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# 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

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 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 section1.4	September 25, 2024	Yuri Tsai			

# Note:

1 . 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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# **Frequency Range**

Band	SCS (kHz)	Operation Frequency (MHz)		
23	3.75	2000 1	2000.1 - 2019.9	
23	15	Z000.1	-	2019.9

Band	SCS (KHz)	Operat Freque (MHz	ncy
255	3.75	1626.7 -	1659.9
255	15	1626.7	1659.9

Band	SCS (kHz)	Operation Frequency (MHz)		
254	3.75	2000.1		2009.9
256	15	Z000. I	-	2009.9

### 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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# 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 Emissi (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 Designa- tion number	IC CAB identifier
		SAC 1		
		SAC 2		
		SAC 3		
	No 124 Wu Kung Bood New Toingi	Conduction 1		
	No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New	Conducted 1	TW0027	
	Taipei City, Taiwan.	Conducted 2	1 440021	
	Taiper Oity, Taiwan.	Conducted 3		TW3702
		Conducted 4		
		Conducted 5		
SGS Taiwan Ltd.		Conducted 6		
Central RF Lab.		Conduction C		TW3702
(TAF code 3702)		SAC C		
		SAC D		
		SAC G		
	No.2, Keji 1st Rd., Guishan District,	Conducted A		TW3702
	Taoyuan City, Taiwan 333	Conducted B	TW0028	
	laoyuan Oity, Taiwan 555	Conducted C		
		Conducted D		
		Conducted E		
		Conducted F	]	
		Conducted G	7	

**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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# 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.

### Radiated Emissions (ERP/EIRP) 2.3.2

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.

### **Measurement Results Explanation Example** 2.4

# 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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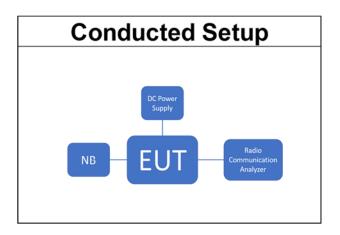
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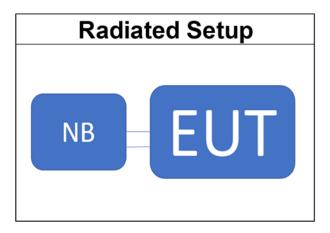
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### **Test Configuration** 2.5

### 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	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	EQUIPMENT TYPE MFR MODEL NUMBER SERIAL NUMBER LAST CAL. CAL DUE.									
Notebook	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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# **DESCRIPTION OF TEST MODES**

# 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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# **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 Em	nission	n Measur	ement	Uncertainty
	+/-	1.89	dB	9kHz~30MHz
Polarization: Vertical	+/-	4.15	dB	30MHz - 1000MHz
Polarization. Vertical	+/-	3.43	dB	1GHz - 18GHz
	+/-	3.86	dB	18GHz - 40GHz
	+/-	1.89	dB	9kHz~30MHz
Polarization: Horizontal	+/-	4.02	dB	30MHz - 1000MHz
Polarization. Horizontal	+/-	3.43	dB	1GHz - 18GHz
	+/-	3.86	dB	18GHz - 40GHz
	+/-	2	dB	33GHz-50GHz
	+/-	1.59	dB	50GHz-60GHz
Radiated Spurious Emission	+/-	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	PASTERNACK	CK PE8210 RF15		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 Emissio	n 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	966 chamber D N/A		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

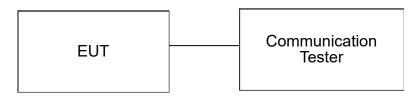
According to FCC 25.204(a)

In bands shared coequally with terrestrial radio communication services, the equivalent is troically 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 θ ≤0°
- + 40 + 30 dBW in any 4 kHz band for  $0^{\circ} < \theta \le 5^{\circ}$

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 Guideance

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 methodology to adjust the proper setting obtaining the measurement results

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

ERP/EIRP = PMeas + GT-LC

Where:

ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the

same units as PMeas, typically dBW or dBm);

