

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

Report No.: SZCR230400101901

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# TEST 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.: WWDPCA, DB100CX ♣

Please refer to section 2 of this report which indicates which model was

actually tested and which were electrically identical.

Trade Mark: WYZE, Roku
FCC ID: 2AUIUWWDPCA

Standard(s): 47 CFR Part 15, Subpart C 15.247

(Only for Radiated Spurious Emissions Above 1GHz)

**Date of Receipt:** 2023-04-11

**Date of Test:** 2023-04-20 to 2023-04-20

Date of Issue: 2023-04-24

Test Result: Pass\*

Keny Xu EMC Laboratory Manager

Ceny. Ku



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<sup>\*</sup> In the configuration tested, the EUT complied with the standards specified above.



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		Revision Record		
Version	Chapter	Date	Modifier	Remark
01		2023-04-24		Original

Authorized for issue by:		
	Charle Doi	
	Charlie Dai/Project Engineer	
	Exic Fu	
	Eric Fu/Reviewer	



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#### **Test Summary** 2

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Radiated Spurious Emissions Above 1GHz	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.6	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass

#### Remark:

Model No.: WWDPCA, DB100CX

Only the model WWDPCA was tested in report. 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.

This test report (Ref. No.: SZCR230400101901) is only valid with the original test report (Ref. No.: FYCR220300000201).

Review this report and original report, this report just changed the information of manufacturer and factory, changed the product name, changed the model No., changed the trade mark.

According to the declaration from the applicant, the models in this report and models in original report were identical, only difference with being changed the antenna supplier.

Items	Original Antenna	New Antenna
Cumplion	Suzhou Speed Communication	Shenzhen Yingjiachuang Electronic
Supplier	Technology Ltd.	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

Considering to the difference, pre-scan were performed on the sample in this report to find the items which can be influential to the result in the original test report for fully retest.

Therefore in this report Radiated Spurious Emissions Above 1GHz was retested on model and shown the data in this report, other tests please refer to original report FYCR220300000201.



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# **General Information**

### Details of E.U.T.

Power supply:	Input: 100V-240V 0.1A 50/60Hz
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

Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

### 4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
The EUT has been tested as an independent unit.			

### 4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Radiated Spurious Emissions Above 1GHz	± 4.8dB

#### Remark:

The U<sub>lab</sub> (lab Uncertainty) is less than U<sub>cispr/ETSI</sub> (CISPR/ETSI Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



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#### 4.4 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

No tests were sub-contracted.

### 4.5 Test Facility

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

### • A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

### VCCI (Member No. 1937)

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

#### FCC –Designation Number: CN1336

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1336. Test Firm Registration Number: 787754.

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

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

### 4.6 Deviation from Standards

None

### 4.7 Abnormalities from Standard Conditions

None



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#### **Equipment List** 5

Radiated Spurious Emissions Above 1GHz					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2022-04-02	2025-04-01
Signal Analyzer	Rohde & Schwarz	FSV40	SEM008-04	2023-03-20	2024-03-19
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2022-07-24	2024-07-23
Microwave system amplifier	Agilent	83017A	SEM005-25	2022-09-21	2023-09-20
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2022-07-08	2023-07-07

General used equipmen	t				
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2022-09-04	2023-09-03
Humidity/ Temperature Indicator	Anymetre	TH101B	SEM002-09	2022-09-04	2023-09-03
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2023-03-23	2024-03-22



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#### **Radio Spectrum Matter Test Results** 6

### 6.1 Radiated Spurious Emissions Above 1GHz

47 CFR Part 15, Subpart C 15.205 & 15.209 Test Requirement

Test Method: ANSI C63.10 (2013) Section 6.6

Measurement Distance: 3m

#### Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
Above 1000	500	3

### 6.1.1 E.U.T. Operation

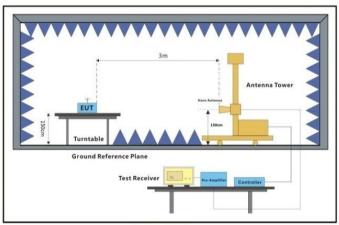
Operating Environment:

Temperature: 20.9 °C Humidity: 60.2 % RH Atmospheric Pressure: 1015 mbar

#### 6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

### 6.1.3 Test Setup Diagram



Above 1GHz



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#### 6.1.4 Measurement Procedure and Data

- a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete.

#### Remark:

- 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
- 2. Scan from 1GHz to 25GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.



