

FCC EMF Compliance for TW3.0-L

1 May 2018

To whom it may concern

The Dynamic Load Monitoring TW3.0-L is exempt from SAR evaluation as its output power meets the exclusion limits stated in FCC part 2.1093 and the general SAR test exclusion requirements detailed in KDB 447498 D01 V06, which states:

- b) For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

The device operates in the 2400 – 2483.5 MHz band with minimum separation distance of $< 5\text{mm}$, so 5mm is used for the calculation.

Maximum rated power = 29.0 mW, but it transmits with a duty cycle¹ of 2.7%:

Calculation is:

$$\frac{29.0 \times 0.027}{5} \times \sqrt{2.4} = 0.24$$

0.24 is less than 3.0, so no SAR testing is required and EMF limits are met under all conditions of operation

Sincerely



C F J Blackham
Director

¹ Duty cycle is determined from $\frac{\text{Number of Channels} \times \text{Occupancy time per channel}}{\text{observation period}} = \frac{79 \times 8 \times 0.00135 \text{ s}}{31.6 \text{ s}} = 2.7\%$