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Tuesday, 13 August 2013

Statement of justification for compliance for RF Exposure SAR evaluation in accordance with KDB 447498 D01 v05 Section 4.3.1

EUT Raymarine a6x WIFI and a7x WIFI range of Multifunction displays

Product is a multifunction display which is dashboard mounted, therefore 10-g extremity SAR evaluation will be used for the SAR exemption evaluation.

Test Frequency	2.4 GHz	$\frac{(\text{Max.power of channel including tune-up tolerance, mW})}{(\text{min.test separation distance, mm})} \times (\sqrt{f_{(\text{GHz})}}) \leq 7.5$
Peak Power	52 mW	
Duty Cycle	0.333	
Average Power	18 mW	

Distance between screen front and antenna	18 mm	SAR Evaluation between front screen and internal antenna
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$$\frac{(52*0.33)}{(18)} \times (\sqrt{2.4}) = 1.5$$

Distance between base of display and antenna	5 mm	SAR Evaluation between front screen and internal antenna
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$$\frac{(52*0.33)}{(5)} \times (\sqrt{2.4}) = 5.3$$

The front of the display is below the 1-g SAR evaluation level, the base of the unit which would not be accessed by the user in normal operation meets the requirement for the 10-g SAR evaluation level.

Review completed by Andrew Little
 Compliance Manager
 Raymarine UK Ltd