PMeas = 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 ~ 20	)19.9 MF	łz	Conduc	ted Average	e (dBm)	Conducted Average (dBm/4KHz)			Allowable Gain (dBi)			
EIDD	Limit	70dDm	NAVU-	Channel (ARFCH)/ Freqency(MHz) Channel (ARFCH)/ Freqency(MHz) Channel (ARFCH)/ Freqency(MHz)									
LIKP	EIRP Limit 70dBm/4KHz		⊮4NΠZ	Low	Mid	High	Low	Mid	High	Low	Mid	High	
Modulation	Subcarrier	Nto	nes	25501	25600	25699	25501	25600	25699	25501	25600	25699	
IVIOUUIALIOIT	Spacing (kHz)	INIO	nes	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	
DESK	3.75	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	
QF 3K	3.73	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	
Dr SK	13	1	11	23.57	23.34	22.93	7.04	6.81	6.40	62.96	63.19	63.60	
		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	
OPSK	15	3	9	22.65	22.32	22.16	6.12	5.79	5.63	63.88	64.21	64.37	
QF 3K	15	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 r	1255 : 1626.7 ~ 1	659.9 N	1Hz	Conduc	ted Average	e (dBm)	Conducted Average (dBm/4KHz)			Allowable Gain (dBi)			
EIDD	Limit	70dDn	3/AVU-7	Channel (ARFCH)/ Freqency(MHz) Channel (ARFCH)/ Freqency(MHz) Channel (ARFCH)/ Freqency(MHz)									
LIKF	EIRP Limit 70dBm/4KHz		I/4NIIZ	Low	Mid	High	Low	Mid	High	Low	Mid	High	
Modulation	Subcarrier Spacing	Nto	nes	261506	261672	261838	261506	261672	261838	261506	261672	261838	
Wodulation	(kHz)	INIO	ilics	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	
Dr SK	3.75	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	
QF3K	3.75	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	
Dr SK	13	1	11	23.62	23.65	23.57	7.09	7.12	7.04	62.91	62.88	62.96	
		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	
QPSK	15	3	9	23.47	23.10	23.04	6.94	6.57	6.51	63.06	63.43	63.49	
QFJK	15	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 r	n256 : 2000.1 ~ 2	2009.9 N	lHz	Conduc	ted Average	e (dBm)	Conducted Average (dBm/4KHz)			Allowable Gain (dBi)		
EIRP	Limit	70dDm	n/4KHz	Channel (Al	RFCH)/ Fred	qency(MHz)	Channel (Al	RFCH)/ Fred	qency(MHz)	Channel (A	RFCH)/ Fre	qency(MHz)
LIKP	LIIIIII	/VUDII	⊮4NΠZ	Low	Mid	High	Low	Mid	High	Low	Mid	High
Modulation	Subcarrier Spacing	Nto	nes	262045	262094	262143	262045	262094	262143	262045	262094	262143
Wodulation	(kHz)	IVIO	1103	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
DESK	3.75	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
QFSK	3.73	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
DF 3K	13	1	11	23.51	23.45	23.39	6.98	6.92	6.86	63.02	63.08	63.14
		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
QPSK	15	3	9	22.71	22.57	22.26	6.18	6.04	5.73	63.82	63.96	64.27
UPSK	10	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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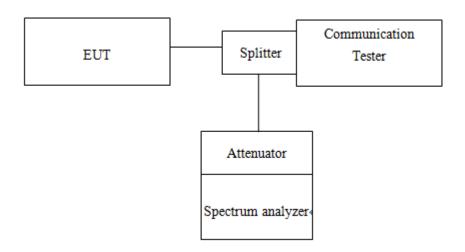
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# OCCUPIED BANDWIDTH AND 26DB BANDWIDTH MEASUREMENT

### 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 MH	Z	
Channel	Freq.	Modulation	Subcarrier Spacing	$N_{tones}$	Measure R	esult (kHz)
Ondrino	(MHz)	Woddiation	(kHz)	tones	99% BW	26dB BW
		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
25501	2000.1	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
		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
25600	2010	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
		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
25699	2019.9	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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### **Band 255** 8.4.2

