

MEASUREMENT REPORT

FCC PART 15.247 Thread

Report No.: S2025081401640101

Issue Date: 11-04-2025

Applicant: Lumi United Technology Co., Ltd
Address: B1, Chongwen Park, Nanshan iPark, Liuxian Avenue, Taoyuan Residential District, Nanshan District, Shenzhen, China
FCC ID: 2AKIT-SRTA06
Product: Thermostat Hub W200
Model No.: SRT-A06E, SRT-A06D
FCC Classification: Digital Transmission System (DTS)
FCC Rule Part(s): Part 15 Subpart C (15.247)
Test Procedure(s): ANSI C63.10-2013, KDB 558074 D01v05r02
Result: Pass
Item Receipt Date: Aug. 20, 2025
Test Date: Aug. 20 ~ Oct. 30, 2025

Compiled By

Stone Zhang

(Stone Zhang)
Senior Test Engineer

Approved By

Line Chen

(Line Chen)
Engineer Manager



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013. Test results reported herein relate only to the item(s) The test report shall not be reproduced except in full without the written approval of Fangguang Inspection & Testing Co., Ltd. Wuxi Branch

The test report must not be used by the client to claim product certifications, approval, or endorsement by NVLAP, NIST or any agency of U.S. Government.

Revision History

Report No.	Version	Description	Issue Date
S2025081401640101	Rev. 01	/	11-04-2025

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§2.1033 General Information

Applicant:	Lumi United Technology Co., Ltd
Applicant Address:	B1, Chongwen Park, Nanshan iPark, Liuxian Avenue, Taoyuan Residential District, Nanshan District, Shenzhen, China
Manufacturer:	Lumi United Technology Co., Ltd
Manufacturer Address:	B1, Chongwen Park, Nanshan iPark, Liuxian Avenue, Taoyuan Residential District, Nanshan District, Shenzhen, China
Test Site:	Fanguang Inspection & Testing Co., Ltd.
LAB ID:	CN5037
LAB registration number:	600222-0
Test Site Address:	No.8 Ningyun Rd., Xinwu District Wuxi, Jiangsu 214000 China
FCC Rule Part(s):	Part 15 Subpart C (15.247)
FCC ID:	2AKIT-SRTA06
Test Device Serial No.:	S/N.: / ☐ Production ☒ Pre-Production ☐ Engineering
FCC Classification:	Digital Transmission System (DTS)

1. Introduction

1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

1.2. Fangguang Test Location

These measurement tests were performed at the Fangguang Inspection and testing Co.,LTD located at No.8 Ningyun Rd., Xinwu District Wuxi, Jiangsu 214000 China. The detailed description of the measurement facility was found to be in compliance with the requirements of ANSI C63.10-2013.

2. Product Information

2.1. Equipment Description

Product Name:	Thermostat Hub W200
Test Model:	SRT-A06E
Additional Model:	SRT-A06D
Model difference descriptions:	They have the same technical construction including circuit diagram, PCB LAYOUT, hardware version and software version identical, except sales area and packaging are different.
Trade Mark:	Aqara
Input Voltage Range:	AC 24V
Software Version:	V3.0.3_0004
Hardware Version:	V1.2
EUT sample number:	S20250814016401-1-1 (Conducted) S20250814016401-1-2 (Radiated)

Note: This information is provided by the Customer and its authenticity is the responsibility of the Customer.

2.2. Product Specification Subjective to this Report

Operating Band	2405~2480MHz
Number of Channels	16
Channel Spacing	5 MHz
Type of modulation	O-QPSK
Antenna Type:	PIFA Antenna
Antenna Gain:	0dBi

Note:

1. The maximum Antenna Gain was declared by the manufacturer.
2. This report is made solely on the basis of such data and/or information. We accept no responsibility for the authenticity and completeness of the above data and information and the validity of the results and/or conclusions. The test model is SRT-A06E.

2.3. Operation Frequency / Channel List

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

EUT was tested with Channel 11, 18 and 26.

2.4. Device Capabilities

This device contains the following capabilities: Thread.

Note: The maximum achievable duty cycle was determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW =8MHz. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles of Thread are 100%.

Test Mode	Antenna	Frequency (MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
Thread	Ant1	2405	0.00	0.00	100.00
		2440	0.00	0.00	100.00
		2480	0.00	0.00	100.00



Thread_Ant1_2440



Thread_Ant1_2480



2.5. Description of Test Software

The test utility software used during testing was “QCOM_V1.0”, Power Parameter Value:

Test Mode	Channel	ANT1
Thread	2405	80
	2440	80
	2480	80

2.6. Test Mode

Test Mode	Mode 1: Transmit by Thread
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2.7. Test Configuration

The EUT was tested per the guidance of KDB 558074 D01 v05r02. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing.

2.8. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

2.9. EUT Photo

The EUT external photo, internal photo and test setup photo, please refer to the plots in the S20250814016401-A1/A2/A3.

2.10. Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is so small wherein placement of the label with specified statement is not practical, only the FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label and label location.

2.11. Calculation with all conversion and correction factors used

For AC Line Conducted Emissions Test:

Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

For Radiated Emissions Below 1GHz Test:

Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

For Radiated Emissions Above 1GHz Test:

Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

3. Description of Test

3.1. Evaluation Procedure

The measurement procedures described in the American National Standard for Testing Unlicensed Wireless Devices (ANSI C63.10-2013), and the guidance provided in KDB 558074 D01 v05r02 were used in the measurement of the EUT.

