RF Exposure Evaluation

WTD 12.5.23

Summary of RF Exposure Compliance for Medtronic Model 24955 Programming Head:

Bluetooth module (Panasonic, FCC ID: T7V1315) in Programming Head:

From the original filing for FCC ID: T7V1315, the maximum conducted output power is 10.47 mW. The maximum duty cycle is 47%, therefore the maximum source-based time-averaged power is 4.92 mW. Per KDB 447498D01 General RF Exposure Guidance D01 v05, section 4.3.1, Item #1:

> "The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
>
> [(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,16 where
>
> - f(GHz) is the RF channel transmit frequency in GHz
> - Power and distance are rounded to the nearest mW and mm before calculation17
> - The result is rounded to one decimal place for comparison
>
> The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion"

Solving for the threshold equation above (using a worst-case separation of 5mm):

> (4.9 mW / 5 mm) * (2.45 GHz) = 2.4. This is less < 3.0, therefore the FCC's SAR test exclusion can be applied.

While installed in the Medtronic Model 24955 programming head, the Panasonic Bluetooth module, FCC ID: T7V1315 is compliant with FCC RF Exposure requirements.

Inductive Telemetry in Programming Head:

There is no RF exposure requirement in the US or Canada. No prohibition against co-location either.

The Inductive Telemetry has a conducted output power for 7.2 mW and a radiated power of 5.9 pW EIRP. These values are based upon source-based time averaging.