

**Assessment Entity:** Garmin International Inc.  
1200 E. 151<sup>st</sup> Street  
Olathe, KS 66062 USA

**Device Description:** 5W AIS Transceiver

**Device Model(s):** AIS 800

**RF Exposure Environment:** General Public/ Non-Aware User

**Standards applied:** EU Council Recommendation 1999/ 519/ EC  
IEC 62311: 2008  
Industry Canada RSS-102  
FCC OET Bulletin 65

**Device Description:**

The AIS 800 is a marine AIS transceiver that transmits on the VHF Marine Channels of 156.025MHz and 162.025MHz. The output power is 5W. The transceiver connects to a VHF Marine antenna through a cable and connector. The installer has a variety of VHF marine antennas to choose from, but the antenna gain varies from a typical value of 3dBi up to a maximum of 10dBi. The antenna is typically mounted more than 2m away from the general public.

**Reference Levels:**

Frequency Range	Power Density Limit	Reference
10-400 MHz	2 W/m <sup>2</sup>	1999/519/EC, Table 2
48-300 MHz	1.291 W/m <sup>2</sup>	RSS-102
30-300 MHz	0.2 mW/cm <sup>2</sup>	OET Bulletin 65

**Data for Calculations:**

AIS 800	
Frequency range	156-163 MHz
Maximum Conducted Output Power	37.09 dBm/5.11W
Maximum antenna gain	10 dBi
Typical antenna gain	6 dBi

### **RF Exposure Power Density Calculation**

$$S = (P * G) / (4\pi * R^2)$$

$$R = \text{square root} [(P * G) / (4\pi * S)]$$

Where:

S= Power Density (W/m<sup>2</sup>)

P= power input to the antenna (W)

G= maximum power gain of the antenna relative to an isotropic radiator (unitless)

R= distance to the center of radiation of the antenna (meters)

### **Compliance statement:**

Using a maximum gain antenna, the calculated distance to meet the maximum power density of 2W/m<sup>2</sup> (0.2 mW/cm<sup>2</sup>) required by Europe and the FCC is 1.4m, and the maximum power density of 1.291 W/m<sup>2</sup> required for Canada is 1.8m.

The antenna would typically be mounted >2m away from the general public. The power density at 2m is 1.02 W/m<sup>2</sup> (0.102 mW/cm<sup>2</sup>)