

ELECTROMAGNETIC EMISSIONS  
COMPLIANCE REPORT

**FCC Applicant:** Murata Electronics North America  
2200 Lake Park Dr #7604, Smyrna, GA 30080 USA

**FCC Manufacturer:** Murata Electronics North America  
2200 Lake Park Dr #7604, Smyrna, GA 30080 USA

**Product Name:** Type 1SC

**Brand Name:** Murata

**Model No.:** LBAD0XX1SC-DM

**Report Number:** TERF2406001815E2

**FCC ID** HSW-TY1SCDM

**Date of EUT Received:** June 25, 2024

**Date of Test:** August 22, 2024 ~ August 30, 2024

**Issue Date:** September 25, 2024

Arno Hsieh

Approved By

Arno Hsieh

**We hereby certify that:**

The above equipment was tested by SGS Taiwan Ltd. Central RF Lab. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.26-2015 and the energy emitted by the sample EUT comply with FCC rule part 2, 25.

The results of this report relate only to the sample identified in this report.

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## Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TERF2406001815E2	00	C2PC for adding Satellite Band 23, NTN Band 255, Band 256	September 13, 2024	Yuri Tsai	
TERF2406001815E2	01	Update section 1.4	September 25, 2024	Yuri Tsai	

**Note:**

- The remark "" indicates modification of the report upon requests from certification body.

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## 1 GENERAL PRODUCT INFORMATION

### 1.1 Product Description

Product Name:	Type 1SC
Brand Name:	Murata
Model No.:	LBAD0XX1SC-DM
Hardware Version:	ES2
Firmware Version:	RK_03_02_00_00_41841_001
EUT Series No.:	N/A
Power Supply:	3.6Vdc
Test Software (Name/Version)	default(Link Call Box)

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## 1.2 Frequency Range

Band	SCS (kHz)	Operation Frequency (MHz)
23	3.75	2000.1 - 2019.9
	15	

Band	SCS (KHz)	Operation Frequency (MHz)
255	3.75	1626.7 - 1659.9
	15	1626.7 - 1659.9

Band	SCS (kHz)	Operation Frequency (MHz)
256	3.75	2000.1 - 2009.9
	15	

## 1.3 Antenna Designation

NTN Bands	Conducted Average Power (dBm/4K)	EIRP Limit (dBm/4K)	Allowable Gain (dBi)
23	7.35	70	62.65
255	7.21	70	62.79
256	7.21	70	62.79

**Note:** Antenna information is provided by the applicant.

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1.4 Type of Emission & Max ERP/EIRP Power Measurement Result:

NTN Band 23 : 2000.1 ~ 2019.9 MHz				
Subcarrier Spacing (kHz)	Frequency Range (MHz)	Modulation	Conducted Average Power (W)	Type of Emission (99% OBW)
3.75	2000.1 ~ 2019.9	BPSK	0.2443	40KG1D
15	2000.1 ~ 2019.9	BPSK	0.2275	188KG1D

NTN Band n255 : 1626.7 ~ 1659.9 MHz				
Subcarrier Spacing (kHz)	Frequency Range (MHz)	Modulation	Conducted Average Power (W)	Type of Emission (99% OBW)
3.75	1626.7 ~ 1659.9	BPSK	0.2366	41KG1D
15	1626.7 ~ 1659.9	BPSK	0.2339	188KG1D

NTN Band n256 : 2000.1 ~ 2009.9 MHz				
Subcarrier Spacing (kHz)	Frequency Range (MHz)	Modulation	Conducted Average Power (W)	Type of Emission (99% OBW)
3.75	2000.1 ~ 2009.9	BPSK	0.2366	40KG1D
15	2000.1 ~ 2009.9	BPSK	0.2183	189KG1D

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### 1.5 Test Methodology of Applied Standards

FCC 47 CFR Part 2 and Part 25  
ANSI C63.26-2015  
KDB 971168 D01 Power Meas license Digital System v03r01  
KDB 971168 D02 Misc Rev Approv License Devices v02r02  
KDB 412172 D01 Determining ERP and EIRP v01r01

### 1.6 Test Facility

Laboratory	Test Site Address	Test Site Name	FCC Designation number	IC CAB identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan.	SAC 1	TW0027	TW3702
		SAC 2		
		SAC 3		
		Conduction 1		
		Conducted 1		
		Conducted 2		
		Conducted 3		
		Conducted 4		
		Conducted 5		
	Conducted 6			
	No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333	Conduction C	TW0028	
		SAC C		
		SAC D		
		SAC G		
		Conducted A		
		Conducted B		
		Conducted C		
		Conducted D		
		Conducted E		
Conducted F				
Conducted G				

**Note:** Test site name is remarked on the equipment list in each section of this report as an indication where measurements occurred in specific test site and address.

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### 1.7 Special Accessories

No special accessories were used during testing.

### 1.8 Equipment Modifications

There was no modifications incorporated into the EUT.

### 1.9 Radiated Emission Test Sites For Measurements From 9 kHz To 30 MHz

Radiated emission below 30MHz is measured in a 9m\*6m\*6m semi-anechoic chamber, the measurements correspond to those obtained at an open-field test site.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

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## 2 SYSTEM TEST CONFIGURATION

### 2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

### 2.2 EUT Exercise

The EUT (Transmitter) was operated in the continuous transmission mode employed with the simulator of the Base Station that fixates at test default channels to fix the Tx frequency which was for the purpose of the measurements.

### 2.3 Test Procedure

#### 2.3.1 Conducted Measurement at Antenna Port

The EUT is placed on a table which is 0.8 m above ground plane. A low loss of RF cable was used to connect the antenna port of EUT to measurement equipment.

#### 2.3.2 Radiated Emissions (ERP/EIRP)

The EUT is placed on a turn table, for emission measurements below 1 GHz is 0.8 m above ground plane, for emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both Horizontal and Vertical. In order to find out the max. emission, the relative positions of this transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.

### 2.4 Measurement Results Explanation Example

#### For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuation factor between EUT conducted port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly EUT RF output level.

#### Note:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

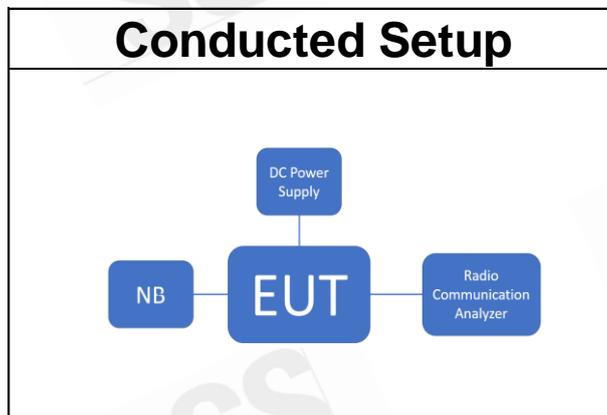
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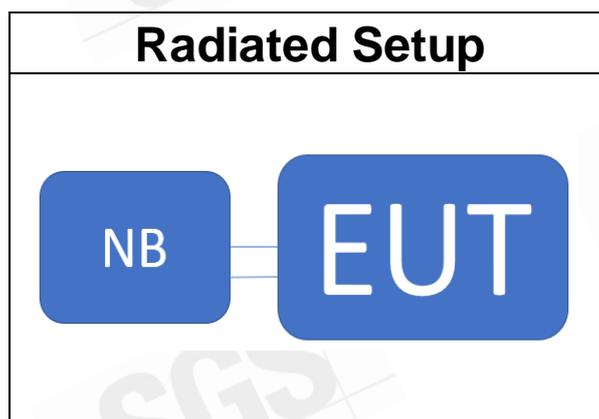
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## 2.5 Test Configuration

### 2.5.1 Conducted Emission at the Antenna Port



### 2.5.2 Radiated Emission



**Note:** Radio Communication Analyzer is placed in remote side for radiated test.

### 2.5.3 Equipment used for test

Conducted Emission Test Site: Conducted E					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Notebook	HP	HSN-Q35C-4	P0003858	N/A	N/A

Radiated Emission Test Site: SAC D					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Notebook	HP	HSN-Q35C-4	P0003860	N/A	N/A

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### 3 SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046	RF Power Output	Compliant
§25.204(a)	ERP/ EIRP measurement	Compliant
§2.1049	99% & 26dB Bandwidth	Compliant
§2.1051 §25.202 (f)(1)(2)(3)	Emission mask-Within Band	Compliant
§2.1051 §25.202(f)(3)	Out of Band Emissions	Compliant
§2.1053 §25.202(f)(3)	Field Strength of Spurious Radiation	Compliant
§25.216(c)(e)(h)	Additional Unwanted Emission	Compliant
§25.216 (i)	Carrier-Off State Emissions	Compliant
§2.1055 §25.202(d)	Frequency Stability	Compliant

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## 4 DESCRIPTION OF TEST MODES

### 4.1 The Worst Test Modes and Configuration

1. The EUT has been tested under operating condition.
2. The field strength of radiated emission was measured as the EUT positioned in different orthogonal planes (E1/E2/H) based on actual usage of the EUT to pre-scan the emissions for determining the worst case scenario.

E-UTRA Band	Test Channel	Modulation	Spacing	Resource Block Allocation	
				RBs allocated	RB Offset
23	25501 、 25600 、 25699	BPSK	3.75kHz	1	0
n255	261506 、 261672 、 261838	BPSK	3.75kHz	1	0
n256	262045 、 262094 、 262143	BPSK	3.75kHz	1	0

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## 5 MEASUREMENT UNCERTAINTY

Test Items	Uncertainty
RF Power Output	+/- 0.97 dB
Occupied bandwidth	+/- 1.38 Hz
Out of Band Emissions at Antenna Terminals and Emission mask	+/- 0.77 dB
Frequency Stability vs. Temperature	+/- 1.48 Hz
Frequency Stability vs. Voltage	+/- 1.48 Hz
Temperature	+/- 0.6 °C
Humidity	+/- 3 %
DC / AC Power Source	+/- 1 %

Radiated Spurious Emission Measurement Uncertainty			
Polarization: Vertical	+/-	1.89 dB	9kHz~30MHz
	+/-	4.15 dB	30MHz - 1000MHz
	+/-	3.43 dB	1GHz - 18GHz
	+/-	3.86 dB	18GHz - 40GHz
Polarization: Horizontal	+/-	1.89 dB	9kHz~30MHz
	+/-	4.02 dB	30MHz - 1000MHz
	+/-	3.43 dB	1GHz - 18GHz
	+/-	3.86 dB	18GHz - 40GHz
Radiated Spurious Emission	+/-	2 dB	33GHz-50GHz
	+/-	1.59 dB	50GHz-60GHz
	+/-	1.7 dB	60GHz-90GHz
	+/-	1.64 dB	90GHz-140GHz
	+/-	3.83 dB	140GHz-220GHz

