

Analysis Report

Report No.: 14010177HKG-005R1

The Equipment Under Test (EUT) is the base portion of the 2.4GHz remote control system. The EUT contains a USB, a micro-USB, a shutter port, an audio interface, a Bluetooth module and a Purepath Wireless transceiver. The Bluetooth module in the EUT complies with Bluetooth version 3.0 standards with operating frequency range from 2402MHz to 2480MHz (79 channels with 1MHz channel spacing). The Purepath Wireless transceiver in the EUT is operating in the frequency range from 2406MHz to 2474MHz (18 channels with 4MHz channel spacing). The EUT can be powered by AC/DC adaptor (Input: 100-240VAC 50/60Hz; Output: 5.25VDC 2.5A) and 1 X 3.7V rechargeable battery (Li-Poly).

The EUT can accept audio and control signal via Purepath Wireless once paired with the Marker. After paired with an Apple Device via Bluetooth, the control signal can be transferred to it to start recording audio signal from the audio interface and video from its camera. The EUT is using non-adaptive frequency hopping in the Bluetooth module as declared by the applicant. USB port interface of the EUT do not contain PC Connectivity which the USB interface is for charging the Apple device use only. The micro-USB port is disabled and not for End-user use, it is only used for firmware upgrades by manufacturer. A shutter port is also disabled for this device.

For Bluetooth portion, the certification procedure of modular approval of the Bluetooth module (with FCC ID: A8TBM57SPPSYC2A) has been authorized by certification procedure. Thus, "Contains FCC ID: A8TBM57SPPSYC2A" can be found on the product label.

When the Bluetooth was stand-alone emitting, the Bluetooth portion emission is as below:

Antenna Type: Internal integral antenna

Antenna Gain: 2.45dBi

Production tolerance: -2dBm (Minimum) to +4dBm (Maximum)

According to the KDB 447498:

Based on the Maximum allowed radiated power of production tolerance was +6.45dBm in frequency 2.4GHz, thus;

Maximum radiated power (EIRP) is 4.42mW (i.e. +6.45dBm), thus;

Conducted power = Radiated Power (EIRP) – Antenna Gain
So;

Conducted Power = 2.51mW.

The SAR Exclusion Threshold Level:

$$\begin{aligned} &= 3.0 * (\text{min. test separation distance, mm}) / \text{sqrt}(\text{freq. in GHz}) \\ &= 3.0 * 5 / \text{sqrt}(2.480) \text{ mW} \\ &= 9.53 \text{ mW} \end{aligned}$$

Since the above conducted output power is well below the SAR Exclusion threshold level, so the EUT is considered to comply with SAR requirement without testing.