

TEST REPORT

Product Name : Projector
Model Number : A02D11, A**D11 (“**”= 01-99, indicates for different market or business purposes)
FCC ID : 2BEGB-A02D11

Prepared for : Shenzhen Neutop Optoelectronics Co., Ltd.
Address : 502, BLDG 4, Pingshan minQi Technology Park, No. 65 Lishan Road, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China

Prepared by : EMTEK (SHENZHEN) CO., LTD.
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Report Number : ENS2605290369W00501R
Date(s) of Tests : July 27, 2026 to August 31, 2026
Date of issue : August 31, 2026

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1 TEST RESULT CERTIFICATION

Applicant : Shenzhen Neutop Optoelectronics Co., Ltd.
Address : 502, BLDG 4, Pingshan minQi Technology Park, No. 65 Lishan Road, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China
Manufacturer : Shenzhen Neutop Optoelectronics Co., Ltd.
Address : 502, BLDG 4, Pingshan minQi Technology Park, No. 65 Lishan Road, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China
EUT : Projector
Model Name : A02D11, A**D11 ("****" = 01-99 · indicates for different market or business purposes)
Trademark : Aurzen, 

Measurement Procedure Used:

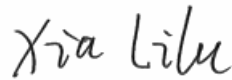
APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 47 CFR Part 2, Subpart J FCC 47 CFR Part 15, Subpart C	PASS
IC RSS-GEN, Issue 5(04-2018)+A1(03-2019)+A2(02-2021) IC RSS-247 Issue 4(07-2025)	PASS

The above equipment was tested by EMTEK(SHENZHEN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 2, Part 15.247, IC RSS-247 Issue 4 and IC RSS-GEN, Issue 5.

The test results of this report relate only to the tested sample identified in this report.

Date of Test : July 27, 2026 to August 31, 2026

Prepared by : 
Yu Xiaolan/Editor

Reviewer : 
Xia lilu /Supervisor

Approve & Authorized Signer : 
Wang li /Manager



Modified History

Version	Report No.	Revision Date	Summary
Ver.1.0	ENS2605290369W00501R	/	Original Report



2 EUT TECHNICAL DESCRIPTION

Characteristics	Description
Product:	Projector
Model Number:	A02D11, A**D11 (“**” = 01-99, indicates for different market or business purposes) (Note: All models are identical in circuitry and electrical, mechanical and physical construction; Mode A02D11 was Chosen final test.)
Test Sample S/N:	ENS2605290369W005-01/02
Variant Number:	N/A
Module name:	Module1:AC6956C Moduel2:ESP32-S3
Device Type:	Bluetooth V5.4
Data Rate :	1Mbps, 2Mbps
Modulation:	GFSK
Operating Frequency Range:	2402-2480MHz
Number of Channels:	40 Channels
Antenna Type:	FPC Antenna
Antenna Gain:	AC6956C for Ant1: 2.14dBi ESP32-S3 for Ant1: 2.58dBi (Note: The antenna information is provided by the customers, which will have a certain impact on the test results.)
Adapter:	Switching Adapter MODEL:DSA-65PDCA INPUT:100-240V~50/60Hz, 1.5A OUTPUT:5.0V/3.0A 15.0W, 9.0V/3.0A 27.0W, 12.0V/3.0A 36.0W, 15.0V/3.0A 45.0W, 20V/3.25A 65.0W
Power supply:	DC 20V from adapter DC 7.84V from Rechargeable Li-ion Battery Pack
Test Voltage:	AC 120V/60Hz
Temperature Range:	0° C ~ +35° C
Software Version:	ZIPIPROV013
Hardware Version:	V3.0
Date of Received:	July 27, 2026
Date of Test:	July 27, 2026 to August 27, 2026

Note: for more details, please refer to the User's manual of the EUT.

3 SUMMARY OF TEST RESULT

FCC Part Clause	IC Part Clause	Test Parameter	Verdict	Remark
15.247(a)(2)	RSS-247 clause 6.3.1(a) RSS-Gen clause 6.7	Emission Bandwidth	PASS	
15.247(b)(3)	RSS-247 clause 6.3.2	Maximum Peak Conducted Output Power	PASS	
15.247(e)	RSS-247 clause 6.3.1(b)	Maximum Power Spectral Density Level	PASS	
15.247(d)	RSS-247 clause 6.6	Unwanted Emission Into Non-Restricted Frequency Bands	PASS	
15.247(d)	RSS-247 clause 6.6	Unwanted Emission Into Restricted Frequency Bands (conducted)	PASS	
15.247(d) 15.209 15.205	RSS-247 clause 6.6 RSS-Gen clause 8.9 RSS-Gen clause 8.10	Radiated Spurious Emission	PASS	
15.207	RSS-Gen 8.8	Conducted Emission Test	PASS	
15.203 15.247(b)	RSS-Gen 6.8	Antenna Application	PASS	
NOTE1:N/A (Not Applicable) NOTE2:According to FCC OET KDB 558074, the report use radiated measurements in the restricted frequency bands. In addition, the radiated test is also performed to ensure the emissions emanating from the device cabinet also comply with the applicable limits.				

RELATED SUBMITTAL(S)/GRANT(S):

This submittal(s) (test report) is intended for **FCC ID:2BEGB-A02D11** filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

4 TEST METHODOLOGY

4.1 GENERAL DESCRIPTION OF APPLIED STANDARDS

According to its specifications, the EUT must comply with the requirements of the following standards:

FCC 47 CFR Part 2, Subpart J

FCC 47 CFR Part 15, Subpart C

IC RSS-GEN, Issue 5(04-2018)+A1(03-2019)+A2(02-2021)

IC RSS-247 Issue 4(07-2025)

FCC KDB 558074 D01 15.247 Meas Guidance v05r02

4.2 MEASUREMENT EQUIPMENT USED

Conducted Emission Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
EMI Test Receiver	Rohde & Schwarz	ESCI	101384	2026/5/9	1Year
AMN	Rohde & Schwarz	ENV216	101161	2026/5/10	1Year

