

Report No.: AAEMT/RF/241224-01-01

FCC Test Report

(Part 96)

FCC ID: 2BNMP-AMPU-LPRU

Client Information:

*Applicant: AmpliTech Group

*Applicant add.: 155 Plant Avenue Hauppauge NY 11788

Product Information:

Sampling Details: The below Test Item provided by applicant

*EUT Name: Low Power Radio Unit

*Model No.: AMPU-LPRU-Gen3-3537-AE-AI.

*Brand Name:



Standards: FCC PART 96

AA Electro Magnetic Test Laboratory Private Limited

Add.: Plot No 174, Udyog Vihar - Phase 4, Sector 18,
Gurgaon, Haryana, India

Date of Receipt: Dec. 24, 2024

Date of Test: Dec. 24, 2024~ Feb 20, 2025

Date of Issue: May.02,2025

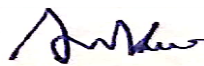
Test Result: Pass

Declaration of Conformity: Declaration of conformity of the results is based as per the standard limits

Disclaimer: The * Information are provided by Manufacturer and it is verified through the Request form and Marking Label, AA Electro Magnetic Test Laboratory is not responsible for the above information accuracy This device described above has been tested by AA Electro Magnetic Test Laboratory Private Limited, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

*This test report must not be used by the client to claim product endorsement by any agency of the U.S. government.

Prepared By: (+ signature) Ankur Kumar



Reviewed & Approved by: (+ signature)

Dr. Lenin Raja (Authorized Representative) (/ lenin83/)



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Test Summary

1.1 Compliance with FCC Part 96

TEST	TEST REQUIREMENT	LIMIT	RESULT	REMARK
Equivalent Isotropic Radiated Power	2.1046; 96.41(b)	< 20dBm/MHz	PASS	Meet the requirement of limit.
Frequency Stability	2.1055	N/A	PASS	Meet the requirement of limit.
Occupied Bandwidth	2.1049	See 5.3.1	PASS	Meet the requirement of limit.
Peak to average ratio	2.1046; 96.41(g)	< 13 dB	PASS	Meet the requirement of limit.
Conducted Spurious Emissions	2.1051; 96.41(e)	< -19.02 dBm	PASS	Meet the requirement of limit.
Radiated Spurious Emissions	2.1053; 96.41(e)	< -13 dBm	PASS	Meet the requirement of limit.

1.2 Measurement Uncertainty

All measurements involve certain levels of uncertainties, the following measurements uncertainty Levels have estimated based on standards, the maximum value of the uncertainty as below:

No.	Item	Uncertainty
1	Conducted Emission Test	2.82dB
2	Radiated Emission Test	2.79dB
3	Spurious Emissions, Conducted	0.76dB
4	Output Power	1.16dB

1.3 Test Location

All tests were performed at:

AA Electro Magnetic Test Laboratory Private Limited

Plot No 174, Udyog Vihar - Phase 4, Sector 18, Gurgaon, Haryana, India

Tel.: +91-0124-4235350

Test Facility

The test facility is recognized, certified or accredited by the following organizations:

ILAC / NABL Accreditation No.: TC-8597

Three 3m Semi-Anechoic Chamber, 1 full-Anechoic chamber and 2 Shielding Rooms of AA Electro Magnetic Test Laboratory Private Limited have been registered by National Accreditation Board for Testing and Calibration Laboratories (NABL).

ILAC –A2LA Accreditation No.: 5593.01

Three 3m Semi-Anechoic Chamber, 1 full-Anechoic chamber and 2 Shielding Rooms of AA Electro Magnetic Test Laboratory Private Limited have been registered American Association of Laboratory Accreditation (A2LA.)

FCC- Recognition No.: 137777

Three 3m Semi-Anechoic Chamber, 1 full-Anechoic chamber and 2 Shielding Rooms of AA Electro Magnetic Test Laboratory Private Limited have been registered by Federal Communications Commission (FCC).

ISED Recognition No.: 26046

Three 3m Semi-Anechoic Chamber, 1 full-Anechoic chamber and 2 Shielding Rooms of AA Electro Magnetic Test Laboratory Private Limited have been registered by Institute for Social and Economic Development.(ISED)

VCCI- Registration No: 4053

Three 3m Semi-Anechoic Chamber, 1 full-Anechoic chamber and 2 Shielding Rooms of AA Electro Magnetic Test Laboratory Private Limited have been registered by Voluntary Control Council for Interference.(VCCI)

TEC Designation No.: IND063

Three 3m Semi-Anechoic Chamber, 1 full-Anechoic chamber and 2 Shielding Rooms of AA Electro Magnetic Test Laboratory Private Limited have been registered by Telecommunication Engineering (TEC) Center

BIS Recognition No: 816586

BIS recognized as per CRS scheme for IT electronics, LED control gears, Lamp, Inverter / UPS are recognized as per LRS 2020

1.4 Deviation from standard

None

1.5 Abnormalities from standard conditions

None

General Information

1.6 General Description of EUT

*Manufacturer:	AmpliTech Group	
*Manufacturer Address:	155 Plant Avenue Hauppauge NY 11788	
*Applicant:	AmpliTech Group	
*Applicant add:	155 Plant Avenue Hauppauge NY 11788	
*EUT Name:	Low Power Radio Unit	
*Model No:	AMPU-LPRU-Gen3-3537-AE-AI.	
*Brand Name:		
*Derivative model No.:	N/A	
Frequency Range:	NR Band n48 Channel Bandwidth: 10MHz, 20MHz, 40MHz, 80MHz, 100MHz	3550 MHz ~ 3700 MHz
Modulation Technology:	QPSK, 16QAM, 64QAM, 256QAM	
Antenna Gain(dBi):	3.46dBi	
*H/W No.:	A1	
*S/W No.:	V3.0.8	
Power Supply Range:	10VDC to 14V DC, 6.25A	
Note:1	For a more detailed features description, please refer to the manufacturer's Specifications or the User's Manual. Disclaimer: Antenna type and Antenna gain is provided by manufacturer.AAEMT Labs is not responsible for the antenna accuracy.	
Condition of Sample on receipt:	Good / Satisfactory / Fit for Testing	
Opinions and Interpretations:	See the specific Note / Annexure if any in the whole /full report/NA	

1.7 EUT channels and frequencies list:

Test Item	Tested Channel frequency	Channel Bandwidth	Modulation
Equivalent Isotropic Radiated Power	3555.720MHz, 3625.005MHz, 3694.290MHz	10MHz	QPSK, 16QAM, 64QAM, 256QAM
Occupied Bandwidth			
Peak to average ratio	3555.720MHz, 3625.005MHz, 3694.290MHz		QPSK
Frequency Stability	3625.005MHz		
Radiated Spurious Emissions	3555.720MHz, 3625.005MHz, 3694.290MHz		
Conducted Spurious Emissions	3555.720MHz, 3625.005MHz, 3694.290MHz		
Band Edge Measurements	3555.720MHz, 3694.290MHz		

Test Item	Tested Channel frequency	Channel Bandwidth	Modulation
Equivalent Isotropic Radiated Power	3560.010MHz, 3625.005MHz, 3690.000MHz	20MHz	QPSK, 16QAM, 64QAM, 256QAM
Occupied Bandwidth			
Peak to average ratio	3560.010MHz, 3625.005MHz, 3690.000MHz		QPSK
Frequency Stability	3625.005MHz		
Radiated Spurious Emissions	3560.010MHz, 3625.005MHz, 3690.000MHz		
Conducted Spurious Emissions	3560.010MHz, 3625.005MHz, 3690.000MHz		
Band Edge Measurements	3560.010MHz, 3690.000MHz		

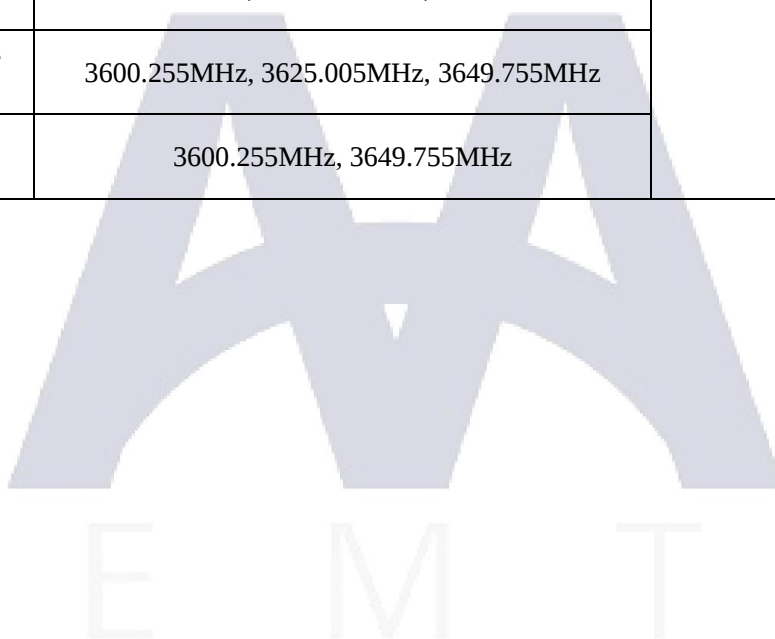
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Test Item	Tested Channel frequency	Channel Bandwidth	Modulation
Equivalent Isotropic Radiated Power	3570.240MHz, 3625.005MHz, 3679.755MHz	40MHz	QPSK, 16QAM, 64QAM, 256QAM
Occupied Bandwidth			
Peak to average ratio	3570.240MHz, 3625.005MHz, 3679.755MHz		QPSK
Frequency Stability	3625.005MHz		
Radiated Spurious Emissions	3570.240MHz, 3625.005MHz, 3679.755MHz		
Conducted Spurious Emissions	3570.240MHz, 3625.005MHz, 3679.755MHz		
Band Edge Measurements	3570.240MHz, 3679.755MHz		

