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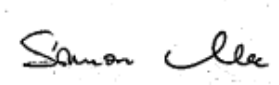
TEST REPORT

For

Macari Baby, Inc.

30 Martin Street,
Cumberland, RI 02864, USA

FCC ID: 2AJEY-401AT
IC: 21973-401AT

Report Type: Original Report	Product Type: Baby Monitor (Camera Unit)
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Report Number: R1804234-DXX	
Report Date: 2018-05-29	
Reviewed By: Simon Ma RF Lead	
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Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. This report **must not** be used by the customer to claim product certification, approval, or endorsement by A2LA*, NIST, or any agency of the Federal Government.

* This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "*" (see 2)

TABLE OF CONTENTS

1 General Description.....	5
1.1 Product Description for Equipment Under Test (EUT)	5
1.2 Objective.....	5
1.3 Related Submittal(s)/Grant(s)	5
1.4 Test Methodology	5
1.5 Measurement Uncertainty	5
1.6 Test Facility Registrations	6
1.7 Test Facility Accreditations	6
2 System Test Configuration.....	9
2.1 Justification	9
2.2 EUT Exercise Software.....	9
2.3 Equipment Modifications.....	9
2.4 Local Support Equipment	9
2.5 Support Equipment	9
2.6 Interface Ports and Cabling.....	9
3 Summary of Test Results	10
4 FCC §15.203 and ISEDC RSS-Gen §6.8 - Antenna Requirements	11
4.1 Applicable Standards	11
4.2 Antenna Description	11
5 FCC §1.1310, §1.1307(b) and ISEDC RSS-102 - RF Exposure	12
5.1 Applicable Standards	12
5.2 RF exposure evaluation exemption for IC	13
5.3 Test Equipment List and Details.....	13
5.4 Test Environmental Conditions	13
5.5 Test Results.....	14
5.6 FCC PAG Exemption as per KDB 680106 D01 v03.....	14
6 FCC §15.207, ISEDC RSS-Gen §8.8 and ISEDC RSS-216 §6.2.2.1 - AC Line Conducted Emissions	15
6.1 Applicable Standards	15
6.2 Test Setup	15
6.3 Test Procedure	15
6.4 Corrected Amplitude and Margin Calculation.....	16
6.5 Test Equipment List and Details.....	16
6.6 Test Environmental Conditions	16
6.7 Summary of Test Results	17
6.8 Conducted Emissions Test Plots and Data.....	18
7 FCC §15.209, §15.205 and ISEDC RSS-216 §6.2.2.2, RSS-Gen §8.9, §8.10 - Radiated Emissions.....	20
7.1 Applicable Standards	20
7.2 Test Setup	22
7.3 Test Procedure	22
7.4 Corrected Amplitude and Margin Calculation.....	22
7.5 Test Equipment List and Details.....	23
7.6 Test Environmental Conditions	23
7.7 Summary of Test Results	24
7.8 Radiated Emissions Test Results	24
8 FCC §15.215 and ISEDC RSS-Gen §6.7 - Emission Bandwidth	25
8.1 Applicable Standards	25
8.2 Measurement Procedure.....	25
8.3 Test Equipment List and Details.....	26
8.4 Test Environmental Conditions	26
8.5 Test Results.....	27
9 Annex A - FCC & ISED Equipment Labeling Requirements	28
FCC ID Label Requirements.....	28
IC Label Requirements	28

Recommended Label Contents and Location..... 29

10 Annex B -Photographs 30

11 Annex C (Informative) - A2LA Electrical Testing Certificate..... 31

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	R1804234-DXX	Original Report	2018-05-29

1 General Description

1.1 Product Description for Equipment Under Test (EUT)

This test and measurement report was prepared on behalf of *Macari Baby, Inc.*, and their product model: *BD04010AT*, FCC ID: 2AJEY-401AT, IC: 21973-401AT or the “EUT” as referred to in this report. It is a Wireless camera.

1.2 Objective

This report is prepared on behalf of *Macari Baby, Inc.* in accordance with Part 2, Subpart J, and Part 15, Subparts B and C of the Federal Communication Commission’s rules and ISEDC RSS-216 Issue 2, February 2016.

1.3 Related Submittal(s)/Grant(s)

Equipment class: DSS as reported in test report: R1804234-247
FCC 15C submissions with FCC ID: 2AJEY-402AR and FCC ID: 2AJEY-401AM
RSS-247 submissions with IC: 21973-402AR and IC: 21973-401AM

1.4 Test Methodology

All measurements contained in this report were conducted in accordance with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

1.5 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in the field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Parameter	Measurement uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.57 dB
Power Spectral Density, conducted	±1.48dB
Unwanted Emissions, conducted	±1.57dB
All emissions, radiated	±4.0 dB
AC power line Conducted Emission	±2.0 dB
Temperature	±2 ° C
Humidity	±5 %
DC and low frequency voltages	±1.0 %
Time	±2 %
Duty Cycle	±3 %

1.6 Test Facility Registrations

BACLs test facilities that are used to perform Radiated and Conducted Emissions tests are currently recognized by the Federal Communications Commission as Accredited with NIST Designation Number US1129.

BACL's test facilities that are used to perform Radiated and Conducted Emissions tests are currently registered with Industry Canada under Registration Numbers: 3062A-1, 3062A-2, and 3062A-3.

BACL is a Chinese Taipei Bureau of Standards Metrology and Inspection (BSMI) validated Conformity Assessment Body (CAB), under Appendix B, Phase I Procedures of the APEC Mutual Recognition Arrangement (MRA). BACL's BSMI Lab Code Number is: SL2-IN-E-1002R

BACL's test facilities that are used to perform AC Line Conducted Emissions, Telecommunications Line Conducted Emissions, Radiated Emissions from 30 MHz to 1 GHz, and Radiated Emissions from 1 GHz to 6 GHz are currently recognized as Accredited in accordance with the Voluntary Control Council for Interference [VCCI] Article 15 procedures under Registration Number A-0027.

