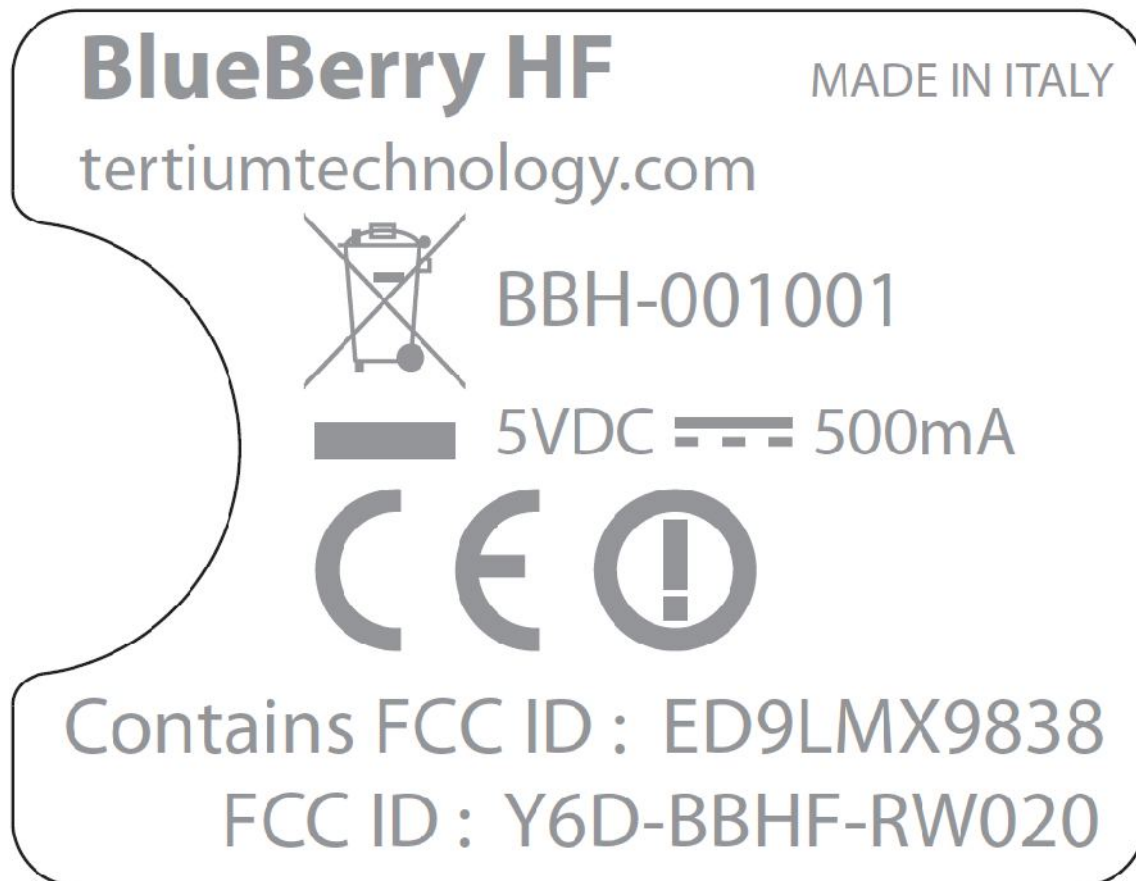


		 <b>MARKING / FCC</b> ELECTROMAGNETIC COMPATIBILITY ELECTRICAL SAFETY LASER SPECTROSCOPY ENVIRONMENTAL PHYSIC				Organizzazione con Sistema di Gestione certificato Company with Management System certified ISO 9001:2008 	
<b>G.S.D. Srl</b> <b>PISA - Italy</b>		<b>Test Report n. FCC-12009B</b>		Rev. 00			
<b>Applicant / Mailing</b>							
<b>EUT - Test Item Name</b>		<b>BlueBerry HF</b>					
<b>FCC Rules</b>		Rule Part 15, Subpart B - Unintentional Radiators Class B Limits					
<b>Testing Laboratory</b>		<b>G.S.D. S.r.l.</b> Via Marmiceto, 8 - 56121 Ospedaletto Pisa (PI) Italy					
<b>FCC listed</b>		<b>Id nr. 424037</b>					
<b>Location and Date of Issue</b>		Pisa, 2012 November 20					
<div style="text-align: center;"> <b>G.S.D. s.r.l.</b>          Via Marmiceto, 8          56121 OSPEDALETTO - PISA          Tel. 050.984254 - Fax 050.984262          P. IVA 01343950505       </div> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="text-align: center;">         SENIOR EMC TEST MANAGER  <i>Dr. Gian Luca Genovesi</i>   </div> <div style="text-align: center;">         QUALITY MANAGER  <i>Dr. David Pelliccia</i>   </div> </div>							

