

26

Petitioner's reference:
FEDERAL SIGNAL VAMA
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08339 – VILASSAR DE DALT
BARCELONA - SPAIN

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Page 1 of 8
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ELECTROMAGNETIC COMPATIBILITY

STANDARD: Directive 95/54/CE

TESTS:

- Radiated Emission (NB/BB).
- Radiated Immunity .

DEVICE UNDER TEST:

Manufacturer: FEDERAL SIGNAL CORPORATION
Devices: SMC16 SIGNAL MASTER CONTROLLER
Lot Control: 2010156

TEST SITE AND DATE:

Test product reception: 10/12/2001
Test initial date: 12/12/2001
Test final date: 17/01/2002
Test site: LGAI Technological Center

TEST RESULTS:

The equipment under test meet the requirements of the Directive 95/54/CE.
The results of the test are shown in detail on the following pages.

Authorised Signatory/ies

Date of issue: Bellaterra, 24/01/2002




Antoni Garriga i Roca
Manager of EMC Centre




Antoni Martin Ruiz
Technical Responsible

The test result is only valid for the equipment tested. A summary of the test report may be reproduced only when it is clearly that it is a summary, and the summary has been approved by LGAI by writing.

This document will not be reproduced otherwise than in full. This document consists of 8 pages



- 1 TEST REQUIREMENTS**
 - 1.1 Measuring equipment used
 - 1.2 DUT Operating Modes
 - 1.3 Measuring uncertainties

- 2. TEST RESULTS**
 - 2.1 Radiated Emission Test.
 - 2.2 Radiated Immunity Test.

- 3. TEST SET-UP**

1 TEST REQUIREMENTS

1.1 Measuring equipment used

Radiated Emission Test
Semianechoic chamber EUROSIELD model TC2 TEST CHAMBER.
Receiver EMI HP model 8542E.
Attenuator 3dB NARDA model 773-3 s/n: 111.
Bilogoperiodic antenna MESS-ELEKTRONIK model VULB 9165 s/n: 2010.
Antenna tower HD model MA 240T s/n: 240/458.
Powerline Filter (Single Fase) 100A – Mod: 23336C S/N:
Power Supply Technos Electronico, S.A. Mod: LN-1200/30 S/N: 0-0119704
LISN 70A MESS-ELEKTRONIK model NNBM 8126-A s/n: 8126-A/123 and 8126-A/122.
Computer system HP model KAYAK XM600 SERIES. S/N: FR10717868

Radiated immunity
Semianechoic chamber EUROSIELD model TC1 TEST CAMBER
Amplifier AR model 500A100M2 s/n: 21608
Amplifier AR model 500W1000M11 s/n: 21625
Power meter BOONTON model 4300 s/n: 93305EF
Power sensor BOONTON model 51013(4E) s/n: 29953 and 29954
Directional coupling AR model DC2600 s/n: 21755
Directional coupling AR model DC6180 s/n: 22077
Signal generator HP model HP8648D s/n: 3642U00189
Field intensity meter AR model FP3000A s/n: 21937
Logoperiodic antenna EMC AUTOMATION model LPD-1000-4-3 s/n: LPD98022
Powerline Filter (Single Fase) 100A – Mod: 23336C S/N:
Power Supply Technos Electronico, S.A. Mod: LN-1200/30 S/N: 0-0119704
LISN 70A MESS-ELEKTRONIK model NNBM 8126-A s/n: 8126-A/123 and 8126-A/122.
Biconical antenna EMCO model:3109XLP s/n:9712-3139

1.2 DUT Operating Modes

Voltage supply: 13.5VDC
DUT working in continuous mode.

1.3 Measuring Uncertainties

TEST	UNCERTAINTY
Radiated Emission Test	$\pm 4\text{dB}$
Radiated Immunity Test	$\pm 1\text{V/m}$

