





# 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:** Wireless Speaker Microphone Original Report **Report Number:** 2507R19540E-RF-02 **Report Date:** 2025-05-19 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-02	R1V1	2025-05-19	Initial Release

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#### **GENERAL INFORMATION**

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

Applicant:	Quanzhou KST Electronics Co., Limited
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 Conducted Output Peak Power:	-1.72dBm
Frequency Range:	2402~2480MHz
Modulation Technique:	GFSK
Antenna Type:	PCB
★Maximum Antenna Gain:	0dBi
EUT Received Status:	Good

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#### 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 report is prepared on behalf of *Quanzhou KST Electronics Co., Limited* in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communication Commission's rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and 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.

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#### **Measurement Uncertainty**

Item		$U_{ m lab}$
Conducted Emission	150kHz-30MHz	2.45dB
	9kHz-150 kHz	2.82dB
	150kHz-30MHz	2.74dB
	30MHz~200MHz	3.47dB
Radiated Emission	200MHz~1GHz	4.86dB
	1GHz~6GHz	4.88dB
	6GHz-18GHz	4.95dB
	18GHz~40GHz	4.45dB
Occupied Channel Bandwidth	2%	
Transmitter Conducted Power(Conducted RF power)		±1.49 dB
Conducted Spurious Emission		±2.92 dB
Power Spectral Density		±0.61dB
Duty Cycle		1%
Temperature		±1°C
Humidity		±5%
Supply voltages		$\pm 0.4\%$

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

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# 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: 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.		

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# **Description of Test Configuration**

For BLE mode, 40 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	20	2442
1	2404	21	2444
2	2406	22	2446
3	2408	23	2448
4	2410	24	2450
5	2412	25	2452
6	2414	26	2454
7	2416	27	2456
8	2418	28	2458
9	2420	29	2460
10	2422	30	2462
11	2424	31	2464
12	2426	32	2466
13	2428	33	2468
14	2430	34	2470
15	2432	35	2472
16	2434	36	2474
17	2436	37	2476
18	2438	38	2478
19	2440	39	2480

EUT was tested with Channel 0, 19 and 39.

#### **Equipment Modifications**

No modification was made to the EUT tested.

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#### **★**EUT Exercise Software

RF Test Tool: FCC assist 1.1.3

Mada	Power level Low channel Middle channel High channel		
Mode			
BLE 1Mbps	default	default	default

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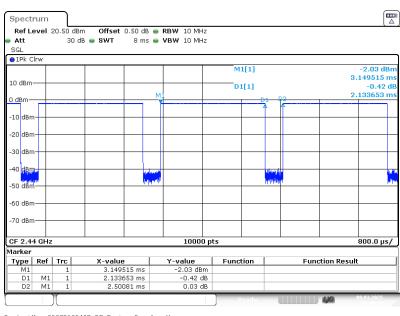
Note: the applicant declared the power level.

#### **Duty cycle**

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

<b>Test Modes</b>	Test Frequency (MHz)	Ton (ms)	Ton+off (ms)	Duty cycle (%)	1/T (Hz)	VBW Setting (kHz)
BLE 1Mbps	2440	2.134	2.501	85.33	469	0.50

### **BLE 1Mbps: Middle Channel**



ProjectNo.:2507R19540E-RF Tester:Braylon Ma Date: 8.MAR.2025 14:46:35

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# **Support Equipment List and Details**

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

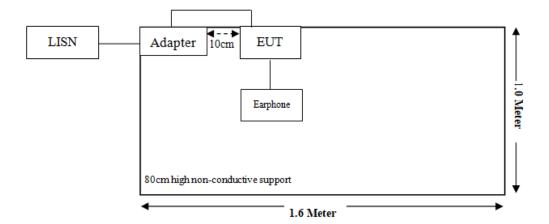
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#### **External I/O Cable**

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

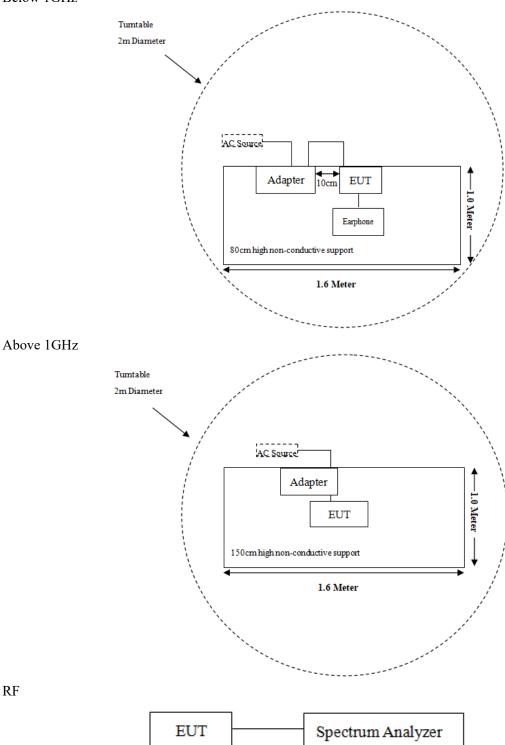
# **Block Diagram of Test Setup**

Conducted Emission:



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#### Radiated Emission Below 1GHz



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

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# SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliant
§15.207(a)	AC Line Conducted Emissions	Compliant
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliant
§15.247(a)(2)	6 dB Emission Bandwidth	Compliant
§15.247(b)(3)	Maximum Conducted Output Power	Compliant
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliant
§15.247(e)	Power Spectral Density	Compliant

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# TEST EQUIPMENT LIST

Test Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
		Conducted Emis	sions		
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
	Radia	ted Emissions B	elow 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
	Radia	ted Emissions Al	oove 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

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<sup>\*</sup> 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 § 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 user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

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- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.

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 arrangement for BLE, which was permanently attached and the antenna gain is 0dBi, fulfill the requirement of this section. Please refer to the EUT photos.

**Result: Compliant** 

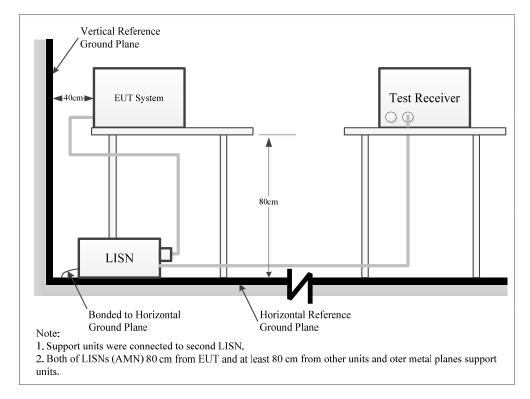
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# FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

#### **Applicable Standard**

FCC§15.207

#### **EUT Setup**



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The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

#### **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		

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#### **Test Procedure**

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.

