



# FCC TEST REPORT (PART 24)

**REPORT NO.:** RF960621L09A-1

**MODEL NO.:** VOGU100

**RECEIVED:** Jul. 27, 2007

**TESTED:** Jul. 28 ~ Aug. 04, 2007

**ISSUED:** Aug. 07, 2007

**APPLICANT:** High Tech Computer Corp.

**ADDRESS:** 23, Hsin-Hua Rd., Taoyuan, 330, Taiwan, R.O.C.

**ISSUED BY:** Advance Data Technology Corporation

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**TEST LOCATION:** No. 19, Hwa Ya 2<sup>nd</sup> Rd., Wen Hwa Tsuen, Kwei  
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# 1 CERTIFICATION

**PRODUCT** : Pocket PC phone

**MODEL** : VOGU100

**APPLICANT** : High Tech Computer Corp.

**TESTED** : Jul. 28 ~ Aug. 04, 2007

**TEST SAMPLE** : ENGINEERING SAMPLE

**TEST STANDARDS** : **FCC Part 24, Subpart E**  
ANSI C63.4-2003

The above equipment (model: VOGU100) has been tested by **Advance Data Technology Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**PREPARED BY** : Rennie Wang , **DATE:** Aug. 07, 2007  
Rennie Wang / Senior Specialist

**TECHNICAL ACCEPTANCE** : Long Chen , **DATE:** Aug. 07, 2007  
Responsible for RF Long Chen / Senior Engineer

**APPROVED BY** : Gary Chang , **DATE:** Aug. 07, 2007  
Gary Chang / Assistant Manager

## 2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 24 & Part 2 / IC RSS-133			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
2.1046 24.232	Maximum Peak Output Power Limit: max. 2 watts e.i.r.p peak power	PASS	Meet the requirement of limit. Minimum passing margin is 23.34dBm at 1851.25MHz.
2.1053 24.238	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -53.91dB at 949.55MHz.

### 2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Radiated emissions	30MHz ~ 200MHz	3.34dB
	200MHz ~1000MHz	3.35dB
	1GHz ~ 18GHz	2.26dB
	18GHz ~ 40GHz	1.94dB

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

### 3 GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>PRODUCT</b>	Pocket PC phone
<b>MODEL NO.</b>	VOGU100
<b>FCC ID</b>	NM8VOGU100
<b>POWER SUPPLY</b>	3.7Vdc from rechargeable lithium battery 5.0Vdc from power adapter 5.0Vdc from host equipment
<b>MODULATION TYPE</b>	OQPSK, HPSK
<b>FREQUENCY RANGE</b>	1850MHz ~ 1910MHz
<b>NUMBER OF CHANNEL</b>	1151
<b>MAX. EIRP POWER</b>	23.34dBm (0.216Watts)
<b>ANTENNA TYPE</b>	Monopole antenna with 0dBi gain
<b>DATA CABLE</b>	1.6m USB shielded cable without core
<b>I/O PORTS</b>	Refer to user's manual
<b>ASSOCIATED DEVICES</b>	Refer to NOTE below
<b>EUT EXTREME VOL. RANGE</b>	3.6Vdc to 4.2Vdc

**NOTE:**

1. This report is prepared for FCC class II permissive change. The only difference is changed the antenna. Therefore, items for Radiated Power and Emission tests had been reappraised.
2. The applicant defined the normal working voltage of the battery is from 3.6Vdc to 4.2Vdc.
3. The EUT is a CDMA2000 (850/1900) + 1xEVDO/ 1xRTT/ IS-95A/B Pocket PC phone with bluetooth V2.0 w EDR + AGPS functions. This report is only covered the function of CDMA1900. The bluetooth function is covered in another test report, which standard used is FCC Part 15. And the CDMA850 mobile phone function is covered in another test report, which standard used is FCC Part 22.
4. The EUT has following accessories.

ACCESSORY	BRAND	MODEL	SUPPORTER	REMARKS
Belt Clip	HTC	PO S292	NEWTECH	
Carrying Case	HTC	PO S290	NEWTECH	
Earphone	HTC	HS S190	Merry	1.6m
Splitter (1)	HTC	YC A130	MEC	10.5cm (earphone with audio interface)
Splitter (2)	HTC	YC A100	Acon	9.7cm (earphone with USB interface)

5. The communicated functions of EUT listed as below:

		850MHz	1900MHz	With bluetooth V2.0 w EDR + AGPS functions
3G	CDMA	V	V	
	1xEVDO	V	V	
	1xRTT	V	V	
	IS-95A/B	V	V	

