



Shenzhen CTL Testing Technology Co., Ltd.
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TEST REPORT

FCC PART 15.247

Report Reference No.: CTL2307072061-WF01

Compiled by:
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(Manager)



Product Name.....: Multimedia Speaker System

Model/Type reference.....: EA055

List Model(s).....: 1-AD04NA01, 1-AD04NA02, 1-AD04NA03, 1-AD04NA04,
1-AD04NA05, 1-AD04NA06

Trade Mark.....: 1byone, Rock Pigeon, LUSCINIA

FCC ID.....: 2A6AD-EA055

Applicant's name.....: 1byone Products Inc.

Address of applicant.....: 1230 E Belmont Street, Ontario, CA, USA 91761

Test Firm.....: Shenzhen CTL Testing Technology Co., Ltd.

Address of Test Firm.....: Floor 1-A, Baisha Technology Park, No.3011, Shahexi Road,
Nanshan District, Shenzhen, China 518055

Test specification.....:

Standard.....: FCC Part 15.247: Operation within the bands 902-928 MHz,
2400-2483.5 MHz and 5725-5850 MHz.

TRF Originator.....: Shenzhen CTL Testing Technology Co., Ltd.

Master TRF.....: Dated 2011-01

Date of receipt of test item.....: July 11 2023

Date of Test Date.....: July 12 2023-July 27 2023

Date of Issue.....: July 31 2023

Result.....: Pass

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TEST REPORT

Test Report No. : CTL2307072061-WF01	July 31 2023 Date of issue
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Equipment under Test : Multimedia Speaker System

Model /Type : EA055

Listed Models : 1-AD04NA01, 1-AD04NA02, 1-AD04NA03,
1-AD04NA04, 1-AD04NA05, 1-AD04NA06

Applicant : **1byone Products Inc.**

Address : 1230 E Belmont Street, Ontario, CA, USA 91761

Manufacturer : **Dongguan Haide Wire Co.,LTD**

Address : Second Floor,Building3,415 Xiangmang West
Roda,Qingxi Town,Dongguan City

Test result	Pass *
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*In the configuration tested, the EUT complied with the standards specified page 5.

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the issuing testing laboratory.

** Modified History **

[illegible]

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1. SUMMARY

1.1. TEST STANDARDS

The tests were performed according to following standards:

[FCC Rules Part 15.247](#): Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

[ANSI C63.10: 2013](#): American National Standard for Testing Unlicensed Wireless Devices

1.2. Test Description

FCC PART 15.247		
FCC Part 15.207	AC Power Conducted Emission	N/A
FCC Part 15.247(a)(1)(i)	20dB Bandwidth	N/A
FCC Part 15.247(d)	Spurious RF Conducted Emission	PASS
FCC Part 15.247(b)	Maximum Peak Output Power	PASS
FCC Part 15.247(b)	Pseudorandom Frequency Hopping Sequence	N/A
FCC Part 15.247(a)(1)(iii)	Number of hopping frequency& Time of Occupancy	N/A
FCC Part 15.247(a)(1)	Frequency Separation	N/A
FCC Part 15.205/15.209	Radiated Emissions	PASS
FCC Part 15.247(d)	Band Edge Compliance of RF Emission	PASS
FCC Part 15.203/15.247 (b)	Antenna Requirement	PASS

1.3. Test Facility

1.3.1 Address of the test laboratory

Shenzhen CTL Testing Technology Co., Ltd.

Floor 1-A, Baisha Technology Park, No. 3011, Shahexi Road, Nanshan, Shenzhen 518055 China

There is one 3m semi-anechoic chamber and two line conducted labs for final test. The Test Sites meet the requirements in documents ANSI C63.10 and CISPR 32/EN 55032 requirements.

1.3.2 Laboratory accreditation

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L7497

Shenzhen CTL Testing Technology Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2017 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No. 4343.01

Shenzhen CTL Testing Technology Co., Ltd, EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

IC Registration No.: 9618B

CAB identifier: CN0041

The 3m alternate test site of Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements with Registration No.: 9618B on Jan. 22, 2019.

FCC-Registration No.: 399832

Designation No.: CN1216

Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 399832, December 08, 2017.

1.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the Shenzhen CTL Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for CTL laboratory is reported:

Test	Measurement Uncertainty	Notes
Transmitter power conducted	±0.57 dB	(1)
Transmitter power Radiated	±2.20 dB	(1)
Conducted spurious emission 9KHz-40 GHz	±1.60 dB	(1)
Occupied Bandwidth	±0.20ppm	(1)
Radiated Emission 30~1000MHz	±4.10dB	(1)
Radiated Emission Above 1GHz	±4.32dB	(1)
Conducted Disturbance0.15~30MHz	±3.20dB	(1)

- (1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

2. GENERAL INFORMATION

2.1. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature:	25°C
Relative Humidity:	55 %
Air Pressure:	101 kPa

Product Name:	Multimedia Speaker System
Model/Type reference:	EA055
Power supply:	Input: 100-240V, 60Hz, 1.0A
Bluetooth:	
Version:	Supported BR/EDR
Modulation:	GFSK, $\pi/4$ DQPSK, 8DPSK
Operation frequency:	2402MHz~2480MHz
Channel number:	79
Channel separation:	1MHz
Antenna type:	FPC Antenna
Antenna gain:	2.32dBi

2.2. General Description of EUT

Note1: For more details, please refer to the user's manual of the EUT.

Note2: Antenna gain provided by the applicant.

2.3. Description of Test Modes and Test Frequency

The Applicant provides communication tools software to control the EUT for staying in continuous transmitting (Duty Cycle more than 98%) and receiving mode for testing. There are 79 channels provided to the EUT and Channel 00/39/78 were selected to test.

Operation Frequency :

Channel	Frequency (MHz)
00	2402
01	2403
:	:
38	2440
39	2441
40	2442
:	:
77	2479
78	2480

Preliminary tests were performed in each mode and packet length of BT, and found worst case as bellow, finally test were conducted at those mode and recorded in this report.

Test Items	Worst case
Conducted Emissions	DH5 Middle channel
Radiated Emissions and Band Edge	DH5
Maximum Conducted Output Power	DH5/2DH5/3DH5
20dB Bandwidth	DH5/2DH5/3DH5
Frequency Separation	DH5/2DH5/3DH5 Middle channel
Number of hopping frequency	DH5/2DH5/3DH5
Time of Occupancy (Dwell Time)	DH1/DH3/DH5 Middle channel 2DH1/2DH3/2DH5 Middle channel 3DH1/3DH3/3DH5 Middle channel
Out-of-band Emissions	DH5/2DH5/3DH5

2.4. Equipments Used during the Test

Test Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date
LISN	R&S	ESH2-Z5	860014/010	2023/05/04	2024/05/03
Double cone logarithmic antenna	Schwarzbeck	VULB 9168	824	2023/02/13	2026/02/12
Horn Antenna	Ocean Microwave	OBH100400	26999002	2021/12/22	2024/12/21
EMI Test Receiver	R&S	ESCI	1166.5950.03	2023/05/04	2024/05/03
Spectrum Analyzer	Agilent	E4407B	MY41440676	2023/05/05	2024/05/04
Spectrum Analyzer	Agilent	N9020A	US46220290	2023/05/05	2024/05/04
Spectrum Analyzer	Keysight	N9020A	MY53420874	2023/05/05	2024/05/04
Horn Antenna	Sunol Sciences Corp.	DRH-118	A062013	2021/12/23	2024/12/22
Active Loop Antenna	Da Ze	ZN30900A	/	2021/05/13	2024/05/12
Amplifier	Agilent	8449B	3008A02306	2023/05/04	2024/05/03
Amplifier	MRT Technology(Suzhou)Co., Ltd	MRT-AP01M06	S-001	2023/05/04	2024/05/03
Amplifier	Brief&Smart	LNA-4018	2104197	2023/05/05	2024/05/04
Temperature/Humidity Meter	Ji Yu	MC501	/	2023/05/09	2024/05/08
Power Sensor	Agilent	U2021XA	MY53340004	2023/05/05	2024/05/04
Power Sensor	Agilent	U2021XA	MY54080012	2023/05/05	2024/05/04
Power Sensor	Agilent	U2021XA	MY54510008	2023/05/05	2024/05/04
Power Sensor	Agilent	U2021XA	MY55060003	2023/05/05	2024/05/04
Spectrum Analyzer	RS	FSP	1164.4391.38	2023/05/05	2024/05/04
Test Software					
Name of Software			Version		
TST-PASS			V1.1.0		
EZ_EMG(Below 1GHz)			V1.1.4.2		
EZ_EMG(Above 1GHz)			V1.1.4.2		

2.5. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

2.6. Modifications

No modifications were implemented to meet testing criteria.

