TEST REPORT

Product Name	:	Smart Temperature Humidity Sensor
Brand Name	:	Haozee
Model	:	HZ-HT-03
Series Model	:	HZ-HT-03 with probe, ZG-227ZP
FCC ID	:	2BOUN-HZ-HT-03
Applicant	:	**SHENZHEN HAI HAO ELECTRONIC CO.,LTD**
Address	:	507B,Building A,Zhi Hui Chuang Xin Zhong Xin,Qian jin 2 lu,Xixiang Street,BaoAn District,Shenzhen, China
Manufacturer	:	**SHENZHEN HAI HAO ELECTRONIC CO.,LTD**
Address	:	507B,Building A,Zhi Hui Chuang Xin Zhong Xin,Qian jin 2 lu,Xixiang Street,BaoAn District,Shenzhen, China
Standard(s)	:	FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of Receipt	:	Sep. 07, 2026
Date of Test	:	Sep. 07, 2026~ Sep. 14, 2026
Issued Date	:	Sep. 15, 2026

Issued By: **Dongguan Yaxu (AiT) Technology Limited**
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Reviewed by: Emiya Lin
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Note: This device has been tested and found to comply with the standard(s) listed, this test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory. This report shall not be reproduced except in full, without the written approval of Dongguan Yaxu (AiT) Technology Limited. If there is a need to alter or revise this document, the right belongs to Dongguan Yaxu (AiT) Technology Limited, and it should give a prior written notice of the revision document. This test report must not be used by the client to claim product endorsement.

Report Revise Record

Report Version	Issued Date	Notes
M0	Sep. 15, 2026	Initial Release

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1 TEST 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: 2020: American National Standard for Testing Unlicensed Wireless Devices

KDB558074 D01 15.247 Meas Guidance v05r02: Guidance for Compliance Measurements on Digital Transmission System, Frequency Hopping Spreda Spectrum System, and Hybrid System Devices Operating Under Section 15.247 of the FCC Rules

1.2 Test Summary

Test Item	Section in 47 CFR	Result
Antenna requirement	§15.203	Pass
On Time and Duty Cycle	/	/
AC Power Line Conducted Emission	§ 15.207(a)	N/A
Conducted Peak Output Power	§15.247 (b)(3)	Pass
Channel Bandwidth	§15.247 (a)(2)	Pass
Power Spectral Density	§15.247 (e)	Pass
Transmitter Radiated Spurious Emission	§15.205/15.209	Pass
Restricted Bands	§15.205/15.209	Pass
Conducted Unwanted emissions and Bandedge	§15.205, §15.247(d)	Pass

1.3 Test Facility

Test Laboratory: Dongguan Yaxu (AiT) Technology Limited
No.22, Jinqianling 3rd Street, Jitigang, Huangjiang, Dongguan, Guangdong, China

The test facility is recognized, certified or accredited by the following organizations:
CNAS-Registration No: L6177
Dongguan Yaxu (AiT) technology Limited is accredited to ISO/IEC 17025:2017 general Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the competence of testing and calibration laboratories) on April 18, 2022

FCC-Registration No.: 362653 Designation Number: CN1457
Dongguan Yaxu (AiT) Technology Limited 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.

IC-Registration No.: 6819A CAB identifier: CN0122
The 3m Semi-anechoic chamber of Dongguan Yaxu (AiT) Technology Limited has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 6819A

A2LA-Lab Cert. No.: 6317.01
Dongguan Yaxu (AiT) Technology Limited 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.

1.4 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 according 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 Dongguan Yaxu (AiT) Technology Limited’s quality system according 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 Yaxu (AiT) laboratory is reported:

Test	Measurement Uncertainty	Notes
Power Line Conducted Emission	9KHz~30MHz ±1.20 dB	(1)
Radiated Emission	9KHz~30MHz ±3.10dB	(1)
Radiated Emission	30MHz~1GHz ±3.75dB	(1)
Radiated Emission	1GHz~18GHz ±3.88 dB	(1)
Radiated Emission	18GHz-40GHz ±3.88dB	(1)
RF power, conducted	30MHz~6GHz ±0.16dB	(1)
RF power density, conducted	±0.24dB	(1)
Spurious emissions, conducted	±0.21dB	(1)
Temperature	±1℃	(1)
Humidity	±3%	(1)
DC and low frequency voltages	±1.5%	(1)
Time	±2%	(1)
Duty cycle	±2%	(1)

The report uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty Multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

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

2.2 General Description of EUT

Product Name:	Smart Temperature Humidity Sensor
Model/Type reference:	HZ-HT-03
Serial Model:	HZ-HT-03 with probe,ZG-227ZP
Model difference:	All models are same as the samples except model name, all the models are electrical identical same mechanical structure and design.
Power Supply:	DC 3.0V from battery
Hardware Version:	N/A
Software Version:	N/A
Sample(s) Status:	AiTDG-260907006-1(Normal sample) AiTDG-260907006-2(Engineer sample)
Zigbee:	
Modulation:	OQPSK (DSSS)
Operation frequency:	2405MHz ~ 2480MHz
Channel number:	16
Channel separation:	5MHz
Antenna type:	PCB Antenna
Antenna gain:	1.68dBi
Remark: The above DUT's information was declared by manufacturer. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.	

2.3 Description of Test Modes and Test Frequency

There are 16 channels provided to the EUT and Channel 11/18/26 were selected to test.

