



FCC PART 15.247

TEST REPORT

For

Xiamen Aorui Electronics Co.,Ltd.

Room 302-5, 3rd Floor, No. 2, Malong Road, Torch Park, Torch High-tech Zone, Xiamen, China.

FCC ID: 2BDQ3AR-890

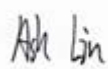
Report Type: Original Report	Product Name: Wireless Programmer
Report Number:	<u>2507R04478E-RF-01</u>
Report Date:	<u>2025-07-18</u>
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TABLE OF CONTENTS

REPORT REVISION HISTORY.....	4
GENERAL INFORMATION.....	5
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	5
OBJECTIVE	5
TEST METHODOLOGY	5
MEASUREMENT UNCERTAINTY	6
SYSTEM TEST CONFIGURATION.....	7
TEST MODE AND VOLTAGE.....	7
DESCRIPTION OF TEST CONFIGURATION	7
EQUIPMENT MODIFICATIONS	7
★EUT EXERCISE SOFTWARE	8
DUTY CYCLE	8
SUPPORT EQUIPMENT LIST AND DETAILS	9
EXTERNAL I/O CABLE.....	9
BLOCK DIAGRAM OF TEST SETUP	9
SUMMARY OF TEST RESULTS.....	12
TEST EQUIPMENT LIST	13
FCC §15.203 - ANTENNA REQUIREMENT.....	14
APPLICABLE STANDARD	14
ANTENNA CONNECTOR CONSTRUCTION	14
FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS	15
APPLICABLE STANDARD	15
EUT SETUP	15
EMI TEST RECEIVER SETUP.....	15
TEST PROCEDURE	16
RESULT & MARGIN CALCULATION.....	16
TEST DATA	17
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS.....	19
APPLICABLE STANDARD	19
EUT SETUP	19
EMI TEST RECEIVER & SPECTRUM ANALYZER SETUP	20
TEST PROCEDURE	21
RESULT & MARGIN CALCULATION.....	22
TEST DATA	22
FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH.....	47
APPLICABLE STANDARD	47
EUT SETUP	47
TEST PROCEDURE	47
TEST DATA	47
FCC §15.247(b) (3) - MAXIMUM CONDUCTED OUTPUT POWER.....	50
APPLICABLE STANDARD	50
EUT SETUP	50
TEST PROCEDURE	50
TEST DATA	51
FCC §15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE.....	53
APPLICABLE STANDARD	53
EUT SETUP	53

TEST PROCEDURE	53
TEST DATA	53
FCC §15.247(e) - POWER SPECTRAL DENSITY	55
APPLICABLE STANDARD	55
EUT SETUP	55
TEST PROCEDURE	55
TEST DATA	55
EUT PHOTOGRAPHS.....	58
TEST SETUP PHOTOGRAPHS	59

REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	2507R04478E-RF-01	R1V1	2025-07-18	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	Xiamen Aorui Electronics Co.,Ltd.
Product Name:	Wireless Programmer
Tested Model:	ABBREE AR-890
Multiple Model(s):	BAOFENG BF-890
Trade mark:	ABBREE, AIRITON, BAOFENG
Firmware version:	N/A
Software version:	N/A
Power Supply:	DC 3.7V from battery or DC 5V from USB port
Maximum Conducted Output Peak Power:	-3.9dBm
Frequency Range:	2402-2480MHz
Modulation Technique:	GFSK
Antenna Type:	PCB
★Maximum Antenna Gain:	0dBi
EUT Received Status:	Good
<i>Note:</i> 1. The Maximum Antenna Gain was declared by manufacturer. 2. The test model is identify with the series model except for the model name and trade mark, please refer to declaration letter for more detail. 3. All measurement and test data in this report was gathered from production sample serial number: 2ZH4-3 (Assigned by the BACL(Xiamen). The EUT supplied by the applicant was received on 2025-03-10)	

Objective

This report is prepared on behalf of *Xiamen Aorui Electronics Co.,Ltd.* 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.

All emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Xiamen).

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		U_{lab}
Conducted Emission	150kHz-30MHz	2.45 dB
Radiated 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~26.5GHz	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		1%

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:	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

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.

★EUT Exercise Software

RF Test Tool: RFTest 0720 boxed

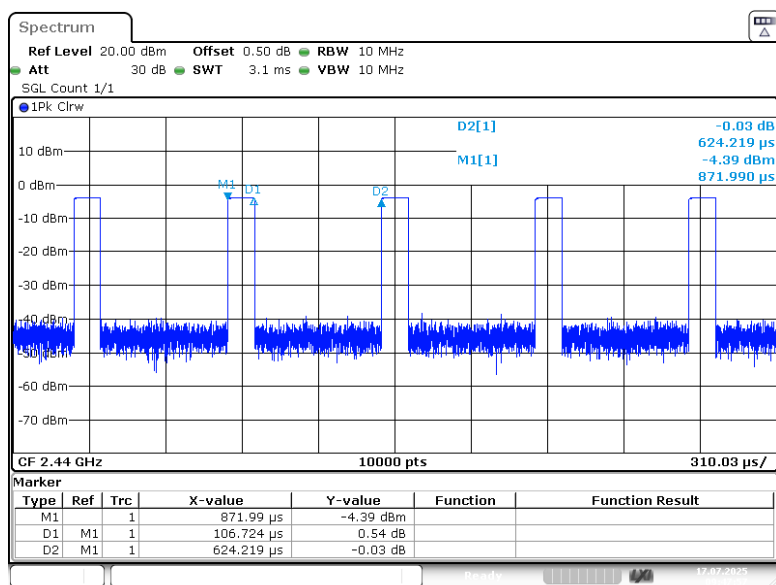
Mode	Power level		
	Low channel	Middle channel	High channel
BLE 1Mbps	-4	-4	-4

Note: the applicant declared the power level.

Duty cycle

Test Mode:	Transmitting		Test Engineer:	Apollo Luo		
Test Date:	2025-07-17		Environment:	Temp.: 23.5°C Humi.: 57% Atm :100.2 kPa		
Test Modes	Test Frequency (MHz)	Ton (ms)	Ton+off (ms)	Duty cycle (%)	1/T (Hz)	VBW Setting (kHz)
BLE 1Mbps	2440	0.107	0.624	17.15	9346	10.00

BLE 1Mbps: Middle Channel



Support Equipment List and Details

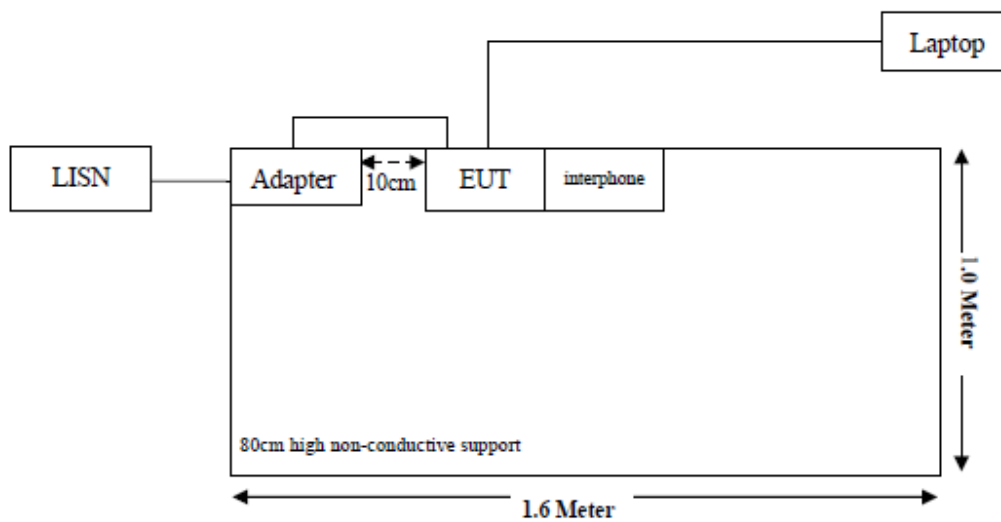
Manufacturer	Description	Model	Serial Number
Lenovo	Laptop	T480	PF1P5K4F
Xiamen Aorui Electronics Co.,Ltd.	interphone	Unknown	Unknown
Unknown	Adapter	YZSJ-A207-05200-U	Unknown

External I/O Cable

Cable Description	Length (m)	From Port	To
USB Cable	10	EUT	Laptop
USB Cable	1.0	EUT	Adapter

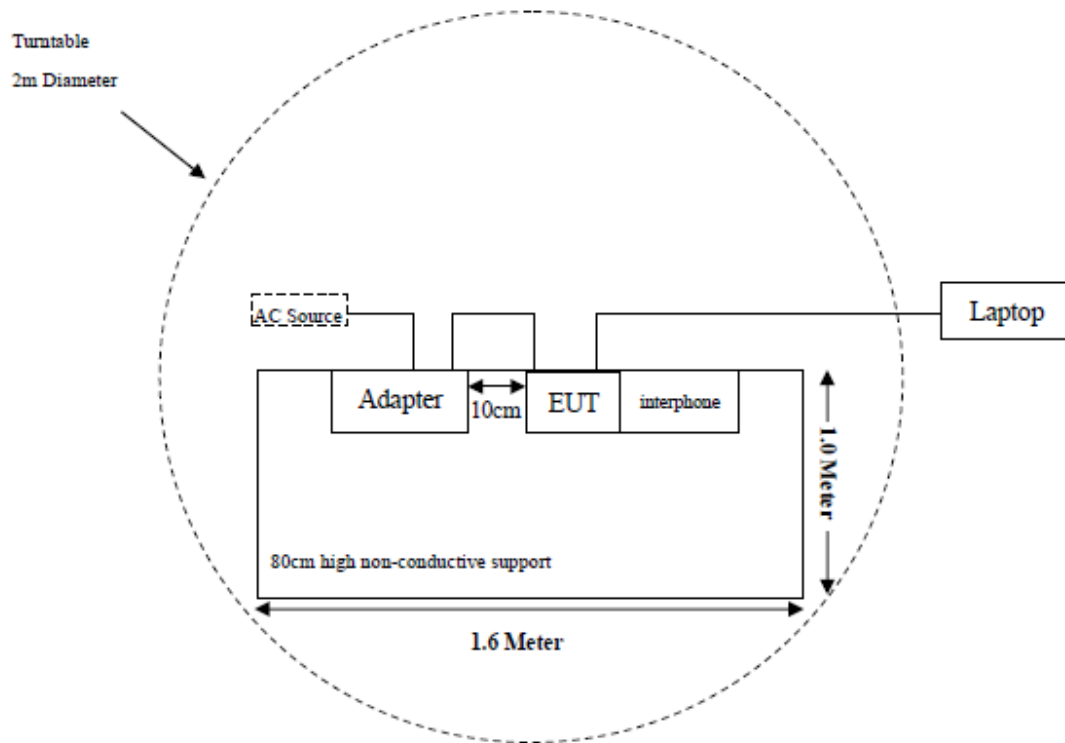
Block Diagram of Test Setup

Conducted Emission:

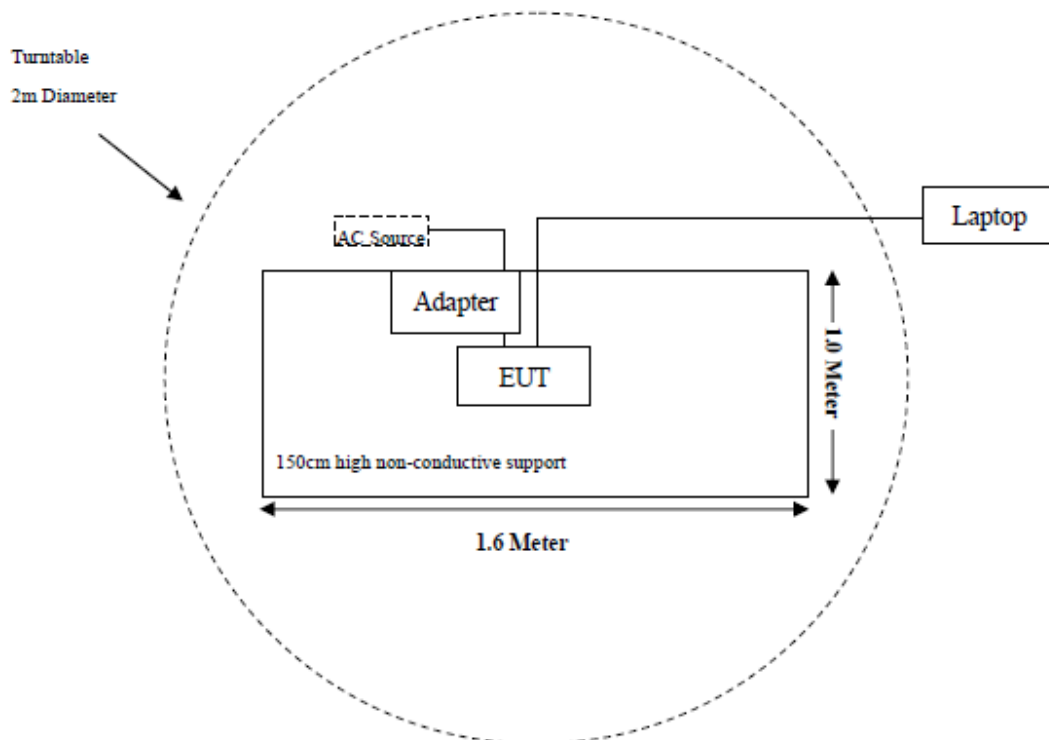


Radiated Emission

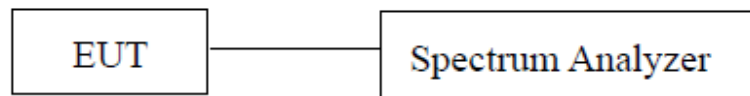
Below 1GHz:



Above 1GHz:



RF Conduction:



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

SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliant
§15.207(a)	AC Line Conducted Emissions	Compliant
§15.205, §15.209, §15.247(d)	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

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
EMI 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	2023/7/27	2026/7/26
Antenna	Sunol Sciences	JB6	A122022-5	2023/7/27	2026/7/26
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 Antenna	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	RF133	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 § 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:

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

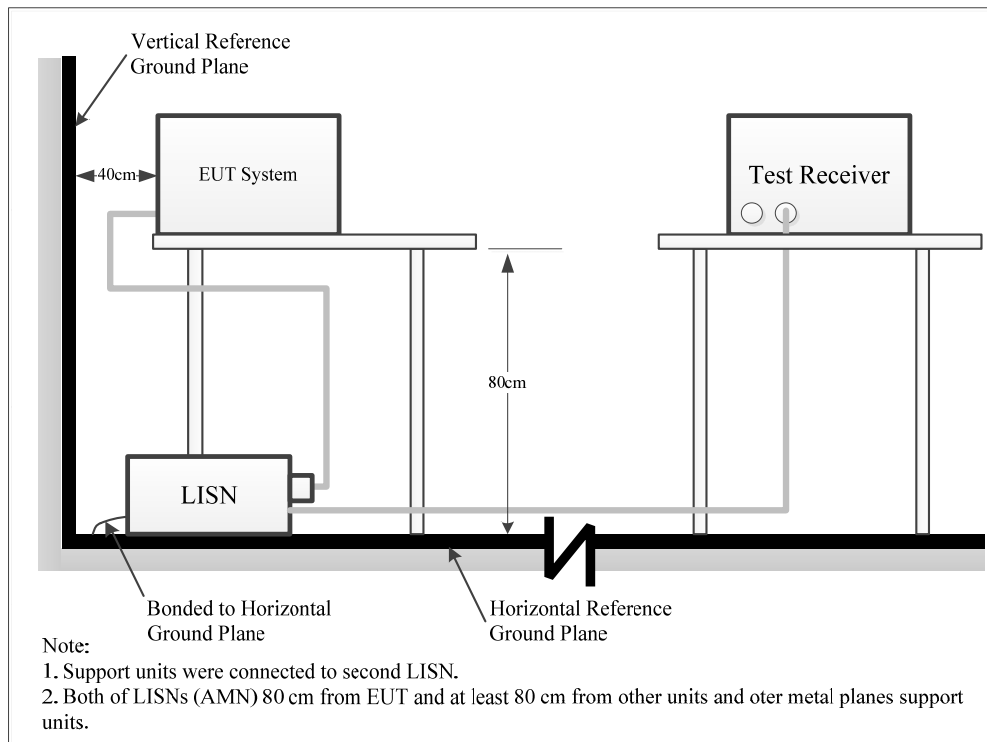
Result: Compliant

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207

EUT Setup



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

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:

$$\begin{aligned}\text{Factor (dB)} &= \text{LISN VDF (dB)} + \text{Cable Loss (dB)} + \text{Transient Limiter Attenuation (dB)} \\ \text{Result (dB}\mu\text{V)} &= \text{Reading (dB}\mu\text{V)} + \text{Factor (dB)}\end{aligned}$$

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:

$$\text{Margin (dB)} = \text{Limit (dB}\mu\text{V)} - \text{Result (dB}\mu\text{V)}$$

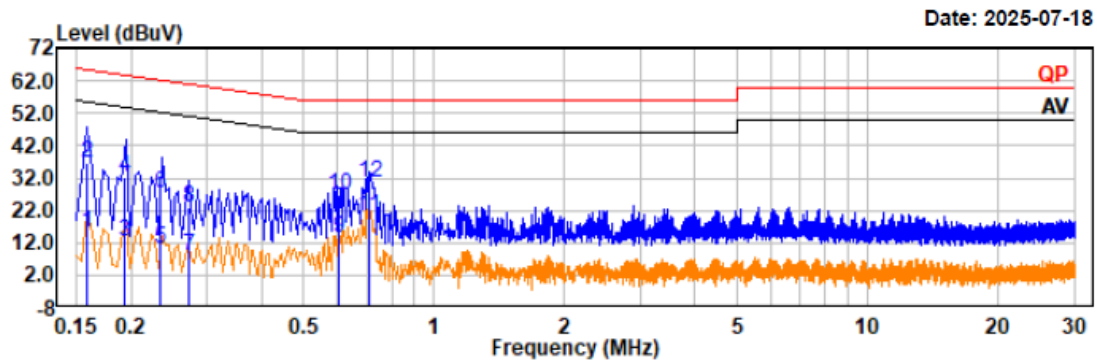
Test Data

Temperature:	150kHz~30MHz
Relative Humidity:	23.5°C
ATM Pressure:	50%
Test Date:	100.1kPa
Test Engineer:	2025-07-18
Test Engineer:	H Wang

Note: The maximum output power mode: BLE 1Mbps low channel was tested.

Project No.: 2507R04478E-RF
 Test Mode: BLE 1M 2402MHz
 EUT Model: ABBREE AR-890

Temp/Humi/ATM: 23.5°C/50%/100.1kPa
 Tested by: H Wang
 Power Source: AC 120V/60Hz



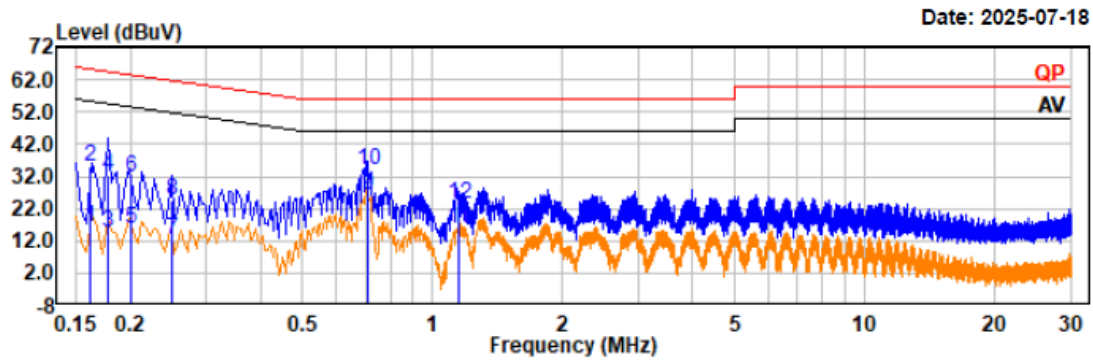
Trace: 1

Condition: IF B/W 9kHz PK/AV

Freq MHz	Reading dBuV	Factor dB	Result dBuV	Limit dBuV	Margin dB	Phase	Remark
0.16	-5.90	20.87	14.97	55.56	40.59	Line	Average
0.16	15.64	20.87	36.51	65.56	29.05	Line	QP
0.19	-8.20	20.61	12.41	53.89	41.48	Line	Average
0.19	11.63	20.61	32.24	63.89	31.65	Line	QP
0.23	-10.47	20.52	10.05	52.33	42.28	Line	Average
0.23	6.74	20.52	27.26	62.33	35.07	Line	QP
0.27	-12.46	20.47	8.01	51.02	43.01	Line	Average
0.27	2.69	20.47	23.16	61.02	37.86	Line	QP
0.60	-7.05	20.41	13.36	46.00	32.64	Line	Average
0.60	6.26	20.41	26.67	56.00	29.33	Line	QP
0.71	-0.23	20.51	20.28	46.00	25.72	Line	Average
0.71	10.15	20.51	30.66	56.00	25.34	Line	QP

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2402MHz
EUT Model: ABBREE AR-890

