

GLOBAL TESTING & CERTIFICATION CENTRE LTD.

FCC TEST REPORT

Application No.: 08012343 (Rx)

Rm09, 5/F Wah Wai Ind Ctr, 38-40 Au Pui Wan Street, Fotan Shatin, N.T., Hong Kong
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REPORT NO.: 08012343 (RX)

DATE: 25 January, 2008

APPLICANT: Western Rivers, Inc.

ADDRESS: 1582 North Board Street,
Lexington,
Tennessee 38351.

DATE OF RECEIVED: 11 January, 2008

DATE OF TESTING: 11 January, 2008 to 25 January, 2008

DESCRIPTION OF SAMPLE:

Product: Nite Stalker
Brand Name: Western Rivers
Model No.: 365
FCC ID: V32WRNS365R
Input Voltage: DC12V with jack or AA x 8pcs
The AC/DC Adaptor used for the tests was provided by GTC Lab. with the following details: Mode Number: TC-1000RS, Input: 120V, 60Hz, Output: 12Vd.c. 1A

Description of EUT Operation

The Equipment Under Test (EUT) is a Western Rivers, Inc., Nite Stalker

INVESTIGATION REQUESTED:


FCC PART 15 SUBPART B

TEST RESULTS:

See attached sheets

CONCLUSIONS:

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 page 5 in this Test report.


CS Lin, EMC
for Chief Executive

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DATE: 25 January, 2008

General Details

Test Laboratory

GLOBAL TESTING & CERTIFICATION CENTRE LTD
EMC Laboratory
Rm09, 5/F Wah Wai Ind Ctr, 38-40 Au Pui Wan Street,
Fotan Shatin, N.T., Hong Kong

Telephone: 852 2320 0326
Fax: 852 2320 6287

Applicant Details Applicant

Western Rivers, Inc.
1582 North Board Street,
Lexington, Tennessee 38351.

Manufacturer

Suga Electronics Limited
Units 1904-1906, 19/F,
Chevalier Commercial Centre,
8 Wang Hoi Road,
Kowloon Bay, Hong Kong

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Technical Details

Investigations Requested

Perform ElectroMagnetic Interference measurement in accordance with FCC 47CFR [Codes of Federal Regulations] Part 15 and ANSI C63.4:2003 for FCC Certification.

Test Standards and Results Summary Tables

| EMISSION Results Summary | | | | | |
|---------------------------------------------|----------------------------|-----------------|-------------------------------------|--------------------------|-------------------------------------|
| Test Condition | Test Requirement | Test Method | Test Result | | |
| | | | Pass | Failed | N/A |
| Radiated Emissions, 30MHz to 1GHz | FCC 47CFR 15.109 (Class B) | ANSI C63.4:2003 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Conducted Emissions on AC, 0.15MHz to 30MHz | FCC 47CFR 15.107 (Class B) | ANSI C63.4:2003 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