1.7 Test Facility Accreditations

Bay Area Compliance Laboratories Corp. (BACL) is:

A- An independent, 3rd-Party, Commercial Test Laboratory accredited to ISO/IEC 17025:2005 by A2LA (Test Laboratory Accreditation Certificate Number 3279.02), in the fields of: Electromagnetic Compatibility and Telecommunications. Unless noted by an Asterisk (*) in the Compliance Matrix (See Section 3 of this Test Report), BACL's ISO/IEC 17025:2005 Scope of Accreditation includes all of the Test Method Standards and/or the Product Family Standards detailed in this Test Report..

BACL's ISO/IEC 17025:2005 Scope of Accreditation includes a comprehensive suite of EMC Emissions, EMC Immunity, Radio, RF Exposure, Safety and wireline Telecommunications test methods applicable to a wide range of product categories. These product categories include Central Office Telecommunications Equipment [including NEBS - Network Equipment Building Systems], Unlicensed and Licensed Wireless and RF devices, Information Technology Equipment (ITE); Telecommunications Terminal Equipment (TTE); Medical Electrical Equipment; Industrial, Scientific and Medical Test Equipment; Professional Audio and Video Equipment; Industrial and Scientific Instruments and Laboratory Apparatus; Cable Distribution Systems, and Energy Efficient Lighting.

B- A Product Certification Body accredited to ISO/IEC 17065:2012 by A2LA (Product Certification Body Accreditation Certificate Number 3279.03) to certify

- For the USA (Federal Communications Commission):

- 1- All Unlicensed radio frequency devices within FCC Scopes A1, A2, A3, and A4;
- 2- All Licensed radio frequency devices within FCC Scopes B1, B2, B3, and B4;
- 3- All Telephone Terminal Equipment within FCC Scope C.

- For the Canada (Industry Canada):

- 1 All Scope 1-Licence-Exempt Radio Frequency Devices;
- 2 All Scope 2-Licensed Personal Mobile Radio Services;
- 3 All Scope 3-Licensed General Mobile and Fixed Radio Services;
- 4 All Scope 4-Licensed Maritime and Aviation Radio Services;
- 5 All Scope 5-Licensed Fixed Microwave Radio Services
- 6 All Broadcasting Technical Standards (BETS) in the Category I Equipment Standards List.

- For Singapore (Info-Communications Development Authority (IDA)):

- 1 All Line Terminal Equipment: All Technical Specifications for Line Terminal Equipment – Table 1 of IDA MRA Recognition Scheme: 2011, Annex 2

2. All Radio-Communication Equipment: All Technical Specifications for Radio-Communication Equipment – Table 2 of IDA MRA Recognition Scheme: 2011, Annex 2
- For the Hong Kong Special Administrative Region:
 - 1 All Radio Equipment, per KHCA 10XX-series Specifications;
 - 2 All GMDSS Marine Radio Equipment, per HKCA 12XX-series Specifications;
 - 3 All Fixed Network Equipment, per HKCA 20XX-series Specifications.
 - For Japan:
 - 1 MIC Telecommunication Business Law (Terminal Equipment):
 - All Scope A1 - Terminal Equipment for the Purpose of Calls;
 - All Scope A2 - Other Terminal Equipment
 - 2 Radio Law (Radio Equipment):
 - All Scope B1 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 1 of the Radio Law
 - All Scope B2 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 2 of the Radio Law
 - All Scope B3 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 3 of the Radio Law

C- A Product Certification Body accredited to ISO/IEC 17065:2012 by A2LA (Product Certification Body Accreditation Certificate Number 3279.01) to certify Products to USA's Environmental Protection Agency (EPA) ENERGY STAR Product Specifications for:

- 1 Electronics and Office Equipment:
 - for Telephony (ver. 3.0)
 - for Audio/Video (ver. 3.0)
 - for Battery Charging Systems (ver. 1.1)
 - for Set-top Boxes and Cable Boxes (ver. 4.1)
 - for Televisions (ver. 6.1)
 - for Computers (ver. 6.0)
 - for Displays (ver. 6.0)
 - for Imaging Equipment (ver. 2.0)
 - for Computer Servers (ver. 2.0)
- 2 Commercial Food Service Equipment
 - for Commercial Dishwashers (ver. 2.0)
 - for Commercial Ice Machines (ver. 2.0)
 - for Commercial Ovens (ver. 2.1)
 - for Commercial Refrigerators and Freezers
- 3 Lighting Products
 - For Decorative Light Strings (ver. 1.5)
 - For Luminaires (including sub-components) and Lamps (ver. 1.2)
 - For Compact Fluorescent Lamps (CFLs) (ver. 4.3)
 - For Integral LED Lamps (ver. 1.4)
- 4 Heating, Ventilation, and AC Products
 - for Residential Ceiling Fans (ver. 3.0)
 - for Residential Ventilating Fans (ver. 3.2)
- 5 Other
 - For Water Coolers (ver. 3.0)

D- A NIST Designated Phase-I and Phase-II Conformity Assessment Body (CAB) for the following economies and regulatory authorities under the terms of the stated MRAs/Treaties:

- Australia: ACMA (Australian Communication and Media Authority) – APEC Tel MRA -Phase I;