Temp/Humi/ATM: 23.5°C/50%/100.1kPa
Tested by: H Wang
Power Source: AC 120V/60Hz



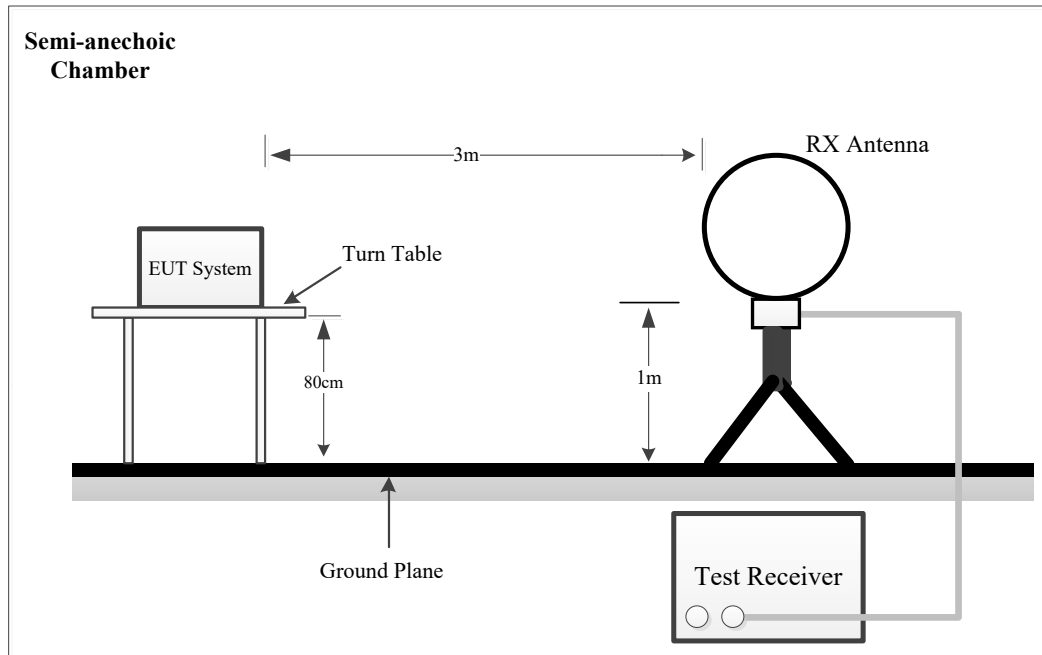
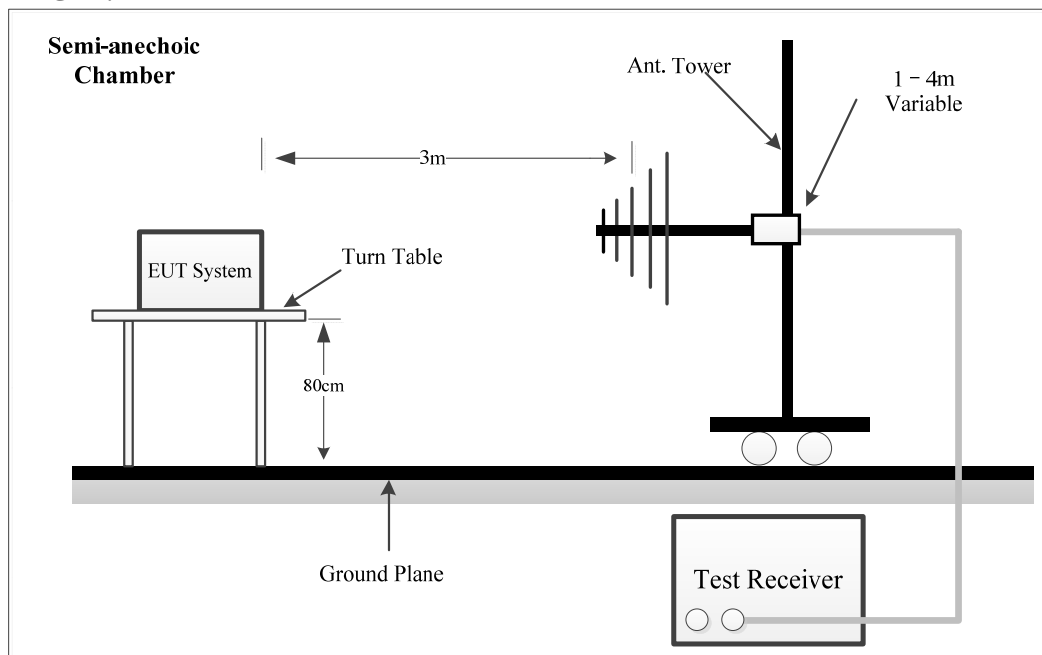
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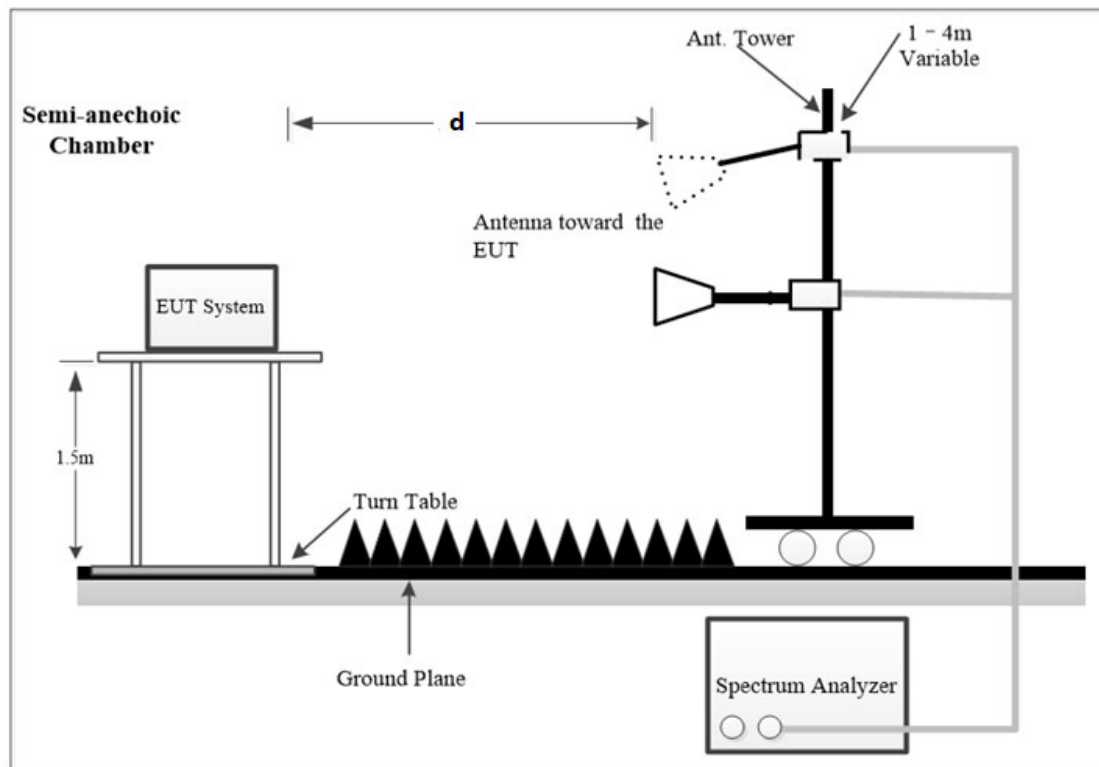
Condition: IF B/W 9kHz PK/AV

Freq MHz	Reading dBuV	Factor dB	Result dBuV	Limit dBuV	Margin dB	Phase	Remark
0.16	-4.56	20.71	16.15	55.35	39.20	Neutral	Average
0.16	14.51	20.71	35.22	65.35	30.13	Neutral	QP
0.18	-6.13	20.69	14.56	54.56	40.00	Neutral	Average
0.18	11.37	20.69	32.06	64.56	32.50	Neutral	QP
0.20	-4.79	20.67	15.88	53.56	37.68	Neutral	Average
0.20	11.08	20.67	31.75	63.56	31.81	Neutral	QP
0.25	-8.34	20.60	12.26	51.78	39.52	Neutral	Average
0.25	3.70	20.60	24.30	61.78	37.48	Neutral	QP
0.71	6.12	20.32	26.44	46.00	19.56	Neutral	Average
0.71	13.81	20.32	34.13	56.00	21.87	Neutral	QP
1.15	-5.38	20.94	15.56	46.00	30.44	Neutral	Average
1.15	2.35	20.94	23.29	56.00	32.71	Neutral	QP

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:****30MHz -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 = $20 \log (\text{specific distance [3m]}/\text{test distance [1.5m]}) \text{ dB} = 6.0 \text{ dB}$

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 were set with the following configurations:

Below 1GHz:

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

Above 1GHz:

Pre-scan:

Measurement	Duty Cycle	RBW	Video B/W	Detector
PK	Any	1MHz	3MHz	PK
Ave.	>98%	1MHz	5kHz	PK
	<98%	1MHz	1/T, not less than 5kHz	PK

Final measurement for emission identified during the pre-scan:

Measurement	Duty Cycle	RBW	Video B/W	Detector
PK	Any	1MHz	3MHz	PK
Ave.	>98%	1MHz	10Hz	PK
	<98%	1MHz	1/T	PK

Note: T is minimum transmission duration

If the maximized peak measured value complies with under the QP limit more than 6dB, then it is unnecessary to perform an QP measurement.

If the maximized peak measured value complies with under the Average limit, then it is unnecessary to perform an Average measurement.

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

$$\text{Factor (dB/m)} = \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} - \text{Amplifier Gain (dB)}$$

For 18GHz to 25GHz Radiated emission test and Bandedge emissions test

$$\text{Factor (dB/m)} = \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} - \text{Amplifier Gain (dB)} - \text{Extrapolation factor (dB)}$$

$$\text{Extrapolation factor} = 9.54\text{dB (distance=1m)}$$

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

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:

$$\text{Margin (dB)} = \text{Limit (dB}\mu\text{V/m)} - \text{Result (dB}\mu\text{V/m)}$$

Test Data

Please refer to the below table and plots.

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

Frequency Range:	Below 1 GHz	Above 1 GHz	Antenna-port conducted emission
Temperature:	22.9°C	21.3°C	23.5°C
Relative Humidity:	54 %	62 %	57 %
ATM Pressure:	100.2kPa	100.1kPa	100.2kPa
Test Date:	2025-07-17	2025-07-18	2025-07-17
Test Engineer:	Wlif Wu	Wlif Wu	Apollo Luo

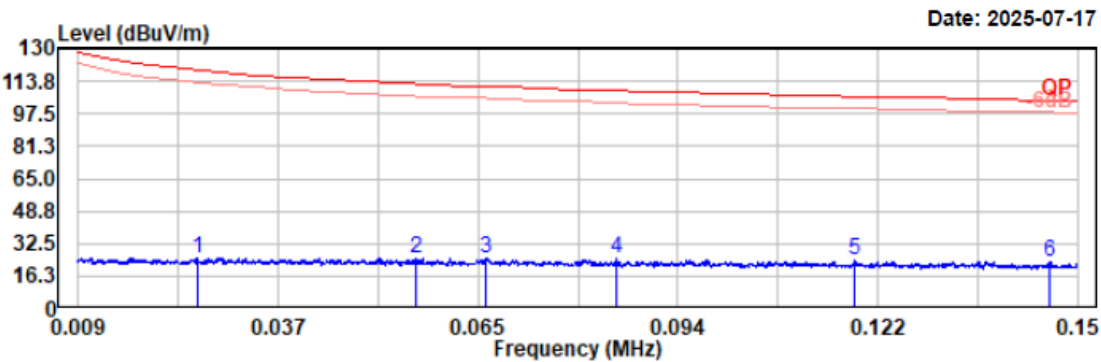
1) 9 kHz~30MHz

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

Note: The maximum output power mode: BLE 1Mbps low channel was tested.

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2402MHz
EUT Model: ABBREE AR-890
Test distance: 3m

Temp/Humi/ATM: 22.9℃/54%/100.2kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

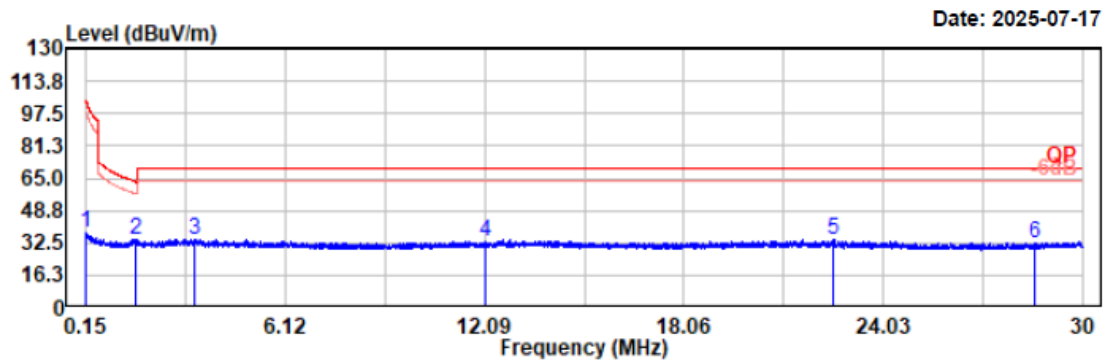


Condition: PK RBW:300Hz VBW:1kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Remark
0.026	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

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2402MHz
EUT Model: ABBREE AR-890
Test distance: 3m

Temp/Humi/ATM: 22.9°C/54%/100.2kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



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

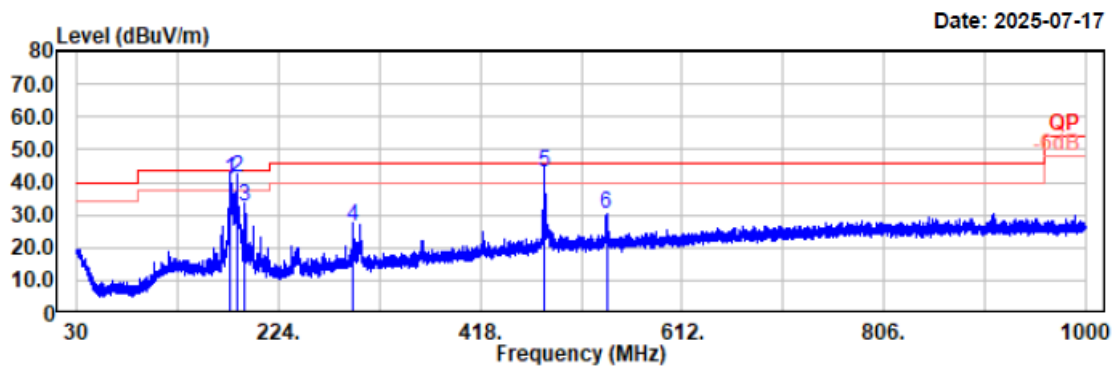
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Remark
0.156	18.04	19.72	37.76	103.74	65.98	Peak
1.616	14.87	19.64	34.51	63.44	28.93	Peak
3.380	14.62	19.81	34.43	69.54	35.11	Peak
12.132	13.68	19.73	33.41	69.54	36.13	Peak
22.555	14.08	20.16	34.24	69.54	35.30	Peak
28.582	12.31	20.03	32.34	69.54	37.20	Peak

2) 30MHz-1GHz

Note: The maximum output power mode: BLE 1Mbps low channel was tested.

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2402MHz
EUT Model: ABBREE AR-890
Test distance: 3m

Temp/Humi/ATM: 22.9℃/54%/100.2kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

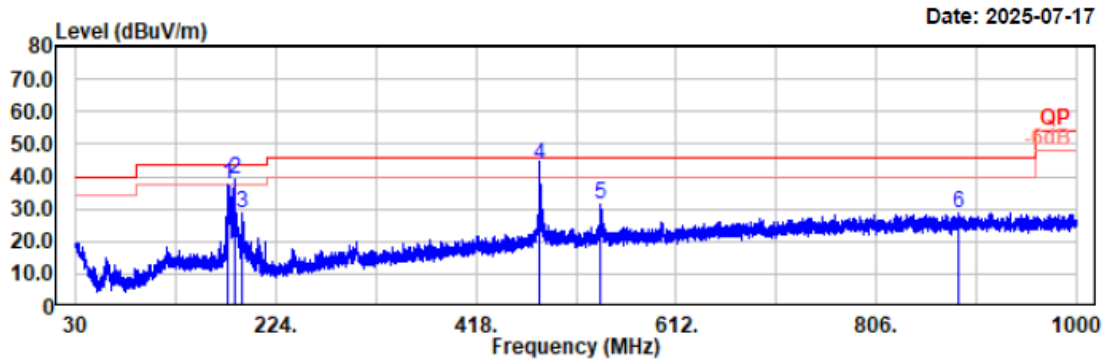


Condition: PK RBW:100kHz VBW:300kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
177.35	52.75	-12.19	40.56	43.50	2.94	Horizontal	QP
184.52	53.75	-12.51	41.24	43.50	2.26	Horizontal	QP
191.89	44.87	-12.17	32.70	43.50	10.80	Horizontal	Peak
295.59	35.76	-9.29	26.47	46.00	19.53	Horizontal	Peak
480.04	47.04	-3.83	43.21	46.00	2.79	Horizontal	QP
539.35	33.17	-3.01	30.16	46.00	15.84	Horizontal	Peak

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2402MHz
EUT Model: ABBREE AR-890
Test distance: 3m

Temp/Humi/ATM: 22.9℃/54%/100.2kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



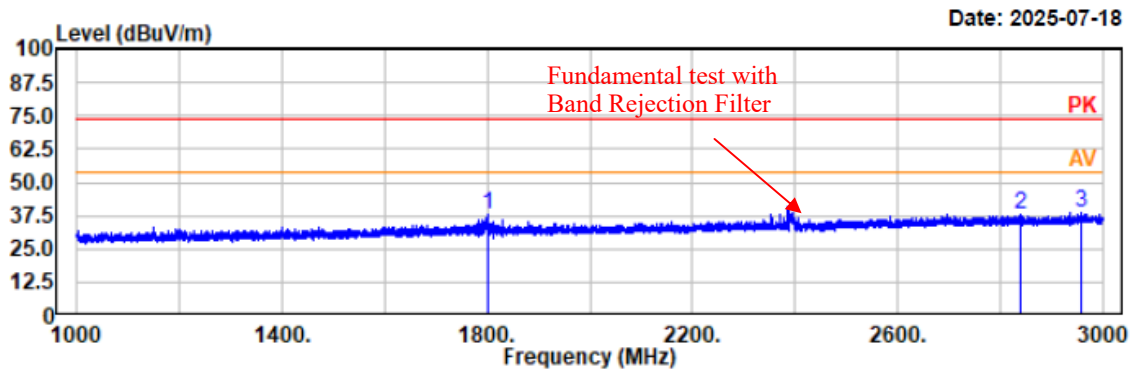
Condition: PK RBW:100kHz VBW:300kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
177.34	49.58	-12.19	37.39	43.50	6.11	Vertical	Peak
184.62	51.43	-12.50	38.93	43.50	4.57	Vertical	QP
191.89	40.74	-12.17	28.57	43.50	14.93	Vertical	Peak
479.98	47.25	-3.83	43.42	46.00	2.58	Vertical	QP
539.06	34.60	-3.02	31.58	46.00	14.42	Vertical	Peak
885.44	26.38	2.39	28.77	46.00	17.23	Vertical	Peak

3) 1GHz~3GHz

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2402MHz
EUT Model: ABBREE AR-890
Test distance: 3m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

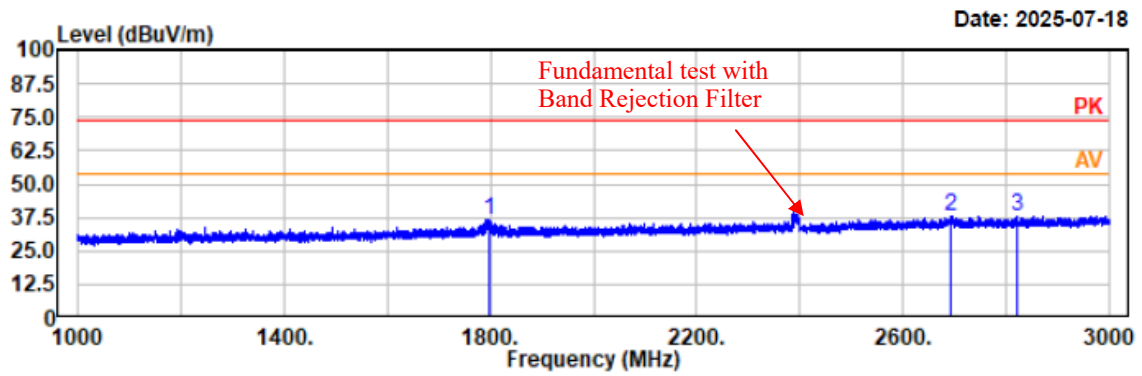


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1800.00	51.06	-13.22	37.84	74.00	36.16	horizontal	Peak
2838.80	47.68	-9.65	38.03	74.00	35.97	horizontal	Peak
2958.60	47.66	-9.17	38.49	74.00	35.51	horizontal	Peak

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2402MHz
EUT Model: ABBREE AR-890
Test distance: 3m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

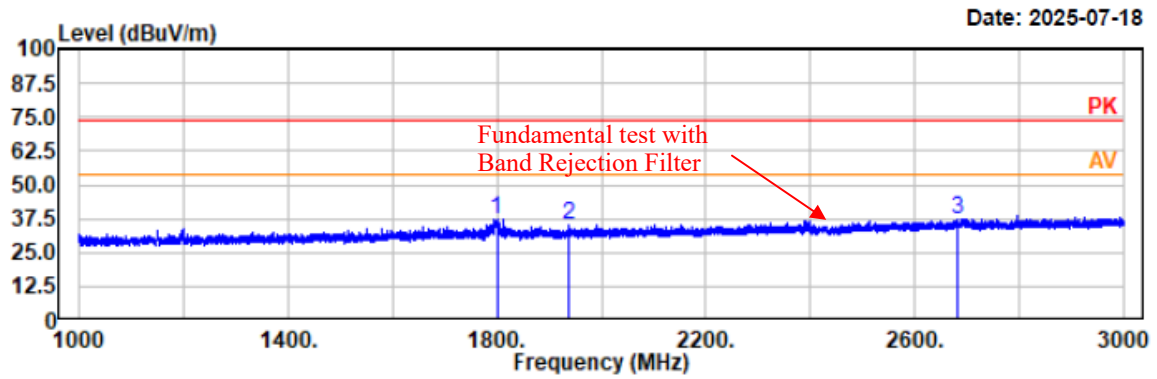


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1798.80	49.75	-13.23	36.52	74.00	37.48	vertical	Peak
2691.80	47.86	-10.03	37.83	74.00	36.17	vertical	Peak
2820.00	47.58	-9.73	37.85	74.00	36.15	vertical	Peak

Project No.: 2507R04478E-RF
 Test Mode: BLE 1M 2440MHz
 EUT Model: ABBREE AR-890
 Test distance: 3m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa
 Tested by: Wlif Wu
 Power Source: AC 120V/60Hz

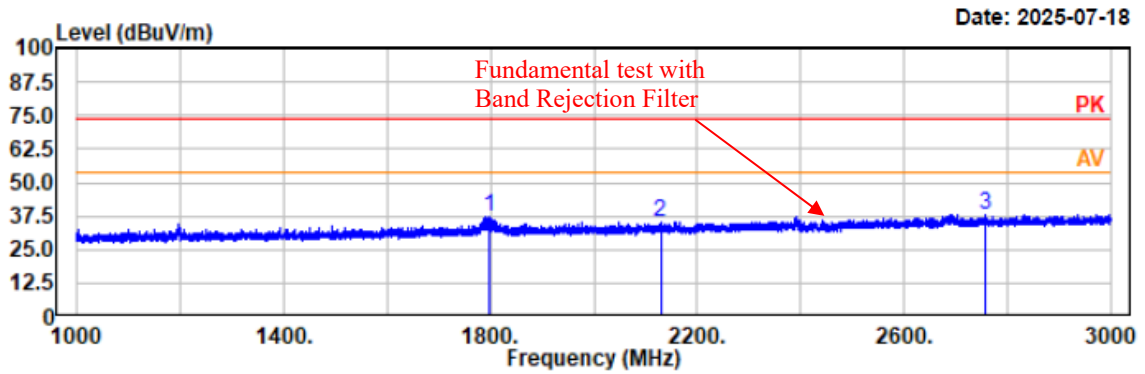


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1799.60	50.24	-13.22	37.02	74.00	36.98	horizontal	Peak
1938.80	48.06	-12.80	35.26	74.00	38.74	horizontal	Peak
2681.80	47.43	-10.07	37.36	74.00	36.64	horizontal	Peak

Project No.: 2507R04478E-RF
 Test Mode: BLE 1M 2440MHz
 EUT Model: ABBREE AR-890
 Test distance: 3m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa
 Tested by: Wlif Wu
 Power Source: AC 120V/60Hz

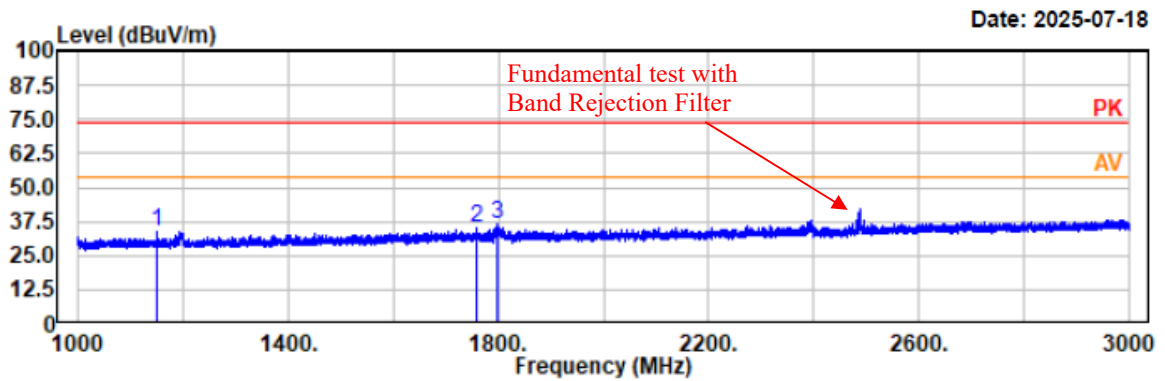


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1798.40	50.59	-13.23	37.36	74.00	36.64	vertical	Peak
2129.00	47.64	-12.17	35.47	74.00	38.53	vertical	Peak
2757.20	47.84	-9.92	37.92	74.00	36.08	vertical	Peak

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2480MHz
EUT Model: ABBREE AR-890
Test distance: 3m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

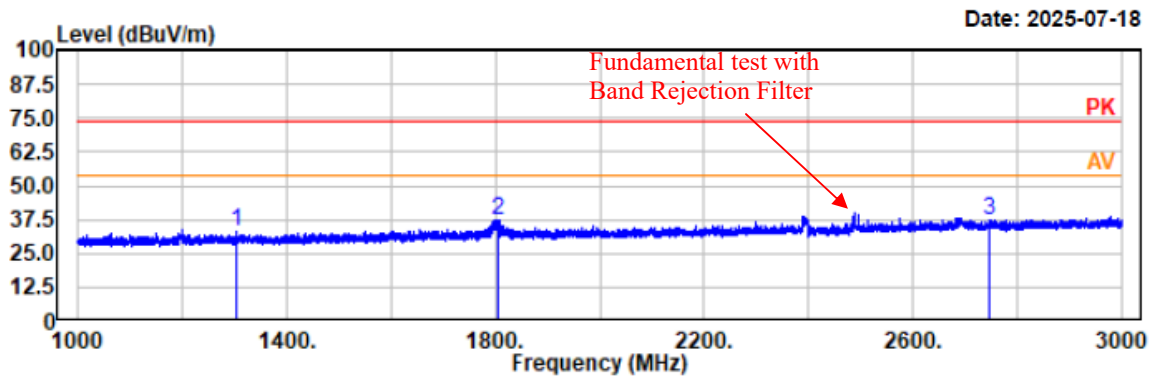


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1149.60	48.85	-15.32	33.53	74.00	40.47	horizontal	Peak
1756.80	48.96	-13.47	35.49	74.00	38.51	horizontal	Peak
1798.00	49.50	-13.23	36.27	74.00	37.73	horizontal	Peak

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2480MHz
EUT Model: ABBREE AR-890
Test distance: 3m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



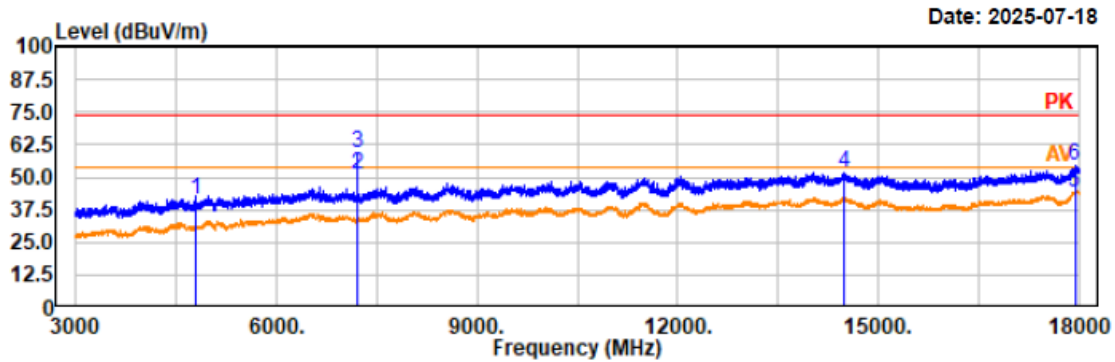
Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
1304.60	48.38	-15.00	33.38	74.00	40.62	vertical	Peak
1803.80	50.60	-13.21	37.39	74.00	36.61	vertical	Peak
2747.40	47.54	-9.96	37.58	74.00	36.42	vertical	Peak

4) 3 GHz ~18 GHz

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2402MHz
EUT Model: ABBREE AR-890
Test distance: 3m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



Trace: 1

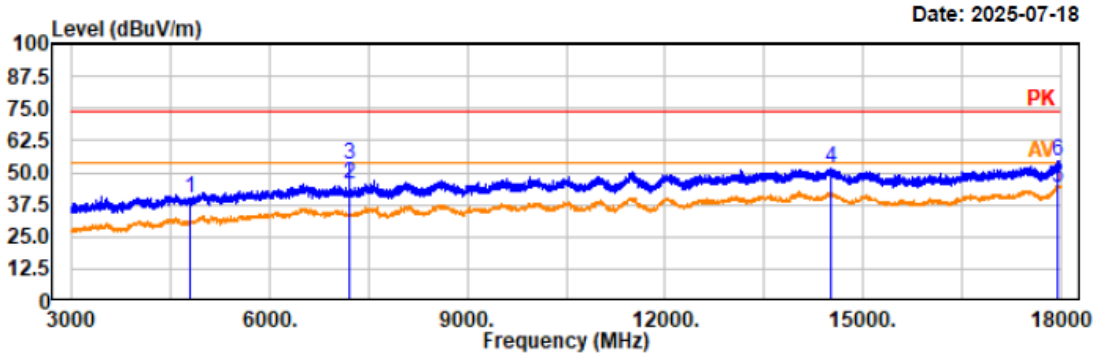
Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:10kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4804.50	46.82	-5.24	41.58	74.00	32.42	horizontal	Peak
7206.00	53.24	-2.55	50.69	54.00	3.31	horizontal	Average
7206.00	61.68	-2.55	59.13	74.00	14.87	horizontal	Peak
14485.50	46.51	5.09	51.60	74.00	22.40	horizontal	Peak
17938.50	37.05	6.84	43.89	54.00	10.11	horizontal	Average
17938.50	47.57	6.84	54.41	74.00	19.59	horizontal	Peak

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2402MHz
EUT Model: ABBREE AR-890
Test distance: 3m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



Trace: 1

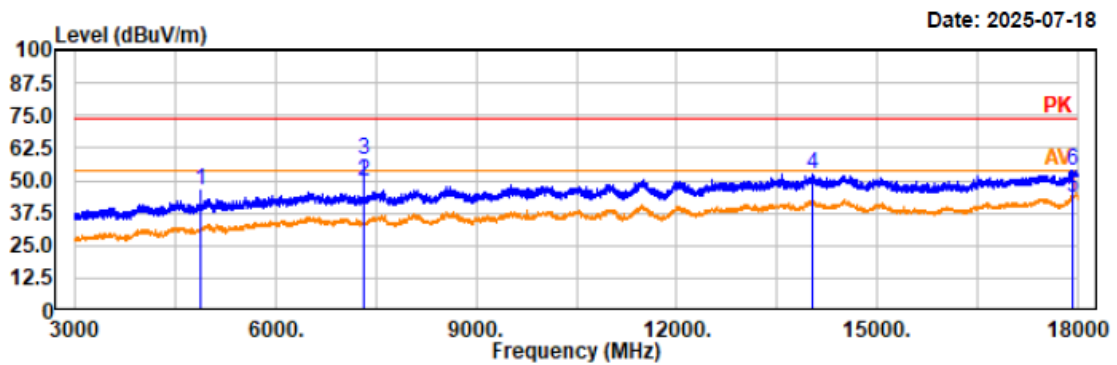
Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:10kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4804.50	44.92	-5.24	39.68	74.00	34.32	vertical	Peak
7206.00	48.25	-2.55	45.70	54.00	8.30	vertical	Average
7206.00	55.55	-2.55	53.00	74.00	21.00	vertical	Peak
14518.50	46.49	5.06	51.55	74.00	22.45	vertical	Peak
17952.00	37.08	6.86	43.94	54.00	10.06	vertical	Average
17952.00	47.66	6.86	54.52	74.00	19.48	vertical	Peak

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2440MHz
EUT Model: ABBREE AR-890
Test distance: 3m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



Trace: 1

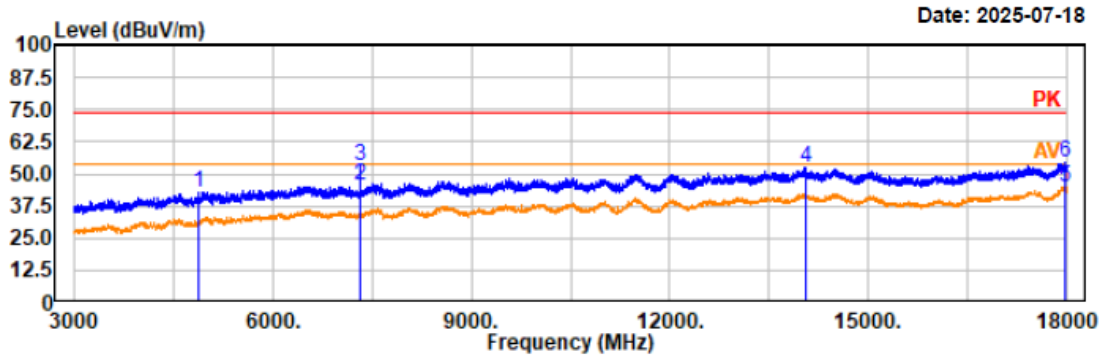
Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:10kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4879.50	51.22	-5.30	45.92	74.00	28.08	horizontal	Peak
7320.00	52.14	-2.25	49.89	54.00	4.11	horizontal	Average
7320.00	60.22	-2.25	57.97	74.00	16.03	horizontal	Peak
14043.00	47.14	5.26	52.40	74.00	21.60	horizontal	Peak
17923.50	36.96	6.83	43.79	54.00	10.21	horizontal	Average
17923.50	46.97	6.83	53.80	74.00	20.20	horizontal	Peak

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2440MHz
EUT Model: ABBREE AR-890
Test distance: 3m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



Trace: 1

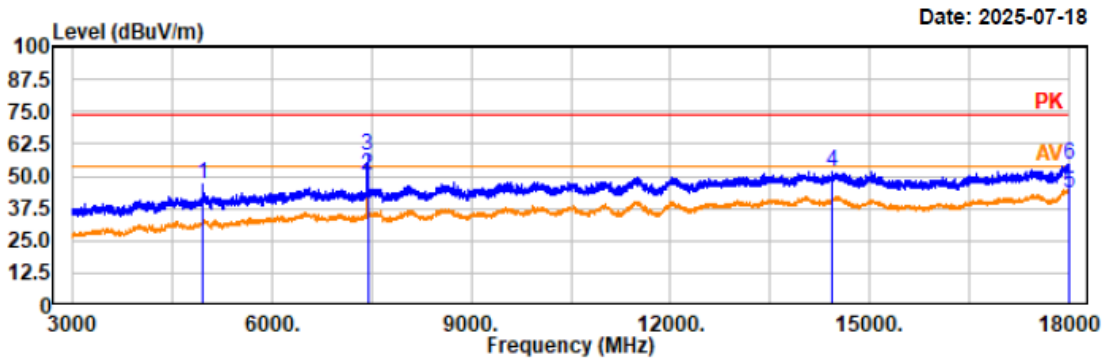
Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:10kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4880.00	48.09	-5.30	42.79	74.00	31.21	vertical	Peak
7320.00	47.95	-2.25	45.70	54.00	8.30	vertical	Average
7320.00	55.03	-2.25	52.78	74.00	21.22	vertical	Peak
14049.00	47.18	5.27	52.45	74.00	21.55	vertical	Peak
17989.50	37.86	6.90	44.76	54.00	9.24	vertical	Average
17989.50	47.74	6.90	54.64	74.00	19.36	vertical	Peak

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2480MHz
EUT Model: ABBREE AR-890
Test distance: 3m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



Trace: 1

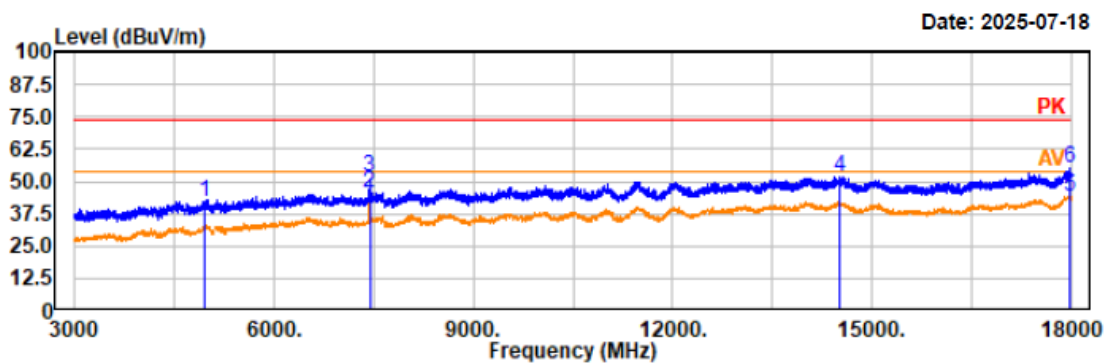
Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:10kHz SWT:auto

Freq MHz	Reading dBUV	Factor dB/m	Result dBUV/m	Limit dBUV/m	Margin dB	Polarity	Remark
4960.50	52.31	-5.11	47.20	74.00	26.80	horizontal	Peak
7440.00	52.40	-2.03	50.37	54.00	3.63	horizontal	Average
7440.00	60.13	-2.03	58.10	74.00	15.90	Horizontal	Peak
14437.50	46.37	5.18	51.55	74.00	22.45	horizontal	Peak
17994.00	36.81	6.90	43.71	54.00	10.29	horizontal	Average
17994.00	47.82	6.90	54.72	74.00	19.28	horizontal	Peak

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2480MHz
EUT Model: ABBREE AR-890
Test distance: 3m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



Trace: 1

Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:10kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4960.50	47.21	-5.11	42.10	74.00	31.90	vertical	Peak
7440.00	47.63	-2.03	45.60	54.00	8.40	vertical	Average
7440.00	53.91	-2.03	51.88	74.00	22.12	vertical	Peak
14509.50	46.90	5.06	51.96	74.00	22.04	vertical	Peak
17967.00	37.33	6.88	44.21	54.00	9.79	vertical	Average
17967.00	48.21	6.88	55.09	74.00	18.91	vertical	Peak

5) 18 GHz ~25 GHz

Note: The maximum output power mode: BLE 1Mbps low channel was tested.

