

# Maximum Permissible Exposure Evaluation

**FCC ID: 2ANK8-TH06**

## 1. Client Information

<b>Applicant</b>	:	Shenzhen Forever Young Technology Co., Ltd
<b>Address</b>	:	2/F, No B2 Bldg, Fu Yuan Industrial Park, Fu Yong Town, Bao'an District, Shenzhen, China
<b>Manufacturer</b>	:	Shenzhen Forever Young Technology Co., Ltd
<b>Address</b>	:	2/F, No B2 Bldg, Fu Yuan Industrial Park, Fu Yong Town, Bao'an District, Shenzhen, China

## 2. General Description of EUT

<b>EUT Name</b>	:	Wi-Fi Temperature & Humidity Sensor
<b>Models No.</b>	:	TH06
<b>Model Different</b>	:	----
<b>Product Description</b>	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz 2402-2480MHz for BLE
	Number of Channel:	802.11b/g/n(HT20):11 channels 802.11n(HT40):7 channels 40 channels for BLE
	RF Output Power:	802.11b:17.529dBm 802.11g:15.673dBm 802.11n (HT20): 13.434dBm 802.11n (HT40): 13.008dBm BLE: 5.319dbm
	Antenna Gain:	1.5 dBi PCB Antenna
<b>Power Rating</b>	:	Input: DC 5V/1A
<b>Software Version</b>	:	TH06-WB3S-V1.0
<b>Hardware Version</b>	:	TH06-WB3S-V1.2
<b>Connecting I/O Port(S)</b>	:	Please refer to the User's Manual
<b>Remark</b>	:	the evaluation report used the EUT(TBBJ-20210525-02-02#).



### MPE Calculations for WIFI

**1. Antenna Gain:**

PCB Antenna:1.5dBi.

**2. EUT Operation Condition:**

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

**3. Exposure Evaluation:**

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

Where

**S:** power density

**P:** power input to the antenna

**G:** power gain of the antenna in the direction of interest relative to an isotropic radiator.

**R:** distance to the center of radiation of the antenna

**4. Test Result:**

**2.4G WiFi**

Mode	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm <sup>2</sup> ) [S]	Limit of Power Density (mW/ cm <sup>2</sup> ) (S)
802.11B	17.529	17±1	18	1.5	20	0.01773	1
802.11G	15.673	10±1	16	1.5	20	0.01119	1
802.11N(HT20)	13.434	13±1	14	1.5	20	0.00706	1
802.11N(HT40)	13.008	13±1	14	1.5	20	0.00706	1
Mode	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm <sup>2</sup> ) [S]	Limit of Power Density (mW/ cm <sup>2</sup> ) (S)
BLE	5.319	5+1	6	1.5	20	0.00112	1

**5. Conclusion:**

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

**Limits for General Population/ Uncontrolled Exposure**



Frequency Range (MHz)	Power density (mW/ cm <sup>2</sup> )
300-1,500	F/1500
1,500-100,000	1.0

For 2.4WIFI:2412~2462 MHz

MPE limit S: 1mW/ cm<sup>2</sup>

The MPE is calculated as  $0.01773mW/cm^2 < limit 1mW/cm^2$ . So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b).

The RF Exposure Information page from the manual is included here for reference.

#### Note

For a more detailed features description, please refer to the RF Test Report.

#### 6. Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

-----END OF REPORT-----