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RF Exposure Compliance Requirement

The product belongs to **standalone portable device** base the FCC rule part 2.1091&2.1093. The transmission frequencies of the device are between 100 MHz and 6 GHz. The worst case test separation distance is **5mm.**

The Max Conducted Output Power and SAR Test Exclusion Threshold (mW) are listed below:

The Max Conducted Peak Output Power is -2.68 dBm on the lowest channel 2.48 GHz.

-2.68 dBm logarithmic terms convert to numeric result is nearly 0.54 mW
According to the formula. calculate the test exclusion thresholds:
[(max. power of channel, including tune-up tolerance, mW)/
(min. test separation distance, mm)] · [√f(GHz)]
General RF Exposure = (0.54 mW / 5 mm) x √2.48 GHz = 0.17　　　　(1)
SAR requirement:
S = 3.0　　　　　　　　　　　　　　　　　　　　　　　　　　　　(2)
(1) < (2)
So the SAR report is not required.

The Max Conducted Peak Output Power is -5.35 dBm on the lowest channel 2.48GHz

-5.35 dBm logarithmic terms convert to numeric result is nearly 0.29 mW
According to the formula. calculate the test exclusion thresholds:
[(max. power of channel, including tune-up tolerance, mW)/
(min. test separation distance, mm)] · [√f(GHz)]
General RF Exposure = (0.29 mW / 5 mm) x √2.48 GHz = 0.09　　　　(1)
SAR requirement:
S = 3.0　　　　　　　　　　　　　　　　　　　　　　　　　　　　(2)
(1) < (2)
So the SAR report is not required.

Considered the worse case,

$$S = S_1 + S_2 = 0.17 + 0.09 = 0.26 < 3.0$$

So the SAR report is not required.

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The SAR Test Exclusion Threshold for 100 MHz to 6 GHz is calculated from:

1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances $\leqslant$ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·

[$\sqrt{f(GHz)}$] $\leqslant$ 3.0 for 1-g SAR   and $\leqslant$ 7.5 for 10-g extremity SAR,   where

　　f(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 test exclusions are applicable only when the minimum test separation distance is $\leqslant$ 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.

According to SAR Exclusion Threshold in KDB 447498 (D01) General RF Exposure Guidance v06, the SAR report is not required.