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

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

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

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

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

#### **Test Data**

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

Note: The maximum output power mode: BLE High channel was tested.

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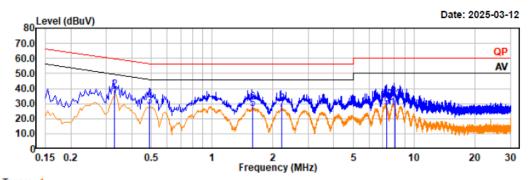
Project No.: 2507R19540E-RF Test Mode: BLE 1M 2480MHz

EUT Model: WM500

Temp/Humi/ATM: 22.8°C/56%/100.1kPa Tested by: Wlif Wu

Report No.: 2507R19540E-RF-02

Power Source: AC 120V/60Hz



Condition: IF B/W 9kHz PK/AV

Freq MHz	Reading dBuV	Factor dB	Result dBuV	Limit dBuV	Margin dB	Phase	Remark
0.33	3.65	30.96	34.61	49.51	14.90	Line	Average
0.33	8.22	30.96	39.18	59.51	20.33	Line	QP
0.49	-2.81	30.71	27.90	46.13	18.23	Line	Average
0.49	2.58	30.71	33.29	56.13	22.84	Line	QP
1.58	-5.61	32.19	26.58	46.00	19.42	Line	Average
1.58	-1.40	32.19	30.79	56.00	25.21	Line	QP
2.21	-6.51	32.19	25.68	46.00	20.32	Line	Average
2.21	-2.18	32.19	30.01	56.00	25.99	Line	QP
7.29	-4.51	32.06	27.55	50.00	22.45	Line	Average
7.29	0.53	32.06	32.59	60.00	27.41	Line	QP
8.04	-4.64	31.75	27.11	50.00	22.89	Line	Average
8.04	0.75	31.75	32.50	60.00	27.50	Line	QP

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Test Mode: BLE 1M 2480MHz

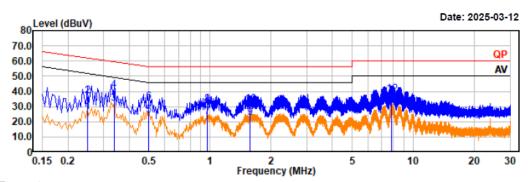
EUT Model: WM500

Temp/Humi/ATM: 22.8℃/56%/100.1kPa

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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
0.25	-4.87	31.23	26.36	51.72	25.36	Neutral	
0.25	5.96	31.23	37.19	61.72	24.53	Neutral	
0.34	0.80	31.04	31.84	49.28	17.44	Neutral	Average
0.34	10.05	31.04	41.09	59.28	18.19	Neutral	QP
0.50	-6.54	30.79	24.25	46.00	21.75	Neutral	Average
0.50	2.22	30.79	33.01	56.00	22.99	Neutral	QP
0.97	-8.63	31.84	23.21	46.00	22.79	Neutral	Average
0.97	-0.21	31.84	31.63	56.00	24.37	Neutral	QP
1.57	-9.31	32.13	22.82	46.00	23.18	Neutral	Average
1.57	-0.68	32.13	31.45	56.00	24.55	Neutral	QP
7.84	-3.66	31.83	28.17	50.00	21.83	Neutral	Average
7.84	6.12	31.83	37.95	60.00	22.05	Neutral	QP

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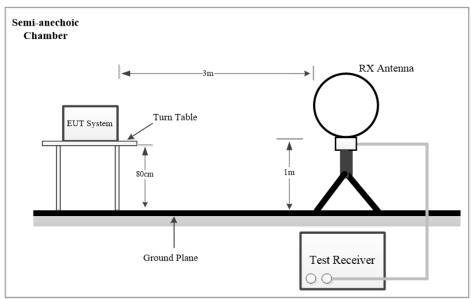
# FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

### **Applicable Standard**

FCC §15.247 (d); §15.209; §15.205;

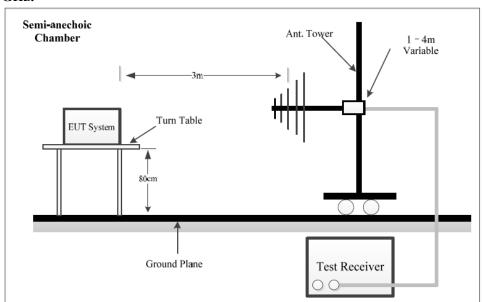
#### **EUT Setup**

#### 9 kHz-30MHz:



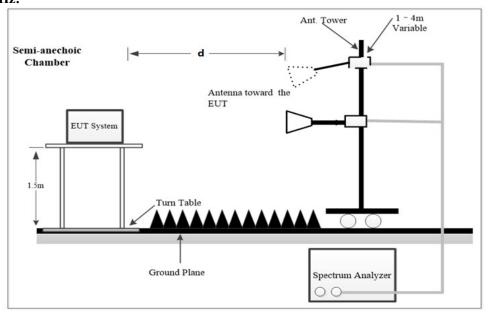
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#### 30MHz -1 GHz:



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#### Above 1GHz:



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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 1.5m 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= 6dB

#### **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 were set with the following configurations:

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#### Below 1GHz:

Frequency Range	RBW	VBW	Measurement
9 kHz – 150 kHz	300Hz	1 kHz	PK
9 KHZ – 130 KHZ	200Hz	/	QP
150111 20141	10 kHz	30 kHz	PK
150 kHz – 30 MHz	9kHz	/	QP
20 MH - 1000 MH-	100 kHz	300 kHz	PK
30 MHz – 1000 MHz	120kHz	/	QP

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#### Above 1GHz:

#### Pre-scan:

<b>Duty Cycle</b>	RBW	VBW	Measurement	Detector
Any	1MHz	3MHz	PK	PK
>98%	1MHz	5kHz	AV	PK
<98%	1MHz	1/T, not less than 5kHz	AV	PK

Final measurement for emission identified during the pre-scan:

<b>Duty Cycle</b>	RBW	VBW	Measurement	Detector
Any	1MHz	3MHz	PK	PK
>98%	1MHz	10Hz	AV	PK
<98%	1MHz	1/T	AV	PK

Note: T is minimum transmission duration

#### **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

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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)

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Extrapolation factor=6dB (distance=1.5m)

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

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

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

#### **Test Data**

Please refer to the below table and plots.

