



RF Exposure Evaluation Declaration

FCC ID: 2ACS5-CGO4

APPLICANT: Yuneec Technology Co., Limited

Application Type: Certification

Product: 3-Axis Gimbal Camera

FCC Model No.: CGO4***** (The "*" can be 0 to 9, a to z, A to Z, blank or plus, for marketing purpose.)

Brand Name: YUNEEC

FCC Classification: Digital Transmission System (DTS)
Unlicensed National Information Infrastructure (UNII)

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The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

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Revision History

Report No.	Version	Description	Issue Date
1511RSU00906	Rev. 01	Initial report	12-30-2015

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	3-Axis Gimbal Camera
FCC Model No.	CGO4***** (The "*" can be 0 to 9, a to z, A to Z, blank or plus, for marketing purpose.)
Frequency Range	<u>For 2.4GHz Band:</u> ZigBee: 2405 ~ 2475 MHz <u>For 5.0GHz Band:</u> 802.11a: 5725 ~ 5850MHz
Type of Modulation	802.15.4: OQPSK 802.11a: OFDM

1.2. Antenna Description

Antenna Type	Manufacturer	Frequency Band (GHz)	Max Peak Gain (dBi)
Dipole Antenna 1#	Yuneec Technology Co., Limited	2.4	1.71
Dipole Antenna 2#		2.4	1.71
Omni-directional Antenna 1#		5.8	-3.66
Omni-directional Antenna 2#		5.8	-3.66

Note: For 2.4GHz ZigBee & 5.8GHz WLAN, it has two diversity antennas (TX and RX) which are used to avoid dropouts due to multipath fading. Only one antenna is selected for use at any time through the on-board RF switch.

2. RF Exposure Evaluation

2.1. Limits

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)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

Calculation Formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

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

P_d is the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.2. Test Result of RF Exposure Evaluation

Product	3-Axis Gimbal Camera
Test Item	RF Exposure Evaluation

Antenna Gain: Refer to Clause 1.2 of antenna description.

Test Mode	Frequency Band (MHz)	Maximum Average Output Power (dBm)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)
802.15.4	2405 ~ 2475	15.94	0.0116	1
802.11a	5745 ~ 5825	21.83	0.0131	1

CONCULISON:

Both of the ZigBee 2.4GHz and WLAN 5GHz can transmit simultaneously. Therefore, the Max Power Density at R (20 cm) = $0.0116\text{mW/cm}^2 + 0.0131\text{mW/cm}^2 = 0.0247\text{mW/cm}^2 < 1\text{mW/cm}^2$. So the EUT complies with the requirement.

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