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国际互认
检测
TESTING
CNAS L0446



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Test Report

Verified code: 696253

Report No.: E20220818423001-5

Customer: Lumi United Technology Co., Ltd

Address: Room 801-804, Building 1, Chongwen Park, Nanshan iPark, No.3370, Liuxian Avenue, Fuguang Community, Taoyuan Residential District, Nanshan District, Shenzhen, China

Sample Name: Chime Repeater

Sample Model: SVD-C02

Receive Sample Date: Aug.19,2022

Test Date: Aug.19,2022 ~ Oct.14,2022

Reference Document: EN 50665:2017

Test Result: Pass

Prepared by: *Huang Lifang*

Reviewed by: *Wu Haoting*

Approved by: *Xiao Liang*

GUANGZHOU GRG METROLOGY & TEST CO., LTD

Issued Date: 2022-11-29

GUANGZHOU GRG METROLOGY & TEST CO., LTD.

Address: No.163,Pingyun Road, West of Huangpu Avenue, Guangzhou, Guangdong, China
Tel: (+86) 400-602-0999 FAX: (+86) 020-38698685 Web: <http://www.grgtest.com>



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REPORT ISSUED HISTORY

Report Version	Report No.	Description	Compile Date
1.0	E20220818423001-5	Original Issue	2022-10-14

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1. GENERAL DESCRIPTION OF EUT

1.1 APPLICANT INFORMATION

Name: Lumi United Technology Co., Ltd
Room 801-804, Building 1, Chongwen Park, Nanshan iPark, No.3370, Liuxian Avenue, Fuguang Community, Taoyuan Residential District, Nanshan District, Shenzhen, China

Address: Room 801-804, Building 1, Chongwen Park, Nanshan iPark, No.3370, Liuxian Avenue, Fuguang Community, Taoyuan Residential District, Nanshan District, Shenzhen, China

1.2 MANUFACTURER

Name: Lumi United Technology Co., Ltd
Room 801-804, Building 1, Chongwen Park, Nanshan iPark, No.3370, Liuxian Avenue, Fuguang Community, Taoyuan Residential District, Nanshan District, Shenzhen, China

Address: Room 801-804, Building 1, Chongwen Park, Nanshan iPark, No.3370, Liuxian Avenue, Fuguang Community, Taoyuan Residential District, Nanshan District, Shenzhen, China

1.3 BASIC DESCRIPTION OF EUT

Product Name: Chime Repeater

Product Model: SVD-C02

Adding Model: SVD-C04

Models Difference: that EUT (Chime Repeater) Model Numbers SVD-C02 and SVD-C04 have the same technical construction including circuit diagram,PCB LAYOUT,hardware version and software version identical,except color of enclosures and sales method are different.

Trade Name: Aqara

Power Supply: DC 5V power supplied by adapter

Frequency Band: 2412MHz-2472MHz for 802.11b/g/n HT20

Antenna Specification: FPC antenna with 0.5dBi gain (Max)

Hardware Version: X1

Software Version: 1.0.4_0010

Sample submitting way: Provided by customer Sampling

Sample No: E20220818423001-0002, E20220818423001-0004

Note: /

2. LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of Guangzhou GRG Metrology & Test Co., Ltd.

Add.: No.1301 Guanguang Road Xinlan Community, Guanlan Street, Longhua District
Shenzhen, 518110, People's Republic of China.
P.C.: 518110
Tel : 0755-61180008
Fax: 0755-61180008

3. ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to GB/T 27025(ISO/IEC 17025:2017)

USA A2LA(Certificate #2861.01)

China CNAS(L0446)

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada ISED (Company Number: 24897, CAB identifier:CN0069)

USA FCC (Registration Number: 759402, Designation Number:CN1198)

Copies of granted accreditation certificates are available for downloading from our web site,
<http://www.grgtest.com>

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4. TECHNICAL REQUIREMENTS SPECIFICATION IN

4.1 RF EXPOSURE EVALUATION

This European Standard applies to electronic and electrical equipment for which no dedicated Harmonized product – or product family standard, or standard relating to low power equipment, regarding human exposure not. Annex A lists such harmonized standards available at the time of writing This list may change with time. The current list of standards harmonized under each directive should be consulted at the time of use of this standard.

The measurements and calculations to demonstrate equipment compliance shall be made according to EN 62311:2008, Clause 4 and 5. The general considerations as defined in EN 62311:2008, Clause 4 and 5 shall apply to all equipment.

The product is deemed to fulfil the requirements of this standard if the calculated and/or measured values are less than or equal to the limits.

NOTE In the setting of basic restrictions and the derived reference levels, safety factors have been taken into account. In the specification of the assessment method, uncertainty has been constrained. This is the reason for not requiring that the measured values shall be compared to the limit reduced by the measurement uncertainty.

Reference levels for electric, magnetic and electromagnetic fields
(0 Hz to 300 GHz, unperturbed rms values)

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (μT)	Equivalent plane wave power density S_{eq} (W/m ²)
0-1 Hz	—	$3,2 \times 10^4$	4×10^4	—
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	—
8-25 Hz	10 000	$4\,000/f$	$5\,000/f$	—
0,025-0,8 kHz	$250/f$	$4/f$	$5/f$	—
0,8-3 kHz	$250/f$	5	6,25	—
3-150 kHz	87	5	6,25	—
0,15-1 MHz	87	$0,73/f$	$0,92/f$	—
1-10 MHz	$87/f^{1/2}$	$0,73/f$	$0,92/f$	—
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375 f^{1/2}$	$0,0037 f^{1/2}$	$0,0046 f^{1/2}$	$f/200$
2-300 GHz	61	0,16	0,20	10

Notes

- f as indicated in the frequency range column.
- For frequencies between 100 kHz and 10 GHz, S_{eq} , E^2 , H^2 , and B^2 are to be averaged over any six-minute period.
- For frequencies exceeding 10 GHz, S_{eq} , E^2 , H^2 , and B^2 are to be averaged over any $68/f^{1.05}$ -minute period (f in GHz).
- No E-field value is provided for frequencies < 1 Hz, which are effectively static electric fields. For most people the annoying perception of surface electric charges will not occur at field strengths less than 25 kV/m. Spark discharges causing stress or annoyance should be avoided.

4.2 EVALUATION RESULTS

Exposure Restrictions						
Mode	Max. Output Power (dBm)	Gain (dBi)	EIRP Power (dBm)	Frequency Band(MHz)	Power Density (W/m ²)	Limit of Power Density (W/m ²)
2.4GWIFI-802.11b	15.81	0.5	16.31	2412-2472	0.08510	10
2.4GWIFI-802.11g	14.28	0.5	14.78		0.05983	10
2.4GWIFI-802.11n HT20	14.72	0.5	15.22		0.06621	10

Note:

1.The maximum output Power were refer to the RF report.

2.The field calculation does not take into account the antenna size, which is assumed to be a point source. An ideal isotropic antenna is used as a reference to compare the performance of practical antennas: P watts is radiated, from a point, uniformly over the surface of sphere of radius R . Assumed use distance from EUT to Human, **20 cm** separation distance warning is required.

The Formula

$$S = \frac{P}{4\pi R^2}$$

Whereas,

S = power density

R=distance from observation point to the antenna (m)

P= The maximum e.i.r.p of the transmitter (W) .

In this section, the power density at 20 cm location is calculated to examine if it is lower than the limit.

The worst case:

Max. 2.4G WIFI = 0.08510(W/m²) < 10(W/m²)

The test result is passed.

----- End of Report -----