



MARKING / FCC

**ELECTROMAGNETIC COMPATIBILITY
ELECTRICAL SAFETY
LASER SPECTROSCOPY
ENVIRONMENTAL PHYSIC**



Organizzazione con Sistema
di Gestione certificato
Company with Management
System certified

ISO 9001:2008



G.S.D. Srl PISA - Italy	Test Report n. FCC-12009B	Rev. 00
Applicant / Mailing		
EUT - Test Item Name	BlueBerry HF	
FCC Rules	Rule Part 15, Subpart B - Unintentional Radiators Class B Limits	
Testing Laboratory	G.S.D. S.r.l. Via Marmiceto, 8 - 56121 Ospedaletto Pisa (PI) Italy	
FCC listed	Id nr. 424037	
Location and Date of Issue	Pisa, 2012 November 20	
<p>G.S.D. s.r.l. Via Marmiceto, 8 56121 OSPEALETTO - PISA Tel. 050.984254 - Fax 050.984262 P. IVA 01343950505</p> <p>SENIOR EMC TEST MANAGER Dr. Gian Luca Genovesi </p> <p>QUALITY MANAGER Dr. David Pelliccia </p>		

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1. MANUFACTURER AND EUT IDENTIFICATION¹

Applicant	
Mailing	TERTIUM Technology S.r.l. Via G. B. Picotti, 8 56124 Pisa Italy
EUT Category	Unintentional Radiator
EUT - Test Item Name	BlueBerry HF
Date of reception	2012 May 08
Sampling	Laboratory sample for certification
Test Item Description	RFID Device
Nominal Voltage	3,7 Vdc Li-ion Batteries rechargeable batteries via micro USB

¹A detailed documentation is preserved in the internal fascicle.

