

Shenzhen Huatongwei International Inspection Co., Ltd.

Keji S,12th, Road, Hi-tech Industrial Park, Shenzhen, Guangdong, China Phone:86-755-26748099 Fax:86-755-26748089 http://www.szhtw.com.cn







FCC TEST REPORT

47 CFR FCC Part 15 Subpart B (Class B)

Radio Frequency Devices – Unintentional Radiators – Limits and methods of measurement

Report Reference No...... TRE1202002902

Compiled by

(position+printed name+signature)..: File administrators Eric Zhang

Supervised by

(position+printed name+signature)..: Test Engineer Tim Zhang

Approved by

(position+printed name+signature)..: Manager Wenliang Li

Date of issue...... Apr 23, 2012

Testing Laboratory Name Shenzhen Huatongwei International Inspection Co., Ltd

Address Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China

Applicant's name...... Hytera Communications Corporation Ltd.

Address HYT Tower, Hi-Tech Industrial Park North, Nanshan

District, Shenzhen China. 518057

Test specification:

Standard 47 CFR FCC Part 15 Subpart B - Unintentional Radiators

TRF Originator...... Shenzhen Huatongwei International Inspection CO., Ltd

Master TRF...... Dated 2006-06

Shenzhen Huatongwei International Inspection Co., Ltd. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen Huatongwei International Inspection Co., Ltd is acknowledged as copyright owner and source of the material. Shenzhen Huatongwei International Inspection Co., Ltd takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

Test item description TWO-WAY RADIO

Trade Mark:

Model/Type reference...... TC-320 U(1)

Listed Models /

Ratings DC 3.70 V

Modulation FM

Channel Separation...... 12.5KHz

Operation Frequency Range 400-470 MHz

Result..... Positive

Report No.: TRE1202002902 Page 2 of 20 Issued:2012-04-23

TEST REPORT

| Test Report No. : | TRE1202002902 | Apr 23, 2012 |
|-------------------|----------------|---------------|
| | TRE 1202002902 | Date of issue |

Equipment under Test : TWO-WAY RADIO

Model /Type : TC-320 U(1)

Listed Models : /

Applicant : Hytera Communications Corporation Ltd.

Address : HYT Tower, Hi-Tech Industrial Park North, Nanshan

District, Shenzhen China. 518057

Manufacturer : **Hytera Communications Corporation Ltd.**

Address : HYT Tower, Hi-Tech Industrial Park North, Nanshan

District, Shenzhen China. 518057

| Test Result according to the standards on page 4: | Positive |
|---|----------|
|---|----------|

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Report No.: TRE1202002902 Page 3 of 20 Issued:2012-04-23

Contents

| <u>1.</u> | TEST STANDARDS | 4 |
|-----------|---|----|
| | | |
| <u>2.</u> | SUMMARY | 5 |
| 2.1. | General Remarks | 5 |
| 2.2. | Product Description | 5 |
| 2.3. | Equipment under Test | 5 |
| 2.4. | Short description of the Equipment under Test (EUT) | 5 |
| 2.5. | EUT Configuration | 5 |
| 2.6. | EUT operation mode | 5 |
| 2.7. | Modifications | 6 |
| 2.8. | EUT configuration | 6 |
| 2.9. | Related Submittal(s) / Grant (s) | 6 |
| 2.10. | Modifications | 6 |
| 2.11. | Note | 6 |
| <u>3.</u> | TEST ENVIRONMENT | 7 |
| 3.1. | Address of the test laboratory | 7 |
| 3.2. | Test Facility | 7 |
| 3.3. | Environmental conditions | 8 |
| 3.4. | Statement of the measurement uncertainty | 8 |
| 3.5. | Equipments Used during the Test | 9 |
| <u>4.</u> | TEST CONDITIONS AND RESULTS | 10 |
| 4.1. | Conducted Emissions Test | 10 |
| 4.2. | Radiated Emission Test | 13 |
| 5. | TEST SETUP PHOTOS OF THE EUT | 19 |

