



TEST REPORT

Report No. : AD017183-1

Date : 2003 October 09

Applicant : D.P.I. (HK) Ltd.
Unit A, 4/F., Big Star Centre,
8 Wang Kwong Road, Kowloon Bay,
Kowloon, Hong Kong.

Sample Description : One(1) submitted sample stated to be :
Model Name : Multi-Format Digital Audio Player
Model No. : TEC50
Rating : 1 x 1.5 V AAA size battery
Testing Voltage : AC 120 V and 1 x 1.5 V
No. of sample(s) : One(1) set ***

Date Received : 2003 September 17.

Test Period : 2003 September 17 – 2003 October 09.

Test Requested : FCC Part 15 Certification

Test Method : FCC Rules and Regulations Part 15 – May 2002
ANSI C63.4 – 1992

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.

For and on behalf of
CMA Testing and Certification Laboratories

Authorized Signature : 

Danny Chui

EMC Engineer - EL. Division

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1 General Information

1.1 General Description

The equipment under test (EUT) is a standalone multi-function product. The (EUT) is powered by 1 x 1.5 V AAA size batteries built in 64MB memory and has 2 different features:

1. Music Player, supports MP3 and WMA digital music format.
2. USB interface for PC uploading and downloading both data and audio files.

(Details see manual)

The brief circuit description is listed as follows :

1. U1 is a digital signal processor act as MP3 and WMA decoding, data I/O control, audio output and controlled by a 24.576MHz crystal.
2. U2 and associated circuit act as internal memory for data and audio files storage.

A brief circuit description is saved with file name : OpDes.pdf

1.2 Related Submittal Grants

This is a single application for certification of a computer peripheral product.

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1.3 Location of the test site

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 1992. An Open Area Testing Site is set up for investigation and located at :

Top of the Roof, 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 – 1992. A double shielded room is located at :

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

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1.4 List of measuring equipment

| Equipment | Manufacturer | Model No. | Serial No. | Calibration Certification No. |
|-------------------|--------------|-----------|------------|-------------------------------|
| EMI Test Receiver | R&S | ESCS30 | 100001 | S21141 |
| Broadband Antenna | Schaffner | CBL6113B | 2718 | AC1753 |
| Signal Generator | IFR | 2023B | 202302/938 | Nil |
| LISN | R&S | ESH3-Z5 | 100038 | S21142 |
| LISN | R&S | ESH3-Z5 | 100010 | 20-70405 |
| Pulse Limiter | R&S | ESH3-Z2 | 100001 | 20-73194 |
| Biconical Antenna | R&S | HK116 | 837414/004 | 4000.7752.02 |

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1.5 List of support equipment

1. Intel CPU PIII 800EB / 256 cache / 133MHz
Model: L103A455-0041 SL4MB
2. Intel Mother Board
Model: Intel Type: D815EEA
3. IBM Hard-disk
Model: DTLA-30720, 20.5GB
4. Proview LCD Monitor
Model: 568
S/N: FYUJ240040133
5. IBM Mouse
Model: 12J3618
S/N: 23-005077
6. Acer Keyboard
Model: 6511-VA
7. Hewlett Packard LaserJet 2100TN
Model: C4172A
S/N: SGGS038577
8. PenPower Handwriting System
Model: PP403N
S/N: PT9122239
9. USB cable (supplied 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 – 1992.

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.

2.2 Test Result

All modes had been test. The measurement data were indicated in next page.

All other measurement were 20 dB below the 15.109 limits. Thus, those highest emissions were presented in next page (section 2.3).

