May 17, 2005

Eagletron Telecommunications Ltd.
22/F., Concord Technology Centre,
98 Texaco Road, Tsuen Wan,
N.T., Hong Kong.

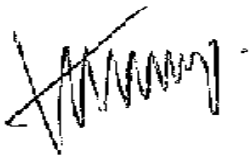
Dear Peter Yip :

Enclosed you will find your file copy of a Part 15 Certification (FCC ID: MNJ08047T).

For your reference, TCB will normally take another 15-20 days for reviewing the report. Approval will then be granted when no query is sorted.

Please contact me if you have any questions regarding the enclosed material.

Sincerely,



Tommy Leung
Assistant Manager

Enclosure

# Dorel Juvenile Group

Application
For
Certification
**(FCC ID: MNJ08047T)**

2.4GHz Transmitter

0507494
TL/ Ann Choy
May 17, 2005




**Intertek Testing Services Hong Kong Ltd.**
2/F., Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong.
Tel: (852) 2173 8888 Fax: (852) 2371 0521 Website: www.hk.intertek-etlsemko.com

# LIST OF EXHIBITS

# MEASUREMENT/TECHNICAL REPORT

## Dorel Juvenile Group - MODEL: 08047T
## FCC ID: MNJ08047T

## May 17, 2005

This report concerns (check one:) Original Grant X Class II Change _____

Equipment Type: DXX - Low Power Transmitter (example: computer, printer, modem, etc.)

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Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes ___ No X

If yes, defer until: _____ date

Company Name agrees to notify the Commission by: _____ date

of the intended date of announcement of the product so that the grant can be issued on that date.

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Transition Rules Request per 15.37? Yes ___ No X

If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [12-08-03 Edition] provision.

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Report prepared by:

Tommy Leung
Intertek Testing Services
2/F., Garment Center,
576, Castle Peak Road,
Kowloon, Hong Kong.
Phone: 852-2173-8538
Fax: 852-2741-1693

## Table of Contents

List of attached file

| Exhibit type | File Description | filename |
|---|---|---|
| Test Report | Test Report | report.pdf |
| Operation Description | Technical Description | descri.pdf |
| Test Setup Photo | Radiated Emission | config photos.pdf |
| Test Setup Photo | Conducted Emission | config photos.pdf |
| Test Report | Conducted Emission Test Result | conduct.pdf |
| External Photo | External Photo | external photos.doc |
| Internal Photo | Internal Photo | internal photos.doc |
| Block Diagram | Block Diagram | block.pdf |
| Schematics | Circuit Diagram | circuit.pdf |
| ID Label/Location | Label Artwork and Location | label.pdf |
| User Manual | User Manual | manual.pdf |

# EXHIBIT 1

# GENERAL DESCRIPTION

## 1.0 General Description

### 1.1 Product Description

The Equipment Under Test (EUT) is a Transmitter operating at 2414MHz, 2432MHz, and 2450MHz. The EUT is powered by 120VAC to 9VDC 600mA adaptor. It is a baby unit of RF Baby Monitor System with Camera, and it has a channel switch for selecting channel 1 to 3. After switching on the unit, it transmits a baby voice and video signal to the corresponding parent unit with the same channel selection.

Antenna Type : Integral, Internal

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

### 1.2 Related Submittal(s) Grants

This is an application for certification of a transmitter.

1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2001). All measurements were performed in Open Area Test Sites. Preliminary scans were performed in the Open Area Test Sites only to determine worst case modes. For each scan, the procedure for maximizing emissions in Appendices D and E were followed. All Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the **"Justification Section"** of this Application.

1.4 Test Facility

The open area test site and conducted measurement facility used to collect the emission data is located at Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong. This test facility and site measurement data have been fully placed on file with the FCC.

# EXHIBIT 2

# SYSTEM TEST CONFIGURATION

## 2.0 System Test Configuration

### 2.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.4 (2001).

The EUT was powered from 120VAC to 9VDC 600mA adaptor.

For maximizing emissions, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data reported in Exhibit 3.0.

The unit was operated standalone and placed in the center of the turntable.

The equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). The EUT was placed on turntable, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes. For simplicity of testing, the unit was wired to transmit continuously.

All relevant operation modes have been tested, and the worst case data is included in this report.

The frequency range from the lowest radio frequency signal generated in the device which is greater than 9kHz to 25GHz was searched for spurious emissions from the device. Only those emissions reported were detected. All other emissions were at least 20 dB below the applicable limits.

### 2.2 EUT Exercising Software

There was no special software to exercise the device. Once the button is depressed, the unit transmits the typical signal. For simplicity of testing, the unit was wired to transmit continuously.

### 2.3 Special Accessories

There are no special accessories necessary for compliance of this product.

2.4 Equipment Modification

Any modifications installed previous to testing by Dorel Juvenile Group will be incorporated in each production model sold/leased in the United States.

No modifications were installed by Intertek Testing Services.

2.5 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty test has been considered.

