

Issuing Laboratory:  
**Intertek Testing Services Hong Kong Limited**

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**TEST REPORT**

**Report Number: HK12100535-2**

Application

for

Original Grant of 47 CFR Part 15 Certification  
Single New of RSS-210 Issue 8 Equipment Certification

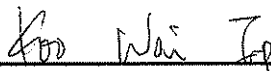
2.4GHz Frequency Hopping Spread Spectrum Video Baby Monitor -  
Baby Unit

**FCC ID: OTA44231TX**

**IC: 7783A-44231TX**

Prepared and Checked by:

Approved by:

  
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December 06, 2012

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**Intertek Testing Services Hong Kong Ltd.**

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## GENERAL INFORMATION

<b>Applicant Name:</b>	JAKKS Pacific (HK) Ltd.
<b>Applicant Address:</b>	12/F., Wharf T&T Centre, 7 Canton Road, Tsim Sha Tsui, Kowloon, Hong Kong.
<b>FCC Specification Standard:</b>	FCC Part 15, October 1, 2011 Edition
<b>FCC ID:</b>	OTA44231TX
<b>FCC Model(s):</b>	44231TX
<b>IC Specification Standard:</b>	RSS-210 Issue 8, December 2010 RSS-Gen Issue 3, December 2010
<b>IC:</b>	7783A-44231TX
<b>IC Model(s):</b>	44231TX
<b>Type of EUT:</b>	Transceiver
<b>Description of EUT:</b>	2.4GHz Frequency Hopping Spread Spectrum Video Baby Monitor - Baby Unit
<b>Serial Number:</b>	N/A
<b>Sample Receipt Date:</b>	October 22, 2012
<b>Date of Test:</b>	November 06 -December 06, 2012
<b>Report Date:</b>	December 06, 2012
<b>Environmental Conditions:</b>	Temperature: +10 to 40°C Humidity: 10 to 90%

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**EXHIBIT 1**  
**TEST RESULTS SUMMARY & STATEMENT OF COMPLIANCE**

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## 1.0 Test Results Summary & Statement of Compliance

### 1.1 Summary of Test Results

Test Items	FCC Part 15 Section	RSS-210/ RSS-Gen <sup>#</sup> / RSS-310 <sup>^</sup> Section	Results	Details see section
Antenna Requirement	15.203	7.1.2 <sup>#</sup>	Pass	2.1
Radiated Emission	15.249(a), 209, & 109	A2.9(a)	Pass	4.2
Radiated Emission on the Bandedge	15.249(d)	A2.9(b)	Pass	4.3
Radiated Emission in Restricted Bands	15.205	2.2	Pass	4.2
AC Power Line Conducted Emission	15.207 & 15.107	7.2.4 <sup>#</sup>	Pass	4.4

Note: Pursuant to FCC Part 15 Section 15.215(c), the 20dB bandwidth of the emission was contained within the frequency band designated (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over expected variations in temperature and supply voltage were considered.

### 1.2 Statement of Compliance

The equipment under test is found to be complying with the following standards:

FCC Part 15, October 1, 2011 Edition  
RSS-210 Issue 8, December 2010  
RSS-Gen Issue 3, December 2010

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## **EXHIBIT 2**

### **GENERAL DESCRIPTION**

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## 2.0 General Description

### 2.1 Product Description

The 44231TX is a 2.4GHz Frequency Hopping Spread Spectrum Video Baby Monitor - Baby Unit. It operates at frequency range of 2410.000 to 2476.000 MHz. The Baby Unit is powered by an adaptor 100-240VAC to 5VDC 1000mA.

The antenna used in baby unit is integral, and the test sample is a prototype.

The circuit description is saved with filename: descri.pdf.

### 2.2 Test Methodology

Both AC power line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2009). Preliminary radiated scans and all radiated measurements were performed in Open Area Test Sites. All Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application.

### 2.3 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data and conducted data are at Roof Top and 2<sup>nd</sup> Floor respectively of Intertek Testing Services Hong Kong Ltd., which 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 and the Industry Canada.

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## **EXHIBIT 3 SYSTEM TEST CONFIGURATION**



### 3.0 **System Test Configuration**

#### 3.1 Justification

For radiated emissions testing, the equipment under test (EUT) was setup to transmit continuously normal mode 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 100-240VAC to 5VDC 1000mA adaptor.

For the measurements, the EUT was attached to a plastic stand if necessary and placed on the wooden turntable. If the EUT attached to peripherals, they were connected and operational to simulate typical use.

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

For any intentional radiator powered by AC power line, 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.

For transmitter radiated measurement, the spectrum analyzer resolution bandwidth was 100 kHz for frequencies below 1000 MHz. The resolution bandwidth was 1 MHz for frequencies above 1000 MHz.

Radiated measurements of the fundamental-signal peak field strength is made using instrumentation with a bandwidth equal to or greater than the 6 dB bandwidth of the emission.

