

KLS-Z502 Exhibit 02c - Compliance Rationale

The evidence assembled in this submission, itemised in Exhibit 1, deals with a new MSLD (Maritime Survivor Locating Device) product, of the AIS Type, to be placed on the market in the United States, designated as follows:

brand: McMurdo
name: Smartfind S10
model: Z502

Models Z501 and Z502 (which is the subject of a separate application) together form our Z500 product family: these products are intended for use in emergency only, by survivors in the water, to signal survivor location via the VHF Data Link provided by the international maritime AIS system.

**The Z500 product family is already type approved in the FCC under part 80, with certification copied at Exhibit 02a.
We request to update this approval to part 95.**

Z500 Product Family

Both models Z501 and Z502 are simply re-packaged versions of our approved AIS-SART, FCC ID: KLS-S5, referred to below as the parent product.

There is a high degree of commonality between the two models, leading to the evidence of compliance being mostly the same:

Both models carry the same electronic payload, differing only in the specifics of user controls and indicators, and in the antennas employed;

Both models use the same firmware,

Essentially there is at the heart of these devices, implemented across hardware and firmware, an AIS Burst Transmission Engine which is a re-implementation of the design used in the parent product.

The mechanical packaging of these devices, i.e. the physical enclosure components, has been designed to achieve characteristics appropriate to a wearable personal SAR beacon; in both models the antenna arrangements are designed to optimise transmission from just above the sea surface, for survivor-in-the-water applications.

Model Z501 is intended for attachment to a lifejacket, while model Z502 is designed to be carried in a belt pouch.

If professionally fitted to a lifejacket, model Z501 can become semi-automatic in operation: the action of lifejacket inflation pulls away the activation-cap and so triggers the activation of the beacon. The requirement to consult the lifejacket manufacturer regarding this mode of use is clearly stated in the sales literature.

The User Guide copied at Exhibit 6 describes the product and its use in general terms.

The external appearance of the product is presented in Exhibit 3.

A block diagram of the product is provided at Exhibit 4.

The set of design documentation defines the build standard of the product through the following elements:

- a Circuit Diagram
- a Bill of Material

The set of design documentation also details the product labelling.

The internal appearance of the product is fully documented in Exhibit 09.

The Z500 product family has been tested by the independent test laboratory TUV Product Services.

The evidence of compliance is provided in various test reports at Exhibit 06.

These devices rely upon primary cell batteries, and have no external electrical connections. When they are in the OFF state the source of electrical energy is disconnected from the circuitry. When they are activated, in either the TEST function or the ON function (in the event of emergency only) they will transmit on the marine VHF channels AIS1 and AIS2.

These devices are factory tuned, operate only on fixed frequencies, and contain no user-tuneable components.

Compliance with the RTCM Paper has been assessed by United States Coast Guard as discussed above. Compliance is evidenced as follows:

An RF Exposure Assessment, carried out to demonstrate compliance with various national restrictions on human exposure to electromagnetic fields, is documented in the test report at Exhibit 11.

The Z500 product family is already type approved in the FCC under part 80, with certification copied at Exhibit 02a.

The Quality Management System applicable to all aspects of development and manufacture of these products is subject to external approval by an accredited body as shown by Exhibit 02b.

We propose that the evidence presented in this submission demonstrates compliance of our model Z501 with all applicable FCC requirements for Grant of Equipment Authorization.

Erwan THOMAS
Certification and Hardware Engineer
Tel : +33 (0)2 97 02 96 83
Email : erwan.thomas@orolia.com

