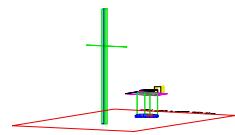


# PCTEST Engineering Laboratory, Inc.



6660-B Dobbin Road • Columbia, MD 21045 • U.S.A.  
TEL (410) 290-6652 • FAX (410) 290-6654  
<http://www.pctestlab.com>

## CERTIFICATE OF COMPLIANCE

**HITRON Systems, Inc.**  
555-34, Baiksuk-Dong, Cheonan-City,  
ChoongNam, KOREA 330-220  
Attn: Se Bong, LEE - Project Manager

Dates of Tests: April 09-10, 1998  
Test Report S/N: Tx.980323230.LLI  
Test Site: PCTEST Lab., MD U.S.A.

FCC IDENTIFIER

**LLIBWC24**

APPLICANT

**HITRON SYSTEMS, INC.**

FCC Rule Part(s): **15.249 Subpart C; ANSI C-63.4 (1992)**  
Classification: **Low Power Communications Transmitter (DXX)**  
EUT Type: **2-Channel Wireless Camera Transmitter**  
**(for Wireless Babycare System)**  
Tx/Rx Freq. Range: **2.4 GHz - 2.4835 GHz**  
Channel Freq.: **Ch.1/2.41 GHz - Ch.2/2.45 GHz**  
Trade Name/Model: **HITRON BWC24EA**

This device has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C-63.4 with the following remarks (Note Codes):

\* (#37) This device has shown compliance with new rules under Docket 87-389 and is not affected by Section 15.37, transition rule.

I attest to the accuracy of data and all measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

*PCTEST certifies that no party to this application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 853(a).*

  
\_\_\_\_\_  
**Randy Orlanez**  
President & Chief Engineer



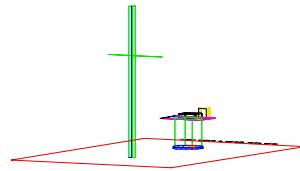
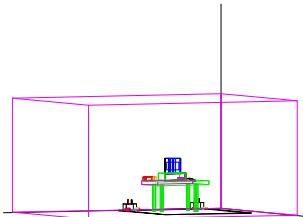
**NVLAP**<sup>®</sup>  
Lab Code 100431-0

## TABLE OF CONTENTS

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ATTACHMENT A:	COVER LETTER(S)
ATTACHMENT B:	ATTESTATION STATEMENT(S)
ATTACHMENT C:	TEST REPORT
SCOPE	1
INTRODUCTION (SITE DESCRIPTION)	2
PRODUCTION INFORMATION	3
DESCRIPTION OF TESTS (CONDUCTED)	4
DESCRIPTION OF TESTS (RADIATED)	5
ANTENNA REQUIREMENT	6
TEST DATA (CONDUCTED)	7-8
FREQUENCY MEASUREMENTS (Fundamental & Harmonics)	9-10
FREQUENCY MEASUREMENTS (Fundamental & Spurious)	11
LIST OF SUPPORT EQUIPMENT	12
SAMPLE CALCULATIONS	13
ACCURACY OF MEASUREMENT	14
LIST OF TEST EQUIPMENT	15
RECOMMENDATION / CONCLUSION	16
ATTACHMENT D:	TEST PLOTS
ATTACHMENT E:	FCC ID LABEL / LOCATION
ATTACHMENT F:	BLOCK DIAGRAM(S)
ATTACHMENT G:	SCHEMATIC DIAGRAM(S)
ATTACHMENT H:	TEST SETUP PHOTOGRAPHS
ATTACHMENT I:	EXTERNAL PHOTOGRAPHS
ATTACHMENT J:	INTERNAL PHOTOGRAPHS
ATTACHMENT K:	USER S MANUAL

## MEASUREMENT REPORT



*Scope - Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission.*

<b>Company Name:</b>	<b>HITRON SYSTEMS, INC.</b>
<b>Address:</b>	555-34, Baiksuk-Dong, Cheonan-City ChoongNam, KOREA 330-220
<b>Attention:</b>	Se Bong, Lee - Project Manager R & D Dept. Display Team

- FCC ID: **LLIBWC24**
- Equipment Type: Transmitter - Certification  
**Camera for Wireless Babycare System**
- Equipment Class: Low Power Communications Transmitter (DXX)
- Model: **BWC24EA**
- Tx/Rx Freq. Range: 2.4 - 2.4835 GHz
- Channels: 2
- Channel Freq.: Ch 1: 2.41 GHz / Ch. 2: 2.45 GHz
- Rule Part(s): §15.249 Subpart C; ANSI C-63.4 (1992)
- Dates of Tests: April 09-10, 1998
- Place of Tests: PCTEST Lab, Columbia, MD U.S.A.
- Test Report S/N: Tx.980323230.LLI

*NOTE: This transmitter Certification application is simultaneously filed with the receiver Notification application (FCC ID: LLIBWM24).*

**NVLAP**  
Lab Code 100431-0

## Introduction

The measurement procedure described in Section 15.249 and American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40 GHz (ANSI C63.4-1992) was used in determining EME from **HITRON Wireless Camera Transmitter**.

