



Test Report

| | |
|--------------|-------------------|
| Product Name | PIR.Motion Sensor |
| Model No. | HSP01-0 |
| FCC ID | ZGXHSP01 |

| | |
|-----------|--|
| Applicant | Chromagic Technologies Corporation |
| Address | 5 of 2nd Fl., No.611, Sec.1, Wanshou Rd., Kwei Shan, Taoyuan Hsien 333, Taiwan. |

| | |
|-----------------|--------------------|
| Date of Receipt | Oct. 28, 2011 |
| Issued Date | Nov. 25, 2011 |
| Report No. | 11B051R-RFUSP30V01 |
| Report Version | V1.0 |

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of Quietek Corporation.

This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Test Report Certification

Issued Date: Nov. 25, 2011

Report No.: 11B051R-RFUSP30V01



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|---------------------|---|
| Product Name | PIR.Motion Sensor |
| Applicant | Chromagic Technologies Corporation |
| Address | 5 of 2nd Fl., No.611, Sec.1, Wanshou Rd., Kwei Shan, Taoyuan Hsien 333, Taiwan. |
| Manufacturer | Chromagic Technologies Corporation |
| Model No. | HSP01-0 |
| EUT Rated Voltage | DC 3V (Power by Battery) |
| EUT Test Voltage | DC 3V (Power by Battery) |
| Trade Name | Chromagic Technologies Corporation |
| Applicable Standard | FCC CFR Title 47 Part 15 Subpart C: 2010 ANSI C63.4: 2009 |
| Test Result | Complied |



Test results relate only to the samples tested.

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This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented By : Anita Chou
(Senior Engineering Adm. Specialist / Anita Chou)



Tested By : Vincent chu
(Engineer / Vincent Chu)



Approved By : [Signature]
(Manager / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

| | |
|--------------------|------------------------------------|
| Product Name | PIR.Motion Sensor |
| Trade Name | Chromagic Technologies Corporation |
| Model No. | HSP01-0 |
| FCC ID | ZGXHSP01 |
| Frequency Range | 923.0MHz |
| Antenna Type | Monopole |
| Channel Number | 1 |
| Type of Modulation | FSK |

Note:

1. The EUT is a PIR.Motion Sensor with a built-in 923.0MHz transceiver.
2. These tests are conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.249 for spread spectrum devices.
3. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

1.2. Operational Description

The EUT is a PIR.Motion Sensor with a built-in 923.0MHz transceiver. The EUT operation frequency is 923.0MHz. The signals modulated by FSK are transmitted from the Monopole Antenna of the EUT.

The Motion Detector is designed with two detecting sensors, Passive Infra-Red (PIR) sensor and light sensor, in order to fulfill the purpose of security and home automation. When the detector is cooperated with security appliances, it is acting as a security device by detecting changes in infra-red radiation levels. If a person moves within or across the device field of vision, a trigger radio signal will be transmitted to cause full alarm condition in order to frighten intruders away. Alternatively, when the detector is worked with home automation appliances, the detector can be set to perform the role of home automation device by detecting both changes in infra-red radiation levels and percentage of lux levels. Once night falls, the percentage of ambient illumination is lower than preset value. If a person moves within or across the device field of vision, a trigger radio signal will be transmitted so as to turn on the connected lightings for better illumination.

| | |
|-----------|------------------|
| Test Mode | Mode 1: Transmit |
|-----------|------------------|

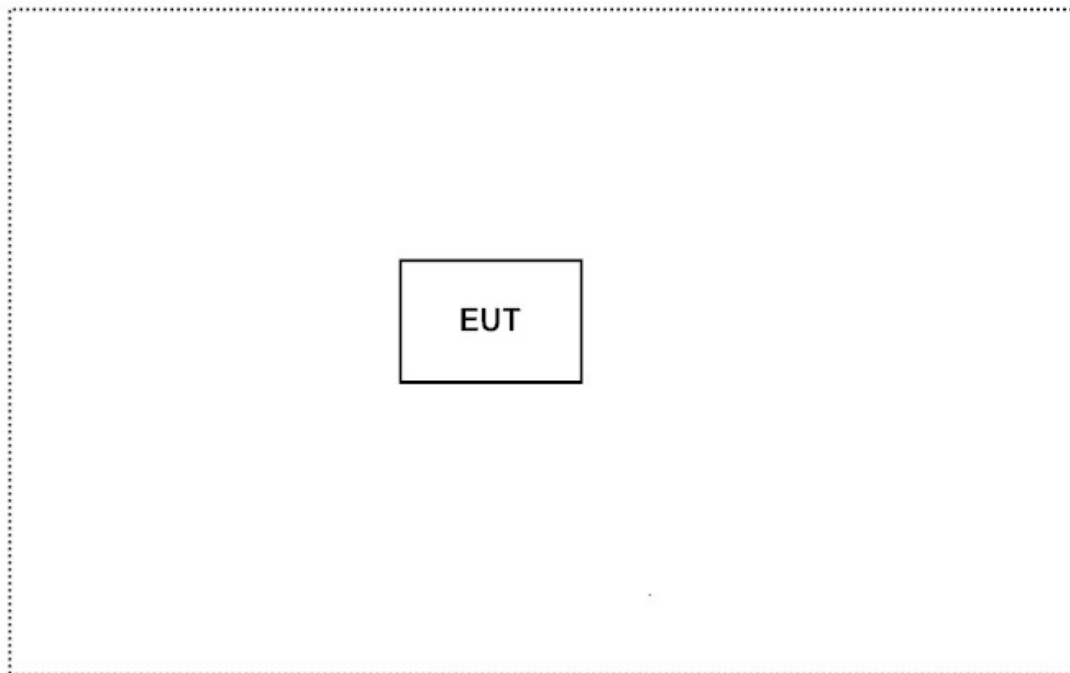
1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

