



Nemko USA, Inc.

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Certification Test Report

In Accordance With: FCC Part 15 Subpart C, 15.231(e)

Applicant: IPS Group Inc
5601 Oberlin Drive
San Diego CA 92121

Equipment Under Test (EUT): Parking Meter
Model: MK5 SSPM

FCC ID: SGWIPS2007SSPM

Tested By: Nemko USA Inc.
2210 Faraday Avenue, Suite 150
Carlsbad, CA 92008

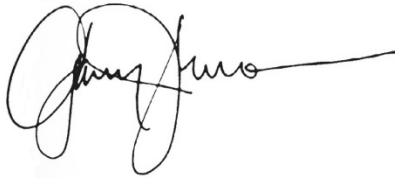
Test Report Number: 2013 03231818 FCC
Date: March 6, 2013
Project Number 10239592
NEX Number 231818

Total Number of Pages: 24

Applicant Affirmation

Gary Thomas representing IPS Group Inc hereby affirms:

- a) That he/she has reviewed and concurs that the test shown in this report are reflective of the operational characteristics of the device for which certification is sought;
- b) That the devices in this test report will be representative of production units;
- c) That all changes (in hardware and software/firmware) to the subject device will be reviewed.
- d) That any changes impacting the attributes, functionality or operational characteristics documented in this report will be communicated to the body responsible for approving (certifying) the subject equipment.



Gary Thomas
Printed name of official

Signature of official

5601 Oberlin Drive
Address

March 6, 2013
Date

(858) 404-0607
Telephone number

gary.thomas@ipsgroupinc.com
Email address of official

NOTE—This affirmation must be signed by the responsible party before it is submitted to a regulatory body for approval.

Section 1. Summary of Test Results

1.1 General

All measurements are traceable to national standards

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15; Subpart C. Radiated tests were conducted in accordance with ANSI C63.4-2003. Radiated emissions are made on an open area test site. A description of the test facility is on file with the FCC.

The assessment summary is as follows:

| | |
|------------------------------|-------------------------------|
| Apparatus Assessed: | Parking Meter |
| Model: | MK5 SSPM |
| Specification: | FCC Part 15 Subpart C, 15.231 |
| Date Received in Laboratory: | February 25, 2013 |
| Compliance Status: | Complies |
| Exclusions: | None |
| Non-compliances: | None |

1.2 Report Release History

| REVISION | DATE | COMMENTS |
|----------|------------------|-----------------------------------|
| - | January 13, 2010 | Prepared By: Mark Phillips |
| - | January 13, 2010 | Initial Release: Alan Laudani |

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of ISO/IEC 17025.

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Mark Phillips, RF/EMC Test Engineer



EMC/RF Test Engineer

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Section 2: Equipment Under Test

2.1 Theory of Operation

The MK5 SSPM is a Parking Meter. The operating frequencies are 410.610 MHz to 430.400 MHz and 13.56 MHz. The MK5 SSPM has firmware version 52.57.4.

The EUT's performance during test was evaluated against the performance criterion specified by applicable test standards. Performance results are detailed in the test results section of this report.

Highest frequency generated or used: 430.4 MHz

2.2 Technical Specifications of the EUT

| | |
|--------------------------|--------------------------------------|
| Manufacturer: | IPS Group Inc |
| Operating Frequency: | 410.600 to 430.400 MHz |
| Measured Field Strength: | 1096.5 μ V/m @ 3m |
| Modulation: | GFSK |
| Antenna Data: | integral wire loop antenna |
| Antenna Connector: | NONE |
| Power Source: | 3.6V Internal Rechargeable Batteries |

Section 3: Test Conditions

3.1 Specifications

The apparatus was assessed against the following specifications:

FCC Part 15 Subpart C, 15.231

Periodic operation in the band 40.66–40.70 MHz and above 70 MHz.

15.231 Periodic operation in the band 40.66–40.70 MHz and above 70 MHz.

(a) The provisions of this section are restricted to periodic operation within the band 40.66–40.70 MHz and above 70 MHz. Except as shown in paragraph € of this section, the intentional radiator is restricted to the transmission of a control signal such as those used with alarm systems, door openers, remote switches, etc. Continuous transmissions, voice, video and the radio control of toys are not permitted. Data is permitted to be sent with a control signal. The following conditions shall be met to comply with the provisions for this periodic operation:

(1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

(2) A transmitter activated automatically shall cease transmission within 5 seconds after activation.

(3) Periodic transmissions at regular predetermined intervals are not permitted. However, polling or supervision transmissions, including data, to determine system integrity of transmitters used in security or safety applications are allowed if the total duration of transmissions does not exceed more than two seconds per hour for each transmitter. There is no limit on the number of individual transmissions, provided the total transmission time does not exceed two seconds per hour.

