

Maximum Permissible Exposure Evaluation

FCC ID: 2ASRQ-CP-2401

1. Client Information

Applicant	:	Shenzhen Zhongben Security electronic Co., Ltd
Address	:	4F, Block 10th, Rundongsheng Industrial Zone, Xixiang, Bao'an District, Shenzhen, China
Manufacturer	:	Shenzhen Zhongben Security electronic Co., Ltd
Address	:	4F, Block 10th, Rundongsheng Industrial Zone, Xixiang, Bao'an District, Shenzhen, China

2. General Description of EUT

EUT Name	:	Smart Pet Treat Tosser								
Models No.	:	CP-2401, CP-2106, CP-2101, CP-2201, CP-2103, CP-2203, CP-2102, CP-2202, CP-2302, CP-2601, CP-2602, CP-2603, CP-2604								
Model Different	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is the color.								
Brand Name	:	CCpet								
Product Description	:	<table border="1"><tr><td>Operation Frequency:</td><td>802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n (HT40):2422MHz~2452MHz</td></tr><tr><td>Number of Channel:</td><td>802.11b/g/n(HT20):11 Channels 802.11n (HT40):7 Channels</td></tr><tr><td>RF Output Power:</td><td>802.11b:18.339dBm 802.11g: 17.059dBm 802.11n (HT20): 16.893dBm 802.11n (HT40): 16.320dBm</td></tr><tr><td>Antenna Gain:</td><td>2dBi PIFA Antenna</td></tr></table>	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n (HT40):2422MHz~2452MHz	Number of Channel:	802.11b/g/n(HT20):11 Channels 802.11n (HT40):7 Channels	RF Output Power:	802.11b:18.339dBm 802.11g: 17.059dBm 802.11n (HT20): 16.893dBm 802.11n (HT40): 16.320dBm	Antenna Gain:	2dBi PIFA Antenna
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RF Output Power:	802.11b:18.339dBm 802.11g: 17.059dBm 802.11n (HT20): 16.893dBm 802.11n (HT40): 16.320dBm									
Antenna Gain:	2dBi PIFA Antenna									
Power Rating	:	Input: 100-240V~50/60Hz, 0.6A Max Output: DC 5V3A								
Software Version	:	V4.03.R12.J2922990.12002.044B02.0000000								
Hardware Version	:	LKK_P_PLAY_MAIN_V1.03								
Connecting I/O Port(S)	:	Please refer to the User's Manual								
Remark	:	the MPE report used the EUT(TBBJ-20201209-12-02#).								

MPE Calculations for WIFI

1. Antenna Gain:

PCB Antenna:2dBi.

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	18.339	18±1	19	2	20	0.02505	1
802.11G	17.059	17±1	18	2	20	0.01989	1
802.11N(HT20)	16.893	16±1	17	2	20	0.01580	1
802.11N(HT40)	16.320	16±1	17	2	20	0.01580	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/ cm²

The MPE is calculated as $0.02505 \text{ mW/cm}^2 < \text{limit } 1\text{mW/cm}^2$. 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.

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