



## FCC PART 15 SUBPART B TEST REPORT

### FCC PART 15B

**FCC ID** .....: **L5C960071C**

**Report Reference No.** .....: **WE09040002**

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Date of issue .....: Apr 30, 2009

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

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

**Applicant's name** .....: **Ansen Electronics Co**

Address .....: Rm 78,2/F,Sino Industrial Plaza,9 Kai Cheung Rd,Kowloon Bay

**Manufacturer's name** .....: **Ansen Electronics Company**

Address .....: Chen Tung Industrial Zone,Ning Tau Administrative District,Qiao Tau Zhen,Dongguan,Guangdong

#### **Test specification:**

Standard .....: **FCC Part Subpart 15B 2008 – Unintentional Radiators**

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

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

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**Test item description** .....: 7-day Golf Weather Forecaster

Trade Mark .....: /

Model/Type reference .....: 960071C

Listed Models .....: /

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

## TEST REPORT

Test Report No. :	WE09040002	May 06, 2009
		Date of issue

Equipment under Test : 7-day Golf Weather Forecaster

Model /Type : 960071C

Listed Models : /

**Applicant** : Ansen Electronics Co

Address : Rm 78,2/F,Sino Industrial Plaza,9 Kai Cheung Rd,Kowloon Bay

**Manufacturer** : Ansen Electronics Company

Address : Chen Tung Industrial Zone,Ning Tau Administrative District,Qiao Tau Zhen,Dongguan,Guangdong

## SUMMARY OF STANDARDS AND RUSELT

No.	Test Item	Test Standards and Procedure	Result
1	Conducted Emission Test	FCC Subpart 15B § 15.107 ANSI C63.4-2003 section 7	Complied
2	Radiated Emission Test	FCC Subpart 15B § 15.109 ANSI C63.4-2003 section 8	Complied

NOTE: 1),The detailed test result please see section 4.

2),The test report merely corresponds to the test sample.

3),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 15 Subpart B 2008 - Unintentional Radiators](#)

## 2. SUMMARY

### 2.1. General Remarks

Date of receipt of test sample : Apr 30, 2009

Testing commenced on : Apr 30, 2009

Testing concluded on : May 04, 2009

### 2.2. Equipment Under Test

#### Power supply system utilised

Power supply voltage :  120V / 60 Hz  115V / 60Hz  
 12 V DC  24 V DC  
 Other (specified in blank below)

DC 6V Adapter From AC 120V/60Hz

DC 6V Battery

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

Product Name : 7-day Golf Weather Forecaster

Model Number : 960071C

Operation Frequency : 915MHz

Channel Number : 1

Modulation Technology : FSK

Equipment Type : Normal receiver

Sample Type : Prototype

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

### 2.4. EUT operation mode

The EUT has been tested under typical operating mode(RX mode).

## 2.5. EUT configuration

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

- supplied by the manufacturer

- supplied by the lab

AC Adaptor

MODEL : KU2B-060-0350D

INPUT : 120VAC 60Hz 7W

OUTPUT : 6VDC 350mA

Adaptor Cable

Length : 180cm

Shield  Unshield

Detachable  Undetachable

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

This submittal(s) (test report) is intended for FCC ID: **L5C960071C** filing to comply with the FCC Part 15, Subpart B Rules 2008.

## 2.7. Modifications

No modifications were implemented to meet testing criteria.

### **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: 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 is from Aug 24, 2005 to Sept 30, 2009.

##### **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 September, 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 November 28<sup>th</sup>, 2005.

##### **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 fulfills the conditions described in Nemko Document NLA-10, the Authorization is valid through April 25, 2009.

##### **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, 2006. Valid time is until December 19, 2009.

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, 2009.