For Spurious Emissions Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
Pre-Amplifier	Bonn	BLMA 011001N	2213967A	2025/10/16	1Year
EMI Test Receiver	Rohde & Schwarz	ESR7	102551	2025/10/16	1Year
Bilog Antenna	Schwarzbeck	VULB 9163	141	2026/5/16	2Year
Horn antenna	Schwarzbeck	BBHA9120D	9120D-1198	2025/5/13	2Year
Pre-Amplifier	Bonn	BLMA 0118-5G	2213967B-01	2025/10/16	1Year
Spectrum Analyzer	Rohde & Schwarz	FSV3044	101290	2025/10/16	1Year
Horn antenna	Schwarzbeck	BBHA9170	9170-399	2025/5/13	2Year
Pre-Amplifier	Lunar EM	LNA10M1G-40	J101113112600 1	2026/5/8	1Year
Pre-Amplifier	Lunar EM	LNA10M1G-40	J101113112600 2	2026/5/8	1Year
Loop Antenna	Schwarzbeck	FMZB1519	1519-012	2025/5/13	2Year
Coaxial Cable	TIMES	NmNm-7-C15702	N/A	2026/5/8	1Year
Coaxial Cable	TIMES	HF290-NMSM-6.5M	N/A	2026/5/8	1Year
Coaxial Cable	TIMES	LMR-240 N-N	N/A	2026/5/8	1Year

For other test items

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
Wideband Radio Communication Tester	R&S	CMW500	171168	2025/9/9	1Year
Frequency Extender	R&S	CMW-Z800A	100430	2025/9/9	1Year
Spectrum Analyzer	R&S	FSV3044	101289	2025/12/16	1Year
Analog Signal Generator	R&S	SMB100A	183237	2025/9/9	1Year
Vector Signal Generator	R&S	SMM100A	101808	2025/9/9	1Year
RF Control Unit(Power Meter)	Tonscend	JS0806-2	22C8060567	2025/9/9	1Year
Temperature&Humidity Chamber	ESPEC	EL-02KA	12107166	2026/5/8	1 Year

4.3 DESCRIPTION OF TEST MODES

The EUT has been tested under its typical operating condition.

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

Those data rates (Bluetooth DTS :1Mbps, 2Mbps) were used for all test.

Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Frequency and Channel list for Bluetooth DTS:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	19	2440	...	...
1	2404	20	2442	37	2476
2	2406	21	2444	38	2478
...	...	...	...	39	2480

Note: $f_c = 2402\text{MHz} + 2k \times 1\text{MHz}$ $k=0$ to 39

Test Frequency and channel for Bluetooth DTS:

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	19	2440	39	2480

5 FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at:

EMTEK (Shenzhen) Co., Ltd.

Building 69, Majialong Industry Zone District, Nanshan District, Shenzhen, China

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with preselectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5.3 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description

EMC Lab.

: **Accredited by CNAS**

The Certificate Registration Number is L2291

The Laboratory has been assessed and proved to be in compliance with CNAS-CL01 (identical to ISO/IEC 17025:2017)

Accredited by FCC

Designation Number: CN1204

Test Firm Registration Number: 882943

Accredited by A2LA

The Certificate Number is 4321.01

Accredited by Industry Canada

The Conformity Assessment Body Identifier is CN0008

Name of Firm : EMTEK (SHENZHEN) CO., LTD.

Site Location : Building 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China

6 TEST SYSTEM UNCERTAINTY

The following measurement uncertainty levels have been estimated for tests performed on the apparatus:

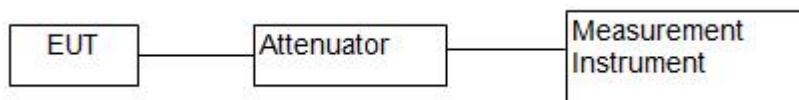
Test Parameter	Measurement Uncertainty
Frequency error	$\pm 1.9\%$
Occupied Bandwidth	$\pm 1.9\text{KHz}$
Transmitter output power	$\pm 1.18\text{dB}$
Conducted spurious emissions	$\pm 3.3\text{dB}$
Radiated spurious emissions	$\pm 4.5\text{dB}$
Temperature	$\pm 1.2^\circ\text{C}$
Humidity	$\pm 3\%$
DC voltages	$\pm 0.25\text{V}$
Time	$\pm 1\%$

Measurement Uncertainty for a level of Confidence of 95%

7 SETUP OF EQUIPMENT UNDER TEST

7.1 RADIO FREQUENCY TEST SETUP 1

The Bluetooth component's antenna ports(s) of the EUT are connected to the measurement instrument per an appropriate attenuator. The EUT is controlled by PC/software to emit the specified signals for the purpose of measurements.



7.2 RADIO FREQUENCY TEST SETUP 2

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10. The test distance is 3m. The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 and CAN/CSA-CEI/IEC CISPR 22.

The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).

Below 30MHz:

The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna (loop antenna). The Antenna should be positioned with its plane vertical at the specified distance from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. The center of the loop shall be 1 m above the ground. For certain applications, the loop antenna plane may also need to be positioned horizontally at the specified distance from the EUT.

Above 30MHz:

The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).

Above 1GHz:

The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).

Measurements shall be taken, using the following steps, at a test site that has been validated using the procedures of ANSI C63.4 or the latest CISPR 16-1-4 for measurements above 1 GHz, so as to simulate a near free-space environment (see RSS-Gen for applicable versions of ANSI and CISPR standards).

(1) Line the ground plane with absorbers between the transmitter and the receive antenna to minimize reflections. The absorbers used should have a minimum-rated attenuation of 20 dB through the measurement frequency range of interest. The absorbers shall be positioned to replicate the layout used when compliance with the applicable acceptability criterion was achieved, as set forth in the aforementioned standards on site validation.

(2) Set the height of the receive antenna to 1.5 m. The receive antenna must be one that was designed and fabricated to operate over the entire frequency range of interest, for example, an appropriate standard gain horn.