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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## 6 MEASUREMENT EQUIPMENT USED

### 6.1 Conducted Measurement

Conducted Emission Test Site: Conducted E					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Attenuator	Marvelous	MVE2213-10	RF06	11/15/2023	11/14/2024
Coaxial Cables	Woken	00100A1F1A185C	RF54	11/15/2023	11/14/2024
Coaxial Cables	Woken	00100A1F2A196C	RF51	11/15/2023	11/14/2024
DC Block	PASTERNAK	PE8210	RF157	11/15/2023	11/14/2024
DC Power Supply	Gwinstek	SPD-3606	GEV923152	05/17/2024	05/16/2025
Radio Communication Analyzer	R&S	CMW500	7723	04/01/2024	03/31/2025
Spectrum Analyzer	KEYSIGHT	N9010A	MY57120200	04/03/2024	04/02/2025
Splitter	Woken	DOM35LW1A2	RF255	11/15/2023	11/14/2024
Temperature Chamber	TERCHY	MHK-120LK	1020582	06/12/2024	06/11/2025
Test Software	SGS Taiwan	Radio Test Software	Ver.21	N.C.R	N.C.R

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## 6.2 Radiated Measurement

Radiated Emission Test Site: SAC D					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Broadband Antenna	SCHWARZBECK	VULB 9168	9168-300	11/02/2023	11/01/2024
Broadband Antenna	SCHWARZBECK	VULB 9168	9168-617	12/14/2023	12/13/2024
Horn Antenna	Schwarzbeck	BBHA9170	184	12/28/2023	12/27/2024
Horn Antenna	Schwarzbeck	BBHA9170	185	08/15/2024	08/14/2025
Horn Antenna	Schwarzbeck	BBHA9120D	1187	01/24/2024	01/23/2025
Horn Antenna	Schwarzbeck	BBHA9120D	1341	05/30/2024	05/29/2025
3m Site NSA	SGS	966 chamber D	N/A	03/02/2024	03/01/2025
Spectrum Analyzer	KEYSIGHT	N9010A	MY57120290	04/10/2024	04/09/2025
Radio Communication Analyzer	R&S	CMW500	7723	04/01/2024	03/31/2025
Test Software	audix	e3	E3 20923 SGS Ver.9 (C)	N.C.R	N.C.R
Pre-Amplifier	EMC Instruments	EMC330	980096	11/15/2023	11/14/2024
Pre-Amplifier	EMC Instruments	EMC118A45SE	980789	11/15/2023	11/14/2024
Pre-Amplifier	EMC Instruments	EMC18405SEE	980881	11/15/2023	11/14/2024
Band Reject Filter	WI	WRC GV1700/2030-1640/2090	RF193	11/15/2023	11/14/2024
Highpass Filter	R&S	F13 HPF 3GHz	RF175	11/15/2023	11/14/2024
Coaxial Cable	Huber+Suhner	EMC106-SM-SM-9100	150704	11/15/2023	11/14/2024
Coaxial Cable	Huber+Suhner	SUCOFLEX 104	MY17388/4	11/15/2023	11/14/2024
Coaxial Cable	Huber+Suhner	RG 214/U	W22.03	11/15/2023	11/14/2024

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## 7 MAXIMUM OUTPUT POWER

### 7.1 Standard Applicable

According to FCC 25.204(a)

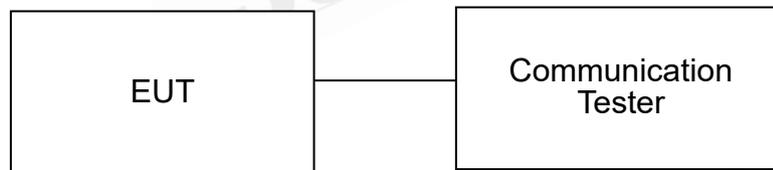
In bands shared coequally with terrestrial radio communication services, the equivalent is tri-  
cally radiated power transmitted in any direction towards the horizon by an earth station,  
other than an ESV, operating in frequency bands between 1 and 15 GHz, shall not exceed  
the following limits except as provided for in paragraph (c) of this section:

+ 40 dBW in any 4 kHz band for  $\theta \leq 0^\circ$

+ 40 + 3 $\theta$  dBW in any 4 kHz band for  $0^\circ < \theta \leq 5^\circ$

where  $\theta$  is the angle of elevation of the horizon viewed from the center of radiation of the  
antenna of the earth station and measured in degrees as positive above the horizontal  
plane and negative below it.

### 7.2 Test Set-up



**Note:** Measurement setup for testing on Antenna connector

### 7.3 Output Power Measurement Applicable Guidance

The transmitter output was connected to a communication tester. Transmitter output was  
read off the communication tester in dBm. The power output at the transmitter antenna port  
was determined by the communication tester reading.

KDB 971168 D01 Power Meas License Digital System as the supplemental test methodol-  
ogy to adjust the proper setting obtaining the measurement results

### 7.4 Determining ERP and/or EIRP from conducted RF output power measurements

$$ERP/EIRP = P_{Meas} + GT - LC$$

Where:

ERP/EIRP	= effective or equivalent radiated power, respectively (expressed in the same units as P <sub>Meas</sub> , typically dBW or dBm);
P <sub>Meas</sub>	= measured transmitter output power or PSD, in dBm or dBW;
GT	= gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)
LC	= signal attenuation in the connecting cable between the transmitter and antenna, in dB.2

For devices utilizing multiple antennas, KDB 662911 provides guidance for determining  
the effective array transmit antenna gain term to be used in the above equation.

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## 7.5 Measurement Result

### 7.5.1 Band 23

NTN Band 23 : 2000.1 ~ 2019.9 MHz				Conducted Average (dBm)			Conducted Average (dBm/4KHz)			Allowable Gain (dBi)		
EIRP Limit		70dBm/4KHz		Channel (ARFCH)/ Frequency(MHz)			Channel (ARFCH)/ Frequency(MHz)			Channel (ARFCH)/ Frequency(MHz)		
Modulation	Subcarrier Spacing (kHz)	Ntones		Low	Mid	High	Low	Mid	High	Low	Mid	High
				25501	25600	25699	25501	25600	25699	25501	25600	25699
				2000.1	2010	2019.9	2000.1	2010	2019.9	2000.1	2010	2019.9
BPSK	3.75	1	0	23.88	23.61	23.59	7.35	7.08	7.06	62.65	62.92	62.94
		1	47	23.74	23.67	23.48	7.21	7.14	6.95	62.79	62.86	63.05
QPSK	3.75	1	0	23.84	23.52	23.44	7.31	6.99	6.91	62.69	63.01	63.09
		1	47	23.72	23.55	23.45	7.19	7.02	6.92	62.81	62.98	63.08
BPSK	15	1	0	23.46	23.18	23.15	6.93	6.65	6.62	63.07	63.35	63.38
		1	11	23.57	23.34	22.93	7.04	6.81	6.40	62.96	63.19	63.60
QPSK	15	3	0	22.68	22.79	23.01	6.15	6.26	6.48	63.85	63.74	63.52
		3	3	23.43	23.31	22.95	6.90	6.78	6.42	63.10	63.22	63.58
		3	9	22.65	22.32	22.16	6.12	5.79	5.63	63.88	64.21	64.37
		6	0	22.36	22.26	22.09	5.83	5.73	5.56	64.17	64.27	64.44
		6	6	22.46	22.37	22.28	5.93	5.84	5.75	64.07	64.16	64.25
		12	0	21.22	21.34	20.92	4.69	4.81	4.39	65.31	65.19	65.61

### 7.5.2 Band 255

NTN Band n255 : 1626.7 ~ 1659.9 MHz				Conducted Average (dBm)			Conducted Average (dBm/4KHz)			Allowable Gain (dBi)		
EIRP Limit		70dBm/4KHz		Channel (ARFCH)/ Frequency(MHz)			Channel (ARFCH)/ Frequency(MHz)			Channel (ARFCH)/ Frequency(MHz)		
Modulation	Subcarrier Spacing (kHz)	Ntones		Low	Mid	High	Low	Mid	High	Low	Mid	High
				261506	261672	261838	261506	261672	261838	261506	261672	261838
				1626.7	1643.3	1659.9	1626.7	1643.3	1659.9	1626.7	1643.3	1659.9
BPSK	3.75	1	0	23.74	23.69	23.65	7.21	7.16	7.12	62.79	62.84	62.88
		1	47	23.68	23.72	23.71	7.15	7.19	7.18	62.85	62.81	62.82
QPSK	3.75	1	0	23.40	23.58	23.67	6.87	7.05	7.14	63.13	62.95	62.86
		1	47	23.41	23.54	23.57	6.88	7.01	7.04	63.12	62.99	62.96
BPSK	15	1	0	23.58	23.64	23.69	7.05	7.11	7.16	62.95	62.89	62.84
		1	11	23.62	23.65	23.57	7.09	7.12	7.04	62.91	62.88	62.96
QPSK	15	3	0	23.58	23.25	23.14	7.05	6.72	6.61	62.95	63.28	63.39
		3	3	23.59	23.12	23.53	7.06	6.59	7.00	62.94	63.41	63.00
		3	9	23.47	23.10	23.04	6.94	6.57	6.51	63.06	63.43	63.49
		6	0	22.67	23.14	22.64	6.14	6.61	6.11	63.86	63.39	63.89
		6	6	22.58	23.07	22.69	6.05	6.54	6.16	63.95	63.46	63.84
		12	0	21.42	21.89	21.46	4.89	5.36	4.93	65.11	64.64	65.07

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7.5.3 Band 256

NTN Band n256 : 2000.1 ~ 2009.9 MHz				Conducted Average (dBm)			Conducted Average (dBm/4KHz)			Allowable Gain (dBi)		
EIRP Limit		70dBm/4KHz		Channel (ARFCH)/ Frequency(MHz)			Channel (ARFCH)/ Frequency(MHz)			Channel (ARFCH)/ Frequency(MHz)		
Modulation	Subcarrier Spacing (kHz)	Ntones	Low	Mid	High	Low	Mid	High	Low	Mid	High	
			262045	262094	262143	262045	262094	262143	262045	262094	262143	
			2000.1	2005	2009.9	2000.1	2005	2009.9	2000.1	2005	2009.9	
BPSK	3.75	1 0	23.74	23.71	23.66	7.21	7.18	7.13	62.79	62.82	62.87	
		1 47	23.67	23.62	23.61	7.14	7.09	7.08	62.86	62.91	62.92	
QPSK	3.75	1 0	23.62	23.48	23.58	7.09	6.95	7.05	62.91	63.05	62.95	
		1 47	23.64	23.61	23.57	7.11	7.08	7.04	62.89	62.92	62.96	
BPSK	15	1 0	23.57	23.49	23.32	7.04	6.96	6.79	62.96	63.04	63.21	
		1 11	23.51	23.45	23.39	6.98	6.92	6.86	63.02	63.08	63.14	
QPSK	15	3 0	22.91	22.99	22.75	6.38	6.46	6.22	63.62	63.54	63.78	
		3 3	23.08	23.01	23.22	6.55	6.48	6.69	63.45	63.52	63.31	
		3 9	22.71	22.57	22.26	6.18	6.04	5.73	63.82	63.96	64.27	
		6 0	22.49	22.45	22.34	5.96	5.92	5.81	64.04	64.08	64.19	
		6 6	22.21	22.36	22.43	5.68	5.83	5.90	64.32	64.17	64.10	
		12 0	21.56	21.48	21.34	5.03	4.95	4.81	64.97	65.05	65.19	