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BlueBerry HF

MADE IN ITALY

tertiumtechnology.com



BBH-001001

5VDC === 500mA



Contains FCC ID : ED9LMX9838

FCC ID : Y6D-BBHF-RW020

*Fig. 1.1
Equipment Label*

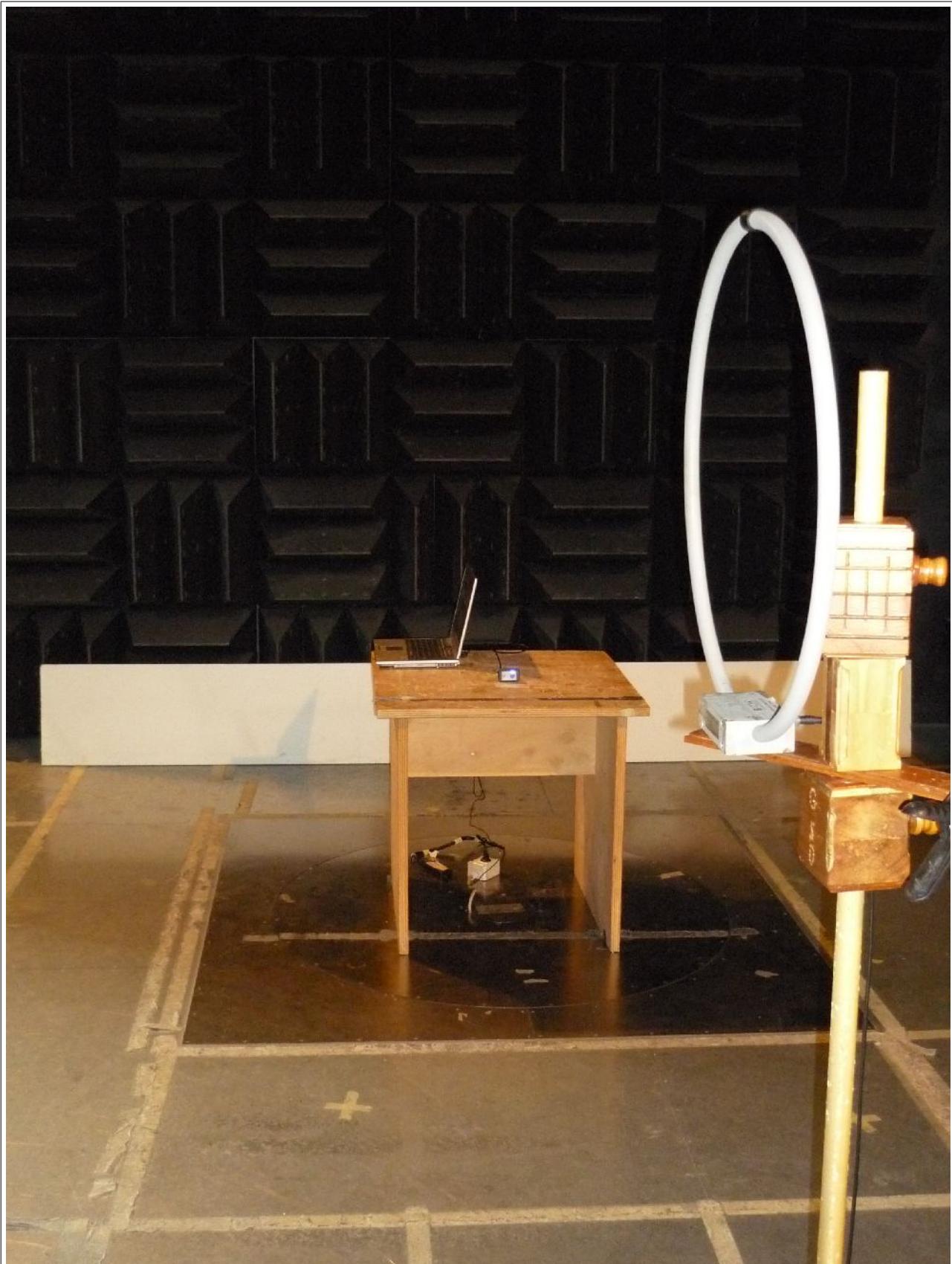


Fig. 1.2 Equipment Label Location

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2. REFERENCE STANDARDS

Tests and measurements are performed accordingly to the reference standards given in the table below:

TEST	STANDARD
Emissions: Radiated – Section 15.109	FCC Rules ad Regulations, Title 47 (2008) Part 15 – Sub part B ANSI C63.4 – American National Standard for Methods of Measuring of Radio-Noise Emissions from Low Voltage Electrical and Electronic Equipment in the Range of 9 kHz – 40 GHz
Emissions: Conducted – Section 15.107	FCC Rules ad Regulations, Title 47 (2008) Part 15 – Sub part B ANSI C63.4 – American National Standard for Methods of Measuring of Radio-Noise Emissions from Low Voltage Electrical and Electronic Equipment in the Range of 9 kHz – 40 GHz

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3. TEST GENERALITY
Sub-part 2.1033(b)
Test And Measurement Data
All tests and measurement data shown were performed in accordance with FCC Rules and Regulations, Volume II; Part 2 and the following individual Parts: 15.109; Unintentional Radiators
Standard Test Conditions and Engineering Practices
Except as noted herein, the following conditions and procedures were observed during the testing: In accordance with ANSI C63.4-2004, and unless otherwise indicated in the specific measurement results, the ambient temperature of the actual EUT was maintained within the range of 10° to 40°C (50° to 104 °F) unless the particular equipment requirements specify testing over a different temperature range. Also, unless otherwise indicated, the humidity levels were in the range of 10% to 90% relative humidity.
Prior to testing, the EUT was tuned up in accordance with the manufacturer's alignment procedures.
All external gain controls were maintained at the position of maximum and/or optimum gain throughout the testing.
Measurement results, unless otherwise noted, are worst-case measurements.

Summary of Test Results

TEST	RESULT
<i>Emissions: radiated</i> Section 15.109	<i>Pass</i>
<i>Emissions: conducted</i> Section 15.107	<i>Pass</i>

Measurement uncertainty

TEST	EXPANDED UNCERTAINTY
Conducted Emission – 50Ω/50µH AMN (150 kHz - 30 MHz)	± 3.5 dB
Radiated Emission – (OATS) (30 MHz - 6 GHz)	± 4.7 dB

Climatic Conditions

PARAMETER	VALUE
Temperature	(293 – 3) K
Relative humidity	(50 – 5) %

Extensions

The results refer only to the sampled EUT and under the specified conditions.

4. CONDUCTED EMISSIONS.

Equipment shall meet the limits below when using a CISPR16 quasi-peak and average detector receivers.

FREQUENCY RANGE (MHz)	QUASI-PEAK LIMIT [dB(IV)]	AVERAGE LIMIT [dB(IV)]
0.15 - 0.50	66÷56	56÷46
0.50 - 5	56	46
5 - 30	60	50

(*) Decreases with the logarithm of the frequency

Test Equipment

EQUIPMENT	MANUFACTURER	MODEL	CAL. DUE
EMI Receiver	HP	8546A	01/2013
Transient Limiter	HP	11947A	01/2013
LISN	GSD	LSN001	01/2013

