


1. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Client Information

Applicant: Universal Ubiquitous AI Co.,Ltd.
Address of applicant: Room 658, Building 1, No.1, Lvting Road, Cangqian Street,
Yuhang District, Hangzhou City, China

Manufacturer: Universal Ubiquitous AI Co.,Ltd.
Address of manufacturer: Room 658, Building 1, No.1, Lvting Road, Cangqian Street,
Yuhang District, Hangzhou City, China

General Description of EUT	
Product Name:	Face recognition terminal
Trade Name:	
Model No.:	OS-M340Q1-0G0G-R02WFC
Adding Model(s):	OS-M340Q2-0G0G-R03WFC, M4206-IC, M4206-IC-TP2, M4206-IC(White), M4206-IC(Black)
Rated Voltage:	Adapter DC12V
Power adapter	XED-RZ120200S Input: AC100-240V, 0.6A, 50/60Hz; Output: DC12V, 2A
Software Version:	/
Hardware Version:	UNIUBI_1001_REV1.31
<i>Note: The test data is gathered from a production sample provided by the manufacturer. The appearance of others models listed in the report is different from main-test model OS-M340Q1-0G0G-R02WFC, but the circuit and the electronic construction do not change, declared by the manufacturer.</i>	

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:	14.70dBm (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:	3.0dBi

Bluetooth Version:	V4.0 (BLE mode)
Frequency Range:	2402-2480MHz
RF Output Power:	-0.186dBm (Conducted)
Data Rate:	1Mbps
Modulation:	GFSK
Quantity of Channels:	40
Channel Separation:	2MHz
Type of Antenna:	Integral Antenna
Antenna Gain:	3.0dBi

Bluetooth Version:	V4.0 (BDR/EDR mode)
Frequency Range:	2402-2480MHz
RF Output Power:	0.162dBm (Conducted)
Data Rate:	1Mbps, 2Mbps, 3Mbps
Modulation:	GFSK, Pi/4 QDPSK, 8DPSK
Quantity of Channels:	79
Channel Separation:	1MHz
Type of Antenna:	Integral Antenna
Antenna Gain:	3.0dBi

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 ²)	Averaging Times E ² , H ² 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 ²)	Averaging Times E ² , H ² or S (minutes)
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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 equivalent power density

1.3 MPE Calculation Method

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

S = power density (in appropriate units, e.g., mw/cm²)

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

For this product WLAN and BT use the same antenna cannot transmitting simultaneous

WIFI

Maximum Tune-Up output power: 15 (dBm)

Maximum peak output power at antenna input terminal: 31.6(mW)

Prediction distance: >20(cm)

Prediction frequency: 2412(MHz)

Antenna gain: 3 (dBi)

Directional gain (numeric gain): 2

The worst case is power density at prediction frequency at 20cm: 0.01 (mw/cm²)

MPE limit for general population exposure at prediction frequency: 1 (mw/cm²)

BT BLE

Maximum Tune-Up output power: 0 (dBm)

Maximum peak output power at antenna input terminal: 1(mW)

Prediction distance: >20(cm)

Prediction frequency: 2480(MHz)

Antenna gain: 3 (dBi)

Directional gain (numeric gain): 2

The worst case is power density at prediction frequency at 20cm: 0.0004 (mw/cm²)

MPE limit for general population exposure at prediction frequency: 1 (mw/cm²)

BT BR EDR

Maximum Tune-Up output power: 0.5 (dBm)

Maximum peak output power at antenna input terminal: 1.1(mW)

Prediction distance: >20(cm)

Prediction frequency: 2480(MHz)

Antenna gain: 3 (dBi)

Directional gain (numeric gain): 2

The worst case is power density at prediction frequency at 20cm: 0.0004 (mw/cm²)

MPE limit for general population exposure at prediction frequency: 1 (mw/cm²)

Result: Pass