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 : Play music

| Frequency (MHz) | Polarity (H/V) | Reading at 3m (dB μ V/m) | Antenna and Cable factor (dB) | Field Strength (dB μ V/m) | Limit at 3m (dB μ V/m) | Margin (dB) |
|--------------------|-------------------|---------------------------------|-------------------------------------|----------------------------------|-------------------------------|----------------|
| 147.462 | H | 17.6 | 12.2 | 29.8 | 43.5 | -13.7 |
| 153.604 | H | 14.6 | 11.5 | 26.1 | 43.5 | -17.4 |
| 184.327 | H | 15.7 | 10.5 | 26.2 | 43.5 | -17.3 |
| 211.976 | H | 18.8 | 10.7 | 29.5 | 43.5 | -14.0 |
| 221.192 | H | 21.9 | 10.7 | 32.6 | 46.0 | -13.4 |
| 247.307 | H | 21.4 | 10.7 | 32.1 | 46.0 | -13.9 |
| 268.811 | H | 15.6 | 13.9 | 29.5 | 46.0 | -16.5 |
| 282.635 | H | 17.1 | 13.9 | 31.0 | 46.0 | -15.0 |
| 317.965 | H | 16.2 | 15.3 | 31.5 | 46.0 | -14.5 |
| 459.282 | H | 9.0 | 18.6 | 27.6 | 46.0 | -18.4 |

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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

| Frequency (MHz) | Polarity (H/V) | Reading at 3m (dB μ V/m) | Antenna and Cable factor (dB) | Field Strength (dB μ V/m) | Limit at 3m (dB μ V/m) | Margin (dB) |
|--------------------|-------------------|---------------------------------|-------------------------------------|----------------------------------|-------------------------------|----------------|
| 141.318 | H | 25.7 | 12.2 | 37.9 | 43.5 | -5.6 |
| 147.462 | H | 19.4 | 12.2 | 31.6 | 43.5 | -11.9 |
| 153.604 | H | 22.6 | 11.5 | 34.1 | 43.5 | -9.4 |
| 184.327 | H | 26.4 | 10.5 | 36.9 | 43.5 | -6.6 |
| 192.007 | H | 26.2 | 10.5 | 36.7 | 43.5 | -6.8 |
| 211.976 | H | 21.9 | 10.7 | 32.6 | 43.5 | -10.9 |
| 221.192 | H | 27.9 | 10.7 | 38.6 | 46.0 | -7.4 |
| 230.410 | H | 27.5 | 10.7 | 38.2 | 46.0 | -7.8 |
| 317.965 | H | 17.4 | 15.3 | 32.7 | 46.0 | -13.3 |
| 516.118 | H | 9.2 | 20.6 | 29.8 | 46.0 | -16.2 |

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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 – 1992. The EUT was setup as described in the procedures, and both lines were measured.

3.2 Test Result

The PC connected mode had been tested. The EUT connecting with an USB cable and an earphone produced the maximum emission. The measurement data was indicated in next page.

The result showed that the EUT met the FCC requirement.

3.3 Graph and Table of Conducted Emission Measurement Data

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

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4 Photograph

4.1 Photographs of the Test Setup for Radiated Emission and Conduction Emission

For electronic filing, the photos are saved with filename TSup1.jpg to TSup5.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 InPho2.jpg.

5 Supplementary document

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

| Document | Filename |
|-------------------------|------------------------------|
| ID Label/Location | LabelSmp.pdf |
| Block Diagram | BlkDia.pdf |
| Schematic Diagram | Schem.pdf |
| Users Manual | UserMan1.pdf to UserMan2.pdf |
| Operational Description | OpDes.pdf |



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6 Appendices

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| A1. | Photos of the set-up of Radiated Emissions | 1 page |
| A2. | Photos of the set-up of Conducted Emissions | 2 pages |
| A3. | Photos of External Configurations | 1 page |
| A4. | Photos of Internal Configurations | 1 page |
| A5. | ID Label/Location | 1 page |
| A6. | Conducted Emission Measurement Data | 2 pages |
| A7. | Block Diagram | 1 page |
| A8. | Schematics Diagram | 1 page |
| A9. | User Manual | 21 pages |
| A10. | Operation Description | 1 page |

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

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