These measurement tests were conducted at **PCTEST Engineering Laboratory** facility in New Concept Business Park, Guilford Industrial Park, Columbia, Maryland. The site address is 6660-B Dobbin Road, Columbia, MD 21045. The test site is one of the highest points in the Columbia area with an elevation of 390 feet above mean sea level. The site coordinates are 39°11'15" N latitude and 76°49'38" W longitude. The facility is 1.5 miles North of the FCC laboratory, and the ambient signal and ambient signal strength are approximately equal to those of the FCC laboratory. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4 on October 19, 1992.

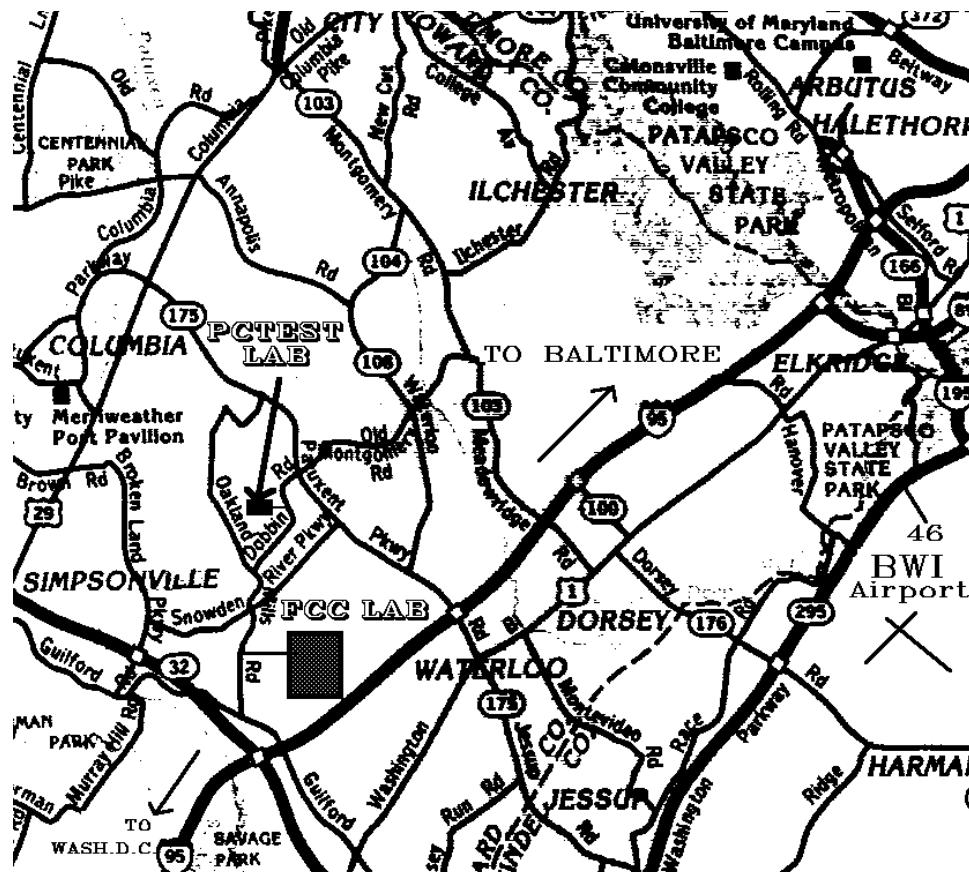


Fig. 1. The map above shows the Columbia vicinity area.  
The map also shows PCTest Lab, FCC Lab and BWI airport. (Scale 1"=2miles)

## Product Information

---

### Equipment Description:

The Equipment Under Test (EUT) is the **HITRON Wireless Transmitter (Model: BWC24EA) FCC ID: LLIBWC24**. The EUT is a wireless video camera transmitter which transmits modulated video and audio from a built-in camera and microphone between 2.4GHz and 2.4835GHz frequency range. The EUT operates with two channels and a portable superheterodyne receiver/speaker (Monitor) to produce quality sound reception (FCC ID: LLIBWM24).