| Product | Manufacturer | Model No. | Serial No. | Power Cord |
|---------|--------------|-----------|------------|------------|
| N/A | N/A | N/A | N/A | N/A |

| Signal Cable Type | Signal cable Description |
|-------------------|--------------------------|
| N/A | N/A |

1.4. Configuration of Test System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in section 1.4
- (2) Inserts the battery, start continuous transmit
- (3) Verify that the EUT works correctly.

1.6. Test Facility

Ambient conditions in the laboratory:

| Items | Required (IEC 68-1) | Actual |
|----------------------------|---------------------|----------|
| Temperature (°C) | 15-35 | 20-35 |
| Humidity (%RH) | 25-75 | 50-65 |
| Barometric pressure (mbar) | 860-1060 | 950-1000 |

The related certificate for our laboratories about the test site and management system can be downloaded from
QuieTek Corporation's Web Site: <http://www.quietek.com/tw/ctg/cts/accreditations.htm>

The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site:
<http://www.quietek.com/>

Site Description: File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 92195



Accreditation on NVLAP
NVLAP Lab Code: 200533-0



Site Name: Quietek Corporation
Site Address: No.5-22, Ruishukeng,
Linkou Dist. New Taipei City 24451,
Taiwan, R.O.C.
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

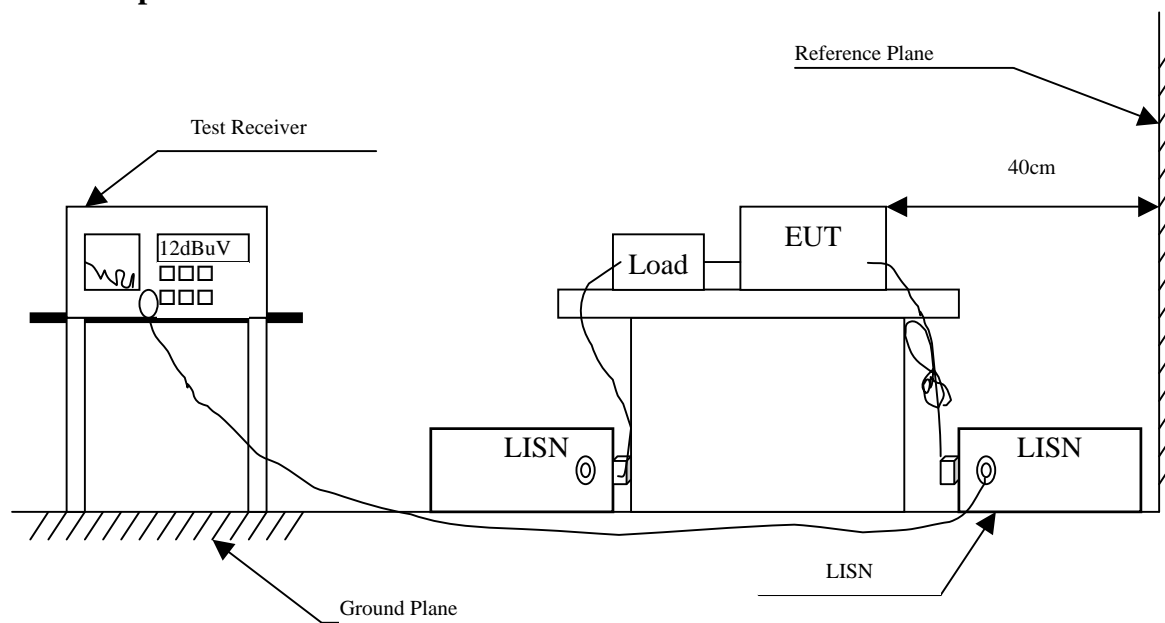
FCC Accreditation Number: TW1014



2.1. Test Equipment

| Item | Instrument | Manufacturer | Type No./Serial No | Last Cal. | Remark |
|------|--------------------|--------------|--------------------|-----------|-------------|
| 1 | Test Receiver | R & S | ESCS 30/825442/17 | May, 2011 | |
| 2 | L.I.S.N. | R & S | ESH3-Z5/825016/6 | May, 2011 | EUT |
| 3 | L.I.S.N. | Kyoritsu | KNW-407/8-1420-3 | May, 2011 | Peripherals |
| 4 | Pulse Limiter | R & S | ESH3-Z2 | May, 2011 | |
| 5 | No.1 Shielded Room | | | N/A | |

