

Federal Communications Commission
Authorisation and Evaluation Division
7435 Oakland Mills Rd
Columbia
MD 21046

4 April 2011

FCC ID

XZMACTIVE-XS

Dear Sir,

Please find the submissions for FCC approval of the Echomax Active-XS dual band Radar Target Enhancer (RTE) uploaded to the FCC OET website.

An active radar reflector, commonly known as an RTE, provides an enhanced radar return to better ensure detection of small vessels. An RTE consists of a receive antenna, RF amplifier and a transmit antenna. An RTE does not transpond or generate a transmission; it purely re-transmits an amplified version of the received radar signal.

The International Maritime Organisation SOLAS regulations require that all vessels under 150 gross tonnage and if practicable, carry a radar reflector, or other means, to enable detection by ships navigating by radar. (Chapter V, Regulation 19.2.1.7). The device referred to here meets this requirement for enhancing target definition on shipborne marine radars operating in the S and X bands.

In consultation with Tim Maguire¹ of the Wireless Telecommunications Bureau we understand that this device is covered by CFR47 part 80.375(d) for radio-determination devices used in the 2900MHz to 3100MHz and 9300MHz to 9500MHz band (X band). In this email, he also recommends providing test results to show compliance with ITU-R M.1176 and IMO Resolution MSC.164(78). Additionally, FCC waiver DA 10-2438² was granted to relax the requirement in ITU-R M.1176 for 50dB amplifier gain at S-band, considering that the RCS requirement of MSC.164(78) is lower in this band than at X-band.

To ensure that this device meets the above mentioned resolution and recommendations, it has been tested for S and X-band performance in

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¹ Email from Tim Maguire to David Walsh dated 8th September 2009.

² FCC Order DA10-2438 In the Matter of OCEAN SIGNAL LTD. Request for Waiver to Allow Certification and Use of a Dual Band Marine Radar Target Enhancer. Request granted.

accordance with ISO8279-2 'Ships and Marine Technology - Marine radar reflectors - Part 2: Active type'.


In Europe the device has been given a positive notified body opinion (under the EU R&TTE directive). A copy of this opinion is attached.

Echomax is the brand name of Aquamate Products Limited, PO Box 6032, Dunmow, Essex, CM6 3AS, United Kingdom. The Echomax Active-X RTE was designed by Ocean Signal Limited on behalf of Aquamate Products Ltd.

The RF module and antennas are designed and manufactured by Ocean Signal Ltd on behalf of Echomax.

I hereby confirm that the Echomax Active-XS Radar Target Enhancer meets the International Recommendation ITU-R M.1176 for such devices and has been tested in accordance with the International Standard. The device is compliant with CFR47 part 80.375(d)

Yours faithfully

A handwritten signature in dark ink, appearing to read "D C Sheekey", with a long, sweeping horizontal stroke extending to the right.

David Sheekey
Product and Approvals Manager
Ocean Signal Ltd