



Fisher-Price Inc.

Application
For
Certification

2.4GHz Frequency Hopping Spread Spectrum Parent Unit

(FCC ID: CCTN914709R)

HK08120295-2

KS/ ac

December 27, 2008

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INTERTEK TESTING SERVICES

MEASUREMENT/TECHNICAL REPORT

Fisher-Price Inc. – Model: N9147
P1384

FCC ID: CCTN914709R

This report concerns (check one:) Original Grant ☒ Class II Change ☐

Equipment Type : DSS - Part 15 Spread Spectrum Transmitter

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes ☐ No ☒

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 ☒

If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [10-01-07
Edition] Provision.

Report prepared by:

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Appendix - Exhibit of Application for Certification

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EXHIBIT 1 SUMMARY OF TEST RESULTS

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1.0 Summary of Test

**Fisher-Price Inc. – Model: N9147
P1384**

FCC ID: CCTN914709R

TEST	REFERENCE	RESULTS
Max. Output Power	15.247(b)(1)	Pass
Min. No. of Hopping Frequencies	15.247(a)(1)	Pass
Min. Hopping Channel Carrier Frequency Separation	15.247(a)(1)	Pass
Average Time of Occupancy	15.247(a)(1)	Pass
Out of Band Antenna Conducted Emission	15.247(d)	Pass
Radiated Emission in Restricted Bands	15.247(d)	Pass
Spurious Emission from Transmitter	15.209	Pass
AC Conducted Emission	15.207	Pass
Antenna Requirement	15.203	Pass (See Notes)
Radio Frequency Radiation Exposure	15.247(i)	Pass

Notes: The EUT uses a permanently attached antenna which, in accordance to Section 15.203, is considered sufficient to comply with the provisions of this section.

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EXHIBIT 2 GENERAL DESCRIPTION

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2.0 General Description

2.1 Product Description

The Equipment Under Test (EUT) is a 2.4GHz Frequency Hopping Spread Spectrum Parent Unit of Mom Response Audio Monitor operating at frequency range of 2408.832MHz to 2476.224MHz. There are total of 32 channels, and 15 channels are used for the communication environment. The EUT is powered by a 120VAC to 6VDC 550mA adaptor and/or a 3.6V 750mAh "Ni-MH" type rechargeable battery pack. It has a power/Volume dial to turn on the unit and adjust volume. Besides, it has three buttons, "Music, Sounds, and Night Light" to remote control these features in the baby unit. It also receives a baby's voice from the corresponding baby unit.

Antenna Type : Integral, Internal

The Model: P1384 is the same as the Model: N9147 in hardware aspect except different number of parent unit. The difference in model number serves as marketing strategy.

The circuit description and frequency hopping algorithm are saved with filename: descri.pdf.

2.2 Related Submittal(s) Grants

This is an application for certification of a transmitter. The baby unit, associated with this parent unit, has FCC ID: CCTN914709T and has been filed at the same time.

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2.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2003). Preliminary radiated 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. Antenna port conducted measurements were performed according to FCC Public Notice DA 00-705. All other measurements were made in accordance with the procedures in 47 CFR Part 2.

2.4 Test Facility

The open area test site and conducted measurement facility used to collect the 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.

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EXHIBIT 3 SYSTEM TEST CONFIGURATION

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3.0 System Test Configuration

3.1 Justification

For emissions testing, the equipment under test (EUT) was setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables (if any) were manipulated to produce worst case emissions. The EUT was powered by a 120VAC to 6VDC 550mA switching AC adaptor (Model: PC-0650-DVA) and/or a 3.6V 750mAh "Ni-MH" type rechargeable battery pack.

For the measurements, the EUT is attached to a plastic stand if necessary and placed on the wooden turntable. If the EUT attaches to peripherals, they are connected and operational (as typical as possible).

The signal is maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

Measurements of the radiated signal level of the fundamental frequency component of the emission was performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage.

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.

Determination of pulse desensitization was made according to *Hewlett Packard Application Note 150-2, Spectrum Analysis... Pulsed RF*. The effective period (τ_{eff}) referred to TX ON time plot. With the resolution bandwidth 1MHz and spectrum analyzer IF bandwidth 3 dB, the pulse desensitization factor was 0 dB.

