

		Organizzazione con Sistema di Gestione certificato Company with Management System certified ISO 9001:2008 	
G.S.D. Srl PISA - Italy		Test Report n. FCC-13226		Rev. 00			
Applicant / Mailing		CUSTOM ENGINEERING SPA Via Berettine,2 43010 Fontevivo, Parma Italy					
EUT - Test Item Name		MY3					
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, 2013 November 13					
<p> G.S.D. s.r.l. Via Marmiceto, 8 56121 OSPEDALETTO - PISA Tel. 050.984254 - Fax 050.984262 P. IVA 01343950505 </p>							
SENIOR EMC TEST MANAGER Dr. Gian Luca Genovesi 				QUALITY MANAGER Dr. David Pelliccia 			

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1. MANUFACTURER AND EUT IDENTIFICATION¹	
Applicant	CUSTOM ENGINEERING SPA Via Berettine,2 43010 Fontevivo, Parma Italy
Mailing	CUSTOM ENGINEERING SPA Via Berettine,2 43010 Fontevivo, Parma Italy
EUT Category	Unintentional Radiator
EUT - Test Item Name	MY3
Date of reception	2013 June 08
Date of test	2013 June 08
Sampling	Laboratory sample for certification
Test Item Description	Laser Printer
Nominal Output Voltage	DC 5V

¹A detailed documentation is preserved in the internal fascicle.



