



Accredited testing-laboratory

DAR registration number: DAT-P-176/94-D1

**Federal Motor Transport Authority (KBA)
DAR registration number: KBA-P 00070-97**

Recognized by the Federal Communications Commission

Anechoic chamber registration no.: 90462 (FCC)

Anechoic chamber registration no.: 3463A-1 (IC)

Certification ID: DE 0001

Accreditation ID: DE 0002

Accredited Bluetooth® Test Facility (BQTF)

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Annex to Test report no.: 4-2801-01-03/07

Type identification : GI0225

Applicant : Option N.V.

FCC ID : NCMOGI0225

IC Certification No : -/-

Test standards : 47 CFR Part 15

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1 General information

1.1 Notes

The test results of this test report relate exclusively to the test item specified in 1.5. The CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the CETECOM ICT Services GmbH.

Test laboratory manager:

2007-10-26

Detlev Gillmann



Date

Name

Signature

Technical responsibility for area of testing:

2007-10-26

Harro Ames



Date

Name

Signature

1.2 Testing laboratory

CETECOM ICT Services GmbH

Untertürkheimer Straße 6 - 10

66117 Saarbrücken

Germany

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Fax: + 49 681 5 98 - 9075

e-mail: info@ICT.cetecom.de

Internet: <http://www.cetecom-ict.de>

State of accreditation: The test laboratory (area of testing) is accredited according to
DIN EN ISO/IEC 17025
DAR registration number: DAT-P-176/94-D1

Accredited by: Federal Motor Transport Authority (KBA)
DAR registration number: KBA-P 00070-97

Testing location, if different from CETECOM ICT Services GmbH:

Name :
Street :
Town :
Country :
Phone :
Fax :

1.3 Details of applicant

Name:	Option N.V.
Street:	Gaston Geenslaan 14
Town:	3001 Leuven
Country:	Belgium
Telephone:	+32-16-317411
Fax:	
Contact:	Joeri Boeckx
E-mail:	J.Boeckx@option.com
Telephone:	+32 16 317 411

1.4 Application details

Date of receipt of order:	2007-10-09
Date of receipt of test item:	2007-10-08
Date of start test:	2007-10-10
Date of end test	2007-10-26
Persons(s) who have been present during the test:	Mr. Eric Ngouana

2 Technical tests

2.1 Details of manufacturer

Name:	Option N.V.
Street:	Gaston Geenslaan 14
Town:	3001 Leuven
Country:	Belgium

2.2 Test item(s) and test configuration

No.: 1 Laptop : Fujitsu-Siemens with GI0225
 AMILO PRO V3205



Horizontal Slot

No.: 2 Laptop : Fujitsu-Siemens with GI0225
 AMILO PRO V3205



Vertical Slot

No.: 3 Laptop : DELL PP01X with GI0225



No.: 4 Laptop : Acer BL50 with GI0225



3 Summary of Measurement Results and list of all performed test cases

- ☒ No deviations from the technical specifications were ascertained
- ☐ There were deviations from the technical specifications ascertained

Section in this Report	Test Name	Verdict
5.1	Conducted limits CFR Part 15.207, 15.107 RSS 210, Issue 7, Section 6.6 , 7.4	Pass
5.2	Receiver spurious emission radiated (Idle mode) CFR Part SUBCLAUSE § 15.109 RSS 210, Issue 7, Section 7.3 Receiver Spurious Emissions (Radiated)	Pass

4 Measurements and results

The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 20 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber.

The receiving antennas are conforming to specifications ANSI C63.2-1996 clause 15 and ANSI C63.4-2003 clause 4.1.5. These antennas can be moved over the height range between 1.0 m and 4.0 m in order to search for maximum field strength emitted from EUT. The measurement distances between EUT and receiving antennas are indicated in the test set-ups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received.

The wanted and unwanted emissions are received by spectrum analysers where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63.4-2003 clause 4.2.

Antennas are conforming to ANSI C63.2-1996 item 15.

