FCC PART 15.247
TEST REPORT

For

FUJIAN YESOUL HEALTH TECHNOLOGY CO.,LTD

RM-B616, BLDG., NO.1, STRAIT ECONOMIC AND TRADE PLAZA, FUZHOU FREE TRADE ZONE, FUZHOU, FUJIAN, China

FCC ID: 2A3YB-YS-001

Report Type:	**Product Name:**
Original Report	YESOUL Smart Cycling Bike

Report Number:	2407X32126E-RF-02
Report Date:	2025-01-15
Reviewed By:	Ash Lin
Approved By:	Miles Chen
Prepared By:	Bay Area Compliance Laboratories Corp. (Xiamen) Unit 102, No. 902 Meifeng South Road, Binhai West Avenue, Science and Technology Innovation Park, Torch High tech Zone XiaMen Tel: +86-592-3200111 www.baclcorp.com.cn

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REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	2407X32126E-RF-02	R1V1	2025-01-15	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product Name:		YESOUL Smart Cycling Bike
Tested Model:		YS-001
Multiple Model(s):		YS-BJ1PLUS, C1AEV
Power Supply:		DC 24V from Adapter
Adapter Information	Model:	J652-2403000DI
	Input:	AC 100-240V, 50/60Hz, 1.7A
	Output:	DC 24V, 3.0A, 72W
Maximum Peak Output Power:		5.3dBm
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:		PCB Antenna
★Maximum Antenna Gain:		3.71 dBi
EUT Received Status:		Good

Note:
1. The Maximum Antenna Gain was declared by manufacturer.
2. The test model is identify with the series models except for the model name, please refer to declaration letter for more detail.
3. All measurement and test data in this report was gathered from production sample serial number: 2RG1-2 (Assigned by the BACL(Xiamen). The EUT supplied by the applicant was received on 2024-09-09)

Objective

This test report is prepared for *FUJIAN YESOUL HEALTH TECHNOLOGY 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 KDB 558074 D01 15.247 Meas Guidance v05r02.

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.

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

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the product as specified in CISPR 16-4-2. This uncertainty represents expanded uncertainty expressed at 95% confidence level using a coverage factor of k=2.

$$u_c(y) = \sqrt{\sum_i c_i^2 \; u^2(x_i)}$$

Item	Frequency Range	U_{lab} = 2 u_c (y) (Confidence of 95%)
Conducted Emissions	150kHz-30MHz	2.33 dB
Radiated Spurious Emission	9kHz-30MHz	2.59 dB
	30MHz~200MHz	4.38 dB
	200MHz~1GHz	4.50 dB
	1GHz~6GHz	4.58 dB
	6GHz~18GHz	5.43 dB
	18GHz~26.5GHz	5.47 dB
Transmitter Conducted Power		0.624 dB
Occupy Bandwidth		0.053kHz
Voltage (DC)		0.4%
Temperature		1℃
Humidity		5%

SYSTEM TEST CONFIGURATION

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: Transmitting
Test voltage:	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.

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

BT test in the engineer mode.

RF Test Tool: EspRFTestTool_v3.6_Manual.exe

Test Modes	Power Level Setting		
	Lowest Channel	Middle Channel	Highest Channel
GFSK	5	5	5
π/4-DQPSK	5	5	5
8DPSK	5	5	5

Note: The power level was declared by the applicant.

Special Accessories

No special accessory.

Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

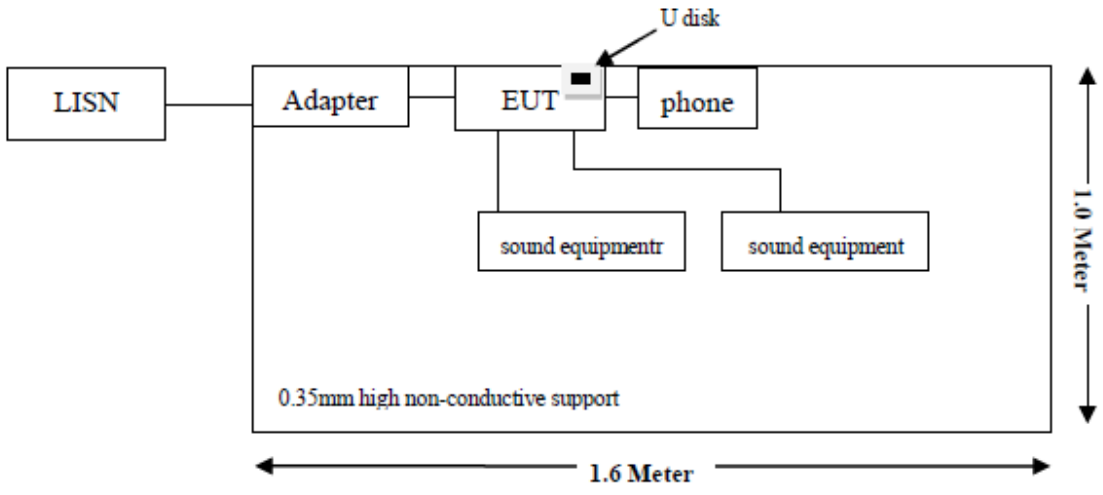
Manufacturer	Description	Model	Serial Number
Apple	mobile phone	MLDU3CH/A	KY4D4MP4YC
YESOUL	sound equipment	BT-2020:06.26.0013	Unknown
YESOUL	sound equipment	BT-2020:06.26.0011	Unknown
Kingston	U disk	DTSE9G3	Unknown
YESOUL	Adapter	J652-2403000DI	Unknown

External I/O Cable

Cable Description	Length (m)	From Port	To
USB Cable	1	mobile phone	EUT
3.5mm audio cable	0.5	sound equipment	EUT
3.5mm audio cable	1.5	sound equipment	EUT
Power Cable	1.5	Adapter	EUT

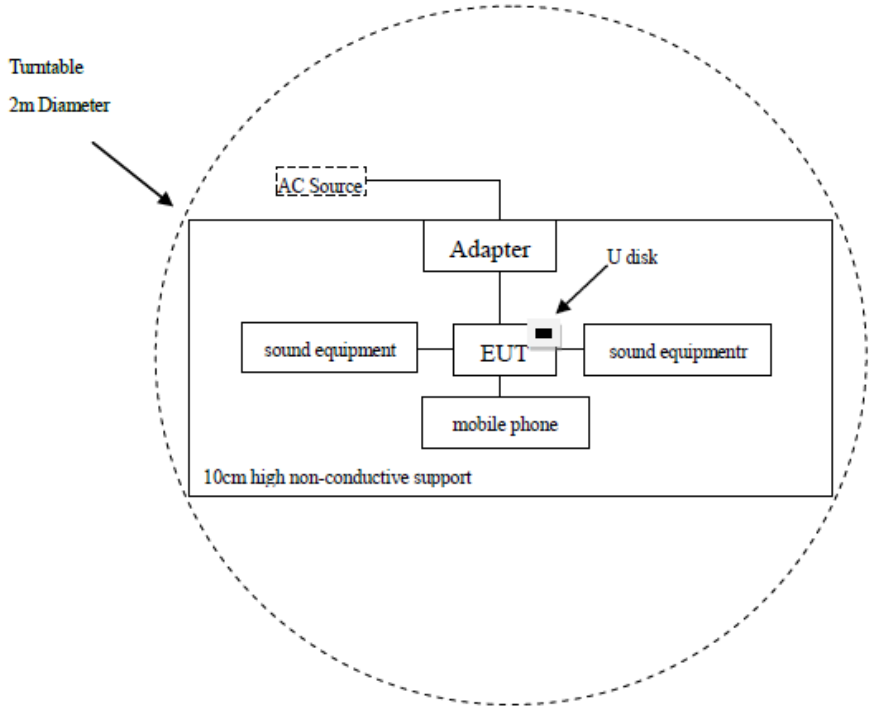
Block Diagram of Test Setup

Conducted Emission:

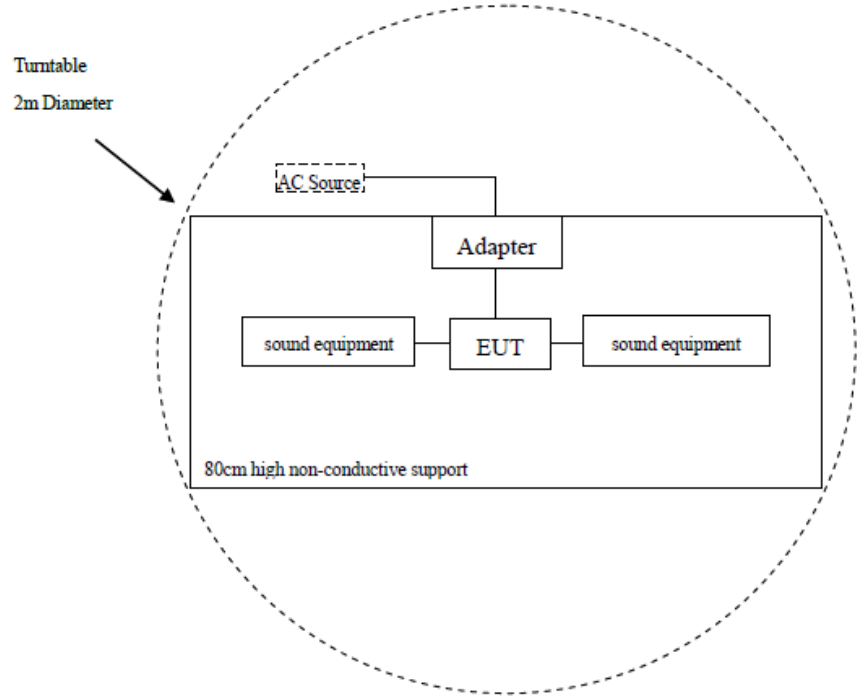


Radiated Emission:

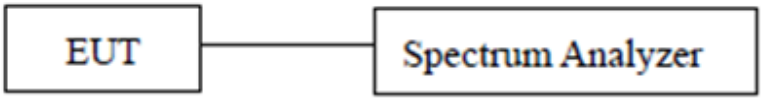
Below 1GHz



Above 1GHz



RF Conduction:



Note: The cable assembly insertion loss of 0.5dB was entered as an offset in the spectrum analyzer. (Actual cable loss was unavailable at the time of testing, therefore loss of 0.5dB was assumed as worst case.) This was later verified to be true by laboratory.

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

TEST EQUIPMENT LIST

Test Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted Emissions					
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
Radiated Emissions Below 1GHz					
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
Radiated Emissions Above 1 GHz					
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102051	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
Horn Aantenna	EMCO	3115	9002-3355	2024/11/19	2027/11/18
Double Ridge Guide Horn Antenna	A.H.Systems	SAS-571	1980	2023/07/28	2026/07/27
Preamplifier	A.H.Systems	PAM-0118P	489	2024/03/29	2025/03/28
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
Horn Antenna	EMCO	3116	9407-2232	2023/07/31	2026/07/30
Preamplifier	A.H.Systems	PAM-1840	200	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
RF Conducted Test					
Spectrum Analyzer	Rohde & Schwarz	FSU	100405	2024/03/29	2025/03/28
Coaxial Cable	N/A	N/A	N/A	Each time	Each time

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).

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:

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 PCB antenna for Bluetooth, which was permanently attached and the Max. antenna gain is 3.71 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

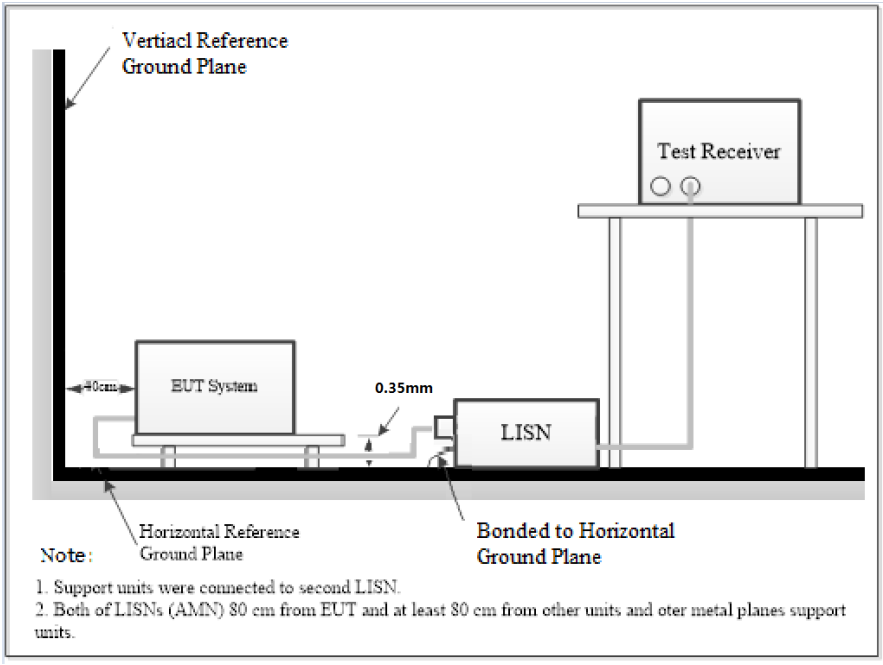
Result: Compliance

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	IF B/W
150 kHz – 30 MHz	9 kHz

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.

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 (dBμV) = Reading (dBμV) + 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 (dBμV) –Result (dBμV)

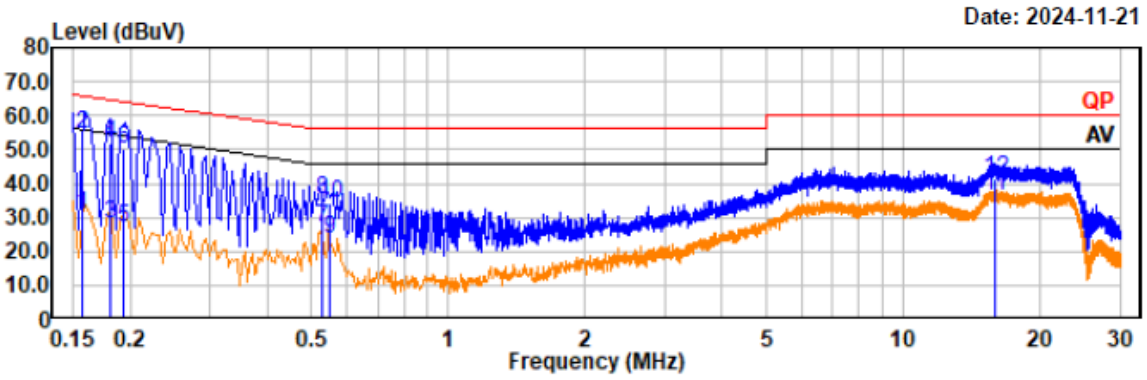
Test Data

Temperature:	25.6℃
Relative Humidity:	57%
ATM Pressure:	100.1kPa
Test Date:	2024-11-21
Test Engineer:	Spike Gao

EUT operation mode: Transmitting in the high channel of 8DPSK mode (worst case).

Project No.: 2407X32126E-RF
Test Mode: 3DH1 2480
EUT Model: YS-001

Temp/Humi/ATM: 25.6℃/57%/100.1kPa
Tested by: Spike Gao
Power Source: AC 120V/60Hz

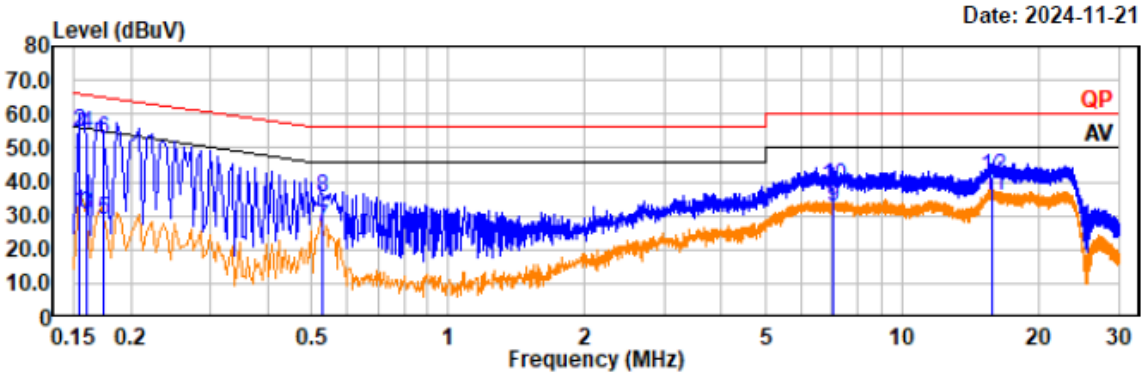


Trace: 1

Freq MHz	Reading dBuV	Factor dB	Result dBuV	Limit dBuV	Margin dB	Phase	Remark
0.16	9.63	21.07	30.70	55.60	24.90	Line	Average
0.16	33.28	21.07	54.35	65.60	11.25	Line	QP
0.18	7.05	21.18	28.23	54.47	26.24	Line	Average
0.18	30.60	21.18	51.78	64.47	12.69	Line	QP
0.19	5.82	21.24	27.06	53.87	26.81	Line	Average
0.19	29.16	21.24	50.40	63.87	13.47	Line	QP
0.53	6.76	20.34	27.10	46.00	18.90	Line	Average
0.53	15.07	20.34	35.41	56.00	20.59	Line	QP
0.55	3.62	20.38	24.00	46.00	22.00	Line	Average
0.55	13.71	20.38	34.09	56.00	21.91	Line	QP
15.86	15.31	21.10	36.41	50.00	13.59	Line	Average
15.86	20.41	21.10	41.51	60.00	18.49	Line	QP

Project No.: 2407X32126E-RF
Test Mode: 3DH1 2480
EUT Model: YS-001

Temp/Humi/ATM: 25.6℃/57%/100.1kPa
Tested by: Spike Gao
Power Source: AC 120V/60Hz



Trace: 1

Freq MHz	Reading dBuV	Factor dB	Result dBuV	Limit dBuV	Margin dB	Phase	Remark
0.15	10.11	20.86	30.97	55.78	24.81	Neutral	Average
0.15	33.62	20.86	54.48	65.78	11.30	Neutral	QP
0.16	9.63	20.89	30.52	55.49	24.97	Neutral	Average
0.16	33.12	20.89	54.01	65.49	11.48	Neutral	QP
0.17	7.75	20.95	28.70	54.79	26.09	Neutral	Average
0.17	31.33	20.95	52.28	64.79	12.51	Neutral	QP
0.53	6.34	20.31	26.65	46.00	19.35	Neutral	Average
0.53	14.84	20.31	35.15	56.00	20.85	Neutral	QP
7.03	11.93	20.50	32.43	50.00	17.57	Neutral	Average
7.03	18.04	20.50	38.54	60.00	21.46	Neutral	QP
15.80	15.07	21.06	36.13	50.00	13.87	Neutral	Average
15.80	20.28	21.06	41.34	60.00	18.66	Neutral	QP

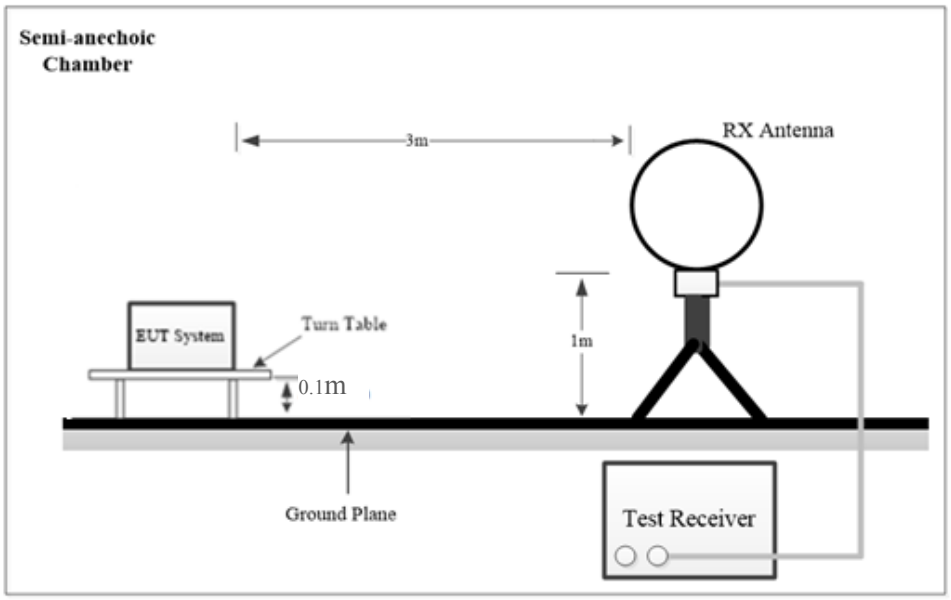
FCC §15.205, §15.209 & §15.247(d) – RADIATED EMISSIONS

Applicable Standard

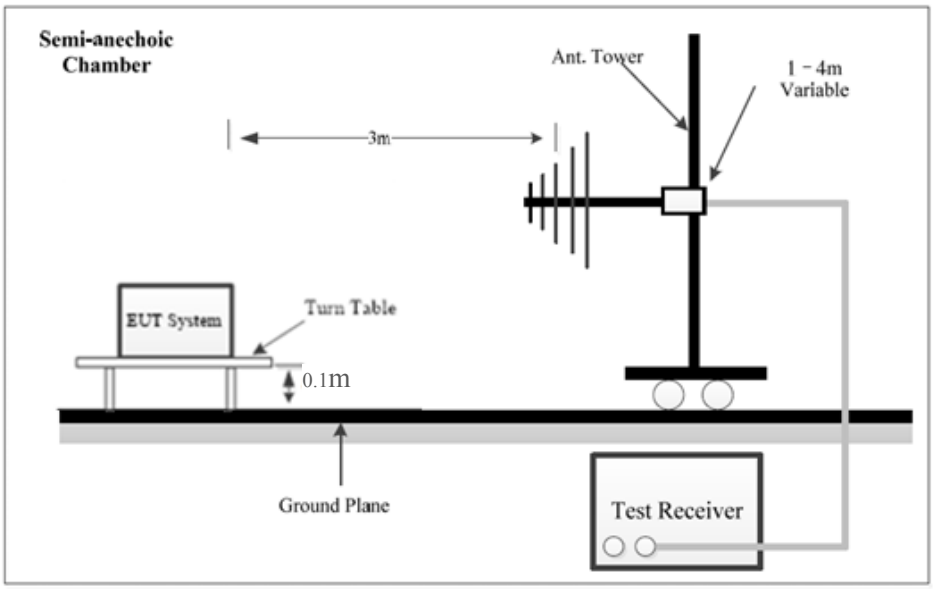
FCC §15.205; §15.209; §15.247(d)

Test System Setup

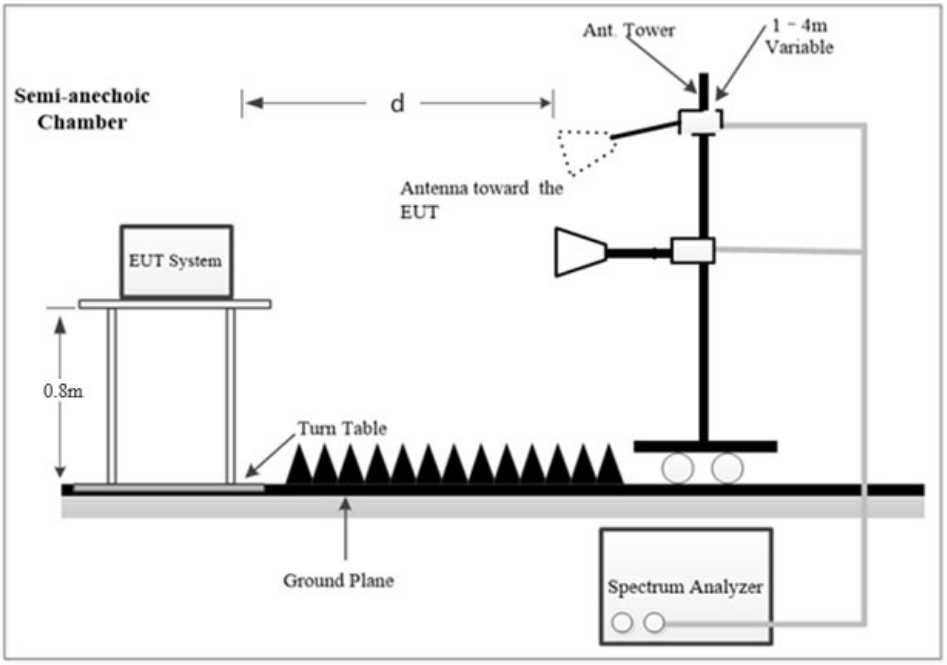
9 kHz-30MHz



Below 1 GHz:



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	300Hz	1 kHz	200Hz	QP
150 kHz – 30 MHz	10 kHz	30 kHz	9 kHz	QP
30 MHz – 1000 MHz	100 kHz	300 kHz	/	PK
	/	/	120kHz	QP

1GHz~25GHz:
Pre-scan:

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

Final measuurement for emission identifed ding the pre-scan:

Measurement	RBW	Video B/W
PK	1MHz	3MHz
AV	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 6 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 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 (dBμV/m) = Reading (dBμV) + 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 (dBμV/m) –Result (dBμV/m)

Test Data

Please refer to the below table and plots.

