FCC PART 15.247
TEST REPORT

For

Quanzhou KST Electronics Co., Limited

No.69, Guangfu Industry Park, Xiamei, Nan'an, Quanzhou, Fujian, China

FCC ID: 2AL6T-WM500

Report Type:	**Product Name:**
Original Report	Wireless Speaker Microphone

Report Number:	2507R19540E-RF-01
Report Date:	2025-09-15
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	2507R19540E-RF-01	R1V1	2025-09-15	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product Name:	Wireless Speaker Microphone
Tested Model:	WM500
Series Models:	ABBREE AR-890, BAOFENG BF-890, Arridioter AD-890
Power Supply:	DC 3.7V from battery or DC 5V
Maximum Peak Output Power:	5.22dBm
RF Function:	Classic BT
Operating Band/Frequency:	2402-2480 MHz
Channel Number:	79
Channel Separation:	1 MHz
Modulation Type:	GFSK, π/4-DQPSK
Antenna Type:	PCB Antenna
★Maximum Antenna Gain:	0 dBi
EUT Received Status:	Good

Note:
1. The Maximum Antenna Gain was declared by manufacturer.
2. The series model is identify with the tested model 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: 2ZCR-4(RF conducted),2ZCR-5(Radiated Spurious Emission).(Assigned by the BACL(Xiamen). The EUT supplied by the applicant was received on 2025-03-06)

Objective

This test report is prepared for *Quanzhou KST Electronics Co., Limited* 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

Item	Frequency Range	U_{lab} = 2 u_c (y) (Confidence of 95%)
Conducted Emissions	150kHz-30MHz	2.45dB
Radiated Spurious Emission	9kHz-150kHz	2.82dB
	150kHz-30MHz	2.74dB
	30MHz~200MHz	3.47dB
	200MHz~1GHz	4.86dB
	1GHz~6GHz	4.88dB
	6GHz~18GHz	4.95dB
	18GHz~40GHz	4.457 dB
Transmitter Conducted Power		±1.49 dB
Occupy Bandwidth		2%
Voltage (AC, ＜10kHz)		±1%
Temperature		±1℃
Humidity		±5%

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

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: FCC_assist 1.1.3

Test Modes	Power Level Setting		
	Lowest Channel	Middle Channel	Highest Channel
BDR(GFSK)	10	10	10
EDR(π/4-DQPSK)	10	10	10

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

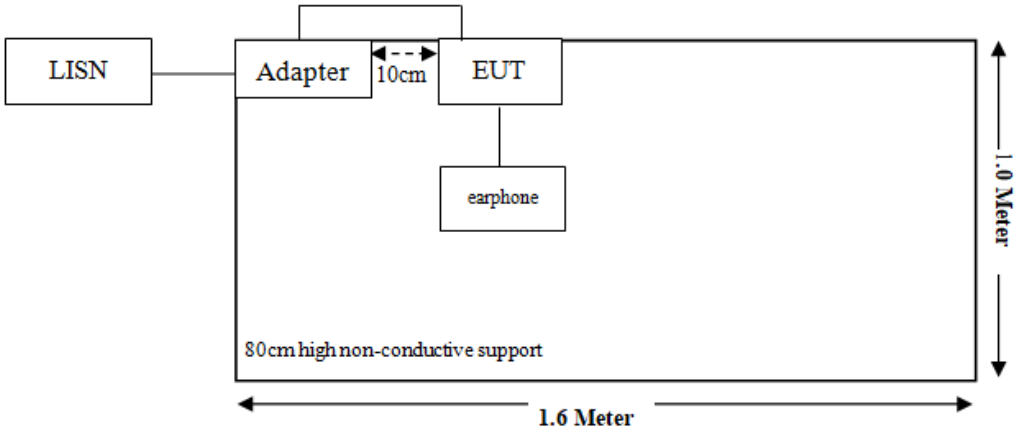
Manufacturer	Description	Model	Serial Number
Unknown	earphone	Unknown	Unknown
MEITU	Adapter	MA1871	BYJB99800107

External I/O Cable

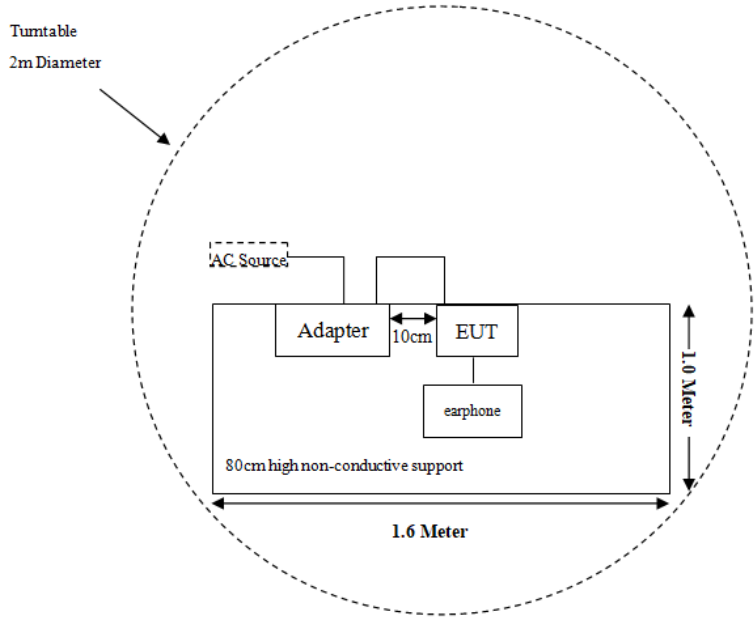
Cable Description	Length (m)	From Port	To
USB Cable	1	Adapter	EUT

Block Diagram of Test Setup

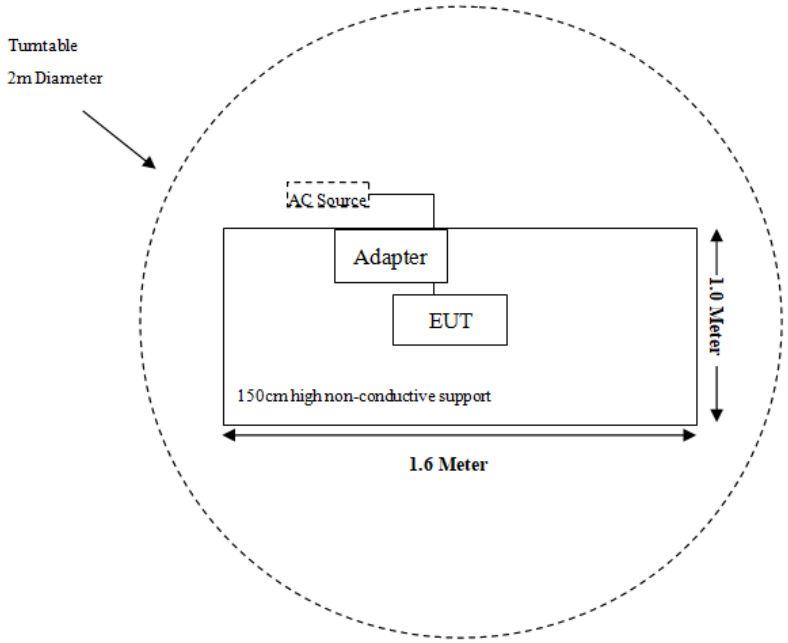
Conducted Emission:



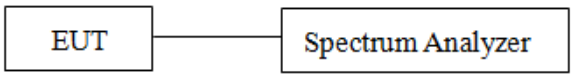
Radiated Emission:
Below 1GHz



Above 1GHz



RF



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	2025/2/20	2026/2/19
LISN	Rohde & Schwarz	ENV216	100129	2025/2/20	2026/2/19
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	0357.8810.54	2025/2/20	2026/2/19
Coaxial Cable	XINHANGWEIBO	XH400T-N-4M	CC001	2025/2/20	2026/2/19
Test Software	Audix	E3	18621a	N/A	N/A
Radiated Emissions Below 1GHz					
EMI Test Receiver	Rohde & Schwarz	ESR	103103	2025/2/20	2026/2/19
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	2025/2/20	2026/2/19
Coaxial Cable	XINHANGWEIBO	XH400T-N-4M	CC002	2025/2/20	2026/2/19
Coaxial Cable	XINHANGWEIBO	XH460B-N-2M	CC006	2025/2/20	2026/2/19
Coaxial Cable	XINHANGWEIBO	XH460B-N-12M	CC007	2025/2/20	2026/2/19
Coaxial Cable	XINHANGWEIBO	HFH2-CC	335.3609	2023/9/20	2026/9/19
Test Software	Audix	E3	18621a	N/A	N/A
Radiated Emissions Above 1 GHz					
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102051	2025/2/20	2026/2/19
Filter Switch Unit	Decentest	DT7220FSU	DS79904	2025/2/21	2026/2/20
Multiplex Switch Test Control Set	Decentest	DT7220SCU	DS79901	2025/2/21	2026/2/20
Horn Aantenna	EMCO	3115	9002-3355	2024/11/19	2027/11/18
Preamplifier	GLOBAL	1313-A100M18G	4121301	2025/1/16	2026/1/15
Coaxial Cable	XINHANGWEIBO	XH800A-N-6M	CC003	2025/2/20	2026/2/19
Coaxial Cable	XINHANGWEIBO	XH800A-N-1M	CC005	2025/2/20	2026/2/19
Horn Antenna	EMCO	3116	9407-2232	2023/7/31	2026/7/30
Preamplifier	A.H.Systems	PAM-1840	200	2025/2/20	2026/2/19
Coaxial Cable	XINHANGWEIBO	XH360A-2.92-3M	CC008	2025/2/20	2026/2/19
Coaxial Cable	XINHANGWEIBO	XH360A-2.92-1M	CC009	2025/2/20	2026/2/19
Test Software	Audix	E3	18621a	N/A	N/A
RF Conducted Test					
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102051	2025/2/20	2026/2/19
Coaxial Cable	Lianxun	RF113	N/A	Each time	N/A

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 0 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

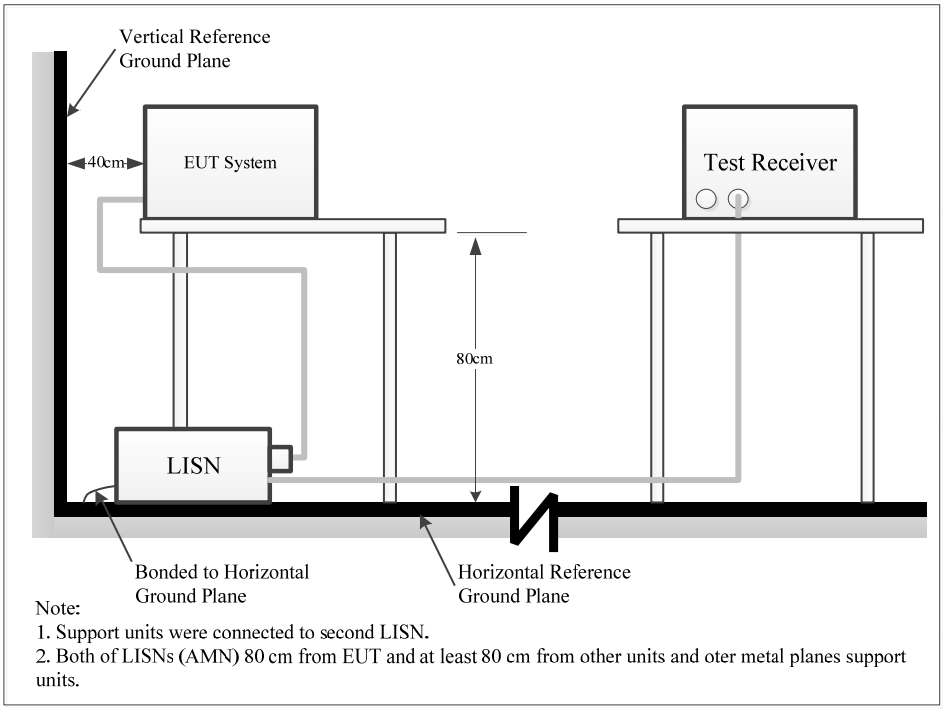
Result: Compliance

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a)

Test System Setup



Note:
1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at least 80 cm from other units and oter metal planes support units.

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)

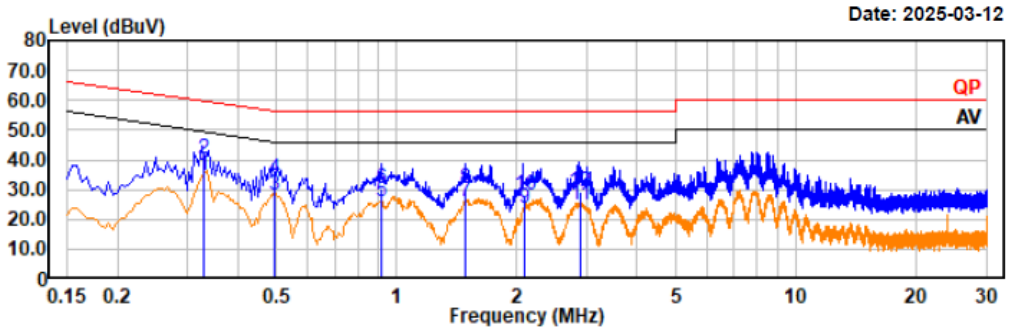
Test Data

Temperature:	22.8℃
Relative Humidity:	56%
ATM Pressure:	100.1kPa
Test Date:	2025-03-12
Test Engineer:	Wlif Wu

Note: The maximum output power mode: EDR (π/4-DQPSK) High channel was tested.

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2480MHz
EUT Model: WM500

Temp/Humi/ATM: 22.8℃/56%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

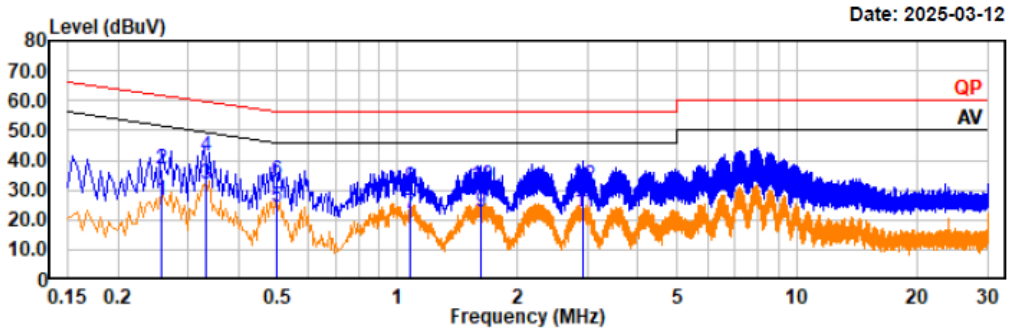


Trace: 1
Condition: IF B/W 9kHz PK/AV

Freq MHz	Reading dBuV	Factor dB	Result dBuV	Limit dBuV	Margin dB	Phase	Remark
0.33	3.87	30.96	34.83	49.50	14.67	Line	Average
0.33	9.09	30.96	40.05	59.50	19.45	Line	QP
0.49	-2.72	30.69	27.97	46.09	18.12	Line	Average
0.49	2.84	30.69	33.53	56.09	22.56	Line	QP
0.92	-5.55	31.72	26.17	46.00	19.83	Line	Average
0.92	-1.38	31.72	30.34	56.00	25.66	Line	QP
1.49	-6.12	32.16	26.04	46.00	19.96	Line	Average
1.49	-1.85	32.16	30.31	56.00	25.69	Line	QP
2.09	-8.29	32.27	23.98	46.00	22.02	Line	Average
2.09	-3.93	32.27	28.34	56.00	27.66	Line	QP
2.88	-7.12	31.82	24.70	46.00	21.30	Line	Average
2.88	-2.81	31.82	29.01	56.00	26.99	Line	QP

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2480MHz
EUT Model: WM500

Temp/Humi/ATM: 22.8℃/56%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



Trace: 1
Condition: IF B/W 9kHz PK/AV

Freq MHz	Reading dBuV	Factor dB	Result dBuV	Limit dBuV	Margin dB	Phase	Remark
0.26	-4.50	31.21	26.71	51.51	24.80	Neutral	Average
0.26	5.98	31.21	37.19	61.51	24.32	Neutral	QP
0.33	1.05	31.04	32.09	49.39	17.30	Neutral	Average
0.33	10.43	31.04	41.47	59.39	17.92	Neutral	QP
0.50	-6.37	30.79	24.42	46.01	21.59	Neutral	Average
0.50	2.31	30.79	33.10	56.01	22.91	Neutral	QP
1.08	-9.65	31.95	22.30	46.00	23.70	Neutral	Average
1.08	-1.09	31.95	30.86	56.00	25.14	Neutral	QP
1.62	-9.28	32.14	22.86	46.00	23.14	Neutral	Average
1.62	-0.82	32.14	31.32	56.00	24.68	Neutral	QP
2.92	-9.46	31.82	22.36	46.00	23.64	Neutral	Average
2.92	-0.38	31.82	31.44	56.00	24.56	Neutral	QP