- Canada: (Industry Canada - ISED) Foreign Certification Body – FCB – APEC Tel MRA -Phase I and Phase II;
- Chinese Taipei (Republic of China – Taiwan):
 - o BSMI (Bureau of Standards, Metrology and Inspection) APEC Tel MRA -Phase I;
 - o NCC (National Communications Commission) APEC Tel MRA -Phase I;
- European Union:
 - o EMC Directive 2004/108/EC US-EU EMC and Telecom MRA CAB
 - o Radio Equipment (RE) Directive 2014/53/EU US-EU EMC & Telecom MRA CAB (NB)
 - o Low Voltage Directive (LVD) 2014/35/EU
- Hong Kong Special Administrative Region: (Office of the Telecommunications Authority – OFTA) APEC Tel MRA -Phase I and Phase II
- Israel – US-Israel MRA Phase I
- Republic of Korea (Ministry of Communications - Radio Research Laboratory) APEC Tel MRA -Phase I
- Singapore: (Infocomm Development Authority - IDA) APEC Tel MRA -Phase I and Phase II;
- Japan: VCCI - Voluntary Control Council for Interference US-Japan Telecom Treaty VCCI Side Letter-
- USA:
 - o ENERGY STAR Recognized Test Laboratory – US EPA
 - o Telecommunications Certification Body (TCB) – US FCC
 - o Nationally Recognized Test Laboratory (NRTL) – US OSHA
- Vietnam: APEC Tel MRA -Phase I;

2 System Test Configuration

2.1 Justification

The EUT was configured for testing in accordance to ANSI C63.10-2013

2.2 EUT Exercise Software

None

2.3 Equipment Modifications

A ferrite was added to the power supply cable. Detailed ferrite information is recorded in Section 2.5 of this report. Please refer to EUT photo for the ferrite location.

2.4 Local Support Equipment

Description	Manufacturer	Model
Ferrite	Laird	HFA163090-0A2

2.5 Support Equipment

None

2.6 Interface Ports and Cabling

None.

3 Summary of Test Results

Results reported relate only to the product tested.

FCC and ISEDC Rules	Description of Test	Results
FCC §15.203 ISEDC RSS-Gen §6.8	Antenna Requirement	Compliant
FCC §15.207 ISEDC RSS-Gen §8.8 ISEDC RSS-216 §6.2.2.1	AC Line Conducted Emissions	Compliant
FCC §1.1310 ISEDC RSS-102	RF Exposure	Compliant
FCC §2.1053, §15.205, §15.209 ISEDC RSS-216 §6.2.2.2 ISEDC RSS-Gen §8.9, §8.10	Radiated Emissions	Compliant
FCC §15.215 ISEDC RSS-Gen §6.7	20 dB and 99% Emission Bandwidth	Compliant

4 FCC §15.203 and ISEDC RSS-Gen §6.8 - Antenna Requirements

4.1 Applicable Standards

According to FCC §15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

And according to FCC §15.247 (b) (4), if transmitting antennas of directional gain greater than 6 dBi are used the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

According to ISEDC RSS-Gen §6.8: Transmitter Antenna

The applicant for equipment certification, as per RSP-100, must provide a list of all antenna types that may be used with the license-exempt transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna.

License-exempt transmitters that have received equipment certification may operate with different types of antennas. However, it is not permissible to exceed the maximum equivalent isotropically radiated power (e.i.r.p.) limits specified in the applicable standard (RSS) for the license-exempt apparatus.

Testing shall be performed using the highest gain antenna of each combination of license-exempt transmitter and antenna type, with the transmitter output power set at the maximum level. When a measurement at the antenna connector is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna manufacturer.

User manuals for transmitters equipped with detachable antennas shall also contain the following notice in a conspicuous location:

This radio transmitter (identify the device by certification number) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Immediately following the above notice, the manufacturer shall provide a list of all antenna types approved for use with the transmitter, indicating the maximum permissible antenna gain (in dBi).

4.2 Antenna Description

The EUT has internal LC oscillation antenna arrangement which was permanently attached and the antenna gain is 0 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

5 FCC §1.1310, §1.1307(b) and ISED RSS-102 - RF Exposure

5.1 Applicable Standards

According to KDB 680106 D01, FCC §1.1310 and §1.1307(b), the criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

According to KDB 680106 D01 and ISSED RSS-102 Issue 5:

Table 4: RF Field Strength Limits for Devices Used by the General Public (Uncontrolled Environment)

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m ²)	Reference Period (minutes)
0.003-10 ²¹	83	90	-	Instantaneous*
0.1-10	-	0.73/ f	-	6**
1.1-10	87/ $f^{0.5}$	-	-	6**
10-20	27.46	0.0728	-2	6
20-48	58.07/ $f^{0.25}$	0.1540/ $f^{0.25}$	8.944/ $f^{0.5}$	6
48-300	22.06	0.05852	1.291	6
300-6000	3.142 $f^{0.3417}$	0.008335 $f^{0.3417}$	0.02619 $f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	616000/ $f^{1.2}$
150000-300000	0.158 $f^{0.5}$	4.21 x 10 ⁻⁴ $f^{0.5}$	6.67 x 10 ⁻⁵ f	616000/ $f^{1.2}$

Note: f is frequency in MHz.

* Based on nerve stimulation (NS).

** Based on specific absorption rate (SAR).

5.3 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Narda	Exposure Level Tester	ELT-400	N-0215	2016-03-22	3 years
Narda	Magnetic Field Probe	HI-6005	00201839	2015-06-02	3 years

Statement of Traceability: *BACL Corp. attests that all calibrations have been performed per the A2LA requirements, traceable to the NIST.*

5.4 Test Environmental Conditions

Temperature:	23 °C
Relative Humidity:	42 %
ATM Pressure:	102.7 kPa

The testing was performed by Angelo Chang on 2018-05-07.

5.5 Test Results

Frequency Range (kHz)	Front Position A (A/m)	Back Position B (A/m)	Left Position C (A/m)	Right Position D (A/m)	Top Position E (A/m)	FCC Limit (A/m)	ISED Limit (A/m)
290	0.183	0.182	0.183	0.184	0.184	1.63	90

Please refer to test setup photos for EUT position arrangement.

