



SRT Marine Systems plc
Wireless House
Westfield Industrial Estate
Midsomer Norton
Bath
BA3 4BS UK

Tel: +44 (0)1761 409 500
Fax: +44 (0)1761 410 093
Email: enquiries@srt-marine.com
www.srt-marine.com

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Telecommunications Certification Body
BABT
Octagon House,
Concorde Way,
Segensworth North,
Fareham, Hampshire. PO15 5RL
UK

Statement on simultaneous transmission of both transmitters

This statement is applicable to the following products:

- Em-trak B922
- Em-trak B924
- Em-trak B952
- Em-trak B954

The em-trak B922, B924, B952 and B954 Class B transceiver incorporates an IEC 802.11 b/g/n (Wi-Fi) / Bluetooth 4.0 transceiver module. These transceiver modules operate independently of each other and so it is possible that they will both transmit at the same time. However, it is deemed unnecessary to test the product with both transmitters active due to the low duty cycle of each transmitter and the impracticality (and reliability) of such a test for these types of transmitters.

The AIS transmitter is active for a period of 26ms every 2 seconds giving a maximum duty cycle of 1.3%. The Wi-Fi / Bluetooth transmitter can only transmit the same amount of data as is carried by a 38400 baud serial port (as all AIS data must be transmitted by such a serial port). If we assume that baud rate equals information rate (it doesn't but this is a worst-case assumption) then the Wi-Fi / Bluetooth only transmits 38.4 kbits/s. If we also assume a poor-quality Wi-Fi / Bluetooth link that is restricted to just 2 Mbits/s, then the Wi-Fi duty cycle is only 1.9%.

Furthermore, the Wi-Fi / Bluetooth transmitter and AIS transmitter operate on widely differing frequency bands which will pose a very low risk of undesired interaction. Their antennas are separate and physically widely spaced apart.

Combining all these factors means a truly representative frequency analysis during simultaneous transmissions from the transmitters is virtually impossible.

Yours Sincerely

A handwritten signature in black ink, appearing to read 'Abdul Mohammed', with a horizontal line drawn through it.

Abdul Mohammed
Compliance Engineer
SRT Marine Systems plc
abdul.mohammed@srt-marine.com
+44 (0)1761 409 500

Registered office as above
Registered in England number: 4317661
Group VAT registration number: 869556264

A member of the SRT plc group www.software-rad.com