(3) The distance between the receive antenna and the radiating source shall be sufficient in order to ensure far-field conditions.

(4) Mount the transmitter at a height of 1.5 m.

(5) Configure the device under test (DUT) to produce the maximum power spectral density as measured while assessing compliance with Section 6.2.2 (i.e. channel frequency, modulation type and data rate). If the DUT is equipped with a detachable antenna and the antenna is intended for remote installation (i.e. tower-mounted), the DUT may be substituted with a suitable signal generator. The level and frequency

settings on the generator shall be set so as to reproduce the maximum power spectral density, measured within a 1 MHz bandwidth, obtained while assessing compliance to Section 6.2.2.

(6) Position the transmitter or the radiating antenna so that elevation pattern measurements can be taken.

(7) Find the 0° reference point in the horizontal plane.

(8) Care should be taken when positioning the receive antenna to avoid cross-polarization. Antennas of known mounting polarization should be assessed with the receive antenna oriented in the same polarity. If the polarization of the transmit antenna is unknown or the transmit antenna can be mounted in either polarization, e.i.r.p. measurements should be performed to find which mounting polarity provides the highest e.i.r.p. value. Testing shall be carried out with the receive antenna and the DUT mounted in each polarity.

(9) The emission shall be centred on the display of the spectrum analyzer with the following settings:

i. If the power spectral density of the DUT was assessed with a peak detector and the antenna cannot be detached from the DUT, the spectrum analyzer shall be set to a peak detector with a resolution bandwidth and video bandwidth of 1 MHz.

ii. If the power spectral density of the DUT was assessed using a sample detector with power averaging and the antenna cannot be detached from the DUT, the spectrum analyzer shall be set to a sample detector, configured to produce 100 power averages and set with a resolution bandwidth, as well as a video bandwidth of 1 MHz.

iii. If the antenna can be detached from the DUT, a continuous wave (CW) signal equal to that of the power spectral density measurement may be used, the spectrum analyzer shall be set to peak detector with a resolution bandwidth and video bandwidth of 1 MHz.

(10) Rotate the turntable 360° recording the field strength at each step. Throughout the main beam of the antenna, the step size shall be kept to a maximum of 1°.

Once outside the main beam of the antenna, the maximum step size shall be as follows, when compared to the requirements of Section 6.2.2:

i. Between 0° and 8°, maximum step size of 2°;

ii. Between 8° and 40°, maximum step size of 4°;

iii. Between 40° and 45°, maximum step size of 1°;

iv. Between 45° and 90°, maximum step size of 5°.

Once the mask reaches 90°, the mask will be inverted and the step size will follow in the same manner as above.

For the purpose of this procedure, the main beam of the antenna is defined as the 3 dB beamwidth.

(11) Convert the measured field strength values in terms of e.i.r.p. density (dBW/1 MHz) using the following equation:

$$\text{e.i.r.p. density (dBW/MHz)} = 10 \log((E \cdot r)^2 / 30)$$

E = field strength in V/m

r = measurement distance in metres

(12) Plot the results against the emission mask with reference to the horizontal plane.

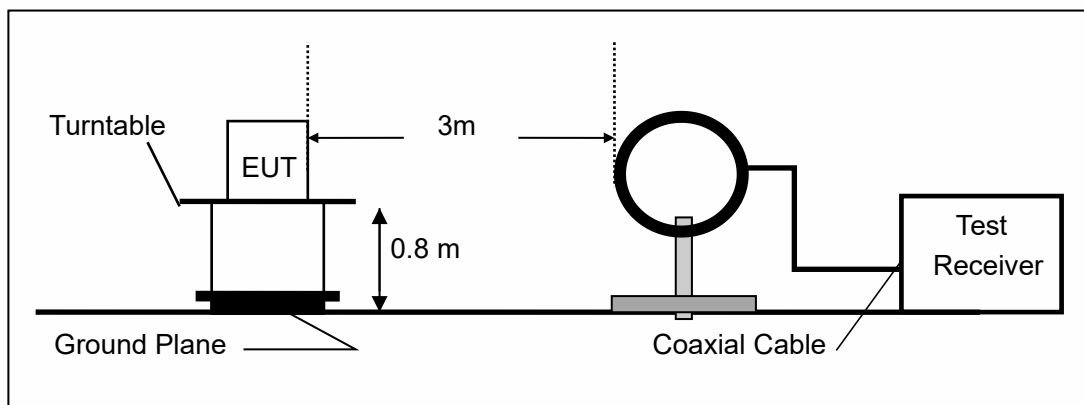
(13) Using the plot, the 0° can be rotated to determine the worst-case installation tilt angle.

(14) Testing shall be performed using the highest gain antenna for every antenna type, if applicable.

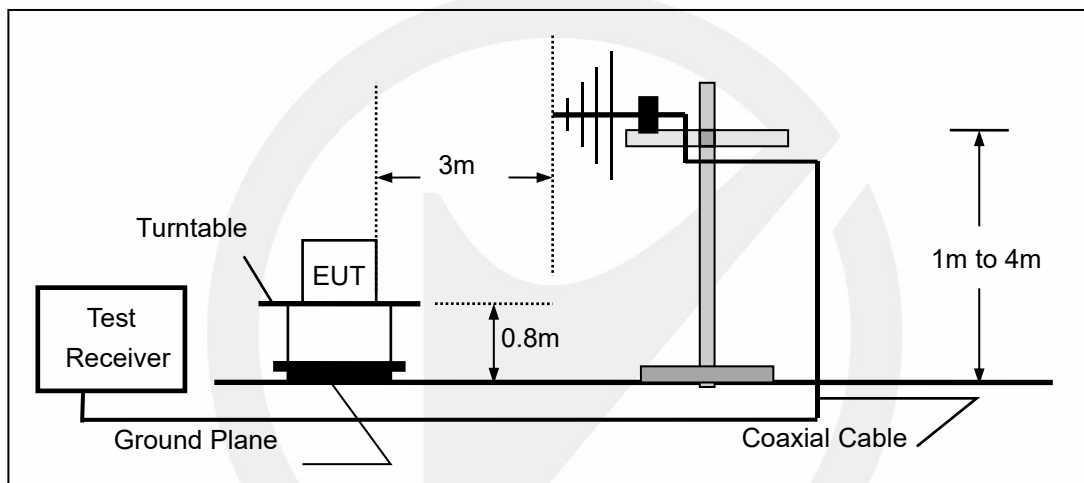
(15) Antenna type(s), antenna model number(s), and worst-case tilt angle(s) necessary to remain compliant with the elevation mask requirement set forth in Section 6.2.2(3) of RSS-247 shall be clearly indicated in the user manual.