Operation Frequency List:

Channel	Frequency	Channel	Frequency
11	**2405 MHz**	19	2445 MHz
12	2410 MHz	20	2450 MHz
13	2415 MHz	21	2455 MHz
14	2420 MHz	22	2460 MHz
15	2425 MHz	23	2465 MHz
16	2430 MHz	24	2470 MHz
17	2435 MHz	25	2475 MHz
18	**2440 MHz**	**26**	**2480 MHz**

Note: The line display in grey were the channel selected for testing

Power setting during the test:

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Power Parameters:

Test Software Version	EMI_TEST_v2.1		
Frequency	2405MHz	2440MHz	2480MHz
	default	default	default

2.4 Special Accessories

Follow auxiliary equipment(s) test with EUT that provided by the manufacturer or laboratory is listed as follow:

Description	Manufacturer	Model	Serial No.	Provided by	Other
/	/	/	/	/	/
/	/	/	/	/	/

2.5 Equipment List for the Test

Conducted Emission measurement						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
☐1	EMI Test Receiver	R&S	ESCI	100124	2025.09.25	2026.09.24
☐2	LISN	R&S	ESH3-Z5	892785/016	2025.09.26	2026.09.25
☐3	LISN	KYORITSU	KNW-242	8-837-4	2025.09.26	2026.09.25
☐4	Pulse Limiter	R&S	ESH3-Z2	03578810.54	2025.09.25	2026.09.24
☐5	CE Software	EZ	EZ-EMC_CE	Ver.AIT-03A	N/A	N/A

Radiation Emission measurement							
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Pre.Cal. Date	New Cal. Date	Cal.Due
☒1	Spectrum Analyzer	R&S	FSV40	101470	2025.09.26	/	2026.09.25
☒2	EMI Measuring Receiver	R&S	ESPI	100773	2025.09.25	/	2026.09.24
☒3	Low Noise Pre Amplifier	HP	HP8447E	1937A01855	2025.09.25	/	2026.09.24
☒4	Low Noise Pre Amplifier	Tsj	MLA-0120-A02-34	2648A04738	2025.09.25	/	2026.09.24
☒5	Passive Loop	ETS	6512	00165355	2024.09.04	2026.09.04	2028.09.03
☒6	TRILOG Super Broadband test Antenna	SCHWARZBECK	VULB-9160	9160-3206	2024.08.29	2026.08.29	2028.08.28
☒7	Broadband Horn Antenna	SCHWARZBECK	BBHA 9120D	452	2024.08.29	2026.08.29	2028.08.28
☒8	SHF-EHF Horn Antenna 15-40GHz	SCHWARZBECK	BBHA9170	BBHA9170367	2023.09.12	2026.09.12	2028.09.11
☒9	6dB Attenuator	JFW	50FPE-006	4360846-949-1	2025.09.23	/	2026.09.22
☒10	Filter	COM-MW	ZBSF6-C2400-2483.5-1079	1079	2025.09.23	/	2026.09.22
☒11	RE Software	EZ	EZ-EMC_RE	Ver.AIT-03A	N/A	N/A	N/A

RF Conducted measurement						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
☒1	Spectrum Analyzer	Agilent	N9020A	MY53421570	2025.09.23	2026.09.22
☐2	Power Sensor	Agilent	U2021XA	MY54110007	2025.09.23	2026.09.22
☐3	Signal Generator	Agilent	N5182A	MY50143009	2025.09.26	2026.09.25
☐4	Analog signal generator	Agilent	E8257	MY51554256	2025.09.23	2026.09.22
☐5	Pro.Temp&Humi.chamber	MENTEK	MHP-150-1C	MAA08112501	2025.09.25	2026.09.24
☐6	Wideband Radio communication tester	R&S	CMW500	135866	2025.09.23	2026.09.22
☒7	DC power supply	ZHAOXIN	RXN-305D-2	28070002559	N/A	N/A
☐8	RF Test box	TST	TSTPASS	21033016	2025.09.23	2026.09.22
☒9	RF Software	TST	TSTPASS	Version 2.0	N/A	N/A

Note: ☐ is not applicable in this Test Report. ☒ is applicable in this Test Report.

3 TEST CONDITIONS AND RESULTS

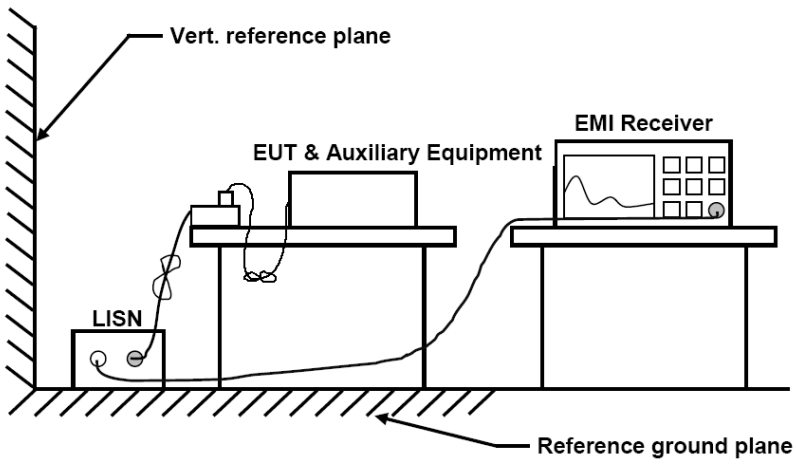
3.1 Conducted Emissions Test

LIMIT

Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST CONFIGURATION



TEST PROCEDURE

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system; a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10:2020.
2. Support equipment, if needed, was placed as per ANSI C63.10:2020.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10:2020.
4. The adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5. All support equipments received AC power from a second LISN, if any.
6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.

TEST RESULTS

Not applicable to this device, EUT is powered by battery.

3.2 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.

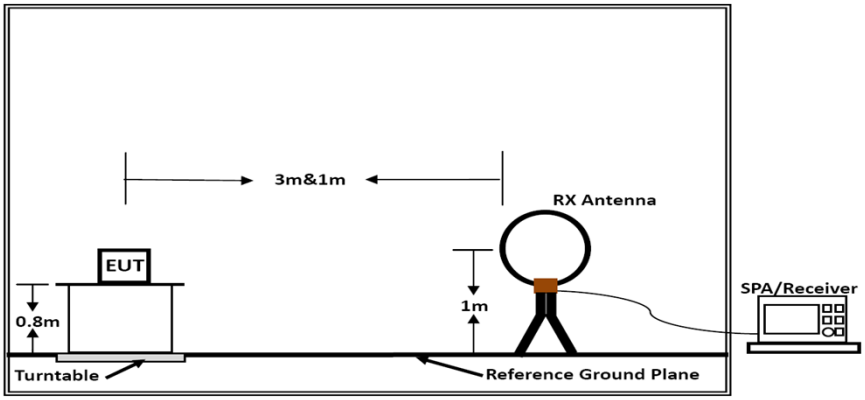
In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a)