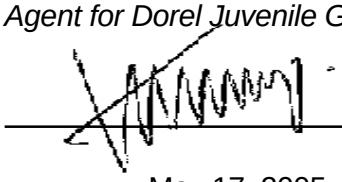
2.6 Support Equipment List and Description

This product was tested in a standalone configuration.

All the items listed under section 2.0 of this report are

*Confirmed by:*

*Tommy Leung*
*Assistant Manager*
*Intertek Testing Services Hong Kong Ltd.*
*Agent for Dorel Juvenile Group*



Signature

May 17, 2005 Date

# EXHIBIT 3

# EMISSION RESULTS

## 3.0 Emission Results

Data is included worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

3.1 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

FS = RA + AF + CF - AG + PD + AV

where FS = Field Strength in dBµV/m
RA = Receiver Amplitude (including preamplifier) in dBµV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB
PD = Pulse Desensitization in dB
AV = Average Factor in -dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

FS = RA + AF + CF - AG + PD + AV

3.1 Field Strength Calculation (cont'd)

Example

Assume a receiver reading of 62.0 dBµV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB, and the resultant average factor was -10 dB. The net field strength for comparison to the appropriate emission limit is 32 dBµV/m. This value in dBµV/m was converted to its corresponding level in µV/m.

RA = 62.0 dBµV
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
PD = 0 dB

AV = -10 dB

FS = 62 + 7.4 + 1.6 - 29 + 0 + (-10) = 32 dBµV/m

Level in µV/m = Common Antilogarithm [(32 dBµV/m)/20] = 39.8 µV/m

3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission
at
2414.000 MHz

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: cofing photos.doc.

3.3 Radiated Emission Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 8.2 dB margin

***TEST PERSONNEL:***

*Signature*

Jess Tang, Engineer
*Typed/Printed Name*

May 17, 2005
*Date*

Company: Dorel Juvenile Group
Model: 08047T
Mode: TX - Channel 1

Date of Test: April 7-May 8, 2005

Table 1

**Radiated Emissions**

| Polarization | Frequency (MHz) | Reading (dBµV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Net at 3m (dBµV/m) | Limit at 3m (dBµV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| V | 2414.000 | 90.7 | 34 | 29.1 | 85.8 | 94 | -8.2 |
| V | *4828.000 | 39.8 | 34 | 34.0 | 39.8 | 54 | -14.2 |
| V | 7242.000 | 38.9 | 34 | 37.0 | 41.9 | 54 | -12.1 |
| V | 9656.000 | 36.6 | 34 | 39.2 | 41.8 | 54 | -12.2 |

Notes:
1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.

* Emission within the restricted band fulfil the requirement of Section 15.209.

Test Engineer: Jess Tang

Company: Dorel Juvenile Group
Model: 08047T
Mode: TX - Channel 2

Date of Test: April 7-May 8, 2005

Table 2

**Radiated Emissions**

| Polarization | Frequency (MHz) | Reading (dBµV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Net at 3m (dBµV/m) | Limit at 3m (dBµV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| V | 2432.000 | 87.9 | 34 | 29.1 | 83.0 | 94 | -11.0 |
| V | *4864.000 | 39.9 | 34 | 34.0 | 39.9 | 54 | -14.1 |
| V | *7296.000 | 39.3 | 34 | 37.0 | 42.3 | 54 | -11.7 |
| V | 9728.000 | 36.7 | 34 | 39.2 | 41.9 | 54 | -12.1 |

Notes:
1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.

* Emission within the restricted band fulfil the requirement of Section 15.209.

Test Engineer: Jess Tang

Company: Dorel Juvenile Group
Model: 08047T
Mode: TX - Channel 3

Date of Test: April 7-May 8, 2005

Table 3

**Radiated Emissions**

| Polarization | Frequency (MHz) | Reading (dBµV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Net at 3m (dBµV/m) | Limit at 3m (dBµV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| V | 2450.000 | 88.5 | 34 | 29.1 | 83.6 | 94 | -10.4 |
| V | *4900.000 | 40.3 | 34 | 34.0 | 40.3 | 54 | -13.7 |
| V | *7350.000 | 40.6 | 34 | 37.0 | 43.6 | 54 | -10.4 |
| V | 9800.000 | 37.5 | 34 | 39.2 | 42.7 | 54 | -11.3 |

Notes:
1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.

* Emission within the restricted band fulfil the requirement of Section 15.209.

Test Engineer: Jess Tang

3.4 Conducted Emission Configuration Photograph

Worst Case Line-Conducted Configuration

For electronic filing, the worst case line-conducted configuration photograph are saved with filename: confing photos.doc.

3.5 Conducted Emission Data

The data on the following pages list the significant emission frequencies, the limit, and the margin of compliance.

Judgement: Passed by more than 20 dB margin

For electronic filing, the graph and data table of conducted emission is saved with filename: conduct.pdf.

***TEST PERSONNEL:***

*Signature*

Jess Tang, Engineer
*Typed/Printed Name*

May 17, 2005
*Date*

# EXHIBIT 4

# EQUIPMENT PHOTOGRAPHS

## 4.0 Equipment Photographs

For electronic filing, the photographs of the tested EUT are saved with filename: external photos.doc & internal photos.doc.