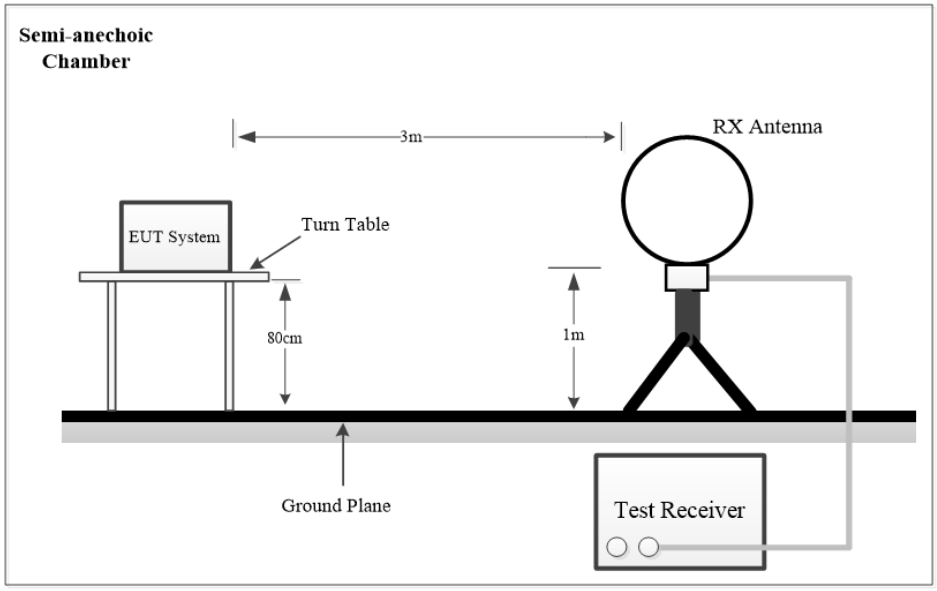
FCC §15.205, §15.209 & §15.247(d) – RADIATED EMISSIONS

Applicable Standard

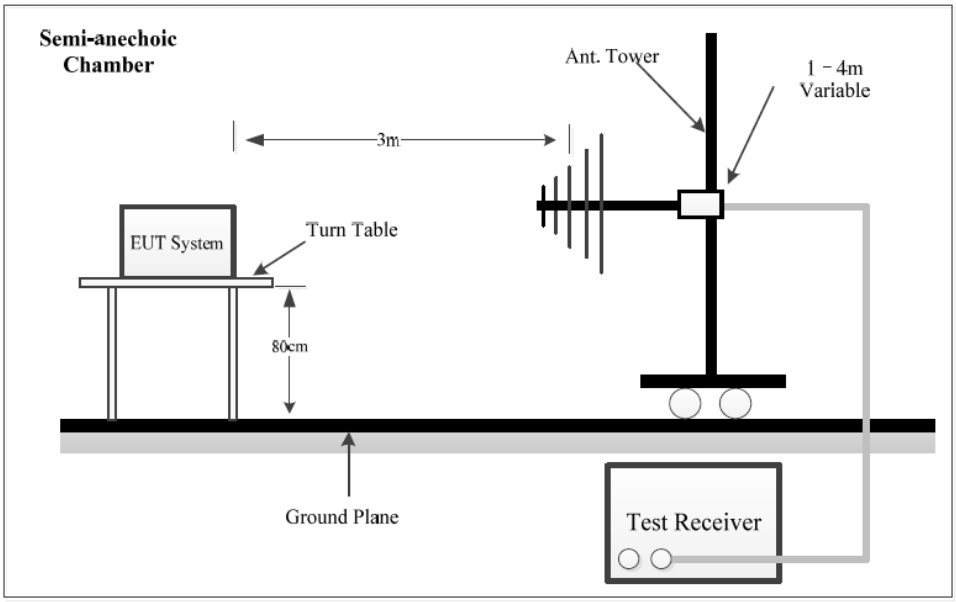
FCC §15.205; §15.209; §15.247(d)

Test System Setup

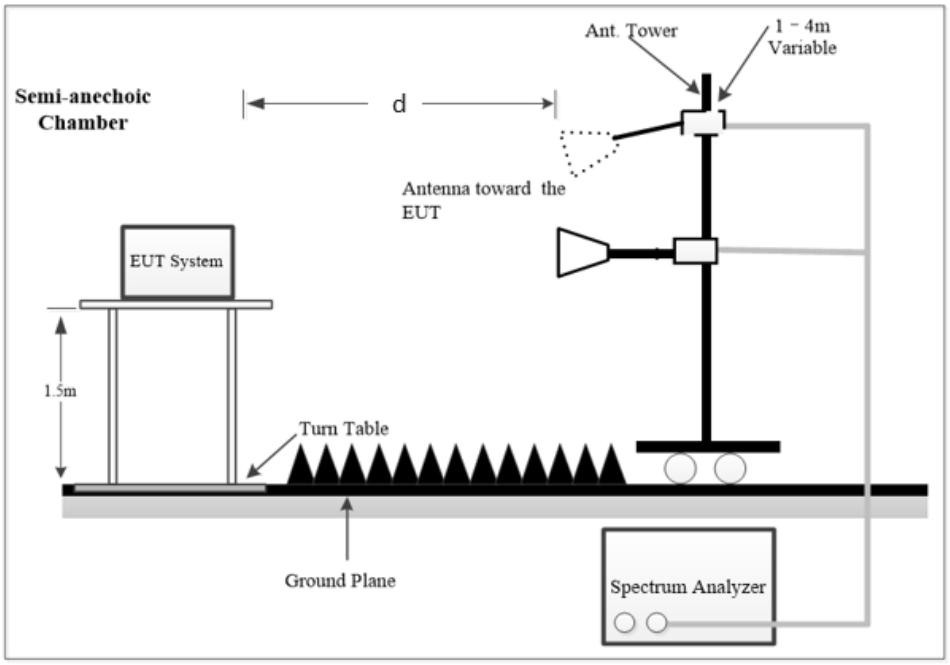
9 kHz-30MHz



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 1.5 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 1.5m.
Distance extrapolation Factor =20 log (specific distance [3m]/test distance [1.5m]) dB= 6 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	VBW	Measurement
9 kHz – 150 kHz	300Hz	1 kHz	PK
	200Hz	/	QP
150 kHz – 30 MHz	10 kHz	30 kHz	PK
	9kHz	/	QP
30 MHz – 1000 MHz	100 kHz	300 kHz	PK
	120kHz	/	QP

1GHz~25GHz:
Pre-scan:

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

Final measuurement for emission identifed during the pre-scan:

Measurement	RBW	Video B/W	Detector
PK	1MHz	3MHz	PK
AV	1MHz	10Hz	PK

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 and Bandedge emissions test
Factor (dB/m) =Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB)

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

Extrapolation factor=6dB (distance=1.5m)

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:	25.8℃	25.8℃
Relative Humidity:	58%	58%
ATM Pressure:	99.9kPa	99.9kPa
Test Date:	2025-09-13	2025-09-13
Test Engineer:	Wlif Wu	Wlif Wu

Note: Pre-scan in the X, Y and Z axes of orientation, the worst case Z-axis of orientation was recorded.

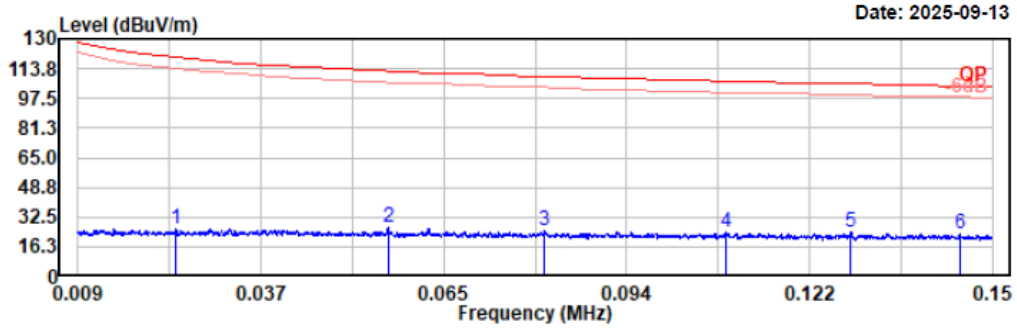
1) 9 kHz ~30MHz

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

Note: The maximum output power mode: EDR (π/4-DQPSK) High channel was tested.

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2480MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



Condition: PK RBW:300Hz VBW:1kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Remark
0.024	6.10	19.85	25.95	119.96	94.01	Peak
0.057	6.65	19.91	26.56	112.52	85.96	Peak
0.081	4.95	19.72	24.67	109.44	84.77	Peak
0.109	4.84	19.73	24.57	106.86	82.29	Peak
0.128	4.13	19.73	23.86	105.45	81.59	Peak
0.145	3.49	19.73	23.22	104.38	81.16	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2480MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
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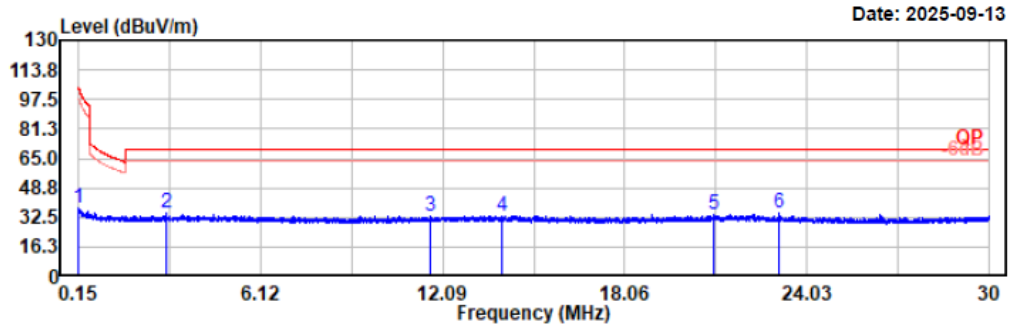


Condition: PK RBW:10kHz VBW:30kHz SWT:auto

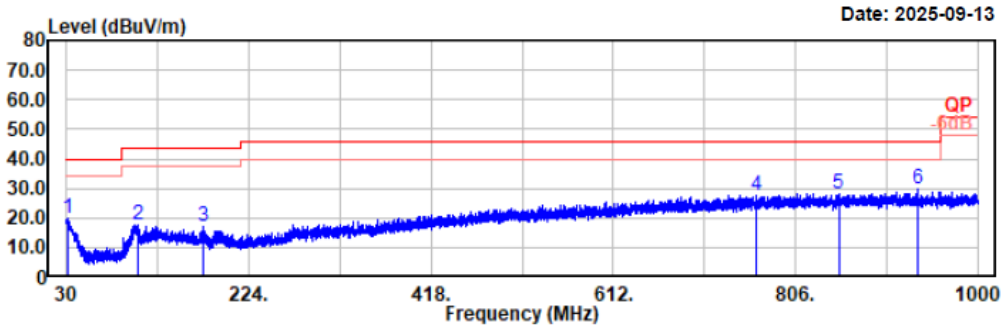
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Remark
0.150	17.60	19.72	37.32	104.08	66.76	Peak
3.028	14.91	19.85	34.76	69.54	34.78	Peak
11.687	13.85	19.72	33.57	69.54	35.97	Peak
14.012	13.72	19.75	33.47	69.54	36.07	Peak
20.991	14.39	20.12	34.51	69.54	35.03	Peak
23.129	14.38	20.17	34.55	69.54	34.99	Peak

2) 30MHz-1GHz

Note: The maximum output power mode: EDR (π/4-DQPSK) High channel was tested.

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2480MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

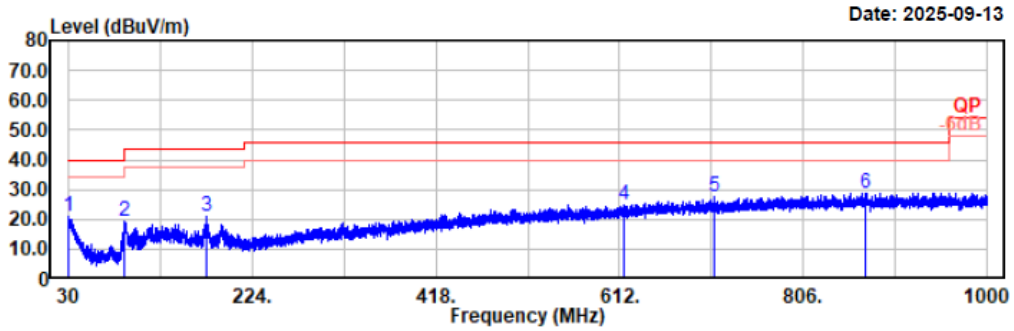


Condition: PK RBW:100kHz VBW:300kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
31.84	26.24	-6.32	19.92	40.00	20.08	Horizontal	Peak
105.85	30.92	-13.09	17.83	43.50	25.67	Horizontal	Peak
175.79	29.06	-12.11	16.95	43.50	26.55	Horizontal	Peak
764.78	26.89	0.71	27.60	46.00	18.40	Horizontal	Peak
851.88	26.26	1.95	28.21	46.00	17.79	Horizontal	Peak
936.08	26.50	3.06	29.56	46.00	16.44	Horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2480MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



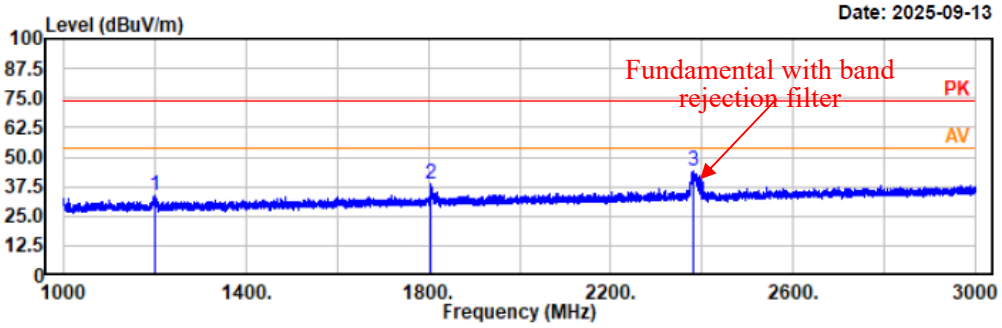
Condition: PK RBW:100kHz VBW:300kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
30.00	26.51	-5.60	20.91	40.00	19.09	Vertical	Peak
89.56	36.54	-17.06	19.48	43.50	24.02	Vertical	Peak
175.99	33.14	-12.11	21.03	43.50	22.47	Vertical	Peak
617.34	26.75	-1.73	25.02	46.00	20.98	Vertical	Peak
711.43	27.60	-0.08	27.52	46.00	18.48	Vertical	Peak
872.54	26.68	2.18	28.86	46.00	17.14	Vertical	Peak

3) 1 GHz-3 GHz

Project No.: 2507R19540E-RF
Test Mode: BDR DH5 2402MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

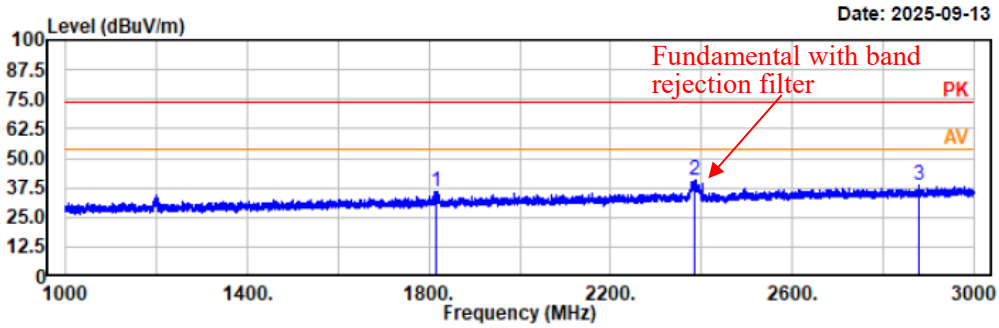


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1200.40	49.10	-15.11	33.99	74.00	40.01	horizontal	Peak
1806.40	51.81	-13.21	38.60	74.00	35.40	horizontal	Peak
2380.00	55.64	-11.20	44.44	74.00	29.56	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: BDR DH5 2402MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