6. The EUT has lithium batteries listed as below:

BATTERY A:	
BRAND:	TWS
MODEL:	ELF0160
RATING:	3.7Vdc, 1100mAh

BATTERY B:	
BRAND:	SAMSUNG
MODEL:	ELF0160
RATING:	3.7Vdc, 1100mAh

**NOTE:** After pre-tested both batteries, found battery A is worse, therefore all the test results came out from this.

7. The EUT was operated with following power adapters:

ADAPTER 1:	
BRAND:	DELTA ELECTRONIC, INC.
MODEL:	ADP-5FH B
INPUT:	100-240Vac, 0.2A, 50~60Hz
OUTPUT:	5Vdc, 1A
POWER LINE:	DC 1.8m non-shielded cable without core

ADAPTER 2:	
BRAND:	htc
MODEL:	PSAA05A-050
INPUT:	100-240Vac, 200mA, 50-60Hz
OUTPUT:	5.0Vdc, 1A
POWER LINE:	DC 1.8m non-shielded cable without core

8. Refer to following table for ESN no.:

ESN NO.
36AD00**

9. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

### 3.2 DESCRIPTION OF TEST MODES

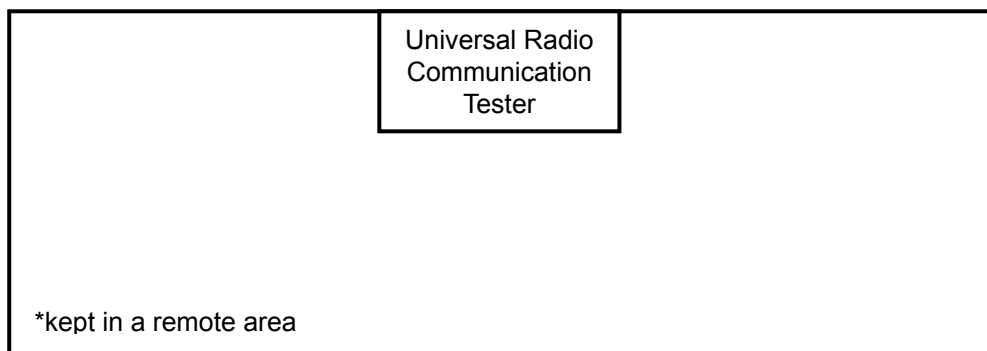
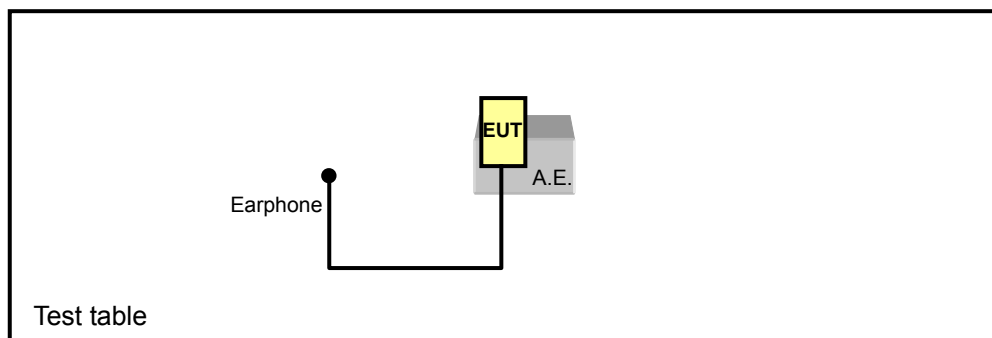
1151 channels are provided to this EUT in the CDMA1900 band. Therefore, the low, middle and high channels are chosen for testing.

	CHANNEL	FREQUENCY	TX MODE
LOW	25	1851.25 MHz	SO55
MIDDLE	600	1880.00 MHz	SO55
HIGH	1175	1908.75 MHz	SO55

**NOTE:**

1. Below 1 GHz, the channel 25, 600 and 1175 were pre-tested in chamber. The channel 25 was the worst case and chosen for final test.
2. Above 1 GHz, the channel 25, 600 and 1175 were tested individually.
3. The channel space is 0.05MHz.
4. Since the EUT is considered a handheld unit, it was pre-tested on the positioned of each 3 axis. The worst case was found when positioned on Z-plane. Therefore only the test data of this Z-plane was used for radiated emission measurement test.
5. In this report, CDMA2000 (SO55) was the worst case for all test items, therefore, only the data was recorded in the following section.