Test procedure: CE22R01

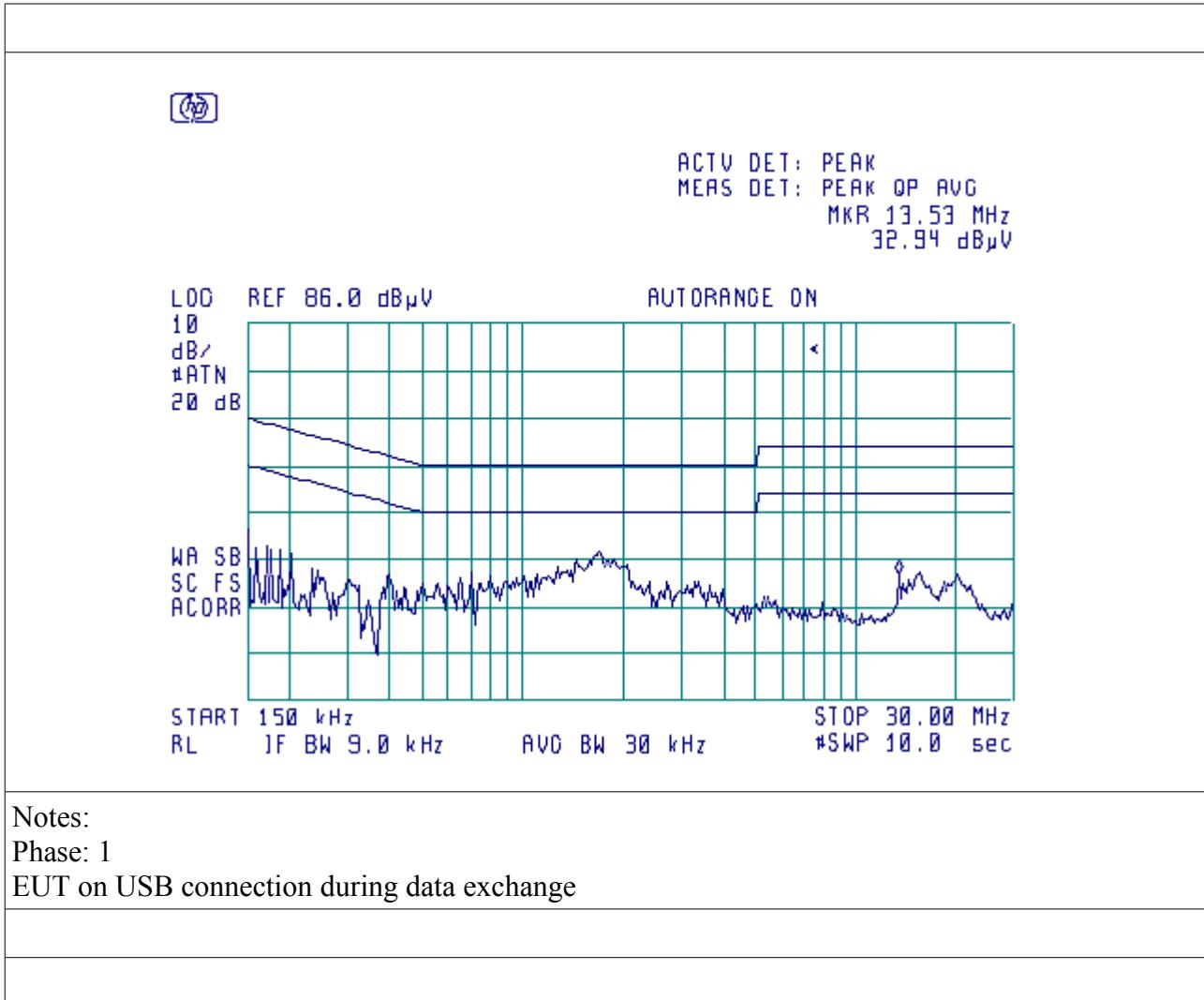
Test method

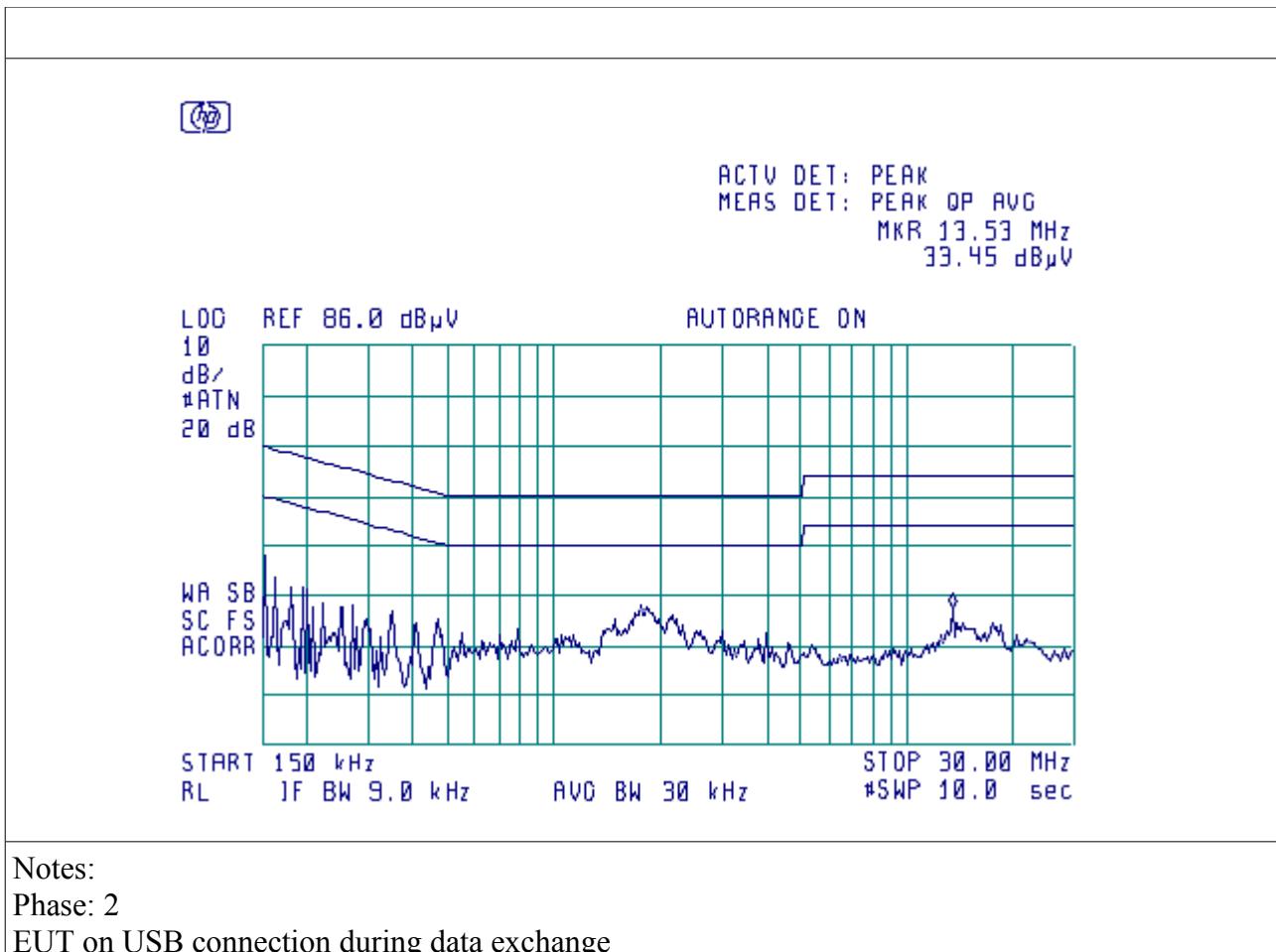
Test method was in accordance with the reference standard.

EUT modes of operations were tested in order to achieve the maximum level of emission.

Results

Graphics in following figures show some registrations of the frequency spectrum of the conducted emissions.





Notes:

Phase: 2

EUT on USB connection during data exchange

Table of worst-case emissions (*)

Frequency (MHz)	Peak (dB μ V)	Quasi-peak (dB μ V)	Limit Quasi-peak (dB μ V)	Average (dB μ V)	Limit Average (dB μ V)
1,7	38,1		56		46
2,05	35,7		56		46
0,2	37,8		63,6		53,6
0,18	38,4		64,5		54,5
0,17	39,3		65		55
0,16	39		65,5		55,5

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5. RADIATED EMISSIONS

In the following table you can find the limits established by the reference standard:

FREQUENCY RANGE (MHz)	Field Strength QUASI-PEAK LIMITS [dB (IV/m)]
30 88	40
88 216	43,5
216 960	46
Above 960	54

Test Equipment

EQUIPMENT	MANUFACTURER	MODEL	CAL. DUE
EMI Receiver	HP	HP8546A	01/2013
Semianechoic Room	GSD	CSC01	01/2013
Bilog Antenna	Schaffner	CBL6112B	01/2013
LISN	GSD	LSN01	01/2013

Test procedure: RE22R02

Notes

Azimuth position EUT-Antenna corresponding to 0° identifies the rotating table orientation (TT) in which the instrument to be tested shows the front part turned towards the antenna. Positive grades individuate clockwise rotations of TT when this one is observed from the top. For negative degrees, TT rotation is anticlockwise.