5.6 FCC PAG Exemption as per KDB 680106 D01 v03

- 1) Power transfer frequency is less than 1 MHz.
Answer: The operating frequency is 290 kHz.
- 2) Output power from each primary coil is less than or equal to 15 watts.
Answer: The output power is less than 15 watts.
- 3) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.
Answer: Only one coil.
- 4) Client device is placed directly in contact with the transmitter.
Answer: client device is directly in contact with the transmitter while charging.
- 5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
Answer: the camera unit is a mobile device.
- 6) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.
Answer: the field strength measured from each surface at the specified distance were more than 50% below the limit. Please refer to the measurement results in Section 5.5 of this report.

6 FCC §15.207, ISEDC RSS-Gen §8.8 and ISEDC RSS-216 §6.2.2.1 - AC Line Conducted Emissions

6.1 Applicable Standards

As per FCC §15.207 and ISEDC RSS-Gen §8.8, ISED RSS-216 §6.2.2.1 Conducted limits:

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequencies ranges.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56 ^{Note 1}	56 to 46 ^{Note 2}
0.5-5	56	46
5-30	60	50

Note 1: Decreases with the logarithm of the frequency.

Note 2: A linear average detector is required

6.2 Test Setup

The measurement was performed at shield room, using the setup per ANSI C63.10-2013 measurement procedure. The specification used was FCC §15.207 and ISEDC RSS-Gen §8.8 limits.

External I/O cables were draped along the edge of the test table and bundle when necessary.

The AC/DC power adapter of the EUT was connected with LISN-1 which provided 120 V / 60 Hz AC power.

6.3 Test Procedure

During the conducted emissions test, the power cord of the EUT host system was connected to the mains outlet of the LISN-1 and the power cords of support equipment were connected to LISN-2.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data were recorded in the peak detection mode, quasi-peak, and average detection mode. Quasi-Peak readings are distinguished with a “QP.” Average readings are distinguished with an “Ave”.

6.4 Corrected Amplitude and Margin Calculation

The Corrected Amplitude (CA) is calculated by adding the Cable Loss (CL), the Attenuator Factor (Atten) to indicated Amplitude (Ai) reading. The basic equation is as follows:

$$CA = Ai + CL + Atten$$

For example, a corrected amplitude of 46.2 dBuV = Indicated Reading (32.5 dBuV) + Cable Loss (3.7 dB) + Attenuator (10 dB)

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of -7 dB means the emission is 7 dB below the maximum limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corrected Amplitude} - \text{Limit}$$

6.5 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Rohde and Schwarz	Receiver, EMI Test	ESCI 1166.5950K03	100338	2016-06-23	2 years
Rohde and Schwarz	Impulse Limiter	ESH3-Z2	101964	2017-07-24	1 year
Solar Electronics Company	High Pass Filter	Type 7930-100	7930150203	2018-02-28	1 year
Suirong	30 ft conductive emission cable	LMR 400	-	N/R	N/A
FCC	LISN	FCC-LISN-50-25-2-10-CISPR16	160130	2018-04-05	1 year
Vasona	Test software	V6.0 build 11	10400213	N/R	N/R

Statement of Traceability: *BACL Corp. attests that all calibrations have been performed per the A2LA requirements, traceable to the NIST.*

6.6 Test Environmental Conditions

Temperature:	23 °C
Relative Humidity:	42 %
ATM Pressure:	102.7 kPa

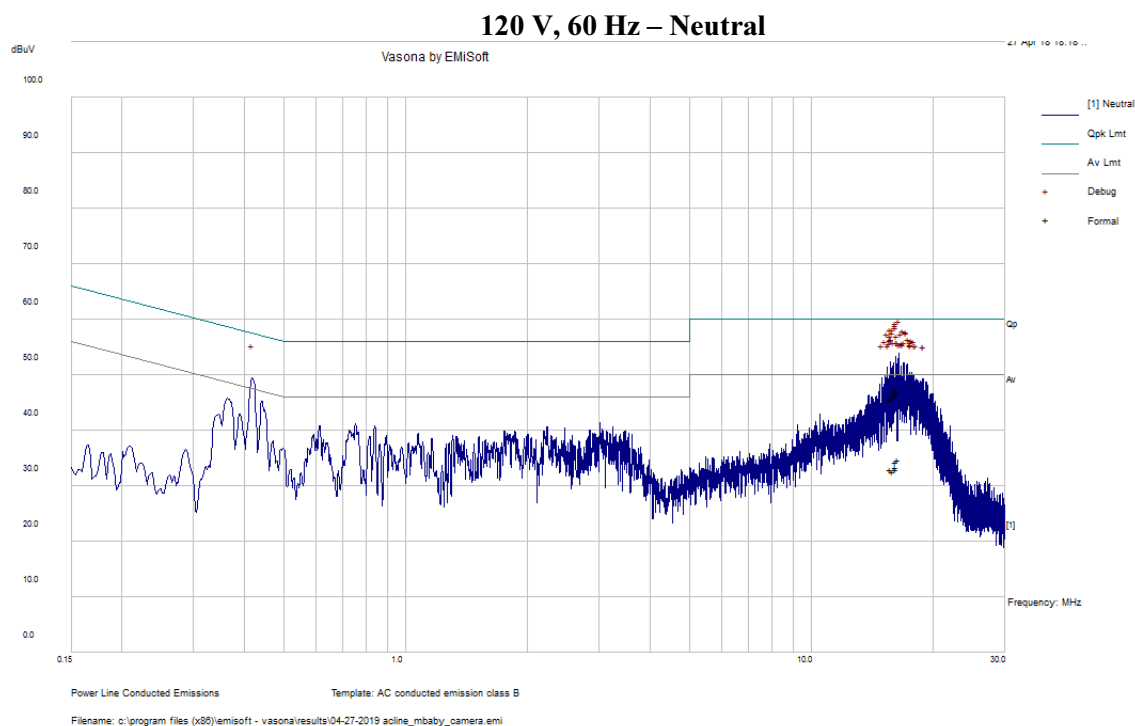
The testing was performed by Vincent Licata from 2018-04-25 to 2018-04-30 in 5m chamber 3.