3.2 Test Environment

All tests were performed under the following environmental conditions:

| | | |
|--------------------|---|--------------------------|
| Temperature range | : | 14 – 22 °C |
| Humidity range | : | 32—76 % |
| Pressure range | : | 102.0 kPa |
| Power supply range | : | +/- 5% of rated voltages |

3.3 Test Equipment

| Nemko ID | Device | Manufacturer | Model | Serial Number | Cal Date | Cal Due Date |
|----------|-------------------|----------------|------------|---------------|------------|--------------|
| 911 | Spectrum Analyzer | Agilent | E4440A | US41421266 | 10/15/2012 | 10/15/2013 |
| 110 | Antenna, LPA | Electrometrics | LPA-25 | 1217 | 4/1/2011 | 4/1/2013 |
| 133 | Antenna, Loop | Electrometrics | ALR-25M | 678 | 7/18/2011 | 7/18/2013 |
| 128 | Antenna, Bicon | EMCO | 3104 | 2882 | 3/21/2011 | 3/21/2013 |
| 529 | Antenna, DRWG | EMCO | 3115 | 2505 | 10/31/2012 | 10/31/2014 |
| 901 | Preamplifier | Sonoma | 310 N | 130607 | 10/15/2012 | 10/15/2013 |
| E1013 | Antenna | EMCO | 3116 | 00119488 | 1/10/2012 | 1/10/2014 |
| 317 | Preamplifier | HP | 8449A | 2749A00167 | 6/11/2012 | 6/11/2013 |
| 835 | Spectrum Analyzer | R&S | FSEK | 829058/005 | 9/6/2012 | 9/6/2013 |
| E1041 | Oscilloscope | LeCroy | WaveRunner | 27167 | 6/12/2012 | 6/12/2013 |

Registrations of the 10m Semi-Anechoic Chamber are on file with the Federal Communications Commission and Industry Canada under Site Number 2040B-3.

Section 4: Observations

4.1 Modifications Performed During Assessment

No modifications were performed during assessment.

4.2 Record Of Technical Judgements

No technical judgements were made during the assessment.

4.3 EUT Parameters Affecting Compliance

The user of the apparatus could not alter parameters that would affect compliance.

4.4 Tests Deleted

No Tests were deleted from this assessment.

4.5 Additional Observations

There were no additional observations made during this assessment.

4.6 Deviations From Laboratory Test Procedures

No deviations from Laboratory Test Procedure

Section 5: Results Summary

This section contains the following:

FCC Part 15 Subpart C: Test Results.

The column headed "Required" indicates whether the associated clauses were invoked for the apparatus under test. The following abbreviations are used:

N No: not applicable / not relevant

Y Yes: Mandatory i.e. the apparatus shall conform to these tests.

N/T Not Tested, mandatory but not assessed. (See section 4.4 Test deleted)

The results contained in this section are representative of the operation of the apparatus as originally submitted.

5.1 Test Results

| Part 15.231 | Test Description | Required | Result |
|-------------|--|----------|--------|
| 15.231 (b) | Field Strengths and Frequency Bands | Y | Pass |
| 15.231 (e) | Reduced Field Strengths | Y | Pass |
| 15.215(c) | Occupied Bandwidth | Y | Pass |
| 15.231(c) | | | |
| 15.231 (a) | Types of Momentary Signals | Y | Pass |
| 15.231 (d) | Frequency Stability | N | NA** |
| 15.231 (b) | Spurious Emissions | Y | Pass |
| 15.231 (e) | Spurious Emissions (reduced field strengths) | Y | Pass |
| 15.207 (a) | Power line Conducted Emissions | N | NA* |

* Battery Powered

** Not transmitting in band requiring Frequency Stability

Appendix A: Test Results

Conducted Emissions

| | | | | |
|--|---|---------------------|--|-----|
| Client | IPS Group Inc | Temperature | | °C |
| Nex # | 231818 | Relative Humidity | | % |
| EUT Name | Parking Meter | Barometric Pressure | | kPa |
| EUT Model | MK5 SSPM | Test Location | | |
| Governing Doc | CFR 47, Part 15B | Test Engineer | | |
| Basic Standard | Sec. 15.207 Transmit RSS-Gen 7.2.4 | Date of test | | |
| Test Parameters | Peak RBW: 100kHz VBW: 100kHz Quasi-Peak: RBW 9kHz, VBW 30 kHz Average: RBW 9kHz, VBW 30 kHz Quasi-Peak Limit Blue Line, Average Limit Green Line | | | |
| Not applicable as EUT is battery powered. When Battery Charging, EUT does not Transmit. | | | | |

Occupied Bandwidth

15.231(c) The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

15.215(c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in Sec. Sec. 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. 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 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.

