

Maximum Permissible Exposure Evaluation

FCC ID: 2AKUR-E-D

1. Client Information

Applicant	:	Hangzhou Jufeng Technology Co., Ltd.
Address	:	Building 9, Yinhu Innovation Center, No.9 FuXian Road, YinHu Street, Hangzhou China
Manufacturer	:	Hangzhou Jufeng Technology Co., Ltd.
Address	:	Building 9, Yinhu Innovation Center, No.9 FuXian Road, YinHu Street, Hangzhou China

2. General Description of EUT

EUT Name	:	BULLET CAMERA
Models No.	:	E-D, EL-2D, EL-3D, EL-5D, EG-2D, EG-3D, EG-5D, EH-2D, EH-3D, EH-5D
Model Different	:	All these models are in the same PCB, layout and electrical circuit, the only difference is Appearance and resolution ratio.
Product Description	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n (HT40): 2422MHz~2452MHz
	RF Output Power:	802.11b: 16.43 dBm 802.11g: 16.45 dBm 802.11n (HT20): 13.88dBm 802.11n (HT40): 13.68 dBm
	Antenna Gain:	3dBi External Antenna
	Modulation Type:	802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n: OFDM(BPSK,QPSK,16QAM, 64QAM)
Power Supply	:	Adapter(CS-1201000) Input: AC 100-240V, 50/60Hz, 0.5A Output: DC 12V, 1000mAh
Software Version	:	V1.0
Hardware Version	:	V1.0
Connecting I/O Port(S)	:	Please refer to the User's Manual
Remark	:	the MPE report used the EUT(TBBJ-20191211-05-2#).

MPE Calculations for WIFI

1. Antenna Gain:

External Antenna: 3dBi.

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										
ANT	Mode	Freq. (MHz)	Conducted Power(max) (dBm) [P]	Tune up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distanc e (cm) [R]	Power Density (mW/ cm ²) [S]	Power Density Limit (mW/ cm ²)	Result
ANT 1	B	2412	15.87	16±1	17	3	20	0.01989	1	PASS
		2437	16.43	16±1	17			0.01989		
		2462	15.71	16±1	17			0.01989		
	G	2412	15.98	16±1	17			0.01989		
		2437	16.45	16±1	17			0.01989		
		2462	15.90	16±1	17			0.01989		
	N20	2412	13.15	13±1	14			0.00997		
		2437	13.88	14±1	15			0.01255		
		2462	13.24	13±1	14			0.00997		
	N40	2422	13.35	13±1	14			0.00997		
		2437	13.68	14±1	15			0.01255		
		2452	13.57	14±1	15			0.01255		
Max Power Density(mW/ cm ²)			Power Density=0.01989							
Note: 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 802.11b/g/n:2412~2462 MHz

MPE limit S: 1mW/ cm²

The MPE is calculated as $0.01989 \text{ mW} / \text{cm}^2 < \text{limit } 1 \text{ mW} / \text{cm}^2$. 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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