6.7 Summary of Test Results

According to the recorded data in following table, the EUT complied with the FCC 15C and ISED RSS-Gen standard's conducted emissions limits, with the margin reading of:

Connection: AC/DC adapter connected to 120 V/60 Hz, AC			
Margin (dB)	Frequency (MHz)	Conductor Mode (Line/Neutral)	Range (MHz)
-0.94	0.418326	Line	0.15-30

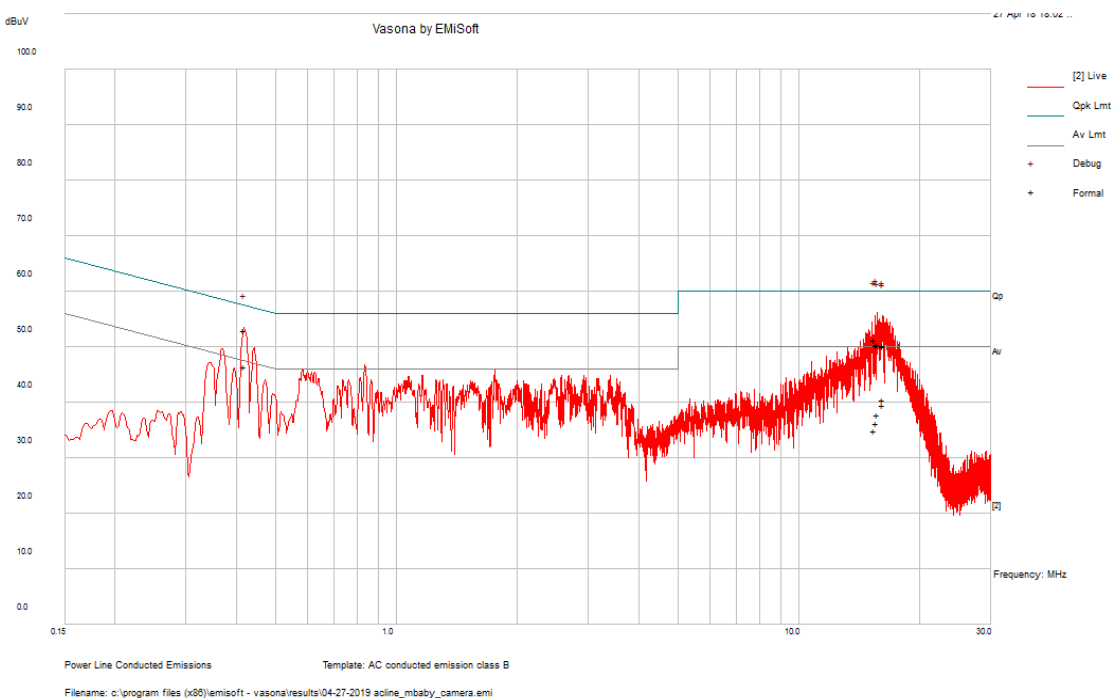
6.8 Conducted Emissions Test Plots and Data



Frequency (MHz)	Corrected Amplitude (dBuV)	Conductor (Line/Neutral)	Limit (dBuV)	Margin (dB)	Detector (QP/Ave.)
16.39992	46.88	Neutral	60	-13.12	QP
16.12502	46.78	Neutral	60	-13.22	QP
16.12362	46.26	Neutral	60	-13.74	QP
16.15959	47.36	Neutral	60	-12.64	QP
15.65242	45.63	Neutral	60	-14.37	QP
15.91377	45.91	Neutral	60	-14.09	QP

Frequency (MHz)	Corrected Amplitude (dBuV)	Conductor (Line/Neutral)	Limit (dBuV)	Margin (dB)	Detector (QP/Ave.)
16.39992	34.67	Neutral	50	-15.33	Ave.
16.12502	33.45	Neutral	50	-16.55	Ave.
16.12362	33.1	Neutral	50	-16.9	Ave.
16.15959	34.34	Neutral	50	-15.66	Ave.
15.65242	33.08	Neutral	50	-16.92	Ave.
15.91377	32.56	Neutral	50	-17.44	Ave.

120 V, 60 Hz – Line



Frequency (MHz)	Corrected Amplitude (dBuV)	Conductor (Line/Neutral)	Limit (dBuV)	Margin (dB)	Detector (QP/Ave.)
15.6122	50.3	Line	60	-9.7	QP
0.418326	52.97	Line	57.48	-4.51	QP
16.14335	50.25	Line	60	-9.75	QP
15.42076	51.35	Line	60	-8.65	QP
15.67389	50.55	Line	60	-9.45	QP
16.20912	50.07	Line	60	-9.93	QP

Frequency (MHz)	Corrected Amplitude (dBuV)	Conductor (Line/Neutral)	Limit (dBuV)	Margin (dB)	Detector (QP/Ave.)
15.6122	36.28	Line	50	-13.72	Ave.
0.418326	46.54	Line	47.48	-0.94	Ave.
16.14335	39.61	Line	50	-10.39	Ave.
15.42076	34.91	Line	50	-15.09	Ave.
15.67389	37.75	Line	50	-12.25	Ave.
16.20912	40.46	Line	50	-9.54	Ave.