		NTN Band r	n255 : 1626.7 ~	1659.9 MF	łz	
Channel	Freq. (MHz)	Modulation	Subcarrier Spacing	$N_{tones}$	Measure R	Pesult (kHz)
	(IVITIZ)		(kHz)		99% BW	26dB BW
		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
261506	1626.7	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
	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
261672		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
		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
261838	1659.9	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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### **Band 256** 8.4.3

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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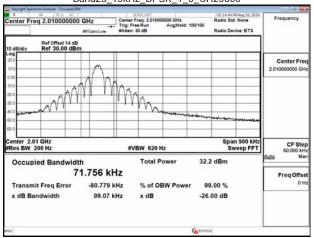




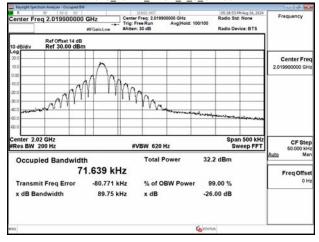
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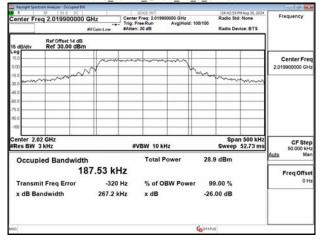
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Band23\_15kHz\_QPSK\_12\_0\_CH25600



Band23 15kHz QPSK 12 0 CH25699



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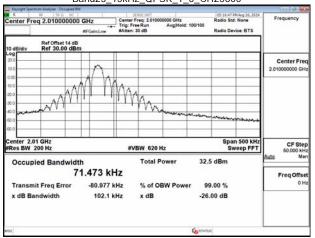
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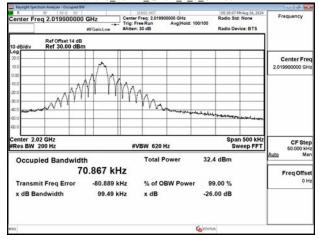




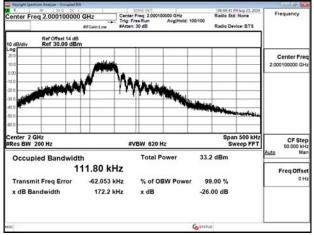
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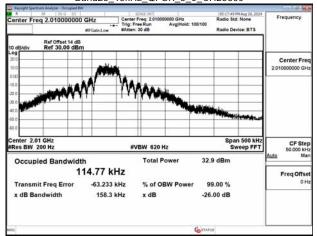
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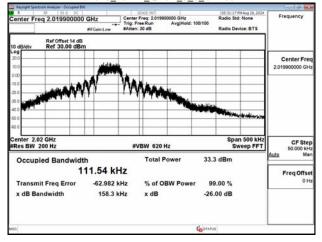
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### Band23 15kHz QPSK 3 0 CH25699



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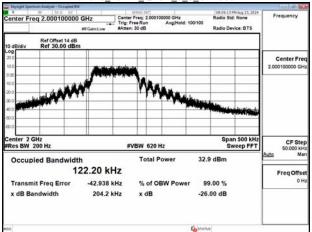
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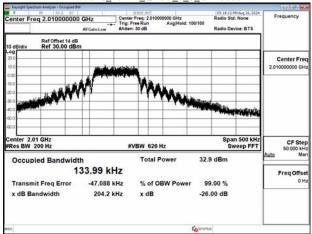
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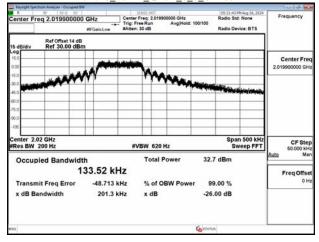