Deviation from measurement procedure.....None

3.2. AC Line Conducted Emissions

The line-conducted facility is located inside an 8'x4'x4' shielded enclosure. A 1m x 2m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the receiver and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The receiver was scanned from 150kHz to 30MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was also maximized by varying: power lines, the mode of operation or data exchange speed, or support equipment whichever determined the worst-case emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions are used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

An extension cord was used to connect to a single LISN which powered by EUT. The extension cord was calibrated with LISN, the impedance and insertion loss are compliance with the requirements as stated in ANSI C63.10-2013.

3.3. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. The turntable is used for radiated measurement. It is a continuously rotatable, remote controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm high PVC support structure is placed on top of the turntable.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up for frequencies below 1GHz was placed on top of the 0.8 meter high, 1 x 1.5 meter table; and test set-up for frequencies 1-25GHz was placed on top of the 1.5 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions. According to 3dB Beam-Width of horn antenna, the horn antenna should be always directed to the EUT when rising height.

4. Antenna Requirements

Excerpt from §15.203 of the FCC Rules/Regulations:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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.”

- Use a unique coupling to the intentional radiator.

5. Test Equipment Calibration Date

Radiated Emission

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Loop Antenna	Schwarzbeck	FMZB 1519B	FWXGJC-2018-015	1 year	2026/06/21
Broadband Antenna	R&S	VULB 9168	FWXGJC-2024-055	1 year	2026/06/21
Broadband Horn Antenna	R&S	HF907	FWXGJC-2016-267-07	1 year	2026/06/21
Broadband Horn Antenna	Schwarzbeck	BBHA9170	FWXGJC-2018-016	1 year	2026/06/21
EMI Receiver	R&S	ESR26	FWXGJC-2016-267-01	1 year	2026/07/16
Spectrum Analyzer	Keysight	N9010B	FWXGJC-2018-010	1 year	2026/07/16
Pre-Amplifier	Tonscend	TAP0118048	FWXGJC-2024-056	1 year	2026/06/21
Pre-Amplifier	Chengyi	EMC184055SE	FWXGJC-2018-018	1 year	2026/07/16
Thermohygrometer	Yuhuaize	HTC-1	FWXDA-2016-387	1 year	2026/08/24
Wideband Radio Communication Tester	R&S	CMW500	FWXZ-2025-001	1 year	2026/07/07
Wireless Connectivity Tester	R&S	CMW270	FWXGJC-2018-023	1 year	2026/07/20
Anechoic Chamber	SAEMC	FSAC318	FGZZ-2024-035	3 year	2027/06/02

Conducted Test Equipment

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Keysight	N9010B	FWXGJC-2018-010	1 year	2026/07/16
Spectrum Analyzer	Keysight	N9020A	FWXGJC-2025-006	1 year	2026/07/16
Vector Signal Generator	Keysight	N5182B	FWXGJC-2018-011	1 year	2026/07/07
Analog Signal Generator	Keysight	N5171B	FWXGJC-2018-012	1 year	2026/07/14
Wideband Radio Communication Tester	R&S	CMW500	FWXZ-2025-001	1 year	2026/07/07
Wireless Connectivity Tester	R&S	CMW270	FWXGJC-2018-023	1 year	2026/07/20
RF Control Unit	Toncend	JS0806-2	FWXGJC-2018-013	1 year	2026/07/16
Thermohygrometer	Yuhuaize	HTC-1	FWXDA-2016-385	1 year	2026/08/24

Auxiliary Equipment

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Filter	Tonscend	ZBSF6	07247867	1 year	2026/07/16
Filter	Tonscend	ZHPF6	07233297	1 year	2026/07/16
Attenuator	Tonscend	10dB	/	1 year	2026/07/16
RF Cable	Tonscend	T-1	/	1 year	2026/07/16

Test Software

Test Software	Manufacturer	Version	Asset No.	Function
JS32-RE	Tonscend	5.0.0	FWXWA-2024-002	RE
JS1120-3	Tonscend	3.3.10	FWXWA-2024-001	RF

6. Measurement Uncertainty

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

AC Conducted Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 2.68dB
Radiated Emission Measurement (9kHz - 30MHz)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 3.06dB
Radiated Emission Measurement (30MHz -1GHz)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 4.01dB
Radiated Emission Measurement (1-18GHz)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 4.97dB
Radiated Emission Measurement (18-40GHz)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 5.32dB
Spurious Emissions, Conducted
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 30MHz-1GHz: 1.00 dB 1GHz-12.75GHz: 1.30 dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.60dB
Power Spectrum Density
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.80dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.20MHz
Frequency Stability
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.1×10^{-6} MHz

7. Test Result

7.1. Summary

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.247(a)(2)	6dB Bandwidth	$\geq 500\text{kHz}$	Conducted	Pass	Section 7.2
15.247(b)(3)	Output Power	$\leq 30\text{dBm}$		Pass	Section 7.3
15.247(e)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$		Pass	Section 7.4
15.247(d)	Band Edge	$\geq 20\text{dBc}$		Pass	Section 7.5
15.247(d)	Out-of-Band Emissions	$\geq 20\text{dBc}$		Pass	Section 7.5
15.205 15.209	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209	Radiated	Pass	Section 7.6&7.7
15.207	AC Conducted Emissions 150kHz - 30MHz	< FCC 15.207 limits	Line Conducted	Pass	Section 7.8

Notes:

- 1) All modes of operation and data rates were investigated. For radiated emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
- 3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables and attenuators.

7.2. 6dB Bandwidth Measurement

7.2.1. Test Limit

The minimum permissible 6dB bandwidth is 500 kHz.