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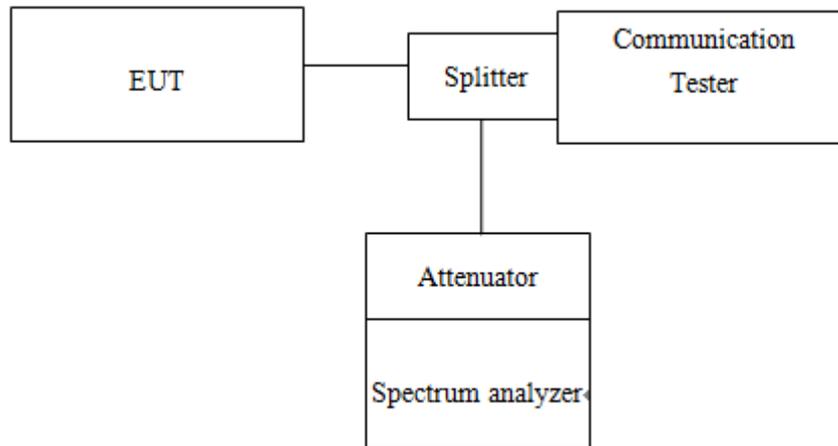
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## 8 OCCUPIED BANDWIDTH AND 26DB BANDWIDTH MEASUREMENT

### 8.1 Standard Applicable

The occupied bandwidth 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 percent of the total mean power.

### 8.2 Test Set-up



### 8.3 Measurement Procedure

#### **99% & 26dB Bandwidth with detector peak**

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1%~5% of emission BW, VBW= 3 times RBW, -26dBc display line was placed on the screen the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace. Then set RBW to 99% bandwidth, RBW= 1%, VBW= 3 RBW, with span > 2 \* Signal BW, set % Power = 99%.

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## 8.4 Measurement Result

### 8.4.1 Band 23

NTN Band 23 : 2000.1 ~ 2019.9 MHz						
Channel	Freq. (MHz)	Modulation	Subcarrier Spacing (kHz)	N <sub>Tones</sub>	Measure Result (kHz)	
					99% BW	26dB BW
25501	2000.1	BPSK	3.75	1@0	26.282	28.13
		QPSK	3.75	1@0	26.968	31.35
		BPSK	15	1@0	68.701	89.26
		QPSK	15	1@0	67.983	89.05
		QPSK	15	3@0	111.800	172.20
		QPSK	15	6@0	122.200	204.20
		QPSK	15	12@0	187.960	265.50
25600	2010	BPSK	3.75	1@0	38.388	30.61
		QPSK	3.75	1@0	40.130	41.06
		BPSK	15	1@0	71.756	99.07
		QPSK	15	1@0	71.473	102.10
		QPSK	15	3@0	114.770	158.30
		QPSK	15	6@0	133.990	204.20
		QPSK	15	12@0	187.450	279.00
25699	2019.9	BPSK	3.75	1@0	39.187	34.10
		QPSK	3.75	1@0	39.975	41.41
		BPSK	15	1@0	71.639	89.75
		QPSK	15	1@0	70.867	99.49
		QPSK	15	3@0	111.540	158.30
		QPSK	15	6@0	133.520	201.30
		QPSK	15	12@0	187.530	267.20

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8.4.2 Band 255

NTN Band n255 : 1626.7 ~ 1659.9 MHz						
Channel	Freq. (MHz)	Modulation	Subcarrier Spacing (kHz)	N <sub>tones</sub>	Measure Result (kHz)	
					99% BW	26dB BW
261506	1626.7	BPSK	3.75	1@0	38.823	34.26
		QPSK	3.75	1@0	39.933	41.06
		BPSK	15	1@0	72.501	102.10
		QPSK	15	1@0	71.410	100.00
		QPSK	15	3@0	100.600	143.20
		QPSK	15	6@0	129.930	214.10
		QPSK	15	12@0	187.620	264.60
261672	1643.3	BPSK	3.75	1@0	39.856	34.18
		QPSK	3.75	1@0	40.546	40.88
		BPSK	15	1@0	71.530	99.87
		QPSK	15	1@0	72.274	100.90
		QPSK	15	3@0	102.930	166.20
		QPSK	15	6@0	100.970	158.10
		QPSK	15	12@0	184.530	268.00
261838	1659.9	BPSK	3.75	1@0	40.069	40.99
		QPSK	3.75	1@0	38.762	34.07
		BPSK	15	1@0	72.084	101.40
		QPSK	15	1@0	71.335	100.50
		QPSK	15	3@0	105.150	157.50
		QPSK	15	6@0	103.480	165.10
		QPSK	15	12@0	185.600	266.80

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8.4.3 Band 256

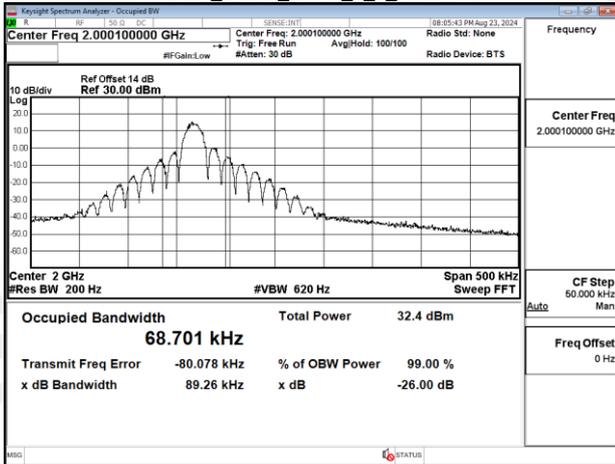
NTN Band n256 : 2000.1 ~ 2009.9 MHz						
Channel	Freq. (MHz)	Modulation	Subcarrier Spacing (kHz)	N <sub>tones</sub>	Measure Result (kHz)	
					99% BW	26dB BW
262045	2000.1	BPSK	3.75	1@0	39.031	33.90
		QPSK	3.75	1@0	37.310	33.99
		BPSK	15	1@0	71.895	89.44
		QPSK	15	1@0	71.442	89.02
		QPSK	15	3@0	110.890	158.30
		QPSK	15	6@0	132.590	215.30
		QPSK	15	12@0	187.460	263.90
262094	2005	BPSK	3.75	1@0	39.039	33.79
		QPSK	3.75	1@0	39.300	40.71
		BPSK	15	1@0	71.913	101.50
		QPSK	15	1@0	71.273	88.83
		QPSK	15	3@0	111.940	158.20
		QPSK	15	6@0	135.260	213.00
		QPSK	15	12@0	188.520	266.60
262143	2009.9	BPSK	3.75	1@0	38.867	34.06
		QPSK	3.75	1@0	39.784	41.07
		BPSK	15	1@0	72.267	98.62
		QPSK	15	1@0	70.970	99.85
		QPSK	15	3@0	115.020	170.10
		QPSK	15	6@0	111.970	158.20
		QPSK	15	12@0	186.350	263.60

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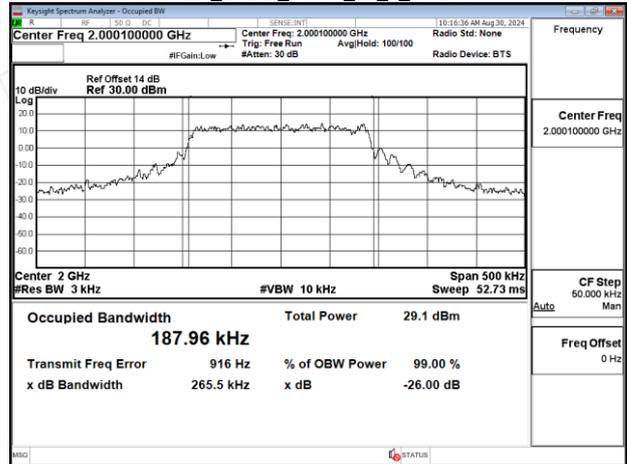
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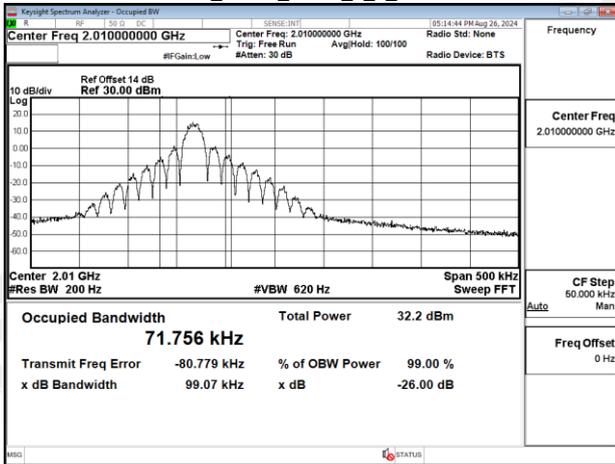
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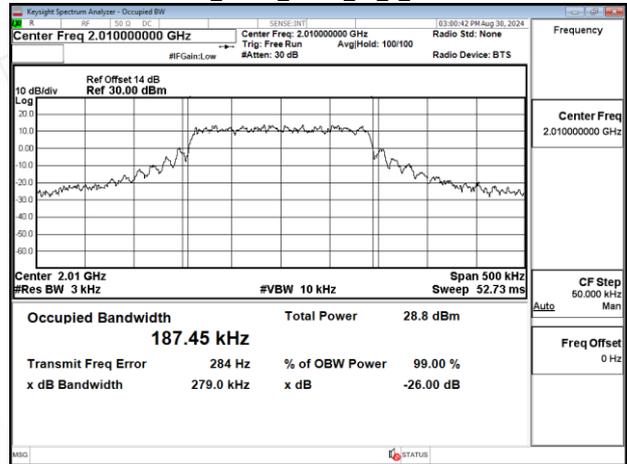
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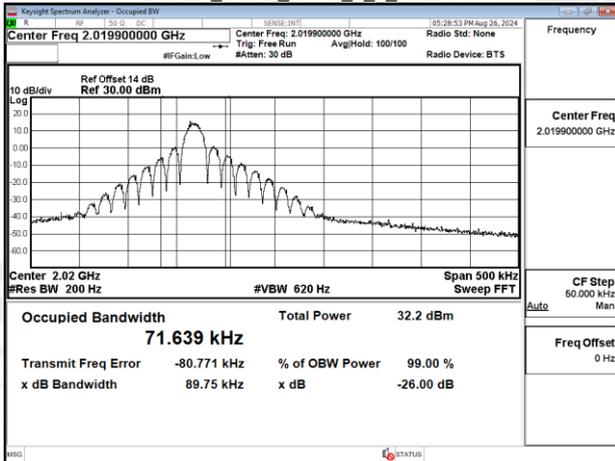
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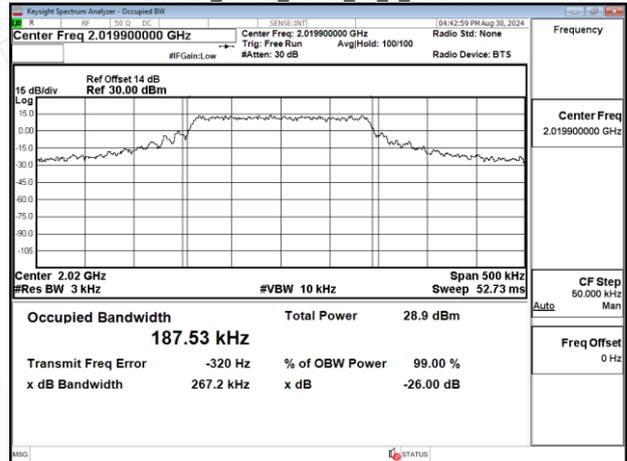
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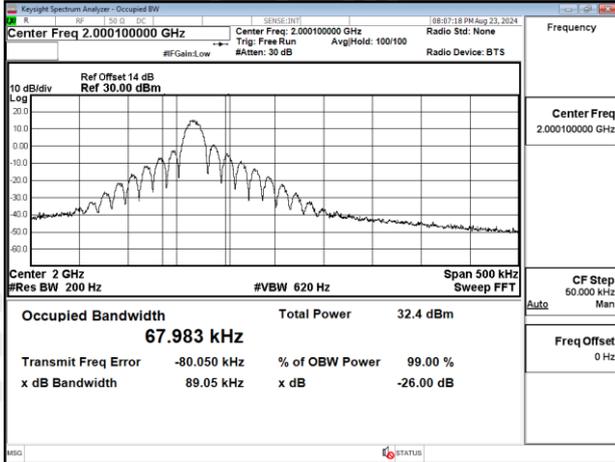