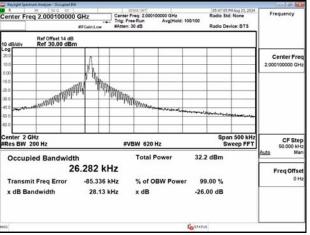
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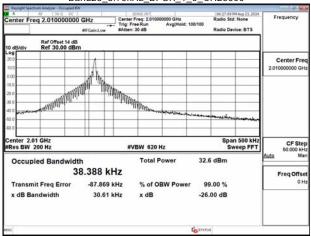
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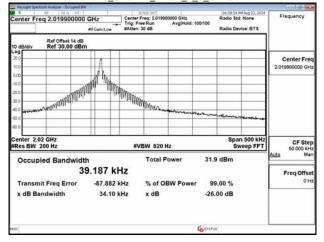
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Band23 3.75kHz BPSK 1 0 CH25600



Band23 3.75kHz BPSK 1 0 CH25699



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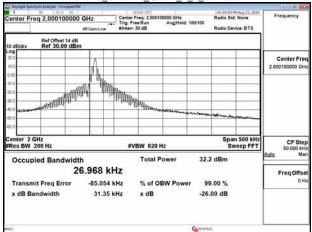
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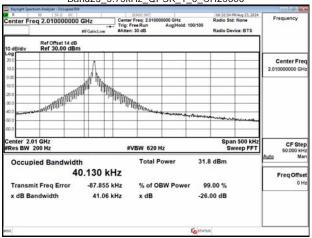
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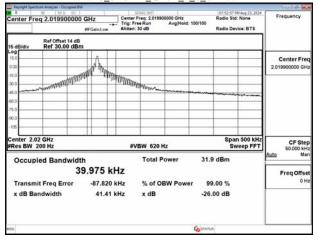




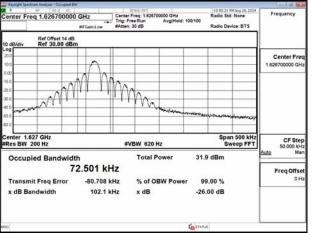
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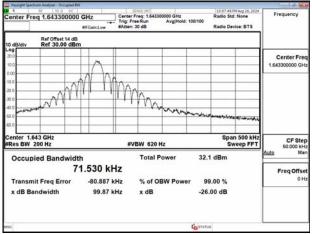
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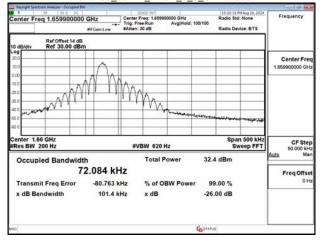
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Band255 15kHz BPSK 1 0 CH261672



Band255 15kHz BPSK 1 0 CH261838



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Band255\_15kHz\_QPSK\_12\_0\_CH261506



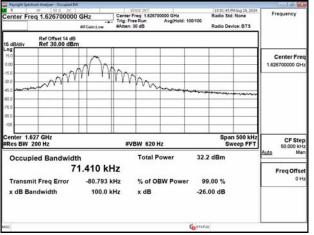
15kHz QPSK 12 0 CH261672



Band255 15kHz QPSK 12 0 CH261838



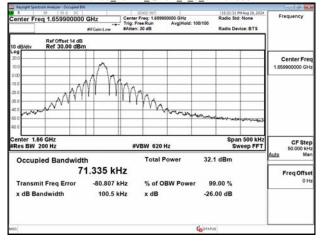
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Band255 15kHz QPSK 1 0 CH261672



Band255 15kHz QPSK 1 0 CH261838



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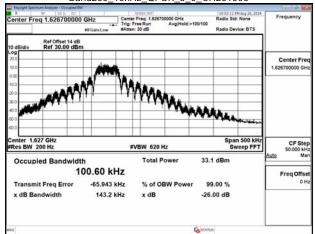
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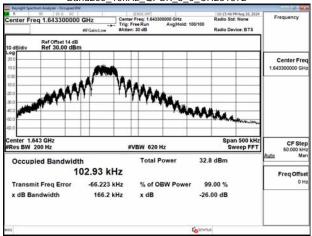
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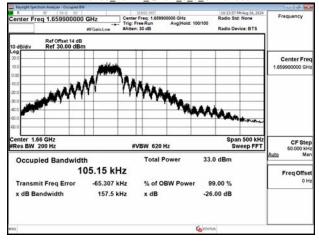




