

**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 PART 90 TEST REPORT

### FCC Part 90

**Report Reference No.**.....: **TRE11100045**

**FCC ID**.....: **Z5VTR-400U2**

Compiled by

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

*Eric Zhang*

Supervised by

( position+printed name+signature)...: Test Engineer Wenliang Li

*Wenliang Li*

Approved by

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

*Wenliang Li*

Date of issue.....: Dec 18, 2011

**Testing Laboratory Name** .....: **Shenzhen Huatongwei International Inspection Co., Ltd**

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

**Applicant's name**.....: **GTS Radio, Inc**

Address .....: 2181W.California Avenue, Suite250, USA

#### Test specification:

Standard .....: **FCC Part 90: PRIVATE LAND MOBILE RADIO SERVICES**

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

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

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**Test item description** .....: Two-way Radio

Trade Mark .....:

**TR**

Model/Type reference.....: TR-400 U(2)

Listed Models .....: /

Manufacturer

**GTS Radio, Inc**

Ratings .....: DC 7.40V

Modulation .....: FM

Channel Separation.....: 12.5KHz

Rated Power .....: 4Watts(36.02dBm)/2Watts(33dBm)

Operation Frequency Range.....: From 450 MHz to 470 MHz

Result.....: **Positive**

**T E S T   R E P O R T**

<b>Test Report No. :</b> <b>TRE11100045</b>	Dec 18, 2011 Date of issue
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Equipment under Test                :        Two-way Radio

Model /Type                                :        TR-400 U(2)

Listed Models                                :        /

**Applicant**                                        :        **GTS Radio, Inc**

Address    :        2181W.Califmia Avenue, Suite250, USA

**Manufacturer**                                        :        **GTS Radio, Inc**

Address    :        2181W.Califmia Avenue, Suite250, USA

<b>Test Result</b> according to the standards on page 4:	<b>Positive</b>
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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.

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## **1. TEST STANDARDS**

The tests were performed according to following standards:

**FCC Rules Part 90:** PRIVATE LAND MOBILE RADIO SERVICES.

**TIA/EIA 603:** Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

**ANSI C63.4-2003:** 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 40 GHz.

**FCC Rules Part 15 Subpart B:** RADIO FREQUENCY DEVICES-Unintentional Radiators

## 2. SUMMARY

### 2.1. General Remarks

Date of receipt of test sample	:	Oct 15, 2011
Testing commenced on	:	Dec 18, 2011
Testing concluded on	:	Dec 18, 2011

**Note: the test report only redoes Transmitter Radiated Spurious Emssion and Receiver Radiated Spurious Emssion according to product change;**

### 2.2. Product Description

The GTS Radio, Inc's Model: TR-400 U(2) or the "EUT" as referred to in this report; more general information as follows:

Name of EUT	Two-way Radio	
Model Number	TR-400 U(2)	
FCC ID	Z5VTR-400U2	
Rated Output Power	4Watts(36.02dBm)/2Watts(33.00dBm)	
Modulation Type	FM for Analog Voice	
Emission Designator	Analog	11K0F3E for 12.5KHz Channel Separation
Channel Separation	Analog Voice	12.5KHz
Antenna Type	External	
Frequency Range	From 450 MHz to 470 MHz	
Maximum Transmitter Power	Analog	<u>4.67 W</u> for 12.5 KHz Channel Separation

### 2.3. Equipment under Test

#### Power supply system utilised

Power supply voltage	:	<input type="radio"/> 120V / 60 Hz	<input type="radio"/> 115V / 60Hz
		<input type="radio"/> 12 V DC	<input type="radio"/> 24 V DC
		<input checked="" type="radio"/> Other (specified in blank below)	

DC 7.40V from battery

#### Test frequency list

Modulation Type	Test Channel	Test Frequency
Analog/FM	Low Channel	450.1250 MHz
	Middle Channel	460.1250 MHz
	High Channel	469.9875 MHz

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

450-470 MHz U frequency band Two-way Radio (TR-400 U(2)).

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 and The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

## 2.7. EUT configuration

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

● - supplied by the manufacturer

○ - supplied by the lab

○	Power Cable	Length (m) :	/
		Shield :	/
		Detachable :	/
○	Multimeter	Manufacturer :	/
		Model No. :	/

## 2.8. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: **Z5VTR-400U2** filing to comply with FCC Part 90 Rules

## 2.9. Modifications

No modifications were implemented to meet testing criteria.

## 2.10. Note

- The EUT is a 450-470MHz frequency band Two-way Radio (TR-400 U(2)), The functions of the EUT listed as below:

	Test Standards	Reference Report
Radio	FCC Part 90	TRE11100045

### **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 (2009) 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: August 02, 2007. Valid time is until March 29, 2012.

##### **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 to Sep 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 July 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 February 13th, 2009.

##### **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×7.95m×6.7m) and Shielded Room (8m×4m×3m) 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, 2009. Valid time is until December 19, 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, 2009. Valid time is until December 19, 2012.

## 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 24 August, 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. Configuration of Tested System

Fig. 2-1 Configuration of Tested System

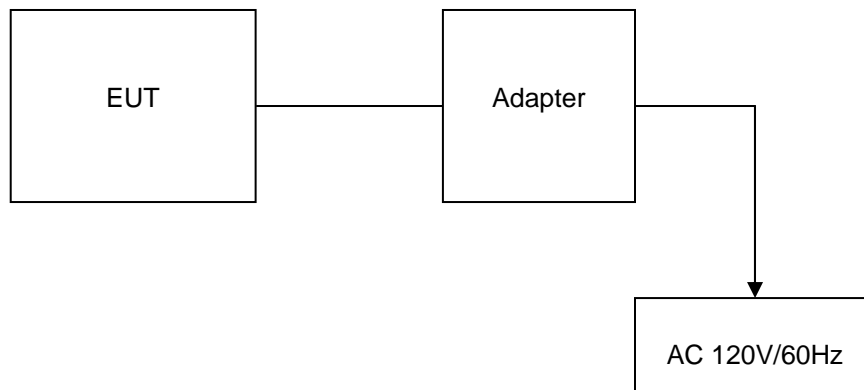


Table 2-1 Equipment Used in Tested System

**Adapter:** P/N: PS1014  
Model: DSA-15P-12 US 120120  
Input: 100-240V~50/60Hz 0.5A  
Output: +12V DC 1A  
Power Cable: 180cm  
◇ Shielded      ◆ Unshielded

### 3.5. Discription of Tested Modes

The EUT (Two-way Radio) has been tested under normal operating condition. Three channels (the high, the middle and the low) are chosen for testing at each channel separation (12.5 KHz).

