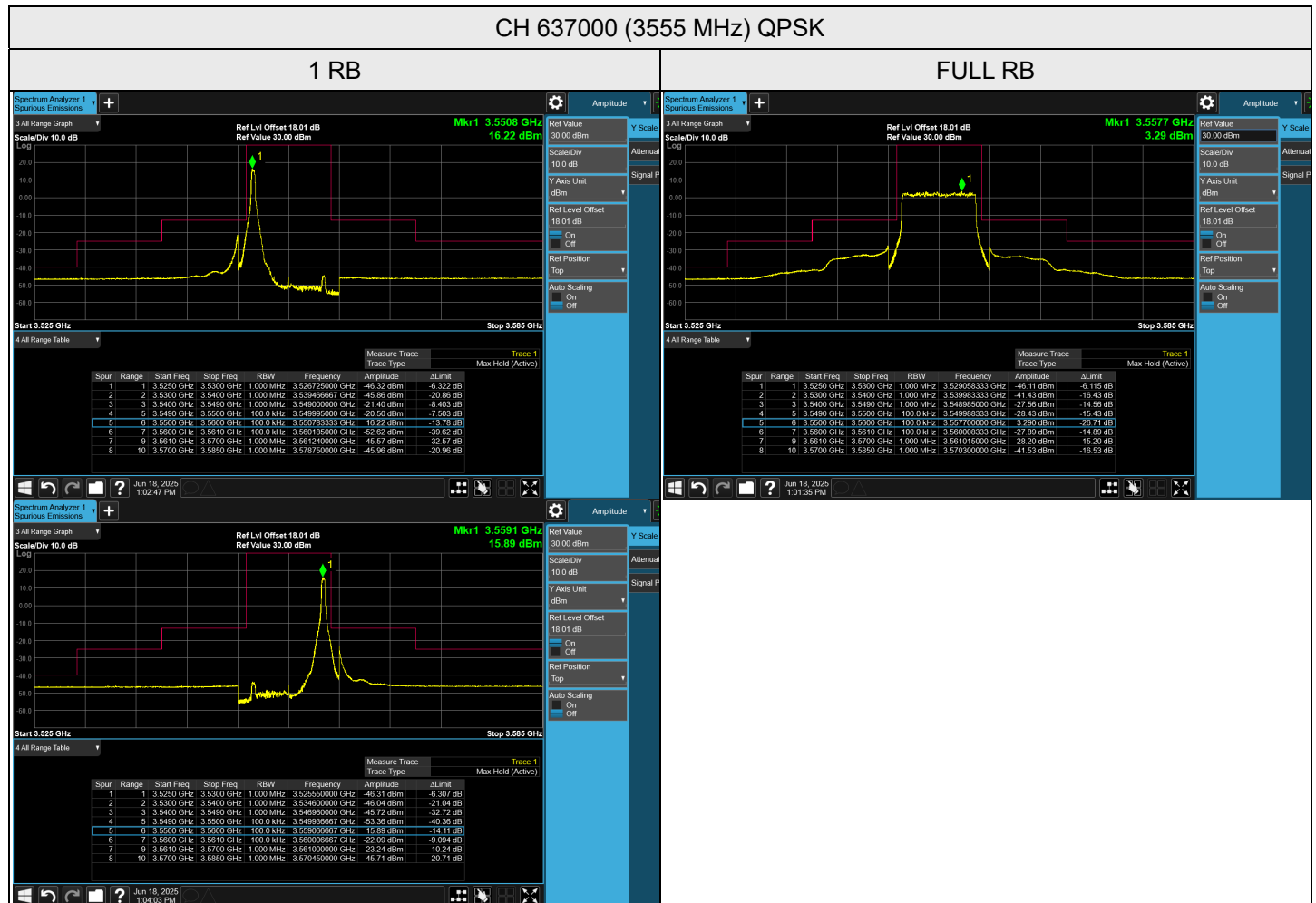


7.5 Conducted Spurious Emissions

Input Power:	3.8 Vdc	Environmental Conditions:	22°C, 73% RH	Tested By:	Noah Chang
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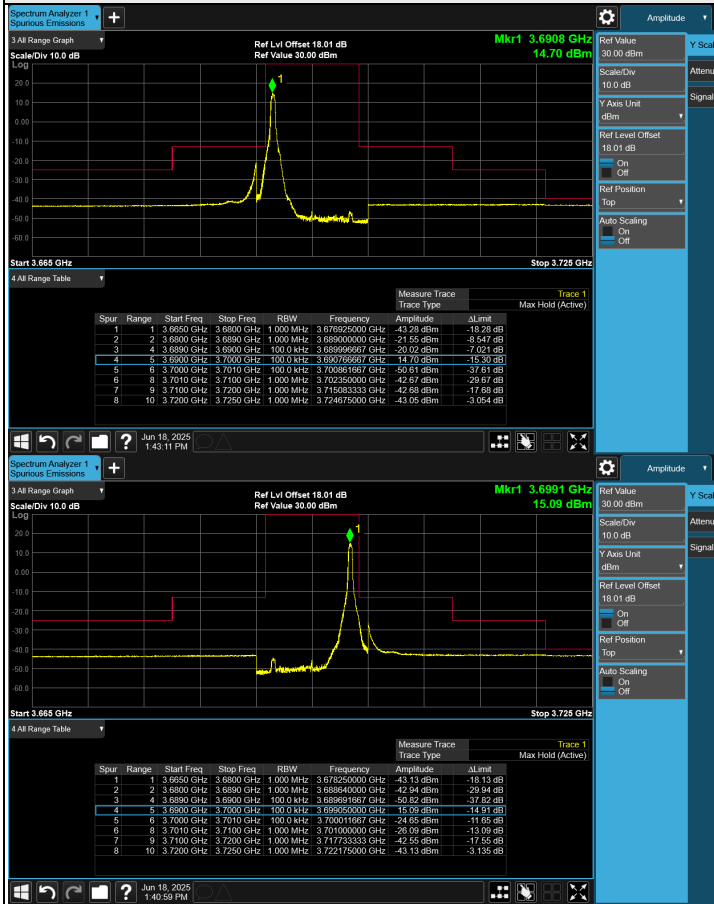
7.5.1 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz)

