





# FCC PART 15.247 TEST REPORT

For

# AKUVOX (XIAMEN) NETWORKS CO., LTD.

10/F, No.56 Guanri Road, Software Park II, Xiamen 361009, China

## FCC ID: 2AHCR-PG71

Report Type:		Product Name:
Original Report		HyPanel Pro
Report Number:	XMDN240219-	08385E-RF-01
Report Date:	2025-01-06	
		h) 1
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# REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	XMDN240219-08385E-RF-01	R1V1	2025-01-06	Initial Release

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## **GENERAL INFORMATION**

#### **Product Description for Equipment under Test (EUT)**

Applicant:	AKUVOX (XIAMEN) NETWORKS CO., LTD.
Product Name:	HyPanel Pro
Tested Model:	PG71
Series Model(s):	PG71N
Power Supply:	DC 12V from Adapter or DC 48V from PoE
Maximum Output Power (Conducted):	GFSK: 10.82 dBm; π/4-DQPSK:10.87 dBm; 8DPSK: 11.21 dBm
RF Function:	Classic BT
Operating Band/Frequency:	2402-2480 MHz
Channel Number:	79
Channel Separation:	1 MHz
Modulation Type:	GFSK, π/4-DQPSK, 8DPSK
Antenna Type:	FPC Antenna
★Maximum Antenna Gain:	2dBi
EUT Received Status:	Good
Note:	

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#### Note:

- 1. The Maximum Antenna Gain was declared by manufacturer.
- 2. The model difference is PG71 is equipped with a camera and an indicator Led, while PG71N does not. Please refer to declaration letter for more detail.
- 3. All measurement and test data in this report was gathered from production sample serial number:

XMDN240219-08385E-RF-1(model:PG71), XMDN240219-08385E-RF-2(model:PG71N) (Assigned by the BACL (Xiamen). The EUT supplied by the applicant was received on 2024-05-06)

## **Objective**

This test report is prepared for AKUVOX (XIAMEN) NETWORKS CO., LTD. in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communication Commissions rules.

The tests were performed in order to determine Compliance with FCC Part 15, Subpart C, section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

#### **Test Methodology**

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices and 558074 D01 15.247 Meas Guidance v05r02.

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#### **Test Facility**

The Test site used by Bay Area Compliance Laboratories Corp. (Xiamen) to collect test data is located on the Unit 102, No. 902 Meifeng South Road, Binhai West Avenue, Science and Technology Innovation Park, Torch High tech Zone XiaMen.

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Bay Area Compliance Laboratories Corp. (Xiamen) Lab is accredited to ISO/IEC 17025 by A2LA (Certificate Number: 7134.01) and the lab has been recognized as the FCC accredited lab under the KDB 974614 D01, the FCC Designation No.: CN1384.

#### **Measurement Uncertainty**

Item	Ulab	
AC Power Lines Conducted Emissions	ver Lines Conducted Emissions 150kHz-30MHz	
	9kHz-30MHz	2.59 dB
	30MHz~200MHz	4.38 dB
Radiated emission	200MHz~1GHz	4.50 dB
Radiated emission	1GHz~6GHz	4.6 dB
	6GHz~18GHz	5.42 dB
	18GHz~26.5GHz	5.37 dB
Occupied Bandwidth		0.053kHz
Transmitter Conducted Power		0.624 dB
Conducted Spurious Emission		2.52 dB
Temperature		1℃
Humidity		5%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

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#### **Test Mode and Voltage**

The system was configured for testing in a typical mode (as normally used by a typical user).		
Test mode:	Test mode 1: Transmitting	
Test voltage:	DC 12V from Adapter(AC 120V/60Hz) or DC 48V from PoE(AC 120V/60Hz)	
Remark:	During all emission tests, the EUT was configured to measure its highest possible emission level and the worst case's test data was presented in this test report.	

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#### Note:

- 1. Power from adapter and PoE were evaluated in the XMDN240219-08385E-RF-02 report for the AC Line Conducted Emissions Test and Radiation Spurious Emissions Test. The report showed that PoE had worse emissions in AC Line Conducted Emissions Test and Radiation Spurious Emissions Test. Therefore only the test results with worst case PoE are reflected in this report.
- 2. For series model PG71N, Radiated Spurious Emissions below 1GHz and AC line conducted emissions was tested since the hardware difference.

#### **Description of Test Configuration**

Channel list:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	40	2442
1	2403	•••	
	•••	•••	
	•••	78	2480
39	2441	/	/

EUT was tested with Channel 0, 39 and 78.

#### **EUT Exercise Software**

RF Test Tool: QRCT.exe

Test Modes	Power Level Setting		
Test Wodes	<b>Lowest Channel</b>	Middle Channel	Highest Channel
GFSK	9	9	9
π/4-DQPSK	9	9	9
8DPSK	9	9	9

Note: The power level was declared by the applicant.

### **Special Accessories**

No special accessory.

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## **Equipment Modifications**

No modification was made to the EUT tested.

## **Support Equipment List and Details**

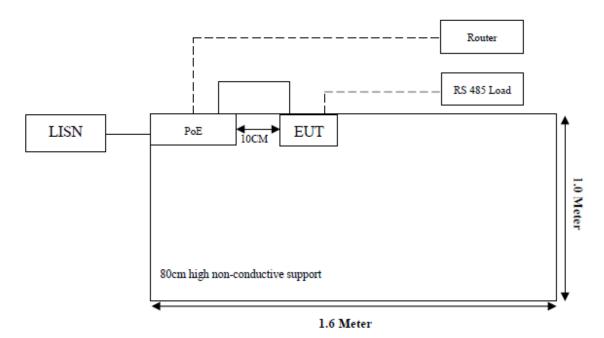
Manufacturer	Description	Model	Serial Number
NETGEAR	POE	MSIP-REN-NGR- GS108Ev3	3UJD1756006EB
BACL	RS 485 Load	unknown	unknown
Honor	Router	WS831	W6E7S15B09001200

#### **External I/O Cable**

Cable Description	Length (m)	From Port	То
Network cable	1	EUT	POE
Network cable	10	POE	Router
Load cable	10	EUT	RS 485 Load

## **Block Diagram of Test Setup**

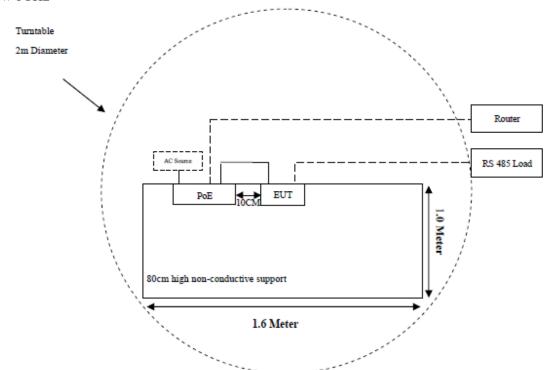
Conducted Emission:



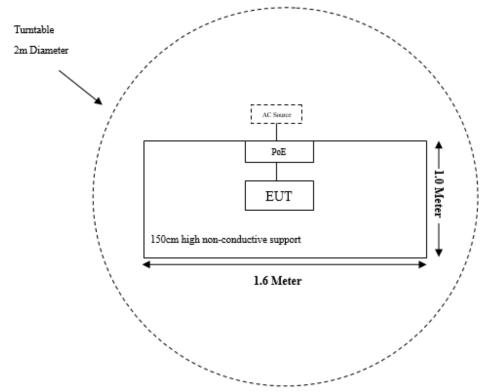
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## Radiated Emission:

#### Below 1GHz



## Above 1GHz



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# SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliant
§15.207(a)	AC Line Conducted Emissions	Compliant
§15.205, §15.209 & §15.247(d)	Radiated Emissions & Restricted Bands Emissions	Compliant
§15.247(a)(1)	20 dB Emission Bandwidth	Compliant
§15.247(a)(1)	Channel Separation Test	Compliant
§15.247(a)(1)(iii)	Time of Occupancy (Dwell Time)	Compliant
§15.247(a)(1)(iii)	Quantity of hopping channel Test	Compliant
§15.247(b)(1)	Peak Output Power Measurement	Compliant
§15.247(d)	Band edges	Compliant

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# TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
	Con	ducted Emission Tes	t		
EMI Test Receiver	Rohde & Schwarz	ESR	103105	2024/03/29	2025/03/28
LISN	Rohde & Schwarz	ENV216	100129	2024/03/29	2025/03/28
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	0357.8810.54	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH400T-N-4M	CC001	2024/03/29	2025/03/28
Test Software	Audix	E3	18621a	N/A	N/A
	Radiate	ed Emissions Below 1	GHz		
EMI Test Receiver	Rohde & Schwarz	ESR	103103	2024/03/29	2025/03/28
Loop Antenna	Rohde & Schwarz	HFH2-Z2	830749/001	2023/07/27	2026/07/26
Antenna	Sunol Sciences	JB6	A122022-5	2023/07/27	2026/07/26
Amplifier	Sonoma	310B	120903	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH400T-N-4M	CC002	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH460B-N-2M	CC006	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH460B-N-12M	CC007	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	HFH2-CC	335.3609	2024/03/29	2025/03/28
Test Software	Audix	E3	18621a	N/A	N/A
	Radiate	ed Emission Above 1	GHz		
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102051	2024/03/29	2025/03/28
Double Ridge Guide Horn Antenna	A.H.Systems	SAS-571	1980	2023/07/28	2026/07/27
Horn Antenna	EMCO	3116	9407-2232	2023/07/31	2026/07/30
Horn Antenna	EMCO	3115	9002-3355	2024/11/19	2027/11/18
Preamplifier	A.H.Systems	PAM-0118P	489	2024/03/29	2025/03/28
Preamplifier	A.H.Systems	PAM-1840	200	2024/03/29	2025/03/28
Filter Switch Unit	Decentest	DT7220FSU	DS79904	2024/02/23	2025/02/22
Multiplex Switch Test Control Set	Decentest	DT7220SCU	DS79901	2024/02/23	2025/02/22
Coaxial Cable	XINHANGWEIBO	XH800A-N-6M	CC003	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH800A-N-1M	CC005	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH360A-2.92-3M	CC008	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH360A-2.92-1M	CC009	2024/03/29	2025/03/28
Test Software	Audix	E3	18621a	N/A	N/A
	I	RF Conducted Test			
Spectrum Analyzer	Rohde & Schwarz	FSU	100405	2024/03/29	2025/03/28
Coaxial Cable	N/A	N/A	N/A	2024/03/29	2025/03/28

**Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Xiamen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

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## FCC §15.203 – ANTENNA REQUIREMENT

#### **Applicable Standard**

According to FCC § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

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- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.
- c. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### **Antenna Connector Construction**

The EUT has one FPC antenna for Bluetooth, which was permanently attached and the antenna gain is 2 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

**Result: Compliance** 

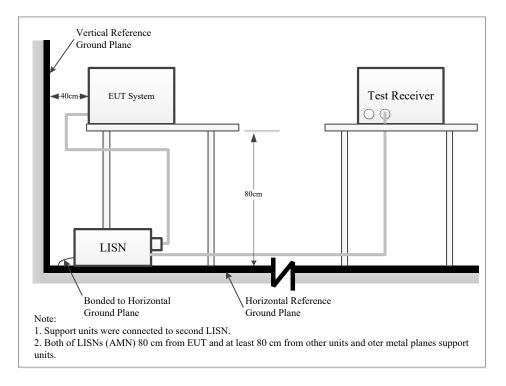
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## FCC §15.207 (a) - AC LINE CONDUCTED EMISSIONS

### **Applicable Standard**

FCC §15.207(a)

## **Test System Setup**



The measurement procedure of EUT setup is according with ANSI C63.10-2013. The related limit was specified in FCC Part 15.207.

#### **EMI Test Receiver Setup**

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range RBW		VBW	Detector		
150 kHz – 30 MHz	9 kHz	30 kHz	QP/AV		

#### **Test Procedure**

ANSI C63.10-2013 clause 6.2

During the conducted emission test, the adapter was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

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If the maximum peak value of the emissions is below the average limit, the QP value and average value measurement will not need to be performed and only record the maximum peak measured value to meet the requirements.

## **Result & Margin Calculation**

The Result is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation from the Meter Reading. The basic equation is as follows:

```
Factor (dB) = LISN VDF (dB) + Cable Loss (dB) + Transient Limiter Attenuation (dB) Result (dB\muV) = Reading (dB\muV) + Factor (dB)
```

The "Margin" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin (dB) = Limit (dB $\mu$ V) –Result (dB $\mu$ V)

#### **Test Data**

Temperature:	19.8°C~22.4°C
Relative Humidity:	41%~56%
ATM Pressure:	100.1kPa
Test Date:	2024-08-26~2025-01-02
Test Engineer:	Spike Gao

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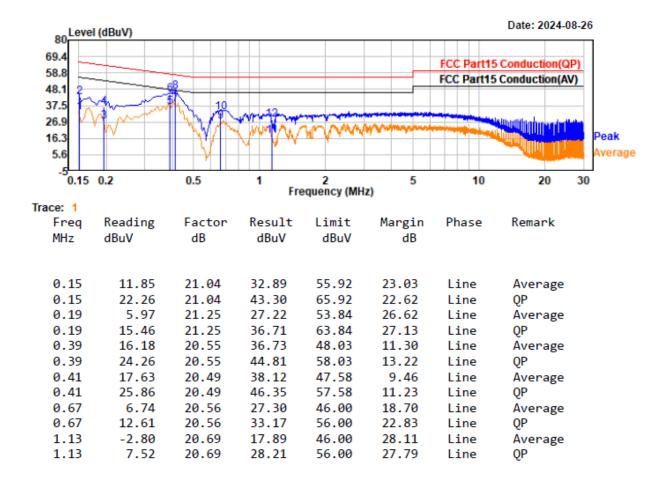
EUT operation mode: Transmitting in EDR (8DPSK) middle channel (worst case)

#### **EUT Model: PG71**

Project No.: XMDN240219-08385E Temp/Humi/ATM: 22.4℃/56%/100.1kPa

Test Mode: BT 3DH1 2441 Tested by: Spike Gao

EUT Model: PG71 Power Source: DC 48V from PoE

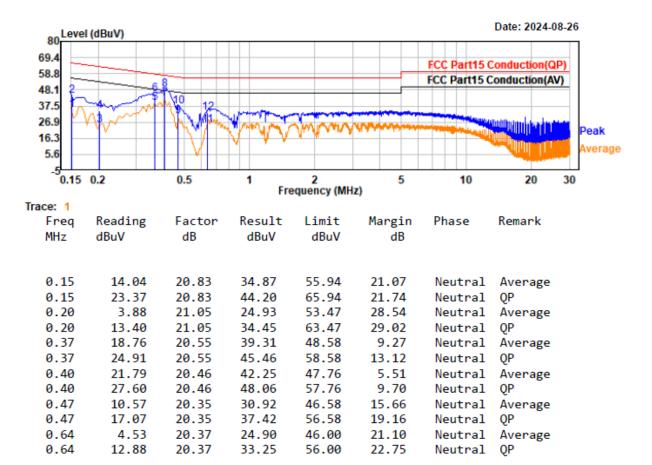


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Project No.: XMDN240219-08385E Temp/Humi/ATM: 22.4℃/56%/100.1kPa