**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 09 July, 2010.

### 3.3. Environmental conditions

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

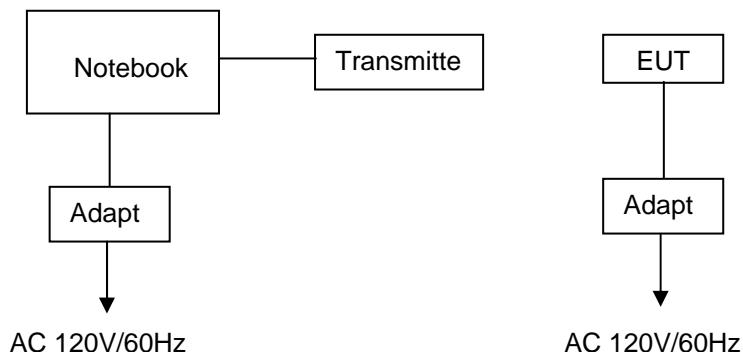
Temperature: 15-35 ° C

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**

No.	Product	Manufacturer	Model No.	Serial No.	Note
1	Transmitter	Ansen	-	-	-
2	Notebook	ASUS	Z9100	--	--

### 3.5. 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 Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.22dB	(1)
Radiated Emission	1~12.75GHz	4.35dB	(1)
Conducted Disturbance	0.15~30MHz	3.29dB	(1)

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

### 3.6. Equipments Used during the Test

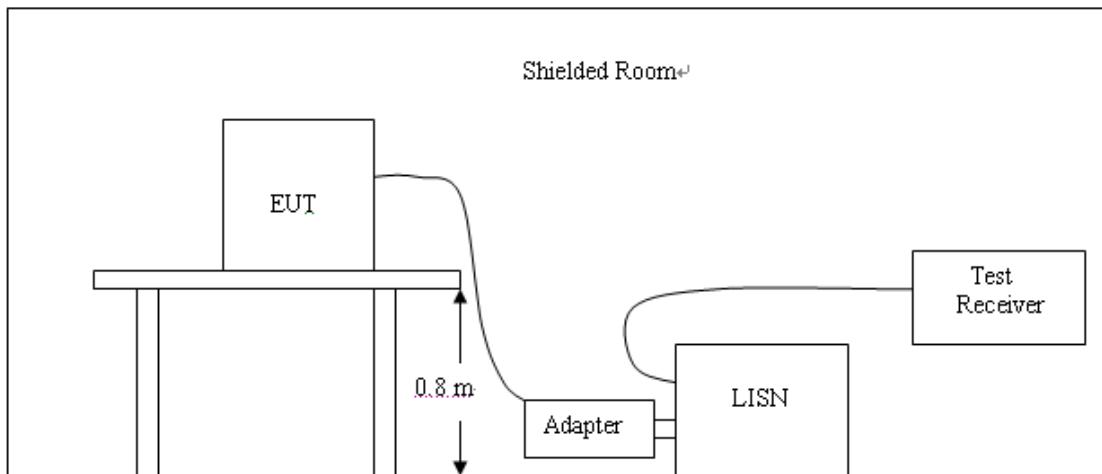
AC Power Conducted Emission					
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESCI	100106	2008/11
2	ARTIFICIAL MAINS	ROHDE & SCHWARZ	ESH2-Z5	100028	2008/11
3	PULSE LIMITER	ROHDE & SCHWARZ	ESHSZ2	100044	2008/11
4	EMI TEST SOFTWARE	ROHDE & SCHWARZ	ES-K1 1.71	N/A	2008/11

Radiated Emissions					
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	ULTRA-BROADBAND ANTENNA	ROHDE & SCHWARZ	HL562	100015	2008/11
2	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESI 26	100009	2008/11
3	RF TEST PANEL	ROHDE & SCHWARZ	TS / RSP	335015/ 0017	2008/11
4	TURNTABLE	ETS	2088	2149	2008/11
5	ANTENNA MAST	ETS	2075	2346	2008/11
6	EMI TEST SOFTWARE	ROHDE & SCHWARZ	ESK1	N/A	2008/11
7	HORN ANTENNA	ROHDE & SCHWARZ	HF906	N/A	2008/06/

## 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.
- 2 Support equipment, if needed, was placed as per ANSI C63.4.
- 3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- 4 The EUT received DC6V power from the adapter, the adapter 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

For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following :