* Tx Freq. Range:	2.4 - 2.4835 GHz
* Channels:	2 (2.41GHz/Ch.1, 2.45GHz/Ch.2)
* Output Level:	10mW @ 3m
* Antenna:	Rod (permanently attached)
* Image Sensor:	1/3" CCD, 4.3mm Lens, Fixed Focus
* Resolution:	350 TV Lines
* Scan System:	CCIR Standard, 2:1 Interlaced
* Scanning Freq.:	H: 15.625kHz / V: 50Hz
* Video Output:	Composite 1Vp-p @ 75Ω
* Microphone:	Built-in Condenser type
* Modulation:	FM
* AC Adapter:	Shin Se Ki Elect. Co. Model: SSK 15025 Output: 15 VDC 250mA Input: 230VAC 50Hz
Power Consumption:	4W (Max.)
* Rx FCC ID:	LLIBWM24 2.4 - 2.4835GHz

EMI suppression device(s) added and/or modified during testing:

\* none

## Description of Tests

### Conducted Emissions

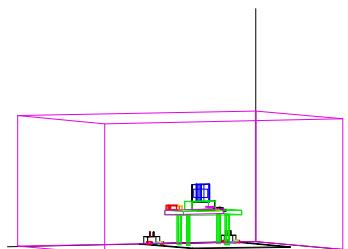


Fig. 2. Shielded Enclosure  
Line-Conducted Test Facility

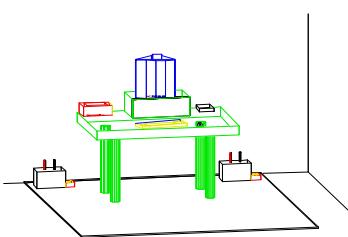


Fig. 3. Line-Conducted  
Emission Test Set-Up

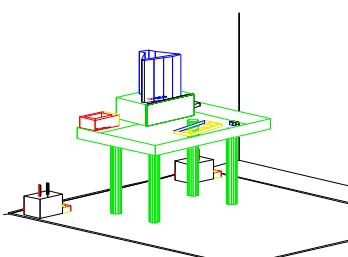


Fig. 4. Wooden Table &  
Bonded LISNs

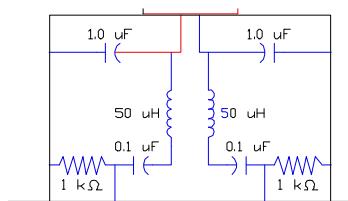


Fig. 5. LISN Schematic  
Diagram

Preliminary and final AC powerline conducted facility were performed inside a shielded enclosure (Fig. 2). The shielding effectiveness of the shielded room is in accordance with MIL-Std-285 or NSA 65-6. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition before tests are conducted.

A 1m.x1.5m. wooden table 80 cm. high is placed 40cm. away from the vertical wall and 1.5m away from the side wall of the shielded room (Fig. 3).

Solar Electronics and EMCO Model 3725/2 (10kHz-30MHz) 50Ω/50 uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room (Fig. 4). The EUT is powered from the Solar LISN and the support equipment is powered from the EMCO LISN. Power to the LISNs are filtered by a high-current high-insertion loss power line filters (100dB 14kHz-10GHz). The purpose of the filter is to attenuate ambient signal interference and this filter is also bonded to the shielded enclosure. All electrical cables are shielded by braided tinned copper zipper tubing with inner diameter of 1/2". If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and this supply lines will be connected to the Solar LISN, if applicable. LISN schematic diagram is shown in Figure 5. All interconnecting cables more than 1 meter were shortened by non-inductive bundling (serpentine fashion) to a 1-meter length. The RF output of the LISN was connected to the spectrum analyzer to determine the frequency producing the maximum EME from the EUT.

The spectrum was scanned from 450 kHz to 30 MHz with 20 msec sweep time. The frequency producing the maximum level was reexamined using EMI/ Field Intensity Meter and Quasi-Peak adapter. The detector function was set to CISPR quasi-peak mode. The bandwidth of the receiver was set to 10 kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each EME emission. Each emission was maximized by: switching channels and power lines; applying modulation signal; varying the mode of operation, clock or data exchange speed; scrolling H pattern to the EUT and/or support equipment; and powering the monitor from the floor mounted outlet box and the computer aux AC outlet, if applicable; whichever determined the worst-case emission. Photographs of the worst-case emission can be seen in Appendix B. Each EME reported was calibrated using the HP8640B signal generator.