Radiated emission limits

Frequency (MHz)	Distance (Meters)	Radiated (dBμV/m)	Radiated (μV/m)
0.009-0.49	3	20log(2400/F(KHz))+40log(300/3)	2400/F(KHz)
0.49-1.705	3	20log(24000/F(KHz))+ 40log(30/3)	24000/F(KHz)
1.705-30	3	20log(30)+ 40log(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

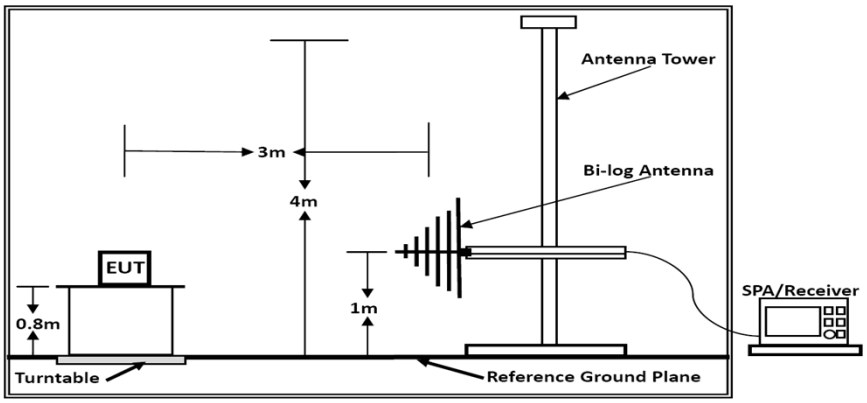
TEST CONFIGURATION

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



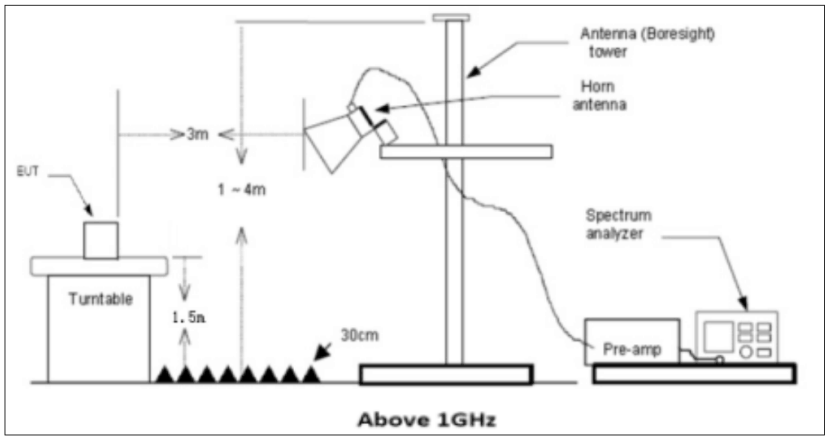
Below 30MHz

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



Below 1GHz

(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. Radiated emission test frequency band from 9KHz to 25GHz.
6. The distance between test antenna and EUT as following table states:

Test Frequency range	Test Antenna Type	Test Distance
9KHz-30MHz	Active Loop Antenna	3
30MHz-1GHz	Bilog Antenna	3
1GHz-18GHz	Horn Antenna	3
18GHz-25GHz	Horn Anternna	1

7. Setting test receiver/spectrum as following table states:

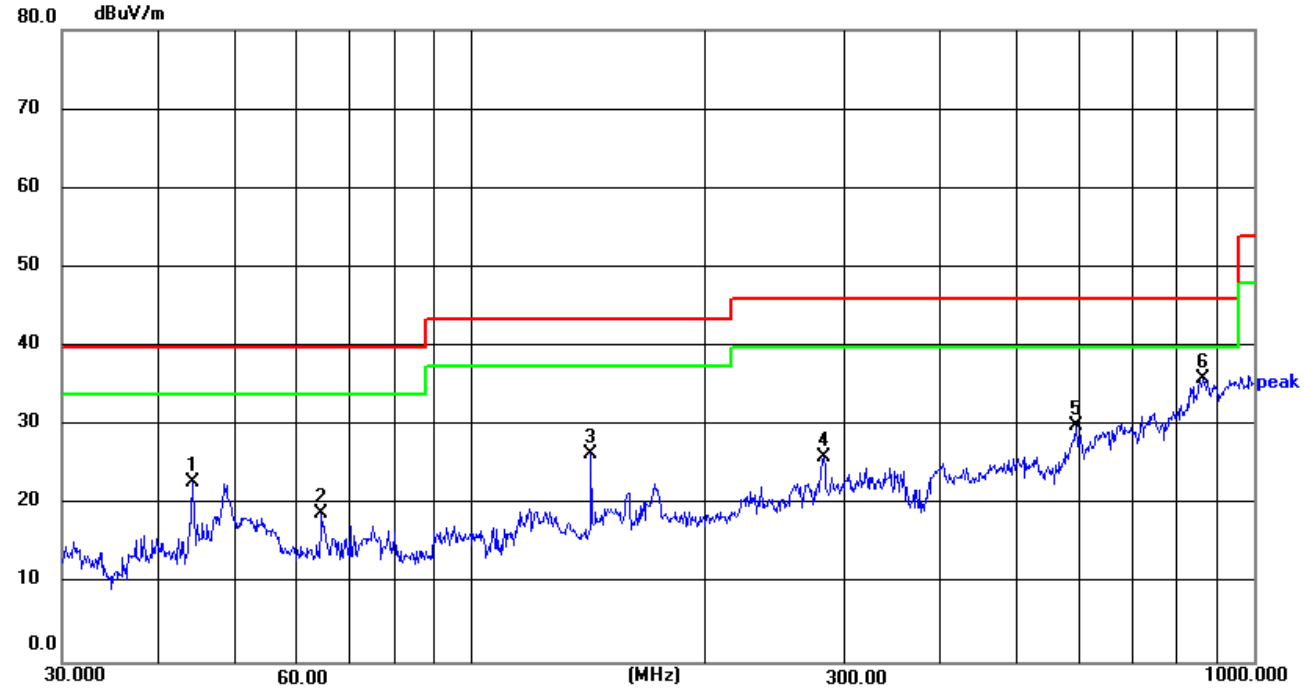
Test Frequency range	Test Receiver/Spectrum Setting	Detector
9KHz-150KHz	RBW=200Hz/VBW=3KHz,Sweep time=Auto	QP
150KHz-30MHz	RBW=9KHz/VBW=100KHz,Sweep time=Auto	QP
30MHz-1GHz	RBW=120KHz/VBW=1000KHz,Sweep time=Auto	QP
1GHz-40GHz	Peak Value: RBW=1MHz/VBW=3MHz, Sweep time=Auto Average Value: RBW=1MHz/VBW=10Hz, Sweep time=Auto	Peak

TEST RESULTS

Remark:
1. The EUT was tested at three different polar directions: X, Y and Z. only the worst case (X axis) is reported.
2. For below 1GHz testing recorded worst at middle channel.
3. Radiated emission test from 9 KHz to 10th harmonic of fundamental was verified, and The emission levels from 9kHz to 30MHz are attenuated 20dB below the limit and not recorded in report.