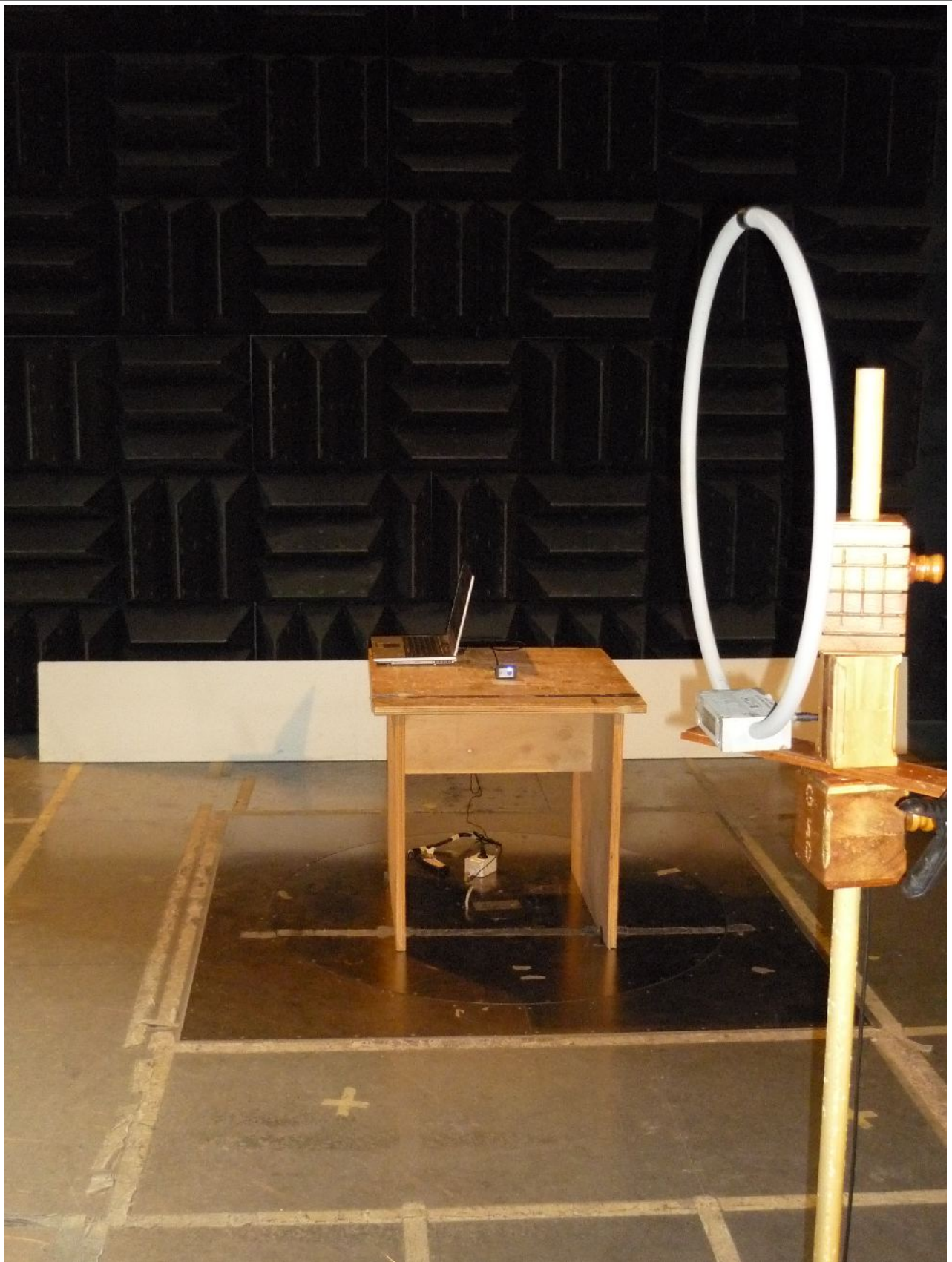
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<b>1. MANUFACTURER AND EUT IDENTIFICATION<sup>1</sup></b>	
<b>Applicant</b>	
<b>Mailing</b>	<b>TERTIUM Technology S.r.l.</b> Via G. B. Picotti, 8 56124 Pisa Italy
<b>EUT Category</b>	<b>Unintentional Radiator</b>
<b>EUT - Test Item Name</b>	<b>BlueBerry HF</b>
<b>Date of reception</b>	<b>2012 May 08</b>
<b>Sampling</b>	<b>Laboratory sample for certification</b>
<b>Test Item Description</b>	<b>RFID Device</b>
<b>Nominal Voltage</b>	<b>3,7 Vdc Li-ion Batteries rechargeable batteries via micro USB</b>