### 3.6. 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 Items	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)

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

### 3.7. Test Description

FCC Rules	Description of Test	Test Result
§ 15.109	Receiver Radiated Spurious Emission	Complies
§ 90.210	Transmitter Radiated Spurious Emission	Complies

### 3.8. Equipments Used during the Test

Transmitter Radiated Spurious Emission & Occupied Bandwidth & Emission Mask & Receiver Radiated Spurious Emission				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Ultra-Broadband Antenna	Rohde&Schwarz	HL562	100015	23/10/2012
EMI Test Receiver	Rohde&Schwarz	ESI 26	100009	23/10/2012
RF Test Panel	Rohde&Schwarz	TS / RSP	335015/ 0017	N/A
HORN ANTENNA	Rohde&Schwarz	HF906	100039	23/10/2012
Turntable	ETS	2088	2149	N/A
Antenna Mast	ETS	2075	2346	N/A
EMI Test Software	Rohde&Schwarz	ES-K1 V1.71	N/A	23/10/2012
RF COMMUNICATION TEST SET	HP	8920A	3813A10206	23/10/2012

## 4. TEST CONDITIONS AND RESULTS

### 4.1. Transmitter Radiated Spurious Emission

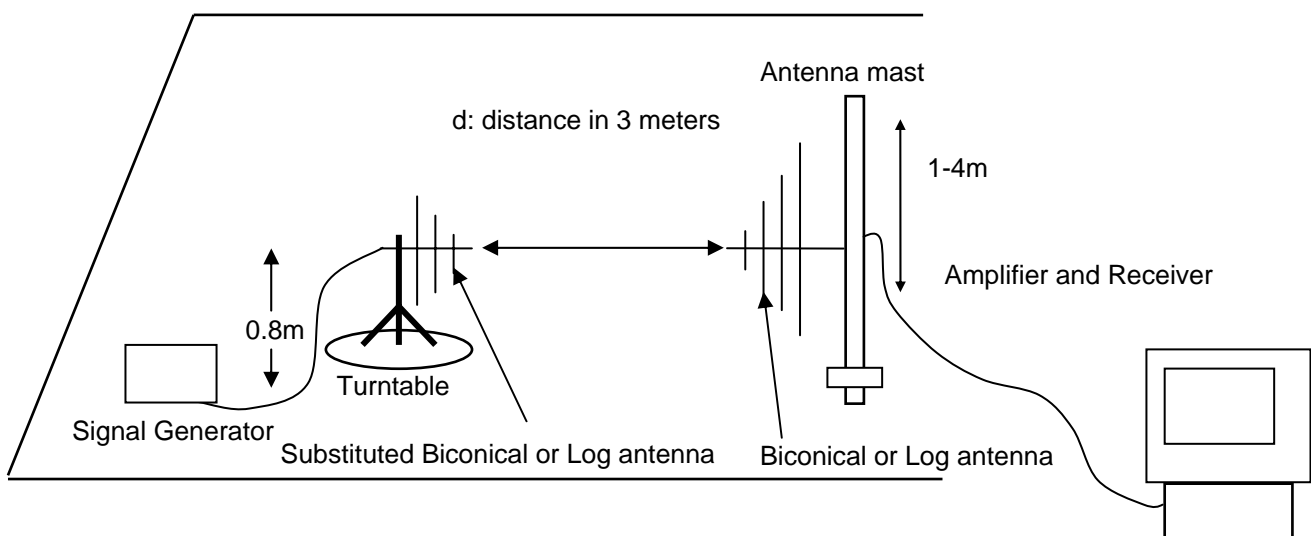
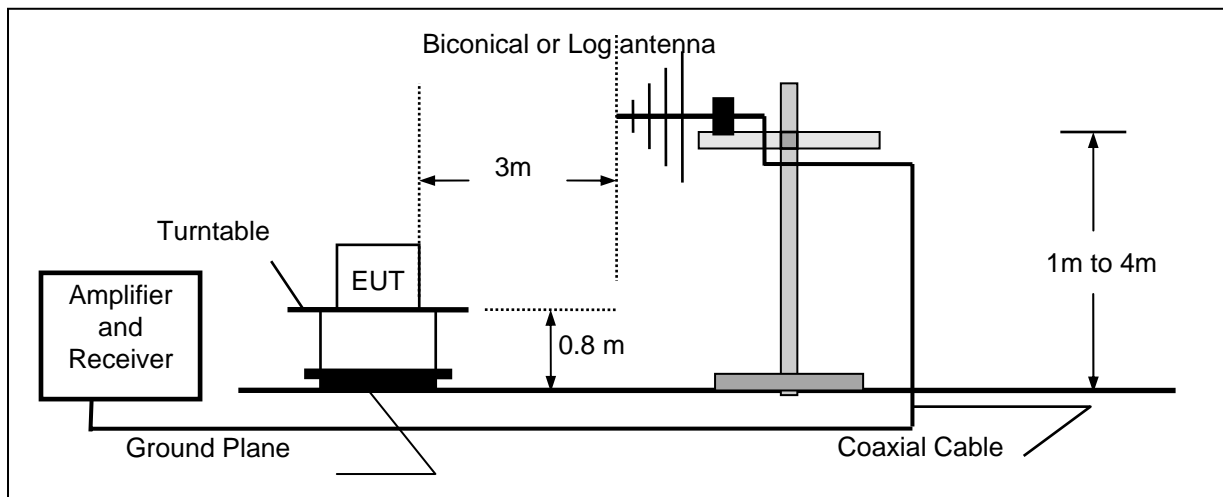
#### TEST APPLICABLE