The following figure is an example of a polar elevation mask measured using the Method 1 reference to dBμV/m at 3 m.

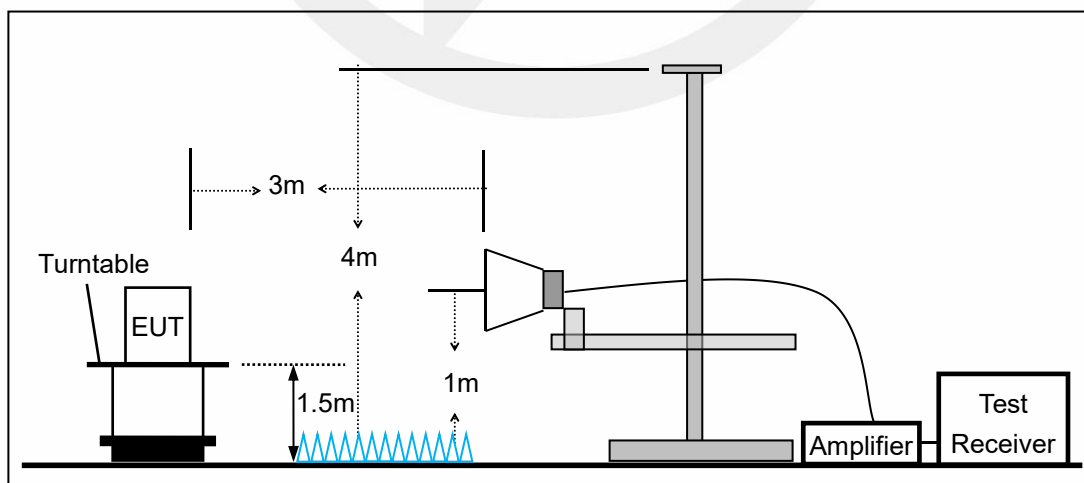
(a) Radiated Emission Test Set-Up, Frequency Below 30MHz



(b) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(c) Radiated Emission Test Set-Up, Frequency above 1000MHz

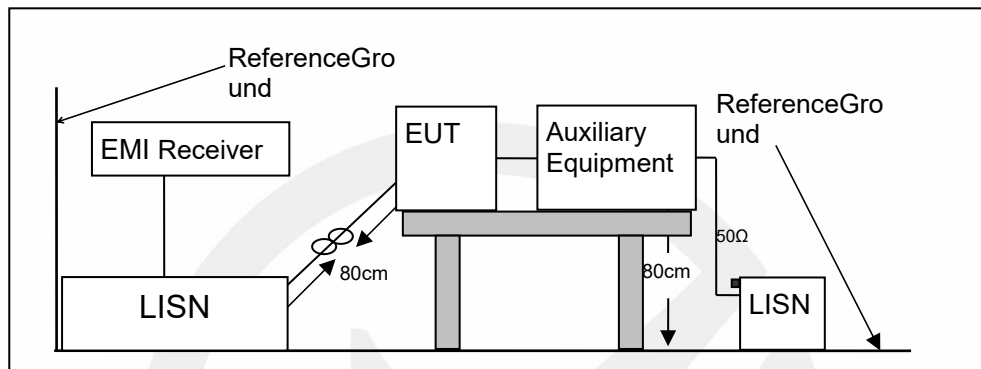


7.3 CONDUCTED EMISSION TEST SETUP

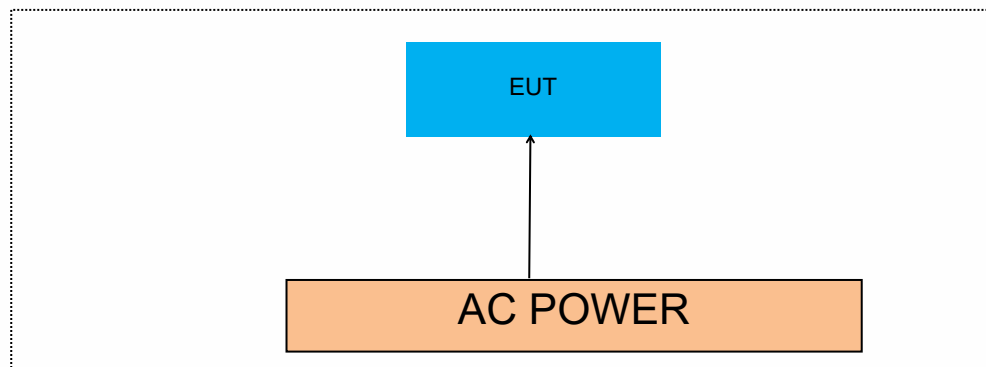
The mains cable of the EUT (maybe per AC/DC Adapter) must be connected to LISN. The LISN shall be placed 0.8 m from the boundary of EUT and bonded to a ground reference plane for LISN mounted on top of the ground reference plane. This distance is between the closest points of the LISN and the EUT. All other units of the EUT and associated equipment shall be at least 0.8m from the LISN.

Ground connections, where required for safety purposes, shall be connected to the reference ground point of the LISN and, where not otherwise provided or specified by the manufacturer, shall be of same length as the mains cable and run parallel to the mains connection at a separation distance of not more than 0.8 m.

According to the requirements in Section 13.1.4.1 of ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.