<sup>1</sup>A detailed documentation is preserved in the internal fascicle.



*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:

<i>TEST</i>	<i>STANDARD</i>
Emissions: Radiated – Section 15.109	FCC Rules and 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 and 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

<b>3. TEST GENERALITY</b>
<b>Sub-part 2.1033(b)</b>
<b>Test And Measurement Data</b>
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
<b>Standard Test Conditions and Engineering Practices</b>
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.

<u>Summary of Test Results</u>	
<i>TEST</i>	<i>RESULT</i>
<i>Emissions: radiated</i> <i>Section 15.109</i>	<i>Pass</i>
<i>Emissions: conducted</i> <i>Section 15.107</i>	<i>Pass</i>
<u>Measurement uncertainty</u>	
<i>TEST</i>	<i>EXPANDED UNCERTAINTY</i>
Conducted Emission – 50Ω/50μH AMN (150 kHz - 30 MHz)	± 3.5 dB
Radiated Emission – (OATS) (30 MHz - 6 GHz)	± 4.7 dB
<u>Climatic Conditions</u>	
<i>PARAMETER</i>	<i>VALUE</i>
Temperature	(293   3) K
Relative humidity	(50   5) %
<u>Extensions</u>	
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.

<b>FREQUENCY RANGE</b> (MHz)	<b>QUASI-PEAK LIMIT</b> [dB(μV)]	<b>AVERAGE LIMIT</b> [dB(μV)]
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

<b>EQUIPMENT</b>	<b>MANUFACTURER</b>	<b>MODEL</b>	<b>CAL. DUE</b>
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.

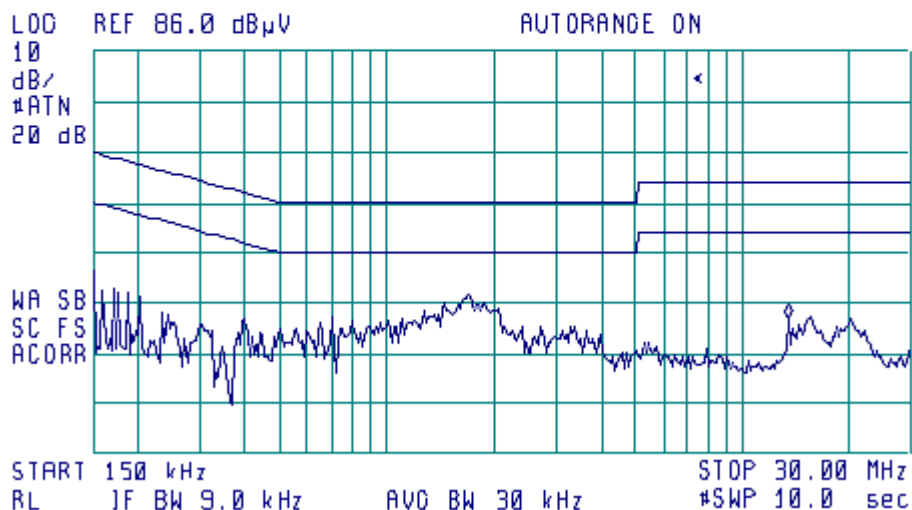
EUT modes of operations were tested in order to achieve the maximum level of emission.