7.2.2. Test Procedure used

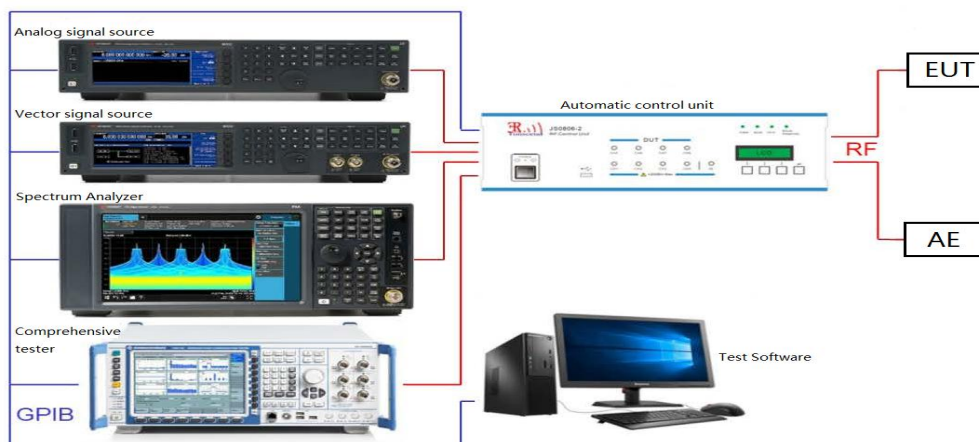
ANSI C63.10-2013 Section 11.8.2 Option 1

KDB 558074 D01 v05r02 – Section 8.2

7.2.3. Test Setting

1. Set RBW = 100 kHz
2. VBW $\geq 3 \times$ RBW
3. Detector = peak
4. Trace mode = max hold
5. Sweep = auto couple
6. Allow the trace was allowed to stabilize
7. 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.

7.2.4. Test Setup

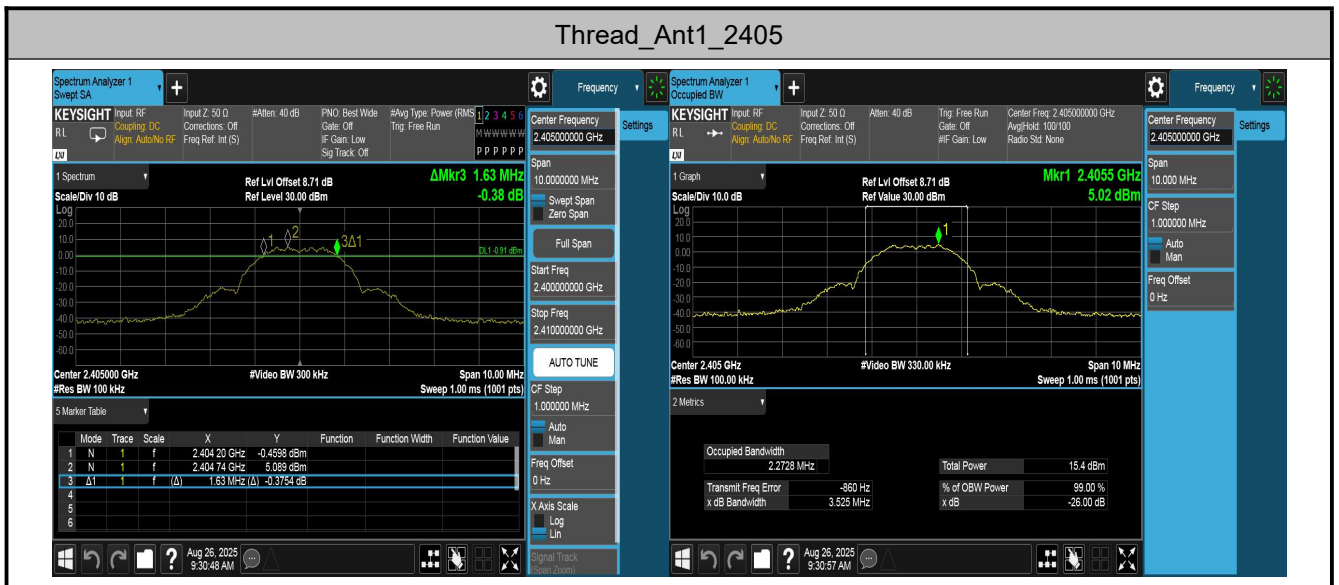


7.2.5. Test Result

Temperature:	26.7°C
Relative Humidity:	39 %
ATM Pressure:	100.5 kPa
Test Date:	2025-08-26
Test Engineer:	Stone Zhang

Test Mode	Antenna	Frequency (MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit [MHz]	99% BW[MHz]	Verdict
Thread	Ant1	2405	1.630	2404.200	2405.830	0.5	2.2728	PASS
		2440	1.650	2439.180	2440.830	0.5	2.2643	PASS
		2480	1.650	2479.180	2480.830	0.5	2.2888	PASS

Test Graphs



Thread_Ant1_2440



Thread_Ant1_2480



7.3. Output Power Measurement

7.3.1. Test Limit

The maximum permissible conducted output power is 1 Watt (30dBm). And for antenna gain greater than 6dBi the limit shall reduce by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.3.2. Test Procedure Used