9 kHz – 150 kHz ,Quasi Peak measurement, 200 Hz Bandwidth, passive loop antenna.

150 kHz - 30 MHz: Quasi Peak measurement, 9 kHz Bandwidth, passive loop antenna.

30 MHz - 200 MHz: Quasi Peak measurement, 120 KHz Bandwidth, biconical antenna

200MHz - 1GHz: Quasi Peak measurement, 120 KHz Bandwidth, log periodic antenna

>1GHz: Average, RBW 1MHz, VBW 10 Hz, wave guide horn

All measurement settings are according to FCC 15.109 and 15.107

5 Annex A: FCC Part 15 Subpart B

5.1 Conducted Limits

Reference

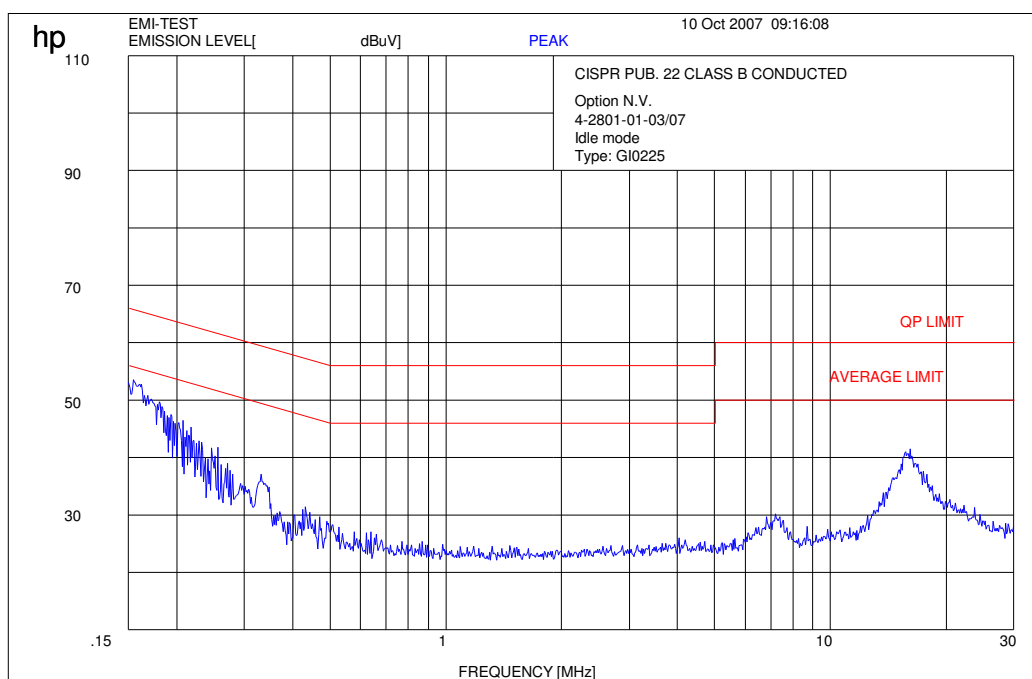
FCC:	CFR Part 15.207, 15.107
IC:	RSS 210, Issue 7, Section 6.6 , 7.4

Limits: § 15.107 / 15.207

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56 *	56 to 46 *
0.5 – 5	56	46
5 - 30	60	50

