



RF Exposure Analysis - SAR Test Exemption

FCC ID: 2BNQKSMPLLWC4

The device OPTIME-LW-C4 operates in the 2.4 GHz band (Bluetooth LE).

The following FCC Rule Parts are applicable:

Part 2.1093 – Radiofrequency radiation exposure evaluation: portable devices (i)

Part 1.1307(b)(3)(i)(C) - MPE test exemption (ii)

Part 1.1307(b)(3)(i)(B) - SAR test exemption (iii)

For the OPTIME-LW-C4, FCC ID: 2BNQKSMPLLWC4:

Operating Frequency: 2402 - 2480 MHz

Tx Power: 8.0 dBm max. conducted (6.3 mW)

Maximum Duty Cycle: 3%

Tx max. conducted Power (corrected for Duty Cycle) = 0.19 mW (-7.2 dBm)

Antenna gain = 2.26 dBi

Source-based time averaged EIRP = $-7.2 + 2.26 = -4.94$ dBm (0.32 mW)

Source-based time averaged ERP = $\text{EIRP} - 2.15$ dBm = -7.09 dBm (0.2 mW)

As the calculated EIRP is higher than the conducted transmitter output power this figure is compared to the specified exemption limits of Part 1.1307

Evaluation

From Part 1.1307, RF exposure exemption applies if the maximum transmitted power is less than the maximum of the following three criteria:

- i. Less than 1 mW Blanket exemption. $\text{PTH} = 0.001$ W – §1.1307(b)(3)(i)(A)
- ii. determination of exemption under the MPE-based §1.1307(b)(3)(i)(C), if i) not met
- iii. determination of exemption under the SAR-based §1.1307(b)(3)(i)(B) if both i) and ii) are not met;

Conclusion

The OPTIME-LW-C4 source-based time averaged EIRP is less than 1 mW and, therefore, complies with the RF exposure blanket exemption in accordance with §1.1307(b)(3)(i)(A).

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