For 30MHz-1GHz

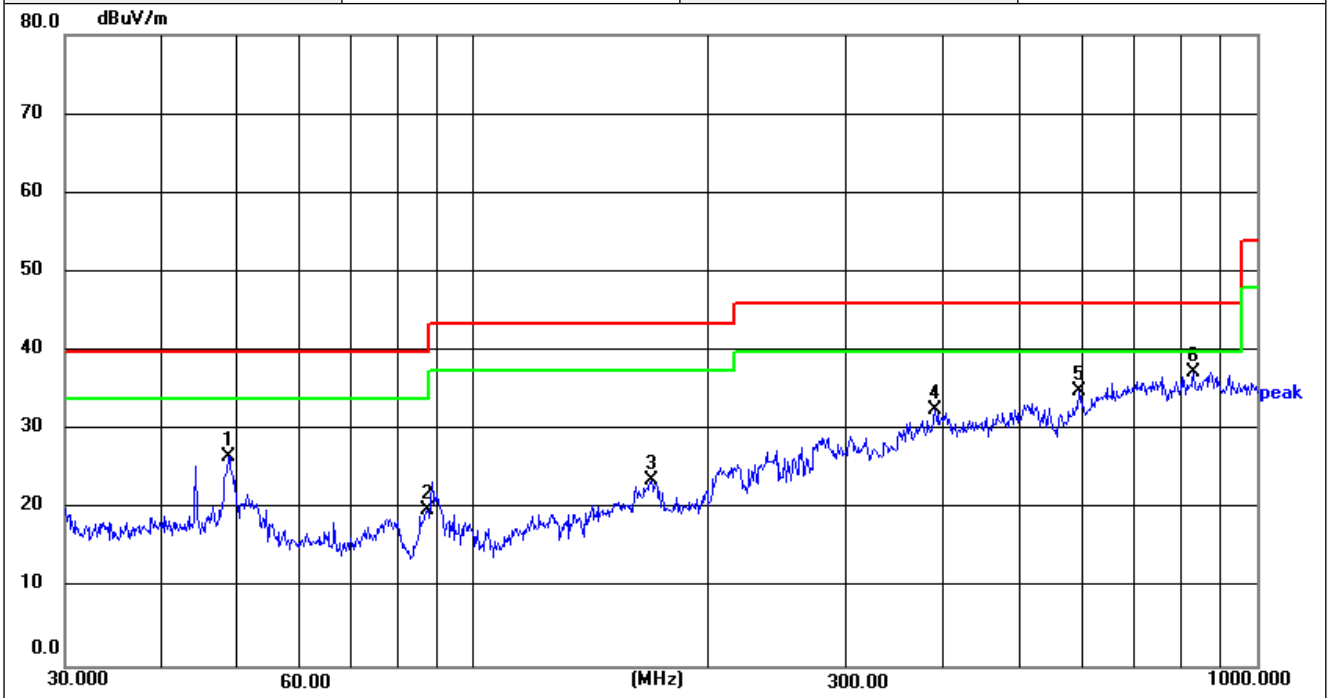
Test mode:	Zigbee	Polarization:	Horizontal



Remark:
Emission Level = Reading + Factor;
Factor = Antenna Factor + Cable Loss – Pre-amplifier;
Margin= Emission Level - Limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	44.2235	32.24	-9.44	22.80	40.00	-17.20	peak
2	64.4331	29.72	-10.88	18.84	40.00	-21.16	peak
3	142.4909	35.51	-9.11	26.40	43.50	-17.10	peak
4	282.3244	34.36	-8.26	26.10	46.00	-19.90	peak
5	594.4377	30.89	-0.89	30.00	46.00	-16.00	peak
6	863.0562	30.76	5.20	35.96	46.00	-10.04	peak

Test mode:	Zigbee	Polarization:	Vertical



Remark:
Emission Level = Reading + Factor;
Factor = Antenna Factor + Cable Loss – Pre-amplifier;
Margin= Emission Level - Limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	48.7857	36.19	-9.52	26.67	40.00	-13.33	peak
2	87.3156	33.62	-13.67	19.95	40.00	-20.05	peak
3	169.0054	32.65	-9.07	23.58	43.50	-19.92	peak
4	388.9000	38.20	-5.64	32.56	46.00	-13.44	peak
5	594.4377	35.84	-0.89	34.95	46.00	-11.05	peak
6	831.3713	32.76	4.51	37.27	46.00	-8.73	peak

For 1GHz to 25GHz

Frequency(MHz):		2405		Polarity:	Horizontal	
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
4810.35	64.64	-7.49	57.15	74	-16.85	PEAK
4810.35	53.55	-7.49	46.06	54	-7.94	AVG
7215.30	50.71	-1.54	49.17	74	-24.83	PEAK
--	--	--	--	--	--	AVG

Frequency(MHz):		2405		Polarity:	VERTICAL	
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
4810.35	64.76	-7.49	57.27	74	-16.73	PEAK
4810.35	53.89	-7.49	46.40	54	-7.60	AVG
7215.30	51.23	-1.54	49.69	74	-24.31	PEAK
--	--	--	--	--	--	AVG

Frequency(MHz):		2440		Polarity:	Horizontal	
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
4880.00	65.00	-6.75	58.25	74	-15.75	PEAK
4880.00	54.82	-6.75	48.07	54	-5.93	AVG
7320.00	50.68	-0.53	50.15	74	-23.85	PEAK
--	--	--	--	--	--	AVG