Test Mode: BT 3DH1 2441 Tested by: Spike Gao

EUT Model: PG71 Power Source: DC 48V from PoE



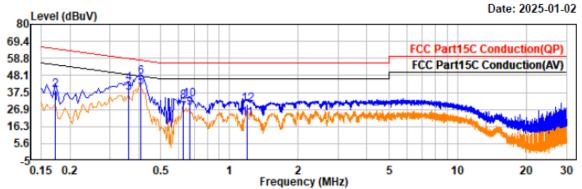
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#### **EUT Model: PG71N**

Project No.: XMDN240219-08385E Temp/Humi/ATM: 19.8℃/41%/100.1kPa

Test Mode: BT 3DH1 2441 Tested by: Spike Gao

EUT Model: PG71N Power Source: DC 48V From POE



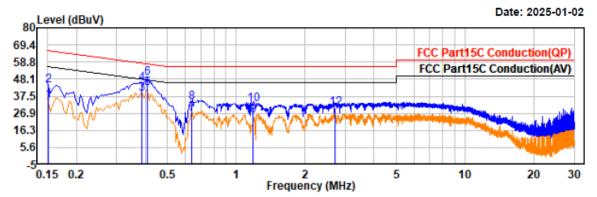
Trace: 1 Condition: QP/AV RBW:9kHz VBW:30kHz SWT:auto Freq Reading Factor Result Limit Margin Phase Remark MHz dBuV dB dBuV dBuV dB Average 0.17 9.85 20.76 30.61 54.85 24.24 Line 0.17 18.43 20.76 39.19 64.85 25.66 Line QΡ 0.36 16.95 20.38 37.33 48.65 11.32 Line Average 0.36 22.76 20.38 43.14 58.65 15.51 Line QΡ 6.76 Line 0.41 20.57 20.35 40.92 47.68 Average 0.41 26.87 20.35 47.22 57.68 10.46 Line QP 4.27 24.71 46.00 21.29 Line 0.63 20.44 Average 11.77 20.44 32.21 56.00 23.79 Line 0.63 QP 7.15 27.62 46.00 18.38 Line 0.67 20.47 Average 0.67 12.71 20.47 33.18 56.00 22.82 Line QP 1.19 0.34 20.97 21.31 46.00 24.69 Line Average 9.19 20.97 30.16 56.00 25.84 Line QΡ 1.19

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Project No.: XMDN240219-08385E Temp/Humi/ATM: 19.8℃/41%/100.1kPa

Test Mode: BT 3DH1 2441 Tested by: Spike Gao

EUT Model: PG71N Power Source: DC 48V From POE



Trace: 1 Condition: QP/AV RBW:9kHz VBW:30kHz SWT:auto Reading Factor Result Limit Remark Freq Margin Phase MHz dBuV dB dBuV dBuV 55.94 0.15 13.86 20.73 34.59 21.35 Neutral Average 0.15 23.40 20.73 44.13 65.94 21.81 Neutral OP 0.39 18.69 20.46 39.15 48.12 8.97 Neutral Average 45.52 0.39 25.06 20.46 58.12 12.60 Neutral QΡ 0.41 20.45 42.33 5.34 21.88 47.67 Neutral Average 0.41 28.21 20.45 48.66 57.67 9.01 Neutral QP 0.64 6.55 20.33 26.88 46.00 19.12 Neutral Average 0.64 13.29 20.33 33.62 56.00 22.38 Neutral QΡ 1.19 4.57 20.94 25.51 46.00 20.49 Neutral Average 23.71 1.19 11.35 20.94 32.29 56.00 Neutral QΡ 2.71 3.85 20.91 24.76 46.00 21.24 Neutral Average 2.71 9.48 20.91 30.39 56.00 25.61 Neutral QΡ

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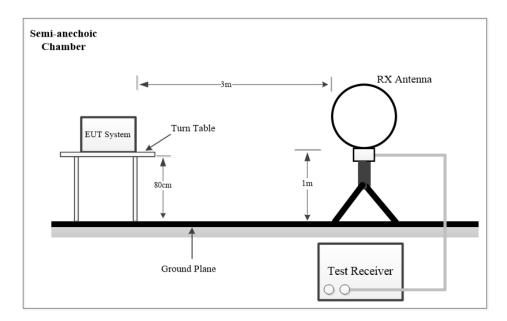
# FCC §15.205, §15.209 & §15.247(d) – RADIATED EMISSIONS

## **Applicable Standard**

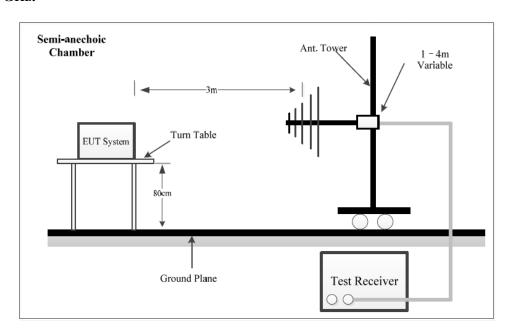
FCC §15.205; §15.209; §15.247(d)

## **Test System Setup**

#### 9 kHz-30MHz

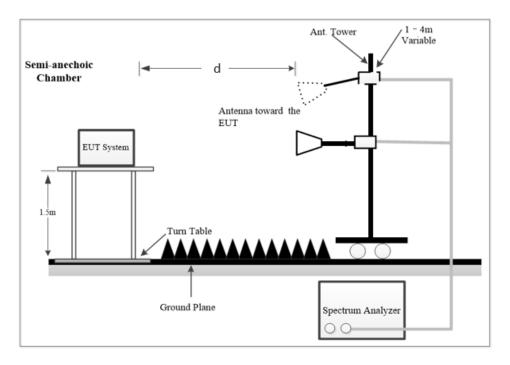


#### **Below 1 GHz:**



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#### **Above 1GHz:**



The radiated emission tests using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.247 limits.

NOTE: d is testing distance;

For Radiated Emission test (1GHz-18GHz) and Bandedge Emission test, which was performed at 3 m distance.

For Radiated Emission test (18GHz-25GHz), which was performed at 1.0 m distance, according to ANSI C63.10-2013, the test result shall be extrapolated to the specified distance using an extrapolation Factor of 20dB/decade from 3m to 1.0m.

Distance extrapolation Factor =20 log (specific distance [3m]/test distance [1.0m]) dB= 9.54 dB

#### EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9 kHz to 25 GHz.

During the radiated emission test, the EMI Test Receiver & Spectrum Analyzer Setup was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
9 kHz – 150 kHz	200Hz	1 kHz	200Hz	QP/AV
150 kHz – 30 MHz	10kHz	30 kHz	9 kHz	QP/AV
20 MHz 1000 MHz	100 kHz	300 kHz	/	PK
30 MHz – 1000 MHz	/	/	120kHz	QP

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#### 1GHz~25GHz:

Pre-scan:

Measurement	RBW	Video B/W		
PK	1MHz	3MHz		
Ave.	1MHz	5kHz		

Final measurement for emission identifed ding the pre-scan:

Measurement	RBW	Video B/W		
PK	1MHz	3MHz		
Ave.	1MHz	10Hz		

#### **Test Procedure**

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

For each measurement antenna alignment, the EUT shall be rotated through 0°to 360° on a turntable. The report shall list the six emissions with the smallest margin relative to the limit, for each of the three antenna orientations (parallel, perpendicular, and ground parallel) unless the margin is greater than 20 dB, then the following statement shall be made: "all emissions were greater than 20 dB below the limit."

Below 1GHz, if the measured peak level of the emissions that the measuring receiver reading level plus corrected factor is at least 10 dB below the QP emission limit, there's no need to record the measured QP level of the emissions in the report.

Above 1GHz, if the measured peak level of the emissions that the measuring receiver reading level plus corrected factor is at least 6 dB below the AV emission limit, there's no need to record the measured AV level of the emissions in the report.

#### **Result & Margin Calculation**

The Result is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

For 9 kHz to 18GHz Radiated emission test Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB)

For 18GHz to 25GHz Radiated emission test and Bandedge emissions test Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB) - Extrapolation factor (dB)

Extrapolation factor=9.54dB (distance=1m)

Result  $(dB\mu V/m) = Reading (dB\mu V) + Factor (dB/m)$ 

The "Margin" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin (dB) = Limit (dB $\mu$ V/m) –Result (dB $\mu$ V/m)

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#### **Test Data**

Please refer to the below table and plots.

After pre-scan in the X, Y and Z axes of orientation, the worst case is below:

Frequency Range:	Below 1 GHz	Above 1 GHz		
Temperature:	20.5°C~23.5°C	21.7°C~23.5°C		
Relative Humidity:	44%~53%	49%~53%		
ATM Pressure:	100.1kPa~101kPa	100.1kPa		
Test Date:	2024-07-26~2024-12-27	2024-08-26~2024-12-04		
Test Engineer:	Wlif Wu	Wlif Wu		

## 1) 9 kHz ~30 MHz

Pre-scan in parallel, ground-parallel and perpendicular of orientation of loop antenna, parallel is worst case

EUT operation mode: Transmitting in EDR (8DPSK) middle channel (worst case)

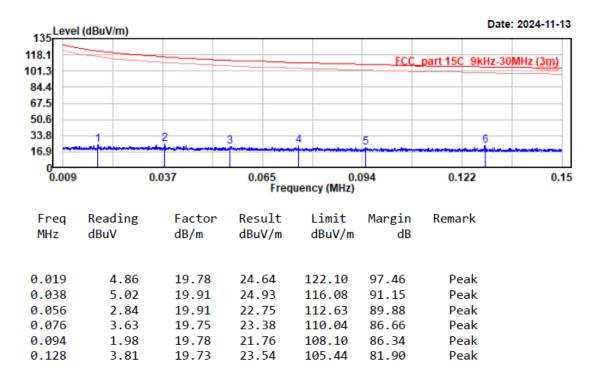
#### **EUT Model: PG71**

Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 23.5℃/53%/100.1kPa

Test Mode: BT 3DH1 2441 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



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Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 23.5°C/53%/100.1kPa

Test Mode: BT 3DH1 2441 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE Test distance: 3m

Level	(dBuV/m)					Da	ate: 2024-11-13
	4				FC	C_part 15_9kHz	30MHz (3m)
	23 4	5 6	of the second special	han and an all the same and all the same		the same of the state of the same of the s	
0.15		6.12	12.09 Freq	18 uency (MHz)	.06	24.03	30
req Iz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Remark	
L83 L59	16.46 15.10	19.72 19.62	36.18 34.72	102.36 69.54	66.18 34.82	Peak Peak	
732 877 175	15.18 13.63 14.10	19.77 19.73 19.75	34.95 33.36 33.85	69.54 69.54 69.54	34.59 36.18 35.69	Peak Peak Peak Peak	
487	13.20	19.68	32.88	69.54	36.66	Peak	

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#### Report No.: XMDN240219-08385E-RF-01

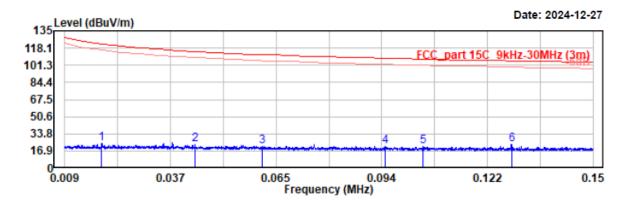
#### **EUT Model: PG71N**

Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 22.5°C/44%/100.1kPa

Test Mode: BT 3DH1 2441 Tested by: Wlif Wu

EUT Model: PG71N Power Source: DC 48V from PoE

Test distance: 3m



Condition: PK RBW:200Hz VBW:1kHz SWT:auto

OP RBW: 200Hz SWT: auto

	QI INDM. 200	miz Swii.uu				
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Remark
0.019	4.86	19.78	24.64	122.10	97.46	Peak
0.044	3.01	19.91	22.92	114.77	91.85	Peak
0.062	1.84	19.89	21.73	111.81	90.08	Peak
0.094	1.98	19.78	21.76	108.10	86.34	Peak
0.105	1.87	19.73	21.60	107.21	85.61	Peak
0.128	3.81	19.73	23.54	105.44	81.90	Peak

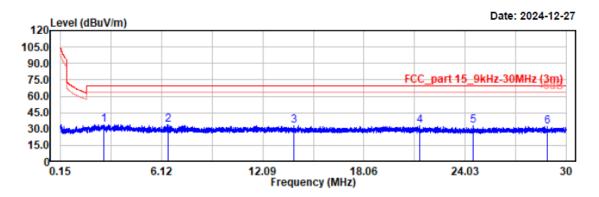
FCC Part 15.247 Page 24 of 114

Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 22.5℃/44%/100.1kPa

Test Mode: BT 3DH1 2441 Tested by: Wlif Wu

EUT Model: PG71N Power Source: DC 48V from PoE

Test distance: 3m



Condition: PK RBW:10kHz VBW:30kHz SWT:auto

Freq MHz	Reading dBuV		Result			Remark
2.732	14.18	19.77	33.95	69.54	35.59	Peak

2./32	14.10	17.//	22.22	00.04	22.22	I Cak
6.475	14.10	19.75	33.85	69.54	35.69	Peak
13.911	13.17	19.75	32.92	69.54	36.62	Peak
21.367	12.67	20.13	32.80	69.54	36.74	Peak
24.496	12.98	20.21	33.19	69.54	36.35	Peak
28.881	12.25	20.02	32.27	69.54	37.27	Peak

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## 2) 30MHz-1GHz

EUT operation mode: Transmitting in EDR(8DPSK) middle channel (worst case)

#### **EUT Model: PG71**

Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 20.5℃/51%/101kPA

Test Mode: BT 3DH1 2441 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m

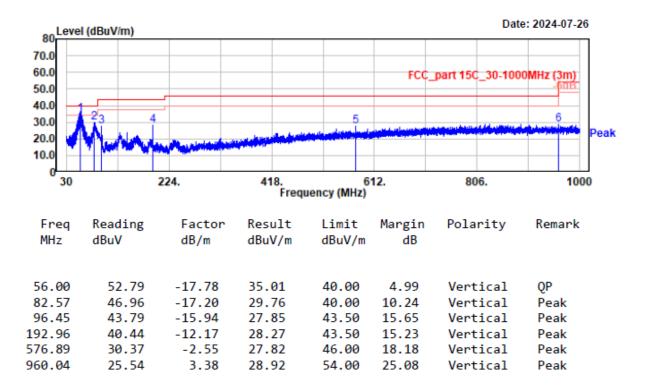
	(dBuV/m)						Date	: 2024-07-2	6
70.0 60.0 50.0					FCC	_part 150	_30-1000	MHz (3m) -6대급	
40.0 30.0 20.0	1	2	3		during dame	4 5		6	Peak
10.0	Market Street	Marie of a site of							
30		224.	418. Frequ	61 uency (MHz)	12.	80	6.	100	00
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Pola	rity	Remark	
192.96 289.48 385.80 719.96 740.23 912.80	40.18 35.79 35.04 27.79 28.17 25.84	-12.17 -9.24 -6.86 0.05 0.32 2.70	28.01 26.55 28.18 27.84 28.49 28.54	43.50 46.00 46.00 46.00 46.00	15.49 19.45 17.82 18.16 17.51	Hori Hori Hori Hori	zontal zontal zontal zontal zontal zontal	Peak Peak Peak Peak Peak Peak	

