



## TEST REPORT

Report No. : AL023279-001 Date : 2009-06-30

Application No. : LL215228(9)

Client : Janam Technologies LLC  
100 Crossways Park West,  
Suite 105, Woodbury, NY 11797

Sample Description : One(1) submitted sample(s) stated to be Handheld Computer Type Barcode Scanner of Model No. XM60, XM61 and XM66  
Rating : 1 x 3.7 V rechargeable battery  
AC 100V ~ 240V to DC 5V adaptor  
No. of submitted sample : Three (3) piece(s)

Date Received : 2009-04-28.

Test Period : 2009-05-18 to 2009-06-12.

Test Requested : FCC Part 15 Certification.

Test Method : 47 CFR Part 15 (10-1-08 Edition)  
ANSI C63.4 – 2003

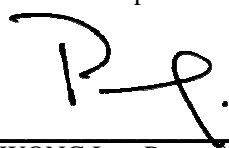
Test Result : See attached sheet(s) from page 2 to 12.

Conclusion : The submitted sample was found to comply with requirement of FCC Part 15 Subpart B.

Remarks : All three models are the same in circuitry, components and constructions.  
Therefore model XM60 was chosen to be the representative of the test sample.

*For and on behalf of*  
CMA Industrial Development Foundation Limited

Authorized Signature : \_\_\_\_\_

  
Mr WONG Lap-Pong, Andrew  
Assistant Manager  
Electrical Division

FCC ID: UTWXM6X

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### **1 General Information**

#### **1.1 General Description**

The equipment under test (EUT) is a PDA for Handheld Computer Type Barcode Scanner. The EUT is powered by 1 x 3.7V rechargeable battery. The operation system is WinCE and built-in SDRAM, NAND Flash Memory, Barcode Scanner, Bluetooth and Wi-Fi features.

The brief circuit description is saved with filename: OpDes.pdf



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### **1.2 Location of the test site**

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2003. A Semi-Anechoic Chamber Testing Site is set up for investigation and located at:

Ground Floor, Yan Hing Centre,  
9 – 13 Wong Chuk Yeung Street,  
Fo Tan, Shatin,  
New Territories,  
Hong Kong.

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 2003. A shielded room is located at :

Ground Floor, Yan Hing Centre,  
9 – 13 Wong Chuk Yeung Street,  
Fo Tan, Shatin,  
New Territories,  
Hong Kong.



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### **1.3 List of measuring equipment**

Equipment	Manufacturer	Model No.	Serial No.	Calibration Due Date
EMI Test Receiver	R&S	ESCI	100152	2009-12-02
EMI Test Receiver	R&S	ESCS30	100001	2010-01-16
Broadband Antenna	Schaffner	CBL6112B	2718	2010-08-04
LISN	R&S	ESH3-Z5	100010	2009-08-24
LISN	R&S	ESH3-Z5	100038	2010-05-11

### **1.4 List of supporting equipment**

- Computer:
1. Intel CPU P4 2.8GHz / 512k cache / 533MHz bus  
Model: 9426A657
  2. Intel Mother Board  
Model: Intel Type: D845EPI/D845GVSR
  3. Seagate Hard-Disk  
Model: ST380011A, 80GB
  4. Proview LCD Monitor  
Model: 568
  5. Logitech Mouse  
Model: M-S34
  6. Hewlett Packard Keyboard  
Model: SK-2502C
  7. Hewlett Packard LaserJet 2100TN  
Model: C4172A
  8. PenPower Handwriting System  
Model: PP403N
  9. RS-232 DB9 Serial Cable with DC Adapter Connector  
(Provided by Applicant)



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### **2 Description of the radiated emission test**

#### **2.1 Test Procedure**

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2003.

The equipment under test (EUT) was placed on a non-conductive turntable with dimensions of 1.5m x 1m and 0.8m high above the ground. 3m from the EUT, a broadband antenna mounting on the mast received the signal strength. The turntable was rotated to maximize the emission level. The antenna was then moving along the mast from 1m up to 4m until no more higher value was found. Both horizontal and vertical polarization of the antenna were placed and investigated.

For below 30MHz, a loop antenna with its vertical plane is placed 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1 m above the ground.

The device was rotated through three orthogonal to determine which attitude and configuration produce the highest emission during measurement for radiated emission measurement.