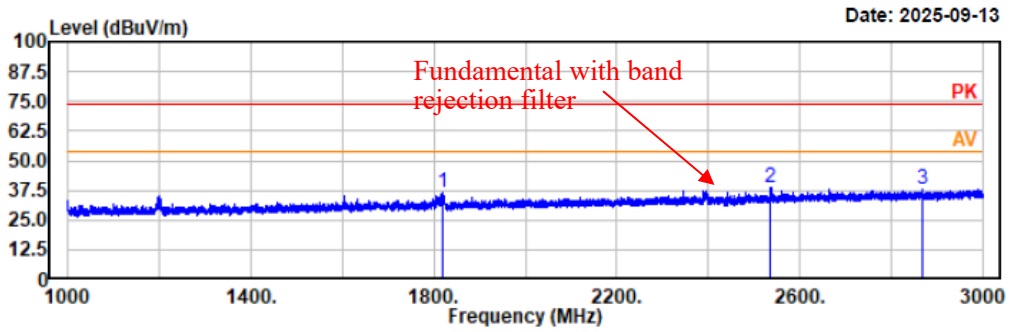


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1817.20	49.14	-13.18	35.96	74.00	38.04	vertical	Peak
2383.80	51.92	-11.18	40.74	74.00	33.26	vertical	Peak
2877.80	48.03	-9.58	38.45	74.00	35.55	vertical	Peak

Project No.: 2507R19540E-RF
Test Mode: BDR DH5 2441MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

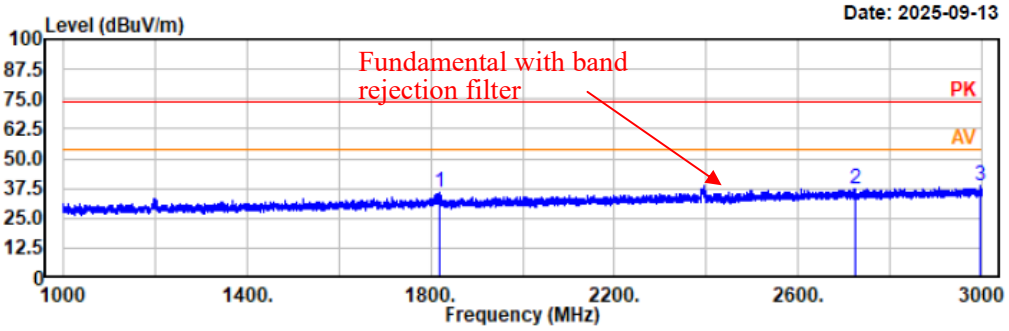


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1819.20	49.78	-13.17	36.61	74.00	37.39	horizontal	Peak
2537.00	49.03	-10.62	38.41	74.00	35.59	horizontal	Peak
2869.20	47.47	-9.60	37.87	74.00	36.13	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: BDR DH5 2441MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

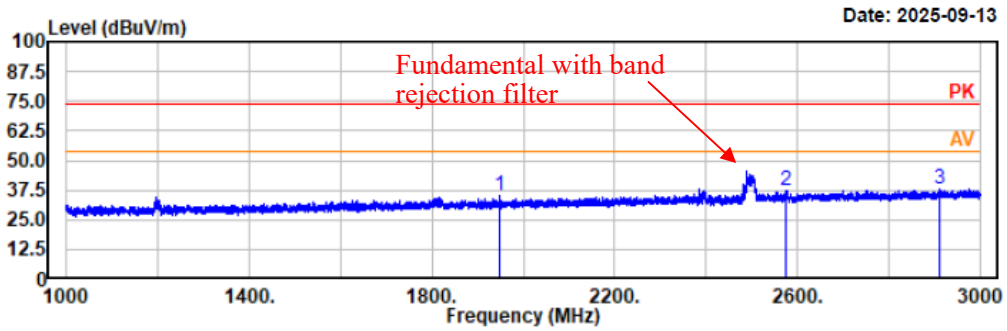


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1818.00	48.77	-13.17	35.60	74.00	38.40	vertical	Peak
2724.00	47.17	-9.97	37.20	74.00	36.80	vertical	Peak
2997.00	47.40	-8.96	38.44	74.00	35.56	vertical	Peak

Project No.: 2507R19540E-RF
Test Mode: BDR DH5 2480MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

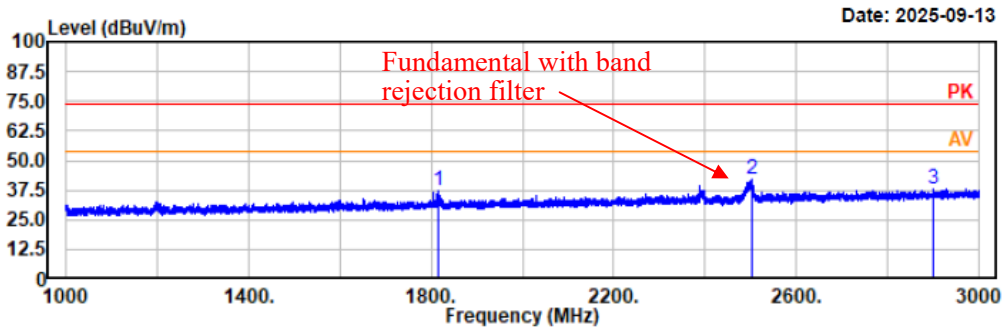


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1948.00	47.86	-12.76	35.10	74.00	38.90	horizontal	Peak
2575.80	47.97	-10.50	37.47	74.00	36.53	horizontal	Peak
2912.20	47.68	-9.47	38.21	74.00	35.79	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: BDR DH5 2480MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

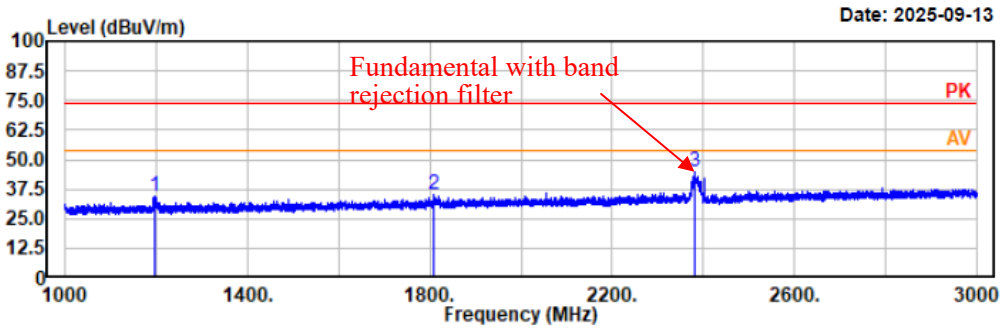


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1815.20	50.41	-13.18	37.23	74.00	36.77	vertical	Peak
2501.40	52.56	-10.70	41.86	74.00	32.14	vertical	Peak
2902.00	47.55	-9.54	38.01	74.00	35.99	vertical	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2402MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

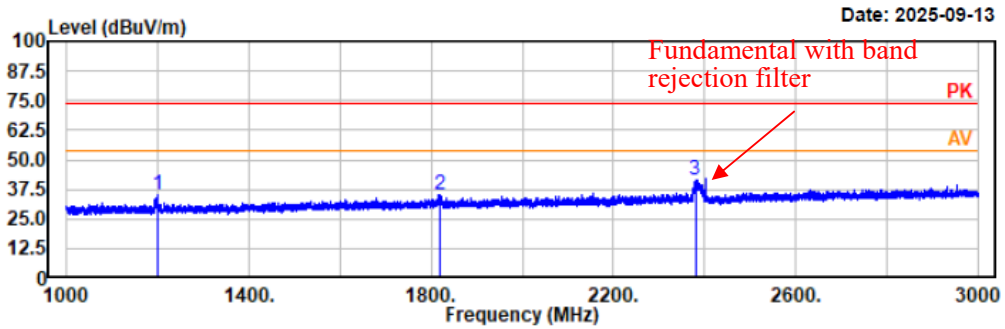


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1197.20	49.86	-15.12	34.74	74.00	39.26	horizontal	Peak
1809.00	48.13	-13.19	34.94	74.00	39.06	horizontal	Peak
2380.20	56.21	-11.20	45.01	74.00	28.99	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2402MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

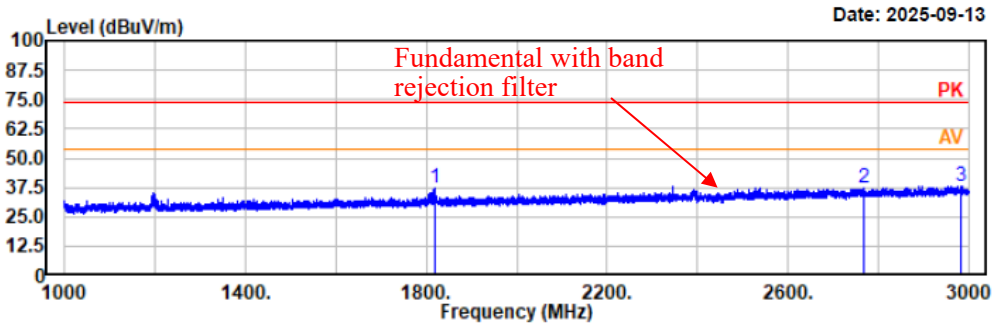


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1199.80	50.23	-15.11	35.12	74.00	38.88	vertical	Peak
1818.40	48.46	-13.17	35.29	74.00	38.71	vertical	Peak
2379.60	52.51	-11.20	41.31	74.00	32.69	vertical	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2441MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

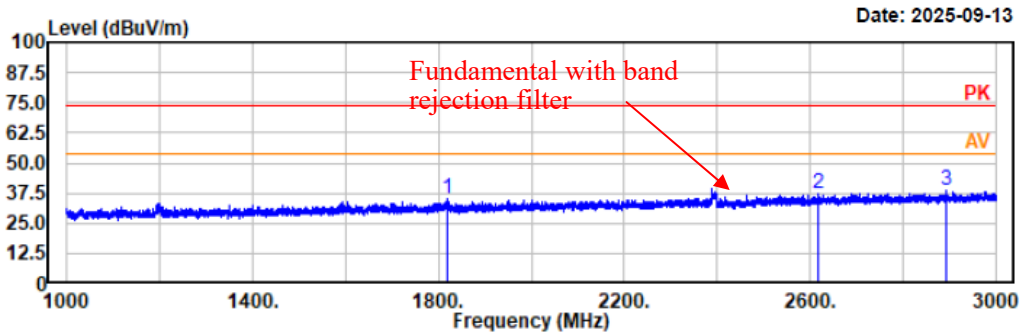


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1818.40	50.29	-13.17	37.12	74.00	36.88	horizontal	Peak
2767.20	46.84	-9.89	36.95	74.00	37.05	horizontal	Peak
2981.60	47.21	-9.04	38.17	74.00	35.83	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2441MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

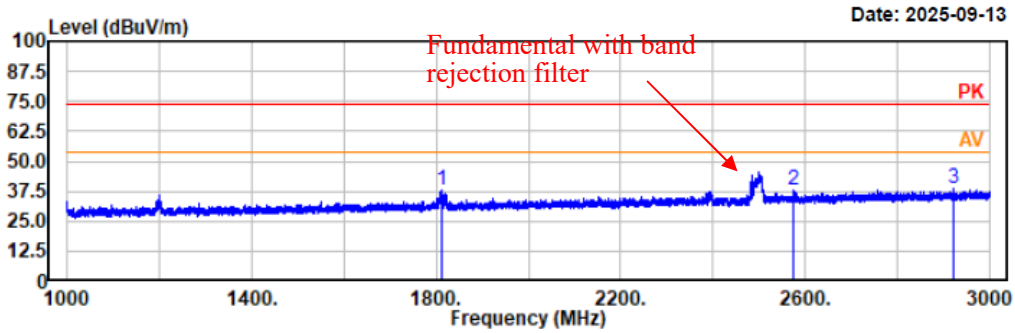


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1818.00	48.05	-13.17	34.88	74.00	39.12	vertical	Peak
2618.60	47.48	-10.32	37.16	74.00	36.84	vertical	Peak
2894.20	47.96	-9.56	38.40	74.00	35.60	vertical	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2480MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

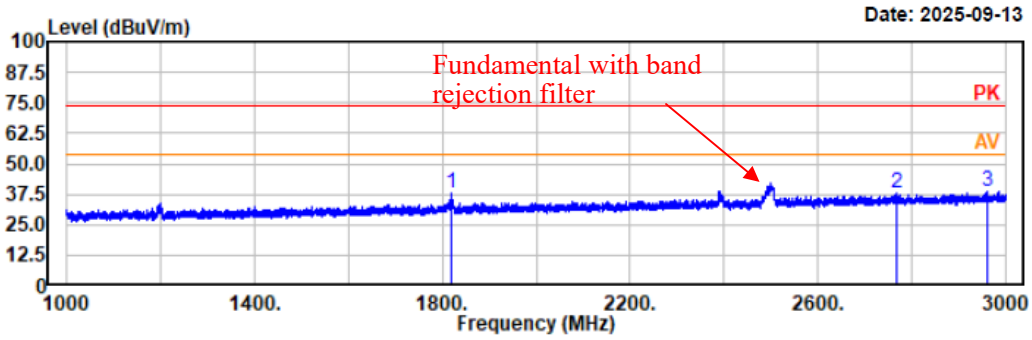


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1811.00	51.38	-13.19	38.19	74.00	35.81	horizontal	Peak
2576.00	48.60	-10.50	38.10	74.00	35.90	horizontal	Peak
2922.20	48.06	-9.40	38.66	74.00	35.34	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2480MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



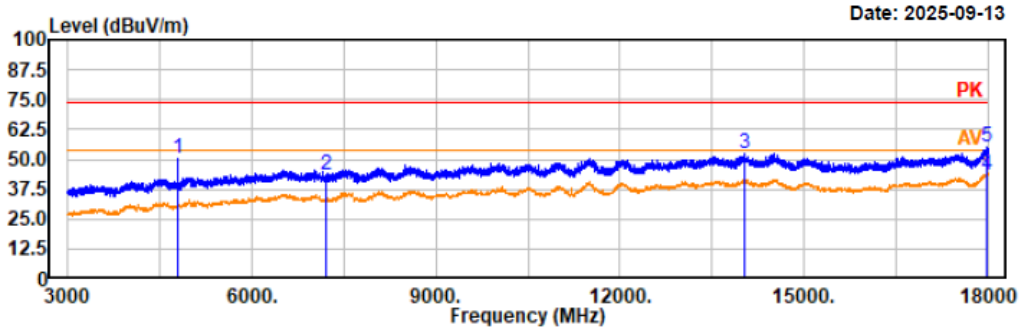
Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1819.00	51.20	-13.17	38.03	74.00	35.97	vertical	Peak
2767.00	47.87	-9.89	37.98	74.00	36.02	vertical	Peak
2962.60	47.80	-9.14	38.66	74.00	35.34	vertical	Peak

4) 3 GHz-18 GHz

Project No.: 2507R19540E-RF
Test Mode: BDR DH5 2402MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

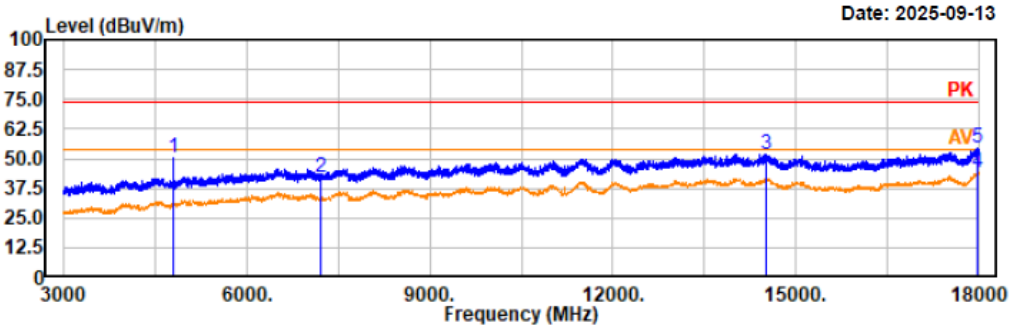


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4804.50	55.24	-5.24	50.00	74.00	24.00	horizontal	Peak
7206.00	46.00	-2.55	43.45	74.00	30.55	horizontal	Peak
14037.00	47.00	5.25	52.25	74.00	21.75	horizontal	Peak
17983.50	36.84	6.89	43.73	54.00	10.27	horizontal	Average
17983.50	48.18	6.89	55.07	74.00	18.93	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: BDR DH5 2402MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

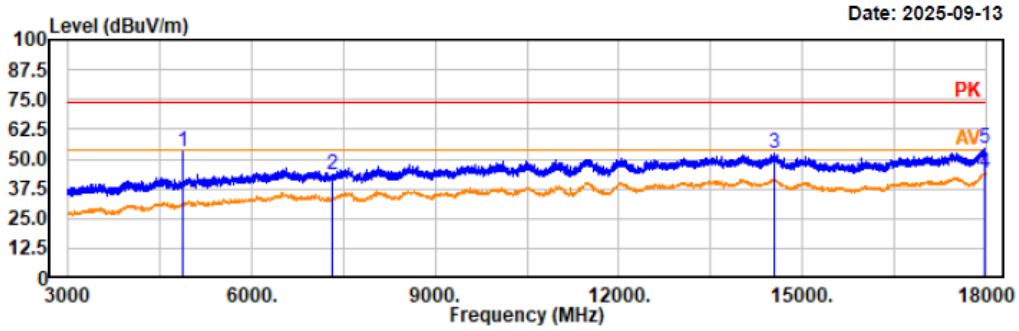


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4804.50	55.28	-5.24	50.04	74.00	23.96	vertical	Peak
7206.00	44.91	-2.55	42.36	74.00	31.64	vertical	Peak
14508.00	46.98	5.06	52.04	74.00	21.96	vertical	Peak
17989.50	36.91	6.90	43.81	54.00	10.19	vertical	Average
17989.50	47.32	6.90	54.22	74.00	19.78	vertical	Peak

