

Maximum Permissible Exposure Evaluation

FCC ID: Y9E-IAD18006

1. Client Information

Applicant	:	IAdea Corporation
Address	:	3F, No. 21 Lane 168, Xingshan Road, Neihu Dist., Taipei, Taiwan, R.O.C
Manufacturer	:	IAdea Corporation
Address	:	3F, No. 21 Lane 168, Xingshan Road, Neihu Dist., Taipei, Taiwan, R.O.C

2. General Description of EUT

EUT Name	:	Smart Signboard (Tablet without battery)	
Models No.	:	XDS-1088-H/IAD-18006,XDS-1088-A/IAD-18004, XDS-108Z-Y/IAD-18006,XDS-108Z-Y/IAD-18004 (Note: Z is "0~9",and Y is "A~Z", represents the software version or customer's models)	
Model Difference	:	All models are in the same PCB layout interior structure and electrical circuits, Just different on colors,software version or customer's model number.	
Product Description	:	Operation Frequency:	Bluetooth (BLE): 2402MHz~2480MHz 802.11b/g/n(HT20): 2412MHz~2462MHz
	:	Max Output Power:	WIFI: 16.08dBm Bluetooth (BLE): 8.527dBm
	:	Antenna Gain:	BLE:1.14dBi FPC Antenna WIFI:1.5dBi FPC Antenna
Power Supply	:	AC/DC Adapter(FJ-SW1202000N) Input: AC 100~240V, 50/60Hz, 0.6A. Output: DC 12V, 2A.	
Software Version	:	N/A	
Hardware Version	:	R35	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

MPE Calculations for WIFI

1. Antenna Gain:

BLE: 1.14dBi FPC Antenna

WIFI: 1.5dBi 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:

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]
802.11b	16.08	16±1	17	1.5	20	0.014085
802.11g	14.83	15±1	16	1.5	20	0.011188
802.11n (HT20)	14.84	15±1	16	1.5	20	0.011188
BLE	8.527	8±1	9	1.14	20	0.002055

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 802.11b/g/n:2412~2462 MHz

For Bluetooth (BLE): 2402MHz~2480MHz

MPE limit S: 1mW/ cm²

The MPE is calculated as $0.014085\text{mW} / \text{cm}^2 < \text{limit } 1\text{mW} / \text{cm}^2$. 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.

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