Test Item	Tested Channel frequency	Channel Bandwidth	Modulation
Equivalent Isotropic Radiated Power	3590.025MHz, 3625.005MHz, 3660.000MHz	80MHz	QPSK, 16QAM, 64QAM, 256QAM
Occupied Bandwidth			
Peak to average ratio	3590.025MHz, 3625.005MHz, 3660.000MHz		QPSK
Frequency Stability	3625.005MHz		
Radiated Spurious Emissions	3590.025MHz, 3625.005MHz, 3660.000MHz		
Conducted Spurious Emissions	3590.025MHz, 3625.005MHz, 3660.000MHz		
Band Edge Measurements	3590.025MHz, 3660.000MHz		

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Test Item	Tested Channel frequency	Channel Bandwidth	Modulation
Equivalent Isotropic Radiated Power	3600.255MHz, 3625.005MHz, 3649.755MHz	100MHz	QPSK, 16QAM, 64QAM, 256QAM
Occupied Bandwidth			
Peak to average ratio	3600.255MHz, 3625.005MHz, 3649.755MHz		QPSK
Frequency Stability	3625.005MHz		
Radiated Spurious Emissions	3600.255MHz, 3625.005MHz, 3649.755MHz		
Conducted Spurious Emissions	3600.255MHz, 3625.005MHz, 3649.755MHz		
Band Edge Measurements	3600.255MHz, 3649.755MHz		



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1.8 EUT Peripheral List

No.	Equipment	Manufacturer	FCC ID	Model No.	Serial No.	Power cord	Remark
1.	Switching Power Adaptor	FSP	-	FSP075-DHAN3	HH0000310	1 m unshielded cable	N/A

1.9 Test Peripheral List

No.	Equipment	Manufacturer	EMC Compliance	Model No.	Serial No.	Power cord	signal cable
1	DC POWER SUPPLY	ANIVO	N/A	N/A	N/A	N/A	N/A
2.	LAPTOP	DELL	N/A	LATITUDE E7240	6SJ2T02	2M UNSHIELDED	N/A

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Equipments List for All Test Items

No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	Spectrum Analyzer	Rohde and Schwarz	FSP	101163	2024/10/01	2026/10/01
2	Loop antenna	DAZE Beijing	ZN30900C	18052	2023/09/15	2026/09/15
3	Hi power horn antenna	DAZE Beijing	ZN30700	18012	2023/09/11	2026/09/10
4	MXA Signal Analyzer	Keysight	N9020A	6272323218	2023/07/27	2025/07/27
5	Horn antenna	DAZE Beijing	ZN30703	18005	2023/09/11	2026/09/10
6	Pre amplifier	KELIANDA	LNA-0009295	-	2024/01/10	2026/01/10
7	Pre amplifier	KELIANDA	CF-00218	-	2024/01/10	2026/01/10
8	Biconical Antenna	DAZE Beijing	ZN30505C	17038	2023/09/11	2026/09/10
9	EMI-Receiver	Rohde and Schwarz	FCKL	1528194	2023/07/21	2025/07/21
10	LISN	Kyoritsu	KNW-407	8-1789-5	2024/01/10	2026/01/10
11	Network-LISN	SCHWAR ZBECK	NNBM8125	81251314	2024/01/10	2026/01/10
12	Network-LISN	SCHWAR ZBECK	NNBM8125	81251315	2024/01/10	2026/01/10
13	PULSELIMITER	Rohde and Schwarz	ESH3-Z2	100681	-	-
14	50Ω Coaxial Switch	DAIWA	1565157	-	-	-
15	50Ω Coaxial Switch	-	-	-	-	-
16	Wireless signal power meter	DARE!!	RPR3006W	RFSW190220	2025/01/13	2026/01/13
17	Signal Generator	KEYSIGHT	N5181A	512071	2024/01/10	2026/01/10
18	RF Vector Signal Generator	Keysight	N5182B	512094	2024/01/10	2026/01/10

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19	Spectrum analyzer	R&S	FSV-40N	101385	2023/04/28	2025/04/28
20	Radio Communication Tester	R&S	CMW 500	124589	2023/09/08	2025/09/08
21	Signal Generator	R&S	SMP02	837017/004 836593/005	2023/09/08	2025/09/08
22	DC Regulated Power	Metravi	RPS-3005	669076	2023/12/12	2025/12/11
23	Climatic Chamber	Sunrise Scientific Instruments	-	-	2024/11/06	2025/11/05
24	Attenuators	AGILENT	8494B	-	-	-
25	Attenuators	AGILENT	8495B	-	-	-
26	Vector Signal Analyzer	Anritsu	MS2850A	6272323218	28/09/24	27/09/25
27	Vector Signal Generator	Anritsu	MG3710E	6262251278	28/09/24	27/09/25
28	MXA Signal Analyzer	Keysight	N9020A	MY53290443	27/07/23	27/07/25

1.10 EQUIVALENT ISOTROPICALLY RADIATED POWER MEASUREMENT

1.10.1 LIMITS OF OUTPUT POWER MEASUREMENT

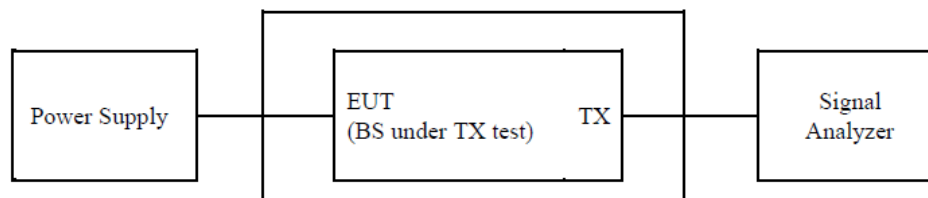
THE RADIATED EQUIVALENT ISOTROPICALLY POWER SHALL BE ACCORDING TO THE SPECIFIC RULE PART 96)THAT ARE LIMITED TO EIRP OF 1640 WATTS/MHZ WHEN TRANSMITTING WITH AN EMISSION BANDWIDTH GREATER THAN 1 MHZ.

1.10.2 TEST PROCEDURES

1. Span to $2 \times$ to $3 \times$ the OBW
2. RBW $\geq 1\%$ to 5% of the OBW
3. VBW $\geq 3 \times$ RBW
4. Sweep time $\geq 10 \times$ (number of points in sweep) $\times$ (transmission symbol period)
5. Detector = power averaging (rms)
6. Set sweep trigger to "free run"
7. If the EUT can be configured to transmit continuously, then set the trigger to free run
8. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple.
9. The trace was allowed to stabilize
10. Compute the power by integrating the spectrum across the OBW of the signal using the Instrument's band power measurement function, with the band/channel limits set equal to the OBW band edges.

1.10.3 TEST SETUP

CONDUCTED POWER MEASUREMENT



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1.10.4 Test results

Frequency (MHz)	Channel BW (MHz)	Power Density (dBm/MHz)				EIRP Density (dBm/MHz)	Limit (dBm/MHz)
		Ant 1	Ant 2	Ant 3	Ant 4		
QPSK							
3555.720	10	10.00	10.50	10.50	10.50	19.86	≤20
3625.005	10	10.09	10.77	10.08	10.80	19.93	≤20
3694.290	10	10.00	10.08	10.06	10.38	19.61	≤20
16QAM							
3555.720	10	10.00	10.50	10.05	10.06	19.64	≤20
3625.005	10	10.05	10.09	10.10	10.07	19.56	≤20
3694.290	10	10.50	10.50	10.62	10.59	19.98	≤20
64QAM							
3555.720	10	10.86	10.66	10.28	10.08	19.96	≤20
3625.005	10	10.06	10.8	10.95	10.05	19.97	≤20
3694.290	10	10.98	10.06	10.06	10.07	19.79	≤20
256QAM							
3555.720	10	10.55	10.07	10.07	10.06	19.67	≤20
3625.005	10	10.00	10.60	10.00	10.07	19.65	≤20
3694.290	10	10.01	10.08	10.07	10.72	19.71	≤20