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

3.2 EUT Exercising Software

The EUT exercise program (if any) used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use.

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3.3 Special Accessories

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

3.4 Measurement Uncertainty

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

3.5 Equipment Modification

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

No modifications were installed by Commercial & Electrical Division, Intertek Testing Services Hong Kong Ltd.

All the items listed under section 3.0 of this report are confirmed by:

Confirmed by:

*Sit Kim Wai, Ken
Assistant Manager
Intertek Testing Services
Agent for Fisher-Price Inc.*



Signature

December 27, 2008 Date

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EXHIBIT 4 MEASUREMENT RESULTS

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Company: Fisher-Price Inc.
Model: N9147

Date of Test: December 9-16, 2008

4.0 Measurement Results

4.1 Maximum Conducted Output Power at Antenna Terminals, FCC Rules 15.247(b)(1) :

- ☐ The antenna power of the EUT was connected to the input of a power meter. Power was read directly and cable loss correction was added to the reading to obtain power at the EUT antenna terminals.
- ☒ The antenna port of the EUT was connected to the input of a spectrum analyzer. The analyzer was set for RBW>20dB bandwidth and power was read directly in dBm. External attenuation and cable loss were compensated for using the OFFSET function of the analyser.

For antennas with gains of 6 dBi or less, maximum allowed transmitter output is 0.125 watt (+21 dBm).

(Parent Unit) Antenna Gain = 2 dBi		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2408.832	15.57	36.06
Middle Channel: 2443.392	15.18	32.96
High Channel: 2476.224	15.15	32.73

Cable loss : 0.5 dB External Attenuation : 0 dB

Cable loss, external attenuation: ☒ included in OFFSET function
☐ added to SA raw reading

dBm max. output level = 15.57 dBm (21dBm or less)

Please refer to the attached plots for details:

Plot P1A: Low Channel Output Power
Plot P1B: Middle Channel Output Power
Plot P1C: High Channel Output Power

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

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Company: Fisher-Price Inc.
Model: N9147

Date of Test: December 9-16, 2008

4.2 Maximum 20 dB RF Bandwidth, FCC Rule 15.247(a)(1)(iii):

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW was chosen so that the display was a result of the hopping channel modulation. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK output reading was taken, a DISPLAY line was drawn 20 dB lower than PEAK level. The 20 dB bandwidth was determined from where the channel output spectrum intersected the display line.

(Parent Unit)	
Frequency (MHz)	20 dB Bandwidth (kHz)
2443.392	2.364

Refer to the following plots for 20 dB bandwidth:

Plot P2A: Low Channel 20 dB RF Bandwidth

Plot P2B: Middle Channel 20 dB RF Bandwidth

Plot P2C: High Channel 20 dB RF Bandwidth

For electronic filing, the above plots are saved with filename: 20dB.pdf

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Company: Fisher-Price Inc.
Model: N9147

Date of Test: December 9-16, 2008

4.3 Minimum Number of Hopping Frequencies, FCC Rule 15.247(a)(1)(iii) :

The RF passband of the EUT was divided into 1 equal bands. With the analyzer set to MAX HOLD readings were taken for 2-3 minutes in each band. The channel peaks so recorded were added together, and the total number compared to the minimum number of channels required in the regulation.

Parent Unit	
No. of hopping channels	15

Minimum Requirements: at least 15 hopping channels for 2400MHz-2483.5MHz.

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

INTERTEK TESTING SERVICES

Company: Fisher-Price Inc.
Model: N9147

Date of Test: December 9-16, 2008

4.4 Minimum Hopping Channel Carrier Frequency Separation, FCC Ref: 15.247(a)(1):

Using the DELTA MARKER function of the analyzer, the frequency separation between two adjacent channels was measured and compared against the limit.

☐ 25 kHz

☐ 20 dB bandwidth of hopping channel:

☒ 2/3 of 20dB bandwidth of hopping channel: 1.576MHz

Parent Unit	
Channel Separation	1.728MHz

Plot P4: Channel 16 and Channel 17

Requirement: The frequency separation is more than 2/3 of 20dB bandwidth of hopping channel.