Radiated emission measurement for transmitter was performed 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 to 40 GHz, whichever is lower.

Emission that are directly caused by digital circuits in the transmit path and transmitter portion were measured, and the limit are according to FCC Part 15 Section 15.209. Digital circuitry used to control additional functions other than the operation of the transmitter is subject to FCC Part 15 Section 15.109 Limits.

The WiFi module was put into transmission mode when taking radiated emission data for determining worst-case spurious emission.

### 3.1 Justification - Cont'd

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 section 4.2.3.

Determination of pulse desensitization was made according to *Hewlett Packard Application Note 150-2, Spectrum Analysis... Pulsed RF*. The effective period (Teff) was referred to Exhibit 4.2.3. With the resolution bandwidth 100kHz and spectrum analyzer IF bandwidth 3dB, the pulse desensitization factor was 0dB.

For AC line conducted emission test, the EUT along with its peripherals were placed on a 1.0m(W)x1.5m(L) and 0.8m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT power cord connected to one LISN (Line impedance stabilization network), which provided 50ohm coupling impedance for measuring instrument. Meanwhile, the peripheral or support equipment power cords connected to a separate LISN. The ac power for all LISNs were obtained from the same power source. The LISN housing, measuring instrument case, reference ground plane, and vertical ground plane were bounded together. The excess power cable between the EUT and the LISN was bundled. Power cords of non-EUT equipment (peripherals) were not bundled. AC power cords of peripheral equipments draped over the rear edge of the table, and routed them down onto the floor of the ac powerline conducted emission test site to the second LISN.

All connecting cables of EUT and peripherals were manipulated to find the maximum emission.

FHSS transmission with / without WiFi transmission are tested separately. All relevant operation modes have been tested, and the worst case data was included in this report.

### 3.2 EUT Exercising Software

The EUT exercise program 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 Details of EUT and Description of Accessories

#### Details of EUT:

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

- (1) Baby Unit: An AC adaptor (100-240VAC to 5VDC 1000mA, Model: SHB0501000PU) (Supplied by Client)

#### Description of Accessories:

- (1) Lenovo Notebook, Model: T61, S/N: L3-CF468, DoC Product (Supplied by Intertek)
- (2) TP-Link Router, Model: TL-R402M, S/N: 08329805932 (Supplied by Intertek)
- (3) Smart-Drive External 1394 HDD Model: HD3-SU2FW, S/N: 0800261 (Provided by Intertek)
- (4) 1 x USB cable with 1.0 meter long (Supplied by Client)
- (5) 1 x USB cable with 0.7 meter long (Supplied by Intertek)
- (6) 1x 1394 cable with 0.8 meter long (Supplied by Intertek)

### 3.4 Measurement Uncertainty

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

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## **EXHIBIT 4 TEST RESULTS**

#### 4.0 Test 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.

##### 4.1 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 dB $\mu$ V/m  
              RA = Receiver Amplitude (including preamplifier) in dB $\mu$ 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 reflects 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 $\mu$ 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 $\mu$ V/m. This value in dB $\mu$ V/m was converted to its corresponding level in  $\mu$ V/m.

$$\begin{aligned} RA &= 62.0 \text{ dB}\mu\text{V} \\ AF &= 7.4 \text{ dB} \\ CF &= 1.6 \text{ dB} \\ AG &= 29 \text{ dB} \\ PD &= 0 \text{ dB} \\ AV &= -10 \text{ dB} \\ FS &= 62 + 7.4 + 1.6 - 29 + 0 + (-10) = 32 \text{ dB}\mu\text{V/m} \end{aligned}$$

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

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## 4.2 Radiated Emissions

### 4.2.1 Radiated Emission Configuration Photograph

Worst Case Radiated Emission  
at

Baby Unit: 288.028 MHz

The worst case radiated emission configuration photographs are saved with filename: config photos.pdf

### 4.2.2 Radiated Emission Data

The data in tables 1-3 list the significant emission frequencies, the limit and the margin of compliance.

Judgement -

Baby Unit: Passed by 5.4 dB margin

Mode: TX-Channel 01

Table 1, Baby Unit

### Radiated Emission Data

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (dB)	Calculated at 3m (dBμV/m)	Average Limit at 3m (dBμV/m)	Margin (dB)
V	2410.000	96.4	33	29.4	12.76	80.0	94.0	-14.0
<b>V</b>	<b>4820.000</b>	<b>51.7</b>	<b>33</b>	<b>34.9</b>	<b>12.76</b>	<b>40.8</b>	<b>54.0</b>	<b>-13.2</b>
V	7230.000	50.7	33	37.9	12.76	42.8	54.0	-11.2
V	9640.000	46.4	33	40.4	12.76	41.0	54.0	-13.0
<b>V</b>	<b>12050.000</b>	<b>45.1</b>	<b>33</b>	<b>40.5</b>	<b>12.76</b>	<b>39.8</b>	<b>54.0</b>	<b>-14.2</b>
V	14460.000	43.9	33	40.0	12.76	38.1	54.0	-15.9