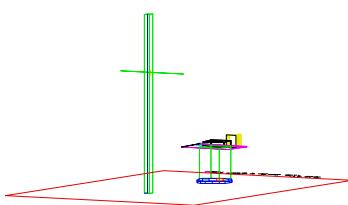


Fig. 6. 3-Meter Test Site

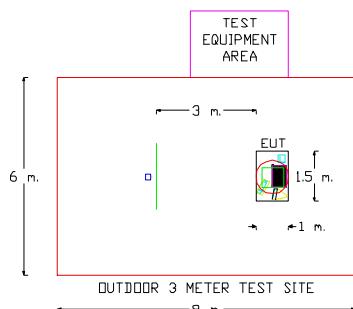


Fig. 7. Dimensions of  
Outdoor Test Site

## Radiated Emissions

Preliminary measurements were made indoors at 1 meter using broadband antennas, broadband amplifier, and spectrum analyzer to determine the frequency producing the maximum EME. Appropriate precaution was taken to ensure that all EME from the EUT were maximized and investigated. The spectrum was scanned from 30 - 200 MHz using biconical antenna; 200 - 1000 MHz using log-spiral antenna, and 1 - 40 GHz using double ridge horn antennas.

Final measurements were made outdoors at 3-meter test range using Roberts™ Dipole antennas or horn antennas (see Figure 6). The test equipment was placed on a wooden and plastic bench situated on a 1.5 x 2 meter area adjacent to the measurement area (see Figure 7). Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. Each frequency found during pre-scan measurements was re-examined and investigated using EMI/Field Intensity Meter with Average Reading and Quasi-Peak Adapter. The detector function was set to CISPR quasi-peak mode or average with the resolution bandwidth of the receiver set to 100 kHz or 1 MHz depending on the type and frequency of signal.

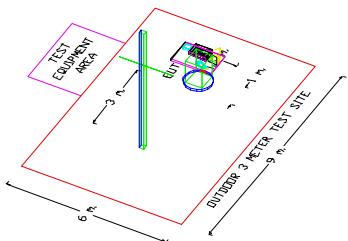


Fig. 8. Turntable and System  
Setup

The half-wave dipole or horn antenna was tuned to the frequency found during preliminary radiated measurements. The EUT, support equipment and interconnecting cables were re-configured to the set-up producing the maximum emission for the frequency and were placed on top of a 0.8-meter high non-metalllic 1 x 1.5 meter table (see Figure 8). The EUT, support equipment, and interconnecting cables were re-arranged and manipulated to maximize each EME emission. The turntable containing the system was rotated; the antenna height was varied 1 to 4 meters and stopped at the azimuth or height producing the maximum emission. Each emission was maximized by: switching channels and power lines; applying modulation signal; varying the mode of operation, clock or data exchange speed; scrolling H pattern to the EUT and/or support equipment; and powering the monitor from the floor mounted outlet box and the computer aux AC outlet, if applicable; and changing the polarity of the antenna, whichever determined the worst-case emission. Photographs of the worst-case emission can be seen in Appendix B. Each EME reported was calibrated using the HP8640B signal generator. The Theoretical Normalized Site Attenuation Curves for both horizontal and vertical polarization are shown in Figure 9 according to ANSI C63.4.

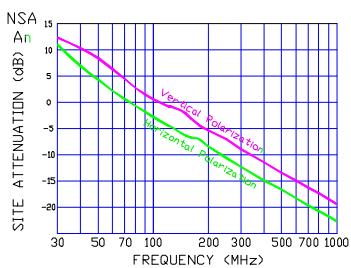


Fig. 9. Normalized Site  
Attenuation Curves (H&V)

## § 15.203 Antenna Requirement

An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the applicant can 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 this requirement.

### **CONCLUSION:**

The Hi-Tron transmitter complies with the requirement of §15.203. The antenna is permanently secured and made of **Rod Antenna**.

## Applied Modulation

The modulation used was the test procedure specified in ANSI C63.4-1992. For audio modulation, we used a 1kHz tone at 100dB SPL (Extech Model 407740 Digital Sound Level Meter), an audio signal generator (Tenma), and a speaker at 10cm. away from the microphone (condenser). Various audio tones were also used to simulate the sounds generated by typical used. For video modulation, various intensity of light and focus of objects were used to determine the worst-case modulation. The worst-case modulation that produces the widest bandwidth was used during final testing.