### 3.2.1 CONFIGURATION OF SYSTEM UNDER TEST





### 3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGUR E MODE	APPLICABLE TO			DESCRIPTION
	OP	RE<1G	RE≥1G	
-	V	V	V	-

Where **OP**: Output power **RE<1G**: Radiated emission below 1GHz  
**RE≥1G**: Radiated emission above 1GHz

#### **OUTPUT POWER MEASUREMENT:**

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, xyz axis and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	AXIS
-	25 to 1175	25, 600, 1175	CDMA	Z

#### **RADIATED EMISSION MEASUREMENT (BELOW 1 GHz):**

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, xyz axis and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	AXIS
-	25 to 1175	25	CDMA	Z

#### **RADIATED EMISSION MEASUREMENT (ABOVE 1 GHz):**

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, xyz axis and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	AXIS
-	25 to 1175	25, 600, 1175	CDMA	Z



### 3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC 47 CFR Part 2**

**FCC 47 CFR Part 24**

**IC RSS-133**

**ANSI C63.4-2003**

**ANSI/TIA/EIA-603-A**

**NOTE:** All test items have been performed and recorded as per the above standards.

### 3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	CAL. DATE
1	Universal Radio Communication Tester	R&S	CMU200	101095	Jun. 28, 2008

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA

**NOTE1:** All power cords of the above support units are non shielded (1.8m).

**NOTE2:** Item 1 acted as a communication partner to transfer data.

## **4 TEST TYPES AND RESULTS**

### **4.1 OUTPUT POWER MEASUREMENT**

#### **4.1.1 LIMITS OF OUTPUT POWER MEASUREMENT**

The radiated peak output power shall be according to the specific rule Part 24.232(b) that “Mobile / Portable station are limited to 2 watts e.i.r.p” and 24.232(c) specific that “Peak transmit power must be measure over any interval of continuous transmission using instrumentation calibration in terms of rms-equivalent voltage.”



#### 4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Jul. 27, 2008
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100025	Oct. 05, 2007
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	May 31, 2008
HORN Antenna SCHWARZBECK	9120D	9120D-209	Jun. 28, 2008
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 28, 2007
Preamplifier Agilent	8447D	2944A10633	Oct. 26, 2007
Preamplifier Agilent	8449B	3008A01964	Oct. 26, 2007
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	238137/4	Dec. 11, 2007
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	233233/4	Nov. 14, 2007
Software ADT.	ADT_Radiated_V7.6	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA
Turn Table ADT.	TT100.	TT93021703	NA
Turn Table Controller ADT.	SC100.	SC93021703	NA

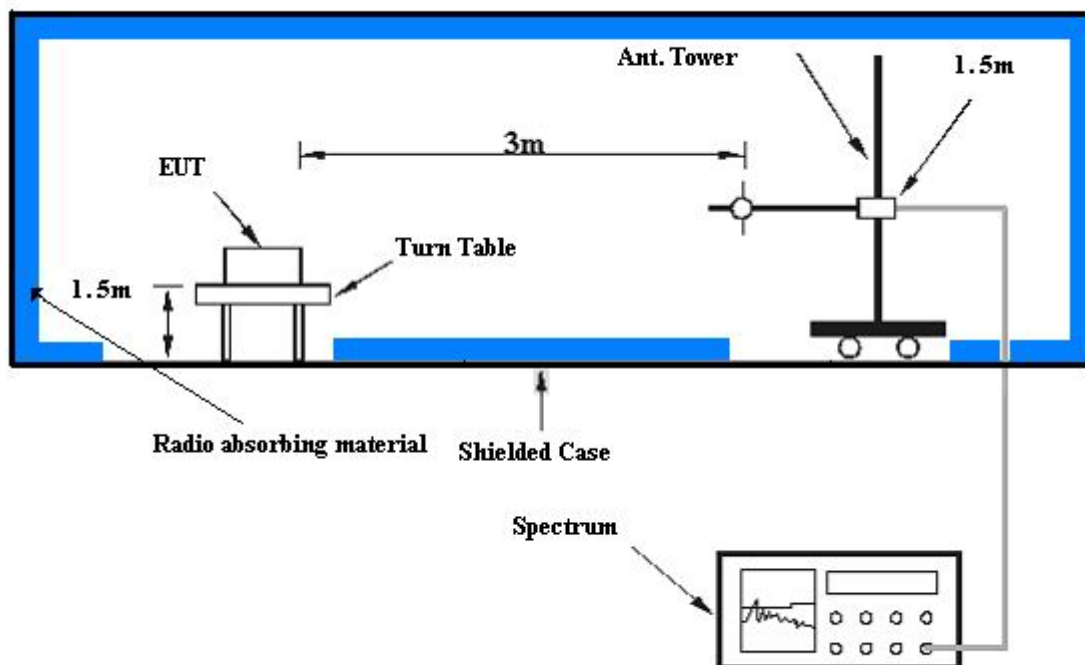
- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
  2. The test was performed in HwaYa Chamber 3.
  3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
  4. The VCCI Site Registration No. is R-237.
  5. The IC Site Registration No. is IC3789B-3.