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	2410.000	96.4	33	29.4	92.8	114.0	-21.2
<b>V</b>	<b>4820.000</b>	<b>51.7</b>	<b>33</b>	<b>34.9</b>	<b>53.6</b>	<b>74.0</b>	<b>-20.4</b>
V	7230.000	50.7	33	37.9	55.6	74.0	-18.4
V	9640.000	46.4	33	40.4	53.8	74.0	-20.2
<b>V</b>	<b>12050.000</b>	<b>45.1</b>	<b>33</b>	<b>40.5</b>	<b>52.6</b>	<b>74.0</b>	<b>-21.4</b>
V	14460.000	43.9	33	40.0	50.9	74.0	-23.1

- 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. Emission (the row indicated by **bold italic**) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

Mode: TX-Channel 17

Table 2, Baby Unit

### Radiated Emission Data

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (dB)	Calculated at 3m (dBμV/m)	Average Limit at 3m (dBμV/m)	Margin (dB)
V	2440.000	97.1	33	29.4	12.76	80.7	94.0	-13.3
V	<b>4880.000</b>	<b>52.0</b>	<b>33</b>	<b>34.9</b>	<b>12.76</b>	<b>41.1</b>	<b>54.0</b>	<b>-12.9</b>
V	<b>7320.000</b>	<b>50.5</b>	<b>33</b>	<b>37.9</b>	<b>12.76</b>	<b>42.6</b>	<b>54.0</b>	<b>-11.4</b>
V	9760.000	45.6	33	40.4	12.76	40.2	54.0	-13.8
V	<b>12200.000</b>	<b>45.6</b>	<b>33</b>	<b>40.5</b>	<b>12.76</b>	<b>40.3</b>	<b>54.0</b>	<b>-13.7</b>
V	14640.000	47.4	33	38.4	12.76	40.0	54.0	-14.0

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	2440.000	97.1	33	29.4	93.5	114.0	-20.5
V	<b>4880.000</b>	<b>52.0</b>	<b>33</b>	<b>34.9</b>	<b>53.9</b>	<b>74.0</b>	<b>-20.1</b>
V	<b>7320.000</b>	<b>50.5</b>	<b>33</b>	<b>37.9</b>	<b>55.4</b>	<b>74.0</b>	<b>-18.6</b>
V	9760.000	45.6	33	40.4	53.0	74.0	-21.0
V	<b>12200.000</b>	<b>45.6</b>	<b>33</b>	<b>40.5</b>	<b>53.1</b>	<b>74.0</b>	<b>-20.9</b>
V	14640.000	47.4	33	38.4	52.8	74.0	-21.2

- 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. Emission (the row indicated by **bold italic**) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.



Mode: TX-Channel 34

Table 3, Baby Unit

**Radiated Emission Data**

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (dB)	Calculated at 3m (dBμV/m)	Average Limit at 3m (dBμV/m)	Margin (dB)
V	2476.000	98.2	33	29.4	12.76	81.8	94.0	-12.2
<b>V</b>	<b>4952.000</b>	<b>54.0</b>	<b>33</b>	<b>34.9</b>	<b>12.76</b>	<b>43.1</b>	<b>54.0</b>	<b>-10.9</b>
<b>V</b>	<b>7428.000</b>	<b>52.5</b>	<b>33</b>	<b>37.9</b>	<b>12.76</b>	<b>44.6</b>	<b>54.0</b>	<b>-9.4</b>
V	9904.000	47.1	33	40.4	12.76	41.7	54.0	-12.3
<b>V</b>	<b>12380.000</b>	<b>45.9</b>	<b>33</b>	<b>40.5</b>	<b>12.76</b>	<b>40.6</b>	<b>54.0</b>	<b>-13.4</b>
V	14856.000	47.1	33	38.4	12.76	39.7	54.0	-14.3

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	2476.000	98.2	33	29.4	94.6	114.0	-19.4
<b>V</b>	<b>4952.000</b>	<b>54.0</b>	<b>33</b>	<b>34.9</b>	<b>55.9</b>	<b>74.0</b>	<b>-18.1</b>
<b>V</b>	<b>7428.000</b>	<b>52.5</b>	<b>33</b>	<b>37.9</b>	<b>57.4</b>	<b>74.0</b>	<b>-16.6</b>
V	9904.000	47.1	33	40.4	54.5	74.0	-19.5
<b>V</b>	<b>12380.000</b>	<b>45.9</b>	<b>33</b>	<b>40.5</b>	<b>53.4</b>	<b>74.0</b>	<b>-20.6</b>
V	14856.000	47.1	33	38.4	52.5	74.0	-21.5