Test Conditions:

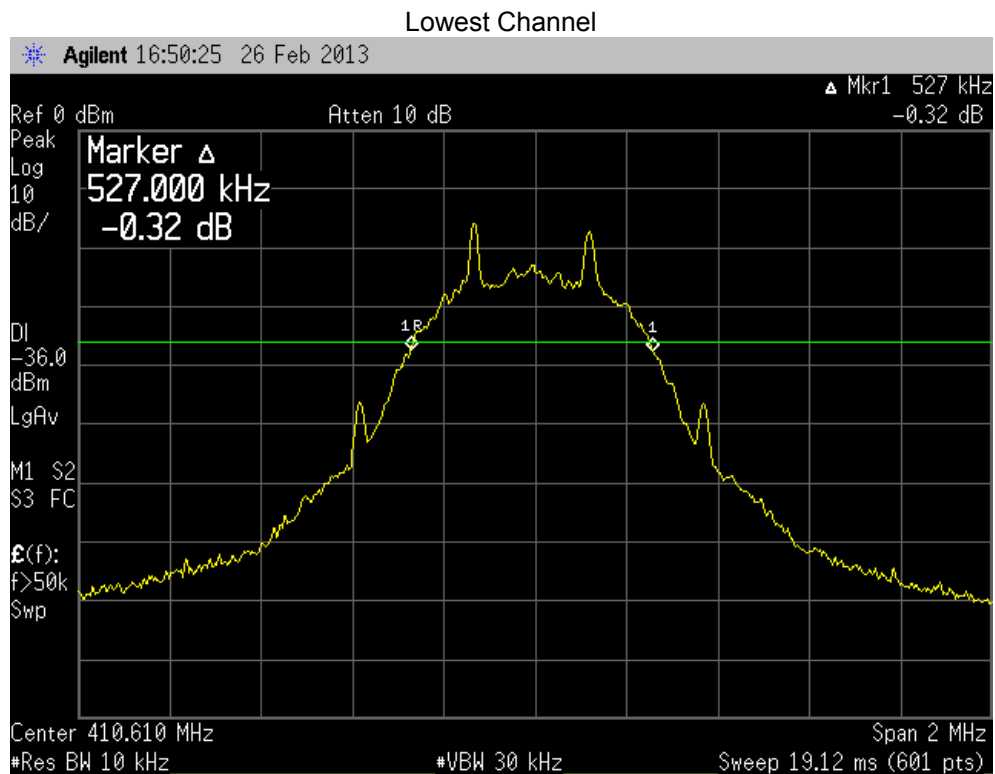
| | | | | |
|----------------|----------------------|-------------------|---------------|----|
| Client | IPS Group Inc | Temperature | 19 | °C |
| Nex # | 231818 | Relative Humidity | 48 | % |
| EUT Name | Parking Meter | | | |
| EUT Model | MK5 SSPM | Test Location | Enclosure 1 | |
| Governing Doc | CFR 47, Part 15C | Test Engineer | Mark Phillips | |
| Basic Standard | Sec. 15.231 Transmit | Date of test | 01-29-2013 | |

Test Results:

Measured Occupied Bandwidth:

| Frequency | 20 dB Bandwidth |
|-------------|-----------------|
| 410.600 MHz | 527 kHz |
| 420.600 MHz | 523 kHz |
| 430.400 MHz | 517 kHz |