Frequency Range:	Below 1 GHz	Above 1 GHz
Temperature:	23.1℃~23.7℃	23.1℃~23.6℃
Relative Humidity:	48 %~52 %	48%~53%
ATM Pressure:	100.1kPa	100.1kPa
Test Date:	2024-11-20~2024-11-25	2024-10-06~2024-12-16
Test Engineer:	Wlif Wu	Wlif Wu

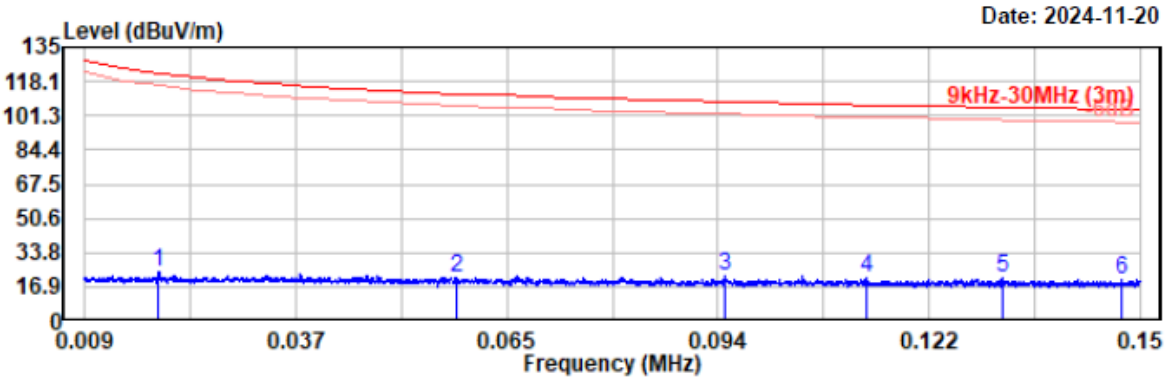
1) 9 kHz ~30MHz

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

EUT operation mode: Transmitting in the high channel of 8DPSK mode (worst case).

Project No.: 2407X32126E-RF
Test Mode: 3DH1 2480
EUT Model: YS-001
Test distance: 3m

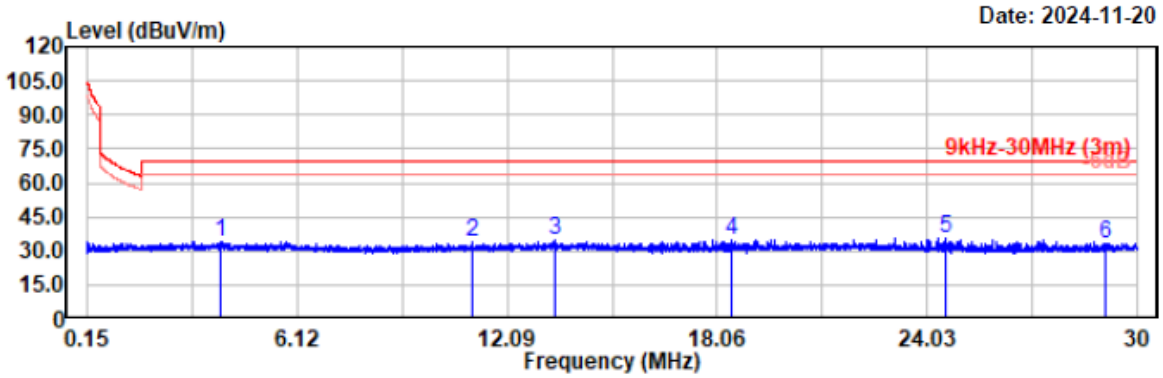
Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Remark
0.019	4.20	19.78	23.98	122.09	98.11	Peak
0.059	1.62	19.91	21.53	112.23	90.70	Peak
0.095	2.20	19.77	21.97	108.10	86.13	Peak
0.113	1.68	19.73	21.41	106.52	85.11	Peak
0.132	1.57	19.73	21.30	105.23	83.93	Peak
0.148	0.60	19.73	20.33	104.23	83.90	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1 2480
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



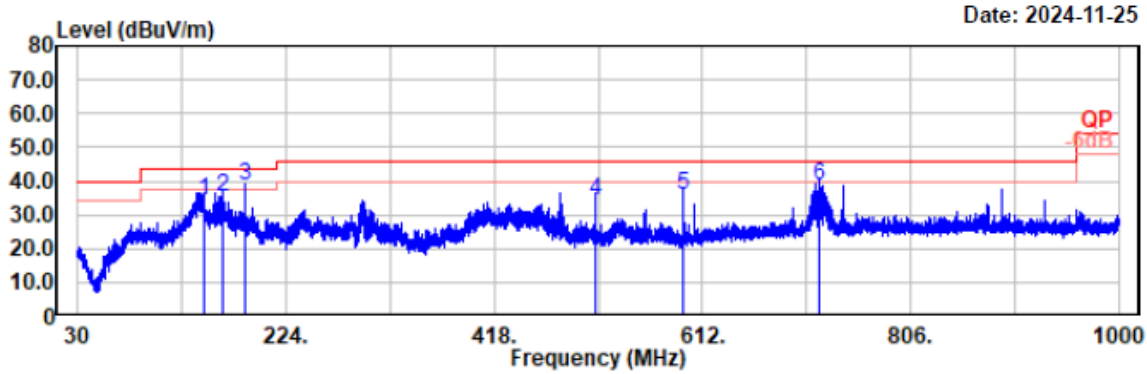
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Remark
3.950	14.28	19.77	34.05	69.58	35.53	Peak
11.105	14.14	19.71	33.85	69.58	35.73	Peak
13.421	14.88	19.74	34.62	69.58	34.96	Peak
18.490	14.62	19.99	34.61	69.58	34.97	Peak
24.540	15.12	20.21	35.33	69.58	34.25	Peak
29.110	13.02	20.01	33.03	69.58	36.55	Peak

2) 30MHz-1GHz

EUT operation mode: Transmitting in the high channel of 8DPSK mode (worst case).

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2480
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.7℃/52%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

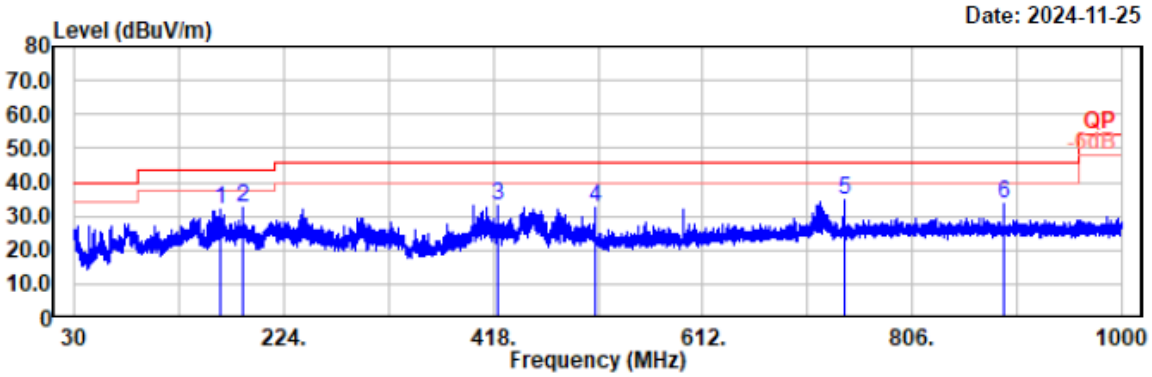


Condition: PK RBW:100kHz VBW:300kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
147.56	45.56	-11.09	34.47	43.50	9.03	Horizontal	QP
164.35	46.86	-11.61	35.25	43.50	8.25	Horizontal	QP
186.13	51.22	-12.51	38.71	43.50	4.79	Horizontal	QP
511.90	37.78	-3.38	34.40	46.00	11.60	Horizontal	QP
594.06	38.45	-2.44	36.01	46.00	9.99	Horizontal	QP
721.03	38.53	0.05	38.58	46.00	7.42	Horizontal	QP

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2480
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.7℃/52%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



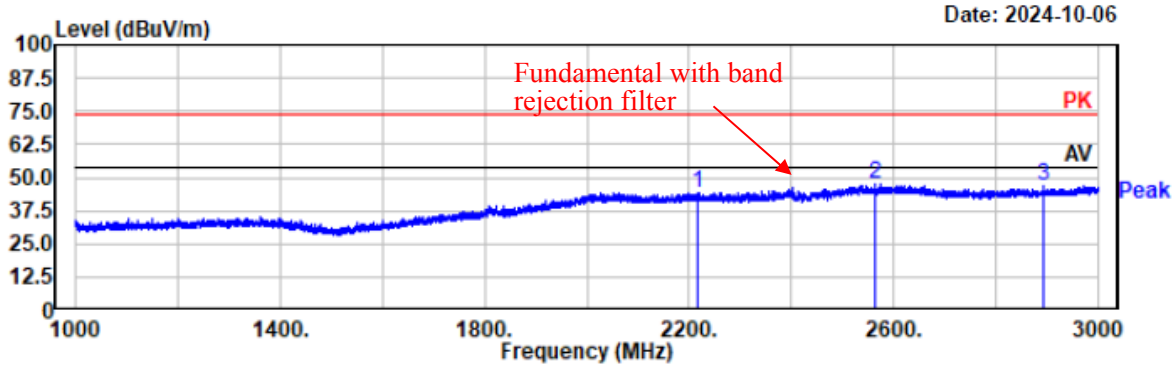
Condition: PK RBW:100kHz VBW:300kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
165.41	43.68	-11.64	32.04	43.50	11.46	Vertical	Peak
186.17	44.79	-12.51	32.28	43.50	11.22	Vertical	Peak
421.88	38.68	-5.58	33.10	46.00	12.90	Vertical	Peak
511.90	36.09	-3.38	32.71	46.00	13.29	Vertical	Peak
742.56	34.32	0.38	34.70	46.00	11.30	Vertical	Peak
891.07	31.03	2.49	33.52	46.00	12.48	Vertical	Peak

3) 1 GHz-3 GHz

Project No.: 2407X32126E-RF
Test Mode: 1DH1-2402
EUT Model: YS-001
Test distance: 3m

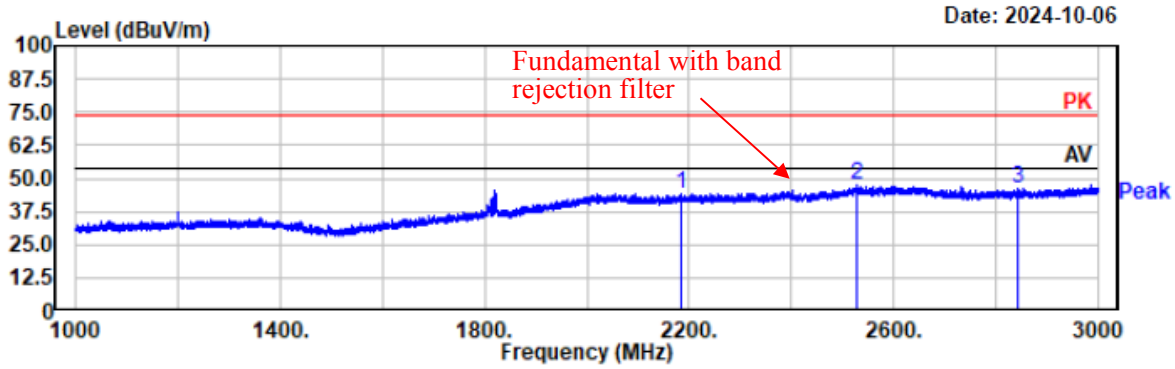
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2216.40	49.41	-5.02	44.39	74.00	29.61	horizontal	Peak
2565.60	49.87	-2.08	47.79	74.00	26.21	horizontal	Peak
2893.00	49.61	-2.98	46.63	74.00	27.37	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 1DH1-2402
EUT Model: YS-001
Test distance: 3m

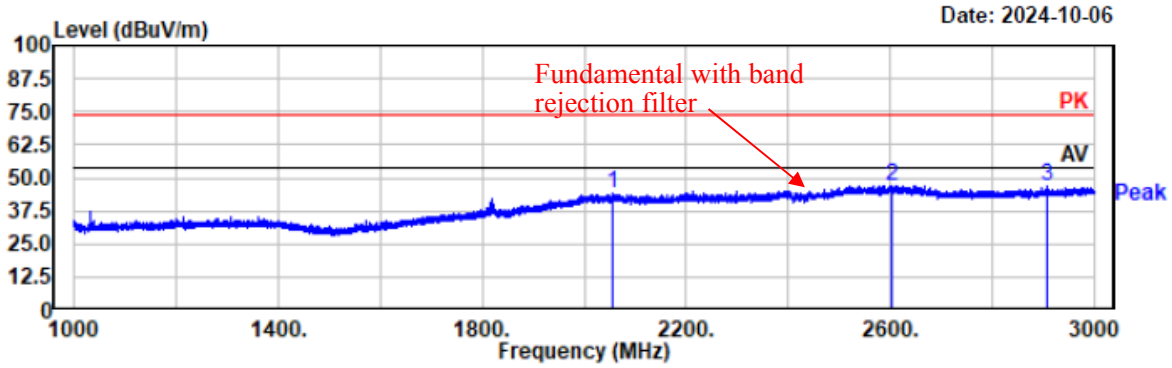
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2186.00	49.35	-5.17	44.18	74.00	29.82	vertical	Peak
2528.60	49.73	-2.43	47.30	74.00	26.70	vertical	Peak
2842.00	49.14	-3.15	45.99	74.00	28.01	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 1DH1-2441
EUT Model: YS-001
Test distance: 3m

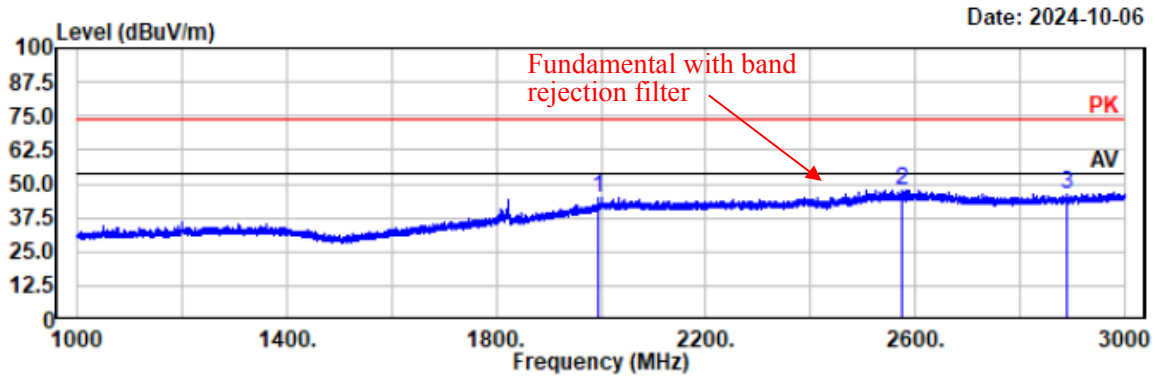
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2057.00	48.83	-4.91	43.92	74.00	30.08	horizontal	Peak
2603.60	49.20	-1.96	47.24	74.00	26.76	horizontal	Peak
2906.20	49.66	-2.94	46.72	74.00	27.28	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 1DH1-2441
EUT Model: YS-001
Test distance: 3m

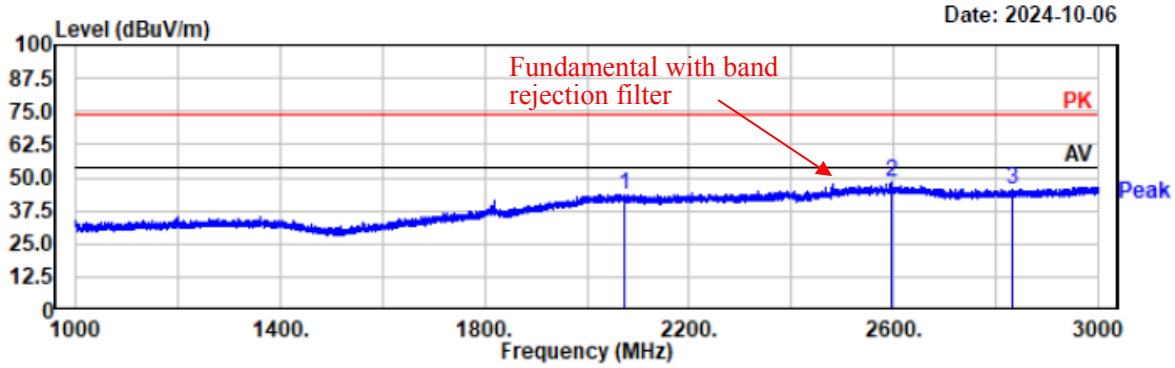
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1996.00	50.52	-5.73	44.79	74.00	29.21	vertical	Peak
2574.80	49.58	-2.04	47.54	74.00	26.46	vertical	Peak
2889.20	49.53	-3.00	46.53	74.00	27.47	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 1DH1-2480
EUT Model: YS-001
Test distance: 3m

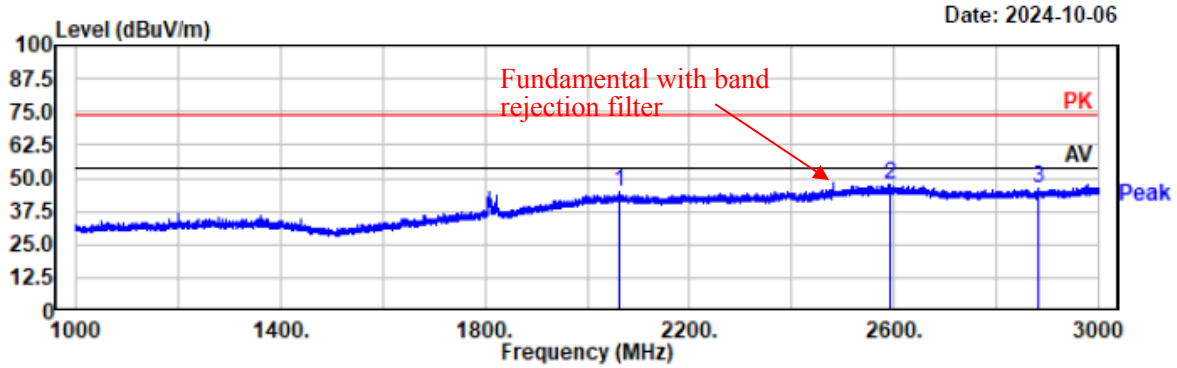
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2072.80	48.86	-5.13	43.73	74.00	30.27	horizontal	Peak
2596.40	50.01	-1.96	48.05	74.00	25.95	horizontal	Peak
2831.60	49.00	-3.19	45.81	74.00	28.19	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 1DH1-2480
EUT Model: YS-001
Test distance: 3m

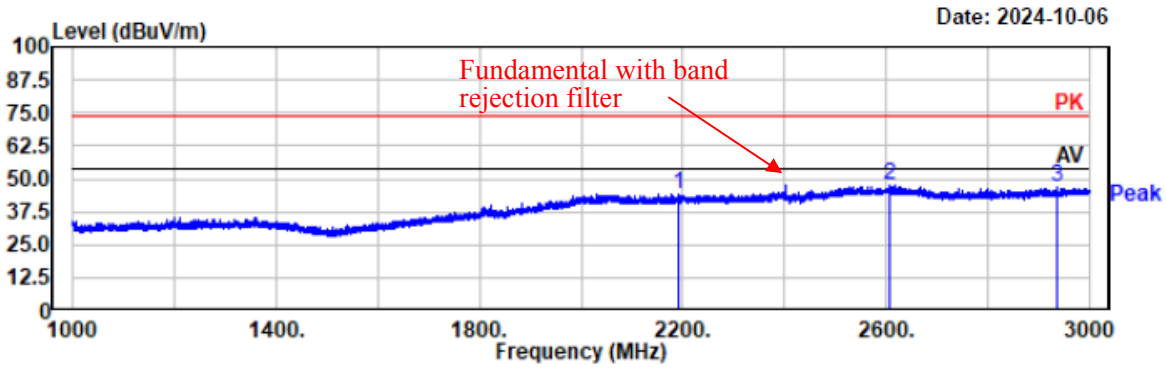
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2062.20	49.61	-4.99	44.62	74.00	29.38	vertical	Peak
2592.20	49.46	-1.97	47.49	74.00	26.51	vertical	Peak
2883.20	48.93	-3.01	45.92	74.00	28.08	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 2DH1-2402
EUT Model: YS-001
Test distance: 3m

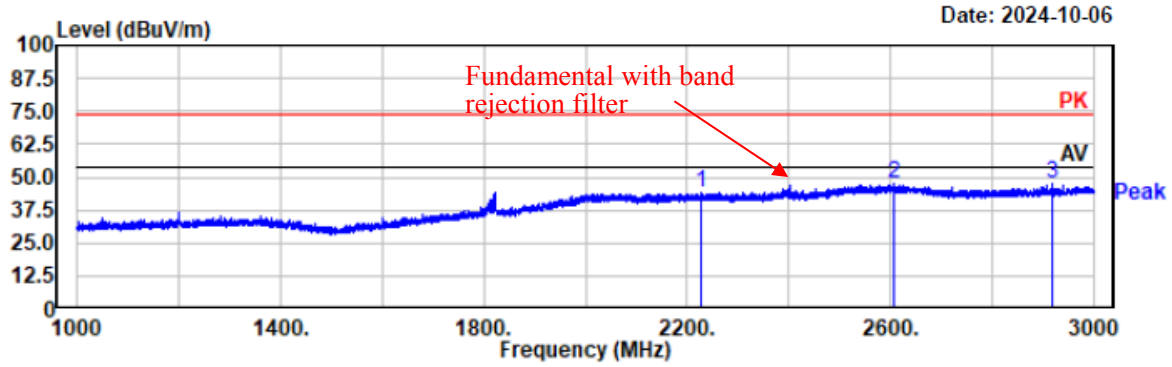
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2191.00	49.28	-5.12	44.16	74.00	29.84	horizontal	Peak
2608.60	49.48	-1.96	47.52	74.00	26.48	horizontal	Peak
2935.80	49.42	-2.82	46.60	74.00	27.40	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 2DH1-2402
EUT Model: YS-001
Test distance: 3m

