

EXHIBIT 9 – FCC RF EXPOSURE EVALUATION

See Attached



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Date: 1 October 2018

To:
Federal Communications Commission
7435 Oakland Mills Road
Columbia, Maryland 21046
USA

RE: RF Exposure Evaluation of Sendum Wireless Corp. Model: OM500, FCC ID: TS5-WP76-OM500

The OM500 is a very low duty cycle digital transceiver used as an offender ankle bracelet (anklet). It has two transceivers, WLAN and LTE. The LTE transmitter transmits at LTE B4 (1710 – 1755MHz) and B13 (777 – 787MHz) with a maximum conducted power of 0.216W and 0.242W, respectively. Under normal use, only the LTE transmits. The WLAN transceiver only receives beacon signals from another WLAN station. The only time it transmits is during a brief initial pairing and setup with the other WLAN station and is not worn on the ankle during that initial pairing and setup.

Once the initial pairing and setup are complete, under normal monitoring operation, the OM500 LTE transmitter opens a data session to the monitoring server no less than every 10 minutes (monitoring interval) and sends GPS coordinate and status data to the server. The total transmission time of each session is less than 2 seconds and the amount of data cannot be altered. This “hard coded” duty factor is:

$$2s/600s = 0.00333 \text{ (0.33\%)}$$

If the beacon signal goes undetected, the OM500 goes into a “Hyper Mode” and transmits a data session of less than 2 seconds every 30 seconds. This is the absolute worst case. This gives a duty factor of:

$$2s/30s = 0.0666 \text{ (6.67\%)}$$

The wearer has no control of any of the above duty factors. The monitoring service cannot increase the monitoring interval.

The OM500 is intended to be installed on the lower ankle of wearer, with the front of the device facing outwards, tight enough and in a manner that it cannot be relocated anywhere else on the leg or body of the wearer. It is not to be installed on the wrist, neck, around the body or as a pendant on the wearer. Figures E19.8 and E19.9 of Exhibit 19 – Photos - External show the location of the antennas with respect to the wearer. The minimum separation distance is 12mm for Antenna #1, the LTE Primary Antenna.

Using the worst case duty factor and the maximum conducted output power, including tune-up tolerance, for each LTE band, the following output power adjusted for duty factor is given as:

$$\text{LTE Band 13 (787MHz), } 0.251W \times 6.67\% = 0.0167W \text{ (16.7mW)}$$

$$\text{LTE Band 4 (1755MHz), } 0.251W \times 6.67\% = 0.0167W \text{ (16.7mW)}$$

Using the Standalone SAR Test Exclusion Threshold equation per KDB 447498 4.3.1a)

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}] = [(16.7\text{mW})/(12\text{mm})] * [\sqrt{0.787}] = 1.23 \leq 7.5 \text{ for 10-g Extremity SAR}$$

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}] = [(16.7\text{mW})/(12\text{mm})] * [\sqrt{1.755}] = 1.84 \leq 7.5 \text{ for 10-g Extremity SAR}$$

In the event that the front of the device should contact the wearer, such as possibly while sleeping, the separation distance between the antenna and the wearer would be greater than 8mm. Using the worst case from above and an 8mm separation distance:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}] = [(16.7\text{mW})/(8\text{mm})] * [\sqrt{1.755}] = 2.76 \leq 7.5.0 \text{ for 10-g Extremity SAR}$$

The result of 2.76 is less than the limit of 10.0 for 10g Extremity SAR.

In the event that the front of the device should contact another person, the separation distance between the antenna and the other person would be greater than 8mm. Using the worst case from above, an 8mm separation distance and 1g Body exclusion limits:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}] = [(16.7\text{mW})/(8\text{mm})] * [\sqrt{1.755}] = 2.76 \leq 3.0 \text{ for 1-g Body SAR}$$

The result of 2.76 is less than the limit of 3.0 for 1g Body SAR.

This device qualifies for Standalone SAR Test Exclusion per FCC KDB 447498. Should there be any questions or concerns, please feel free to contact me.

Sincerely,



Art Voss, P.Eng.

Approved:



Ben Hewson, President – Celltech Labs
Authorized Agent