Frequency(MHz):		2440		Polarity:	VERTICAL	
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
4880.00	65.48	-6.75	58.73	74	-15.27	PEAK
4880.00	56.15	-6.75	49.40	54	-4.60	AVG
7320.00	51.22	-0.53	50.69	74	-23.31	PEAK
--	--	--	--	--	--	AVG

Frequency(MHz):		2480		Polarity:	Horizontal	
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
4960.00	62.97	-5.77	57.20	74	-16.80	PEAK
4960.00	52.04	-5.77	46.27	54	-7.73	AVG
7440.50	50.10	-0.52	49.58	74	-24.42	PEAK
--	--	--	--	--	--	AVG

Frequency(MHz):		2480		Polarity:	VERTICAL	
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
4960.00	63.45	-5.77	57.68	74	-16.32	PEAK
4960.00	53.86	-5.77	48.09	54	-5.91	AVG
7440.50	50.45	-0.52	49.93	74	-24.07	PEAK
--	--	--	--	--	--	AVG

REMARKS:

1. Emission level (dBuV/m) = Reading (dBuV)+ Factor (dB/m)
2. Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
3. Margin value = Emission level- Limit value.
4. -- Mean the PK detector measured value is below average limit.
5. Other emission levels are attenuated 20dB below the limit and not recorded in report.
6. RBW1MHz VBW3MHz Peak detector is for PK value; RBW 1MHz VBW10Hz Peak detector is for AV value.

Radiation Restricted band

Frequency(MHz):		2405		Polarity:	Horizontal	
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
2389.57	52.89	-4.09	48.80	74	-25.20	PEAK
2389.57	44.67	-4.09	40.58	54	-13.42	AVG
2390.00	53.25	-4.10	49.15	74	-24.85	PEAK
2390.00	44.93	-4.10	40.83	54	-13.17	AVG

Frequency(MHz):		2405		Polarity:	Vertical	
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
2388.13	53.94	-4.07	49.87	74	-24.13	PEAK
2388.13	45.18	-4.07	41.11	54	-12.89	AVG
2390.00	54.29	-4.10	50.19	74	-23.81	PEAK
2390.00	45.75	-4.10	41.65	54	-12.35	AVG

Frequency(MHz):		2480		Polarity:	Horizontal	
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
2483.50	53.21	-3.09	50.12	74	-23.88	PEAK
2483.50	45.10	-3.09	42.01	54	-11.99	AVG
2486.38	52.97	-3.05	49.92	74	-24.08	PEAK
2486.38	44.05	-3.05	41.00	54	-13.00	AVG

Frequency(MHz):		2480		Polarity:	Vertical	
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
2483.50	53.64	-3.09	50.55	74	-23.45	PEAK
2483.50	45.02	-3.09	41.93	54	-12.07	AVG
2483.58	54.17	-3.09	51.08	74	-22.92	PEAK
2483.58	46.11	-3.09	43.02	54	-10.98	AVG

REMARKS:

1. Emission level (dBuV/m) = Reading (dBuV)+ Factor (dB/m)
2. Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
3. Margin value = Emission level- Limit value.
4. -- Mean the PK detector measured value is below average limit.
5. Other emission levels are attenuated 20dB below the limit and not recorded in report.
6. RBW1MHz VBW3MHz Peak detector is for PK value; RBW 1MHz VBW10Hz Peak detector is for AV value.

3.3 Maximum Peak Conducted Output Power

Limit

The maximum peak conducted output power shall not exceed 1.0 W.

Test Procedure

Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Spectrum Analyzer. The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

a) Set the RBW ≥ DTS bandwidth.

b) Set VBW ≥ 3×RBW

c) Set span ≥3×RBW

d) Sweep time = auto couple.

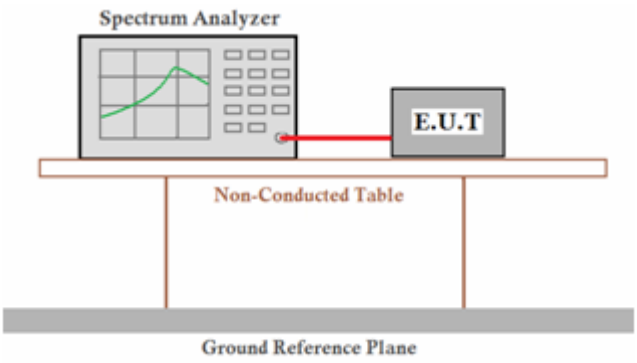
e) Detector = peak.

f) Trace mode = max hold.

g) Allow trace to fully stabilize.

h) Use peak marker function to determine the peak amplitude level.

Test Configuration



Test Results

☒ **Pass** ☐ **Not Applicable**

Note:
For test data, please refer to Appendix RF test data for Zigbee.

3.4 Power Spectral Density

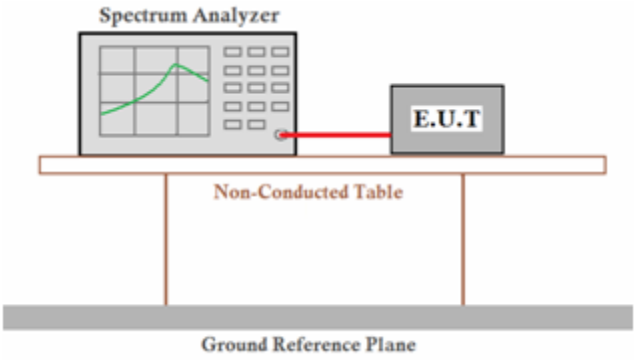
Limit

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.

Test Procedure

1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
2. Set the RBW ≥ 3 kHz.
3. Set the VBW ≥ 3× RBW.
4. Set the span to 1.5 times the DTS channel bandwidth.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum power level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.
11. The resulting peak PSD level must be 8dBm.

Test Configuration



Test Results

☒ **Pass** ☐ **Not Applicable**

Note:
For test data, please refer to Appendix RF test data for Zigbee.