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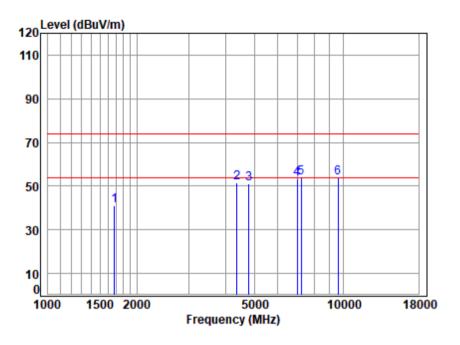


SZEMC-TRF-01 Rev. A/0 Aug01,2022

Report No.: SZCR230400101901

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Test Mode: 00; Polarity: Horizontal; Modulation: GFSK; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL Job No : 01019AT/01020AT Mode : 2402 TX RSE

: BLE

			_							
			Cable	Ant	Preamp	Read		Limit	0ver	
		Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
	1	1677.621	3.46	26.76	36.45	47.39	41.16	74.00	-32.84	peak
1	2	4367.058	6.65	33.57	34.59	46.13	51.76	74.00	-22.24	peak
	3	4804.000	7.04	33.82	34.86	45.02	51.02	74.00	-22.98	peak
4	4	6974.982	8.32	35.75	35.89	45.24	53.42	74.00	-20.58	peak
	5 q	7206.000	8.52	35.80	35.95	45.42	53.79	74.00	-20.21	peak
-	6	9608.000	10.39	37.10	35.55	41.71	53.65	74.00	-20.35	peak



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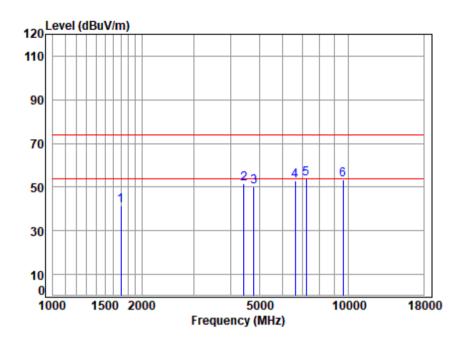


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Report No.: SZCR230400101901

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Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:Low



Site : chamber

Condition: 3m VERTICAL

Job No : 01019AT/01020AT

Mode : 2402 TX RSE

: BLE

			_							
			Cable	Ant	Preamp	Read		Limit	0ver	
		Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	_									
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1		1702.042	3.49	26.80	36.40	47.43	41.32	74.00	-32.68	peak
2		4443.453	6.72	33.50	34.64	45.75	51.33	74.00	-22.67	peak
3		4804.000	7.04	33.82	34.86	44.38	50.38	74.00	-23.62	peak
4		6621.375	8.26	35.60	35.60	44.81	53.07	74.00	-20.93	peak
5	q	7206.000	8.52	35.80	35.95	45.41	53.78	74.00	-20.22	peak
6		9608.000	10.39	37.10	35.55	41.36	53.30	74.00	-20.70	peak



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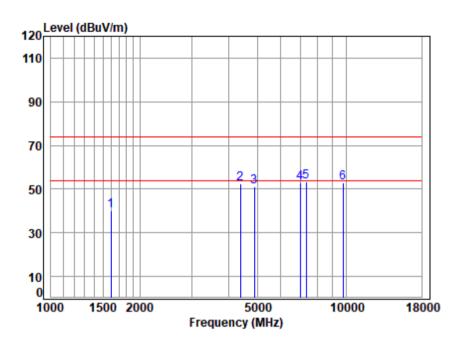


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Report No.: SZCR230400101901

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Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:middle



Site : chamber

Condition: 3m HORIZONTAL Job No : 01019AT/01020AT Mode : 2440 TX RSE

: BLE

		_							
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1597.181	3.37	26.47	36.64	47.02	40.22	74.00	-33.78	peak
2	4379.699	6.66	33.54	34.59	46.81	52.42	74.00	-21.58	peak
3	4880.000	7.11	34.06	34.91	44.99	51.25	74.00	-22.75	peak
4	6995.172	8.32	35.79	35.91	44.75	52.95	74.00	-21.05	peak
5 (	7320.000	8.62	35.90	35.97	44.79	53.34	74.00	-20.66	peak
6	9760.000	10.45	37.20	35.56	41.04	53.13	74.00	-20.87	peak