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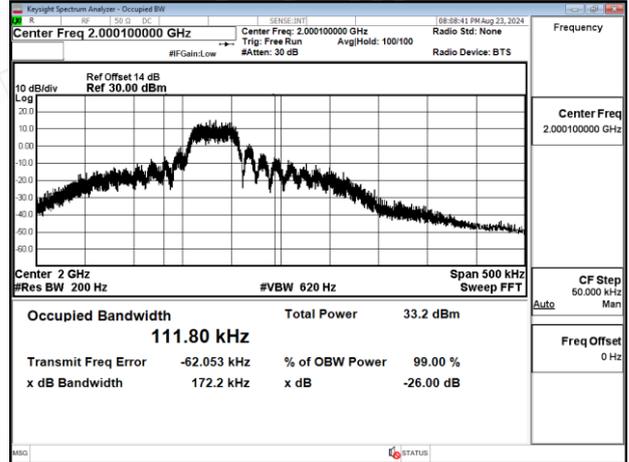
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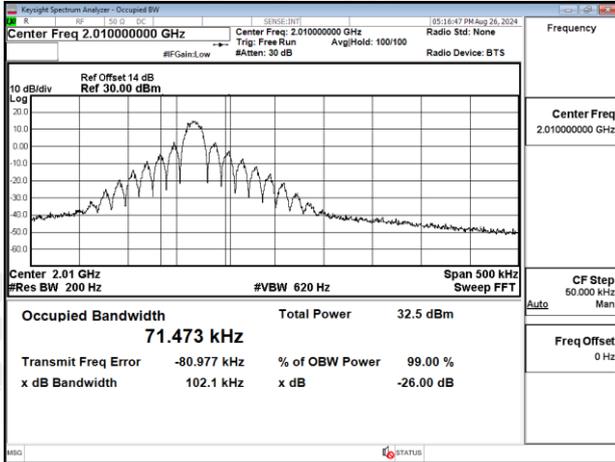
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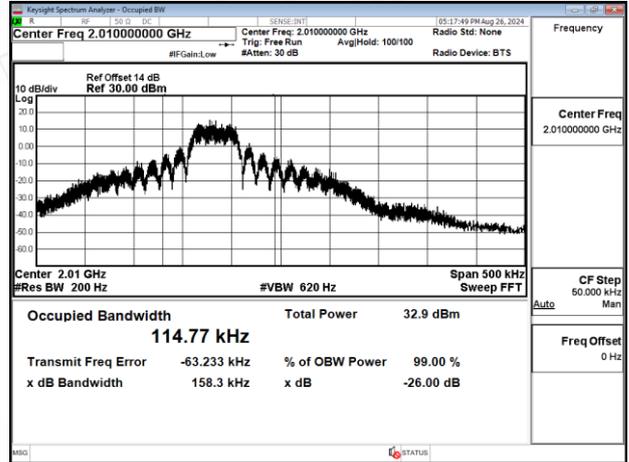
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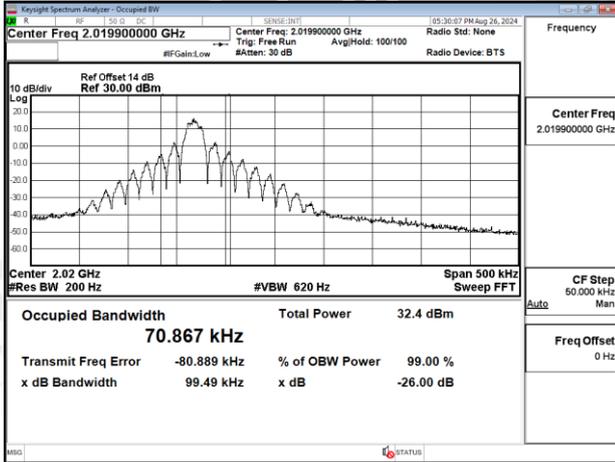
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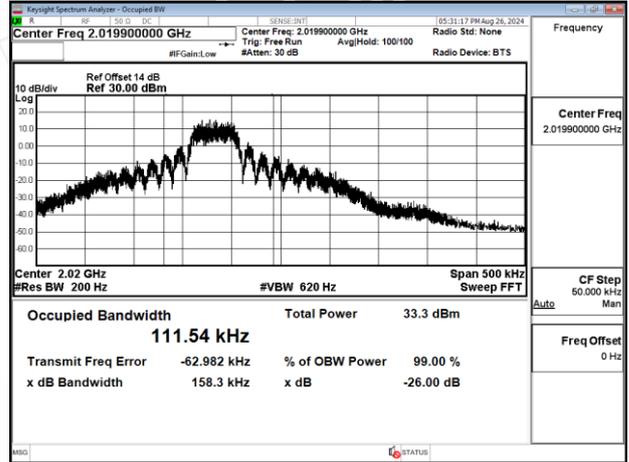
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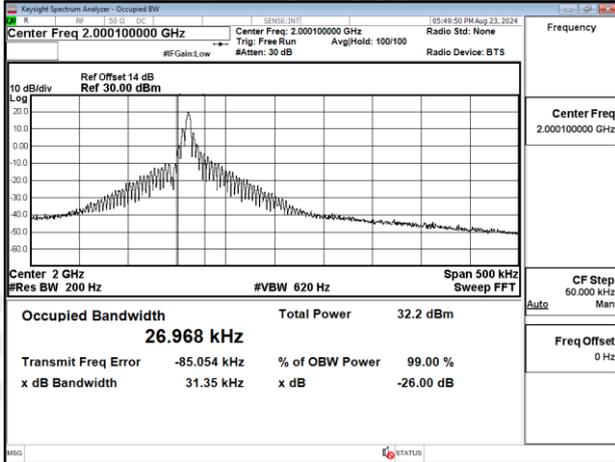
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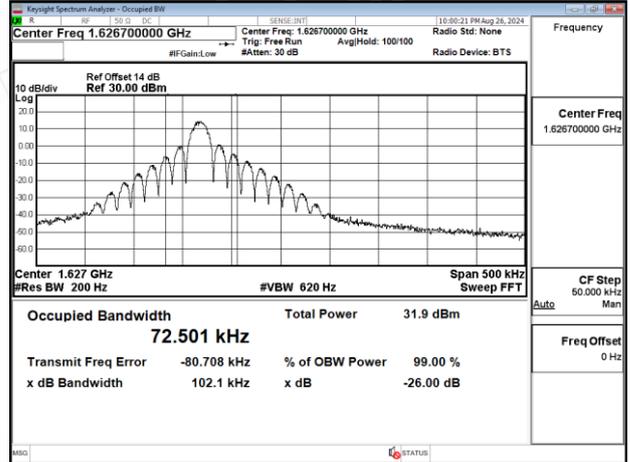
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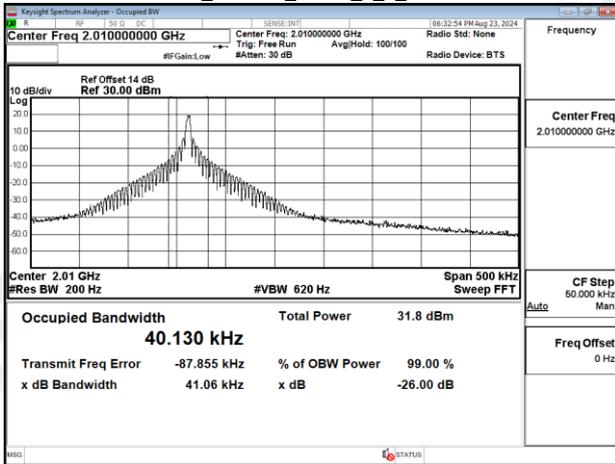
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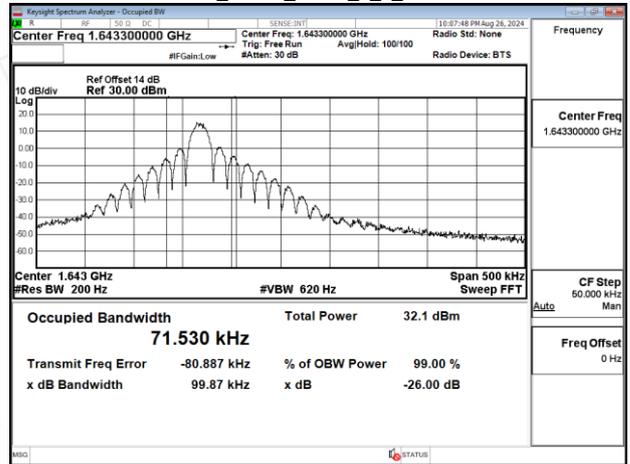
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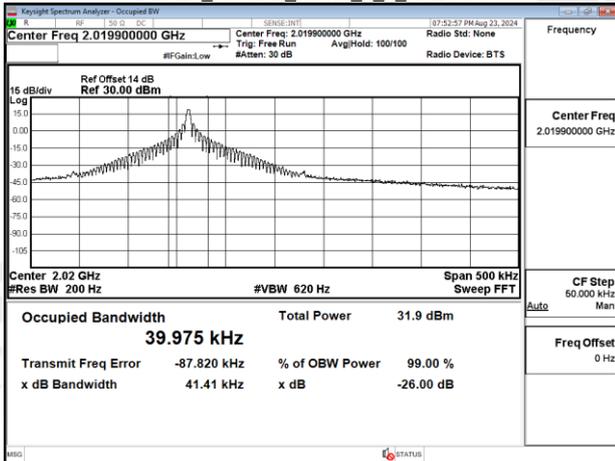
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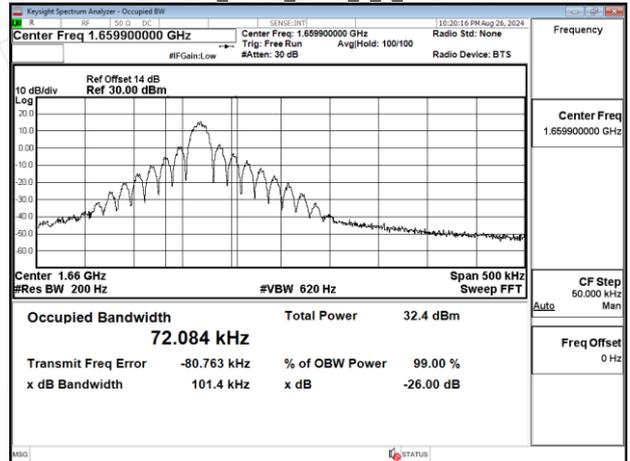
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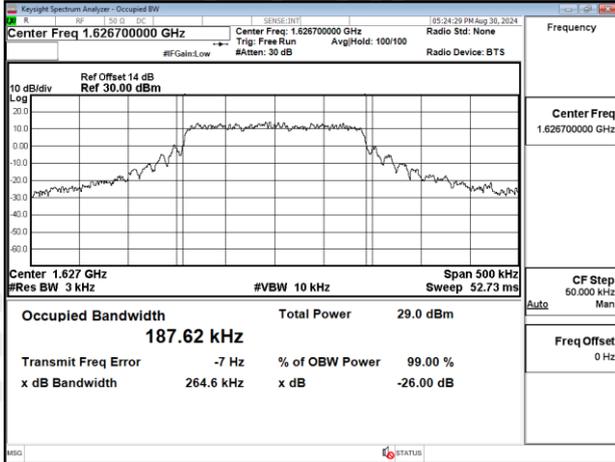