3.5 6dB Bandwidth

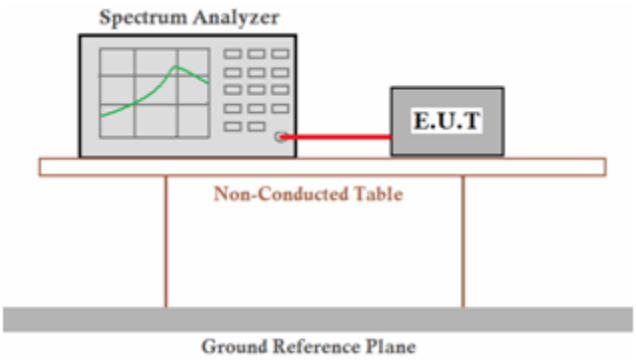
Limit

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz

Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100 KHz RBW and 300 KHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB. Measured the 6dB bandwidth by related function of the spectrum analyzer.

Test Configuration



Test Results

☒ **Pass** ☐ **Not Applicable**

Note:
For test data, please refer to Appendix RF test data for Zigbee.

3.6 Out-of-band Emissions

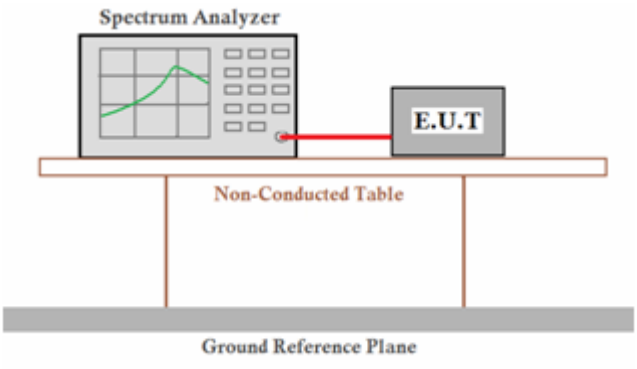
Limit

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 con-ducted or a radiated measurement, pro-vided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter com-plies 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.

Test Procedure

Connect the transmitter output to spectrum analyzer using a low loss RF cable, and set the spectrum analyzer to RBW=100 kHz, VBW= 300 kHz, peak detector, and max hold. Measurements utilizing these setting are made of the in-band reference level, bandedge and out-of-band emissions.

Test Configuration



Test Results

☒ **Pass** ☐ **Not Applicable**

Note:
For test data, please refer to Appendix RF test data for Zigbee.

3.7 Antenna Requirement

Standard Applicable

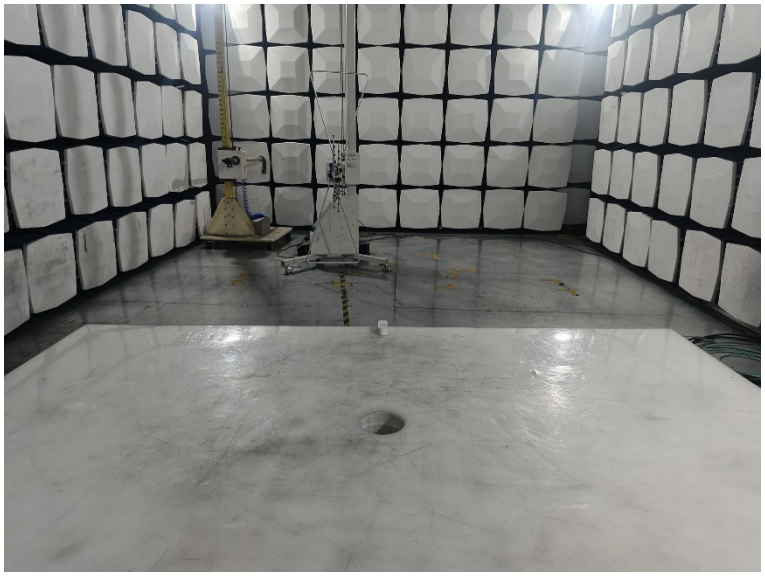
For intentional device, according to FCC 47 CFR Section 15.203:
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited

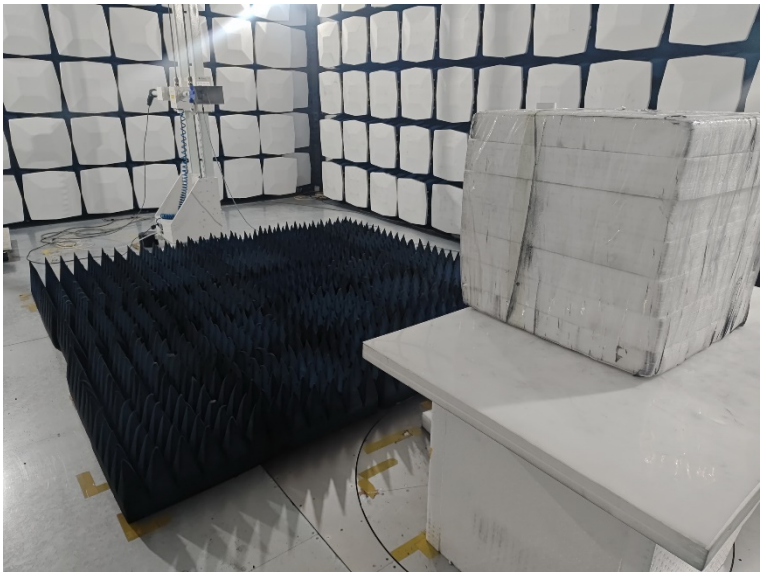
FCC CFR Title 47 Part 15 Subpart C Section 15.247(b) (4):
(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional 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)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Test Result

The maximum gain of antenna was 1.68dBi with impedance 50Ω.

