REPORT

issued by an Accredited Laboratory

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2001-05-18	F109263	1 (1)

Emission measurements on Radar Amir 110

(4 enclosures)

Test object

Radar Amir 110, No 9395, Rev. 03030002.
The test object was powered by a power supply, mascot type 9226.

Summary

Standard	Compliant	Enclosure	Remarks
FCC CFR 47 part 15 Intentional Radiators			
15.207 Conducted emission	—	2	Note 1
15.245 Field strength of fundamental	Yes	3	

Note 1: The following measured conducted emissions with QP-adapter are equal to the measurement uncertainty for conducted emission:
Diagram 1: 24.58 MHz = 48.4 dBµV (QP) 0.4 dB above limit
Diagram 2: 24.58 MHz = 49.5 dBµV (QP) 1.5 dB above limit

The measurement uncertainty for conducted emission is 2.6 dB. Due to the measurement uncertainty it can not be determined whit the full certainty that the test object is non compliant

SP Swedish National Testing and Research Institute
EMC

Jan Welinder
Technical Manager

Fredrik Isaksson
Technical Officer

Performance test and requirements

Test facility

The used anechoic chamber (15:115) is compliant with the requirements of section 2.948 of the FCC rules and listed as a facility accepted for certification under parts 15 or 18.

Operation mode emission measurements:

The test object was powered by a power supply, mascot type 9226.
A computer was connected to the test object.
The test object was set to measuring mode.

Functional test equipment

Computer Toshiba Satellite

Delivery of test object

The test object was delivered by the client at the date of the test.

Test witness

Leif Bergqvist, SENSYS TRAFFIC AB.

Reservation

The test results in this report apply only to the particular Equipment Under Test (EUT) as declared in the report.

Uncertainties

Measurement and test instrument uncertainties are described in the quality assurance documentation ”FEx-QD1 (annex 8)”.

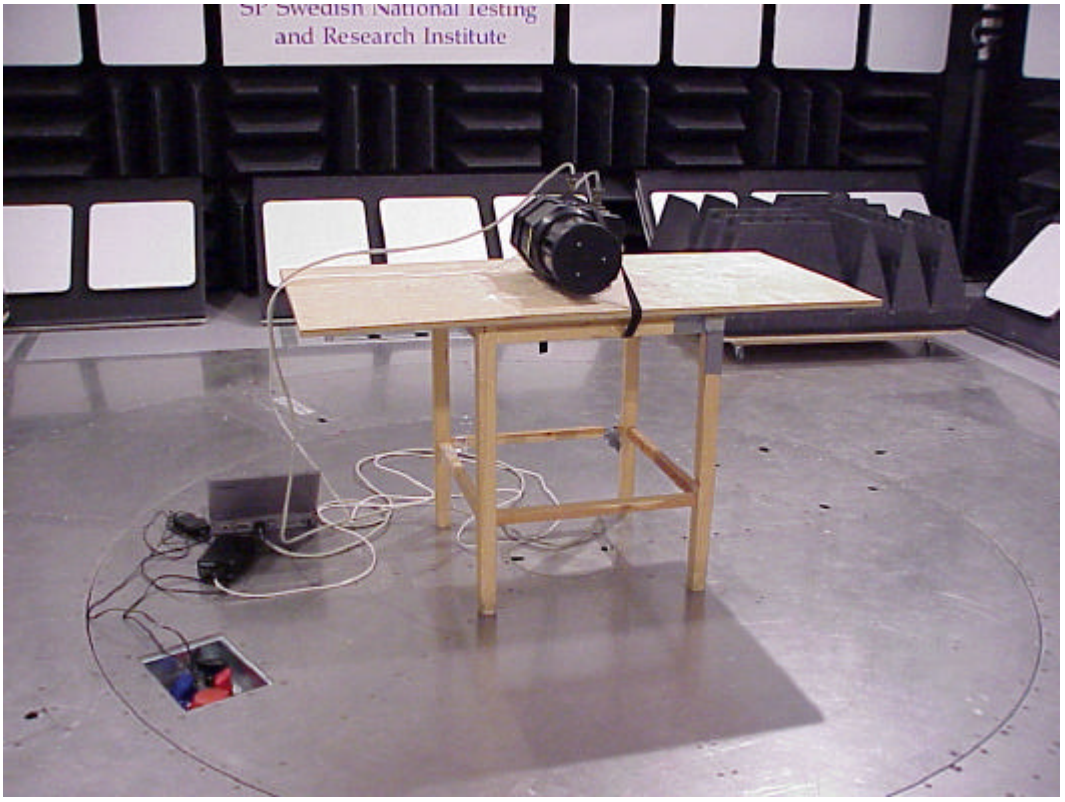
Radiated emission measurements according to FCC CFR part 15.245

Date	Temperature	Humidity
2001-05-18	20 °C ± 3 °C	40% ± 5 %

Test set-up and Procedure

The test of radiated emission was performed in a semi anechoic chamber. The EUT was scanned 360 degrees and the antenna height scanned from 1 to 4 m. The measurements were performed with both horizontal and vertical polarisation of the antenna. The antenna distance was 3 m.
The measurement was first performed with average detector.

The test set-up during the tests can be seen in the picture below.



