

# Maximum Permissible Exposure Evaluation

## FCC ID: 2AWDM-A11T

### 1. Client Information

<b>Applicant</b>	:	Winpal Electronics Co.,Ltd
<b>Address</b>	:	R602, Building A1, Huafeng HiTech Industrial Park Hangkong Road, Gushu, Xixiang, Baoan, Shenzhen, China 518102
<b>Manufacturer</b>	:	Winpal Electronics Co.,Ltd
<b>Address</b>	:	R602, Building A1, Huafeng HiTech Industrial Park Hangkong Road, Gushu, Xixiang, Baoan, Shenzhen, China 518102

### 2. General Description of EUT

<b>EUT Name</b>	:	Dash Cam
<b>Models No.</b>	:	COXPAL A11T, COXPAL A11D
<b>Model Difference</b>	:	All PCB boards and circuit diagrams are the same, the only difference is that appearance color.
<b>Product Description</b>	:	Operation Frequency: 802.11b/g/n(HT20): 2412MHz~2462MHz
		Number of Channel: 802.11b/g/n(HT20):11 channels
		RF Output Power: 802.11b: 16.281dBm 802.11g: 9.121dBm 802.11n (HT20): 9.719dBm
		Antenna Gain: 2dBi PCB Antenna
<b>Power Rating</b>	:	Input: 5V, 1.5A
<b>Software Version</b>	:	COXPAL_A11T_V2.1
<b>Hardware Version</b>	:	WP580_MAIN_V02
<b>Connecting I/O Port(S)</b>	:	Please refer to the User's Manual
<b>Remark</b>	:	the MPE report used the EUT (202205-0327_01-02).



### 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:**

Worst Maximum MPE Result								
Mode	N <sub>TX</sub>	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 <sup>2</sup> ) [S]
802.11b	1	2412	16.075	16±1	17	2	20	0.0158
		2437	16.281	16±1	17	2	20	0.0158
		2462	15.681	15±1	16	2	20	0.0126
802.11g	1	2412	8.14	8±1	9	2	20	0.0025
		2437	9.121	9±1	10	2	20	0.0032
		2462	8.9	9±1	10	2	20	0.0032
802.11n(HT20)	1	2412	8.429	8±1	9	2	20	0.0025
		2437	9.719	10±1	11	2	20	0.0040
		2462	9.042	9±1	10	2	20	0.0032

**Note:**  
 (1) N<sub>TX</sub>= 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 <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 **0.0158 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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