



Certificate of Compliance
for the FCC Declaration of Conformity Procedure from the
Conformity Assessment Body
Hong Kong Standards and Testing Centre
Designation Number: HK0001

on the basis of Asia-Pacific Economic Cooperation (APEC) economies' Mutual Recognition Arrangement for Conformity Assessment of Telecommunications Equipment (APEC Tel MRA) scheme sanctioned by the Federal Communications Commission of the United States Government.

Certificate Number: FCC002709
Test Laboratory: The Hong Kong Standards and Testing Centre Ltd.
Test Report / Issued date: MH192646 / 09 May 2016
Applicant: Winspeed Co., Ltd.
Manufacturer: Shenzhenshi LXD Science Co., Ltd.
Type of Equipment: Fortus Gaming Mouse-Wireless
Brand Name: SPEEDLINK
Model Number: SL-680100-BK-01

Rules and Regulations

United States CFR 47 FCC Part 15 Subpart B (Unintentional Radiators).

Standards

ANSI C63.4-2009, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40 GHz.

Remark

This certificate shall be used in conjunction with the above mentioned test report.

Signed by Dr. LEE Kam Chuen,

ElectroMagnetic Compatibility Department

For and on behalf of

Date: 2016-05-09

The Hong Kong Standards and Testing Centre Ltd.

(Conformity Assessment Body CAB under the APEC Tel MRA)



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Applicant: Winspeed Co., Ltd.
14F-1, No.2, Jian-ba Rd., Chung-ho District, New Taipei
City, Taiwan

Manufacturer: Shenzhenshi LXD Science Co., Ltd.
No. 619-621, 6th Floor, H Building, Huachuangda Central
Building Xinan Street, Baoan District, Shenzhen City, China

Description of Sample(s): Submitted sample(s) said to be
Product: Fortus Gaming Mouse-Wireless
Brand Name: SPEEDLINK
Model Number: SL-680100-BK-01

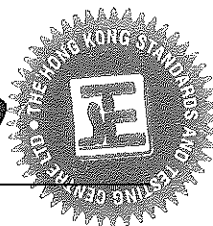
Date Sample(s) Received: 2015-10-26

Date Tested: 2015-10-26

Investigation Requested: FCC Part 15 Subpart B

Conclusion(s): The submitted product COMPLIED with the requirements of
Federal Communications Commission [FCC] Rules and
Regulations Part 15. The tests were performed in accordance
with the standards described above and on Section 2.2 in this
Test Report.

Remark(s): ---



Dr. LEE Kam Chun
Authorized Signatory
ElectroMagnetic Compatibility Department
For and on behalf of
The Hong Kong Standards and Testing Centre Ltd.

The Hong Kong Standards and Testing Centre Limited

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1.0 General Details

1.1 Equipment Under Test [EUT] Description of Sample(s)

Submitted sample(s) said to be

Product:

Fortus Gaming Mouse-Wireless

Manufacturer:

Shenzhen LXD Science Co., Ltd.

No. 619-621, 6th Floor, H Building, Huachuangda Central
Building Xinan Street, Baoan District, Shenzhen City, China

Brand Name:

SPEEDLINK

Model Number:

SL-680100-BK-01

Rating:

5.0Vd.c. (Power by USB port)

1.2 Description of EUT Operation

The Equipment Under Test (EUT) is USB Wireless mouse adapter. Test was conducted under On mode, which the EUT was connected to the USB port of the test bed PC and also wirelessly communicate with the wireless mouse in order to simulate the normal operating condition.

1.3 Date of Order

2015-10-26

1.4 Submitted Sample(s):

1 Sample

1.5 Test Duration

2015-10-26

1.6 Country of Origin

China

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2.0 Technical Details

2.1 Investigations Requested

Perform ElectroMagnetic Interference measurement in accordance with FCC 47CFR [Codes of Federal Regulations] Part 15: 2014 and ANSI C63.4: 2009 for FCC DoC.