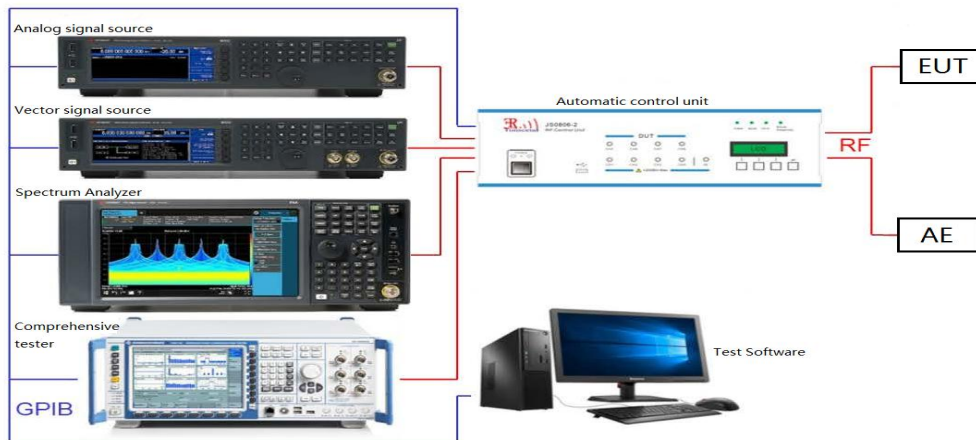
ANSI C63.10-2013 – Section 11.9.1.1

KDB 558074 D01 v05r02 – Section 8.3.1.2

7.3.3. Test Setting

- 1.Set the RBW $\geq$ DTS bandwidth.
- 2.Set the VBW $\geq$ $[3 \times \text{RBW}]$.
- 3.Set the span $\geq$ $[3 \times \text{RBW}]$.
- 4.Detector = peak.
- 5.Sweep time = auto couple.
- 6.Trace mode = max hold.
- 7.Allow trace to fully stabilize.
8. Use peak marker function to determine the peak amplitude level.

7.3.4. Test Setup



7.3.5. Test Result

Temperature:	26.7°C
Relative Humidity:	39 %
ATM Pressure:	100.5 kPa
Test Date:	2025-08-26
Test Engineer:	Stone Zhang

Test Mode	Antenna	Frequency (MHz)	Result[dBm]	Limit[dBm]	Verdict
Thread	Ant1	2405	8.63	≤30	PASS
		2440	8.14	≤30	PASS
		2480	7.12	≤30	PASS

Test Graphs

Thread_Ant1_2405



Thread_Ant1_2440



Thread_Ant1_2480



7.4. Power Spectral Density Measurement

7.4.1. Test Limit

The maximum permissible power spectral density is 8dBm in any 3 kHz band. And for antenna gain greater than 6dBi the limit shall reduce by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.4.2. Test Procedure Used

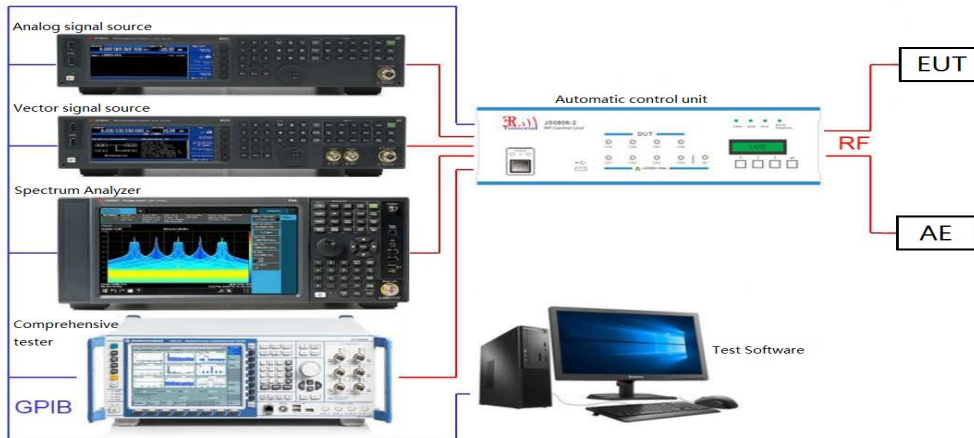
KDB 558074 D01 v05r02 - Section 8.4

ANSI C63.10 – Section 11.10.2

7.4.3. Test Setting

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq [3 \times \text{RBW}]$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.

7.4.4. Test Setup



7.4.5. Test Result

Temperature:	26.7°C
Relative Humidity:	39 %
ATM Pressure:	100.5 kPa
Test Date:	2025-08-26
Test Engineer:	Stone Zhang

Test Mode	Antenna	Frequency (MHz)	Result [dBm/3kHz]	Limit[dBm/3kHz]	Verdict
Thread	Ant1	2405	-6.30	≤8.00	PASS
		2440	-7.26	≤8.00	PASS
		2480	-7.87	≤8.00	PASS

Test Graphs

Thread_Ant1_2405



Thread_Ant1_2440



Thread_Ant1_2480



7.5. Conducted Band Edge and Out-of-Band Emissions

7.5.1. Test Limit

The limit for out-of-band spurious emissions at the band edge is 20dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100 kHz bandwidth per the PSD procedure.

7.5.2. Test Procedure Used

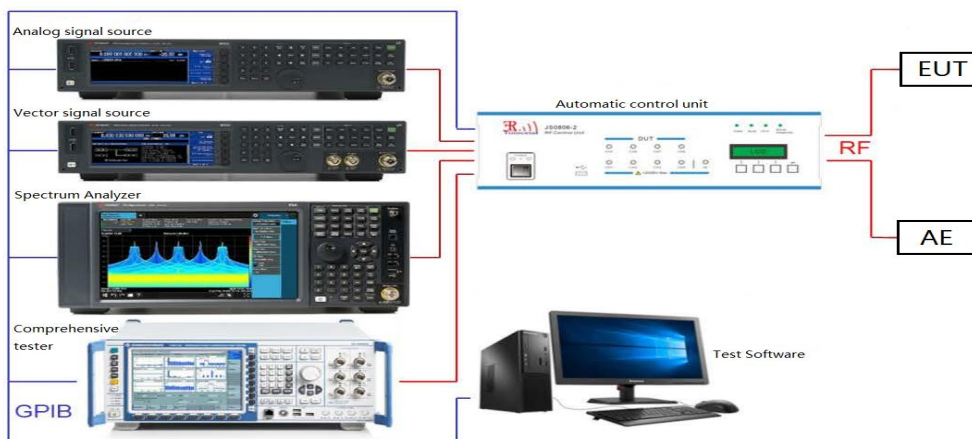
KDB 558074 D01 v05r02 - Section 8.5 & Section 8.6