### 4.1.3 TEST PROCEDURES

- a. The EUT was set up for the maximum peak power with CDMA link data modulation. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels: 25, 600 and 1175 (low, middle and high operational frequency range).
- b. The conducted peak output power used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer. The path loss included the splitter loss, cable loss and 20dB pad loss. The spectrum set RB/VB 3MHz, then read peak power value and record to the test. (All transmitted path loss shall be considered in the test report data.)
- c. E.I.R.P peak power measurement. In the fully anechoic chamber, EUT placed on the 1.5m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- d. The substitution horn antenna is substituted for EUT at the same position and signal generator export the CW signal to the calibration antenna. Rotated the Turn Table to find the maximum radiation power. “Raw” is the spectrum reading value, “SG” is signal generator export power, “TX Gain” is calibration antenna isotropic gain value, “TX cable” is the transmitted cable loss between the calibration antenna and signal generator. The “Factor” means that the transmission path loss is equal to “SG” - “TX cable” + “TX Gain” – “Raw”.
- e. Actually the real E.I.R.P peak power is equal to “Read Value” + “Factor”.

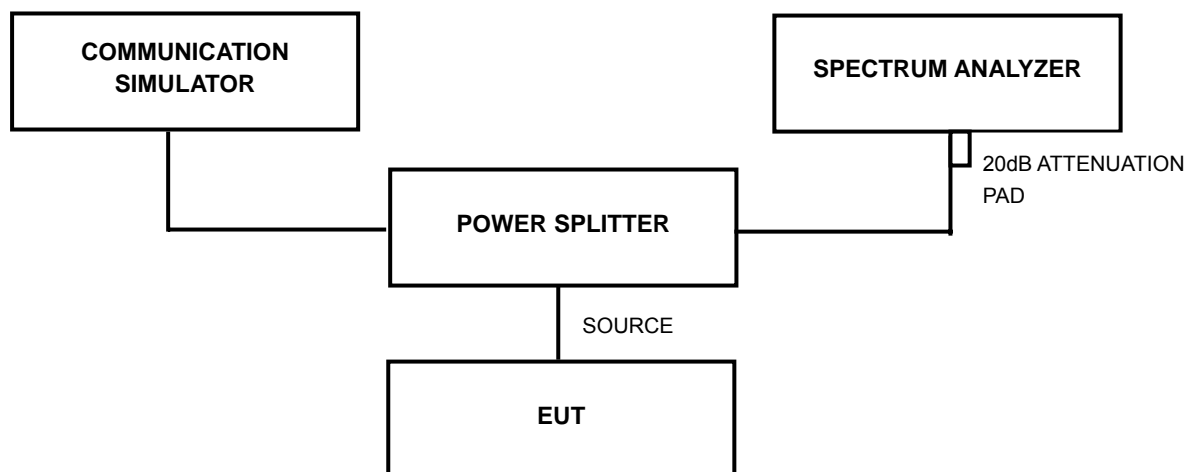
#### 4.1.4 TEST SETUP

##### EIRP POWER MEASUREMENT:



For the actual test configuration, please refer to the attached file (Test Setup Photo).

##### CONDUCTED POWER MEASUREMENT:



For the actual test configuration, please refer to the attached file (Test Setup Photo).



#### 4.1.5 EUT OPERATING CONDITIONS

- a. The EUT makes a phone call to the communication simulator.
- b. The communication simulator station system controlled an EUT to export maximum output power under transmission mode and specific channel frequency.