## Test Data

---

### Conducted Emissions

<i>FREQ (MHz)</i>	<i>LEVEL<sup>*</sup> (dBm)</i>	<i>LINE</i>	<i>(mV)</i>	<i>MARGIN<sup>**</sup> (dB)</i>
0.750	- 60.70	A	206.5	- 1.7
1.480	- 76.86	A	32.1	- 17.8
2.960	- 77.87	A	28.6	- 18.8
0.750	- 63.12	B	156.3	- 4.1
1.480	- 80.49	B	21.2	- 21.5
6.140	- 80.61	B	20.9	- 21.6

Table 1. Line Conducted Emissions Tabulated Data

#### Channel 1

##### NOTES:

1. All channels & modes of operation were investigated and the worst-case emissions are reported.
2. The limit for Class B digital device is 250 $\mu$ V from 450 kHz to 30 MHz.
3. Line A = Phase                    Line B = Neutral
4. Deviations to the Specifications:        None

---

\*        All readings are calibrated by HP8640B signal generator with accuracy traceable to the National Institute of Standards and Technology (formerly NBS).  
\*\*      Measurements using CISPR quasi-peak mode.

## Test Data

---

### Conducted Emissions

<i>FREQ (MHz)</i>	<i>LEVEL<sup>*</sup> (dBm)</i>	<i>LINE</i>	<i>(mV)</i>	<i>MARGIN<sup>**</sup> (dB)</i>
0.750	- 61.54	A	187.5	- 2.5
3.110	- 77.87	A	28.6	- 18.8
4.660	- 78.72	A	25.9	- 19.7
0.750	- 66.05	B	111.6	- 7.0
2.520	- 81.49	B	21.2	- 21.5
3.110	- 80.93	B	20.1	- 21.9

Table 2. Line Conducted Emissions Tabulated Data  
**Channel 2**

**NOTES:**

1. All channels & modes of operation were investigated and the worst-case emissions are reported.
2. The limit for Class B digital device is 250 $\mu$ V from 450 kHz to 30 MHz.
3. Line A = Phase                    Line B = Neutral
4. Deviations to the Specifications:        None

---

\*        All readings are calibrated by HP8640B signal generator with accuracy traceable to the National Institute of Standards and Technology (formerly NBS).  
\*\*      Measurements using CISPR quasi-peak mode.

## Frequency Measurements (Fundamental & Harmonics)

### A. Transmitter Portion

Operating Frequency: 2.41 GHz

Distance of Measurements: 3 meters

Channel: 1

FREQ. MHz	Level (dBm)	AFCL (dB)	POL H/V	F/S ( $\mu$ V/m)	F/S (dB $\mu$ V/m)	DET. QP/AVG	MARGIN (dB)
2.41	- 54.0	37.2	V	32359	90.2	Avg.	- 3.8
4.82*	- 101.8	46.5	V	384.6	51.7	Avg.	- 2.3
7.23*	- 118.0	52.0	V	112.2	41.0	Avg.	- 13.0
9.64	- 122.0	56.6	V	120.2	41.6	Avg.	- 12.4
12.05	- 124.5	59.6	V	127.4	42.1	Avg.	- 11.9

#### NOTES:

1. The limit at fundamental freq. is 50,000  $\mu$ V/m @ 3m. using QP detector. The harmonic limit is 500  $\mu$ V/m @ 3m.
2. The emissions radiated outside of the specified freq. band, except harmonics, are attenuated by at least 50dBc or to the limits in §15.209, whichever is lesser.
3. All harmonic emissions in the restricted bands specified in §15.205 are below the limit shown in Fig. 10. (Note: \*)
4. The antenna is manipulated through typical positions and length during the tests.
5. The emissions are maximized by changing polarity of the antenna.
6. The EUT is supplied with the nominal AC voltage or/and a new/fully recharge battery.
7. All channels were investigated and the worst-case is reported.