FCC Part 15.247 Page 26 of 114 Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 20.5℃/51%/101kPA

Test Mode: BT 3DH1 2441 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



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## Report No.: XMDN240219-08385E-RF-01

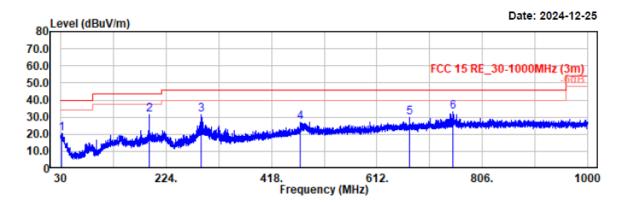
#### **EUT Model: PG71N**

Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 23.2℃/46%/100.2kPa

Test Mode: BT 3DH1 2441 Tested by: Wlif Wu

EUT Model: PG71N Power Source: DC 48V from PoE

Test distance: 3m



Condition: PK RBW:100kHz VBW:300kHz SWT:auto

QP RBW:120kHz SWT:auto

	f	o					
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
31.75 192.67 289.09 471.35 672.04 752.17	26.77 43.37 40.63 31.18 30.26 32.37	-6.27 -12.17 -9.24 -4.16 -0.62 0.52	20.50 31.20 31.39 27.02 29.64 32.89	40.00 43.50 46.00 46.00 46.00 46.00	19.50 12.30 14.61 18.98 16.36 13.11	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal	Peak Peak Peak Peak

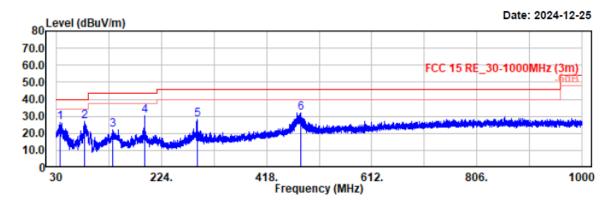
FCC Part 15.247 Page 28 of 114

Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 23.2℃/46%/100.2kPa

Test Mode: BT 3DH1 2441 Tested by: Wlif Wu

EUT Model: PG71N Power Source: DC 48V from PoE

Test distance: 3m



Condition: PK RBW:100kHz VBW:300kHz SWT:auto

OP RBW:120kHz SWT:auto

	QF NDW.12	OKIIZ SWI.at	aco				
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
36.69	35.70	-9.26	26.44	40.00	13.56	Vertical	Peak
81.22	43.86	-17.08	26.78	40.00	13.22	Vertical	Peak
134.57	32.24	-10.30	21.94	43.50	21.56	Vertical	Peak
192.77	42.63	-12.17	30.46	43.50	13.04	Vertical	Peak
289.38	37.10	-9.24	27.86	46.00	18.14	Vertical	Peak
480.47	36.02	-3.81	32.21	46.00	13.79	Vertical	Peak

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#### Report No.: XMDN240219-08385E-RF-01

#### 3) 1 GHz-18 GHz

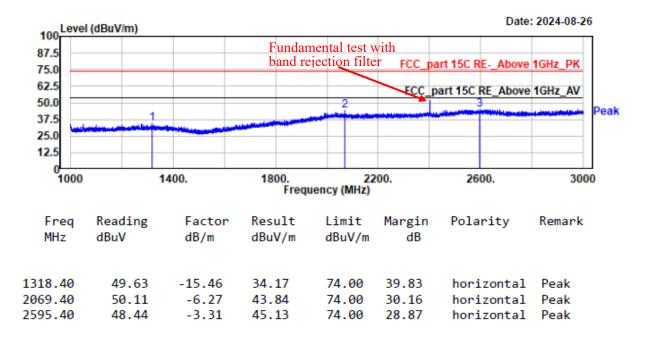
#### **EUT Model: PG71**

Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 23.5°C/53%/100.1kPa

Test Mode: 1DH1-2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



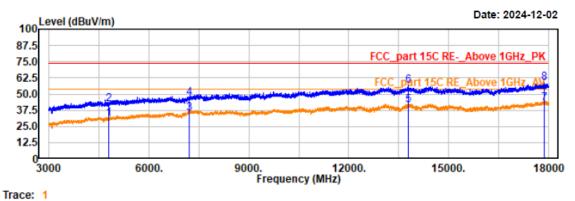
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Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 23.1℃/53%/100.1kPa

Test Mode: 1DH1-2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4804.50	35.36	-4.45	30.91	54.00	23.09	horizontal	Average
4804.50	46.55	-4.45	42.10	74.00	31.90	horizontal	Peak
7206.00	37.11	-1.73	35.38	54.00	18.62	horizontal	Average
7206.00	48.37	-1.73	46.64	74.00	27.36	horizontal	Peak
13783.50	36.06	5.02	41.08	54.00	12.92	horizontal	Average
13783.50	51.61	5.02	56.63	74.00	17.37	horizontal	Peak
17868.00	35.59	7.47	43.06	54.00	10.94	horizontal	Average
17868.00	50.98	7.47	58.45	74.00	15.55	horizontal	Peak

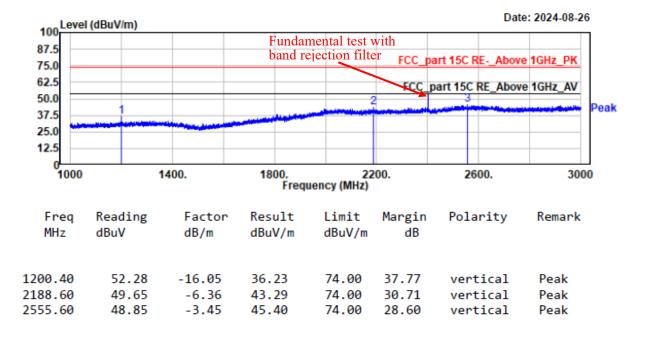
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Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 23.5℃/53%/100.1kPa

Test Mode: 1DH1-2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



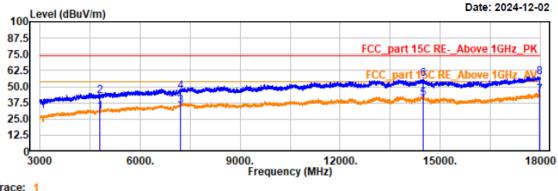
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Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 23.1°C/53%/100.1kPa

Test Mode: 1DH1-2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Trace: 1

Condition: PK RBW:1MHz VBW:3MHz SWT:auto

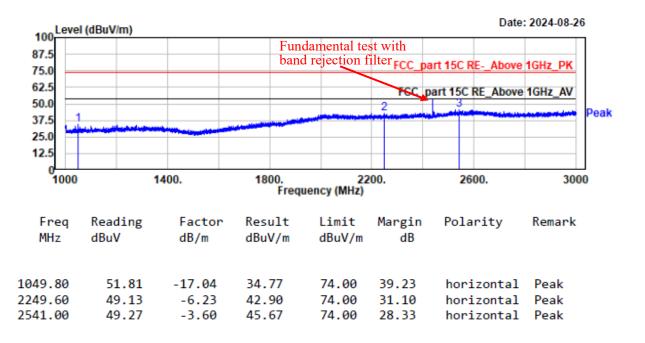
	AV RBW:	LMHz VBW:5	kHz SWT:au	ito			
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
						_	
4804.50	35.07	-4.45	30.62	54.00	23.38	vertical	Average
4804.50	47.07	-4.45	42.62	74.00	31.38	vertical	Peak
7206.00	37.15	-1.73	35.42	54.00	18.58	vertical	Average
7206.00	47.71	-1.73	45.98	74.00	28.02	vertical	Peak
14496.00	35.89	4.98	40.87	54.00	13.13	vertical	Average
14496.00	50.61	4.98	55.59	74.00	18.41	vertical	Peak
17977.50	35.96	7.71	43.67	54.00	10.33	vertical	Average
17977.50	49.86	7.71	57.57	74.00	16.43	vertical	Peak

FCC Part 15.247 Page 33 of 114 Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 23.5℃/53%/100.1kPa

Test Mode: 1DH1-2441 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



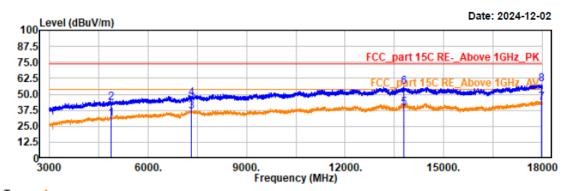
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Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 23.1℃/53%/100.1kPa Tested by: Wlif Wu

Test Mode: 1DH1-2441

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Trace: 1 Condition: PK RBW:1MHz VBW:3MHz SWT:auto AV RBW:1MHz VBW:5kHz SWT:auto

	AV NDW	TUUZ ADM'ƏL	KHZ SWI.au	ico			
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4882.50	34.96	-4.24	30.72	54.00	23.28	horizontal	Average
4882.50	47.80	-4.24	43.56	74.00	30.44	horizontal	
7323.00	37.87	-1.61	36.26	54.00	17.74	horizontal	Average
7323.00	48.55	-1.61	46.94	74.00	27.06	horizontal	Peak
13801.50	34.50	5.04	39.54	54.00	14.46	horizontal	Average
13801.50	50.60	5.04	55.64	74.00	18.36	horizontal	Peak
17977.50	35.54	7.71	43.25	54.00	10.75	horizontal	Average
17977.50	50.44	7.71	58.15	74.00	15.85	horizontal	Peak

FCC Part 15.247 Page 35 of 114 Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 23.5℃/53%/100.1kPa

Test Mode: 1DH1-2441 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m

100 Level	(dBuV/m)					Da	ite: 2024-08-26
			Fun	damental te	st with		
87.5			ban	d rejection f	ilter FCC r	oart 15C REAbo	ve 1GHz PK
75.0							
62.5					FCC	part 15C RE_Abo	ve 1GHz_AV
50.0	1				2	-	P
37.5	ومعمودين أفيهونين	The second second	the same of the party of the pa				
25.0							
12.5							
1000	1	400.	1800.	22	00.	2600.	3000
1000		400.		uency (MHz)		2000.	5000
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	rolar icy	Kellidi K
11112	abav	ub/iii	ubuv/ III	ubu v / iii	ub		
00.00	52.71	-16.05	36.66	74.00	37.34	vertical	Peak
79.60	48.99	-5.47	43.52	74.00	30.48	vertical	Peak

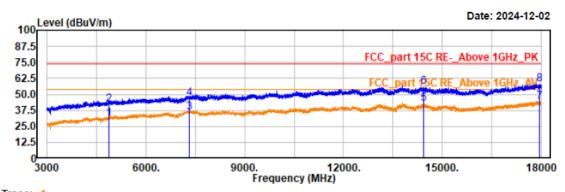
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Temp/Humi/ATM: 23.1  $^{\circ}\mathrm{C}/53\%/100.1 kPa$  Tested by: Wlif Wu Project No.: XMDN240219-08385E-RF

Test Mode: 1DH1-2441

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1	1MHz VBW:5k	κΗz SWT:au	ıto			
Reading	Factor	Result	Limit	Margin	Polarity	Remark
dBuV	dB/m	dBuV/m	dBuV/m	dB		
35.51	-4.24	31.27	54.00	22.73	vertical	Average
46.44	-4.24	42.20	74.00	31.80	vertical	Peak
37.71	-1.61	36.10	54.00	17.90	vertical	Average
48.75	-1.61	47.14	74.00	26.86	vertical	Peak
37.57	5.10	42.67	54.00	11.33	vertical	Average
50.64	5.10	55.74	74.00	18.26	vertical	Peak
36.28	7.66	43.94	54.00	10.06	vertical	Average
49.95	7.66	57.61	74.00	16.39	vertical	Peak
	Reading dBuV 35.51 46.44 37.71 48.75 37.57 50.64 36.28	Reading dBuV dB/m  35.51 -4.24 46.44 -4.24 37.71 -1.61 48.75 -1.61 37.57 5.10 50.64 5.10 36.28 7.66	Reading dBuV dB/m Result dBuV/m  35.51 -4.24 31.27 46.44 -4.24 42.20 37.71 -1.61 36.10 48.75 -1.61 47.14 37.57 5.10 42.67 50.64 5.10 55.74 36.28 7.66 43.94	dBuV dB/m dBuV/m dBuV/m  35.51 -4.24 31.27 54.00 46.44 -4.24 42.20 74.00 37.71 -1.61 36.10 54.00 48.75 -1.61 47.14 74.00 37.57 5.10 42.67 54.00 50.64 5.10 55.74 74.00 36.28 7.66 43.94 54.00	Reading dBuV dB/m dBuV/m dBuV/m dB limit dBuV/m limit dBuV/m dB limit dBuV/m dB limit dBuV/m limit	Reading dBuV dB/m Result Limit Margin dBuV/m dB Polarity dBuV/m dBuV/m dB Polarity dBuV/m dBuV/m dB Polarity dBuV/m dB Polarity dBuV/m dBuV/m dB Polarity dBuV/m dBuV/m dB Polarity dBuV/m dB Polarity dBuV/m dBuV/m dB Polarity dBuV/m dBuV/m dB Polarity dBuV/m dB Polarity dBuV/m dB Polarity dBuV/m dB Polarity dBuV/m dBuV/m dB Polarity dBuV/m dBuV/m dB Polarity dBuV/m dB Polarity dBuV/m dBuV/m dB Polarity dBuV/m dBuV/m dBuV/m dB Polarity dBuV/m dBuV/m dB Polarity dBuV/

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Test Mode: 1DH1-2480 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m

