

FCC §2.1093 - RF EXPOSURE INFORMATION

Applicable Standard

According to FCC §2.1093 and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to FCC OET KDB447498 D01 section 5, Push-to-talk (PTT) devices:

a) RF exposure is evaluated with a duty factor of 50% when the actual operating duty factor is $\leq 50\%$. Devices supporting higher duty factors shall be evaluated at the maximum duty factor; for example, devices supporting operator-assisted PSTN calls. Contact the FCC Laboratory when unable to test a device at the required duty factor due to hardware limitations or other reasons.

b) Portable PTT devices

i) The power thresholds and operating conditions in Table 1 are used to determine SAR test requirements for PTT radios required to comply with the general population exposure limit. When the occupational exposure limit applies, these power thresholds are increased by a factor of five (5) to determine the test requirements. SAR is required for PTT devices with maximum output power greater than these thresholds.²⁸ SAR evaluation is also required for separation distances smaller than those in Table 1. Contact the FCC Laboratory to determine if SAR evaluation is necessary for other frequencies or when the SAR is very low.

Table 1 - SAR Evaluation Power Thresholds for PTT devices, $f \leq 0.5$ GHz

Exposure Conditions	mW
Held to face ≥ 2.5 cm	250
Body-worn ≥ 1.5 cm	200
Body-worn ≥ 1.0 cm	150

Notes:

1. The time-averaged output power, corresponding to the required PTT duty factor, is compared with these thresholds.
2. The closest distance between the user and the device or its antenna is used to determine the power thresholds.

ii) Additional SAR evaluation with a SAM phantom is required for PTT devices with held-to-ear operating mode.²⁹ Contact the FCC Laboratory for device operating and test configurations.

Routine SAR evaluation refers to that specifically required by §2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

Result

According to FCC KDB447498 generic portable criteria

The Max output power: 281.8 mW, Duty factor: 50%

The time-averaged output power is: $281.8 \times 0.5 = 140.9$ mW < 250 mW

Stand-alone SAR evaluation for held-face is not required.

Note: The device does not have the body-worn capability.