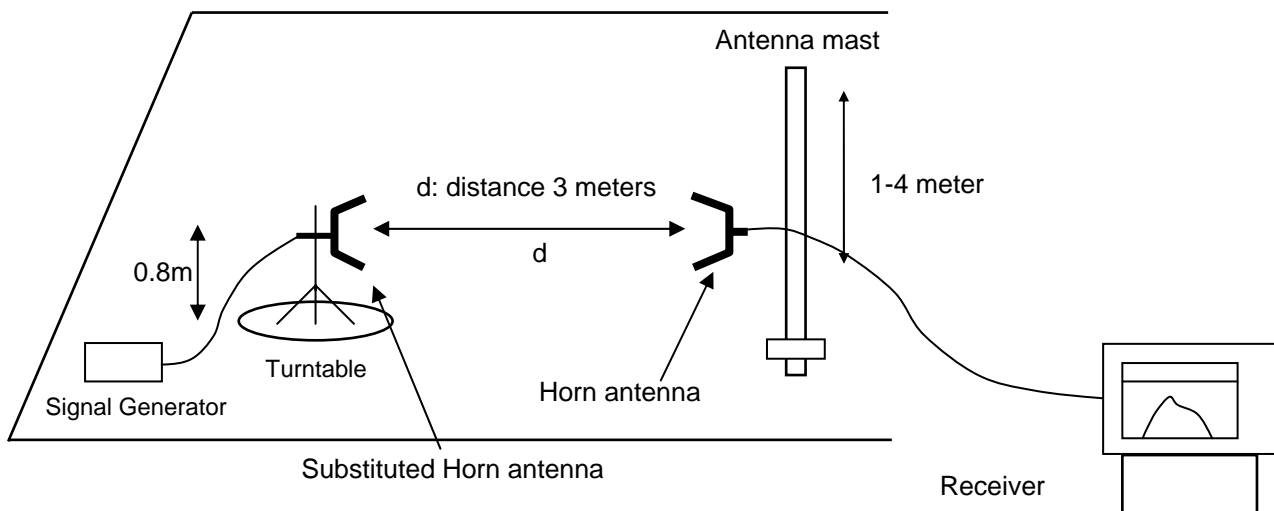
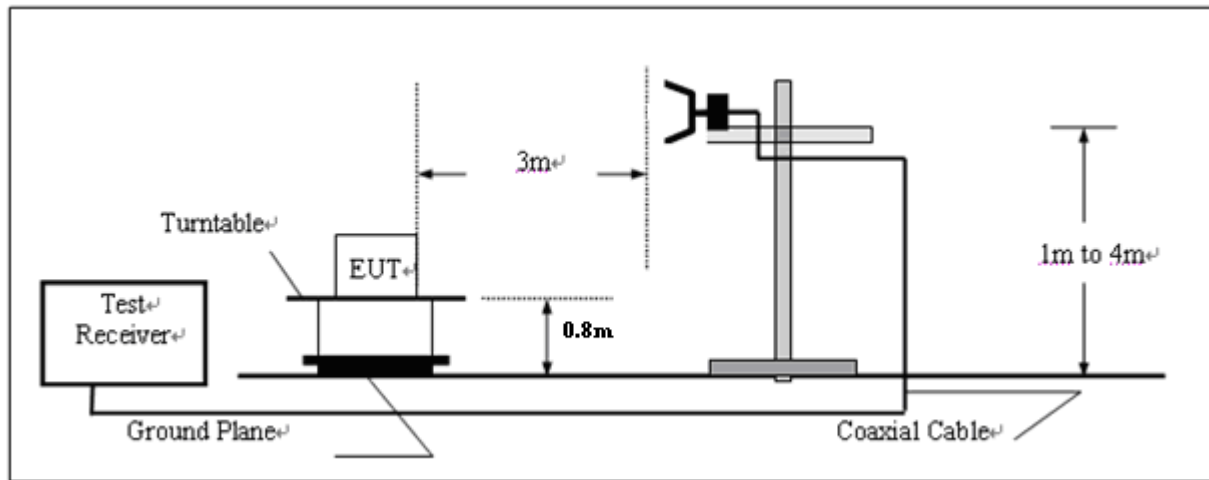
According to the TIA/EIA 603 test method, and according to Section 90.210, the power of each unwanted emission shall be less than Transmitted Power as specified below for transmitters designed to operate with 12.5 KHz channel bandwidth:

- 1 On any frequency removed from the center of the authorized bandwidth  $f_o$  to 5.625 KHz removed from  $f_o$ : Zero dB
- 2 On any frequency removed from the center of the authorized bandwidth by a displacement frequency ( $f_d$  in KHz)  $f_o$  of more than 5.625 KHz but no more than 12.5 KHz: At least 7.27dB
- 3 On any frequency removed from the center of the authorized bandwidth by a displacement frequency ( $f_d$  in KHz)  $f_o$  of more than 12.5 KHz: At least  $50 + 10 \log (P)$  dB or 70 dB, which ever is lesser attenuation.

#### TEST CONFIGURATION

##### Below 1GHz



**Above 1GHz****TEST PROCEDURE**

- 1 Set the EMI Receiver (for measuring E-Field) and Receiver (for measuring EIRP) as follows:  
 Center Frequency: equal to the signal source  
 Resolution BW: 100 KHz  
 Video BW: VBW > RBW  
 Detector Mode: positive  
 Average: off  
 Span: 3 x the signal bandwidth
- 2 Load an appropriate correction factors file in EMI Receiver for correcting the field strength reading level  
 Total Correction Factor recorded in the EMI Receiver = Cable Loss + Antenna Factor + Amplifier Gain  
 $E \text{ (dBuV/m)} = \text{Reading (dBuV)} + \text{Total Correction Factor (dB)}$
- 3 The transmitter under test was placed at the specified height on a non-conducting turntable (80 cm height)
- 4 Substitute the EUT by a signal generator and one of the following transmitting antenna (substitution antenna):  
 DIPOLE antenna for frequency from 30-1000 MHz or  
 HORN antenna for frequency above 1 GHz}.
- 5 Mount the transmitting antenna at 1.0 meter high from the ground plane.
- 6 Use one of the following antenna as a receiving antenna:  
 DIPOLE antenna for frequency from 30-1000 MHz or  
 HORN antenna for frequency above 1 GHz}.
- 7 If the DIPOLE antenna is used, tune its elements to the frequency as specified in the calibration manual.
- 8 Adjust both transmitting and receiving antenna in a VERTICAL polarization.
- 9 Tune the EMI Receivers to the test frequency.
- 10 Lower or raise the test antenna from 1 to 4 meters until the maximum signal level was detected.
- 11 The transmitter was rotated through 360° about a vertical axis until a higher maximum signal was received.