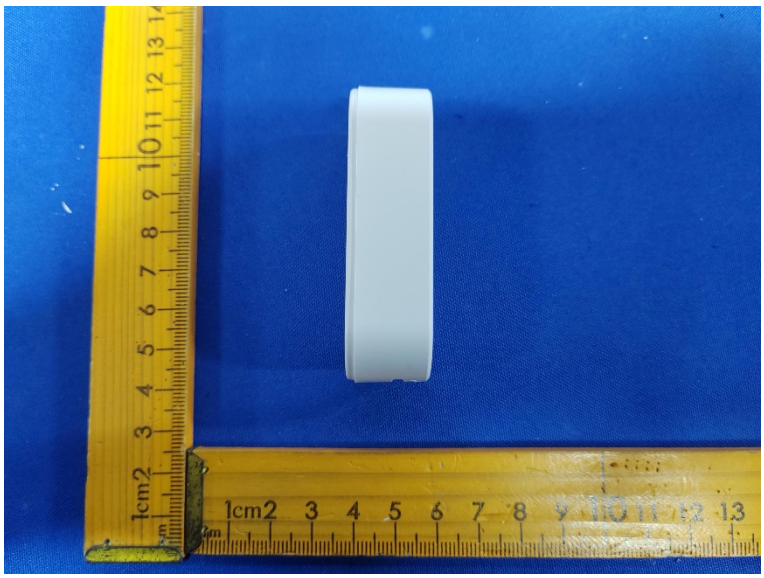
4 Test Setup Photographs of EUT

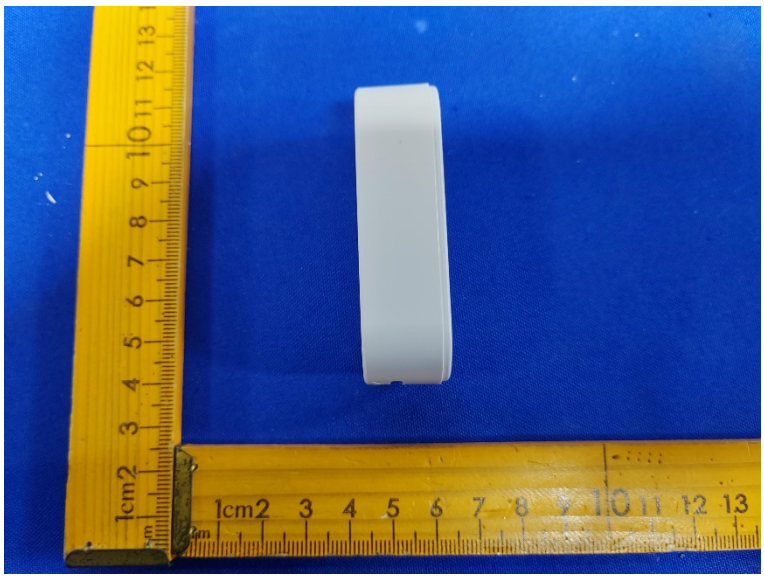


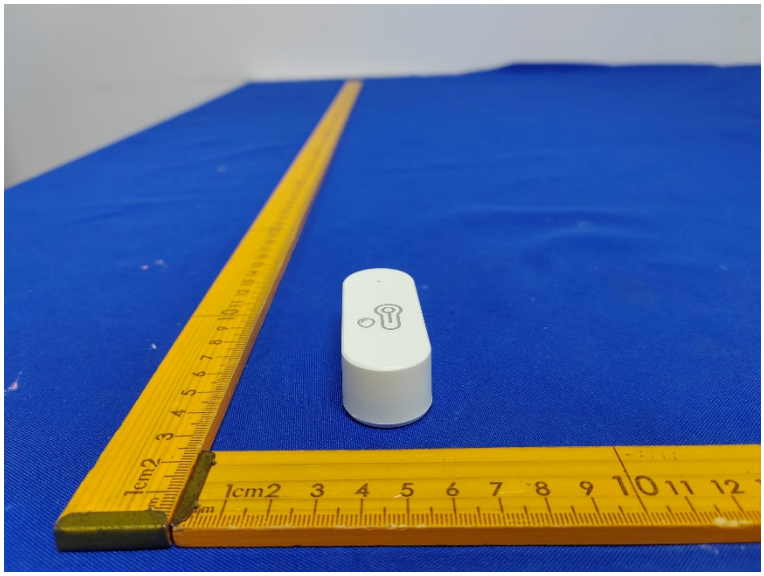


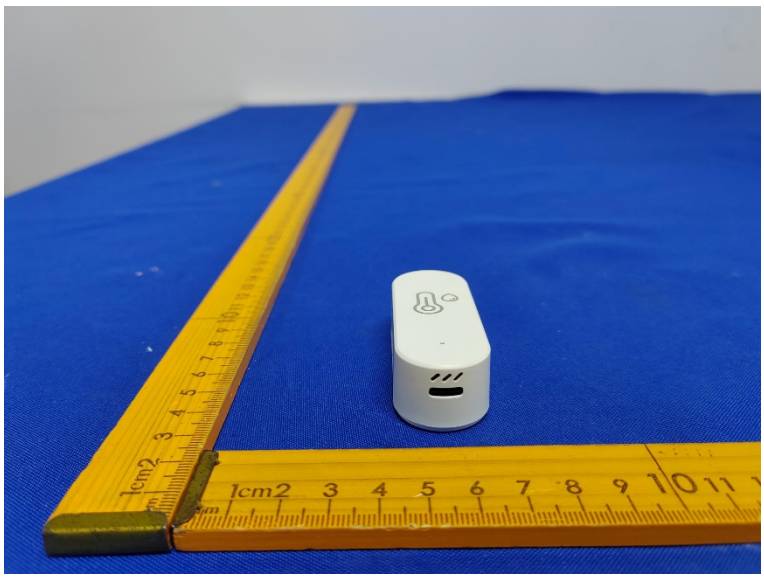
5 Photos of EUT

External photos

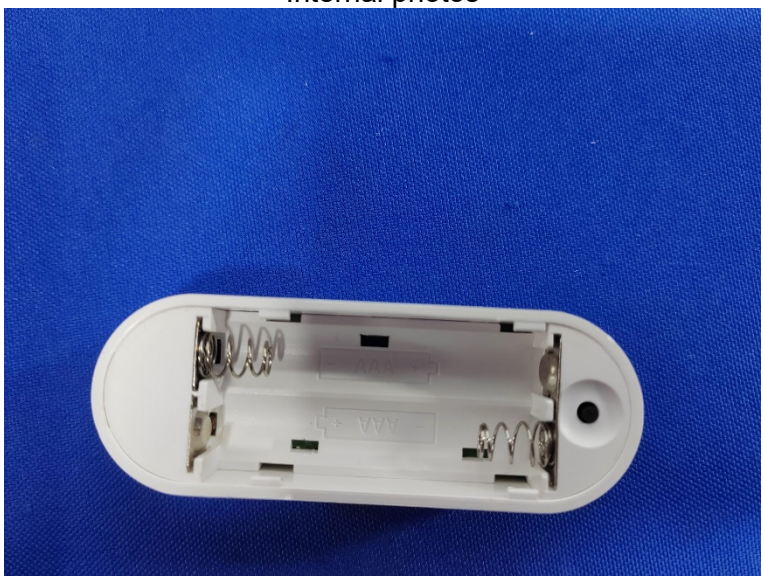