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

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Company: Fisher-Price Inc.
Model: N9147

Date of Test: December 9-16, 2008

4.5 Average Channel Occupancy Time, FCC Ref: 15.247(a)(1)(iii)

The spectrum analyzer center frequency was set to one of the known hopping channels. The SWEEP was set to 10ms, the SPAN was set to ZERO SPAN, and the TRIGGER was set to VIDEO. The time duration of the transmission so captured was measured with the MARKER DELTA function.

The SWEEP was then set to the time required by the regulation (20 seconds for 902-928 MHz devices, if the 20dB bandwidth is less than 250kHz, 10 seconds for 902-928 MHz if the 20dB bandwidth is or greater than 250kHz, "0.4 seconds x Number of hopping channels employed" seconds for 2400-2483.5 MHz, 30 seconds for 5725-5850 MHz). The analyzer was set to SINGLE SWEEP, the total ON time was added and compared against the limit (0.4 seconds).

Average 0.4 seconds maximum occupancy in 6 seconds (0.4 sec. x 15) for 2400MHz-2483.5MHz.

Parent Unit	
Average Occupancy Time = $0.5984\text{ms} \times 1 \times 66$	39.49 ms

Refer to attached spectrum analyzer plots P5A-C

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

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Company: Fisher-Price Inc.
Model: N9147

Date of Test: December 9-16, 2008

4.6 Out of Band Conducted Emissions, FCC Rule 15.247(d):

In any 100 kHz bandwidth outside the EUT passband, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20 dB below that of the maximum in-band 100 kHz emission, or else shall meet the general limits for radiated emissions at frequencies outside the passband, whichever results in lower attenuation.

All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the passband.

Refer to the following plots for out of band conducted emissions data:

Plot P6A1 - P6A2: Low Channel Emissions
Plot P6B1 - P6B2: Middle Channel Emissions
Plot P6C1 - P6C2: High Channel Emissions
Plot P6D1: Modulation Products Emissions*

All spurious emission and up to the tenth harmonic was measured and they were found to be at least 20 dB below the highest level of the desired power in the passband.

Furthermore, delta measurement technique for measuring bandedge emissions was incorporated in the test of the edge at 2483.5MHz.

*This plot is shown the worst-case which has been already considered between enable and disable the hopping function of the EUT.

For electronic filing, the above plots are saved with filenames: obantcon.pdf

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Company: Fisher-Price Inc.
Model: N9147

Date of Test: December 9-16, 2008

4.7 Transmitter Radiated Emissions in Restricted Bands, FCC Rule 15.35(b), (c):

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. All measurements were performed with peak detection unless otherwise specified.

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

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Company: Fisher-Price Inc.
Model: N9147

Date of Test: December 9-16, 2008

4.8 Spurious Emissions from Transmitter, FCC Ref: 15.209

- ☐ Not required – No digital part
- ☒ Test results are attached
- ☐ Included in the separated DoC report.

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Company: Fisher-Price Inc.
Model: N9147

Date of Test: December 9-16, 2008

4.9 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 dB μ V/m

RA = Receiver Amplitude (including preamplifier) in dB μ V

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:

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

Example

Assume a receiver reading of 62.0 dB μ V 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 dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

RA = 62.0 dB μ V

AF = 7.4 dB

CF = 1.6 dB

AG = 29.0 dB

PD = 0 dB

AV = -10 dB

$$FS = 62 + 7.4 + 1.6 - 29 + 0 + (-10) = 32 \text{ dB}\mu\text{V/m}$$

$$\text{Level in mV/m} = \text{Common Antilogarithm } [(32 \text{ dB}\mu\text{V/m})/20] = 39.8 \mu\text{V/m}$$

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Company: Fisher-Price Inc.
Model: N9147

Date of Test: December 9-16, 2008

4.10 Radiated Emission Configuration Photograph – Parent Unit

Worst Case Radiated Emission
at

2709.596 MHz

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

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Company: Fisher-Price Inc.
Model: N9147

Date of Test: December 9-16, 2008

4.11 Radiated Emission Data – Parent Unit

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

Judgement : Passed by 7.1 dB margin compare with the peak limit

TEST PERSONNEL:



Tester Signature

Jess Tang, Lead Engineer
Typed/Printed Name

December 27, 2008
Date

INTERTEK TESTING SERVICES

Company: Fisher-Price Inc.
Model: N9147
Mode : TX-Channel 0

Date of Test: December 9-16, 2008

Table 1, Parent Unit

Radiated Emissions Pursuant to FCC 15.247(d) Emissions Requirement

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBμV/m)	Average Factor (dB)	Calculated at 3m (dBμV/m)	Average Limit at 3m (dBμV/m)	Margin (dB)
V	*2258.576	65.7	33	29.4	62.1	43.5	18.6	54.0	-35.4
V	*2377.796	66.0	33	29.4	62.4	43.5	18.9	54.0	-35.1
V	*2709.596	69.5	33	30.4	66.9	43.5	23.4	54.0	-30.6
V	*4817.664	63.5	33	34.9	65.4	43.5	21.9	54.0	-32.1
H	*12044.160	50.9	33	40.5	58.4	43.5	14.9	54.0	-39.1

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBμV/m)	Peak Limit at 3m (dBμV/m)	Margin (dB)
V	*2258.576	65.7	33	29.4	62.1	74.0	-11.9
V	*2377.796	66.0	33	29.4	62.4	74.0	-11.6
V	*2709.596	69.5	33	30.4	66.9	74.0	-7.1
V	*4817.664	63.5	33	34.9	65.4	74.0	-8.6
H	*12044.160	50.9	33	40.5	58.4	74.0	-15.6

- 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 used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: Fisher-Price Inc.
Model: N9147
Mode : TX-Channel 17

Date of Test: December 9-16, 2008

Table 2, Parent Unit

Radiated Emissions Pursuant to FCC 15.247(d) Emissions Requirement

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBμV/m)	Average Factor (dB)	Calculated at 3m (dBμV/m)	Average Limit at 3m (dBμV/m)	Margin (dB)
V	*2291.442	62.2	33	29.4	58.6	43.5	15.1	54.0	-38.9
V	*2749.320	64.2	33	30.4	61.6	43.5	18.1	54.0	-35.9
V	*4886.784	63.3	33	34.9	65.2	43.5	21.7	54.0	-32.3
H	*7330.176	56.9	33	37.9	61.8	43.5	18.3	54.0	-35.7
H	*12216.960	51.7	33	40.5	59.2	43.5	15.7	54.0	-38.3

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBμV/m)	Peak Limit at 3m (dBμV/m)	Margin (dB)
V	*2291.442	62.2	33	29.4	58.6	74.0	-15.4
V	*2749.320	64.2	33	30.4	61.6	74.0	-12.4
V	*4886.784	63.3	33	34.9	65.2	74.0	-8.8
H	*7330.176	56.9	33	37.9	61.8	74.0	-12.2
H	*12216.960	51.7	33	40.5	59.2	74.0	-14.8

- 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 used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz.

Test Engineer: Jess Tang

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Company: Fisher-Price Inc.
Model: N9147
Mode : TX-Channel 31

Date of Test: December 9-16, 2008

Table 3, Parent Unit

Radiated Emissions Pursuant to FCC 15.247(d) Emissions Requirement

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBμV/m)	Average Factor (dB)	Calculated at 3m (dBμV/m)	Average Limit at 3m (dBμV/m)	Margin (dB)
V	**2476.224	120.4	33	29.4	116.8	43.5	73.3	--	--
V	*2322.670	63.0	33	29.4	59.4	43.5	15.9	54.0	-38.1
V	*4952.448	63.5	33	34.9	65.4	43.5	21.9	54.0	-32.1
H	*7428.672	56.3	33	37.9	61.2	43.5	17.7	54.0	-36.3
H	*12381.120	52.1	33	40.5	59.6	43.5	16.1	54.0	-37.9

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBμV/m)	Peak Limit at 3m (dBμV/m)	Margin (dB)
V	**2476.224	120.4	33	29.4	116.8	--	--
V	*2322.670	63.0	33	29.4	59.4	74.0	-14.6
V	*4952.448	63.5	33	34.9	65.4	74.0	-8.6
H	*7428.672	56.3	33	37.9	61.2	74.0	-12.8
H	*12381.120	52.1	33	40.5	59.6	74.0	-14.4