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Frequency (MHz)	Channel BW (MHz)	Power Density (dBm/MHz)				EIRP Density (dBm/MHz)	Limit (dBm/MHz)
		Ant 1	Ant 2	Ant 3	Ant 4		
QPSK							
3560.010	20	10.05	10.07	10.02	10.01	19.52	≤20
3625.005	20	10.48	10.07	10.92	10.18	19.91	≤20
3690.000	20	10.83	10.31	10.81	10.06	19.98	≤20
16QAM							
3560.010	20	10.12	10.00	10.38	9.99	19.61	≤20
3625.005	20	10.21	10.86	10.07	10.04	19.79	≤20
3690.000	20	10.02	10.00	10.45	10.06	19.62	≤20
64QAM							
3560.010	20	10.08	10.10	10.03	10.08	19.55	≤20
3625.005	20	10.32	10.06	10.00	10.03	19.58	≤20
3690.000	20	10.05	10.22	10.68	10.95	19.97	≤20
256QAM							
3560.010	20	10.50	10.05	10.18	10.88	19.89	≤20
3625.005	20	10.32	10.36	10.59	10.19	19.85	≤20
3690.000	20	10.77	10.26	10.08	10.79	19.97	≤20

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Frequency (MHz)	Channel BW (MHz)	Power Density (dBm/MHz)				EIRP Density (dBm/MHz)	Limit (dBm/MHz)
		Ant 1	Ant 2	Ant 3	Ant 4		
QPSK							
3570.240	40	8.18	7.81	7.43	8.64	17.52	≤20
3625.005	40	8.59	7.99	8.01	7.61	17.54	≤20
3679.755	40	7.90	7.74	7.50	8.26	17.34	≤20
16QAM							
3570.240	40	8.13	8.04	7.43	8.36	17.48	≤20
3625.005	40	8.47	7.99	8.20	7.75	17.59	≤20
3679.755	40	7.91	7.50	7.35	8.15	17.22	≤20
64QAM							
3570.240	40	7.50	8.20	7.52	8.24	17.36	≤20
3625.005	40	8.48	7.82	8.84	7.83	17.74	≤20
3679.755	40	8.11	7.98	7.44	8.17	17.41	≤20
256QAM							
3570.240	40	8.19	8.27	7.70	8.68	17.70	≤20
3625.005	40	8.46	7.99	8.36	8.03	17.69	≤20
3679.755	40	7.91	8.32	7.79	8.62	17.65	≤20

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Frequency (MHz)	Channel BW (MHz)	Power Density (dBm/MHz)				EIRP Density (dBm/MHz)	Limit (dBm/MHz)
		Ant 1	Ant 2	Ant 3	Ant 4		
QPSK							
3590.025	80	5.00	5.13	5.07	5.12	14.56	≤20
3625.005	80	4.84	5.15	5.06	4.89	14.47	≤20
3660.000	80	5.11	5.02	5.20	4.79	14.51	≤20
16QAM							
3590.025	80	5.02	5.37	4.90	5.20	14.61	≤20
3625.005	80	4.90	4.98	4.99	4.49	14.32	≤20
3660.000	80	5.02	5.01	5.27	5.17	14.60	≤20
64QAM							
3590.025	80	5.06	5.32	5.06	4.82	14.55	≤20
3625.005	80	5.29	5.13	5.03	4.85	14.56	≤20
3660.000	80	4.91	4.99	5.24	5.37	14.61	≤20
256QAM							
3590.025	80	5.20	5.22	4.85	5.13	14.58	≤20
3625.005	80	4.97	5.03	4.97	4.94	14.46	≤20
3660.000	80	5.41	4.86	5.16	5.33	14.67	≤20

Frequency (MHz)	Channel BW (MHz)	Power Density (dBm/MHz)				EIRP Density (dBm/MHz)	Limit (dBm/MHz)
		Ant 1	Ant 2	Ant 3	Ant 4		
QPSK							
3600.255	100	4.39	3.89	3.85	3.90	13.49	≤20
3625.005	100	4.42	4.01	4.25	3.85	13.62	≤20
3649.755	100	4.66	4.03	4.31	3.75	13.68	≤20
16QAM							
3600.255	100	4.39	3.92	3.95	3.96	13.54	≤20
3625.005	100	4.22	4.11	4.19	3.73	13.55	≤20
3649.755	100	4.25	4.20	3.84	3.57	13.45	≤20
64QAM							
3600.255	100	4.28	3.79	3.92	3.95	13.47	≤20
3625.005	100	4.62	4.27	4.53	3.57	13.75	≤20
3649.755	100	4.53	3.32	4.18	3.54	13.40	≤20
256QAM							
3600.255	100	4.38	3.87	3.90	3.96	13.51	≤20
3625.005	100	4.27	4.06	4.52	3.49	13.58	≤20
3649.755	100	4.62	3.93	3.99	3.60	13.53	≤20

Note 1: Total Power Density (dBm/MHz) = $10 \cdot \log \{ 10^{\frac{\text{ANT 1 Power (dBm/MHz)}}{10}} + 10^{\frac{\text{ANT 2 Power (dBm/MHz)}}{10}} + 10^{\frac{\text{ANT 3 Power (dBm/MHz)}}{10}} + 10^{\frac{\text{ANT 4 Power (dBm/MHz)}}{10}} \}$ (dBm/MHz).

Note 2: EIRP Density (dBm/MHz) = Total Power Density (dBm/MHz) + Antenna Gain (dBi).

Observations:- Observed EIRP of the submitted devices are within the limits See table 5.1.4. As per the observations the device meets the FCC requirements.

1.11 FREQUENCY STABILITY MEASUREMENT

1.11.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

1.11.2 TEST PROCEDURE

Frequency Stability Under Temperature Variations:

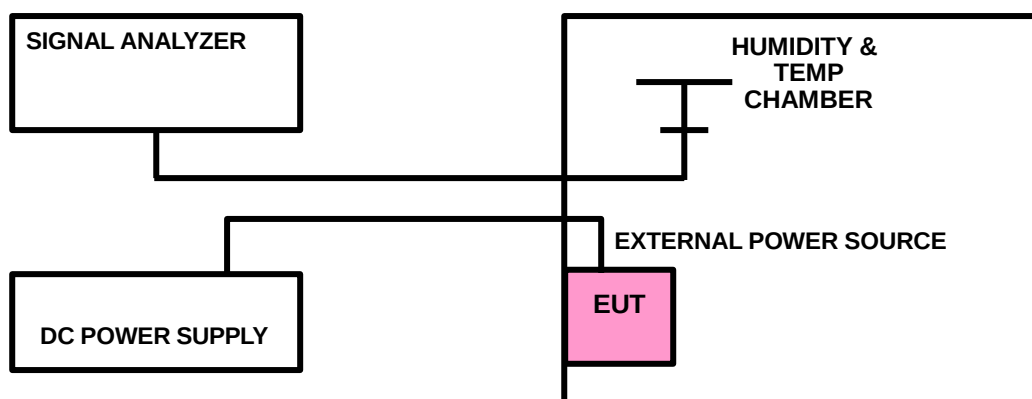
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

1.11.3 Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ($\pm 20\%$) and endpoint (If a product is specified to Operate over a range of input voltage then the -20% variation is applied to the lowermost voltage And the $+20\%$ is applied to the uppermost voltage), record the maximum frequency change.
NOTE: The frequency error was recorded frequency error from the communication simulator.

1.11.4 TEST SETUP



1.11.5 TEST RESULTS

Frequency Error vs. Temperature

Temperature (in deg C)	Channel_1			Channel_2			Channel_3			Channel_4		
	DC	DC	DC	DC		DC		DC	DC		DC	
	I/P :10 V	I/P :12 V	I/P :14 V	I/P :10 V	DC I/P :12V	I/P :14 V	DC I/P :10V	I/P :12 V	I/P :14 V	DC I/P :10V	I/P :12 V	DC I/P :14V
-20	-9.91	10.3	-12.16	-13.7	-16.6	-18.14	-19.06	-6.37	-3.78	-11.77	-1.62	16.57
-10	4.63	1.23	-6.59	5.96	-2.77	4.3	0.6161	-7.45	5.49	-4.59	1.49	-0.2546
10	-4.62	-5.07	-6.68	-1.88	-6.9	-7.4	-7.02	-9.36	-3.32	-2.82	4.86	-8.21
20	-2.7	3.69	-3.01	-0.585	-9.58	-1.01	-11.66	-14.29	0.3022	-12.33	-1.77	-6.83
30	-13.49	-7.82	-6.33	-5.51	-6.94	0.3647	-6.83	-7.82	0.0687	-7.56	-13.73	-7.84
40	3.53	-4.45	0.9939	0.9505	-0.6436	-11.29	-3.91	0.0421	1.91	-3.99	-1.97	-9.78
50	-11.73	-6.23	-11.51	-7.54	-11.99	-7.72	1.17	-6.9	-1.41	-1.76	-9.77	0.1605
55	-2.5	-6.18	0.4416	-10.43	-3.69	-6.25	-1.16	-8.46	-5.43	-0.9353	3.93	0.1825
All the mentioned values in this table are in Hz only.As per spec Freq Error should be +/- 0.1ppm . It is equal to +/-362Hz.All the values are within the range only.												

Note:- Testing is carried out in all possible configuration , only worst case data reported. This unit meets the FCC requirement.

