Compliance with 47 CFR 15.247(i)

> "*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 levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter*."

The EUT is a Bluetooth beacon that operates in the 2400-2483.5MHz. The Imote1 will only be used with a separation distance of 20 centimeters or greater between the antenna and the body of the user or nearby persons and can therefore be considered a mobile transmitter per 47 CFR 2.1091(b). The Imote1 has a single antenna, gigaAnt Rufa 2.4GHz SMD Antenna. The peak gain of the antenna is 4.4 dBi. The maximum peak conducted output power was 0.7155 mW.

The maximum peak power is 1.97 mW (EIRP) for FCC ID: EJM-IMOTE1. The transmit frequency is 2400-2483.5MHz. The EUT is not subject to routine environmental evaluation per 47 CFR 2.1091(c). Per 47 CFR 1.1310, the EUT must meet the General Population / Uncontrolled exposure limits listed in Table I.

The MPE estimates are as follows:

Table 1 in 47 CFR 1.1310 defines the maximum permissible exposure (MPE) for the general population as ($f_{MHz}/1500$) mW/cm^2. The exposure level at a 20 cm distance from the EUT's transmitting antenna is calculated using the general equation:

$S = (PG)/4\pi R^2$
Where: S = power density (mW/cm^2)
P = power input to the antenna (mW)
G = numeric power gain relative to an isotropic radiator
R = distance to the center of the radiation of the antenna (20 cm = limit for MPE estimates)
PG = EIRP

Solving for S, the maximum power density 20 cm from the transmitting antenna is summarized in the following table:

MPE Estimate

FCC ID: EJM-IMOTE1

Antenna Type	Antenna Part No.	Transmit Frequency (MHz)	Max Peak Conducted Output Power (mW)	Antenna Gain (dBi)	Minimum Antenna Cable Loss (dB)	Power Density @ 20 cm (mW/cm^2)	General Population Exposure Limit from 1.1310 (mW/cm^2)
Chip	30 30 A5849-PA3	2400	0.7155	4.4	0	0.00039	1

The power density does not exceed 1.0 mW/cm^2 at 20 cm; therefore, the exposure condition is compliant with FCC rules.

The applicant's radio, FCC ID: EJM-IMOTE1, is compliant with the requirements of 15.247(i).