7 FCC §15.209, §15.205 and ISEDC RSS-216 §6.2.2.2, RSS-Gen §8.9, §8.10 - Radiated Emissions

7.1 Applicable Standards

As Per FCC §15.205(a) and RSS-Gen except as show in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 – 0.110	16.42 – 16.423	960 – 1240	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	1300 – 1427	5.35 – 5.46
2.1735 – 2.1905	25.5 – 25.67	1435 – 1626.5	7.25 – 7.75
4.125 – 4.128	37.5 – 38.25	1645.5 – 1646.5	8.025 – 8.5
4.17725 – 4.17775	73 – 74.6	1660 – 1710	9.0 – 9.2
4.20725 – 4.20775	74.8 – 75.2	1718.8 – 1722.2	9.3 – 9.5
6.215 – 6.218	108 – 121.94	2200 – 2300	10.6 – 12.7
6.26775 – 6.26825	123 – 138	2310 – 2390	13.25 – 13.4
6.31175 – 6.31225	149.9 – 150.05	2483.5 – 2500	14.47 – 14.5
8.291 – 8.294	156.52475 – 156.52525	2690 – 2900	15.35 – 16.2
8.362 – 8.366	156.7 – 156.9	3260 – 3267	17.7 – 21.4
8.37625 – 8.38675	162.0125 – 167.17	3.332 – 3.339	22.01 – 23.12
8.41425 – 8.41475	167.72 – 173.2	3.3458 – 3.358	23.6 – 24.0
12.29 – 12.293	240 – 285	3.600 – 4.400	31.2 – 31.8
12.51975 – 12.52025	322 – 335.4		36.43 – 36.5
12.57675 – 12.57725	399.9 – 410		Above 38.6
13.36 – 13.41	608 – 614		

As per FCC §15.209(a): Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (micro volts/meter)	Measurement Distance (meters)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100**	3
88 - 216	150**	3
216 - 960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

As per ISED RSS-Gen 8.9,

Except when the requirements applicable to a given device state otherwise, emissions from licence-exempt transmitters shall comply with the field strength limits shown in Table 4 or Table 5 below. Additionally, the level of any transmitter emission shall not exceed the level of the transmitter's fundamental emission.

Table 4 – General Field Strength Limits for Licence-Exempt Transmitters at Frequencies Above 30 MHz

Frequency (MHz)	Field Strength ($\mu\text{V}/\text{m}$ at 3 metres)
30-88	100
88-216	150
216-960	200
Above 960*	500

* Unless otherwise specified, for all frequencies greater than 1 GHz, the radiated emission limits for licence-exempt radio apparatus stated in applicable RSSs (including RSS-Gen) are based on measurements using a linear average detector function having a minimum resolution bandwidth of 1 MHz. If an average limit is specified for the EUT, then the peak emission shall also be measured with instrumentation properly adjusted for such factors as pulse desensitization to ensure the peak emission is less than 20 dB above the average limit.

Note: Transmitting devices are not permitted in restricted frequency bands unless stated otherwise in the specific RSS.

Per RSS-216 6.2.2.2:

The magnetic field radiated emissions within 9 kHz – 30 MHz from the WPT subassembly of WPT source and client devices and WPT systems shall comply with the limits for induction cooking (group 2) equipment, as set out in the CISPR 11 standard referenced in ICES-001. The preferred test method for WPT devices that may be used in residential environments and that have a maximum dimension of less than or equal to 1.6 m is the test method using the van Veen loop antenna system, as per the CISPR 11 standard referenced in ICES-001. However, it is acceptable to use the alternate 60 cm loop test method and corresponding limit for these small residential WPT devices (the same as for commercial / industrial and large residential devices).

The electric field radiated emissions within 30 – 1000 MHz from the WPT subassembly of WPT source and client devices and WPT systems shall comply with the Class B limits for group 2 equipment, as set out in the CISPR 11 standard referenced in ICES-001.

7.2 Test Setup

The radiated emissions tests were performed in the 5-meter Chamber, using the setup in accordance with ANSI C63.10-2013. The specification used was the FCC 15 Subpart C and ISERC RSS-216 limits.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped along the edge of the test table and bundle when necessary.

7.3 Test Procedure

For the radiated emissions test, the EUT host, and all support equipment power cords was connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The EUT was set 3 meter away from the testing antenna, which was varied from 1-4 meter, and the EUT was placed on a turntable, which was 0.8 meter and 1.5 meter above the ground plane for below and above 1000 MHz measurements, the table shall be rotated for 360 degrees to find out the highest emission. The receiving antenna should be changed the polarization both of horizontal and vertical.

The spectrum analyzer or receiver is set as:

7.4 Corrected Amplitude and Margin Calculation

The Corrected Amplitude (CA) is calculated by adding the Antenna Factor (AF), the Cable Loss (CL), the Attenuator Factor (Atten) and subtracting the Amplifier Gain (Ga) to indicated Amplitude (Ai) reading. The basic equation is as follows:

$$CA = Ai + AF + CL + Atten - Ga$$

For example, a corrected amplitude of 40.3 dBuV/m = Indicated Reading (32.5 dBuV) + Antenna Factor (+23.5dB) + Cable Loss (3.7 dB) + Attenuator (10 dB) - Amplifier Gain (29.4 dB)

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of -7 dB means the emission is 7 dB below the maximum limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corrected Amplitude} - \text{Limit}$$

7.5 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Rohde & Schwarz	Receiver, EMI Test	ESCI 1166.5950K03	100044	2017-09-19	2 years
Sunol Science Corp	System Controller	SC99V	011003-1	N/R	N/R
ETS-LINDGREN	Antenna Loop	6511	128222	2017-02-07	2 year
Suirong	30 ft conductive emission cable	LMR 400	-	N/R	N/A
Agilent	Pre-Amplifier	8447D	2944A10187	2018-04-02	1 year
Agilent	Analyzer, Spectrum	E4446A	US44300386	2017-06-20	1 year

Note¹: cable and attenuator included in the test set-up will be checked each time before testing.