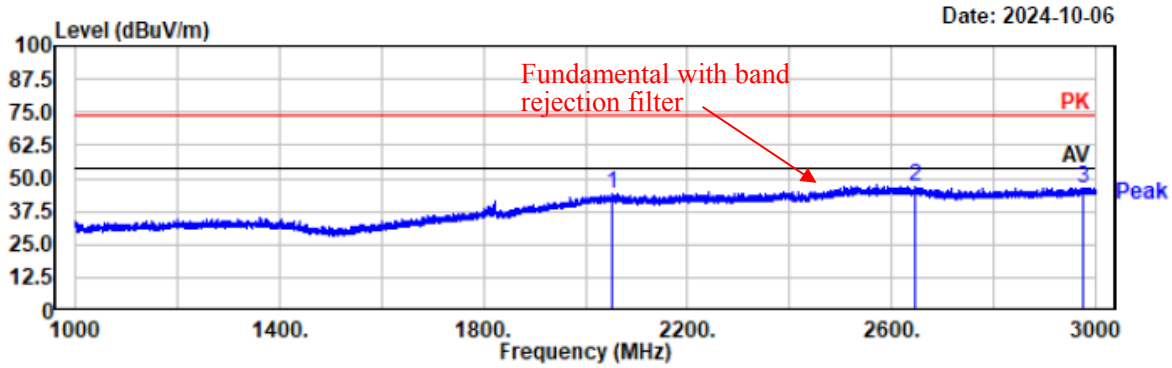
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2229.00	48.97	-5.01	43.96	74.00	30.04	vertical	Peak
2605.20	49.31	-1.96	47.35	74.00	26.65	vertical	Peak
2917.40	50.65	-2.88	47.77	74.00	26.23	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 2DH1-2441
EUT Model: YS-001
Test distance: 3m

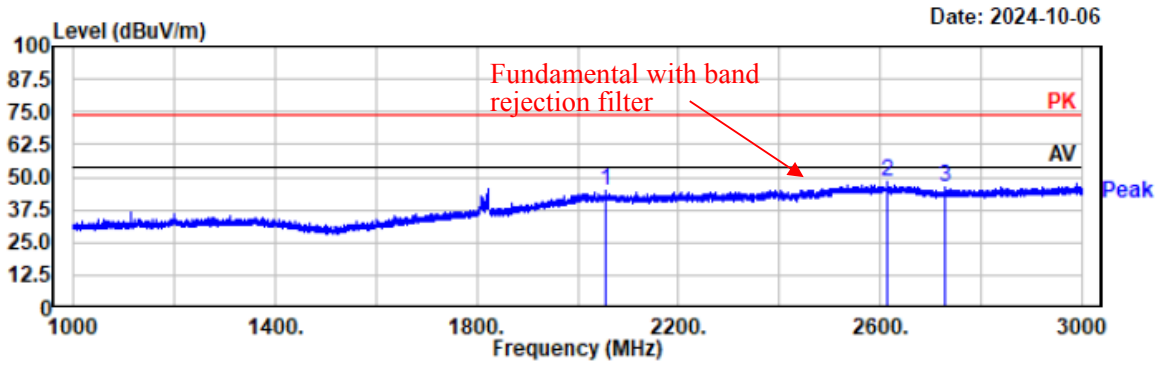
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2051.80	48.89	-4.83	44.06	74.00	29.94	horizontal	Peak
2647.60	49.20	-2.01	47.19	74.00	26.81	horizontal	Peak
2976.80	49.03	-2.65	46.38	74.00	27.62	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 2DH1-2441
EUT Model: YS-001
Test distance: 3m

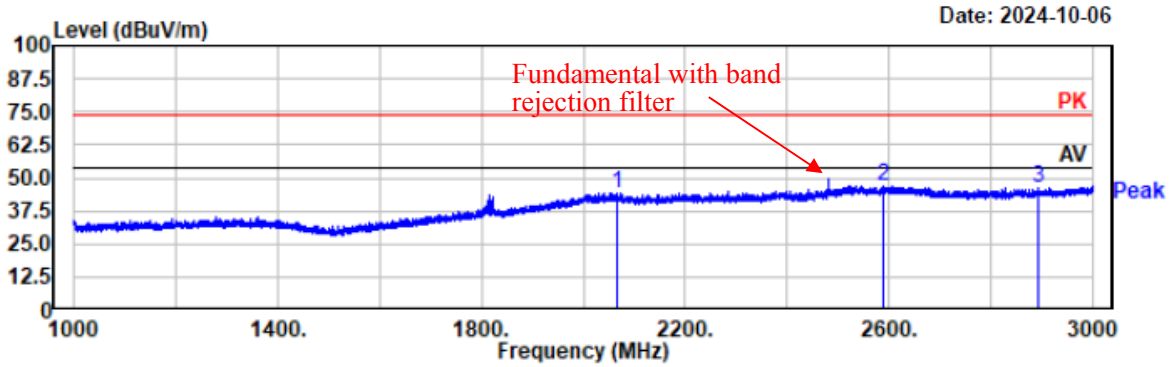
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2055.20	49.42	-4.88	44.54	74.00	29.46	vertical	Peak
2612.40	49.89	-1.96	47.93	74.00	26.07	vertical	Peak
2728.80	49.89	-3.37	46.52	74.00	27.48	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 2DH1-2480
EUT Model: YS-001
Test distance: 3m

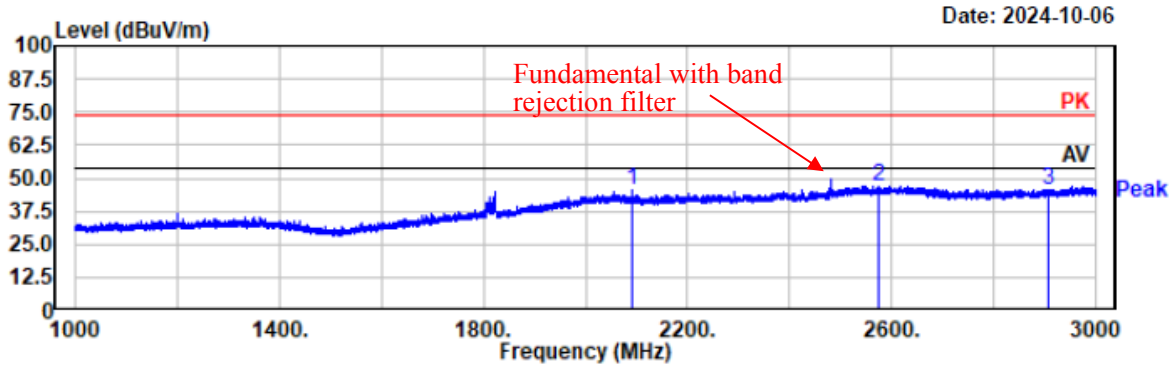
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2067.00	49.48	-5.06	44.42	74.00	29.58	horizontal	Peak
2589.20	48.90	-1.99	46.91	74.00	27.09	horizontal	Peak
2892.80	49.17	-2.98	46.19	74.00	27.81	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 2DH1-2480
EUT Model: YS-001
Test distance: 3m

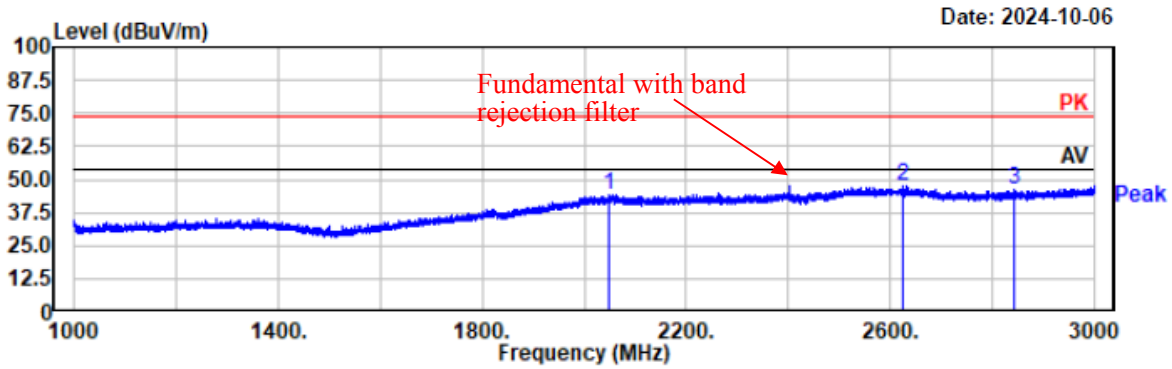
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2090.80	51.24	-5.39	45.85	74.00	28.15	vertical	Peak
2575.80	49.09	-2.04	47.05	74.00	26.95	vertical	Peak
2907.20	48.68	-2.94	45.74	74.00	28.26	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2402
EUT Model: YS-001
Test distance: 3m

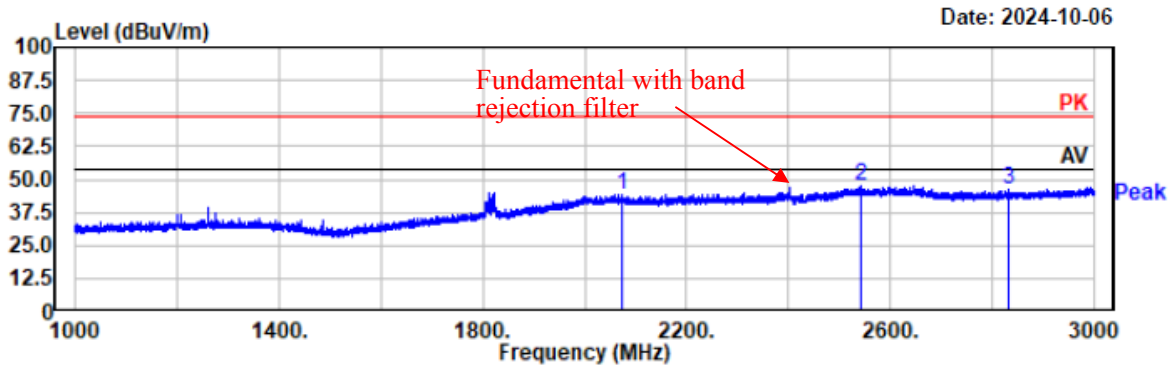
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2047.60	49.15	-4.84	44.31	74.00	29.69	horizontal	Peak
2625.40	49.36	-1.97	47.39	74.00	26.61	horizontal	Peak
2843.40	49.13	-3.14	45.99	74.00	28.01	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2402
EUT Model: YS-001
Test distance: 3m

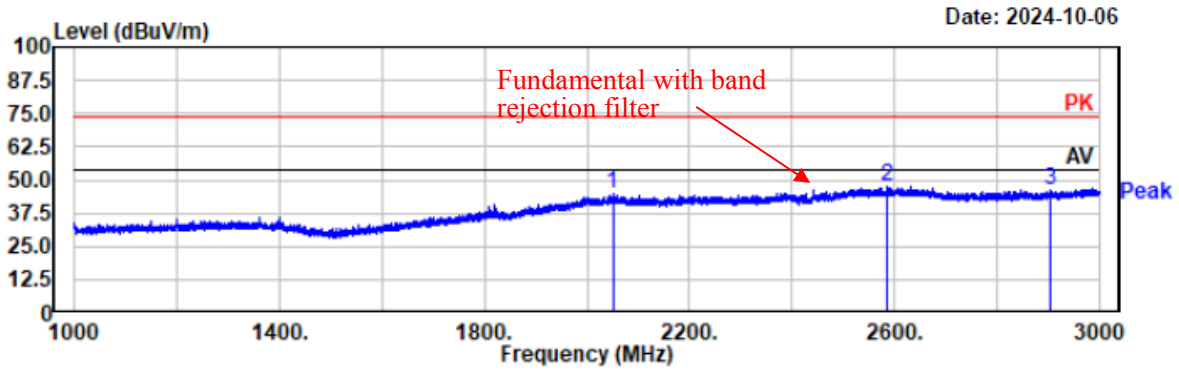
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2073.80	49.26	-5.16	44.10	74.00	29.90	vertical	Peak
2543.80	50.01	-2.23	47.78	74.00	26.22	vertical	Peak
2832.80	49.07	-3.18	45.89	74.00	28.11	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2441
EUT Model: YS-001
Test distance: 3m

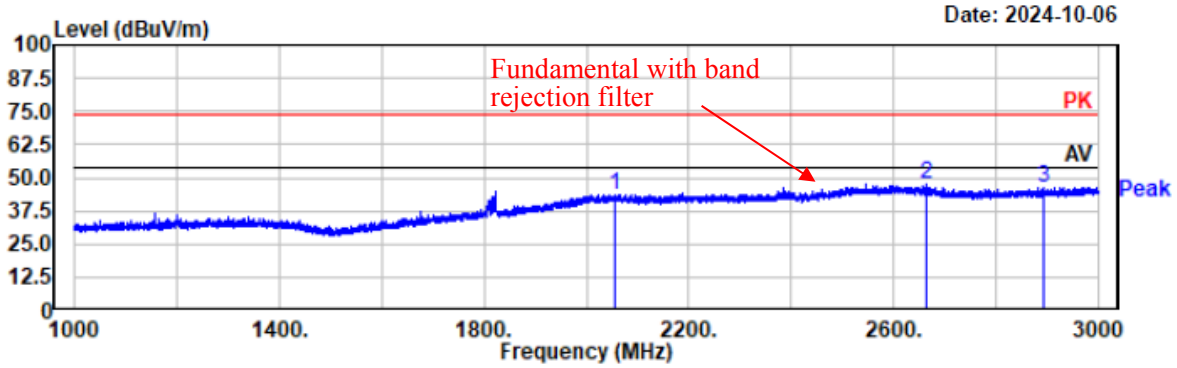
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2050.20	49.82	-4.80	45.02	74.00	28.98	horizontal	Peak
2584.80	49.46	-2.01	47.45	74.00	26.55	horizontal	Peak
2903.00	49.14	-2.95	46.19	74.00	27.81	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2441
EUT Model: YS-001
Test distance: 3m

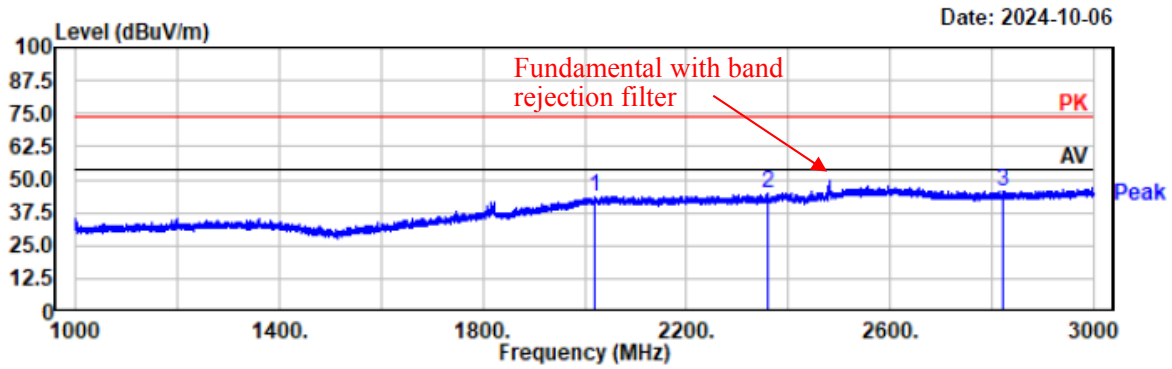
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2055.00	48.62	-4.88	43.74	74.00	30.26	vertical	Peak
2665.40	50.00	-2.39	47.61	74.00	26.39	vertical	Peak
2894.60	49.41	-2.97	46.44	74.00	27.56	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2480
EUT Model: YS-001
Test distance: 3m

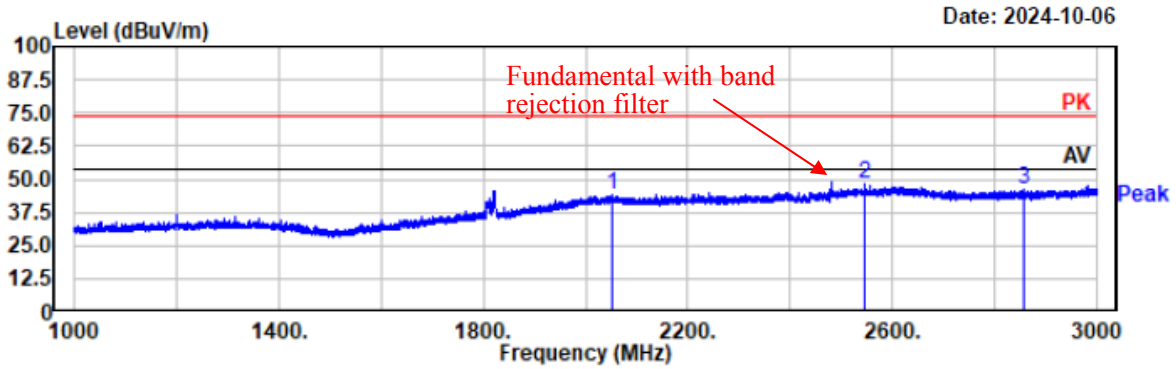
Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2021.20	48.99	-5.25	43.74	74.00	30.26	horizontal	Peak
2360.20	48.98	-4.45	44.53	74.00	29.47	horizontal	Peak
2823.40	49.06	-3.21	45.85	74.00	28.15	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2480
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.6℃/53%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

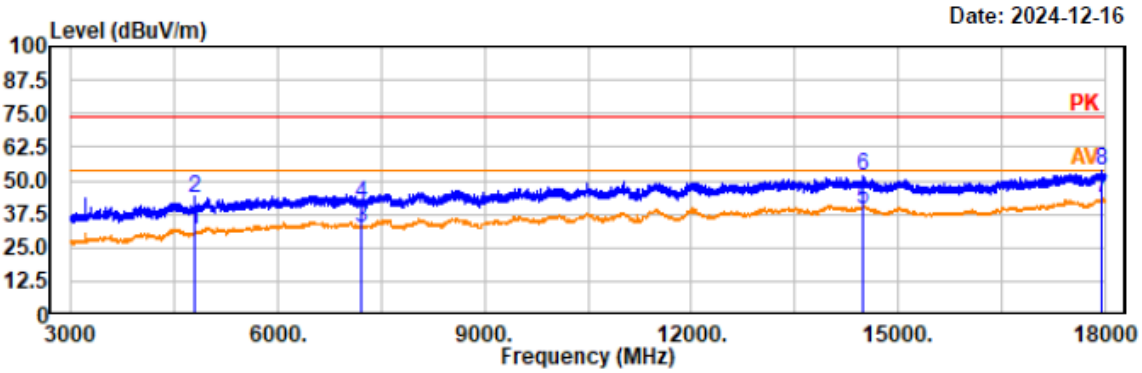


Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2053.20	49.30	-4.85	44.45	74.00	29.55	vertical	Peak
2546.40	50.16	-2.19	47.97	74.00	26.03	vertical	Peak
2859.20	49.01	-3.09	45.92	74.00	28.08	vertical	Peak

4) 3 GHz-18 GHz

Project No.: 2407X32126E-RF
Test Mode: 1DH1-2402
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

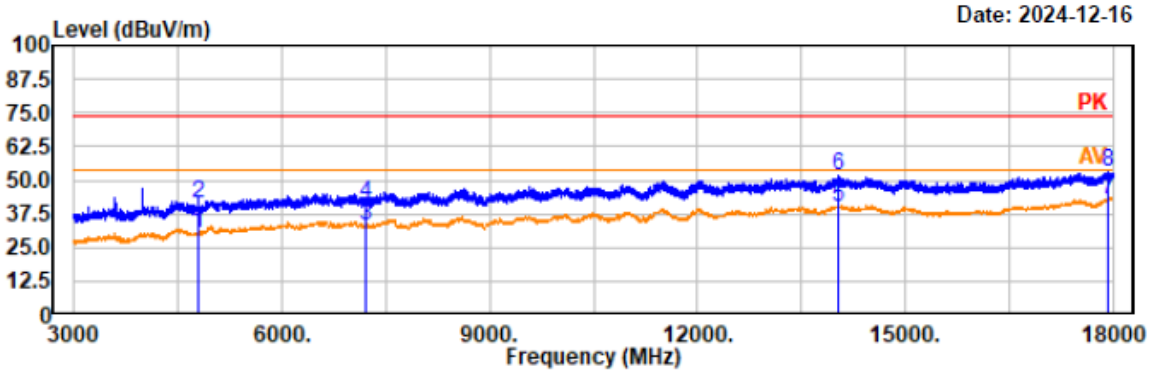


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4804.50	37.12	-4.45	32.67	54.00	21.33	horizontal	Average
4804.50	47.91	-4.45	43.46	74.00	30.54	horizontal	Peak
7206.00	34.38	-1.73	32.65	54.00	21.35	horizontal	Average
7206.00	43.41	-1.73	41.68	74.00	32.32	horizontal	Peak
14490.00	34.56	4.99	39.55	54.00	14.45	horizontal	Average
14490.00	46.85	4.99	51.84	74.00	22.16	horizontal	Peak
17941.50	35.55	7.65	43.20	54.00	10.80	horizontal	Average
17941.50	45.89	7.65	53.54	74.00	20.46	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 1DH1-2402
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

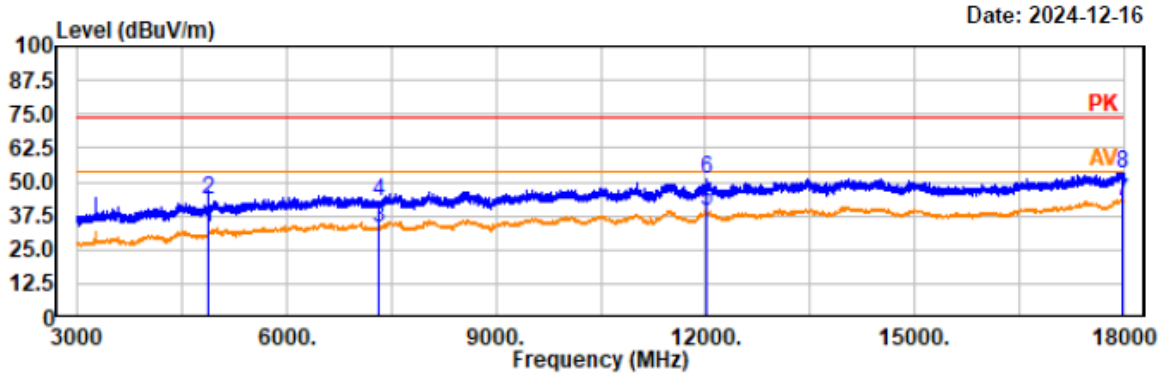


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4804.50	34.78	-4.45	30.33	54.00	23.67	vertical	Average
4804.50	45.67	-4.45	41.22	74.00	32.78	vertical	Peak
7206.00	34.59	-1.73	32.86	54.00	21.14	vertical	Average
7206.00	42.87	-1.73	41.14	74.00	32.86	vertical	Peak
14029.50	34.86	5.13	39.99	54.00	14.01	vertical	Average
14029.50	46.27	5.13	51.40	74.00	22.60	vertical	Peak
17926.50	35.42	7.64	43.06	54.00	10.94	vertical	Average
17926.50	45.21	7.64	52.85	74.00	21.15	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 1DH1-2441
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

