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# **Maximum Permissible Exposure Evaluation**

FCC ID: 2BM6KC3

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b).

## **EUT Specification**

Product Name:	DASHCAM
Trade Mark:	sarmert
Model/Type Reference:	C3
Listed Model(s):	
Model Differences:	
Frequency Band (Operating)	WLAN: 2412MHz ~ 2462MHz U-NII-1: 5180MHz ~ 5240MHz U-NII-3: 5745MHz ~ 5825MHz
Device Category	☐Portable (<5mm separation) ☐Mobile (>20cm separation) ☐Fixed (>20cm separation) ☐Others
Exposure Classification	☐Occupational/Controlled exposure (S=5mW/cm²) ☐General Population/Uncontrolled exposure (S=1mW/cm²)
Antenna Diversity	Single antenna  ☐Multiple antennas  ☐TX diversity  ☐RX diversity  ☐TX/RX diversity
Antenna Gain (Max)	2.4GHz: 1.5dBi 5GHz: U-NII-1: 2.3dBi, U-NII-3: 2.6dBi
Evaluation Applied	☑MPE Evaluation □SAR Evaluation

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**Limits for Maximum Permissible Exposure (MPE)** 

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm²)	Averaging Time (minutes)
(A) Limits for Occupational/Controlled Exposure				
300-1500			F/300	<6
1500-100000			5	<6
(B) Limits for General Population/Uncontrolled Exposure				
300-1500			F/1500	<30
1500-100000			1	<30

### **Calculation Method**

Friis transmission formula: Pd=(P<sub>out</sub>\*G)/(4\*Pi\*R<sup>2</sup>)

Where:

Pd= Power density in mW/cm<sup>2</sup>

 $P_{\text{out}}$ = output power to antenna in mW

G= gain of antenna in linear scale

Pi= 3.1416

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

Pd limit of MPE is 1mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

#### **Measurement Result**

Mode	Frequency (MHz)	Antenna Gain (dBi)		Tune Up Tolerance (dB)	Max. Tune Up Power (dBm)	Power Density at 20cm (mW/cm²)	Limit (mW/cm²)
802.11g	2437	1.5	25.58	±1	26.5	0.1255	1
802.11a	5240	2.3	17.17	±1	18.0	0.0213	1
802.11a	5785	2.6	17.11	±1	18.0	0.0228	1

## The 2.4G WiFi and 5G WiFi can transmit simultaneously.

2.4G WiFi Power density at 20cm (mW/cm²)	5G WiFi Power density at 20cm (mW/cm²)	Total Power density at 20cm (mW/cm²)	Power density Limit (mW/cm²)
0.1255	0.0228	0.1483	1

#### Note:

- 1. Calculate in the worst-case mode.
- 2. Max. Tune Up Power is declared by manufacturer, and used to calculate.
- 3. For a more detailed features description, please refer to the RF Test Report.

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