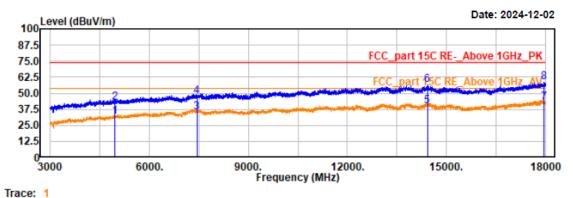
Level	(dBuV/m)						Date	: 2024-08	-26
			Fu	ndamental tes	t with				
.0			ba	nd rejection fi	lter FCC_	part 15C F	REAbove	1GHz_PK	
.5					PEC	part 15C	RF Above	1GHz AV	,
.0						L man	3	TOTIL_A	∃ I
.5	1		-	-		40			1
.0									1
.5									
1000	1	400.	1800. Fre	22 equency (MHz)	00.	26	00.	3	000
req Mz	Reading dBuV	Factor dB/m	Result dBuV/m		Margin dB	Pola	rity	Remar	k
0.00	50.59	-15.51	35.08	74.00	38.92	hori	izontal	Peak	
.40	48.98	-5.24	43.74	74.00	30.26	hori	izontal	Peak	
7.60	48.46	-3.31	45.15	74.00	28.85	hori	izontal	Peak	

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Test Mode: 1DH1-2480 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4960.50	35.96	-4.01	31.95	54.00	22.05	horizontal	Average
4960.50	46.99	-4.01	42.98	74.00	31.02	horizontal	Peak
7440.00	36.68	-1.59	35.09	54.00	18.91	horizontal	Average
7440.00	49.22	-1.59	47.63	74.00	26.37	horizontal	Peak
14421.00	35.08	5.11	40.19	54.00	13.81	horizontal	Average
14421.00	51.51	5.11	56.62	74.00	17.38	horizontal	Peak
17944.50	34.84	7.65	42.49	54.00	11.51	horizontal	Average
17944.50	50.96	7.65	58.61	74.00	15.39	horizontal	Peak

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Test Mode: 1DH1-2480 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m

100			Б	1 4 1 4	. 51		
87.5				damental tes			
75.0			band	l rejection fi	lter FCC_pa	art 15C REAbov	e 1GHz_PK
62.5							
					TEC	part 15C RE_Abov	e 1GHz_AV
50.0	4				2	days 3	Pe
37.5			And the Person of the Person of	Name and Address of the Owner, or other Designations of the Owner, where the Publisher,			
25.0		The state of the last of the l					
12.5							
0							
1000	1	400.	1800.		00.	2600.	3000
			Freq	uency (MHz)			
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
	_				_	rolarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
00.00	52.93	-16.05	36.88	74.00	37.12	vertical	Peak
00.00							
			43.13	74.00	30.87	vertical	Peak
30.00 55.20	49.18 48.65	-6.05 -3.51	45.14	74.00	28.86	vertical	Peak

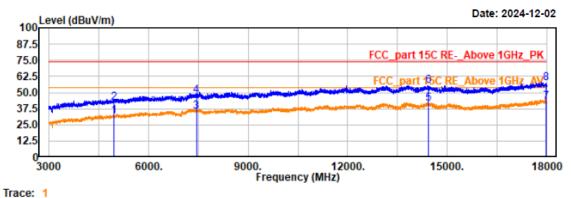
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Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 23.1  $^{\circ}\mathrm{C}/53\%/100.1 kPa$  Tested by: Wlif Wu

Test Mode: 1DH1-2480

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Condition: PK RBW:1MHz VBW:3MHz SWT:auto AV RBW:1MHz VBW:5kHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4960.50	35.54	-4.01	31.53	54.00	22.47	vertical	Average
4960.50	45.88	-4.01	41.87	74.00	32.13	vertical	Peak
7440.00	36.98	-1.59	35.39	54.00	18.61	vertical	Average
7440.00	49.49	-1.59	47.90	74.00	26.10	vertical	Peak
14437.50	36.59	5.08	41.67	54.00	12.33	vertical	Average
14437.50	50.28	5.08	55.36	74.00	18.64	vertical	Peak
17985.00	35.05	7.72	42.77	54.00	11.23	vertical	Average
17985.00	49.58	7.72	57.30	74.00	16.70	vertical	Peak

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Test Mode: 2DH1-2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m

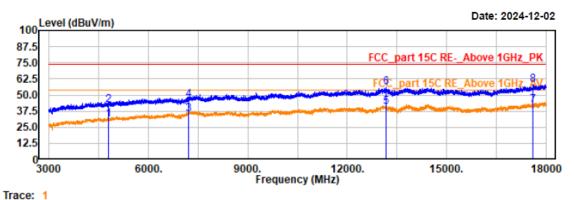
26	24-08-2	: 2024	Date										dBuV/m)	Level (
П							th	wit	ental test	Fundan				100
	Iz PK	1GHz	Above	RE-	15C F	part	FCC	lter	ection fil	band re				75.0 ——
														62.5
	Iz_AV	1GHz	_Above	RE.	rt 15C	par	FCC							50.0
Pe	حالطويسي		-	<b>—</b>	بسبيل		-	1					1	
П				Г							-	-		37.5
П				Т										25.0
П				т										12.5
00	300			00.	26			200.		00.		00.	14	1000
									cy (MHz)	Freque				
	emark	Rem	itv	ari	Pola	,	argin	Ma	Limit	ult	R	Factor	Reading	Freq
•			,				dB		dBuV/m	V/m		dB/m	dBuV	MHz
									,			,		
	eak	Pea	ontal	izo	hor		9.33	39	74.00	67	3	-15.51	50.18	80.00
	eak eak		ontal ontal				9.33 1.48		74.00 74.00	67 52	_	-15.51 -6.34	50.18 48.86	80.00 90.80

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Test Mode: 2DH1-2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RRW:1MHz VBW:5kHz SWT:auto

	AV KDW.	LINIZ VOW. JK	anz Swi.au	100			
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4804.50	35.44	-4.45	30.99	54.00	23.01	horizontal	Average
4804.50	46.63	-4.45	42.18	74.00	31.82	horizontal	Peak
7206.00	36.66	-1.73	34.93	54.00	19.07	horizontal	Average
7206.00	47.76	-1.73	46.03	74.00	27.97	horizontal	Peak
13171.50	35.30	5.06	40.36	54.00	13.64	horizontal	Average
13171.50	50.76	5.06	55.82	74.00	18.18	horizontal	Peak
17604.00	35.34	6.64	41.98	54.00	12.02	horizontal	Average
17604.00	51.33	6.64	57.97	74.00	16.03	horizontal	Peak

FCC Part 15.247 Page 43 of 114

Test Mode: 2DH1-2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m

100 Level	(dBuV/m)						Date	: 2024-0	8-26
			Funda	mental test	with				
87.5 75.0			band r	ejection filte	er FCC_	oart 15C RE	Above	1GHz_F	ĸ
62.5					FCC	part 15C R	E Abovo	1GU2 /	W
50.0				2	The same of the sa	part 15C K	C_ADOVE	TORZ_/	_
37.5	1		-	-	-	-		-	P
25.0		-							$-\parallel$
12.5									-
1000	1.	400.	1800.	22	00.	260	n		3000
		100.		uency (MHz)		200			5000
Freq	Reading	Factor	Result	Limit	Margin	Polar	itv	Rema	rk
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	10101		rrema	
		-	-	-					
00.20	53.72	-16.05	37.67	74.00	36.33	verti	cal	Peak	
63.20	49.54	-6.62	42.92	74.00	31.08	verti	cal	Peak	
11.20	48.94	-3.31	45.63	74.00	28.37	verti	-	Peak	

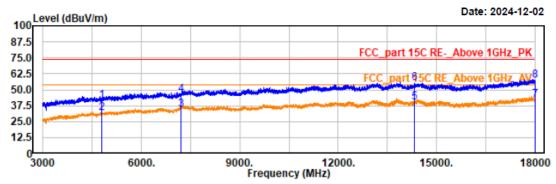
FCC Part 15.247 Page 44 of 114

Temp/Humi/ATM: 23.1  $^{\circ}$  /53%/100.1kPa Tested by: Wlif Wu Project No.: XMDN240219-08385E-RF

Test Mode: 2DH1-2402

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Trace: 1

Condition: PK RBW:1MHz VBW:3MHz SWT:auto

	AV RBW:1	LMHz VBW:5k	kHz SWT:au	ito			
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4804.00	45.95	-4.45	41.50	74.00	32.50	vertical	Peak
4804.50	35.87	-4.45	31.42	54.00	22.58	vertical	Average
7206.00	36.47	-1.73	34.74	54.00	19.26	vertical	Average
7206.00	48.28	-1.73	46.55	74.00	27.45	vertical	Peak
14331.00	34.75	5.18	39.93	54.00	14.07	vertical	Average
14331.00	49.97	5.18	55.15	74.00	18.85	vertical	Peak
17995.50	34.30	7.74	42.04	54.00	11.96	vertical	Average
17995.50	49.73	7.74	57.47	74.00	16.53	vertical	Peak

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Test Mode: 2DH1-2441 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m

Level	(dBuV/m)					Date	: 2024-08-26
87.5			Fund band	lamental tes rejection fi	t with lter FCC pa	art 15C REAbove	1GHz PK
75.0 62.5 50.0						oart 15C RE_Above	
37.5 25.0 12.5	1		A CONTRACTOR OF THE PARTY OF TH	2			Peak
1000	1	400.	1800. Frequ	22 uency (MHz)	00.	2600.	3000
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1280.00 2029.60 2989.20	49.74 48.99 49.25	-15.51 -6.30 -4.06	34.23 42.69 45.19	74.00 74.00 74.00	39.77 31.31 28.81	horizontal horizontal horizontal	Peak Peak Peak

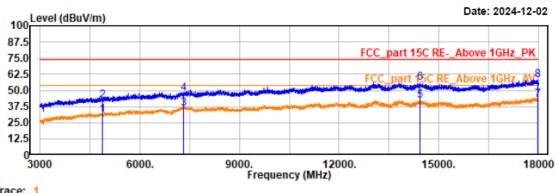
FCC Part 15.247 Page 46 of 114

Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 23.1  $^{\circ}\mathrm{C}/53\%/100.1 kPa$  Tested by: Wlif Wu

Test Mode: 2DH1-2441

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Trace: 1

Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:5kHz SWT:auto

	D11		D14	1224		D-1	D
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
		,			42		
4882.50	35.16	-4.24	30.92	54.00	23.08	horizontal	Average
4882.50	46.32	-4.24	42.08	74.00	31.92	horizontal	Peak
7323.00	37.79	-1.61	36.18	54.00	17.82	horizontal	Average
7323.00	49.05	-1.61	47.44	74.00	26.56	horizontal	Peak
14445.00	36.80	5.07	41.87	54.00	12.13	horizontal	Average
14445.00	51.11	5.07	56.18	74.00	17.82	horizontal	Peak
17967.00	34.94	7.69	42.63	54.00	11.37	horizontal	Average
17967.00	50.38	7.69	58.07	74.00	15.93	horizontal	Peak

FCC Part 15.247 Page 47 of 114

Test Mode: 2DH1-2441 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m

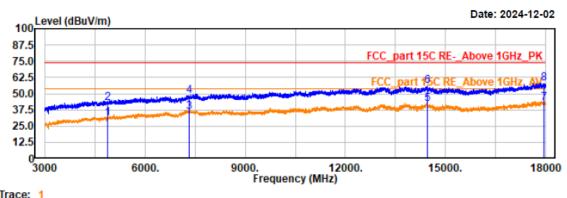
Level	(dBuV/m)					Dat	te: 2024-08-26
87.5			Fund	damental tes	st with		
75.0			banc	l rejection fi	Iter FCC_I	oart 15C REAbov	e 1GHz_PK
62.5					FGC	part 15C RE_Abov	e 1GHz_AV
50.0	-			2		3	Pea
37.5 25.0		-	Name and Address of the Owner, where				
12.5							
0							
1000	1	400.	1800. Frequ	22 uency (MHz)	00.	2600.	3000
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
		J					
1200.00	52.52	-16.05	36.47	74.00	37.53	vertical	Peak
2074.60	48.90	-6.35	42.55	74.00	31.45	vertical	Peak
2581.40	49.17	-3.36	45.81	74.00	28.19	vertical	Peak

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Test Mode: 2DH1-2441 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Trace: 1
Condition: PK RBW:1MHz

n: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:5kHz SWT:auto

	AV INDIVI	LINIZ VOW. JE	VIIZ JWI. at	100			
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4882.50	35.17	-4.24	30.93	54.00	23.07	vertical	Average
4882.50	46.75	-4.24	42.51	74.00	31.49	vertical	Peak
7323.00	37.54	-1.61	35.93	54.00	18.07	vertical	Average
7323.00	49.90	-1.61	48.29	74.00	25.71	vertical	Peak
14452.50	36.81	5.06	41.87	54.00	12.13	vertical	Average
14452.50	50.48	5.06	55.54	74.00	18.46	vertical	Peak
17952.00	35.14	7.67	42.81	54.00	11.19	vertical	Average
17952.00	50.08	7.67	57.75	74.00	16.25	vertical	Peak

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Test Mode: 2DH1-2480 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m

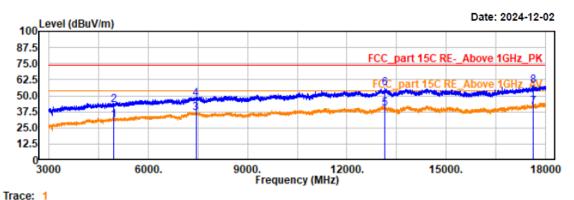
$\neg$			2.1	. 1	F 1		(dBuV/m)	100 Level
$-\Box$				nental test v				7.5
K	1GHz_	rt 15C REAbove	FCC_pa	jection filte	band r			5.0
	4011-		F00 -					2.5
V	1GHZ_	art 15C RE_Above	TCC_p					0.0
- F	-	-	4				1	
ПΓ					Name and Address of the Owner, where	-		7.5
$\dashv$								5.0
$H \perp$								2.5
		2000		22/	4000	4400		0
3000		2600.	).	220 ency (MHz)	1800. Frequ	1400.		1000
·k	Rema	Polarity	Margin	Limit	Result	Factor	Reading	Freq
K	reme	roturity	dB	dBuV/m	dBuV/m	dB/m	dBuV	MHz
	Peak	horizontal	39.07	74.00	34.93	-15.51	50.44	0.00
	rear			74 00	43 64	E 34	48.88	8.40
	Peal	horizontal	30.46	74.00	43.54	-5.34	40.00	10.40

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Test Mode: 2DH1-2480 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

	AV KBW:	TMHZ ARM:21	KHZ SWI:au	LO			
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4960.50	35.26	-4.01	31.25	54.00	22.75	horizontal	Average
4960.50	46.98	-4.01	42.97	74.00	31.03	horizontal	Peak
7440.00	38.31	-1.59	36.72	54.00	17.28	horizontal	Average
7440.00	49.25	-1.59	47.66	74.00	26.34	horizontal	Peak
13138.50	34.59	5.07	39.66	54.00	14.34	horizontal	Average
13138.50	50.82	5.07	55.89	74.00	18.11	horizontal	Peak
17632.50	34.97	6.71	41.68	54.00	12.32	horizontal	Average
17632.50	50.92	6.71	57.63	74.00	16.37	horizontal	Peak

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Test Mode: 2DH1-2480 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m