2.2. Test Setup



2.3. Limits

| FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit | | |
|---|--------|-------|
| Frequency MHz | Limits | |
| | QP | AVG |
| 0.15 - 0.50 | 66-56 | 56-46 |
| 0.50-5.0 | 56 | 46 |
| 5.0 - 30 | 60 | 50 |

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2009 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

The EUT powered by battery, this test item is not performed.

3. Radiated Emission

3.1. Test Equipment

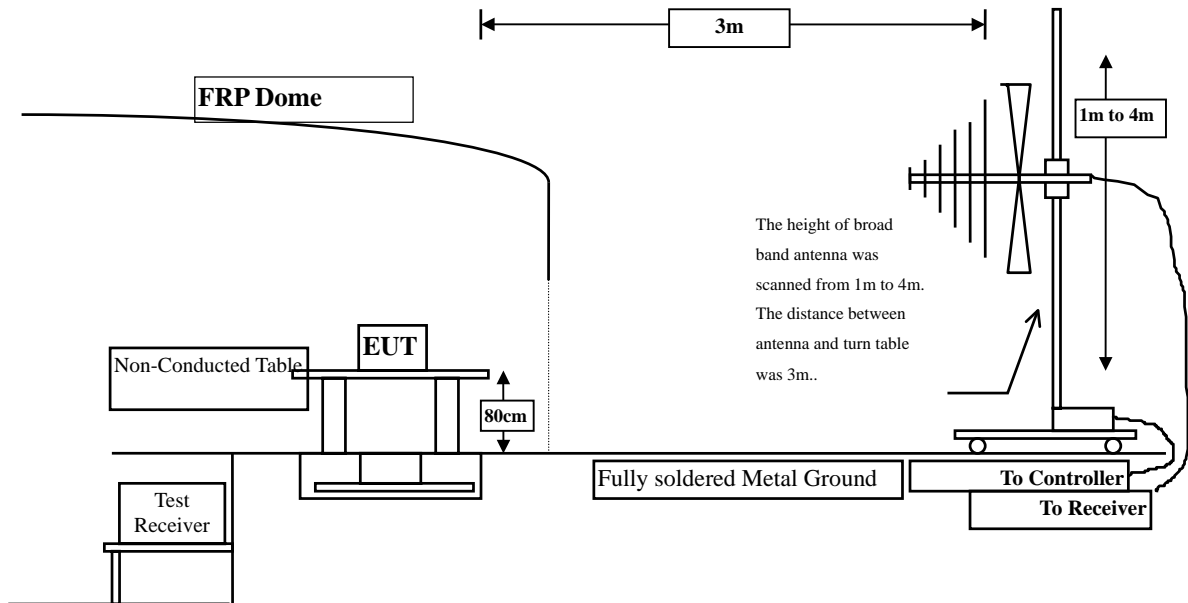
The following test equipment are used during the radiated emission test:

| Test Site | | Equipment | Manufacturer | Model No./Serial No. | Last Cal. |
|------------|---|-------------------|-----------------|-----------------------|------------|
| ☒ Site # 3 | X | Bilog Antenna | Schaffner Chase | CBL6112B/2673 | Sep., 2011 |
| | X | Horn Antenna | Schwarzbeck | BBHA9120D/D305 | Sep., 2011 |
| | | Horn Antenna | Schwarzbeck | BBHA9170/208 | Jul., 2011 |
| | X | Pre-Amplifier | Agilent | 8447D/2944A09549 | Sep., 2011 |
| | X | Spectrum Analyzer | Agilent | E4407B / US39440758 | May, 2011 |
| | X | Test Receiver | R & S | ESCS 30/ 825442/018 | Sep., 2011 |
| | X | Coaxial Cable | QuieTek | QTK-CABLE/ CAB5 | Feb., 2011 |
| | X | Controller | QuieTek | QTK-CONTROLLER/ CTRL3 | N/A |
| | X | Coaxial Switch | Anritsu | MP59B/6200265729 | N/A |