* Decreases with the logarithm of the frequency

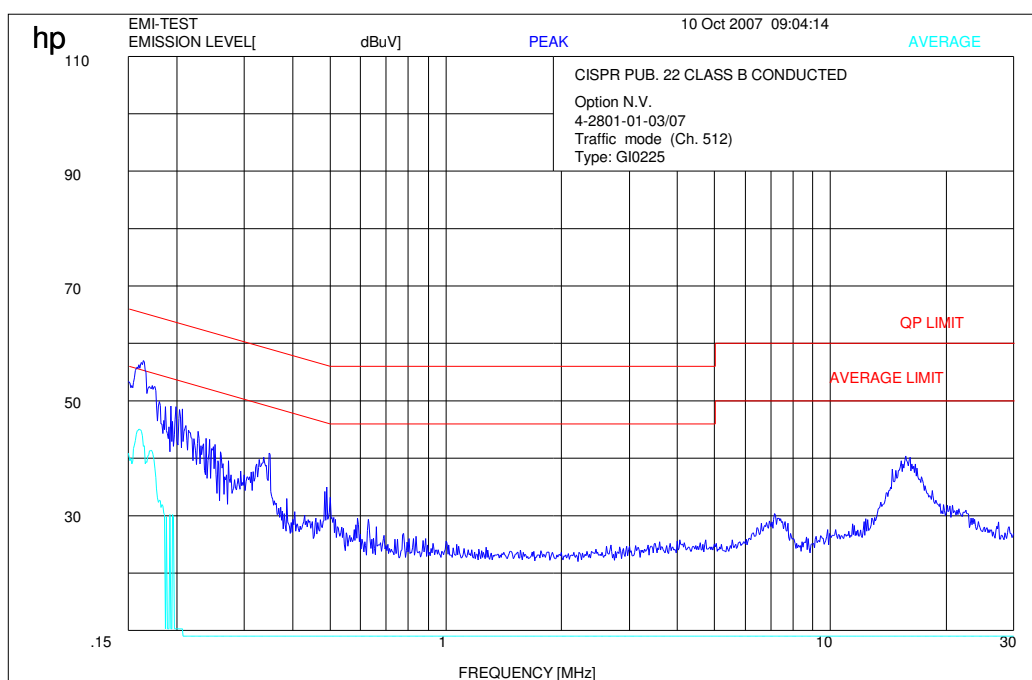
EUT: : GIO225
 : with Sony Laptop (CETECOM Inventory)
 Power AC (measured) : 115 V / 60 Hz
 Manufacturer: : Option N.V.
 Operating Condition : Idle mode
 Test Site: : Room 006 (Shielded chamber)
 Operator: : Gillmann



Upper Limit LINE CISPPR 22 QP
 Lower Limit LINE CISPPR 22 AV

Setting : 150 kHz - 30 MHz: Quasi Peak measurement, 9kHz Bandwidth,
 L1 and N – system (max. Hold)

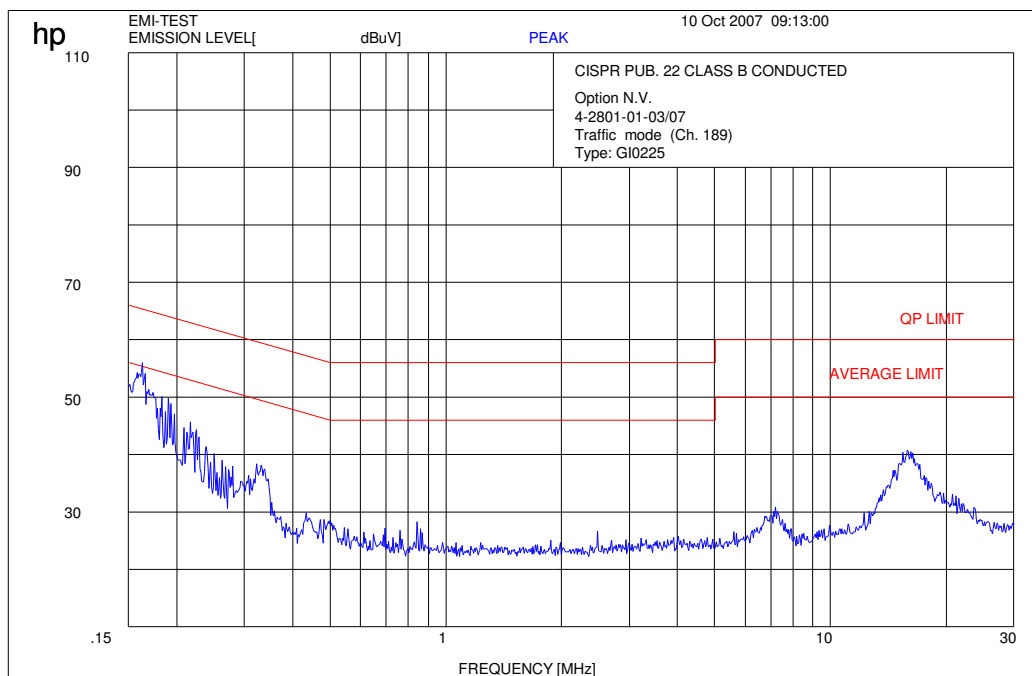
EUT: : GIO225
 : with Sony Laptop (CETECOM Inventory)
 Power AC (measured) : 115 V / 60 Hz
 Manufacturer: : Option N.V.
 Operating Condition : Traffic mode (Ch. 512)
 Test Site: : Room 006 (Shielded chamber)
 Operator: : Gillmann