- 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. Emission (the row indicated by **bold italic**) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

Mode: Talk (FHSS+ WiFi + Motor on + Nightlight on)

Table 4, Baby Unit

**Radiated Emission Data**

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
V	36.008	39.6	16	10.0	33.6	40.0	-6.4
V	96.019	38.1	16	12.0	34.1	43.5	-9.4
V	144.024	37.4	16	14.0	35.4	43.5	-8.1
H	192.026	35.8	16	16.0	35.8	43.5	-7.7
H	216.029	35.1	16	17.0	36.1	46.0	-9.9
<b>H</b>	<b>240.034</b>	<b>35.9</b>	<b>16</b>	<b>19.0</b>	<b>38.9</b>	<b>46.0</b>	<b>-7.1</b>
H	288.028	34.6	16	22.0	40.6	46.0	-5.4
H	432.017	29.1	16	25.0	38.1	46.0	-7.9
H	480.016	26.9	16	26.0	36.9	46.0	-9.1
H	720.098	22.2	16	30.0	36.2	46.0	-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. Emission (the row indicated by **bold italic**) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

Issuing Laboratory:  
**Intertek Testing Services Hong Kong Limited**

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#### 4.2.3 Transmitter Duty Cycle Calculation

Duty Cycle (DC) = duration of one cycle/ effective period of the cycle

$$\begin{aligned}\text{Average Factor (AF)} &= 20 \log(\text{DC}) \\ &= 20 * \log (23/100) \\ &= -12.76\text{dB}\end{aligned}$$

The plots of the timing are saved as below.

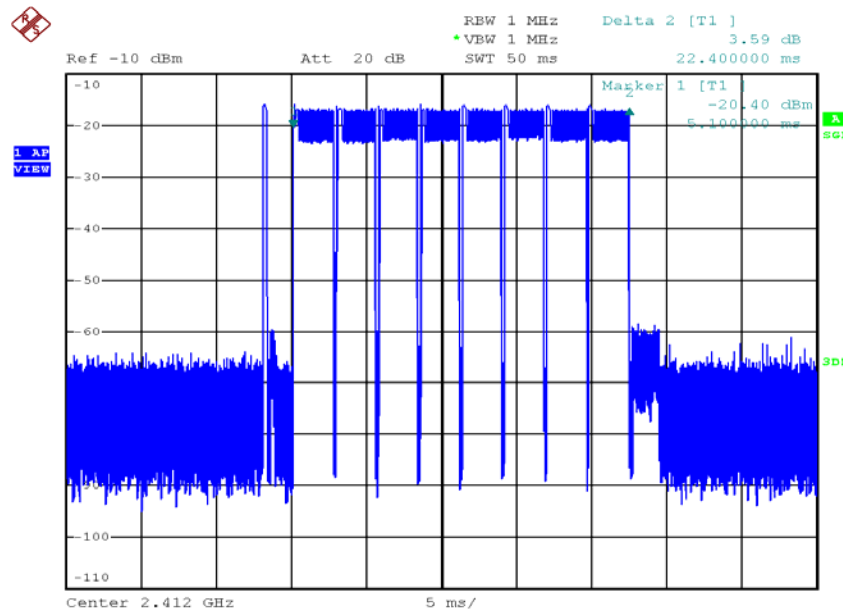
Issuing Laboratory:  
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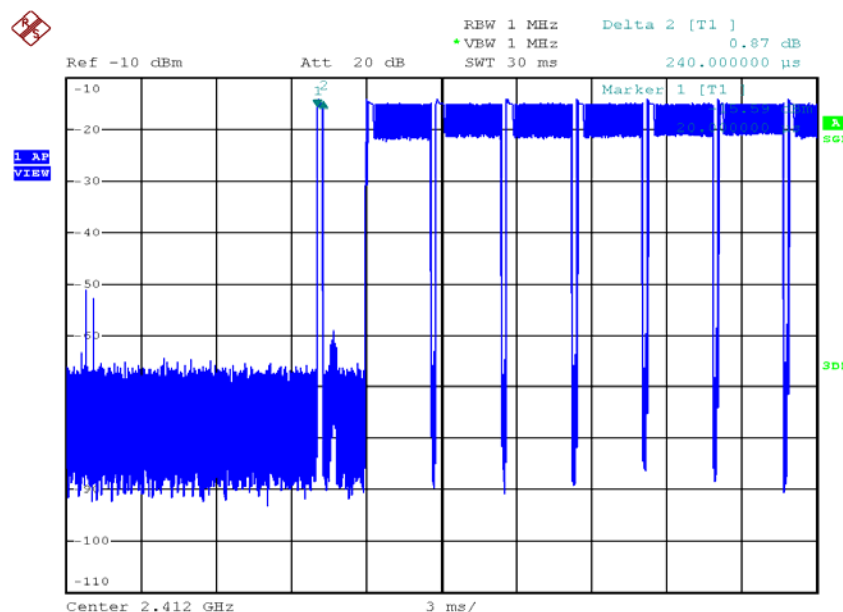