#### 4.1.6 TEST RESULTS

<b>MODE</b>	TX connected	<b>DETECTOR FUNCTION</b>	Average
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	22deg. C, 60%RH, 983hPa
<b>TESTED BY</b>	Match Tsui		

EIRP POWER (1x EV-DO)								
CHANNEL	FREQ. (MHz)	RAW VALUE (dBm)		CORR. FACTOR (dB)	PEAK OUTPUT POWER			
					RTAP		FTAP	
		RTAP	FTAP		dBm	Watt	dBm	Watt
25	1851.25	-17.57	-17.12	40.03	22.46	0.176	22.91	0.195
60	1880.00	-18.06	-17.60	40.32	22.26	0.168	22.72	0.187
1175	1908.75	-18.23	-17.79	40.62	22.39	0.173	22.83	0.192

EIRP POWER (SO55)					
CHANNEL NO.	FREQUENCY (MHz)	RAW VALUE (dBm)	CORRECTION FACTOR (dB)	PEAK OUTPUT POWER	
				dBm	Watt
<b>25</b>	<b>1851.25</b>	<b>-16.69</b>	<b>40.03</b>	<b>23.34</b>	<b>0.216</b>
600	1880.00	-17.13	40.32	23.19	0.208
1175	1908.75	-17.34	40.62	23.28	0.213

- REMARKS:**
1. Peak Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
  2. Correction Factor (dB) = Receiver Antenna Gain (dBi) + Cable Loss (dB) + Free Space Loss (dB).
  3. The value in bold is the worst.





## 4.2 RADIATED EMISSION MEASUREMENT (BELOW 1GHz)

### 4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

In the FCC 24.238(a), On any frequency outside a licensee's frequency block within USPCS spectrum, the power of any emission shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB. The specified minimum attenuation becomes 43dB and the limit of emission equal to  $-13$ dBm. So the limit of emission is the same absolute specified line.

LIMIT (dBm)	EQUIVALENT FIELD STRENGTH AT 3m (dBuV/m) (NOTE)
-13	82.22

**NOTE:** The following formula is used to convert the equipment radiated power to field strength.

$$E = [1000000\sqrt{(30P)}] / 3 \text{ uV/m, where P is Watts.}$$



#### 4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Jul. 27, 2008
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100025	Oct. 05, 2007
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	May 31, 2008
HORN Antenna SCHWARZBECK	9120D	9120D-209	Jun. 28, 2008
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 28, 2007
Preamplifier Agilent	8447D	2944A10633	Oct. 26, 2007
Preamplifier Agilent	8449B	3008A01964	Oct. 26, 2007
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	238137/4	Dec. 11, 2007
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	233233/4	Nov. 14, 2007
Software ADT.	ADT_Radiated_V7.6	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA
Turn Table ADT.	TT100.	TT93021703	NA
Turn Table Controller ADT.	SC100.	SC93021703	NA
Signal Generator Agilent	E8257C	MY43320668	Dec. 28, 2007

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
  2. The test was performed in HwaYa Chamber 3.
  3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
  4. The VCCI Site Registration No. is R-237.
  5. The IC Site Registration No. is IC3789B-3.

#### 4.2.3 TEST PROCEDURES

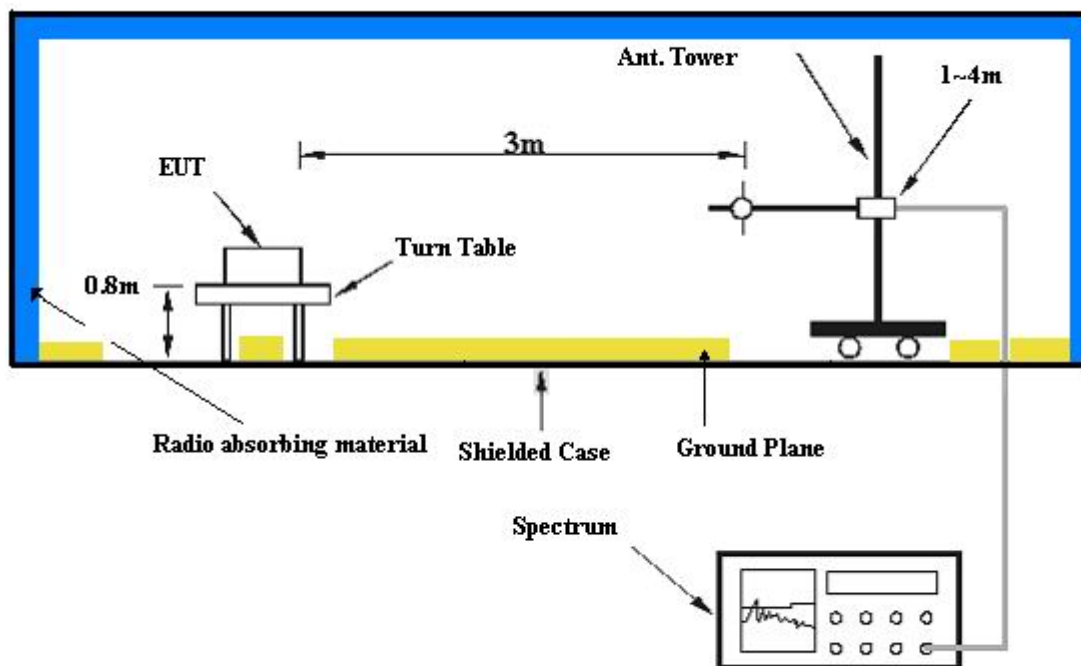
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the receiving antenna, which was mounted on antenna tower and its position at 0.8 m above the ground.
- c. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading and recorded the value.
- d. Repeat step a ~ c for horizontal polarization.