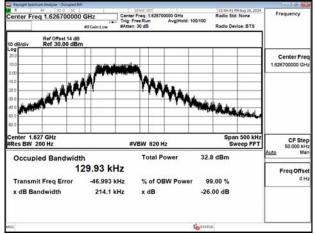
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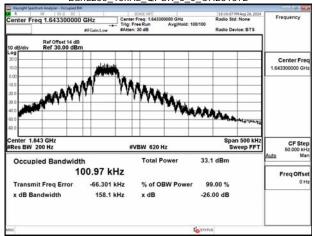
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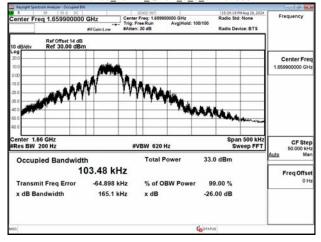
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Band255 15kHz QPSK 6 0 CH261672



Band255 15kHz QPSK 6 0 CH261838



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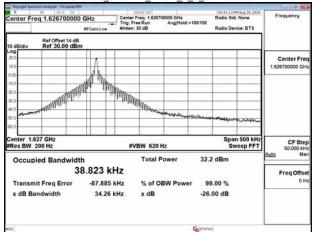
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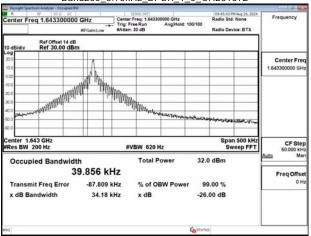
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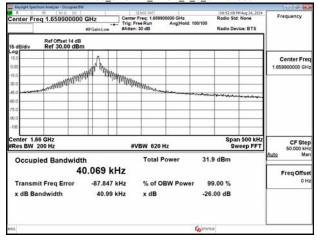
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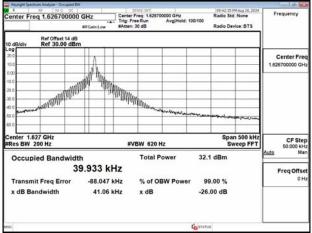
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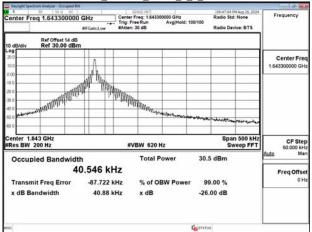
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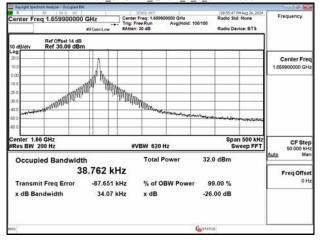
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Band255 3.75kHz QPSK 1 0 CH261672



Band255 3.75kHz QPSK 1 0 CH261838



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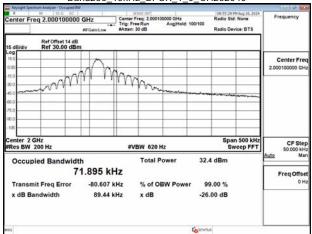
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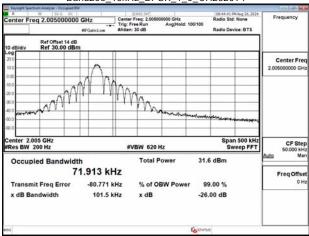
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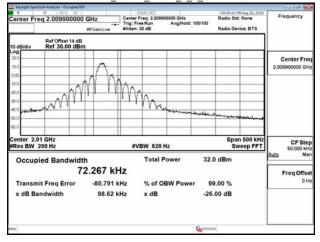
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Band256 15kHz BPSK 1 0 CH262094