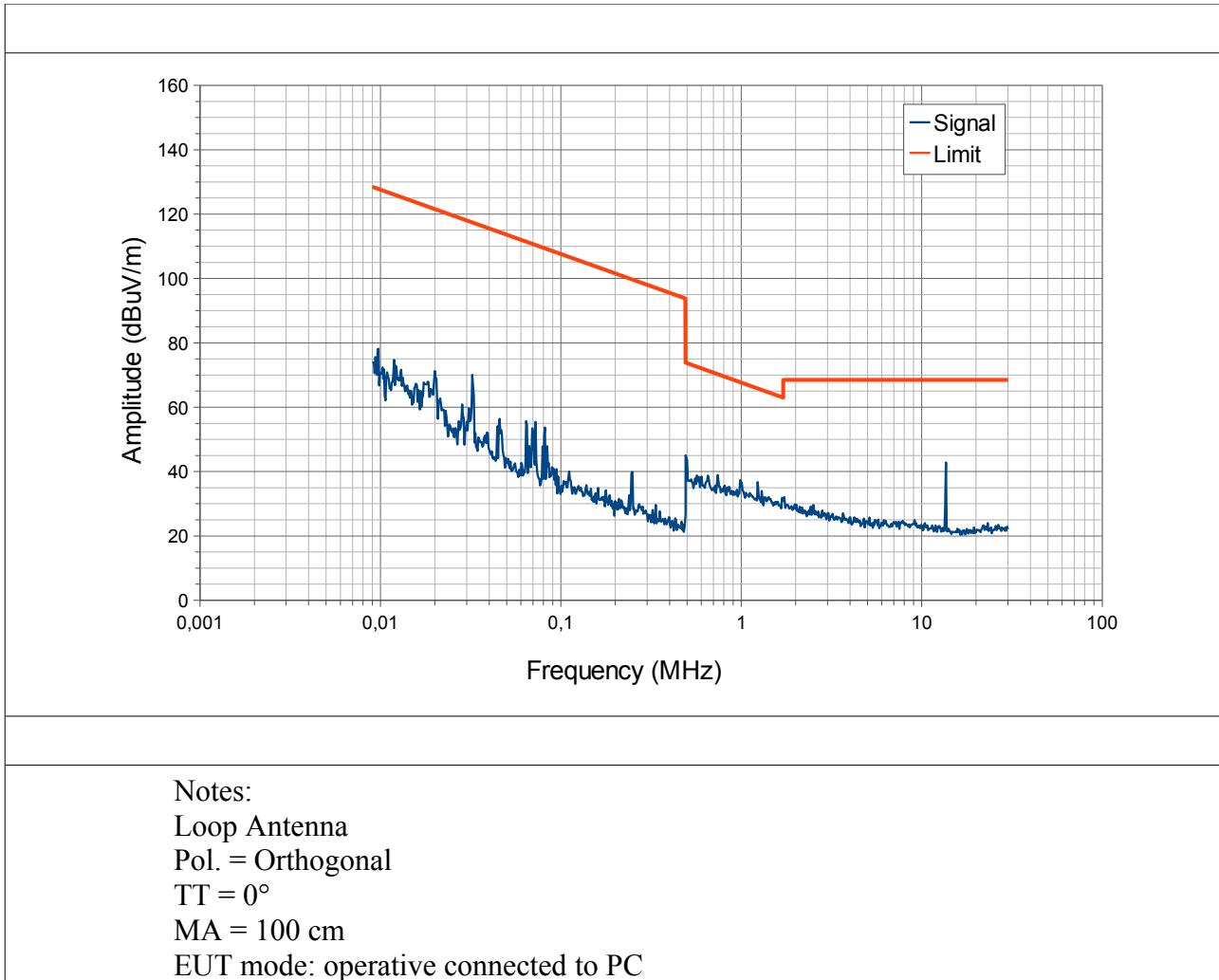
Antenna height respect to the mass plane is conventionally individuated with: MA=XXX where XXX indicates the height (always positive for e>100) expressed in cm.