Results

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



ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR 13.53 MHz  
32.94 dBμV



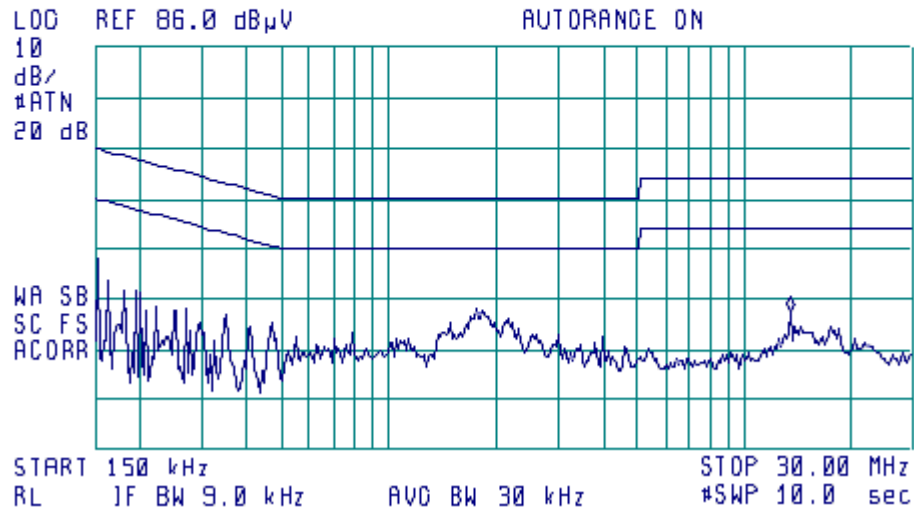
Notes:

Phase: 1

EUT on USB connection during data exchange



ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR 13.53 MHz  
33.45 dBμV



Notes:  
Phase: 2  
EUT on USB connection during data exchange

Table of worst-case emissions (\*)

Frequency (MHz)	Peak (dBuV)	Quasi-peak (dBuV)	Limit Quasi-peak (dBuV)	Average (dBuV)	Limit Average (dBuV)
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

**5. RADIATED EMISSIONS**

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

<b>FREQUENCY RANGE (MHz)</b>	<b><i>Field Strenght</i> QUASI-PEAK LIMITS [dB (V/m)]</b>
30 88	40
88 216	43,5
216 960	46
Above 960	54

Test Equipment

<b>EQUIPMENT</b>	<b>MANUFACTURER</b>	<b>MODEL</b>	<b>CAL. DUE</b>
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: RE22R02Notes

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.

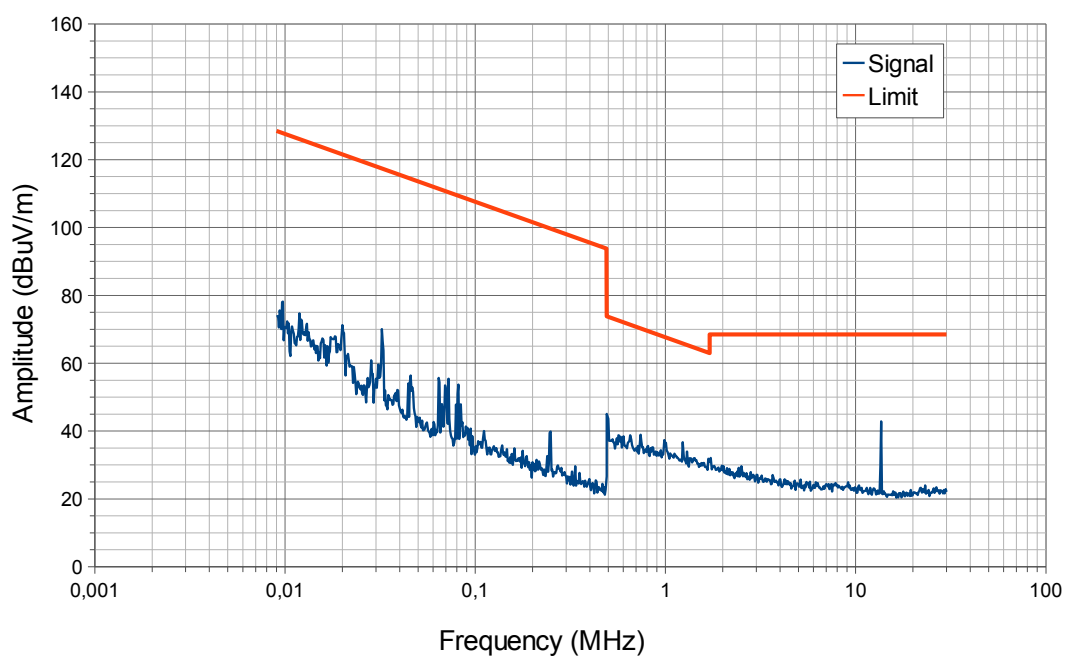
Antenna height respect to the mass plane is conventionally individuated with: MA=XXX where XXX indicates the height (always positive for  $e > 100$ ) expressed in cm.