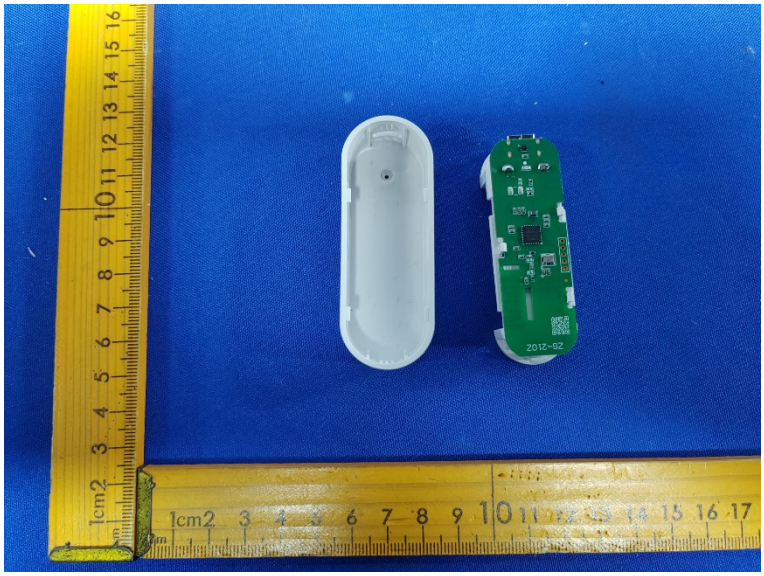


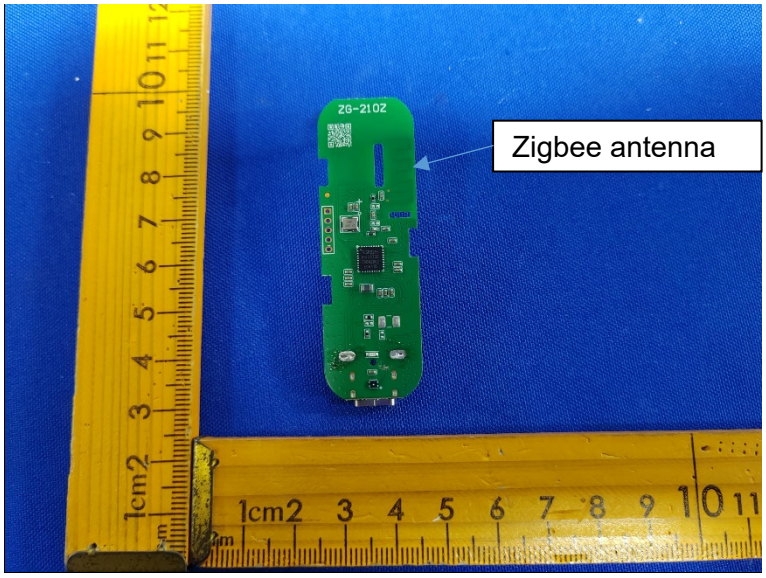


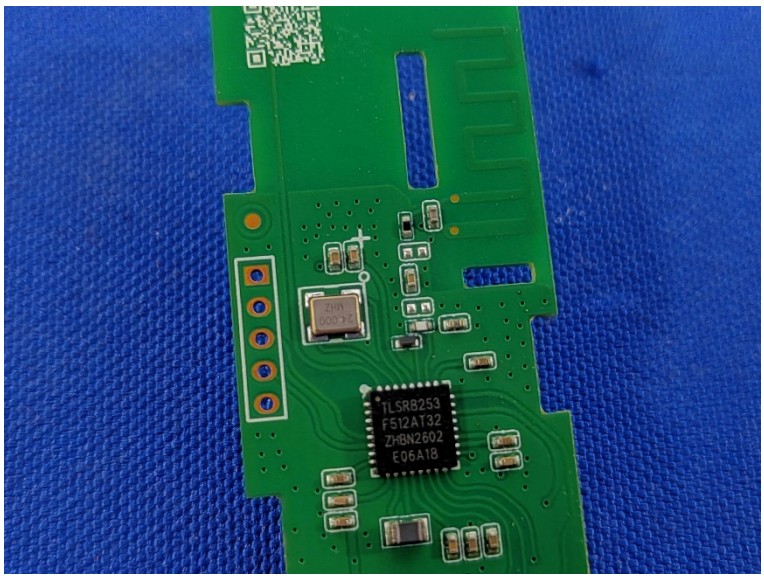

1cm2 3 4 5 6 7 8 9 10 11

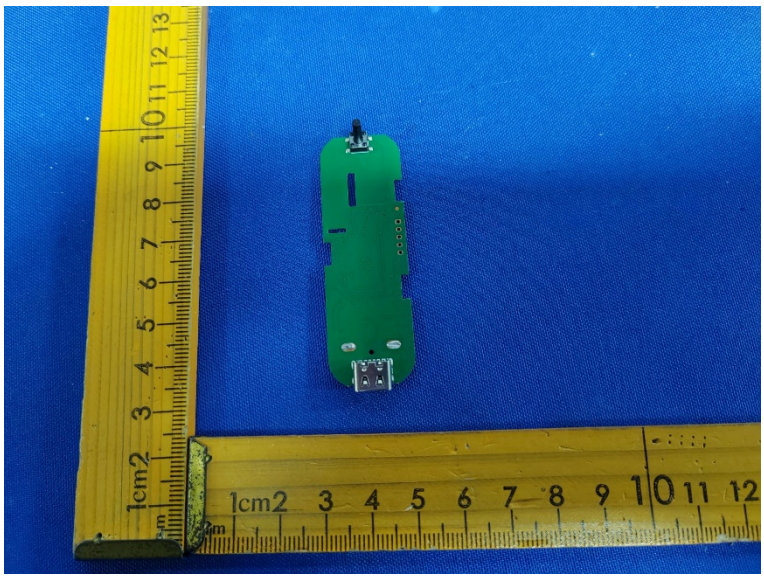
Internal photos











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