## Plots of the timing

### Baby unit, Traffic mode, Tx time in one period, Plot A



### Baby unit, Traffic mode, Tx time in one period, Plot B



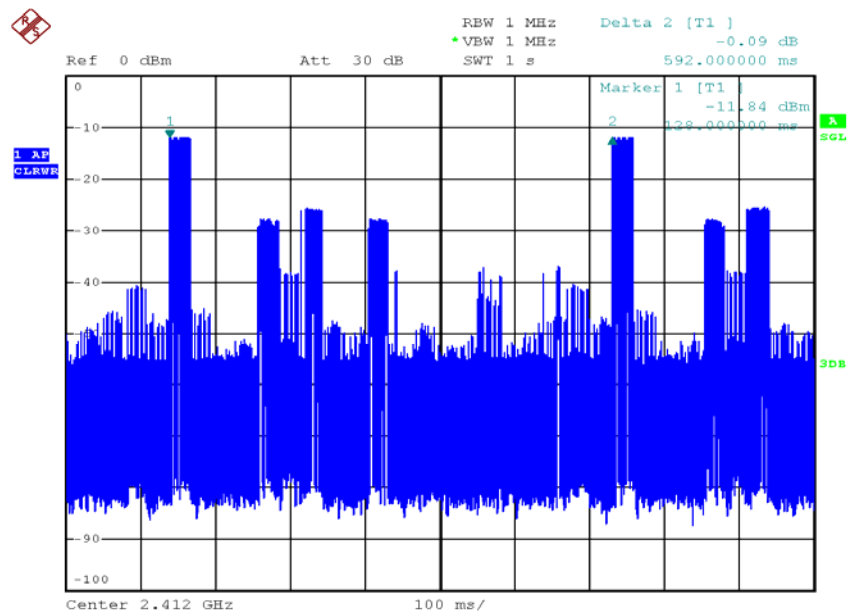
Issuing Laboratory:  
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## Plots of the timing

### Baby unit, Traffic mode, Duration in one period



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#### 4.3 Radiated Emission on the Bandedge

From the following plots, they show that the fundamental emissions are confined in the specified band (2400MHz and 2483.5MHz). In case of emissions up to two standard bandwidths away from the bandedge, the delta measurement technique is used for determining bandedge compliance. Standard bandwidth is the bandwidth specified by ANSI C63.4 (2009) 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 FCC Part 15 Section 15.209 / Table 5 of RSS-Gen, whichever is the lesser attenuation, which meet the requirement of FCC Part 15 Section 15.249(d) / RSS-210 A2.9(b).

The plots of radiated emission on the bandedge are saved as below.

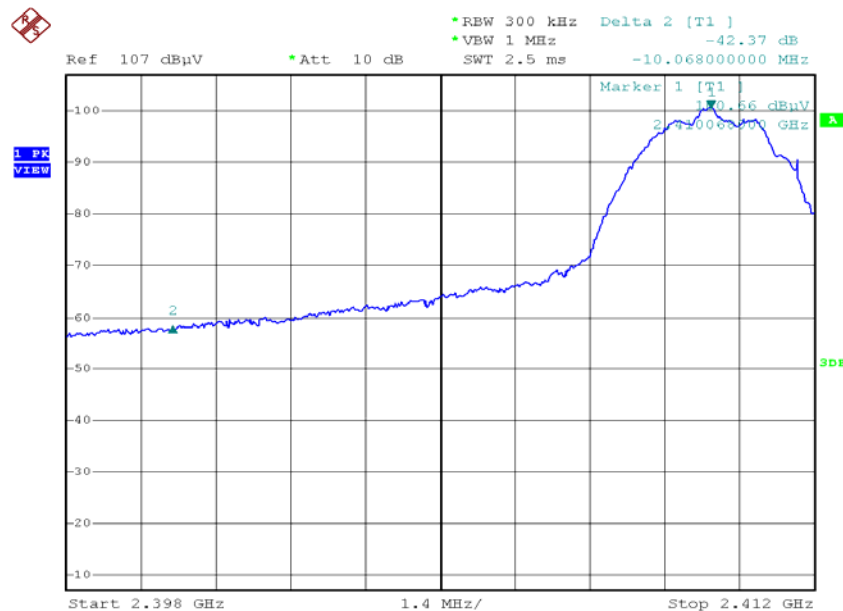
Issuing Laboratory:  
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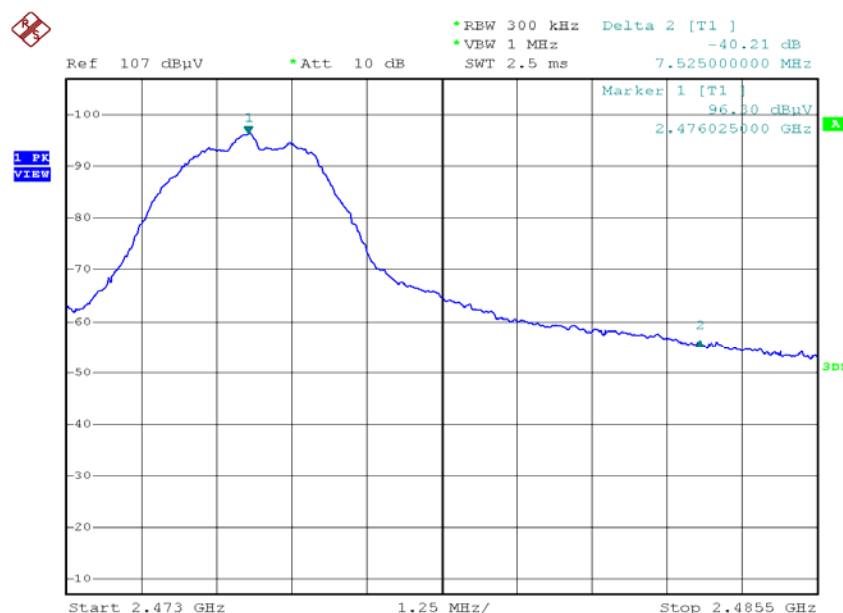


