

RF RADIATION TEST PROTOCOL STAR-5

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1 INTRODUCTION

2.1 Purpose

This report documents the levels of RF radiation personnel is exposed inside the STAR-5 cabin and to ensure that the levels during radar operation are well below limits, set by international occupational standards. The RF radiation levels measured with a calibrated RF monitor at various specified locations.

2.1 Technical reference

The RF monitor shows the level in percent of the maximum acceptable limit. The frequency range of the RF probe is from 300 kHz to 40 GHz, so that all frequencies generated within Intermap's radar sensors (10 MHz to 9.6 GHz) are captured. The frequency dependent weighting factors for the safety limits are already built into the RF probe.

Reference document for the RF meter:



e_emr200-300.pdf

Reference document for the RF probe:



e_sonde25-26-27.pdf

(if .pdf does not open, first open the Acrobat Reader or just click the icon a second time)

2.1 Test interval

It is recommended to repeat the RF radiation test once per year or in case a high RF power component inside the cabin is replaced (X-band transmitter or waveguide).

Because of the very robust basic design, after disassembly and proper reassembly of the waveguide run, a visual inspection of the waveguide joints is sufficient to ensure RF radiation safety. In this case a RF test can be deferred to the next regular scheduled RF radiation test.

2 TEST PROTOCOLS FOR RF RADIATION INSIDE CABIN

2.1 Test from 2006-12-16

Date: 2006-12-16

Aircraft: King Air N44U Radar sensor: STAR-5

Test performend by: Martin Lange

Test performend: inflight on ground

Bands transmitted: X P

PRI: 1200 (radar set up via diagnostic tools)

Meter model: Narda EMR-300 calibrated: 2006-07-21

due for recalibration: 2008-07-20

Probe type: Type 26.1

Important notes:

- For RF measurement, maximum detection and averaging must be turned off.
- Probe must be kept stationary during RF measurement. No valid readings, while the probe is being moved.

Regulatory: weighted frequency response from 300 kHz to 40 GHz

ICNIRP, 1998, occupational

Cenelec ENV 50166-2 Jan. 1995, occupational

DIN VDE 0848, Part 2, 1991, Exposure Range 1

Canada Safety Code 6, 1993, occupational

I hereby certify that the STAR-5 sensor is in accordance with the applicable safety regulations for RF radiation. The RF power levels radiated into the cabin during operation are at any location lower than 1/10 of the regulatory limits.

Statement of Compliance

München, 2006-12-21,



Measurements

		Reading (in % of regulatory, 100% = acceptance limit)	
Location		Test 1 (Narda probe)	Alternate test (open wave guide)
① Rear of air craft		0.01 %	-34 dBm
② RO 1 seat		0.01 %	-31 dBm
③ RO 2 seat		0.01 %	-30 dBm
④ In front of aft rack		0.02 %	-32 dBm
⑤ In front of forward rack		0.02 %	-32 dBm
⑥ Aisle		0.01 %	-31 dBm
⑦ Copilot seat		0.02 %	-35 dBm
⑧ Pilot seat		0.02 %	-34 dBm
Remarks:	measurement directly at wave guide flanges: 0.03% / -20...-28 dBm measrement at radome: 40% / -5 dBm		

