Maximum Permissible Exposure Evaluation

FCC ID: 2ABES-KR1409

1. Client Information

Applicant	:	Pathway Innovations and Technologies, Inc.
Address	:	10211 Pacific Mesa Blvd., #412, San Diego, CA 92121, USA
Manufacturer	:	ShenZhen KerunVisual Technology Co., Ltd.
Address	:	6/F, Building 2, Zone S2, 1213 Liuxian Blvd Honghualing Industrial Park Nanshan District, Shenzhen City, China

2. General Description of EUT

EUT Name	:	Home base unit	
Models No.	:	S921, MT200-HBU, MT200XF	
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name for commercial.	
Product Description	:	Frequency Bands: Bluetooth V4.0(BLE): 2402~2480 MHz 802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz	
		Max Peak Output Power:	802.11b: 16.54 dBm 802.11g: 15.45 dBm 802.11n (HT20): 14.37 dBm 802.11n (HT40): 14.25 dBm BLE: 3.329 dBm
		Antenna Gain:	4.5dBi FPC Antenna
Power Supply	:	AC/DC Adapter (TDX-0902000): Input: AC 100~240V, 50/60Hz, 0.6A. Output: DC 9V, 2.0A.	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

Note: More test information about the EUT please refer the RF Test Report.

1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, China
Tel: +86 75526509301 Fax: +86 75526509195

MPE Calculations for GSM

1. Antenna Gain:

BLE: 4.5 dBi FPC Antenna
802.11b/g/n(HT20)/n(HT40): 4.5 dBi FPC Antenna

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:

Worst Maximum MPE Result										
Worst Conducted Power (dBm)		Turn-up Power (dB)		Max tune up power (dBm) [P]		ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm^2) [S]		
802.11 b/g/n	BLE	802.11 b/g/n	BLE	802.11 b/g/n	BLE			802.11 b/g/n	BLE	Sum
16.54	3.329	16±1	3±1	17	4	4.5	20	0.0281	0.0012	0.0293

Note:
(1) N_{TX}= Number of Transmit Antennas
RF Output power specifies that Maximum Conducted Peak Output Power.

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

1500-100000MHz:

The worst MPE is calculated as ***0.0293 mW / 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.

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