



SRT
Marine Technology

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Telecommunications Certification Body
BABT
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Statement on simultaneous transmission of both transmitters - FCC ID: UYW-425-0002A

The Apollo (425-0002) AIS Class A transceiver incorporates an IEC 802.11 b/g/n (Wi-Fi) 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 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 only transmits 38.4 kbits/s. If we also assume a poor quality Wi-Fi link that is restricted to just 2 Mbits/s, then the Wi-Fi duty cycle is only 1.9%.

Not only is there a low probability of both transmitters being active at the same time but as the duration of the transmit pulses are so short, the period during which both transmitters are active will be very short.

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

Yours faithfully

Adam Morris

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