Antenna horizontal polarization is indicated by POL=H.

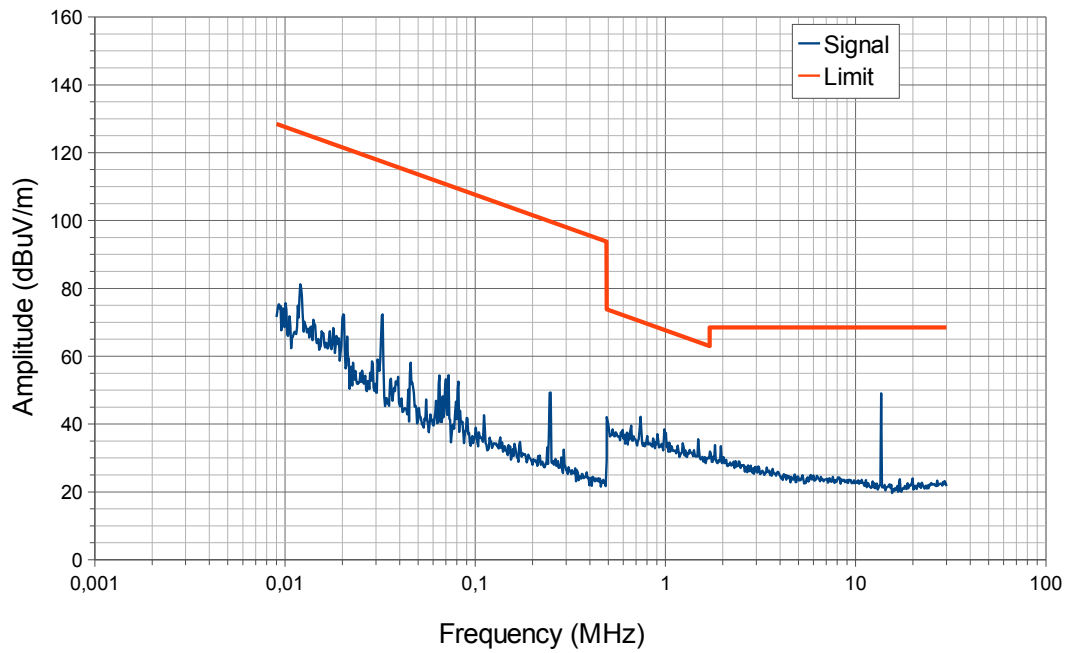
Antenna vertical polarization is indicated by POL=V.