Statement of Traceability: *BACL attests that all calibrations have been performed per the A2LA requirements, traceable to NIST.*

7.6 Test Environmental Conditions

Temperature:	23 °C
Relative Humidity:	42 %
ATM Pressure:	102.7 kPa

The testing was performed by Vincent Licata on from 2018-04-25 to 2018-04-30 in 5m chamber 3.

7.7 Summary of Test Results

According to the data hereinafter, the EUT complied with FCC Title 47, Part 15C and ISEDC RSS-216 standard's radiated emissions limits, and had the worst margin of:

Mode: Transmitting			
Margin (dB)	Frequency (MHz)	Polarization	Channel
-21.84	0.58	Down	0.29MHz

Please refer to the following table and plots for specific test result details.

7.8 Radiated Emissions Test Results

9 kHz to 30MHz Measured at 3 meters

Frequency (MHz)	S.A. Reading (dBμV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre- Amp. (dB)	Cord. Reading (dBμV/m)	FCC/ISED		Comments
			Height (cm)	Polarity (H/V/P)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)	
0.29MHz											
0.29	32.18	174	-	H	48.60	0.06	27.94	52.90	98.36	-45.46	QP
0.29	23.25	99	-	V	48.60	0.06	27.94	43.97	98.36	-54.39	QP
0.29	38.29	122	-	P	48.60	0.06	27.94	59.01	98.36	-39.35	QP
0.58	24.11	174	-	H	48.30	0.07	28.29	44.19	72.34	-28.15	QP
0.58	15.74	99	-	V	48.30	0.07	28.29	35.82	72.34	-36.52	QP
0.58	30.42	122	-	P	48.30	0.07	28.29	50.50	72.34	-21.84	QP
0.87	18.10	174	-	H	48.30	0.08	28.392	38.09	68.81	-30.73	QP
0.87	14.40	99	-	V	48.30	0.08	28.392	34.39	68.81	-34.43	QP
0.87	22.16	122	-	P	48.30	0.08	28.392	42.15	68.81	-26.67	QP

8 FCC §15.215 and ISEDC RSS-Gen §6.7 - Emission Bandwidth

8.1 Applicable Standards

According to FCC §15.215: Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. In the case of intentional radiators operating under the provisions of subpart E, the emission bandwidth may span across multiple contiguous frequency bands identified in that subpart. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

Per ISEDC RSS-Gen §5.1: The occupied bandwidth or the “99% emission bandwidth” is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs.

In some cases, the “x dB bandwidth” is required, which is defined as the frequency range between two points, one at the lowest frequency below and one at the highest frequency above the carrier frequency, at which the maximum power level of the transmitted emission is attenuated x dB below the maximum in-band power level of the modulated signal, where the two points are on the outskirts of the in-band emission.

8.2 Measurement Procedure

Span = approximately 2 to 5 times the 99% occupied bandwidth, centered on a hopping channel

RBW = 1% to 5 % of the 99% occupied bandwidth

VBW = 3RBW

Sweep = auto

Detector function = peak

Trace = max hold

8.3 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Rohde & Schwarz	Receiver, EMI Test	ESCI 1166.5950K03	100044	2017-09-19	2 years
Sunol Science Corp	System Controller	SC99V	011003-1	N/R	N/R
ETS-LINDGREN	Antenna Loop	6511	128222	2017-02-07	2 year
Suirong	30 ft conductive emission cable	LMR 400	-	N/R	N/A
Agilent	Pre-Amplifier	8447D	2944A10187	2018-04-02	1 year
Agilent	Analyzer, Spectrum	E4446A	US44300386	2017-06-20	1 year

Note¹: cable and attenuator included in the test set-up will be checked each time before testing.

Statement of Traceability: *BACL Corp.* attests that all calibrations have been performed per the A2LA requirements, traceable to the NIST.

8.4 Test Environmental Conditions

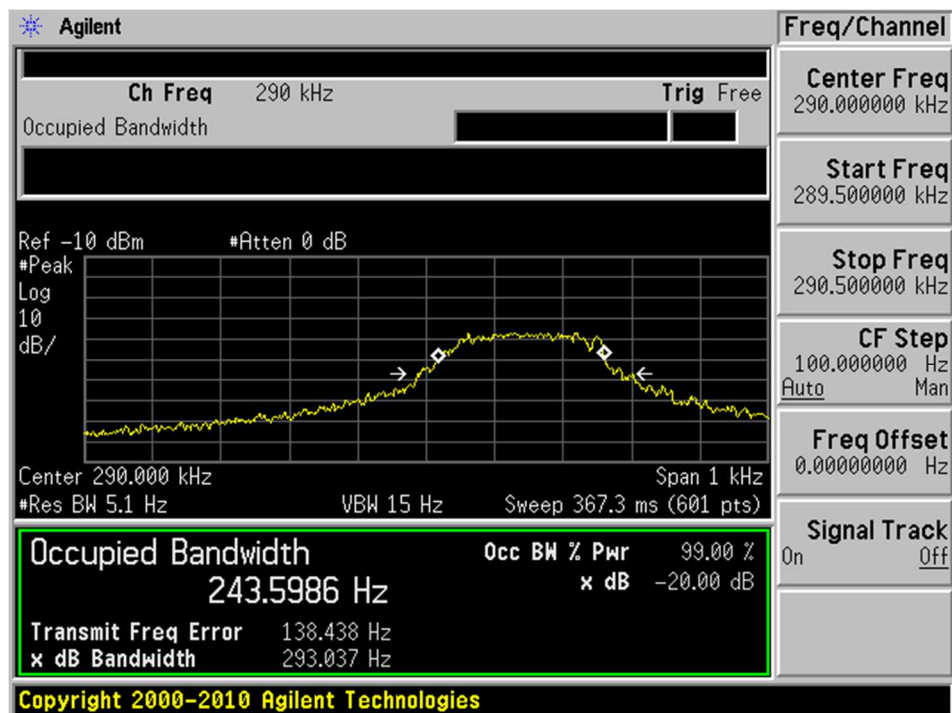
Temperature:	23 °C
Relative Humidity:	42 %
ATM Pressure:	102.7 kPa

The testing was performed by Vincent Licata on from 2018-04-25 to 2018-04-30 in 5m chamber 3

8.5 Test Results

Frequency (MHz)	99% OBW (Hz)	20 dB OBW (Hz)
0.29	243.5986	293.037

Please refer to the following plots for detailed test results.