Upper Limit LINE CISPPR 22 QP
 Lower Limit LINE CISPPR 22 AV

Setting : 150 kHz - 30 MHz: Quasi Peak measurement, 9kHz Bandwidth,
 L1 and N – system (max. Hold)

EUT: : GIO225
 : with Sony Laptop (CETECOM Inventory)
 Power AC (measured) : 115 V / 60 Hz
 Manufacturer: : Option N.V.
 Operating Condition : Traffic mode (Ch. 189)
 Test Site: : Room 006 (Shielded chamber)
 Operator: : Gillmann



Upper Limit LINE CISPPR 22 QP
 Lower Limit LINE CISPPR 22 AV

Setting : 150 kHz - 30 MHz: Quasi Peak measurement, 9kHz Bandwidth,
 L1 and N – system (max. Hold)

5.2 Receiver spurious emission radiated (Idle mode)

Reference

FCC:	CFR Part SUBCLAUSE § 15.109
IC:	RSS 210, Issue 5, Section 7.3 Receiver Spurious Emissions (Radiated)

SPURIOUS EMISSIONS LEVEL (μV/m)								
Idle Mode			Idle Mode					
850 MHz			1900 MHz			MHz		
F [MHz]	Detector	Level [μV/m]	F [MHz]	Detector	Level [μV/m]	F [MHz]	Detector	Level [μV/m]
No spurious found, or more than 15 dB under limit			No spurious found, or more than 15 dB under limit					
Measurement uncertainty			±3 dB					

f < 1 GHz : RBW/VBW: 100 kHz

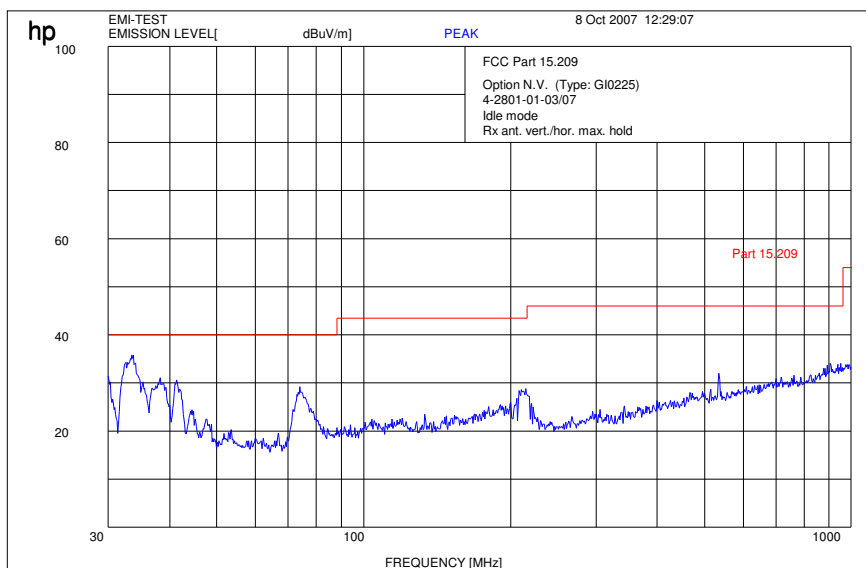
f ≥ 1GHz : RBW/VBW: 1 MHz

Limits

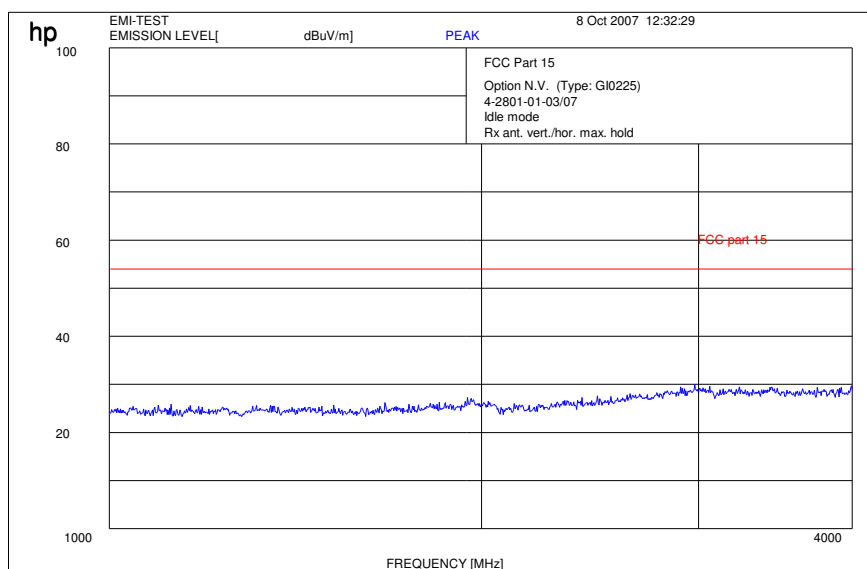
SUBCLAUSE § 15.109

Frequency (MHz)	Field strength (μV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

Idle Mode (30 MHz – 1 GHz)



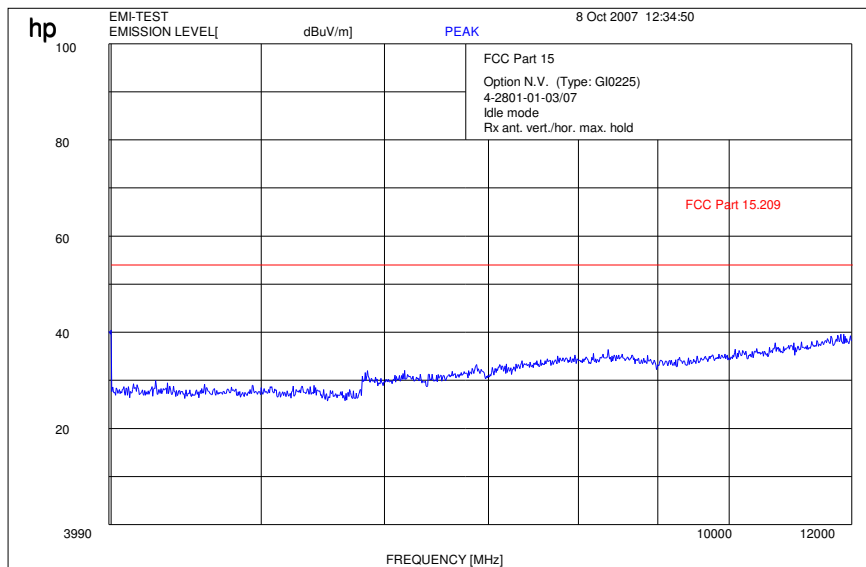
Idle Mode (1 GHz – 4 GHz)