Project No.: 2507R04478E-RF

Test Mode: BLE 1M 2402MHz

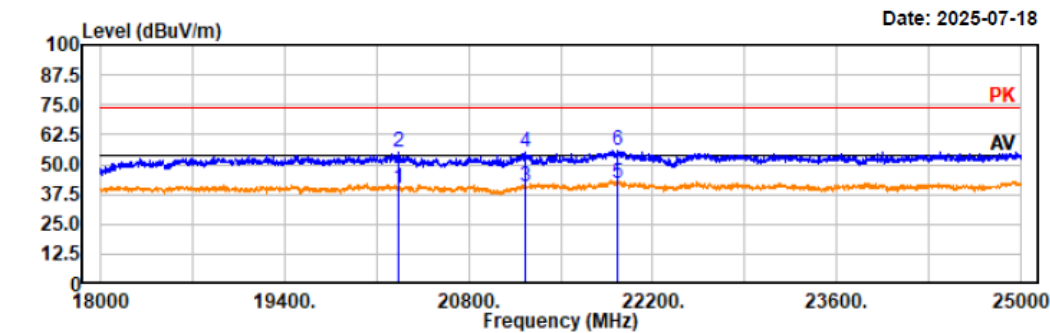
EUT Model: ABBREE AR-890

Test distance: 1.5m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa

Tested by: Wlif Wu

Power Source: AC 120V/60Hz



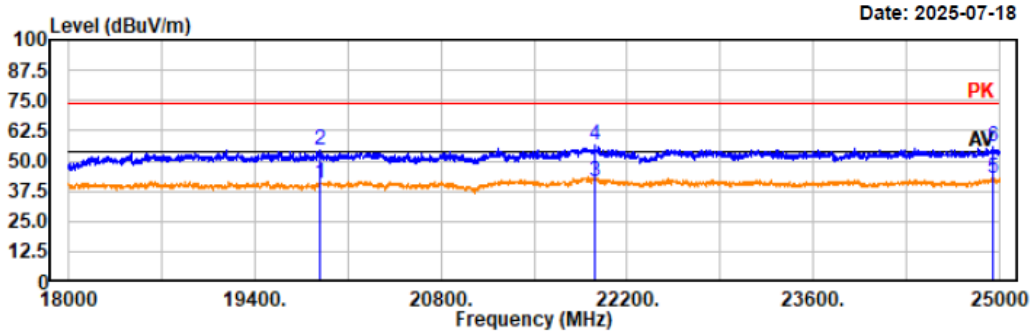
Trace: 1

Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:10kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
20268.20	36.20	3.95	40.15	54.00	13.85	horizontal	Average
20268.20	51.29	3.95	55.24	74.00	18.76	horizontal	Peak
21234.00	36.72	4.20	40.92	54.00	13.08	horizontal	Average
21234.00	50.80	4.20	55.00	74.00	19.00	horizontal	Peak
21935.80	36.55	5.20	41.75	54.00	12.25	horizontal	Average
21935.80	50.43	5.20	55.63	74.00	18.37	horizontal	Peak

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2402MHz
EUT Model: ABBREE AR-890
Test distance: 1.5m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz



Trace: 1

Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:10kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
19885.40	37.13	3.46	40.59	54.00	13.41	vertical	Average
19885.40	50.82	3.46	54.28	74.00	19.72	vertical	Peak
21962.20	36.50	5.22	41.72	54.00	12.28	vertical	Average
21962.20	51.00	5.22	56.22	74.00	17.78	vertical	Peak
24952.00	36.23	6.32	42.55	54.00	11.45	vertical	Average
24952.00	49.77	6.32	56.09	74.00	17.91	vertical	Peak

Restricted Bands Emissions:

Project No.: 2507R04478E-RF

Test Mode: BLE 1M 2402MHz

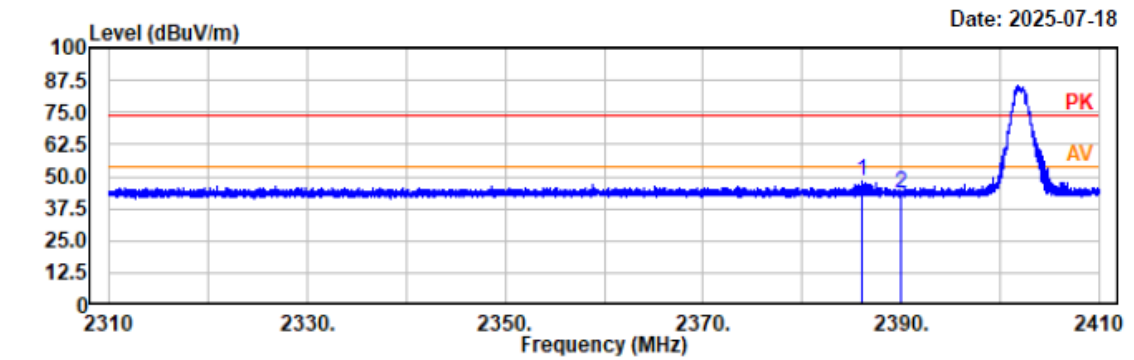
EUT Model: ABBREE AR-890

Test distance: 3m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa

Tested by: Wlif Wu

Power Source: AC 120V/60Hz

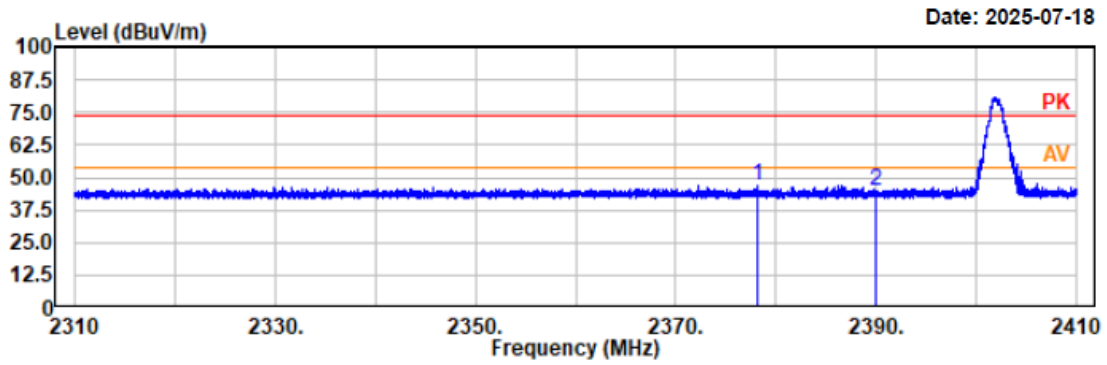


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2385.97	49.53	-1.17	48.36	74.00	25.64	horizontal	Peak
2390.00	44.35	-1.15	43.20	74.00	30.80	horizontal	Peak

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2402MHz
EUT Model: ABBREE AR-890
Test distance: 3m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

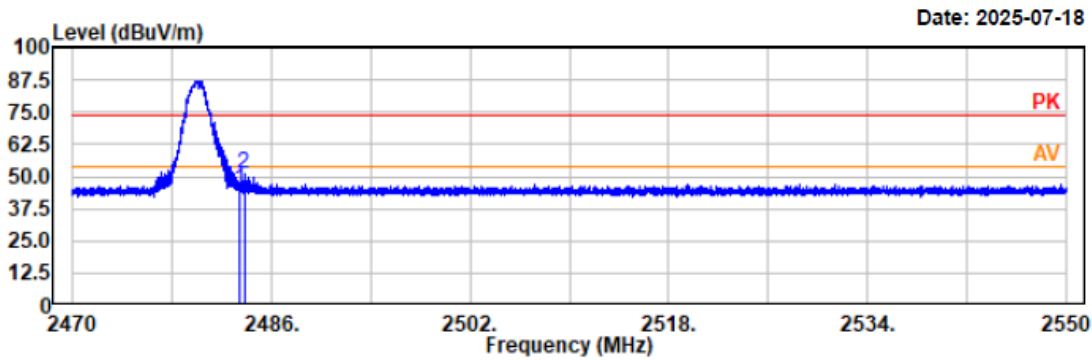


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2378.21	48.02	-1.21	46.81	74.00	27.19	vertical	Peak
2390.00	46.23	-1.15	45.08	74.00	28.92	vertical	Peak

Project No.: 2507R04478E-RF
Test Mode: BLE 1M 2480MHz
EUT Model: ABBREE AR-890
Test distance: 3m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa
Tested by: Wlif Wu
Power Source: AC 120V/60Hz

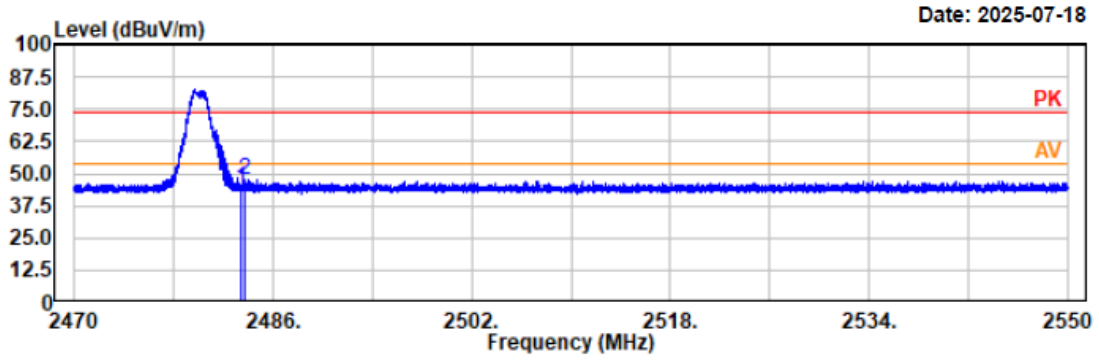


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2483.50	45.84	-0.77	45.07	74.00	28.93	horizontal	Peak
2483.80	51.73	-0.76	50.97	74.00	23.03	horizontal	Peak

Project No.: 2507R04478E-RF
 Test Mode: BLE 1M 2480MHz
 EUT Model: ABBREE AR-890
 Test distance: 3m

Temp/Humi/ATM: 21.3°C/62%/100.1kPa
 Tested by: Wlif Wu
 Power Source: AC 120V/60Hz

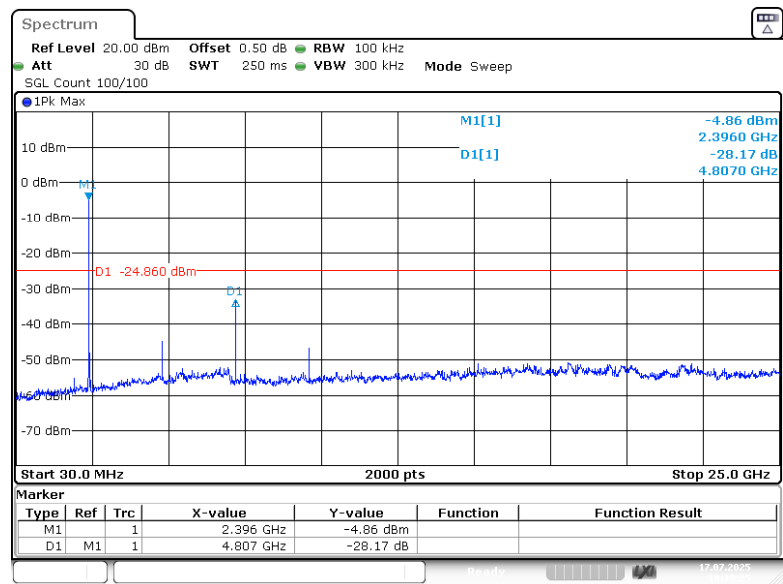


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2483.50	44.75	-0.77	43.98	74.00	30.02	vertical	Peak
2483.74	48.42	-0.77	47.65	74.00	26.35	vertical	Peak

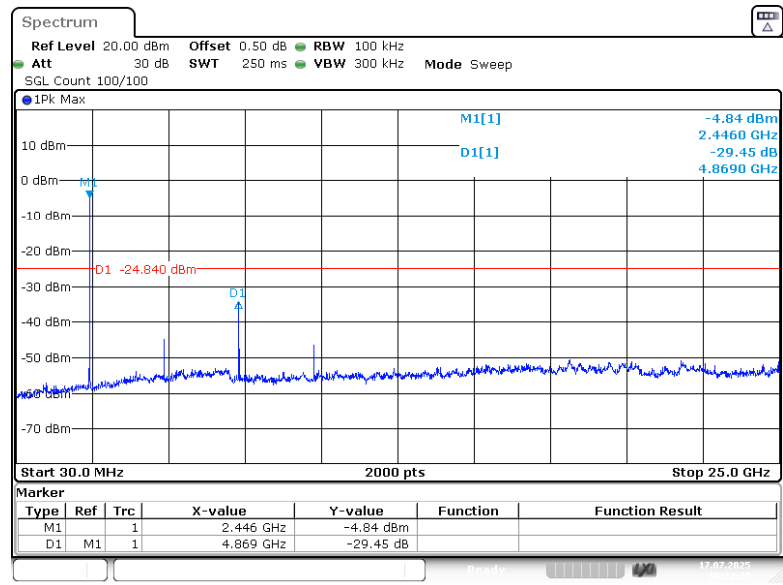
Antenna-port conducted emission

BLE_1M_Low_Channel



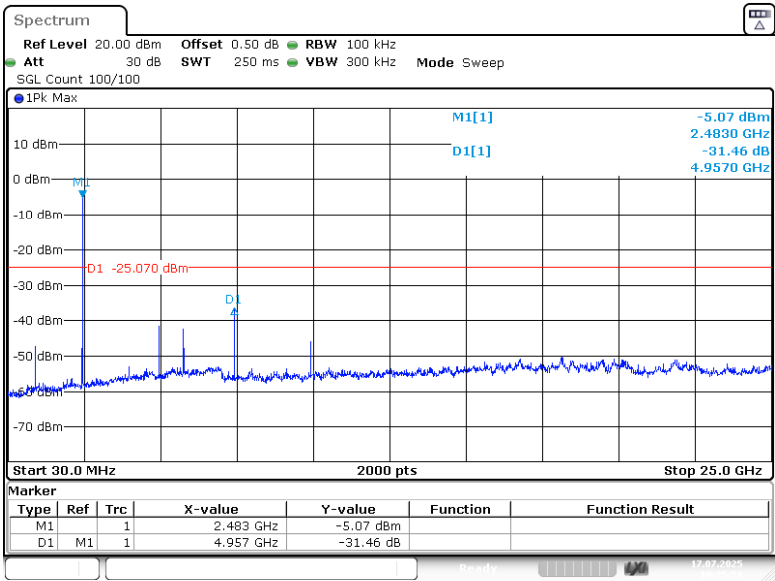
ProjectNo.:2507R04478E-RF Tester:Apollo Luo
Date: 17.JUL.2025 10:18:24

BLE_1M_Middle_Channel



ProjectNo.:2507R04478E-RF Tester:Apollo Luo
Date: 17.JUL.2025 10:22:37

BLE_1M_High_Channel



ProjectNo.:2507R04478E-RF Tester:Apollo Luo
Date: 17.JUL.2025 10:25:59

FCC §15.247(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.

EUT Setup



Test Procedure

According to ANSI C63.10-2013 Section 11.8

- b) Set the video bandwidth (VBW) $\geq 3 \times \text{RBW}$.
- 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 outer most amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

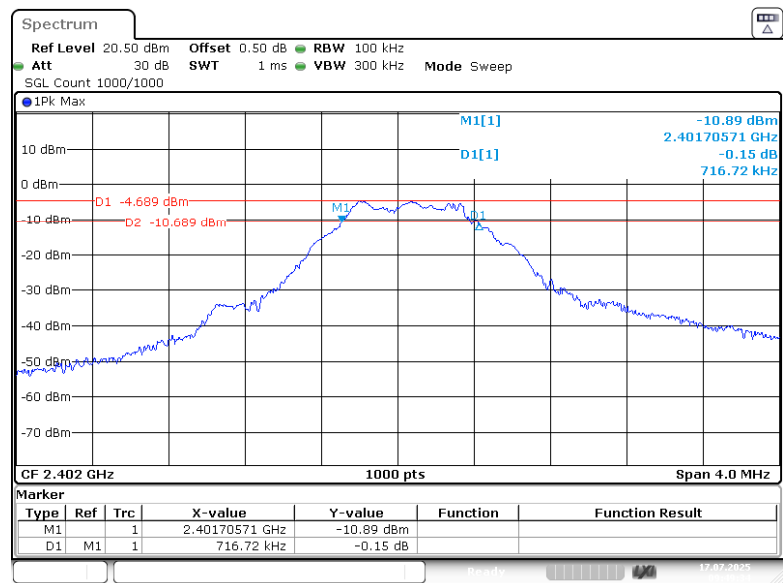
Test Data

Test Mode:	Transmitting	Test Engineer:	Apollo Luo
Test Date:	2025-07-17	Environment:	Temp.: 23.5°C Humi.: 57% Atm : 100.2 kPa

Test Result: Compliant

Test Modes	Test Channel	Test Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)
BLE 1Mbps	Lowest	2402	0.717	≥ 0.5
	Middle	2440	0.681	≥ 0.5
	Highest	2480	0.669	≥ 0.5

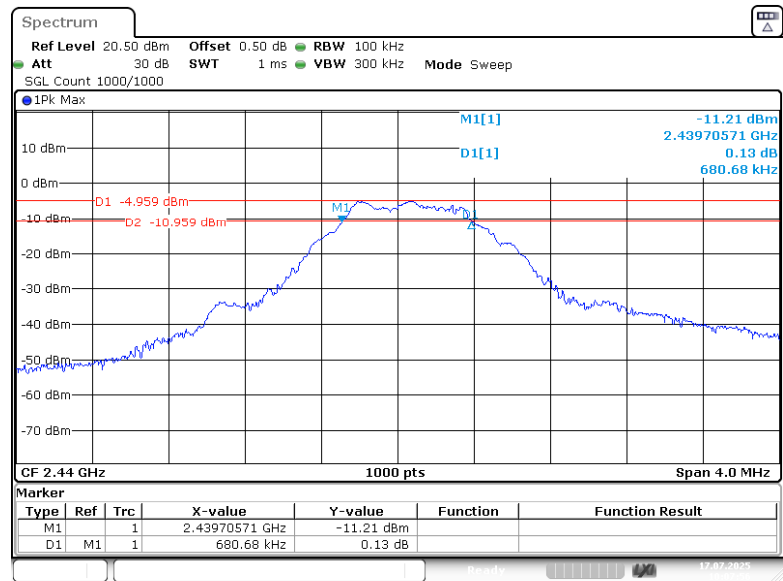
1Mbps_Lowest



ProjectNo.:2507R04478E-RF Tester:Apollo Luo

Date: 17.JUL.2025 09:49:34

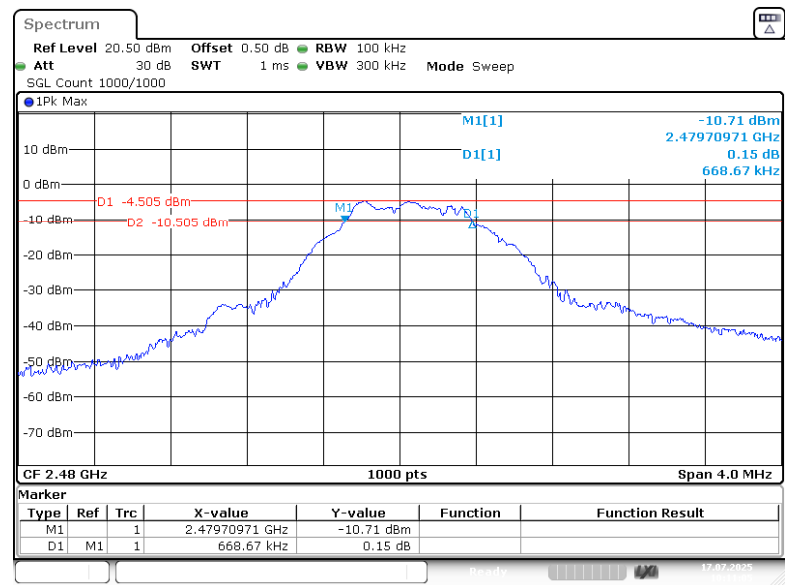
1Mbps_Middle



ProjectNo.:2507R04478E-RF Tester:Apollo Luo

Date: 17.JUL.2025 10:07:55

1Mbps_Highest



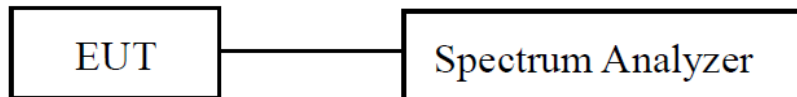
ProjectNo.:2507R04478E-RF Tester:Apollo Luo
Date: 17.JUL.2025 10:11:05

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.

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 $\geq$ DTS bandwidth.
- b) Set VBW $\geq [3 \times \text{RBW}]$.
- c) Set span $\geq [3 \times \text{RBW}]$.
- d) Sweep time = auto couple.
- 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.

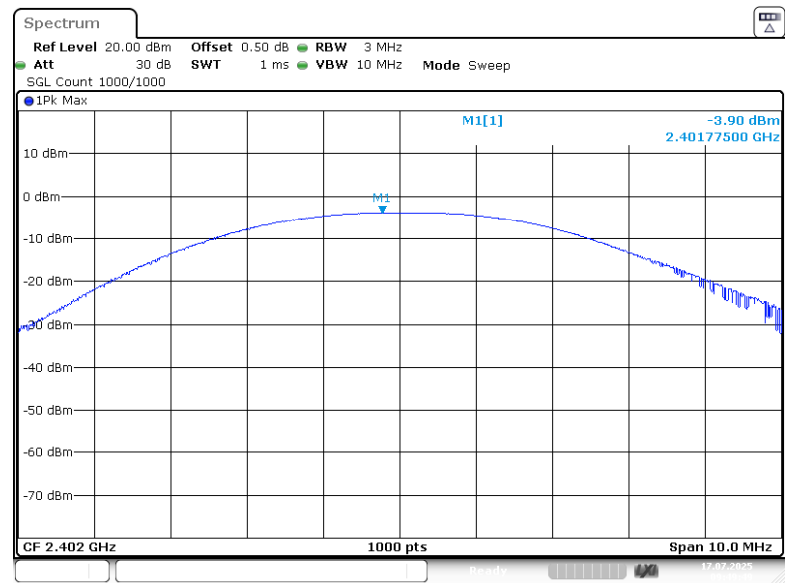
Test Data

Test Mode:	Transmitting	Test Engineer:	Apollo Luo
Test Date:	2025-07-17	Environment:	Temp.: 23.5°C Humi.: 57% Atm :100.2 kPa

Test Result: Compliant

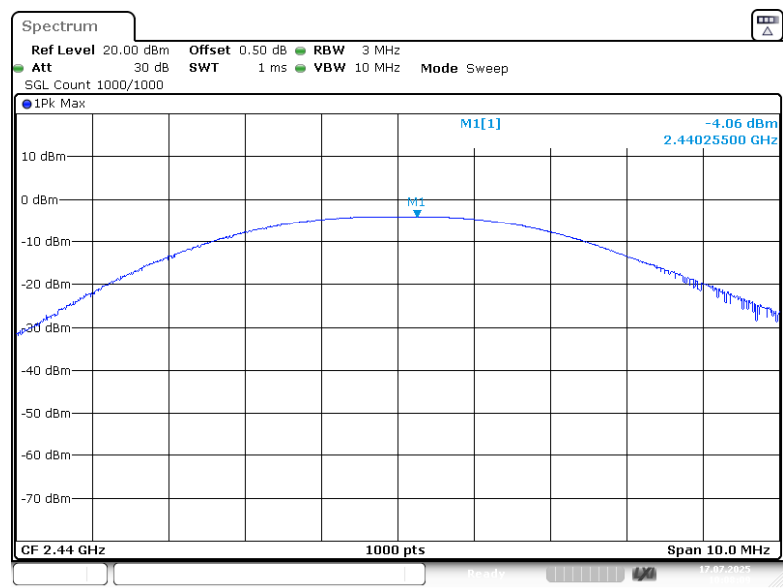
Test Modes	Test Channel	Test Frequency (MHz)	Maximum Conducted Peak Output Power(dBm)	Limit (dBm)
BLE 1Mbps	Lowest	2402	-3.9	≤30
	Middle	2440	-4.06	≤30
	Highest	2480	-4.01	≤30

