

INTERTEK TESTING SERVICE

MPE Analysis Report

The Equipment Under Test (EUT) operates at frequency range of 2412MHz to 2462MHz with 11 channels. For 802.11g mode, it operates at frequency range of 2412.000MHz to 2462.000MHz with 11 channels. It transmits via Orthogonal Frequency Division Multiplexing (OFDM) modulation. Maximum bit rate can be up to 54Mbps. For 802.11n (with 20MHz bandwidth) mode, it operates at frequency range of 2412.000MHz to 2462.000MHz with 11 channels. It transmits via Orthogonal Frequency Division Multiplexing (OFDM) modulation. Maximum bit rate can support up to 65Mbps.

The FL2016F is a Drone DX 14.4inch with Camera HD. After switch on the EUT and paired with RC Controller, the EUT can be controlled to fly forward, backward, turning left/right direction by the controller. The EUT can pair with smart device that for live streaming for the camera on plane. Photo shooting and video recording can be operated through the App installed on smart device. The EUT is powered by 1 X 3.7V rechargeable battery.

WiFi Module

Antenna Type: Internal,
Integral Antenna Gain: 2dBi

LS2016C Operating mode	Nominal Conducted Power	Production Tolerance	Modulation Type
802.11b	12.27 dBm	+/-3dB	DSSS
802.11g	17.05 dBm	+/-3dB	OFDM
802.11n (HT20)	17.42 dBm	+/-3dB	mcs0

For Maximum Permissible Exposure (MPE) evaluation of the FL2016C the maximum power density at 20 cm from this mobile transmitter shall be less than the General Population / Uncontrolled MPE limit in OET Bulletin 65.

For the WLAN (WiFi), maximum conducted power measured within its production tolerance was 19.30dBm (maximum). The antenna gain is 2 dBi = 1.58 (num gain) and the maximum source-based time-averaging duty factor is 100%. From these data, the exposed power density at a distance (R) of 20cm from the center of radiation of the antenna can be calculated according to OET Bulletin 65 as follow:

The conducted power (Peak) = 20.42dBm (110.15mW)

$$\begin{aligned} &= (110.15 * 1 * 1.58 \text{ mW}) \\ &= 174.037 \text{ mW} \end{aligned}$$

The power density at 20 cm from the antenna

$$\begin{aligned} &= \text{EIRP} / 4\pi R^2 \\ &= 0.035 \text{ mW cm}^{-2} \end{aligned}$$

In the frequency range of 1,500 - 100,000MHz, the MPE limit is 1.0 mWcm⁻² for general population and uncontrolled exposure. As the measured power density at 20cm from the transmitter is lower than the MPE limit, the compliance to the MPE limit can be ensured by indicating the minimum 20cm separation between the transmitter's radiating structures and body of the user or nearby persons.

The following RF exposure statement is proposed to be included in the user manual:

“ FCC RF Radiation Exposure Statement

Caution: To maintain compliance with the FCC’s RF exposure guidelines, place the product at least 20cm from nearby persons.”