

# Maximum Permissible Exposure Evaluation

## FCC ID: 2AK4W-SCOPECAM

### 1. Client Information

Applicant	:	RunCam Technology (Shenzhen) Co., Ltd.
Address	:	No. 310, 1 Jinxing Road, Xinmu Community, Pinghu Street, Longgang District, Shenzhen, China
Manufacturer	:	RunCam Technology (Shenzhen) Co., Ltd.
Address	:	No. 310, 1 Jinxing Road, Xinmu Community, Pinghu Street, Longgang District, Shenzhen, China

### 2. General Description of EUT

EUT Name	:	RunCam Scope Cam 2	
Models No.	:	ScopeCam、ScopeCam4K、ScopeCamLite、Scope Cam、ScopeCam*、Scope Cam*、ScopeCamLite* (* represents 18-digit characters, and each character can be anything ranging from 0 to 9, A to Z, and symbols like “-” or “space” and different product models. And * is targeted at different sales territories, sales regions, sales methods, varied client groups, different market positioning and different product colors, and won't affect the product safety and electromagnetic compatibility)	
Model Different	:	All these models are the same on the same PCB, layout and circuit, the only difference is the appearance and model.	
Brand Name	:	RunCam	
Product Description	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: 16.629dBm 802.11g: 16.306dBm 802.11n(HT20): 14.840dBm 802.11n(HT40): 12.562dBm	
	Antenna Gain:	2 dBi PIFA Antenna	
Power Rating	:	USB Input: DC 5V2A, DC 3.7V by 1400mAh Li-ion battery	
Software Version	:	V1.0	
Hardware Version	:	N/A	
Connecting I/O Port(S)	:	Please refer to the User's Manual	
Remark	:	the MPE report used the EUT(20210126-06-2#).	

## MPE Calculations for WIFI

### 1. Antenna Gain:

Dipole 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 <sup>2</sup> ) [S]	Limit of Power Density (mW/ cm <sup>2</sup> ) (S)
802.11B	16.629	16±1	17	2	20	0.01580	1
802.11G	16.306	16±1	17	2	20	0.01580	1
802.11N(HT20)	14.840	14±1	15	2	20	0.00997	1
802.11N(HT40)	12.562	12±1	13	2	20	0.00629	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 <sup>2</sup> )
300-1,500	F/1500
1,500-100,000	1.0

For 2.4WIFI:2412~2462 MHz

MPE limit S: 1mW/ cm<sup>2</sup>

The MPE is calculated as **0.01580 mW / cm<sup>2</sup> < limit 1mW / cm<sup>2</sup>**. 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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