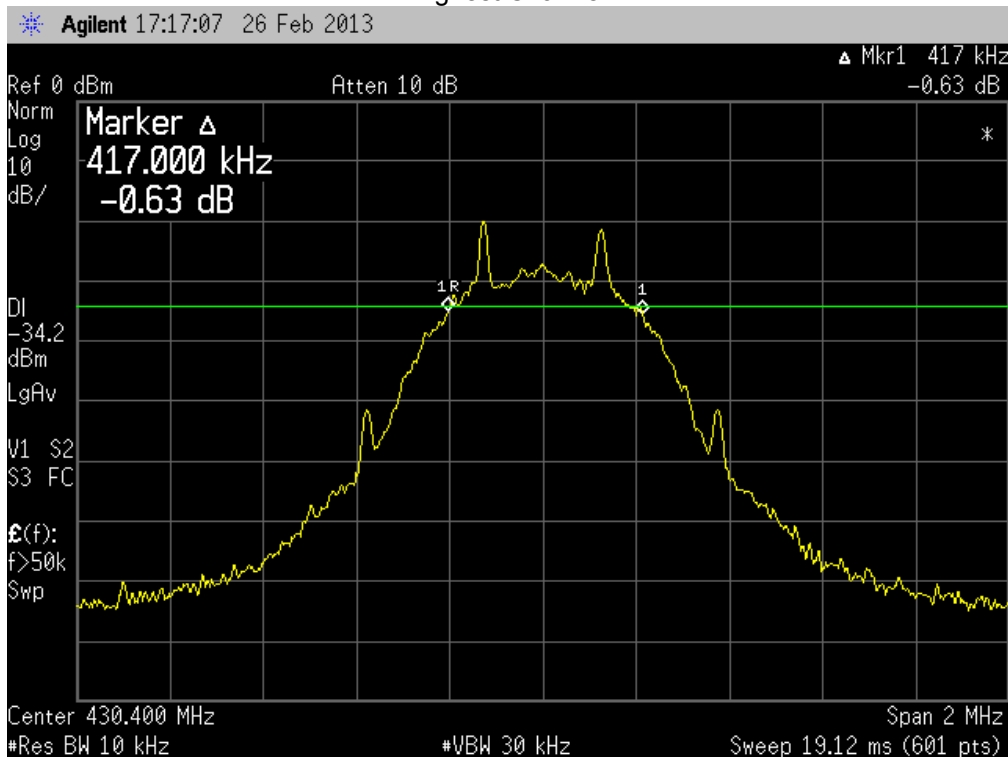
Plots
20 dB bandwidth



Mid Channel



Highest Channel



Frequency Stability

15.231(d) For devices operating within the frequency band 40.66–40.70 MHz, the bandwidth of the emission shall be confined within the band edges and the frequency tolerance of the carrier shall be $\pm 0.01\%$. This frequency tolerance shall be maintained for a temperature variation of -20 degrees to $+50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltages at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

Test Conditions:

| | | | | |
|----------------|------------------|-------------------|-----------------------|----|
| Client | IPS Group Inc | Temperature | 25 | °C |
| Nex # | 231818 | Relative Humidity | 15 | % |
| EUT Name | Parking Meter | | | |
| EUT Model | MK5 SSPM | Test Location | Environmental Chamber | |
| Governing Doc | CFR 47, Part 15C | Test Engineer | Mark Philips | |
| Basic Standard | 15.225 Transmit | Date of test | 3-1-2013 | |

Test Results: The EUT does not transmit within the 40.66–40.70 MHz band, therefore this test is not applicable for 15.231.