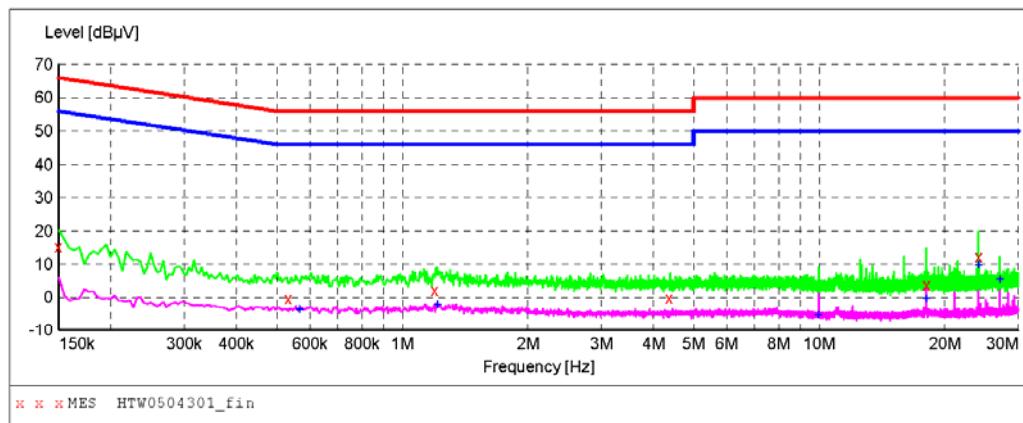
Frequency (MHz)	Maximum RF Line Voltage (dB $\mu$ V)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15 - 0.50	79	66	66-56*	56-46*
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

\* Decreasing linearly with the logarithm of the frequency

\* For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

**TEST RESULTS**

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

**MEASUREMENT RESULT: "HTW0504301\_fin"**

5/4/2009 9:08AM

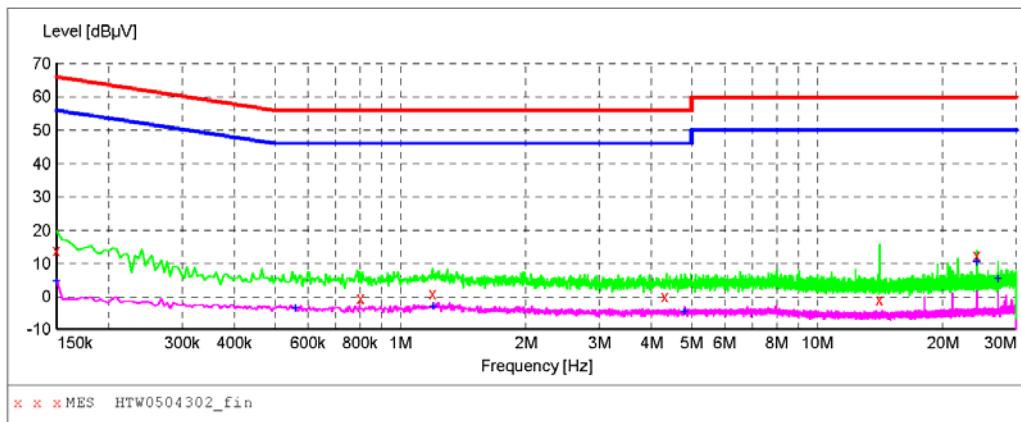
Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.150000	15.40	10.2	66	50.6	QP	N	GND
0.532500	-0.40	10.2	56	56.4	QP	N	GND
1.194000	2.20	10.3	56	53.8	QP	N	GND
4.371000	-0.10	10.4	56	56.1	QP	N	GND
18.087000	3.70	10.8	60	56.3	QP	N	GND
24.117000	12.20	11.1	60	47.8	QP	N	GND

**MEASUREMENT RESULT: "HTW0504301\_fin2"**

5/4/2009 9:08AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.568500	-3.50	10.2	46	49.5	AV	N	GND
1.216500	-2.30	10.3	46	48.3	AV	N	GND
9.973500	-5.30	10.6	50	55.3	AV	N	GND
18.087000	-0.30	10.8	50	50.3	AV	N	GND
24.117000	9.80	11.1	50	40.2	AV	N	GND
27.132000	5.50	11.2	50	44.5	AV	N	GND