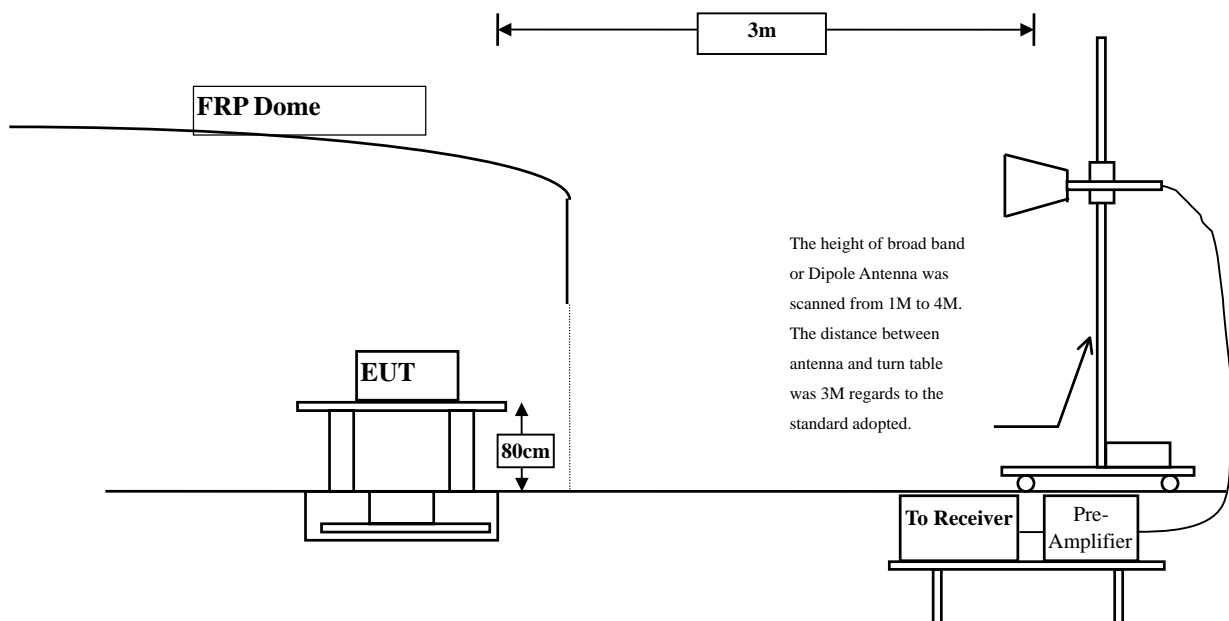
- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
 2. The test instruments marked with “X” are used to measure the final test results.

3.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



3.3. Limits

➤ General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

| FCC Part 15 Subpart C Paragraph 15.209(a) Limits | | |
|---|----------|-----------|
| Frequency MHz | uV/m @3m | dBuV/m@3m |
| 30-88 | 100 | 40 |
| 88-216 | 150 | 43.5 |
| 216-960 | 200 | 46 |
| Above 960 | 500 | 54 |

Remarks: E field strength (dBuV/m) = 20 log E field strength (uV/m)

3.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2009 and tested compliance to FCC 47CFR 15.249 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4: 2009 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured on the Final Measurement.

The measurement frequency range from 30MHz - 10th Harmonic of fundamental was investigated.

3.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

3.6. Test Result of Radiated Emission

Product : PIR.Motion Sensor
Test Item : Fundamental Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (X- Axis)

| Frequency MHz | Correct Factor dB | Reading Level dBuV | Measurement Level dBuV/m | Margin dB | Limit dBuV/m |
|-----------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
| Horizontal | | | | | |
| Peak Detector: | | | | | |
| 923.000 | 28.293 | 73.200 | 101.493 | -12.507 | 114.000 |
| Vertical | | | | | |
| Peak Detector: | | | | | |
| 923.000 | 28.293 | 76.200 | 104.493 | -9.507 | 114.000 |

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Average Detector:

| Frequency MHz | Peak Measurement dBuV/m | Duty Cycle Correct Factor dB | Measurement Level dBuV/m | Margin dB | Limit dBuV/m |
|--------------------------|-------------------------------|------------------------------------|--------------------------------|--------------|-----------------|
| Horizontal | | | | | |
| Average Detector: | | | | | |
| 923.000 | 101.493 | -26.936 | 74.557 | -19.443 | 94.000 |
| Vertical | | | | | |
| Average Detector: | | | | | |
| 923.000 | 104.493 | -26.936 | 77.557 | -16.443 | 94.000 |

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : PIR.Motion Sensor
 Test Item : Fundamental Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (Y- Axis)

| Frequency MHz | Correct Factor dB | Reading Level dBuV | Measurement Level dBuV/m | Margin dB | Limit dBuV/m |
|-----------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
| Horizontal | | | | | |
| Peak Detector: | | | | | |
| 923.000 | 28.293 | 75.700 | 103.993 | -10.007 | 114.000 |
| Vertical | | | | | |
| Peak Detector: | | | | | |
| 923.000 | 28.293 | 68.800 | 97.093 | -16.907 | 114.000 |

