

## Human Exposure to Electromagnetic Fields

This document demonstrates that the Ocean Signal E101V Emergency Position Indicating Radio Beacon (EPIRB) with VDR float free memory capsule is in compliance with both US and EU requirements for protection of the general public (uncontrolled) from exposure to electromagnetic fields.

In the US regulation 47CFR chapter 1.1310<sup>1</sup> specifies that in the bands  
30 – 300MHz the exposure limit is 0.2mW/cm<sup>2</sup>;  
300 – 1500MHz the exposure limit is (f/1500)mW/cm<sup>2</sup>.

From Test Report no. 75931777 Issue 1<sup>2</sup> the maximum measured EIRP at 406MHz is stated as 42.8dBm or 19.1W (*page*)

Duty Cycle= 0.5/50

∴ Average power = 191mW

Distance at which the power density meets the 0.27mW/cm<sup>2</sup> limit is given by:

$$r = \sqrt{(191/(4 \times \pi \times 0.27))}$$

$$r = 7.5\text{cms} (=3\text{inches})$$

From Test Report no. 15R418 ER<sup>3</sup> the measured PEIRP at 121.5MHz is stated as 55.7mW (*page 7*), with a duty cycle of 99%.

Distance at which the power density meets the 0.2mW/cm<sup>2</sup> limit is given by

$$r = \sqrt{(56/(4 \times \pi \times 0.2))}$$

$$r = 4.7\text{cms} (= 1.85\text{inches})$$

Therefore the E101V meets the requirements for exposure to radiated electromagnetic fields at a worst case distance of 7.5cms from the transmitting antenna in both the USA and Europe.

A handwritten signature in black ink that reads "D C Sheekey".

David Sheekey

Ocean Signal

21<sup>st</sup> April 2016

<sup>1</sup> 1.1310 Radiofrequency radiation exposure limits

<sup>2</sup> Tested by TÜV SÜD

<sup>3</sup> Tested by Hursley EMC