ANSI C63.10 – Section 11.11&11.12

7.5.3. Test Setting

- (a) Set the center frequency and span to encompass frequency range to be measured
- (b) RBW = 100kHz
- (c) VBW = 300kHz
- (d) Detector = Peak
- (e) Trace mode = max hold
- (f) Sweep time = auto couple
- (g) The trace was allowed to stabilize

7.5.4. Test Setup



7.5.5. Test Result

Temperature:	26.7°C
Relative Humidity:	39 %
ATM Pressure:	100.5 kPa
Test Date:	2025-08-26
Test Engineer:	Stone Zhang

Band edge

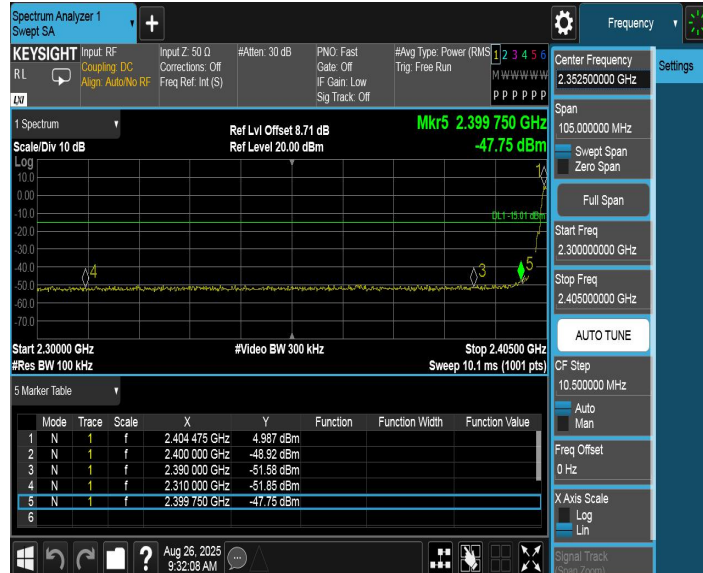
Test Mode	Antenna	Channel Name	Channel	Ref Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
Thread	Ant1	Low	2405	4.99	-47.75	≤-15.01	PASS
		High	2480	3.39	-44.23	≤-16.61	PASS

Conducted Spurious Emission

Test Mode	Antenna	Frequency (MHz)	Frequency Range [MHz]	Ref Level [dBm]	Result[dBm]	Limit[dBm]	Verdict
Thread	Ant1	2405	Reference	4.87	4.87	---	PASS
			30~1000	4.87	-41.33	≤-15.13	PASS
			1000~26500	4.87	-18.98	≤-15.13	PASS
		2440	Reference	4.24	4.24	---	PASS
			30~1000	4.24	-41.15	≤-15.76	PASS
			1000~26500	4.24	-30.28	≤-15.76	PASS
		2480	Reference	3.26	3.26	---	PASS
			30~1000	3.26	-41.47	≤-16.74	PASS
			1000~26500	3.26	-33.12	≤-16.74	PASS

Test Graphs of Band Edge

Thread_Ant1_Low_2405



Thread_Ant1_High_2480



Test Graphs of Out-of-Band Emissions

Thread_Ant1_2405_0~Reference



Thread_Ant1_2405_30~1000



Thread_Ant1_2405_1000~26500



Thread_Ant1_2440_0~Reference



Thread_Ant1_2440_30~1000



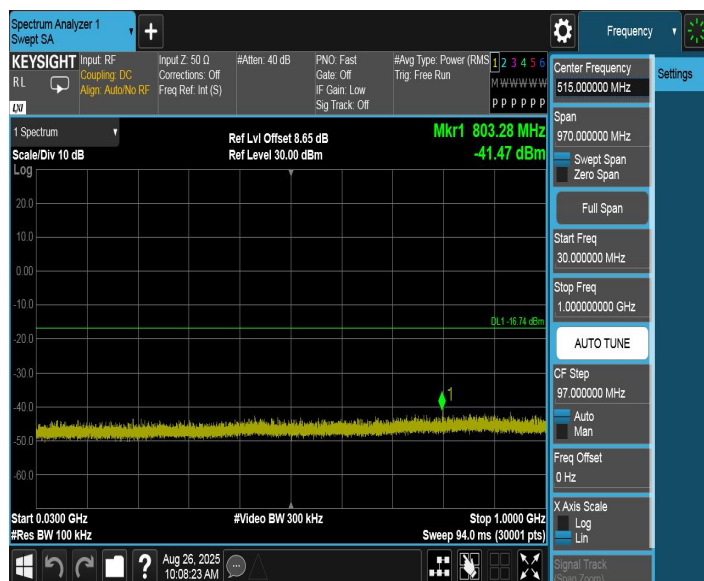
Thread_Ant1_2440_1000~26500



Thread_Ant1_2480_0~Reference



Thread_Ant1_2480_30~1000



Thread_Ant1_2480_1000~26500



7.6. Radiated Spurious Emission Measurement

7.6.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 – 0.490	2400/F (kHz)	300
0.490 – 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

