

## RF Exposure Evaluation Declaration

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**FCC ID:** 2ACS5-YUNMQA  
**APPLICANT:** Yuneec Technology Co., Limited

**Application Type:** Certification

**Product:** Mantis Q

**Model No.:** YUNMQA

**Brand Name:** YUNEEC

**FCC Classification:** Unlicensed National Information Infrastructure (UNII)

**Test Procedure(s):** KDB 447498 D01

**Test Date:** March 20 ~ October 22, 2018

Reviewed By : Paddy Chen  
( Paddy Chen )

Approved By : Chenz Ker  
( Chenz Ker )



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.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Taiwan) Co., Ltd.

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### Revision History

Report No.	Version	Description	Issue Date	Note
1811TW0103-U2	Rev. 01	Initial Report	11-11-2018	Valid

## 1. PRODUCT INFORMATION

### 1.1. Equipment Description

Product Name:	Mantis Q
Model No.:	YUNMQA
Wi-Fi Specification:	802.11a/n-HT20
Battery Specification:	11.4V, 2800mAh

### 1.2. Antenna Description

Antenna Type	Manufacturer	Frequency Band (MHz)	Max Peak Gain (dBi)
PCB Antenna	INPAQ TECHNOLOGY CO., LTD.	5180 ~ 5240	1.60
		5745 ~ 5825	2.32

## 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 <sup>2</sup> )	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/cm<sup>2</sup>

$P_{out}$  = 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

$P_d$  is the limit of MPE, 1mW/cm<sup>2</sup>. 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	Mantis Q
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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
802.11a	5180 ~ 5240	21.73	0.0428	1
	5745 ~ 5825	21.97	0.0534	1
802.11n-HT20	5180 ~ 5240	21.73	0.0428	1
	5745 ~ 5825	21.95	0.0532	1

### CONCLUSION:

The Max Power Density at R (20 cm) = 0.0534mW/cm<sup>2</sup> < 1mW/cm<sup>2</sup>.

Therefore, the Min Safety Distance is 20cm.

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