Report No.: TRE1202002902 Page 4 of 20 Issued:2012-04-23

1. TEST STANDARDS

The tests were performed according to following standards:

47 CFR FCC Part 15 Subpart B - Unintentional Radiators

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 9 kHz to 40GHz

Report No.: TRE1202002902 Page 5 of 20 Issued:2012-04-23

2. SUMMARY

2.1. General Remarks

| Date of receipt of test sample | : | Feb 09, 2012 |
|--------------------------------|---|--------------|
| | | |
| Testing commenced on | : | Feb 09, 2012 |
| | | |
| Testing concluded on | : | Apr 23, 2012 |

2.2. Product Description

The Hytera Communications Corporation Ltd.'s Model: TC-320 U(1) or the "EUT" as referred to in this report; more general information as follows, for more details, refer to the user's manual of the EUT.

| Name of EUT | TWO-WAY RADIO | | | |
|----------------------|---|--|--|--|
| Model Number | TC-320 U(1) | | | |
| FCC ID | YAMTC-320U1 | | | |
| Rated Output Power | 4 Watts(36.02 dBm)/0.5 Watts(26.99 dBm) | | | |
| Modilation Tune | FM for Analog Voice | | | |
| Modilation Type | Analog | 11K0F3E for 12.5KHz Channel Separation | | |
| Channel Separation | Analog Voice | 12.5KHz | | |
| Antenna Type | External | | | |
| Frequency Range | 400-470 MHz | | | |
| Maximum Output Power | Analog | 4.80 W for 12.5 KHz Channel Separation | | |

2.3. Equipment under Test

Power supply system utilised

| Power supply voltage | : | 0 | 120V / 60 Hz | 0 | 115V / 60Hz |
|----------------------|---|--------------|-------------------------------|----|-------------|
| | | 0 | 12 V DC | 0 | 24 V DC |
| | | lacktriangle | Other (specified in blank bel | ow |) |

DC 3.70V from battery

2.4. Short description of the Equipment under Test (EUT)

400-470 MHz U frequency band TWO-WAY RADIO (TC-320 U(1)).

For more details, refer to the user's manual of the EUT.

Serial number: Prototype

2.5. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.6. EUT operation mode

The EUT has been tested under typical operating condition.

Report No.: TRE1202002902 Page 6 of 20 Issued:2012-04-23

2.7. Modifications

No modifications were implemented to meet testing criteria.

2.8. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

- supplied by the manufacturer
- O supplied by the lab

| 0 | Power Cable | Length (m): | / |
|---|-------------|---------------|---|
| | | Shield : | / |
| | | Detachable : | / |
| 0 | Multimeter | Manufacturer: | / |
| | | Model No. : | / |

2.9. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: YAMTC-320U1 filing to comply with FCC Part 15 B Rules

2.10. Modifications

No modifications were implemented to meet testing criteria.

2.11. Note

1. The EUT is a U frequency band (400-470 MHz) TWO-WAY RADIO, The functions of the EUT listed as below:

| | Test Standards | Reference Report |
|-------|----------------|------------------|
| Radio | FCC Part 90 | TRE1202002901 |
| Radio | FCC Part 15 B | TRE1202002902 |

Report No.: TRE1202002902 Page 7 of 20 Issued:2012-04-23

3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Shenzhen Huatongwei International Inspection Co., Ltd Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China Phone: 86-755-26715686 Fax: 86-755-26748089

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 (2003) and CISPR Publication 22.

3.2. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories, Date of Registration: Mar 30, 2009. Valid time is until Feb 28, 2015.

A2LA-Lab Cert. No. 2243.01

Shenzhen Huatongwei International Inspection Co., Ltd, EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing. Valid time is until Sept 30, 2013.

FCC-Registration No.: 662850

Shenzhen Huatongwei International Inspection Co., Ltd, EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 662850, Renewal date Jun 01, 2009.

