

RF EXPOSURE EVALUATION REPORT

Application No.: SZCR2304001019AT
Applicant: Wyze Labs, Inc.
Address of Applicant: 5808 Lake Washington Blvd NE Ste 300, Kirkland, Washington, 98033 United States
Manufacturer: ShenZhen Dophigo IoT Technology Co., Ltd
Address of Manufacturer: 2801 floor, room 01-04, Minzhi stock business center block C, North station community, Minzhi street, Longhua district, Shenzhen
Factory: Shenzhen Point Electronics Tech Co., Ltd.
Address of Factory: Room 301, building 3, shangyuan industrial park, liantang industrial city, shangcun community, gongming street, guangming new district, shenzhen
Equipment Under Test (EUT):
EUT Name: Wyze Chime Pro, WIRE-FREE VIDEO DOORBELL & CHIME SE
Model No.: WWDFPCA, DB100CX ♣
♣ Please refer to section 3.1 of this report which indicates which model was actually tested and which were electrically identical.
Trade Mark: WYZE, Roku
FCC ID: 2AUIUWWDFPCA
Standard(s) : 47 CFR Part 1.1307
47 CFR Part 1.1310
47 CFR Part 2.1091
Date of Receipt: 2023-04-11
Date of Evaluation: 2023-04-18 to 2023-04-20
Date of Issue: 2023-04-24

Evaluation Result:	Pass*
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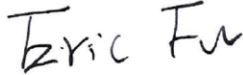
* In the configuration evaluated, the EUT complied with the standards specified above.



Keny Xu
EMC Laboratory Manager



Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2022-04-24		Original

Authorized for issue by:			
			
		<hr/> Charlie Dai/Project Engineer	
			
		<hr/> Eric Fu/Reviewer	



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3 General Information

3.1 Details of E.U.T.

Power Supply:	Input: 100V-240V 0.1A 50/60Hz
For BLE:	
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V5.0 LE
Modulation Type:	GFSK
Data Rate:	1M/bit
Number of Channels:	40
Channel Spacing:	2MHz
Antenna Type:	FPC Antenna
Antenna Gain:	4.4dBi
For 2.4G WIFI:	
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK);802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels:	802.11b/g/n(HT20):11
Channel Spacing:	5MHz
Antenna Type:	FPC Antenna
Antenna Gain:	4.17dBi
For 5G WIFI:	
Operation Frequency (20MHz):	U-NII-1: 5180-5240MHz; U-NII-3: 5745-5825MHz
Modulation Type:	802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK); 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM)
Channel Spacing:	802.11a/n(HT20): 20MHz
DFS Function:	Without DFS function
TPC Function:	Without TPC function
Antenna Type:	FPC Antenna
Antenna Gain:	4.39dBi

Remark:

New model No. in report SZCR230400101904: WWVDP, DB1000X

Only the model WWVDP was tested in report FYCR220300000204. Since according to the declaration from the applicant, the electrical circuit design, PCB layout, components used and internal wiring and functions were identical for the above models, with only difference on model.

Since according to the declaration of the applicant, the model in this report were identical in the electrical circuit design, layout, components used and internal wiring with the models in original report, only difference on changed the antenna supplier.



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SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

SZEMC-TRF-01 Rev. A/0 Aug01,2022

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Items	Original Antenna	New Antenna
Supplier	Suzhou Speed Communication Technology Ltd.	Shenzhen Yingjiachuang Electronic Technology Co., Ltd
BLE Gain	5.84dBi	4.4dBi
2.4G WIFI Gain	5.84dBi	4.17dBi
5G WIFI Gain	3.15dBi	4.39dBi
Antenna Type:	FPC Antenna	FPC Antenna



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch EMC Laboratory

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中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

3.2 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053

Fax: +86 755 2671 0594

3.3 Test Facility

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

• **A2LA (Certificate No. 6606.01)**

Compliance Certification Services (Kunshan) Inc. Shenzhen branch is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6606.01.

• **FCC –Designation Number: CN1322**

Compliance Certification Services (Kunshan) Inc. Shenzhen branch has been recognized as an accredited testing laboratory.

Designation Number: CN1322. Test Firm Registration Number: 718073

• **Innovation, Science and Economic Development Canada**

Compliance Certification Services (Kunshan) Inc. Shenzhen branch has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0129.

IC#: 28189.

3.4 Deviation from Standards

None

3.5 Abnormalities from Standard Conditions

None



4 Radio Spectrum Technical Requirement

4.1 RF Exposure Compliance Requirement

4.1.1 Limits

According to FCC Part1.1310: 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 part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f ²)	6
30–300	61.4	0.163	1.0	6
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500 .....	.....	.....	f/1500	30
1500–100,000 .....	.....	.....	1.0	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $Pd = (Pout * G) / (4 * \pi * R^2)$

Where

Pd = power density in mW/cm²

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

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

Pd is the limit of MPE, 1 mW/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.

4.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.



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4.1.3 EUT RF Exposure Evaluation

For BLE:

Antenna Gain: 4.4dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Frequency (MHz)	Max Conducted Peak Output Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
2480	9.56	24.89	0.005	1.0	PASS

For 2.4G WIFI:

Antenna Gain: 4.17dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Frequency (MHz)	Max Conducted Peak Output Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
2437	20.02	262.42	0.052	1.0	PASS

For 5G WIFI:

Antenna Gain: 4.39dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Frequency (MHz)	Max Conducted Peak Output Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
5745	17.38	150.31	0.030	1.0	PASS

Note: Refer to report No. FYCR220300000201, FYCR220300000202, FYCR220300000203 for EUT test Max Conducted Peak Output Power Value.

The distance r (4th column) calculated from the Fries transmission formula is far greater than 20 cm separation requirement.



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5 EUT Constructional Details (EUT Photos)

Refer to Appendix – External and Internal Photos for SZCR2304001019AT

- End of the Report -