- 12 Lower or raise the test antenna from 1 to 4 meters until the maximum signal level was detected.
  - 13 Adjust input signal to the substitution antenna until an equal or a known related level to that detected from the transmitter was obtained in the test receiver.
  - 14 Record the power level read from the Average Power Meter and calculate the ERP/EIRP as follows:  

$$P = P_1 - L_1 = (P_2 + L_2) - L_1 = P_3 + A + L_2 - L_1$$

$$\text{EIRP} = P + G_1 = P_3 + L_2 - L_1 + A + G_1$$

$$\text{ERP} = \text{EIRP} - 2.15 \text{ dB}$$

$$\text{Total Correction factor in EMI Receiver} = L_2 - L_1 + G_1$$
- Where:
- P: Actual RF Power fed into the substitution antenna port after corrected.
  - P<sub>1</sub>: Power output from the signal generator
  - P<sub>2</sub>: Power measured at attenuator A input
  - P<sub>3</sub>: Power reading on the Average Power Meter
  - EIRP: EIRP after correction
  - ERP: ERP after correction
- 15 Adjust both transmitting and receiving antenna in a Horizontal polarization, then repeat step (11) to (14).
  - 16 Repeat step (4) to (16) for different test frequency
  - 17 Repeat steps (3) to (12) with the substitution antenna oriented in horizontal polarization.
  - 18 Actual gain of the EUT's antenna is the difference of the measured EIRP and measured RF power at the RF port. Correct the antenna gain if necessary.

## TEST RESULTS

The Transmitter Radiated Spurious Emission was performed to the Rated high power (4Watt) and Rated low power (1Watt) the datum that reported below is the worst case (Rated high power) of the two rated power conditions.

### Modulation Type: FM

FCC Part 22.359, 74.462, 80.211 and 90.210 and RSS Gen, RSS 119 Issue 11 (12.5 kHz bandwidth only): On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f<sub>d</sub> in kHz) of more than 12.5 kHz at least:

Low:  $50 + 10 \log (\text{Pwatts}) = 50 + 10 \log (4.67) = 56.69 \text{ dB}$

High:  $50 + 10 \log (\text{Pwatts}) = 50 + 10 \log (4.32) = 56.35 \text{ dB}$

Note: In general, the worse case attenuation requirement shown above was applied.

Calculation: Limit (dBm) = EL-50-10log10 (TP)

Notes: EL is the emission level of the Output Power expressed in dBm,

In this application, the EL is 36.02 dBm.

Limit (dBm) = 36.02-50-10log10 (4.67) = -20 dBm

Note: 1. In general, the worse case attenuation requirement shown above was applied.

2. The measurement frequency range from 30 MHz to 4 GHz.

3. \*\*\* means that the emission level is too low to be measured or at least 20 dB down than the limit.

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		Low Channel		Test Frequency		450.1250 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
900.250	54.55	Peak	H	300	234	-42.45	-20	22.45
1350.375	59.67	Peak	H	290	100	-37.11	-20	17.11
1800.500	56.43	Peak	H	100	122	-40.00	-20	20.00
...	...		H			...		
900.250	57.78	Peak	V	108	360	-38.67	-20	18.67
1350.375	66.29	Peak	V	100	201	-30.04	-20	10.04
1800.500	56.79	Peak	V	200	193	-39.52	-20	19.52
...	...		V			...		

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		Middle Channel		Test Frequency		460.1250 MHz		
Frequency (MHz)	E-Field Level (dBuV/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
920.250	56.90	Peak	H	300	322	-40.05	-20	20.05
1380.375	65.13	Peak	H	178	134	-31.44	-20	11.44
1840.500	57.83	Peak	H	267	78	-39.05	-20	19.05
...	...		H			...		
920.250	55.01	Peak	V	100	188	-41.41	-20	21.41
1380.375	61.61	Peak	V	100	200	-35.21	-20	15.21
1840.500	61.85	Peak	V	105	105	-34.79	-20	14.79
...	...		V			...		

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		High Channel		Test Frequency		469.9875 MHz		
Frequency (MHz)	E-Field Level (dBuV/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
939.975	53.71	Peak	H	159	100	-43.00	-20	23.00
1409.963	59.53	Peak	H	293	301	-36.91	-20	16.91
2819.925	51.90	Peak	H	100	67	-44.44	-20	24.44
...	...		H			...		
939.975	50.86	Peak	V	112	289	-45.48	-20	25.48
1409.963	60.11	Peak	V	100	105	-35.89	-20	15.89
2819.925	56.53	Peak	V	100	278	-40.34	-20	20.34
...	...		V					

## 4.2. Receiver Radiated Spurious Emission

### TEST APPLICABLE

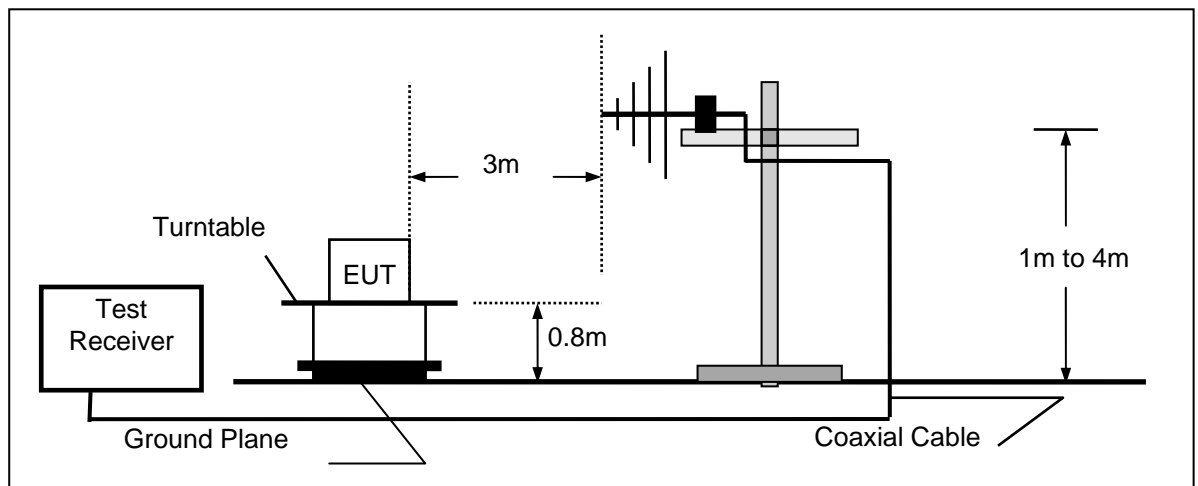
The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

