

## MRE report

Applicant: Asian Express Holdings Limited  
Product Description: copter of Proton Micro Drone  
FCC ID: VLEHS2419-R

Frequency range: 2408MHz – 2472MHz

**According to FCC §15.247(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.**

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100000	/	/	1.0	30

f = frequency in MHz

\* = Plane-wave equivalent power density

### MPE Calculation Method

The MPE was calculated at 20cm to show compliance with the power density limit.  
The following formula was used to calculate the Power Density:

$$E \left( \frac{V}{m} \right) = \frac{\sqrt{(30 * P * G)}}{d} \qquad \text{Power Density: } Pd \left( \frac{W}{m^2} \right) = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 * P * G}{377 * d^2}$$

### Calculated Result and Limit

Maximum peak output power (dBm): -13.939

Maximum peak output power (mW): 0.0404

Distance (cm): 20

Frequency (MHz): 2476

Antenna Gain (dBi): -14.25

Antenna Gain (numeric): 0.0376

Power density of prediction frequency at 20 cm (mW/cm<sup>2</sup>): 0.0000003

MPE limit for uncontrolled exposure at prediction frequency (mW/cm<sup>2</sup>): 1.0

The device is compliant with the requirement MPE limit for uncontrolled exposure. The maximum power density at the distance of 20 cm is 0.0000003 mW/cm<sup>2</sup>, limit is 1.0 mW/cm<sup>2</sup>.