3. TEST CONDITIONS AND RESULTS

3.1. Radiated Emissions and Band Edge

Limit

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emission out of authorized band shall not exceed the following table at a 3 meters measurement distance.

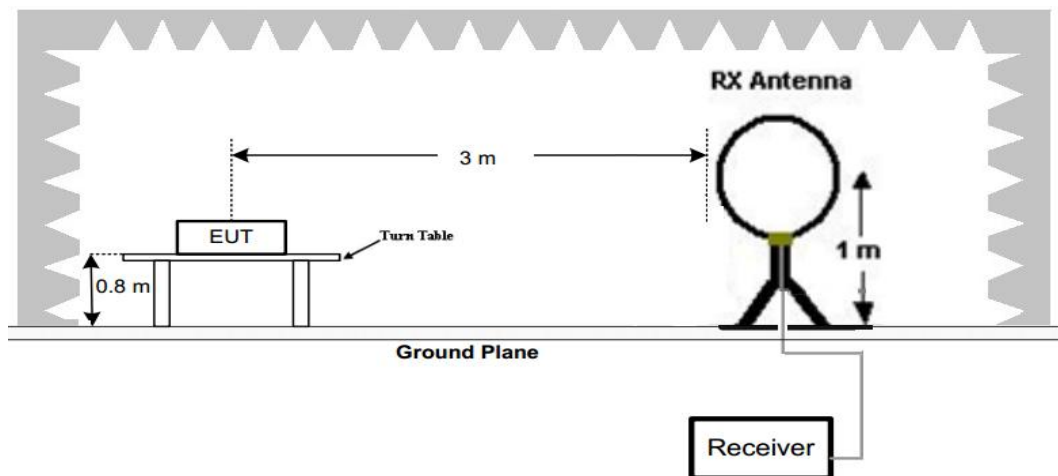
In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a)

Radiated emission limits

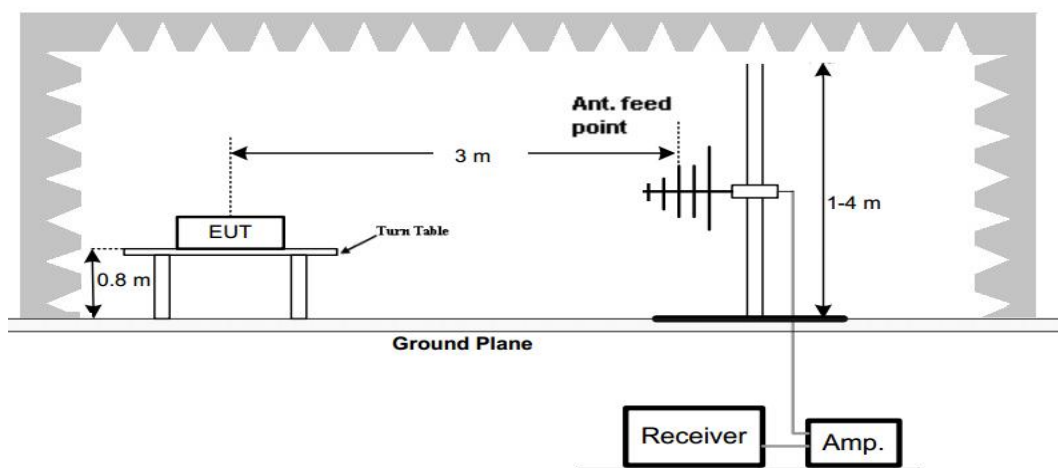
Frequency (MHz)	Distance (Meters)	Radiated (dB μ V/m)	Radiated (μ V/m)
0.009-0.49	3	$20\log(2400/F(\text{KHz})) + 40\log(300/3)$	$2400/F(\text{KHz})$
0.49-1.705	3	$20\log(24000/F(\text{KHz})) + 40\log(30/3)$	$24000/F(\text{KHz})$
1.705-30	3	$20\log(30) + 40\log(30/3)$	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

TEST CONFIGURATION

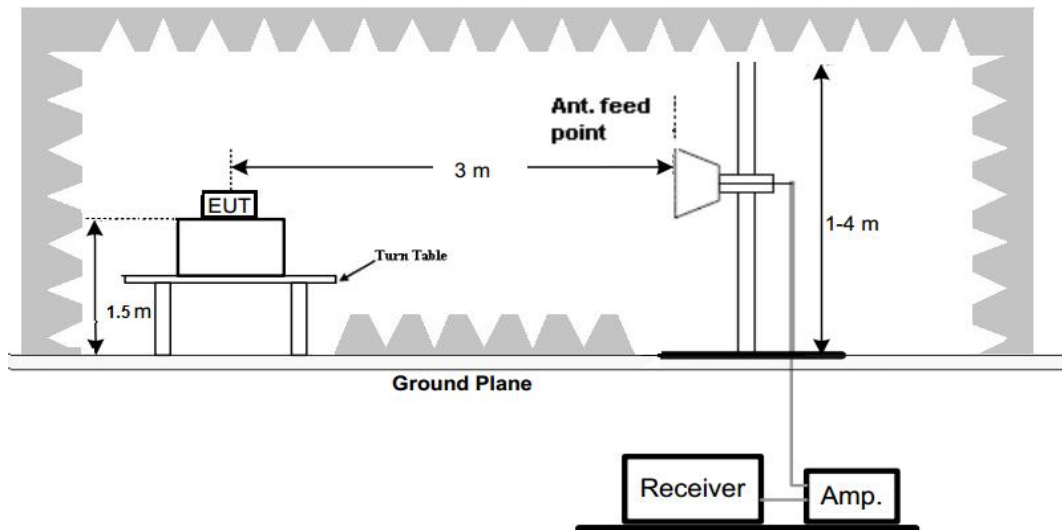
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency below 1000MHz



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



Test Procedure

1. Below 1GHz measurement the EUT is placed on a turntable which is 0.8m above ground plane, and above 1GHz measurement EUT was placed on a low permittivity and low loss tangent turn table which is 1.5m above ground plane.
2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0° to 360° to acquire the highest emissions from EUT
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.
5. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement –X, Y, and Z-plane. The X-plane results were found as the worst case and were shown in this report.

TEST RESULTS

Remark:

1. We measured Radiated Emission at GFSK mode from 9 KHz to 25GHz and recorded worst case at GFSK DH5 mode.
2. For below 1GHz testing recorded worst at GFSK DH5 low channel.
3. Radiated emission test from 9 KHz to 10th harmonic of fundamental was verified, Found the emission level are attenuated 20dB below the limits from 9 kHz to 30MHz, so it does not recorded in report.

For 30MHz-1GHz

Horizontal



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Radiated Emission Measurement

