

Zhejiang Yankon Group Co.,Ltd.

# MPE ASSESSMENT REPORT

**Report Type:**

FCC Part §2.1091, §2.1093 and §1.1307(b) assessment report

**Model:**

YK-Smart-H001

**REPORT NUMBER:**

190200306SHA-002

**ISSUE DATE:**

March 25, 2019

**DOCUMENT CONTROL NUMBER:**

TTRFFCCMPE-01\_V1 © 2018 Intertek



**Applicant:** Zhejiang Yankon Group Co.,Ltd.  
No.208 Tongjiang Middle Road, Shangyu Economic Development  
Zone, Shaoxing, Zhejiang 312300, China.

**Manufacturer:** Zhejiang Yankon Group Co.,Ltd.  
No.208 Tongjiang Middle Road, Shangyu Economic Development  
Zone, Shaoxing, Zhejiang 312300, China.

**FCC ID:** 2AL76YKH001

**SUMMARY:**

The equipment complies with the requirements according to the following standard(s) or Specification:

KDB447498 D01 General RF Exposure Guidance v06

FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

**PREPARED BY:**

Project Engineer  
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**REVIEWED BY:**

Reviewer  
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## Revision History

Report No.	Version	Description	Issued Date
190200306SHA-002	Rev. 01	Initial issue of report	March 25, 2019

## 1 GENERAL INFORMATION

### 1.1 Description of Equipment Under Test (EUT)

Product name:	intelligent gateway
Type/Model:	YK-Smart-H001
Description of EUT:	EUT is an intelligent gateway with WiFi function and Bluetooth function, and has only one model. The wifi module has been certified, the FCC ID is 2AFNL-TYWE3S, the IC ID is 23243-TYWE3S.
Rating:	120V, 60Hz, 1.5W
EUT type:	<input checked="" type="checkbox"/> Table top <input type="checkbox"/> Floor standing
Software Version:	/
Hardware Version:	/
Sample received date:	February 14, 2019
Date of test:	February 14, 2019 ~ March 22, 2019

### 1.2 Technical Specification

Frequency Band:	2400MHz to 2483.5MHz
Support Standards:	Bluetooth Low Energy
Operating Frequency:	2402MHz to 2480MHz
Type of Modulation:	GFSK
Channel Number:	40 (0-39)
Channel Separation:	2MHz
Antenna Information:	FPC Antenna, 3.15dBi

### 1.3 Description of Test Facility

Name:	Intertek Testing Services Shanghai
Address:	Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L0139
	FCC Accredited Lab Designation Number: CN1175
	IC Registration Lab CAB identifier.: CN0051
	VCCI Registration Lab Registration No.: R-14243, G-10845, C-14723, T-12252
	A2LA Accreditation Lab Certificate Number: 3309.02

## 2 MPE Assessment

Test result: Pass

### 2.1 MPE Assessment Limit

Mobile device exposure for standalone operations:

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (uT)	Equivalent plane wave power density $S_{eq}$ (W/m <sup>2</sup> )
0-1 Hz	-	$3,2 \times 10^4$	$4 \times 10^4$	-
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	-
8-25 Hz	10 000	4 000/f	5 000/f	-
0,025-0,8 kHz	250/f	4/f	5/f	-
0,8-3 kHz	250/f	5	6,25	-
3-150 kHz	87	5	6,25	-
0,15-1 MHz	87	0,73/f	0,92/f	-
1-10 MHz	$87/f^{1/2}$	0,73/f	0,92/f	-
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375 f^{1/2}$	$0,0037 f^{1/2}$	$0,0046 f^{1/2}$	f/200
2-300 GHz	61	0,16	0,20	10

Mobile device exposure for simultaneous transmission operations: **the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is  $\leq 1.0$**

## TEST REPORT

### 2.2 Assessment Results

Power density (S) is calculated according to the formula:

$$S = PG / (4\pi R^2)$$

Where S = power density in mW/cm<sup>2</sup>

P = Radiated transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

As we can see from the test report 190200306SHA-001 and FCC ID:2AFNL-TYWE3S:

The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent worst case in terms of the exposure levels.

The Bluetooth and WiFi can support simultaneous transmission.

Mode	Frequency band	Max Power	Antenna Gain	R	S	Limits
	(MHz)	dBm	dBi	(cm)	(mW/cm <sup>2</sup> )	(mW/cm <sup>2</sup> )
Bluetooth	2400 -2483.5	3.99	3.15	20	0.0010	1
WiFi	2400 -2483.5	22.34	3	20	0.0681	1

Note: 1 mW/cm<sup>2</sup> from 1.310 Table 1

For the device can support simultaneous transmission, according to 447498 D01 General RF Exposure Guidance v06,

For the device consider simultaneous transmission of WiFi and Bluetooth:

The worst MPE = 0.0010/1 + 0.0681/1 = 0.0691 mW/cm<sup>2</sup> < 1 mW/cm<sup>2</sup>.

## Appendix I

Definition below must be outlined in the User Manual:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation.

To ensure compliance, operations at closer than this distance is not recommended.

\*\*\*\*\* END \*\*\*\*\*