\* Restricted Band

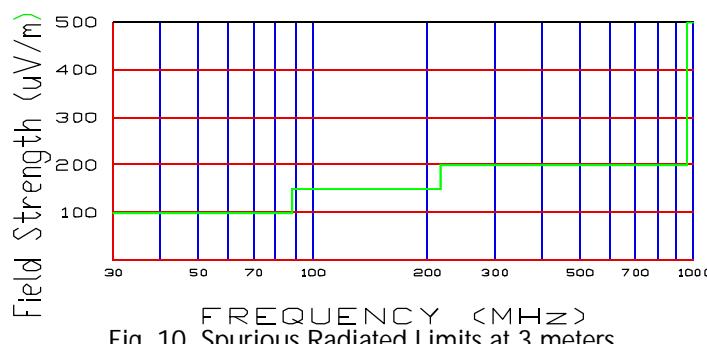


Fig. 10. Spurious Radiated Limits at 3 meters

## Frequency Measurements (Fundamental & Harmonics)

### B. Transmitter Portion

Operating Frequency: 2.45 GHz

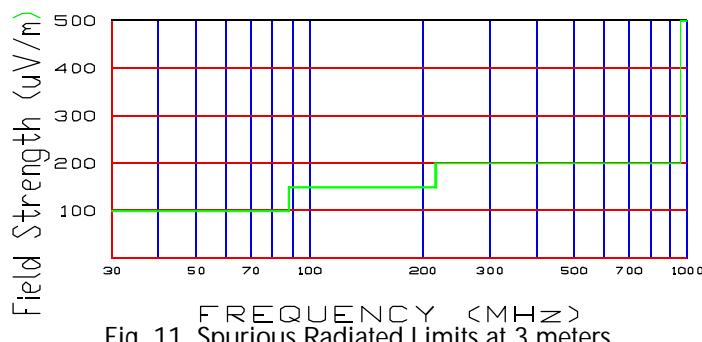
Distance of Measurements: 3 meters

Channel: 2

FREQ. MHz	Level (dBm)	AFCL (dB)	POL H/V	F/S ( $\mu$ V/m)	F/S ( $\text{dB}\mu$ V/m)	DET. QP/AVG	MARGIN (dB)
2.45	- 55.0	37.5	V	29853	89.5	Avg.	- 4.5
4.9	- 102.0	46.8	V	389.1	51.8	Avg.	- 2.2
7.35	- 116.0	52.2	V	144.5	43.2	Avg.	- 10.8
9.8	- 120.0	57.0	V	158.5	44.0	Avg.	- 10.0
12.25	- 123.5	59.8	V	146.2	43.3	Avg.	- 10.7

#### NOTES:

1. The limit at fundamental freq. is 50,000  $\mu$ V/m @ 3m. using QP detector. The harmonic limit is 500  $\mu$ V/m @ 3m.
2. The emissions radiated outside of the specified freq. band, except harmonics, are attenuated by at least 50dBc or to the limits in §15.209, whichever is lesser.
3. All harmonic emissions in the restricted bands specified in §15.205 are below the limit shown in Fig. 11. (Note: \*)
4. The antenna is manipulated through typical positions and length during the tests.
5. The emissions are maximized by changing polarity of the antenna.
6. The EUT is supplied with the nominal AC voltage or/and a new/fully recharge battery.
7. All channels were investigated and the worst-case is reported.



## Frequency Measurements (Fundamental & Spurious)

Operating Frequencies: 2.4 - 2.4835 GHz

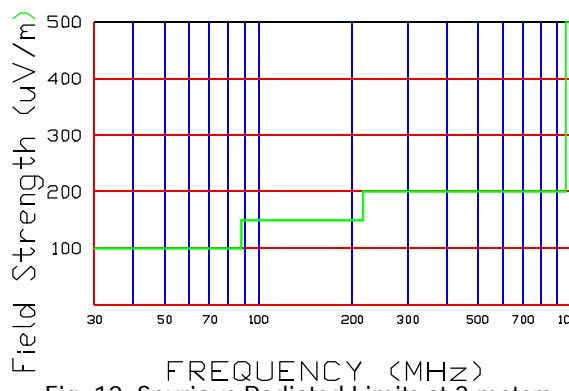
Distance of Measurements: 3 meters

Channel(s): 1/2

Freq. (MHz)	Level (dBm)	AFCL** (dB)	POL (H/V)	Height (m)	Azimuth (° angle)	F/S (uV/m)	Margin*** (dB)
38.13	- 77.0	0.7	V	3.0	60	34.5	- 9.3
47.7	- 76.5	2.7	V	2.6	190	45.5	- 6.8
57.2	- 78.8	4.4	V	2.6	300	42.6	- 7.4
66.7	- 79.0	5.8	V	2.5	10	49.2	- 6.2
76.3	- 84.0	7.1	V	2.5	180	31.8	- 9.9
85.8	- 86.0	8.1	V	2.4	60	28.6	- 10.9

Table 3. Radiated Measurements at 3-meters.

### Channels 1/2



#### NOTES: \*\*\*\*\*

1. All channels were investigated and the worst-case emissions are reported.
2. The antenna is fully extended during the tests and the emissions are maximized by changing polarity of the antenna.
3. The EUT is supplied with the nominal AC voltage or/and a new/fully recharge battery.
4. The radiated limits are shown in Fig. 12.
5. Peak readings were taken with resolution bandwidth and video bandwidth set at 1MHz.