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Average Detector:

| Frequency MHz | Peak Measurement dBuV/m | Duty Cycle Correct Factor dB | Measurement Level dBuV/m | Margin dB | Limit dBuV/m |
|--------------------------|-------------------------------|------------------------------------|--------------------------------|--------------|-----------------|
| Horizontal | | | | | |
| Average Detector: | | | | | |
| 923.000 | 103.993 | -26.936 | 77.057 | -16.943 | 94.000 |
| Vertical | | | | | |
| Average Detector: | | | | | |
| 923.000 | 97.093 | -26.936 | 70.157 | -23.843 | 94.000 |

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : PIR.Motion Sensor
 Test Item : Fundamental Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (Z- Axis)

| Frequency MHz | Correct Factor dB | Reading Level dBuV | Measurement Level dBuV/m | Margin dB | Limit dBuV/m |
|-----------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
| Horizontal | | | | | |
| Peak Detector: | | | | | |
| 923.000 | 28.293 | 78.300 | 106.593 | -7.407 | 114.000 |
| Vertical | | | | | |
| Peak Detector: | | | | | |
| 923.000 | 28.293 | 66.500 | 94.793 | -19.207 | 114.000 |

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Average Detector:

| Frequency MHz | Peak Measurement dBuV/m | Duty Cycle Correct Factor dB | Measurement Level dBuV/m | Margin dB | Limit dBuV/m |
|--------------------------|-------------------------------|------------------------------------|--------------------------------|--------------|-----------------|
| Horizontal | | | | | |
| Average Detector: | | | | | |
| 923.000 | 106.593 | -26.936 | 79.657 | -14.343 | 94.000 |
| Vertical | | | | | |
| Average Detector: | | | | | |
| 923.000 | 94.793 | -26.936 | 67.857 | -26.143 | 94.000 |

Note:

3. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
4. The Duty Cycle is refer to section 5.

Product : PIR.Motion Sensor
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (Z- Axis)

| Frequency | Correct | Reading | Measurement | Margin | Limit |
|-----------------------|---------|---------|-------------|---------|--------|
| | Factor | Level | Level | | |
| MHz | dB | dBuV | dBuV/m | dB | dBuV/m |
| Horizontal | | | | | |
| Peak Detector: | | | | | |
| 1846.000 | -4.230 | 43.760 | 39.530 | -34.470 | 74.000 |
| 2769.000 | -0.785 | 37.860 | 37.075 | -36.925 | 74.000 |
| 3692.000 | -0.973 | 49.130 | 48.157 | -25.843 | 74.000 |
| 4615.000 | 2.092 | 41.330 | 43.422 | -30.578 | 74.000 |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : PIR.Motion Sensor
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (Z- Axis)

| Frequency | Correct | Reading | Measurement | Margin | Limit |
|-----------------------|---------|---------|-------------|---------|--------|
| | Factor | Level | Level | | |
| MHz | dB | dBuV | dBuV/m | dB | dBuV/m |
| Vertical | | | | | |
| Peak Detector: | | | | | |
| 1846.000 | -2.941 | 54.340 | 51.399 | -22.601 | 74.000 |
| 2769.000 | -0.968 | 39.280 | 38.312 | -35.688 | 74.000 |
| 3692.000 | 0.171 | 50.750 | 50.921 | -23.079 | 74.000 |
| 4615.000 | 5.939 | 39.880 | 45.819 | -28.181 | 74.000 |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : PIR.Motion Sensor
 Test Item : General Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (Z- Axis)

| Frequency | Correct | Reading | Measurement | Margin | Limit |
|-------------------|---------|---------|-------------|---------|--------|
| MHz | Factor | Level | Level | | |
| | dB | dBuV | dBuV/m | dB | dBuV/m |
| Horizontal | | | | | |
| 371.440 | -1.097 | 24.479 | 23.382 | -22.618 | 46.000 |
| 472.320 | 0.637 | 23.958 | 24.595 | -21.405 | 46.000 |
| 573.200 | 2.537 | 27.074 | 29.611 | -16.389 | 46.000 |
| 644.980 | 1.552 | 25.898 | 27.450 | -18.550 | 46.000 |
| 747.800 | 3.296 | 27.874 | 31.170 | -14.830 | 46.000 |
| 835.100 | 5.185 | 25.825 | 31.010 | -14.990 | 46.000 |
| Vertical | | | | | |
| 256.980 | -7.573 | 25.791 | 18.218 | -27.782 | 46.000 |
| 346.220 | -3.093 | 23.890 | 20.797 | -25.203 | 46.000 |
| 371.440 | -2.737 | 25.477 | 22.740 | -23.260 | 46.000 |
| 458.740 | -3.887 | 25.490 | 21.603 | -24.397 | 46.000 |
| 540.220 | 0.121 | 30.503 | 30.624 | -15.376 | 46.000 |
| 747.800 | 2.166 | 38.636 | 40.802 | -5.198 | 46.000 |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