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



**MEASUREMENT RESULT: "HTW0504302\_fin"**

5/4/2009 9:11AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.150000	13.80	10.2	66	52.2	QP	L1	GND
0.802500	-0.30	10.2	56	56.3	QP	L1	GND
1.194000	1.00	10.3	56	55.0	QP	L1	GND
4.317000	0.00	10.4	56	56.0	QP	L1	GND
14.118000	-0.80	10.6	60	60.8	QP	L1	GND
24.117000	12.60	11.1	60	47.4	QP	L1	GND

**MEASUREMENT RESULT: "HTW0504302\_fin2"**

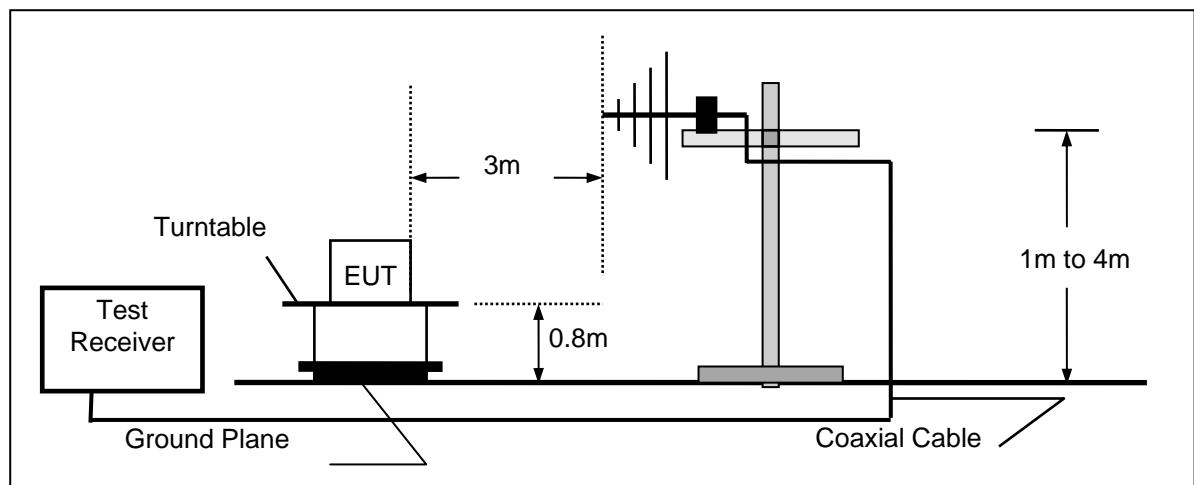
5/4/2009 9:11AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.150000	4.60	10.2	56	51.4	AV	L1	GND
0.559500	-3.40	10.2	46	49.4	AV	L1	GND
1.203000	-2.90	10.3	46	48.9	AV	L1	GND
4.803000	-4.60	10.4	46	50.6	AV	L1	GND
24.117000	10.40	11.1	50	39.6	AV	L1	GND
27.132000	5.50	11.2	50	44.5	AV	L1	GND