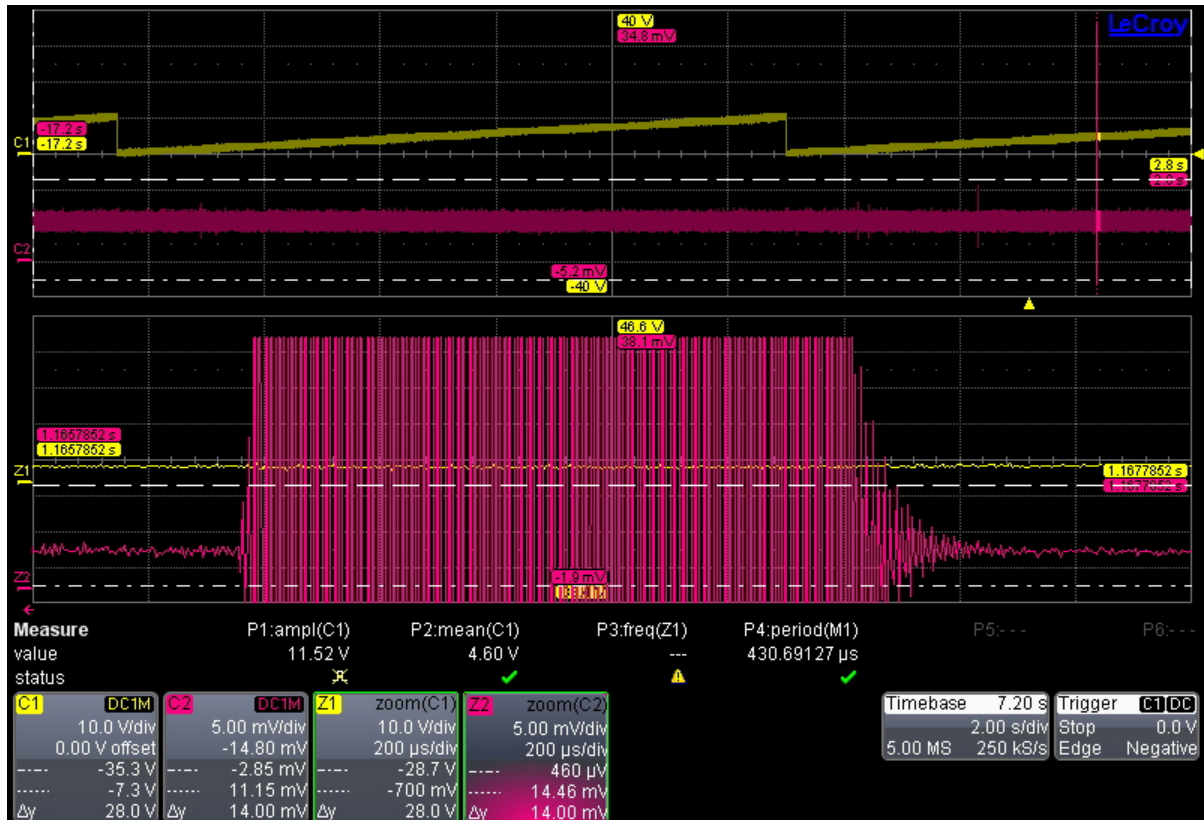
Types of Momentary Signals

In addition, devices operated under the provisions of this paragraph shall be provided with a means for automatically limiting operation so that the duration of each transmission shall not be greater than one second and the silent period between transmissions shall be at least 30 times the duration of the transmission but in no case less than 10 seconds.

| | | | | |
|----------------|----------------------|-------------------|---------------------|----|
| Client | IPS Group Inc | Temperature | 24/19 | °C |
| Nex # | 231818 | Relative Humidity | 45/48 | % |
| EUT Name | Parking Meter | | | |
| EUT Model | MK5 SSPM | Test Location | Enclosure 1 | |
| Governing Doc | CFR 47, Part 15C | Test Engineer | Mark Phillips | |
| Basic Standard | Sec. 15.231 Transmit | Date of test | 3-7-2013/ 3-13-2013 | |

Test Results: EUT Complies; oscilloscope capture of emission below is 1.2 mS and does not repeat in 11.2 Seconds, which is more than 10 Seconds.

15.231(e) Auto transmissions



The testing is accomplished in a shielded enclosure to limit ambient signals.

An FSEK analyzer and LeCroy oscilloscope are used to make the measurement. The FSEK is set with 3k/10k RF and Video bandwidths. The analyzer is scanning from 395MHz to 435MHz in 11.2S.

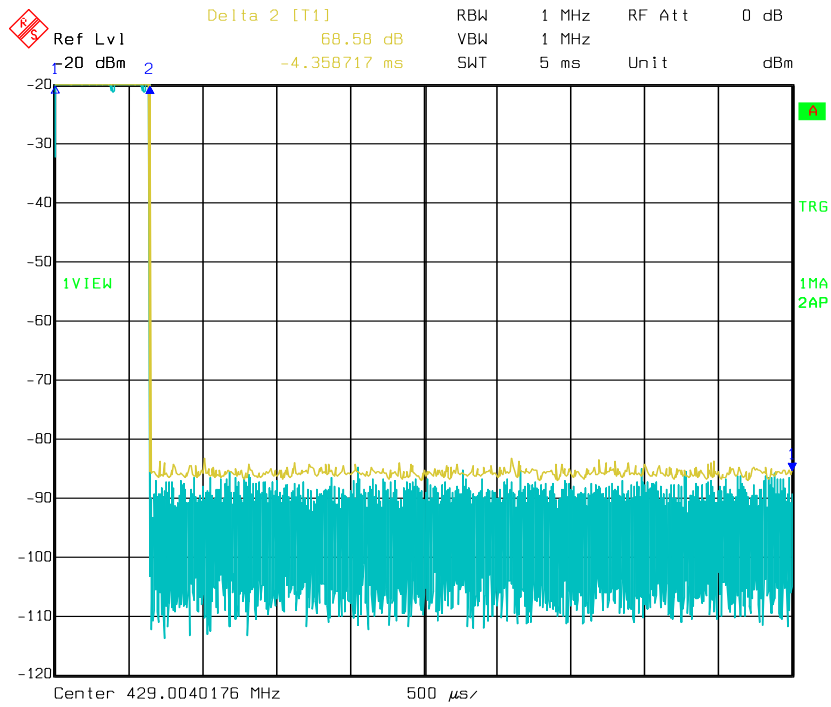
The FSEK IF output (24.1MHz) is connected to the oscilloscope input for C2; this is shown in the upper trace on the display.

The radio is activated by applying power and the pickup loop attached to the FSEK is placed in proximity of the transmitter to capture the transmission event. The screen shot of the LeCroy is given above.

The upper trace is Channel 1 (C1)and it is displaying the sweep output from the FSEK; this is used to trigger C1 at the start of the sweep. The second trace is C2 and this is the FSEK IF output.