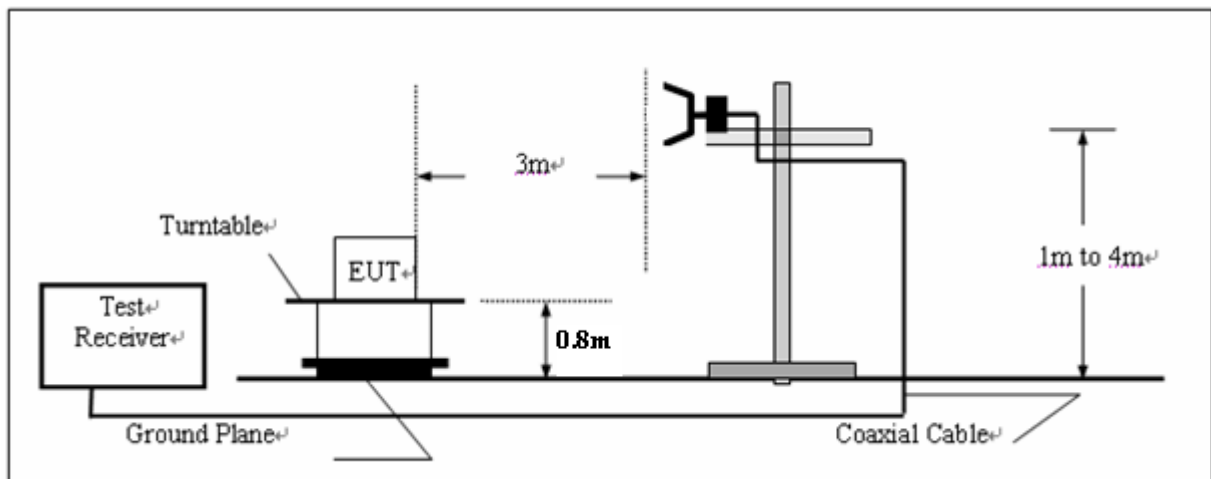
Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

### 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 was placed on a turn table which is 0.8m above ground plane.
- 2 Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0° to 360° to acquire the highest emissions from EUT
- 3 And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 4 Repeat above procedures until all frequency measurements have been completed.

**RECEIVER RADIATED SPOUIOUS LIMIT**

For unintentional device, according to § 15.109(a) and RSS-Gen, except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance (Meters)	Radiated (dBµV/m)	Radiated (µV/m)
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

**TEST RESULTS**

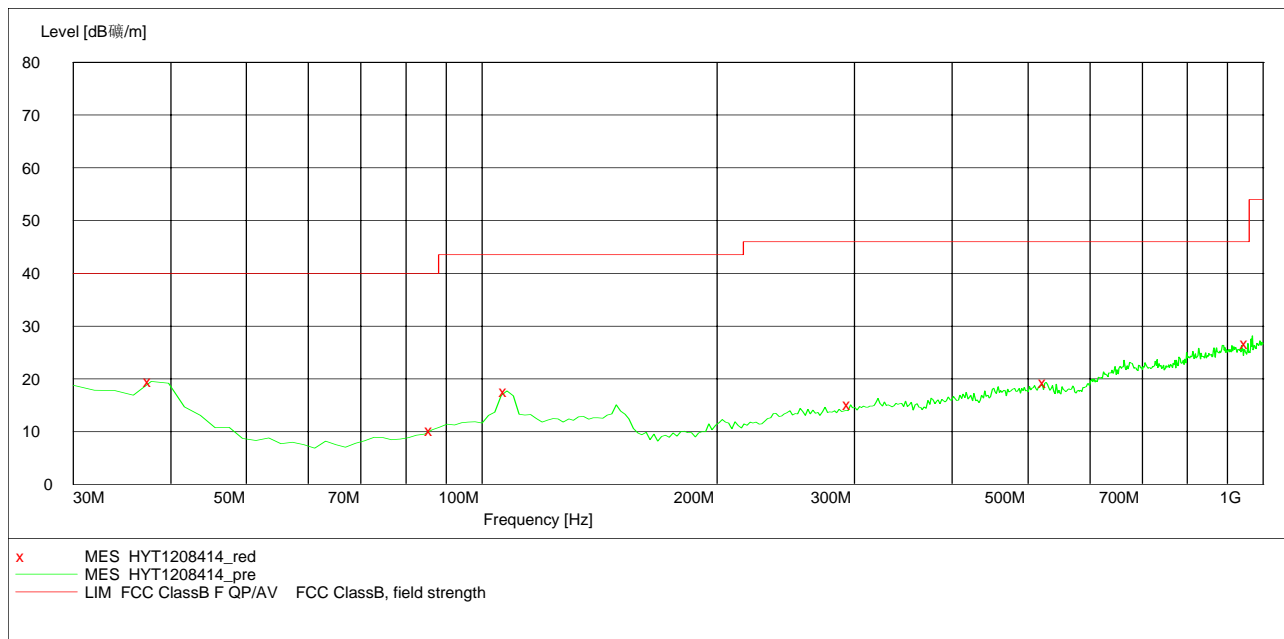
The Radiated Measurement are performed to the three channels (the top channel, the middle channel and the bottom channel), the datum recorded below is the worst case for each channel separation;and the EUT shall be scanned from 30 MHz to the 5th harmonic of the highest oscillator frequency in the digital devices or 1 GHz whichever is higher.

Modulation Type	Channel Separation	Test Frequency (MHz)	Polar.	Maximum Radiated Emissions		FCC Limit (dBuV/m)
				Frequency (MHz)	Datum (dBuV/m)	
FM	12.5 KHz	469.9875	H	955.29	26.70	46
			V	893.09	26.90	40
Test Results			Compliance			