**NOTE:** The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 1 MHz.

#### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.2.5 TEST SETUP



For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 4.2.6 EUT OPERATING CONDITIONS

- a. The EUT makes a phone call to the communication simulator.
- b. The communication simulator station system controlled an EUT to export maximum output power under transmission mode and specific channel frequency.



#### 4.2.7 TEST RESULTS

<b>MODE</b>	TX channel 25	<b>DETECTOR FUNCTION</b>	Quasi-Peak
<b>FREQUENCY RANGE</b>	Below 1000MHz	<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz
<b>ENVIRONMENTAL CONDITIONS</b>	24deg. C, 68%RH, 991hPa	<b>TESTED BY</b>	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	724.01	25.20 QP	82.22	-57.02	1.00 H	166.00	0.30	24.89
2	757.06	25.68 QP	82.22	-56.54	1.00 H	109.00	0.00	25.68
3	809.56	25.69 QP	82.22	-56.53	1.50 H	319.00	-0.40	26.09
4	819.28	26.44 QP	82.22	-55.78	2.00 H	214.00	0.15	26.30
5	873.72	26.56 QP	82.22	-55.66	2.00 H	313.00	-0.70	27.26
6	895.11	27.12 QP	82.22	-55.10	1.50 H	10.00	-0.42	27.54
7	928.16	27.74 QP	82.22	-54.48	1.00 H	10.00	-0.26	28.00
8	959.27	28.25 QP	82.22	-53.97	1.50 H	109.00	-0.13	28.38

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.84	19.05 QP	82.22	-63.17	1.00 V	220.00	5.51	13.54
2	727.90	25.45 QP	82.22	-56.77	1.50 V	58.00	0.44	25.01
3	780.40	25.47 QP	82.22	-56.75	1.00 V	133.00	-0.32	25.79
4	801.78	25.37 QP	82.22	-56.85	2.00 V	286.00	-0.55	25.92
5	842.61	26.27 QP	82.22	-55.95	2.00 V	31.00	-0.53	26.80
6	875.67	27.11 QP	82.22	-55.11	1.50 V	286.00	-0.18	27.29
7	879.55	27.41 QP	82.22	-54.81	2.00 V	10.00	0.07	27.34
8	937.88	27.63 QP	82.22	-54.59	1.50 V	307.00	-0.51	28.14
9	949.55	28.31 QP	82.22	-53.91	1.00 V	241.00	0.00	28.31

**NOTE:**

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. This is valid for all 3 channels.



### **4.3 RADIATED EMISSION MEASUREMENT (ABOVE 1GHz)**

#### **4.3.1 LIMITS OF RADIATED EMISSION MEASUREMENT**

In the FCC 24.238(a), On any frequency outside a licensee's frequency block within USPCS spectrum, the power of any emission shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB. The specified minimum attenuation becomes 43dB and the limit of emission equal to  $-13\text{dBm}$ .

#### 4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Jul. 27, 2008
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100025	Oct. 05, 2007
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	May 31, 2008
HORN Antenna SCHWARZBECK	9120D	9120D-209	Jun. 28, 2008
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 28, 2007
Preamplifier Agilent	8447D	2944A10633	Oct. 26, 2007
Preamplifier Agilent	8449B	3008A01964	Oct. 26, 2007
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	238137/4	Dec. 11, 2007
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	233233/4	Nov. 14, 2007
Software ADT.	ADT_Radiated_V7.6	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA
Turn Table ADT.	TT100.	TT93021703	NA
Turn Table Controller ADT.	SC100.	SC93021703	NA
Signal Generator Agilent	E8257C	MY43320668	Dec. 28, 2007

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
  2. The test was performed in HwaYa Chamber 3.
  3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
  4. The VCCI Site Registration No. is R-237.
  5. The IC Site Registration No. is IC3789B-3.