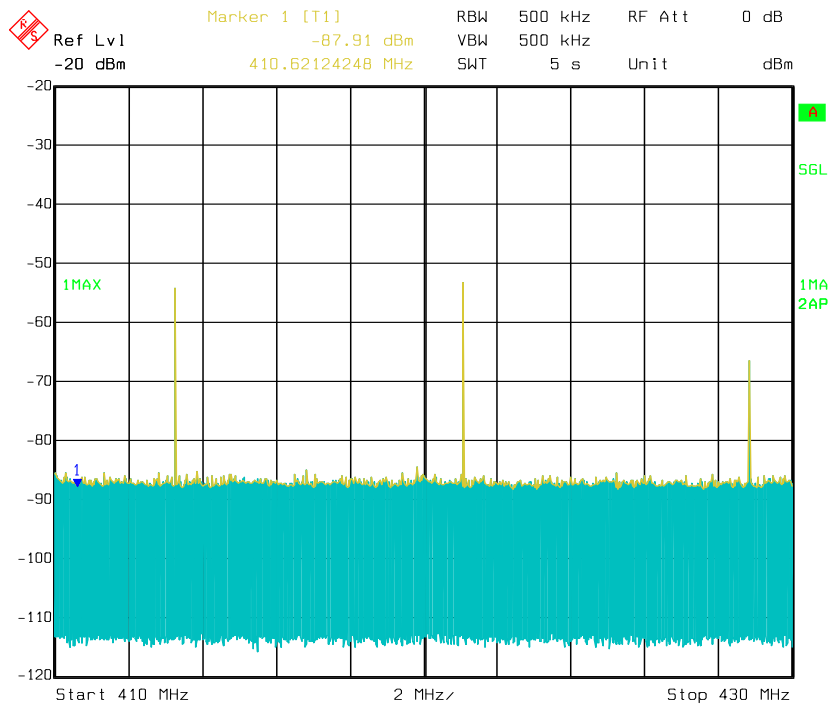
At approximately 7.3 seconds after the sweep starts, the transmission event happens. The event is captured for analysis . The LeCroy Zoom feature is used for the signal analysis. The third trace is Z1 (zoomed sweep signal) and the fourth trace is Z2 (zoomed transmission event).

The burst is displayed on Z4 @200uS per division and the total burst duration is 1.2mS.



Date: 07.MAR.2013 17:50:45

These plots shows transmission time of .641 ms three times in 100 ms.



Date: 07.MAR.2013 18:21:45

Field Strength and Radiated Spurious Emissions

Sec. 15.209 Radiated emission limits; general requirements.

(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 (microvolts/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 |

15.231(e) Intentional radiators may operate at a periodic rate exceeding that specified in paragraph (a) of this section and may be employed for any type of operation, including operation prohibited in paragraph (a) of this section, provided the intentional radiator complies with the provisions of paragraphs (b) through (d) of this section, except the field strength table in paragraph (b) of this section is replaced by the following:

| Fundamental frequency (MHz) | Field strength of fundamental (microvolts/meter) | Field strength of spurious emissions (microvolts/meter) |
|-----------------------------|--|---|
| 40.66–40.70 | 1000 | 100 |
| 70–130 | 500 | 50 |
| 130–174 | ¹ 500 to 1500 | ¹ 50 to 150 |
| 174–260 | 1500 | 150 |
| 260–470 | ¹ 1500 to 5000 | ¹ 150 to 500 |
| Above 470 | ,5000 | 500 |

¹Linear interpolations.

limits

| MHz | dBuV/m |
|-------|--------|
| 410.6 | 72.1 |
| 420.6 | 72.4 |
| 430.4 | 72.8 |

Unwanted emissions 55.8 or FCC15.209/RSS Table 2, whatever is higher.

| | | | | |
|----------------|----------------------|-------------------|------------------|----|
| Client | IPS Group Inc | Temperature | 19 | °C |
| Nex # | 231818 | Relative Humidity | | % |
| EUT Name | Parking Meter | | | |
| EUT Model | MK5 SSPM | Test Location | SOATS | |
| Governing Doc | CFR 47, Part 15C | Test Engineer | Mark Phillips | |
| Basic Standard | Sec. 15.231 Transmit | Date of test | January 24, 2013 | |

Test Results:

See Table. EUT complies for fundamental power and spurious emissions.

Additional Observations:

The Spectrum was searched from 2.6 MHz to the 10th Harmonic of the highest frequency (4304 MHz).

These results apply to emissions that may be found in the restricted bands defined in FCC Part 15 Subpart C, 15.205.

The EUT was investigated with a fresh battery. The emissions were measured with a test mode to repeat the emission so measurements could be maximized for the rotation of the sample and height and polarity of the measurement antenna.

All Measurements below 1GHz were performed at 3m employing a CISPR quasi-peak detector, except for the radio's fundamental. Peak measurements above 1GHz were done utilizing RBW of 1MHz and VBW of 3MHz.

Measurements made at the 3 meter distance of the 10m Semi-anechoic chamber, all measurements max hold after peaking for EUT rotation and antenna height from 1 to 4 meters.

All other emissions were found to be more than 20dB below the limit and have not been reported per FCC rule 15.31(o).

Emissions were measured on an 80cm (height) table

Since the EUT is defined as a vertical mounted device: emissions were measured in an upright configuration only.