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

Short Description: Field Strength

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

**MEASUREMENT RESULT: "HYT1208414\_red"**

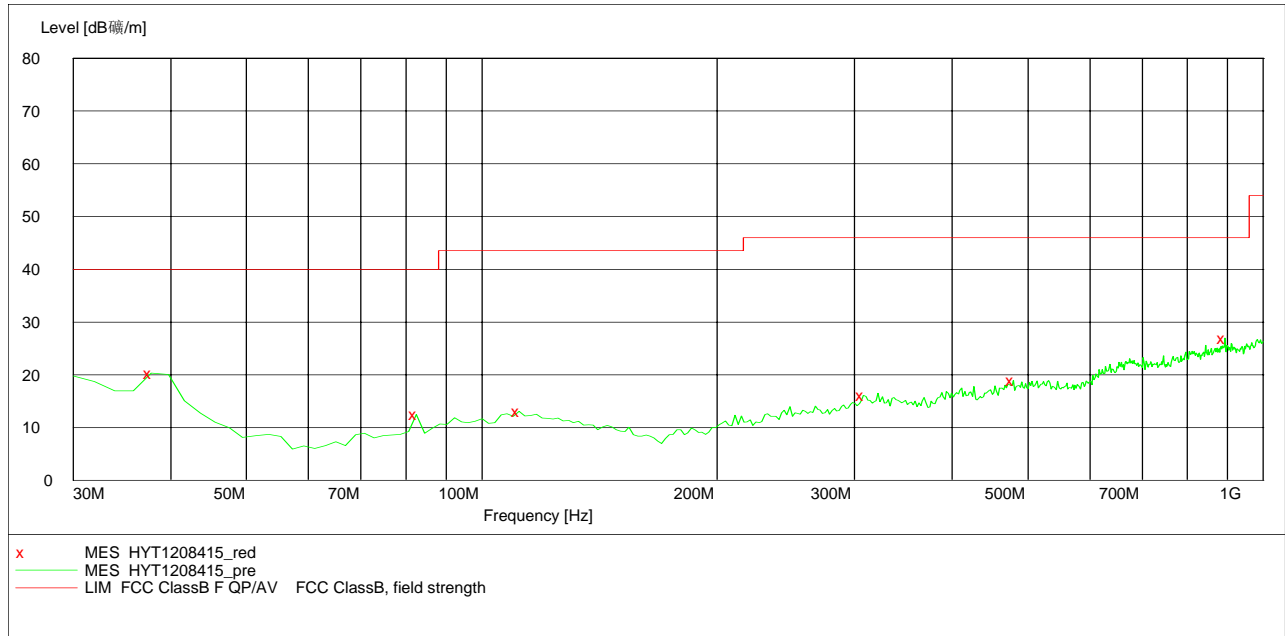
12/8/2011 10:16AM

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
37.775551	19.50	-15.7	40.0	20.5	Peak	300.0	166.00	HORIZONTAL
86.372745	10.30	-21.3	40.0	29.7	Peak	300.0	353.00	HORIZONTAL
107.755511	17.70	-20.2	43.5	25.8	Peak	300.0	119.00	HORIZONTAL
296.312625	15.10	-18.1	46.0	30.9	Peak	300.0	17.00	HORIZONTAL
527.635271	19.30	-14.1	46.0	26.7	Peak	100.0	337.00	HORIZONTAL
955.290581	26.70	-8.6	46.0	19.3	Peak	100.0	225.00	HORIZONTAL



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

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

***MEASUREMENT RESULT: "HYT1208415\_red"***

12/8/2011 10:18AM

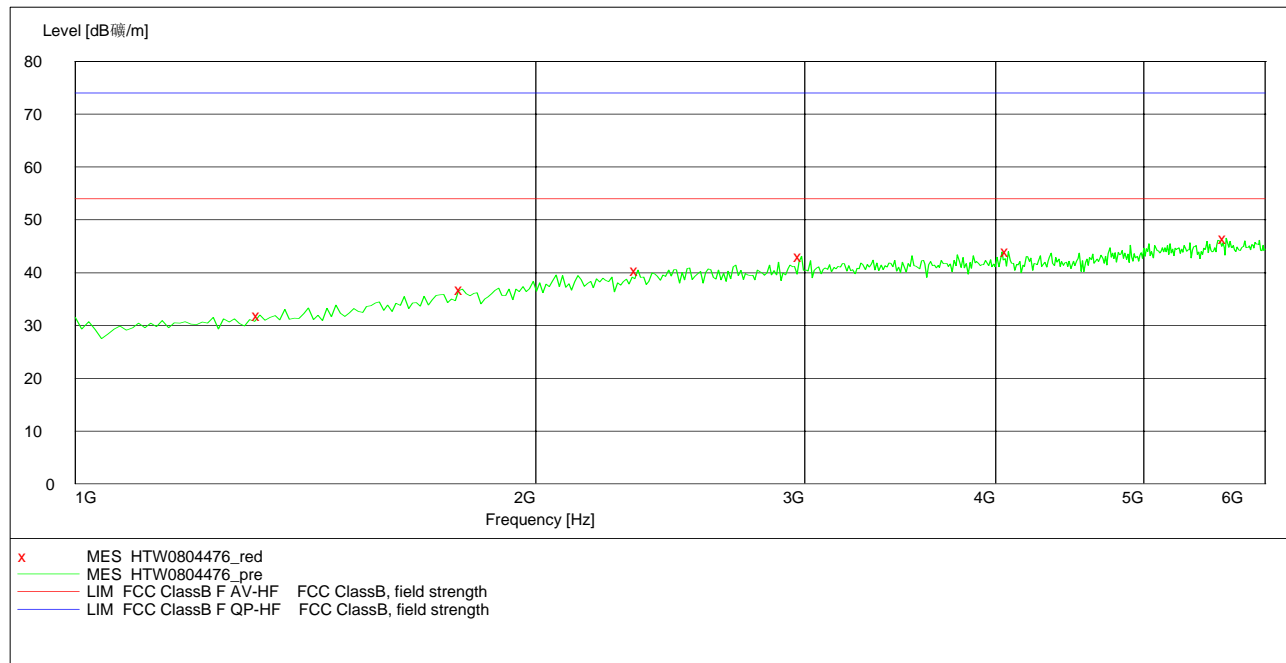
Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
37.775551	20.30	-15.7	40.0	19.7	Peak	100.0	95.00	VERTICAL
82.484970	12.50	-22.2	40.0	27.5	Peak	100.0	209.00	VERTICAL
111.643287	13.10	-20.2	43.5	30.4	Peak	100.0	133.00	VERTICAL
307.975952	16.10	-17.3	46.0	29.9	Peak	100.0	21.00	VERTICAL
479.038076	18.90	-14.5	46.0	27.1	Peak	100.0	80.00	VERTICAL
893.086172	26.90	-8.3	46.0	19.1	Peak	100.0	309.00	VERTICAL

Modulation Type	Channel Separation	Test Frequency (MHz)	Polar.	Maximum Radiated Emissions		FCC Limit (dBuV/m)
				Frequency (MHz)	Datum (dBuV/m)	
FM	12.5 KHz	469.9875	H	5468.94	46.10	54
			V	5659.32	46.50	54
Test Results			Compliance			

**SWEEP TABLE: "test (1G-18G) P"**

Short Description: EN 55022 Field Strength

Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
1.0 GHz	18.0 GHz	MaxPeak	Coupled	1 MHz	HF906 2011