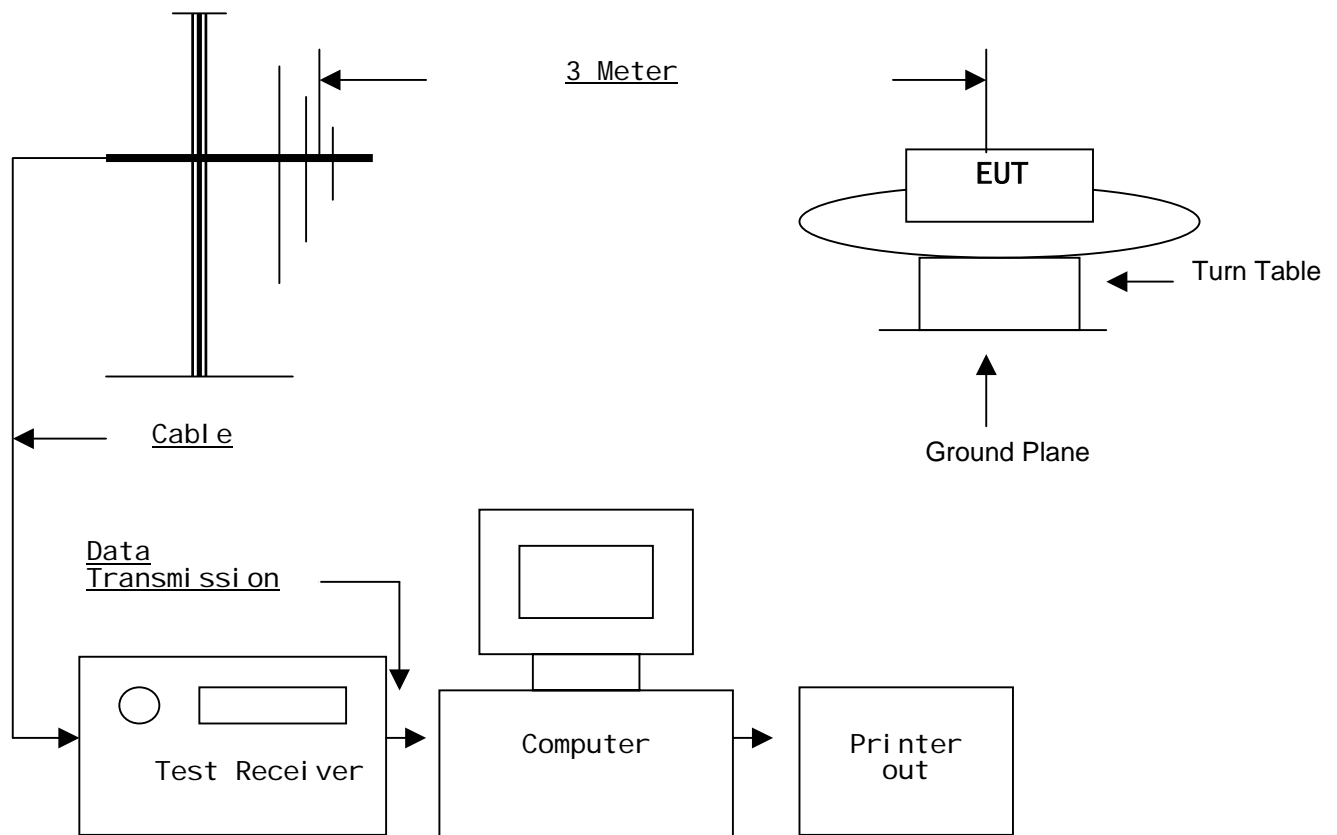
Note: N/A – Not Applicable

Test Results

Emission

Radiation Emission Measurement (30MHz to 1GHz)

Setup diagram:



Test Method:

The sample was placed 0.8m above the ground plane on the OATS*. 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.

*. OATS [Open Area Test Site] located at GTC with a metal ground plane filed with the FCC pursuant to section 2.948 of the FCC rules. With Registration Number: 493655

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Radiation Emissions Measurement

Appl. : Western Rivers, Inc.
Model : 365
Operation: Rx and Play Mode

Test Requirement: FCC 47CFR 15.109
Test Method: ANSI C63.4:2003
Test Date: 2008-01-15

Level: Class B

Limits for Radiated Emissions:

| Frequency Range [MHz] | Quasi-Peak Limits [$\mu\text{V}/\text{m}$] |
|--------------------------|-------------------------------------------------|
| 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.