Results and conclusions

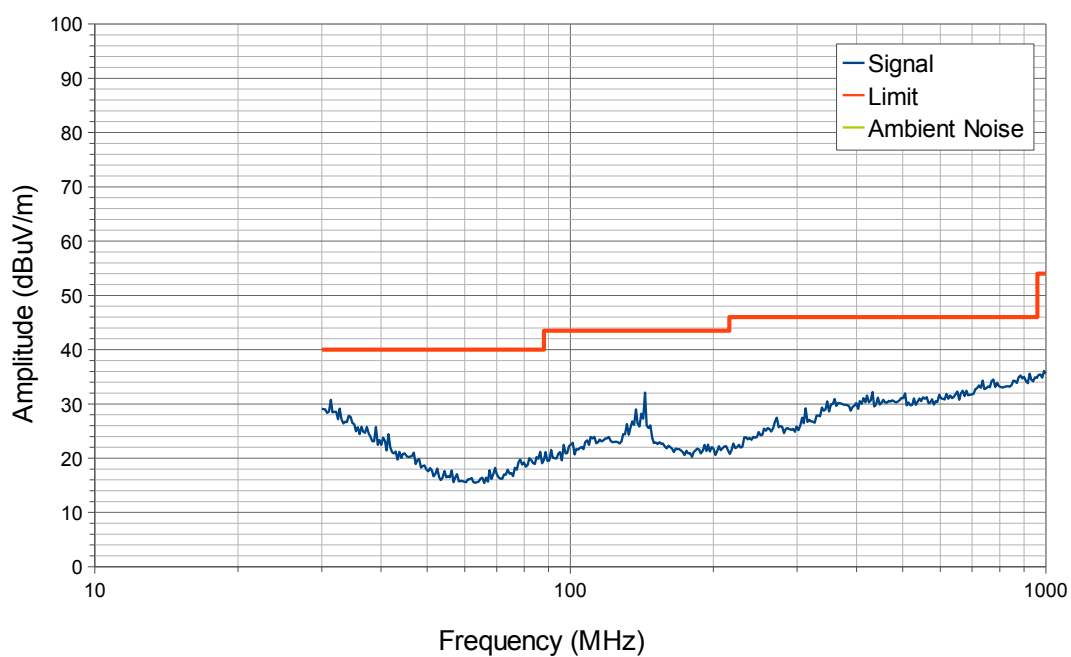
In all the operative conditions, equipment complied with the standard limits. Graphics in following figures show the most significant registrations of the performed measurements.



Notes:  
Loop Antenna  
Pol. = Orthogonal  
TT = 0°  
MA = 100 cm  
EUT mode: operative connected to PC



Notes:  
Loop Antenna  
Pol. = Parallel  
TT = 0°  
MA = 100 cm  
EUT mode: operative connected to PC



Notes:

Pol. = H

TT = 0°

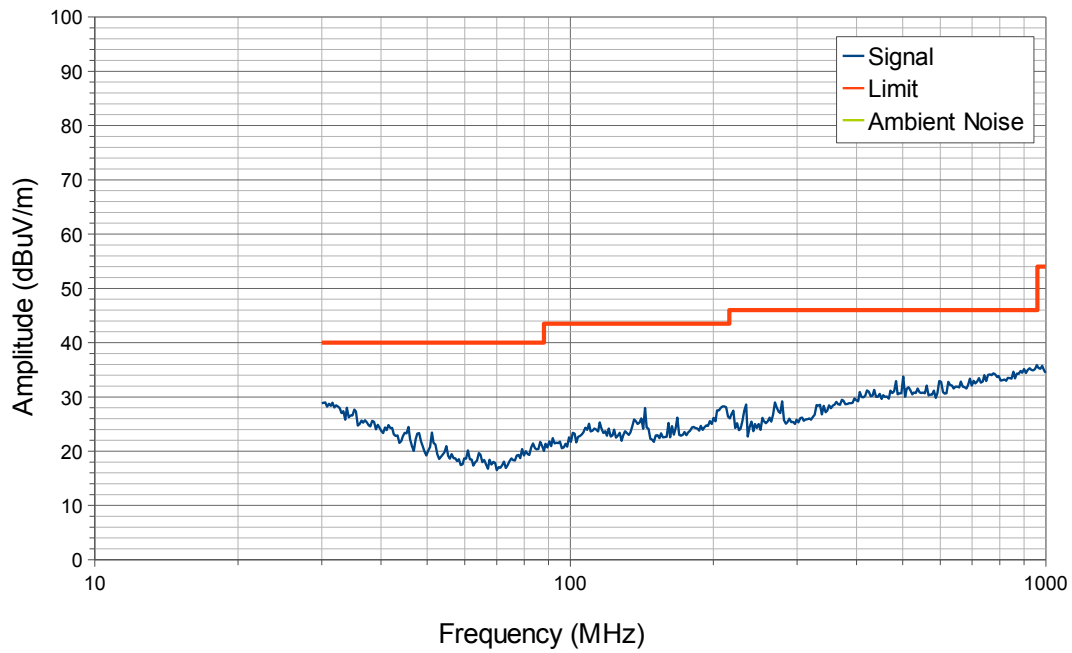
MA = 100 cm

EUT mode: operative and connected to PC

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Notes:  
 Pol. = V  
 TT = 0°  
 MA = 100 cm  
 EUT mode: operative and connected to PC