4. Band Edge

4.1. Test Equipment

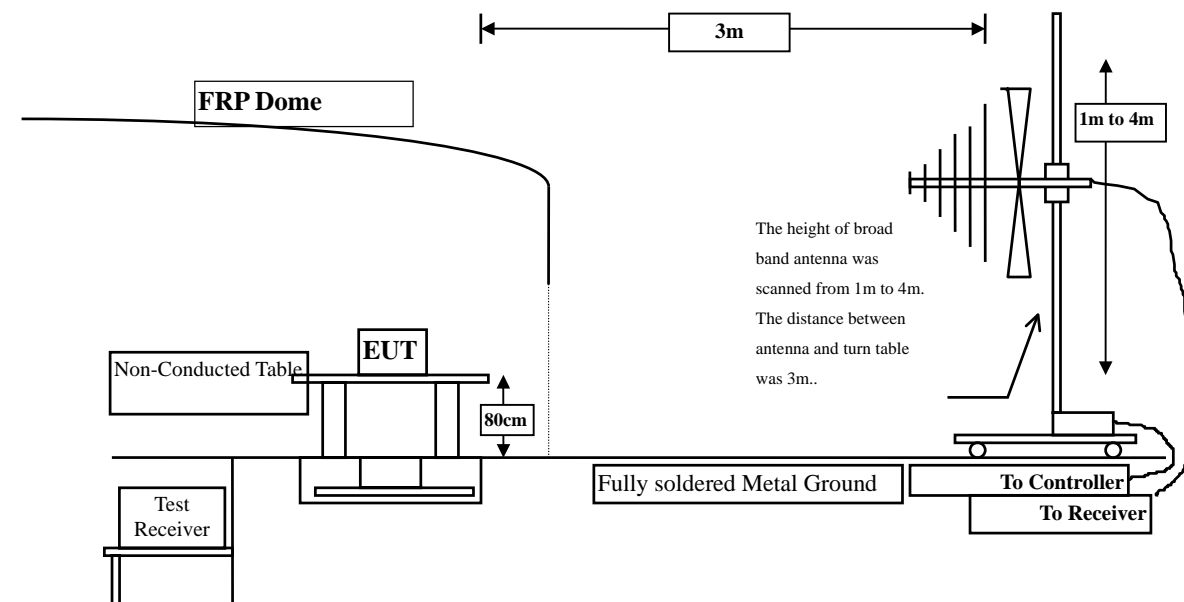
The following test equipments are used during the band edge tests:

| Test Site | | Equipment | Manufacturer | Model No./Serial No. | Last Cal. |
|------------|---|-------------------|-----------------|-----------------------|------------|
| ☒ Site # 3 | X | Bilog Antenna | Schaffner Chase | CBL6112B/2673 | Sep., 2011 |
| | | Horn Antenna | Schwarzbeck | BBHA9120D/D305 | Sep., 2011 |
| | | Horn Antenna | Schwarzbeck | BBHA9170/208 | Jul., 2011 |
| | | Pre-Amplifier | Agilent | 8447D/2944A09549 | Sep., 2011 |
| | X | Spectrum Analyzer | Agilent | E4407B / US39440758 | May, 2011 |
| | X | Test Receiver | R & S | ESCS 30/ 825442/018 | Sep., 2011 |
| | X | Coaxial Cable | QuietTek | QTK-CABLE/ CAB5 | Feb., 2011 |
| | X | Controller | QuietTek | QTK-CONTROLLER/ CTRL3 | N/A |
| | X | Coaxial Switch | Anritsu | MP59B/6200265729 | N/A |

- Note:
1. All equipments are calibrated every one year.
 2. The test equipments marked by "X" are used to measure the final test results.

4.2. Test Setup

RF Radiated Measurement:



4.3. Limits

Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4: 2009 on radiated measurement.

The bandwidth setting below 1GHz and above 1GHz on the field strength meter is 120 kHz and 1MHz, respectively.

