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

Statement on simultaneous transmission of both transmitters - FCC ID: UYW-429-0002

The VMS-100s AIS 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

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