

10/10/2024

RF Exposure Analysis – Routine Evaluation Exemption

FCC ID: 2AT4VSKOLL (Contains FCC ID: 2AQ6KA1004)
Model number/name: Skoll

The above device operates in the 2402-2480 MHz frequency band (Bluetooth LE) and uses a pre-certified radar module (FCC ID: 2AQ6KA1004) in the 57-64 GHz frequency band.

Bluetooth LE and radar cannot transmit simultaneously. For compliance with Part 2.1091 of the radar module, please refer to FCC ID: 2AQ6KA1004.

The following FCC Rule Parts are applicable:

Part 2.1091 – Radiofrequency radiation exposure evaluation: mobile devices

Part 1.1307(b)(3)(i)(A) – 1 mW Blanket Exemption (i)

Part 1.1307(b)(3)(i)(C) – MPE-based Exemption (ii)

Part 1.1307(b)(3)(i)(B) – SAR-based Exemption (iii)

For the above device:

Transmitter frequency range = 2402 MHz to 2480 MHz

Maximum Conducted Power = 6 dBm (including tune-up tolerance)

Antenna gain: -2.35 dBi

EIRP = 6 dBm - 2.35 dBi = 3.65 dBm

ERP = EIRP - 2.15 dBm = 1.5 dBm (**1.41 mW**)

Minimum separation distance (R) to be considered: **0.2 m**

Evaluation:

From Part 2.1093(c)(1). RF exemption applies if the maximum transmitted power is less than the maximum of the following three criteria:

- i) Less than 1 mw Blanket exemption. $P_{TH} = 0.001\text{ W}$ – (**The above device is not compliant**)
- 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

Determination of threshold power (P_{TH}) under the MPE-based §1.1307(b)(3)(i)(C):

This is only applicable at a separation distance greater than $\lambda/2\pi$.

For 2.4 GHz operation: $\lambda/2\pi = \underline{0.02 \text{ m}}$

It follows that this clause is applicable since the separation distance (R) equals **0.2 m** which is greater than **0.02 m**.

Threshold ERP P_{TH} (watts) for the frequency range of 1.5-100 GHz: $19.2 * R^2$

$R = 0.2 \text{ m}$

$P_{TH} = (19.2 * 0.2^2) \text{ W} = \underline{0.768 \text{ W}}$ (**768 mW**)

Conclusion:

The maximum ERP of **1.41 mW** is below the applicable **768 mW** threshold for operation at 2.4GHz, and therefore the above device is exempt from evaluation in accordance with §1.1307(b)(3).

Yours faithfully,



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