100 Level	(dBuV/m)						Date	e: 2024-08-	26
37.5				ındamental tes nd rejection fi	1	part 15C RE	- Above	e 1GHz PK	
75.0 —— 62.5						part 15C R			11
0.0 37.5	1					-	3	Walter Street	F
2.5									
1000	1	400.	1800. Fr	22 requency (MHz)	00.	260	0.	30	000
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/n		Margin dB	Polar	ity	Remark	C
0.00 8.00	52.21 48.72	-16.05 -5.22	36.16 43.50	74.00 74.00	37.84 30.50	verti verti		Peak Peak	
0.20	48.75	-3.38	45.37	74.00	28.63	verti	cal	Peak	

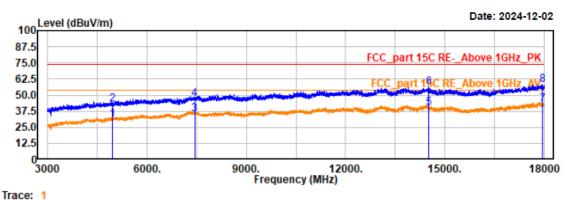
FCC Part 15.247 Page 52 of 114

Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 23.1  $^{\circ}\mathrm{C}/53\%/100.1 kPa$  Tested by: Wlif Wu

Test Mode: 2DH1-2480

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Condition: PK RBW:1MHz VBW:3MHz SWT:auto AV RBW:1MHz VBW:5kHz SWT:auto

	711						
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4960.50	35.07	-4.01	31.06	54.00	22.94	vertical	Average
4960.50	47.00	-4.01	42.99	74.00	31.01	vertical	Peak
7440.00	37.05	-1.59	35.46	54.00	18.54	vertical	Average
7440.00	48.37	-1.59	46.78	74.00	27.22	vertical	Peak
14505.00	35.31	4.97	40.28	54.00	13.72	vertical	Average
14505.00	50.58	4.97	55.55	74.00	18.45	vertical	Peak
17958.00	34.99	7.68	42.67	54.00	11.33	vertical	Average
17958.00	50.10	7.68	57.78	74.00	16.22	vertical	Peak

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Test Mode: 3DH1-2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

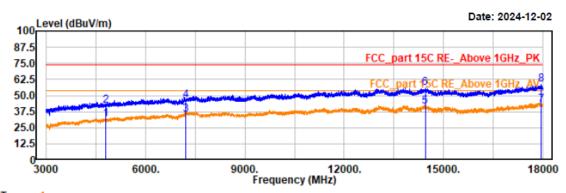
Test distance: 3m

100 Level (	(dBuV/m)					Date	e: 2024-08-26
			Funda	mental test	with		
87.5 75.0			band r	ejection filt	er FCC_pa	rt 15C REAbove	e 1GHz_PK
62.5					500	- 1450 PF AL	400-10
50.0					FCC_p	art 15C RE_Abov	e 1GHz_AV
37.5						Martin Maria Paris Maria	Peak
25.0		-					
12.5							
1000	1	400.	1800. Frequ	22 Jency (MHz)	00.	2600.	3000
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1049.80 2301.80	51.20 48.83	-17.04 -6.31	34.16 42.52	74.00 74.00	39.84 31.48	horizontal horizontal	

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Test Mode: 3DH1-2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE Test distance: 3m



Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

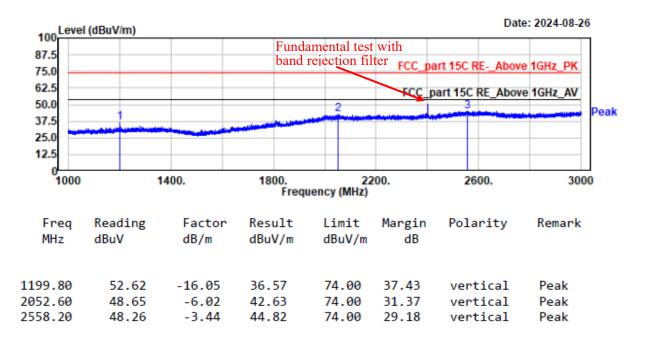
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4804.50 4804.50 7206.00 7206.00 14448.00 14448.00 17962.50 17962.50	36.15 46.54 36.72 47.67 36.00 50.50 35.27 50.99	-4.45 -4.45 -1.73 -1.73 5.06 5.06 7.68 7.68	31.70 42.09 34.99 45.94 41.06 55.56 42.95 58.67	54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00	22.30 31.91 19.01 28.06 12.94 18.44 11.05 15.33	horizontal horizontal horizontal horizontal horizontal horizontal horizontal	Average Peak Average Peak Average Peak Average Peak

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Test Mode: 3DH1-2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m

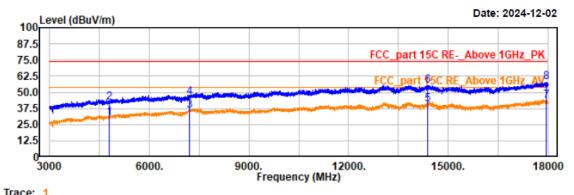


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Test Mode: 3DH1-2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Condition: PK RBW:1MHz VBW:3MHz SWT:auto

	AV RBW:	IMHz VBW:5k	dHz SWT:αι	uto			
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
	24.72		20.00	F	7.		
4804.50	34.73	-4.45	30.28	54.00	23.72	vertical	Average
4804.50	46.37	-4.45	41.92	74.00	32.08	vertical	Peak
7206.00	37.51	-1.73	35.78	54.00	18.22	vertical	Average
7206.00	48.11	-1.73	46.38	74.00	27.62	vertical	Peak
14382.00	35.40	5.15	40.55	54.00	13.45	vertical	Average
14382.00	49.96	5.15	55.11	74.00	18.89	vertical	Peak
17949.00	35.52	7.67	43.19	54.00	10.81	vertical	Average
17949.00	50.21	7.67	57.88	74.00	16.12	vertical	Peak

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Test Mode: 3DH1-2441 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m

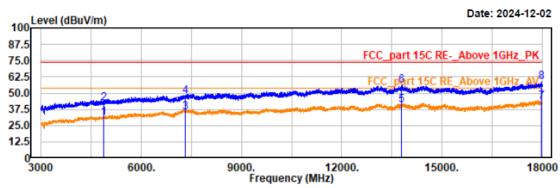
dBuV/m)					Date	: 2024-08-26
		Func	damental tes	t with		
		band	l rejection fi	lter FCC pa	art 15C RE- Above	1GHz PK
			_	TEC I	art 15C RE_Above	1GHz_AV
	1		2	-		Peak
-	-	-				
1	1400.	1800. Frequ		00.	2600.	3000
Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
49.70	-15.49	34.21	74.00	39.79	horizontal	Peak
49.58 48.96	-6.51 -4.04	43.07 44.92	74.00 74.00	30.93 29.08	horizontal horizontal	Peak Peak
	Reading dBuV 49.70 49.58	1400.  Reading Factor dBuV dB/m  49.70 -15.49 49.58 -6.51	1400. 1800. Frequence Reading Factor Result dBuV dB/m dBuV/m  49.70 -15.49 34.21 49.58 -6.51 43.07	Fundamental test band rejection find a section find	Fundamental test with band rejection filter FCC particles and rejection filter FCC par	Fundamental test with   band rejection filter   FCC   part 15C RE- Above

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Test Mode: 3DH1-2441 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Trace: 1

17967.00

Condition: PK RBW:1MHz VBW:3MHz SWT:auto

7.69

58.30

50.61

AV RBW:1MHz VBW:5kHz SWT:auto Reading Factor Result Limit Margin Polarity Remark Freq MHz dBuV dB/m dBuV/m dBuV/m dΒ 4882.50 35.16 -4.24 30.92 54.00 23.08 horizontal Average 4882.50 46.10 -4.24 41.86 74.00 32.14 horizontal Peak 54.00 7323.00 37.10 -1.61 35.49 18.51 horizontal Average horizontal 7323.00 48.99 -1.61 47.38 74.00 26.62 Peak 40.70 54.00 13.30 13791.00 35.67 5.03 horizontal Average 5.03 56.13 74.00 horizontal 13791.00 51.10 17.87 Peak 54.00 horizontal Average 17967.00 35.73 7.69 43.42 10.58

74.00

15.70

horizontal Peak

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Temp/Humi/ATM: 23.5℃/53%/100.1kPa Project No.: XMDN240219-08385E-RF

Test Mode: 3DH1-2441

Tested by: Wlif Wu Power Source: DC 48V from PoE EUT Model: PG71

Test distance: 3m

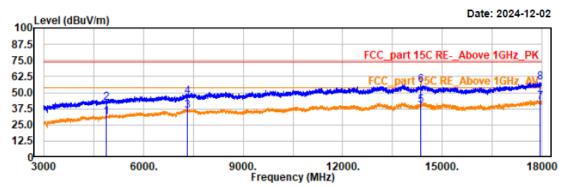
	(dBuV/m)		Fu	ndamental test	with				П
87.5 75.0			ba	nd rejection fil	ter FCC_	part 15C	REAbove	e 1GHz_PK	
62.5					FEC	part 150	RE_Abov	e 1GHz_AV	
50.0	1					اسبيال	-		P
37.5 25.0	-	-	and the second name of the least						
12.5									
1000	1	400.	1800. F	22 equency (MHz)	200.	2	600.	30	00
Freq MHz	Reading dBuV	Factor dB/m	Resul dBuV/		Margin dB	Pol	arity	Remark	
			36.60	74.00	37.31	ver	tical	Peak	
99.80	52.74	-16.05	36.69	74.00	37.31		CICUI	I Car	

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Test Mode: 3DH1-2441 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Trace: 1

Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4002 50	25.00	4.24	20.05	F.4. 00	22.45		
4882.50	35.09	-4.24	30.85	54.00	23.15	vertical	Average
4882.50	46.08	-4.24	41.84	74.00	32.16	vertical	Peak
7323.00	37.45	-1.61	35.84	54.00	18.16	vertical	Average
7323.00	48.69	-1.61	47.08	74.00	26.92	vertical	Peak
14355.00	35.04	5.17	40.21	54.00	13.79	vertical	Average
14355.00	50.96	5.17	56.13	74.00	17.87	vertical	Peak
17961.00	35.01	7.68	42.69	54.00	11.31	vertical	Average
17961.00	50.45	7.68	58.13	74.00	15.87	vertical	Peak

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Test Mode: 3DH1-2480 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m

87.5				ndamental test					7
75.0			ban	d rejection fil	ter FCC_	part 15C F	REAbove	1GHz_PK	
62.5					FGC	part 15C	RE_Above	1GHz_AV	
50.0					2		3		P
7.5 5.0									
2.5									
0									╛
1000	1	400.	1800. Fre	22 equency (MHz)	00.	26	600.	300	)0
Freq	Reading	Factor	Result	Limit	Margin	Pola	arity	Remark	
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB				
50.00	51.01	-17.04	33.97	74.00	40.03	hor	izontal	Peak	
33.60	48.67	-5.41	43.26	74.00	30.74	nor.	izontal	Peak	

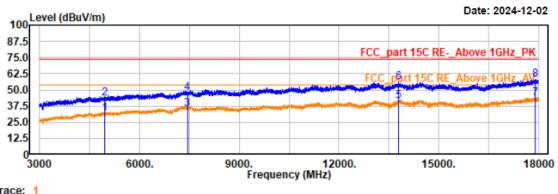
FCC Part 15.247 Page 62 of 114

Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 23.1  $^{\circ}$  /53%/100.1kPa Tested by: Wlif Wu

Test Mode: 3DH1-2480

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Trace: 1

Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:5kHz SWT:auto

	nom.	2 2 7 2 3 1 1 1					
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
		,	,	,			
4060 50	25 57	4 04	24 56	F4 00	22.44		
4960.50	35.57	-4.01	31.56	54.00	22.44	horizontal	Average
4960.50	47.33	-4.01	43.32	74.00	30.68	horizontal	Peak
7440.00	36.93	-1.59	35.34	54.00	18.66	horizontal	Average
7440.00	49.04	-1.59	47.45	74.00	26.55	horizontal	Peak
13786.50	36.04	5.03	41.07	54.00	12.93	horizontal	Average
13786.50	51.15	5.03	56.18	74.00	17.82	horizontal	Peak
17896.50	35.55	7.58	43.13	54.00	10.87	horizontal	Average
17896.50	50.15	7.58	57.73	74.00	16.27	horizontal	Peak

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Test Mode: 3DH1-2480 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m

	1GHz DK	t 15C REAbov		amental test				37.5
11				Te jection in	build			5.0
4	e 1GHz_AV	rt 15C RE_Abov	FCC_p					0.0
• P	-	-	2	-	L. Hett		1	7.5
						-		5.0
-11								2.5
000	20	2600.	00.	22	1800.	1400.		1000
000	30	2000.	00.	iency (MHz)		1400.	'	1000
k	Remark	Polarity	Margin	Limit	Result	Factor	Reading	Freq
		, , , , , , , , , , , , , , , , , , , ,	dB	dBuV/m	dBuV/m	dB/m	dBuV	MHz
	Peak	vertical	36.31	74.00	37.69	-16.05	53.74	9.80
	Peak Peak	vertical vertical	36.31 30.98	74.00 74.00	37.69 43.02	-16.05 -6.12	53.74 49.14	9.80

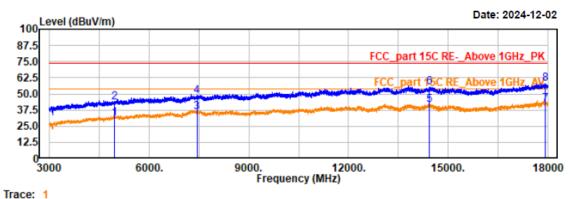
FCC Part 15.247 Page 64 of 114

Temp/Humi/ATM: 23.1  $^{\circ}\mathrm{C}/53\%/100.1 kPa$  Tested by: Wlif Wu Project No.: XMDN240219-08385E-RF

Test Mode: 3DH1-2480

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Condition: PK RBW:1MHz VBW:3MHz SWT:auto AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4960.50	35.16	-4.01	31.15	54.00	22.85	vertical	Average
4960.50	47.78	-4.01	43.77	74.00	30.23	vertical	Peak
7440.00	37.40	-1.59	35.81	54.00	18.19	vertical	Average
7440.00	50.07	-1.59	48.48	74.00	25.52	vertical	Peak
14437.50	36.33	5.08	41.41	54.00	12.59	vertical	Average
14437.50	49.89	5.08	54.97	74.00	19.03	vertical	Peak
17928.00	34.57	7.64	42.21	54.00	11.79	vertical	Average
17928.00	50.28	7.64	57.92	74.00	16.08	vertical	Peak

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# 4) 18 GHz - 25 GHz

EUT operation mode: Transmitting in EDR middle channel (8DPSK) (worst case)