| Radiated Emissions Quasi-Peak | | | | | | |
|-------------------------------|-------------------------------------------|------------------------------|------------------------------------------------|---------------------------------------------|-------------------------------------|---------------------|
| Frequency MHz | Measured Level @3m dB μV | Correction Factor dB/m | Field Strength dB $\mu\text{V}/\text{m}$ | Field Strength $\mu\text{V}/\text{m}$ | Limit @3m $\mu\text{V}/\text{m}$ | E-Field Polarity |
| 289.7 | 18.0 | 19.4 | 37.4 | 74.1 | 200 | Horizontal |
| 390.0 | 22.0 | 18.2 | 40.2 | 102.3 | 200 | Horizontal |
| 432.0 | 20.0 | 18.9 | 38.9 | 88.1 | 200 | Horizontal |
| 498.0 | < 16.0 | 20.1 | < 36.1 | < 63.8 | 200 | Horizontal |
| 714.0 | 10.0 | 24.7 | 34.7 | 54.3 | 200 | Horizontal |
| 834.0 | < 8.0 | 26.0 | < 34.0 | < 50.1 | 200 | Horizontal |

Remark:
Calculated measurement uncertainty : 30MHz to 1GHz $\pm 4.1\text{dB}$

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Radiation Emissions Measurement

Appl. : Western Rivers, Inc.
Model : 365
Operation: Transfer to PC Mode

Test Requirement: FCC 47CFR 15.109
Test Method: ANSI C63.4:2003
Test Date: 2008-01-15

Level : Class B

Limits for Radiated Emissions:

| Frequency Range [MHz] | Quasi-Peak Limits [μV/m] |
|--------------------------|-----------------------------|
| 30-88 | 100 |
| 88-216 | 150 |
| 216-960 | 200 |
| Above960 | 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.

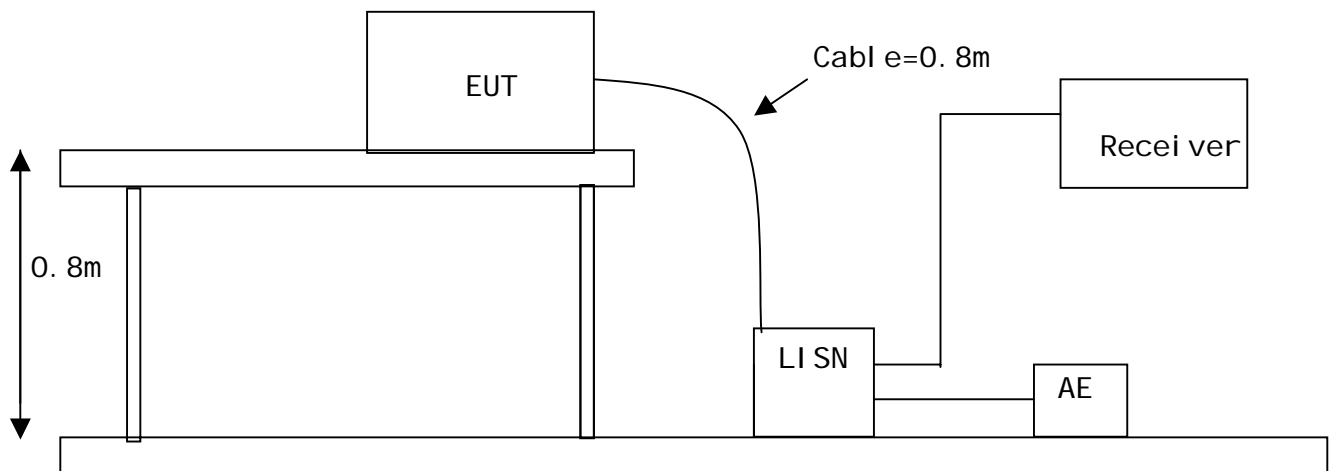
| Radiated Emissions Quasi-Peak | | | | | | |
|-------------------------------|-------------------------------|------------------------------|-----------------------------|---------------------------|-------------------|---------------------|
| Frequency MHz | Measured Level @3m dBμV | Correction Factor dB/m | Field Strength dBμV/m | Field Strength μV/m | Limit @3m μV/m | E-Field Polarity |
| 30.0 | < 16.0 | 18.4 | < 34.4 | < 52.5 | 100 | Horizontal |
| 150.0 | < 16.0 | 15.1 | < 31.1 | < 35.9 | 150 | Horizontal |
| 300.0 | < 16.0 | 16.6 | < 32.6 | < 42.7 | 200 | Horizontal |
| 500.0 | < 8.0 | 20.1 | < 28.1 | < 25.4 | 200 | Horizontal |
| 700.0 | < 8.0 | 24.6 | < 32.6 | < 42.7 | 200 | Horizontal |
| 1000.0 | < 8.0 | 27.8 | < 35.8 | < 61.7 | 500 | Horizontal |