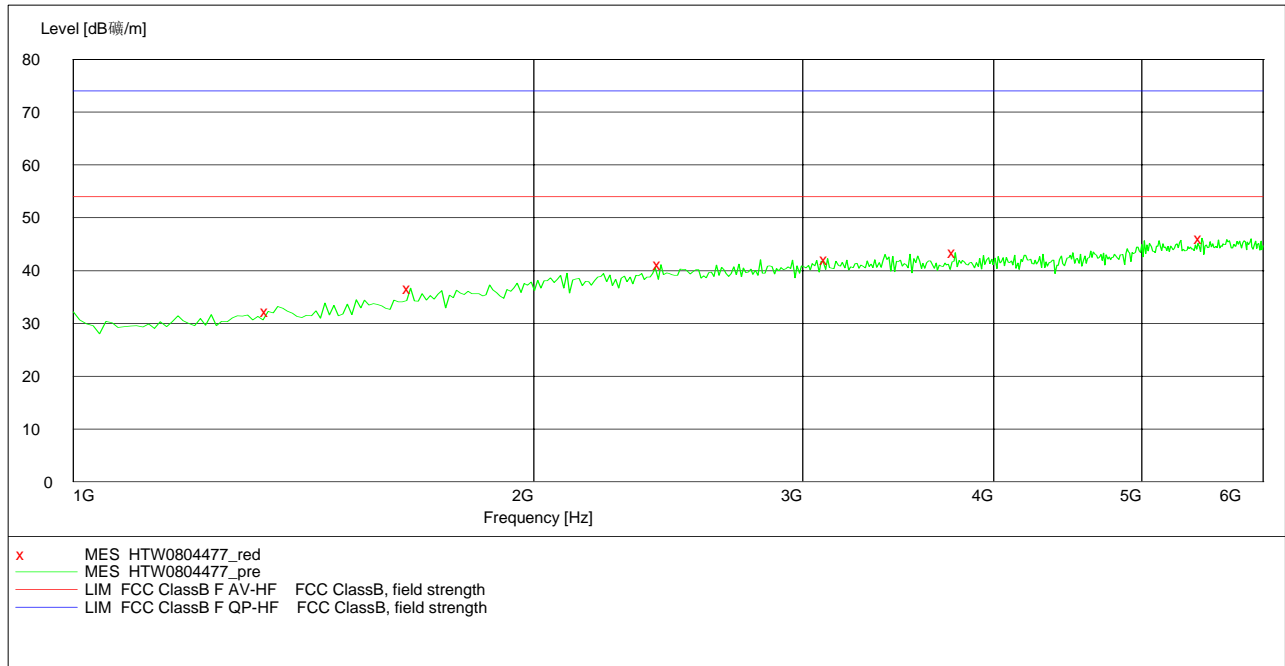
**MEASUREMENT RESULT: "HTW1208476\_red"**

12/8/2011 4:16AM

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1320.641283	32.00	-7.2	54.0	22.0	Peak	100.0	287.00	VERTICAL
1791.583166	36.90	-3.1	54.0	17.1	Peak	100.0	57.00	VERTICAL
2332.665331	40.50	0.2	54.0	13.5	Peak	100.0	299.00	VERTICAL
2983.967936	43.10	2.1	54.0	10.9	Peak	100.0	228.00	VERTICAL
4076.152305	44.00	3.6	54.0	10.0	Peak	100.0	222.00	VERTICAL
5659.318637	46.50	6.8	54.0	7.5	Peak	100.0	12.00	VERTICAL

***SWEEP TABLE: "test (1G-18G) P"***

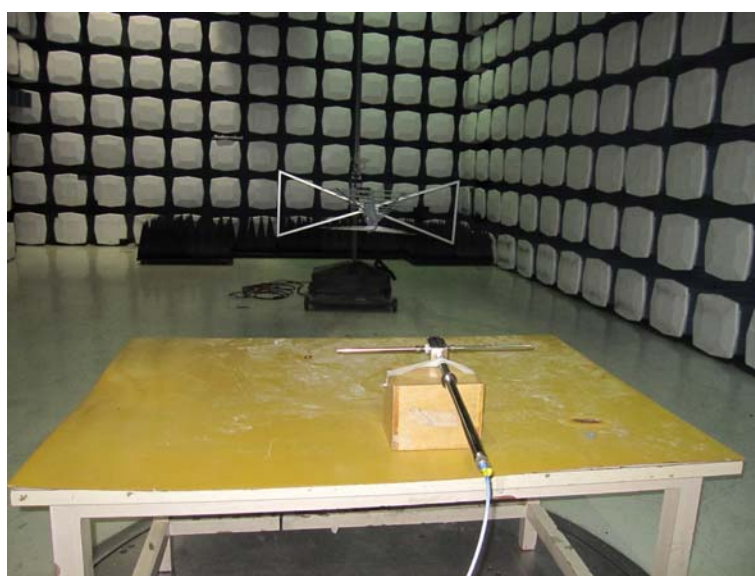
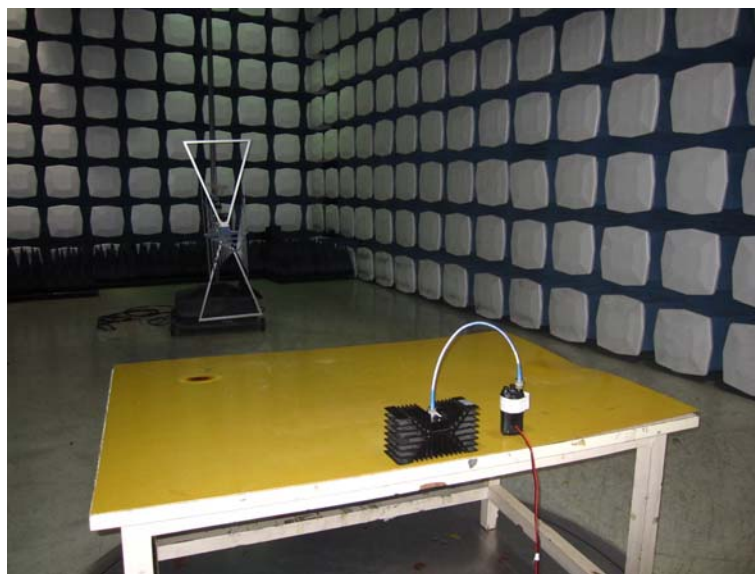
Short Description: EN 55022 Field Strength  
Start Stop Detector Meas. IF Transducer  
Frequency Frequency Time Bandw.  
1.0 GHz 18.0 GHz MaxPeak Coupled 1 MHz HF906 2011

