Maximum Permissible Exposure Evaluation

FCC ID: 2AYRI-CS83613

1. Client Information

Applicant	:	Zhuhai Canshuo Technology Co. LTD
Address	:	Room 1006, Building 2, Tianlang Haifeng, Nanping Town, Xiangzhou District, Zhuhai city, Guangdong Province, China
Manufacturer	:	Zhongshan Jesmay Electronics Co.,Ltd
Address	:	No.1 Industry District, Tan Zhou Town, Zhongshan City, Guangdong, China

2. General Description of EUT

EUT Name	:	IP CAMERA	
Models No.	:	CS83613, CS83614, CS83615, CS83616, CS83617, CS83618	
Model Different	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name.	
Brand Name	:	CANSHUO	
Sample ID	:	20210315-17-1#	
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:16.17dBm 802.11g: 15.66dBm 802.11n (HT20): 14.92dBm
		Antenna Gain:	5 dBi External Antenna
Power Rating	:	Adapter:(R122-1201000UD) Input: AC100-240V 50/60HZ 0.4A Output:DC12V1A	
Software Version	:	WNIP-2L-BU_20200331	
Hardware Version	:	FH8852-F37-M-V2	
Remark	:	The adapter and antenna gain provided by the applicant, the verified for the RF conduction test provided by TOBY test lab.	

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MPE Calculations for WIFI

1. **Antenna Gain:**
   Dipole Antenna: 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:**

Worst Maximum MPE Result								
Mode	N_{TX}	Freq. (MHz)	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	1	2412	16.17	16±1	17	5	20	0.0315
		2437	15.74	16±1	17	5	20	0.0315
		2462	16.03	16±1	17	5	20	0.0315
802.11g	1	2412	15.66	15±1	16	5	20	0.0250
		2437	14.70	15±1	16	5	20	0.0250
		2462	14.79	15±1	16	5	20	0.0250
802.11n(HT20)	1	2412	14.92	14±1	15	5	20	0.0199
		2437	13.68	14±1	15	5	20	0.0199
		2462	13.92	14±1	15	5	20	0.0199

Note:
(1) N_{TX}= Number of Transmit Antennas
(2) 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**

For Bluetooth:2412~2462 MHz
MPE limit S: 1mW/ cm^2
The MPE is calculated as **0.0315*mW / 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-----