2.2 Test Standards and Results Summary Tables

EMISSION Results Summary					
Test Condition	Test Requirement	Test Method	Class / Severity	Test Result	
				Pass	Failed
Radiated Emissions	FCC 47CFR 15.109	ANSI C63.4:2009	Class B	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Conducted Emissions on AC, 0.15MHz to 30MHz	FCC 47CFR 15.107	ANSI C63.4:2009	Class B	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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3.0 Test Results

3.1 Emission

3.1.1 Radiated Emissions

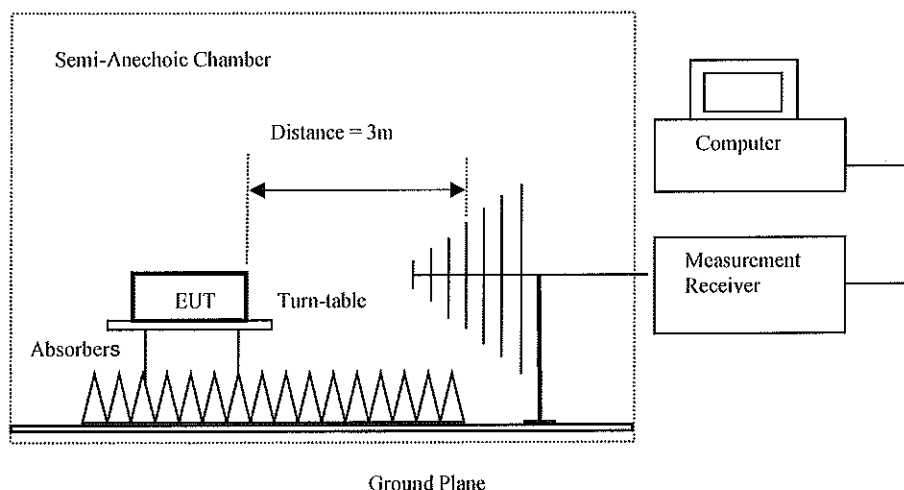
Test Requirement: FCC 47CFR 15.109
Test Method: ANSI C63.4:2009
Test Date: 2015-10-26
Mode of Operation: On mode (Connected to PC)

Test Method:

The sample was placed 0.8m above the ground plane of Semi-Anechoic chamber*. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

*: Semi-Anechoic chamber located on the G/F of The Hong Kong Standards and Testing Centre Ltd. with a metal ground plane filed with the FCC pursuant to section 2.948 of the FCC rules, with Registration Number: 607756.

Test Setup:



- Absorbers placed on top of the ground plane are for measurements above 1000MHz only.
- Measurements between 30MHz to 1000MHz made with Bi-log antennas, above 1000MHz horn antennas are used.

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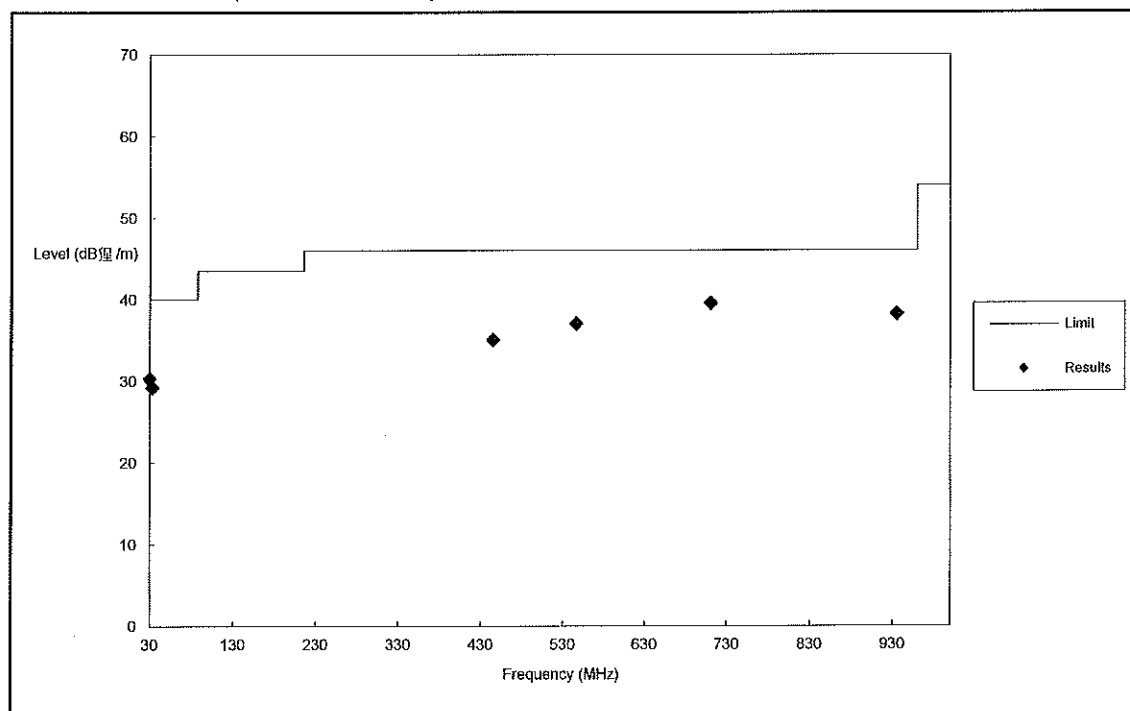
No.: MH192646