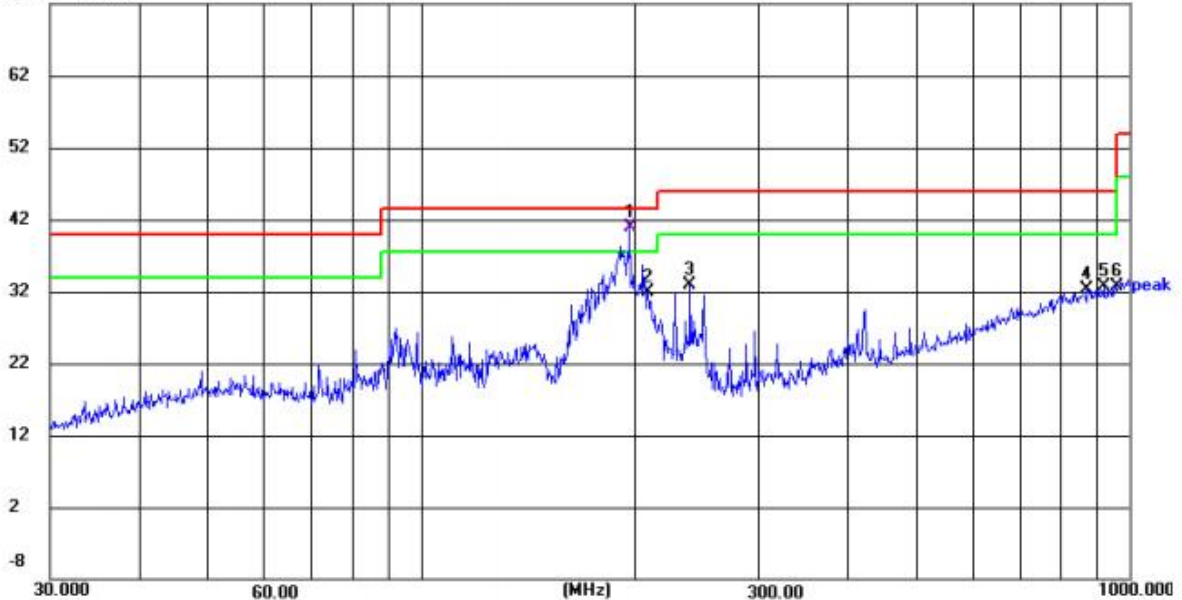
File :RF

Data :#5565

Date: 2023/07/19

Time: 18:08:51

72.0 dBuV/m



Site LAB Chamber 2

Limit: FCC Part15C

EUT: /

M/N: EA055

Mode: BT 2402MHz

Note: 1byone Products Inc.

Polarization: **Horizontal**

Power:

Distance: 3m

Temperature: 25(C)

Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	197.4264	30.10	10.71	40.81	43.50	2.69	QP	100	360	P	
2	209.3129	20.74	11.18	31.92	43.50	11.58	peak	100	210	P	
3	239.9873	20.24	12.68	32.92	46.00	13.08	peak	100	341	P	
4	872.1832	7.04	25.20	32.24	46.00	13.76	peak	100	295	P	
5	919.2865	6.91	25.71	32.62	46.00	13.38	peak	100	223	P	
6	955.4381	6.54	26.16	32.70	46.00	13.30	peak	100	106	P	

Vertical



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Radiated Emission Measurement

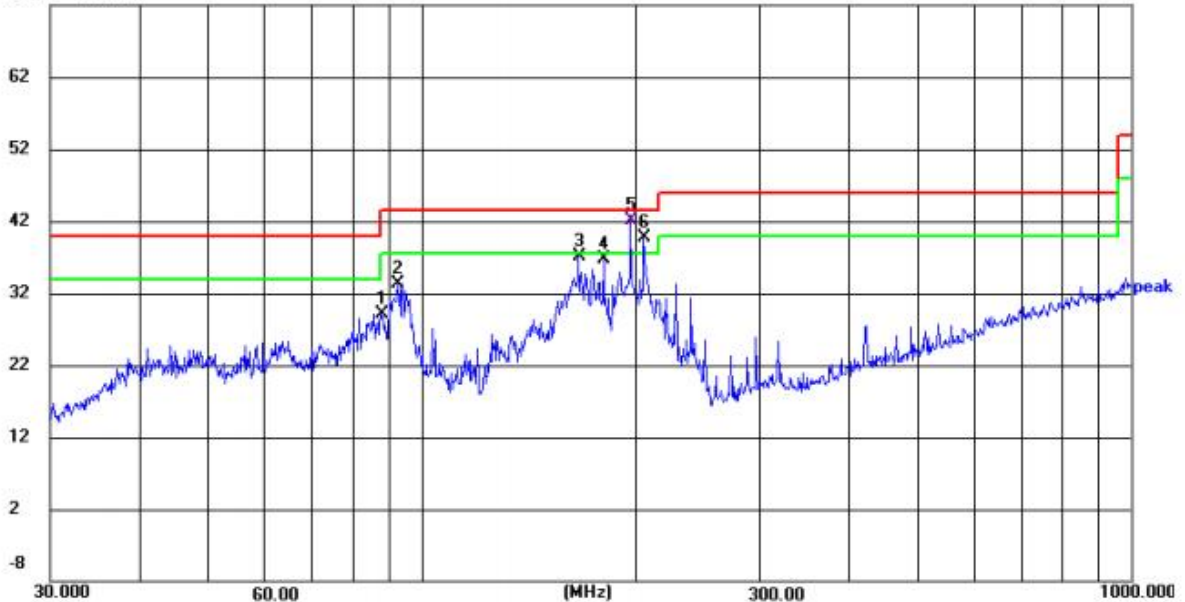
File :RF

Data :#5566

Date: 2023/07/19

Time: 18:10:08

72.0 dBuV/m



Site LAB Chamber 2

Limit: FCC Part15C

EUT: /

M/N: EA055

Mode: BT 2402MHz

Note: 1byone Products Inc.

Polarization: **Vertical**

Power:

Distance: 3m

Temperature: 25(C)

Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	87.7248	19.93	9.16	29.09	40.00	10.91	peak	100	234	P	
2	92.7871	23.96	9.43	33.39	43.50	10.11	peak	100	91	P	
3	166.6514	24.49	12.63	37.12	43.50	6.38	peak	100	13	P	
4	180.6488	25.32	11.43	36.75	43.50	6.75	peak	100	273	P	
5	197.4220	31.43	10.71	42.14	43.50	1.36	QP	100	0	P	
6	205.6751	28.70	10.95	39.65	43.50	3.85	peak	100	313	P	

For 1GHz to 25GHz

Note: All modulations have been tested, only worse case GFSK is reported.

GFSK (above 1GHz)

Frequency(MHz):			2402		Polarity:			HORIZONTAL	
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
4804.00	49.54	PK	74.00	24.46	45.03	33.49	6.91	35.89	4.51
4804.00	--	AV	54.00	--	--	--	--	--	--
5537.00	45.16	PK	74.00	28.84	38.3	34.06	7.04	34.24	6.86
5537.00	--	AV	54.00	--	--	--	--	--	--
7206.00	46.78	PK	74.00	27.22	35.68	36.95	9.18	35.03	11.10
7206.00	--	AV	54.00	--	--	--	--	--	--

Frequency(MHz):			2402		Polarity:			VERTICAL	
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
4804.00	50.09	PK	74.00	23.91	45.58	33.49	6.91	35.89	4.51
4804.00	--	AV	54.00	--	--	--	--	--	--
5642.00	45.27	PK	74.00	28.73	38.41	34.06	7.04	34.24	6.86
5642.00	--	AV	54.00	--	--	--	--	--	--
7206.00	47.68	PK	74.00	26.32	36.58	36.95	9.18	35.03	11.10
7206.00	--	AV	54.00	--	--	--	--	--	--

Frequency(MHz):			2441		Polarity:			HORIZONTAL	
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
4882.00	49.69	PK	74.00	24.31	43.33	33.60	6.95	34.19	6.36
4882.00	--	AV	54.00	--	--	--	--	--	--
5787.00	45.27	PK	74.00	28.73	37.67	34.56	7.15	34.11	7.60
5787.00	--	AV	54.00	--	--	--	--	--	--
7323.00	48.14	PK	74.00	25.86	36.44	37.46	9.23	35.00	11.70
7323.00	--	AV	54.00	--	--	--	--	--	--

Frequency(MHz):			2441		Polarity:			VERTICAL	
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
4882.00	49.25	PK	74.00	24.75	42.89	33.60	6.95	34.19	6.36
4882.00	--	AV	54.00	--	--	--	--	--	--
5867.00	46.28	PK	74.00	27.72	38.68	34.56	7.15	34.11	7.60
5867.00	--	AV	54.00	--	--	--	--	--	--
7323.00	47.57	PK	74.00	26.43	35.87	37.46	9.23	35.00	11.70
7323.00	--	AV	54.00	--	--	--	--	--	--

Frequency(MHz):			2480		Polarity:			HORIZONTAL	
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
4960.00	49.75	PK	74.00	24.25	44.83	33.84	7.00	35.92	4.92
4960.00	--	AV	54.00	--	--	--	--	--	--
6514.00	46.87	PK	74.00	27.13	39.59	34.45	7.12	34.29	7.28
6514.00	--	AV	54.00	--	--	--	--	--	--
7440.00	48.24	PK	74.00	25.76	36.29	37.64	9.28	34.97	11.95
7440.00	--	AV	54.00	--	--	--	--	--	--

Frequency(MHz):			2480		Polarity:			VERTICAL	
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
4960.00	48.17	PK	74.00	25.83	43.25	33.84	7.00	35.92	4.92
4960.00	--	AV	54.00	--	--	--	--	--	--
6377.00	45.57	PK	74.00	28.43	38.29	34.45	7.12	34.29	7.28
6377.00	--	AV	54.00	--	--	--	--	--	--
7440.00	47.29	PK	74.00	26.71	35.34	37.64	9.28	34.97	11.95
7440.00	--	AV	54.00	--	--	--	--	--	--

REMARKS:

1. Emission level (dBuV/m) =Raw Value (dBuV)+Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
3. Margin value = Limit value- Emission level.
4. -- Mean the PK detector measured value is below average limit.
5. RBW1MHz VBW3MHz Peak detector is for PK value; RBW 1MHz VBW10Hz Peak detector is for AV value.
6. Other emissions are attenuated 20dB below the limits from 9kHz to 30MHz, so it does not recorded in report.