7.4 BLOCK DIAGRAM CONFIGURATION OF TEST SYSTEM



7.5 SUPPORT EQUIPMENT

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
/	/	/	/

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

8 TEST REQUIREMENTS

8.1 DTS 6DB BANDWIDTH

8.1.1 Applicable Standard

According to FCC Part 15.247(a)(2) and KDB 558074 D01 15.247 Meas Guidance v05r02
According to RSS-247

8.1.2 Conformance Limit

The minimum -6 dB bandwidth shall be at least 500 kHz.

8.1.3 Test Configuration

Test according to clause 7.1 radio frequency test setup 1

8.1.4 Test Procedure

The EUT was operating in Bluetooth mode and controlled its channel. Printed out the test result from the spectrum by hard copy function.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously

Set RBW = 100 kHz.

Set the video bandwidth (VBW) = 300 kHz.

Set Span = 2 times OBW

Set Detector = Peak.

Set Trace mode = max hold.

Set Sweep = auto couple.

Allow the trace to stabilize.

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.

Measure and record the results in the test report.

Test Results

Temperature:	28.3°C
Relative Humidity:	55%
ATM Pressure:	1011 mbar

Note: N/A

Module 1: AC6956C

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.528	2401.644	2402.172	0.5	PASS
BLE_1M	Ant1	2440	0.508	2439.656	2440.164	0.5	PASS
BLE_1M	Ant1	2480	0.508	2479.656	2480.164	0.5	PASS
BLE_2M	Ant1	2402	0.848	2401.396	2402.244	0.5	PASS
BLE_2M	Ant1	2440	0.872	2439.392	2440.264	0.5	PASS
BLE_2M	Ant1	2480	0.804	2479.412	2480.216	0.5	PASS



BLE_1M-Ant1-2402-PASS



BLE_1M-Ant1-2440-PASS



BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



BLE_2M-Ant1-2440-PASS



BLE_2M-Ant1-2480-PASS

Module2:ESP32-S3

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.660	2401.688	2402.348	0.5	PASS
BLE_1M	Ant1	2440	0.668	2439.684	2440.352	0.5	PASS
BLE_1M	Ant1	2480	0.660	2479.680	2480.340	0.5	PASS
BLE_2M	Ant1	2402	1.304	2401.344	2402.648	0.5	PASS
BLE_2M	Ant1	2440	1.056	2439.496	2440.552	0.5	PASS
BLE_2M	Ant1	2480	1.232	2479.376	2480.608	0.5	PASS





BLE_1M-Ant1-2402-PASS



BLE_1M-Ant1-2440-PASS



BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



BLE_2M-Ant1-2440-PASS



BLE_2M-Ant1-2480-PASS

8.2 DTS 99%BANDWIDTH

8.2.1 Applicable Standard

According to RSS-Gen6.7 and KDB 558074 D01 DTS Meas Guidance v05r02

8.2.2 Test Configuration

Test according to clause 7.1 radio frequency test setup 1

8.2.3 Test Procedure

The EUT was operating in Bluetooth mode and controlled its channel. Printed out the test result from the spectrum by hard copy function.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously

Set RBW = 1%-5% OBW(43KHz).

Set the video bandwidth (VBW) =130kHz.

Set Span=4MHz

Set Detector = Peak.

Set Trace mode = max hold.

Set Sweep = auto couple.

Allow the trace to stabilize.

Use the 99 % power bandwidth function of the instrument

Measure the maximum width of the emission.

Measure and record the results in the test report.

8.2.4 Test Results

Temperature:	28.3°C
Relative Humidity:	55%
ATM Pressure:	1011 mbar

Note: N/A

Module 1: AC6956C

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0349	2401.4708	2402.5057	---	---
BLE_1M	Ant1	2440	1.0319	2439.4751	2440.5070	---	---
BLE_1M	Ant1	2480	1.0357	2479.4723	2480.5080	---	---
BLE_2M	Ant1	2402	2.0555	2400.9787	2403.0342	---	---
BLE_2M	Ant1	2440	2.0528	2438.9784	2441.0312	---	---
BLE_2M	Ant1	2480	2.0320	2478.9769	2481.0089	---	---



BLE_1M-Ant1-2402



BLE_1M-Ant1-2440



BLE_1M-Ant1-2480



BLE_2M-Ant1-2402



BLE_2M-Ant1-2440



BLE_2M-Ant1-2480

Module 2:ESP32-S3

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0231	2401.5026	2402.5257	---	---
BLE_1M	Ant1	2440	1.0302	2439.5000	2440.5302	---	---
BLE_1M	Ant1	2480	1.0256	2479.5023	2480.5279	---	---
BLE_2M	Ant1	2402	2.0604	2400.9970	2403.0574	---	---
BLE_2M	Ant1	2440	2.0492	2439.0022	2441.0514	---	---
BLE_2M	Ant1	2480	2.0319	2479.0107	2481.0426	---	---





BLE_1M-Ant1-2402



BLE_1M-Ant1-2440



BLE_1M-Ant1-2480



BLE_2M-Ant1-2402



BLE_2M-Ant1-2440



BLE_2M-Ant1-2480

8.3 MAXIMUM PEAK CONDUCTED OUTPUT POWER

8.3.1 Applicable Standard

According to FCC Part 15.247(b)(3) and KDB 558074 D01 15.247 Meas Guidance v05r02
According to RSS-247 and RSS-Gen

8.3.2 Conformance Limit

The maximum peak conducted output power of the intentional radiator for systems using digital modulation in the 2400 - 2483.5 MHz bands shall not exceed: 1 Watt (30dBm).

8.3.3 Test Configuration

Test according to clause 7.1 radio frequency test setup 1

8.3.4 Test Procedure

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. For smart system, 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. 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.

Set the RBW $\geq$ DTS bandwidth (about 2MHz).

Set VBW $\approx 3 \times$ RBW (about 6MHz)

Set the span $\geq 3 \times$ RBW

Set Sweep time = auto couple.

Set Detector = peak.

Set Trace mode = max hold.

Allow trace to fully stabilize. Use peak marker function to determine the peak amplitude level.

Conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

8.3.5 Test Results

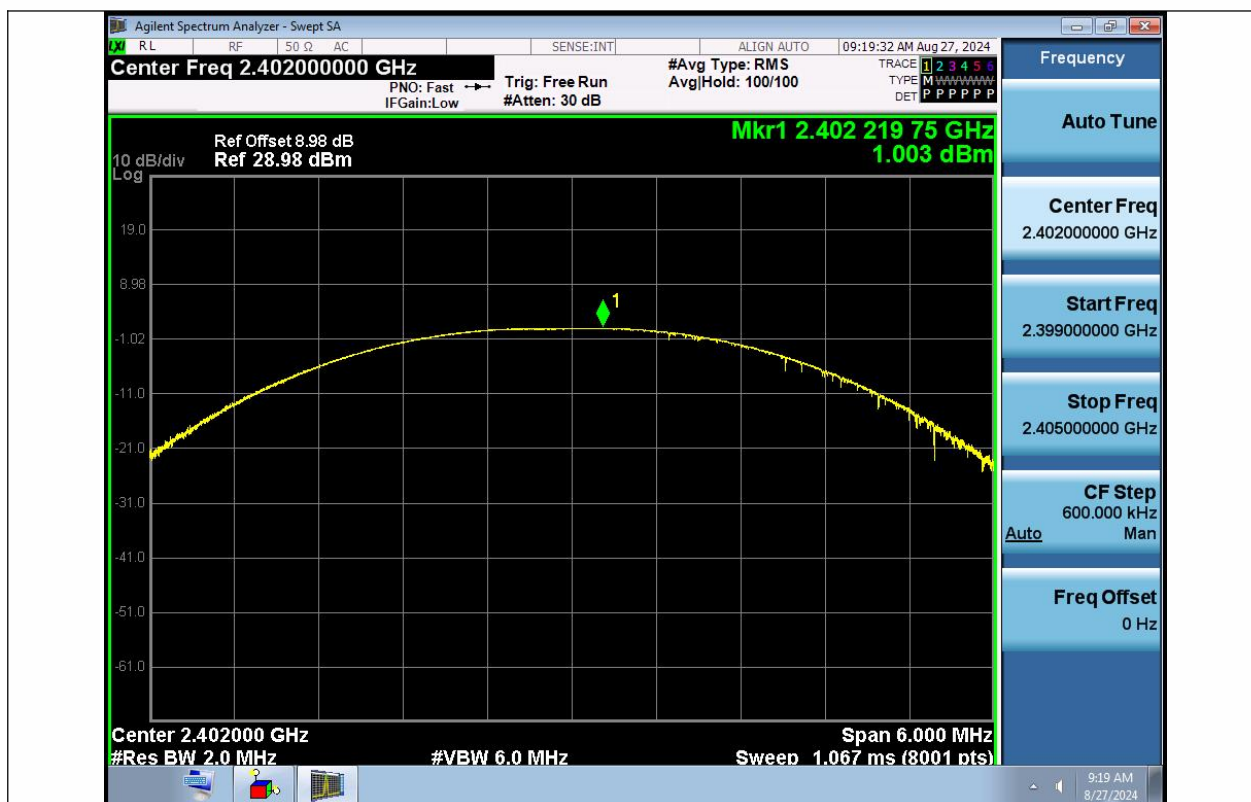
Temperature:	28.3°C
Relative Humidity:	55%
ATM Pressure:	1011 mbar

Note: N/A

Module 1: AC6956C

TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	EIRP[dBm]	EIRP Limit[dBm]	Verdict
BLE_1M	Ant1	2402	1.00	≤30	3.14	≤36	PASS
BLE_1M	Ant1	2440	4.51	≤30	6.65	≤36	PASS
BLE_1M	Ant1	2480	1.20	≤30	3.34	≤36	PASS
BLE_2M	Ant1	2402	1.41	≤30	3.55	≤36	PASS
BLE_2M	Ant1	2440	4.89	≤30	7.03	≤36	PASS
BLE_2M	Ant1	2480	1.62	≤30	3.76	≤36	PASS