### 4.3.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the receiving antenna, which was mounted on antenna tower and its position at 0.8 m above the ground.
- c. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading and recorded the value.
- d. The EUT is replaced by a horn antenna connected to a signal generator tuned to the frequency of emission.
- e. The signal generator level has to be adjusted to have the same emission nature.
- f. The radiated power can be calculated via the factor and antenna gain.
- g. Repeat step a ~ f for horizontal polarization.

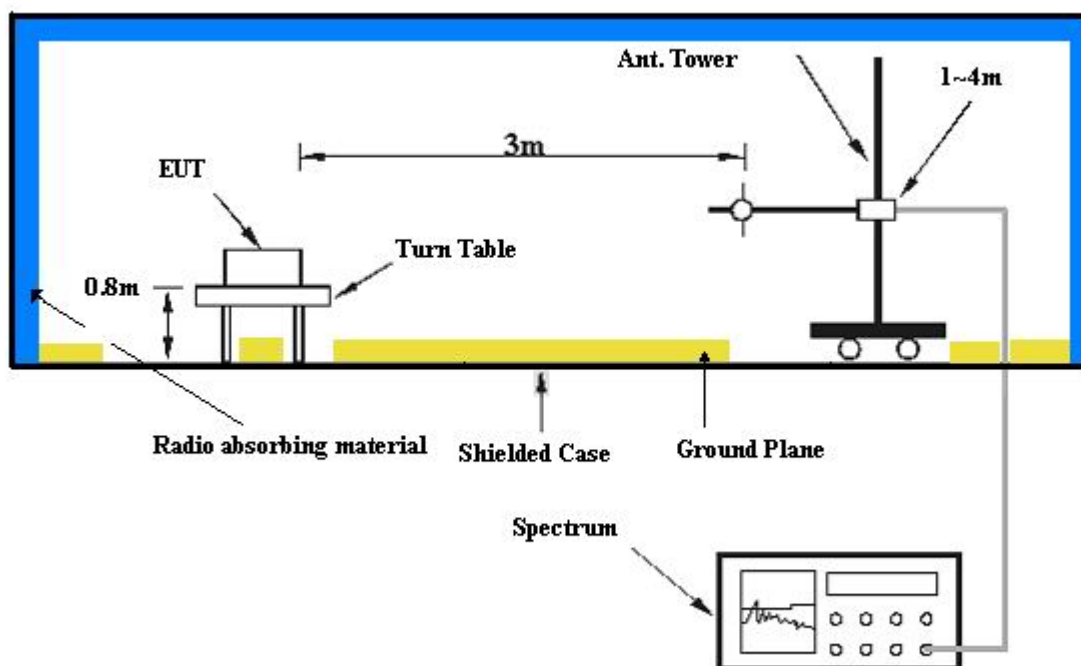
**NOTE:** The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 1 MHz.

### 4.3.4 DEVIATION FROM TEST STANDARD

No deviation



### 4.3.5 TEST SETUP



For the actual test configuration, please refer to the attached file (Test Setup Photo).

### 4.3.6 EUT OPERATING CONDITIONS

- a. The EUT makes a phone call to the communication simulator.
- b. The communication simulator station system controlled an EUT to export maximum output power under transmission mode and specific channel frequency.



#### 4.3.7 TEST RESULTS

<b>MODE</b>	Channel 25	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg. C, 71%RH, 983hPa
<b>TESTED BY</b>	Match Tsui		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M						
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	3702.50	50.80	-13.00	-54.55	10.12	-44.43
2	5553.75	48.34	-13.00	-58.38	11.49	-46.89
3	7405.00	48.34	-13.00	-59.39	12.50	-46.89
4	9256.25	54.88	-13.00	-54.10	13.75	-40.35
5	11107.50	54.61	-13.00	-54.53	13.91	-40.62
6	12958.75	53.24	-13.00	-56.38	14.39	-41.99

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M						
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV)	LIMIT (dBm)	S.G POWER VALUE (dBm)	CORRECTION FACTOR (dB)	POWER VALUE (dBm)
1	3702.50	47.29	-13.00	-58.06	10.12	-47.94
2	7405.00	51.62	-13.00	-56.11	12.50	-43.61
3	9256.25	51.85	-13.00	-57.13	13.75	-43.38
4	11107.50	55.13	-13.00	-54.01	13.91	-40.10
5	12958.75	55.77	-13.00	-53.85	14.39	-39.46

**NOTE:** Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).



<b>MODE</b>	Channel 600	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg. C, 71%RH, 983hPa
<b>TESTED BY</b>	Match Tsui		