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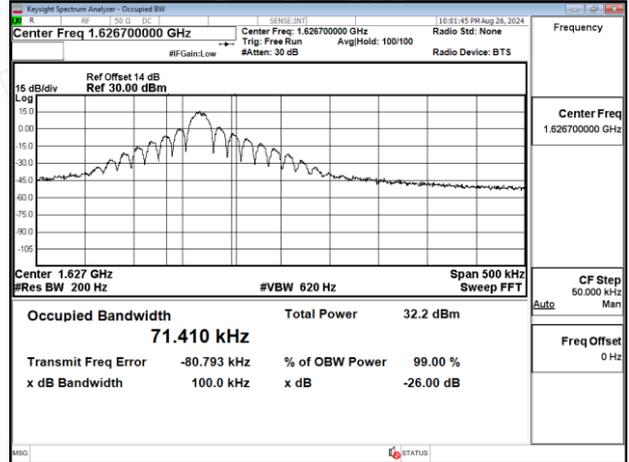
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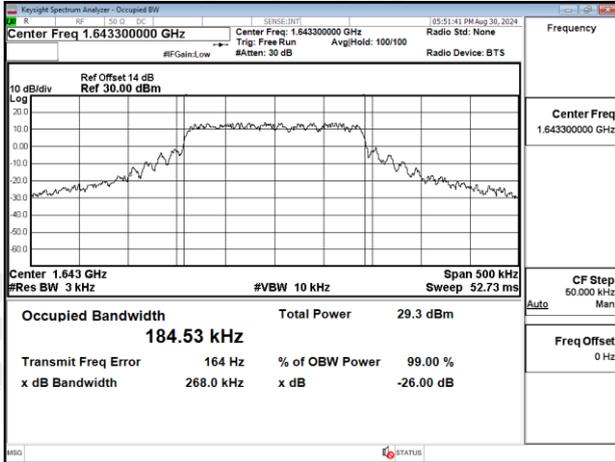
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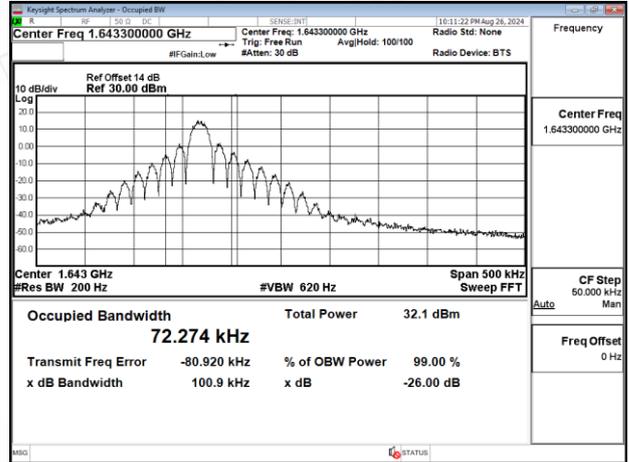
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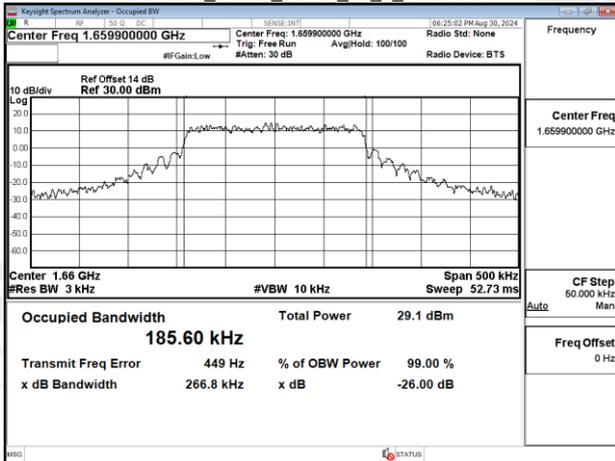
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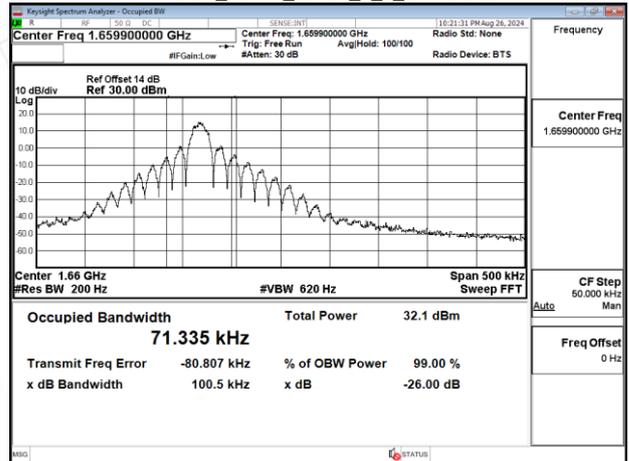
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Band255\_15kHz\_QPSK\_12\_0\_CH261838