Project No.: 2507R19540E-RF
Test Mode: BDR DH5 2441MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

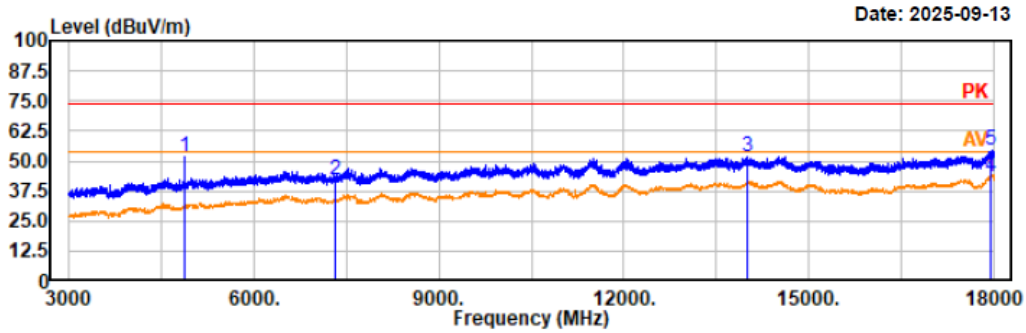


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4881.00	58.27	-5.31	52.96	74.00	21.04	horizontal	Peak
7323.00	45.74	-2.24	43.50	74.00	30.50	horizontal	Peak
14532.00	47.09	5.05	52.14	74.00	21.86	horizontal	Peak
17983.50	37.47	6.89	44.36	54.00	9.64	horizontal	Average
17983.50	47.45	6.89	54.34	74.00	19.66	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: BDR DH5 2441MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

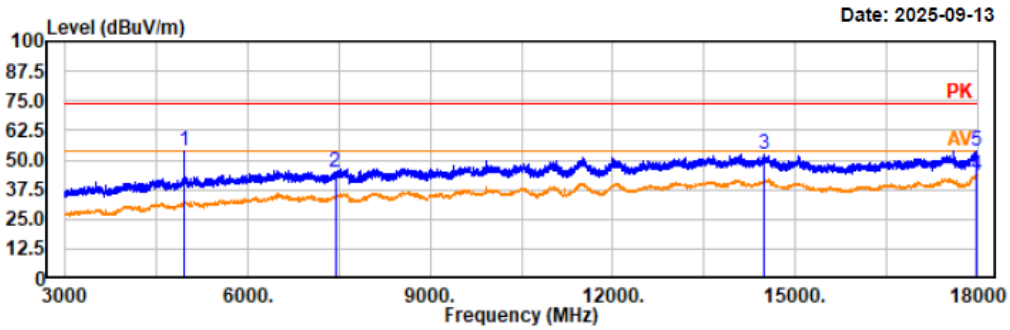


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4881.00	56.75	-5.31	51.44	74.00	22.56	vertical	Peak
7323.00	44.43	-2.24	42.19	74.00	31.81	vertical	Peak
13998.00	46.52	5.20	51.72	74.00	22.28	vertical	Peak
17955.00	36.55	6.87	43.42	54.00	10.58	vertical	Average
17955.00	47.91	6.87	54.78	74.00	19.22	vertical	Peak

Project No.: 2507R19540E-RF
Test Mode: BDR DH5 2480MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

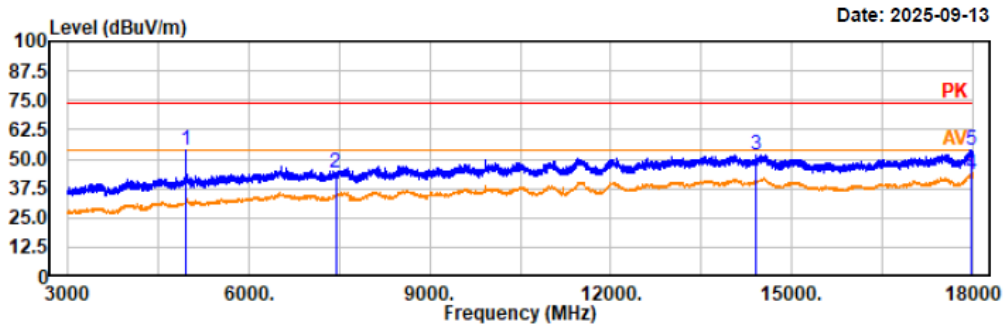


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4959.00	58.73	-5.11	53.62	74.00	20.38	horizontal	Peak
7440.00	46.56	-2.03	44.53	74.00	29.47	horizontal	Peak
14488.50	47.53	5.08	52.61	74.00	21.39	horizontal	Peak
17980.50	36.85	6.89	43.74	54.00	10.26	horizontal	Average
17980.50	46.95	6.89	53.84	74.00	20.16	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: BDR DH5 2480MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

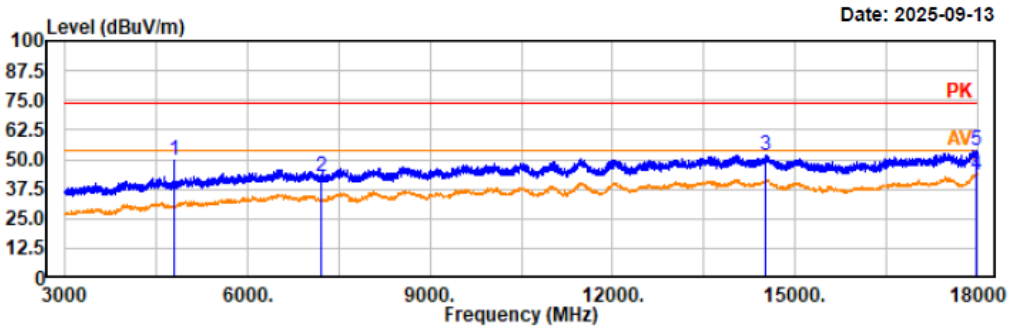


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4960.50	58.93	-5.11	53.82	74.00	20.18	vertical	Peak
7440.00	45.88	-2.03	43.85	74.00	30.15	vertical	Peak
14412.00	46.71	5.22	51.93	74.00	22.07	vertical	Peak
17989.50	36.34	6.90	43.24	54.00	10.76	vertical	Average
17989.50	46.83	6.90	53.73	74.00	20.27	vertical	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2402MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

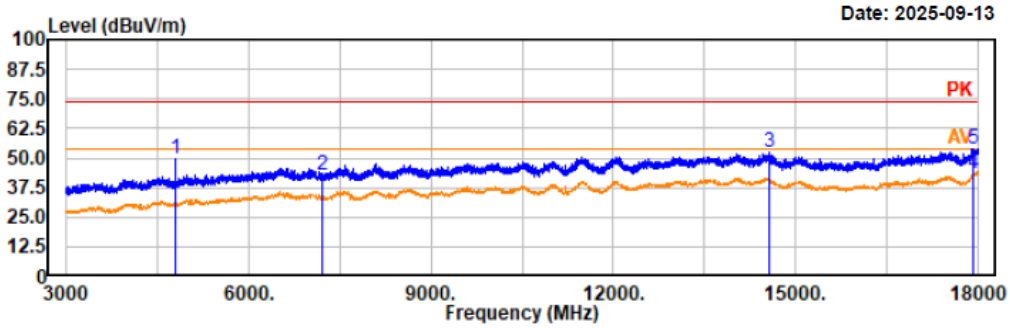


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4804.50	55.06	-5.24	49.82	74.00	24.18	horizontal	Peak
7206.00	45.32	-2.55	42.77	74.00	31.23	horizontal	Peak
14512.50	46.67	5.07	51.74	74.00	22.26	horizontal	Peak
17985.00	36.69	6.89	43.58	54.00	10.42	horizontal	Average
17985.00	47.07	6.89	53.96	74.00	20.04	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2402MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

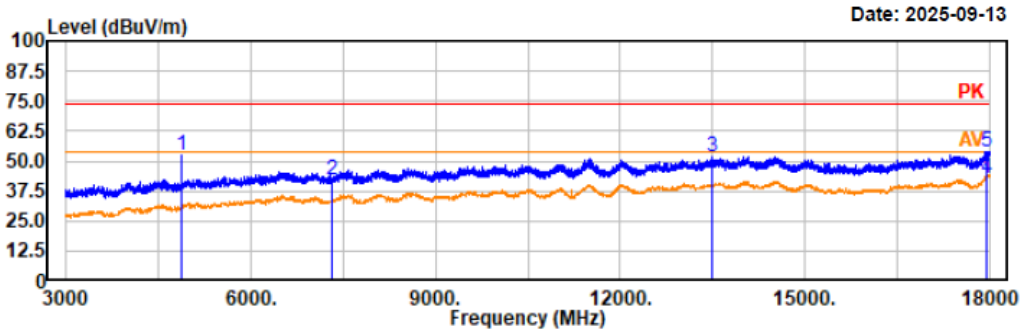


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4804.50	54.81	-5.24	49.57	74.00	24.43	vertical	Peak
7206.00	45.29	-2.55	42.74	74.00	31.26	vertical	Peak
14565.00	47.45	5.03	52.48	74.00	21.52	vertical	Peak
17934.00	36.34	6.83	43.17	54.00	10.83	vertical	Average
17934.00	46.98	6.83	53.81	74.00	20.19	vertical	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2441MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

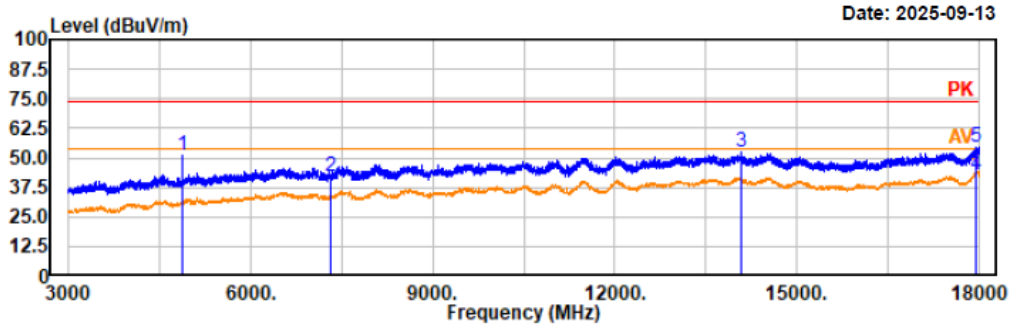


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4881.00	57.82	-5.31	52.51	74.00	21.49	horizontal	Peak
7323.00	44.32	-2.24	42.08	74.00	31.92	horizontal	Peak
13500.00	47.41	4.66	52.07	74.00	21.93	horizontal	Peak
17955.00	36.17	6.87	43.04	54.00	10.96	horizontal	Average
17955.00	47.09	6.87	53.96	74.00	20.04	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2441MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

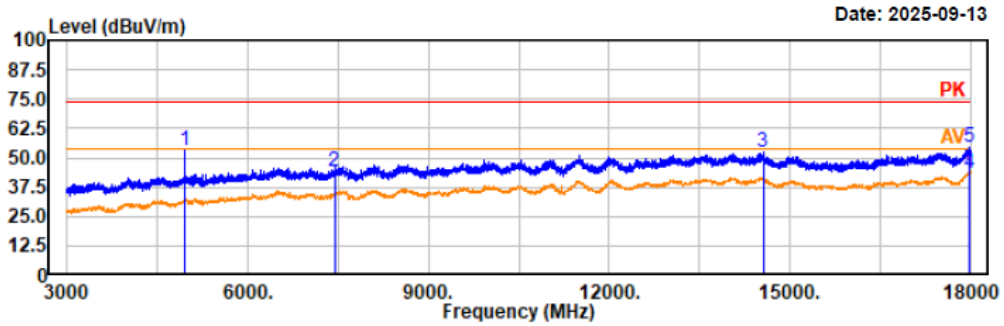


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4881.00	56.49	-5.31	51.18	74.00	22.82	vertical	Peak
7323.00	44.49	-2.24	42.25	74.00	31.75	vertical	Peak
14080.50	46.94	5.31	52.25	74.00	21.75	vertical	Peak
17949.00	36.23	6.86	43.09	54.00	10.91	vertical	Average
17949.00	47.96	6.86	54.82	74.00	19.18	vertical	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2480MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

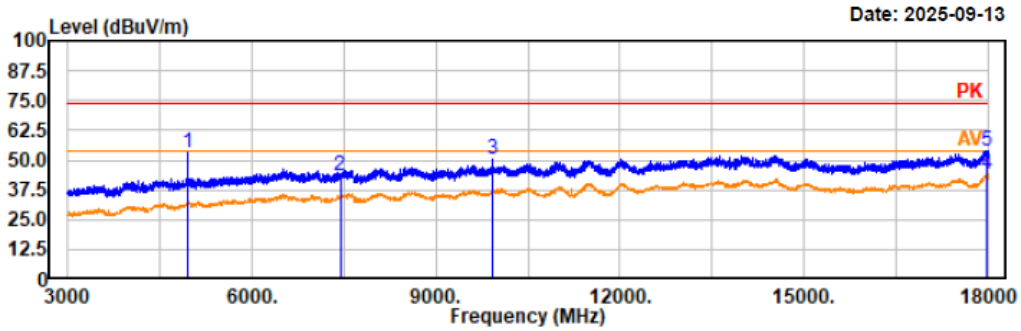


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4959.00	57.92	-5.11	52.81	74.00	21.19	horizontal	Peak
7440.00	45.95	-2.03	43.92	74.00	30.08	horizontal	Peak
14554.50	47.08	5.04	52.12	74.00	21.88	horizontal	Peak
17968.50	36.23	6.88	43.11	54.00	10.89	horizontal	Average
17968.50	47.65	6.88	54.53	74.00	19.47	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2480MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



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

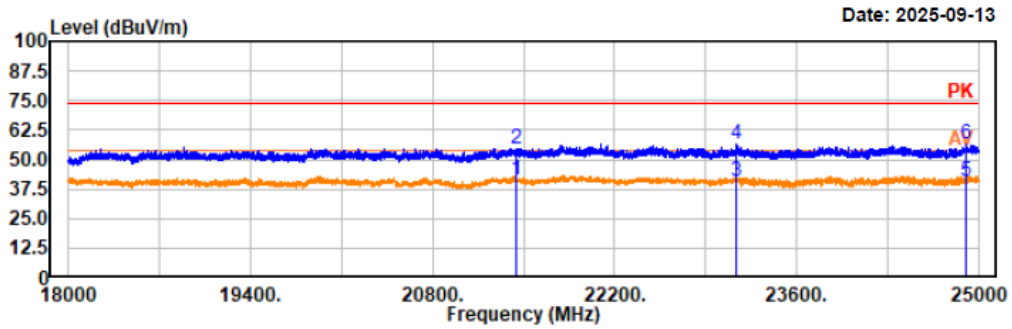
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4960.50	58.34	-5.11	53.23	74.00	20.77	vertical	Peak
7440.00	45.60	-2.03	43.57	74.00	30.43	vertical	Peak
9919.50	49.09	1.36	50.45	74.00	23.55	vertical	Peak
17991.00	37.21	6.90	44.11	54.00	9.89	vertical	Average
17991.00	47.06	6.90	53.96	74.00	20.04	vertical	Peak

5) 18 GHz-25 GHz

Note: The maximum output power mode: EDR(π/4-DQPSK) High channel was tested.