IC-Registration No.: 5377

The 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377 on Jan 25, 2011. Valid time is until Jan 24, 2014

ACA

Shenzhen Huatongwei International Inspection Co., Ltd, EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

NEMKO-Aut. No.: ELA125

Shenzhen Huatongwei International Inspection Co., Ltd has been assessed the quality assurance system, the testing facilities, qualifications and testing practices of the relevant parts of the organization. The quality assurance system of the Laboratory has been validated against ISO/IEC 17025:2005 or equivalent. The laboratory also fulfils the conditions described in Nemko Document NLA-10, the Authorization is valid through July 07, 2013.

VCCI

The 3m Semi-anechoic chamber $(12.2m\times7.95m\times6.7m)$ and Shielded Room $(8m\times4m\times3m)$ of Shenzhen Huatongwei International Inspection Co., Ltd has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2484. Date of Registration: December 20, 2006. Valid time is until December 20, 2012.

Main Ports Conducted Interference Measurement of Shenzhen Huatongwei International Inspection Co., Ltd has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: C-2726. Date of Registration: December 20, 2006. Valid time is until December 19, 2012.

Report No.: TRE1202002902 Page 8 of 20 Issued:2012-04-23

DNV

Shenzhen Huatongwei International Inspection Co Ltd has been found to comply with the requirements of DNV towards subcontractor of EMC and safety testing services in conjunction with the EMC and Low voltage Directives and in the voluntary field. The acceptance is based on a formal quality Audit and follow-ups according to relevant parts of ISO/IEC Guide 17025(2005), in accordance with the requirements of the DNV Laboratory Quality Manual towards subcontractors. Valid time is until Aug 24, 2013..

3.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature: 15-35 ° C

Humidity: 30-60 %

Atmospheric pressure: 950-1050mbar

3.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

| Test | Range | Measurement Uncertainty | Notes |
|-----------------------|------------|----------------------------|-------|
| Radiated Emission | 30~1000MHz | 4.24 dB | (1) |
| Radiated Emission | 1~18GHz | 5.16 dB | (1) |
| Radiated Emission | 18-40GHz | 5.54 dB | (1) |
| Conducted Disturbance | 0.15~30MHz | 3.39 dB | (1) |

⁽¹⁾ This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Report No.: TRE1202002902 Page 9 of 20 Issued:2012-04-23

3.5. Equipments Used during the Test

| Cond | ucted Emission | | | | |
|------|----------------------|---------------|-----------|------------|-----------------|
| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Calibration Due |
| 1 | EMI TEST RECEIVER | Rohde&Schwarz | ESCI | 100106 | 2011/10/23 |
| 2 | ARTIFICIAL MAINS | Rohde&Schwarz | ESH2-Z5 | 100028 | 2011/10/23 |
| 3 | PULSE LIMITER | Rohde&Schwarz | ESHSZ2 | 100044 | 2011/10/23 |
| 4 | EMI TEST SOFTWARE | Rohde&Schwarz | ES-K1 | N/A | 2011/10/23 |

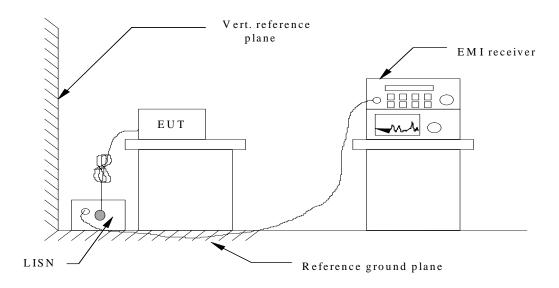
| Radia | ted Emission | | | | |
|-------|----------------------------|---------------|------------------------|--------------|------------|
| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
| 1 | ULTRA-BROADBAND ANTENNA | Rohde&Schwarz | HL562 | 100015 | 2011/10/23 |
| 2 | EMI TEST RECEIVER | Rohde&Schwarz | ESI 26 | 100009 | 2011/10/23 |
| 3 | RF TEST PANEL | Rohde&Schwarz | TS / RSP | 335015/ 0017 | 2011/10/23 |
| 4 | TURNTABLE | ETS | 2088 | 2149 | 2011/10/23 |
| 5 | ANTENNA MAST | ETS | 2075 | 2346 | 2011/10/23 |
| 6 | EMI TEST OFTWARE | Rohde&Schwarz | ESK1 | N/A | 2011/10/23 |
| 7 | HORN ANTENNA | Rohde&Schwarz | HF906 | 100039 | 2011/10/23 |
| 8 | Amplifer | Sonoma | 310N | E009-13 | 2011/10/23 |
| 9 | JS amplifer | Rohde&Schwarz | JS4-00101800- 28-5A | F201504 | 2011/10/23 |

