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FCC RF Exposure Statement - RS87 VHF Radiotelephone
FCC ID: QYSRS87

The RS87 is a 25Watt VHF Radiotelephone for use in the Maritime Mobile Service. It is designed to be used in conjunction with an external whip antenna mounted on the vessel superstructure.

The criteria for limits for maximum permissible exposure are defined in FCC1.1310. This states that in the band 30 to 300MHz, the maximum exposure limit for "General Population" is 0.2mW/cm².

The minimum distance from the antenna to any person's body may be calculated from (1)

$$S = \frac{P \times G}{4 \times \pi \times r^2} \quad (1)$$

Where

S = power density in mW/cm²
P = power to antenna in mW
G = numeric gain of antenna (rel isotropic)
r = distance to centre of radiation in cm

Antenna gain for commercially available antennae is between 6 and 9dBi. (4 to 7.9) P = 25,000 mW and S = 0.2mW/cm².

Rearranging equation 1 gives $r = \left(\frac{P \times G}{4 \times \pi \times S} \right)^{1/2}$

$$\therefore r = 281\text{cm or } 2.81 \text{ metres}$$

It is recommended that the antenna is placed at least 3metres away from any area which any person may access during normal operation. A note has been added to the manual alerting users to this safety issue.

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