7.6.2. Test Procedure Used

ANSI C63.10-2013 – Section 6.6.4.3

7.6.3. Test Setting

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in Table 1
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold

- Trace was allowed to stabilize

Table 1 - RBW as a function of frequency

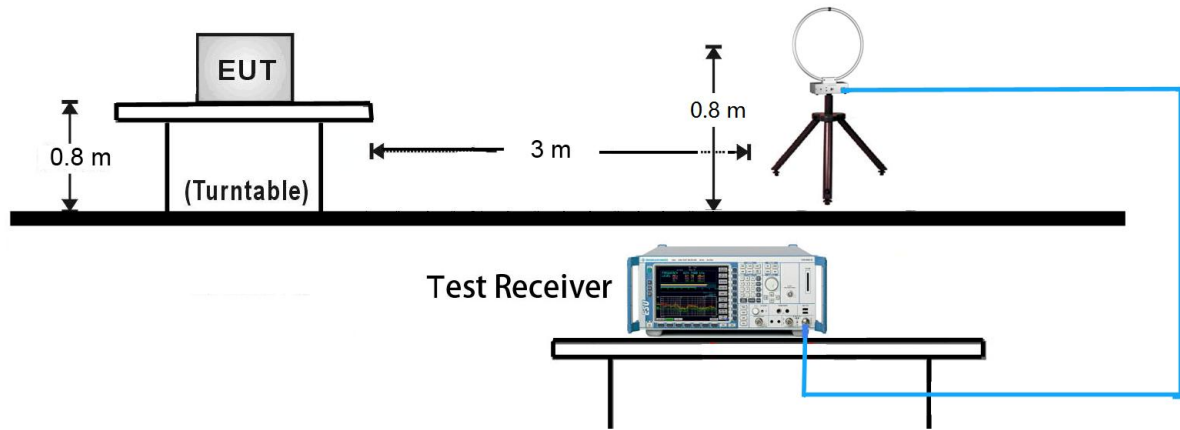
Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

Average Field Strength Measurements

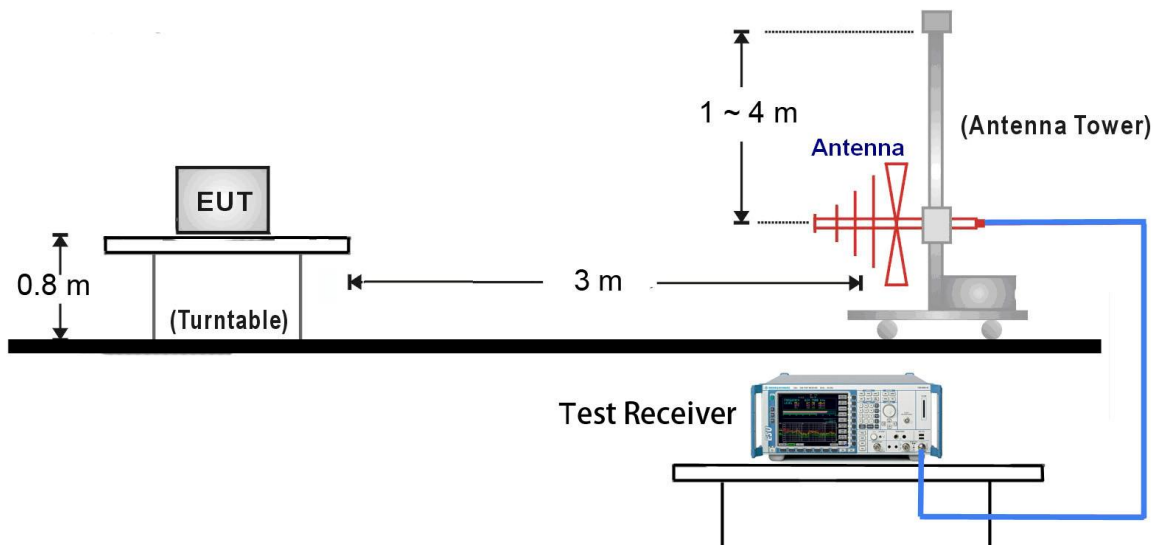
- Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- RBW = 1MHz
- VBW = 3MHz
- Detector = Power Average (RMS)
- Number of sweep point = 2001 (Number of sweep points must be $\geq 2 \times \text{span} / \text{RBW}$)
- Sweep time = auto
- Trace (RMS) averaging was performed over at least 100 traces.

7.6.4. Test Setup

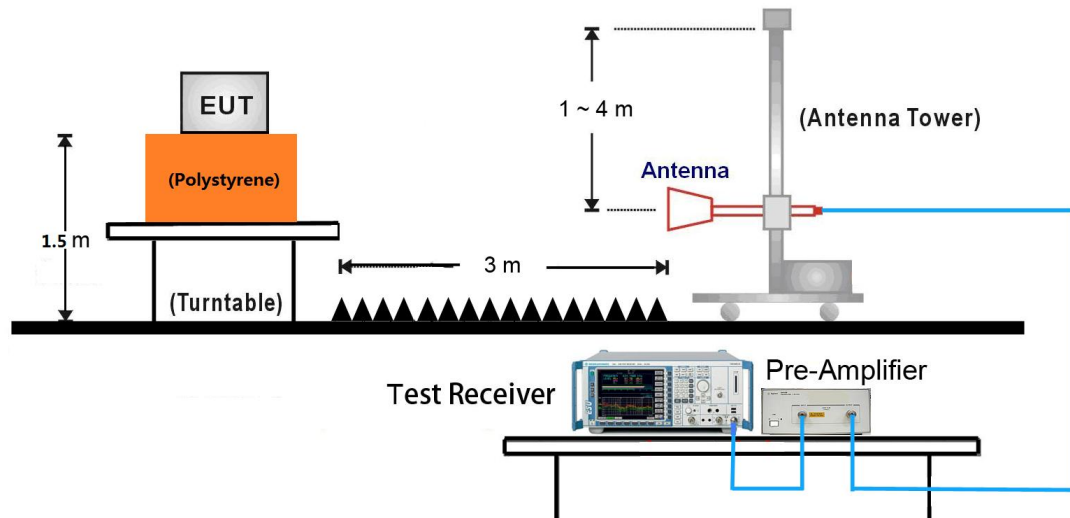
9kHz ~ 30MHz Test Setup:



30MHz ~ 1GHz Test Setup:



1GHz ~ 26.5GHz Test Setup:

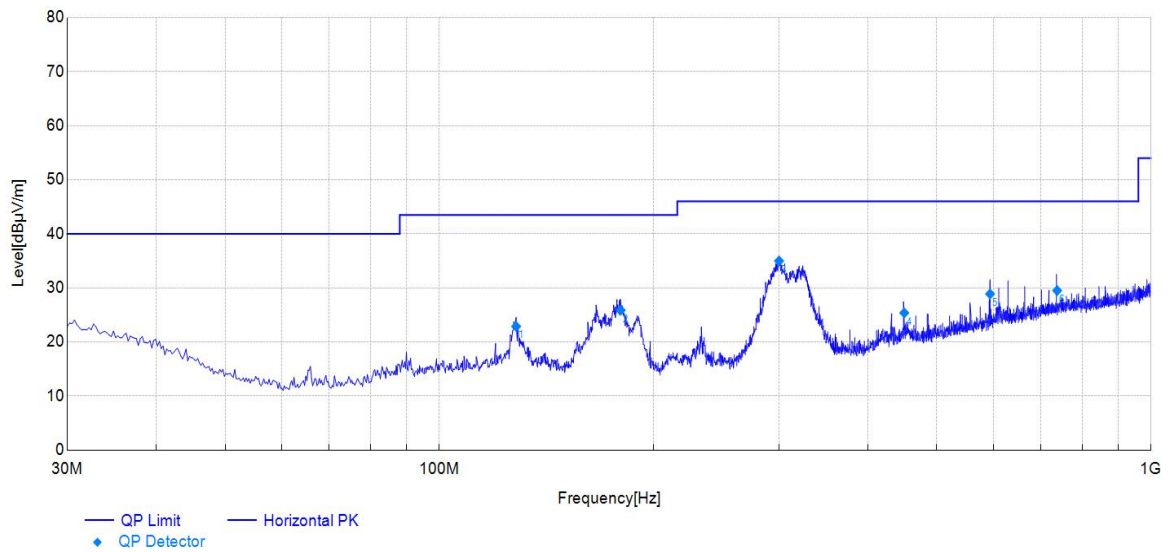


7.6.5. Test Result

The worst case of Radiated Emission below 1GHz:

30MHz – 1GHz Test Data

EUT:	Thermostat Hub W200	Polarity:	Horizontal
Model:	SRT-A06E	Test Date:	2025-08-30
Mode:	Transmit at Thread Channel 11	Voltage:	AC 24V
Environment:	Temp: 23.2°C; Humi:57%	Engineer:	Stone Zhang



Final Data List										
NO.	Frequency [MHz]	Factor [dB/m]	QP Reading [dBμV]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pol	Verdict
1	128.2125	12.16	10.71	22.87	43.50	20.63	150	105	Horizontal	PASS
2	179.8650	10.58	15.29	25.87	43.50	17.63	150	120	Horizontal	PASS
3	300.1450	13.04	21.95	34.99	46.00	11.01	100	98	Horizontal	PASS
4	450.0100	16.91	8.46	25.37	46.00	20.63	100	310	Horizontal	PASS
5	594.0550	19.82	9.06	28.88	46.00	17.12	150	356	Horizontal	PASS
6	738.1000	22.26	7.24	29.50	46.00	16.50	150	110	Horizontal	PASS

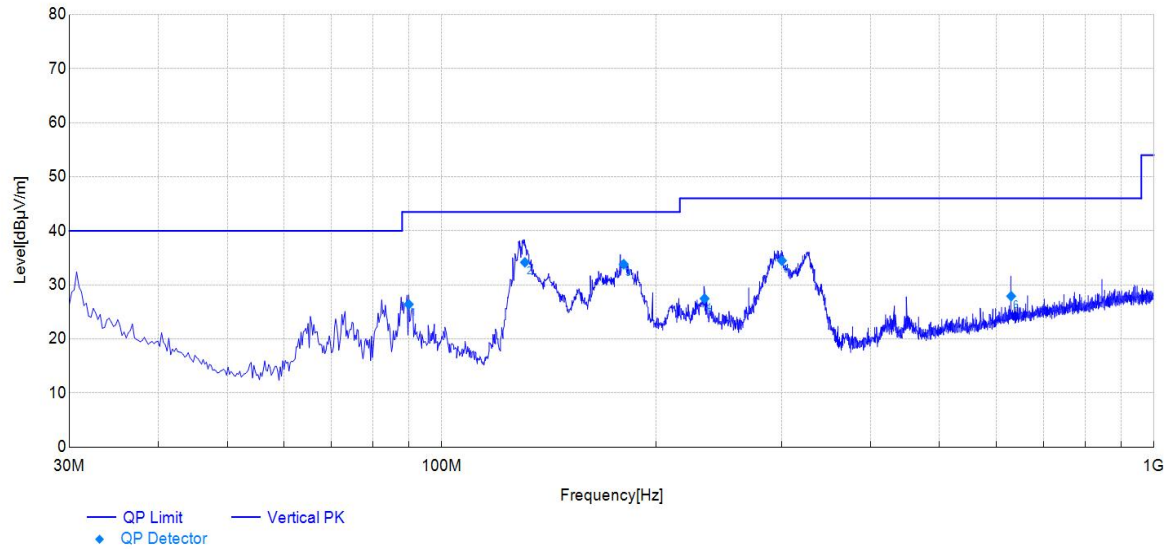
Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level