\* All readings are calibrated by HP8640B signal generator with accuracy traceable to the National Institute of Standards and Technology (formerly NBS).  
\*\* AFCL = Antenna factor (Roberts Ø dipole) and cable loss (30 ft. RG58C/U)  
\*\*\* Measurements using CISPR quasi-peak mode.

## Support Equipment Used

<b>1. HITRON Transmitter</b>	<b>FCC ID: LLIBWC24</b>	<b>(EUT)</b>
Shin Se Elect. AC Adapter	8W Model: SSK 15025	
	1.8m. unshielded DC power cord	
<b>2. HITRON Monitor</b>	<b>FCC ID: LLIBWM24</b>	
Youk Young AC Adapter	30W Model: AD60002	
	1.8m. unshielded AC power cord	
	1.6m. unshielded DC cable	

## Sample Calculations

---

$$\text{dB } \mu\text{V} = 20 \log_{10} (\mu\text{V}/\text{m})$$

$$\text{dB } \mu\text{V} = \text{dBm} + 107$$

### EX. 1.

@ 20.3 MHz

Class B limit = 250  $\mu\text{V}$  = 47.96 dB $\mu\text{V}$

Reading = -64.0 dBm (calibrated level)

convert to dB $\mu\text{V}$  = -64.0 + 107 = 43.0 dB $\mu\text{V}$

$$10^{(43/20)} = 141.3 \mu\text{V}$$

$$\text{Margin} = 43.0 - 47.96 = -4.96$$

**5.0 dB below limit**

### EX. 2.

@ 121.8 MHz

15.209 limit = 150  $\mu\text{V}/\text{m}$  = 43.5 dB $\mu\text{V}/\text{m}$

Reading = -78.5 dBm (calibrated level)

convert to dB $\mu\text{V}/\text{m}$  = -78.5 + 107 = 28.5 dB $\mu\text{V}/\text{m}$

Antenna factor + Cable Loss = 11.6 dB

Total = 40.1 dB $\mu\text{V}/\text{m}$

$$\text{Margin} = 40.1 - 43.5 = -3.4$$

**3.4 dB below the limit**

## Accuracy of Measurement

The measurement uncertainties stated were calculated in accordance with the requirements of NIST Technical Note 1297 and NIS 81 (1994).

Contribution (Line Conducted)	Probability Distribution	Uncertainty (+/- dB)	
		9kHz-150MHz	150-30 MHz
Receiver specification	Rectangular	1.5	1.5
LISN coupling specification	Rectangular	1.5	1.5
Cable and input attenuator calibration	Normal (k=2)	0.3	0.5
Mismatch: Receiver VRC $\Gamma_1=0.03$ LISN VRC $\Gamma_R=0.8$ (9 kHz) 0.2 (30 MHz) Uncertainty limits $20\log(1 +/\!-\! \Gamma_1 \Gamma_R)$	U-Shaped	0.2	0.35
System repeatability	Std. deviation	0.2	0.05
Repeatability of EUT		-	-
Combined standard uncertainty	Normal	1.26	1.30
Expanded uncertainty	Normal (k=2)	2.5	2.6

Calculations for 150 kHz to 30 MHz:

$$u_c(y) = \sqrt{\sum_{i=1}^m u_i^2(y)} = \sqrt{\frac{1.5^2 + 1.5^2}{3} + \left(\frac{0.5}{2}\right)^2 + \frac{0.05^2}{2} + 0.35^2} = \pm 1.298 \text{ dB}$$

$$U = 2U_c(y) = \pm 2.6 \text{ dB}$$

Contribution (Radiated Emissions)	Probability Distribution	Uncertainties (+/-dB)	
		3 m	10 m
Ambient Signals		-	-
Antenna factor Calibration	Normal (k=2)	$\pm 1.0$	$\pm 1.0$
Cable loss Calibration	Normal (k=2)	$\pm 0.5$	$\pm 0.5$
Receiver specification	Rectangular	$\pm 1.5$	$\pm 1.5$
Antenna directivity	Rectangular	$\pm 0.5$	$\pm 0.5$
Antenna factor variation with height	Rectangular	$\pm 2.0$	$\pm 0.5$
Antenna phase centre variation	Rectangular	0.0	$\pm 0.2$
Antenna factor frequency interpolation	Rectangular	$\pm 0.25$	$\pm 0.25$
Measurement distance variation	Rectangular	$\pm 0.6$	$\pm 0.4$
Site imperfections	Rectangular	$\pm 2.0$	$\pm 2.0$
Mismatch: Receiver VRC $\Gamma_1=0.2$ Antenna VRC $\Gamma_R=0.67$ (Bi) 0.3 (Lp) Uncertainty limits $20\log(1 +/\!-\! \Gamma_1 \Gamma_R)$	U-Shaped	$\pm 1.1$ $\pm 1.25$	$\pm 0.5$
System repeatability	Std. Deviation	$\pm 0.5$	$\pm 0.5$
Repeatability of EUT		-	-
Combined Standard uncertainty	Normal	$+2.19 / -2.21$	$+1.74 / -1.72$
Expanded uncertainty U	Normal (k=2)	$+4.38 / -4.42$	$+3.48 / -3.44$