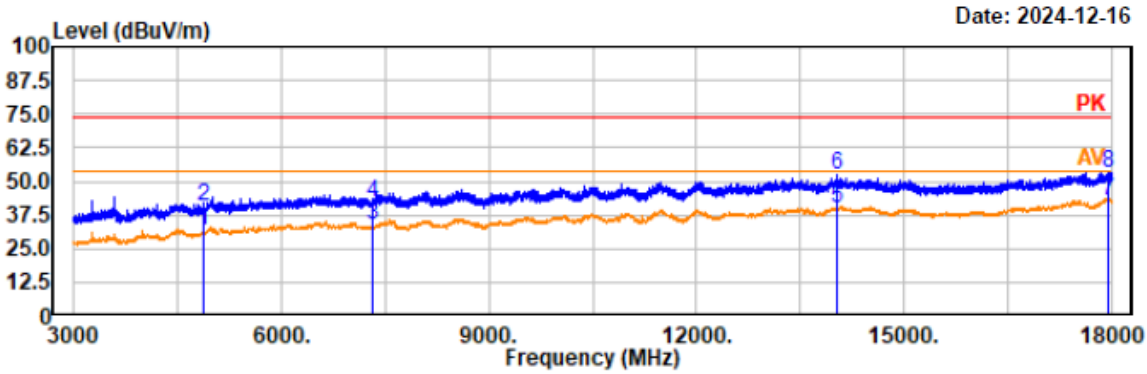


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4882.50	37.03	-4.24	32.79	54.00	21.21	horizontal	Average
4882.50	47.74	-4.24	43.50	74.00	30.50	horizontal	Peak
7323.00	34.68	-1.61	33.07	54.00	20.93	horizontal	Average
7323.00	44.11	-1.61	42.50	74.00	31.50	horizontal	Peak
12007.50	35.22	4.24	39.46	54.00	14.54	horizontal	Average
12007.50	46.92	4.24	51.16	74.00	22.84	horizontal	Peak
17977.50	35.28	7.71	42.99	54.00	11.01	horizontal	Average
17977.50	45.70	7.71	53.41	74.00	20.59	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 1DH1-2441
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

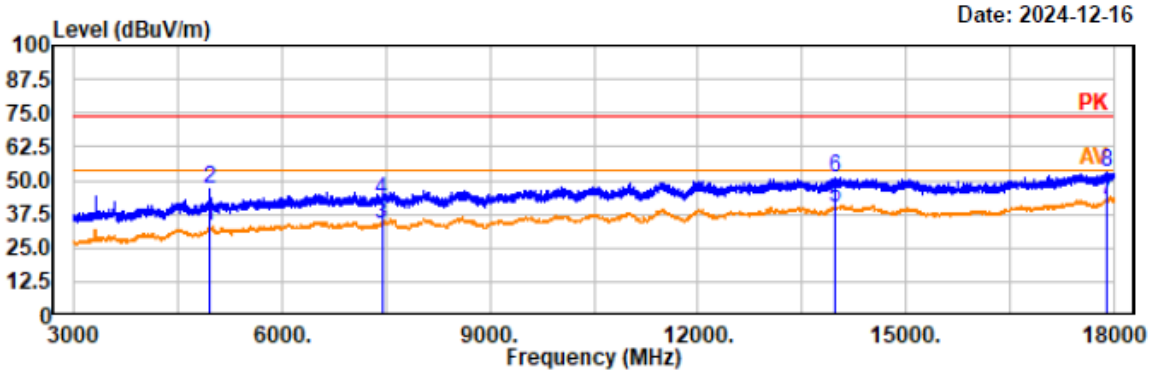


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4882.50	35.96	-4.24	31.72	54.00	22.28	vertical	Average
4882.50	45.02	-4.24	40.78	74.00	33.22	vertical	Peak
7323.00	35.23	-1.61	33.62	54.00	20.38	vertical	Average
7323.00	43.93	-1.61	42.32	74.00	31.68	vertical	Peak
14038.50	34.78	5.15	39.93	54.00	14.07	vertical	Average
14038.50	47.20	5.15	52.35	74.00	21.65	vertical	Peak
17940.00	35.41	7.65	43.06	54.00	10.94	vertical	Average
17940.00	45.59	7.65	53.24	74.00	20.76	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 1DH1-2480
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

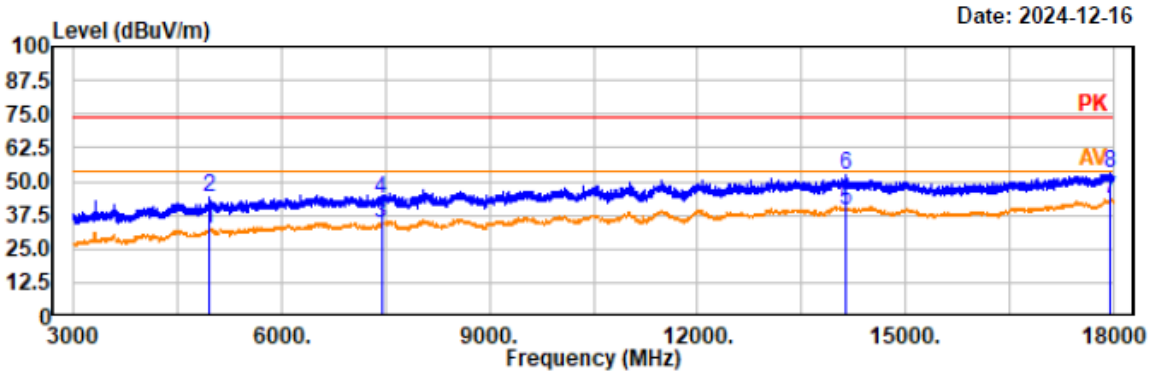


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4960.50	38.78	-4.01	34.77	54.00	19.23	horizontal	Average
4960.50	50.75	-4.01	46.74	74.00	27.26	horizontal	Peak
7440.00	35.43	-1.59	33.84	54.00	20.16	horizontal	Average
7440.00	44.51	-1.59	42.92	74.00	31.08	horizontal	Peak
13986.00	34.84	5.09	39.93	54.00	14.07	horizontal	Average
13986.00	45.92	5.09	51.01	74.00	22.99	horizontal	Peak
17908.50	34.90	7.60	42.50	54.00	11.50	horizontal	Average
17908.50	45.21	7.60	52.81	74.00	21.19	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 1DH1-2480
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

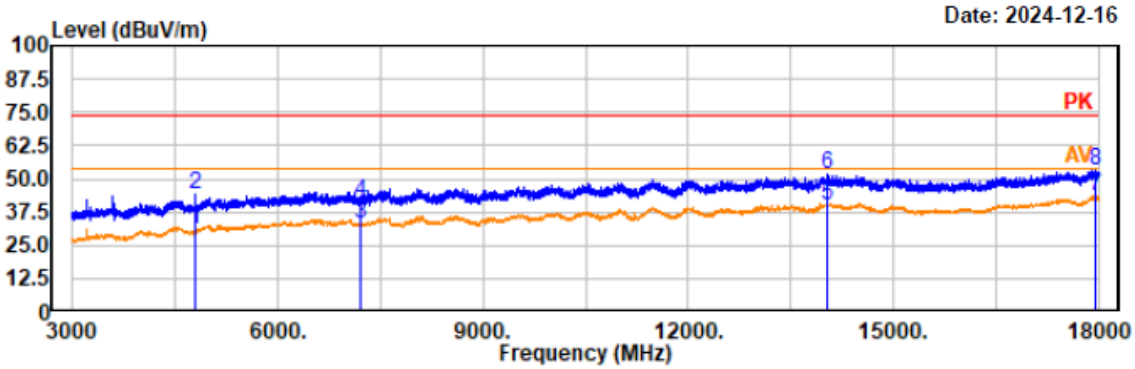


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4960.50	36.74	-4.01	32.73	54.00	21.27	vertical	Average
4960.50	48.29	-4.01	44.28	74.00	29.72	vertical	Peak
7440.00	35.78	-1.59	34.19	54.00	19.81	vertical	Average
7440.00	45.27	-1.59	43.68	74.00	30.32	vertical	Peak
14131.50	34.09	5.24	39.33	54.00	14.67	vertical	Average
14131.50	46.93	5.24	52.17	74.00	21.83	vertical	Peak
17955.00	35.79	7.68	43.47	54.00	10.53	vertical	Average
17955.00	45.64	7.68	53.32	74.00	20.68	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 2DH1-2402
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

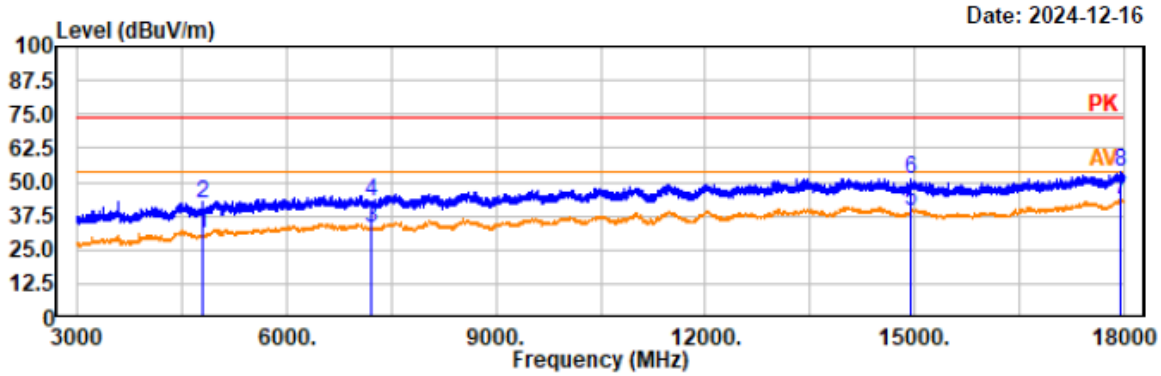


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4804.50	37.43	-4.45	32.98	54.00	21.02	horizontal	Average
4804.50	48.51	-4.45	44.06	74.00	29.94	horizontal	Peak
7206.00	34.65	-1.73	32.92	54.00	21.08	horizontal	Average
7206.00	43.37	-1.73	41.64	74.00	32.36	horizontal	Peak
14026.50	34.93	5.12	40.05	54.00	13.95	horizontal	Average
14026.50	46.68	5.12	51.80	74.00	22.20	horizontal	Peak
17947.50	35.84	7.66	43.50	54.00	10.50	horizontal	Average
17947.50	45.77	7.66	53.43	74.00	20.57	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 2DH1-2402
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

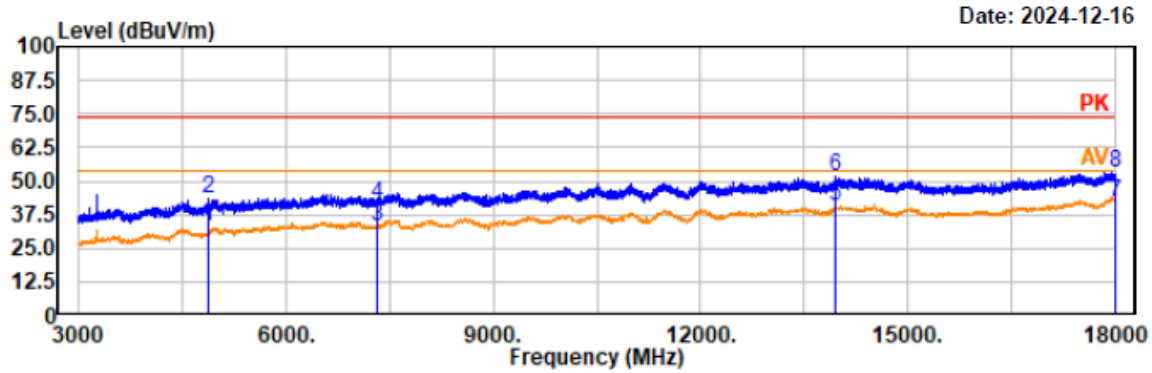


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4804.50	35.18	-4.45	30.73	54.00	23.27	vertical	Average
4804.50	46.83	-4.45	42.38	74.00	31.62	vertical	Peak
7206.00	34.74	-1.73	33.01	54.00	20.99	vertical	Average
7206.00	44.43	-1.73	42.70	74.00	31.30	vertical	Peak
14956.50	34.88	4.27	39.15	54.00	14.85	vertical	Average
14956.50	46.98	4.27	51.25	74.00	22.75	vertical	Peak
17949.00	35.68	7.67	43.35	54.00	10.65	vertical	Average
17949.00	46.20	7.67	53.87	74.00	20.13	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 2DH1-2441
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

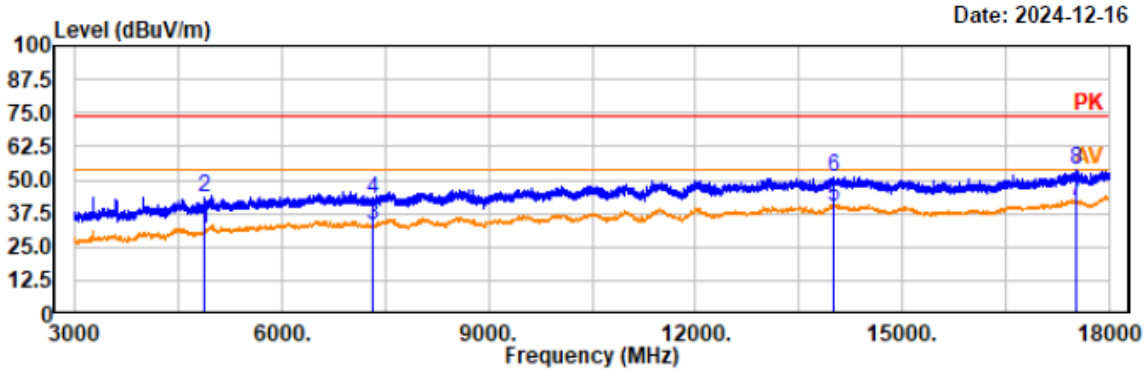


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4882.50	37.15	-4.24	32.91	54.00	21.09	horizontal	Average
4882.50	47.86	-4.24	43.62	74.00	30.38	horizontal	Peak
7323.00	34.64	-1.61	33.03	54.00	20.97	horizontal	Average
7323.00	42.82	-1.61	41.21	74.00	32.79	horizontal	Peak
13960.50	35.30	5.10	40.40	54.00	13.60	horizontal	Average
13960.50	46.37	5.10	51.47	74.00	22.53	horizontal	Peak
17999.50	34.65	7.74	42.39	54.00	11.61	horizontal	Average
17999.50	45.54	7.74	53.28	74.00	20.72	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 2DH1-2441
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

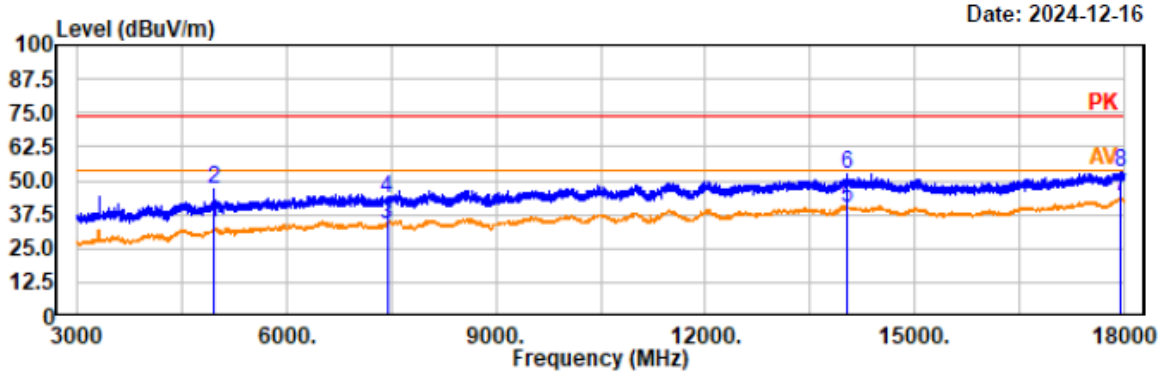


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4882.50	35.75	-4.24	31.51	54.00	22.49	vertical	Average
4882.50	47.84	-4.24	43.60	74.00	30.40	vertical	Peak
7323.00	34.59	-1.61	32.98	54.00	21.02	vertical	Average
7323.00	44.16	-1.61	42.55	74.00	31.45	vertical	Peak
13996.50	35.07	5.09	40.16	54.00	13.84	vertical	Average
13996.50	45.89	5.09	50.98	74.00	23.02	vertical	Peak
17529.00	35.38	6.39	41.77	54.00	12.23	vertical	Average
17529.00	47.09	6.39	53.48	74.00	20.52	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 2DH1-2480
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

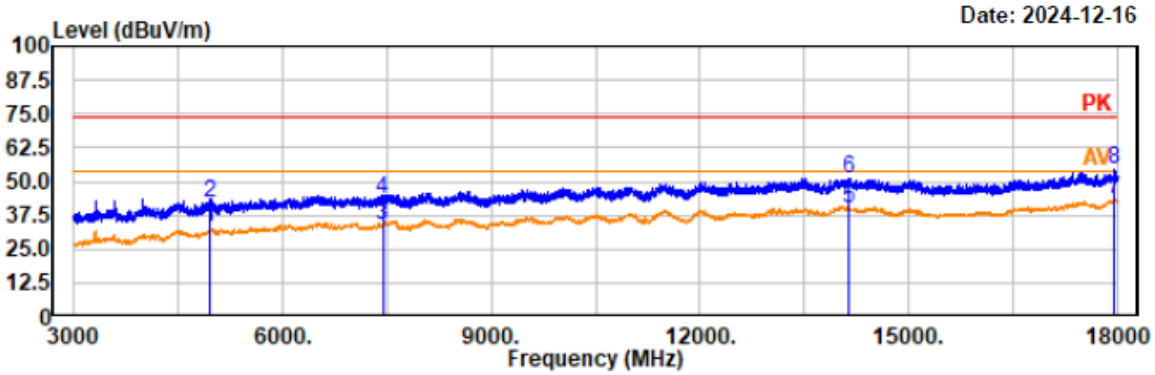


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4960.50	38.23	-4.01	34.22	54.00	19.78	horizontal	Average
4960.50	50.97	-4.01	46.96	74.00	27.04	horizontal	Peak
7440.00	35.63	-1.59	34.04	54.00	19.96	horizontal	Average
7440.00	45.01	-1.59	43.42	74.00	30.58	horizontal	Peak
14020.50	34.83	5.11	39.94	54.00	14.06	horizontal	Average
14020.50	47.25	5.11	52.36	74.00	21.64	horizontal	Peak
17947.50	36.23	7.66	43.89	54.00	10.11	horizontal	Average
17947.50	45.74	7.66	53.40	74.00	20.60	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 2DH1-2480
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

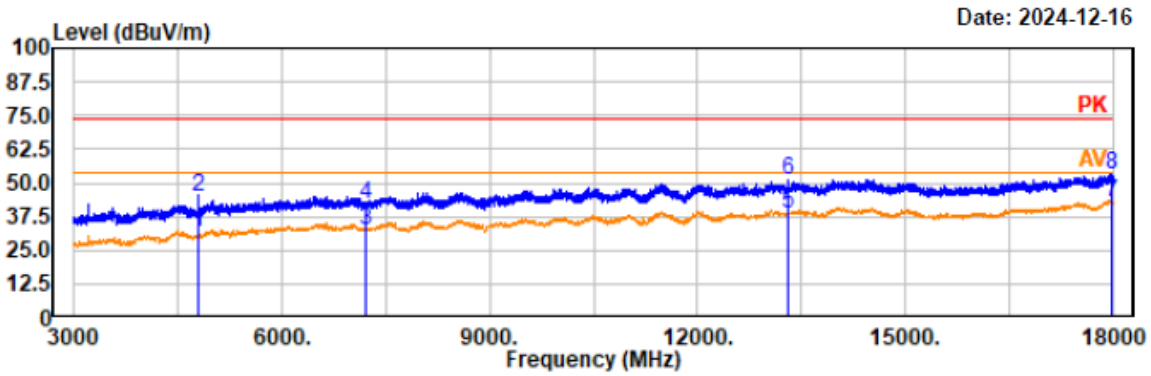


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4960.50	37.39	-4.01	33.38	54.00	20.62	vertical	Average
4960.50	46.37	-4.01	42.36	74.00	31.64	vertical	Peak
7440.00	35.34	-1.59	33.75	54.00	20.25	vertical	Average
7440.00	45.16	-1.59	43.57	74.00	30.43	vertical	Peak
14136.00	34.46	5.24	39.70	54.00	14.30	vertical	Average
14136.00	46.06	5.24	51.30	74.00	22.70	vertical	Peak
17940.00	35.67	7.65	43.32	54.00	10.68	vertical	Average
17940.00	46.57	7.65	54.22	74.00	19.78	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2402
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

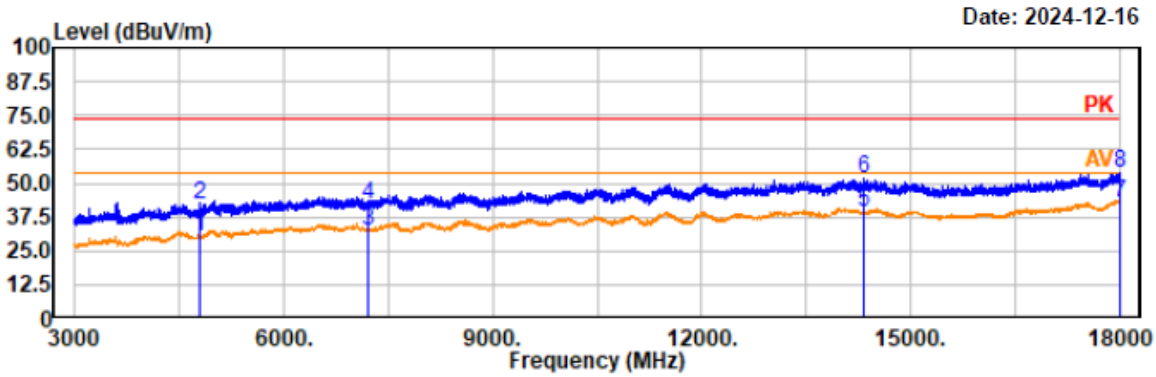


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4804.50	37.56	-4.45	33.11	54.00	20.89	horizontal	Average
4804.50	49.37	-4.45	44.92	74.00	29.08	horizontal	Peak
7206.00	34.34	-1.73	32.61	54.00	21.39	horizontal	Average
7206.00	43.55	-1.73	41.82	74.00	32.18	horizontal	Peak
13302.00	33.62	5.04	38.66	54.00	15.34	horizontal	Average
13302.00	45.92	5.04	50.96	74.00	23.04	horizontal	Peak
17989.50	35.18	7.72	42.90	54.00	11.10	horizontal	Average
17989.50	45.47	7.72	53.19	74.00	20.81	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2402
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

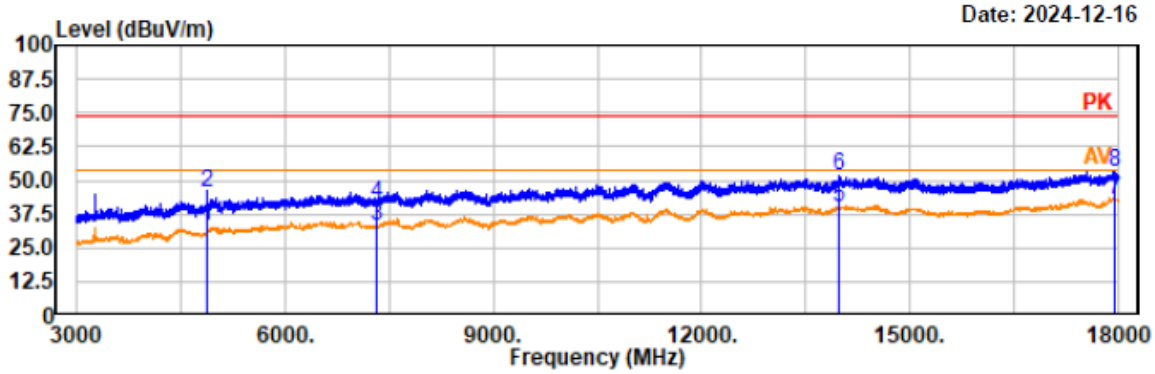


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4804.50	34.78	-4.45	30.33	54.00	23.67	vertical	Average
4804.50	46.82	-4.45	42.37	74.00	31.63	vertical	Peak
7206.00	34.33	-1.73	32.60	54.00	21.40	vertical	Average
7206.00	43.98	-1.73	42.25	74.00	31.75	vertical	Peak
14319.00	33.90	5.20	39.10	54.00	14.90	vertical	Average
14319.00	46.23	5.20	51.43	74.00	22.57	vertical	Peak
17994.00	35.20	7.72	42.92	54.00	11.08	vertical	Average
17994.00	46.05	7.72	53.77	74.00	20.23	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2441
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

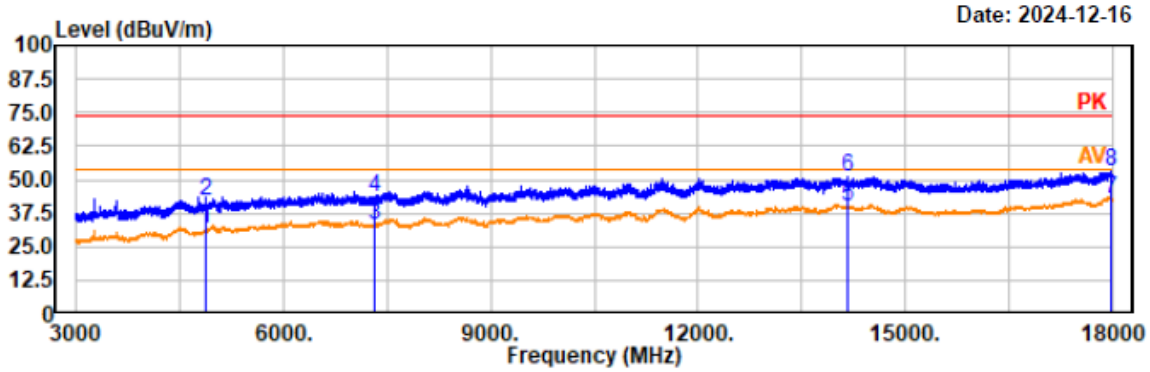


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4882.50	38.12	-4.24	33.88	54.00	20.12	horizontal	Average
4882.50	49.83	-4.24	45.59	74.00	28.41	horizontal	Peak
7323.00	34.87	-1.61	33.26	54.00	20.74	horizontal	Average
7323.00	43.30	-1.61	41.69	74.00	32.31	horizontal	Peak
13989.00	35.22	5.09	40.31	54.00	13.69	horizontal	Average
13989.00	46.43	5.09	51.52	74.00	22.48	horizontal	Peak
17959.50	35.38	7.67	43.05	54.00	10.95	horizontal	Average
17959.50	45.19	7.67	52.86	74.00	21.14	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2441
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

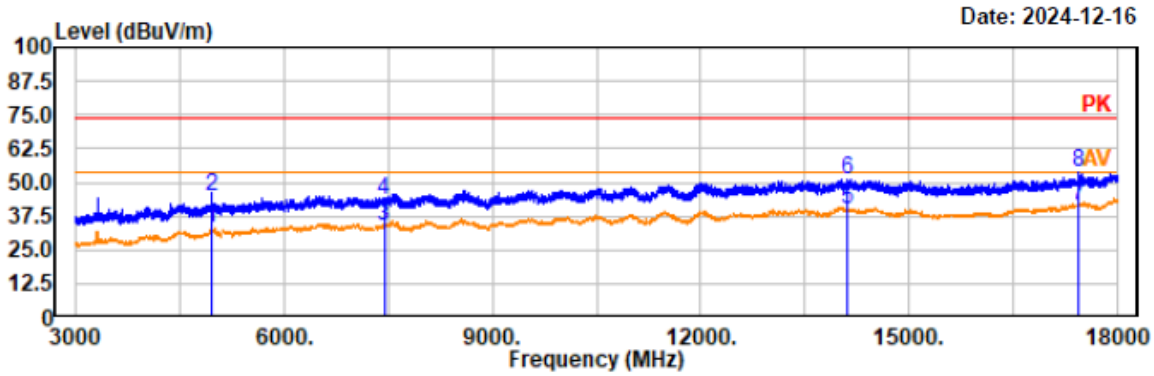


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4882.50	35.81	-4.24	31.57	54.00	22.43	vertical	Average
4882.50	46.46	-4.24	42.22	74.00	31.78	vertical	Peak
7323.00	34.88	-1.61	33.27	54.00	20.73	vertical	Average
7323.00	45.01	-1.61	43.40	74.00	30.60	vertical	Peak
14160.00	34.53	5.25	39.78	54.00	14.22	vertical	Average
14160.00	45.77	5.25	51.02	74.00	22.98	vertical	Peak
17982.00	35.09	7.71	42.80	54.00	11.20	vertical	Average
17982.00	45.28	7.71	52.99	74.00	21.01	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2480
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

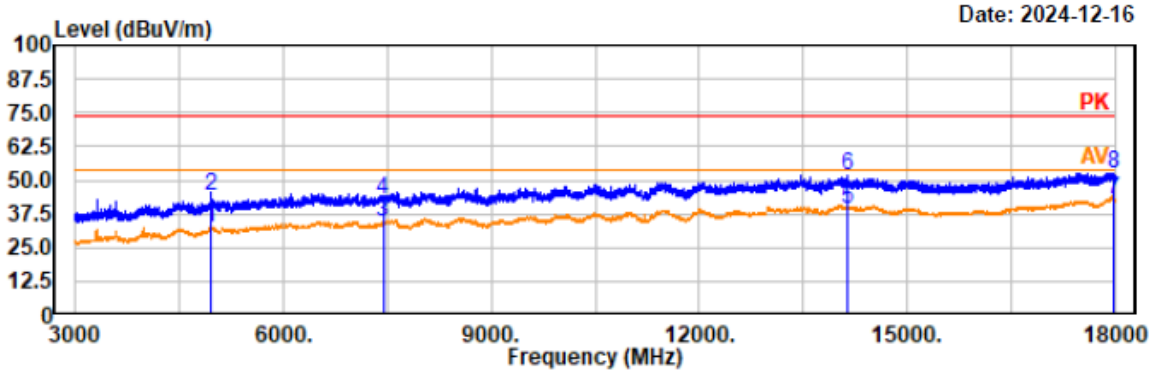


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4960.50	37.16	-4.01	33.15	54.00	20.85	horizontal	Average
4960.50	49.10	-4.01	45.09	74.00	28.91	horizontal	Peak
7440.00	35.64	-1.59	34.05	54.00	19.95	horizontal	Average
7440.00	44.86	-1.59	43.27	74.00	30.73	horizontal	Peak
14112.00	34.43	5.23	39.66	54.00	14.34	horizontal	Average
14112.00	45.97	5.23	51.20	74.00	22.80	horizontal	Peak
17430.00	35.51	6.13	41.64	54.00	12.36	horizontal	Average
17430.00	47.42	6.13	53.55	74.00	20.45	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2480
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



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

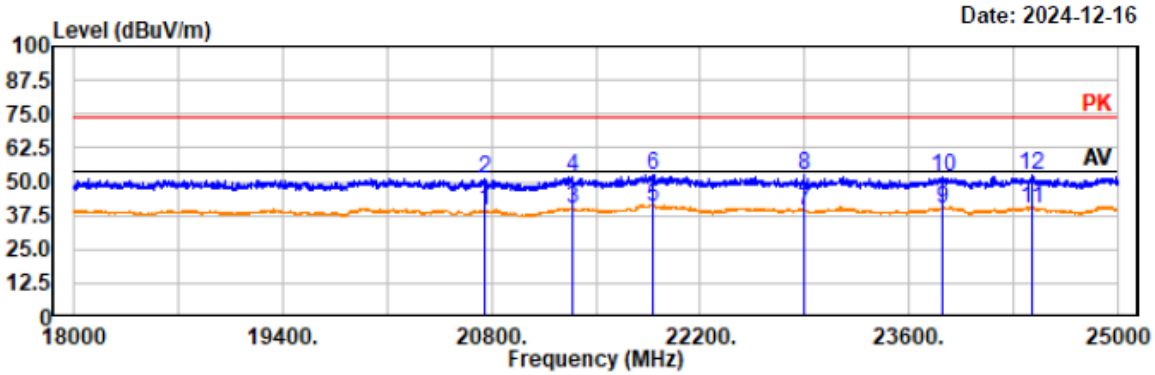
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4960.50	36.47	-4.01	32.46	54.00	21.54	vertical	Average
4960.50	48.13	-4.01	44.12	74.00	29.88	vertical	Peak
7440.00	35.76	-1.59	34.17	54.00	19.83	vertical	Average
7440.00	44.25	-1.59	42.66	74.00	31.34	vertical	Peak
14146.50	34.13	5.25	39.38	54.00	14.62	vertical	Average
14146.50	46.35	5.25	51.60	74.00	22.40	vertical	Peak
17985.00	34.78	7.72	42.50	54.00	11.50	vertical	Average
17985.00	45.01	7.72	52.73	74.00	21.27	vertical	Peak

5) 18 GHz-25 GHz

EUT operation mode: Transmitting in the high channel of 8DPSK mode (worst case).

Project No.: 2407X32126E-RF
Test Mode: 3DH1 2480
EUT Model: YS-001
Test distance: 1m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

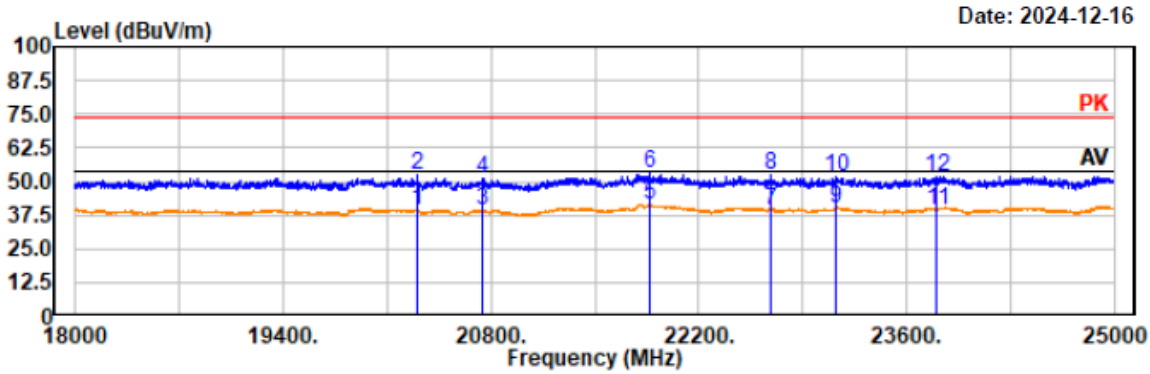


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
20752.20	39.07	0.12	39.19	54.00	14.81	horizontal	Average
20752.20	51.15	0.12	51.27	74.00	22.73	horizontal	Peak
21344.00	39.00	0.84	39.84	54.00	14.16	horizontal	Average
21344.00	50.88	0.84	51.72	74.00	22.28	horizontal	Peak
21887.40	39.22	1.67	40.89	54.00	13.11	horizontal	Average
21887.40	50.77	1.67	52.44	74.00	21.56	horizontal	Peak
22897.20	37.93	1.46	39.39	54.00	14.61	horizontal	Average
22897.20	50.91	1.46	52.37	74.00	21.63	horizontal	Peak
23827.80	38.08	1.73	39.81	54.00	14.19	horizontal	Average
23827.80	49.92	1.73	51.65	74.00	22.35	horizontal	Peak
24419.60	37.29	2.57	39.86	54.00	14.14	horizontal	Average
24419.60	49.96	2.57	52.53	74.00	21.47	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1 2480
EUT Model: YS-001
Test distance: 1m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



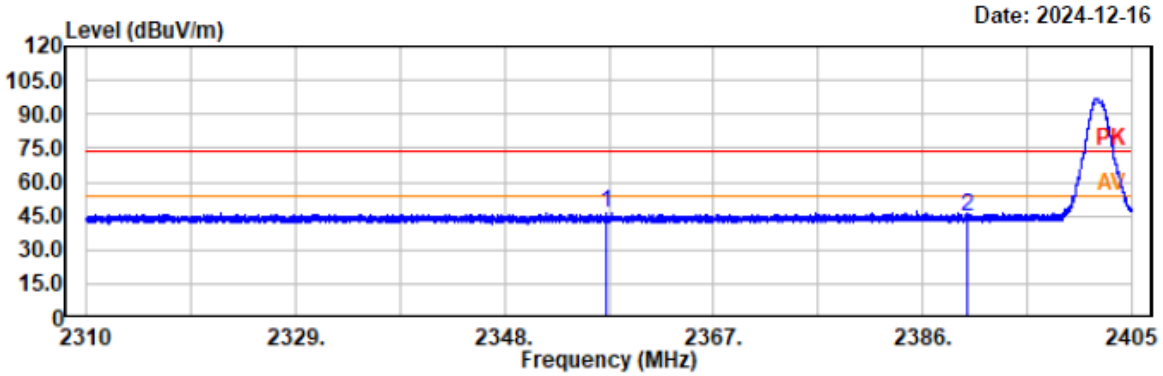
Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
20305.60	38.59	0.48	39.07	54.00	14.93	vertical	Average
20305.60	51.60	0.48	52.08	74.00	21.92	vertical	Peak
20743.40	38.94	0.13	39.07	54.00	14.93	vertical	Average
20743.40	51.06	0.13	51.19	74.00	22.81	vertical	Peak
21869.80	39.56	1.65	41.21	54.00	12.79	vertical	Average
21869.80	51.65	1.65	53.30	74.00	20.70	vertical	Peak
22679.40	37.94	1.51	39.45	54.00	14.55	vertical	Average
22679.40	50.66	1.51	52.17	74.00	21.83	vertical	Peak
23126.00	38.41	1.39	39.80	54.00	14.20	vertical	Average
23126.00	50.07	1.39	51.46	74.00	22.54	vertical	Peak
23803.60	37.79	1.69	39.48	54.00	14.52	vertical	Average
23803.60	50.22	1.69	51.91	74.00	22.09	vertical	Peak

Restricted Bands Emissions:

Project No.: 2407X32126E-RF
Test Mode: 1DH1-2402
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

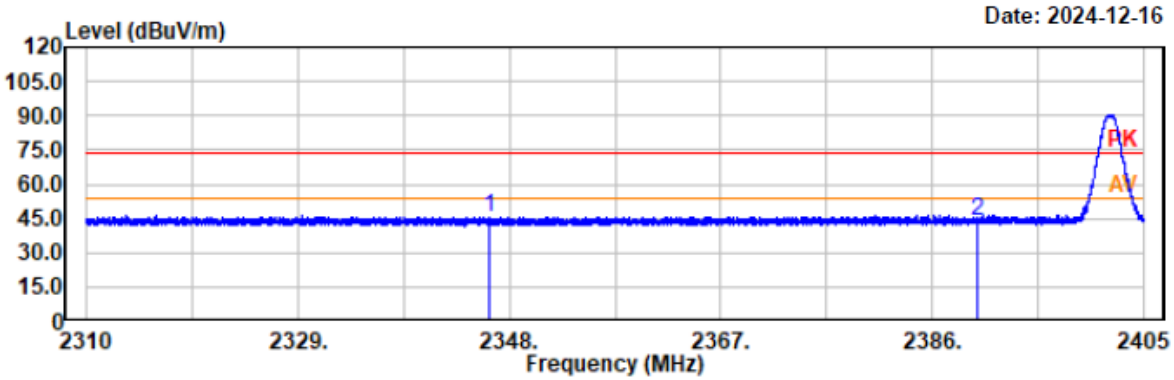


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2357.28	47.37	-0.80	46.57	74.00	27.43	horizontal	Peak
2390.00	45.25	-0.63	44.62	74.00	29.38	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 1DH1-2402
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

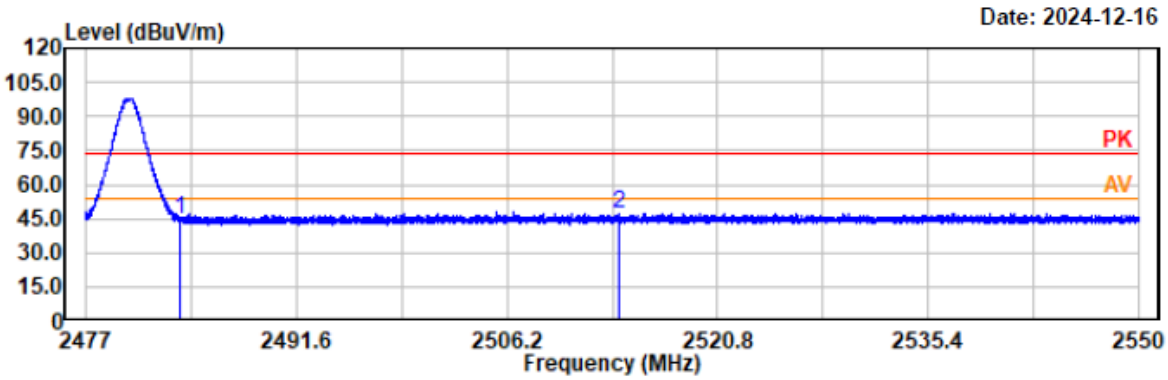


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2346.13	46.73	-0.85	45.88	74.00	28.12	vertical	Peak
2390.00	44.28	-0.63	43.65	74.00	30.35	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 1DH1-2480
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

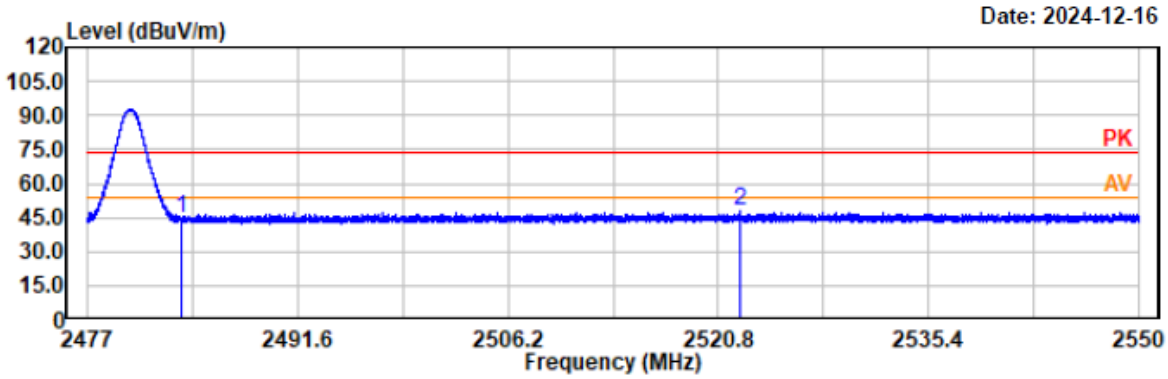


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2483.50	44.82	-0.17	44.65	74.00	29.35	horizontal	Peak
2513.98	47.54	-0.07	47.47	74.00	26.53	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 1DH1-2480
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

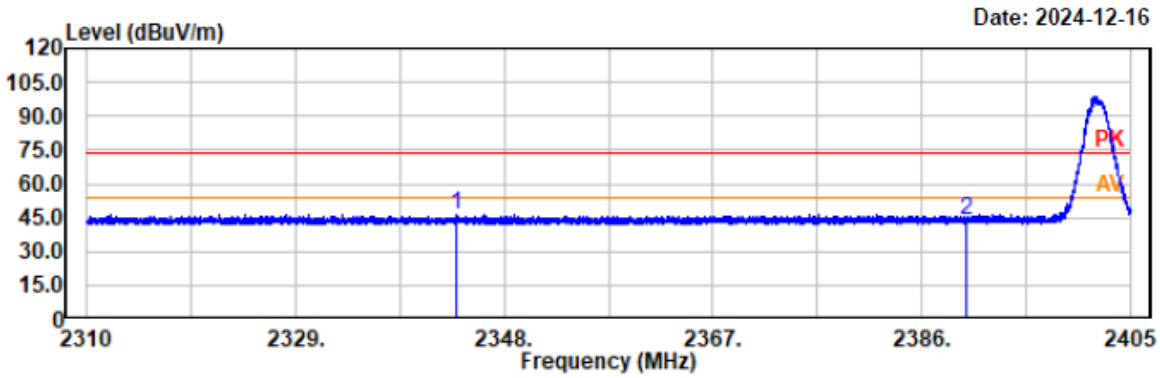


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2483.50	44.52	-0.17	44.35	74.00	29.65	vertical	Peak
2522.35	47.69	-0.06	47.63	74.00	26.37	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 2DH1-2402
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

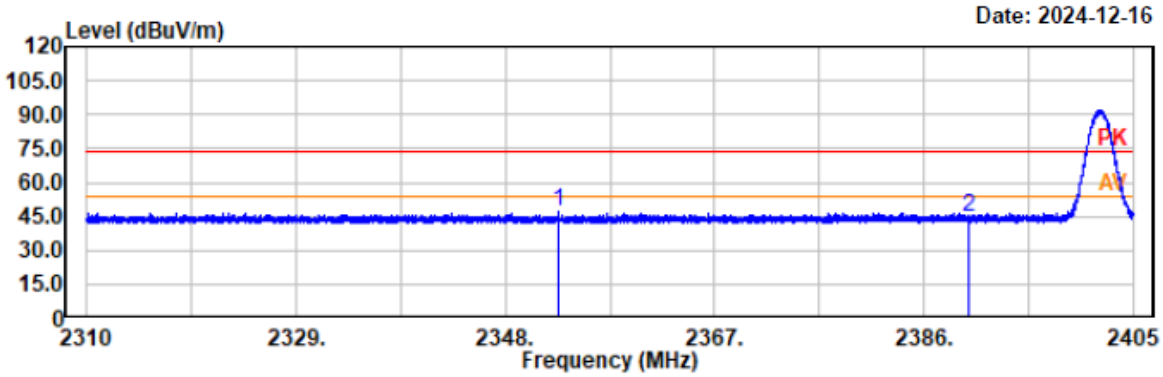


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2343.68	47.32	-0.85	46.47	74.00	27.53	horizontal	Peak
2390.00	44.84	-0.63	44.21	74.00	29.79	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 2DH1-2402
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

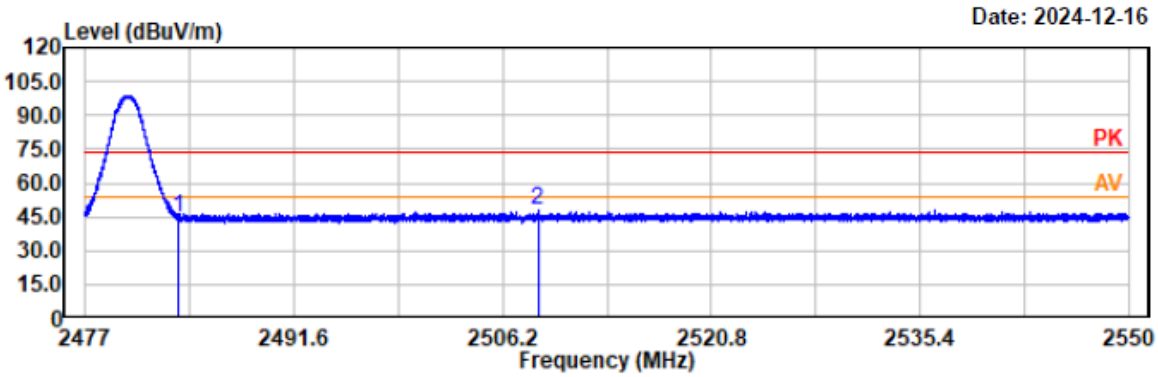


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2352.86	47.86	-0.82	47.04	74.00	26.96	vertical	Peak
2390.00	44.91	-0.63	44.28	74.00	29.72	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 2DH1-2480
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