(3) The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

EUT:	Thermostat Hub W200	Polarity:	Vertical
Model:	SRT-A06E	Test Date:	2025-08-30
Mode:	Transmit at Thread Channel 11	Voltage:	AC 24V
Environment:	Temp: 23.2°C; Humi:57%	Engineer:	Stone Zhang



Final Data List										
NO.	Frequency [MHz]	Factor [dB/m]	QP Reading [dBμV]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pol	Verdict
1	89.8975	10.11	16.28	26.39	43.50	17.11	100	232	Vertical	PASS
2	130.8800	11.85	22.31	34.16	43.50	9.34	100	360	Vertical	PASS
3	180.1075	10.09	23.73	33.82	43.50	9.68	100	256	Vertical	PASS
4	233.9425	10.62	16.84	27.46	46.00	18.54	100	223	Vertical	PASS
5	300.3875	12.05	22.43	34.48	46.00	11.52	100	134	Vertical	PASS
6	630.1875	19.93	7.98	27.91	46.00	18.09	100	293	Vertical	PASS

Note:

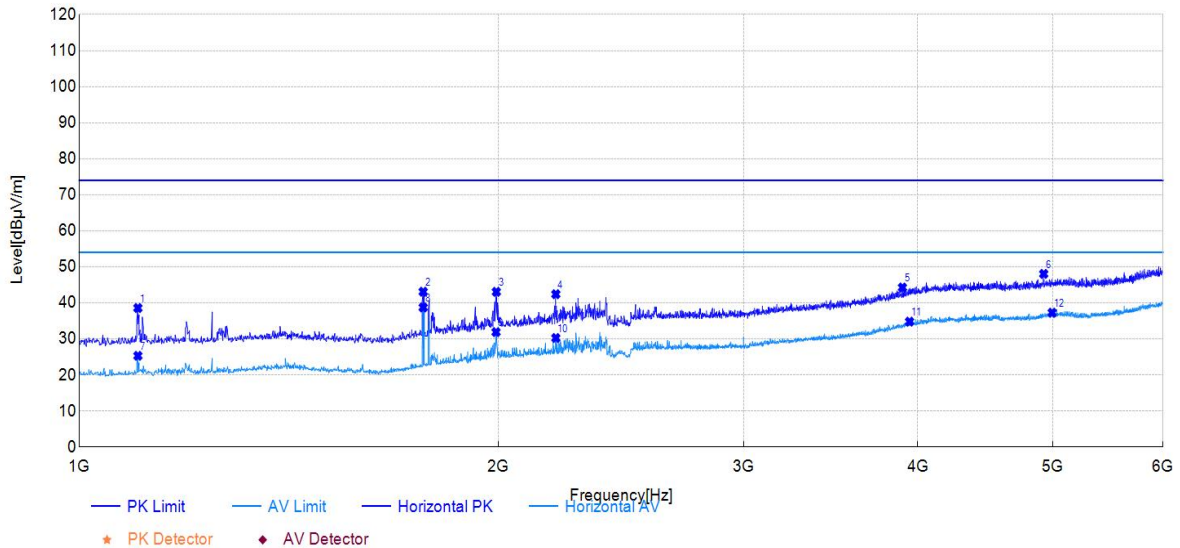
(1) Level=Reading + Factor

(2) Margin=Limit-Level

(3) The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

1GHz-6GHz

Test Mode:	Thread	Test Date:	2025-08-30
Test Channel:	11	Test Engineer:	Stone Zhang



Suspected Data List

NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	1102.00	62.41	38.58	-23.83	74.00	35.42	150	91	PK	Horizontal	PASS
2	1766.00	62.87	43.10	-19.77	74.00	30.90	150	299	PK	Horizontal	PASS
3	1993.00	61.29	43.07	-18.22	74.00	30.93	150	87	PK	Horizontal	PASS
4	2199.00	59.62	42.41	-17.21	74.00	31.59	150	94	PK	Horizontal	PASS
5	3900.00	53.53	44.27	-9.26	74.00	29.73	150	287	PK	Horizontal	PASS
6	4926.00	54.42	48.05	-6.37	74.00	25.95	150	251	PK	Horizontal	PASS
7	1102.00	49.15	25.32	-23.83	54.00	28.68	150	91	AV	Horizontal	PASS
8	1766.00	58.50	38.73	-19.77	54.00	15.27	150	299	AV	Horizontal	PASS
9	1992.00	50.13	31.90	-18.23	54.00	22.10	150	314	AV	Horizontal	PASS
10	2199.00	47.47	30.26	-17.21	54.00	23.74	150	94	AV	Horizontal	PASS
11	3946.00	43.74	34.80	-8.94	54.00	19.20	150	135	AV	Horizontal	PASS
12	4995.00	43.32	37.28	-6.04	54.00	16.72	150	131	AV	Horizontal	PASS

Note:

(1) Level=Reading + Factor

(2) Margin=Limit-Level