Band255\_15kHz\_QPSK\_1\_0\_CH261838

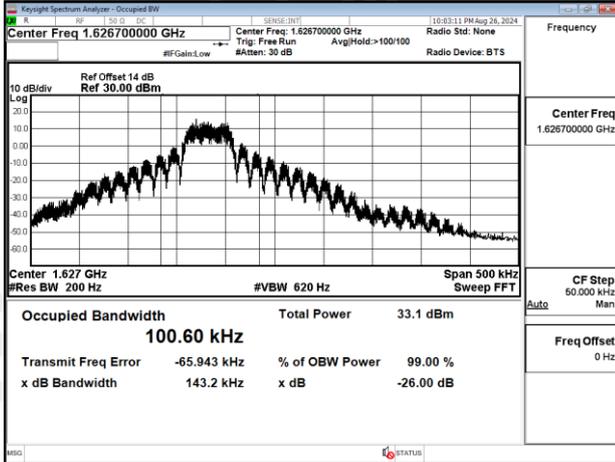


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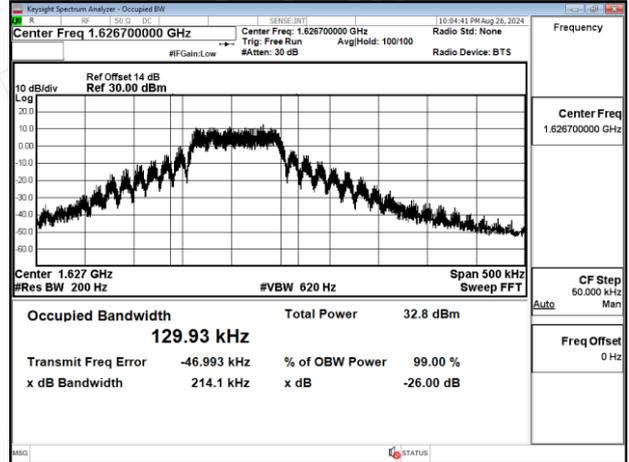
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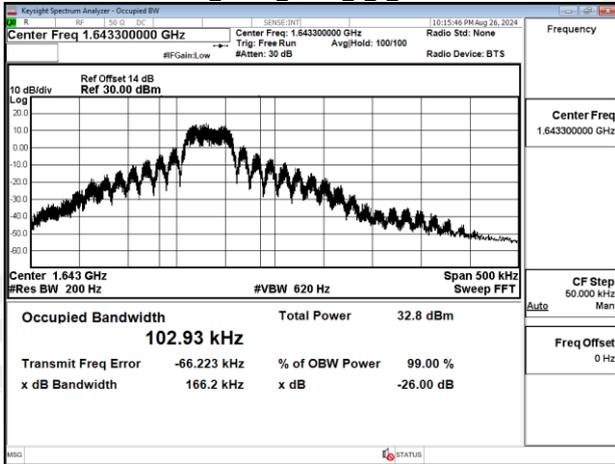
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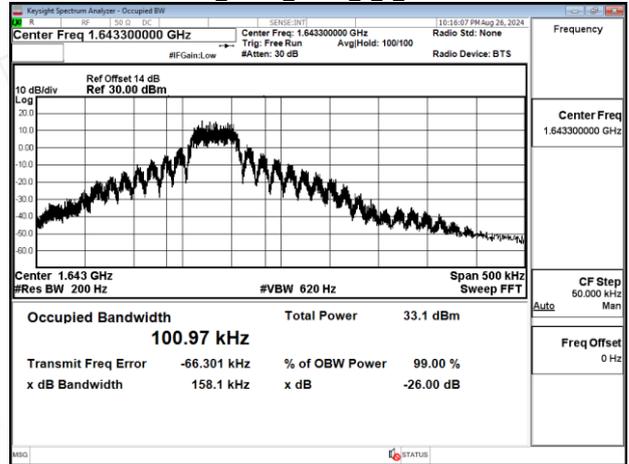
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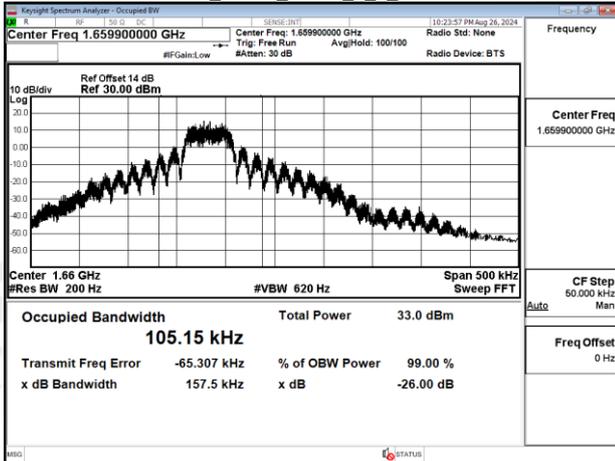
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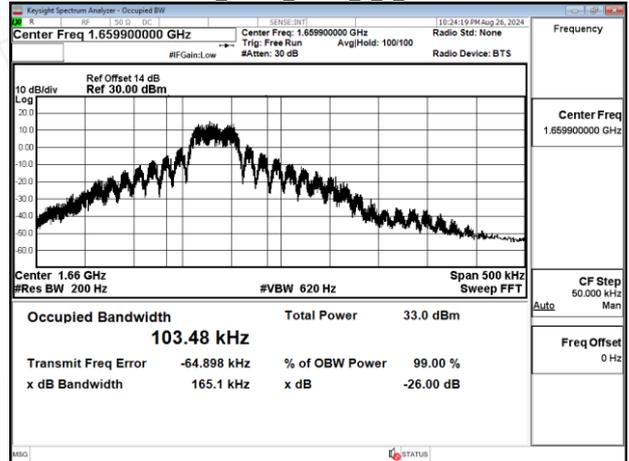
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Band255\_15kHz\_QPSK\_3\_0\_CH261838



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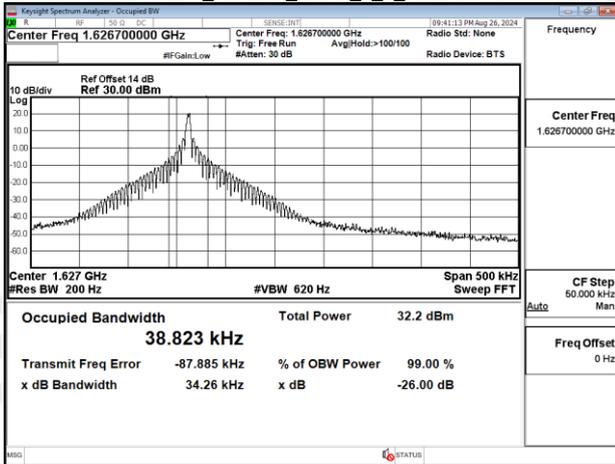


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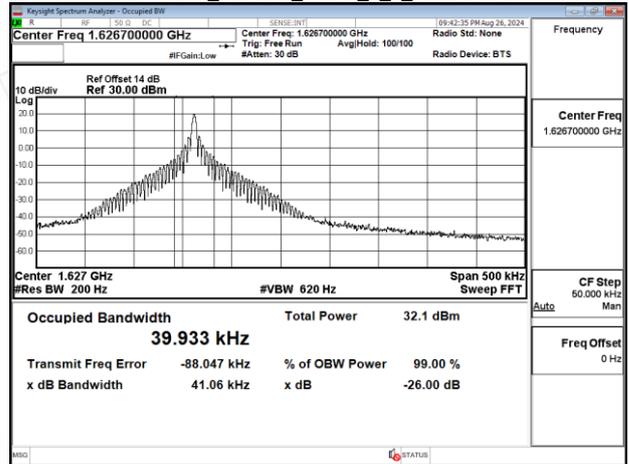
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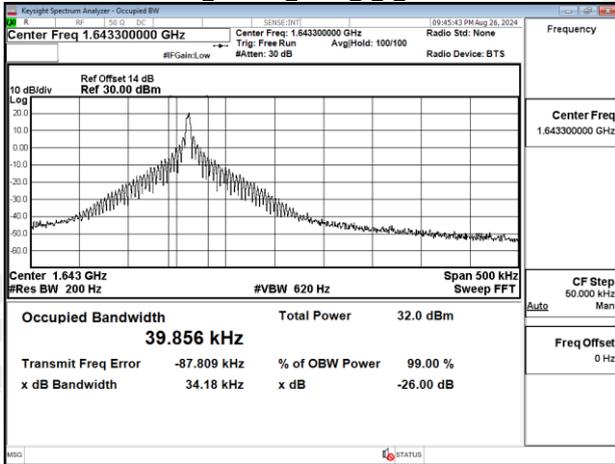
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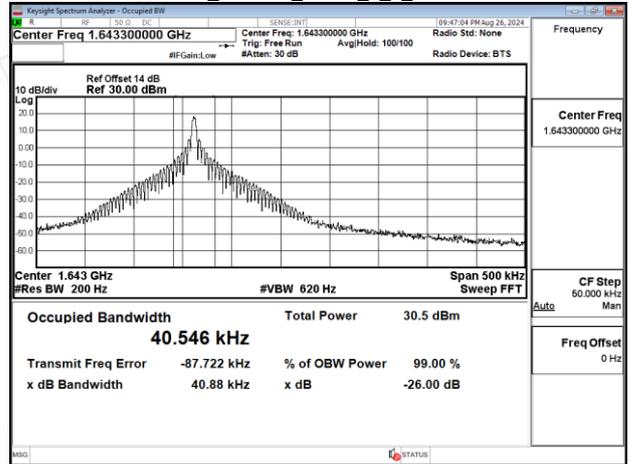
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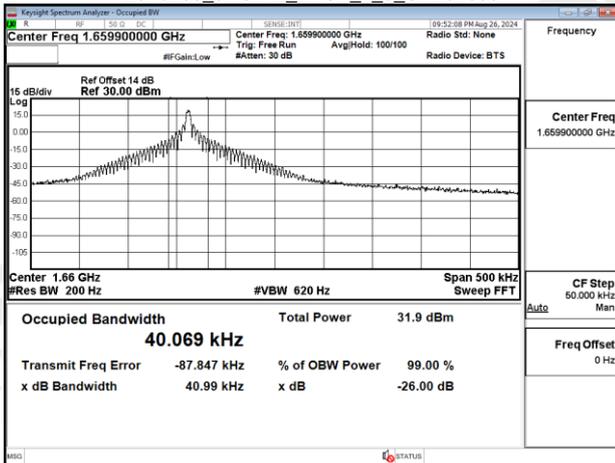
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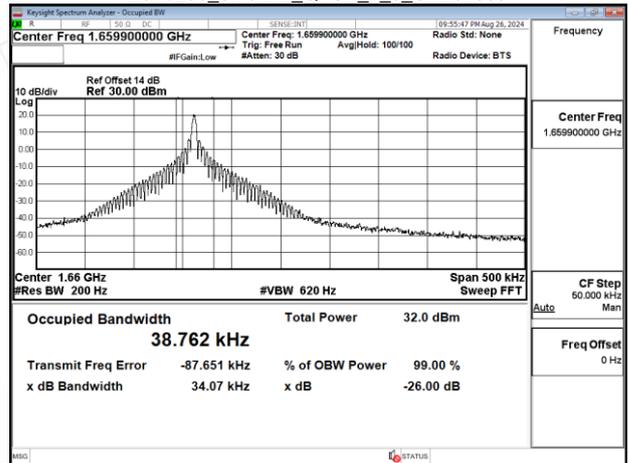
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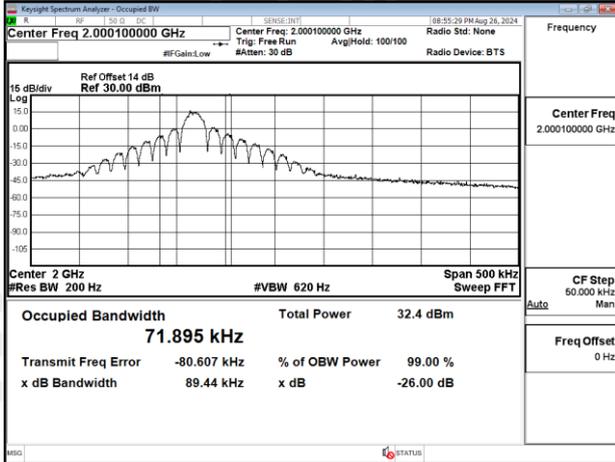