Note: Corrected Reading Computations

Average = Peak Maximum Meter Reading + Antenna Factor + Path Loss

62.9 = 64.3 + 15.3 + 3.3 - 20

FCC ID: SGWIPS2007SSPM

Limit paragraph 213(e) 4176.67 uV/m

Corrected Average Reading = 72.4 dBuV/m

$$10^{(60.8/20)} = 1096.5 \text{ uV/m}$$
$$\text{Field Strength at 420.600 MHz} = \text{Maximum Meter Reading} + \text{Antenna Factor} + \text{Path Loss}$$
$$60.8 \text{ dB}\mu\text{V/m} = 16.3 + 3.9$$

Radiated Emissions Data

Job # : 10239592 Date : 2/25/2013
NEX #: 231818 Time : 17:45
Staff : mp

Page 1 of 1

| | |
|-----------------|-------------------------------|
| Client Name : | IPS |
| EUT Name : | Parking Meter |
| EUT Model # : | MK 5 SSPM |
| EUT Serial # : | None |
| EUT Config. : | Transmitting with Modulation |
| Specification : | FCC Part 15 Subpart C, 15.209 |

EUT Voltage : 3.6VDC

EUT Frequency : _____

Phase: _____

Distance < 30 MHz: 10 mDistance < 1000 MHz: 3 m

Distance > 1000 MHz: 3 m

| | | | |
|---------------|---------|------------------------|-------------|
| Loop Ant. #: | 133 | | |
| Bicon Ant. #: | 128_3m | Temp. (°C) : | 21 |
| Log Ant. #: | 110_3m | Humidity (%) : | 32 |
| DRG Ant. # | 529 | Spec Analyzer #: | 911 |
| Cable LF#: | SAC_10m | Analyzer Display #: | 911 |
| Cable HF#: | WCC | Quasi-Peak Detector #: | 911 |
| Preamp LF#: | 901 | Duty Cycle (%): | 100.00 |
| Preamp HF# | 1029 | | Measurement |

| | |
|--------------|--------------------------|
| Peak <30 MHz | RBW: 10 kHz |
| | Video Bandwidth: 30 kHz |
| Quasi-Peak | RBW: 120 kHz |
| | Video Bandwidth: 300 kHz |

Measurements below 1 GHz are Quasi-Peak values, unless otherwise stated.

Measurements above 1 GHz are Average values, unless otherwise stated.

[illegible]

APPENDIX B

B. Radiated Emissions Measurement Uncertainties

1. Introduction

ISO/IEC 17025:2005 and ANSI/NCSL Z540.3: 2006 require that all measurements contained in a test report be "traceable". "Traceability" is defined in the *International Vocabulary of Basic and General Terms in Metrology* (ISO: 1993) as: "the property of the result of a measurement... whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons, *all having stated uncertainties*".

The purposes of this Appendix are to "state the *Measurement Uncertainties*" of the conducted emissions and radiated emissions measurements contained in Section 5 of this Test Report, and to provide a practical explanation of the meaning of these measurement uncertainties.

2. Statement of the Worst-Case Measurement Uncertainties for the Conducted and Radiated Emissions Measurements Contained in This Test Report

Table 1: Worst-Case Expanded Uncertainty "U" of Measurement for a k=2 Coverage Factor

| Radiated Emissions Measurement Detection Systems | Applicable Frequency Range | "U" for a k=2 Coverage Factor |
|--|----------------------------|-------------------------------|
| Spectrum Analyser with QPA & Preamplifier | 30 MHz - 200 MHz | +3.9 dB, -4.0 dB |
| Spectrum Analyser with QPA & Preamplifier | 200 MHz-1000 MHz | +/- 3.5 dB |
| Spectrum Analyser with Preamplifier | 1 GHz - 18 GHz | +2.5 dB, -2.6 dB |
| Spectrum Analyser with Preamplifier | 18 GHz - 40 GHz | +/- 3.4 dB |

NOTES:

1. Applies to 3 and 10 meter measurement distances
2. Applies to all valid combinations of Transducers (i.e. LISNs, Line Voltage Probes, and Antennas, as appropriate)
3. Excludes the Repeatability of the EUT

3. Practical Explanation of the Meaning of Radiated Emissions Measurement Uncertainties

In general, a "Statement of Measurement Uncertainty" means that with a certain (specified) confidence level, the "true" value of a measurand will be between a (stated) upper bound and a (stated) lower bound.

