

TEST REPORT

FCC ID..... :	2BDC6-3A1XE10EU2	
Test Report No..... :	TCT251009E056	
Date of issue..... :	Oct. 27, 2025	
Testing laboratory	SHENZHEN TONGCE TESTING LAB	
Testing location/ address:	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China	
Applicant's name..... :	Shelly Europe Ltd.	
Address..... :	51 Cherni Vrah Blvd., building 3, floor 2 and 3, Lozenetz Region, Sofia 1407, Bulgaria	
Manufacturer's name ... :	Shelly Europe Ltd.	
Address..... :	51 Cherni Vrah Blvd., building 3, floor 2 and 3, Lozenetz Region, Sofia 1407, Bulgaria	
Standard(s)	FCC CFR Title 47 Part 1.1307 FCC CFR Title 47 Part 2.1091	
Product Name..... :	Shelly Wall Display XL	
Trade Mark	N/A	
Model/Type reference..... :	SAWD-3A1XE10EU2	
Rating(s)..... :	Input/Output: AC 100-240V, 50/60Hz, 5A Max USB-C Input: DC 5V, 3A USB-C Output: DC 5V, 0.5A	
Date of receipt of test item	Oct. 09, 2025	
Date (s) of performance of test..... :	Oct. 09, 2025 ~ Oct. 27, 2025	
Tested by (+signature) ... :	Aaron MO	
Check by (+signature).... :	Beryl ZHAO	
Approved by (+signature):	Tomsin	

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1. General Product Information

1.1. EUT description

Product Name	Shelly Wall Display XL
Model/Type reference	SAWD-3A1XE10EU2
Sample Number.....	TCT251009E021-0101
Operation Frequency.....	For BT/BLE: 2402MHz~2480MHz For 2.4G WIFI: 2412MHz~2462MHz (802.11b/802.11g/802.11n(HT20)/802.11ax(HE20)) 2422MHz~2452MHz (802.11n(HT40)/802.11ax(HE40)) For 5G WIFI: Band 1: 5180MHz~5240MHz Band 2A: 5260MHz~5320MHz Band 2C: 5500MHz~5700MHz Band 3: 5745MHz~5825MHz
Modulation Technology	For BT: GFSK, $\pi/4$ -DQPSK, 8DPSK For BLE: GFSK For 2.4G WIFI: DSSS (802.11b), OFDM (802.11g/802.11n), OFDMA (802.11ax) For 5G WIFI: OFDM (802.11a/802.11n/802.11ac), OFDMA (802.11ax) For 5G WIFI: 802.11a/n: 64QAM, 16QAM, QPSK, BPSK 802.11ac: 256QAM, 64QAM, 16QAM, QPSK, BPSK 802.11ax: 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK
Antenna Type	FPC Antenna
Antenna Gain	For BT: 3.28dBi For BLE: 3.28dBi For 2.4G WIFI: 3.28dBi For 5G WIFI: Band 1: 4.50dBi Band 2A: 4.77dBi Band 2C: 4.62dBi Band 3: 3.49dBi
Rating(s)	Input/Output: AC 100-240V, 50/60Hz, 5A Max USB-C Input: DC 5V, 3A USB-C Output: DC 5V, 0.5A

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

1.2. Model(s) list

None.

2. General Information

2.1. Test environment and mode

Item	Normal condition
Temperature	+25°C
Voltage	AC 120V/60Hz
Humidity	56%
Atmospheric Pressure:	1008 mbar
Test Mode:	
Transmitting Mode:	Keep the EUT in continuous transmitting by select channel

2.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, 20dB Occupied Bandwidth, Carrier Frequencies Separation, Hopping Channel Number, Dwell Time, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

3. Facilities and Accreditations

3.1. Facilities

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

- FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- A2LA-No.: 4320.01

SHENZHEN TONGCE TESTING LAB

The testing lab has been accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories.

3.2. Location

SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

4. Limit

According to §1.1310, the limit is as follow,

TABLE 1 TO § 1.1310(E)(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)
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(i) LIMITS FOR OCCUPATIONAL/CONTROLLED EXPOSURE

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
300-1,500			f/300	<6
1,500-100,000			5	<6

(ii) 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
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density.

5. Test Results and Measurement Data

According to §1.1307(b), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

- Remark: 1) **For BT:** The maximum output power for antenna is 1.52dBm (1.42mW) at 2402MHz, 3.28dBi antenna gain(with 2.13 numeric antenna gain.)
For BLE: The maximum output power for antenna is 2.23dBm (1.67mW) at 2402MHz, 3.28dBi antenna gain(with 2.13 numeric antenna gain.)
For 2.4G WIFI: The maximum output power for antenna is 15.59dBm (36.22mW) at 2462MHz, 3.28dBi antenna gain(with 2.13 numeric antenna gain.)
For 5G WIFI: The maximum output power for antenna is 16.11dBm (40.83mW) at 5320MHz, 4.77dBi antenna gain(with 3.00 numeric antenna gain.)
- 2) For mobile or fixed location transmitters, no SAR consideration applied. The minimum separation generally be used is at least 20cm, even if the calculation indicate that the MPE distance would be lesser.

Calculation

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{3770}$

Where E = Field Strength in Volts / meter
 P = Power in Watts
 G = Numeric antenna gain
 d = Distance in meters
 S = Power Density in milliwatts / square centimeter

Substituting the MPE safe distance using $d=20\text{cm}$ into above equation.

Yields: $S=0.000199 \times P \times G$

Mode	Power(mW)	numeric antenna gain	Power density (mW/cm ²)	Limit (mW/cm ²)	Result
BT	1.42	2.13	0.000602	1.0	PASS
BLE	1.67	2.13	0.000708		
2.4G WIFI	36.22	2.13	0.015353		
5G WIFI	40.83	3.00	0.024376		

*****END OF REPORT*****