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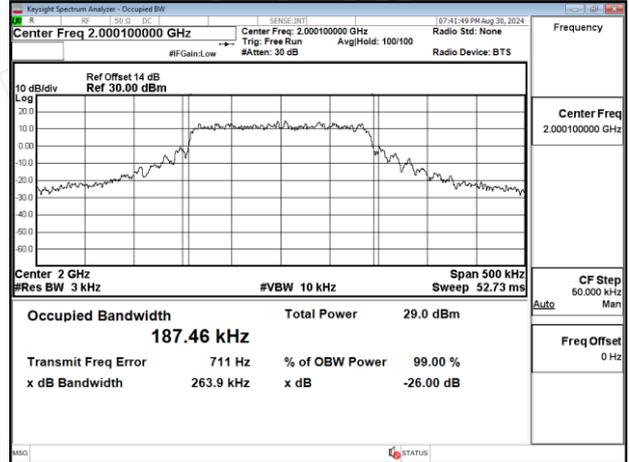
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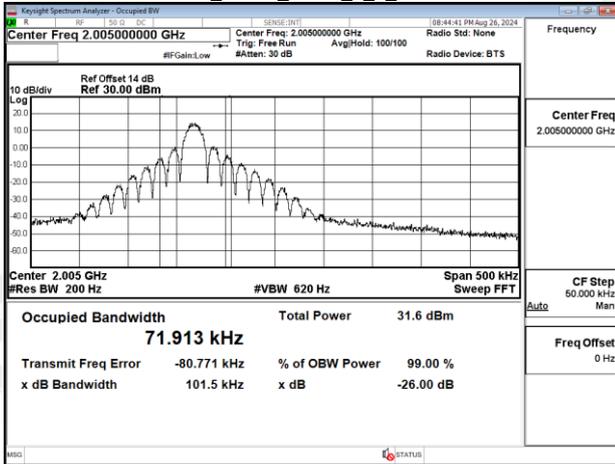
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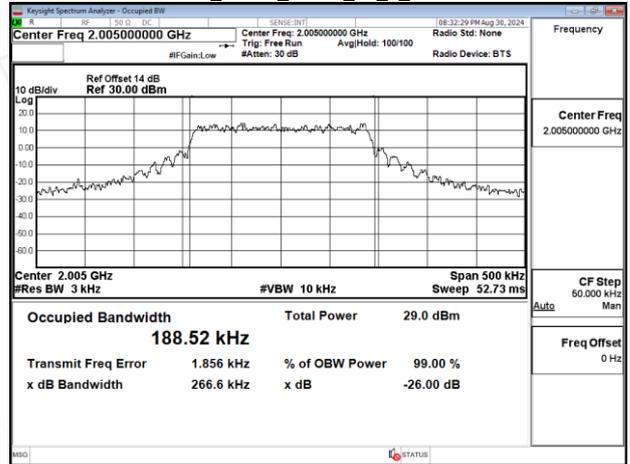
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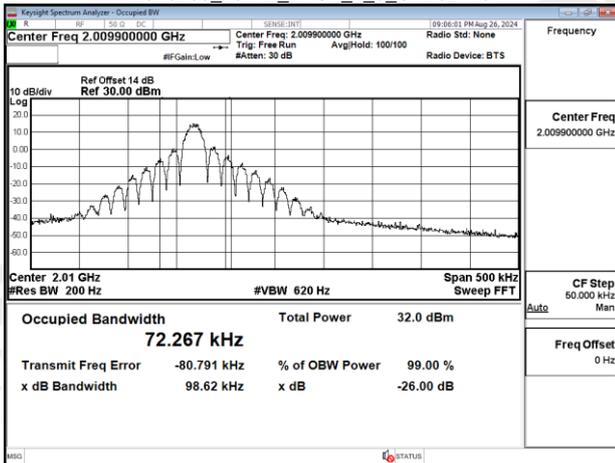
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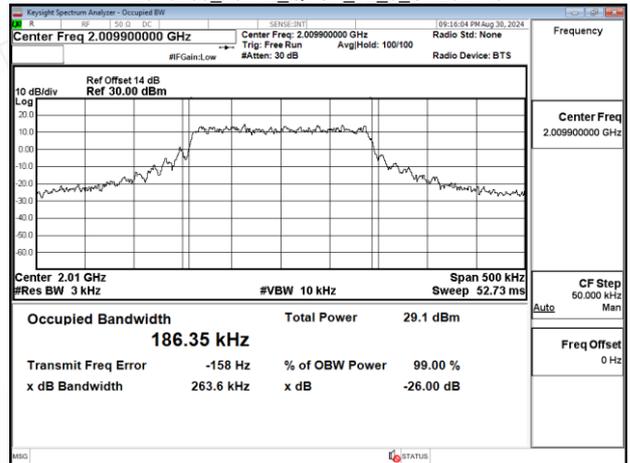
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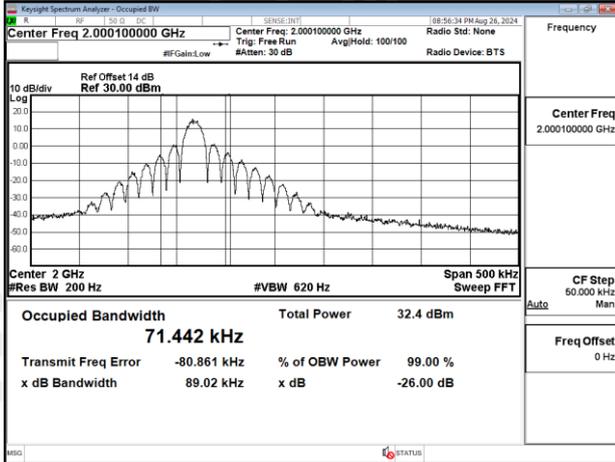


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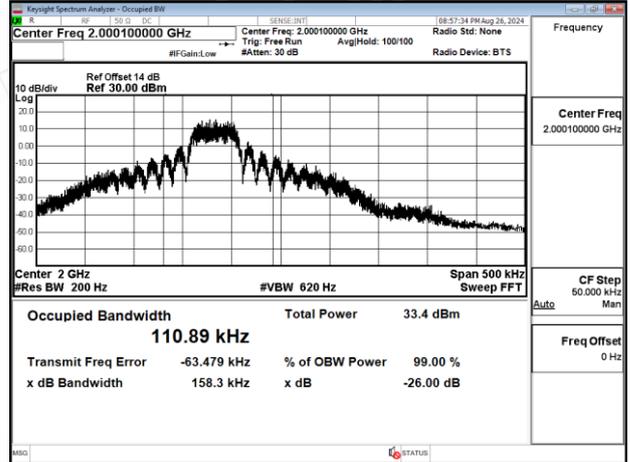
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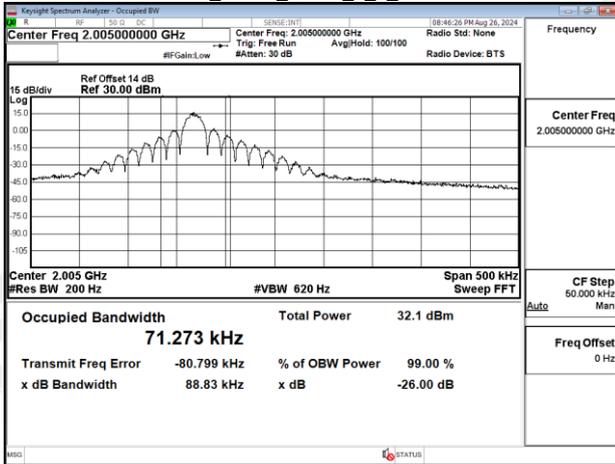
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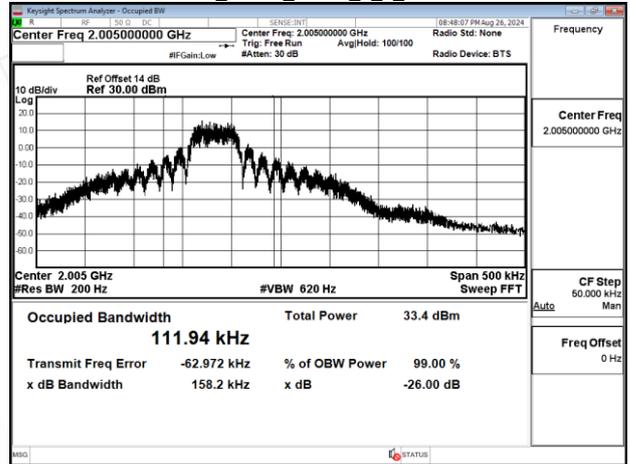
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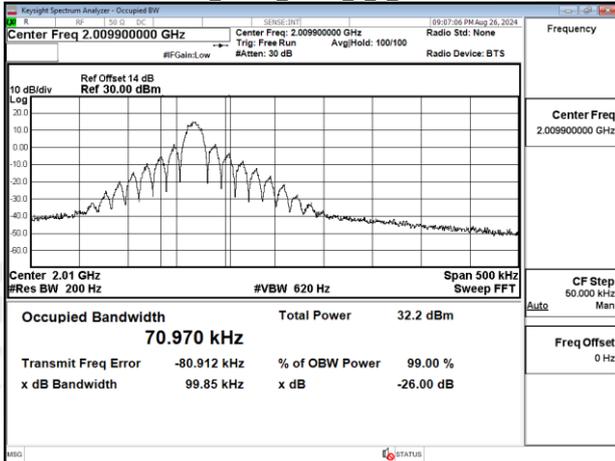
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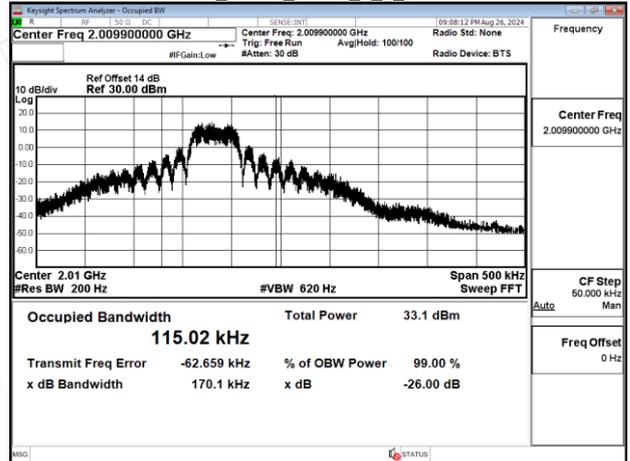
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Band256 15kHz\_QPSK 1\_0\_CH262143