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2480MHz
EUT Model: WM500
Test distance: 1.5m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

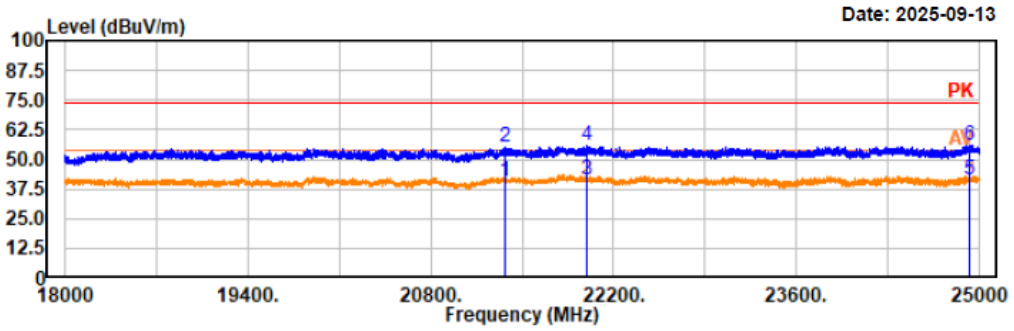


Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
21448.20	36.59	4.56	41.15	54.00	12.85	horizontal	Average
21448.20	50.25	4.56	54.81	74.00	19.19	horizontal	Peak
23136.60	35.61	4.92	40.53	54.00	13.47	horizontal	Average
23136.60	51.54	4.92	56.46	74.00	17.54	horizontal	Peak
24899.90	34.40	6.31	40.71	54.00	13.29	horizontal	Average
24899.90	50.03	6.31	56.34	74.00	17.66	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2480MHz
EUT Model: WM500
Test distance: 1.5m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



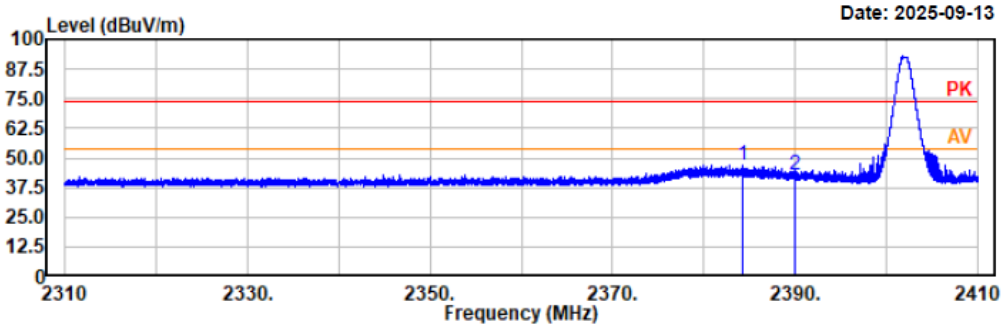
Trace: 1
Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
21372.60	36.08	4.44	40.52	54.00	13.48	vertical	Average
21372.60	51.02	4.44	55.46	74.00	18.54	vertical	Peak
21992.80	36.34	5.24	41.58	54.00	12.42	vertical	Average
21992.80	50.46	5.24	55.70	74.00	18.30	vertical	Peak
24922.30	34.98	6.31	41.29	54.00	12.71	vertical	Average
24922.30	49.74	6.31	56.05	74.00	17.95	vertical	Peak

Restricted Bands Emissions:

Project No.: 2507R19540E-RF
Test Mode: BDR DH5 2402MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

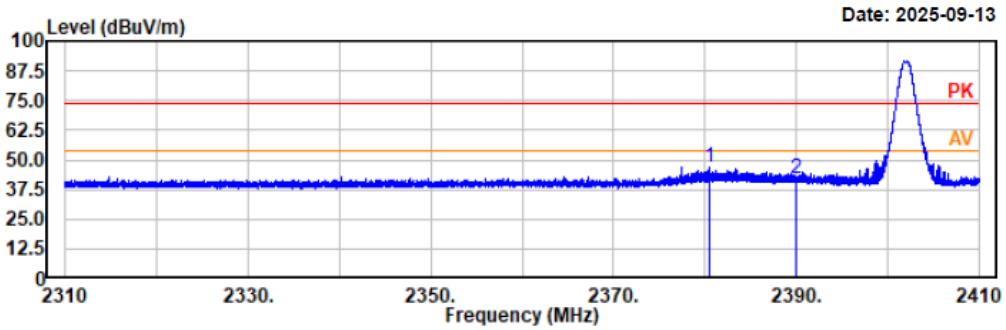


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2384.29	52.00	-5.17	46.83	74.00	27.17	horizontal	Peak
2390.00	47.81	-5.15	42.66	74.00	31.34	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: BDR DH5 2402MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

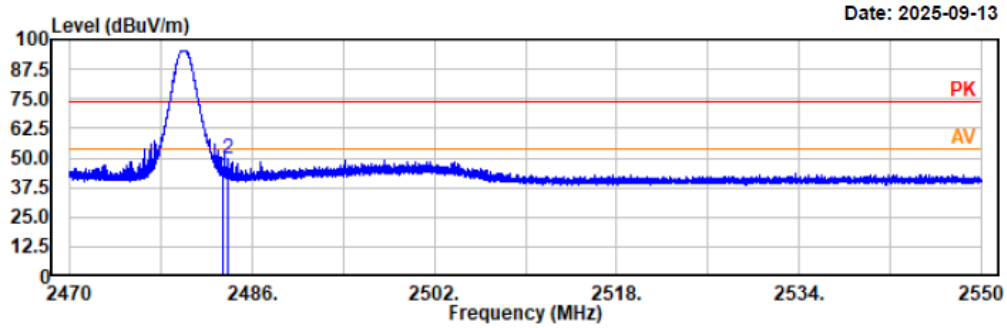


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2380.57	51.93	-5.20	46.73	74.00	27.27	vertical	Peak
2390.00	47.26	-5.15	42.11	74.00	31.89	vertical	Peak

Project No.: 2507R19540E-RF
Test Mode: BDR DH5 2480MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

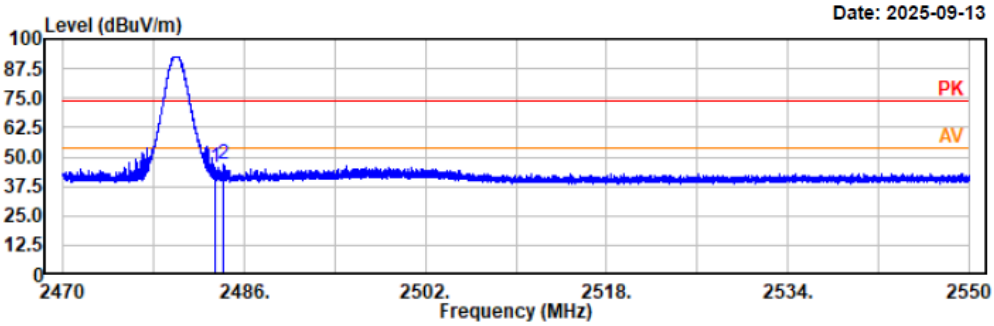


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2483.50	46.93	-4.77	42.16	74.00	31.84	horizontal	Peak
2483.85	54.64	-4.76	49.88	74.00	24.12	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: BDR DH5 2480MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

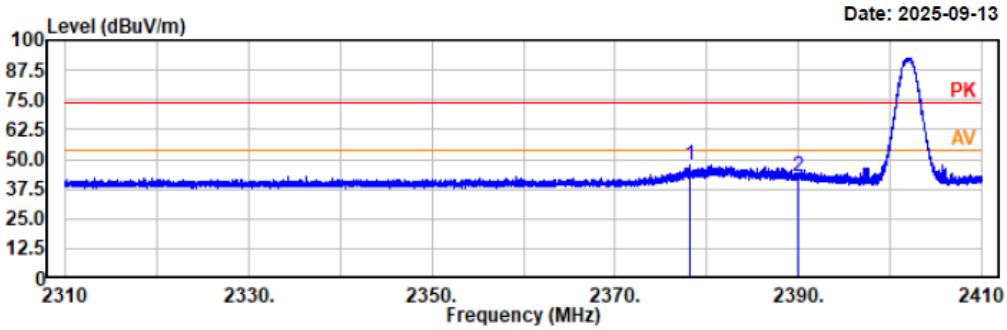


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2483.50	50.31	-4.77	45.54	74.00	28.46	vertical	Peak
2484.10	51.59	-4.76	46.83	74.00	27.17	vertical	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2402MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

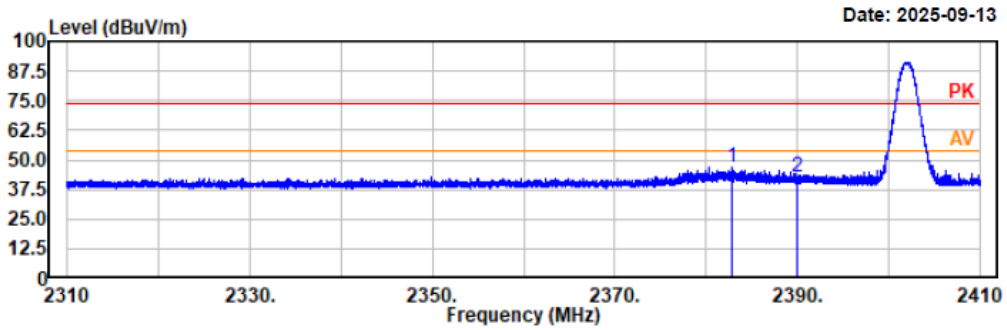


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2378.22	52.56	-5.21	47.35	74.00	26.65	horizontal	Peak
2390.00	48.04	-5.15	42.89	74.00	31.11	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2402MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

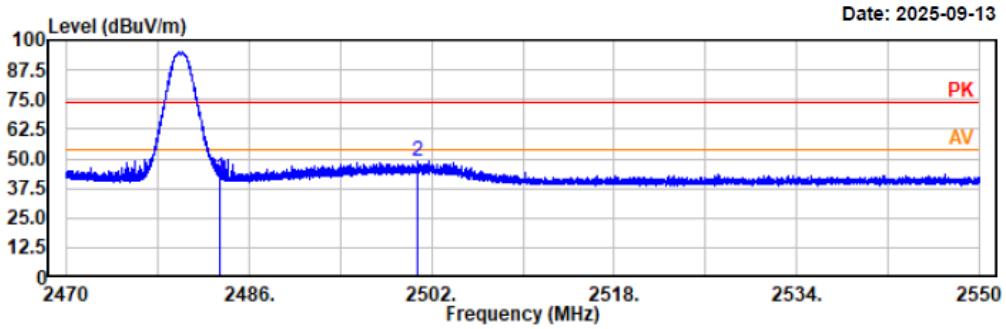


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2382.79	52.25	-5.19	47.06	74.00	26.94	vertical	Peak
2390.00	47.75	-5.15	42.60	74.00	31.40	vertical	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2480MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

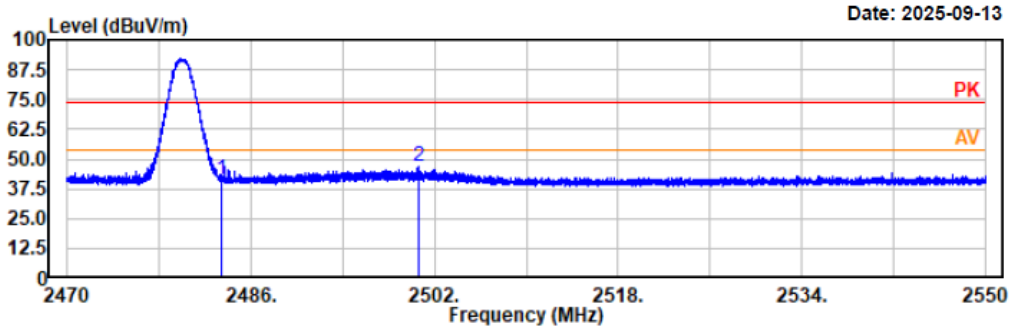


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2483.50	47.13	-4.77	42.36	74.00	31.64	horizontal	Peak
2500.71	53.57	-4.70	48.87	74.00	25.13	horizontal	Peak

Project No.: 2507R19540E-RF
Test Mode: EDR 2DH5 2480MHz
EUT Model: WM500
Test distance: 3m

Temp/Humi/ATM: 25.8℃/58%/99.9kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



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

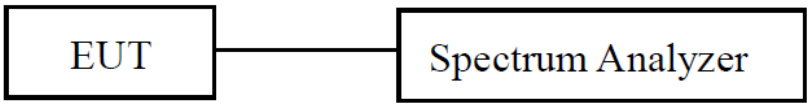
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
2483.50	46.25	-4.77	41.48	74.00	32.52	vertical	Peak
2500.61	51.61	-4.70	46.91	74.00	27.09	vertical	Peak

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.

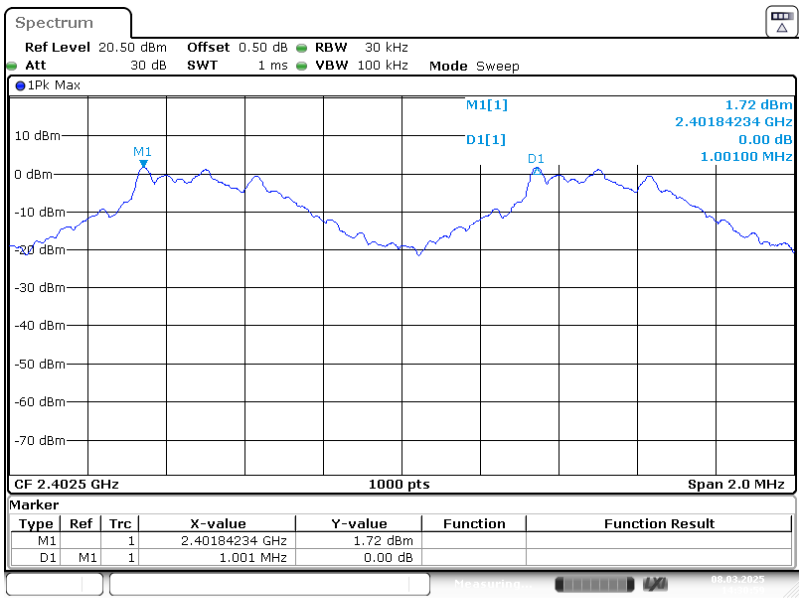
Test Data

Test Mode:	Transmitting	Test Engineer:	Braylon Ma
Test Date:	2025-03-08	Environment:	Temp.: 22.1℃ Humi.:49% Atm:100.3kPa

Mode	Channel	Channel Separation (MHz)	Limit (MHz)	Result
BDR (GFSK)	Low	1.001	0.833	Pass
	Middle	1.001	0.835	Pass
	High	1.001	0.831	Pass

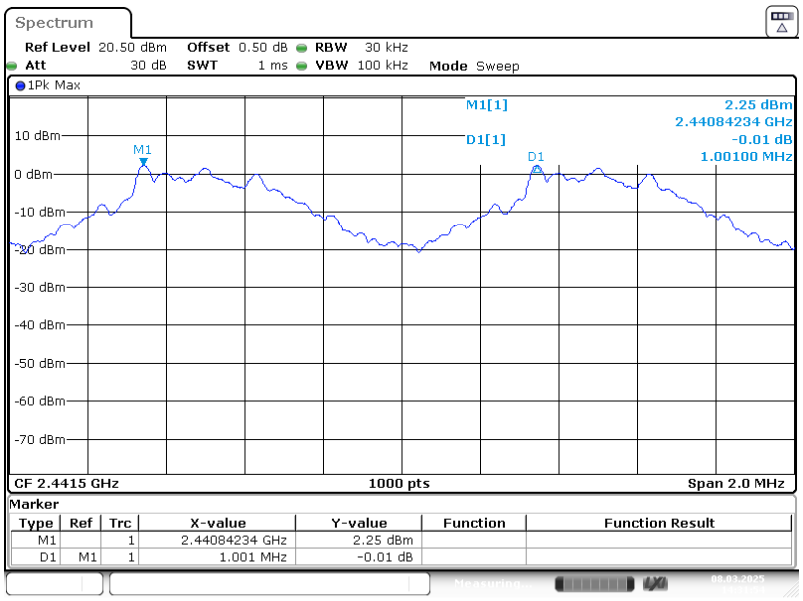
Note:
1. Limit = 20 dB bandwidth*2/3
2. Only BDR(GFSK) mode result is reported since EDR(π/4-DQPSK) has the same channel plan.

