Angelcare Monitors Inc.

Application
For
Certification

900MHz Transmitter

(FCC ID: N7TAC420-T)

06234821
KL/ Ann Choy
November 29, 2006

Intertek Testing Services Hong Kong Ltd.
2/F., Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong.
Tel: (852) 2173 8888 Fax: (852) 2785 5487 Website: www.hk.intertek-etlsemko.com

LIST OF EXHIBITS

MEASUREMENT/TECHNICAL REPORT

Angelcare Monitors Inc. - Model: AC420
FCC ID: N7TAC420-T

This report concerns (check one:) Original Grant _X_ Class II Change ___

Equipment Type : DXX - Pt 15 Low Pwr Com. Device Tx

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 [04-05-05 Edition] Provision.

Report prepared by:

Lam Chun Cheong, Kenneth
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2/F., Garment Centre,
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Fax: 852-2741-1693

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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 & Conducted Emission	config photos.doc
Test Report	Emission Plot	emission.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 (Baby Unit of Sound Baby Monitor) operating at 926.000MHz-927.600MHz with 9 Channels. The first channel is used for telling a parent unit which channel is selected among other 8 channels. The EUT is powered by 4 x “AAA” size 1.5Vdc alkaline battery, 4 x Ni-MH “AAA” type 1.2Vdc rechargeable battery, or a 120VAC to 7.5Vdc 150mA AC adaptor. It has a channel button for selecting a channel, and this button is also for turning night light ON/OFF. Moreover, it has a out of range switch to turn ON or OFF the out of range function. After switching on the unit, it transmits a baby’s voice to the corresponding parent unit with the same channel selection.

The antenna used in the unit is integral.

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

1.2 Related Submittal(s) Grants

This is an application for certification of a transmitter. The receiver, associated with this transmitter, has FCC ID: N7TAC420-R and has been filed at the same time.

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. 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 radiated 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 by 4 x “AAA” size 1.5Vdc alkaline battery, 4 x Ni-MH “AAA” type 1.2Vdc rechargeable battery, or a 120VAC to 7.5Vdc 150mA AC 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 readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. 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 with different power sources 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 Support Equipment List and Description

The FCC ID's for all equipment, plus descriptions of all cables used in the tested system are:

HARDWARE:

An AC adaptor (provided with the unit) or a battery were used to power the device. Their description are listed below.

(1) An AC adaptor (120VAC to 7.5Vdc 150mA, Model: DC0750150)
(2) 4 x Ni-MH “AAA” type rechargeable battery (1.2V 840mAh)
(3) 4 x “AAA” size 1.5Vdc battery

CABLES:

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

OTHERS:

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

2.4 Measurement Uncertainty

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

Uncertainty and Compliance - Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

2.5 Equipment Modification

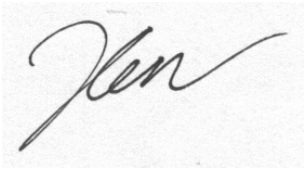
Any modifications installed previous to testing by Angelcare Monitors Inc. will be incorporated in each production model sold/leased in the United States.

No modifications were installed by ETL Division, Intertek Testing Services Hong Kong Ltd.

All the items listed under section 2.0 of this report are confirmed by:

Confirmed by:

Lam Chun Cheong, Kenneth
Senior Lead Engineer
Intertek Testing Services
Agent for Angelcare Monitors Inc.



Signature

November 29, 2006
Date

EXHIBIT 3
EMISSION RESULTS

3.0 **Emission Results**

Data is included of the 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 Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF - AG

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

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows:-

FS = RR + LF

where FS = Field Strength in dBμV/m
RR = RA - AG in dBμV
LF = CF + AF in dB

Assume a receiver reading of 52.0 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, giving a field strength of 32 dBμV/m. This value in dBμV/m was converted to its corresponding level in μV/m.

RA = 52.0 dBμV
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
FS = RR + LF
FS = 23 + 9 = 32 dBμV/m

RR = 23.0 dBμV
LF = 9.0 dB

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 4638.000 MHz

For electronic filing, the worst case radiated emission configuration photographs are saved with filename: config photos.doc

3.3 Radiated Emission Data

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

Judgement : Passed by 0.4 dB margin

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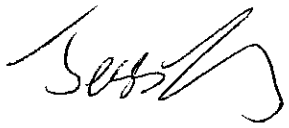
TEST PERSONNEL:



Tester Signature

Jess Tang, Lead Engineer
Typed/Printed Name

November 29, 2006
Date

Company: Angelcare Monitors Inc. Date of Test: October, 26-November 7, 2006
Model: AC420
Mode : TX-Channel 0

Table 1

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	926.000	76.0	16	33.0	93.0	94.0	-1.0
V	1852.000	56.0	33	27.2	50.2	54.0	-3.8
V	*2778.000	55.0	33	30.4	52.4	54.0	-1.6
H	*3704.000	46.5	33	33.3	46.8	54.0	-7.2
H	*4630.000	51.6	33	34.9	53.5	54.0	-0.5
H	5556.000	40.6	33	36.6	44.2	54.0	-9.8

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

Company: Angelcare Monitors Inc. Date of Test: October, 26-November 7, 2006
Model: AC420
Mode : TX-Channel 8

Table 2

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	927.600	76.2	16	33.0	93.2	94.0	-0.8
V	1855.200	55.8	33	27.2	50.0	54.0	-4.0
V	*2782.800	54.9	33	30.4	52.3	54.0	-1.7
H	*3710.400	46.6	33	33.3	46.9	54.0	-7.1
H	*4638.000	51.7	33	34.9	53.6	54.0	-0.4
H	5565.600	40.4	33	36.6	44.0	54.0	-10.0

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:

Plot B1A - Low Channel Emissions
Plot B1B - High Channel Emissions

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

3.5 Line Conducted Configuration Photograph

Worst Case Line-Conducted Configuration

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

3.6 Line 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

TEST PERSONNEL:

Tester Signature

Jess Tang, Lead Engineer
Typed/Printed Name

November 29, 2006
Date

Company: Angelcare Monitors Inc. Date of Test: October, 26-November 7, 2006
Model: AC420

Conducted Emissions

For electronic filing, the conducted emission test result is saved with filename: conduct.pdf

EXHIBIT 4
EQUIPMENT PHOTOGRAPHS

4.0 **Equipment Photographs**

For electronic filing, the photographs 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 location is saved with filename: label.pdf

EXHIBIT 6
TECHNICAL SPECIFICATIONS

6.0 **Technical Specifications**

For electronic filing, the block diagram and circuit diagram 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.7 of the Instruction Manual.

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