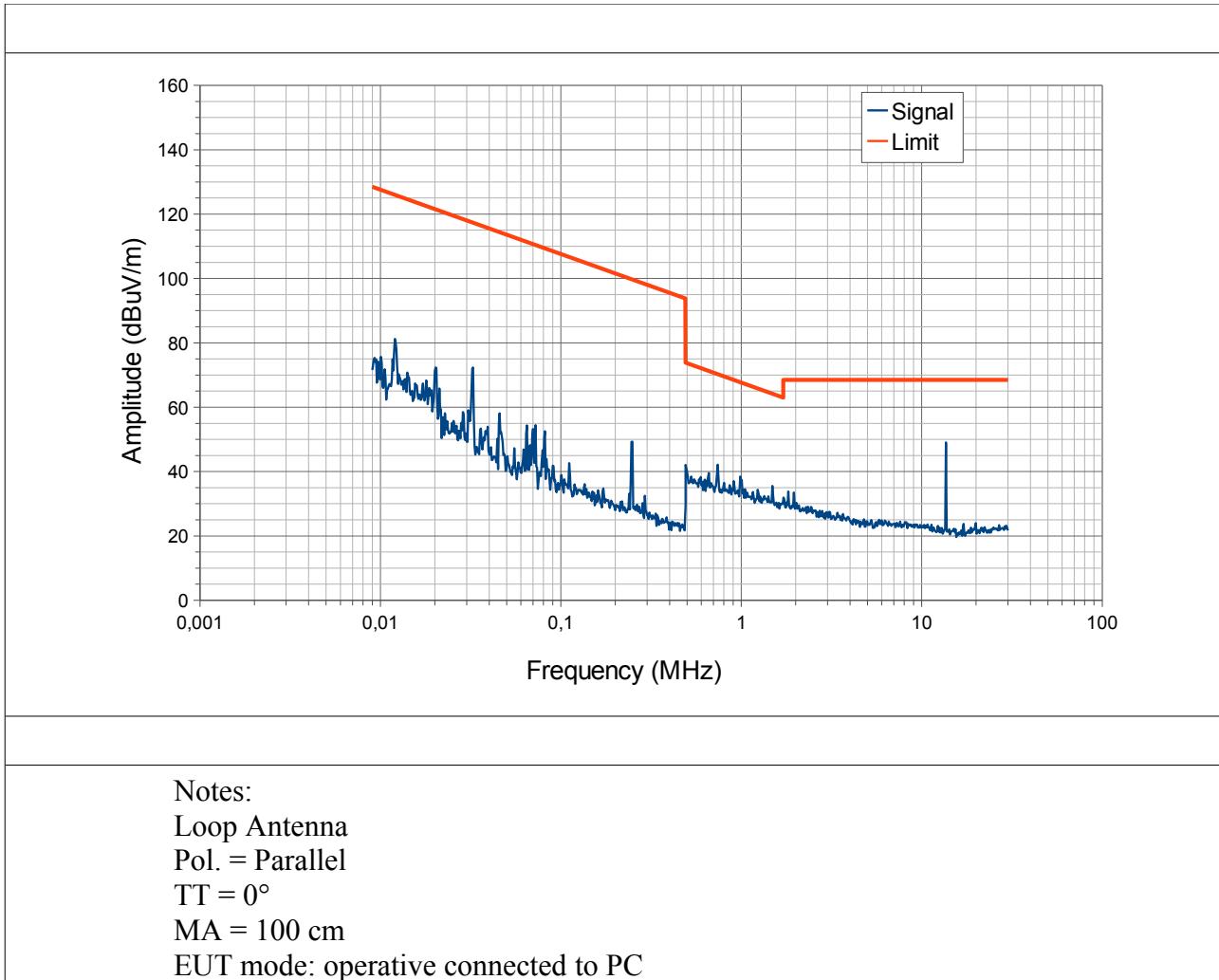
Antenna horizontal polarization is indicated by POL=H.

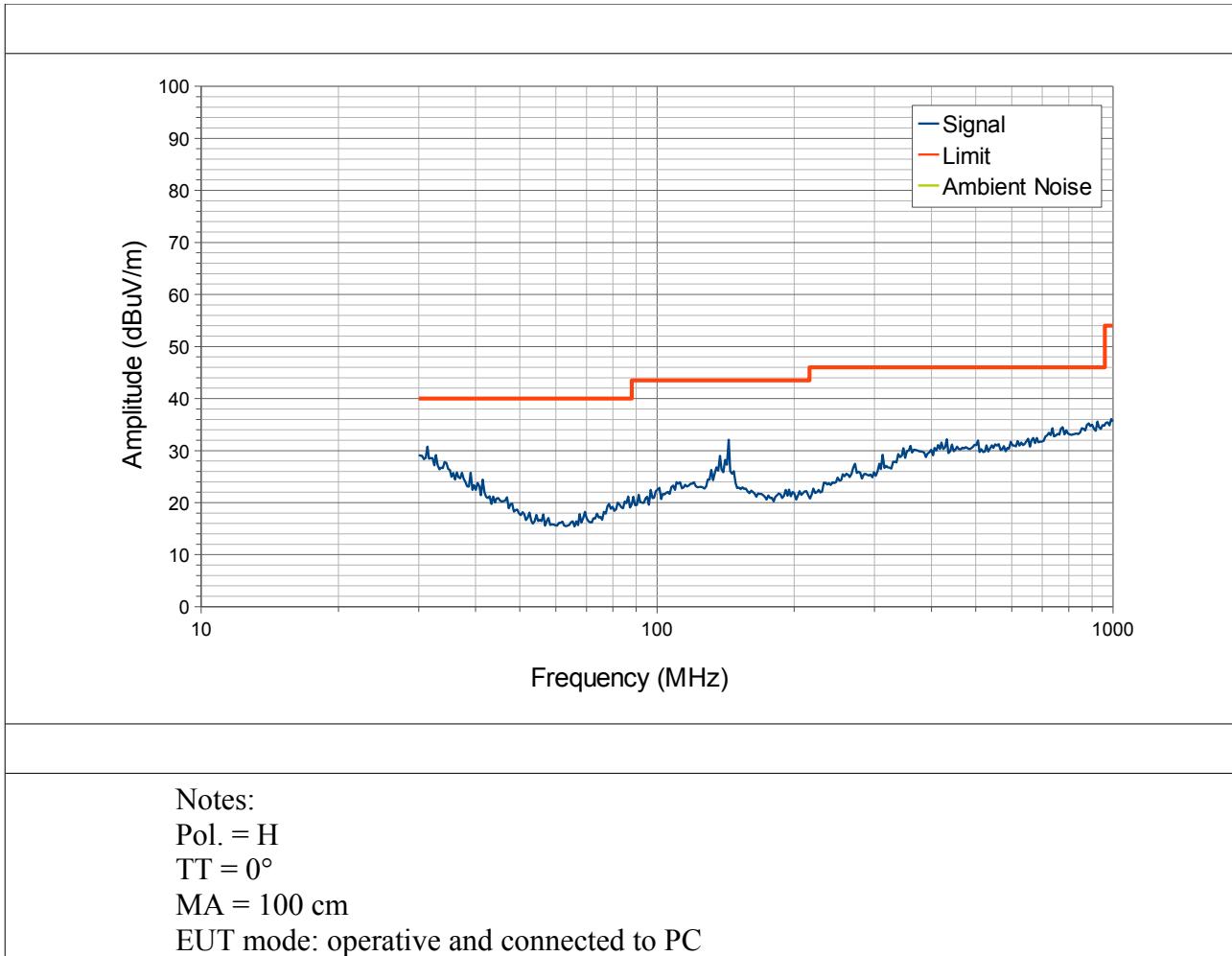
Antenna vertical polarization is indicated by POL=V.