Frequency Range:	Below 1 GHz	Above 1 GHz
Temperature:	23.1℃	23.1℃
Relative Humidity:	49 %	49 %
ATM Pressure:	100.1kPa	100.1kPa
Test Date:	2025-03-12	2025-03-12
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.

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#### 1) 9 kHz~30MHz

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

Report No.: 2507R19540E-RF-02

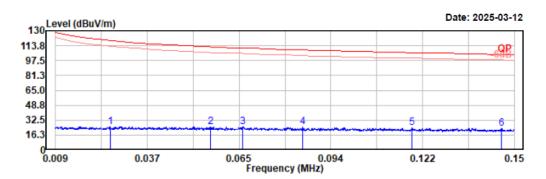
Note: The maximum output power mode: BLE High channel was tested.

Project No.: 2507R19540E-RF Temp/Humi/ATM: 23.1°C/49%/100.1kPa

Test Mode: BLE 1M 2480MHz Tested by: Wlif Wu

EUT Model: WM500 Power Source: AC 120V/60Hz

Test distance: 3m



Condition:	PK RBW:300H	z VBW:1kH	z SWT:auto	)		
Freq	Reading	Factor	Result	Limit	Margin	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
0.026	5.57	19.87	25.44	119.40	93.96	Peak
0.057	5.33	19.91	25.24	112.54	87.30	Peak
0.067	5.52	19.84	25.36	111.15	85.79	Peak
0.085	5.71	19.76	25.47	109.03	83.56	Peak
0.119	4.58	19.73	24.31	106.13	81.82	Peak
0.146	3.95	19.73	23.68	104.32	80.64	Peak

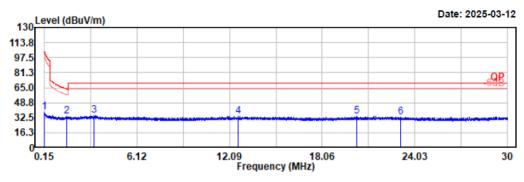
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Report No.: 2507R19540E-RF-02

Temp/Humi/ATM: 23.1  $^{\circ}$  /49%/100.1kPa Tested by: Wlif Wu Project No.:2507R19540E-RF

Test Mode: BLE 1M 2480MHz

EUT Model: WM500 Power Source:AC 120V/60Hz Test distance: 3m



Condition:	PK RBW:10	kHz VBW:30k	κΗz SWT:aι	ıto		
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Remark
0.162	18.51	19.72	38.23	103.42	65.19	Peak
1.574	14.50	19.64	34.14	63.67	29.53	Peak
3.350	14.81	19.82	34.63	69.54	34.91	Peak
12.645	14.10	19.73	33.83	69.54	35.71	Peak
20.263	13.87	20.10	33.97	69.54	35.57	Peak
23.132	13.38	20.17	33.55	69.54	35.99	Peak

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# 2) 30MHz-1GHz

Note: The maximum output power mode: BLE High channel was tested.

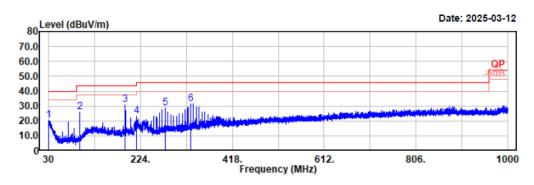
Project No.: 2507R19540E-RF Temp/Humi/ATM: 23.1°C/49%/100.1kPa

Report No.: 2507R19540E-RF-02

Test Mode: BLE 1M 2480MHz Tested by: Wlif Wu

EUT Model: WM500 Power Source: AC 120V/60Hz

Test distance: 3m



	kHz VBW:30	00kHz SWT:				
	Factor	Result		Margin	Polarity	Remark
aBuv	aB/m	aBuv/m	aBuv/m	ав		
25.89	-5.68	20.21	40.00	19.79	Horizontal	Peak
41.90	-16.13	25.77	43.50	17.73	Horizontal	Peak
43.33	-12.17	31.16	43.50	12.34	Horizontal	Peak
36.13	-12.69	23.44	43.50	20.06	Horizontal	Peak
38.35	-9.57	28.78	46.00	17.22	Horizontal	Peak
40.21	-8.61	31.60	46.00	14.40	Horizontal	Peak
	Reading dBuV  25.89 41.90 43.33 36.13 38.35	Reading dBuV dB/m  25.89 -5.68 41.90 -16.13 43.33 -12.17 36.13 -12.69 38.35 -9.57	Reading dBuV dB/m dBuV/m  25.89 -5.68 20.21 41.90 -16.13 25.77 43.33 -12.17 31.16 36.13 -12.69 23.44 38.35 -9.57 28.78	dBuV dB/m dBuV/m dBuV/m  25.89 -5.68 20.21 40.00 41.90 -16.13 25.77 43.50 43.33 -12.17 31.16 43.50 36.13 -12.69 23.44 43.50 38.35 -9.57 28.78 46.00	Reading dBuV Result Limit dBuV/m dB Result dBuV/m dB Resu	Reading dBuV Result Limit dBuV/m dB Polarity dBuV dBuV/m dBuV/m dB Polarity dBuV/m dBuV/m dB Polarity dBuV/m dBuV/m dB Polarity dBuV/m dBuV/m dB Polarity dBuV/m dBuV/m dBuV/m dBuV/m dBuV/m dBuV/m dBuV/m dB Polarity dBuV/m dBuV/m dBuV/m dBuV/m dB Polarity dBuV/m dBuV/m dB Polarity dBuV/m dBuV/m dB Polarity dBuV/m dBuV/m dBuV/m dB Polarity dBuV/m dBuV/m dBuV/m dBuV/m dB Polarity dBuV/m dBuV/m dBuV/m dBuV/m dBuV/m dBuV/m dBuV/m dB Polarity dBuV/m dB