4.5. Uncertainty

Conducted is ± 1.27 dB

Radiated is ± 3.9 dB

4.6. Test Result of Band Edge

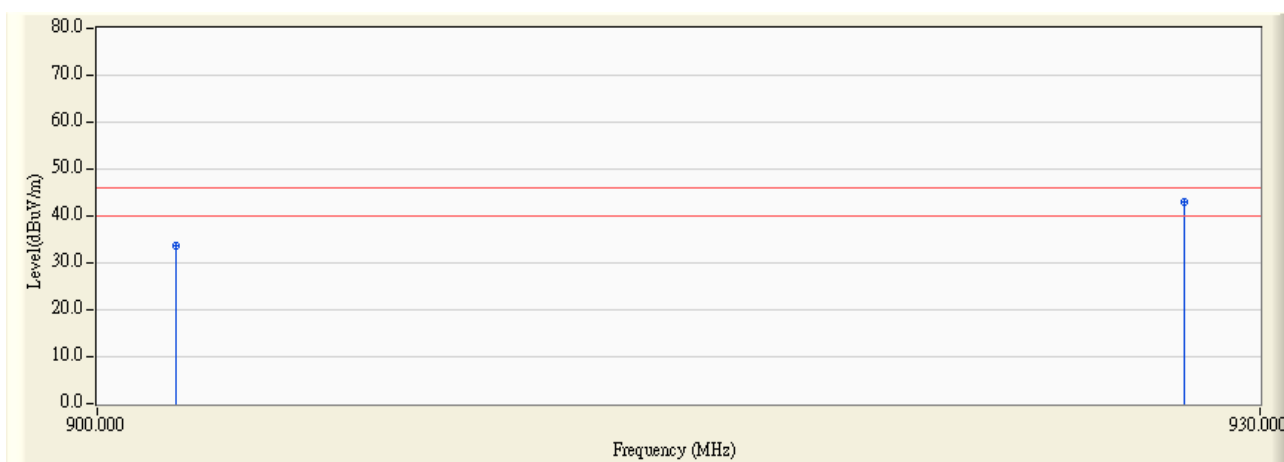
Product : PIR.Motion Sensor
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (Z- Axis)

RF Radiated Measurement (Horizontal):

| Channel No. | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Emission Level (dBuV/m) | Margin (dB) | Quasi-Peak Limit (dBuV/m) | Result |
|----------------|-----------------|---------------------|----------------------|-------------------------|-------------|---------------------------|--------|
| 01(Quasi-Peak) | 902.000 | 28.096 | 5.700 | 33.796 | -12.224 | 46.020 | Pass |
| 01(Quasi-Peak) | 928.000 | 28.347 | 14.600 | 42.947 | -3.073 | 46.020 | Pass |

Figure Channel 01:

Horizontal (Quasi-Peak)



Note:

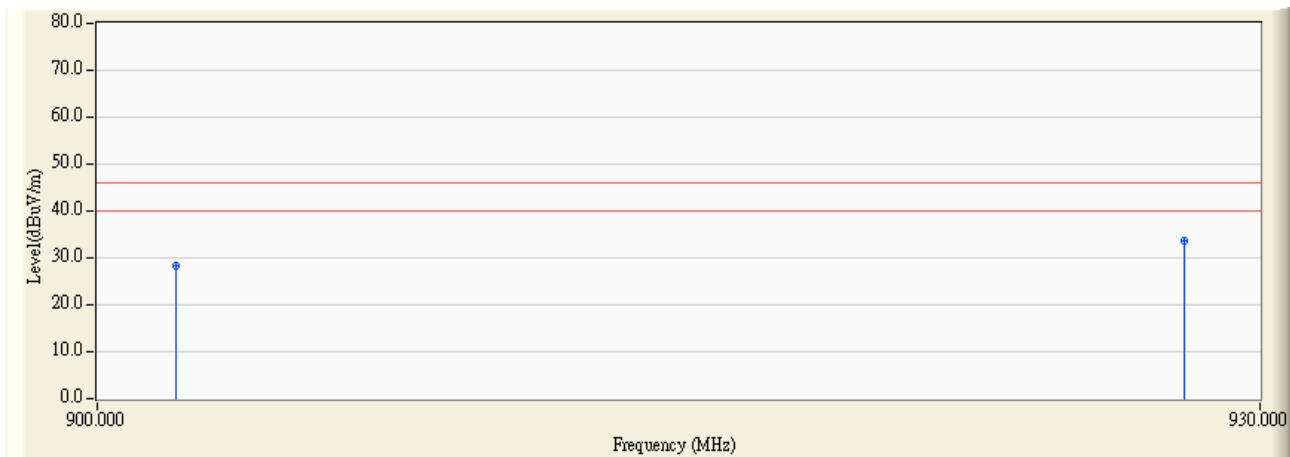
1. Quasi-Peak measurements: RBW=100kHz,VBW=1MHz,Sweep: Auto.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Product : PIR.Motion Sensor
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (Z- Axis)

RF Radiated Measurement (Vertical):

| Channel No. | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Emission Level (dBuV/m) | Margin (dB) | Quasi-Peak Limit (dBuV/m) | Result |
|----------------|-----------------|---------------------|----------------------|-------------------------|-------------|---------------------------|--------|
| 01(Quasi-Peak) | 902.000 | 28.096 | 0.200 | 28.296 | -17.724 | 46.020 | Pass |
| 01(Quasi-Peak) | 928.000 | 28.347 | 5.200 | 33.547 | -12.473 | 46.020 | Pass |

Figure Channel 01: Vertical (Quasi-Peak)