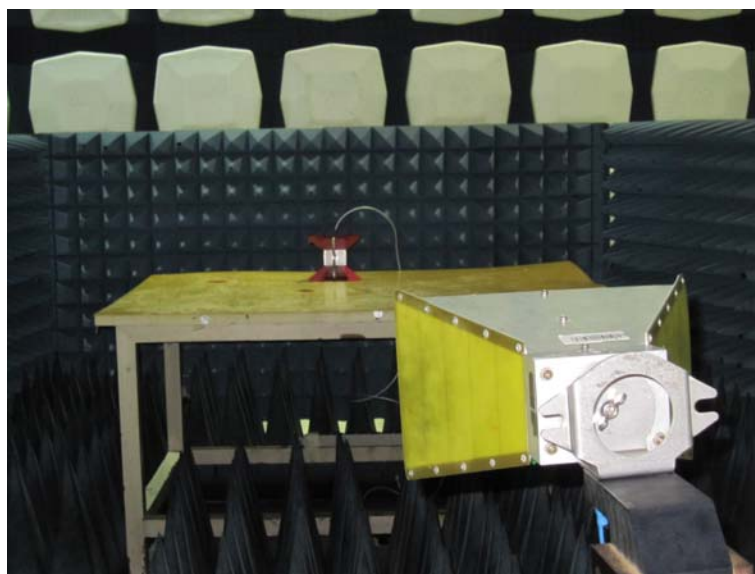
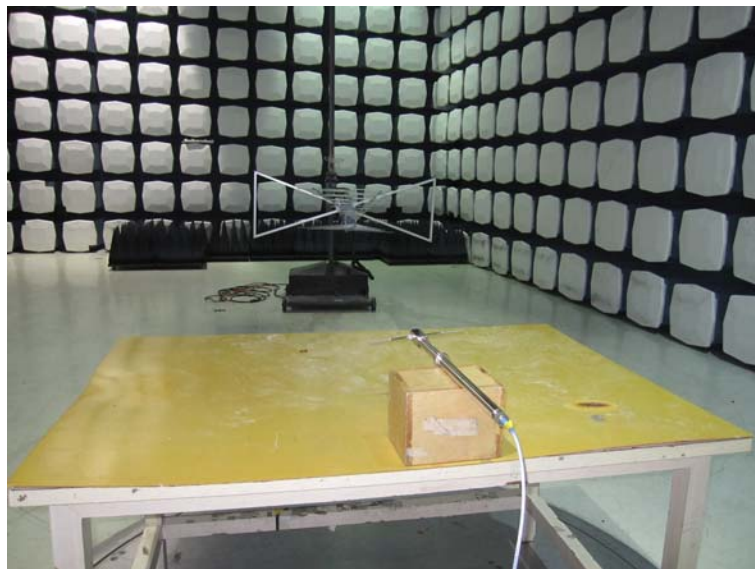
***MEASUREMENT RESULT: "HTW1208477\_red"***

12/8/2011 4:18AM

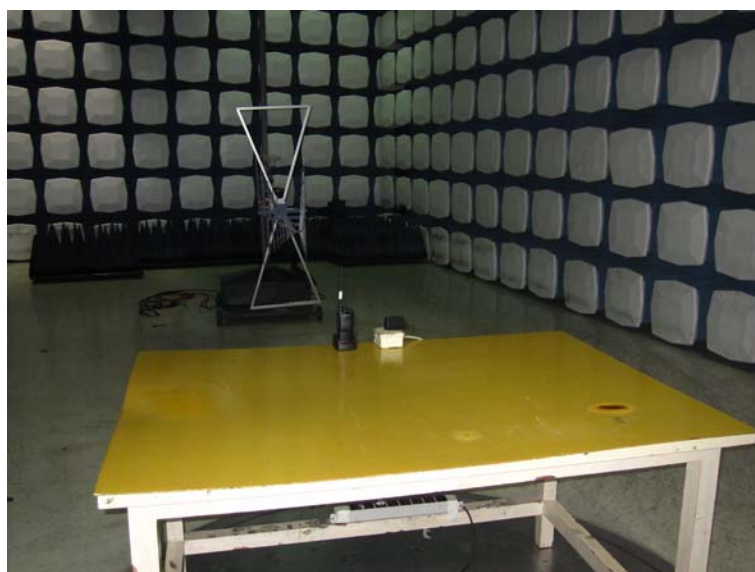
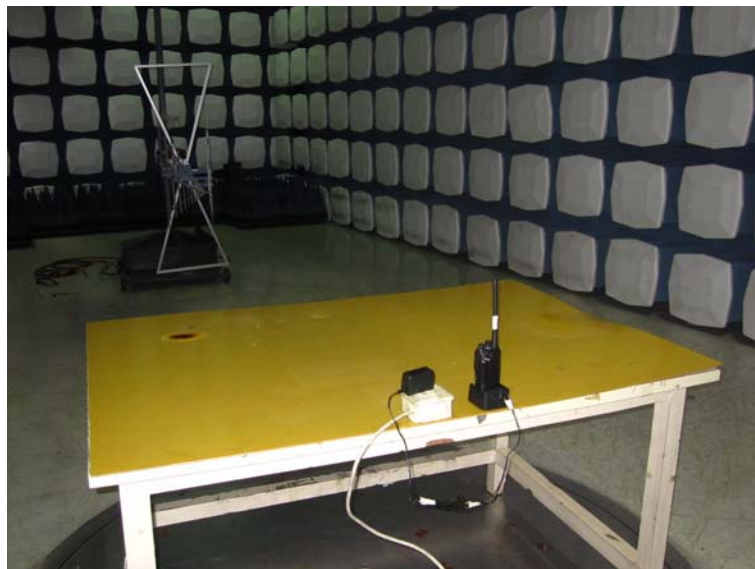
Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1340.681363	32.30	-7.0	54.0	21.7	Peak	100.0	314.00	HORIZONTAL
1661.322645	36.70	-4.3	54.0	17.3	Peak	100.0	297.00	HORIZONTAL
2422.845691	41.10	0.6	54.0	12.9	Peak	100.0	62.00	HORIZONTAL
3114.228457	42.20	2.2	54.0	11.8	Peak	100.0	309.00	HORIZONTAL
3775.551102	43.40	3.2	54.0	10.6	Peak	100.0	33.00	HORIZONTAL
5468.937876	46.10	6.5	54.0	7.9	Peak	100.0	74.00	HORIZONTAL

## 5. Test Setup Photos of the EUT









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