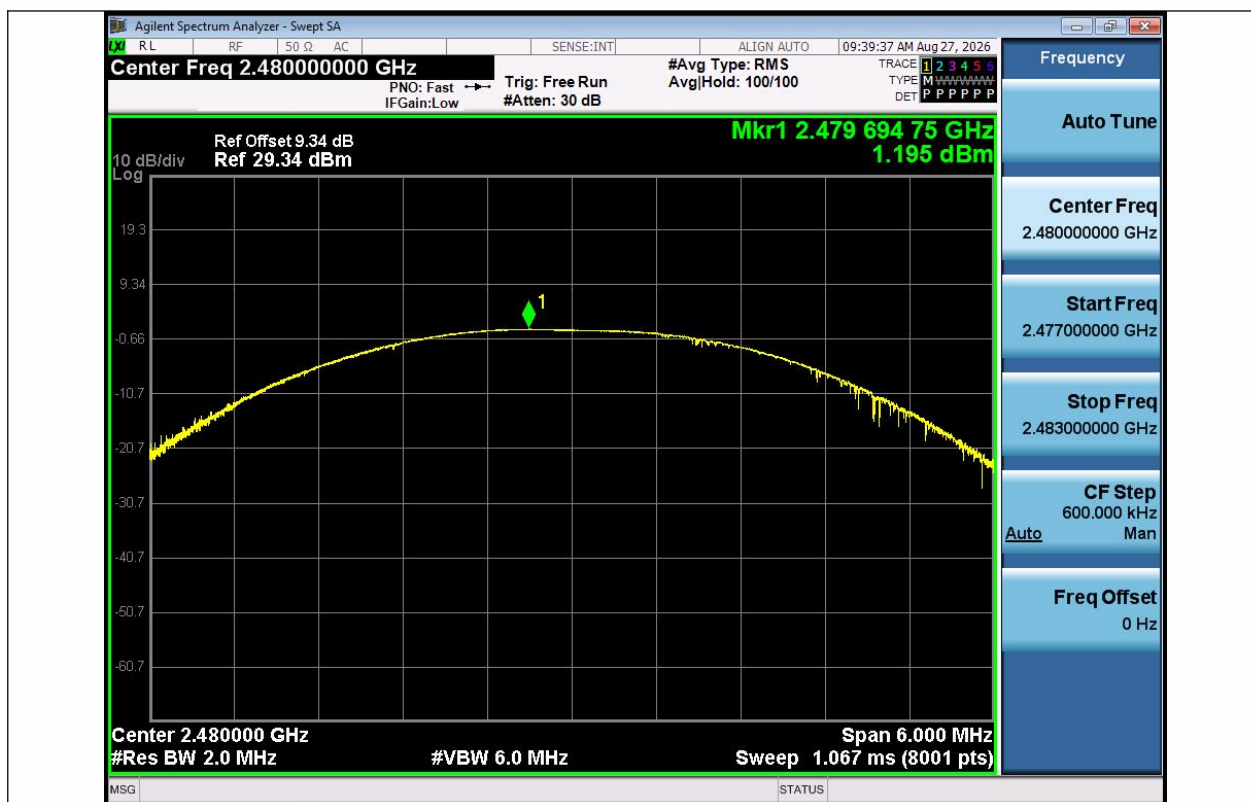




BLE_1M-Ant1-2402-PASS



BLE_1M-Ant1-2440-PASS



BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



BLE_2M-Ant1-2440-PASS

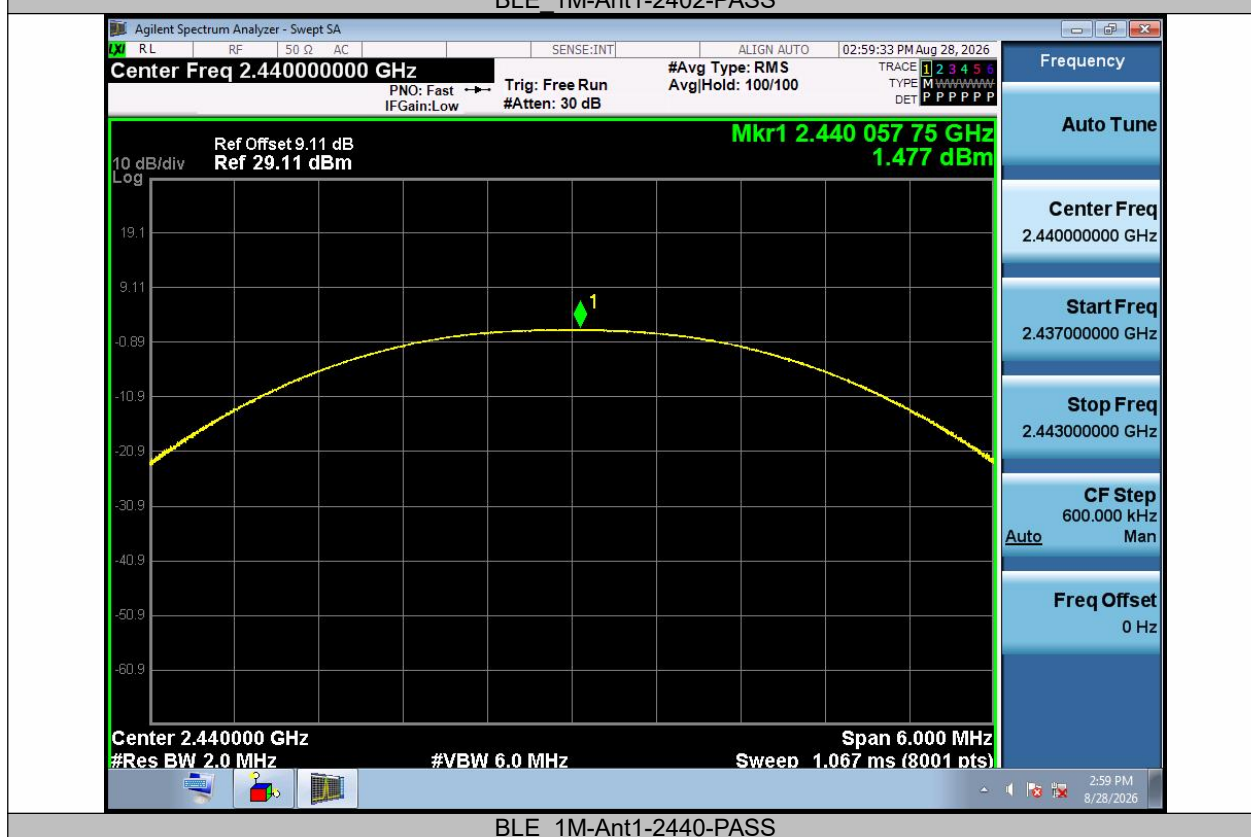
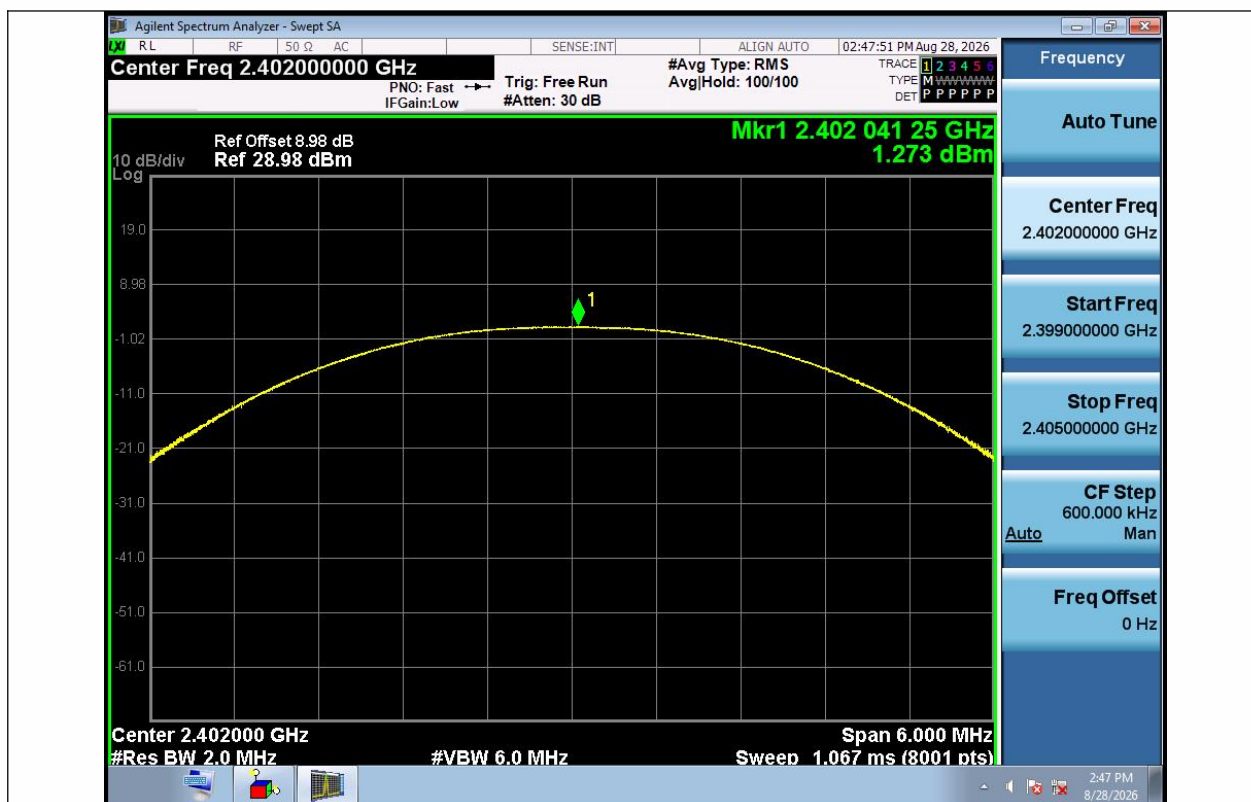