## Plots of radiated emission on the bandedge

### Baby unit, Lowest channel, FHSS



### Baby unit, Highest channel, FHSS



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Bandedge compliance is determined by applying marker-delta method, i.e.

Resultant Field Strength = Fundamental Emissions - Delta from the plot

Resultant field strength for the lowest and/or highest channel(s), with corresponding average values are calculated as follows:

	Channel	Fundamental Emission (dBμV/m)	Delta from the Plot (dB)	Resultant Field Strength (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)
Baby	Lowest	80.0	42.37	37.63	54	-16.37
	Highest	81.8	40.21	41.59	54	-12.41

	Channel	Fundamental Emission (dBμV/m)	Delta from the Plot (dB)	Resultant Field Strength (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)
Baby	Lowest	92.8	42.37	50.43	74	-23.57
	Highest	94.6	40.21	54.39	74	-19.61

The resultant field strength meets the general radiated emission limit in FCC Part 15 Section 15.209 / Table 5 of RSS-Gen, which does not exceed 74dBμV/m for peak limit and also 54dBμV/m for average limit.



#### 4.4 AC Power Line Conducted Emission

- ☐ Not applicable – EUT is only powered by battery for operation.
- ☒ EUT connects to AC power line. Emission Data is listed in following pages.
- ☐ Base Unit connects to AC power line and has transmission. Handset connects to AC power line but has no transmission. Emission Data of Base Unit is listed in following pages.

##### 4.4.1 AC Power Line Conducted Emission Configuration Photograph

Worst Case Line-Conducted Configuration  
at

0.335 MHz

The worst case line conducted configuration photographs are saved with filename: config photos.pdf.

##### 4.4.2 AC Power Line Conducted Emission Data

The plot(s) and data in the following pages list the significant emission frequencies, the limit and the margin of compliance.

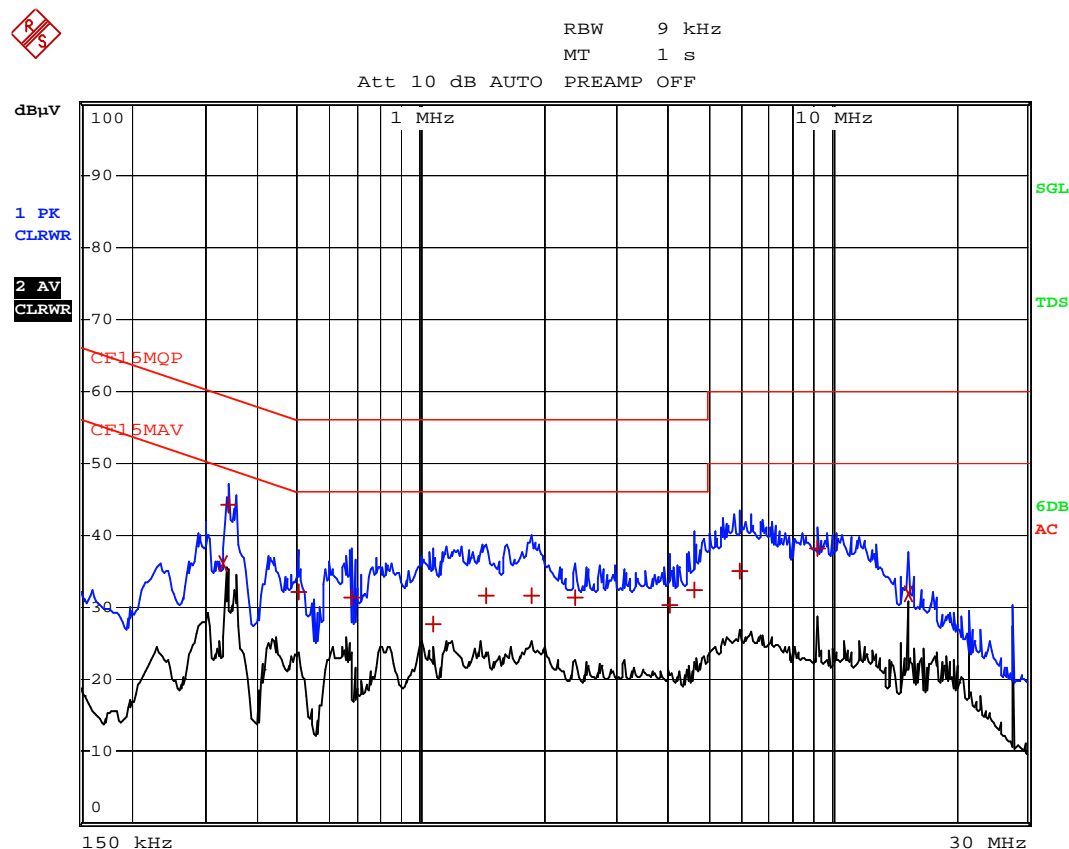
Passed by more than 13.13 dB margin compared with average limit