BDR (GFSK): Low Channel



ProjectNo.:2507R19540E-RF Tester:Braylon Ma
Date: 8.MAR.2025 14:31:00

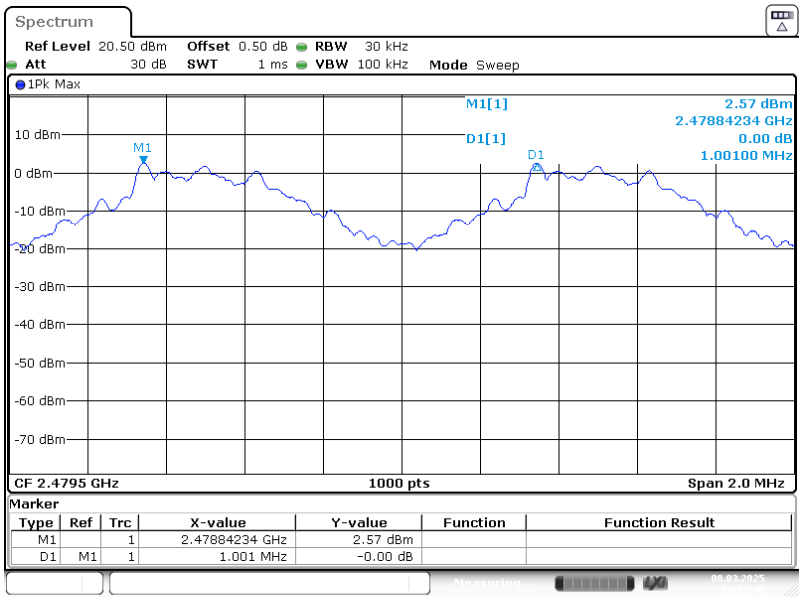
BDR (GFSK): Middle Channel



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 14:31:54

BDR (GFSK): High Channel



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

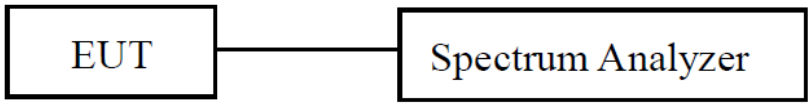
Date: 8.MAR.2025 14:32:45

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

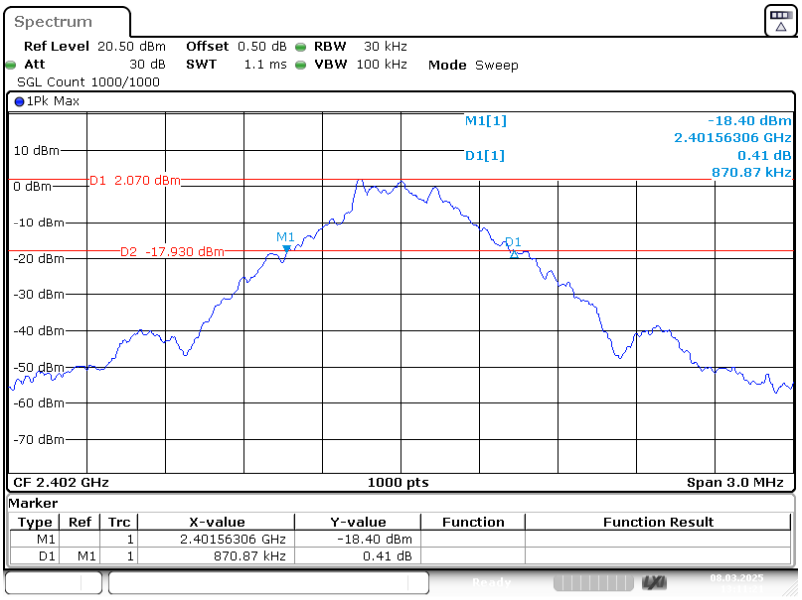
a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW.
b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video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

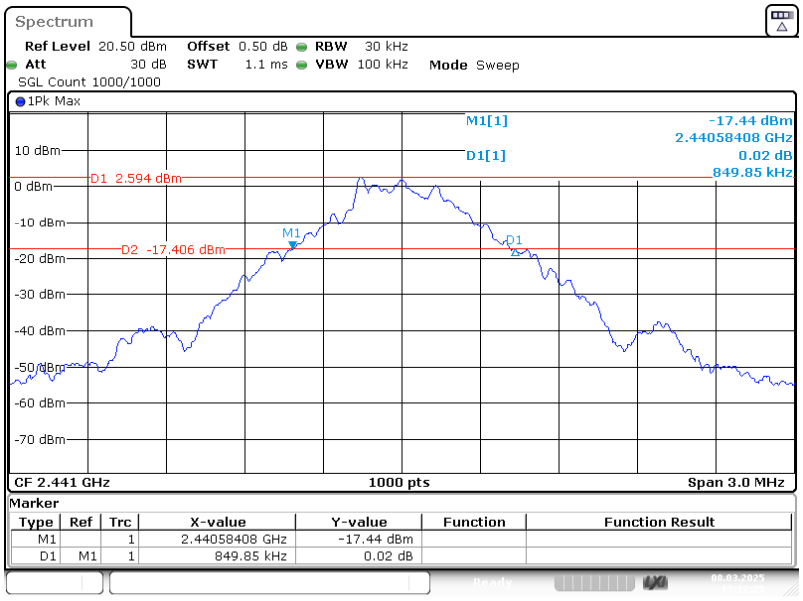
Test Mode:	Transmitting	Test Engineer:	Braylon Ma
Test Date:	2025-03-08	Environment:	Temp.: 22.1℃ Humi.:49% Atm:100.3kPa
Mode	**Channel**	**Frequency (MHz)**	**20 dB Emission Bandwidth (MHz)**
BDR (GFSK)	Low	2402	0.871
	Middle	2441	0.85
	High	2480	0.877
EDR (π/4-DQPSK)	Low	2402	1.249
	Middle	2441	1.252
	High	2480	1.246

Please refer to below plots:

BDR (GFSK): Low Channel



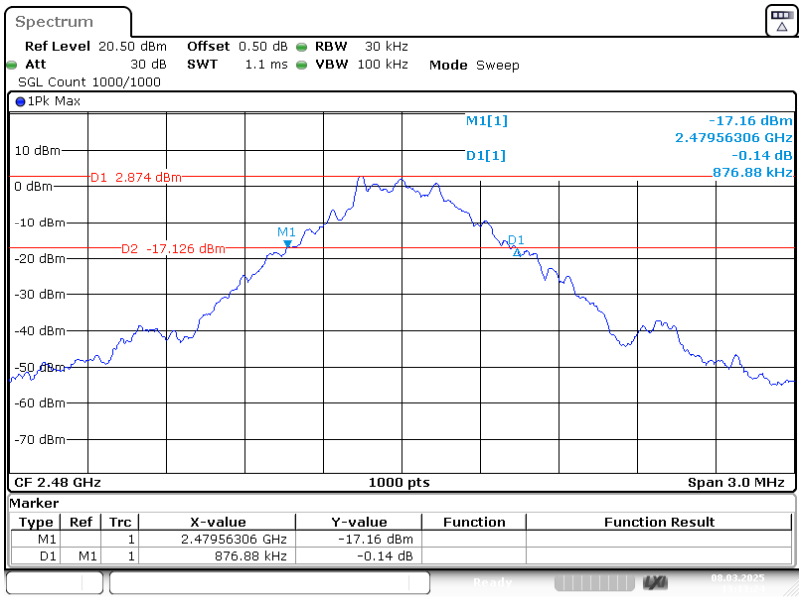
BDR (GFSK): Middle Channel



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 13:12:25

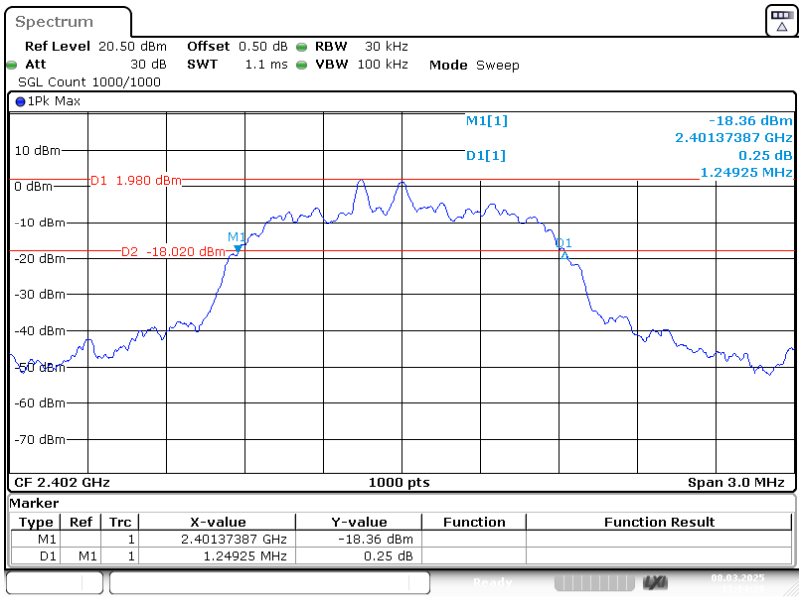
BDR (GFSK): High Channel



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 13:13:24

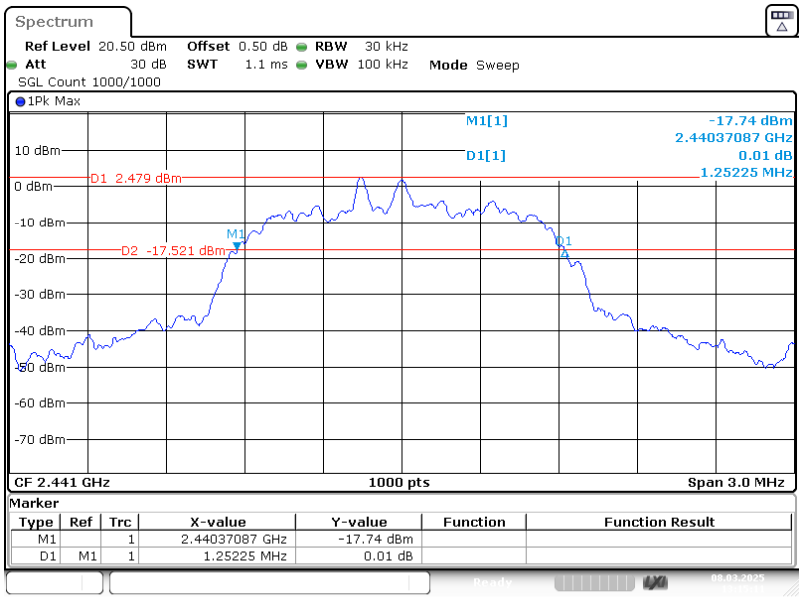
EDR (π/4-DQPSK): Low Channel



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 13:14:20

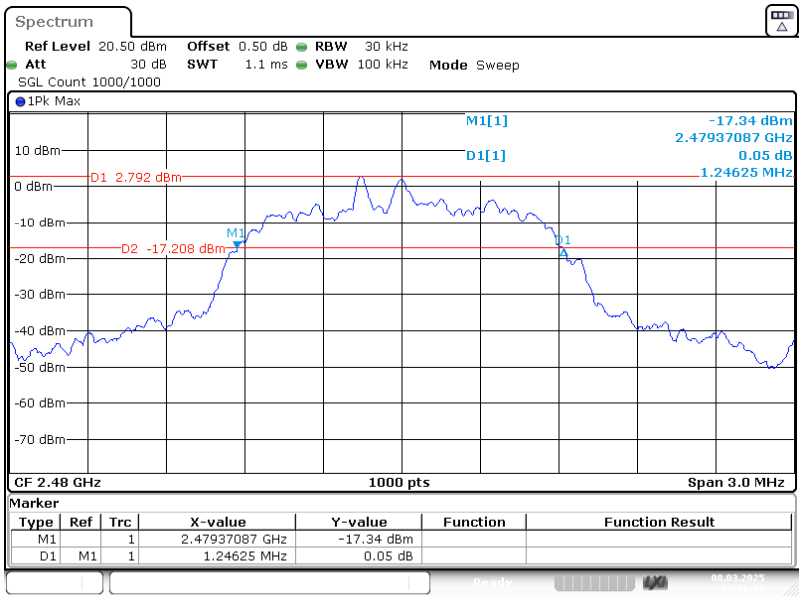
EDR(π/4-DQPSK): Middle Channel



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 13:15:10

EDR (π/4-DQPSK): High Channel



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

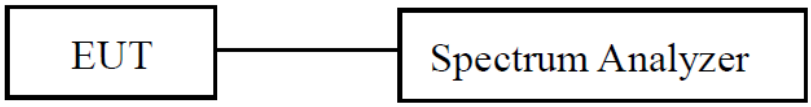
Date: 8.MAR.2025 13:16:01

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

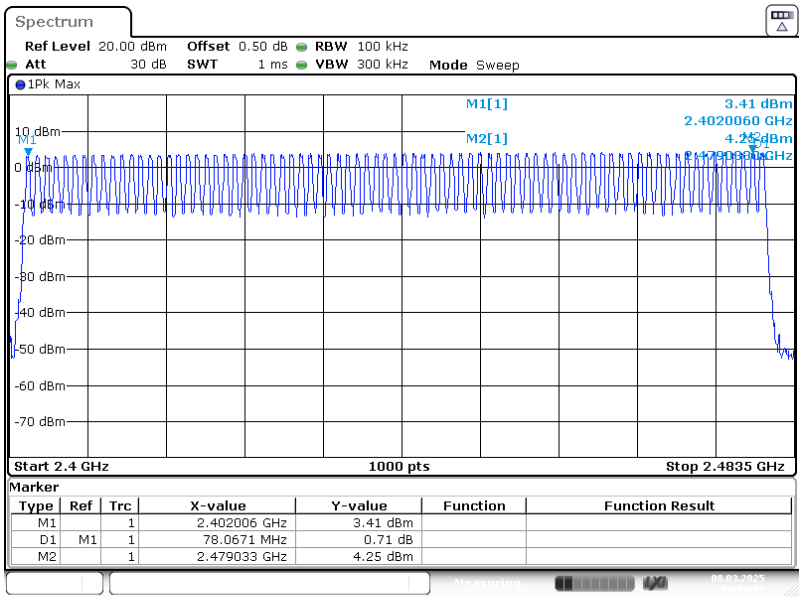
According to ANSI C63.10-2013 Section 7.8.3

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.

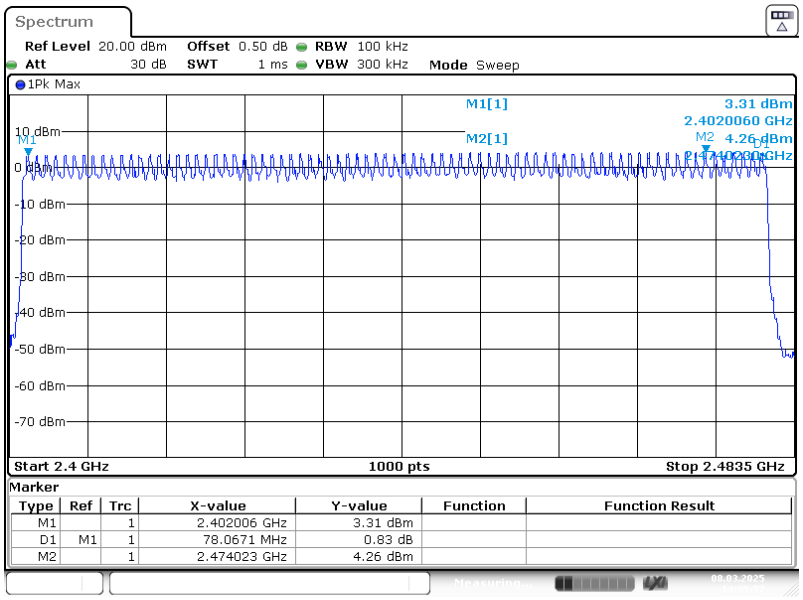
Test Data

Test Mode:	Transmitting	Test Engineer:	Braylon Ma
Test Date:	2025-03-08	Environment:	Temp.: 22.1℃ Humi.:49% Atm:100.3kPa
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

BDR (GFSK): Number of Hopping Channels



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



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

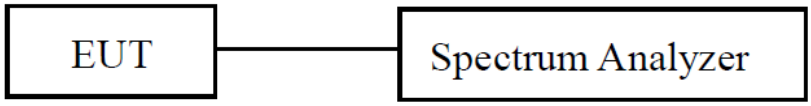
Date: 8.MAR.2025 14:35:57

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.