- 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 used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz.
- ** Fundamental emission was measured for determining band-edge compliance of using delta measurement technique.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: Fisher-Price Inc.
Model: N9147
Mode: Talk

Date of Test: December 9-16, 2008

Table 4, Parent Unit

Radiated Emissions
Pursuant to FCC 15.209 Emission Requirement

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
V	41.472	36.9	16	10.0	30.9	40.0	-9.1
H	*124.420	33.6	16	14.0	31.6	43.5	-11.9
H	186.622	31.4	16	16.0	31.4	43.5	-12.1
H	207.361	33.2	16	17.0	34.2	43.5	-9.3
H	*248.826	32.9	16	20.0	36.9	46.0	-9.1
H	*269.565	31.8	16	22.0	37.8	46.0	-8.2
H	311.043	26.6	16	23.0	33.6	46.0	-12.4
H	373.250	25.8	16	24.0	33.8	46.0	-12.2

- NOTES: 1. Quasi-peak detector is used for the emission below or equal to 1000 MHz.
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.
- * Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz.

Test Engineer: Jess Tang

INTERTEK TESTING SERVICES

Company: Fisher-Price Inc.
Model: N9147

Date of Test: December 9-16, 2008

4.12 AC Line Conducted Emission, FCC Rule 15.207:

☐ Not required; battery operation only

☒ Test data attached

INTERTEK TESTING SERVICES

Company: Fisher-Price Inc.
Model: N9147

Date of Test: December 9-16, 2008

4.13 AC Line Conducted Configuration Photograph – Parent Unit

Worst Case Line-Conducted Configuration

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

INTERTEK TESTING SERVICES

Company: Fisher-Price Inc.
Model: N9147

Date of Test: December 9-16, 2008

4.14 AC Line Conducted Emission Data – Parent Unit

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

Judgement : Passed by more than more than 20 dB margin

For electronic filing, the worst case line conducted emission data are saved with filename: conduct.pdf

TEST PERSONNEL:



Tester Signature

Jess Tang, Lead Engineer
Typed/Printed Name

December 27, 2008
Date

INTERTEK TESTING SERVICES

Company: Fisher-Price Inc.
Model: N9147

Date of Test: December 9-16, 2008

4.15 Transmitter Duty Cycle Calculation and Measurements, FCC Rule 15.35(b), (c)

The EUT antenna output port was connected to the input of the spectrum analyzer. The analyzer center frequency was set to EUT RF channel carrier. The SWEP function on the analyzer was set to ZERO SPAN. The transmitter ON time was determined from the resultant time-amplitude display:

Parent Unit:

$$\begin{aligned}\text{Duty cycle (DC)} &= \text{Maximum ON time in } 90.15\text{ms}/90.15\text{ms} \\ &= (0.5984\text{ms} \times 1)/90.15\text{ms}\end{aligned}$$

$$\begin{aligned}\text{Duty cycle correction, dB} &= 20 \times \log(\text{DC}) \\ &= 20 \times \log(0.00664) \\ &= -43.5\text{dB}\end{aligned}$$

X	See attached spectrum analyzer chart (s) for transmitter timing Parent Unit: Plot P7
	See transmitter timing diagram provided by manufacturer
	Not applicable, duty cycle was not used.

For electronic filing, the above plot is saved with filenames: dcc.pdf

INTERTEK TESTING SERVICES

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4.16 Radio Frequency Radiation Exposure, FCC Rule 15.247(i):

EUT is subject to the radio frequency exposure requirements specified in FCC Rule §§ 1.1307. It shall be considered to operate in a “general population / uncontrolled” environment.

- [x] Output power is less than the applicable low threshold from the SAR evaluation. The evaluation calculation results are saved as filename: RF exposure.pdf
- [] EUT was evaluated for Maximum Permissible Exposure (MPE) evaluation compliance according to OET Bulletin 65, Supplement C (Edition 01-01). The evaluation calculation results are saved as filename: RF exposure info.pdf.