Results and conclusions

In all the operative conditions, equipment complied with the standard limits. Graphics in following figures show the most significant registrations of the performed measurements.







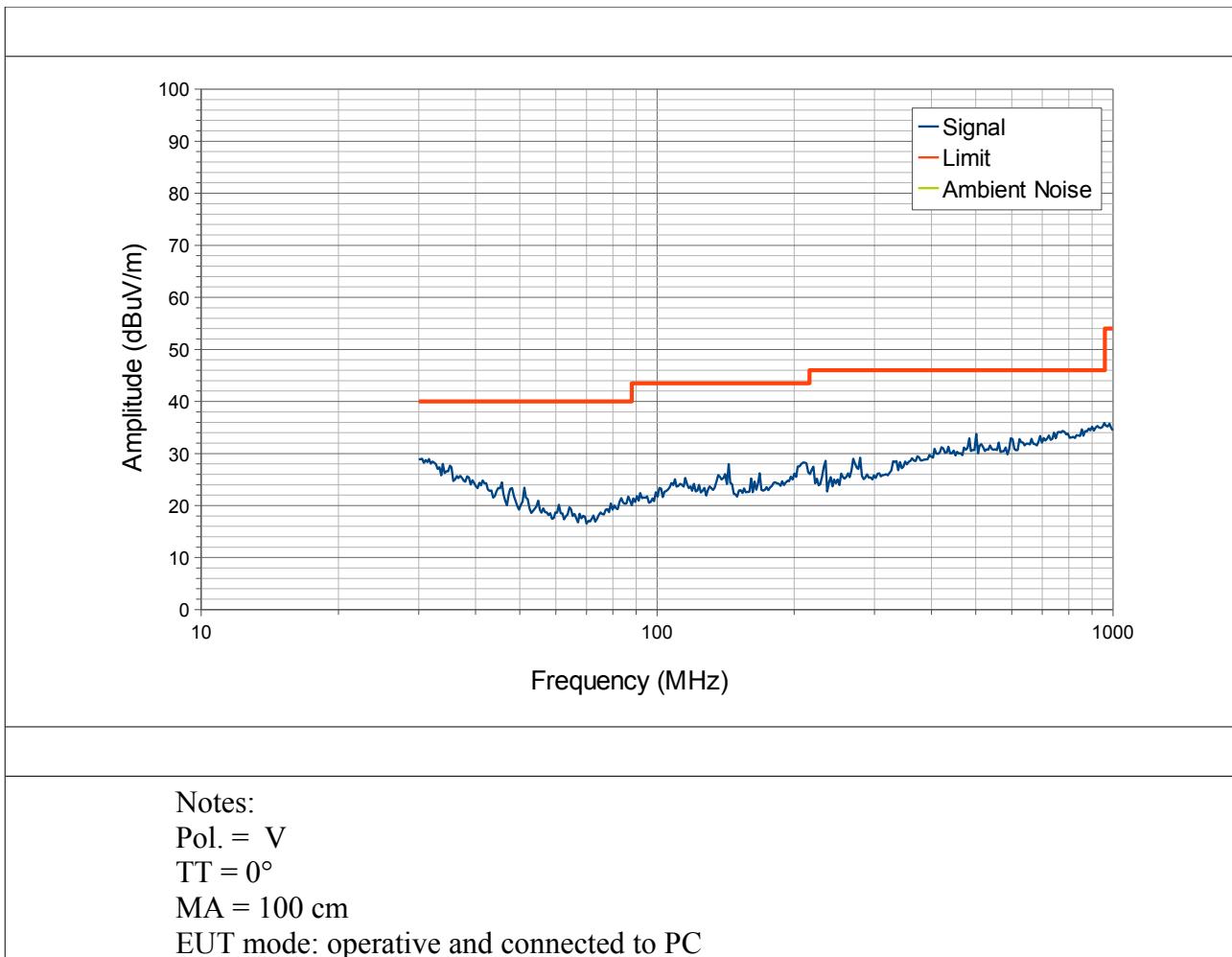


Table of worst case results:

Frequency (MHz)	Intensity (dBuV/m)	Polarization
0,016	80,9	Parallel
0,021	71,6	Parallel
0,032	73,1	Parallel
0,046	58,5	Parallel
0,253	47,3	Parallel
13,560	49,9	Parallel

6. PHOTO



*Fig. 6.1
Equipment Under Test: Conducted Emissions Test Set-up*

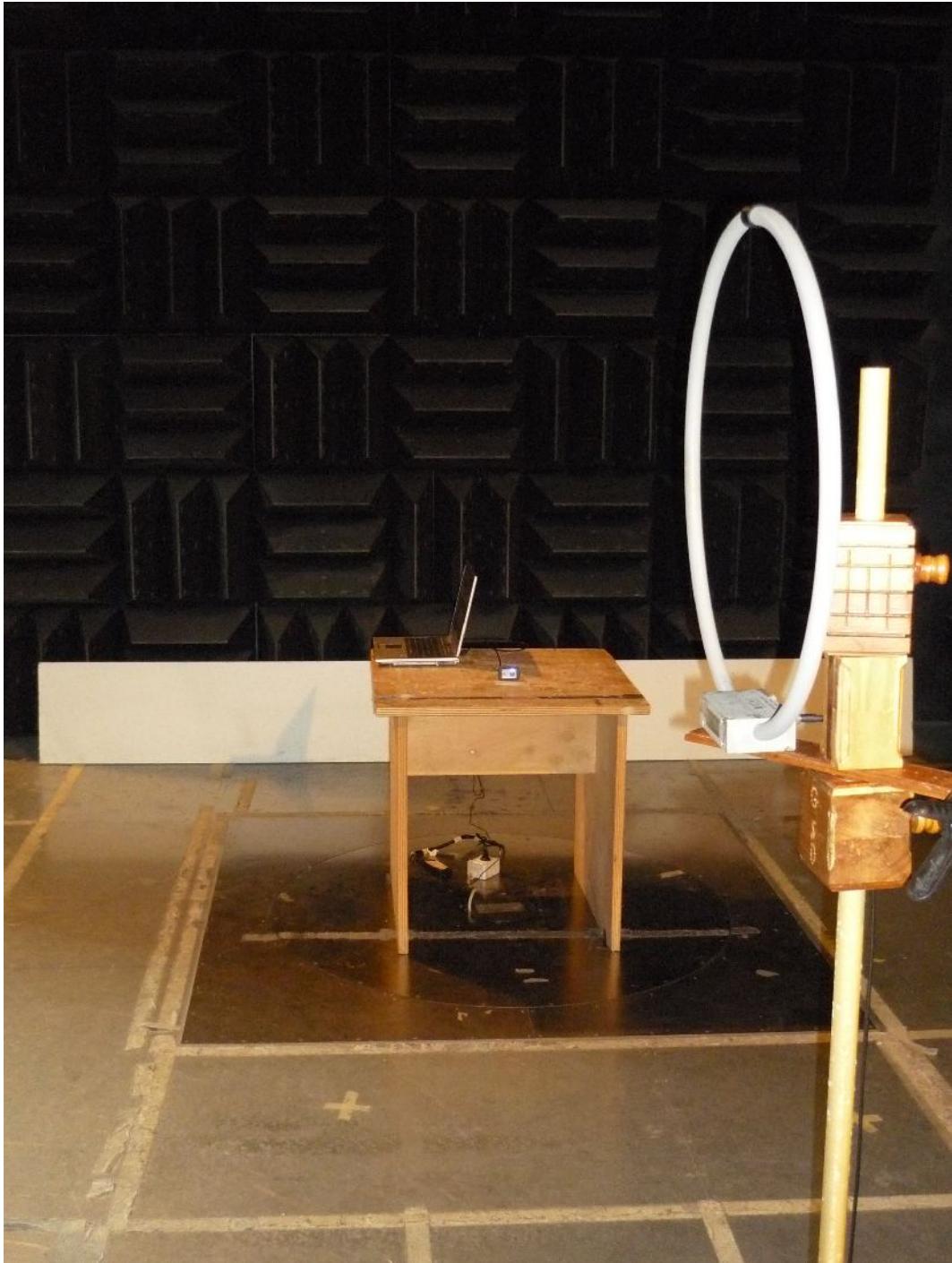


Fig. 6.1

Equipment Under Test: Radiated Emissions Test Set-up