## **EUT Model: PG71**

Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 23.5℃/53%/100.1kPa

Test Mode: BT 3DH1 2441 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 1m

100 Level	(dBuV/m)					D	ate: 2024-08-26
87.5 75.0					FCC_I	part 15C REAbo	ove 1GHz_PK
62.5		2		4	FCC_	part 15C RE_Ab	ove 1GHz_AV
50.0		-	and the same of th	3		9	And delighted the second
37.5 25.0							
12.5							
0 18000	19	400.	20800. Frequ	222 uency (MHz)	200.	23600.	25000
Trace: 1							
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
20213.20	38.90	0.32	39.22	54.00	14.78	horizont	al Average
20213.20	50.97	0.32	51.29	74.00	22.71	horizont	al Peak
21902.80	38.91	1.64	40.55	54.00	13.45	horizont	al Average
21902.80	50.91	1.64	52.55	74.00	21.45	horizont	al Peak
23216.20	38.36	1.36	39.72	54.00	14.28	horizont	0
23216.20	49.83	1.36	51.19	74.00	22.81	horizont	al Peak

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Test Mode: BT 3DH1 2441 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE Test distance: 1m

100 Level (dBuV/m) Date: 2024-08-26 87.5 FCC part 15C RE- Above 1GHz PK 75.0 62.5 6 FCC\_part 15C RE\_Above 1GHz\_AV 50.0 37.5 25.0 12.5 18000 19400. 20800. 22200. 23600. 25000 Frequency (MHz) Trace: 1 Limit Freq Reading Factor Result Margin Polarity Remark MHz dBuV dB/m dBuV/m dBuV/m dΒ 20769.80 39.11 0.10 39.21 54.00 14.79 vertical Average 20769.80 0.10 51.22 74.00 22.78 Peak 51.12 vertical 39.45 1.70 41.15 54.00 21878.60 12.85 vertical Average 21878.60 50.33 1.70 52.03 74.00 21.97 vertical Peak 40.16 22428.60 38.84 1.32 54.00 13.84 vertical Average 22428.60 50.40 51.72 74.00 22.28 1.32 vertical Peak

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### **Restricted Bands Emissions:**

Pre-Scan with GFSK,  $\pi/4$ -DQPSK, 8DPSK modes of operation in the X, Y and Z axes of orientation, the mode in Z-axis of orientation was recorded

#### Note:

Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB) Result (dB $\mu$ V/m) = Reading (dB $\mu$ V) + Factor (dB/m)

Margin (dB) = Limit (dB $\mu$ V/m) –Result (dB $\mu$ V/m)

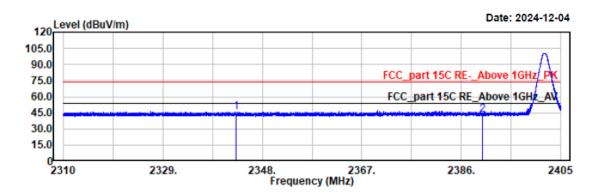
### **EUT Model: PG71**

Project No.: XMDN240219-08385E-RF Temp/Humi/ATM: 21.7°C/49%/100.1kPa

Test Mode: 1DH1 2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



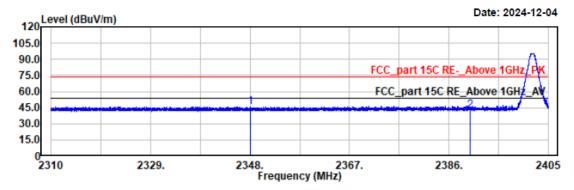
Condition: PK RBW:1MHz VBW:3MHz SWT:auto							
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2343.03	46.75	-0.85	45.90	74.00	28.10	horizontal	Peak
2390.00	43.93	-0 63	43.30	74 00	30 70	horizontal	Deak
2390.00	43.33	-0.03	43.30	74.00	30.70	1101 12011Ca1	reak

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Test Mode: 1DH1 2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



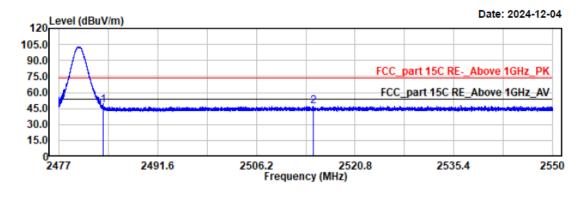
Condition	: PK RBW:1	LMHz VBW:31	MHz SWT:au	to			
Freq MHz	Reading dBuV	Factor dB/m			Margin dB	Polarity	Remark
2347.99	46.62	-0.84	45.78	74.00	28.22	vertical	Peak
2390.00	43.03	-0.63	42.40	74.00	31.60	vertical	Peak

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Test Mode: 1DH1 2480 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



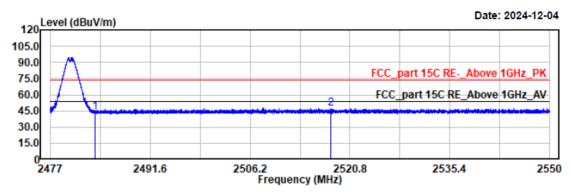
Condition							
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2483.50	48.47	-0.17	48.30	74.00	25.70	horizontal	Peak
2514.68	47.58	-0.07	47.51	74.00	26.49	horizontal	Peak

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Test Mode: 1DH1 2480 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



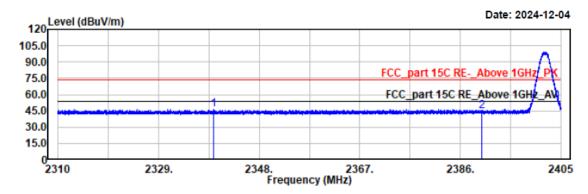
Condition Freq MHz	: PK RBW:1 Reading dBuV		Result	Margin dB	Polarity	Remark
2483.50	44.39	-0.17	44.22	 29.78	vertical	Peak
2518.00	47.06	-0.06	47.00	27.00	vertical	Peak

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Test Mode: 2DH1 2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



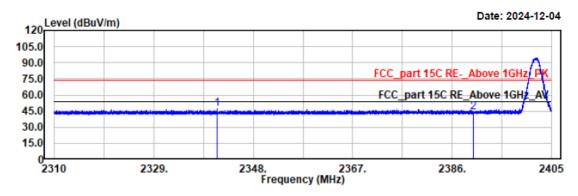
Condition	: PK RBW:1	LMHz VBW:3N	Mz SWT:au	to			
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2339.45	47.44	-0.86	46.58	74.00	27.42	horizontal	Peak
2390.00	45.63	-0.63	45.00	74.00	29.00	horizontal	Peak

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Test Mode: 2DH1 2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



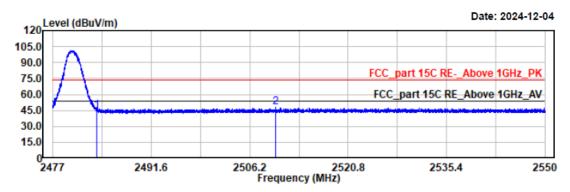
Condition	: PK RBW:1	LMHz VBW:3N	MHz SWT:au	ito			
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2341.14	47 71	-0.96	16 05	74 00	27 15	vertical	Peak
2341.14	47.71	-0.00	40.65	74.00	27.13	vertical	reak
2390.00	44.26	-0.63	43.63	74.00	30.37	vertical	Peak

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Test Mode: 2DH1 2480 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



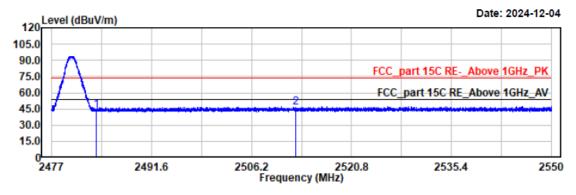
Condition Freq MHz	n: PK RBW:1 Reading dBuV		Result	Limit	Margin dB	Polarity	Remark
2483.50	45.09	-0.17	44.92	74.00	29.08	horizontal	
2510.04	48.30	-0.07	48.23	74.00	25.77	horizontal	

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Test Mode: 2DH1 2480 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



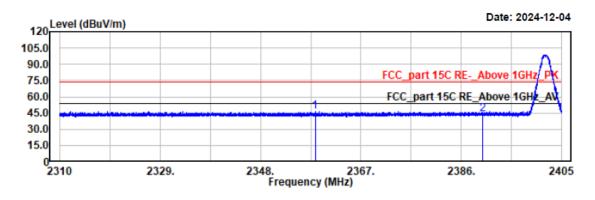
Condition	: PK RBW:	1MHz VBW:3N	MHz SWT:au	ito			
	Reading dBuV				_	Polarity	Remark
2483.50 2512.66	44.27 46.76	-0.17 -0.06	44.10 46.70	74.00 74.00	29.90 27.30		Peak Peak

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Test Mode: 3DH1 2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



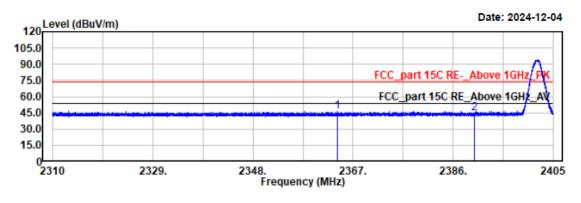
Condition	n: PK RBW:1						
Freq MHz	Reading dBuV	Factor dB/m			_	Polarity	Remark
2358.36 2390.00	47.10 44.87	-0.80 -0.63	46.30 44.24	74.00 74.00		horizontal horizontal	

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Test Mode: 3DH1 2402 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



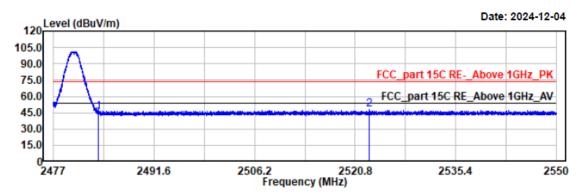
Condition	: PK RBW:	1MHz VBW:3N	MHz SWT:au	to			
Freq MHz	_	Factor dB/m			_	Polarity	Remark
2364.11 2390.00	46.79 45.16		46.03 44.53	74.00 74.00	27.97 29.47	vertical vertical	Peak Peak

FCC Part 15.247 Page 77 of 114

Test Mode: 3DH1 2480 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



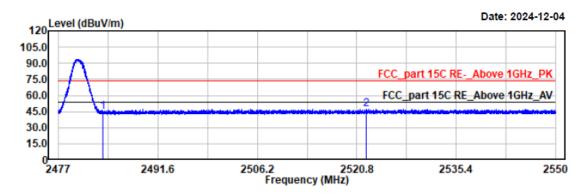
Condition	: PK RBW:1	LMHz VBW:3M	MHz SWT:au	ito			
Freq MHz	_	Factor dB/m			_	Polarity	Remark
2483.50 2522.82	45.39 47.77	-0.17 -0.06		74.00 74.00		horizontal horizontal	

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Test Mode: 3DH1 2480 Tested by: Wlif Wu

EUT Model: PG71 Power Source: DC 48V from PoE

Test distance: 3m



Condition	: PK RBW:1	LMHz VBW:3N	Mz SWT:au	ito			
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2402 50	45.22	0.17	45 05	74.00	20.05		D I.
2483.50	45.22	-0.17	45.05	74.00	28.95	vertical	Peak
2522.21	47.20	-0.06	47.14	74.00	26.86	vertical	Peak

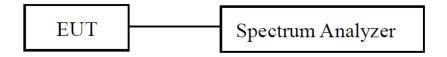
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### **Applicable Standard**

Frequency hopping systems shall have hoping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater provided the systems operate with an output power no greater than 125 mW.

Report No.: XMDN240219-08385E-RF-01

### **EUT Setup**



#### **Test Procedure**

According to ANSI C63.10-2013 Section 7.8.2

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

- a. Span: Wide enough to capture the peaks of two adjacent channels.
- b. RBW: Start with the RBW set to approximately 30% of the channel spacing; adjust as necessary to best identify the center of each individual channel.
- c. Video (or average) bandwidth (VBW)  $\geq$  RBW.
- d. Sweep: Auto.
- e. Detector function: Peak.
- f. Trace: Max hold.
- g. Allow the trace to stabilize.

Use the marker-delta function to determine the separation between the peaks of the adjacent channels. Compliance of an EUT with the appropriate regulatory limit shall be determined. A plot of the data shall be included in the test report.

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### **Test Data**

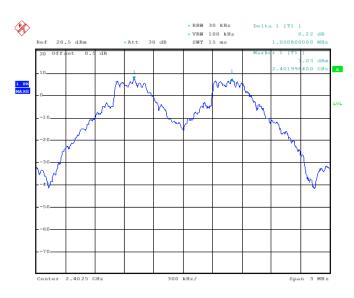
Test Mode:	Transmitting		Test Engineer:	Jason Hu	
Test Date:	Date: 2024-06-02 Environment:		Temp.: 23°C Humi.: 55% Atm:100.1kPa		
Mode	Channel	Frequency (MHz)	Channel Separation (MHz)	Limit (MHz)	Result
DDD	Low	2402	1.001	0.841	Pass
BDR (GFSK)	Middle	2441	1.001	0.841	Pass
(GI SIK)	High	2480	1.001	0.841	Pass

Report No.: XMDN240219-08385E-RF-01

#### Note:

- 1. Limit = 20 dB bandwidth\* 2/3
- 2. Only BDR (GFSK) mode result is reported since EDR( $\pi$ /4-DQPSK, 8DPSK) has the same channel plan.

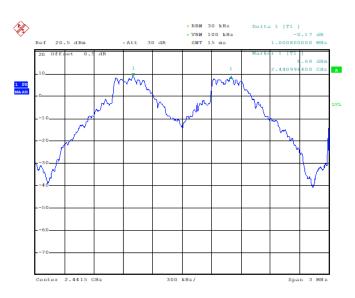
### BDR (GFSK): Low Channel



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 2.JUN.2024 10:32:39

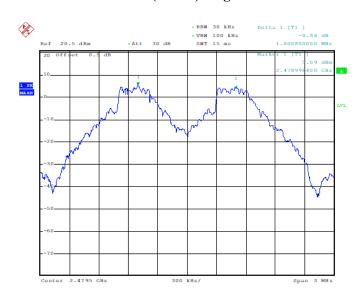
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### BDR (GFSK): Middle Channel



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 2.JUN.2024 10:33:49

### BDR (GFSK): High Channel



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 2.JUN.2024 10:35:04

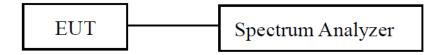
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### **Applicable Standard**

Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

Report No.: XMDN240219-08385E-RF-01

### **EUT Setup**



#### **Test Procedure**

According to ANSI C63.10-2013 Section 6.9.2

- a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW.
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW, unless otherwise specified by the applicable requirement.
- c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2
- d) Steps a) through c) might require iteration to adjust within the specified tolerances.
- e) The dynamic range of the instrument at the selected RBW shall be more than 10 dB below the target "-xx dB down" requirement; that is, if the requirement calls for measuring the -20 dB OBW, the instrument noise floor at the selected RBW shall be at least 30 dB below the reference value.
- f) Set detection mode to peak and trace mode to max hold.
- g) Determine the reference value: Set the EUT to transmit an unmodulated carrier or modulated signal, as applicable. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).
- h) Determine the "-xx dB down amplitude" using [(reference value) -xx]. Alternatively, this calculation may be made by using the marker-delta function of the instrument.
- i) If the reference value is determined by an unmodulated carrier, then turn the EUT modulation ON, and either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise, the trace from step g) shall be used for step j).