Band256 15kHz\_QPSK 3\_0\_CH262143

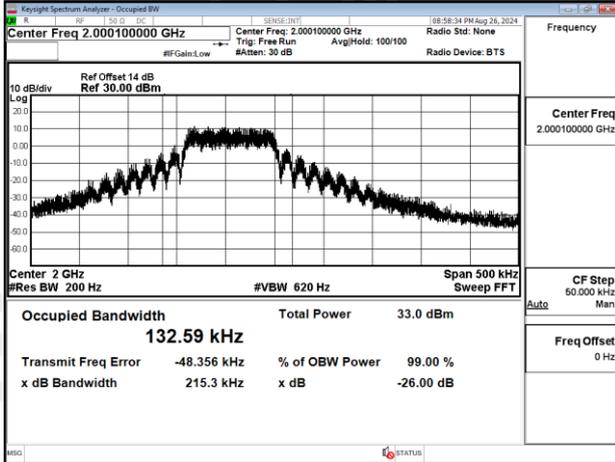


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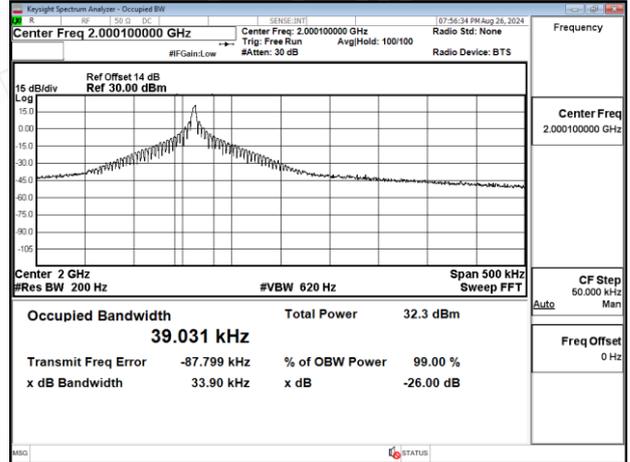
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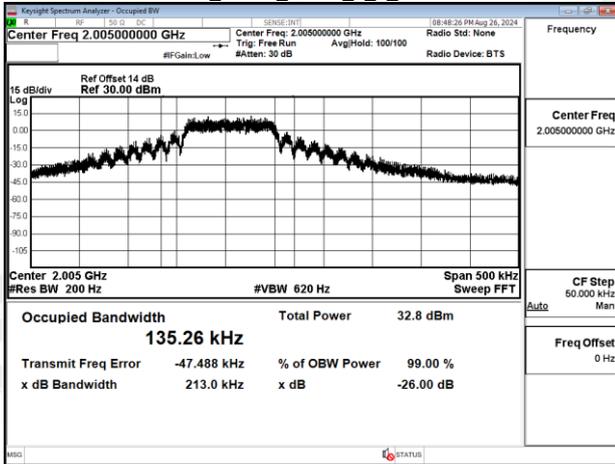
Band256 15kHz\_QPSK 6\_0\_CH262045



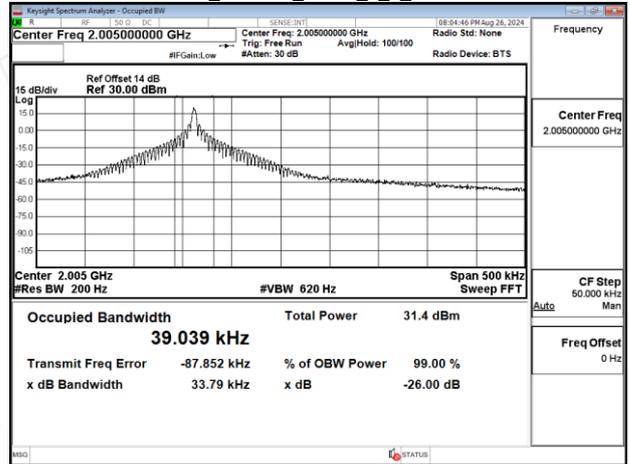
Band256 3.75kHz\_BPSK 1\_0\_CH262045



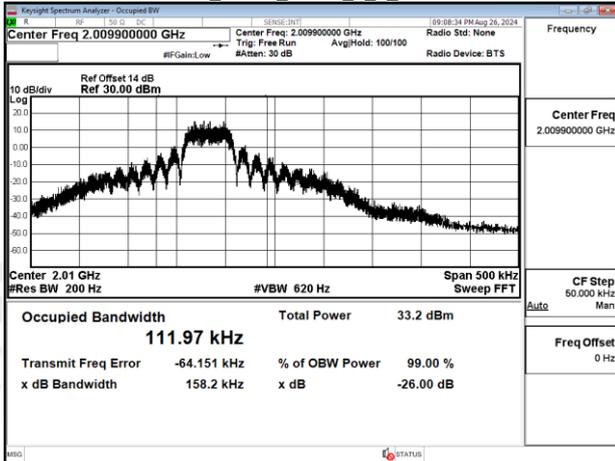
Band256 15kHz\_QPSK 6\_0\_CH262094



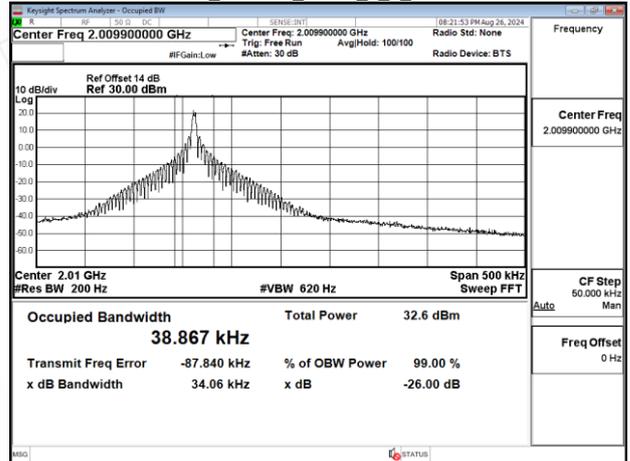
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Band256 15kHz\_QPSK 6\_0\_CH262143



Band256 3.75kHz\_BPSK 1\_0\_CH262143

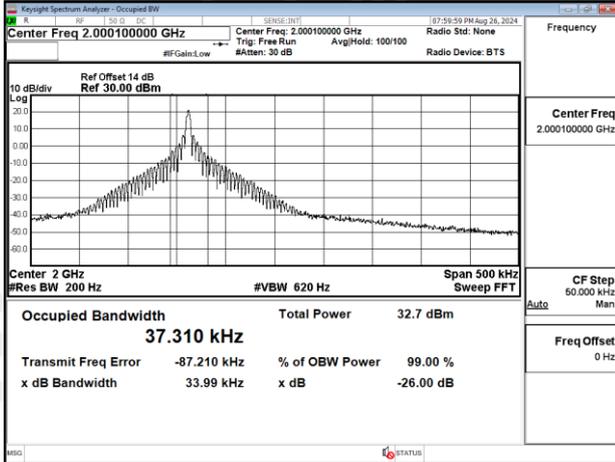


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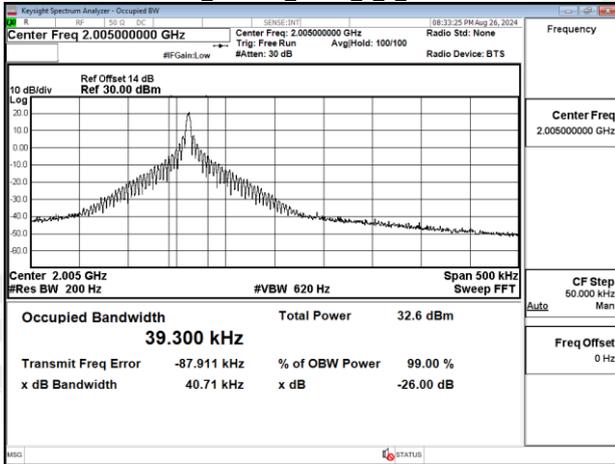
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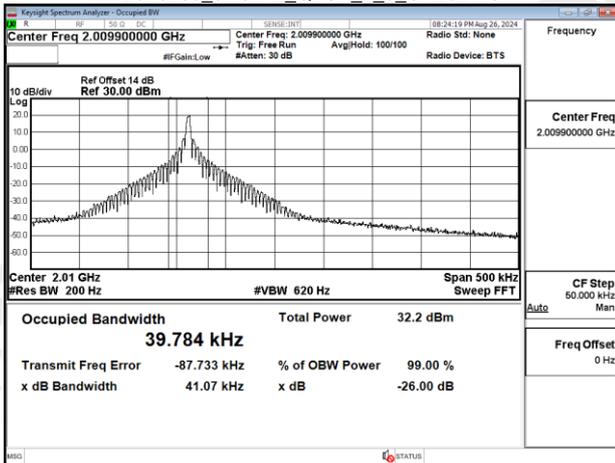
Band256\_3.75kHz\_QPSK\_1\_0\_CH262045



Band256\_3.75kHz\_QPSK\_1\_0\_CH262094



Band256\_3.75kHz\_QPSK\_1\_0\_CH262143



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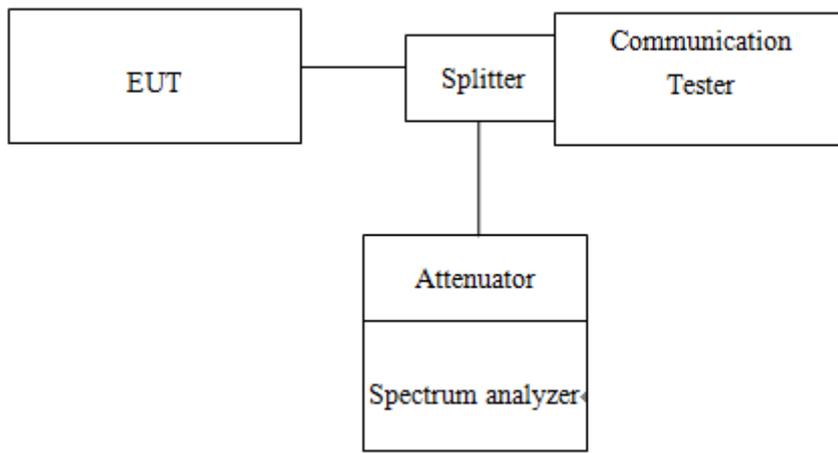
## 9 OUT OF BAND EMISSION AT ANTENNA TERMINALS

### 9.1 Standard Applicable

According to FCC §25.202(f)(3)

43 + 10 log p (watts) in any 4 kHz, the frequency of which is offset from the channel centre frequency by more than 250% of the occupied bandwidth or necessary bandwidth, whichever is greater

### 9.2 Test SET-UP



### 9.3 Measurement Procedure

#### Conducted Emission

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to the spectrum analyzer.
3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The highest RF power within the transmitting frequency was measured.
5. Peak detector is used instead of RMS detector since the measured result of Peak detector is worse than the RMS one. If the test result of Peak detector exceed the limit, RMS detector will then be used.
6. Make the measurement with the spectrum analyzer's RBW = 100kHz, VBW = 300kHz, taking the record of the worst unwanted emission.
7. The conducted spurious emission for the whole frequency range was taken.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

### 9.4 Measurement Result:

**NOTE: The occurrence of the spike on the conducted emission is the signal of the fundamental emission.**

Refer to next pages.

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