<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>						
<b>NO.</b>	<b>FREQ. (MHz)</b>	<b>EMISSION LEVEL (dBuV)</b>	<b>LIMIT (dBm)</b>	<b>S.G POWER VALUE (dBm)</b>	<b>CORRECTION FACTOR (dB)</b>	<b>POWER VALUE (dBm)</b>
1	3760.00	51.12	-13.00	-54.23	10.12	-44.11
2	5640.00	50.89	-13.00	-55.83	11.49	-44.34
3	7520.00	49.11	-13.00	-58.62	12.50	-46.12
4	9400.00	55.11	-13.00	-53.87	13.75	-40.12
5	11280.00	55.12	-13.00	-54.02	13.91	-40.11
6	13160.00	53.86	-13.00	-55.76	14.39	-41.37

<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>						
<b>NO.</b>	<b>FREQ. (MHz)</b>	<b>EMISSION LEVEL (dBuV)</b>	<b>LIMIT (dBm)</b>	<b>S.G POWER VALUE (dBm)</b>	<b>CORRECTION FACTOR (dB)</b>	<b>POWER VALUE (dBm)</b>
1	3760.00	50.89	-13.00	-54.46	10.12	-44.34
2	5640.00	49.58	-13.00	-57.14	11.49	-45.65
3	7520.00	48.25	-13.00	-59.48	12.50	-46.98
4	9400.00	54.86	-13.00	-54.12	13.75	-40.37
5	11280.00	54.76	-13.00	-54.38	13.91	-40.47
6	13160.00	52.97	-13.00	-56.65	14.39	-42.26

**NOTE:** Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).



<b>MODE</b>	Channel 1175	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg. C, 71%RH, 983hPa
<b>TESTED BY</b>	Match Tsui		

<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>						
<b>NO.</b>	<b>FREQ. (MHz)</b>	<b>EMISSION LEVEL (dBuV)</b>	<b>LIMIT (dBm)</b>	<b>S.G POWER VALUE (dBm)</b>	<b>CORRECTION FACTOR (dB)</b>	<b>POWER VALUE (dBm)</b>
1	3817.50	51.23	-13.00	-54.12	10.12	-44.00
2	5726.25	49.88	-13.00	-56.84	11.49	-45.35
3	7635.00	49.56	-13.00	-58.17	12.50	-45.67
4	9543.75	55.56	-13.00	-53.42	13.75	-39.67
5	11452.50	55.78	-13.00	-53.36	13.91	-39.45
6	13361.25	54.12	-13.00	-55.50	14.39	-41.11

<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>						
<b>NO.</b>	<b>FREQ. (MHz)</b>	<b>EMISSION LEVEL (dBuV)</b>	<b>LIMIT (dBm)</b>	<b>S.G POWER VALUE (dBm)</b>	<b>CORRECTION FACTOR (dB)</b>	<b>POWER VALUE (dBm)</b>
1	3817.50	50.85	-13.00	-54.50	10.12	-44.38
2	5726.25	48.98	-13.00	-57.74	11.49	-46.25
3	7635.00	48.85	-13.00	-58.88	12.50	-46.38
4	9543.75	54.88	-13.00	-54.10	13.75	-40.35
5	11452.50	55.03	-13.00	-54.11	13.91	-40.20
6	13361.25	53.75	-13.00	-55.87	14.39	-41.48

**NOTE:** Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).



## 5 INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

<b>USA</b>	FCC, UL, A2LA
<b>GERMANY</b>	TUV Rheinland
<b>JAPAN</b>	VCCI
<b>NORWAY</b>	NEMKO
<b>CANADA</b>	INDUSTRY CANADA , CSA
<b>R.O.C.</b>	TAF, BSMI, NCC
<b>NETHERLANDS</b>	Telefication
<b>SINGAPORE</b>	PSB , GOST-ASIA (MOU)
<b>RUSSIA</b>	CERTIS (MOU)

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: [www.adt.com.tw/index.5/phtml](http://www.adt.com.tw/index.5/phtml).  
If you have any comments, please feel free to contact us at the following:

**Linko EMC/RF Lab:**  
Tel: 886-2-26052180  
Fax: 886-2-26051924

**Hsin Chu EMC/RF Lab:**  
Tel: 886-3-5935343  
Fax: 886-3-5935342

**Hwa Ya EMC/RF/Safety/Telecom Lab: Web Site:** [www.adt.com.tw](http://www.adt.com.tw)  
Tel: 886-3-3183232  
Fax: 886-3-3185050

The address and road map of all our labs can be found in our web site also.



## **6 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB**

No any modifications are made to the EUT by the lab during the test.