1.12 OCCUPIED BANDWIDTH MEASUREMENT

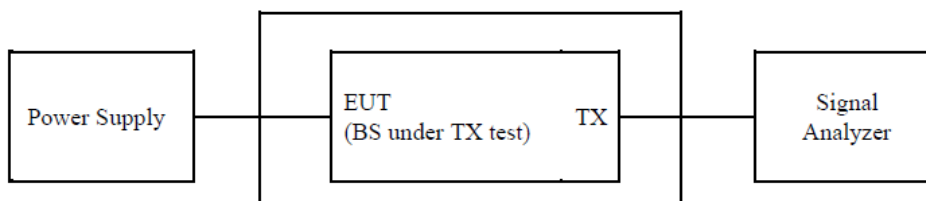
1.12.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

1.12.2 TEST PROCEDURE

1. Set center frequency to the nominal EUT channel center frequency;
2. RBW = The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW;
3. VBW $\geq 3 \times$ RBW;
4. Detector = Peak;
5. Trace mode = max hold;
6. Sweep = auto couple;
7. Allow the trace to stabilize;
8. 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 26 dB below the reference level

1.12.3 TEST SETUP



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1.12.4 TEST RESULTS

Bandwidth: 10MHz

Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
ANT1			
3555.72	10	10.89	9.37
3625.005	10	10.91	9.38
3694.29	10	10.86	9.36
ANT2			
3555.72	10	10.89	9.38
3625.005	10	10.89	9.37
3694.29	10	10.87	9.36
ANT3			
3555.72	10	10.89	9.37
3625.005	10	10.89	9.37
3694.29	10	10.87	9.37
ANT4			
3555.72	10	10.89	9.37
3625.005	10	10.89	9.37
3694.29	10	10.88	9.36
Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
16QAM			
ANT1			
3555.72	10	10.75	9.2
3625.005	10	10.74	9.21
3694.29	10	10.75	9.18
ANT2			
3555.72	10	10.75	9.21
3625.005	10	10.75	9.21
3694.29	10	10.75	9.19
ANT3			
3555.72	10	10.74	9.2
3625.005	10	10.75	9.21
3694.29	10	10.75	9.19
ANT4			
3555.72	10	10.75	9.2
3625.005	10	10.75	9.2
3694.29	10	10.75	9.19

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Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
64QAM			
ANT1			
3555.72	10	10.89	9.38
3625.005	10	10.89	9.38
3694.29	10	10.87	9.36
ANT2			
3555.72	10	10.89	9.38
3625.005	10	10.89	9.38
3694.29	10	10.87	9.37
ANT3			
3555.72	10	10.89	9.37
3625.005	10	10.89	9.38
3694.29	10	10.87	9.37
ANT4			
3555.72	10	10.89	9.37
3625.005	10	10.89	9.38
3694.29	10	10.87	9.36

Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
256QAM			
ANT1			
3555.72	10	10.89	9.37
3625.005	10	10.89	9.37
3694.29	10	10.86	9.36
ANT2			
3555.72	10	10.89	9.38
3625.005	10	10.89	9.37
3694.29	10	10.87	9.36
ANT3			
3555.72	10	10.89	9.37
3625.005	10	10.89	9.37
3694.29	10	10.87	9.36
ANT4			
3555.72	10	10.89	9.37
3625.005	10	10.88	9.37
3694.29	10	10.87	9.36

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Bandwidth: 20MHz

Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
ANT1			
3560.01	20	20.60	18.727
3625.005	20	20.61	18.723
3690	20	20.59	18.703
ANT2			
3560.01	20	20.61	18.726
3625.005	20	20.61	18.727
3690	20	20.58	18.699
ANT3			
3560.01	20	20.60	18.728
3625.005	20	20.61	18.727
3690	20	20.57	18.684
ANT4			
3560.01	20	20.57	18.834
3625.005	20	20.61	18.724
3690	20	20.59	18.701

Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
16QAM			
ANT1			
3560.01	20	20.56	18.820
3625.005	20	20.57	18.833
3690	20	20.56	18.819
ANT2			
3560.01	20	20.56	18.821
3625.005	20	20.57	18.834
3690	20	20.56	18.817
ANT3			
3560.01	20	20.57	18.842
3625.005	20	20.57	18.834
3690	20	20.55	18.800
ANT4			
3560.01	20	20.57	18.834
3625.005	20	20.57	18.834
3690	20	20.56	18.819

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Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
64QAM			
ANT1			
3560.01	20	20.56	18.726
3625.005	20	20.61	18.720
3690	20	20.60	18.708
ANT2			
3560.01	20	20.62	18.750
3625.005	20	20.60	18.719
3690	20	20.59	18.705
ANT3			
3560.01	20	20.60	18.726
3625.005	20	20.61	18.721
3690	20	20.58	18.690
ANT4			
3560.01	20	20.61	18.738
3625.005	20	20.60	18.717
3690	20	20.59	18.706

Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
256QAM			
ANT1			
3560.01	20	20.61	18.739
3625.005	20	20.61	18.722
3690	20	20.60	18.727
ANT2			
3560.01	20	20.61	18.723
3625.005	20	20.60	18.722
3690	20	20.59	18.720
ANT3			
3560.01	20	20.60	18.740
3625.005	20	20.62	18.747
3690	20	20.58	18.703
ANT4			
3560.01	20	20.62	18.752
3625.005	20	20.61	18.743
3690	20	20.60	18.723

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Bandwidth: 40MHz

Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
ANT1			
3570.24	40	40.41	38.067
3625.005	40	40.42	38.077
3679.755	40	40.36	37.954
ANT2			
3570.24	40	40.40	38.085
3625.005	40	40.42	38.077
3679.755	40	40.38	38.018
ANT3			
3570.24	40	40.40	38.053
3625.005	40	40.42	38.069
3679.755	40	40.38	38.013
ANT4			
3570.24	40	40.41	38.079
3625.005	40	40.40	38.057
3679.755	40	40.37	37.992

Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
16QAM			
ANT1			
3570.24	40	40.35	38.213
3625.005	40	40.36	38.221
3679.755	40	40.31	38.138
ANT2			
3570.24	40	40.35	38.227
3625.005	40	40.36	38.222
3679.755	40	40.33	38.174
ANT3			
3570.24	40	40.34	38.198
3625.005	40	40.36	38.212
3679.755	40	40.32	38.162
ANT4			
3570.24	40	40.35	38.225
3625.005	40	40.35	38.201
3679.755	40	40.31	38.133

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Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
16QAM			
ANT1			
3570.24	40	40.35	38.213
3625.005	40	40.36	38.221
3679.755	40	40.31	38.138
ANT2			
3570.24	40	40.35	38.227
3625.005	40	40.36	38.222
3679.755	40	40.33	38.174
ANT3			
3570.24	40	40.34	38.198
3625.005	40	40.36	38.212
3679.755	40	40.32	38.162
ANT4			
3570.24	40	40.35	38.225
3625.005	40	40.35	38.201
3679.755	40	40.31	38.133

Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
256QAM			
ANT1			
3570.24	40	40.42	38.083
3625.005	40	40.42	38.082
3679.755	40	40.36	37.952
ANT2			
3570.24	40	40.40	38.081
3625.005	40	40.41	38.079
3679.755	40	40.38	38.015
ANT3			
3570.24	40	40.39	38.055
3625.005	40	40.42	38.069
3679.755	40	40.38	38.009
ANT4			
3570.24	40	40.41	38.072
3625.005	40	40.41	38.058
3679.755	40	40.37	37.988

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Bandwidth: 80MHz

Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
ANT1			
3590.025	80	80.34	77.344
3625.005	80	80.39	77.444
3660	80	80.37	77.338
ANT2			
3590.025	80	80.36	77.382
3625.005	80	80.39	77.459
3660	80	80.36	77.261
ANT3			
3590.025	80	80.35	77.381
3625.005	80	80.39	77.435
3660	80	80.39	77.435
ANT4			
3590.025	80	80.35	77.377
3625.005	80	80.38	77.445
3660	80	80.38	77.375

Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
16QAM			
ANT1			
3590.025	80	80.30	77.560
3625.005	80	80.32	77.632
3660	80	80.30	77.562
ANT2			
3590.025	80	80.31	77.606
3625.005	80	80.31	77.647
3660	80	80.30	77.560
ANT3			
3590.025	80	80.30	77.580
3625.005	80	80.31	77.625
3660	80	77.503	80.29
ANT4			
3590.025	80	80.31	77.593
3625.005	80	80.31	77.609
3660	80	80.19	77.496

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Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
64QAM			
ANT1			
3590.025	80	80.35	77.344
3625.005	80	80.38	77.477
3660	80	80.37	77.370
ANT2			
3590.025	80	80.38	77.405
3625.005	80	80.38	77.488
3660	80	80.36	77.331
ANT3			
3590.025	80	80.36	77.376
3625.005	80	80.38	77.478
3660	80	80.35	77.255
ANT4			
3590.025	80	80.36	77.383
3625.005	80	80.36	77.451
3660	80	80.36	77.341

Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
256QAM			
ANT1			
3590.025	80	80.35	77.346
3625.005	80	80.38	77.437
3660	80	80.38	77.353
ANT2			
3590.025	80	80.37	77.387
3625.005	80	80.38	77.449
3660	80	80.38	77.328
ANT3			
3590.025	80	80.36	77.376
3625.005	80	80.38	77.433
3660	80	80.36	77.245
ANT4			
3590.025	80	80.35	77.385
3625.005	80	80.37	77.407
3660	80	80.36	77.333

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Bandwidth: 100MHz

Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
ANT1			
3600.255	100	100.6	97.29
3625.005	100	100.6	97.31
3649.755	100	100.5	97.124
ANT2			
3600.255	100	100.5	97.26
3625.005	100	100.5	97.29
3649.755	100	100.5	97.224
ANT3			
3600.255	100	100.5	97.24
3625.005	100	100.6	97.32
3649.755	100	100.5	97.223
ANT4			
3600.255	100	100.5	97.28
3625.005	100	100.5	97.29
3649.755	100	100.5	97.217

Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
16QAM			
ANT1			
3600.255	100	100.5	97.38
3625.005	100	100.5	97.37
3649.755	100	100.4	97.111
ANT2			
3600.255	100	100.4	97.34
3625.005	100	100.5	97.35
3649.755	100	100.4	97.247
ANT3			
3600.255	100	100.4	97.34
3625.005	100	100.5	97.38
3649.755	100	100.4	97.234
ANT4			
3600.255	100	100.4	97.34
3625.005	100	100.4	97.35
3649.755	100	100.4	97.203

Report No.: AAEMT/RF/241224-01-01

Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
64QAM			
ANT1			
3600.255	100	100.6	97.3
3625.005	100	100.6	97.34
3649.755	100	100.5	97.132
ANT2			
3600.255	100	100.5	97.27
3625.005	100	100.6	97.28
3649.755	100	100.5	97.228
ANT3			
3600.255	100	100.5	97.27
3625.005	100	100.6	97.31
3649.755	100	100.5	97.239
ANT4			
3600.255	100	100.5	97.3
3625.005	100	100.5	97.28
3649.755	100	100.5	97.209
Frequency (MHz)	Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
256QAM			
ANT1			
3600.255	100	100.6	97.3
3625.005	100	100.6	97.33
3649.755	100	100.5	97.135
ANT2			
3600.255	100	100.5	97.28
3625.005	100	100.5	97.29
3649.755	100	100.5	97.235
ANT3			
3600.255	100	100.5	97.28
3625.005	100	100.6	97.32
3649.755	100	100.5	97.24
ANT4			
3600.255	100	100.6	97.3
3625.005	100	100.5	97.29
3649.755	100	100.5	97.224

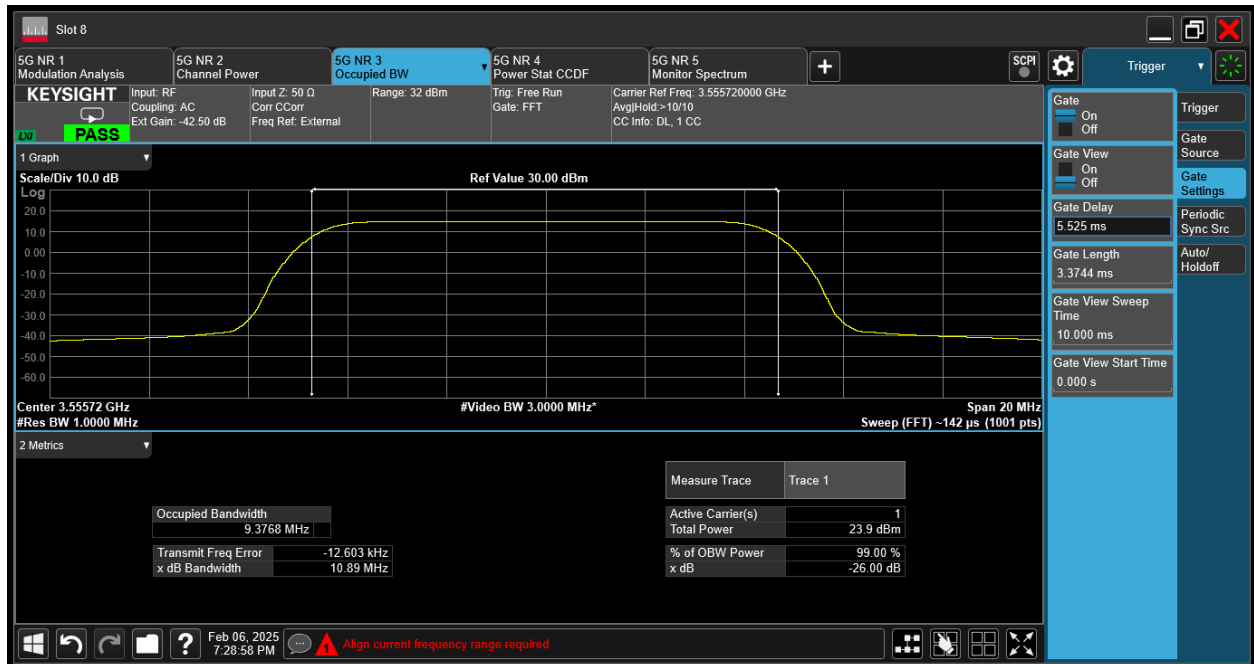
Observations:- Observed Occupied Bandwidth of the submitted devices are within the limits See table 5.3.4. As per the observations the device meets the FCC requirements.

Report No.: AAEMT/RF/241224-01-01

10MHz @3555.72MHz

ANT1:

QPSK



16QAM



Report No.: AAEMT/RF/241224-01-01
64QAM



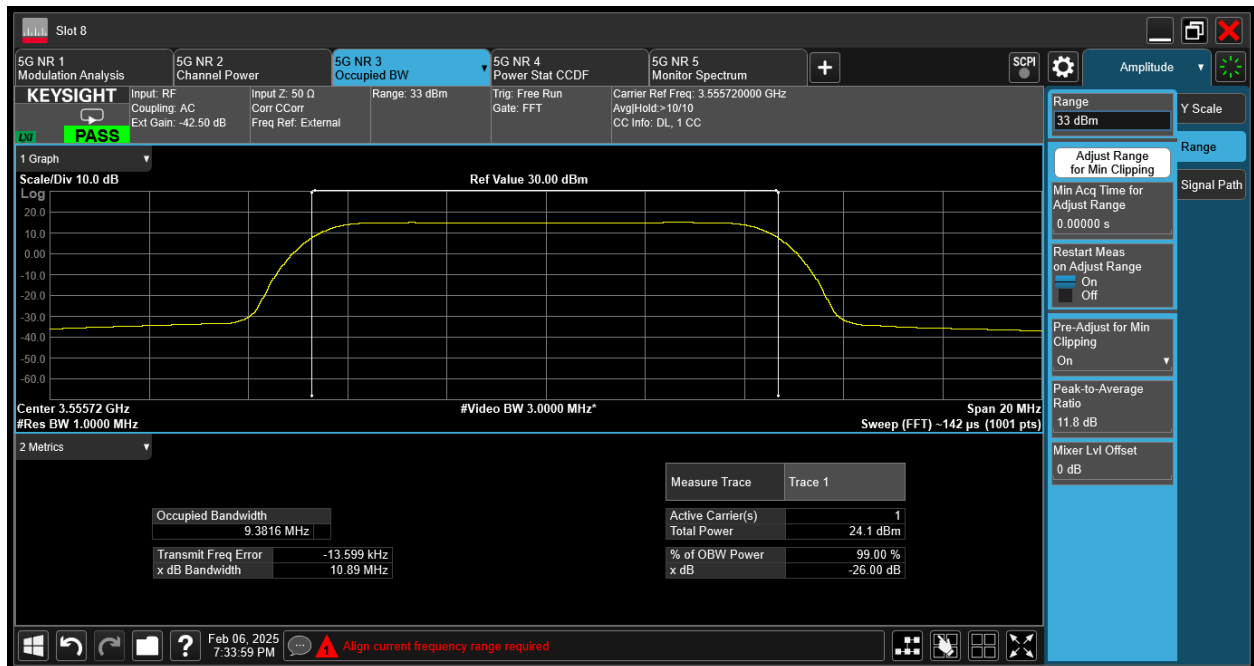
256QAM



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ANT2:

QPSK



16QAM



Report No.: AAEMT/RF/241224-01-01
64QAM

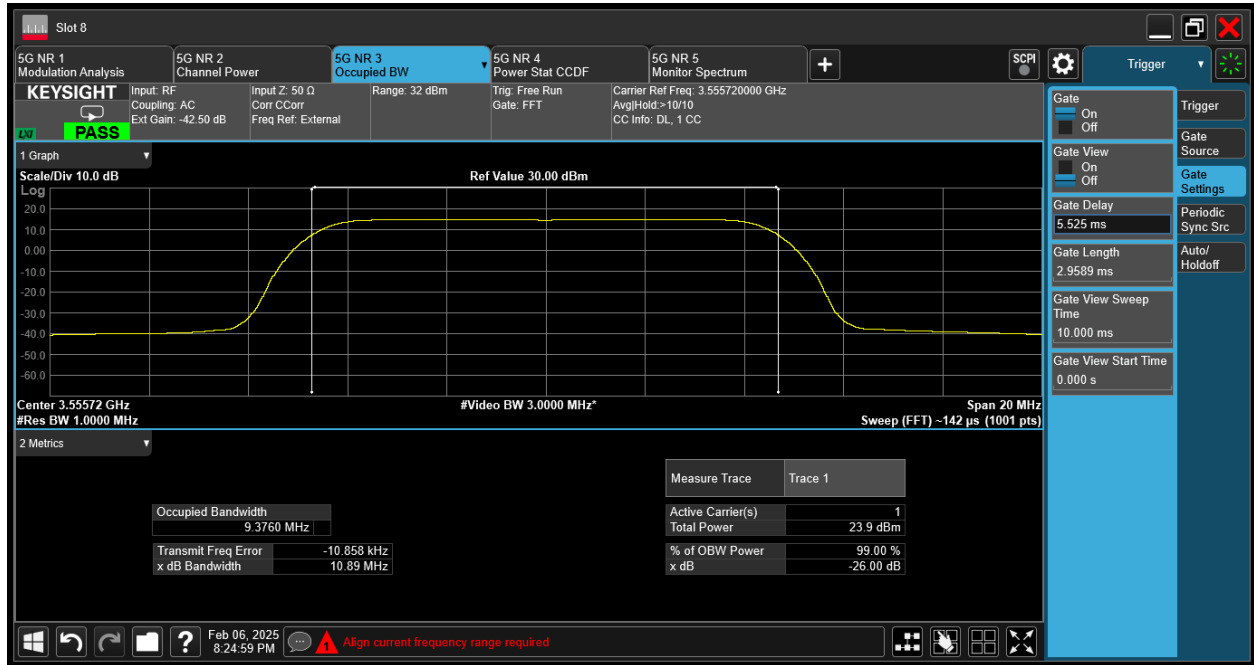


256QAM



Report No.: AAEMT/RF/241224-01-01

ANT3: QPSK



16QAM



Report No.: AAEMT/RF/241224-01-01

64QAM



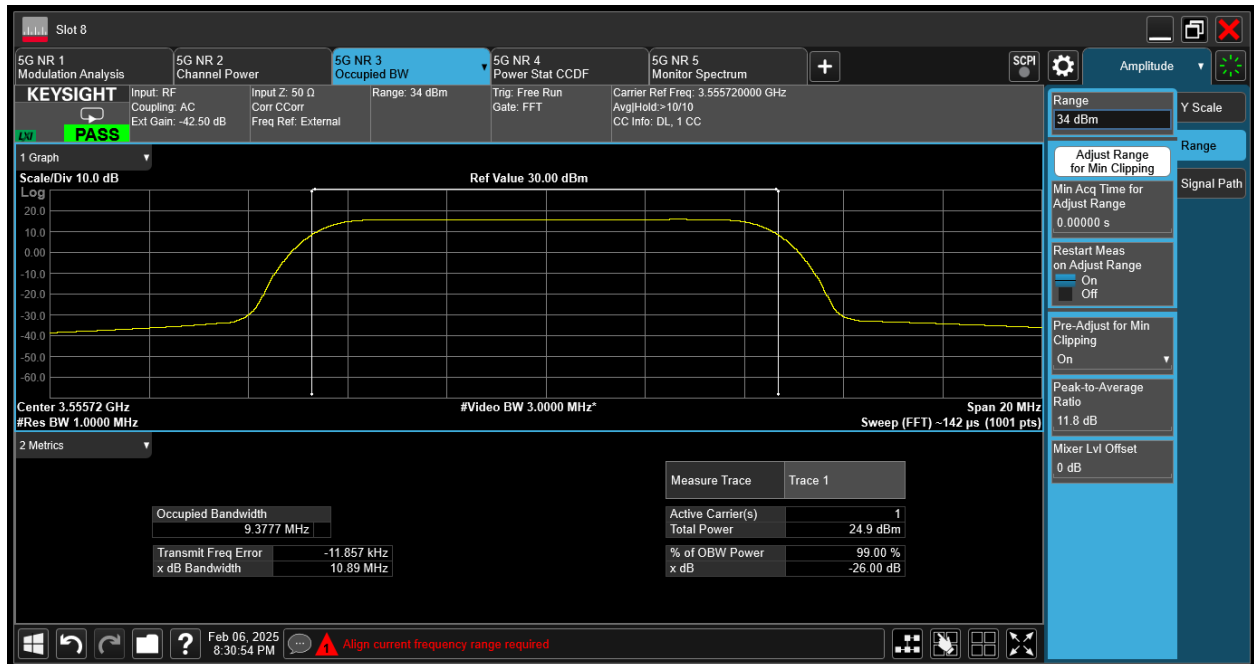
256QAM



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ANT4:

QPSK



16QAM



Report No.: AAEMT/RF/241224-01-01

64QAM



256QAM

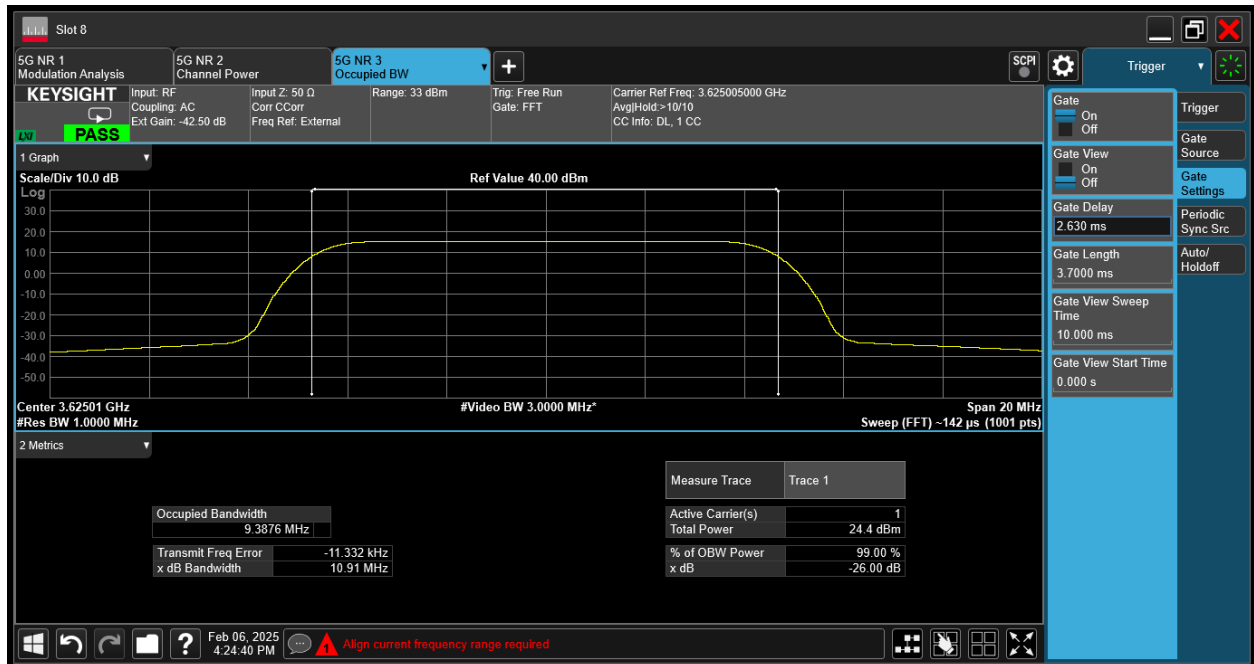


Report No.: AAEMT/RF/241224-01-01

10MHz @3625.005MHz

ANT1:

QPSK



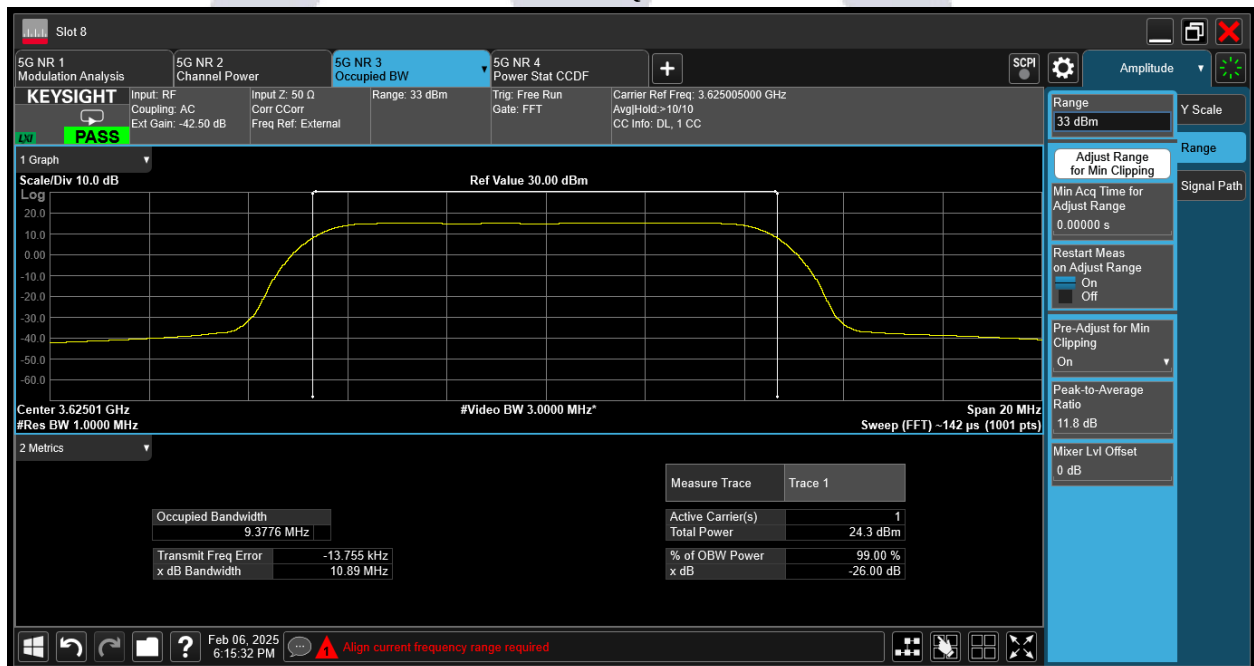
16QAM



Report No.: AAEMT/RF/241224-01-01
64QAM



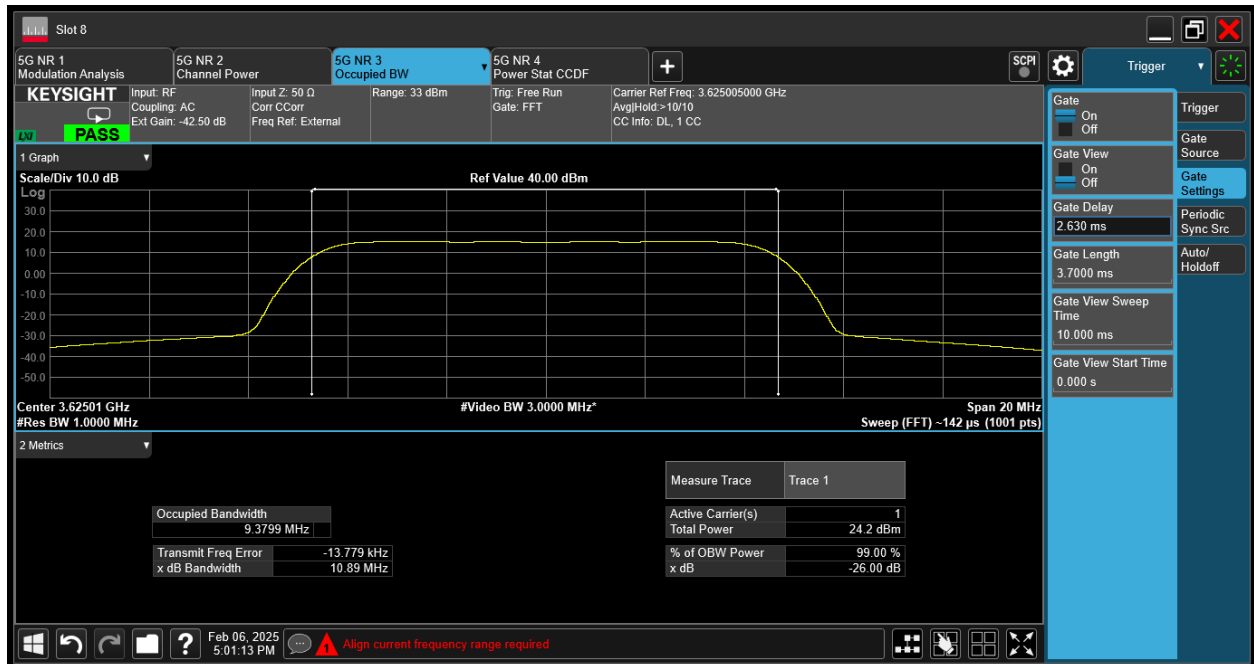
256QAM



Report No.: AAEMT/RF/241224-01-01

ANT2:

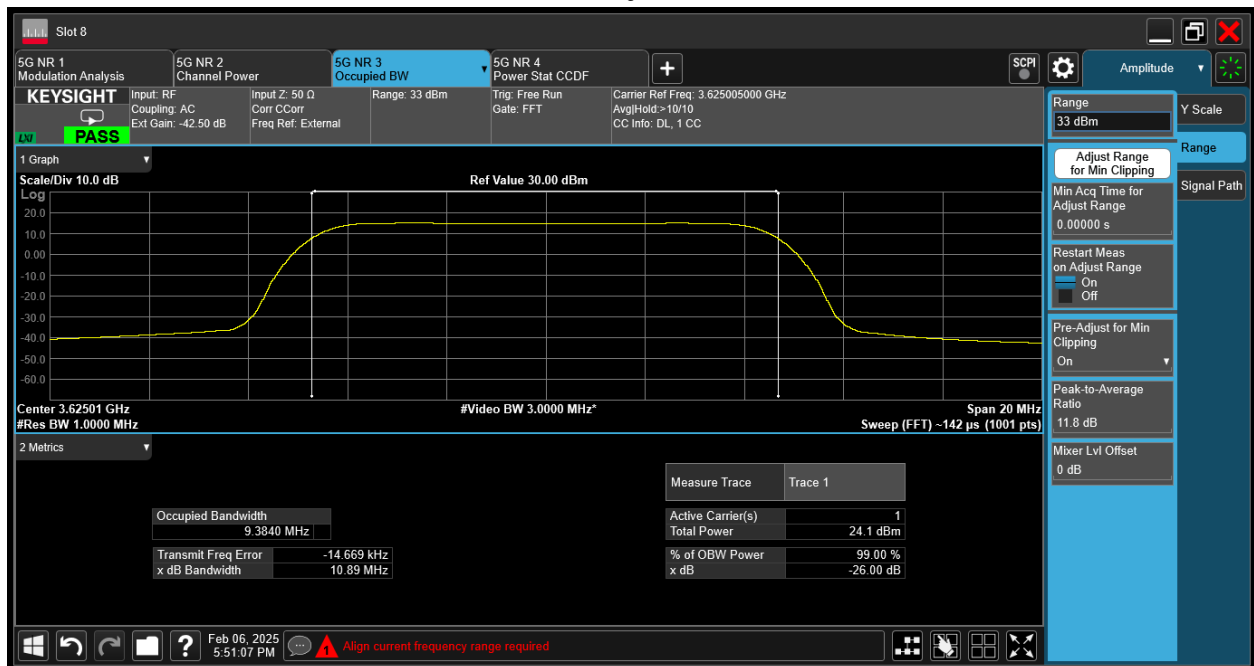
QPSK



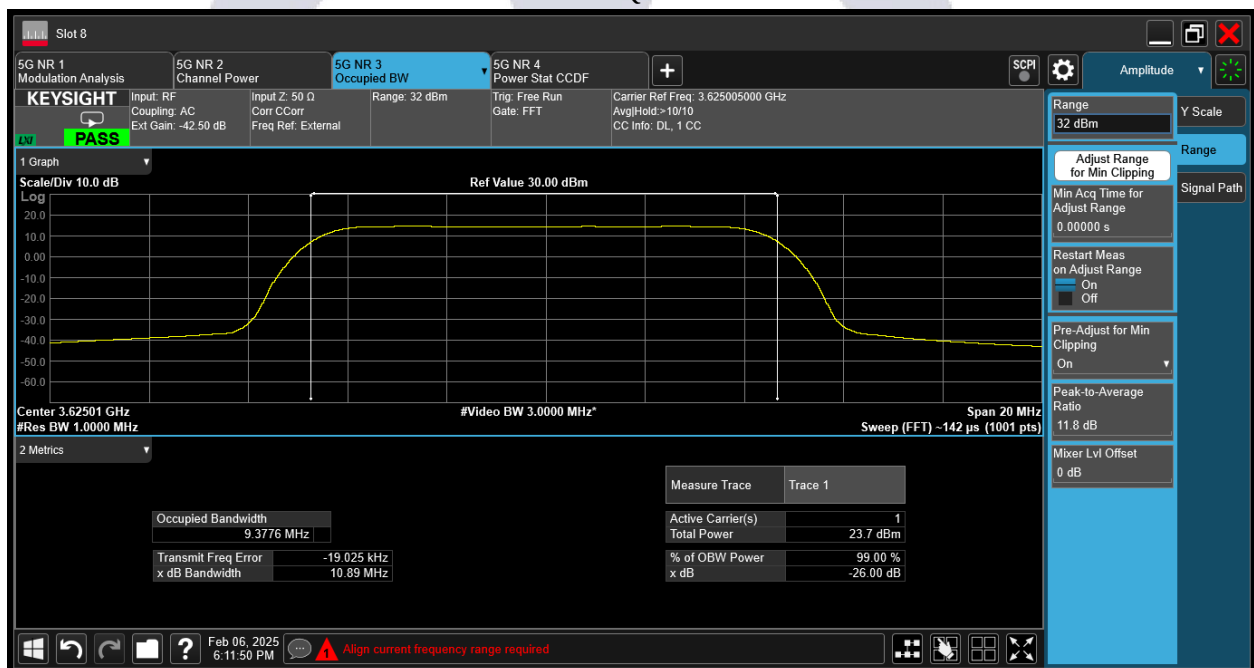
16QAM



Report No.: AAEMT/RF/241224-01-01
64QAM



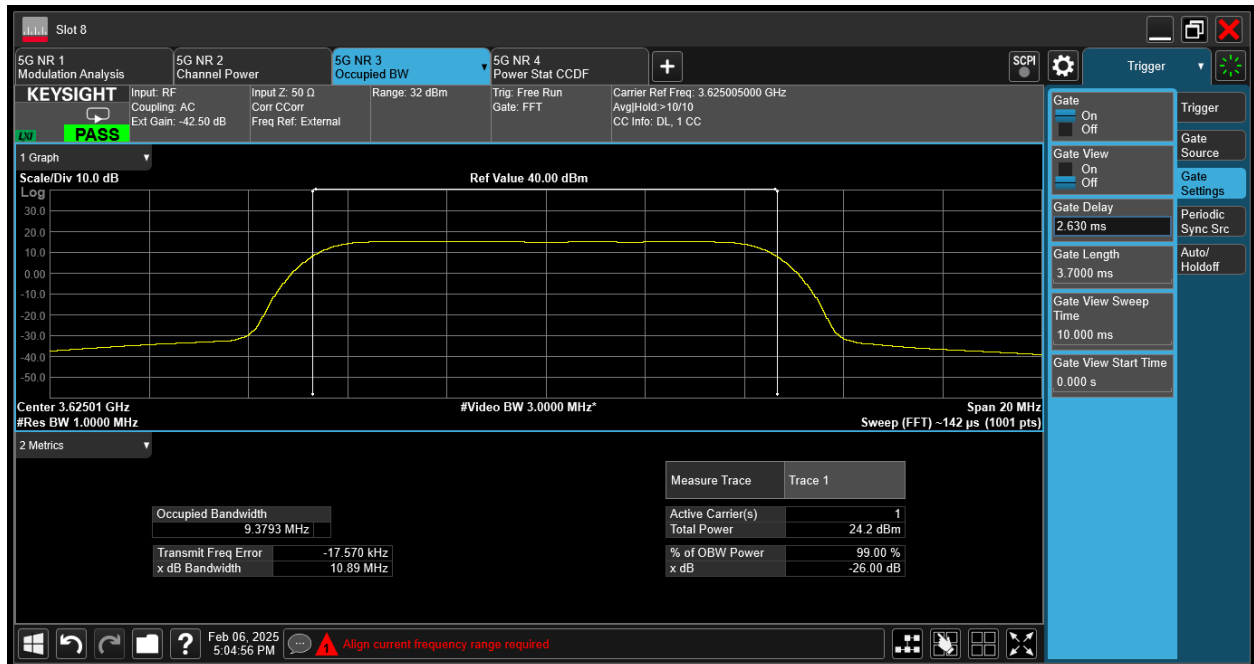
256QAM



Report No.: AAEMT/RF/241224-01-01

ANT3:

QPSK



16QAM



Report No.: AAEMT/RF/241224-01-01
64QAM



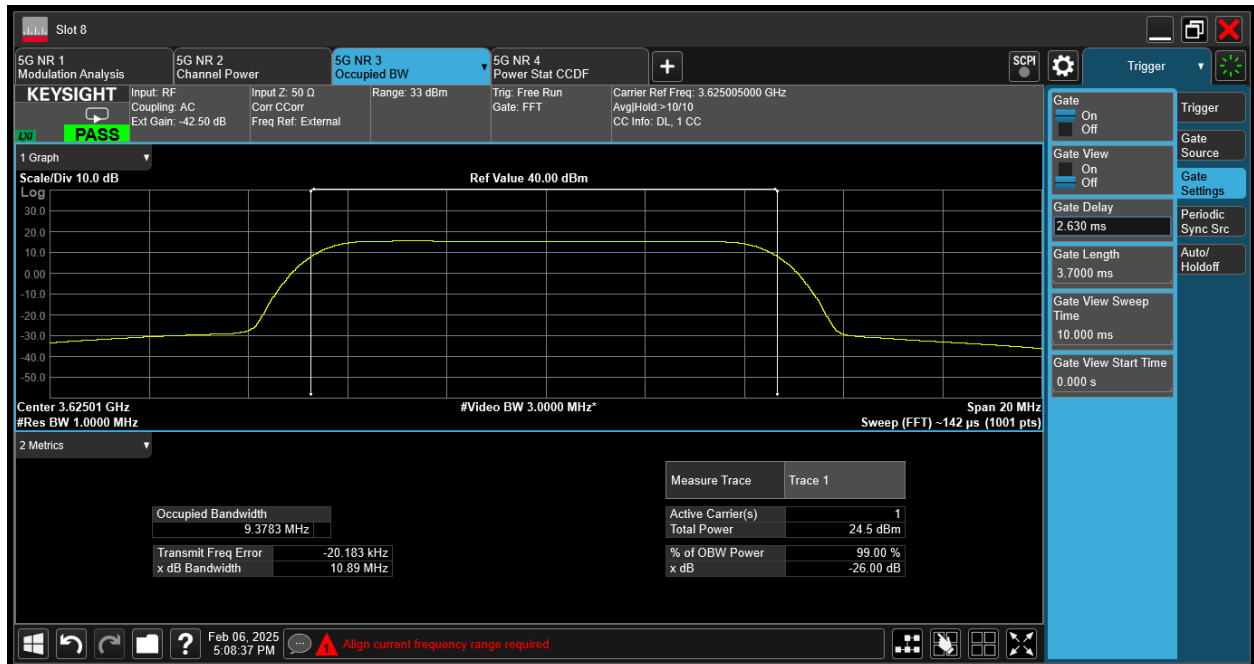
256QAM



Report No.: AAEMT/RF/241224-01-01

ANT4:

QPSK



16QAM



Report No.: AAEMT/RF/241224-01-01
64QAM



256QAM

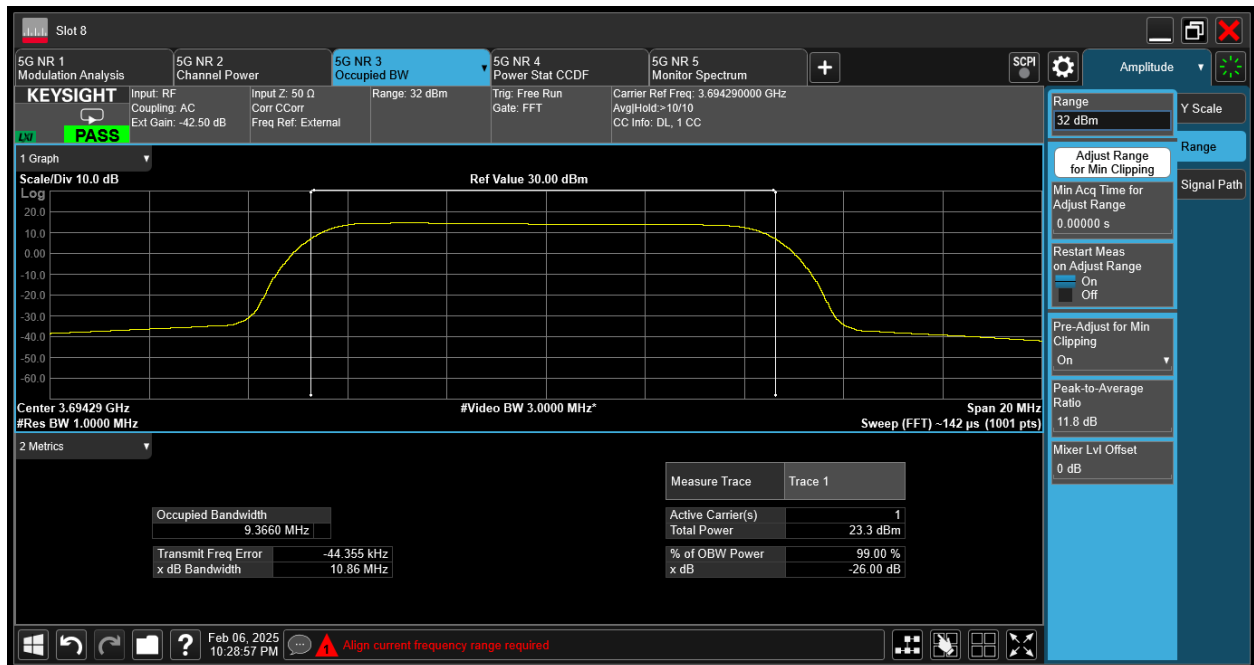


Report No.: AAEMT/RF/241224-01-01

10MHz @3694.29MHz

ANT1:

QPSK



16QAM



Report No.: AAEMT/RF/241224-01-01
64QAM



256QAM



Report No.: AAEMT/RF/241224-01-01

ANT2:

QPSK



16QAM

