

S4 Rescue SART
FCC CFR 47 PART 2
2.1046-2.1057 COMPLIANCE REPORT

COMPILED BY	CHECKED BY	ENGINEERING APPROVAL
N.JORDAN	B.SIMS	

The compliance matrix below shows compliance for emission designator 300MX0N of the S4 Rescue SART transponder.

Part 2 compliance matrix section 2.1046 to 2.1057

2.1046 – Measurements required: RF output power

a) The S4 Rescue SART has a waveguide antenna incorporated directly onto the PCB. Hence there are no 50Ω RF output terminals. Power measurements recorded during the tune-up procedure are made with the SART in an anechoic chamber. The chamber is calibrated to ascertain path loss. Results shown below.

Test voltage	= 11.5V/5.5V
Current during transmission	= 40mA
Output power Min/Max	=28.9dBm/32.3dBm

The S4 Rescue SART complies

b) **Not applicable**

c) Radiated output measurements

Specification – 400mW (26dBm) E.I.R.P minimum

A radar test signal shall be applied to the SART. This signal shall be pulsed carrier with a repetition frequency of 1KHz. The duration of the pulse shall be 500nS.

The SART was placed inside a calibrated anechoic chamber, and rotated. The maximum and minimum received signal levels were recorded. These results were plotted on the calibration chart for the anechoic chamber; and the maximum and minimum E.I.R.P levels were obtained.

2.1047 – Measurements required: Modulation characteristics

- a) Not applicable, not voice modulated.
- b) Not applicable, no modulation limiting.
- c) Not applicable, no power limiting
- d) Under the rules there is no modulation requirement for 300MX0N.

The S4 Rescue SART complies

2.1049 – Measurements required: Occupied bandwidth

- a) Not applicable, not a radiotelegraph
- b) Not applicable, not a keyed transmitter
- c) Not applicable, not a radio telephone transmitter
- d) Not applicable, not a radio telephone transmitter
- e) Not applicable, not used in the radio broadcast service
- f) Not applicable, no speech channels incorporated into transmitter
- g) Not applicable, the unit has no independent modulation channels incorporated.
- h) Not applicable, the transmitter is not digitally modulated.
- i) Not applicable, the transmitter is not modulated.

As stated above the S4 Rescue SART is not applicable to any of the occupied bandwidth tests listed a to g. Figure 1 below shows a plot of the spectral bandwidth.

The S4 Rescue SART complies

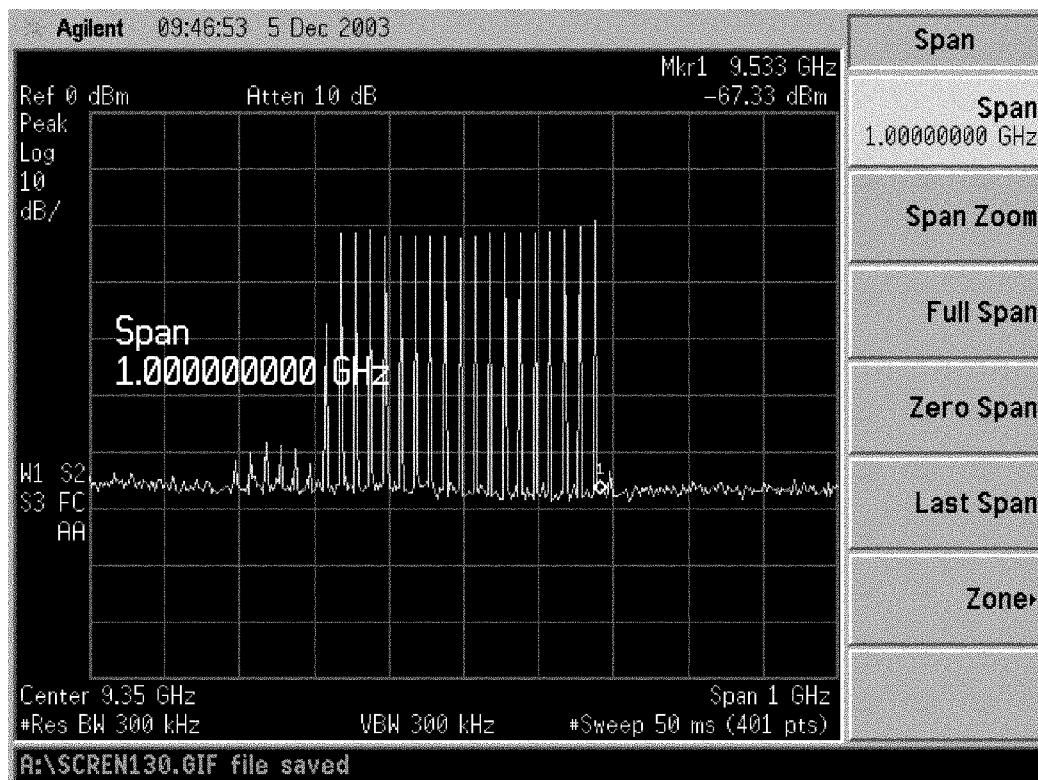


Figure 1

2.1051 – Measurements required: Spurious emissions at the antenna terminals

As described in 2.1046, the antenna forms an integral part of the PCB and has no antenna terminals.

The S4 Rescue SART complies

2.1053 – Measurements required: Field strength of spurious radiation.

- a) The unit has its own integral battery power supply. There are no power supply leads to measure spurious emissions.

The spurious emissions from the control and intermediate circuitry were measured during type approval to test standard EN 60945. Results can be viewed in the Type Approval Report RM 610860/01 pages 35 to 44.

The S4 Rescue SART complies

2.1055 – Measurements required: Frequency stability

- a)

1. Not applicable

2. Under the requirements of IEC 1097-1 the unit is required to operate over the temperature range -20°C to +55°C. Upon interrogation by a marine band radar the SART is required to respond with 12 sweeps over the band of 9.2GHz (+0/-60MHz) to 9.5GHz (+60/-0MHz).

During testing to IEC 1097-1 at type approval the frequency stability of the unit over the temperature range -20°C to +55°C was assessed.

Results can be viewed in the Type Approval Report RM 610860/01 as follows:

Ambient temperature data on page 17 & 18

-20°C data on page 17 & 18

+55°C data on page 17 & 18

The S4 Rescue SART complies

2.1057– Frequency spectrum is to be investigated

- a) The SART is exempt from spurious radiation measurements as per ITU radio regulation APS 3, Table 2.

The S4 Rescue SART complies