

# 1. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FCC ID: 2AWJY-PWA-10-A505

## 1.1 Product Description for Equipment Under Test (EUT)

### Client Information

Applicant: Shenzhen Power-way Information Technology Co., Ltd  
Address of applicant: Room 906, 9 / F, Guowei building, No. 68, Guowei Road, Liantang, Luohu District, Shenzhen, Guangdong Province, China

Manufacturer: Heyuan wotu Electronic Technology Co., Ltd  
Address of manufacturer: Building 6a, Taihe Industrial Park, Keji 5th Road, Heyuan National High-Tech Development Zone, Guangdong Province, China

General Description of EUT	
Product Name:	AI Attendance Machine
Trade Name:	/
Model No.:	PWA-10-A505
Adding Model(s):	/
Rated Voltage:	DC12V
Power adapter	HJ-AD24-120200 Input: AC100-240V, ~50/60Hz, 0.7A, Max Output: DC12V, 2.0A
S/N:	93A6473D013D2CD9
Software Version:	V2.6.4
Hardware Version:	AWB-10-A100_V03
Note: The test data is gathered from a production sample provided by the manufacturer.	

Technical Characteristics of EUT	
Support Standards:	802.11b, 802.11g, 802.11n
Frequency Range:	2412-2462MHz for 802.11b/g/n-HT20 2422-2452MHz for 802.11n-HT40
RF Output Power:	13.20dBm (Conducted)
Type of Modulation:	DBPSK,BPSK,DQPSK,QPSK,16QAM,64QAM
Data Rate:	1-11Mbps, 6-54Mbps, up to 150Mbps
Quantity of Channels:	11 for 802.11b/g/n-HT20 7 for 802.11n-HT40
Channel Separation:	5MHz
Type of Antenna:	Integral Antenna
Antenna Gain:	0dBi

*Note: The test data is gathered from a production sample provided by the manufacturer.*

## 1.2 Standard Applicable

According to § 1.1307(b)(1) and KDB 447498 D01 General RF Exposure Guidance v06, 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.

### (a) Limits for Occupational / Controlled Exposure

Frequency range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Times   E   <sup>2</sup> ,   H   <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	F/300	6
1500-100000	/	/	5	6

### (b) Limits for General Population / Uncontrolled Exposure

Frequency range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Times   E   <sup>2</sup> ,   H   <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-100000	/	/	1	30

Note: f = frequency in MHz: \* = Plane-wave equivalents power density

## 1.3 MPE Calculation Method

$$S = (30 * P * G) / (377 * R^2)$$

S = power density (in appropriate units, e.g., mw/cm<sup>2</sup>)

P = power input to the antenna (in appropriate units, e.g., mw)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator,  
the power gain factor is normally numeric gain.

R = distance to the center of radiation of the antenna (in appropriate units, e.g., cm)

## 1.4 MPE Calculation Result

Fixed Device

Wi-Fi:

Maximum Tune-Up output power: 13.5 (dBm)

Maximum peak output power at antenna input terminal: 22.39(mW)

Prediction distance: >20(cm)

Prediction frequency: 2412(MHz)

Antenna gain: 0(dBi)

Directional gain (numeric gain): 1

The worst case is power density at prediction frequency at 20cm: 0.004 (mw/cm<sup>2</sup>)

MPE limit for general population exposure at prediction frequency: 1 (mw/cm<sup>2</sup>)

Result: Pass