# EXHIBIT 5

# PRODUCT LABELLING

## 5.0 **Product Labelling**

For electronic filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

# EXHIBIT 6

# TECHNICAL SPECIFICATIONS

## 6.0 Technical Specifications

For electronic filing, the block diagram and schematics of the tested EUT are saved with filename: block.pdf and circuit.pdf respectively.

# EXHIBIT 7

# INSTRUCTION MANUAL

## 7.0 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

# EXHIBIT 8

# MISCELLANEOUS INFORMATION

## 8.0 Miscellaneous Information

This miscellaneous information includes details of the bandedge plot, the test procedure and calculation of factors such as pulse desensitization and averaging factor.

8.1 Radiated Emission on the bandedge

From the following table, it shows that the fundamental emissions are confined in the specified band and it meets the general radiated emission limits in Section 15.209 at the frequency bands of 2400MHz and 2483.5MHz. It is complied with the requirement of section 15.249(d).

Company: Dorel Juvenile Group
Model: 08047T
Mode: TX - Channel 1

Date of Test: April 7-May 8, 2005

Table 4

**Radiated Emissions**

| Polarization | Frequency (MHz) | Reading (dBµV) | Pre-Amp (dB) | Antenna Factor (dB) | Net at 3m (dBµV/m) | Limit at 3m (dBµV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| V | 2400.000 | 44.6 | 34 | 29.1 | 39.7 | 54 | -14.3 |

Notes:
1. Peak detector is used for the emission.
2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna are used for the emission over 1000MHz

Test Engineer: Jess Tang

Company: Dorel Juvenile Group
Model: 08047T
Mode: TX - Channel 3

Date of Test: April 7-May 8, 2005

Table 5

**Radiated Emissions**

| Polarization | Frequency (MHz) | Reading (dBµV) | Pre-Amp (dB) | Antenna Factor (dB) | Net at 3m (dBµV/m) | Limit at 3m (dBµV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| V | 2483.500 | 45.7 | 34 | 29.1 | 40.8 | 54 | -13.2 |

Notes:
1. Peak detector is used for the emission.
2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna are used for the emission over 1000MHz.

Test Engineer: Jess Tang

8.2 Discussion of Pulse Desensitization

The determination of pulse desensitivity was made in accordance with Hewlett Packard Application Note 150-2, *Spectrum Analysis ... Pulsed RF.*

Pulse desensitivity is not applicable for this device since the transmitter transmits the RF signal continuously.

8.3 Calculation of Average Factor

The emission limits are specified using spectrum analyzers or receivers which incorporate quasi-peak detectors. Typical measurements are made using peak detectors, however, emissions which approach the respective emission limit are measured using a quasi-peak detector.

For measurements above 1 GHz, spectrum analyzers or receivers using average detectors are employed, or the appropriate average factor can be applied.

Measurements using spectrum analyzers with filters other than peak detectors are recorded in the data table section of this report.

Since this device is a transmit signal continuously, it is not necessary to apply average factor to the measurement results.

8.4 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services in the measurements of transmitters operating under Part 15, Subpart C rules.

The test set-up and procedures described below are designed to meet the requirements of ANSI C63.4 - 2001.

The transmitting equipment under test (EUT) is placed on a wooden turntable which is four feet in diameter and approximately one meter in height above the ground plane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The EUT is adjusted through all three orthogonal axes to obtain maximum emission levels. The antenna height and polarization are varied during the testing to search for maximum signal levels. The height of the antenna is varied from one to four meters.

Detector function for radiated emissions is in peak mode. Average readings, when required, are taken by measuring the duty cycle of the equipment under test and subtracting the corresponding amount in dB from the measured peak readings. A detailed description for the calculation of the average factor can be found in Exhibit 8.3.

The frequency range scanned is from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or 40 GHz, whichever is lower. For line conducted emissions, the range scanned is 150 kHz to 30 MHz.

8.4 Emissions Test Procedures (cont'd)

The EUT is warmed up for 15 minutes prior to the test.

AC power to the unit is varied from 85% to 115% nominal and variation in the fundamental emission field strength is recorded. If battery powered, a new, fully charged battery is used.

Conducted measurements are made as described in ANSI C63.4 - 2001.

The IF bandwidth used for measurement of radiated signal strength was 100 kHz or greater when frequency is below 1000 MHz. Where pulsed transmissions of short enough pulse duration warrant, a greater bandwidth is selected according to the recommendations of Hewlett Packard Application Note 150-2. A discussion of whether pulse desensitivity is applicable to this unit is included in this report (See Exhibit 8.2). Above 1000 MHz, a resolution bandwidth of 1 MHz is used.

Transmitter measurements are normally conducted at a measurement distance of three meters. However, to assure low enough noise floor in the forbidden bands and above 1 GHz, signals are acquired at a distance of one meter or less. All measurements are extrapolated to three meters using inverse scaling, unless otherwise reported. Measurements taken at a closer distance are so marked.