Report No.: TRE1202002902 Page 10 of 20 Issued:2012-04-23

4. TEST CONDITIONS AND RESULTS

4.1. Conducted Emissions Test

TEST CONFIGURATION



TEST PROCEDURE

- 1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4-2009.
- 2 Support equipment, if needed, was placed as per ANSI C63.4-2009.
- 3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4-2009.
- 4 The EUT received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5 All support equipments received AC power from a second LISN, if any.
- 6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
- 8 During the above scans, the emissions were maximized by cable manipulation.

CONDUCTED POWER LINE EMISSION LIMIT

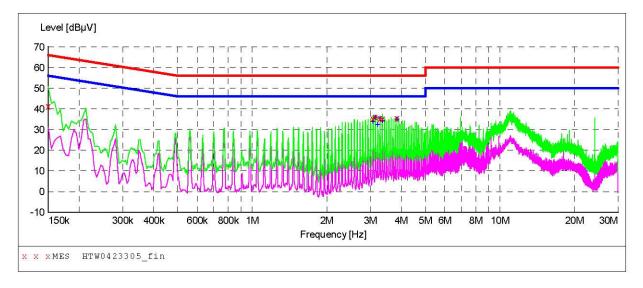
Limit of Conducted Disturbance at Mains Ports (Class B)

| Eroguanov Bango (MUz) | Limits (dBuV) | | | |
|-----------------------|---------------|---------|--|--|
| Frequency Range (MHz) | Quasi-Peak | Average | | |
| 0.150~0.500 | 66~56 | 56~46 | | |
| 0.500~5.000 | 56 | 46 | | |
| 5.000~30.000 | 60 | 50 | | |

Note: (1) The tighter limit shall apply at the edge between two frequency bands.

TEST RESULTS

SCAN TABLE: "Voltage (9K-30M)FIN"
Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "HTW0423305 fin"

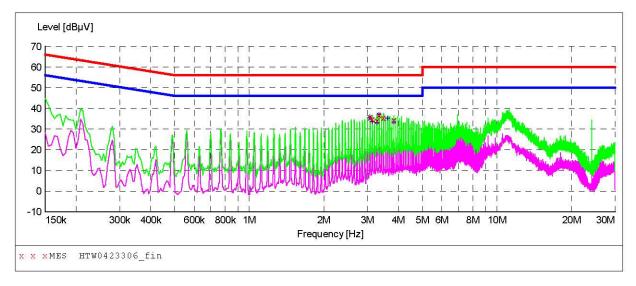
| 4/23/2012 | 9:22AM | | | | | | |
|-----------|----------|----------|-------|--------|----------|------|-----|
| Frequen | cy Level | l Transd | Limit | Margin | Detector | Line | PE |
| M | Hz dBµ\ | J dB | dΒμV | dB | | | |
| | MODEL | | | | | | |
| 0.1500 | 00 41.40 | 10.1 | 66 | 24.6 | QP | N | GND |
| 3.0705 | 00 35.20 | 10.2 | 56 | 20.8 | QP | N | GND |
| 3.1425 | 00 36.30 | 10.2 | 56 | 19.7 | QP | N | GND |
| 3.2820 | 00 35.60 | 10.2 | 56 | 20.4 | QP | N | GND |
| 3.3540 | 00 35.30 | 10.2 | 56 | 20.7 | QP | N | GND |
| 3.8400 | 00 35.60 | 10.2 | 56 | 20.4 | QP | N | GND |

MEASUREMENT RESULT: "HTW0423305 fin2"

| 4/23/2012 9: Frequency MHz | 22AM Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
|----------------------------------|-----------------------|--------------|---------------|--------------|----------|------|-----|
| 3.075000 | 33.90 | 10.2 | 46 | 12.1 | AV | N | GND |
| 3.142500 | 36.00 | 10.2 | 46 | 10.0 | AV | N | GND |
| 3.214500 | 32.60 | 10.2 | 46 | 13.4 | AV | N | GND |
| 3.282000 | 35.50 | 10.2 | 46 | 10.5 | AV | N | GND |
| 3.354000 | 34.40 | 10.2 | 46 | 11.6 | AV | N | GND |
| 3.840000 | 35.10 | 10.2 | 46 | 10.9 | AV | N | GND |

Page 1/1 4/23/2012 9:22AM HTW0423305

SCAN TABLE: "Voltage (9K-30M)FIN"
Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "HTW0423306_fin"

| 4/23/2012 | 9:26AM | | | | | | |
|-----------|----------|--------|-------|--------|----------|------|-----|
| Frequen | cy Level | Transd | Limit | Margin | Detector | Line | PE |
| M | Hz dBµV | dB | dBµV | dB | | | |
| | | | | | | | |
| 3.0705 | 00 35.80 | 10.2 | 56 | 20.2 | QP | L1 | GND |
| 3.1425 | 00 34.90 | 10.2 | 56 | 21.1 | QP | L1 | GND |
| 3.2820 | 00 34.10 | 10.2 | 56 | 21.9 | QP | L1 | GND |
| 3.3495 | 00 37.00 | 10.2 | 56 | 19.0 | QP | L1 | GND |
| 3.4890 | 00 35.60 | 10.2 | 56 | 20.4 | QP | L1 | GND |
| 3.8400 | 00 34.40 | 10.2 | 56 | 21.6 | QP | L1 | GND |

MEASUREMENT RESULT: "HTW0423306 fin2"

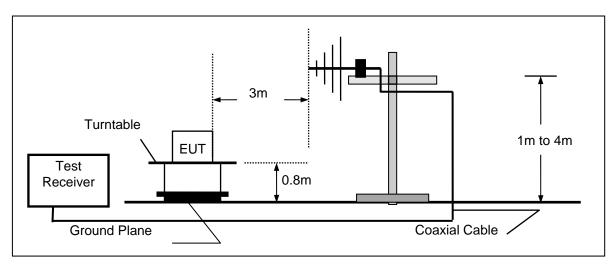
| 4/23/2012 | 9:26AM | | | | | | |
|-----------|----------|--------|-------|--------|----------|------|-----|
| Frequen | cy Level | Transd | Limit | Margin | Detector | Line | PE |
| M | IHz dBµ\ | / dB | dBµV | dB | | | |
| | | | | | | | |
| 3.0705 | 00 35.50 | 10.2 | 46 | 10.5 | AV | L1 | GND |
| 3.1425 | 00 33.70 | 10.2 | 46 | 12.3 | AV | L1 | GND |
| 3.2820 | 00 33.20 | 10.2 | 46 | 12.8 | AV | L1 | GND |
| 3.3495 | 00 36.90 | 10.2 | 46 | 9.1 | AV | L1 | GND |
| 3.6285 | 00 35.40 | 10.2 | 46 | 10.6 | AV | L1 | GND |
| 3.8400 | 00 33.60 | 10.2 | 46 | 12.4 | AV | L1 | GND |

