Maximum Permissible Exposure Evaluation

FCC ID: 2AZDA-EK-WI4023

1. Client Information

Applicant	:	Shenzhen EastKame Technology Co., Ltd.
Address	:	3F, No.15, Furong Road, second Industrial Zone, Tantou, Songgang town, Baoan, Shenzhen, China
Manufacturer	:	Shenzhen EastKame Technology Co., Ltd.
Address	:	3F, No.15, Furong Road, second Industrial Zone, Tantou, Songgang town, Baoan, Shenzhen, China

2. General Description of EUT

EUT Name	:	Wifi touch switch	
Models No.	:	EK-WI4023, EK-WI1011, EK-WI1012, EK-WI1013, EK-WI2011, EK-WI2012, EK-WI2013, EK-WI3011, EK-WI3012, EK-WI3013, EK-WI4011, EK-WI4012, EK-WI4013, EK-WI4014, EK-WI4021, EK-WI4022, EK-WI4024, EK-WI4025, EK-WI4026, EK-WI01, EK-WI02, EK-DY4011, EK-DY4021, EK-DY4025, EK-RS4011, EK-RS4021, EK-RS4025, EK-KX4011, EK-KX4012, EK-KX4013, EK-KX4014, EK-KX4021, EK-KX4022, EK-KX4023, EK-KX4024, EK-KX4025, EK-KX4026	
Model Different	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is the model name.	
Brand Name	:	N/A	
Product Description	:	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz
		Number of Channel:	802.11b/g/n(HT20):11 channels
		RF Output Power:	802.11b:7.413dBm 802.11g: 5.819dBm 802.11n (HT20): 5.398dBm
		Antenna Gain:	2.5Bi PCB Antenna
Power Rating	:	Input: AC 100-250V	
Software Version	:	1.0	
Hardware Version	:	EU4K WIFI RF V1	
Connecting I/O Port(S)	:	Please refer to the User's Manual	
Remark	:	the MPE report used the EUT(TBBJ-20210301-06-02#).	

MPE Calculations for WIFI

1. **Antenna Gain:**

   PCB Antenna:2.5dBi.

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^2) [S]	Limit of Power Density (mW/ cm^2) (S)
802.11B	7.413	7±1	8	2.5	20	0.00223	1
802.11G	5.819	5±1	6	2.5	20	0.00141	1
802.11N(HT20)	5.398	5±1	6	2.5	20	0.00141	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^2)
300-1,500	F/1500
1,500-100,000	1.0

For 2.4WIFI:2412~2462 MHz

MPE limit S: 1mW/ cm^2

The MPE is calculated as ***0.00223mW / cm² < limit 1mW / cm²***. 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-----