Results of Band Edges Test (Radiated)

Note: All modulations have been tested, only worse case GFSK is reported.

Frequency(MHz):			2402		Polarity:			HORIZONTAL	
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2402.00	98.54	PK	--	--	65.15	28.78	4.61	0.00	33.39
2402.00	90.22	AV	--	--	56.83	28.78	4.61	0.00	33.39
2346.00	46.57	PK	74.00	27.43	13.49	28.52	4.56	0.00	33.08
2346.00	--	AV	54.00	--	--	--	--	--	--
2390.00	48.25	PK	74.00	25.75	14.93	28.72	4.60	0.00	33.32
2390.00	--	AV	54.00	--	--	--	--	--	--
2400.00	50.16	PK	--	--	16.77	28.78	4.61	0.00	33.39
2400.00	--	AV	--	--	--	--	--	--	--

Frequency(MHz):			2402		Polarity:			VERTICAL	
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2402.00	96.65	PK	--	--	63.26	28.78	4.61	0.00	33.39
2402.00	88.47	AV	--	--	55.08	28.78	4.61	0.00	33.39
2363.00	43.14	PK	74.00	30.86	10.06	28.52	4.56	0.00	33.08
2363.00	--	AV	54.00	--	--	--	--	--	--
2390.00	46.75	PK	74.00	27.25	13.43	28.72	4.60	0.00	33.32
2390.00	--	AV	54.00	--	--	--	--	--	--
2400.00	48.24	PK	--	--	14.85	28.78	4.61	0.00	33.39
2400.00	--	AV	--	--	--	--	--	--	--

Frequency(MHz):			2480		Polarity:			HORIZONTAL	
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2480.00	96.16	PK	--	--	62.54	28.92	4.70	0.00	33.62
2480.00	89.75	AV	--	--	56.13	28.92	4.70	0.00	33.62
2483.50	50.67	PK	74.00	23.33	17.04	28.93	4.70	0.00	33.63
2483.50	--	AV	54.00	--	--	--	--	--	--
2489.00	47.25	PK	74.00	26.75	13.59	28.95	4.71	0.00	33.66
2489.00	--	AV	54.00	--	--	--	--	--	--
2500.00	45.82	PK	74.00	28.18	12.14	28.96	4.72	0.00	33.68
2500.00	--	AV	54.00	--	--	--	--	--	--

Frequency(MHz):			2480		Polarity:			VERTICAL	
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2480.00	96.27	PK	--	--	62.65	28.92	4.70	0.00	33.62
2480.00	89.94	AV	--	--	56.32	28.92	4.70	0.00	33.62
2483.50	50.47	PK	74.00	23.53	16.84	28.93	4.70	0.00	33.63
2483.50	--	AV	54.00	--	--	--	--	--	--
2491.00	45.57	PK	74.00	28.43	11.91	28.95	4.71	0.00	33.66
2491.00	--	AV	54.00	--	--	--	--	--	--
2500.00	43.28	PK	74.00	30.72	9.6	28.96	4.72	0.00	33.68
2500.00	--	AV	54.00	--	--	--	--	--	--

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
3. Margin value = Limit value - Emission level.
4. -- Mean the PK detector measured value is below average limit.
5. RBW1MHz VBW3MHz Peak detector is for PK value; RBW 1MHz VBW10Hz Peak detector is for AV value.
6. For fundamental frequency, RBW 3MHz VBW 3MHz Peak detector is for PK Value; RMS detector is for AV value.
7. Other emissions are attenuated 20dB below the limits from 9kHz to 30MHz, so it does not recorded in report.

3.2. Maximum Peak Output Power

Limit

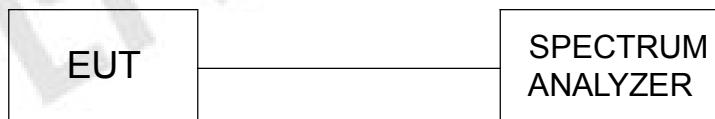
For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels: 1 watt.

For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

Test Procedure

Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum.

Test Configuration



Test Results

Raw data reference to Section 1 from Appendix for Bluetooth.

3.3. Antenna Requirement

Standard Applicable

For intentional device, according to FCC 47 CFR Section 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.

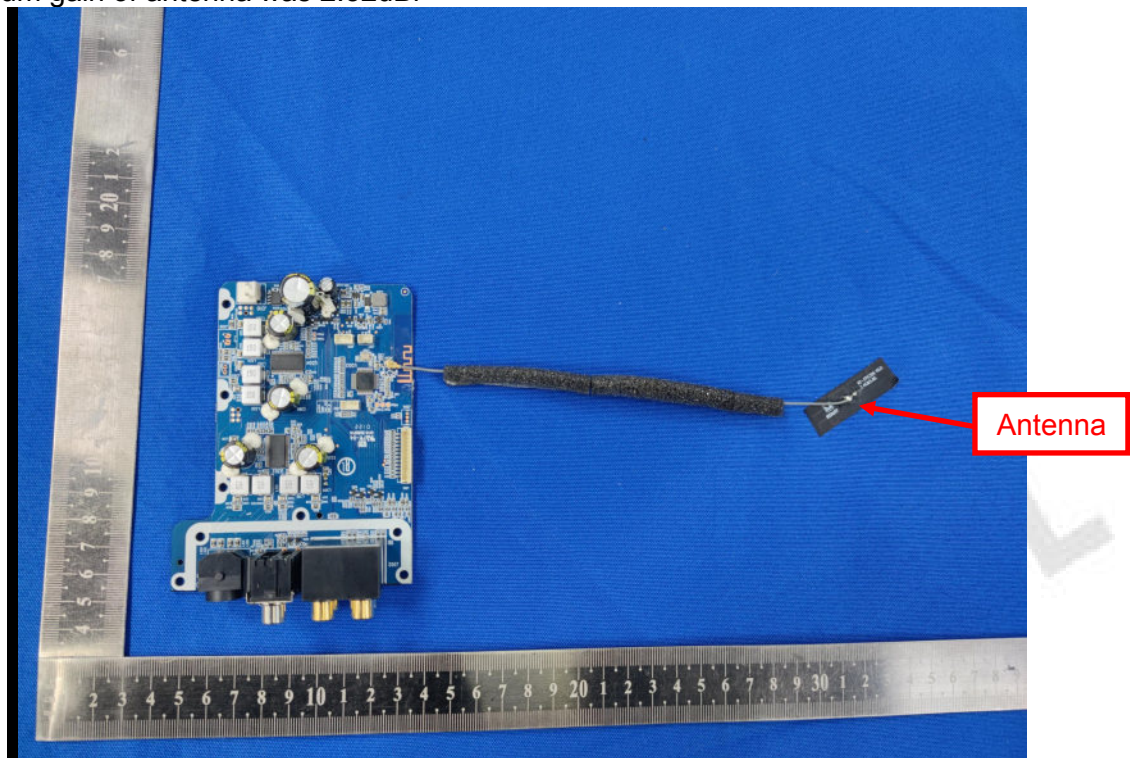
And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Refer to statement below for compliance

