Radiation exposure evaluation.
FCC rules 1.1310 & 2.1091, 2.1093

a) The Remote Control Master is a Bluetooth device used in mobile application, at least 20 cm from any body part of the user or near by persons.

The maximum conducted power is 0.97 mW (-0.13 dBm).
Antenna is fix-mounted, 1.8 dBi gain. Therefore, to comply with RF Exposure Requirement, the MPE is calculated.

The maximum Peak EIRP: -0.13 dBm + 1.8 dBi = 1.67 dBm or 1.5 mW.
The Power Density can be calculated using the formula:

$$S = EIRP/ 4\pi D^2$$

Where: S is Power Density in W/m^2
D is the distance from the antenna.

At 0.2 m, S = 0.002 W/m^2, which is below the MPE Limit of 10 W/m^2

b) The Remote Control Slave can be considered as a portable device located less than 20 cm from the any body part of the user. It is required routine RF evaluation to demonstrate RF Exposure compliance per 2.1093

The SAR limit is 1.6 mW/g.
The output power of 1.5 mW can not produce more than 1.6 mW/g. This amount is less than limit 1.6 mW/g.

Meet SAR requirements without testing. Therefore no SAR evaluation is required, and device considered in compliance with RF Exposure requirements.

Sergey Marker

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