*Fig. 1.1
Equipment Label*



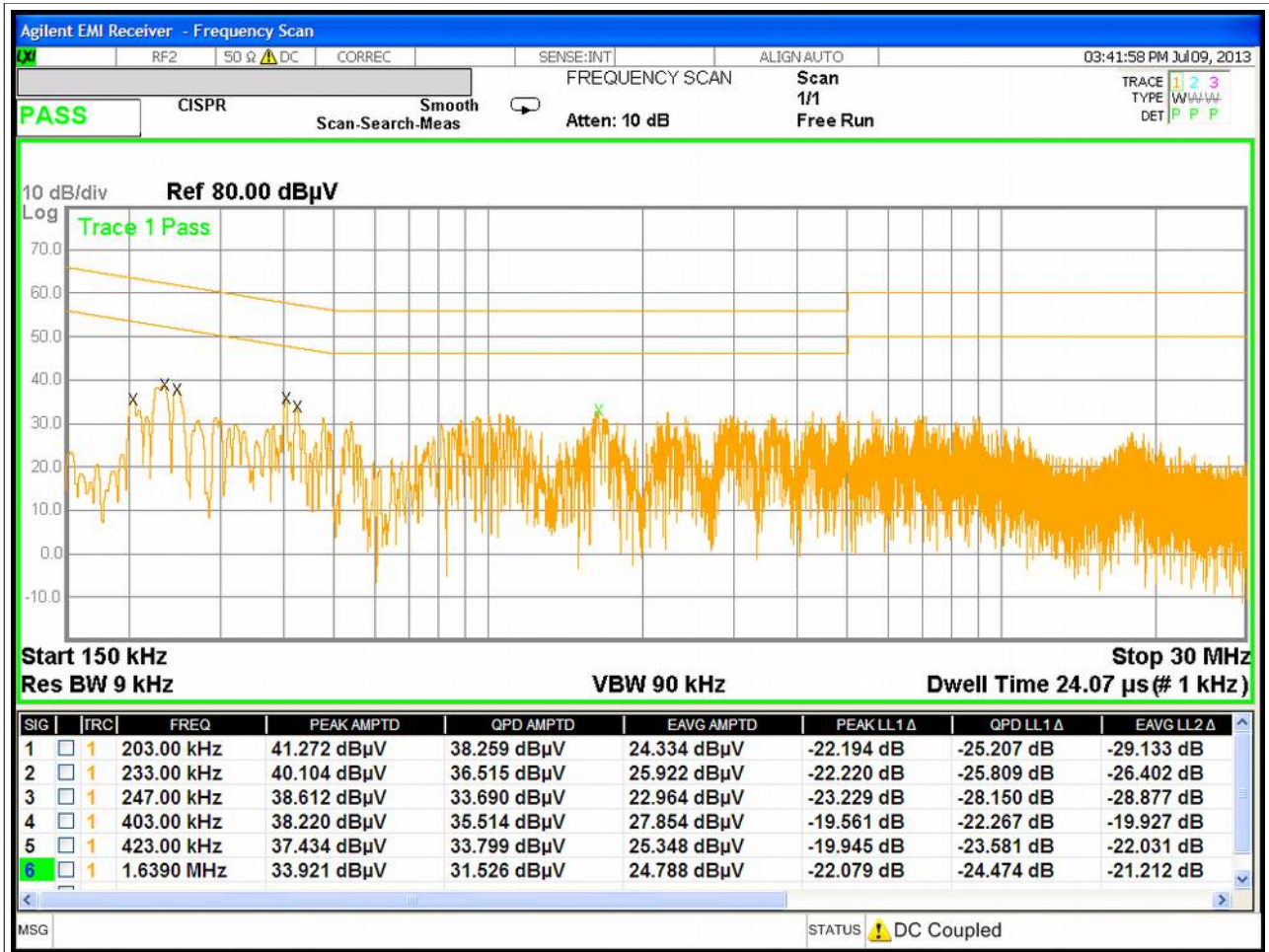
*Fig. 1.2
Equipment under Test*

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 ad Regulations, Title 47 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

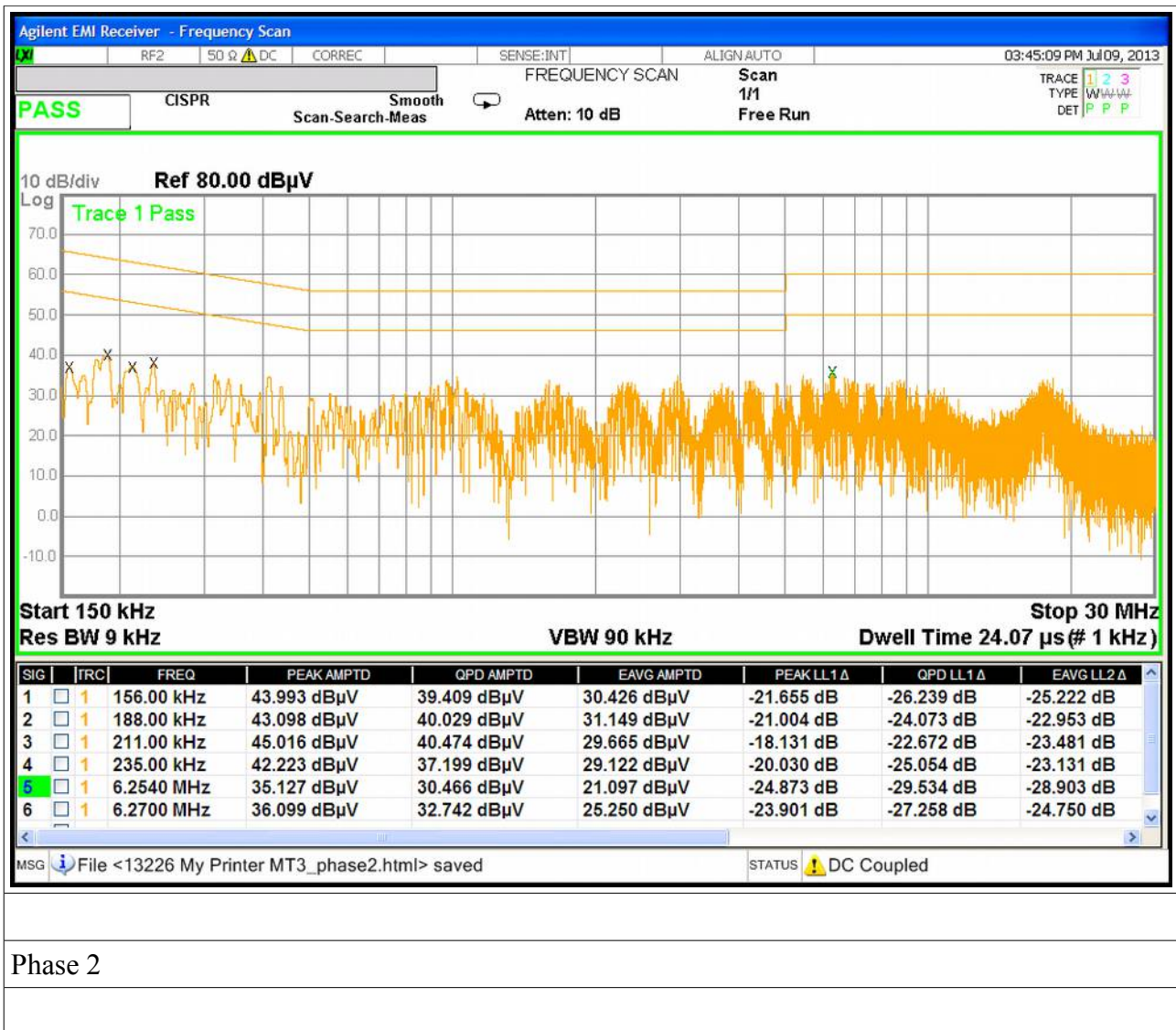
3. TEST GENERALITY
Sub-part 2.1033(b)
Test And Measurement Data
All tests and measurement data shown were performed in accordance with FCC Rules and Regulations, Volume II; Part 2 and the following individual Parts: 15.109; Unintentional Radiators
Standard Test Conditions and Engineering Practices
Except as noted herein, the following conditions and procedures were observed during the testing: In accordance with ANSI C63.4-2009, 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 Section 15.109</i>	<i>Pass</i>
<i>Emissions: conducted 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.	
Clock Frequencies:	
Max Frequency: 96 MHz	
Min Frequency: 20 kHz	

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(μV)]	AVERAGE LIMIT [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			
<u>Test Equipment</u>			
EQUIPMENT	MANUFACTURER	MODEL	CAL. DUE
EMI Receiver	HP	8546A	01/2014
Transient Limiter	HP	11947A	01/2014
LISN	GSD	LSN001	01/2014
<u>Test procedure:</u> CE22R01			
<u>Test method</u>			
Test method was in accordance with the reference standard.			
EUT modes of operations were tested in order to achieve the maximum level of emission.			
<u>Results</u>			
Graphics in following figures show some registrations of the frequency spectrum of the conducted emissions.			

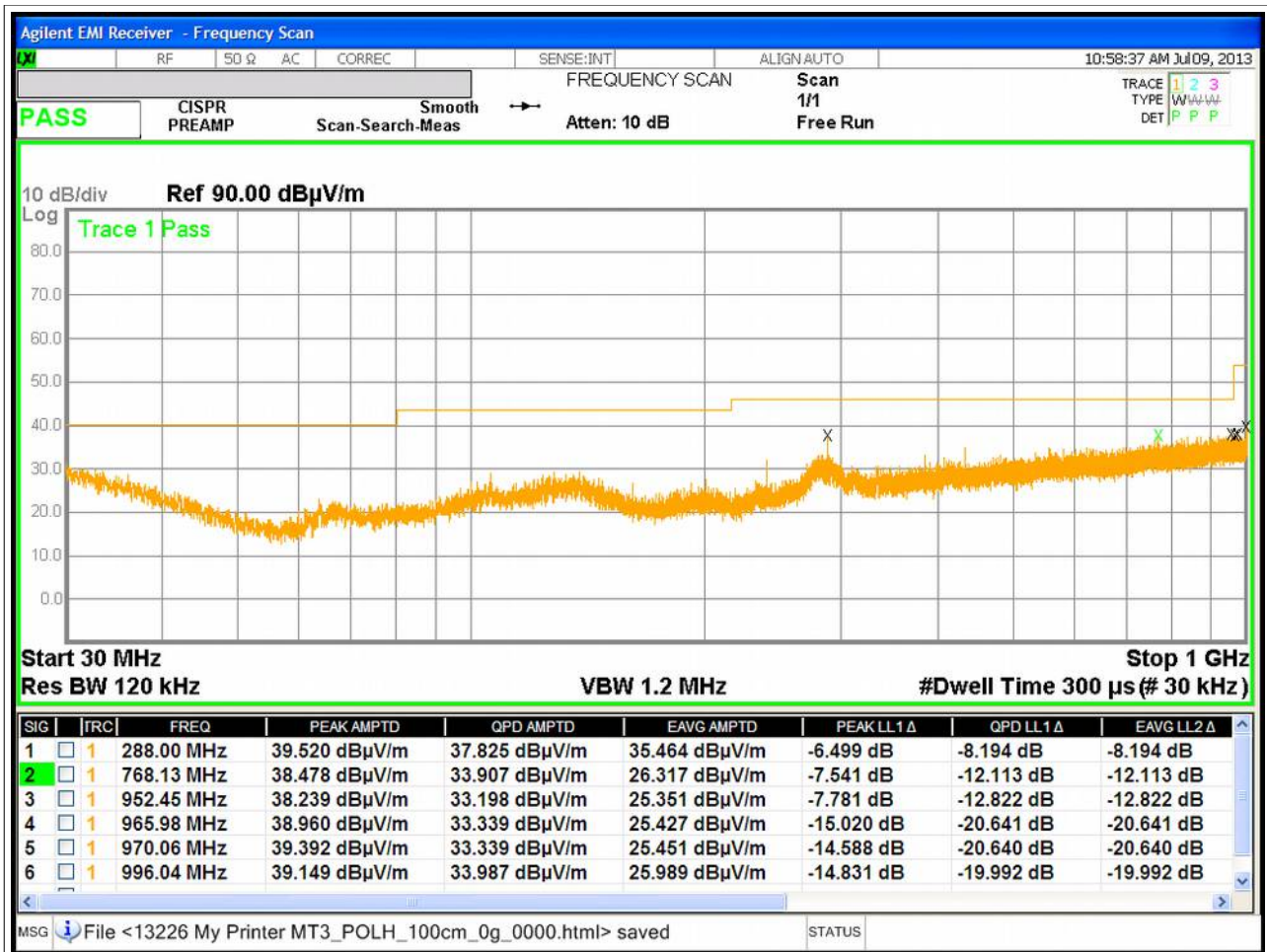


Phase 1

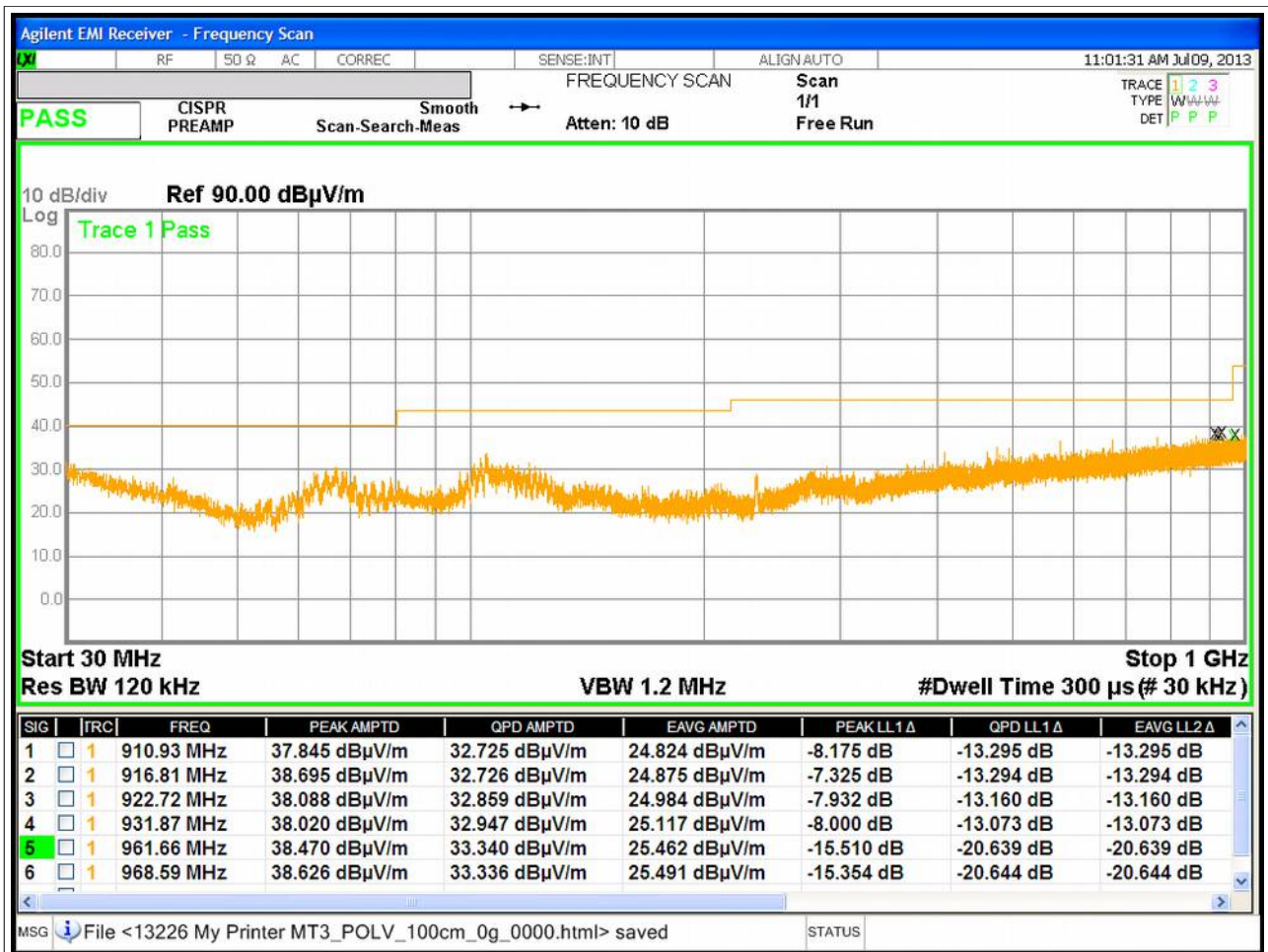


Phase 2

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 (μV/m)]		
30 ÷ 88	40		
88 ÷ 216	43,5		
216 ÷ 960	46		
Above 960	54		
<u>Test Equipment</u>			
EQUIPMENT	MANUFACTURER	MODEL	CAL. DUE
EMI Receiver	HP	HP8546A	01/2014
Semianechoic Room	GSD	CSC01	01/2014
Bilog Antenna	Schaffner	CBL6112B	01/2014
LISN	GSD	LSN01	01/2014
<u>Test procedure: RE22R02</u>			
<u>Notes</u>			
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.			
<u>Results and conclusions</u>			
In all the operative conditions, equipment complied with the standard limits. Graphics in following figures show the most significant registrations of the performed measurements.			



Horizontal Polarization



Vertical Polarization

6. PHOTO



Fig. 6.1

Equipment Under Test: Conducted Emissions Test Set-up

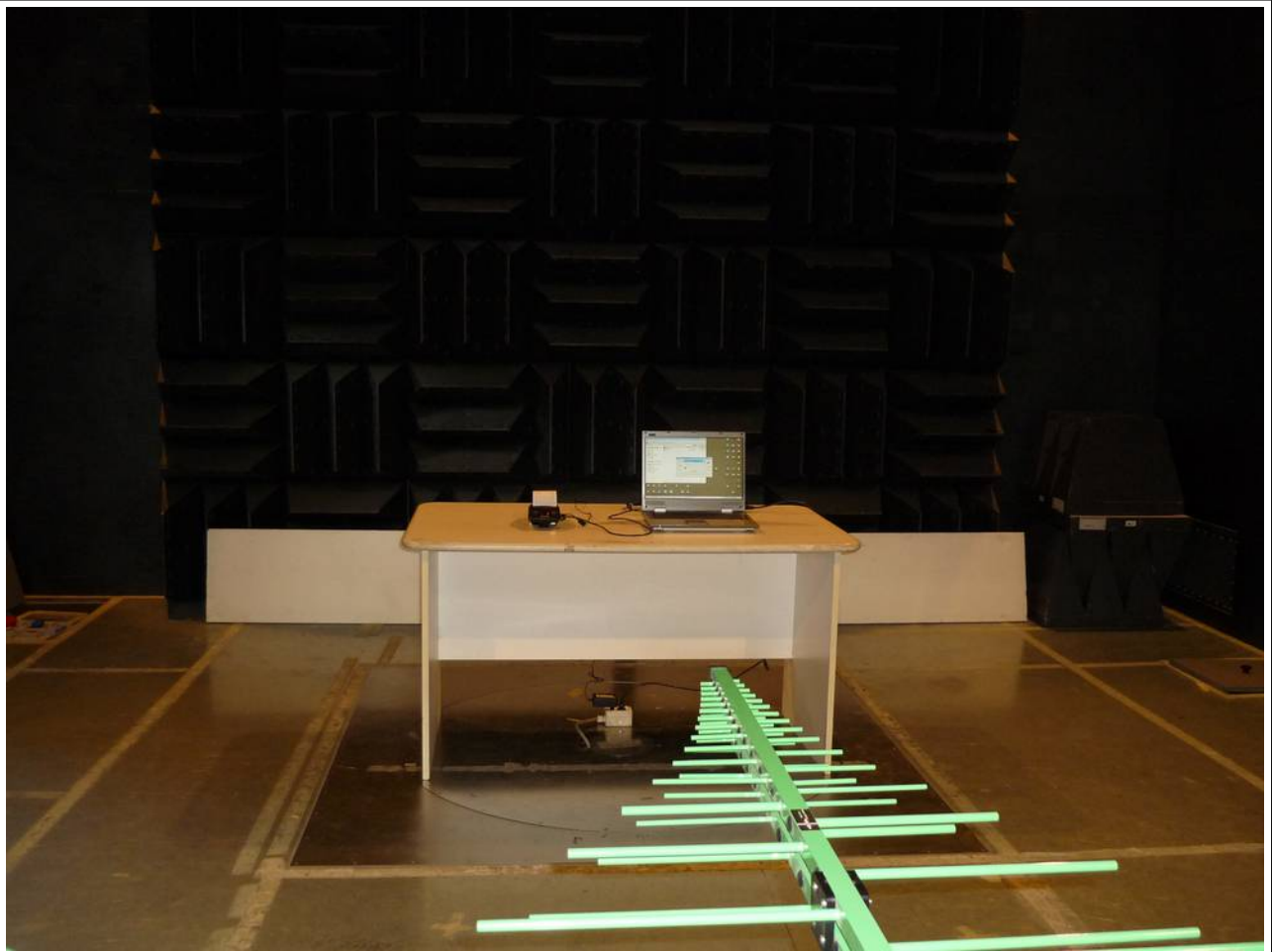


Fig. 6.1

Equipment Under Test: Radiated Emissions Test Set-up