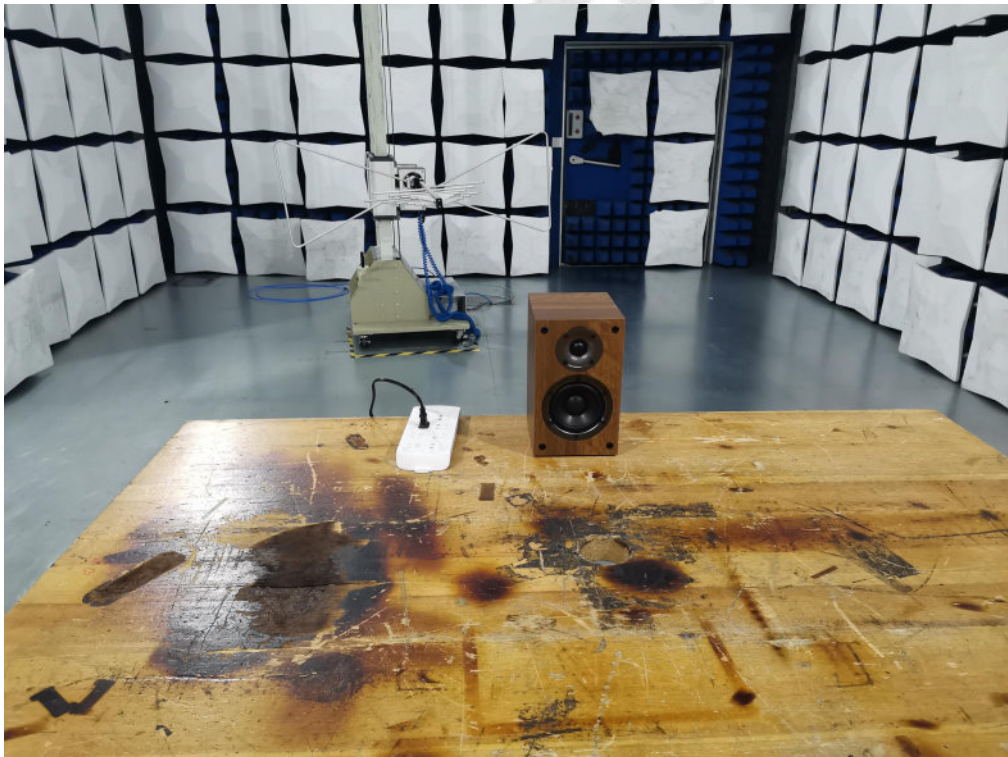
The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

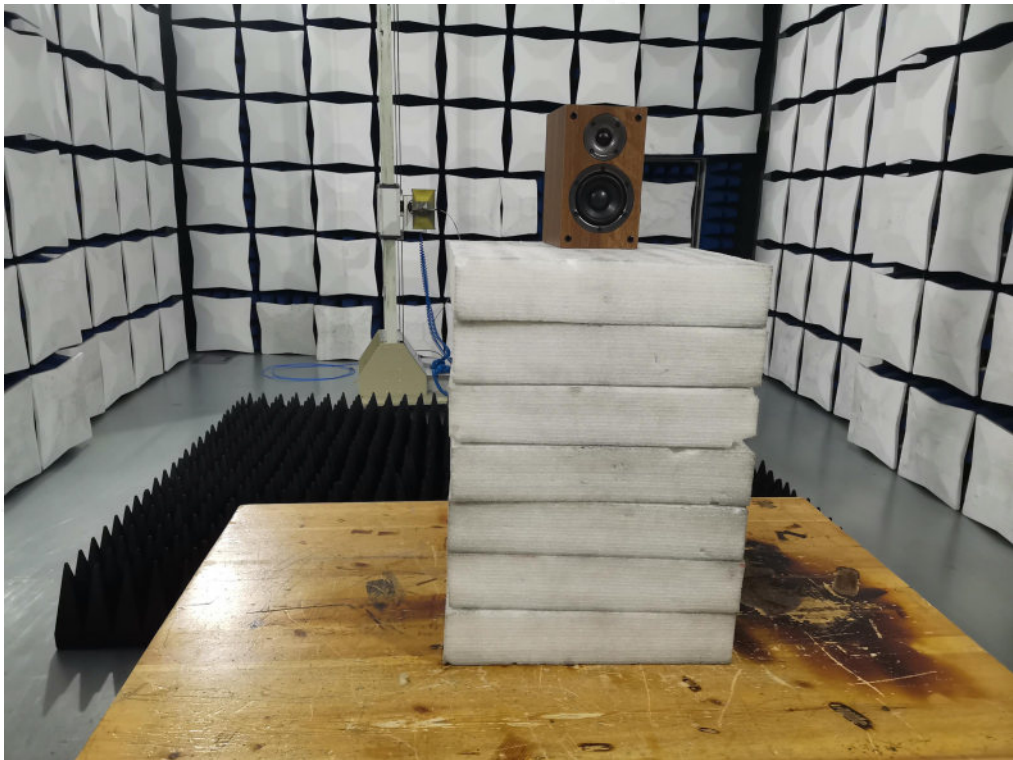
Antenna Connected Construction

The maximum gain of antenna was 2.32dBi



4. Test Setup Photos of the EUT

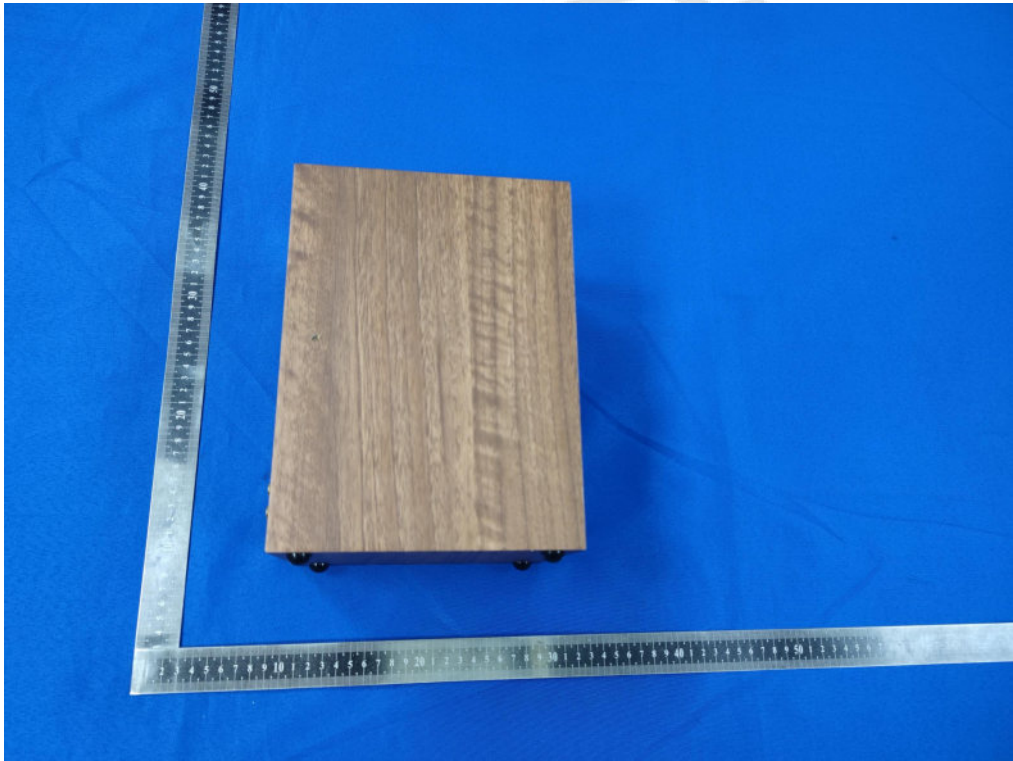
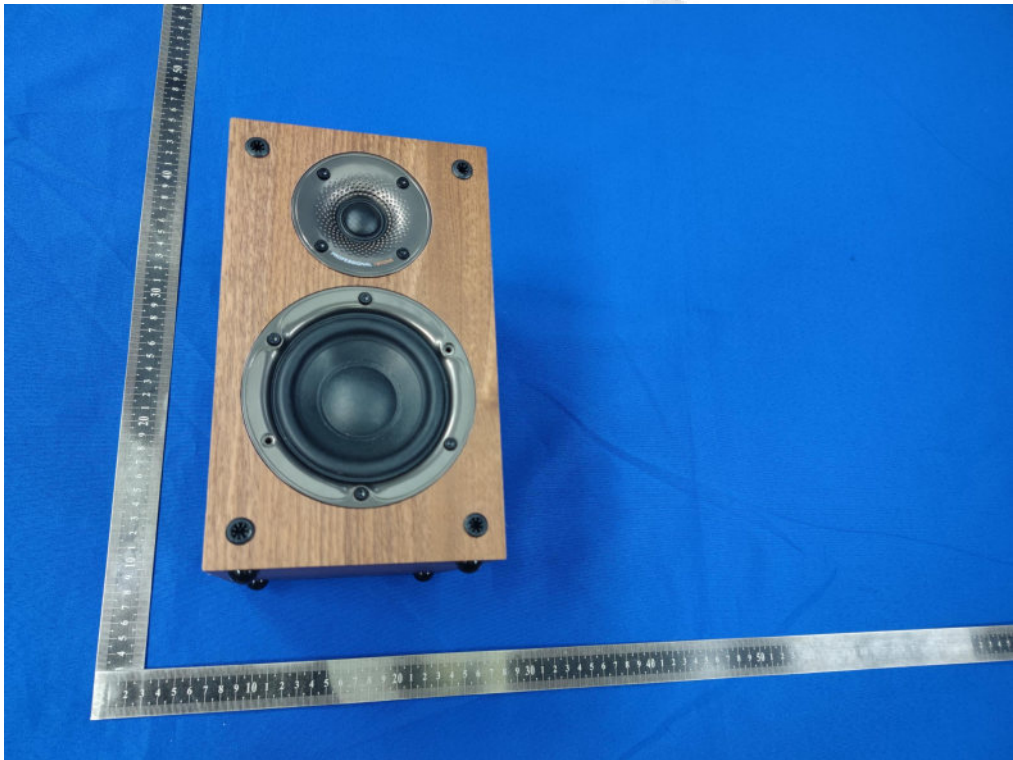


