UNIVERSITA′ DEGLI STUDI DI PERUGIA
POLO SCIENTIFICO E DIDATTICO DI TERNI
Facoltà di Ingegneria

Laboratorio di Caratterizzazione Elettromagnetica

TEST REPORT
N° 099, Rev. 0

Equipment Under Test (EUT)

AMS02 Digital Data Recording System
USB –RS422 Interface

Model:QM
S./N:03

Produced by
CERN

OBJECT

TEST	REFERENCE DOCUMENTS
RF Radiated Energy Emission RE02, 14 kHz ÷ 15.5 GHz	**SSP30237 Rev.E**

Terni,_____

Realized by	Checked by	Approved by
P.I. Francesco Tissi	Ing. Antonio Faba	Prof. Ing. Ermanno Cardelli

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Attachments

Attachment I(4 pages): Photographic documentation.
Attachment II (5 pages): Results of radiated emissions tests.

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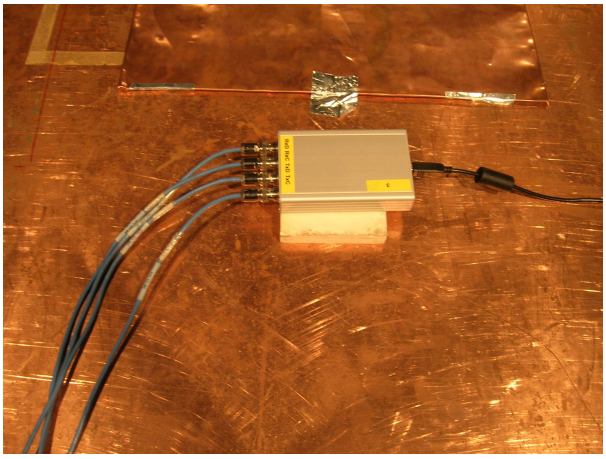
1. EUT



Picture 1,2:EUT and particular of test setup
The equipment under test (EUT) is the:
AMS02 Digital Data Recording System
USB –RS422 Interface
Model:QM
S./N:03
produced by
CERN(Geneva)
Customer:
INFN Perugia (Italy)
The EUT is powered by 5VDC USB Supply ; the nominal current is 130mA.
Figures 1 , 2 show EUT and the general setup of the test.
Table 1 reports all the common equipments / facilities used in all the tests.
Table 2 reports the requirements and the applicability of the tests.
The setup layout and the tests are realized in agreement with the customer and SSP 30237 Rev.E document.
Tab. 1: common equipments / facilities used in all the tests

Equipment	Manufacturer	Model	Serial Number	Calibration Due Date
Semi Anechoic Chamber	Siemens - Matsushita	Project 003-005-126/99° Contract 93-900736 12/1999 Design C62128-A0502-A59-1-7606	Product B83117-A1231-T161	22/03/2009

n.r.=not required

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Tab. 2: Requirements and applicability of the tests.

Test	Applicability
RF Radiated Energy Emission RE02, 14 kHz ÷ 15.5 GHz	Equipment

Tab3:Measeure setting table for radiated an conducted emission

Frequency Range	6 dB Bandwidth	Dwell Time	Minimum Measurement Time Analog Measurement Receiver
30 Hz – 1 kHz	10 Hz	0.15 sec	0.015 sec/Hz
1 kHz – 10 kHz	100 Hz	0.015 sec	0.15 sec/kHz
10 kHz – 150 kHz	1 kHz	0.015 sec	0.015 sec/kHz
150 kHz – 30 MHz	10 kHz	0.015 sec	1.5 sec/MHz
30 MHz – 1 GHz	100 kHz	0.015 sec	0.15 sec/MHz
Above 1 GHz	1 MHz	0.015 sec	15 sec/GHz

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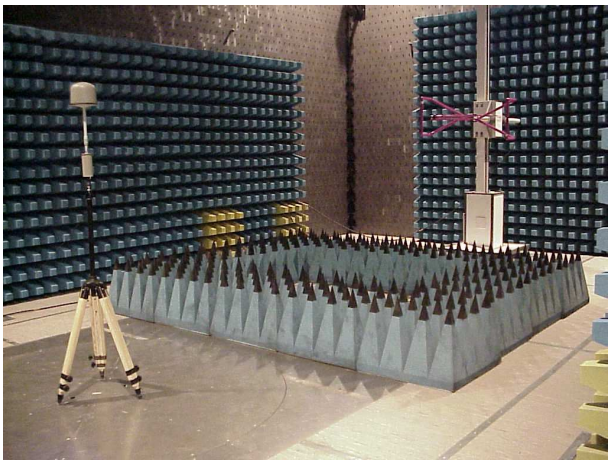
2. TEST SITE

The EMC tests have been performed with the Laboratory of Electromagnetic Characterization of the "Polo Scientifico e Didattico di Terni", University of Perugia, Faculty of Engineering, Via Pentima Bassa 21, 05100 Terni.



Semi–anechoic chamber:

- Dimensions: 9.15m x 8.00m x 5.55m.
- Turn Table capacity: 1000 kg.
- Automatic Mast for antenna movement.
- Electromagnetic absorbing material: ferrite.
- Frequency range for anechoic characteristics: 30 MHz to 1 GHz.
- Frequency range for shielding: 10 kHz to 18 GHz.

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3. RF RADIATED ENERGY EMISSION RE 02, 14 kHz ÷ 15.5 GHz

STANDARD: SSP30237 Rev.E

Scope

The scope of this test is to verify the radiated emissions (electric field) of the EUT in the frequency range from 14 kHz up to 15.5 GHz .

Test procedures

This test is performed in agreement with the requirements of follow document:

- SSP30237 Rev.E

The EUT is tested in operative condition.

Environmental Conditions

Temperature 16°C

Humidity 42%

Test equipment

Type	Manufacture	Model	Serial Number	Calibration Due Date
Spectrum Analyser	Agilent	E4407B	MY41441068	16/10/2007
Active Monopole Antenna	PMM	RA01	0020J41006	09/09/ 2007
Log - periodic antenna	Electro-metrics	EM-6950	848	04/12/ 2007
Bi - conical Antenna	Electro-metrics	EM-6912A	704	04/12/ 2007
Double Ridge Guide Horn Antenna	A.H. Systems	SAS-571	539	06/12/2007
Data Acquisition	Personal computer	–	–	n.r.

(n.r. = not required)

Results

GRAPHICAL PLOTS ARE VISIBLE IN ATTACHMENT II

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