#### **2.2 Test Result**

The emissions meeting the requirement of section 15.109 are based on measurements employing the CISPR quasi-peak detector below 1000MHz and average detector for frequencies above 1000MHz.

The frequencies from 30MHz to 1000MHz were investigated, and emissions more 20dB below limit were not reported. Thus, those highest emissions were presented in next pages.

It was found that the EUT meet the FCC requirement.



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### **2.3 Radiated Emission Measurement Data**

#### **Radiated emission**

#### **pursuant to**

#### **the requirement of FCC Part 15 subpart B**

Mode: PC Connected with Data Transferring

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dB $\mu$ V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
300.014	H	19.5	15.9	35.4	46.0	-10.6
420.019	H	19.5	19.4	38.9	46.0	-7.1
480.022	H	21.5	19.4	40.9	46.0	-5.1
540.024	V	23.9	20.5	44.4	46.0	-1.6
600.025	H	14.3	21.8	36.1	46.0	-9.9
660.033	H	17.7	21.8	39.5	46.0	-6.5
720.036	H	13.4	22.5	35.9	46.0	-10.1
780.031	H	21.1	22.5	43.6	46.0	-2.4
840.032	H	13.0	23.6	36.6	46.0	-9.4
900.040	H	13.6	24.6	38.2	46.0	-7.8

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### 2.3 Radiated Emission Measurement Data (Con't)

#### **Radiated emission**

#### **pursuant to**

#### **the requirement of FCC Part 15 subpart B**

Mode: Barcode Scanning with Battery Charging

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dB $\mu$ V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
36.004	V	17.4	15.7	33.1	40.0	-6.9
44.486	V	19.3	13.3	32.6	40.0	-7.4
60.012	V	26.0	5.8	31.8	40.0	-8.2
108.024	V	16.0	11.2	27.2	43.5	-16.3
132.031	V	16.5	12.6	29.1	43.5	-14.4
153.770	V	15.7	12.3	28.0	43.5	-15.5
162.094	V	15.5	11.0	26.5	43.5	-17.0
170.396	H	16.5	11.0	27.5	43.5	-16.0
574.776	H	8.3	20.5	28.8	46.0	-17.2
677.103	H	11.3	21.8	33.1	46.0	-12.9





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### **3 Description of the Line-conducted Test**

#### **3.1 Test Procedure**

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 2003. The EUT was setup as described in the procedures, and both lines were measured.

#### **3.2 Test Result**

The PC connected mode and Stand Alone mode were tested. The EUT was tested under a data transferring situation in PC connected mode.

It was found that the EUT met the FCC requirement.

#### **3.3 Graph and Table of Conducted Emission Measurement Data**

For electronic filing, the documents are saved with filename TestRpt2.pdf.



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### **4 Photograph**

#### **4.1 Photographs of the Test Setup for Radiated Emission and Conducted Emission**

For electronic filing, the photos are saved with filename TSup1.jpg to Tsup10.jpg.

#### **4.2 Photographs of the External and Internal Configurations of the EUT**

For electronic filing, the photos are saved with filename ExPho1.jpg to ExPho2.jpg and InPho1.jpg to InPho4.jpg.



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### **5 Supplementary document**

The following document were submitted by applicant, and for electronic filing, the document are saved with the following filenames:

<b>Document</b>	<b>Filename</b>
ID Label/Location	LabelSmp.jpg
Block Diagram	BlkDia.pdf
Schematic Diagram	Schem.pdf
Users Manual	UserMan.pdf
Operational Description	OpDes.pdf

#### **5.1 Bandwidth**

Not Applicable

#### **5.2 Duty cycle**

Not Applicable

#### **5.3 Transmission time**

Not Applicable



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### **6 Appendices**

A1.	Photos of the set-up of Radiated Emissions	2	pages
A2.	Photos of the set-up of Conducted Emissions	4	pages
A3.	Photos of External Configurations	1	page
A4.	Photos of Internal Configurations	2	pages
A5.	ID Label/Location	1	page
A6.	Conducted Emission Measurement Data	4	pages
A7.	Block Diagram	1	page
A8.	Schematics Diagram	15	pages
A9.	User Manual	4	pages
A10.	Operation Description	2	pages

\*\*\*\*\* End of Report \*\*\*\*\*