Limits for Radiated Emissions [FCC 47 CFR 15.109 Class B]:

Frequency Range [MHz]	Quasi-Peak Limits [$\mu\text{V/m}$]
30-88	100
88-216	150
216-960	200
Above 960	500

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

Results of On mode (Connected to PC): PASS



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Results of On mode (Connected to PC): Pass

Radiated Emissions Quasi-Peak					
Emission Frequency MHz	E-Field Polarity	Level @3m dB μ V/m	Limit @3m dB μ V/m	Level @3m μ V/m	Limit @3m μ V/m
30.0	Horizontal	30.3	40.0	32.7	100
546.6	Horizontal	37.0	46.0	70.8	200
710.6	Horizontal	39.5	46.0	94.4	200
33.1	Vertical	29.2	40.0	28.8	100
445.3	Vertical	35.0	46.0	56.2	200
935.8	Vertical	38.2	46.0	81.3	200

Remark:

Calculated measurement uncertainty (30MHz – 1GHz): 4.9dB

Emissions in the vertical and horizontal polarizations have been investigated and the worst-case test results are recorded in this report.

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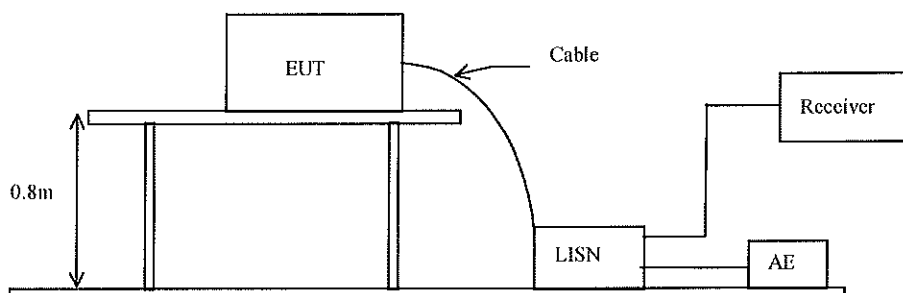
3.1.2 Conducted Emissions (0.15MHz to 30MHz)

Test Requirement: FCC 47CFR 15.107
Test Method: ANSI C63.4:2009
Test Date: 2015-10-26
Mode of Operation: On mode (Connected to PC, PC mains)

Test Method:

The test was performed in accordance with ANSI C63.4: 2009, with the following: an initial measurement was performed in peak and average detection mode on the live line, any emissions recorded within 30dB of the relevant limit line were re-measured using quasi-peak and average detection on the live and neutral lines with the worst case recorded in the table of results.