Measurement equipment	Calibration Due	SP number
Anechoic chamber	-	15:115
R&S ESI	2001-09	503 292
EMCO Horn Antenna 3115	2001-10	502 175
Testo 610, Temperature and humidity meter	2001-11	502 658

Sign:….

Result

The field strength of the fundamental with the Average-detector can be found in the table below:

Frequency (MHz)	Peak Amplitude (dB?V/m)	Average Amplitude (dB?V/m)	3m Limit (dB?V/m) (Average)	Turntable Angle (Note 1)	Antenna height (m)	Polarisation	Compliant
10 525	125.7	122.7	128	357	1.0	Vertical	Yes
10 525	116.7	107.8	128	357	1.0	Horizontal	Yes

Note 1: Clockwise rotation, the front of the test object (according to the picture above, front side) facing the antenna is 0 degree.

Emissions below limit	Yes

Sign:….

Conducted emission measurements according to FCC CFR part 15.207

Date	Temperature	Humidity
2001-05-04	21 °C ± 3 °C	40% ± 5 %

Test set-up and Procedure

Measurements were performed 230 V AC mains, neutral and phase.

Measurement equipment	Calibration Due	SP number
Test Site	-	15:115
R&S ESI	2001-09	503 292
Control computer, Fujitsu Siemens	-	-
Software: R&S ES-K1, ver. 1.60	-	-
Schwartzbeck NNLK 8121	2001-05	502 112
Schwartzbeck NNLK 8126	2001-12	503 114
Testo 610, Temperature and humidity meter	2001-11	502 658

Result

The emission spectra can be found in enclosure 3.1:

Diagram 1: Conducted emission, 230 V AC mains, neutral,
The computer connected to the test object.

Diagram 2: Conducted emission, 230 V AC mains, phase,
The computer connected to the test object.

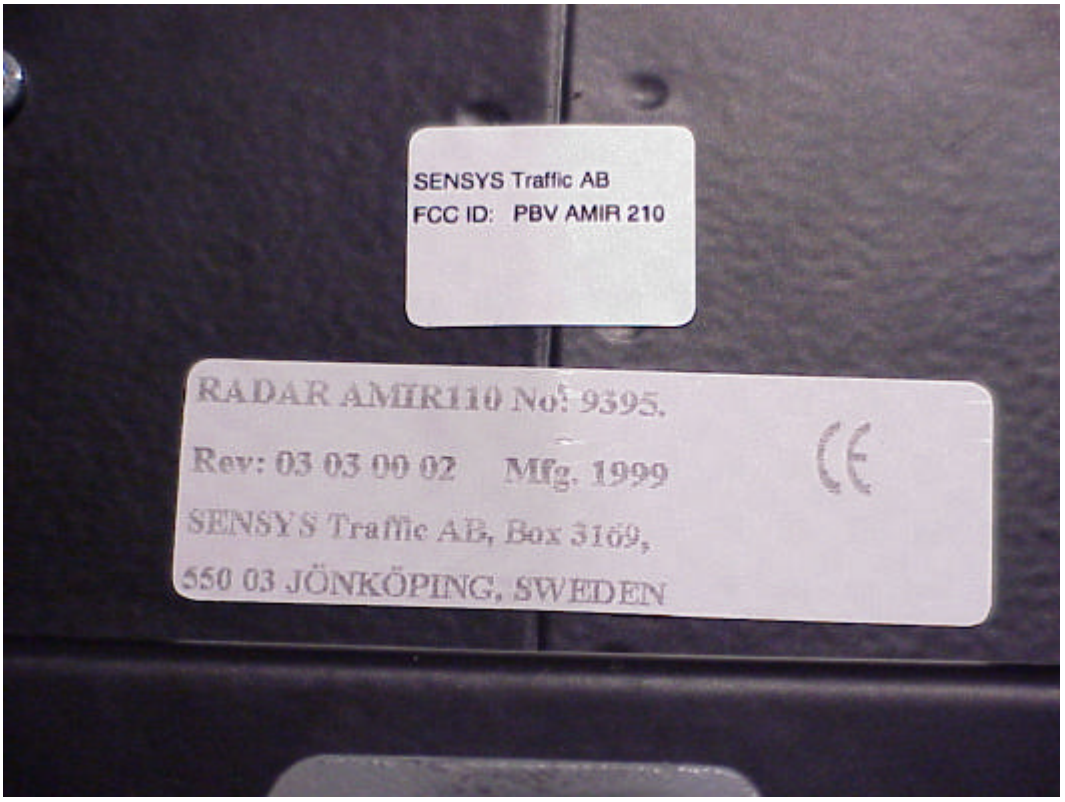
Note: The following measured conducted emissions with QP-adapter are equal to the measurement uncertainty for conducted emission:
Diagram 1: 24.58 MHz = 48.4 dBµV (QP) 0.4 dB above limit
Diagram 2: 24.58 MHz = 49.5 dBµV (QP) 1.5 dB above limit

The measurement uncertainty for conducted emission is 2.6 dB. Due to the measurement uncertainty it can not be determined whit the full certainty that the test object is non compliant

Emissions below limit	—

Sign:….

Photo, Identity



Sign:….