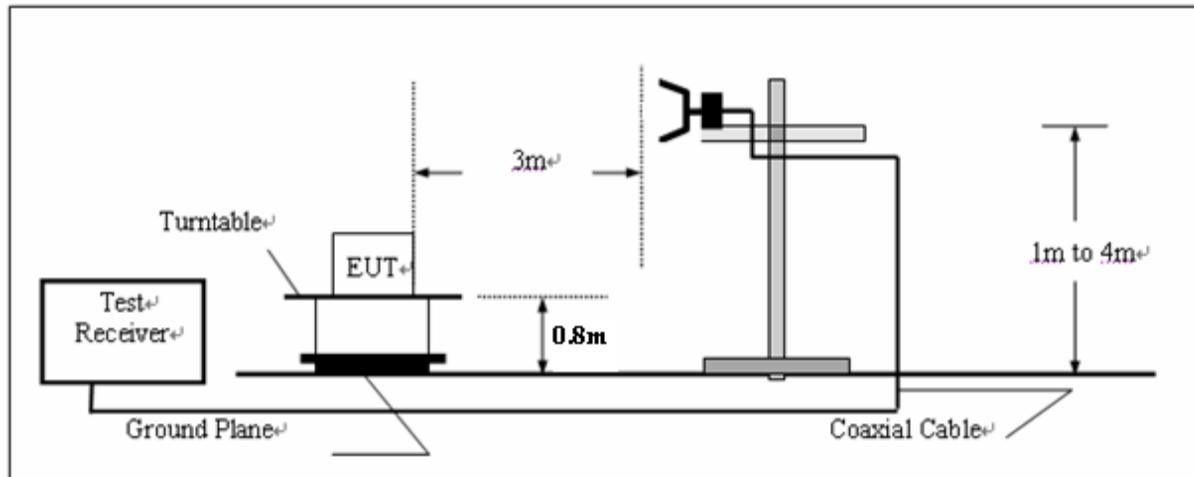
## 4.2. Radiated Emission Test

### TEST CONFIGURATION

Radiated Emission Test Set-Up, Frequency range 30 - 1000MHz



Radiated Emission Test Set-Up, Frequency range 1GHz-5GHz



### TEST PROCEDURE

- 1 The EUT was placed on a turn table which is 0.8m above ground plane.
- 2 The test was beforehand carried out both battery and AC adaptor supply, and AC adaptor supply was worse mode, finally test was be carried out under this mode.
- 3 Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0°C to 360°C to acquire the highest emissions from EUT
- 4 And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 5 Repeat above procedures until all frequency measurements have been completed.

## 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	

## RADIATION LIMIT

For unintentional device, according to § 15.109(a), 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 (dB $\mu$ V/m)	Radiated ( $\mu$ V/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.

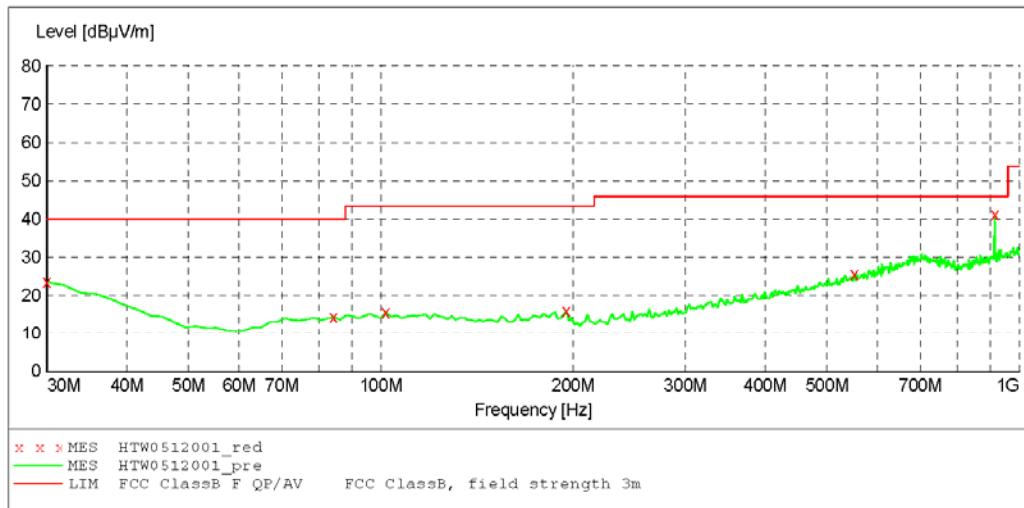
## TEST RESULTS

All emissions from 30MHz to 5GHz are peak measured and comply with average limit, detailed test data please see the following pages.

Operation Mode: RX mode      Temperature: 20 °C      Humidity: 70 % RH      Polarity: Hor.

