

	<b>Document No.</b>	
	<b>Issue</b>	<b>01.00</b>
	<b>Date Last Amended</b>	<b>24/09/2019</b>
	<b>Last Amended by</b>	<b>David Sheekey</b>
<b>Document Title</b>	<b>ATA100 Risk Assessment</b>	



The following document covers the risk analysis of the ATA100 Class A AIS transponder

### ***Product Definition***

The ATA100 is a Class A AIS SO-TDMA transponder for use on voluntary fit vessels not required to carry class A transponders under IMO SOLAS regulations.

The ATA100 is a self-contained transponder and display with external GPS antenna and IEC 61162-1 and IEC61162-2 interfaces.

Configuration of the self ID (MMSI) and static data is carried out on screen in password protected menus.

Signed on behalf of Ocean Signal

A handwritten signature in black ink that reads "DC Sheekey".

David Sheekey

Type Approval and QMS Facilitator

Margate, 24<sup>th</sup> September 2019

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<b>Document Title</b>	<b>ATB1 Risk Assessment</b>	



<b>Scope</b>	<b>Risk Hazards Identification</b>	<b>Risk Analysis</b>	<b>Risk Evaluation</b>	<b>Risk Control Measures</b>			
			Low				
<b>Health and Safety</b>							
<b>RF Exposure (SAR/MPE)</b>							
1	Risk to operator from RF exposure during activation	<p>The SAR levels have been evaluated in accordance with EN62311:2008 and found to be below the 2 mW/cm<sup>2</sup> limit for General Population/Uncontrolled Exposure at 20cm.</p> <p>The Wi-Fi module integrated into the ATA100 also complies with SAR limits at a distance of greater than 20cm from the ATA100</p>	Low	Operation of the ATA100 is through an external antenna only. The user instructions state the safe distance from the antenna and transponder that the user should be.			
<b>Safety</b>							
1	Risk of electric shock	<p>The ATA100 operates over the supply voltage range of 10.8Vdc to 32Vdc. The ATA100 case is completely sealed preventing access to any internal DC voltages. The ATA100 is in compliance with section 12 of EN IEC60945</p>	Low	No additional measures required.			
2	Risk of injury or harm	<p>The ATA100 has rounded corners. During normal handling there is no risk of injury. The ATA100 will normally be mounted in a manner that avoids the risk of injury or harm, such as in the console of the vessel.</p>	Low	No additional measures required			
<b>EMC</b>							

	Document No.	
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Scope	Risk Hazards Identification	Risk Analysis	Risk Evaluation	Risk Control Measures
			Low	
			Medium	
1	Risk of interfering with other electronic systems	Transmitter spurious emissions tested in accordance with IEC 61993-2 (IEC 60945). All emissions were below the limit.	Low	No additional measures required
2	Risk of interference from other electronics devices	Immunity tested in accordance with IEC 61993-2 (EN 60945). No evidence of interference was noted.	Low	No additional measures required
3	Risk of failure caused by ESD	ESD tested in accordance with IEC 61993-2 (EN 60945). No affects observed during activated condition. ATA100 did not activate during the inactivated condition	Low	No additional measures required
4	Risk of failure of EMC performance during the lifetime of the product.	The ATA100 uses no EMC shielding, seals or other mechanical part for compliance with EN 60945.	Low	No additional measures required
<b>Spectrum</b>				
1	AIS transmission	Transmitter radiated power, frequency, frequency stability and modulation characteristics have all been measured to IEC 61993-2.	Low	All manufactured product is tested at final production for transmit power, frequency and modulation prior to packing and despatch
3	Transmitter spurious emissions.	Transmitter spurious emissions tested in accordance with EN 61993-2. All emissions were below the limit	Low	No additional measures required

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Scope	Risk Hazards Identification	Risk Analysis	Risk Evaluation	Risk Control Measures
			Low	
4	Harm to the radio spectrum	Transmissions are in accordance with ITU-R limits and IEC 61993-2.	Low	No additional measures required
<b>Operational</b>				
1	User Operation	<p>The ATA100 has been tested in accordance with all the requirements of IEC61993-2, IEC6 and the relevant clauses of EN 60945 as listed in of IEC61993-2</p> <p>The display complies with the requirements of IEC62288 as applicable to the display of AIS information</p>	Low	The Ocean Signal Quality Management System specifies requirements for the control of purchasing and production to ensure consistency of manufactured product.
<b>Production Control</b>				
1	Consistency of production	All production units of the ATA100 are tested for RF performance and other critical electrical parameters at both the PCB assembly and final test points in the production process.	Low	Test results are recorded at both stages at the test process. Failure in either stage will prevent the unit being given a serial number and the unit will be rejected for rework.
2	Design control	Ocean Signal operates a Quality Management System based on ISO9001:2008 and audited under both the MED and ATEX directives.	Low	Internal quality audits and annual recertification of the quality systems are carried out.

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<b>Scope</b>	<b>Risk Hazards Identification</b>	<b>Risk Analysis</b>	<b>Risk Evaluation</b>	<b>Risk Control Measures</b>
			Low	
		Engineering changes are required to be evaluated and authorised before implementation.	Medium	
<b>Information Requirements</b>				
1	Operational information to the end user	The ATA100 is provided complete with all mounting accessories provided and a full user manual	High	The full user manual is currently available in English. Other translations will be available on the Ocean Signal website. Brief operating instructions and safety warnings will be provided in the major languages of the EU.
2	Risk of misuse	There is minimal risk of misuse.	Low	Applicable warnings are included in the user manual