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Project No.: 2507R19540E-RF

Test Mode: BLE 1M 2480MHz

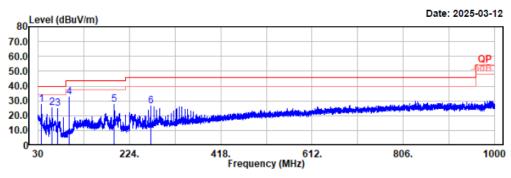
Temp/Humi/ATM: 23.1℃/49%/100.1kPa

Report No.: 2507R19540E-RF-02

Tested by: Wlif Wu

Power Source: AC 120V/60Hz

EUT Model: WM500 Test distance: 3m



Condition:	PK RBW:10	0kHz VBW:30					
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
35.92	36.03	-8.67	27.36	40.00	12.64	Vertical	Peak
59.97	43.11	-17.47	25.64	40.00	14.36	Vertical	Peak
72.00	41.81	-17.04	24.77	40.00	15.23	Vertical	Peak
95.96	48.83	-16.13	32.70	43.50	10.80	Vertical	Peak
191.99	39.74	-12.17	27.57	43.50	15.93	Vertical	Peak
269.98	36.35	-9.77	26.58	46.00	19.42	Vertical	Peak

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# 3) 1GHz~3GHz

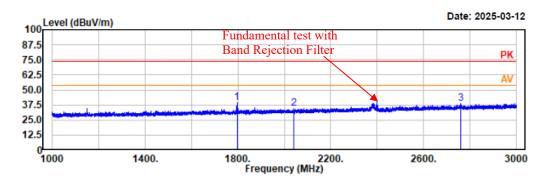
Project No.: 2507R19540E-RF Temp/Humi/ATM: 23.1℃/49%/100.1kPa

Report No.: 2507R19540E-RF-02

Test Mode: BLE 1M 2402MHz Tested by: Wlif Wu

EUT Model: WM500 Power Source: AC 120V/60Hz

Test distance: 3m



Condition	: PK RBW:	1MHz VBW:3N	4Hz SWT:au	to			
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1796.00	52.33	-13.24	39.09	74.00	34.91	horizontal	Peak
2041.40	47.04	-12.46	34.58	74.00	39.42	horizontal	Peak
2761.80	48.23	-9.90	38.33	74.00	35.67	horizontal	Peak

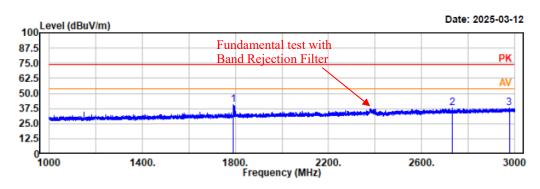
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Project No.: 2507R19540E-RF Temp/Humi/ATM: 23.1℃/49%/100.1kPa

Report No.: 2507R19540E-RF-02

Test Mode: BLE 1M 2402MHz Tested by: Wlif Wu

EUT Model: WM500 Power Source: AC 120V/60Hz Test distance: 3m



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		
1792.20	53.87	-13.26	40.61	74.00	33.39	vertical	Peak		
2731.20	48.12	-9.97	38.15	74.00	35.85	vertical	Peak		
2977.40	47.27	-9.06	38.21	74.00	35.79	vertical	Peak		

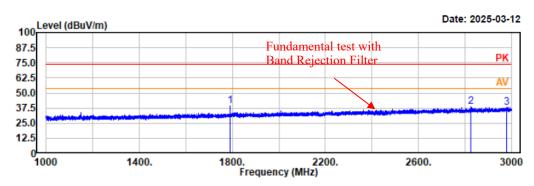
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Project No.: 2507R19540E-RF Temp/Humi/ATM: 23.1℃/49%/100.1kPa

Report No.: 2507R19540E-RF-02

Test Mode: BLE 1M 2440MHz Tested by: Wlif Wu

EUT Model: WM500 Power Source: AC 120V/60Hz Test distance: 3m



Condition	: PK RBW:	1MHz VBW:3N	∕Hz SWT:au	to			
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1792.00	52.32	-13.26	39.06	74.00	34.94	horizontal	Peak
2824.60	48.09	-9.70	38.39	74.00	35.61	horizontal	Peak
2978.00	46.88	-9.06	37.82	74.00	36.18	horizontal	Peak

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Project No.: 2507R19540E-RF

Test Mode: BLE 1M 2440MHz

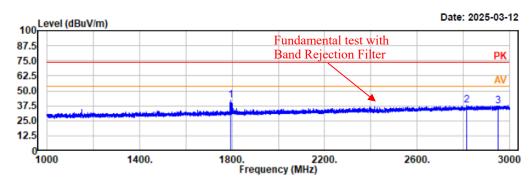
Temp/Humi/ATM: 23.1℃/49%/100.1kPa

Report No.: 2507R19540E-RF-02

Tested by: Wlif Wu

Power Source: AC 120V/60Hz

EUT Model: WM500 Test distance: 3m



Condition	n: PK RBW:	1MHz VBW:3	MHz SWT:au	ito			
Freq	Reading				Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1795.00	55.58	-13.25	42.33	74.00	31.67	vertical	Peak
2816.00	47.58	-9.74	37.84	74.00	36.16	vertical	Peak
2949.20	46.79	-9.21	37.58	74.00	36.42	vertical	Peak

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Project No.: 2507R19540E-RF

Test Mode: BLE 1M 2480MHz

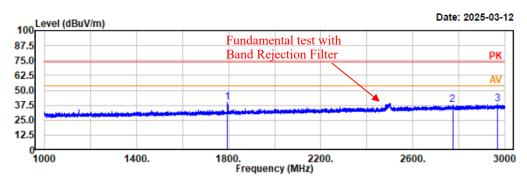
Temp/Humi/ATM: 23.1℃/49%/100.1kPa

Report No.: 2507R19540E-RF-02

Tested by: Wlif Wu

Power Source: AC 120V/60Hz

EUT Model: WM500 Test distance: 3m



Condition	n: PK RBW:	1MHz VBW:3	MHz SWT:au	ito			
Freq MHz	Reading dBuV	Factor dB/m		Limit dBuV/m	Margin dB	Polarity	Remark
MHZ	ивич	ив/ш	ubuv/III	ubuv/III	uв		
1792.80	53.00	-13.25	39.75	74.00	34.25	horizontal	Peak
2773.40	47.93	-9.87	38.06	74.00	35.94	horizontal	Peak
2970.00	47.57	-9.10	38.47	74.00	35.53	horizontal	Peak

