



Canada

## **Exhibit: RF Exposure – FCC**

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Client	dormakaba Canada Inc.	 Canada
Product	BLE-5100 Bluetooth Module	
Standard(s)	FCC Part 15 Subpart 15.247 FCC KDB 447498:2015	

## RF Exposure – FCC

The device is a mobile device intended to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure and the body of the user or nearby persons.

## Radiofrequency Radiation Exposure Evaluation: Mobile Devices

Mobile devices shall be evaluated for RF radiation exposure according to the provisions of FCC §2.1091 and the MPE guidelines identified in FCC §1.1310.

As per FCC §1.1310 Table 1(B), the limit for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields for General Population/Uncontrolled Exposure in the frequency range of 300 MHz to 1.5 GHz is  $f/1500$  mW/cm<sup>2</sup> and in the frequency range of 1.5GHz to 100GHz is 1.0 mW/cm<sup>2</sup>. Where  $f$  = frequency in MHz.

The power density formula is given by:

$$P_d = (P_{out} * G) / (4 * \pi * R^2)$$

Where,

$P_d$  = Power density in mW/cm<sup>2</sup>

$P_{out}$  = Conducted output power to antenna in mW

$G$  = Numeric Antenna Gain

$\pi$  = 3.1416

$R$  = Separation distance in cm

## MPE Calculation: 2402 – 2480 MHz DTS transmitter

The DTS transmitter has a maximum conducted output power of 2.5dBm or 1.778mW and an antenna gain of 5.19dBi or 3.30 numerically.

For a distance of 20cm, the power density is:

$$P_d = (1.778 \text{mW} * 3.3) / (4 * 3.1416 * (20 \text{cm})^2)$$

$$P_d = 0.00117 \text{ mW/cm}^2$$

The device passes the requirement. The calculated power density of 0.00117mW/cm<sup>2</sup> is below the 1.0 mW/cm<sup>2</sup> limit.