

# RF EXPOSURE REPORT

|                                      |                                                         |
|--------------------------------------|---------------------------------------------------------|
| <b>Reference No.</b> ..... :         | WTX26X05146724W004                                      |
| <b>FCC ID</b> ..... :                | 2BDC6-BLUDWOZB                                          |
| <b>Applicant</b> .....               | Shelly Europe Ltd.                                      |
| <b>Address</b> .....                 | 51 Cherni Vrah Blvd., bldg.3,fl.2-3,Sofia 1407,Bulgaria |
| <b>Manufacturer</b> .....            | The same as Applicant                                   |
| <b>Address</b> .....                 | The same as Applicant                                   |
| <b>Product Name</b> .....            | Shelly BLU Door/Window ZB                               |
| <b>Model No.</b> ..... :             | Shelly BLU Door/Window Outdoor ZB                       |
| <b>Standards</b> .....               | FCC Rule Part 1.1307<br>KDB 447498 D04                  |
| <b>Date of Receipt sample</b> .... : | 2026-05-25                                              |
| <b>Date of Test</b> ..... :          | 2026-05-27 to 2026-06-08                                |
| <b>Date of Issue</b> .....           | 2026-06-26                                              |
| <b>Report Form No.</b> .....         | WTX_Part 1_1307W                                        |
| <b>Result</b> ..... :                | <b>Pass</b>                                             |

## Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

**Prepared By:**

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Tested by:

Approved by:

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## 1 General Information

### General Description of EUT:

|                  |                                                                                   |
|------------------|-----------------------------------------------------------------------------------|
| Product Name:    | Shelly BLU Door/Window ZB                                                         |
| Trade Name       |  |
| Model No.:       | Shelly BLU Door/Window Outdoor ZB                                                 |
| Adding Model(s): | Shelly BLU Door/Window Mini ZB                                                    |
| Rated Voltage:   | CR2032 battery powered: DC 3V                                                     |
| Power Adapter:   | /                                                                                 |
| Equipment Type:  | Fixed device                                                                      |

### Technical Characteristics of EUT:

#### Bluetooth

|                       |                             |
|-----------------------|-----------------------------|
| Bluetooth Version:    | V5.0(LE mode)               |
| Frequency Range:      | 2402-2480MHz                |
| RF Output Power:      | 1Mbps: -3.83dBm (Conducted) |
|                       | 2Mbps: -4.26dBm (Conducted) |
| Data Rate:            | 1Mbps, 2Mbps                |
| Modulation:           | GFSK                        |
| Quantity of Channels: | 40                          |
| Channel Separation:   | 2MHz                        |
| Type of Antenna:      | PCB Antenna                 |
| Antenna Gain:         | 2.0dBi                      |

#### Zigbee

|                       |                     |
|-----------------------|---------------------|
| Support Standards:    | IEEE802.15.4        |
| Frequency Range:      | 2405-2480MHz        |
| RF Output Power:      | 0.56dBm (Conducted) |
| Type of Modulation:   | QPSK                |
| Quantity of Channels: | 16                  |
| Channel Separation:   | 5MHz                |
| Type of Antenna:      | PCB Antenna         |
| Antenna Gain:         | 2.0dBi              |

## 2 Test Facility

### Address of the test laboratory

Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

**FCC – Registration No.: 125990**

Waltek Testing Group (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. The Designation Number is CN5010, and Test Firm Registration Number is 125990.

**Industry Canada (IC) Registration No.: 11464A**

The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A and the CAB identifier is CN0057.

**3 RF Exposure Exemption**

According to §1.1307(b)(3) and KDB 447498 D04 Interim General RF Exposure Guidance v01, system operating under the provisions of this section shall be operating in a manner that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure.

**Option A:** FCC Rule Part 1.1307 (b)(3)(i)(A): The available maximum time-averaged power is no more than 1mW, regardless of separation distance.

**Option B:** FCC Rule Part 1.1307 (b)(3)(i)(B): The available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold  $P_{th}$  (mW) described in the following formula.  $P_{th}$  is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left( \frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

$d$  = the separation distance (cm);

**Option C:** FCC Rule Part 1.1307 (b)(3)(i)(C): The minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. R must be at least  $\lambda/2\pi$ , where  $\lambda$  is the free-space operating

wavelength in meters.

| Single RF Sources Subject to Routine Environmental Evaluation |                                      |
|---------------------------------------------------------------|--------------------------------------|
| RF Source frequency (MHz)                                     | Threshold ERP (watts)                |
| 0.3-1.34                                                      | 1,920 R <sup>2</sup>                 |
| 1.34-30                                                       | 3,450 R <sup>2</sup> /f <sup>2</sup> |
| 30-300                                                        | 3.83 R <sup>2</sup>                  |
| 300-1,500                                                     | 0.0128 R <sup>2</sup> f              |
| 1,500-100,000                                                 | 19.2R <sup>2</sup>                   |

**For Multiple RF sources:** FCC Rule Part 1.1307(b)(3)(ii):

- (A) The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required).
- (B) In the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

#### 4 Calculated Result

| Radio Access Technology | Prediction Frequency (MHz) | Output Power (dBm) | Antenna Gain (dBi) | Duty Cycle (%) | Tune-Up Time-Averaged Power (dBm) | ERP (dBm) |
|-------------------------|----------------------------|--------------------|--------------------|----------------|-----------------------------------|-----------|
| Bluetooth               | 2402                       | -3.83              | 2.0                | 100            | -3.00                             | -3.15     |
| Zigbee                  | 2405                       | 0.56               | 2.0                | 100            | 1.00                              | 0.85      |

| Frequency (MHz) | Option | Min. Distance (cm) | Max. Power (dBm) (mW) |      | Exposure Limit (mW) | Ratio | Result Pass/Fail |
|-----------------|--------|--------------------|-----------------------|------|---------------------|-------|------------------|
| 2402            | C      | 20.00              | -3.15                 | 0.48 | 768.00              | 0.01  | Pass             |
| 2405            | C      | 20.00              | 0.85                  | 1.22 | 768.00              | 0.01  | Pass             |

Note: 1. Time-Averaged Power=Output Power \* Duty Cycle; ERP= Time-Averaged Power+ Antenna gain-2.15dB

2. Option A, B and C refers as clause 1.2.

3. For option B, Max (time-averaged power, effective radiated power (ERP)) converts to Max. Power. For option C, ERP converts to Max. Power;

4. For option B, P<sub>th</sub> (mW) converts to Exposure Limit (mW); For option C, ERP (W) converts to Exposure Limit (mW).

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5. Ratio= Tune-Up ERP (mW)/ Exposure Limit (mW)

**Mode for Simultaneous Multi-band Transmission:**

| Radio Access Technology | Ratio 1 | Ratio 2 | Simultaneous Ratio | Limit | Result    |
|-------------------------|---------|---------|--------------------|-------|-----------|
|                         |         |         |                    |       | Pass/Fail |
| --                      | --      | --      | --                 | --    | --        |

*Note: Bluetooth and Zigbee can't transmit at the same time.*

Result: Pass