9 Annex A - FCC & ISED Equipment Labeling Requirements

FCC ID Label Requirements

As per FCC §2.925,

(a) Each equipment covered in an application for equipment authorization shall bear a nameplate or label listing the following:

(1) FCC Identifier consisting of the two elements in the exact order specified in §2.926. The FCC Identifier shall be preceded by the term FCC ID in capital letters on a single line, and shall be of a type size large enough to be legible without the aid of magnification.

Example: FCC ID: XXX123

Where: XXX—Grantee Code, 123—Equipment Product Code

As per FCC §15.19,

(a) In addition to the requirements in part 2 of this chapter, a device subject to certification, or verification shall be labeled as follows:

(3) All other devices shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

(4) Where a device is constructed in two or more sections connected by wires and marketed together, the statement specified above is required to be affixed only to the main control unit. If the EUT is integrated within another device then a label affixed to the host shall also state, "Contains FCC ID: XXXXXX"

(5) When the device is so small or for such use that it is not practicable to place the statement specified under paragraph (a) of this section on it, the information required by this paragraph shall be placed in a prominent location in the instruction manual or pamphlet supplied to the user or, alternatively, shall be placed on the container in which the device is marketed. However, the FCC identifier or the unique identifier, as appropriate, must be displayed on the device.

IC Label Requirements

As per IC RSP-100 Section 3.1, the certification number shall appear as follows:

IC: XXXXXX-YYYYYYYY

Where:

- The letters "IC:" indicate that this is an Innovation, Science and Economic Development Canada's certification number, but they are not part of the certification number. XXXXXXYYYYYYYYYYY is the ISED certification number.
- XXXXXX is the CN assigned by Innovation, Science and Economic Development Canada. Newly assigned CNs will be made up of five numeric characters (e.g. "20001") whereas existing CNs may consist of up to five numeric characters followed by an alphabetic character (e.g. "21A" or "15589J").
- YYYYYYYYYYYY is the Unique Product Number (UPN) assigned by the applicant, made up of a maximum of 11 alphanumeric characters.
- The CN and UPN are limited to capital alphabetic characters (A-Z) and numerals (0-9) only. The use of punctuation marks or other symbols, including "wildcard" characters, is not permitted.

- The HVIN may contain punctuation marks or symbols but they shall not represent any indeterminate (“wildcard”) characters.

As per RSS-Gen §2.1 Equipment Labeling:

The application for equipment certification shall be submitted in accordance with Industry Canada’s Radio Standards Procedure RSP-100, Radio Equipment Certification Procedure which sets out the requirements for certification and labelling of radio apparatus. RSP-100 shall be used in conjunction with RSS-Gen and other Radio Standards Specifications (RSSs) specifically applicable to the type of radio apparatus for which certification is sought.

Recommended Label Contents and Location

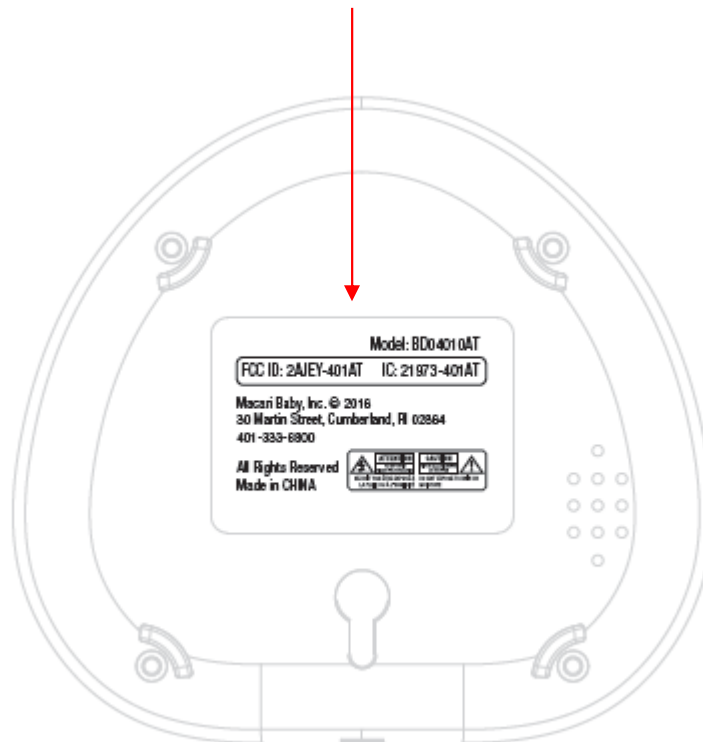
Camera

Model: BD04010AT

FCC ID: 2AJEY-401AT IC: 21973-401AT

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401-333-6800

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10 Annex B -Photographs

Please see attachments:

Exhibit A – EUT Test Setup Photographs

Exhibit B – EUT External Photographs

Exhibit C – EUT Internal Photographs

11 Annex C (Informative) - A2LA Electrical Testing Certificate



Accredited Laboratory

A2LA has accredited

BAY AREA COMPLIANCE LABORATORIES CORP.

Sunnyvale, CA

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. This laboratory also meets the requirements of any additional program requirements in the Electrical field. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).



Presented this 30th day of August 2016.


President and CEO
For the Accreditation Council
Certificate Number 3297.02
Valid to September 30, 2018
Revised November 14, 2016

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

---END OF REPORT ---