$f < 1 \text{ GHz}$: RBW/VBW: 100 kHz

$f \geq 1 \text{ GHz}$: RBW / VBW 1 MHz

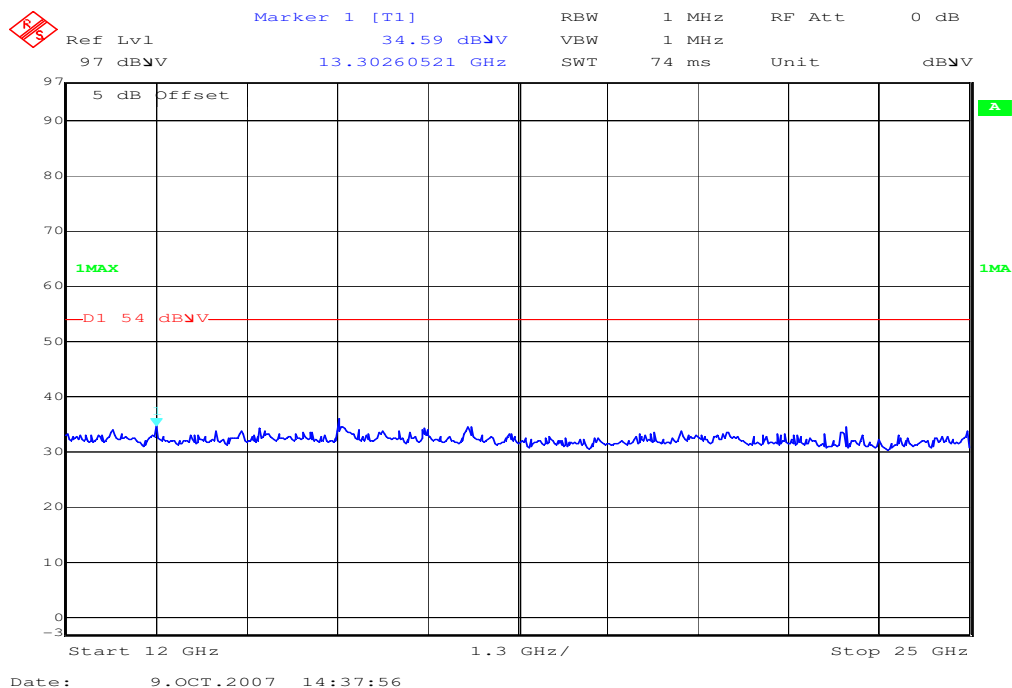
Idle Mode (4 GHz – 12.0 GHz)



$f < 1 \text{ GHz}$: RBW/VBW: 100 kHz

$f \geq 1 \text{ GHz}$: RBW / VBW 1 MHz

Idle Mode (12 GHz - 25 GHz)



6 Photographs of the Test Set-up

Photo No.: 01 (Test configuration 1)



Photo No.: 02 (Test configuration 1)



Photo No.: 03 (Test configuration 1)