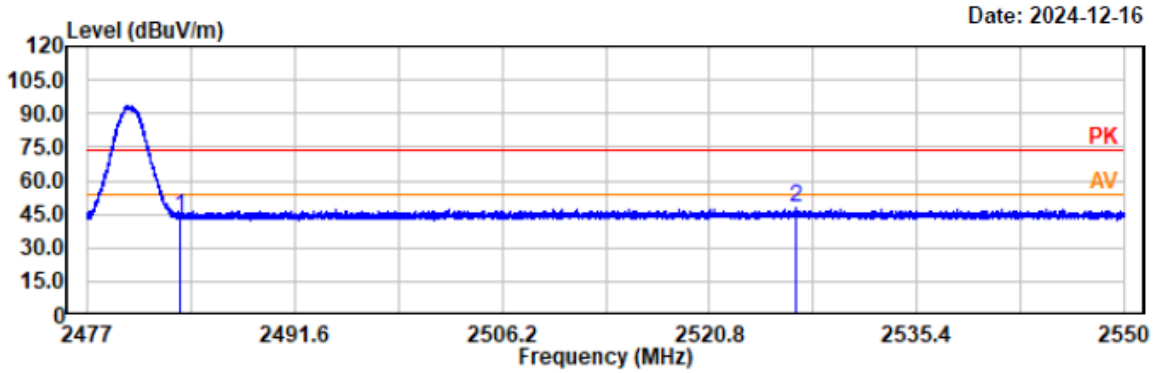


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2483.50	45.25	-0.17	45.08	74.00	28.92	horizontal	Peak
2508.67	47.70	-0.07	47.63	74.00	26.37	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 2DH1-2480
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

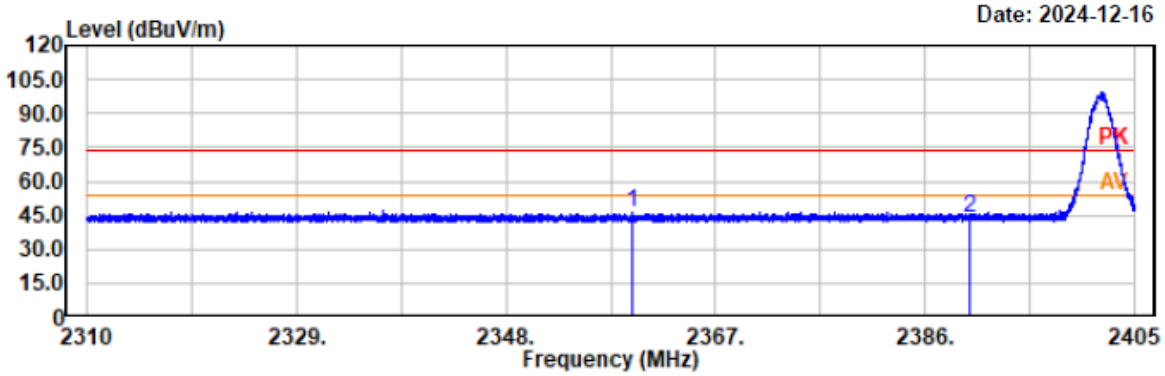


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2483.50	44.17	-0.17	44.00	74.00	30.00	vertical	Peak
2526.94	47.74	-0.06	47.68	74.00	26.32	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2402
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

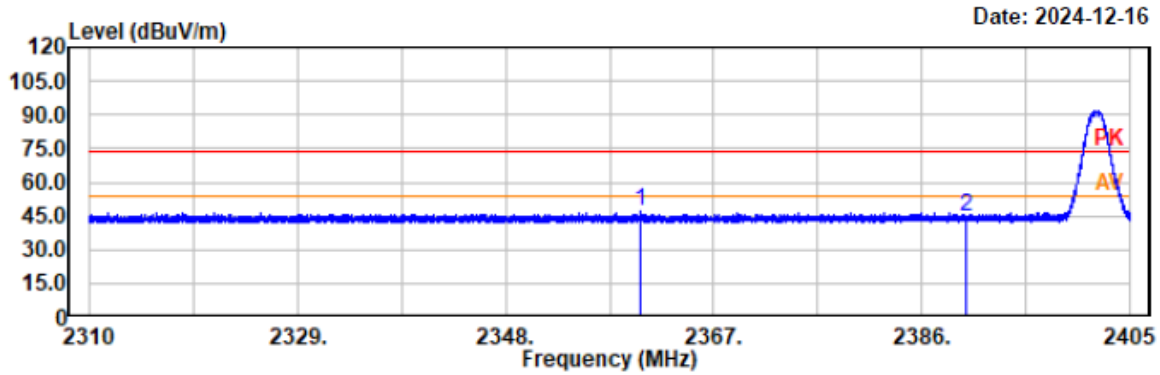


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2359.39	46.82	-0.79	46.03	74.00	27.97	horizontal	Peak
2390.00	44.25	-0.63	43.62	74.00	30.38	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2402
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

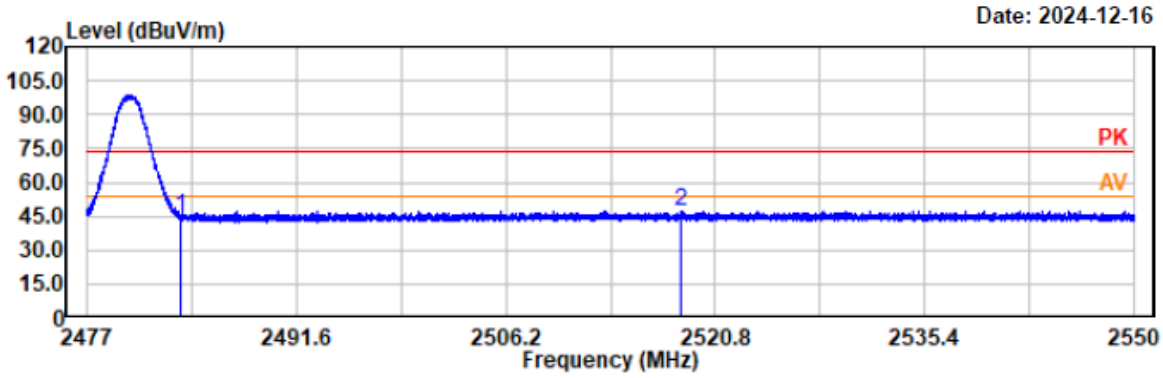


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2360.32	47.60	-0.79	46.81	74.00	27.19	vertical	Peak
2390.00	45.59	-0.63	44.96	74.00	29.04	vertical	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2480
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz

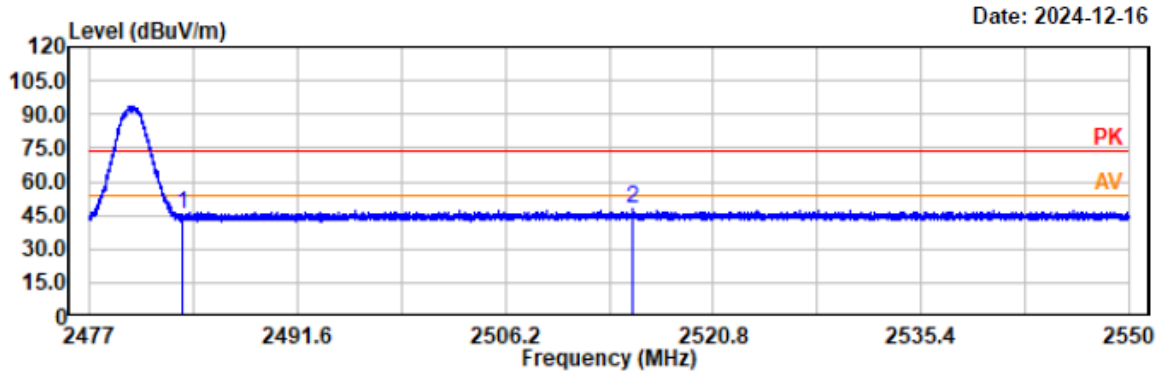


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2483.50	44.97	-0.17	44.80	74.00	29.20	horizontal	Peak
2518.45	47.64	-0.06	47.58	74.00	26.42	horizontal	Peak

Project No.: 2407X32126E-RF
Test Mode: 3DH1-2480
EUT Model: YS-001
Test distance: 3m

Temp/Humi/ATM: 23.1℃/48%/100.1kPa
Tested by: Wlif Wu
Power Source: AC120V/60Hz



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

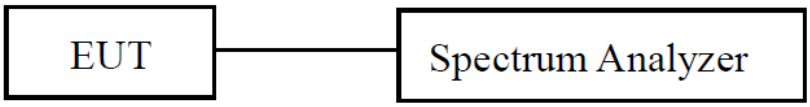
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2483.50	45.29	-0.17	45.12	74.00	28.88	vertical	Peak
2515.09	47.74	-0.07	47.67	74.00	26.33	vertical	Peak

FCC §15.247(a) (1) –CHANNEL SEPARATION TEST

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.

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) ≥ 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.

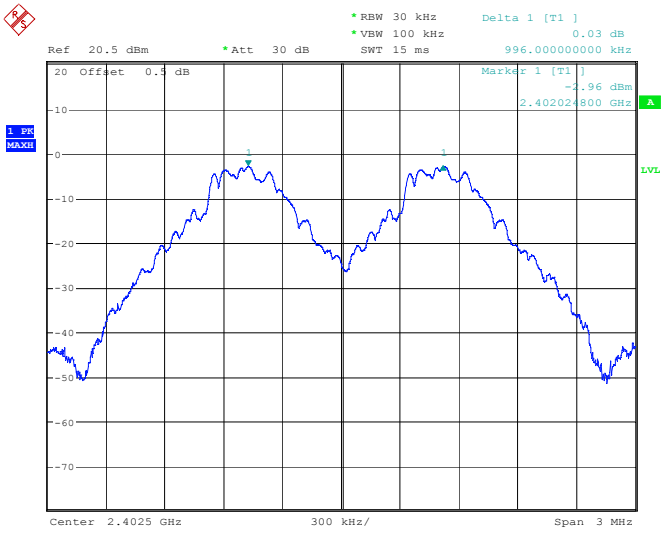
Test Data

Test Mode:	Transmitting	Test Engineer:	Jason Hu
Test Date:	2024-09-11	Environment:	Temp.: 25.9℃ Humi.: 60% Atm.: 100.2kPa

Mode	Channel	Frequency (MHz)	Channel Separation (MHz)	Limit (MHz)	Result
BDR (GFSK)	Low	2402	0.996	0.865	Pass
	Middle	2441	1.003	0.867	Pass
	High	2480	1.001	0.867	Pass

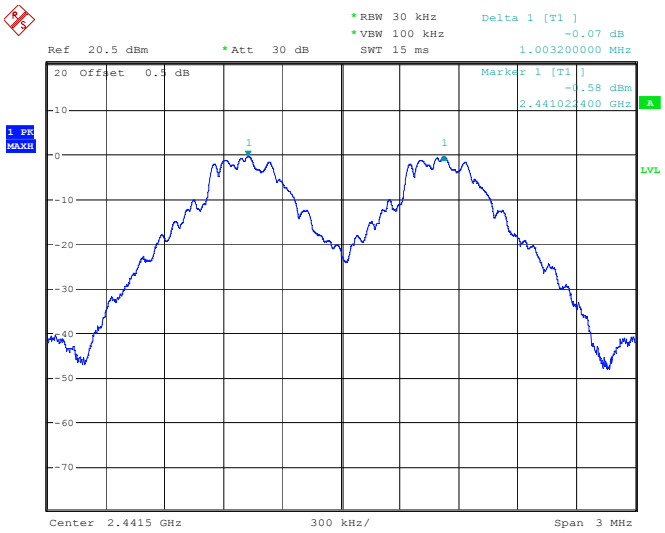
Note:
1. Limit = 20 dB bandwidth*2/3
2. Only BDR(GFSK) mode result is reported since EDR(π/4-DQPSK, 8DPSK) has the same channel plan.

BDR (GFSK): Low Channel



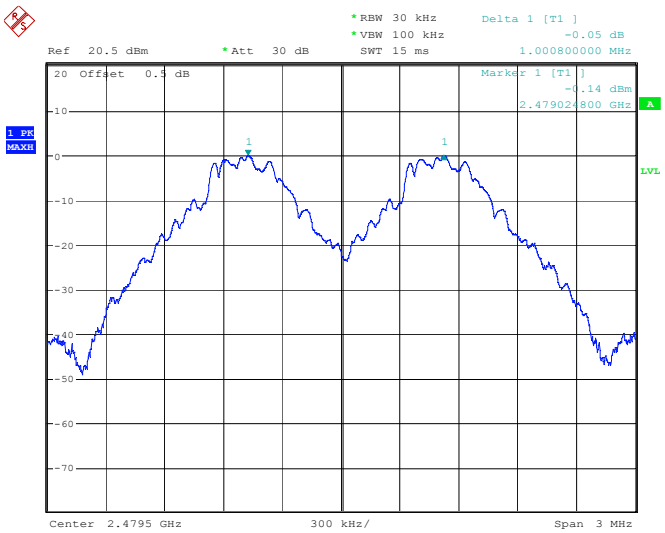
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:57:02

BDR (GFSK): Middle Channel



ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:59:26

BDR (GFSK): High Channel



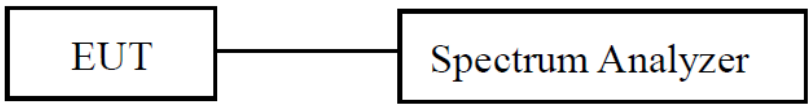
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 10:01:21

FCC §15.247(a) (1) – 20 dB EMISSION BANDWIDTH

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.

EUT Setup



Test Procedure

According to ANSI C63.10-2013 Section 6.9.2

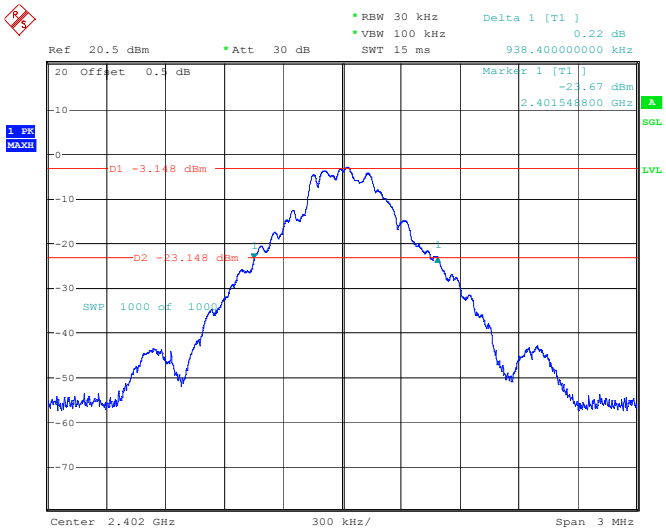
a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW.
b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video 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).

Test Data

Test Mode:	Transmitting	Test Engineer:	Jason Hu
Test Date:	2024-09-11	Environment:	Temp.: 25.9℃ Humi.: 60% Atm.: 100.2kPa
Mode	**Channel**	**Frequency (MHz)**	**20 dB Emission Bandwidth (MHz)**
BDR (GFSK)	Low	2402	0.938
	Middle	2441	0.936
	High	2480	0.938
EDR (π/4-DQPSK)	Low	2402	1.298
	Middle	2441	1.301
	High	2480	1.301
EDR (8DPSK)	Low	2402	1.279
	Middle	2441	1.279
	High	2480	1.277

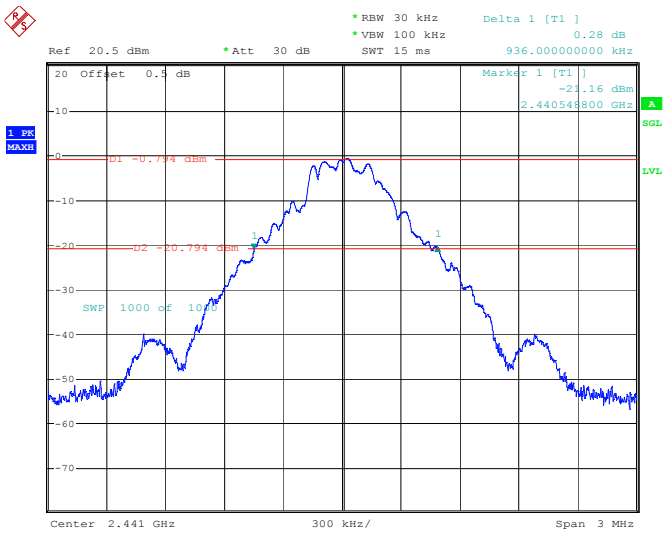
Please refer to below plots:

BDR (GFSK): Low Channel



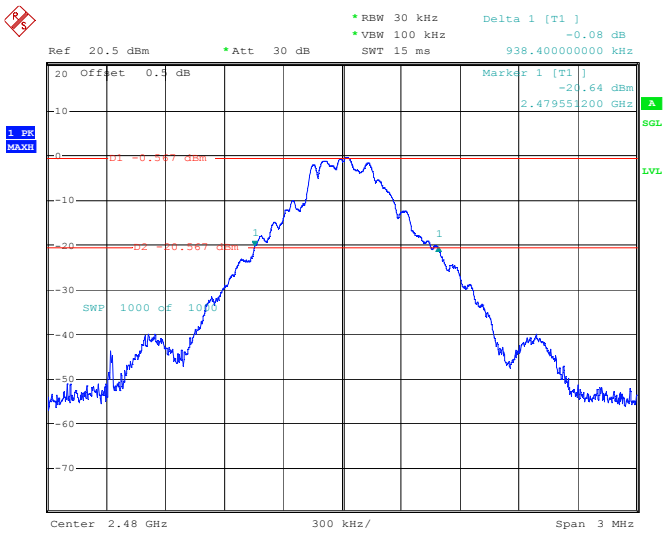
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:29:00

BDR (GFSK): Middle Channel



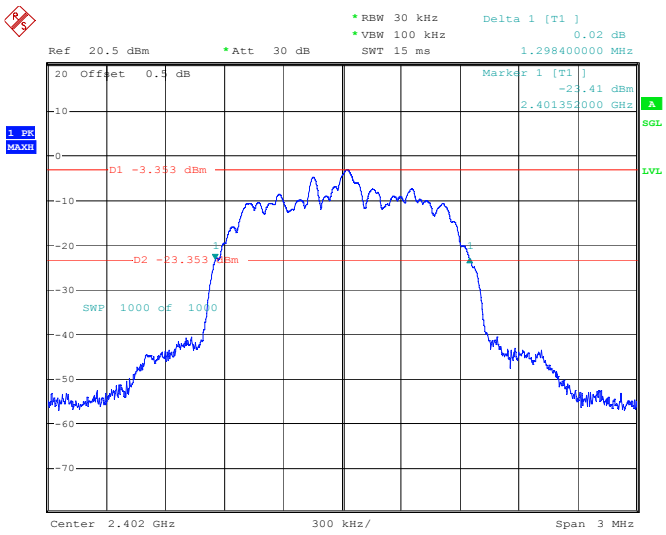
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:31:35

BDR (GFSK): High Channel



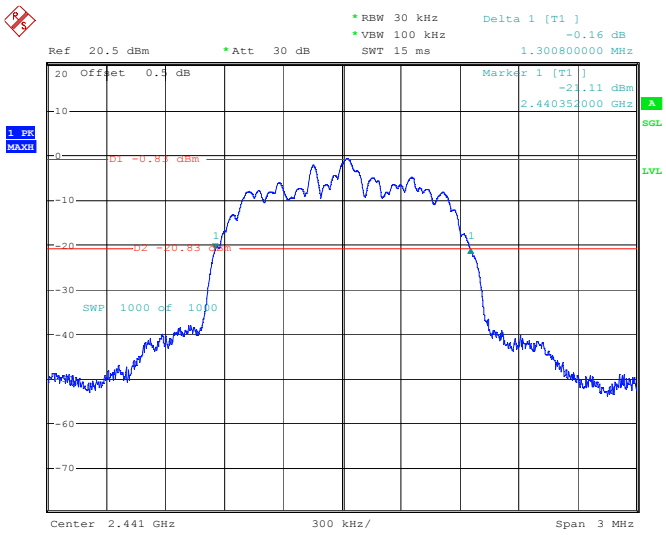
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:34:03

EDR (π/4-DQPSK): Low Channel



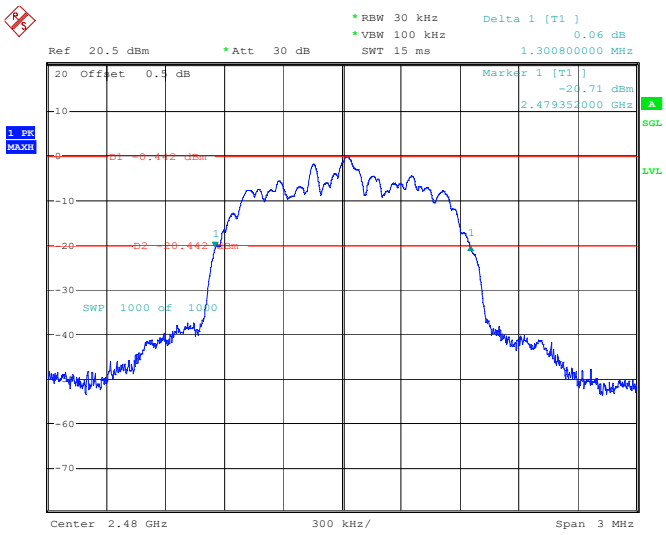
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:37:47

EDR(π/4-DQPSK): Middle Channel



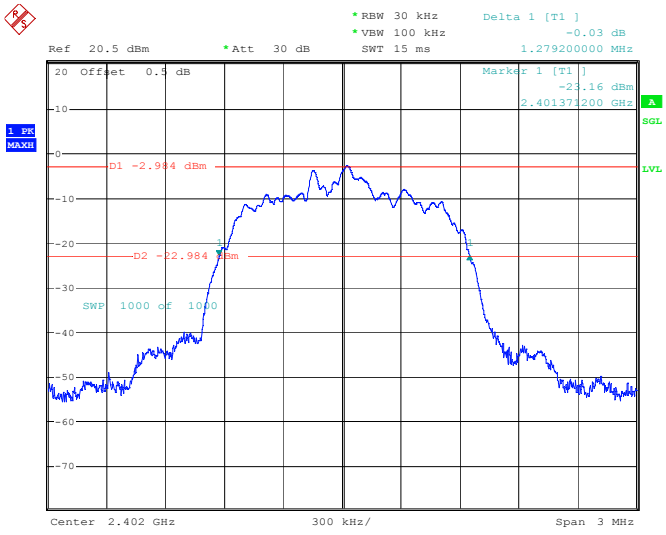
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:40:00

EDR (π/4-DQPSK): High Channel



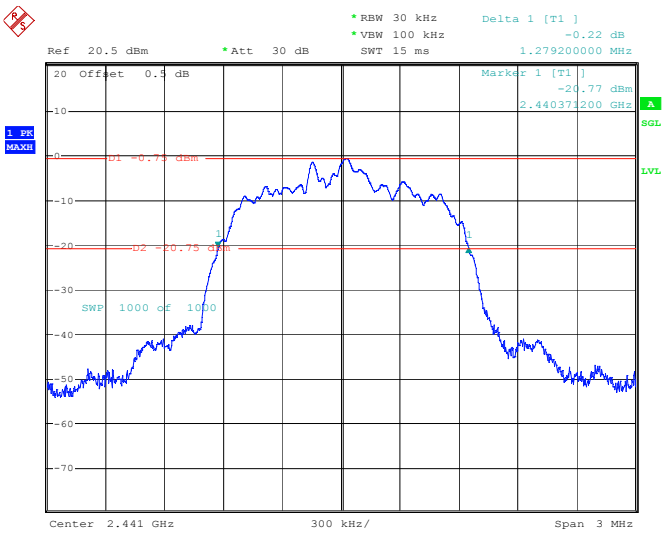
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:44:54

EDR (8DPSK): Low Channel



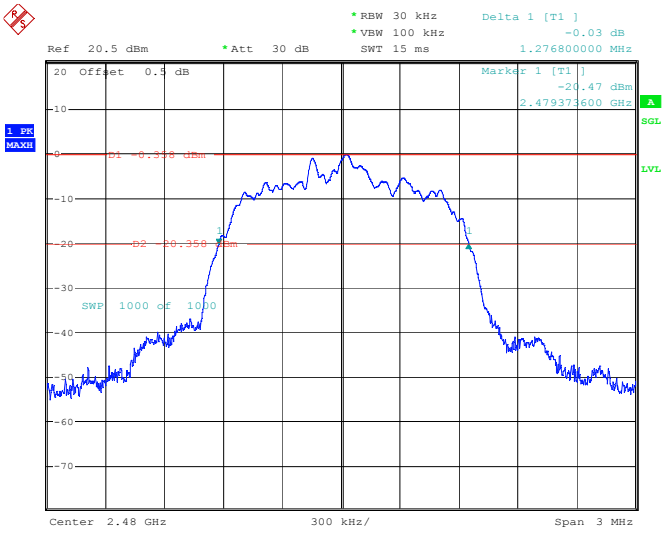
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:48:43

EDR (8DPSK): Middle Channel



ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:51:09

EDR (8DPSK): High Channel



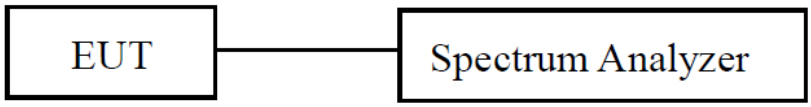
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:54:13

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.