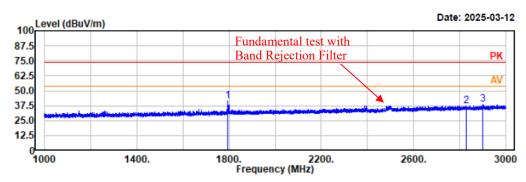
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Project No.: 2507R19540E-RF Temp/Humi/ATM: 23.1℃/49%/100.1kPa

Report No.: 2507R19540E-RF-02

Test Mode: BLE 1M 2480MHz Tested by: Wlif Wu

EUT Model: WM500 Power Source: AC 120V/60Hz Test distance: 3m



Condition	: PK RBW:	1MHz VBW:3/	MHz SWT:au	to			
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1795.60	54.61	-13.25	41.36	74.00	32.64	vertical	Peak
2827.40	47.27	-9.69	37.58	74.00	36.42	vertical	Peak
2900.20	48.24	-9.55	38.69	74.00	35.31	vertical	Peak

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#### 4) 3 GHz ~18 GHz

Temp/Humi/ATM:  $23.1^{\circ}$ C/49%/100.1kPa Project No.: 2507R19540E-RF

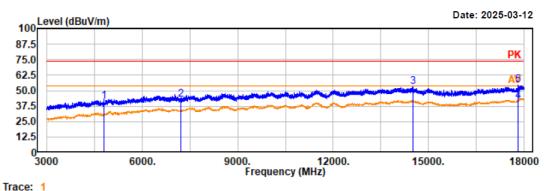
Test Mode: BLE 1M 2402MHz Tested by: Wlif Wu

EUT Model: WM500

Test distance: 3m

Power Source: AC 120V/60Hz

Report No.: 2507R19540E-RF-02



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
480	04.00	46.83	-5.24	41.59	74.00	32.41	horizontal	Peak
720	06.00	45.49	-2.55	42.94	74.00	31.06	horizontal	Peak
1450	06.50	47.74	5.06	52.80	74.00	21.20	horizontal	Peak
1782	29.00	34.88	6.58	41.46	54.00	12.54	horizontal	Average
1782	29.00	47.80	6.58	54.38	74.00	19.62	horizontal	Peak

FCC Part 15.247 Page 32 of 57 Project No.: 2507R19540E-RF Test Mode: BLE 1M 2402MHz

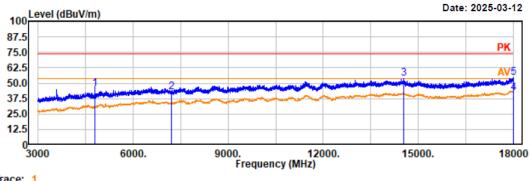
Temp/Humi/ATM: 23.1°C/49%/100.1kPa

Report No.: 2507R19540E-RF-02

Tested by: Wlif Wu

Power Source: AC 120V/60Hz

EUT Model: WM500 Test distance: 3m



Trace: 1

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

	AV KDW.	ITITIZ VDW.JI	XIIZ SWI . au	100			
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4004 00	FO 74	F 24	45 50	74.00	20 50		Daal
4804.00	50.74	-5.24	45.50	74.00	28.50	vertical	Peak
7206.00	45.14	-2.55	42.59	74.00	31.41	vertical	Peak
14550.00	48.65	5.04	53.69	74.00	20.31	vertical	Peak
17998.50	35.50	6.91	42.41	54.00	11.59	vertical	Average
17998.50	47.53	6.91	54.44	74.00	19.56	vertical	Peak

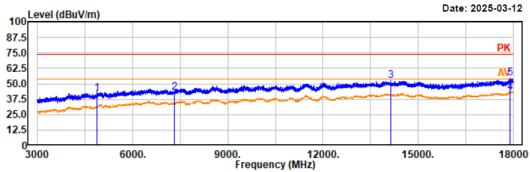
FCC Part 15.247 Page 33 of 57 Project No.: 2507R19540E-RF Test Mode: BLE 1M 2440MHz Temp/Humi/ATM: 23.1℃/49%/100.1kPa

Report No.: 2507R19540E-RF-02

Tested by: Wlif Wu

Power Source: AC 120V/60Hz

EUT Model: WM500 Test distance: 3m



Trace: 1

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

	AV INDIVI						
Freq	Reading	Factor	Result	Limit		Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4880.00	47.64	-5.30	42.34	74.00	31.66	horizontal	Peak
7320.00	45.10	-2.25	42.85	74.00	31.15	horizontal	Peak
14127.00	46.76	5.35	52.11	74.00	21.89	horizontal	Peak
17886.00	35.84	6.76	42.60	54.00	11.40	horizontal	Average
17886.00	47.79	6.76	54.55	74.00	19.45	horizontal	Peak

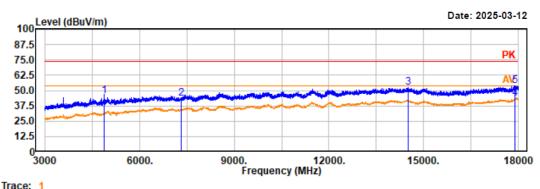
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Temp/Humi/ATM: 23.1°C/49%/100.1kPa Project No.: 2507R19540E-RF

Report No.: 2507R19540E-RF-02

Test Mode: BLE 1M 2440MHz Tested by: Wlif Wu

EUT Model: WM500 Power Source: AC 120V/60Hz Test distance: 3m



Trace: 1

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

AV KDW. IMIZ VDW. JKHZ JWI . duco								
F	req	Reading	Factor	Result	Limit	Margin	Polarity	Remark
М	Hz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4880	.00	50.86	-5.30	45.56	74.00	28.44	vertical	Peak
7320	.00	45.64	-2.25	43.39	74.00	30.61	vertical	Peak
14502	.00	47.11	5.07	52.18	74.00	21.82	vertical	Peak
17901	.00	36.43	6.81	43.24	54.00	10.76	vertical	Average
17901	.00	46.85	6.81	53.66	74.00	20.34	vertical	Peak

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Temp/Humi/ATM: 23.1℃/49%/100.1kPa