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), MIMO-Ant 0, Channel Bandwidth: 10 MHz

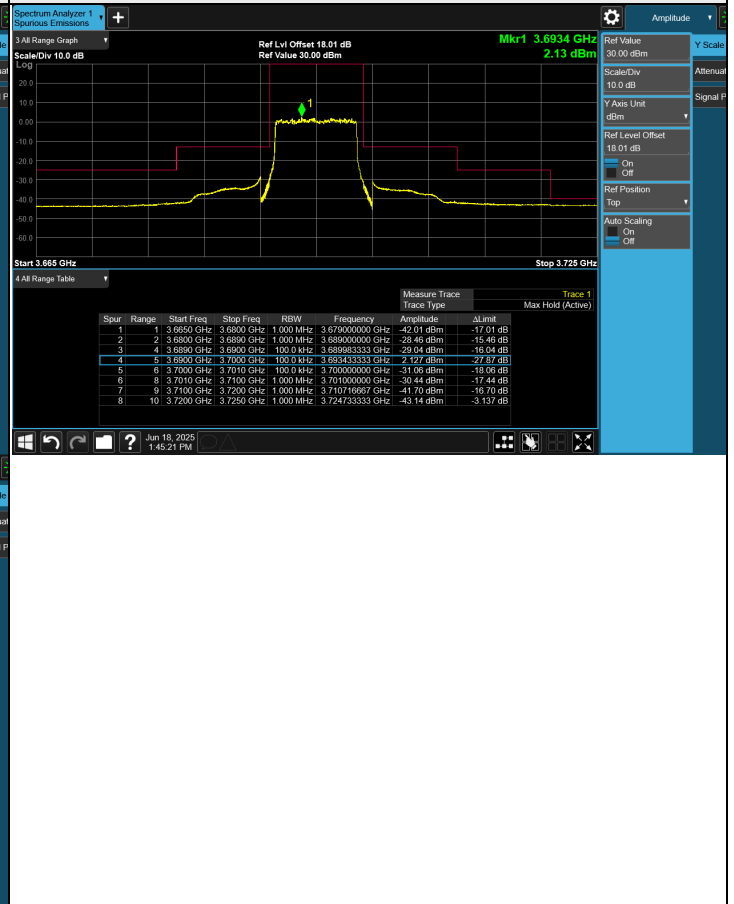


CH 646332 (3694.98 MHz) QPSK

1 RB

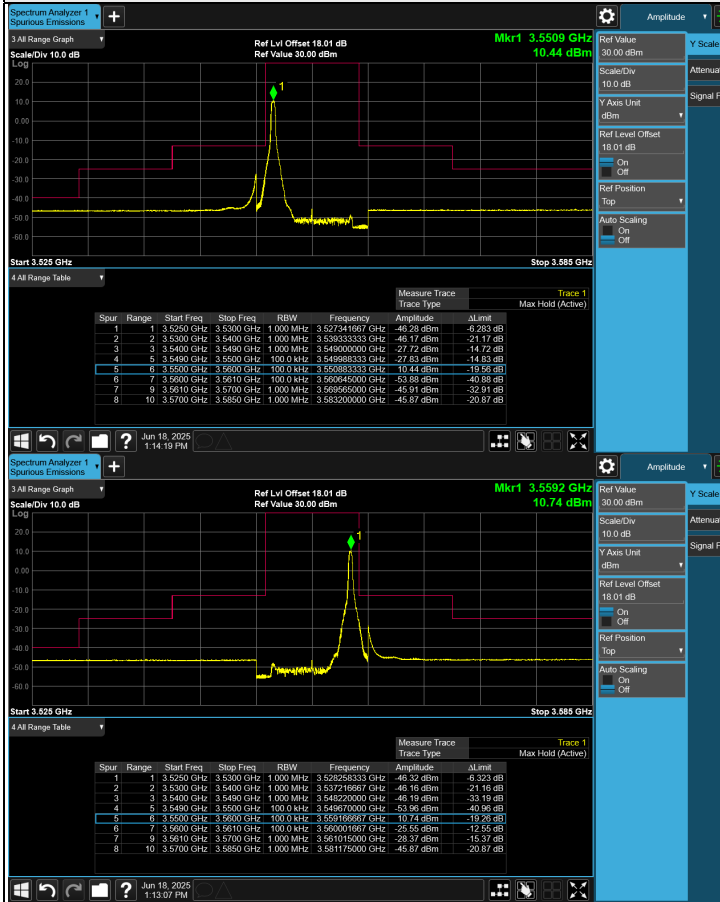


FULL RB



CH 637000 (3555 MHz) 256QAM

1 RB



FULL RB

