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1.0 Maximum Permissible Exposure Evaluation (Supplements the test report.)

The results of power measurement and intended use are compared to the RF exposure exemption criteria.

1.2 Criteria

Section Reference	Date
447498 D01 General RF Exposure Guidance v06	28 Jun 2020

1.3 Procedure

Measured peak power, calculated average, and spacing for the intended application are used to determine the maximum permissible exposure. Then verify against the FCC 3.0 exemption criteria.

1.4 Exemption Calculation

This device is not hand held. It is installed as aircraft avionics and connects to two antennas on the airframe. The transmit interval is 1 second while alternating transmit antenna, such that at any one antenna the transmit interval is 2 seconds. Antennas are normally located on opposite sides (top and bottom) of the airframe. The exposure distance selected for this calculation is 4 cm or 40 mm. This device is required by design to only transmit while in flight.

Table 1.4.1 Power Calculation for Exposure, Highest frequency 978.0 MHz					
Conducted Peak Power mW	Calculated EIRP Peak Power dBm	Source Duty Cycle Factor dB	Maximum Antenna Gain dBi	Calculated EIRP dBm	EIRP In Linear Terms mW
24600	43.9	-26.78*	2.15**	19.27	84.5

*Based on 0.41856 ms transmit duration and worst case minimum period of 200 ms.

**Typical antenna gain.

FCC, SAR Exemption – Appendix A Criteria

Calculation for exclusion (with max power including tune up tolerance of 51.52 mW):

$$[(84.5 \text{ mW})/(40 \text{ mm})] \cdot [\sqrt{0.978(\text{GHz})}] = 2.1, \text{ and it follows that } 2.1 \leq 3.0$$

Therefore, the device meets the applicable FCC SAR exemption requirements.

Signed:

Eric Lifsey