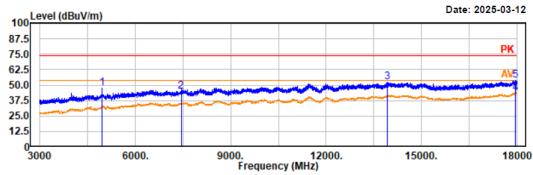
Report No.: 2507R19540E-RF-02

Tested by: Wlif Wu

Power Source: AC 120V/60Hz

Project No.: 2507R19540E-RF Test Mode: BLE 1M 2480MHz EUT Model: WM500

Test distance: 3m



Trace: 1

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

AV RBW:1MHz VBW:5kHz SWT:auto							
Freq	Reading	Factor	Result	Limit	Margin	Polarity	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
4959.00	53.02	-5.11	47.91	74.00	26.09	horizontal	Peak
7440.00	46.82	-2.03	44.79	74.00	29.21	horizontal	Peak
13924.50	47.18	5.17	52.35	74.00	21.65	horizontal	Peak
17959.50	36.36	6.86	43.22	54.00	10.78	horizontal	Average
17959.50	46.65	6.86	53.51	74.00	20.49	horizontal	Peak

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Test Mode: BLE 1M 2480MHz

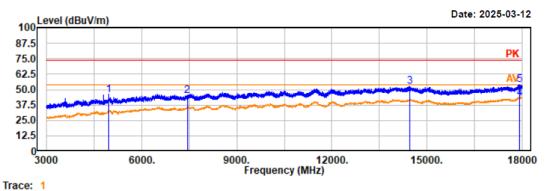
Temp/Humi/ATM: 23.1℃/49%/100.1kPa

Report No.: 2507R19540E-RF-02

Tested by: Wlif Wu

Power Source: AC 120V/60Hz

EUT Model: WM500 Test distance: 3m



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

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4960.00 7440.00 14457.00	50.65 47.05 47.40	-5.11 -2.03 5.14	45.54 45.02 52.54	74.00 74.00 74.00	28.46 28.98 21.46	vertical vertical vertical	Peak Peak Peak
17923.50 17923.50	36.25 46.99	6.83	43.08 53.82	54.00 74.00	10.92 20.18	vertical vertical vertical	Average Peak

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### 5) 18 GHz ~25 GHz

Note: The maximum output power mode: BLE High channel was tested.

Project No.: 2507R19540E-RF Temp/Humi/ATM: 23.1°C/49%/100.1kPa

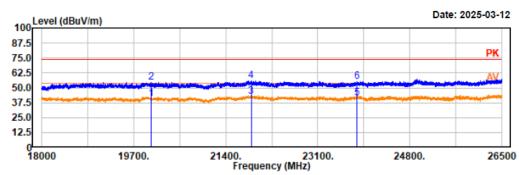
Report No.: 2507R19540E-RF-02

Remark

Test Mode: BLE 1M 2480MHz Tested by: Wlif Wu

EUT Model: WM500 Power Source: AC 120V/60Hz

Test distance: 1.5m



Trace: 1

Freq

MHz

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

Reading Factor Result Limit Margin Polarity
dBuV dB/m dBuV/m dBuV/m dB

20020.45	37.10	3.56	40.66	54.00	13.34	horizontal	Average
20020.45	50.80	3.56	54.36	74.00	19.64	horizontal	Peak
21870.05	37.46	5.20	42.66	54.00	11.34	horizontal	Average
21870.05	50.68	5.20	55.88	74.00	18.12	horizontal	Peak
23825.90	36.09	5.27	41.36	54.00	12.64	horizontal	Average
23825.90	50.14	5.27	55.41	74.00	18.59	horizontal	Peak

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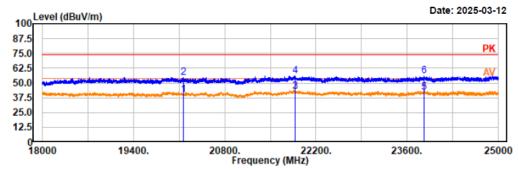
Temp/Humi/ATM: 23.1°C/49%/100.1kPa Tested by: Wlif Wu Project No.: 2507R19540E-RF

Report No.: 2507R19540E-RF-02

Test Mode: BLE 1M 2480MHz

EUT Model: WM500 Power Source: AC 120V/60Hz

Test distance: 1.5m



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		
	20159.85	36.18	3.78	39.96	54.00	14.04	vertical	Average
	20159.85	50.85	3.78	54.63	74.00	19.37	vertical	Peak
	21881.95	37.28	5.23	42.51	54.00	11.49	vertical	Average
	21881.95	50.82	5.23	56.05	74.00	17.95	vertical	Peak
	23860.75	37.03	5.32	42.35	54.00	11.65	vertical	Average
	23860.75	50.21	5.32	55.53	74.00	18.47	vertical	Peak

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#### **Restricted Bands Emissions:**

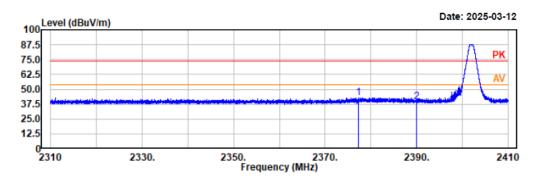
Project No.: 2507R19540E-RF Temp/Humi/ATM: 23.1℃/49%/100.1kPa

Report No.: 2507R19540E-RF-02

Test Mode: BLE 1M 2402MHz Tested by: Wlif Wu

EUT Model: WM500 Power Source: AC 120V/60Hz

Test distance: 3m



Condition	: PK RBW:1					
Freq MHz	Reading dBuV		Result dBuV/m		Polarity	Remark
2377.31		-5.21 -5.15		 31.02 34.81	horizontal horizontal	

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Test Mode: BLE 1M 2402MHz

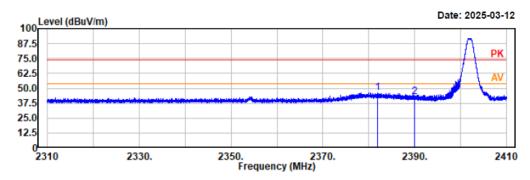
Temp/Humi/ATM: 23.1℃/49%/100.1kPa

Report No.: 2507R19540E-RF-02

Tested by: Wlif Wu

Power Source: AC 120V/60Hz

EUT Model: WM500 Test distance: 3m



Condition	: PK RBW:	1MHz VBW:3	MHz SWT:au	ito			
	Reading dBuV					Polarity	Remark
2381.90		-5.19		74.00			Peak
2390.00	47.64	-5.15	42.49	74.00	31.51	vertical	Peak

