

Client	Senstar Corporation
Product	Flare Transmitter
Standard(s)	FCC KDB 447498, RSS-102

Maximum Permissible Exposure.

This device has an effective isotropic radiated power of 7.1 dBm, or 5.1 mW at 470 MHz.

This device is designed to be hand-held or body worn, with a very low duty cycle over a 6 minute period, however for the purpose of demonstrating compliance with MPE requirements and SAR exemption; we present a worst case 5mm distance and 100 % duty cycle.

As per RSS-102, Section 2.5.1, the limit for 450 MHz is 52 mW and 835 is 17 mW. Using linear interpolation, the limit at 470 MHz is

$$\text{Limit}_{\text{current}} = \text{Limit}_{\text{low}} + (\text{Frequency}_{\text{current}} - \text{Frequency}_{\text{low}}) / (\text{Frequency}_{\text{low}} - \text{Frequency}_{\text{high}}) * (\text{Limit}_{\text{high}} - \text{Limit}_{\text{low}})$$

$$\text{Limit}_{470} = 52 \text{ mW} + (470 - 450) / (450 - 835) * (52 - 17)$$

$$\text{Limit}_{470} = 52 \text{ mW} + 20/385*35$$

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$$\text{Limit}_{470} = 52 \text{ mW} - 1.8 \text{ mW}$$

$$\text{Limit}_{470} = 50.2 \text{ mW}$$

This device is significantly under the RSS-102 limit for 5 mm.

As per FCC KDB 447498 D01, 4.3.1a, the equation is

(max power of channel, including tune - up tolerance, mW) / (min. test separation distance, mm) · [\sqrt{f} (GHz)] ≤ 3.0

Therefore:

$$(5.1 \text{ mW} / 5 \text{ mm}) \times (0.47)^{0.5} \leq 3.0$$

$$1.02 \times 0.686 = 0.7 \leq 3.0$$

This device therefore complies with FCC requirements at 5 mm or greater.