Test Setup:



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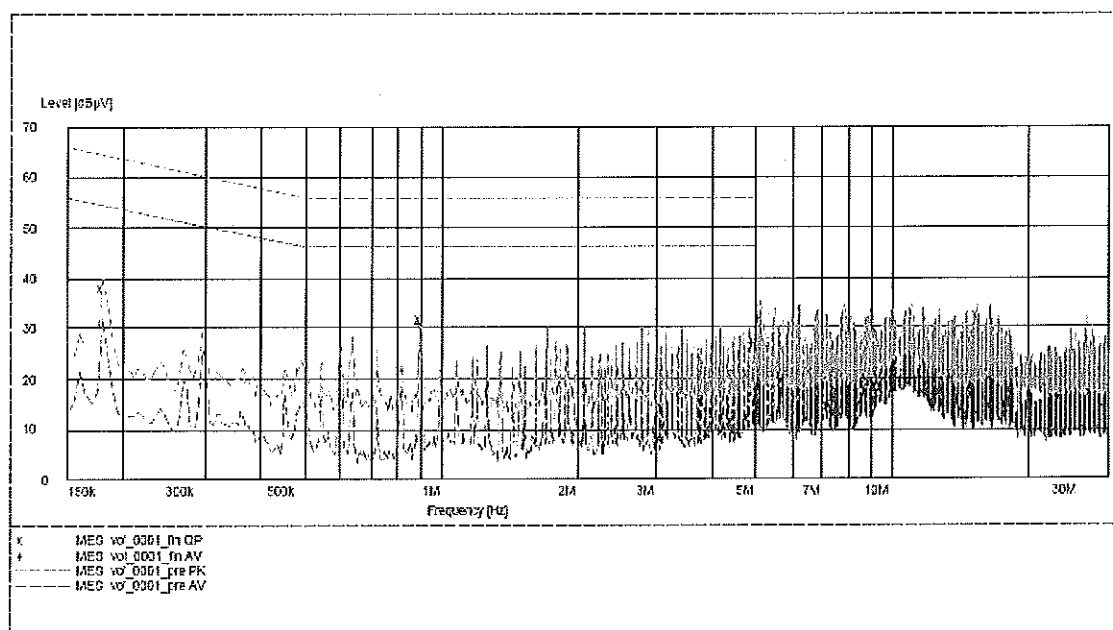
Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dBμV]	Average [dBμV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

Results of On mode (Connected to PC) (L): PASS



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Results of On mode (Connected to PC) (L): PASS

Conductor Live or Neutral	Frequency MHz	Quasi-peak		Average	
		Level dB μ V	Limit dB μ V	Level dB μ V	Limit dB μ V
Live	0.180	37.9	65.0	-*-	-*-
Live	0.900	32.3	56.0	-*-	-*-
Live	15.515	32.7	60.0	-*-	-*-
Live	0.900	-*-	-*-	31.0	46.0
Live	4.960	-*-	-*-	27.3	46.0
Live	5.120	-*-	-*-	32.1	50.0

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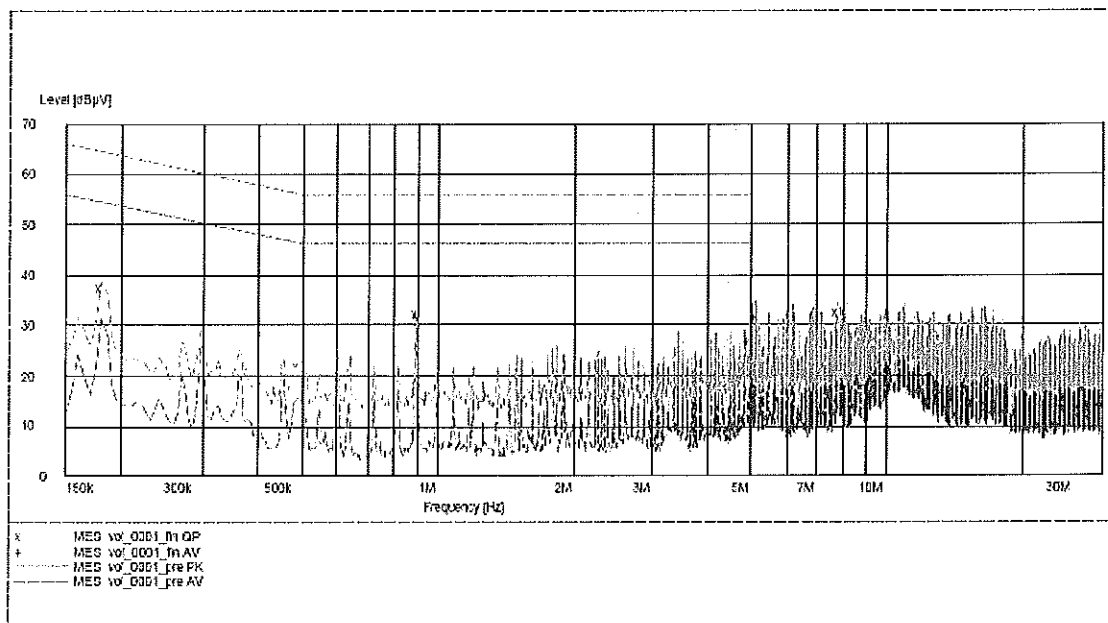
Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dB μ V]	Average [dB μ V]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