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

Short Description:		Field Strength		
Start	Stop	Detector	Meas.	IF
Frequency	Frequency		Time	Bandw.
30.0 MHz	1.0 GHz	MaxPeak	Coupled	120 kHz
				HL562 08



**MEASUREMENT RESULT: "HTW0512001\_red"**

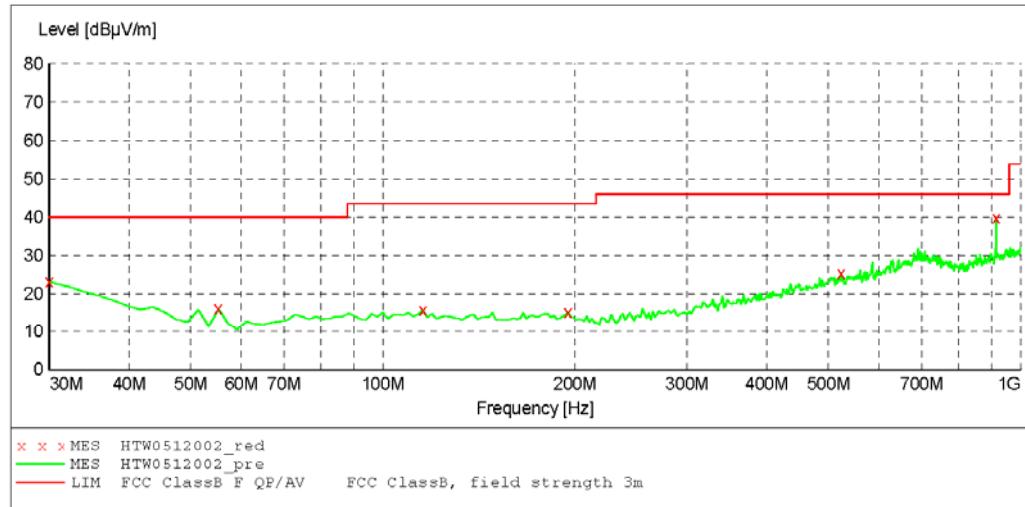
5/12/2009 5:22PM

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Det. QP	Height cm	Azimuth deg	Polarization
30.000000	23.60	21.2	39.5	15.9	QP	100.0	360.00	HORIZONTAL
84.428858	14.50	11.6	40.0	25.5	QP	300.0	0.00	HORIZONTAL
101.923848	15.60	11.7	43.5	27.9	QP	300.0	23.00	HORIZONTAL
195.230461	16.10	10.9	43.5	27.4	QP	100.0	49.00	HORIZONTAL
552.905812	25.60	21.6	46.0	20.4	QP	100.0	242.00	HORIZONTAL
915.851703	41.10	26.1	46.0	4.9	QP	100.0	3.00	HORIZONTAL

Operation Mode: RX mode      Temperature: 20oC    Humidity: 70 % RH      Polarity: Ver.

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

Short Description:		Field Strength		
Start	Stop	Detector	Meas.	IF
Frequency	Frequency		Time	Bandw.
30.0 MHz	1.0 GHz	MaxPeak	Coupled	120 kHz
				HL562 08



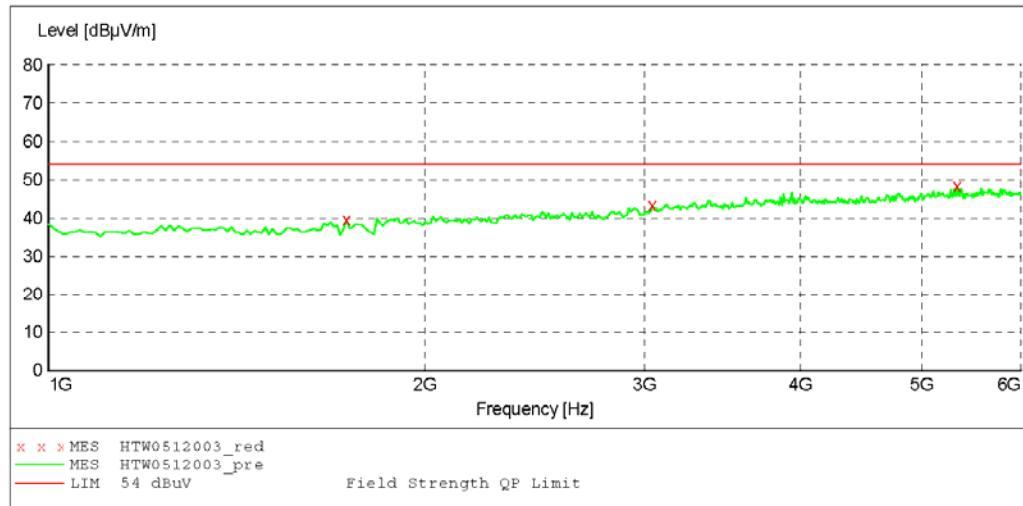
***MEASUREMENT RESULT: "HTW0512002\_red"***