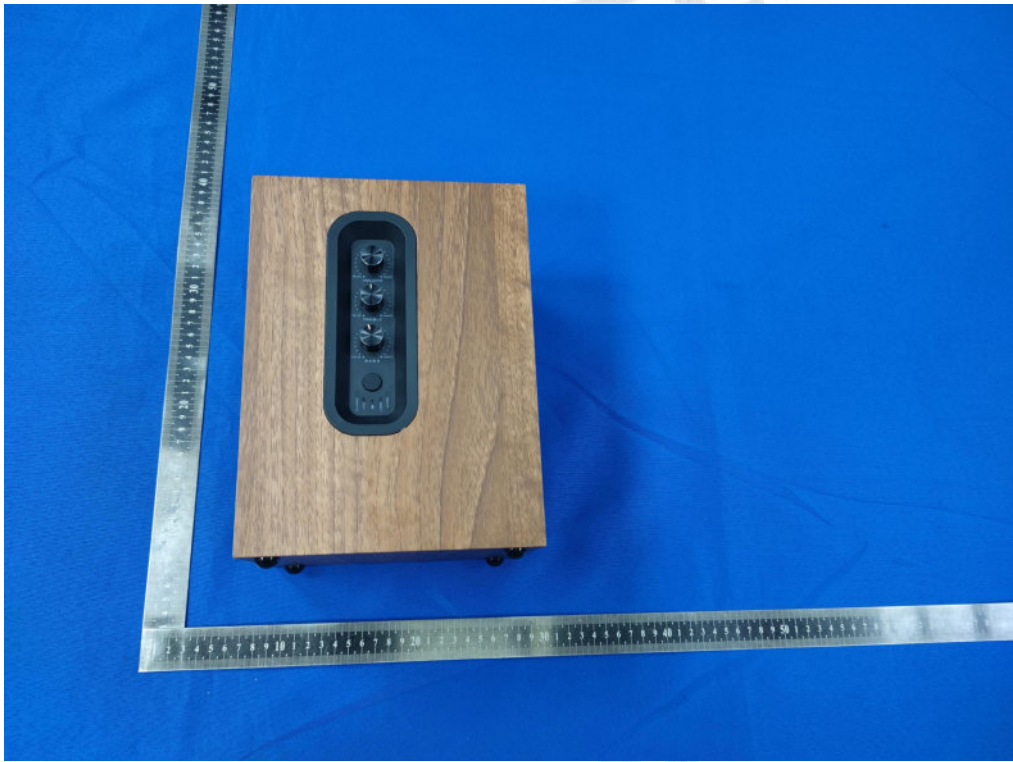


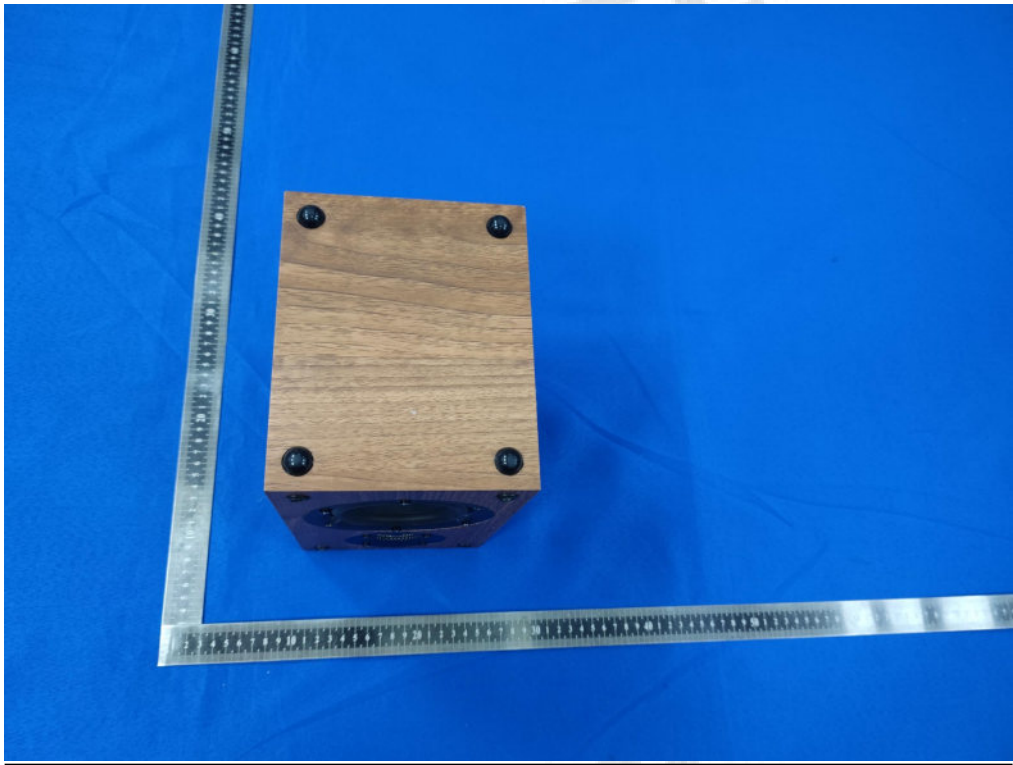
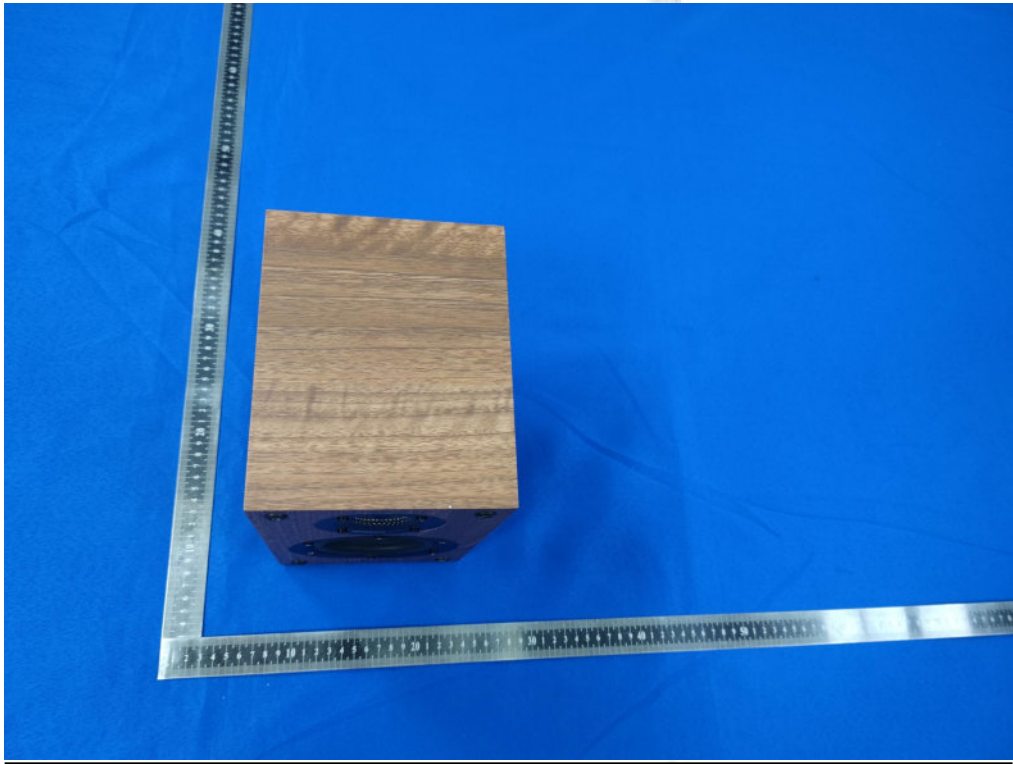
5. Photos of the EUT