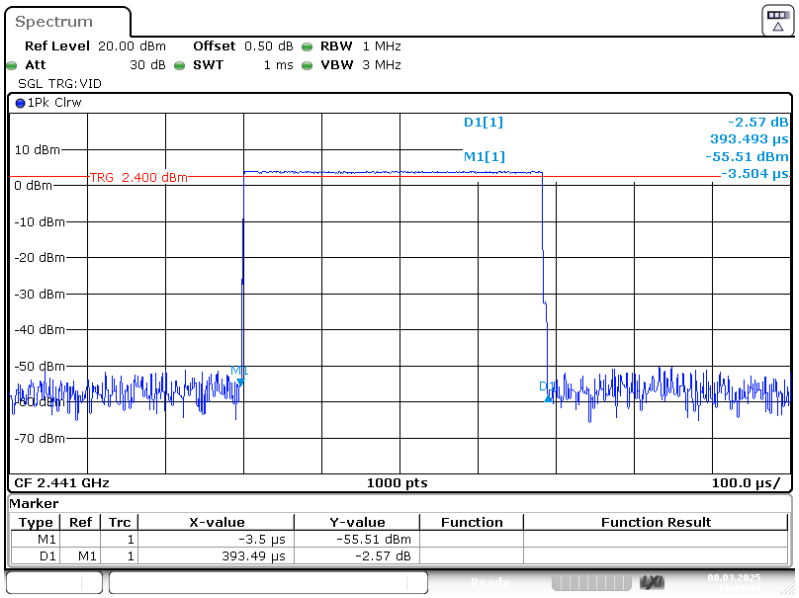
Test Data

Test Mode:	Transmitting	Test Engineer:	Braylon Ma
Test Date:	2025-03-08	Environment:	Temp.: 22.1℃ Humi.:49% Atm:100.3kPa

Mode		Channel	Pulse Width (ms)	Dwell Time (s)	Limit (s)	Result
BDR (GFSK)	DH1	Hopping	0.393	0.126	0.400	Pass
	DH3	Hopping	1.660	0.266	0.400	Pass
	DH5	Hopping	2.905	0.310	0.400	Pass
EDR (π/4-DQPSK)	2DH1	Hopping	0.405	0.130	0.400	Pass
	2DH3	Hopping	1.659	0.265	0.400	Pass
	2DH5	Hopping	2.918	0.311	0.400	Pass

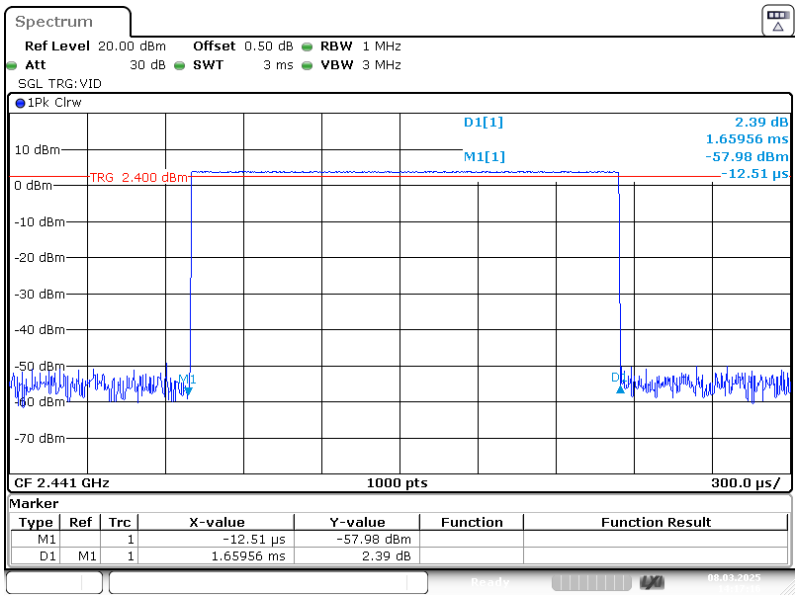
Note:
DH1, 2DH1:Dwell time=Pulse time (ms) × (1600/2/79) ×31.6 s
DH3, 2DH3:Dwell time=Pulse time (ms) × (1600/4/79) ×31.6 s
DH5, 2DH5:Dwell time=Pulse time (ms) × (1600/6/79) ×31.6 s

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



ProjectNo.:2507R19540E-RF Tester:Braylon Ma
Date: 8.MAR.2025 14:15:51

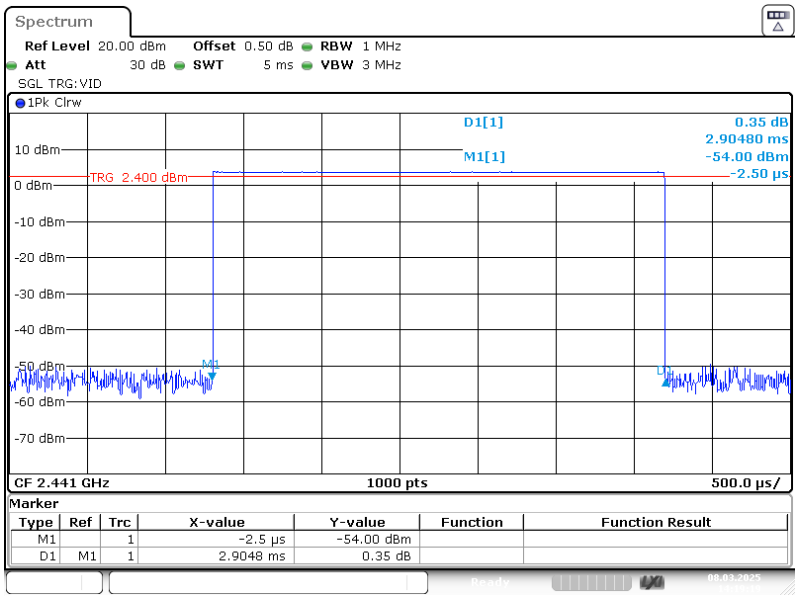
BDR (GFSK): Pulse time, Middle Channel, DH3



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 14:17:16

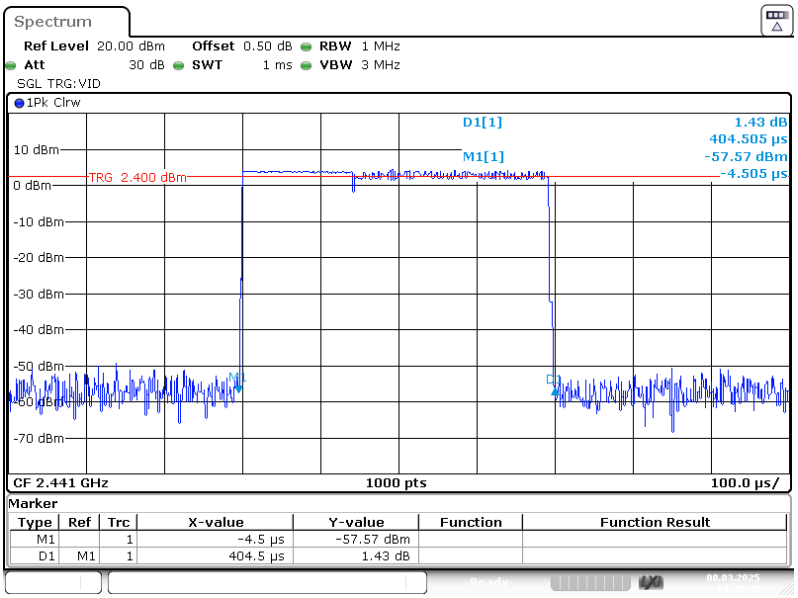
BDR (GFSK): Pulse time, Middle Channel, DH5



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 14:19:18

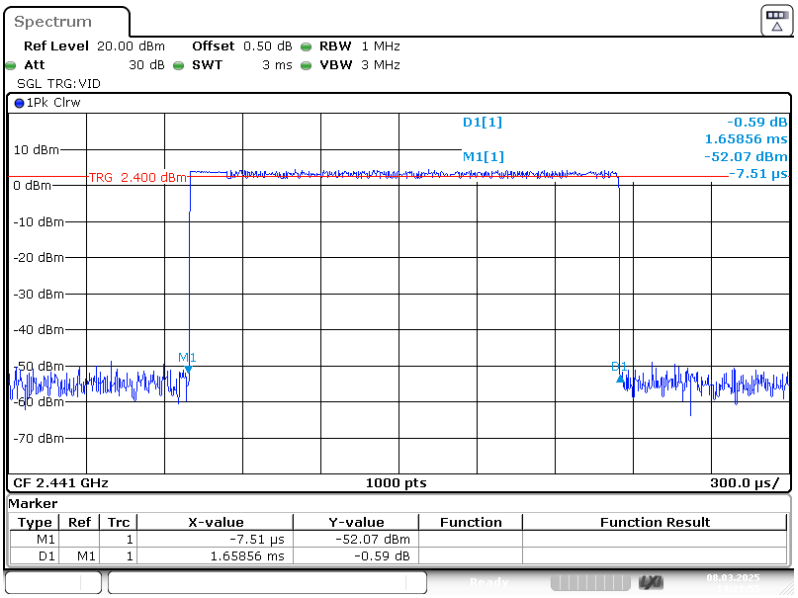
EDR (π/4-DQPSK): Pulse time, Middle Channel, 2DH1



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 14:20:47

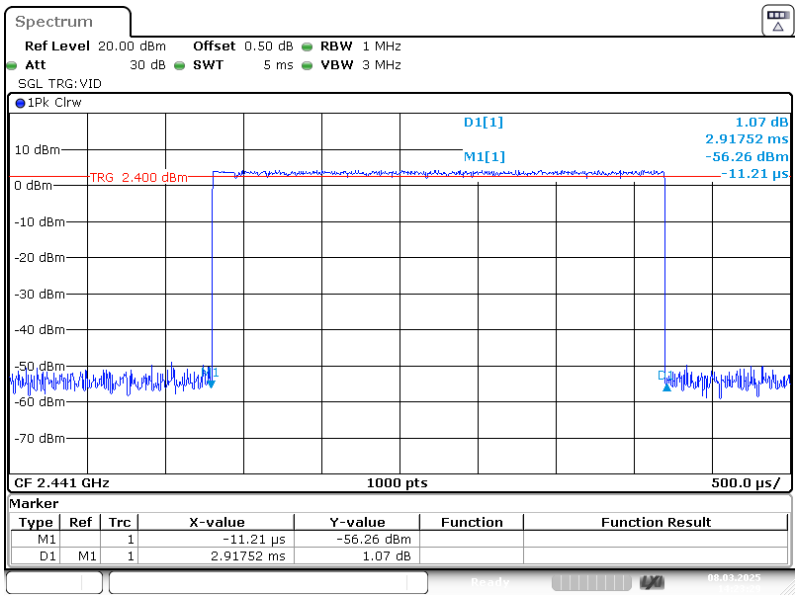
EDR (π/4-DQPSK):Pulse time, Middle Channel, 2DH3



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 14:21:55

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



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

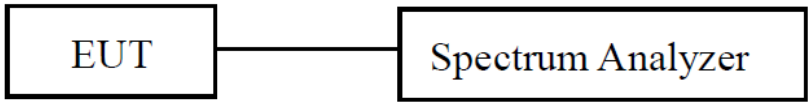
Date: 8.MAR.2025 14:23:29

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

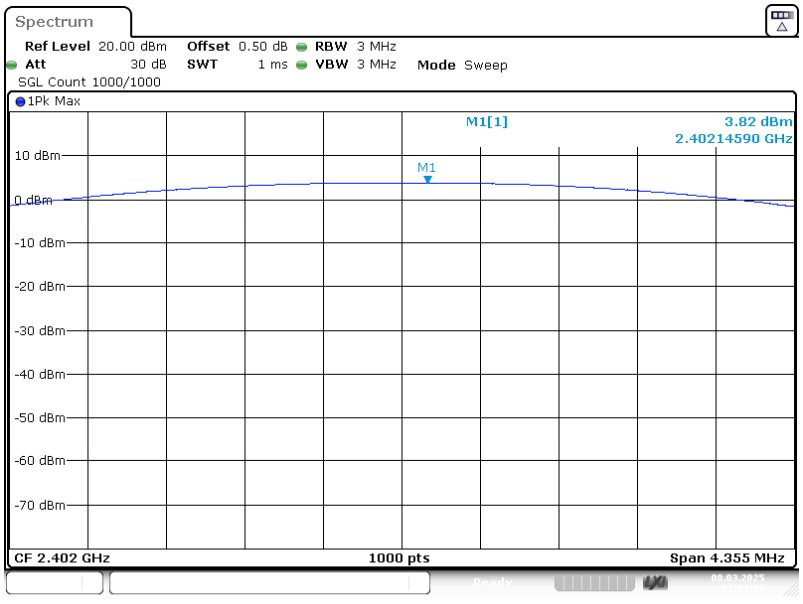
This is an RF-conducted test to evaluate maximum peak output power. Use a direct connection between the antenna port of the unlicensed wireless device and the spectrum analyzer, through suitable attenuation, Offset the Insertion loss of the RF cable, DC Block/ Attenuator into the spectrum analyzer.
The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

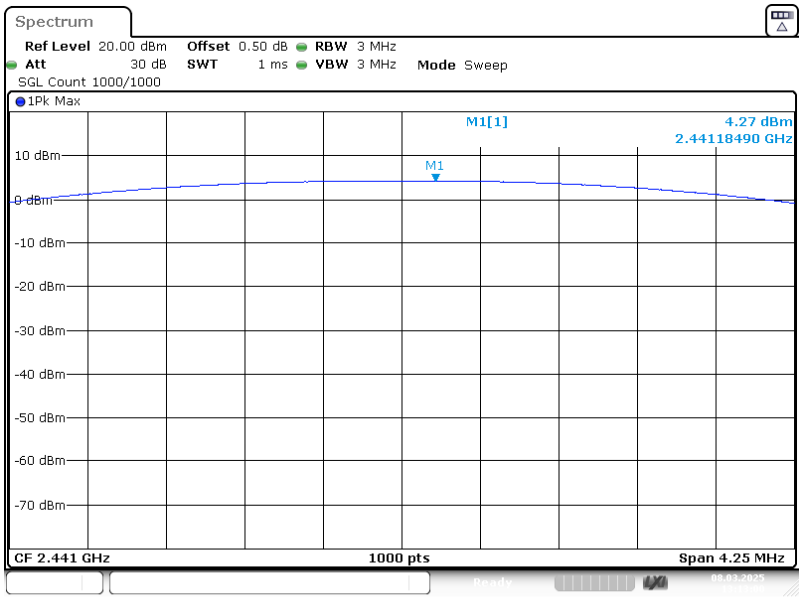
Test Mode:	Transmitting	Test Engineer:	Braylon Ma
Test Date:	2025-03-08	Environment:	Temp.: 22.1℃ Humi.:49% Atm:100.3kPa
Mode	**Frequency (MHz)**	**Peak Conducted Output Power (dBm)**	**Limit (dBm)**
BDR (GFSK)	2402	3.82	21
	2441	4.27	21
	2480	4.54	21
EDR (π/4-DQPSK)	2402	4.5	21
	2441	4.95	21
	2480	5.22	21

Please refet to below plots:

BDR (GFSK): 2402MHz

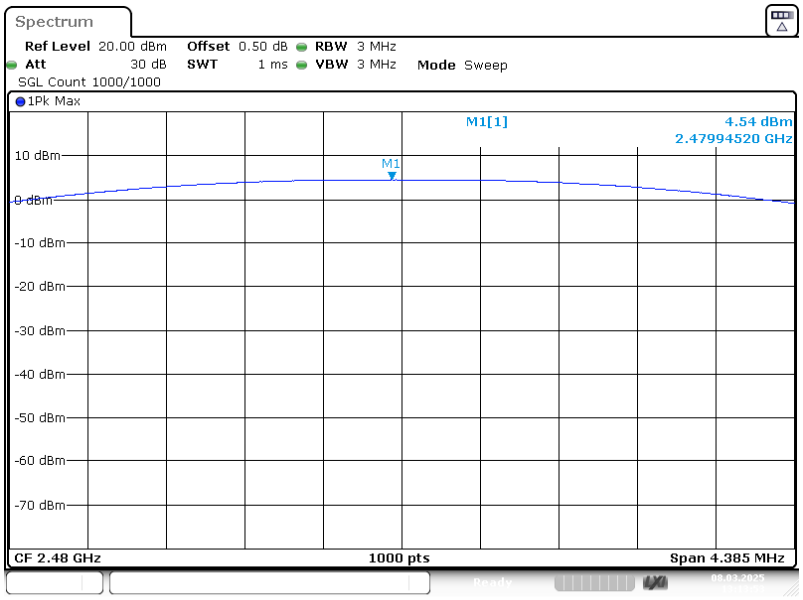


BDR (GFSK): 2441MHz



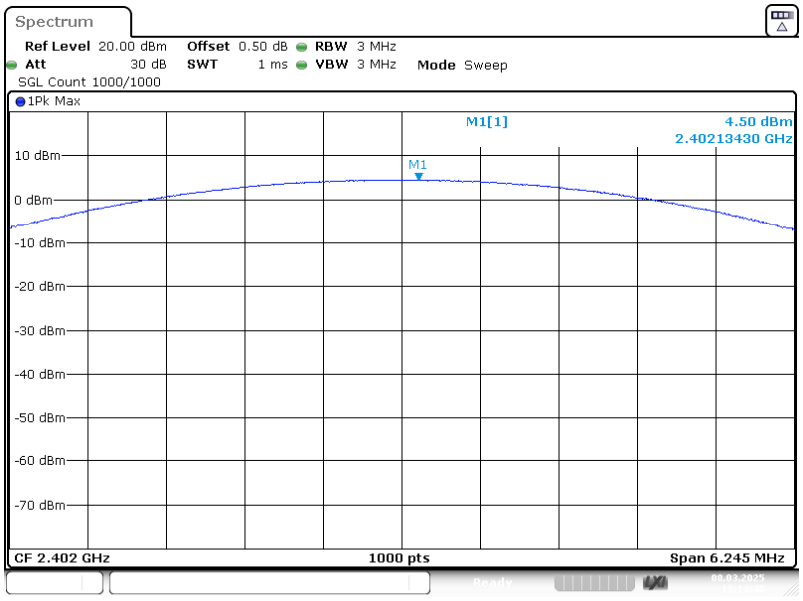
ProjectNo.:2507R19540E-RF Tester:Braylon Ma
Date: 8.MAR.2025 13:13:00