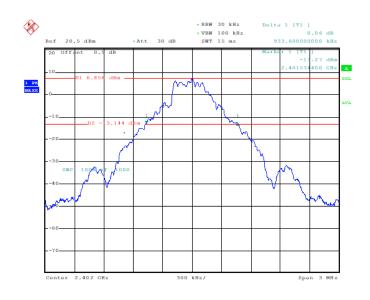
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**Test Data** 

Test Mode:	Transmitting		Te	Test Engineer: Jason Hu			
Test Date:	2024-06-01		En	vironment:	Temp.: 24 Humi.: 57 Atm:100	7%	
Mode		Channel		Frequenc (MHz)	y	20 dB Emission Bandwidth (MHz)	
		Low		2402		0.934	
BDR Mode (GFSK)		Middle		2441		0.936	
(32,325)		High		2480		0.948	
		Low		2402		1.262	
EDR (π/4-DQPSK)		Middle		2441		1.262	
( : _ &= ===)		High		2480		1.262	
	_	Low		2402		1.25	
EDR (8DPSK)		Middle		2441		1.255	
		High		2480		1.255	

Report No.: XMDN240219-08385E-RF-01

# **BDR(GFSK)**: Low Channel



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu
Date: 1.JUN.2024 19:41:52

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### BDR(GFSK): Middle Channel



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 1.JUN.2024 19:43:03

### BDR(GFSK): High Channel

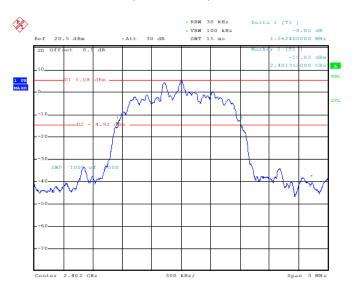


ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu

Date: 1.JUN.2024 19:44:25

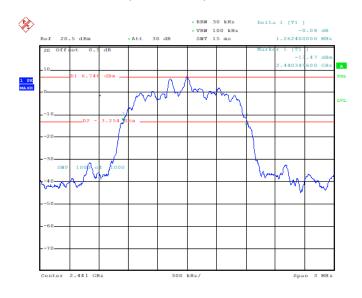
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### EDR ( $\pi/4$ -DQPSK): Low Channel



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 1.JUN.2024 19:45:36

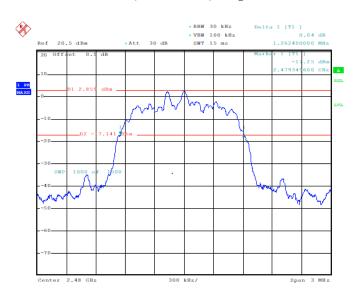
### EDR( $\pi/4$ -DQPSK): Middle Channel



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 1.JUN.2024 19:46:51

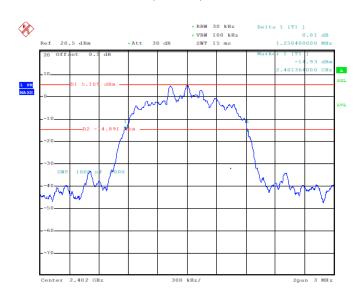
FCC Part 15.247 Page 86 of 114

### EDR ( $\pi/4$ -DQPSK): High Channel



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 1.JUN.2024 19:48:02

### EDR (8DPSK): Low Channel

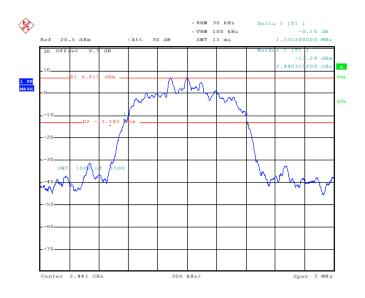


ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu

Date: 1.JUN.2024 19:49:20

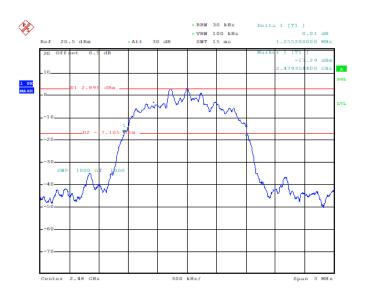
FCC Part 15.247 Page 87 of 114

### EDR (8DPSK): Middle Channel



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu
Date: 1.JUN.2024 20:14:52

### EDR (8DPSK): High Channel



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 1.JUN.2024 20:16:02

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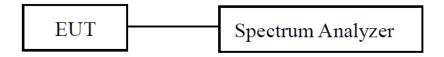
### FCC §15.247(a) (1) (iii)-QUANTITY OF HOPPING CHANNEL TEST

### **Applicable Standard**

Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

Report No.: XMDN240219-08385E-RF-01

### **EUT Setup**



#### **Test Procedure**

According to ANSI C63.10-2013 Section 7.8.3

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

- a. Span: The frequency band of operation. Depending on the number of channels the device supports, it may be necessary to divide the frequency range of operation across multiple spans, to allow the individual channels to be clearly seen.
- b. RBW: To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.
- c.  $VBW \ge RBW$ .
- d. Sweep: Auto.
- e. Detector function: Peak.
- f. Trace: Max hold.
- g. Allow the trace to stabilize.

It might prove necessary to break the span up into subranges to show clearly all of the hopping frequencies. Compliance of an EUT with the appropriate regulatory limit shall be determined for the number of hopping channels. A plot of the data shall be included in the test report.

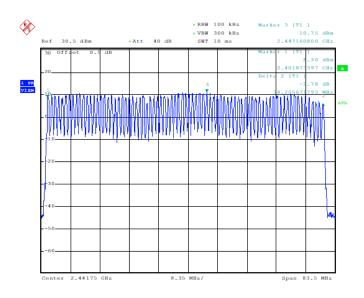
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### **Test Data**

Test Mode:	Trar	nsmitting	Te	st Engineer:	Jason Hu		
Test Date:	2024	4-06-28		vironment:	Humi.: 59	Temp.: 24.5°C Humi.: 59% Atm:100.3kPa	
Mode		Frequency Range (MHz)		Number of Ho Channel (CH)		Limit (CH)	
BDR (GFSK)		2400-2483.5		79		≥15	
EDR (π/4-DQPSK)		2400-2483.5		79		≥15	
EDR (8DPSK)		2400-2483.5		79		≥15	

Report No.: XMDN240219-08385E-RF-01

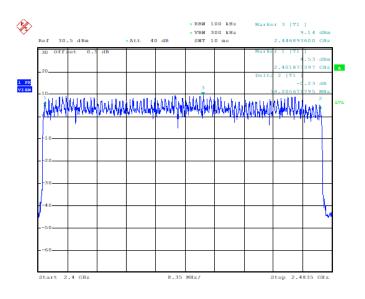
# **BDR (GFSK): Number of Hopping Channels**



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 28.JUN.2024 20:06:25

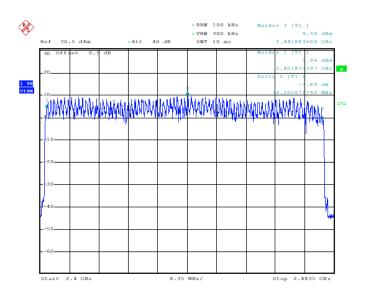
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### EDR ( $\pi/4$ -DQPSK): Number of Hopping Channels



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 28.JUN.2024 20:10:08

### EDR (8DPSK): Number of Hopping Channels



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu

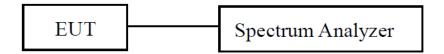
FCC Part 15.247 Page 91 of 114

### **Applicable Standard**

Frequency hopping systems in the 2400-2483.5 MHz shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

Report No.: XMDN240219-08385E-RF-01

### **EUT Setup**



#### **Test Procedure**

According to ANSI C63.10-2013 Section 7.8.4

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

- a) Span: Zero span, centered on a hopping channel.
- b) RBW shall be  $\leq$  channel spacing and where possible RBW should be set >> 1 / T, where T is the expected dwell time per channel.
- c) Sweep: As necessary to capture the entire dwell time per hopping channel; where possible use a video trigger and trigger delay so that the transmitted signal starts a little to the right of the start of the plot. The trigger level might need slight adjustment to prevent triggering when the system hops on an adjacent channel; a second plot might be needed with a longer sweep time to show two successive hops on a channel.
- d) Detector function: Peak.
- e) Trace: Max hold.

Use the marker-delta function to determine the transmit time per hop. If this value varies with different modes of operation (data rate, modulation format, number of hopping channels, etc.), then repeat this test for each variation in transmit time.

Repeat the measurement using a longer sweep time to determine the number of hops over the period specified in the requirements. The sweep time shall be equal to, or less than, the period specified in the requirements. Determine the number of hops over the sweep time and calculate the total number of hops in the period specified in the requirements, using the following equation:

(Number of hops in the period specified in the requirements) = (number of hops on spectrum analyzer) × (period specified in the requirements / analyzer sweep time)

The average time of occupancy is calculated from the transmit time per hop multiplied by the number of hops in the period specified in the requirements. If the number of hops in a specific time varies with different modes of operation (data rate, modulation format, number of hopping channels, etc.), then repeat this test for each variation.

The measured transmit time and time between hops shall be consistent with the values described in the operational description for the EUT.

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### **Test Data**

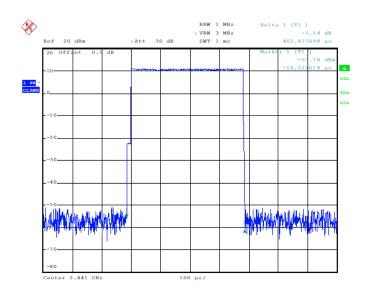
Test Mode:	Transmitting	Test Engineer:	Jason Hu
Test Date:	2024-06-02	Environment:	Temp.: 23°C Humi.: 55% Atm:100.1kPa

Report No.: XMDN240219-08385E-RF-01

Test Modes	Packet Type	Test Frequency (MHz)	Pulse width (ms)	Dwell times (s)	Limit (s)
DDD M 1	DH1	2441	0.403	0.129	0.400
BDR Mode (GFSK)	DH3	2441	1.664	0.266	0.400
	DH5	2441	2.918	0.311	0.400
EDD M. 1	2DH1	2441	0.409	0.131	0.400
EDR Mode (π/4-DQPSK)	2DH3	2441	1.667	0.267	0.400
(M4-DQI 5K)	2DH5	2441	2.922	0.312	0.400
EDD M 1	3DH1	2441	0.409	0.131	0.400
EDR Mode (8DPSK)	3DH3	2441	1.664	0.266	0.400
(0D1 5K)	3DH5	2441	2.926	0.312	0.400

DH1/2DH1/3DH1:Dwell time=Pulse time (ms) × (1600/2/79) ×31.6 s DH3/2DH3/3DH3:Dwell time=Pulse time (ms) × (1600/4/79) ×31.6 s DH5/2DH5/3DH5:Dwell time=Pulse time (ms) × (1600/6/79) ×31.6 s

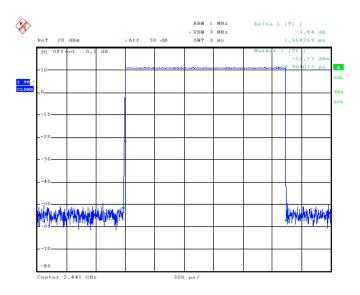
### BDR (GFSK)\_Hopping\_DH1



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 2.JUN.2024 10:23:15

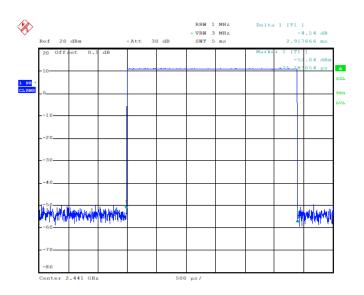
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# BDR (GFSK)\_Hopping\_DH3



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu
Date: 2.JUN.2024 10:30:27

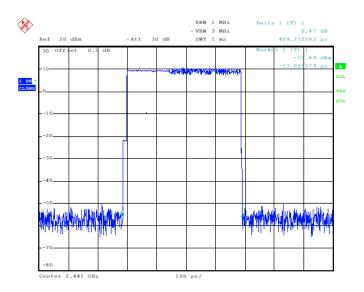
# BDR (GFSK)\_Hopping\_DH5



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 2.JUN.2024 10:31:04

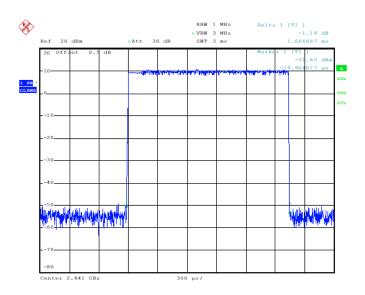
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### EDR (π/4-DQPSK)\_Hopping\_2DH1



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 2.JUN.2024 10:25:44

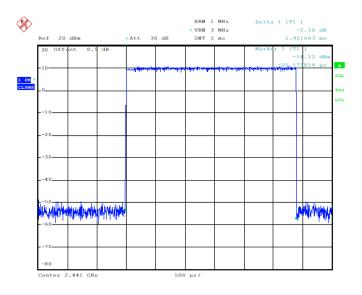
# EDR ( $\pi/4$ -DQPSK)\_Hopping\_2DH3



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 2.JUN.2024 10:26:30

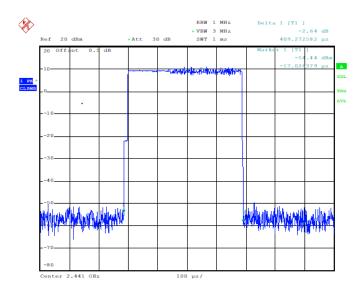
FCC Part 15.247 Page 95 of 114

# EDR (π/4-DQPSK)\_Hopping\_2DH5



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 2.JUN.2024 10:27:03

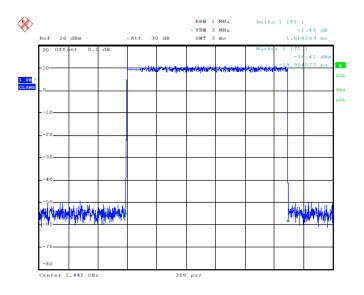
# EDR (8DPSK) \_Hopping\_3DH1



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu
Date: 2.JUN.2024 10:27:41

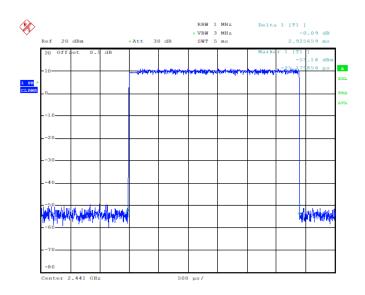
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### EDR (8DPSK) \_Hopping\_3DH3



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 2.JUN.2024 10:28:44

# EDR (8DPSK) \_Hopping\_3DH5



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu
Date: 2.JUN.2024 10:29:16

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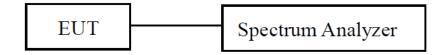
### FCC §15.247(b) (1) - PEAK OUTPUT POWER MEASUREMENT

### **Applicable Standard**

According to §15.247(b) (1), for frequency hopping systems operating in the 2400–2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. And for all other frequency hopping systems in the 2400–2483.5 MHz band: 0.125 watts.