Results of On mode (Connected to PC) (N): PASS



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Results of On mode (Connected to PC) (N): PASS

Conductor Live or Neutral	Frequency MHz	Quasi-peak		Average	
		Level dB μ V	Limit dB μ V	Level dB μ V	Limit dB μ V
Neutral	0.180	37.3	65.0	-*-	-*-
Neutral	0.900	32.4	56.0	-*-	-*-
Neutral	7.835	32.8	60.0	-*-	-*-
Neutral	0.900	-*-	-*-	31.6	46.0
Neutral	4.960	-*-	-*-	26.9	46.0
Neutral	5.120	-*-	-*-	31.9	50.0

Remarks:

Calculated measurement uncertainty (0.15MHz- 30MHz): 3.25dB

-*- Emission(s) that is far below the corresponding limit line.

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Appendix A

List of Measurement Equipment

Radiated Emission

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL	DUE CAL
EM299	DOUBLE-RIDGED WAVEGUIDE HORN ANTENNA	ETS-LINDGREN	3115	00114120	2014/01/15	2016/01/25
EM215	MULTIDEVICE CONTROLLER	EMCO	2090	00024676	N/A	N/A
EM216	MINI MAST SYSTEM	EMCO	2075	00026842	N/A	N/A
EM217	ELECTRIC POWERED TURNABLE	EMCO	2088	00029144	N/A	N/A
EM218	ANECHOIC CHAMBER	ETS-LINDGREN	FACT-3	--	2015/09/25	2016/09/25
EM320	BICONILOG ANTENNA	ETS-LINDGREN	3142D	00094856	2014/08/06	2016/08/06
EM229	EMI TEST RECEIVER	R&S	ES1B40	100248	2015/06/01	2016/06/01

Line Conducted

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL	DUE CAL
EM232	LISN	SCHAEFFNER	NNB41	04/100082	2014/12/08	2015/12/08
EM145	EMI TEST RECEIVER	R & S	ESCS 30	830245/021	2015/06/01	2016/06/01
EM179	IMPULSE LIMITER	ROHDE & SCHWARZ	ESH3-Z2	357-8810.52/54	2015/01/14	2016/01/14
EM154	SHIELDING ROOM	SIEMENS MATSUSHITA COMPONENTS	N/A	803-740-057- 99A	2012/02/03	2017/02/03

Remarks:-

N/A Not Applicable or Not Available

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Appendix B

Ancillary Equipment

ITEM NO.	DESCRIPTION	MODEL NO.	FCC ID	REMARK
1	DELL COMPUTER	DMC	N/A	CONNECTED TO THE EUT INPUT PORT
2	DELL MONITOR	E177FPB	N/A	RESOLUTION:1024x768(DURING TESTING) 1.0M UNSHIEDED POWER CORD CONNECTED TO THE COMPUTER 1.5M SHIELDED CABLE CONNECTED TO THE COMPUTER
3	FORTUS GAMING MOUSE	SL-66100-BK	N/A	FORTUS GAMING MOUSE-WIRELESS
4	DELL KEYBOARD	SK-8110	N/A	1.8M SHIELDED COILED CABLE CONNECTED TO THE COMPUTER
5	LASER PRINTER	HP LASERJET 1020 PLUS	N/A	1.8M UNSHIELDED POWER CORD 2.8M SHIELDED CABLE (BUNDLED TO 1M) CONNECTED TO THE COMPUTER