Page 1/1 4/23/2012 9:26AM HTW0423306

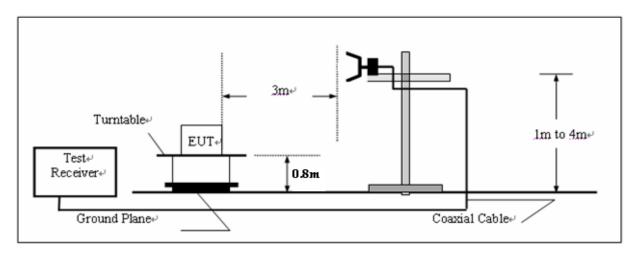
4.2. Radiated Emission Test

TEST CONFIGURATION

a) Radiated Emission Test Set-Up, Frequency below 1000MHz



b) Radiated Emission Test Set-Up, Frequency above 1000MHz



TEST PROCEDURE

- 1. The EUT is placed on a turntable, which is 0.8m above ground plane.
- The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Repeat above procedures until the measurements for all frequencies are complete.

FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AG

| Where FS = Field Strength | CL = Cable Attenuation Factor (Cable Loss) |
|---------------------------|--|
| RA = Reading Amplitude | AG = Amplifier Gain |
| AF = Antenna Factor | |

For example

| Frequency | FS | RA | AF | CL | AG | Transd |
|-----------|----------|----------|------|------|-------|--------|
| (MHz) | (dBµV/m) | (dBµV/m) | (dB) | (dB) | (dB) | (dB) |
| 300.00 | 40 | 58.1 | 12.2 | 1.6 | 31.90 | |

Transd=AF +CL-AG

RADIATION LIMIT

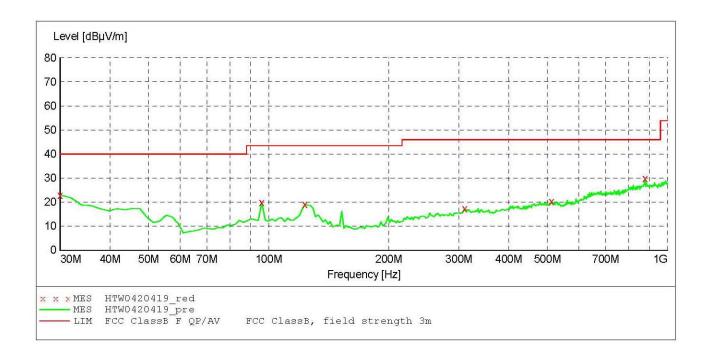
| Frequency (MHz) | Distance (Meters) | Field Strengths Limits (dBμV/m) |
|-----------------|-------------------|---------------------------------|
| 30 ~ 88 | 3 | 40 |
| 88~216 | 3 | 43.5 |
| 216 ~ 960 | 3 | 46 |
| 960~1000 | 3 | 54 |

Note: (1) The tighter limit shall apply at the edge between two frequency bands.

(2) Distance refers to the distance in meters between the test instrument antenna and the closest point of any part of the E.U.T.

TEST RESULTS

SWEEP TABLE: "test (30M-1G)"
Short Description: Fi Field Strength Detector Meas. IF Start Stop Transducer Frequency Frequency 30.0 MHz 1.0 GHz MaxPeak Bandw. Time Coupled 120 kHz HL562 201106



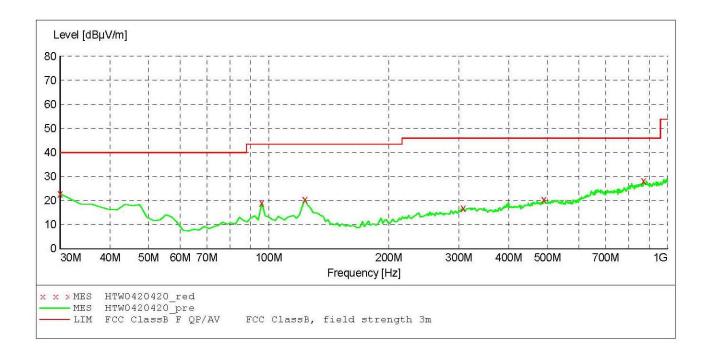
MEASUREMENT RESULT: "HTW0420419 red"

