

MPE Evaluation

Applicant: Guangzhou Hypnus Healthcare Co., Ltd.

FCC ID: 2A9TZ-VEN8W

Model: ST830W

MPE Evaluation

RF Exposure Compliance Requirement

Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06 and FCC 1.1310 Radiofrequency radiation exposure limits for General Population/Uncontrolled Exposure

EUT RF Exposure

$$P_d = PG/4\pi R^2$$

P_d = power density in mW/cm^2

P = output power to antenna in mW

G = gain of antenna in linear scale

$\pi = 3.14$

R = distance between observation point and center of the radiator in cm

Bluetooth (BLE mode):

The Max Output Power is 0.626 dBm in Middle channel (2.480GHz);

Antenna gain: 1.5 dBi, gain of antenna in linear scale: 1.41

$R=20\text{cm}$

$$P_d = PG/(4\pi R^2) = 0.00033 \text{ mW/cm}^2 < 1(\text{limits})\text{mW/cm}^2$$

WIFI (2.4GHz):

The Max Output Power is 16.91 dBm in 802.11b mode Middle channel (2.412GHz);

Antenna gain: 1.5 dBi, gain of antenna in linear scale: 1.41

$R=20\text{cm}$

$$P_d = PG/(4\pi R^2) = 0.0138 \text{ mW/cm}^2 < 1(\text{limits})\text{mW/cm}^2$$

CONCLUSION: Both WIFI and BT can transmit simultaneously, the formula of calculated the MPE is: $CPD1 / LPD1 + CPD2 / LPD2 < 1$

CPD = Calculation power density

LPD = Limit of power density

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