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

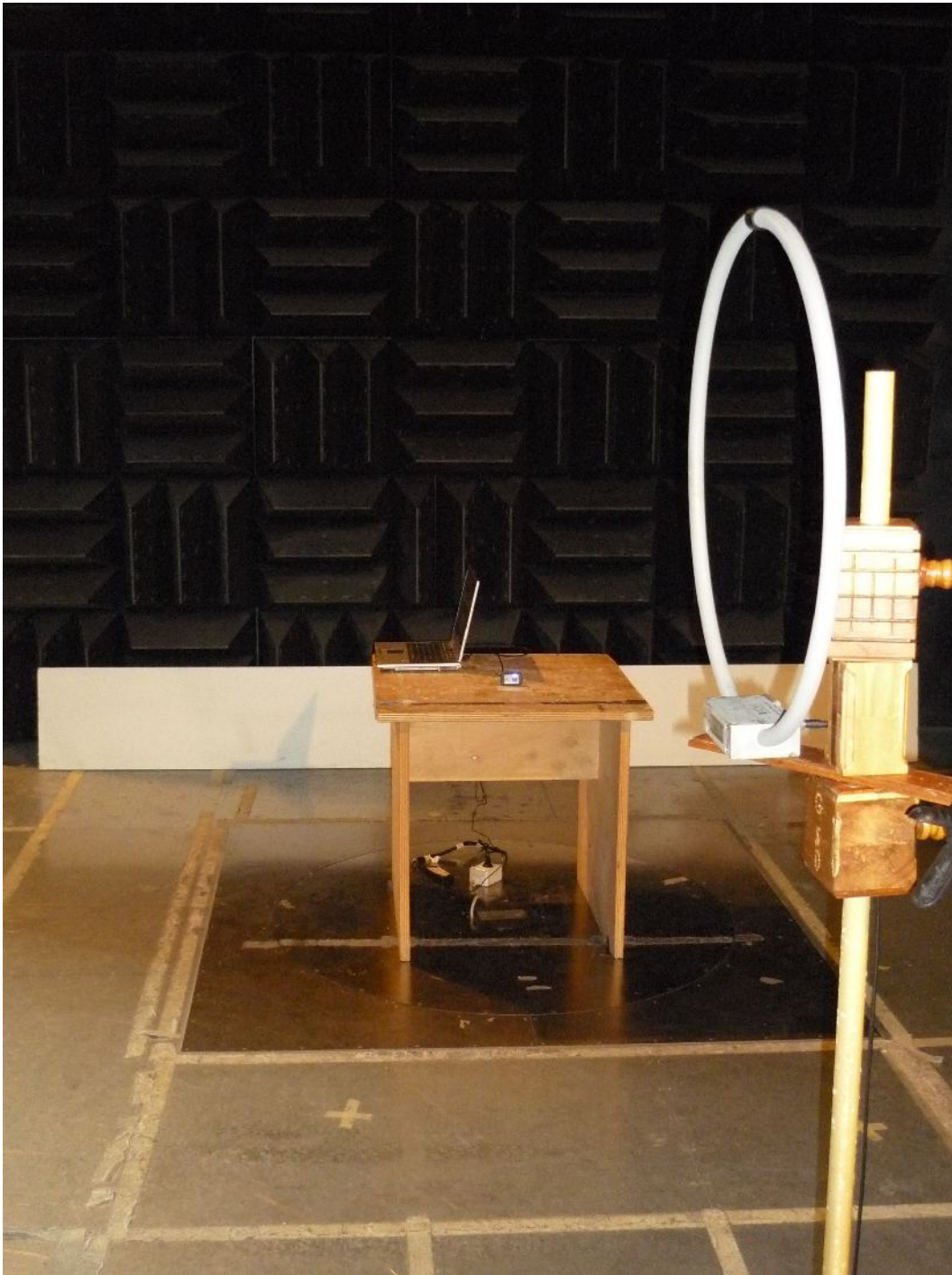


**6. PHOTO**



*Fig. 6.1*

*Equipment Under Test: Conducted Emissions Test Set-up*



*Fig. 6.1*

*Equipment Under Test: Radiated Emissions Test Set-up*