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Test Mode: BLE 1M 2480MHz

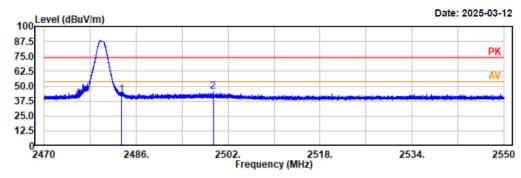
Temp/Humi/ATM: 23.1℃/49%/100.1kPa

Report No.: 2507R19540E-RF-02

Tested by: Wlif Wu

Power Source: AC 120V/60Hz

EUT Model: WM500 Test distance: 3m



Condition Freq MHz	: PK RBW:1 Reading dBuV			Limit	Margin dB	Polarity	Remark
2483.50 2499.41	47.23 49.97	-4.77 -4.70	42.46 45.27	74.00 74.00		horizontal horizontal	

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Test Mode: BLE 1M 2480MHz

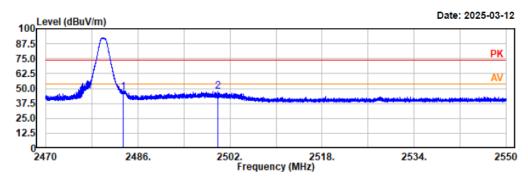
Temp/Humi/ATM: 23.1℃/49%/100.1kPa

Report No.: 2507R19540E-RF-02

Tested by: Wlif Wu

Power Source: AC 120V/60Hz

EUT Model: WM500 Test distance: 3m



Condition	n: PK RBW:1	LMHz VBW:31	MHz SWT:au	ito			
	Reading dBuV				_	Polarity	Remark
2483.50 2499.89	51.90 52.30					vertical vertical	Peak Peak

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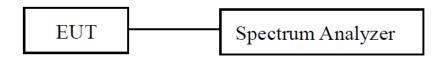
# FCC $\S15.247(a)$ (2) – 6 dB EMISSION BANDWIDTH

#### **Applicable Standard**

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

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#### **EUT Setup**



#### **Test Procedure**

According to ANSI C63.10-2013 Section 11.8

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW)  $\geq 3 \times RBW$ .
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

#### **Test Data**

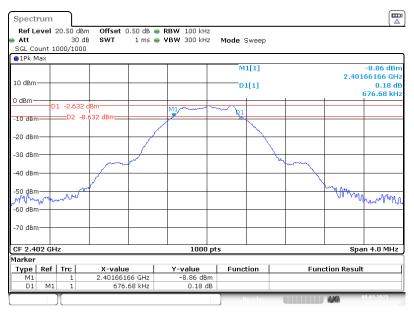
Test Mode:	Transmitting		Test Engineer:	Braylon Ma		
Test Date:	2025-03-08		Environment:	Temp.: 22.1°C Humi.: 49% Atm:100.3 kPa		
Test Modes	Test Channel Test		Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	
	Lowest	2402		0.677	≥0.5	
BLE 1Mbps	Middle		2440	0.677	≥0.5	
	Highest		2480	0.681	≥0.5	

**Test Result:** Compliant, Please refer to the below plots:

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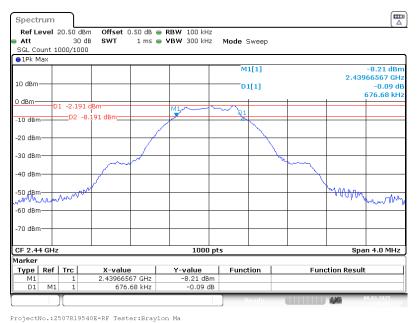
### 1Mbps\_Lowest

Report No.: 2507R19540E-RF-02



ProjectNo.:2507R19540E-RF Tester:Braylon Ma Date: 8.MAR.2025 15:01:12

### 1Mbps\_Middle

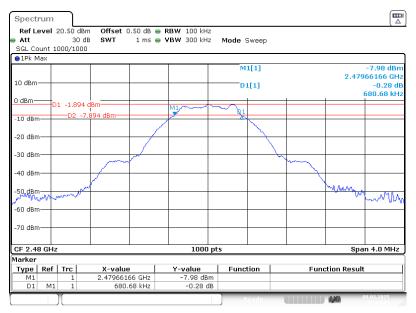


Date: 8.MAR.2025 15:03:03

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# 1Mbps\_Highest

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Date: 8.MAR.2025 15:05:02

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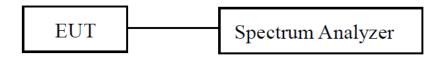
# FCC §15.247(b) (3) - MAXIMUM CONDUCTED OUTPUT POWER

### **Applicable Standard**

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

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#### **EUT Setup**



#### **Test Procedure**

According to ANSI C63.10-2013 Section 11.9.1.1

The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

- a) Set the RBW ≥ DTS bandwidth.
- b) Set VBW  $\geq$  [3 × RBW].
- c) Set span  $\geq$  [3 × RBW].
- d) Sweep time = No faster than coupled (auto) time.
- e) Detector = peak.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use peak marker function to determine the peak amplitude level.

### **Test Data**

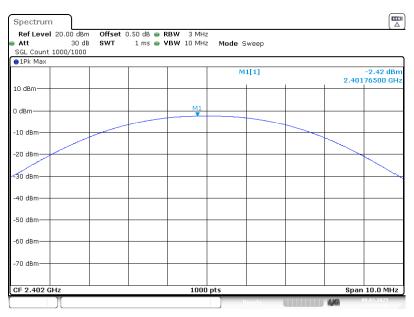
<b>Test Mode:</b>	Transmitting		Test Engineer:	Braylon Ma		
<b>Test Date:</b> 2025-03-08			Environment: Temp.: 22. Humi.: 499. Atm: 100.		9%	
Test Modes	des Test Channel Tes		st Frequency (MHz)	Maximum Conducted Peak Output Power(dBm)	Limit (dBm)	
	Lowest		2402	-2.42	≤30	
BLE 1Mbps	Middle		2440	-1.99	€30	
	Highest		2480	-1.72	€30	