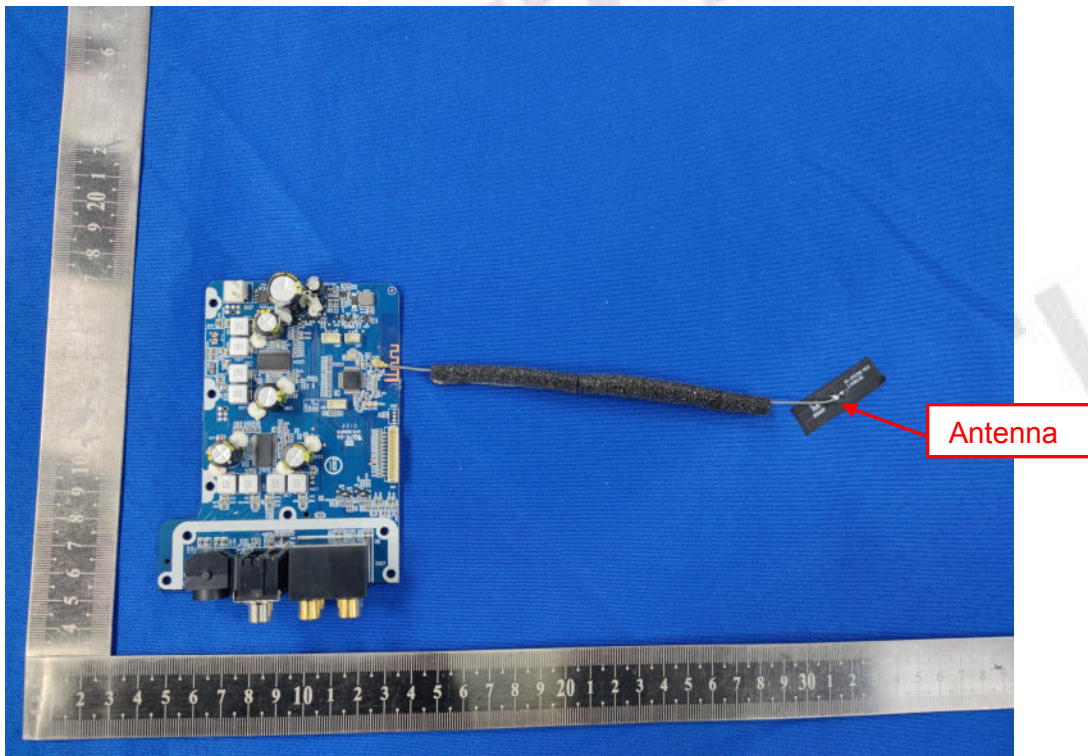
External Photos of EUT

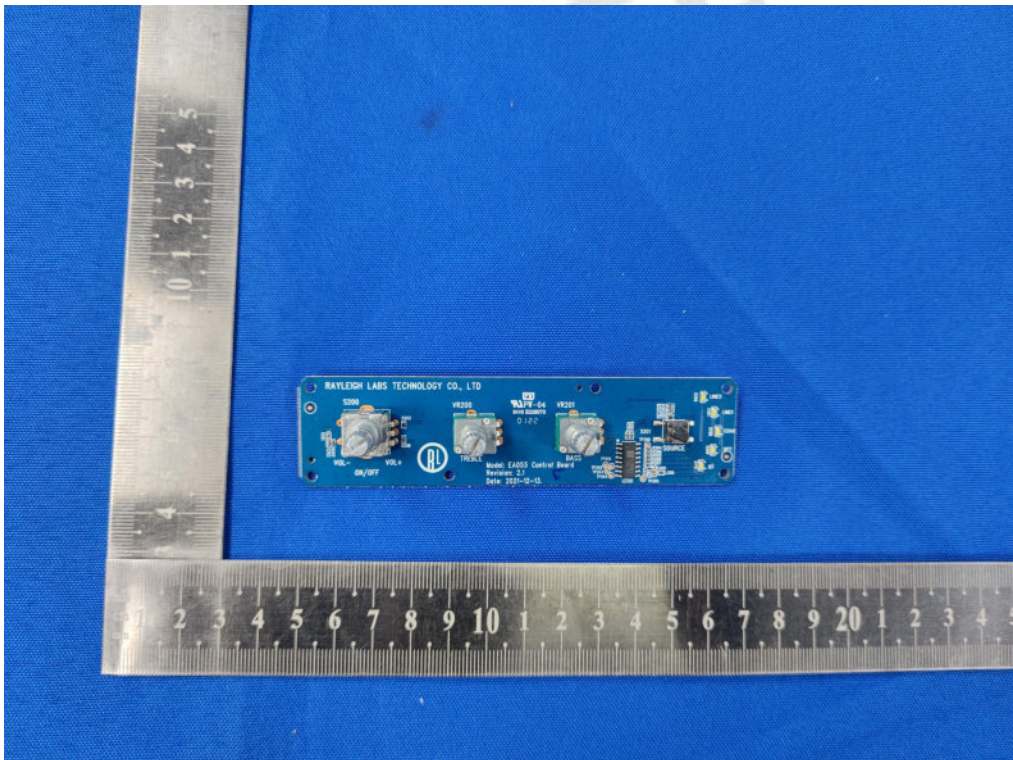
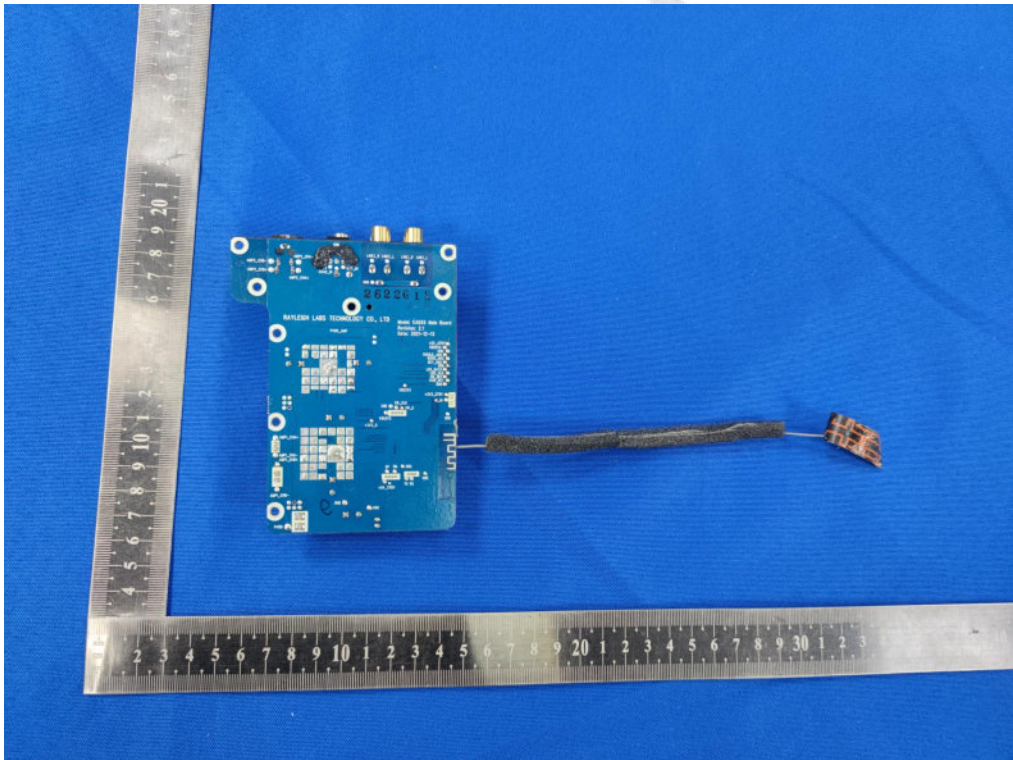