Note:

1. Quasi-Peak measurements: RBW=100kHz,VBW=1MHz,Sweep: Auto.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

5. Duty Cycle

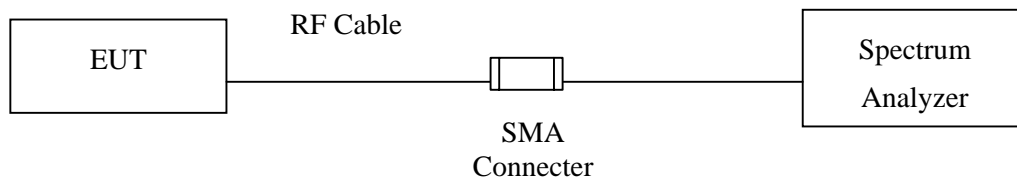
5.1. Test Equipment

The following test equipments are used during the band edge tests:

| | Equipment | Manufacturer | Model No./Serial No. | Last Cal. |
|---|-------------------|--------------|----------------------|------------|
| | Spectrum Analyzer | R&S | FSP40 / 100170 | Jun, 2011 |
| | Spectrum Analyzer | Agilent | E4407B / US39440758 | Jun, 2011 |
| X | Spectrum Analyzer | Agilent | N9010A / MY48030495 | Apr., 2011 |

Note: 1. All equipments are calibrated every one year.
2. The test equipments marked by "X" are used to measure the final test results.

5.2. Test Setup

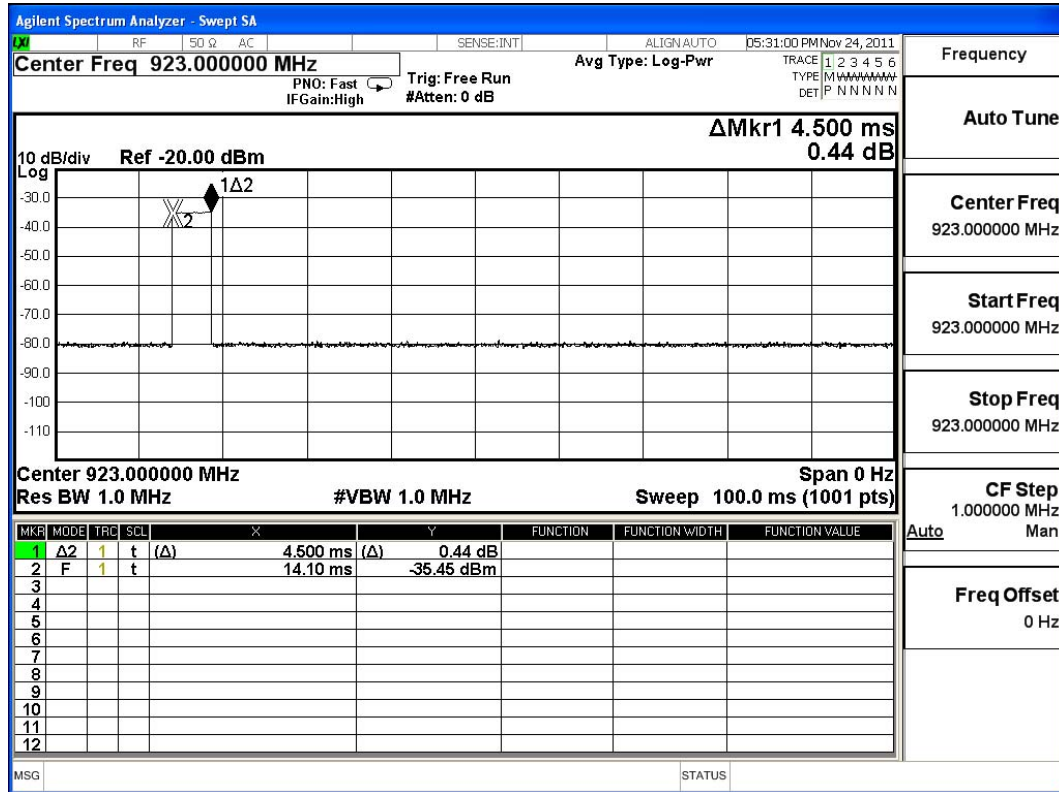


5.3. Uncertainty

$\pm 150\text{Hz}$

5.4. Test Result of Duty Cycle

Product : PIR.Motion Sensor
 Test Item : Duty Cycle Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit



Time on of 100ms= 4.500ms

Duty Cycle= 4.5ms / 100ms= 0.045

Duty Cycle correction factor= 20 LOG 0.045= -26.936 dB

| | | |
|------------------------------|---------|----|
| Duty Cycle correction factor | -26.936 | dB |
|------------------------------|---------|----|

6. EMI Reduction Method During Compliance Testing

No modification was made during testing.

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs