

# RF EXPOSURE REPORT

Applicant	Earda Technologies Co.,Ltd
Address	A,LianFeng Creative Industry Park,2 JiSheng Road., HuangGe Town, NanSha District, Guangzhou,China

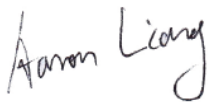
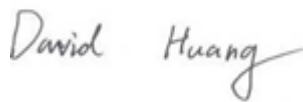
Manufacturer or Supplier	Earda Technologies Co.,Ltd
Address	A,LianFeng Creative Industry Park,2 JiSheng Road., HuangGe Town, NanSha District, Guangzhou,China
Product	Smart Dimmer Switch
Brand Name	Eardatek
Model	EDM-1WAA-US
Additional Model & Model Difference	EDM-1WAB-US
Date of tests	Oct. 30, 2020~ Nov. 12, 2020

☒ **FCC Part 2 (Section 2.1091)**

☒ **KDB 447498 D01**

☒ **IEEE C95.1**

**CONCLUSION: The submitted sample was found to COMPLY with the test requirement**

Tested by Aaron Liang Project Engineer / EMC Department	Approved by David Huang Supervisor/ EMC Department
	  Date: Nov. 13, 2020

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Test Report No.: FM2010WSZ0078

## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM2010WSZ0078	Original release	Nov. 13, 2020

## 1. CERTIFICATION

<b>FCC ID:</b>	2AMM6-DM1WA
<b>PRODUCT:</b>	Smart Dimmer Switch
<b>BRAND NAME:</b>	Eardatek
<b>MODEL NO.:</b>	EDM-1WAA-US
<b>ADDITIONAL NO.:</b>	EDM-1WAB-US
<b>TEST SAMPLE:</b>	Engineering Sample
<b>APPLICANT:</b>	Earda Technologies Co.,Ltd
<b>STANDARDS:</b>	FCC Part 2 (Section 2.1091)
	KDB 447498 D01
	IEEE C95.1

## 2. RF EXPOSURE LIMIT

### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm <sup>2</sup> )	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

## 3. MPE CALCULATION FORMULA

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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

## 4. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

## 5. ANTENNA GAIN

The antennas provided to the EUT, please refer to the following table:

Mode	Transmitter Circuit	Peak Gain (dBi)	Antenna Type
BT-LE	Chain 0	2.3	PCB Antenna
WIFI	Chain 0	2.3	PCB Antenna

## 6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

The tuned conducted Average Power (declared by client)

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
BT-LE (GFSK)	2402-2480MHz	4	+/-2	2	6
802.11b	2412-2462MHz	16	+/-2	14	18
802.11g	2412-2462MHz	15	+/-2	13	17
802.11n HT20	2412-2462MHz	14	+/-2	12	16
802.11n HT40	2422-2452MHz	15	+/-2	13	17

The measured conducted Average Power

Mode	Frequency (MHz)	Averaged Power (dBm)
BT-LE (GFSK)	2480	4.45
802.11b	2437	16.81
802.11g	2462	14.83
802.11n HT20	2462	14.14
802.11n HT40	2422	14.90



<b>FREQUENCY BAND (MHz)</b>	<b>MAX AVERAGE POWER (dBm)</b>	<b>ANTENNA GAIN (dBi)</b>	<b>DISTANCE (cm)</b>	<b>POWER DENSITY (mW/cm<sup>2</sup>)</b>	<b>LIMIT (mW/cm<sup>2</sup>)</b>
BT-LE 2402-2480	6	2.3	20	0.00135	1.0
WiFi 2412-2462	18	2.3	20	0.02132	1.0

**CONCLUSION:**

The BT and WLAN can transmit simultaneously, the formula of calculated the MPE is:

$$\text{CPD1} / \text{LPD1} + \text{CPD2} / \text{LPD2} + \dots \text{etc.} < 1$$

**CPD = Calculation power density**

**LPD = Limit of power density**

$$(0.00135/1) + (0.02132/1) = 0.02267 < 1, \text{ which is less than the "1" limit.}$$

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