1Mbps_Lowest



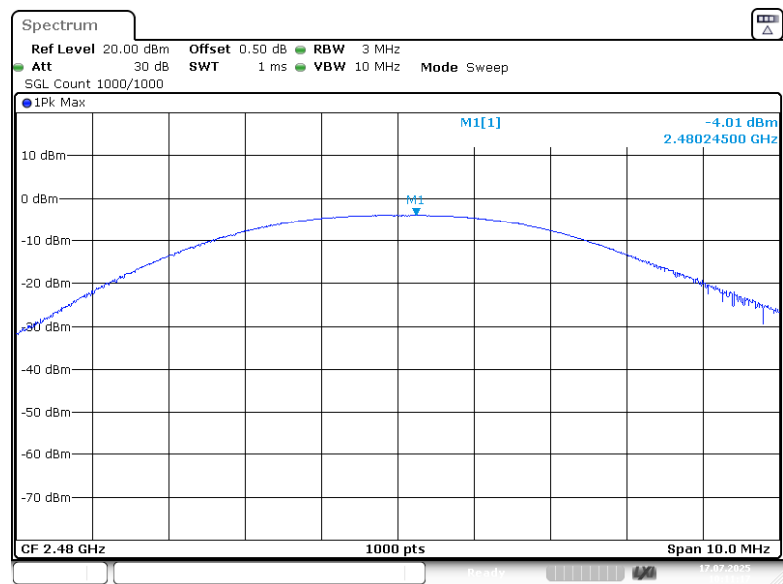
ProjectNo.:2507R04478E-RF Tester: Apollo Luo
Date: 17.JUL.2025 09:49:48

1Mbps_Middle



ProjectNo.:2507R04478E-RF Tester:Apollo Luo
Date: 17.JUL.2025 10:08:09

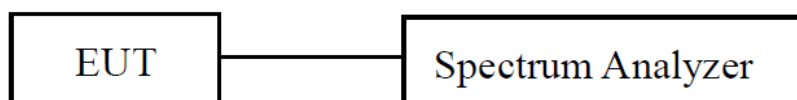
1Mbps_Highest



ProjectNo.:2507R04478E-RF Tester:Apollo Luo
Date: 17.JUL.2025 10:11:17

FCC §15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE**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 $\geq [3 \times \text{RBW}]$.
- 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.

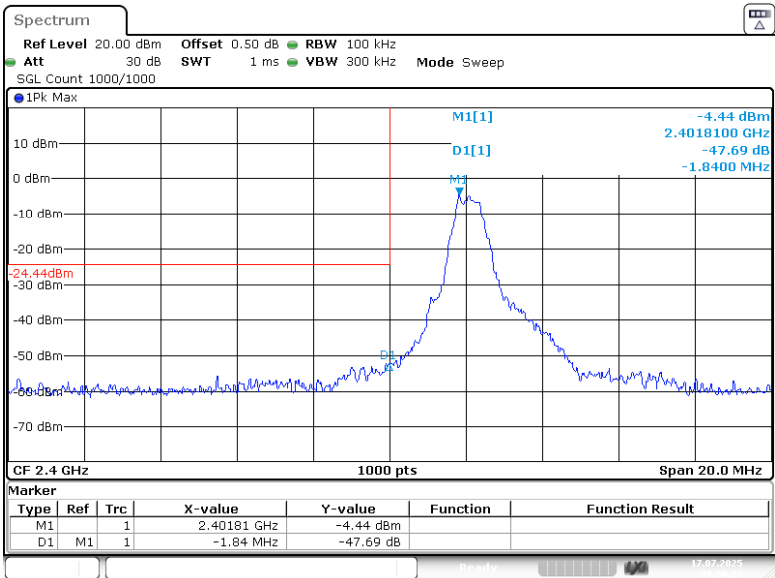
Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

Test Data

Test Mode:	Transmitting	Test Engineer:	Apollo Luo
Test Date:	2025-07-17	Environment:	Temp.: 23.5°C Humi.: 57% Atm :100.2 kPa

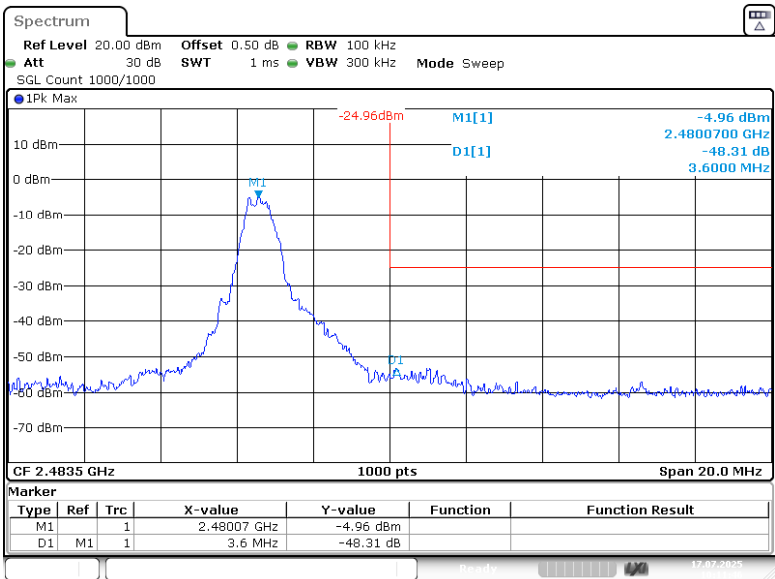
Test Result: Compliant

BLE 1Mbps_Lowest



ProjectNo.:2507R04478E-RF Tester:Apollo Luo
Date: 17.JUL.2025 09:50:29

BLE 1Mbps_Highest



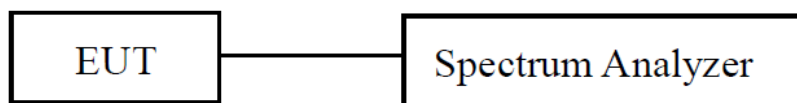
ProjectNo.:2507R04478E-RF Tester:Apollo Luo
Date: 17.JUL.2025 10:11:47

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.

EUT Setup



Test Procedure

According to ANSI C63.10-2013 Section 11.10.2

- Set analyzer center frequency to DTS channel center frequency.
- Set the span to 1.5 times the DTS bandwidth.
- Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- Set the VBW $\geq [3 \times \text{RBW}]$.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level within the RBW.
- If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

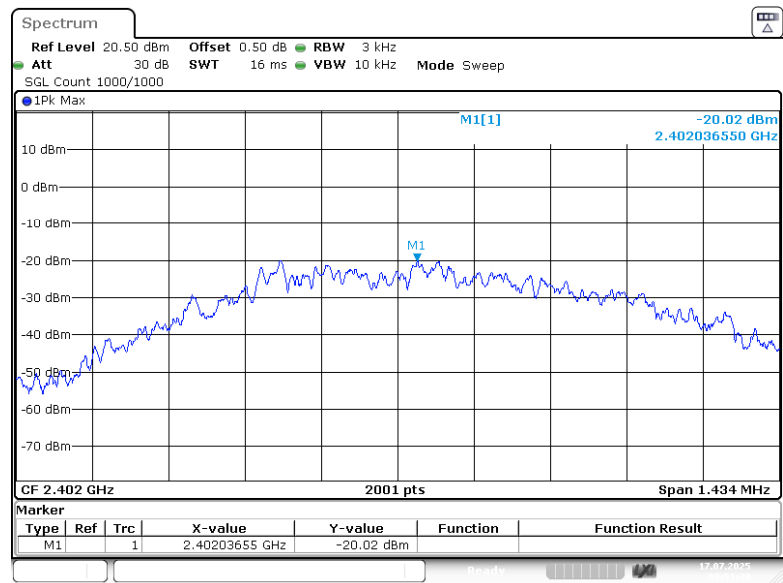
Test Data

Test Mode:	Transmitting	Test Engineer:	Apollo Luo
Test Date:	2025-07-17	Environment:	Temp.: 23.5°C Humi.: 57% Atm :100.2 kPa

Test Result: Compliant

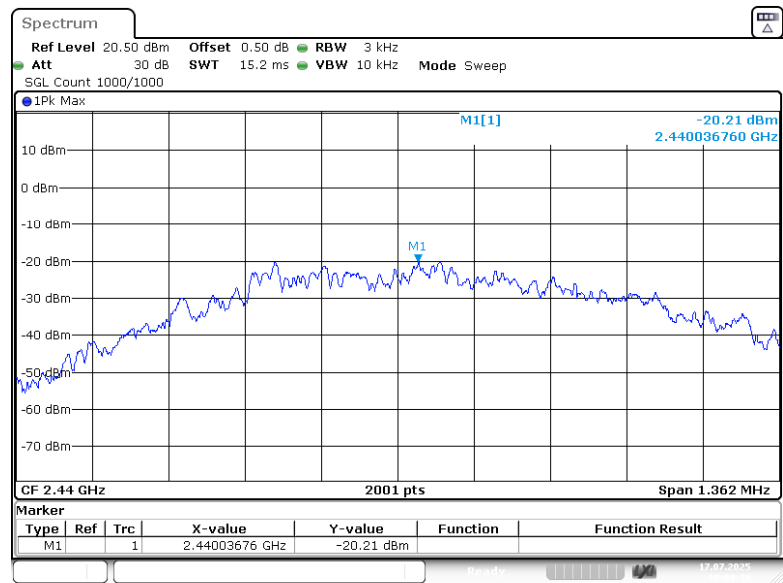
Test Modes	Test Channel	Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)
BLE 1Mbps	Lowest	2402	-20.02	≤ 8.00
	Middle	2440	-20.21	≤ 8.00
	Highest	2480	-20.04	≤ 8.00

BLE 1Mbps_Lowest



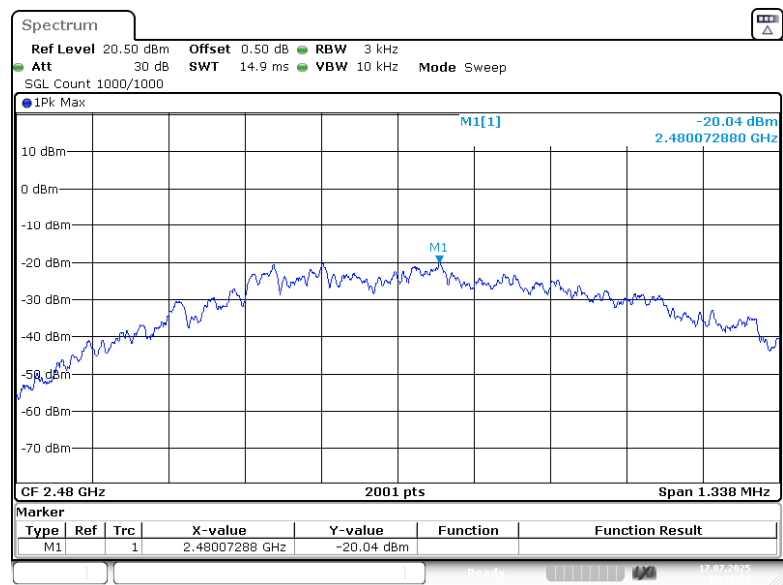
ProjectNo.:2507R04478E-RF Tester:Apollo Luo
Date: 17.JUL.2025 09:51:38

BLE 1Mbps_Middle



ProjectNo.:2507R04478E-RF Tester:Apollo Luo
Date: 17.JUL.2025 10:09:16

BLE 1Mbps_Highest



ProjectNo.:2507R04478E-RF Tester:Apollo Luo
Date: 17.JUL.2025 10:12:55

EUT PHOTOGRAPHS

Please refer to the attachment 2507R04478E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2507R04478E-RF-INP EUT INTERNAL PHOTOGRAPHS.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2507R04478E-RF-TSP EUT 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 *******