2. TEST RESULTS

2.1 Radiated Emissions Test

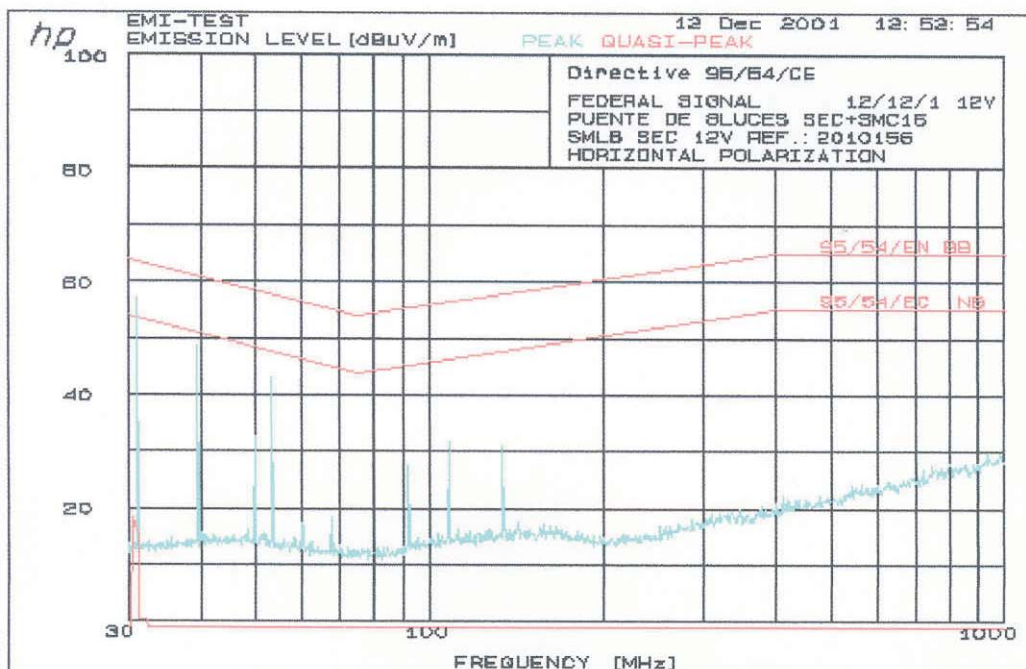
NB/BB emissions

BB (120kHz QP detector).

Polarisation: Horizontal and vertical.

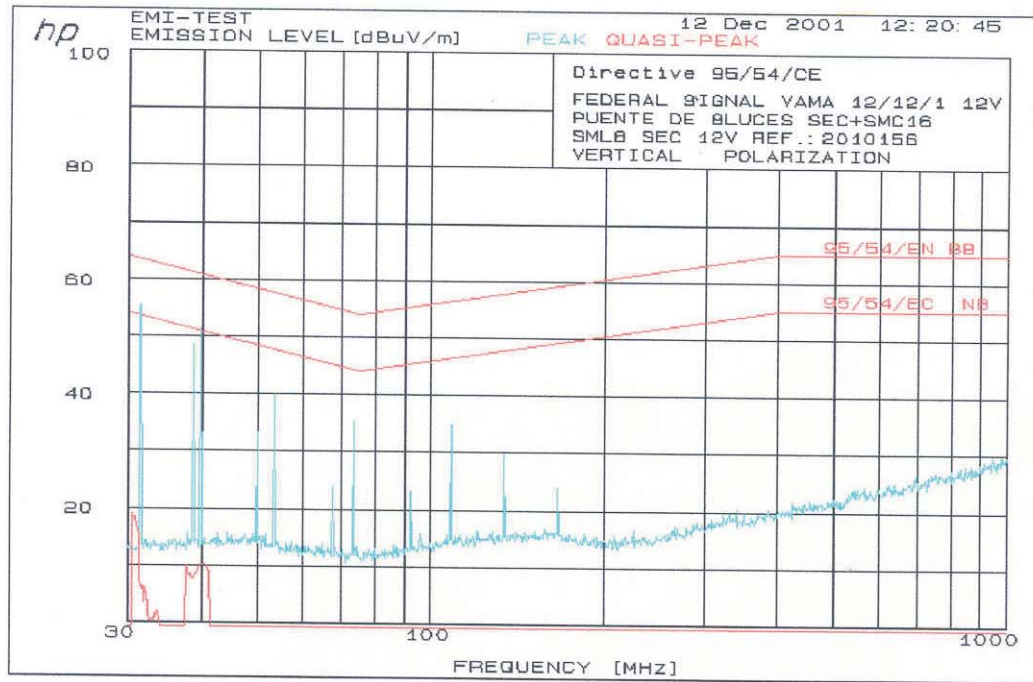
Device under test	Result
SMC16 SIGNAL MASTER CONTROLLER	PASS

Horizontal polarisation



Note: The electromagnetic emissions have been discriminated like broadband emission.

Vertical polarisation



Note: The electromagnetic emissions have been discriminated like broadband emission.

Radiated Immunity test

Test site	SAC1
Frequency range	20MHz – 1000MHz
Severity	30V/m
Modulation	AM 80% 1kHz
Polarisation	Horizontal and vertical

Device under test	Result
SMC16 SIGNAL MASTER CONTROLLER	PASS

Conformance criteria: The main performance of the device under test is remaining during the test.

3. Test set-up