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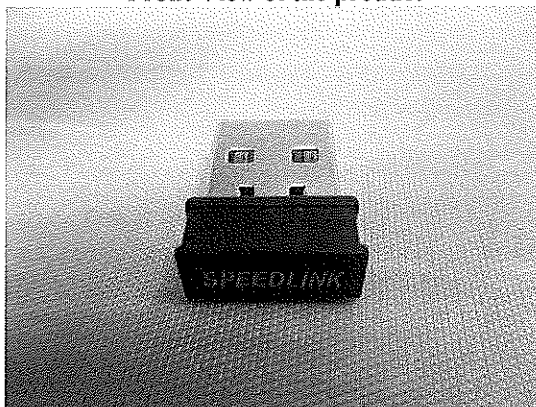
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Appendix C

Photographs of EUT

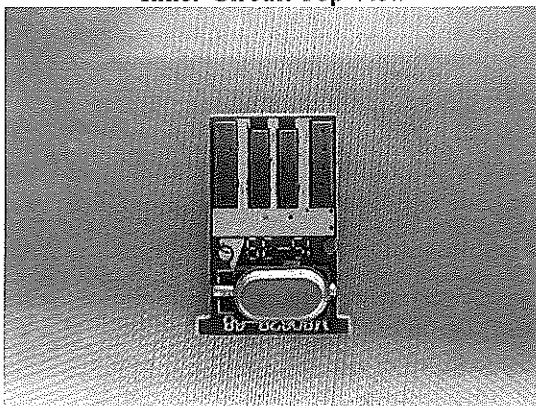
Front View of the product



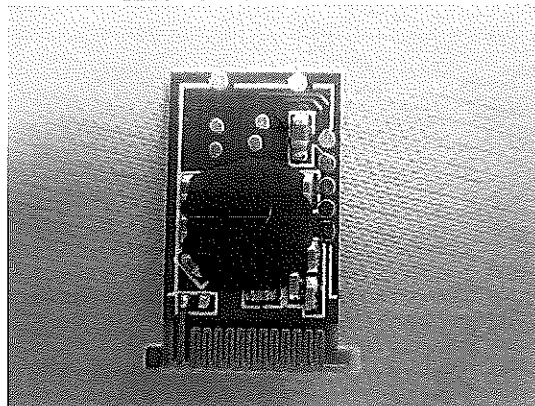
Rear View of the product



Inner Circuit Top View



Inner Circuit Bottom View



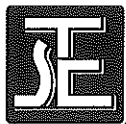
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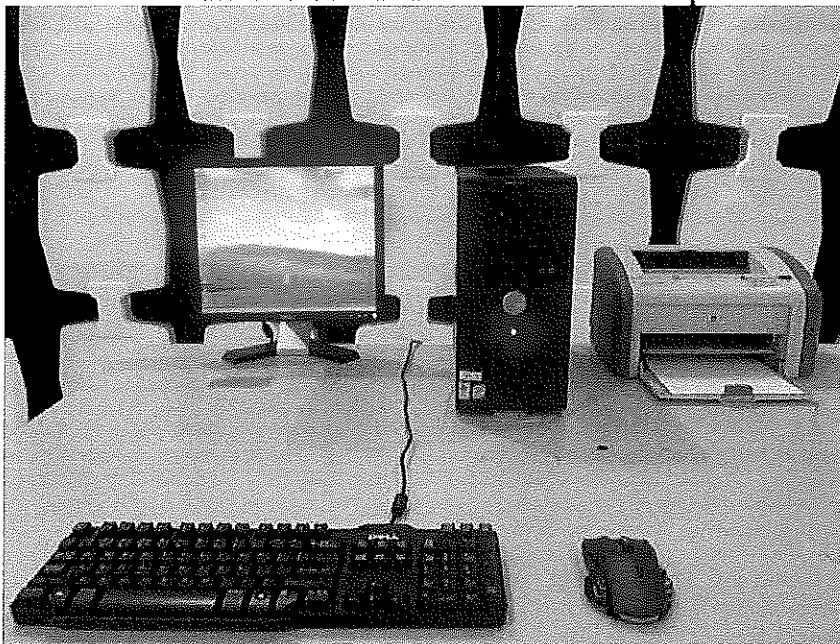
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Photographs of EUT

Measurement of Radiated Emission Test Set Up



Measurement of Conducted Emission Test Set Up



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