**Test Result:** Compliant, Please refer to the below plots:

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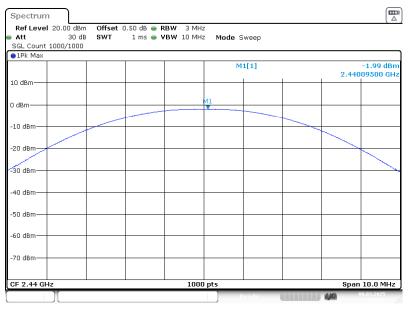
# $1Mbps\_Lowest$

Report No.: 2507R19540E-RF-02



ProjectNo.:2507R19540E-RF Tester:Braylon Ma Date: 8.MAR.2025 15:01:33

# $1Mbps\_Middle$



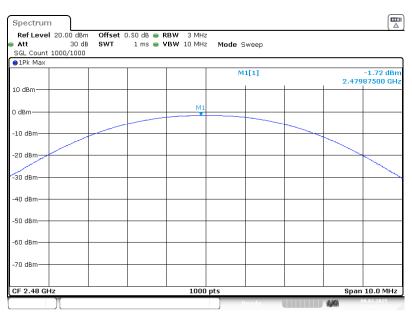
ProjectNo.:2507R19540E-RF Tester:Braylon Ma

Date: 8.MAR.2025 15:03:22

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# $1Mbps\_Highest$

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ProjectNo.:2507R19540E-RF Tester:Braylon Ma Date: 8.MAR.2025 15:05:23

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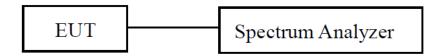
# FCC §15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE

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#### **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 11.11

- a) Set the center frequency and span to encompass frequency range to be measured.
- b) Set the RBW = 100 kHz.
- c) Set the VBW  $\geq$  [3  $\times$  RBW].
- d) Detector = peak.
- e) Sweep time = No faster than coupled (auto) time.
- 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 specified in 11.11. Report the three highest emissions relative to the limit.

#### **Test Data**

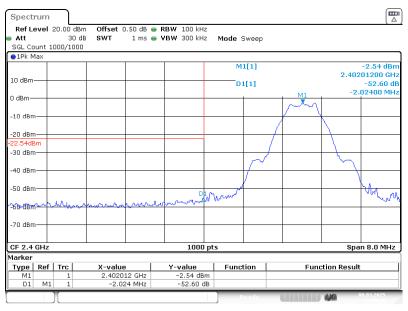
Test Mode:	Transmitting	Test Engineer:	Braylon Ma
Test Date:	2025-03-08	Environment:	Temp.: 22.1°C Humi.: 49% Atm: 100.3kPa

**Test Result:** Compliant, Please refer to the below plots:

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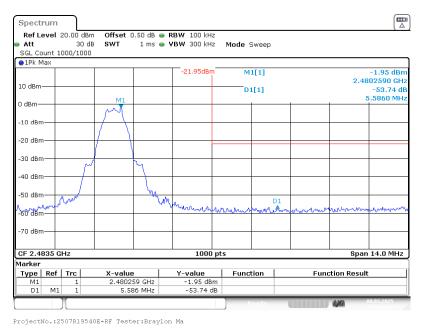
### BLE 1Mbps\_Lowest

Report No.: 2507R19540E-RF-02



ProjectNo.:2507R19540E-RF Tester:Braylon Ma Date: 8.MAR.2025 15:00:58

### BLE 1Mbps\_Highest



Date: 8.MAR.2025 15:04:47

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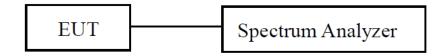
# FCC §15.247(e) - POWER SPECTRAL DENSITY

#### **Applicable Standard**

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

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#### **EUT Setup**



#### **Test Procedure**

According to ANSI C63.10-2013 Section 11.10.2

- a) Set analyzer center frequency to DTS channel center frequency.
- b) Set the span >1.5 times the DTS bandwidth.
- c) Set the RBW to 3 kHz  $\leq$  RBW  $\leq$  100 kHz.
- d) Set the VBW  $\geq$  [3  $\times$  RBW].
- e) Detector = peak.
- f) Sweep time = No faster than coupled (auto) time.
- g) Trace mode = max-hold. h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum amplitude level within the RBW.
- j) If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat

#### **Test Data**

<b>Test Mode:</b>	Transmitting	Test Engineer:	Braylon Ma
Test Date:	2025-03-08	Environment:	Temp.: 22.1°C Humi.: 49% Atm:100.3kPa

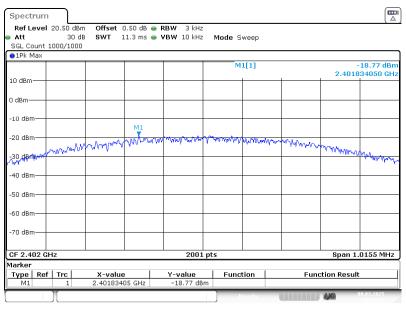
### Test Result: Compliant

Test Modes	Test Channel	Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)
BLE 1Mbps	Lowest	2402	-18.77	≤8.00
	Middle	2440	-18.34	≤8.00
	Highest	2480	-18.12	≤8.00

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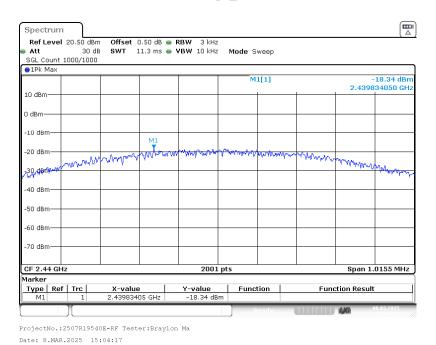
#### BLE 1Mbps\_Lowest

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ProjectNo.:2507R19540E-RF Tester:Braylon Ma Date: 8.MAR.2025 15:02:27

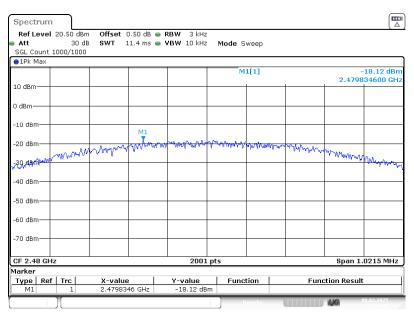
### BLE 1Mbps\_Middle



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### BLE 1Mbps\_Highest

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# **EUT PHOTOGRAPHS**

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

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# TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2507R19540E-RF-TSP SETUP PHOTOGRAPHS.

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#### **Declarations**

Report No.: 2507R19540E-RF-02

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

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