BDR (GFSK): 2480MHz



ProjectNo.:2507R19540E-RF Tester:Braylon Ma
Date: 8.MAR.2025 13:13:53

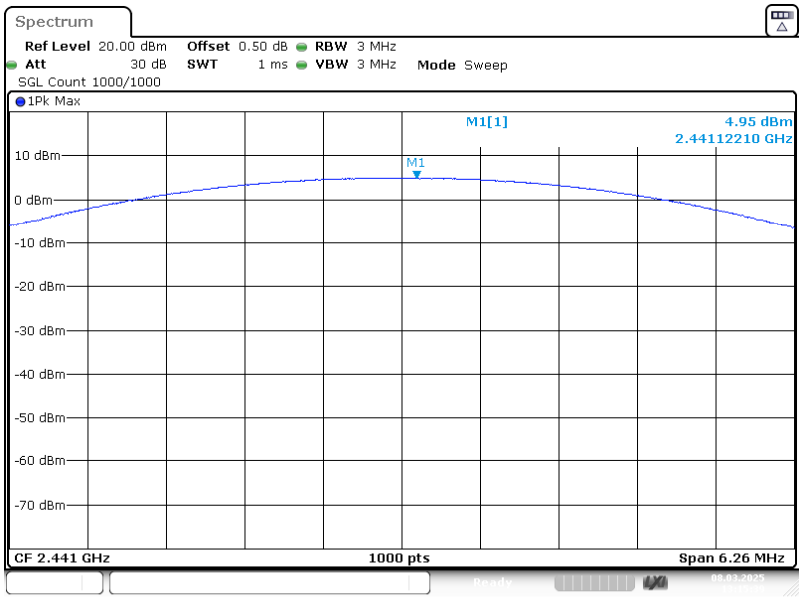
EDR(π/4-DQPSK): 2402MHz



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 13:14:48

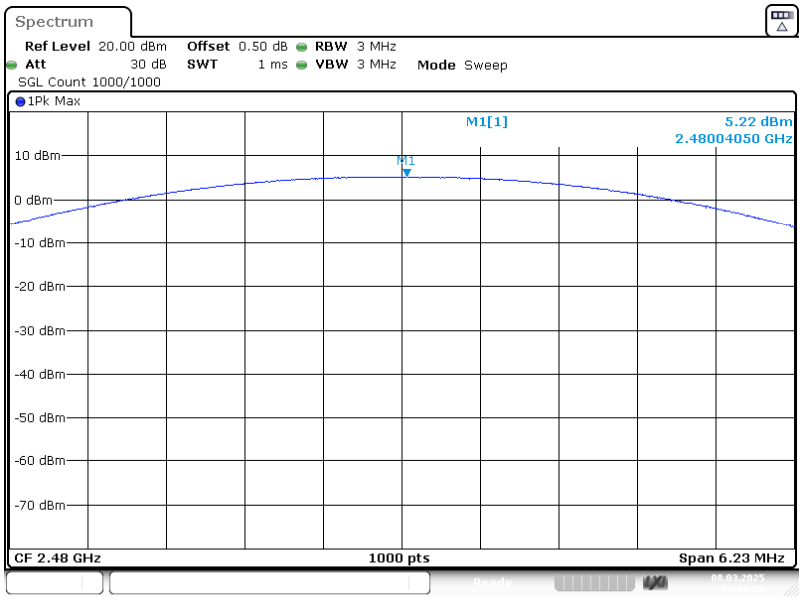
EDR(π/4-DQPSK): 2441MHz



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 13:15:39

EDR(π/4-DQPSK): 2480MHz



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

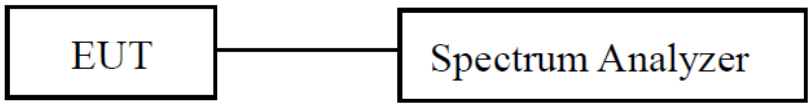
Date: 8.MAR.2025 13:16:29

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.

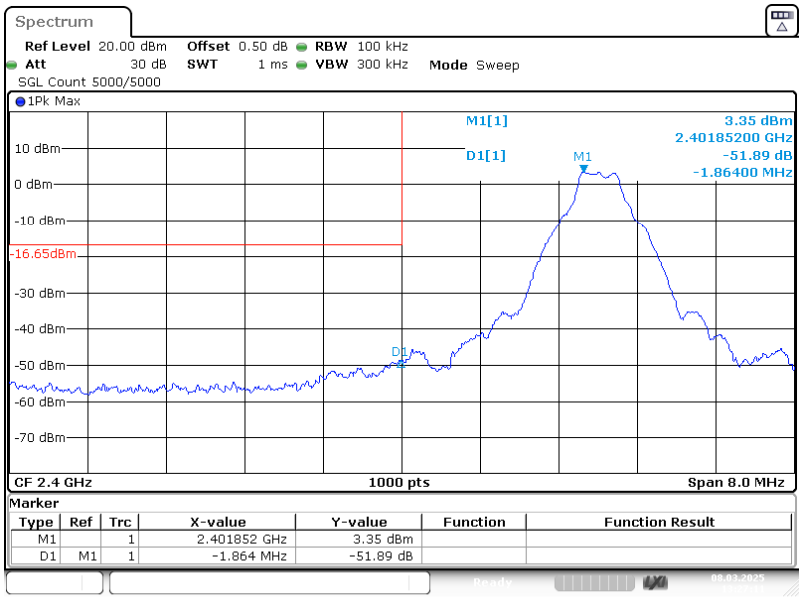
Test Data

Test Mode:	Transmitting	Test Engineer:	Braylon Ma
Test Date:	2025-03-08	Environment:	Temp.: 22.1℃ Humi.:49% Atm:100.3kPa

Please refer to the below plots:

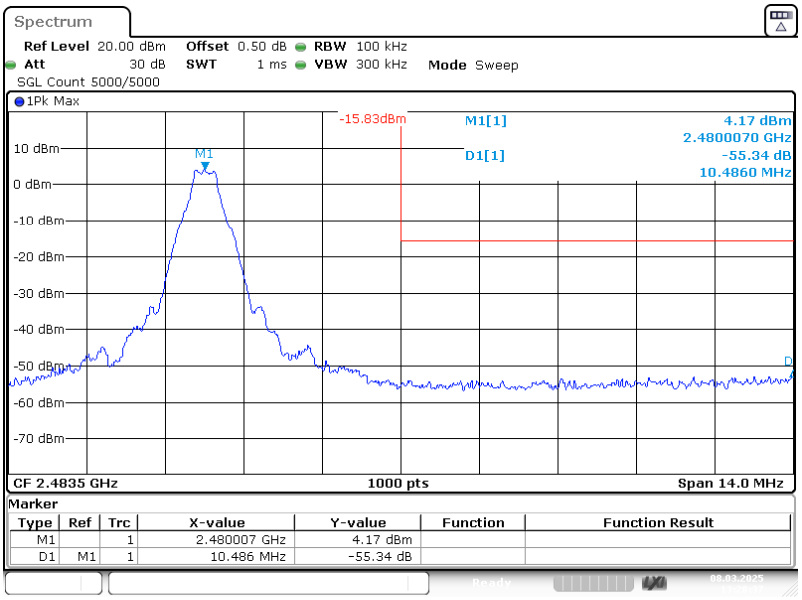
Band Edge

BDR (GFSK): Left Side



ProjectNo.:2507R19540E-RF Tester:Braylon Ma
Date: 8.MAR.2025 13:27:12

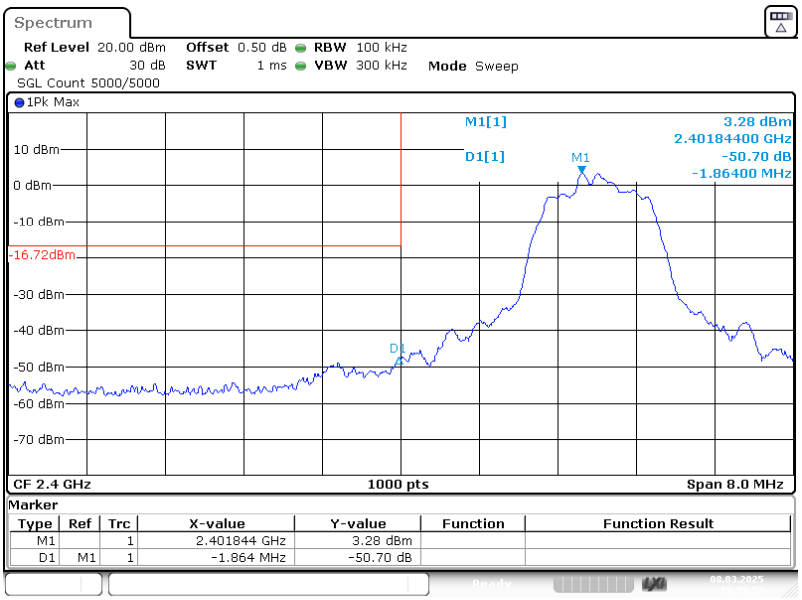
BDR (GFSK): Right Side



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 13:28:38

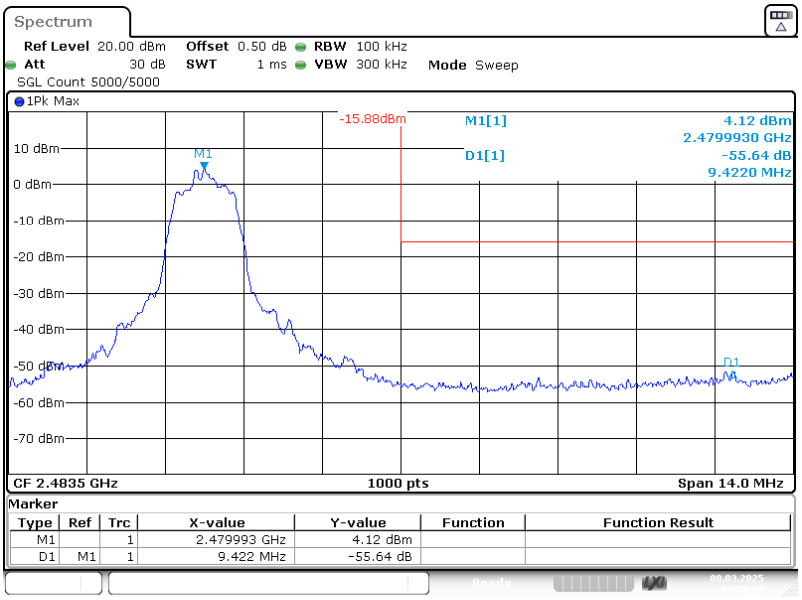
EDR (π/4-DQPSK): Left Side



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 13:33:53

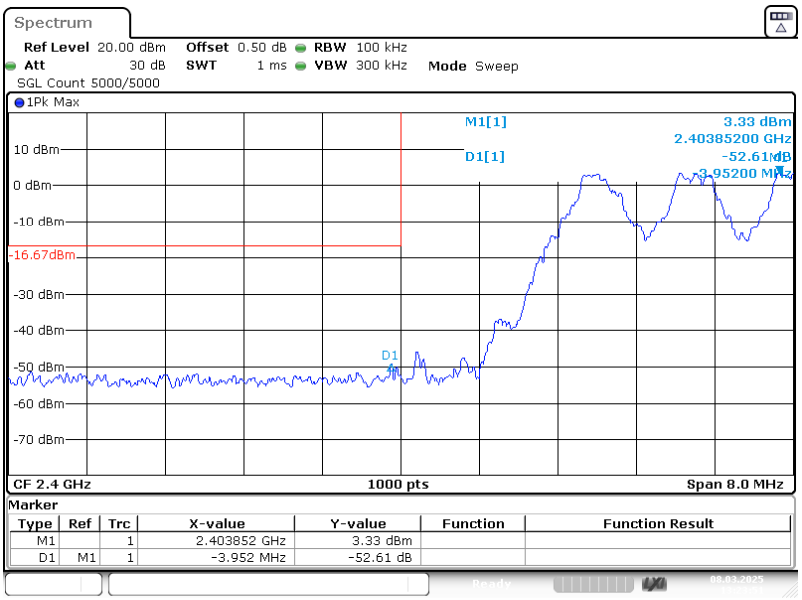
EDR (π/4-DQPSK): Right Side



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 13:35:17

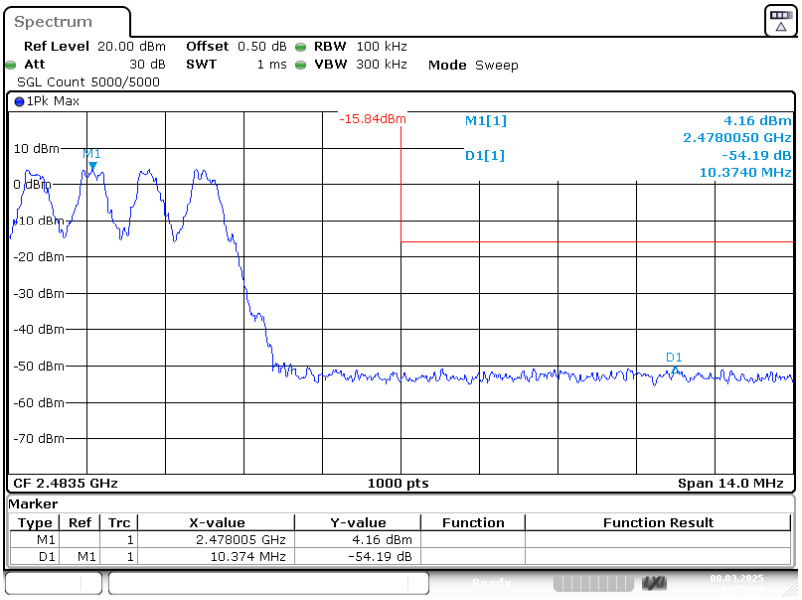
BDR (GFSK): Left Side - Hopping



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 13:23:51

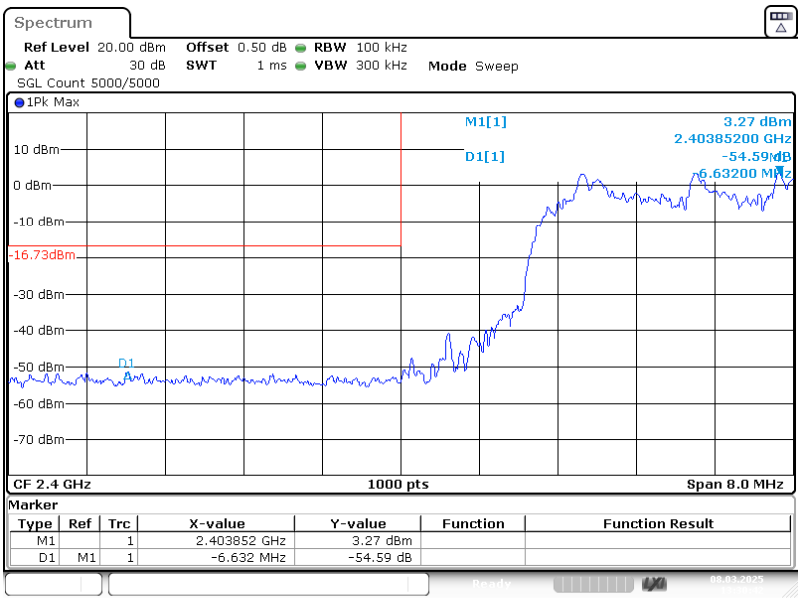
BDR (GFSK): Right Side - Hopping



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 13:25:09

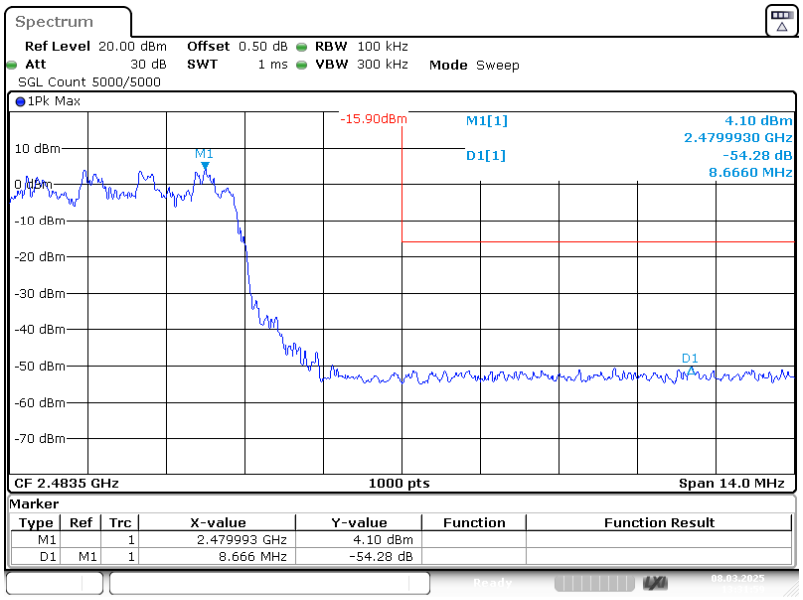
EDR (π/4-DQPSK): Left Side - Hopping



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 13:30:43

EDR (π/4-DQPSK): Right Side - Hopping



ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 13:32:00

EUT PHOTOGRAPHS

Please refer to the attachment 2507R19540E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2507R19540E-RF-INP EUT INTERNAL PHOTOGRAPHS.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2507R19540E-RF-TSP 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 *******