| 1/6/2012 12:5 | 57PM | | | | | | | |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| Frequency MHz | Level dBµV/m | Transd dB | Limit dBµV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
| 30.000000 | 22.90 | -11.3 | 40.0 | 17.1 | PK | 100.0 | 167.00 | HORIZONTAL |
| 96.092184 | 19.80 | -19.9 | 43.5 | 23.7 | PK | 100.0 | 308.00 | HORIZONTAL |
| 123.306613 | 19.10 | -19.5 | 43.5 | 24.4 | PK | 300.0 | 151.00 | HORIZONTAL |
| 309.919840 | 17.20 | -16.3 | 46.0 | 28.8 | PK | 300.0 | 245.00 | HORIZONTAL |
| 512.084168 | 20.20 | -13.1 | 46.0 | 25.8 | PK | 100.0 | 0.00 | HORIZONTAL |
| 879.478958 | 29.80 | -7.0 | 46.0 | 16.2 | PK | 100.0 | 92.00 | HORIZONTAL |

Report No.: TRE1202002902 Page 16 of 20 Issued:2012-04-23

SWEEP TABLE: "test (30M-1G)"

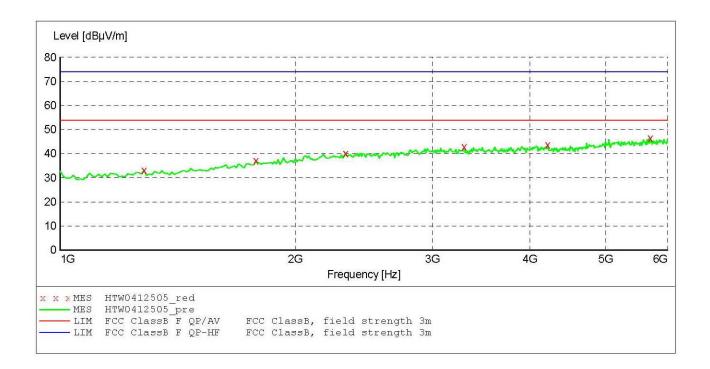
Short Description: Field Strength Detector Meas. IF
Time Bandw. Transducer Start Stop Frequency Frequency Time Bandw.
30.0 MHz 1.0 GHz MaxPeak Coupled 120 kHz HL562 201106



MEASUREMENT RESULT: " HTW0420420 red"

| 1/6/2012 12: | 59PM | | | | | | | |
|--------------|--------|--------|--------|--------|------|--------|---------|--------------|
| Frequency | Level | Transd | Limit | Margin | Det. | Height | Azimuth | Polarization |
| MHz | dBµV/m | dB | dBμV/m | dB | | cm | deg | |
| | | | | | | | | |
| 30.000000 | 22.80 | -11.3 | 40.0 | 17.2 | PK | 100.0 | 150.00 | VERTICAL |
| 96.092184 | 19.00 | -19.9 | 43.5 | 24.5 | PK | 100.0 | 106.00 | VERTICAL |
| 123.306613 | 20.50 | -19.5 | 43.5 | 23.0 | PK | 300.0 | 122.00 | VERTICAL |
| 307.975952 | 16.90 | -16.4 | 46.0 | 29.1 | PK | 300.0 | 293.00 | VERTICAL |
| 490.701403 | 20.40 | -13.6 | 46.0 | 25.6 | PK | 300.0 | 3.00 | VERTICAL |
| 871.703407 | 28.20 | -6.9 | 46.0 | 17.8 | PK | 300.0 | 360.00 | VERTICAL |

SWEEP TABLE: "test (1G-18G) P"
Short Description: EN 55 EN 55022 Field Strength Detector Meas. IF Start Stop Transducer Frequency Frequency Time Bandw.
1.0 GHz 18.0 GHz MaxPeak Coupled 1 MHz HF906 2011

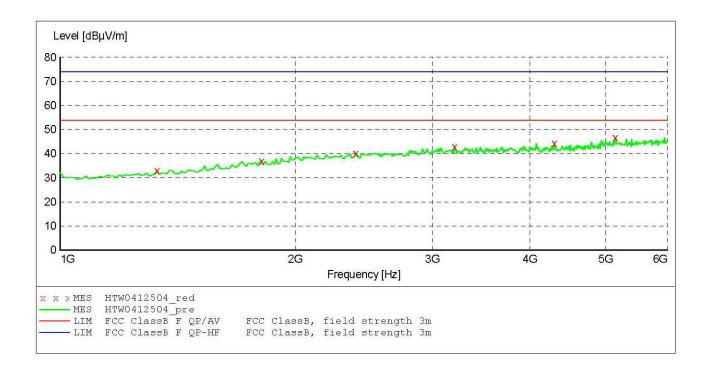


MEASUREMENT RESULT: "HTW0412505 red"

| 4/12/2012 4: | 38PM | | | | | | | |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| Frequency MHz | Level dBµV/m | Transd dB | Limit dBµV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
| 1280,561122 | 33.10 | - 7.5 | 53.9 | 20.8 | PK | 100.0 | 72.00 | HORIZONTAL |
| 1781.563126 | 37.10 | -3.2 | 53.9 | 16.8 | PK | 100.0 | 274.00 | HORIZONTAL |
| 2322.645291 | 40.20 | 0.1 | 53.9 | 13.7 | PK | 100.0 | 85.00 | HORIZONTAL |
| 3294.589178 | 42.80 | 2.4 | 53.9 | 11.1 | PK | 100.0 | 7.00 | HORIZONTAL |
| 4216.432866 | 43.60 | 3.5 | 53.9 | 10.3 | PK | 100.0 | 14.00 | HORIZONTAL |
| 5709.418838 | 46.40 | 6.9 | 53.9 | 7.5 | PK | 100.0 | 281.00 | HORIZONTAL |

SWEEP TABLE: "test (1G-18G) P"
Short Description: EN 55 EN 55022 Field Strength Detector Meas. Start Stop IF Transducer Frequency Frequency Time Band...

1.0 GHz 18.0 GHz MaxPeak Coupled 1 MHz HF906 2011



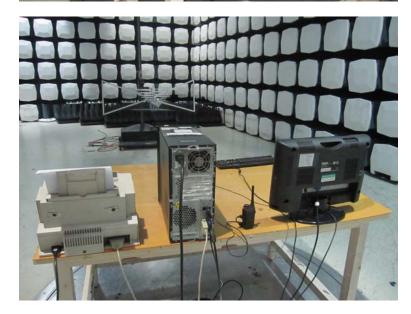
MEASUREMENT RESULT: "HTW0412504 red"

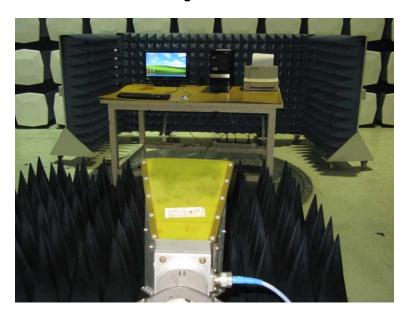
| 4/12/2012 4:3 | 36PM | | | | | | | |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| Frequency MHz | Level dBµV/m | Transd dB | Limit dBµV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
| 1330.661323 | 33.00 | -7.1 | 53.9 | 20.9 | PK | 100.0 | 157.00 | VERTICAL |
| 1811.623246 | 36.90 | -3.0 | 53.9 | 17.0 | PK | 100.0 | 49.00 | VERTICAL |
| 2392.785571 | 40.10 | 0.4 | 53.9 | 13.8 | PK | 100.0 | 292.00 | VERTICAL |
| 3204.408818 | 42.90 | 2.3 | 53.9 | 11.0 | PK | 100.0 | 9.00 | VERTICAL |
| 4296.593186 | 44.30 | 3.5 | 53.9 | 9.6 | PK | 100.0 | 326.00 | VERTICAL |
| 5148.296593 | 46.60 | 5.9 | 53.9 | 7.3 | PK | 100.0 | 66.00 | VERTICAL. |

5. Test Setup Photos of the EUT









.....End of Report.....