EUT Setup



Test Procedure

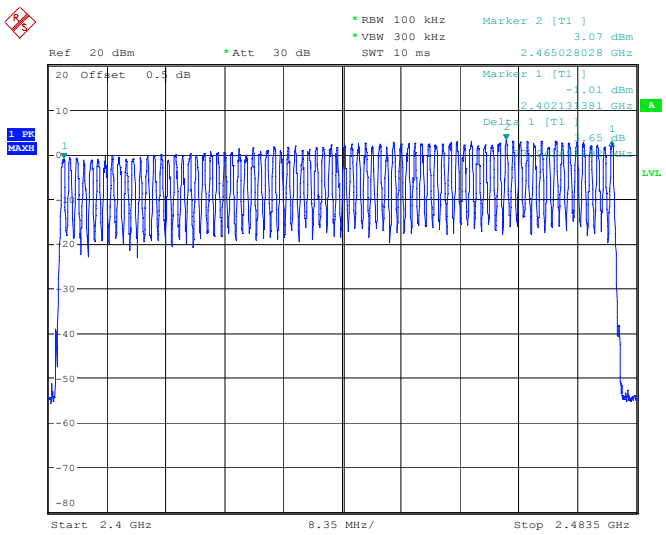
According to ANSI C63.10-2013 Section 7.8.3

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 ⩾ 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.

Test Data

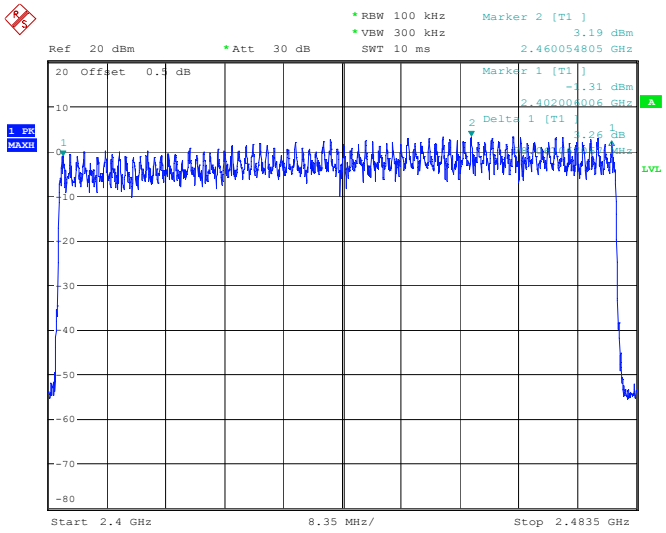
Test Mode:	Transmitting	Test Engineer:	Jason Hu
Test Date:	2024-09-11	Environment:	Temp.: 25.9℃ Humi.: 60% Atm.:100.2kPa
Mode	**Frequency Range (MHz)**	**Number of Hopping Channel (CH)**	**Limit (CH)**
BDR (GFSK)	2400-2483.5	79	≥15
EDR (π/4-DQPSK)	2400-2483.5	79	≥15
EDR (8DPSK)	2400-2483.5	79	≥15

BDR (GFSK): Number of Hopping Channels



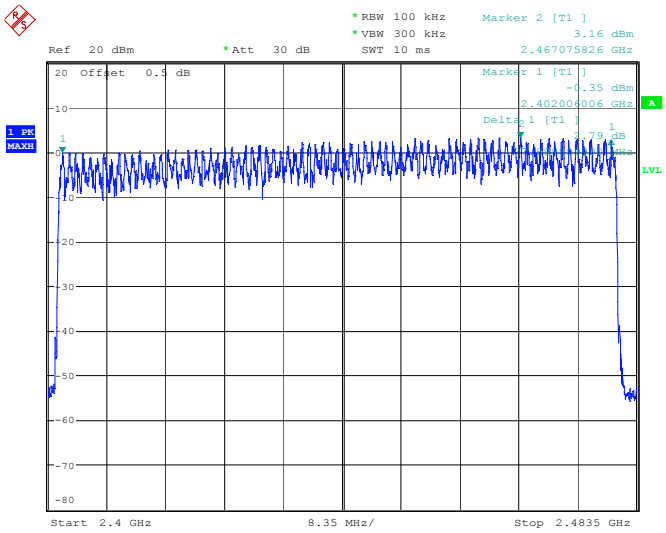
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 10:32:59

EDR (π/4-DQPSK): Number of Hopping Channels



ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 10:40:50

EDR (8DPSK): Number of Hopping Channels



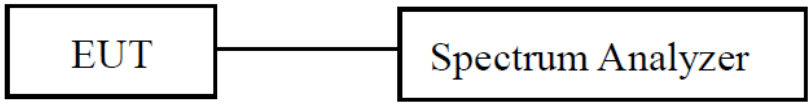
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 10:44:46

FCC §15.247(a) (1) (iii) - TIME OF OCCUPANCY (DWELL TIME)

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.

EUT Setup



Test Procedure

According to ANSI C63.10-2013 Section 7.8.4

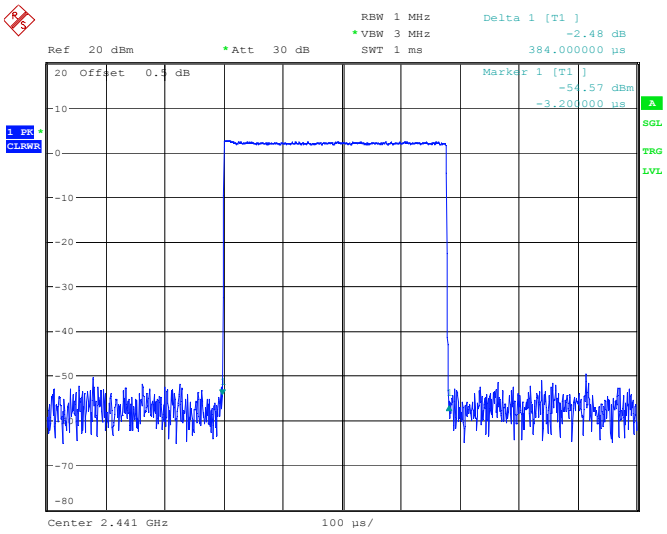
The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:
a) Span: Zero span, centered on a hopping channel.
b) RBW shall be ≤ channel spacing and where possible RBW should be set >> 1 / T, where T is the expected dwell time per channel.
c) Sweep: As necessary to 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.

Test Data

Test Mode:		Transmitting		Test Engineer:		Jason Hu
Test Date:		2024-09-11		Environment:		Temp.: 25.9℃ Humi.: 60% Atm.:100.2kPa
Mode		**Channel**	**Pulse Width (ms)**	**Dwell Time (s)**	**Limit (s)**	**Result**
BDR (GFSK)	DH1	Hopping	0.384	0.123	0.400	Pass
	DH3	Hopping	1.646	0.263	0.400	Pass
	DH5	Hopping	2.900	0.309	0.400	Pass
EDR (π/4-DQPSK)	2DH1	Hopping	0.397	0.127	0.400	Pass
	2DH3	Hopping	1.656	0.265	0.400	Pass
	2DH5	Hopping	2.908	0.310	0.400	Pass
EDR (8DPSK)	3DH1	Hopping	0.397	0.127	0.400	Pass
	3DH3	Hopping	1.654	0.265	0.400	Pass
	3DH5	Hopping	2.912	0.311	0.400	Pass

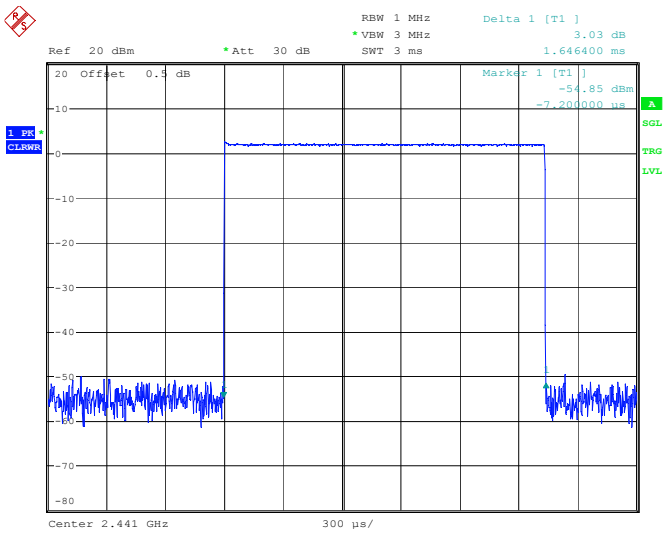
Note:
DH1, 2DH1, 3DH1:Dwell time=Pulse time (ms) × (1600/2/79) ×31.6 s
DH3, 2DH3, 3DH3:Dwell time=Pulse time (ms) × (1600/4/79) ×31.6 s
DH5, 2DH5, 3DH5:Dwell time=Pulse time (ms) × (1600/6/79) ×31.6 s

BDR (GFSK): Pulse time, Middle Channel, DH1



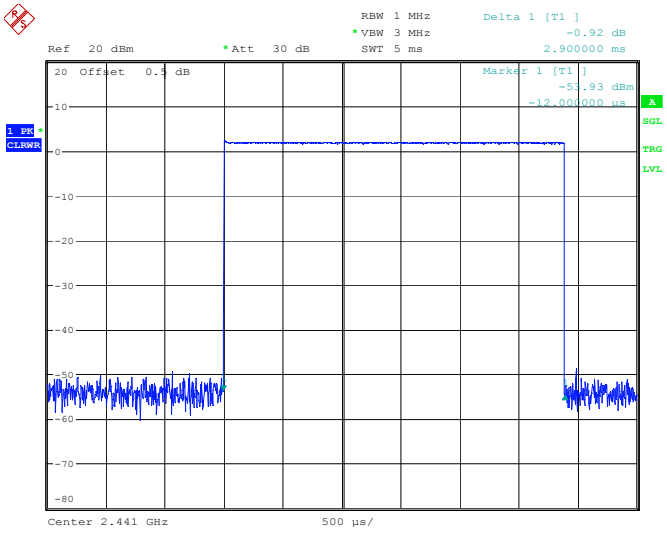
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:43:30

BDR (GFSK): Pulse time, Middle Channel, DH3



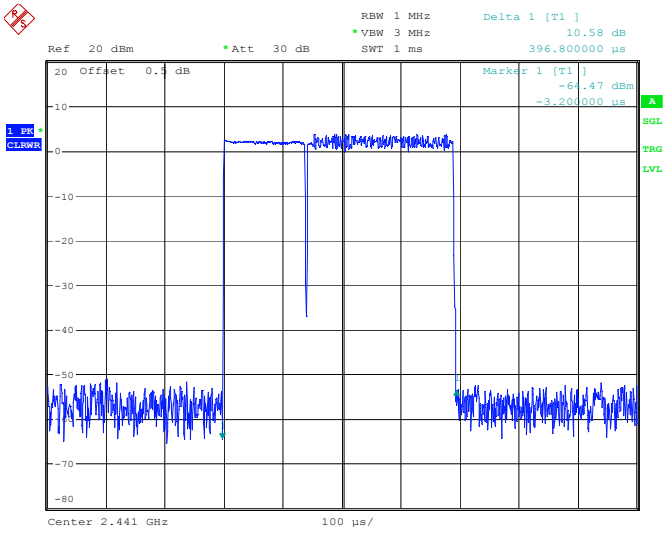
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:44:05

BDR (GFSK): Pulse time, Middle Channel, DH5



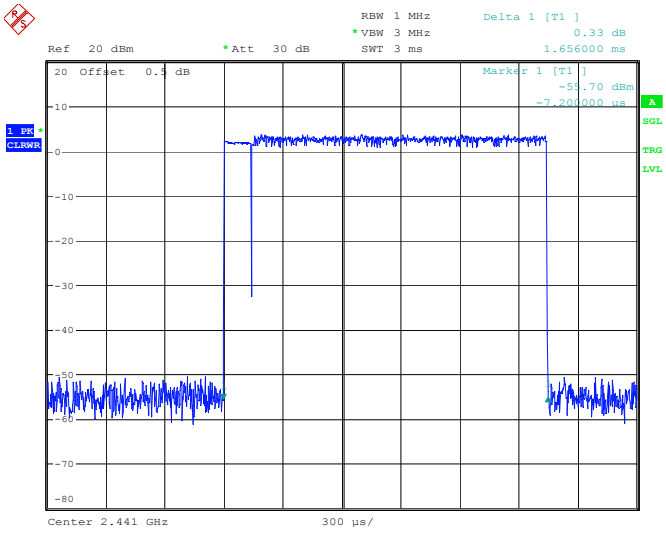
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:44:37

EDR (π/4-DQPSK): Pulse time, Middle Channel, 2DH1



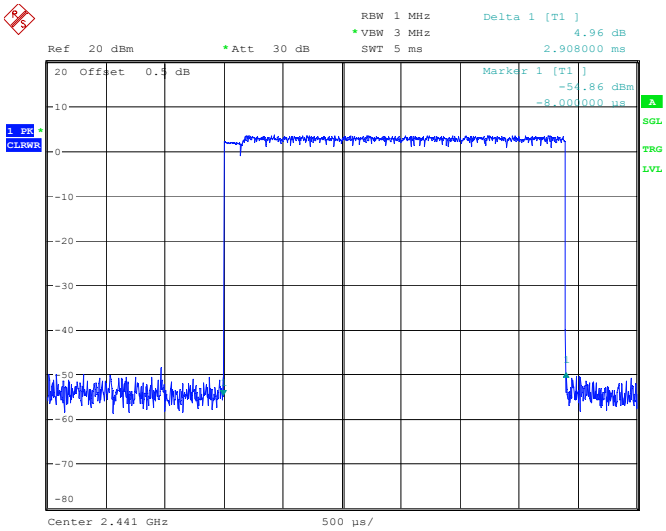
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:45:23

EDR (π/4-DQPSK):Pulse time, Middle Channel, 2DH3



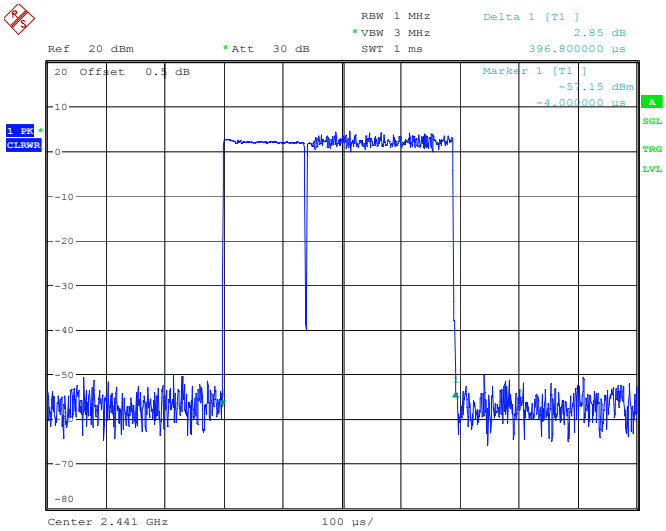
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:46:43

EDR (π/4-DQPSK):Pulse time, Middle Channel, 2DH5



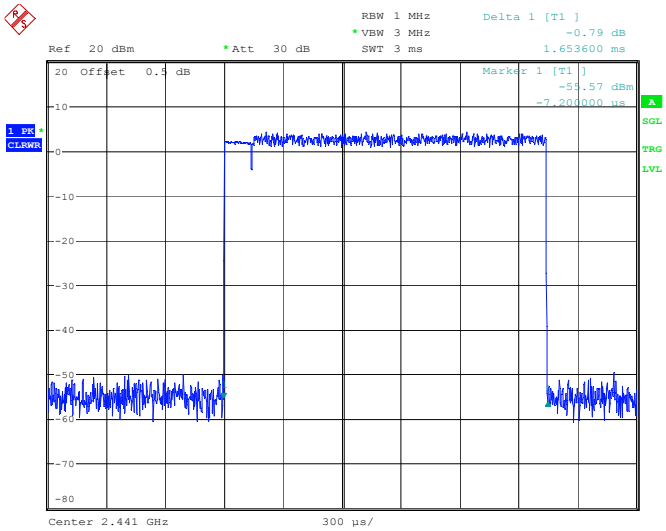
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:50:32

EDR (8DPSK): Pulse time, Middle Channel, 3DH1



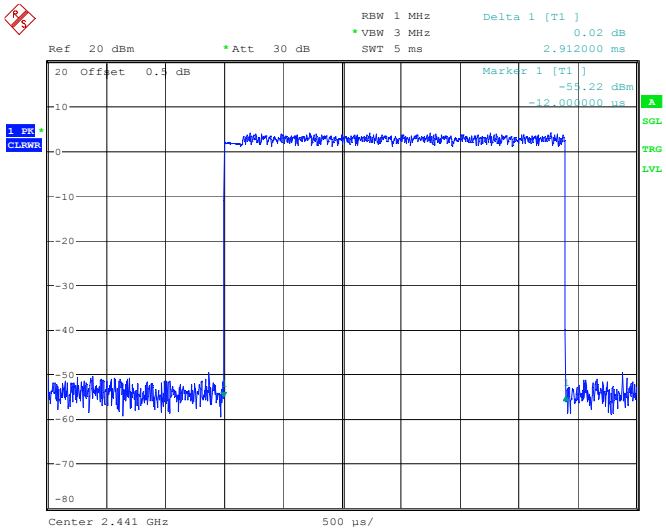
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:53:28

EDR (8DPSK): Pulse time, Middle Channel, 3DH3



ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:54:13

EDR (8DPSK): Pulse time, Middle Channel, 3DH5



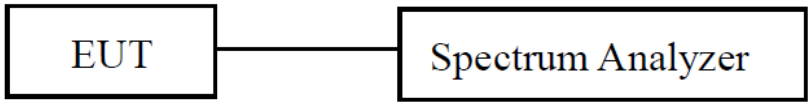
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:55:00

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.

EUT Setup



Test Procedure

According to ANSI C63.10-2013 Section 7.8.5

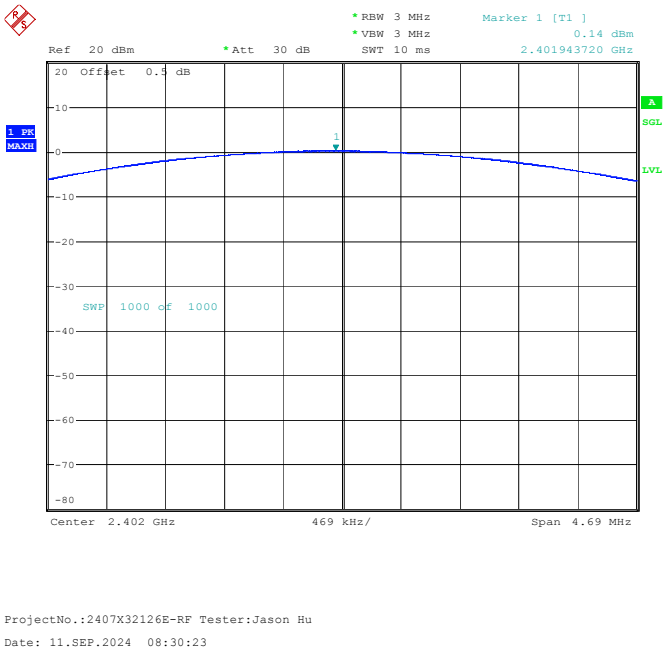
This is an RF-conducted test to evaluate maximum peak output power. Use a direct connection between the antenna port of the unlicensed wireless device and the spectrum analyzer, through suitable attenuation, Offset the Insertion loss of the RF cable, DC Block/ Attenuator into the spectrum analyzer.
The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

Test Data

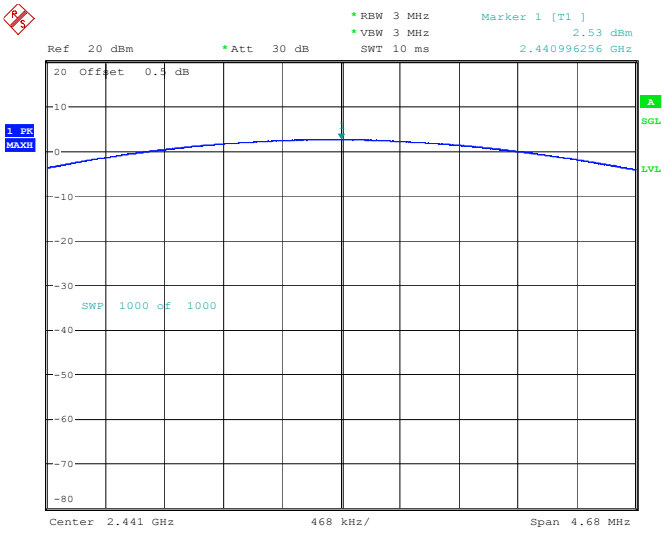
Test Mode:	Transmitting	Test Engineer:	Jason Hu
Test Date:	2024-09-11	Environment:	Temp.: 25.9℃ Humi.: 60% Atm.:100.2kPa
Mode	**Frequency (MHz)**	**Peak Conducted Output Power (dBm)**	**Limit (dBm)**
BDR (GFSK)	2402	0.14	21
	2441	2.53	21
	2480	2.78	21
EDR (π/4-DQPSK)	2402	1.99	21
	2441	4.56	21
	2480	4.9	21
EDR (8DPSK)	2402	2.7	21
	2441	4.91	21
	2480	5.3	21

Please refet to below plots:

BDR (GFSK): 2402MHz

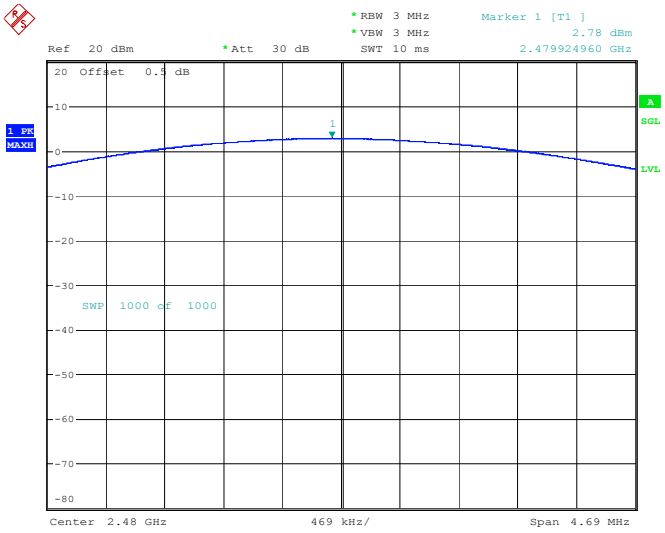


BDR (GFSK): 2441MHz



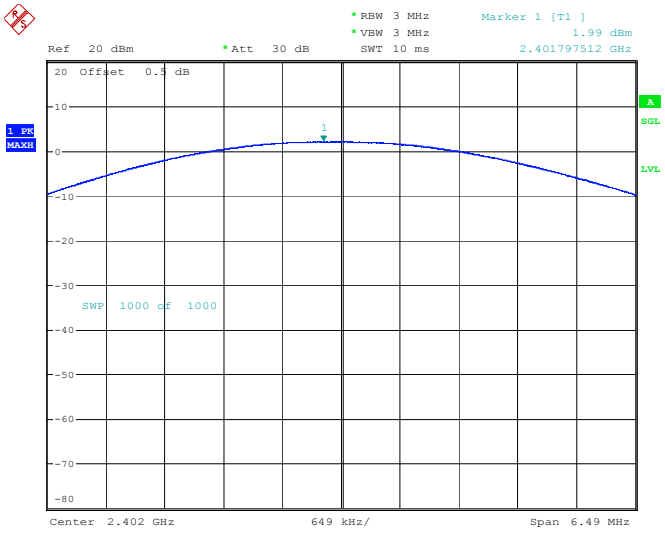
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:32:53

BDR (GFSK): 2480MHz



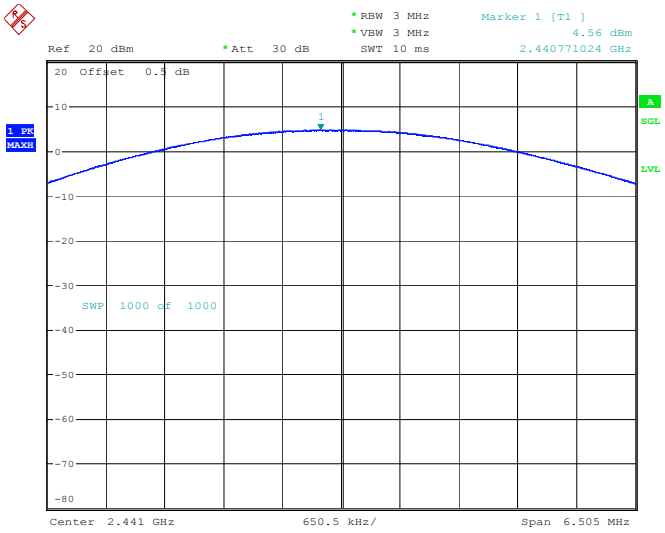
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:35:36

EDR(π/4-DQPSK): 2402MHz



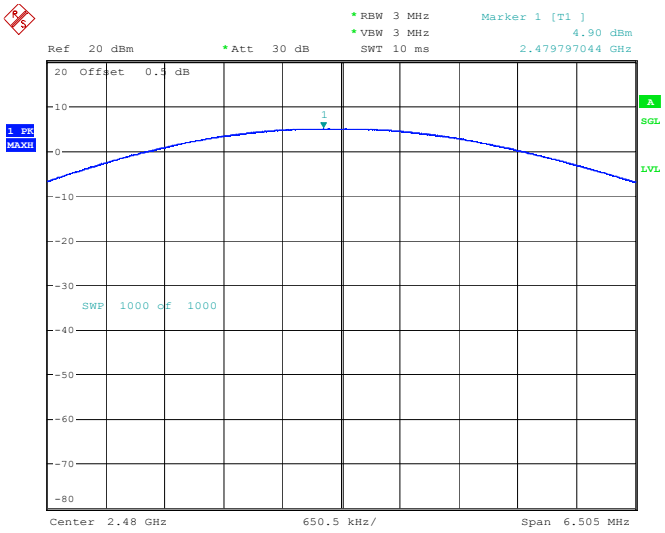
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:38:51

EDR(π/4-DQPSK): 2441MHz



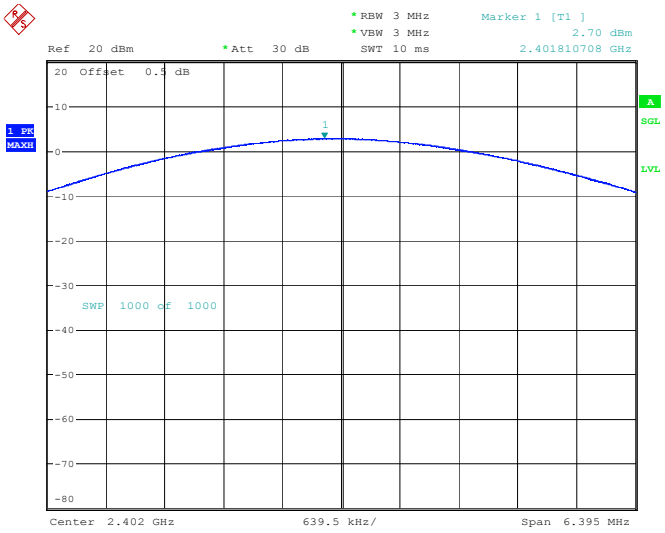
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:41:56

EDR(π/4-DQPSK): 2480MHz



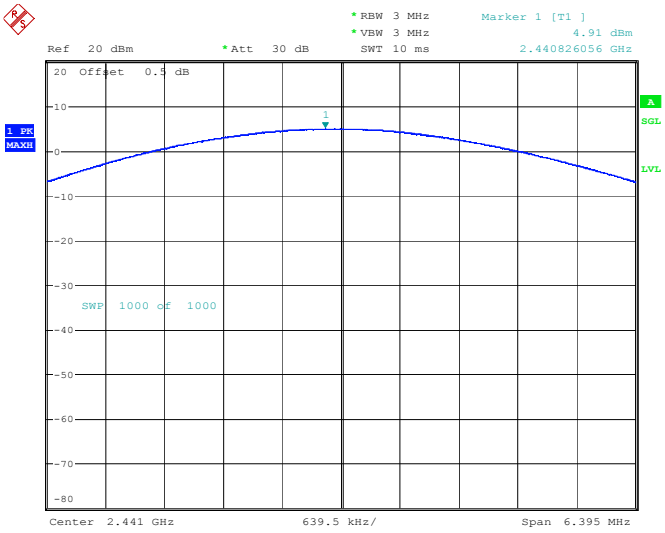
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:46:15

EDR(8DPSK): 2402MHz



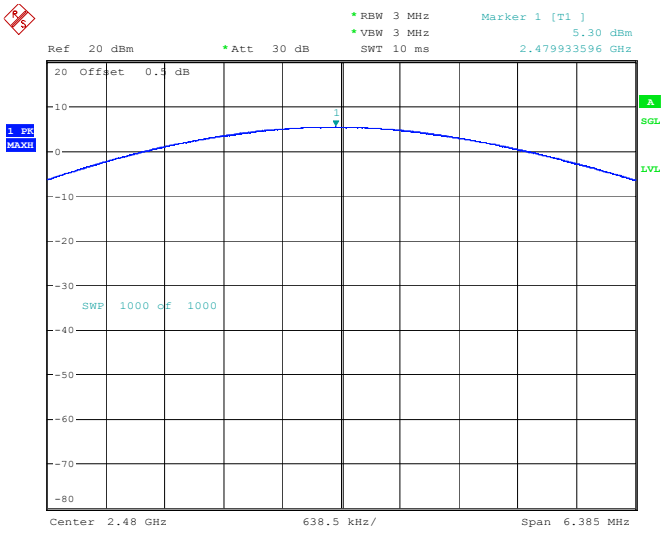
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:50:02

EDR(8DPSK): 2441MHz



ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:52:34

EDR(8DPSK): 2480MHz



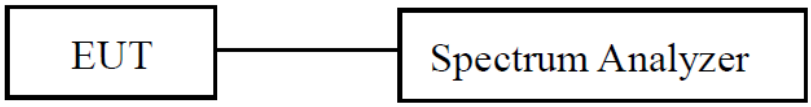
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 08:56:07

FCC §15.247(d) - BAND EDGES TESTING

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)).

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 ⩾ [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.

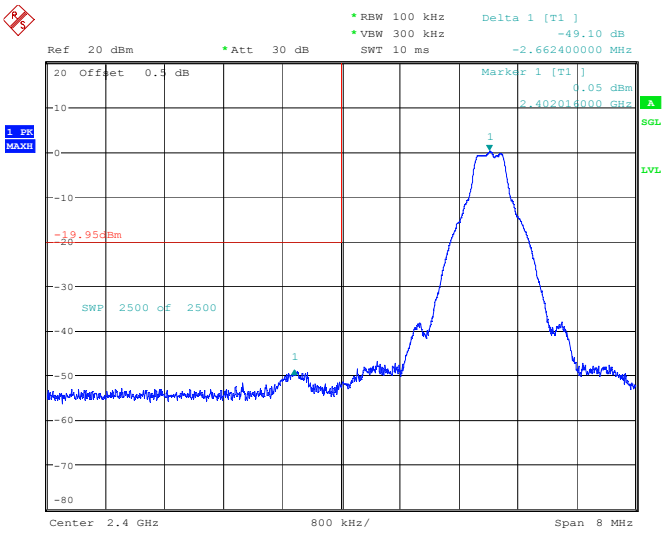
Test Data

Test Mode:	Transmitting	Test Engineer:	Jason Hu
Test Date:	2024-09-11	Environment:	Temp.: 25.9℃ Humi.: 60% Atm.:100.2kPa

Please refer to the below plots:

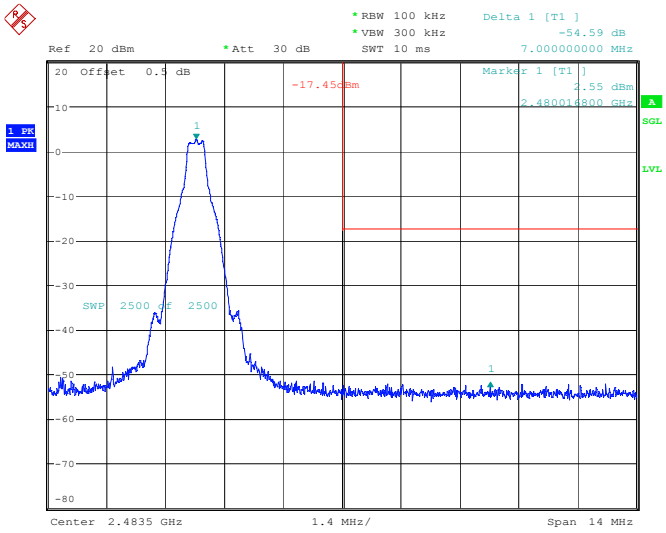
Band Edge

BDR (GFSK): Left Side



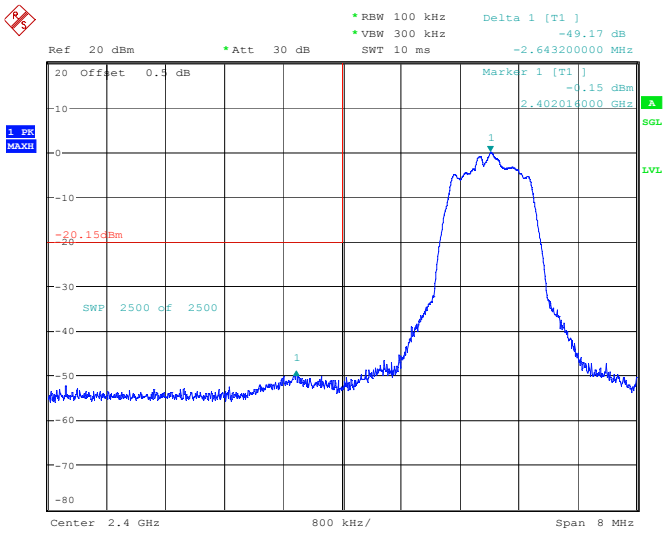
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:13:00

BDR (GFSK): Right Side



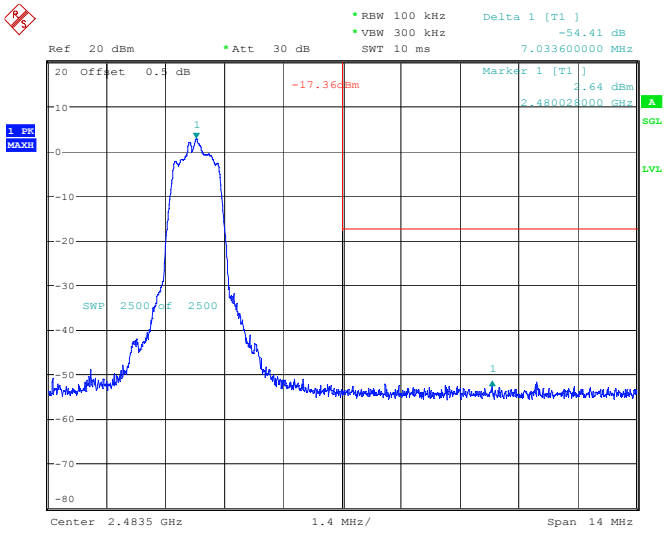
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:17:55

EDR (π/4-DQPSK): Left Side



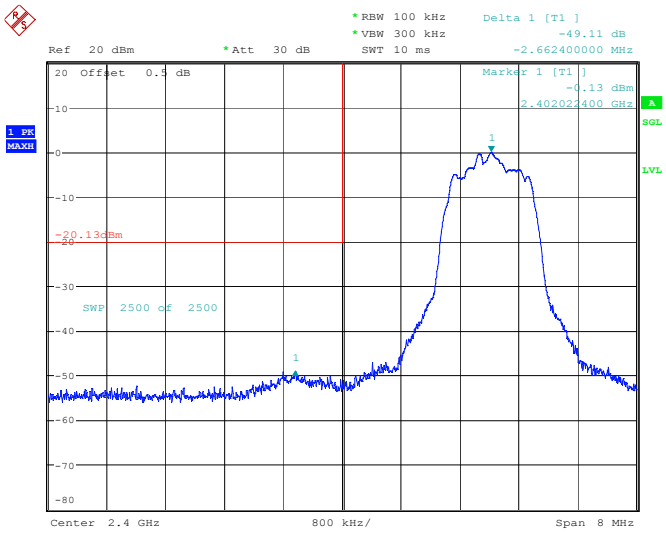
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:26:41

EDR (π/4-DQPSK): Right Side



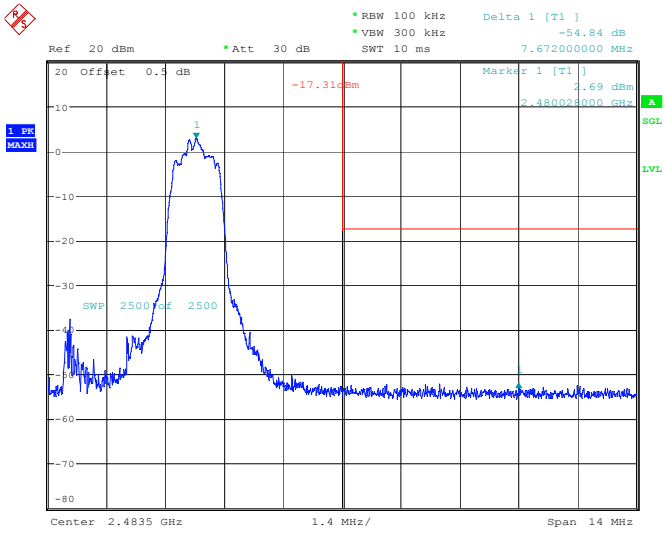
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:31:13

EDR (8DPSK): Left Side



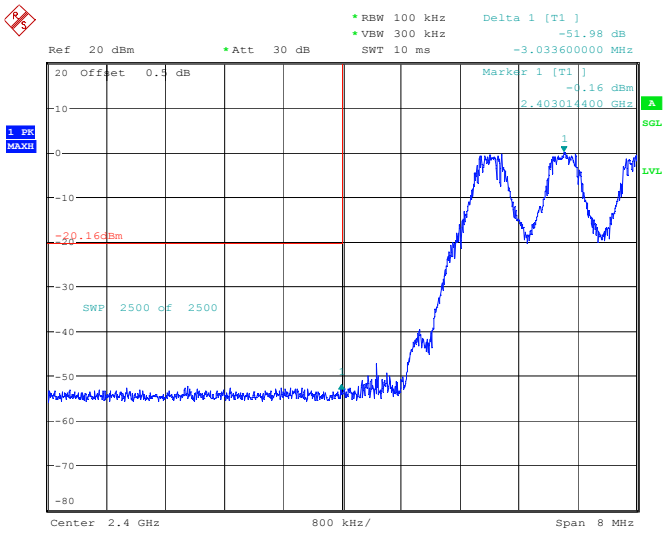
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:39:30

EDR (8DPSK): Right Side



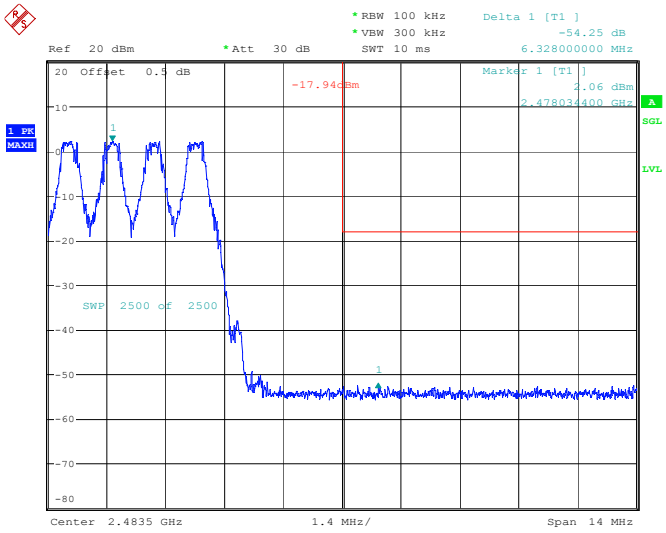
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:42:11

BDR (GFSK): Left Side - Hopping



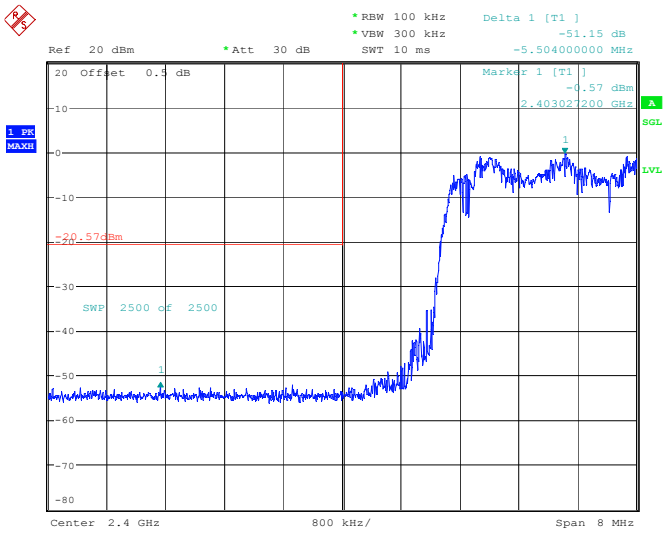
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:07:13

BDR (GFSK): Right Side - Hopping



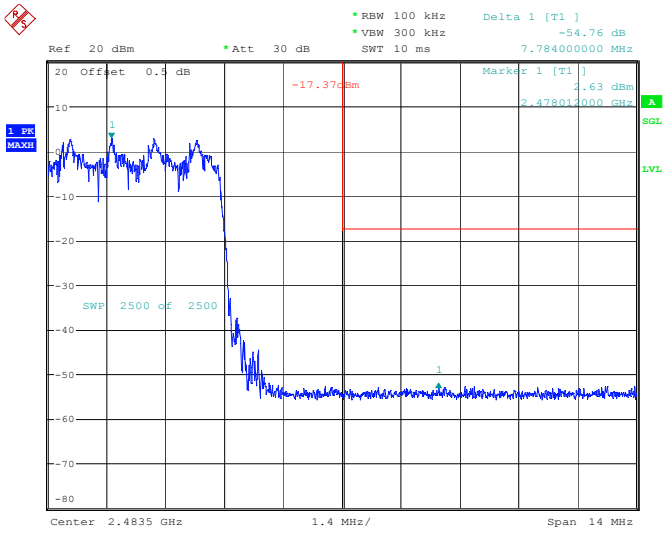
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:10:47

EDR (π/4-DQPSK): Left Side - Hopping



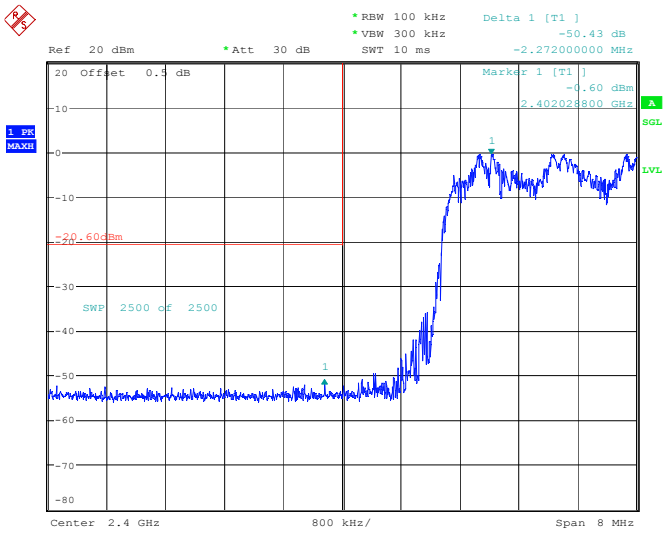
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:20:45

EDR (π/4-DQPSK): Right Side - Hopping



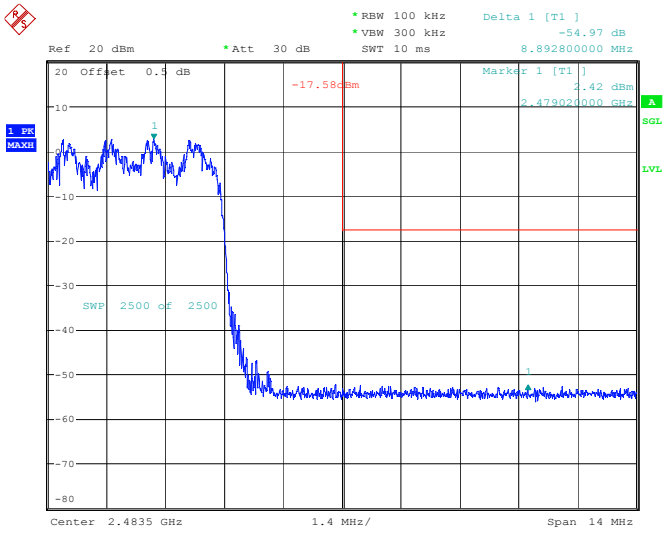
ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:24:23

EDR (8DPSK): Left Side - Hopping



ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:34:32

EDR (8DPSK): Right Side - Hopping



ProjectNo.:2407X32126E-RF Tester:Jason Hu
Date: 11.SEP.2024 09:37:20

EUT PHOTOGRAPHS

Please refer to the attachment 2407X32126E-RF-EXP-01 EUT EXTERNAL PHOTOGRAPHS and 2407X32126E-RF-INP-01 EUT INTERNAL PHOTOGRAPHS.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2407X32126E-RF-TSP TEST SETUP PHOTOGRAPHS.

Declarations

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 "★".

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).

6. This report is valid only with a valid digital signature. The digital signature may be available only under the adobe software above version 7.0.

******* END OF REPORT *******