Report No.: XMDN240219-08385E-RF-01

### **EUT Setup**



#### **Test Procedure**

According to ANSI C63.10-2013 Section 7.8.5

This is an RF-conducted test to evaluate maximum peak output power. Use a direct connection between the antenna port of the unlicensed wireless device and the spectrum analyzer, through suitable attenuation, Offset the Insertion loss of the RF cable, DC Block/ Attenuator into the spectrum analyzer.

The hopping shall be disabled for this test:

- a) Use the following spectrum analyzer settings:
- 1) Span: Approximately five times the 20 dB bandwidth, centered on a hopping channel.
- 2) RBW > 20 dB bandwidth of the emission being measured.
- 3) VBW  $\geq$  RBW.
- 4) Sweep: Auto.
- 5) Detector function: Peak.
- 6) Trace: Max hold.
- b) Allow trace to stabilize.
- c) Use the marker-to-peak function to set the marker to the peak of the emission.
- d) The indicated level is the peak output power, after any corrections for external attenuators and cables.
- e) A plot of the test results and setup description shall be included in the test report.

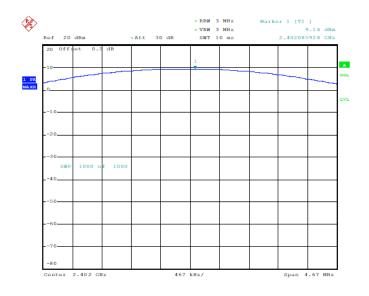
NOTE—A peak responding power meter may be used, where the power meter and sensor system video bandwidth is greater than the occupied bandwidth of the unlicensed wireless device, rather than a spectrum analyzer..

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### **Test Data**

Test Mode:	Transmitting		Test Engineer:	Jason Hu		
Test Date:	2024-06-01		Environment:	Н	Temp.: 24.1°C Humi.: 57% Atm:100.5kPa	
Mode	Frequency (MHz)	Peak Conducted Output Power (dBm)			Limit (dBm)	
BDR (GFSK)	2402	9.16			21	
	2441	10.82			21	
	2480	7.03			21	
EDR (π/4-DQPSK)	2402	9.19			21	
	2441	10.87			21	
	2480	7.35			21	
EDR (8DPSK)	2402	9.51			21	
	2441	11.21			21	
	2480	7.41			21	

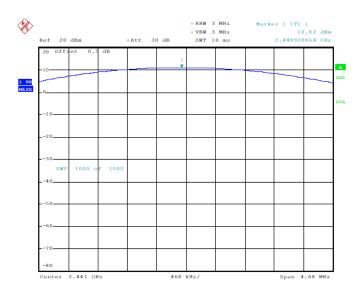
# BDR(GFSK): 2402MHz



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 1.JUN.2024 20:31:43

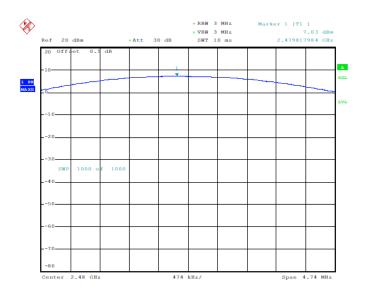
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### BDR(GFSK): 2441MHz



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 1.JUN.2024 20:33:37

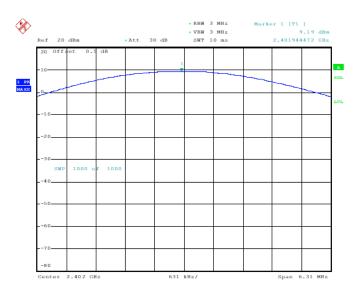
### BDR(GFSK): 2480MHz



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 1.JUN.2024 20:35:56

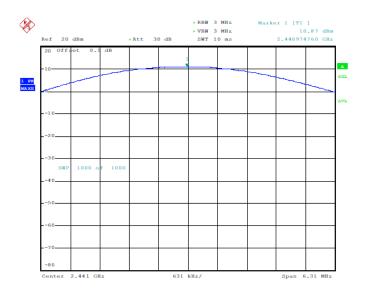
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### $EDR(\pi/4-DQPSK)$ : 2402MHz



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 1.JUN.2024 20:36:59

### EDR( $\pi/4$ -DQPSK): 2441MHz

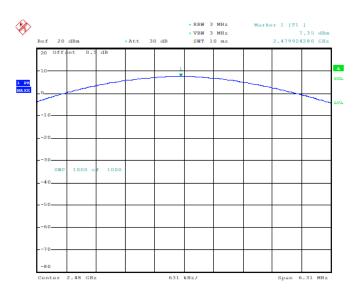


ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu

Date: 1.JUN.2024 20:38:04

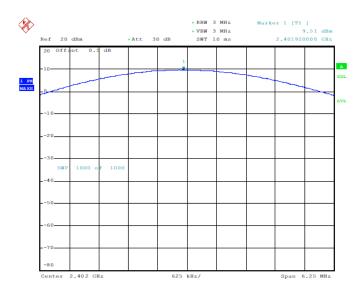
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### EDR( $\pi/4$ -DQPSK): 2480MHz



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu
Date: 1.JUN.2024 20:41:26

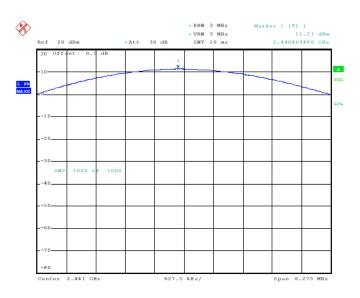
### EDR(8DPSK): 2402MHz



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 1.JUN.2024 20:43:16

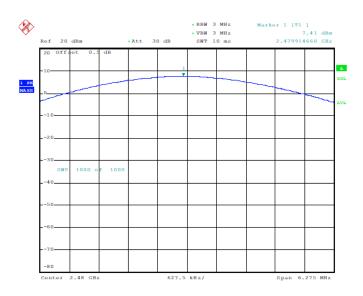
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### EDR(8DPSK): 2441MHz



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 1.JUN.2024 20:44:40

### EDR(8DPSK): 2480MHz



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu

Date: 1.JUN.2024 20:45:42

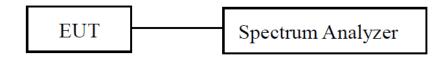
FCC Part 15.247 Page 103 of 114

#### **Applicable Standard**

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates Compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Report No.: XMDN240219-08385E-RF-01

#### **EUT Setup**



#### **Test Procedure**

According to ANSI C63.10-2013 Section 7.8.6

For band-edge measurements, use the band-edge procedure in 6.10. Band-edge measurements shall be tested both on single channels, and with the EUT hopping.

- a) Set the center frequency and span to encompass frequency range to be measured.
- b) Set the RBW = 100 kHz.
- c) Set the VBW  $\geq$  [3 × RBW].
- d) Detector = peak.
- e) Sweep time = auto couple.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements. Report the three highest emissions relative to the limit.

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### **Test Data**

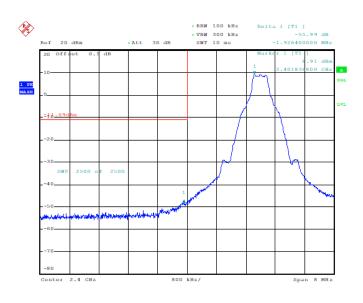
Test Mode:	Transmitting	Test Engineer:	Jason Hu
Test Date:	2024-06-01~2024-06-02	Environment:	Temp.: 23°C~23.5°C Humi.: 55%~61% Atm:100.1kPa~100.5kPa

Report No.: XMDN240219-08385E-RF-01

Please refer to the below plots:

# **Band Edge**

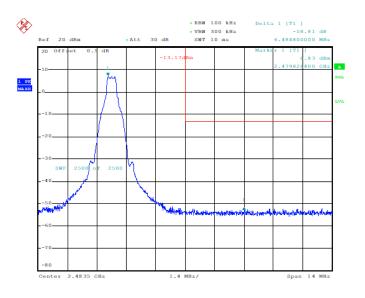
### BDR (GFSK): Left Side



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu
Date: 1.JUN.2024 20:48:16

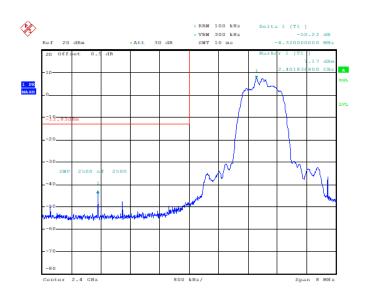
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### BDR (GFSK): Right Side



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu
Date: 1.JUN.2024 20:57:23

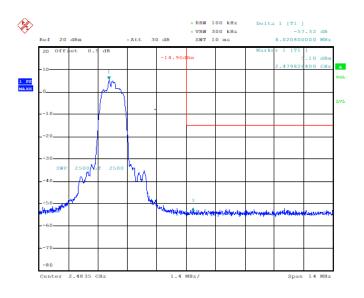
# EDR ( $\pi$ /4-DQPSK\_): Left Side



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 1.JUN.2024 20:59:50

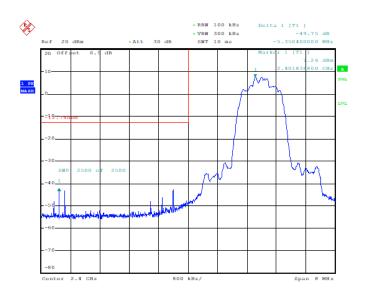
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### EDR ( $\pi/4$ -DQPSK): Right Side



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu
Date: 1.JUN.2024 21:07:36

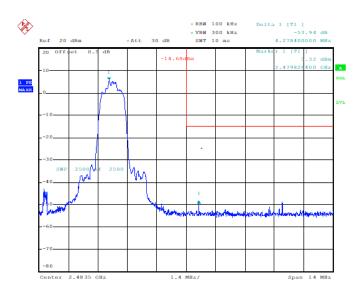
### EDR (8DPSK): Left Side



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu
Date: 2.JUN.2024 09:58:15

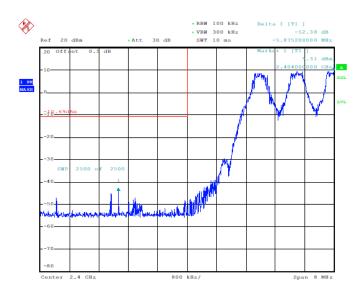
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### EDR (8DPSK): Right Side



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu
Date: 2.JUN.2024 10:06:21

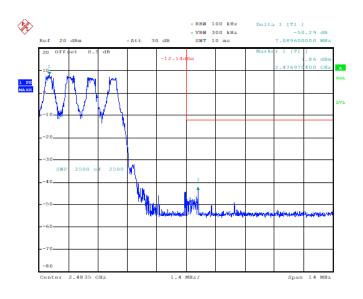
# BDR (GFSK): Left Side - Hopping



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu
Date: 1.JUN.2024 20:52:05

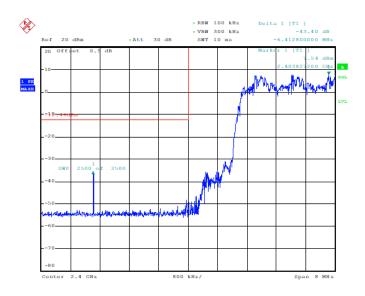
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### BDR (GFSK): Right Side - Hopping



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu
Date: 1.JUN.2024 20:54:48

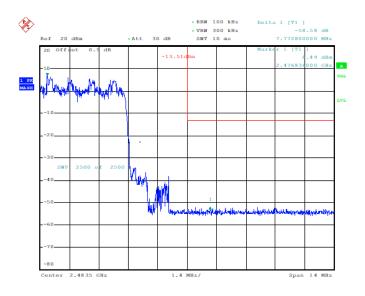
### EDR ( $\pi$ /4-DQPSK): Left Side - Hopping



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu
Date: 1.JUN.2024 21:01:55

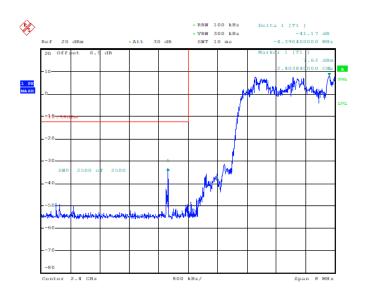
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### EDR ( $\pi/4$ -DQPSK): Right Side - Hopping



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu
Date: 1.JUN.2024 21:04:57

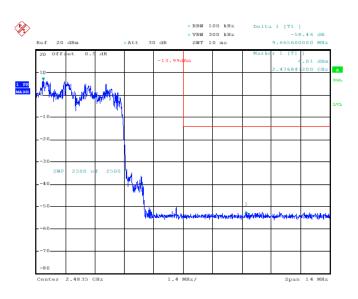
### EDR (8DPSK): Left Side - Hopping



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 2.JUN.2024 10:00:37

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## EDR (8DPSK): Right Side - Hopping



ProjectNo.:XMDN240219-08385E-RF Tester:Jason Hu Date: 2.JUN.2024 10:03:33

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# **EUT PHOTOGRAPHS**

Please refer to the attachment XMDN240219-08385E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and XMDN240219-08385E-RF-INP EUT INTERNAL PHOTOGRAPHS.

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# TEST SETUP PHOTOGRAPHS

Please refer to the attachment XMDN240219-08385E-RF-TSP\_TEST SETUP PHOTOGRAPHS.

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#### **Declarations**

Report No.: XMDN240219-08385E-RF-01

- 1. Bay Area Compliance Laboratories Corp. (Xiamen) is not responsible for authenticity of any information provided by the applicant. Information from the applicant that may affect test results are marked with an asterisk " $\star$ ".
- 2. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested.
- 3. Unless required by the rule provided by the applicant or product regulations, then decision rule in this report did not consider the uncertainty.
- 4. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor k=2 with the 95% confidence interval.
- 5. This report cannot be reproduced except in full, without prior written approval of Bay Area Compliance Laboratories Corp. (Xiamen).
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\*\*\*\*\* END OF REPORT \*\*\*\*\*

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