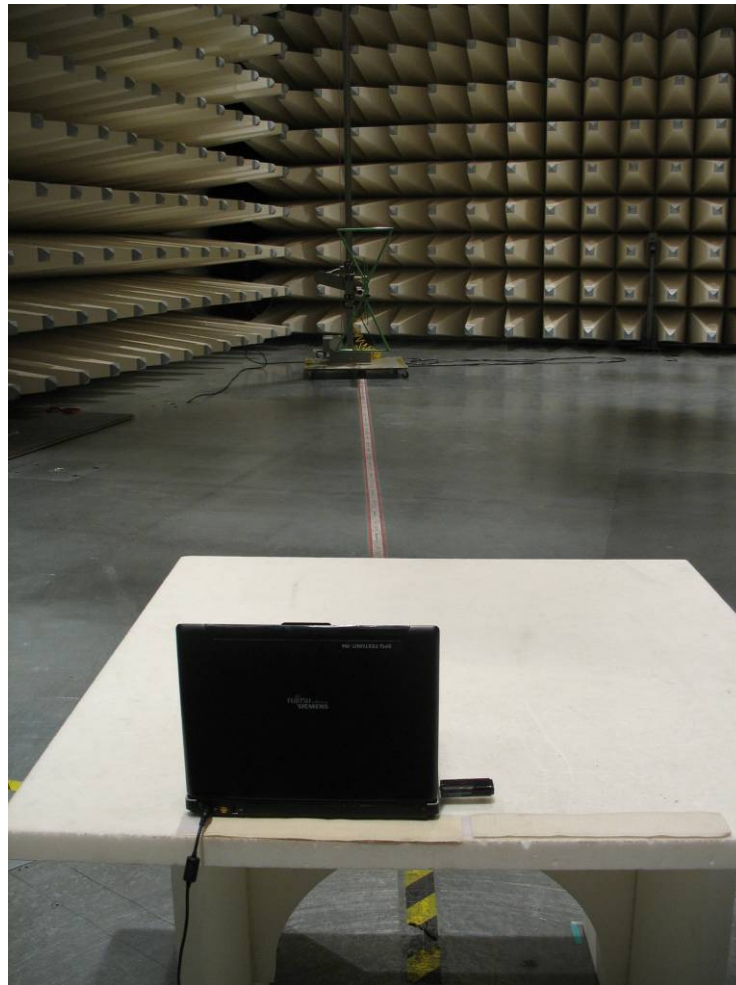


Photo No.: 04 (Test configuration 2)

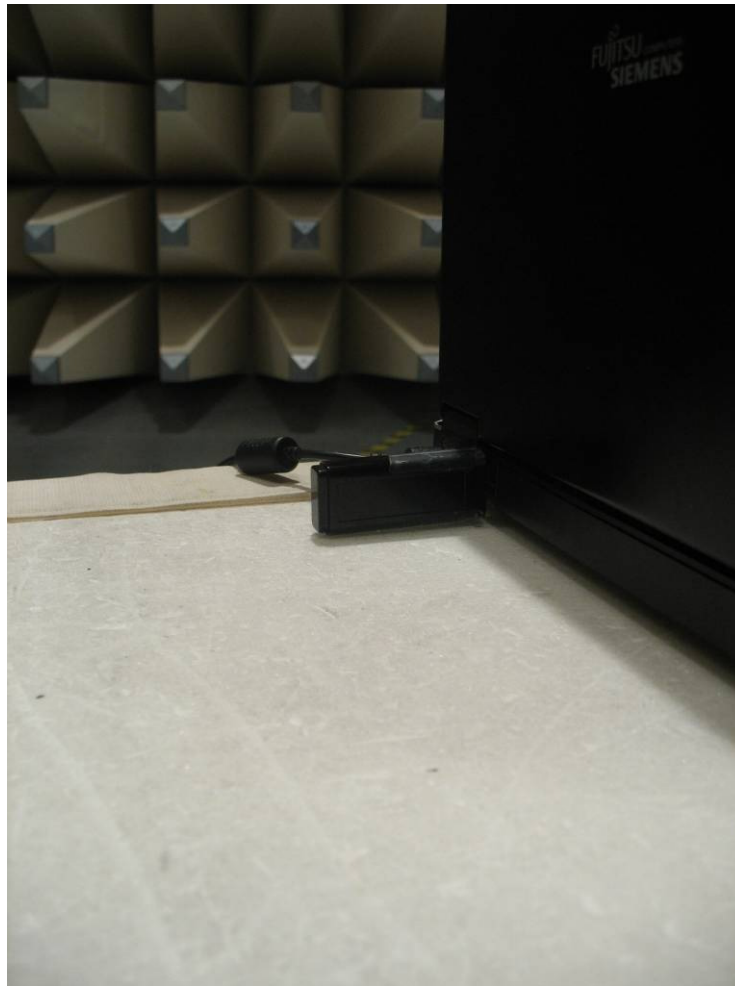


Photo No.: 05 (Test configuration 2)



Photo No.: 06 (Test configuration 2)



Photo No.: 07 (Test configuration 3)



Photo No.: 08 (Test configuration 3)



Photo No.: 09 (Test configuration 3)



Photo No.: 10 (Test configuration 4)



Photo No.: 11 (Test configuration 4)



Photo No.: 12 (Test configuration 4)



Photo No.: 13



Photo No.: 14



7 Photographs of the EUT

Photo No.: 01



Photo No.: 02