Calculations for 3m biconical antenna. Coverage factor of k=2 will ensure that the level of confidence will be approximately 95%, therefore:

$$U = 2u_c(y) = 2 \times \pm 2.19 = \pm 4.38 \text{ dB}$$

## Test Equipment

Type	Model	Cal. Due Date	S/N
Microwave Spectrum Analyzer	HP8566B (100Hz-22GHz)	08/15/98	3638A08713
Microwave Spectrum Analyzer	HP8566B (100Hz-22GHz)	04/17/99	2542A11898
Spectrum Analyzer/Tracking Gen.	HP8591A (100Hz-1.8GHz)	08/10/98	3144A02458
Signal Generator*	HP8640B (500Hz-1GHz)	08/09/98	2232A19558
Signal Generator*	HP8640B (500Hz-1GHz)	08/09/98	1851A09816
Signal Generator*	Rohde & Schwarz (0.1-1000MHz)	09/11/98	894215/012
Ailtech/Eaton Receiver	NM37/57A-SL (30-1000MHz)	04/12/99	0792-03271
Ailtech/Eaton Receiver	NM37/57A (30-1000MHz)	03/11/99	0805-03334
Ailtech/Eaton Receiver	NM17/27A (0.1-32MHz)	09/17/98	0608-03241
Quasi-Peak Adapter	HP85650A	08/15/98	2043A00301
Ailtech/Eaton Adapter	CCA-7 CISPR/ANSI QP Adapter	03/11/99	0194-04082
RG58 Coax Test Cable	No. 167		n/a
Harmonic/Flicker Test System	HP 6841A (IEC 555-2/3)		3531A00115
Broadband Amplifier (2)	HP8447D		1145A00470, 1937A03348
Broadband Amplifier	HP8447F		2443A03784
Transient Limiter	HP11947A (9kHz-200MHz)		2820A00300
Horn Antenna	EMCO Model 3115 (1-18GHz)		9704-5182
Horn Antenna	EMCO Model 3115 (1-18GHz)		9205-3874
Horn Antenna	EMCO Model 3116 (18-40GHz)		9203-2178
Biconical Antenna (4)	Eaton 94455/Eaton 94455-1/Singer 94455-1/Compliance Design		1295, 1332, 0355
Log-Spiral Antenna (3)	Ailtech/Eaton 93490-1		0608, 1103, 1104
Roberts Dipoles	Compliance Design (1 set)		
Ailtech Dipoles	DM-105A (1 set)		33448-111
EMCO LISN	3816/2		1079
EMCO LISN	3816/2		1077
EMCO LISN	3725/2		2009
Microwave Preamplifier 40dB Gain	HP83017A (0.5-26.5GHz)		3123A00181
Microwave Cables	MicroCoax (1.0-26.5GHz)		
Ailtech/Eaton Receiver	NM37/57A-SL		0792-03271
Spectrum Analyzer	HP8594A		3051A00187
Spectrum Analyzer (2)	HP8591A		3034A01395, 3108A02053
Modulation Analyzer	HP8901A		2432A03467
NTSC Pattern Generator	Leader 408		0377433
Noise Figure Meter	HP 8970B		3106A02189
Noise Figure Meter	Ailtech 7510		TE31700
Noise Generator	Ailtech 7010		1473
Microwave Survey Meter	Holaday Model 1501 (2.450GHz)		80931
Digital Thermometer	Extech Instruments 421305		426966
Attenuator	HP 8495A (0-70dB) DC-4GHz		
Bi-Directional Coax Coupler	Narda 3020A (50-1000MHz)		
Shielded Screen Room	RF Lindgren Model 26-2/2-0		6710 (PCT270)
Shielded Semi-Anechoic Chamber	Ray Proof Model S81		R2437 (PCT278)
Environmental Chamber	Associated Systems Model 1025 (Temperature/Humidity)		PCT285

\* Calibration traceable to the National Institute of Standards and Technology (NIST).

## Recommendation/Conclusion

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The data collected shows that the **HITRON Wireless Camera Transmitter FCC ID: LLIBWC24** complies with Part 15C of the FCC Rules.