Band256 15kHz BPSK 1 0 CH262143



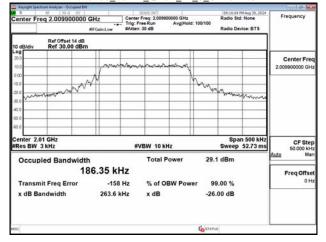
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Band256 15kHz QPSK 12 0 CH262094



Band256 15kHz QPSK 12 0 CH262143



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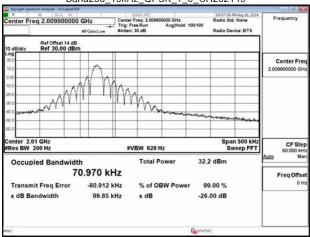




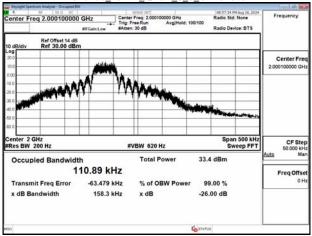
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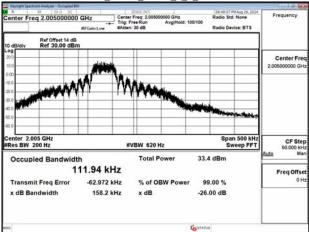
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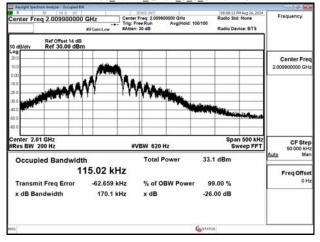
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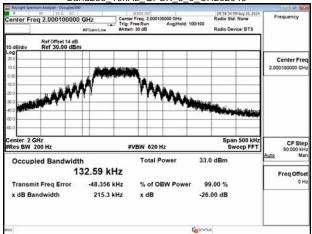
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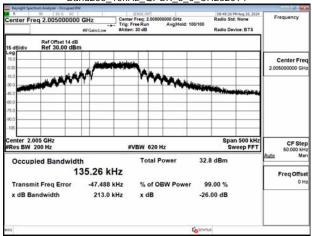
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Band256\_15kHz\_QPSK\_6\_0\_CH262045



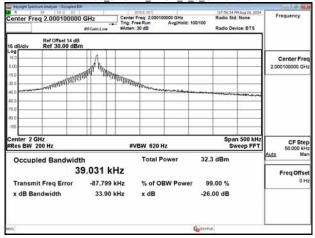
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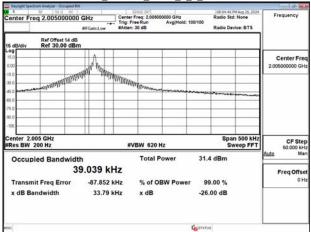
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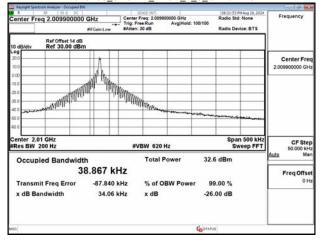
Band256\_3.75kHz\_BPSK\_1\_0\_CH262045



Band256 3.75kHz BPSK 1 0 CH262094



Band256 3.75kHz BPSK 1 0 CH262143



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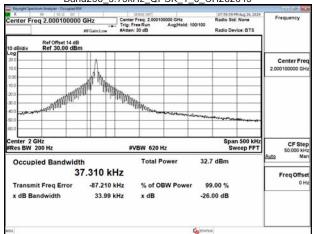
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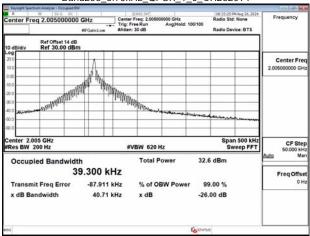


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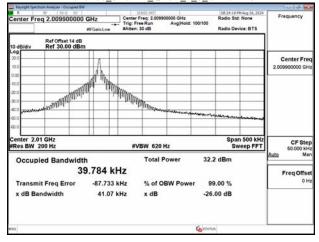
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# Band256\_3.75kHz\_QPSK\_1\_0\_CH262143



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