In the specific case of EMC Measurements in this test report, the measurement uncertainties of the conducted emissions measurements and the radiated emissions measurements have been calculated in accordance with the method detailed in the following documents:

- *ANSI Z540.2 (2002) Guide to the Expression of Uncertainty in Measurement*
- NIS 81:1994, *The Treatment of Uncertainty in EMC Measurements* (NAMAS, 1994)
- NIST Technical Note 1297(1994), *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results* (NIST, 1994)

The calculation method used in these documents requires that the stated uncertainty of the measurements be expressed as an "expanded uncertainty", U , with a $k=2$ coverage factor. The practical interpretation of this method of expressing measurement uncertainty is shown in the following example:

EXAMPLE: Assume that at 39.51 MHz, the (measured) radiated emissions level was equal to +26.5 dBuV/m, and that the ± 2 standard deviations (i.e. 95% confidence level) measurement uncertainty was ± 3.4 dB.

APPENDIX C

C. Nemko USA, Inc. Test Equipment & Facilities Calibration Program

Nemko USA, Inc. operates a comprehensive Periodic Calibration Program in order to ensure the validity of all test data. Nemko USA's Periodic Calibration Program is fully compliant to the requirements of NVLAP Policy Guide PG-1-1988, ANSI/NCSL Z540.3: 2006, ISO 10012:2003, ISO/IEC 17025:2005, and ISO-9000: 2000. Nemko USA, Inc.'s calibrations program therefore meets or exceeds the US national commercial and military requirements [N.B. ANSI/NCSL Z540.1-1994 replaced MIL-STD-45662A].

Specifically, all of Nemko USA's *primary reference standard devices* (e.g. vector voltmeters, multimeters, attenuators and terminations, RF power meters and their detector heads, oscilloscope mainframes and plug-ins, spectrum analysers, RF preselectors, quasi-peak adapters, interference analysers, impulse generators, signal generators and pulse/function generators, field-strength meters and their detector heads, etc.) and certain *secondary standard devices* (e.g. RF Preamplifiers used in CISPR 11/22 and FCC Part 15/18 tests) are periodically recalibrated by:

- A Nemko USA-approved independent (third party) metrology laboratory that uses NIST-traceable standards and that is ISO Guide 25-accredited as a calibration laboratories by NIST; or,
- A Nemko USA-approved independent (third party) metrology laboratory that uses NIST-traceable standards and that is ISO Guide 25-accredited as a calibration laboratory by another accreditation body (such as A2LA) that is mutually recognized by NIST; or,
- A manufacturer of Measurement and Test Equipment (M&TE), if the manufacturer uses NIST-traceable standards and is ISO Guide 25-accredited as calibration laboratory either by NIST or by another accreditation body (such as A2LA) that is mutually recognized by NIST; or
- A manufacturer of M&TE (or by a Nemko USA-approved independent third party metrology laboratory) that is not ISO Guide 25-accredited. (In these cases, Nemko USA conducts an annual audit of the manufacturer or metrology laboratory for the purposes of proving traceability to NIST, ensuring that adequate and repeatable calibration procedures are being applied, and verifying conformity with the other requirements of ISO Guide 25).

In all cases, the entity performing the Calibration is required to furnish Nemko USA with a calibration test report and/or certificate of calibration, and a "calibration sticker" on each item of M&TE that is successfully calibrated.

Calibration intervals are normally one year, except when the manufacture advises a shorter interval or if US Government directives or client requirements demand a shorter interval. Items of instrumentation/related equipment which fail during routine use, or which suffer visible mechanical damage (during use or while in transit) are sidelined pending repair and recalibration. (Repairs are carried out either in-house [if minor] or by a Nemko USA-approved independent [third party] metrology laboratory, or by the manufacturer of the item of M&TE).

Each antenna used for CISPR 11 and CISPR 22 and FCC Part 15 and Part 18 radiated emissions testing (and for testing to the equivalent European Norms) is calibrated annually by either a NIST (or A2LA) ISO Standard 17025-Accredited third-party Antenna Calibration Laboratory or by the antenna's OEM if the OEM is NIST or A2LA ISO Standard 17025-accredited as an antenna calibration laboratory. The antenna calibrations are performed using the methods specified in Annex G.5 of CISPR 16-1(2003) or ANSI C63.5-2004, including the "Three-Antenna Method". Certain other kinds of antennas (e.g. magnetic-shielded loop antennas) are calibrated annually by either a NIST (or A2LA) ISO Standard 17025-accredited third-party antenna calibration laboratory, or by the antenna's OEM if the OEM is NIST or A2LA ISO Standard 17025-accredited as an antenna calibration laboratory using the procedures specified in the latest version of SAE ARP-958.

In accordance with FCC and other regulations, Nemko USA recalibrates its suite of antennas used for radiated emissions tests on an annual basis. These calibrations are performed as a precursor to the FCC-required annual revalidation of the Normalized Site Attenuation properties of Nemko USA's Open Area Test Site. Nemko USA, Inc. uses the procedures given in both Sub clause 16.6 and Annex G.2 of CISPR 16-1 (2003), and, ANSI C63.4-2003 when performing the normalized site attenuation measurements.