

RF Exposure Evaluation Declaration

Report No.: S2025081401640106

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
Application Type: Certification
Product: Thermostat Hub W200
Model No.: SRT-A06E, SRT-A06D
Trade Mark: Queclink
FCC Rule Part(s): CFR 47, FCC Part 2.1091 Radio frequency radiation exposure
evaluation: mobile devices.
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 KDB 558074 D01. Test results reported herein relate only to the item(s) tested.

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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
S2025081401640106	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):	FCC Part 2.1091
FCC ID:	2AKIT-SRTA06
Test Device Serial No.:	S/N.: / ☐ Production ☒ Pre-Production ☐ Engineering

1. Product Information

1.1. 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.

1.2. Product Specification Subjective to this Report

Operating Frequency	Thread: 2405~2480MHz Zigbee: 2405~2480MHz BLE: 2402~2480MHz 802.11b/g/n-HT20: 2412 ~ 2462MHz 802.11n-HT40: 2422 ~ 2452MHz 802.11a/n-HT20/ac-VHT20: 5180~5240MHz, 5745~5825MHz 802.11n-HT40/ac-VHT40: 5190~5230MHz, 5755~5795MHz 802.11ac-VHT80: 5210MHz, 5775MHz 24G SRD: 24.00~24.25GHz
Number of Channels	Thread: 16 Zigbee: 16 BLE: 40 2.4G-WiFi: 802.11b/g/n-HT20: 11 802.11n-HT40: 7 5G-WiFi: 802.11a/n-HT20/ac-VHT20: 9

	802.11n-HT40/ac-VHT40: 4 802.11ac-VHT80: 2 24G SRD: 1
Channel Spacing	Thread: 5MHz Zigbee: 5MHz BLE: 2MHz 2.4G-WiFi: 802.11b/g/n-HT20/n-HT40: 5MHz 5G-WiFi: 802.11a/n-HT20/ac-VHT20: 20MHz 802.11n-HT40/ac-VHT40: 40MHz 802.11ac-VHT80: 80MHz
Type of modulation	Thread: O-QPSK Zigbee: O-QPSK BLE: GFSK 802.11b: DSSS 802.11g/n/ac: OFDM 24G SRD: FMCW
Antenna Type:	Thread: PIFA antenna Zigbee: PIFA antenna BLE: PIFA antenna 2.4G-WiFi: PIFA antenna 5G-WiFi: PIFA antenna 24G SRD: Patch Antenna
Antenna Gain:	Thread: 0dBi Zigbee: 0dBi BLE: 0dBi 2.4G-WiFi: 0dBi 5G-WiFi: 0.5dBi 24G SRD: 3.9dBi

Note: The maximum Antenna Gain was declared by the manufacturer.

2. RF Exposure Evaluation

2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

Calculation Formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

r = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

For simultaneous transmission exposure cases, calculation formula is:

$$\sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

2.2. Calculation Method

Temperature:	23.4 °C
Relative Humidity:	63 %
ATM Pressure:	101.1 kPa
Test Date:	2025-09-24
Test Engineer:	Stone Zhang

Product	Thermostat Hub W200
Test Item	RF Exposure Evaluation

Mode	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Antenna Gain (dBi)	PG		MPE (mW/cm ²)	MPE Limits (mW/cm ²)
				(dBm)	(mW)		
Thread	2405 ~ 2480	8.63	0.00	8.63	7.29	0.0015	1.00
Zigbee	2405 ~ 2480	9.00	0.00	9.00	7.94	0.0016	1.00
BLE	2402 ~ 2480	8.30	0.00	8.30	6.76	0.0013	1.00
2.4G-WiFi 802.11b	2412 ~ 2462	17.70	0.00	17.70	58.88	0.0117	1.00
5G-WiFi 802.11n	5150 ~ 5250	15.73	0.50	16.23	41.98	0.0084	1.00
5G-WiFi 802.11a	5725 ~ 5850	16.10	0.50	16.60	45.71	0.0091	1.00
24G SRD	24000 ~ 24250	7.25	3.90	11.15	13.03	0.0026	1.00

Remark1: MPE use distance is 20cm from manufacturer declaration of user manual.

Remark2: Use the maximum gain of all bands when evaluating.

Remark3: For 24G SRD, $E[\text{dB}\mu\text{V}/\text{m}] = \text{EIRP}[\text{dBm}] + 95.2$, for $d = 3 \text{ m}$.

Remark4: For simultaneous transmission is Zigbee, BLE, 2.4G-WiFi, 5G-WiFi and 24G SRD (worst case).

$$\sum_{k=1}^c \frac{\text{Evaluated}_k}{\text{Exposure Limit}_k} = 0.0016 + 0.0013 + 0.0117 + 0.0091 + 0.0026 = 0.0263 < 1.$$

CONCULISON:

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06.

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