5/12/2009 5:33PM

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
30.000000	23.20	21.2	39.5	16.3	QP	100.0	169.00	VERTICAL
55.270541	16.20	8.6	40.0	23.8	QP	100.0	359.00	VERTICAL
115.531062	15.80	11.8	43.5	27.7	QP	100.0	300.00	VERTICAL
195.230461	15.30	10.9	43.5	28.2	QP	100.0	73.00	VERTICAL
523.747495	25.50	20.8	46.0	20.5	QP	100.0	3.00	VERTICAL
915.921844	39.80	26.4	46.0	6.2	QP	100.0	236.00	VERTICAL

Operation Mode: RX mode      Temperature: 20oC    Humidity: 70 % RH      Polarity: Ver.

**SWEET 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(2008)



**MEASUREMENT RESULT: "HTW0512003\_red"**

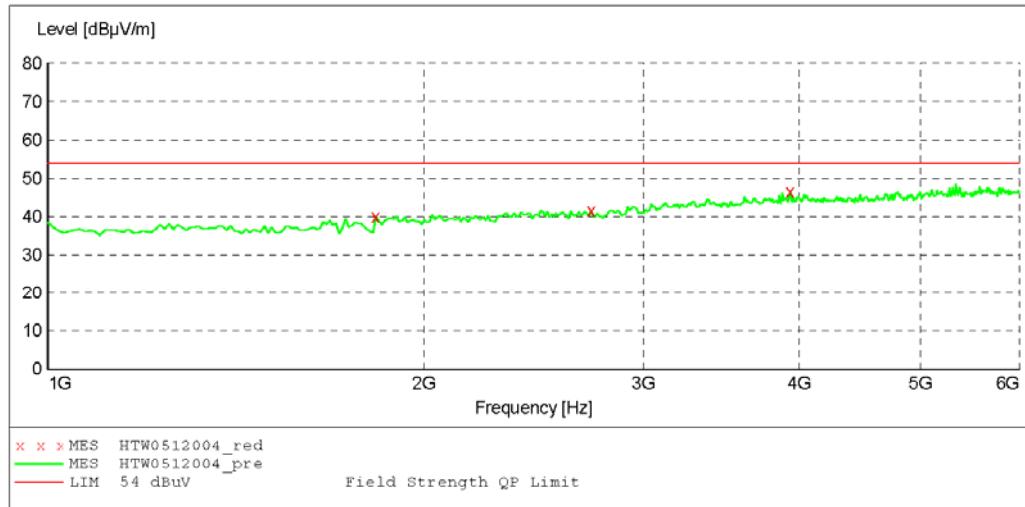
5/12/2009 5:19PM

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Det. Peak	Height cm	Azimuth deg	Polarization
1731.462926	39.50	-1.3	54.0	14.5	Peak	100.0	154.00	VERTICAL
3044.088176	43.30	5.9	54.0	10.7	Peak	100.0	360.00	VERTICAL
5338.677355	48.40	8.2	54.0	5.6	Peak	100.0	345.00	VERTICAL

Operation Mode: RX mode      Temperature: 20oC    Humidity: 70 % RH      Polarity: Hor.

***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(2008)



***MEASUREMENT RESULT: "HTW0512004\_red"***

5/12/2009 4:23PM

Frequency	Level	Transd	Limit	Margin	Det.	Height	Azimuth	Polarization
MHz	dB $\mu$ V/m	dB	dB $\mu$ V/m	dB		cm	deg	
1831.663327	39.95	-1.3	54.0	14.1	Peak	100.0	154.00	HORIZONTAL
2723.446894	41.62	5.9	54.0	12.4	Peak	100.0	360.00	HORIZONTAL
3935.871743	46.65	8.2	54.0	7.4	Peak	100.0	345.00	HORIZONTAL