Remark:
Calculated measurement uncertainty : 30MHz to 1GHz ±4.1dB

Test Results

Conducted Emission

Conducted Emission Measurement on AC (0.15MHz to 30MHz) Setup diagram:



Test Method:

The test was performed in accordance with ANSI C63.4:2003, with the following: initial measurements were performed in peak and average detection modes on the live line. Any emissions recorded within 25dB of the relevant limit lines 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.

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Conducted Emission on AC (0.15MHz to 30MHz)

Appl. : Western Rivers, Inc.
Model : 365
Operation: Play Mode

Test Requirement: FCC 47CFR 15.107
Test Method: ANSI C63.4: 2003
Test Date: 2008-01-14

Level : Class B

Limits for Conducted Emissions:

| 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.

Please refer to the following table for individual results.

Final Measurement Results:

| Frequency (MHz) | Quasi -Peak | | Average | | Conductor (Live / Neutral) |
|--------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------------|
| | Level (dB μ V) | Limit (dB μ V) | Level (dB μ V) | Limit (dB μ V) | |
| 0.15 | 40.0 | 66.0 | 37.0 | 56.0 | Live |
| 0.21 | 38.0 | 63.2 | 35.0 | 54.0 | |
| 0.44 | 35.0 | 57.0 | 32.0 | 51.8 | |
| 1.54 | 30.0 | 56.0 | 27.0 | 46.0 | |
| 6.30 | < 28.0 | 60.0 | < 25.0 | 46.0 | |
| 24.84 | 35.0 | 60.0 | 32.0 | 50.0 | |
| 30.00 | < 28.0 | 60.0 | < 25.0 | 50.0 | |
| 0.15 | 37.0 | 66.0 | 37.0 | 56.0 | Neutral |
| 0.21 | 35.0 | 63.6 | 37.0 | 54.0 | |
| 0.44 | 32.0 | 57.0 | 31.0 | 51.8 | |
| 1.54 | 27.0 | 56.0 | 27.0 | 46.0 | |
| 6.30 | < 25.0 | 60.0 | < 25.0 | 46.0 | |
| 24.84 | 32.0 | 60.0 | 30.0 | 50.0 | |
| 30.00 | < 25.0 | 60.0 | < 25.0 | 50.0 | |

Remarks:
Calculated measurement uncertainty: ± 3.2 dB

Conducted Emission on AC (0.15MHz to 30MHz)

Appl. : Western Rivers, Inc.
Model : 365
Operation: Transfer to PC Mode

Test Requirement: FCC 47CFR 15.107
Test Method: ANSI C63.4: 2003
Test Date: 2008-01-14

Level : Class B

Limits for Conducted Emissions:

| 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.

Please refer to the following table for individual results.

Final Measurement Results:

| Frequency (MHz) | Quasi-Peak | | Average | | Conductor (Live / Neutral) |
|--------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------------|
| | Level (dB μ V) | Limit (dB μ V) | Level (dB μ V) | Limit (dB μ V) | |
| 0.15 | 43.0 | 66.0 | 40.0 | 56.0 | Live |
| 0.20 | 40.0 | 63.6 | 37.0 | 54.0 | |
| 0.44 | 35.0 | 57.0 | 32.0 | 51.8 | |
| 1.59 | 30.0 | 56.0 | 27.0 | 46.0 | |
| 5.05 | 40.0 | 60.0 | 37.0 | 46.0 | |
| 7.21 | 42.0 | 60.0 | 39.0 | 50.0 | |
| 23.88 | 32.0 | 60.0 | 29.0 | 50.0 | |
| 30.00 | < 28.0 | 60.0 | < 25.0 | 50.0 | |
| 0.15 | 45.0 | 66.0 | 42.0 | 56.0 | Neutral |
| 0.20 | 40.0 | 63.6 | 37.0 | 54.0 | |
| 0.44 | 35.0 | 57.0 | 32.0 | 51.8 | |
| 1.59 | 32.0 | 56.0 | 29.0 | 46.0 | |
| 5.05 | 38.0 | 60.0 | 35.0 | 46.0 | |
| 7.21 | 42.0 | 60.0 | 39.0 | 50.0 | |
| 23.88 | 30.0 | 60.0 | 27.0 | 50.0 | |
| 30.00 | < 28.0 | 60.0 | < 25.0 | 50.0 | |

Remarks:
Calculated measurement uncertainty: ± 3.2 dB

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APPENDIX A

LIST OF MEASUREMENT EQUIPMENT

| <u>Equi . No.</u> | <u>Equi pment</u> | <u>Manufacturer</u> | <u>Model No.</u> | <u>Serial No.</u> | <u>Cal ibration Date</u> | <u>Due Date</u> |
|------------------------------|-----------------------------------|----------------------------|-------------------------|--------------------------|-------------------------------------|------------------------|
| E005 | EMI Test Receiver | Rohde & Schwarz | ESVP | 893417/019 | 21 Sep 2007 | 20 Sep 2008 |
| E003 | Spectrum Analyzer With Q/P | Tektronix | 2712 | B034039 | 21 Sep 2007 | 20 Sep 2008 |
| E004 | RF Preselector | Tektronix | 2706 | B010649 | 21 Sep 2007 | 20 Sep 2008 |
| E057 | EMI Test Receiver | Rohde & Schwarz | ESVP | 863112/007 | 17 Aug 2007 | 16 Aug 2008 |
| E084 | Spectrum Analyzer | Hewlett Packard | HP 8568B | 3001A04930 | 07 Jul 2006 | 06 Jul 2008 |
| E085 | Displayer of Spectrum Analyzer | Hewlett Packard | HP 85662A | 2033A01841 | 07 Sep 2006 | 06 Sep 2008 |
| E086 | Quasi -Peak Adaptor | Hewlett Packard | HP 85650A | 2527A00785 | 07 Sep 2006 | 06 Sep 2008 |
| E090 | RF Signal Generator | Rohde & Schwarz | SMX | 832566/005 | 04 Mar 2007 | 03 Mar 2008 |
| E001 | Antenna System | Schwarzbeck | D-6917 | UHALP9107 | 04 Mar 2007 | 03 Mar 2008 |
| E002 | Antenna System | Schwarzbeck | VHA9103 | VHA91031253 | 04 Mar 2007 | 03 Mar 2008 |
| E008 | LISN | EMCO | 3825/2 | 1115 | 20 Sep 2005 | 19 Sep 2008 |
| E115 | Limiter 50 Ohm DC~1800MHz | Hewlett Packard | 11867A | ----- | 04 Mar 2007 | 03 Mar 2008 |
| E100 | Turntable | Chi oce Way | TB1200 | 51112 | ----- | ----- |
| E006 | RF Signal Generator | Fluke | 6060A | 3880007 | 04 Mar 2007 | 03 Mar 2008 |
| E092 | Antenna Tripole | IT&T | UH800100 | A05011 | 04 Mar 2007 | 03 Mar 2008 |
| E098 | Pre-Amplifier | Hewlett Packard | 8447D | 2944A09089 | 04 Mar 2007 | 03 Mar 2008 |
| E099 | Antenna Mast | Schwarzbeck | AM9014 | ----- | ----- | ----- |
| E113 | Spectrum Analyzer | Hewlett Packard | HP8566B | 2747A05483 | 07 Sep 2006 | 06 Sep 2008 |