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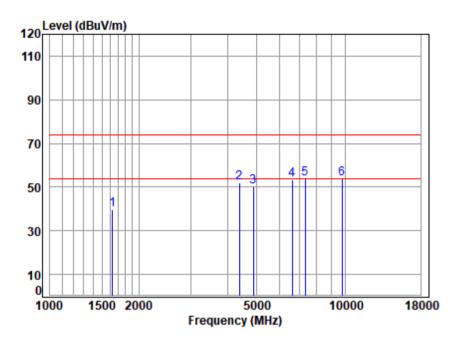


SZEMC-TRF-01 Rev. A/0 Aug01,2022

Report No.: SZCR230400101901

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Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:middle



Site : chamber

Condition: 3m VERTICAL

Job No : 01019AT/01020AT

Mode : 2440 TX RSE

: BLE

			_							
			Cable	Ant	Preamp	Read		Limit	0ver	
		Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	_									
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1		1629.825	3.41	26.62	36.56	46.08	39.55	74.00	-34.45	peak
2		4392.376	6.67	33.52	34.60	46.41	52.00	74.00	-22.00	peak
3		4880.000	7.11	34.06	34.91	43.96	50.22	74.00	-23.78	peak
4		6621.375	8.26	35.60	35.60	44.91	53.17	74.00	-20.83	peak
5		7320.000	8.62	35.90	35.97	45.18	53.73	74.00	-20.27	peak
6	q	9760.000	10.45	37.20	35.56	41.74	53.83	74.00	-20.17	peak



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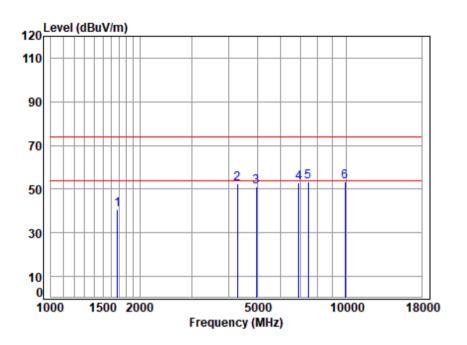


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Report No.: SZCR230400101901

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Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:High



Site : chamber

Condition: 3m HORIZONTAL Job No : 01019AT/01020AT Mode : 2480 TX RSE

: BLE

			_							
			Cable	Ant	Preamp	Read		Limit	0ver	
		Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	_									
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	L	1682.477	3.47	26.77	36.44	46.69	40.49	74.00	-33.51	peak
2	2	4279.589	6.56	33.60	34.53	46.98	52.61	74.00	-21.39	peak
3	3	4960.000	7.18	34.22	34.96	44.76	51.20	74.00	-22.80	peak
4	1	6914.763	8.31	35.63	35.84	44.86	52.96	74.00	-21.04	peak
	5 q	7440.000	8.73	35.90	35.99	44.85	53.49	74.00	-20.51	peak
6	5	9920.000	10.52	37.30	35.57	40.92	53.17	74.00	-20.83	peak



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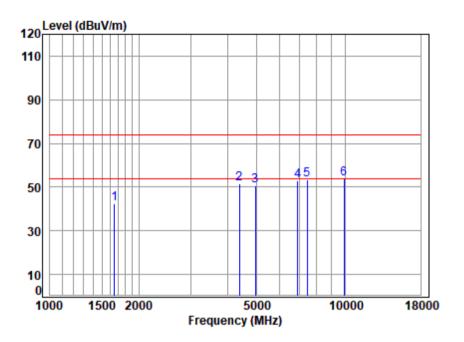


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Report No.: SZCR230400101901

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Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:High



Site : chamber

Condition: 3m VERTICAL

Job No : 01019AT/01020AT

Mode : 2480 TX RSE

: BLE

		_							
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1653.550	3.43	26.71	36.51	48.66	42.29	74.00	-31.71	peak
2	4392.376	6.67	33.52	34.60	46.06	51.65	74.00	-22.35	peak
3	4960.000	7.18	34.22	34.96	44.07	50.51	74.00	-23.49	peak
4	6894.806	8.30	35.60	35.82	44.80	52.88	74.00	-21.12	peak
5	7440.000	8.73	35.90	35.99	44.81	53.45	74.00	-20.55	peak
6 q	9920.000	10.52	37.30	35.57	41.40	53.65	74.00	-20.35	peak



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#### **Test Setup Photo** 7

Refer to Appendix - Test Setup Photo for SZCR2304001019AT

#### **EUT Constructional Details (EUT Photos)** 8

Refer to Appendix - Photographs of EUT Constructional Details for SZCR2304001019AT - End of the Report -



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