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Worst Case: FHSS+ USB Data Transferring from PC Mode + Motor On + Nightlight On  
(PC's AC Mains)



Date: 6.NOV.2012 15:38:24

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Worst Case: FHSS+ USB Data Transferring from PC Mode + Motor On + Nightlight On  
(PC's AC Mains)

EDIT PEAK LIST (Final Measurement Results)					
Trace1:	CF15MQP				
Trace2:	CF15MAV				
Trace3:	---				
TRACE	FREQUENCY	LEVEL	dB $\mu$ V	DELTA	LIMIT dB
2 CISPR Average	334.5 kHz	36.20	N gnd	-13.13	
1 Quasi Peak	339 kHz	44.28	N gnd	-14.93	
1 Quasi Peak	501 kHz	32.26	N gnd	-23.73	
1 Quasi Peak	676.5 kHz	31.48	N gnd	-24.51	
1 Quasi Peak	1.0725 MHz	27.63	N gnd	-28.36	
1 Quasi Peak	1.446 MHz	31.72	N gnd	-24.27	
1 Quasi Peak	1.86 MHz	31.69	N gnd	-24.30	
1 Quasi Peak	2.3865 MHz	31.27	N gnd	-24.72	
1 Quasi Peak	4.065 MHz	30.30	N gnd	-25.69	
1 Quasi Peak	4.659 MHz	32.33	N gnd	-23.66	
1 Quasi Peak	5.9865 MHz	35.12	N gnd	-24.87	
1 Quasi Peak	9.2175 MHz	38.24	N gnd	-21.76	
2 CISPR Average	15.36 MHz	31.82	N gnd	-18.17	