APPENDIX B

Photos of EUT

Front View of the product



Rear View of the product



Component Side View



Copper Side View



Photos of EUT

Front View of the product



Rear View of the product



Component Side View



Copper Side View

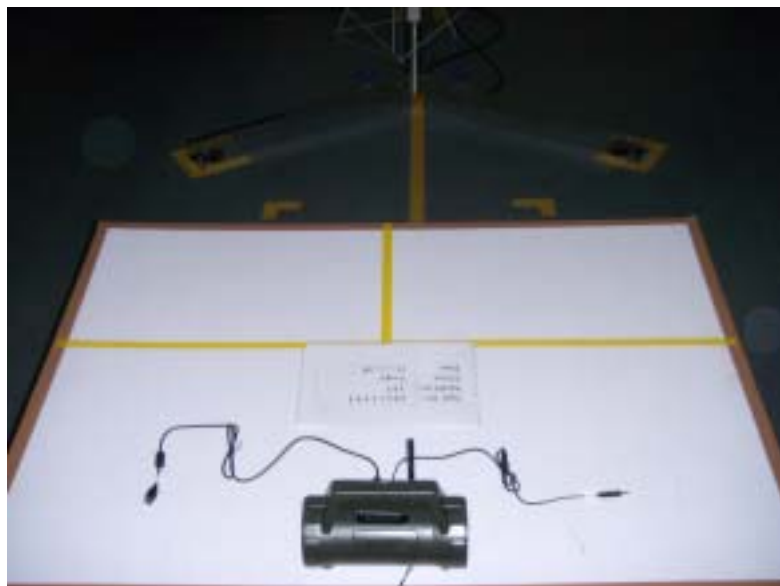


Photos of EUT

Measurement of Radiated Emission Test Set up



Measurement of Radiated Emission Test Set up

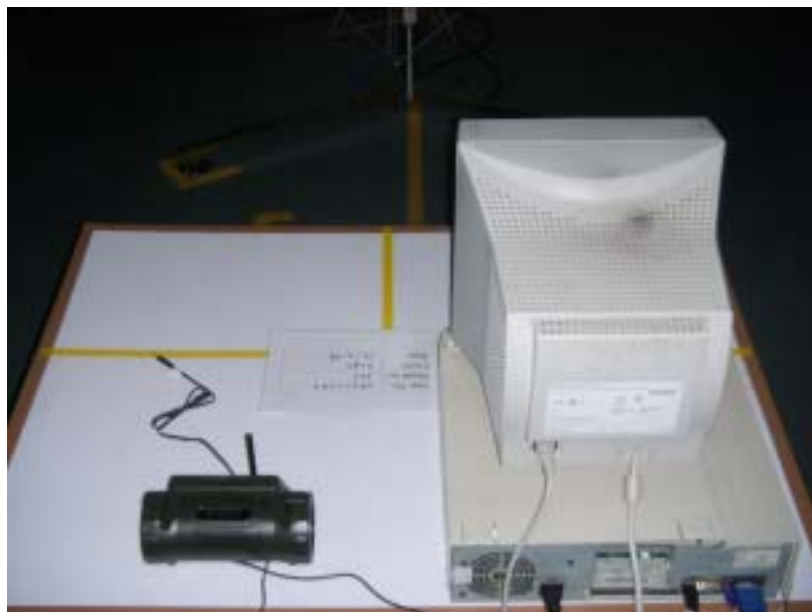


Photos of EUT

Measurement of Radiated Emission Test Set up



Measurement of Radiated Emission Test Set up



Photos of EUT

Measurement of Conducted Emission Test Set up



Measurement of Conducted Emission Test Set up



Photos of EUT

Measurement of Conducted Emission Test Set up



Measurement of Conducted Emission Test Set up



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