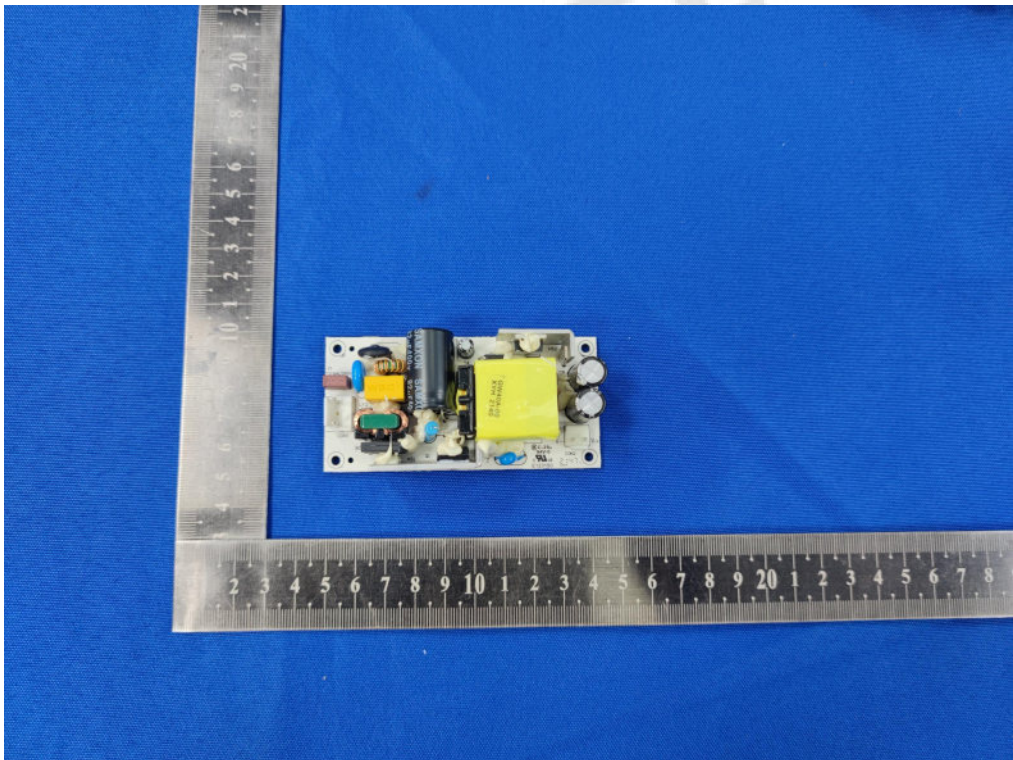
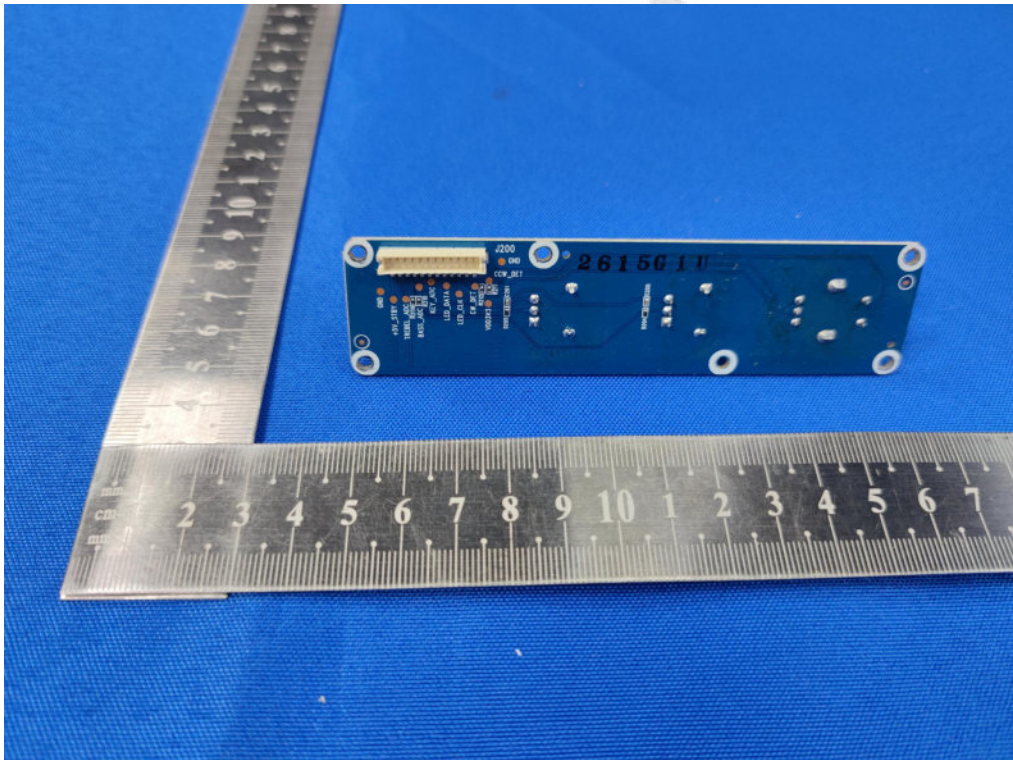


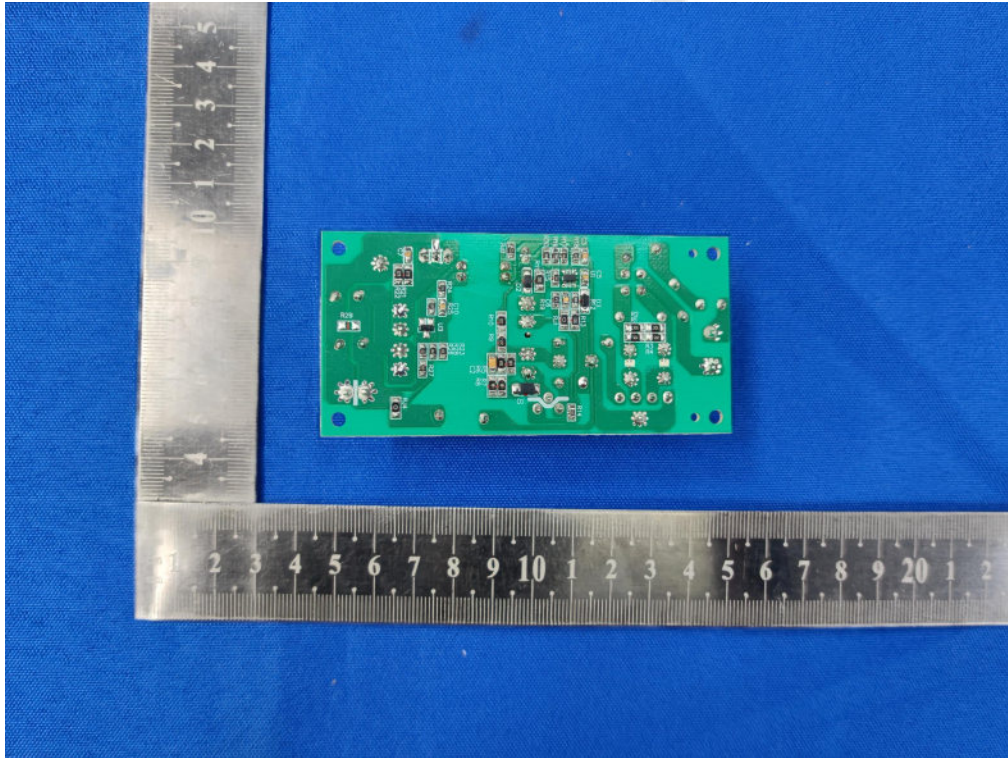












***** End of Report *****