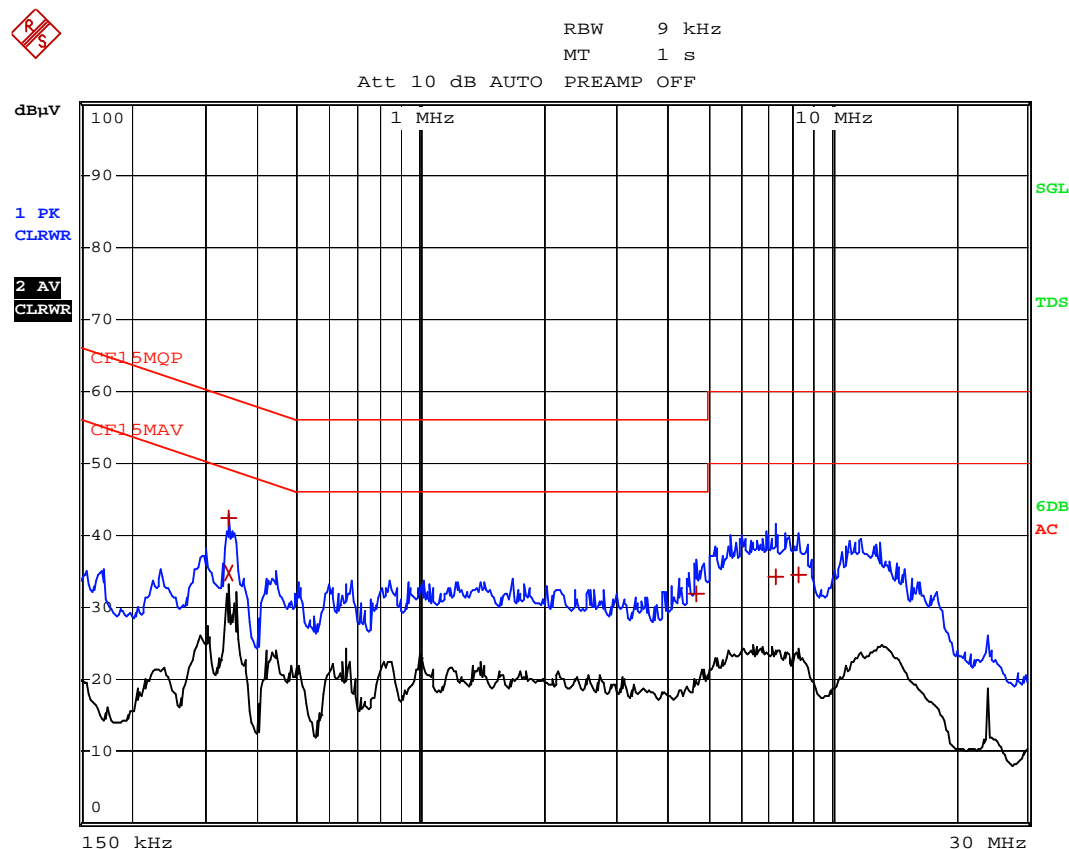
Date: 6.NOV.2012 15:38:02

Issuing Laboratory:  
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Worst Case: FHSS+ USB Data Transferring from PC Mode + Motor On + Nightlight On  
(EUT's AC Mains)



Date: 6.NOV.2012 15:19:33

Issuing Laboratory:  
Intertek Testing Services Hong Kong Limited

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Worst Case: FHSS+ USB Data Transferring from PC Mode + Motor On + Nightlight On (EUT's AC Mains)

EDIT PEAK LIST (Final Measurement Results)					
Trace1:	CF15MQP				
Trace2:	CF15MAV				
Trace3:	---				
TRACE	FREQUENCY	LEVEL dBµV		DELTA LIMIT dB	
1 Quasi Peak	339 kHz	42.32	N gnd	-16.90	
2 CISPR Average	339 kHz	34.77	N gnd	-14.44	
1 Quasi Peak	4.704 MHz	31.85	N gnd	-24.14	
1 Quasi Peak	7.332 MHz	34.23	N gnd	-25.76	
1 Quasi Peak	8.34 MHz	34.62	N gnd	-25.37	

Date: 6.NOV.2012 15:19:17

Issuing Laboratory:  
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## **EXHIBIT 5 EQUIPMENT LIST**

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## 5.0 Equipment List

### 1) Radiated Emissions Test

Equipment	Biconical Antenna	Log Periodic Antenna	Double Ridged Guide Antenna
Registration No.	EW-2512	EW-0446	EW-1015
Manufacturer	EMCO	EMCO	EMCO
Model No.	3104C	3146	3115
Calibration Date	Nov. 15, 2011	Oct. 31, 2011	Aug. 24, 2011
Calibration Due Date	May. 15, 2013	Apr. 30, 2013	Feb. 24, 2013

Equipment	EMI Test Receiver	Spectrum Analyzer	Broad-Band Horn Antenna with frequency range 14G - 40GHz
Registration No.	EW-2500	EW-2253	EW-1679
Manufacturer	ROHDESCHWARZ	ROHDESCHWARZ	SCHWARZBECK
Model No.	ESCI	FSP40	BBHA9170
Calibration Date	Feb. 24, 2012	Jan. 12, 2012	Mar. 21, 2012
Calibration Due Date	Feb. 24, 2013	Jan. 12, 2013	Mar. 21, 2013

Equipment	Digital Multimeter
Registration No.	EW-1237
Manufacturer	FLUKE
Model No.	179
Calibration Date	Sep. 07, 2012
Calibration Due Date	Oct. 01, 2013

### 2) Conducted Emissions Test

Equipment	EMI Test Receiver	Artificial Mains
Registration No.	EW-2500	EW-0192
Manufacturer	ROHDESCHWARZ	ROHDESCHWARZ
Model No.	ESCI	ESH3-Z5
Calibration Date	Feb. 24, 2012	Apr. 11, 2012
Calibration Due Date	Feb. 24, 2013	Apr. 11, 2013

Equipment	Pulse Limiter	Artificial Mains Network
Registration No.	EW-0698	EW-2874
Manufacturer	ROHDESCHWARZ	ROHDESCHWARZ
Model No.	ESH3-Z2	ENV216
Calibration Date	Apr. 06, 2012	Aug. 15, 2012
Calibration Due Date	Apr. 06, 2013	Aug. 15, 2013

## END OF TEST REPORT

Test Report Number: HK12100535-2  
FCC ID: OTA44231TX  
IC: 7783A-44231TX

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**Intertek Testing Services Hong Kong Ltd.**

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