Dorel Juvenile Group

Application
For
Certification
(FCC ID: MNJ08020T)

900MHz Transmitter

07184201
TL/ ac
September 5, 2007

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LIST OF EXHIBITS

INTERTEK TESTING SERVICES

MEASUREMENT/TECHNICAL REPORT

Dorel Juvenile Group - MODEL: 08020
08043

FCC ID: MNJ08020T

September 5, 2007

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

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

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.

Transition Rules Request per 15.37? Yes ___ No X

If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [05-04-07 Edition] provision.

Report prepared by: Leung Wai Leung, Tommy
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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
	Conducted Emission	
Test Report	Conducted Emission Test Result	conduct.pdf
Test Report	Bandedge Plot	emission.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 (Baby Unit of Baby Monitor with Camera) operating at 902.5MHz & 927.5MHz for audio channels and 921.5MHz & 908.5MHz for video channels. The EUT is powered by a 100-240VAC to 9VDC 500mA adaptor. It has a channel switch for selecting channel 1 of 2. After switching on the unit, it transmits voice signal and video signal to the corresponding receiver units (Portable audio receiver and Video monitor) with the same channel selection.

Antenna Type : Integral, Internal

The Model: 08020 is a baby unit with camera of Close View Monitoring System, and this system also includes a portable audio receiver unit and a video monitor unit. On the other hand, the Model: 08043 is a baby unit with camera of In-Sight Video Monitor, and it includes a video monitor unit. The Model: 08043 is the same as the Model: 08020 in hardware aspect. The difference in model number serves as marketing strategy.

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. The receivers, associated with this transmitter, were subjected to DOC procedure.

1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2003). 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 (2003).

The EUT was powered from 100-240VAC to 9VDC 500mA 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 rear of EUT, including accessories/ peripherals, was aligned and flash with rear 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.

Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The resolution is 1 MHz or greater for frequencies above 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed 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 to 40 GHz, whichever is lower.

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

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 Details of EUT and Description of Peripherals

Details of EUT:

An AC adaptor (provided with the unit) was used to power the device. Its description is listed below.

(1) An AC Adaptor (100-240VAC to 9VDC 500mA, Model: PS06B-0900500U)

Description of Peripherals:

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

2.4 Measurement Uncertainty

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

2.5 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 Hong Kong Ltd.

All the items listed under section 2.0 of this report are

Confirmed by:

Leung Wai Leung, Tommy
Manager
Intertek Testing Services Hong Kong Ltd.
Agent for Dorel Juvenile Group

Signature

September 5, 2007 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
2271.250 MHz

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: config 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 5.8 dB

TEST PERSONNEL:

Signature

Jess Tang, Lead Engineer
Typed/Printed Name

September 5, 2007
Date

Company: Dorel Juvenile Group
Model: 08020
Mode: TX - Channel 01

Date of Test: August 16-30, 2007

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	908.500	62.9	16	32.0	78.9	94	-15.1
H	454.250	23.9	16	26.0	33.9	46	-12.1
V	*1362.750	52.3	33	26.1	45.4	54	-8.6
V	1817.000	39.1	33	39.1	45.2	54	-8.8
V	*2271.250	51.8	33	29.4	48.2	54	-5.8
H	*2725.500	50.2	33	30.4	47.6	54	-6.4
H	3179.750	47.9	33	31.9	46.8	54	-7.2
H	*3634.000	43.9	33	33.3	44.2	54	-9.8

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	927.500	64.6	16	33.0	81.6	94	-12.4
H	463.750	25.4	16	26.0	35.4	46	-10.6
V	*1391.250	52.2	33	26.1	45.3	54	-8.7
V	1855.000	39.3	33	39.1	45.4	54	-8.6
V	*2318.750	51.7	33	29.4	48.1	54	-5.9
H	*2782.500	49.8	33	30.4	47.2	54	-6.8
H	3246.250	48.0	33	31.9	46.9	54	-7.1
H	*3710.000	44.0	33	33.3	44.3	54	-9.7

NOTES:
1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meters. Radiated 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 radiated 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.
5. Emissions radiated outside of the specified frequency bands, except harmonics, are attenuated by 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation, which meet the requirement of part 15.249(d).

* Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

Company: Dorel Juvenile Group
Model: 08020
Mode: TX - Channel 02

Date of Test: August 16-30, 2007

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	902.500	63.4	16	32.0	79.4	94	-14.6
H	451.250	23.8	16	26.0	33.8	46	-12.2
V	*1353.750	52.2	33	26.1	45.3	54	-8.7
V	1805.000	39.7	33	39.1	45.8	54	-8.2
V	*2256.250	51.7	33	29.4	48.1	54	-5.9
H	*2707.500	49.8	33	30.4	47.2	54	-6.8
H	3158.750	47.3	33	31.9	46.2	54	-7.8
H	*3610.000	44.7	33	33.3	45.0	54	-9.0

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	921.500	64.2	16	33.0	81.2	94	-12.8
H	460.750	25.9	16	26.0	35.9	46	-10.1
V	*1382.250	52.1	33	26.1	45.2	54	-8.8
V	1843.000	40.1	33	39.1	46.2	54	-7.8
V	2303.750	50.8	33	29.4	47.2	54	-6.8
H	*2764.500	49.4	33	30.4	46.8	54	-7.2
H	3225.250	47.3	33	31.9	46.2	54	-7.8
H	*3686.000	44.9	33	33.3	45.2	54	-8.8

NOTES:
1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meters. Radiated 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 radiated 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.
5. Emissions radiated outside of the specified frequency bands, except harmonics, are attenuated by 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation, which meet the requirement of part 15.249(d).

* Emission within the restricted band meets the requirement of part 15.205.

Test Engineer: Jess Tang

3.4 Radiated Emission on the Bandedge

From the following plots, they show that the fundamental emissions are confined in the specified band (902MHz and 928MHz). In case of the fundamental emissions are within two standard bandwidths from the bandedge, the delta measurement technique is used for determining bandedge compliance. Standard bandwidth is the bandwidth specified by ANSI C63.4 (2003) for frequency being measured.

Emissions radiated outside of the specified frequency bands, except harmonics, are attenuated by 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation, which meet the requirement of part 15.249(d).

Please refer to the following plots for radiated emission on the bandedge, and they are shown the worst-case which has been already considered with video signals and audio signals.

Plot B1A - Low Frequency Emissions
Plot B1B - High Frequency Emissions

For electronic filing, the above plots are saved with filename: emission.pdf

3.5 Conducted Emission Configuration Photograph

Worst Case Line-Conducted Configuration
at
1.780 MHz

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

3.6 Conducted Emission Data

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

Judgement: Passed by 9.6 dB

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

TEST PERSONNEL:

Signature

Jess Tang, Lead Engineer
Typed/Printed Name

September 5, 2007
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

The required FCC Information to the User is stated on P.2 & P.10 of the Instruction Manual.

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