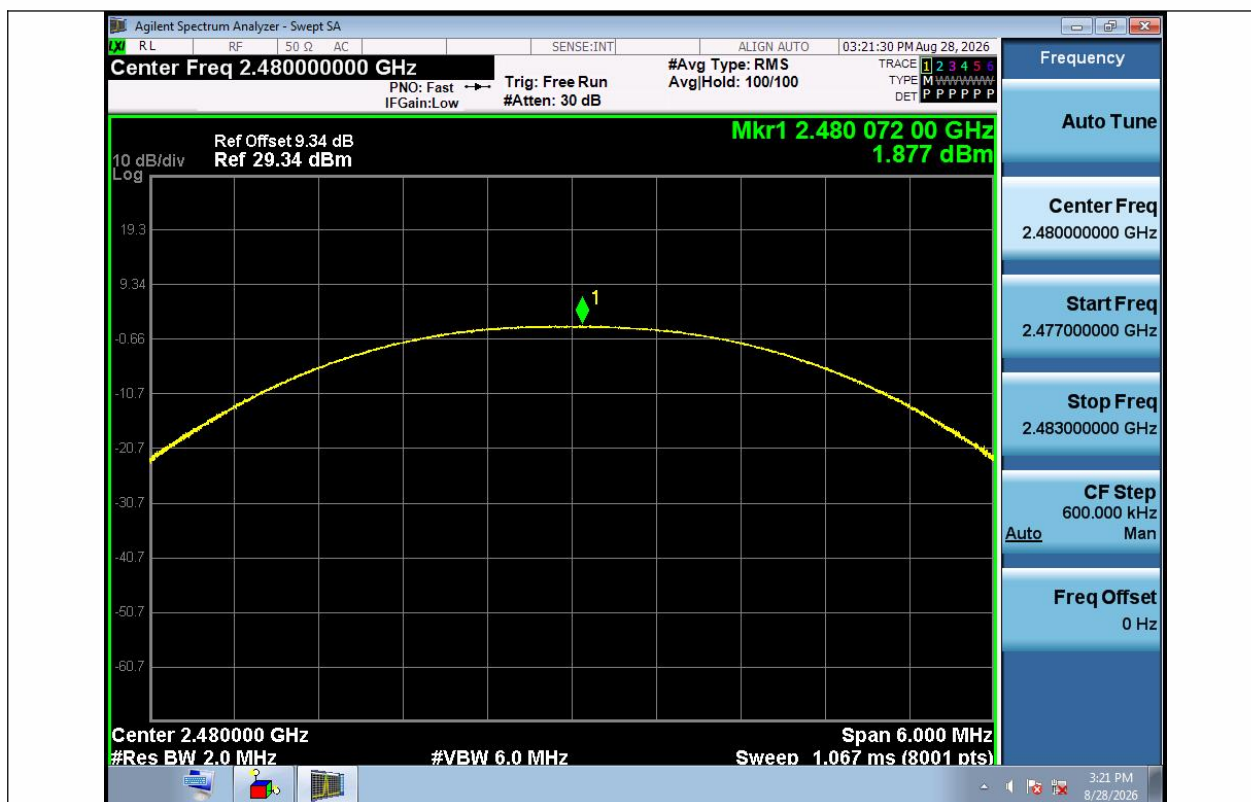
BLE_2M-Ant1-2480-PASS

Module 2:ESP32-S3

TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	EIRP[dBm]	EIRP Limit[dBm]	Verdict
BLE_1M	Ant1	2402	1.27	≤30	3.85	≤36	PASS
BLE_1M	Ant1	2440	1.48	≤30	4.06	≤36	PASS
BLE_1M	Ant1	2480	1.88	≤30	4.46	≤36	PASS
BLE_2M	Ant1	2402	1.63	≤30	4.21	≤36	PASS
BLE_2M	Ant1	2440	1.82	≤30	4.40	≤36	PASS
BLE_2M	Ant1	2480	1.71	≤30	4.29	≤36	PASS







BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS