

**Global EMC Labs**  
**EMC / EMI Test Report**

As per

**FCC Part 15.225, Subpart C: 2011**

**RSS 210:Issue 8: 2010**

on the

**Blade Reader (Scanner)**



Sanjiv Vyas  
Project Engineer  
Global EMC Inc.  
180 Brodie Drive, Unit 2  
Richmond Hill, ON, L4B 3K8 Canada  
Ph: (905) 883-8189

Testing produced for

**Intelletto Technologies Inc.**

See appendix A for full customer & EUT details.



|             |  |  |
|-------------|--|--|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |  |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |  |

## Table of Contents

|  |    |
|--|----|
| Table of Contents .....                                | 2  |
| Report Scope .....                                     | 3  |
| Summary .....  | 4  |
| Test Results Summary .....                             | 5  |
| Justifications or Deviations .....                     | 6  |
| Applicable Standards, Specifications and Methods ..... | 7  |
| Document Revision Status .....                         | 8  |
| Definitions and Acronyms .....                         | 9  |
| Testing Facility .....                                 | 10 |
| Calibrations and Accreditations .....                  | 10 |
| Testing Environmental Conditions and Dates .....       | 11 |
| Detailed Test Result Section .....                     | 12 |
| Power Line Conducted Emissions .....                   | 13 |
| Radiated Emissions .....                               | 20 |
| RFID Emissions Mask .....                              | 36 |
| 20 dB Bandwidth Measurement .....                      | 47 |
| Carrier Frequency Stability .....                      | 48 |
| Appendix B – EUT & Test Setup Photos .....             | 56 |

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

## Report Scope

This report addresses the EMC verification testing and test results of the **Blade Reader (Scanner)**, herein referred to as EUT (Equipment Under Test) performed at Global EMC Labs.

The EUT was tested for compliance against the following standards:

FCC Part 15 Subpart C: 2011  
RSS 210: Issue 8: 2010

Radiated emissions and conducted emission testing were evaluated on the EUT. Test procedures, results, justifications, and engineering considerations, if any, follow later in this report.

The results contained in this report relate only to the item(s) tested.

This report does not imply product endorsement by A2LA or any other accreditation agency, any government, or Global EMC Inc.

Opinions/interpretations expressed in this report, if any, are outside the scope of Global EMC Inc accreditation. Any opinions expressed do not necessarily reflect the opinions of Global EMC Inc, unless otherwise stated.

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

## Summary

The results contained in this report relate only to the item(s) tested.

|                                 |                        |
|---------------------------------|------------------------|
| FCC ID #                        | X7X-BR10               |
| IC Registration #               | 8859A-BR10             |
| Equipment under test            | Blade Reader (Scanner) |
| EUT Passed all tests performed. | Yes                    |
| Tests conducted by              | Sanjiv Vyas            |


Note: For testing dates see 'Testing Environmental Conditions'.

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

### **Test Results Summary**

| <b>Standard/Method</b>                  | <b>Description</b>             | <b>Result</b>             |
|---|--------------------------------|---------------------------|
| FCC 15.207 / 15.107<br>ICES-003         | Power line conducted emissions | PASS – See Justification  |
| FCC 15.209<br>RSS-GEN Tables 5 & 6      | Radiated emissions             | PASS                      |
| FCC 15.203<br>RSS-Gen 7.1.2             | Antenna Requirement            | PASS – See Justifications |
| FCC 15.205<br>RSS-GEN Table 3           | Restricted Bands               | PASS – See Justifications |
| FCC 15.225 (a)(b)(c)(d)<br>RSS-210 A2.6 | Emissions Mask                 | PASS                      |
| FCC 15.225 (e)<br>RSS-210 A2.6          | Carrier Frequency Stability    | PASS                      |
| <b>Overall Result</b>                   |                                | <b>PASS</b>               |

If the product as tested complies with the specification or requirement, the EUT is deemed to comply and is issued a 'PASS' grade. If not 'FAIL' grade will be issued.

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

### ***Justifications or Deviations***

The following justifications for tests not performed or deviations from the above listed specifications apply:

For FCC 15.203 requirements, this product uses an internal U.FL connector cable to a proprietary PCB trace loop antenna to which the end user cannot replace.

For FCC 15.205 requirements, this product does not intentionally transmit in any of the restricted bands.

For FCC 15.207 requirements, when connected to the AC power supply adaptor (Model: 3A-181WP09), this product charges and does not transmit therefore conducted emission test was performed in this mode of operation.

For FCC 15.209 requirements, this product is charged by AC power supply adaptor and during the charging this product does not transmit, therefore radiated emissions testing is performed on the product only from 30MHz-1000MHz with charger (Model: 3A-181WP09) for information purposes.

Radiated emission test was performed with transmitting mode as per FCC 15.209 as well as in receiving mode as per 15.109, however the test results for transmitting mode is presented in this test report.

All radiated emission measurements were performed at a 3 meter distance, with the extrapolation factor applied as per applicable guidance, where applicable.

As this device is handheld, it was scanned in three orthogonal axis for the applicable radiated emissions and worst case results are presented in this test report.


This device incorporates a previously certified Bluetooth module, FCC ID: T9J-RN42.

A later revision of the standard may have been substituted in place of the previous dated referenced revision. The year of the specification used are listed under applicable standards. Using the later revision accomplishes the goal of ensuring compliance to the intent of the previous specification, while allowing the laboratory to incorporate the extensions and clarifications made available by a later revision.

|             |  |  |
|-------------|--|--|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |  |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |  |

## Applicable Standards, Specifications and Methods


|                  |  |
|------------------|--|
| ANSI C63.4:2003  | - Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz           |
| ANSI C63.10:2009 | - American national standard for testing unlicensed wireless devices   |
| CFR 47 FCC 15    | - Code of Federal Regulations – Radio Frequency Devices  |
| RSS 210:2010     | - Issue 8: Spectrum Management and Telecommunications Policy. Radio Standards Specification Low Power Licence-Exempt Radio communication Devices |
| RSS-GEN          | General Requirements and Information for the Certification of Radio Apparatus  |
| CISPR 22:2005    | - Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement                                       |
| ICES-003:2004    | - Digital Apparatus - Spectrum Management and Telecommunications Policy Interference-Causing Equipment Standard                                  |
| ISO 17025:2005   | - General Requirements for the competence of testing and calibration laboratories  |

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

### ***Document Revision Status***

Revision 1 - April 26, 2012  
- First Revision



|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

## Definitions and Acronyms

The following definitions and acronyms are applicable in this report.  
See also ANSI C63.14.

**AE** – Auxillary Equipment.

**Class A device** – A digital device that is marketed for use in a commercial, industrial or business environment. A ‘Class A’ device should not be marketed for use by the general public. A ‘Class A’ device should contain the following or similar warning in it’s user manual: “**Warning:** This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.”

**Class B device** – A digital device that is marketed for use in a residential environment and may also be used in a commercial, business or industrial environments. A ‘Class B’ device may also be defined as a device to which a broadcast radio or television receivers would be expected to be common within a distance of 10 m of the device concerned.

**EMC** – Electro-Magnetic Compatibility

**EMI** – Electro-Magnetic Immunity

**EUT** – Equipment Under Test


**ITE** – Information Technology Equipment with a primary function(s) of entry, storage, display, retrieval, transmission, processing, switching, or control, of data.

**LISN** – Line impedance stabilization network

**NCR** – No Calibration Required

**RF** – Radio Frequency

**Test Plan** – See ‘Appendix A – Client Provided Details’.

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

## Testing Facility

Testing for EMC on the EUT was carried out at Global EMC labs in Toronto, Ontario, Canada. The testing lab consists of a 3m semi-anechoic chamber calibrated to be able to allow measurements on an EUT with a maximum width or length of up to 2m and height up to 3m. The chamber is equipped with a turn table that is capable of testing devices up to 3300lb in weight. This facility is capable of testing products that are rated for 120 Vac and 240Vac single phase, or 208 Vac 3 phase input. DC capability is also available. The chamber is equipped with an antenna mast that controls polarization and height from the control room adjoining the shielded chamber. Radiated emissions measurements are performed using a Bilog, and Horn antenna where applicable. Conducted emissions, unless otherwise stated, are performed using a LISN and using the Vertical Ground plane.

### ***Calibrations and Accreditations***

The 3m semi-anechoic chamber is registered with Federal Communications Commission (FCC, 612361), Industry Canada (IC, 6844A-1) and VCCI (R-2621 and C-2864). This semi-anechoic chamber complies with the requirements of EN55016-2-3:2006, section 7.5 and the site attenuation requirements of EN55016-1-4. This chamber was additionally calibrated for Normalized Site Attenuation (NSA) using test procedures outlined in ANSI C63.4 "Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz". The chamber is lined with ferrite tiles and absorption cones to minimize any undesired reflections. The NSA data is kept on file at Global EMC. For radiated susceptibility testing, a 16 point field calibration has been performed on the chamber. The field uniformity data is kept on file at Global EMC. Global EMC Inc is accredited to ISO 17025 by A2LA with Testing Certificate #2555.01. The laboratories current scope of accreditation listing can be found as listed on the A2LA website. All measuring equipment is calibrated on an annual or bi-annual basis as listed for each respective test.

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

### ***Testing Environmental Conditions and Dates***

Following environmental conditions were recorded in the facility during time of testing –

| <b>Date</b>    | <b>Test</b>                    | <b>Initials</b> | <b>Ambient Temperature (°C)</b> | <b>Relative Humidity (%)</b> | <b>Pressure (kPa)</b> |
|----------------|--------------------------------|-----------------|---------------------------------|------------------------------|-----------------------|
| April 19, 2012 | Power Line Conducted Emissions | SV              | 21-24                           | 40 - 45%                     | 96 - 100              |
| April 13, 2012 | Radiated Emissions             | SV              | 21-24                           | 40 - 45%                     | 96 - 100              |
| April 13, 2012 | Emissions Mask                 | SV              | 21 – 24                         | 40 - 45%                     | 96 - 100              |
| April 13, 2012 | 20 dB Bandwidth Measurement    | SV              | 21 – 24                         | 40 - 45%                     | 96 - 100              |
| April 19, 2012 | Carrier Frequency Stability    | SV              | 21 – 24                         | 40 - 45%                     | 96 - 100              |

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

## Detailed Test Result Section

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

## ***Power Line Conducted Emissions***

### **Purpose**

The purpose of this test is to ensure that the RF energy unintentionally emitted from the EUT's power line does not exceed the limits listed below as defined in the applicable test standard, as measured from a LISN. This helps protect lower frequency radio services such as AM radio, shortwave radio, amateur radio operators, maritime radio, CB radio, and so on, from unwanted interference.

### **Limits & Method**

The limits are as defined in 47 CFR FCC Part 15 Section 15.207 & 15.107


Method is as defined in ANSI C64:2003

| Average Limits    |               | QuasiPeak Limits  |               |
|-------------------|---------------|-------------------|---------------|
| 150 kHz – 500 kHz | 56 to 46 dBuV | 150 kHz – 500 kHz | 66 to 56 dBuV |
| 500 kHz – 5 MHz   | 46 dBuV       | 500 kHz – 5 MHz   | 56 dBuV       |
| 5 MHz – 30 MHz    | 50 dBuV       | 500 kHz – 30 MHz  | 60 dBuV       |

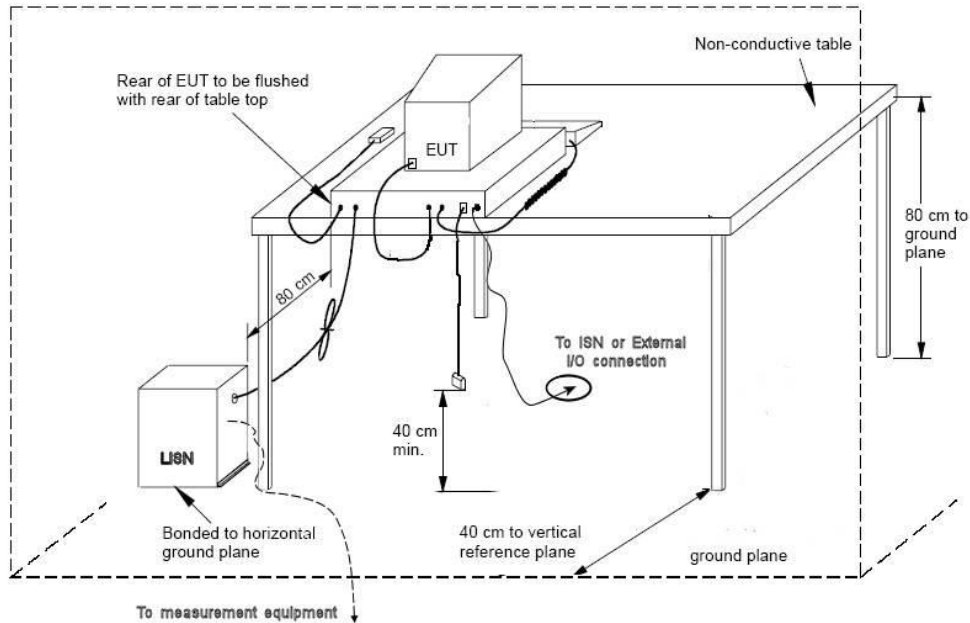
The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

Note: If the Peak or Quasi Peak detector measurements do not exceed the Average limits, then the EUT is deemed to have passed the requirements.

Both limits are applicable, and each is specified as being measured with a 9 kHz measurement bandwidth .

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

### Typical Setup Diagram




### Measurement Uncertainty

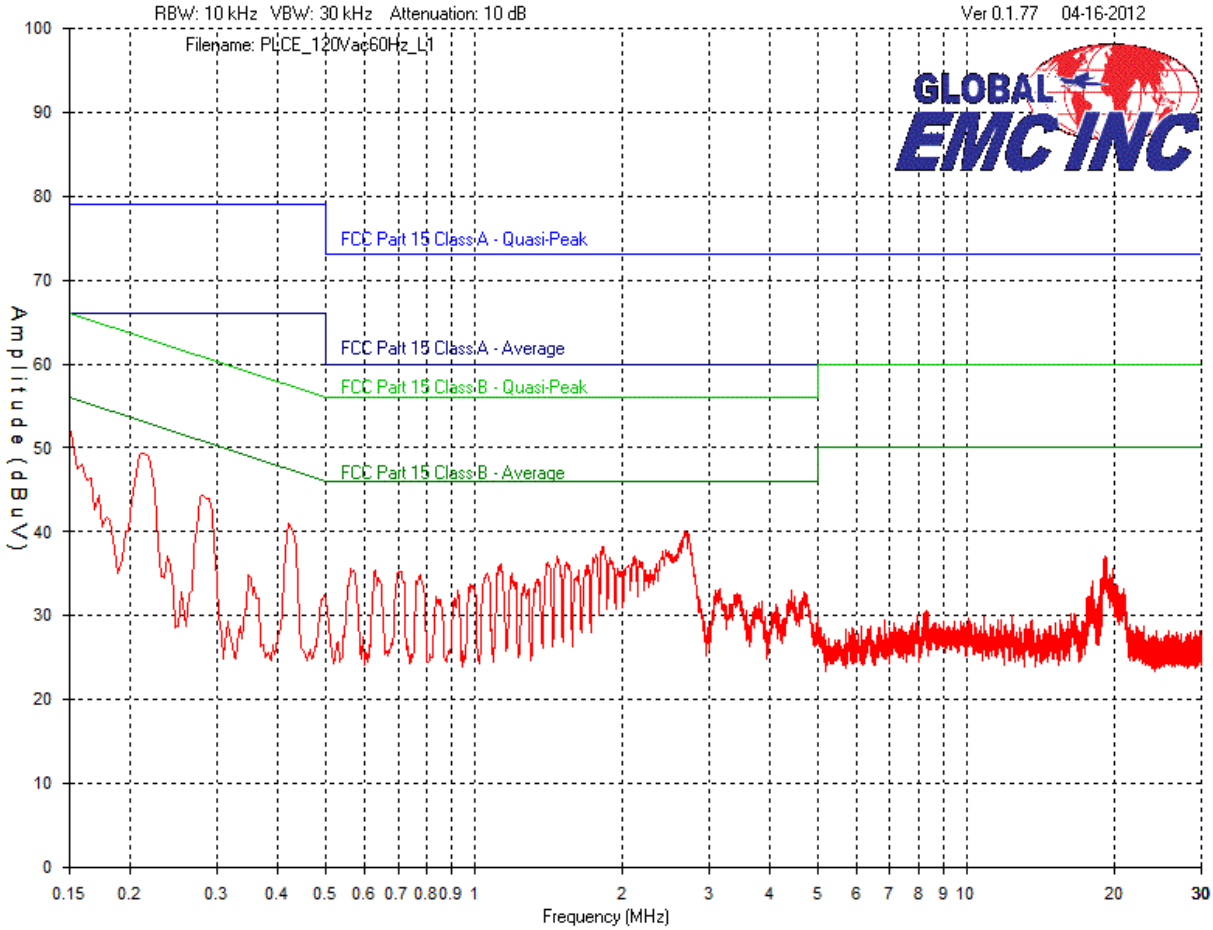
The expanded measurement uncertainty is calculated in accordance with CISPR 16-4-2 and is  $\pm 3.6$  dB with a 'k=2' coverage factor and a 95% confidence level.

### Preliminary Graphs


Note the graphs shown below are for graphical illustration only. For final measurements with the appropriate detector where applicable, please refer to the table. The graph shown below is a peak measurement graph, measured with a resolution bandwidth greater than or equal to the final required detector. These graphs are performed as a worst case measurement to enable the detection of frequencies of concern and for considerable time savings.

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

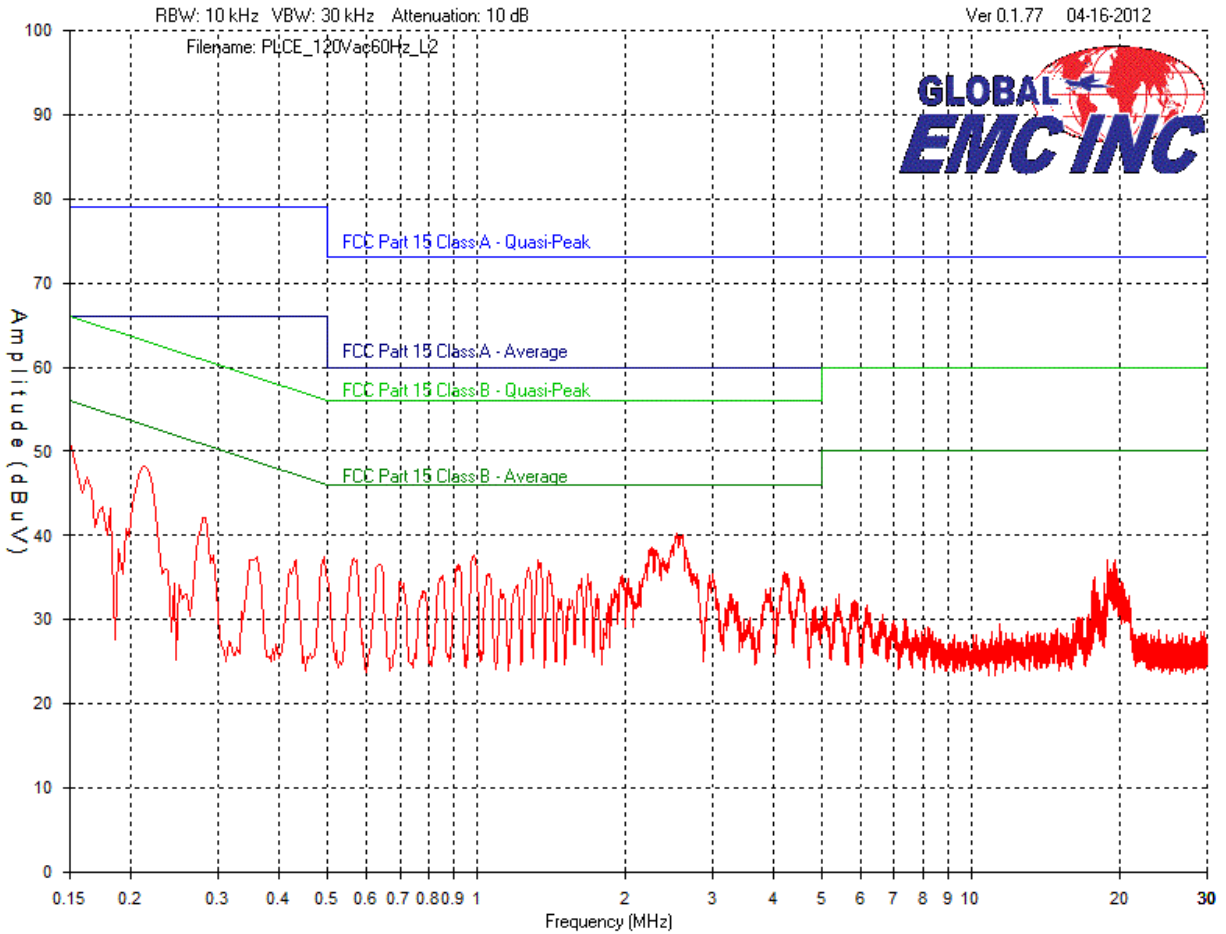
**L1 (Line) 120 Vac @ 60 Hz**



© Global EMC Inc. This test report shall not be reproduced except in full, without written approval of Global EMC Inc

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

**L2 (Neutral) 120 Vac @ 60 Hz**






|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

## Final Measurements

**Peak Emissions Table-1**

| Product category  |                        | Class B                 |                 |                  |                       |                       |             |        |
|---|------------------------|-------------------------|-----------------|------------------|-----------------------|-----------------------|-------------|--------|
| Supply voltage  |                        | 120V ac, 60Hz           |                 |                  |                       |                       |             |        |
| Port under test   |                        | AC mains                |                 |                  |                       |                       |             |        |
| <i>L1- (Phase) – Peak emissions with respect to Average limits</i>  |                        |                         |                 |                  |                       |                       |             |        |
| Test Frequency (MHz)  | Received signal (dBµV) | Attenuation factor (dB) | Cable loss (dB) | LISN factor (dB) | Emission Level (dBµV) | Emission limit (dBµV) | Margin (dB) | Result |
| 0.212   | 38.3                   | 10.0                    | 0.1             | 0.9              | 49.3                  | 53.1                  | 3.8         | Pass   |
| 0.153   | 39.3                   | 10.0                    | 0.1             | 1.5              | 50.9                  | 55.8                  | 4.9         | Pass   |
| 2.681   | 29.7                   | 10.0                    | 0.1             | 0.2              | 40.0                  | 46.0                  | 6.0         | Pass   |
| 0.280   | 33.7                   | 10.0                    | 0.1             | 0.6              | 44.4                  | 50.8                  | 6.4         | Pass   |
| 0.419   | 30.7                   | 10.0                    | 0.1             | 0.2              | 41.0                  | 47.5                  | 6.5         | Pass   |
| 1.834   | 27.9                   | 10.0                    | 0.1             | 0.2              | 38.2                  | 46.0                  | 7.8         | Pass   |
| 1.766   | 27.0                   | 10.0                    | 0.1             | 0.2              | 37.3                  | 46.0                  | 8.7         | Pass   |
| 1.474   | 26.7                   | 10.0                    | 0.1             | 0.2              | 37.0                  | 46.0                  | 9.0         | Pass   |
| 1.886   | 26.6                   | 10.0                    | 0.1             | 0.2              | 36.9                  | 46.0                  | 9.1         | Pass   |
| 1.415   | 26.1                   | 10.0                    | 0.1             | 0.2              | 36.4                  | 46.0                  | 9.6         | Pass   |
| 0.212   | 38.3                   | 10.0                    | 0.1             | 0.9              | 49.3                  | 53.1                  | 3.8         | Pass   |
| <i>L2 (Neutral) – Peak emissions with respect to Average limits</i> |                        |                         |                 |                  |                       |                       |             |        |
| Test Frequency (MHz)  | Received signal (dBµV) | Attenuation factor (dB) | Cable loss (dB) | LISN factor (dB) | Emission Level (dBµV) | Emission limit (dBµV) | Margin (dB) | Result |
| 0.212   | 37.1                   | 10.0                    | 0.1             | 0.9              | 48.1                  | 53.1                  | 5.0         | Pass   |
| 2.544   | 30.0                   | 10.0                    | 0.1             | 0.2              | 40.3                  | 46.0                  | 5.7         | Pass   |
| 0.153   | 38.1                   | 10.0                    | 0.1             | 1.5              | 49.7                  | 55.8                  | 6.1         | Pass   |
| 0.990   | 27.4                   | 10.0                    | 0.1             | 0.2              | 37.7                  | 46.0                  | 8.3         | Pass   |
| 0.565   | 27.1                   | 10.0                    | 0.1             | 0.2              | 37.4                  | 46.0                  | 8.6         | Pass   |
| 0.491   | 27.2                   | 10.0                    | 0.1             | 0.2              | 37.5                  | 46.2                  | 8.7         | Pass   |
| 0.280   | 31.4                   | 10.0                    | 0.1             | 0.6              | 42.1                  | 50.8                  | 8.7         | Pass   |
| 1.334   | 26.7                   | 10.0                    | 0.1             | 0.2              | 37.0                  | 46.0                  | 9.0         | Pass   |
| 0.922   | 26.3                   | 10.0                    | 0.1             | 0.2              | 36.6                  | 46.0                  | 9.4         | Pass   |
| 0.637   | 26.2                   | 10.0                    | 0.1             | 0.2              | 36.5                  | 46.0                  | 9.5         | Pass   |

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

**Peak Emissions Table-2**

| Product category   |                        | Class B                 |                 |                  |                       |                       |             |        |
|--|------------------------|-------------------------|-----------------|------------------|-----------------------|-----------------------|-------------|--------|
| Supply voltage   |                        | 120V ac, 60 Hz          |                 |                  |                       |                       |             |        |
| Port under test  |                        | AC mains                |                 |                  |                       |                       |             |        |
| <i>L1- (Phase) – Peak emissions with respect to Quasi Peak limits</i>  |                        |                         |                 |                  |                       |                       |             |        |
| Test Frequency (MHz)   | Received signal (dBµV) | Attenuation factor (dB) | Cable loss (dB) | LISN factor (dB) | Emission Level (dBµV) | Emission limit (dBµV) | Margin (dB) | Result |
| 0.212  | 38.3                   | 10.0                    | 0.1             | 0.9              | 49.3                  | 63.1                  | 13.8        | Pass   |
| 0.153  | 39.3                   | 10.0                    | 0.1             | 1.5              | 50.9                  | 65.8                  | 14.9        | Pass   |
| 2.681  | 29.7                   | 10.0                    | 0.1             | 0.2              | 40.0                  | 56.0                  | 16.0        | Pass   |
| 0.280  | 33.7                   | 10.0                    | 0.1             | 0.6              | 44.4                  | 60.8                  | 16.4        | Pass   |
| 0.419  | 30.7                   | 10.0                    | 0.1             | 0.2              | 41.0                  | 57.5                  | 16.5        | Pass   |
| 1.834  | 27.9                   | 10.0                    | 0.1             | 0.2              | 38.2                  | 56.0                  | 17.8        | Pass   |
| 1.766  | 27.0                   | 10.0                    | 0.1             | 0.2              | 37.3                  | 56.0                  | 18.7        | Pass   |
| 1.474  | 26.7                   | 10.0                    | 0.1             | 0.2              | 37.0                  | 56.0                  | 19.0        | Pass   |
| 1.886  | 26.6                   | 10.0                    | 0.1             | 0.2              | 36.9                  | 56.0                  | 19.1        | Pass   |
| 1.415  | 26.1                   | 10.0                    | 0.1             | 0.2              | 36.4                  | 56.0                  | 19.6        | Pass   |
| <i>L2 (Neutral) – Peak emissions with respect to Quasi Peak limits</i> |                        |                         |                 |                  |                       |                       |             |        |
| Test Frequency (MHz)   | Received signal (dBµV) | Attenuation factor (dB) | Cable loss (dB) | LISN factor (dB) | Emission Level (dBµV) | Emission limit (dBµV) | Margin (dB) | Result |
| 0.212  | 37.1                   | 10.0                    | 0.1             | 0.9              | 48.1                  | 63.1                  | 15.0        | Pass   |
| 2.544  | 30.0                   | 10.0                    | 0.1             | 0.2              | 40.3                  | 56.0                  | 15.7        | Pass   |
| 0.153  | 38.1                   | 10.0                    | 0.1             | 1.5              | 49.7                  | 65.8                  | 16.1        | Pass   |
| 0.990  | 27.4                   | 10.0                    | 0.1             | 0.2              | 37.7                  | 56.0                  | 18.3        | Pass   |
| 0.565  | 27.1                   | 10.0                    | 0.1             | 0.2              | 37.4                  | 56.0                  | 18.6        | Pass   |
| 0.491  | 27.2                   | 10.0                    | 0.1             | 0.2              | 37.5                  | 56.2                  | 18.7        | Pass   |
| 0.280  | 31.4                   | 10.0                    | 0.1             | 0.6              | 42.1                  | 60.8                  | 18.7        | Pass   |
| 1.334  | 26.7                   | 10.0                    | 0.1             | 0.2              | 37.0                  | 56.0                  | 19.0        | Pass   |
| 0.922  | 26.3                   | 10.0                    | 0.1             | 0.2              | 36.6                  | 56.0                  | 19.4        | Pass   |
| 0.637  | 26.2                   | 10.0                    | 0.1             | 0.2              | 36.5                  | 56.0                  | 19.5        | Pass   |

Note: 1) See ‘Appendix B – EUT & Test Setup Photographs’ for photos showing the test set-up for the highest line conducted emission.

2) Since the Peak emission measurement does not exceed the Average limits, Quasi Peak and Average detector was not used for final measurement and EUT has deemed to have passed the standard requirements.

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

## Test Equipment List

| Equipment         | Model No.               | Manufacturer    | Last calibration date | Next calibration due date | Asset #  |
|-------------------|-------------------------|-----------------|-----------------------|---------------------------|----------|
| Spectrum Analyzer | ESL 6                   | Rohde & Schwarz | Oct-06, 2011          | Oct-06, 2013              | GEMC 160 |
| LISN              | FCC-LISN-50/250-16-2-01 | FCC             | Feb 03, 2011          | Feb 03, 2013              | GEMC 65  |
| RF Cable 7m       | LMR-400-7M-50OHM-MN-MN  | LexTec          | NCR                   | NCR                       | GEMC 28  |
| RF Cable 1m       | LMR-400-1M-50OHM-MN-MN  | LexTec          | NCR                   | NCR                       | GEMC 29  |
| Attenuator 10 dB  | FP-50-10                | Trilithic       | NCR                   | NCR                       | GEMC 42  |

This report module is based on GEMC template "FCC – Power Line Conducted Emissions Class B\_Rev1"

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

## ***Radiated Emissions***

### **Purpose**

The purpose of this test is to ensure that the RF energy unintentionally emitted from the EUT does not exceed the limits listed below as defined in the applicable test standard, as measured from a receiving antenna. This helps protect broadcast radio services such as television, FM radio, pagers, cellular telephones, emergency services, and so on, from unwanted interference.

### **Limit(s) and Method**

The method is as defined in ANSI C63.4:2003.

The limits are as defined in FCC Part 15, Section 15.209.

0.009 MHz – 0.490 MHz, 2400/F(kHz) uV/m at 300 m<sup>1</sup>

0.490 MHz – 1.705 MHz, 24000/F(kHz) uV/m at 30 m<sup>1</sup>

1.705 MHz – 30 MHz, 30 uV/m at 30 m<sup>1</sup>

30 MHz – 88 MHz, 100 uV/m (40.0 dBuV/m<sup>1</sup>) at 3 m

88 MHz – 216 MHz, 150 uV/m (43.5 dBuV/m<sup>1</sup>) at 3 m

216 MHz – 960 MHz, 200 uV/m (46.4 dBuV/m<sup>1</sup>) at 3 m

Above 960 MHz, 500 uV/m (54.0 dBuV/m<sup>1</sup>) at 3 m


Above 1000 MHz<sup>2</sup>, 500 uV/m (54 dBuV/m) at 3m

<sup>1</sup>Limit is with using a Quasi Peak detector at bandwidths defined in CISPR 16.

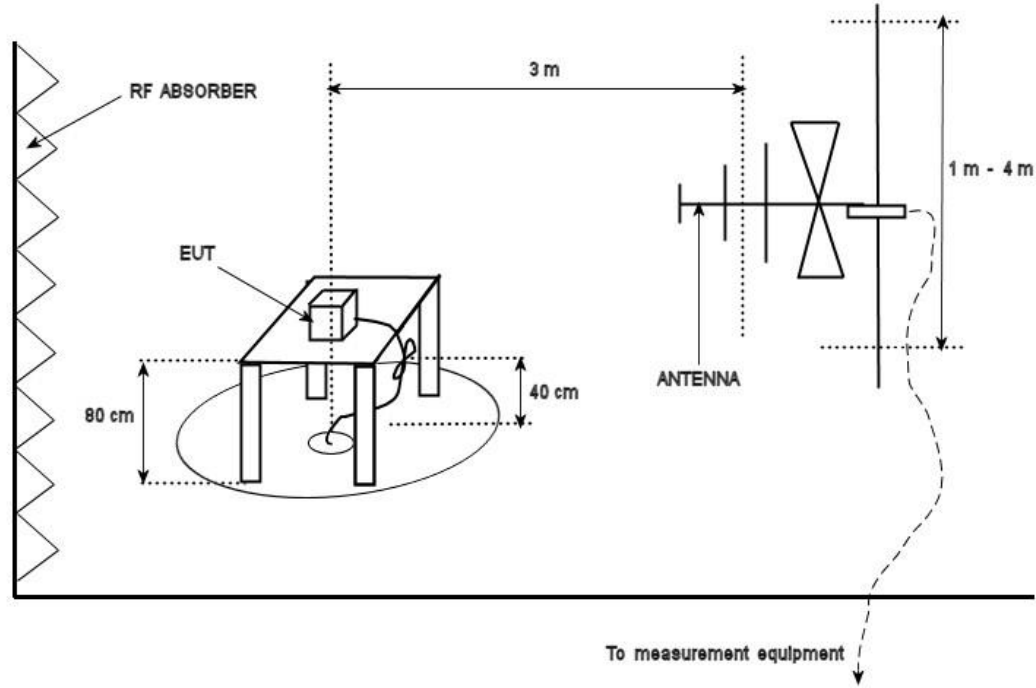
<sup>2</sup>Limit is with 1 MHz measurement bandwidth and using an Average detector


In accordance with FCC Part 15, Subpart A, Section 15.33, the device was scanned to a minimum of a 1 GHz.

Devices scanned below 30 MHz are scanned at a 3 meter test distance, and in accordance with FCC Part 15, Subpart A, Section 15.31, an extrapolation factor of 40dB/decade was used. For example for 3 meter measurements, an extrapolation factor 40 dB from 40 Log (30m / 3m) is applied.

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

**Typical Radiated Emissions Setup**




|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

### Measurement Uncertainty

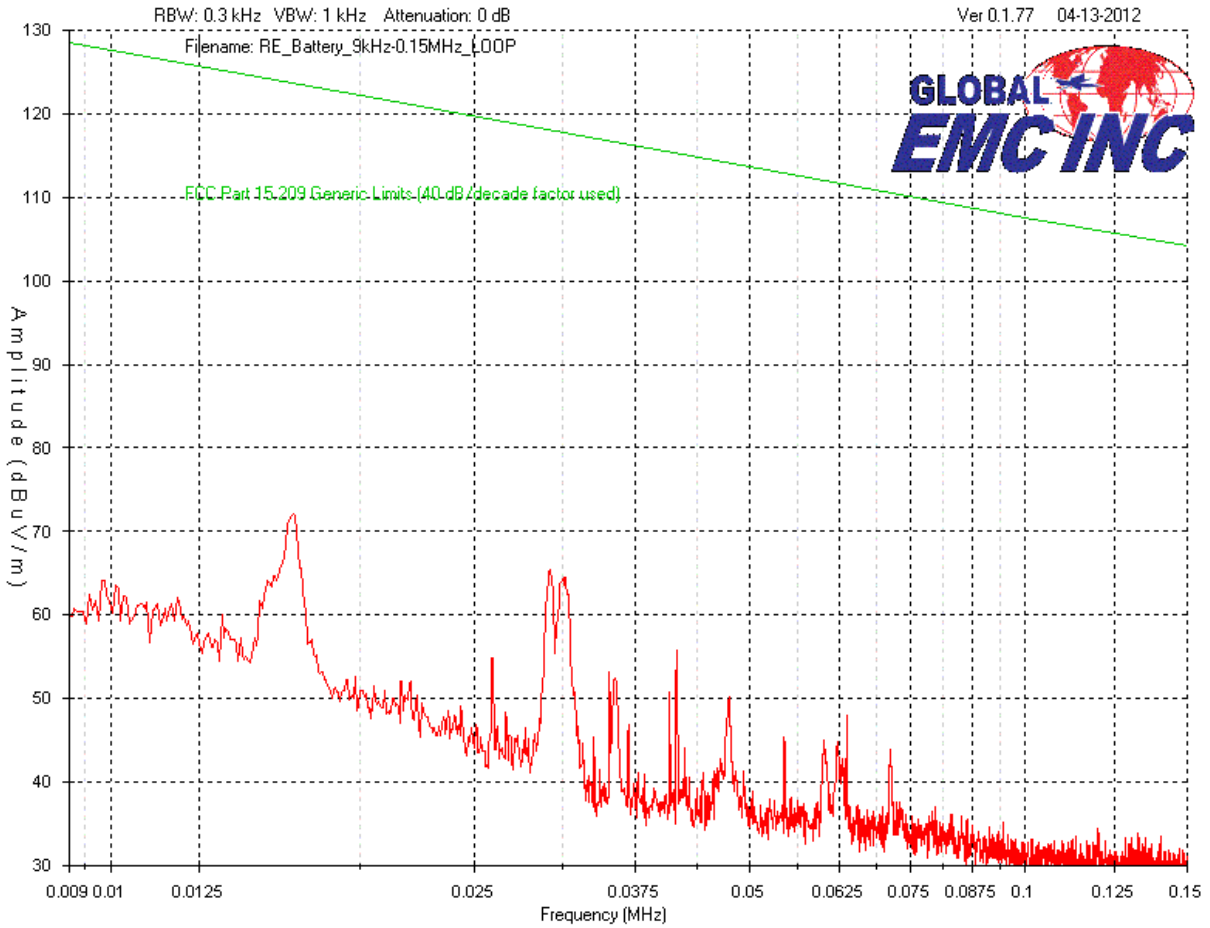
The expanded measurement uncertainty is calculated in accordance with CISPR 16-4-2 and is +/-4.4 dB with a 'k=2' coverage factor and a %95 confidence level.


### Preliminary Graphs

Note the graphs shown below are for graphical illustration only. For final measurements with the appropriate detector, please refer to the final measurement table where applicable. The graph shown below is a maximized peak measurement graph, measured with a resolution bandwidth greater than the final required detector and over a full 0-360 rotation. This peaking process is done as a worst case measurement. This process enables the detection of frequencies of concern for final measurement, and provides considerable time savings.

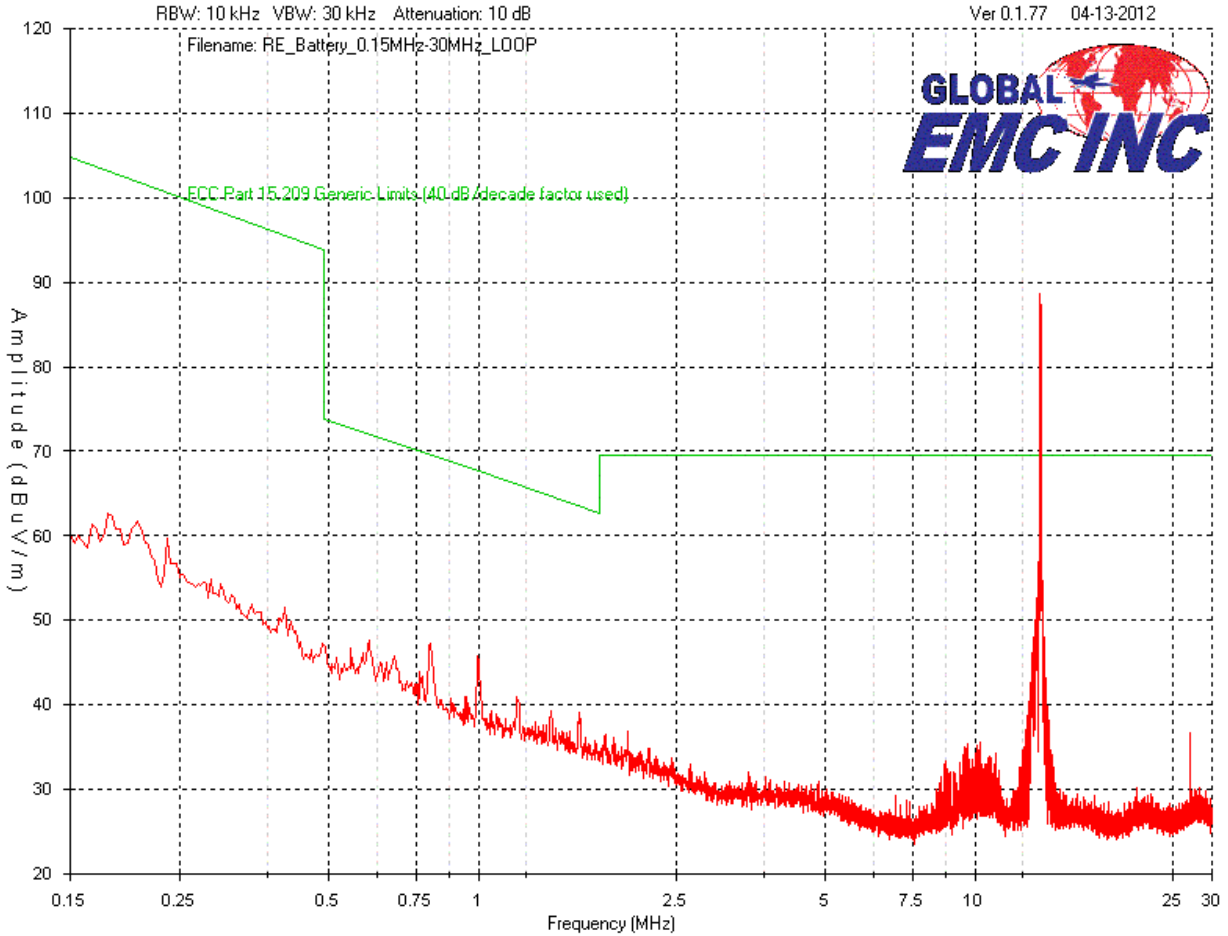
|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

**Peak Emissions Graph (Battery operated, Transmit mode): 0.009MHz to 0.15MHz**




|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

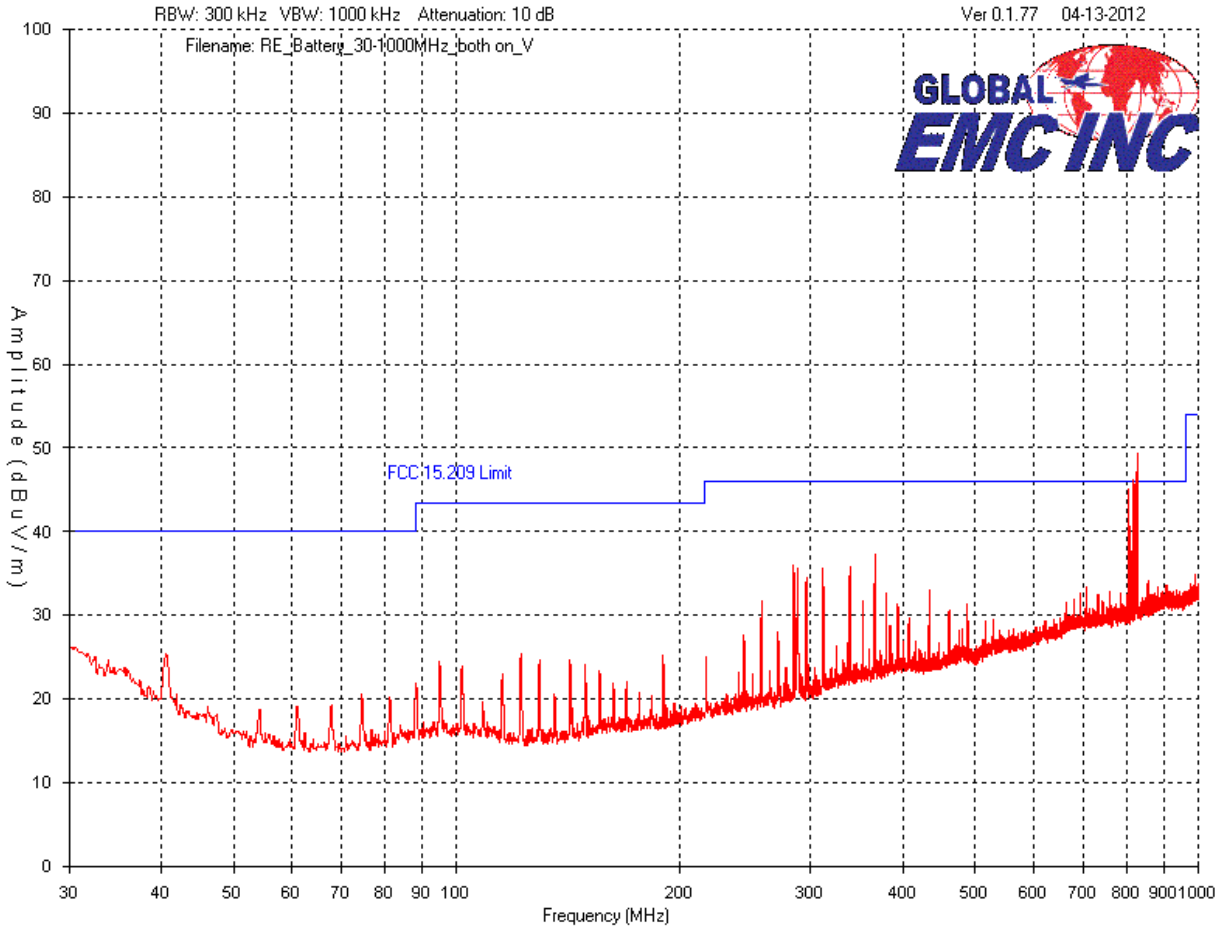
**Peak Emissions Graph (Battery operated, Transmit mode): 0.15MHz to 30MHz**






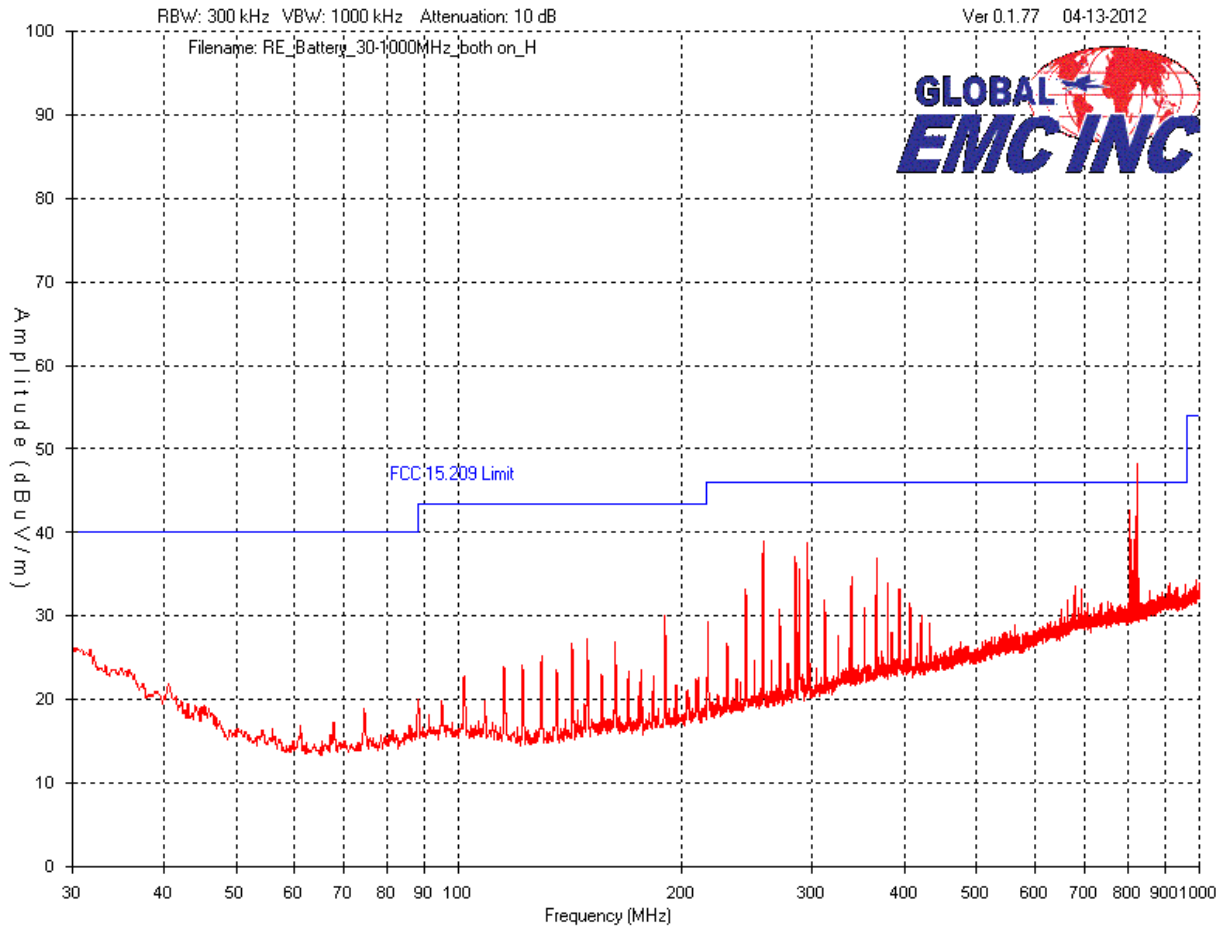
|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |


**Vertical Peak Emissions Graph (Battery operated, Transmit mode): 30MHz to 1000MHz**



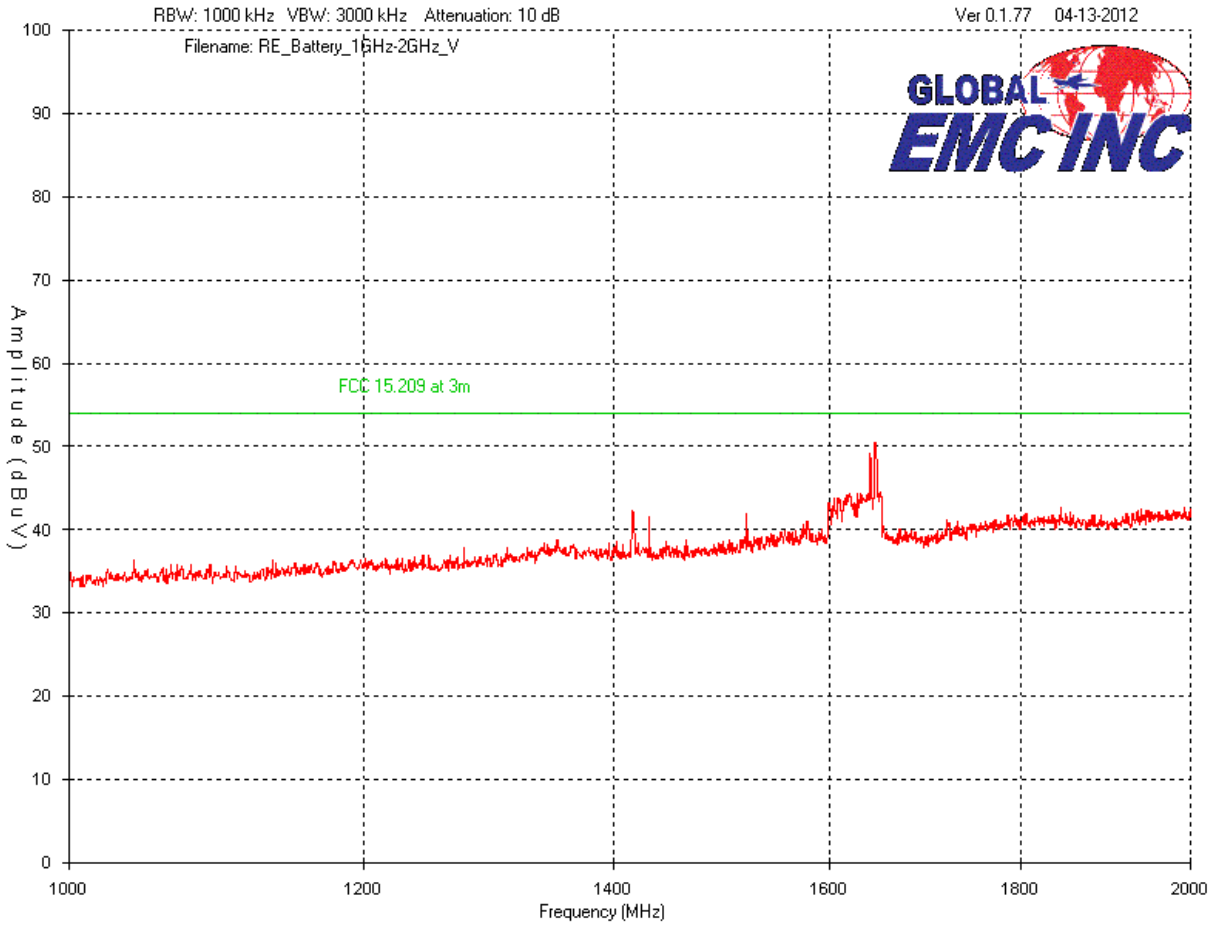
|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |


**Horizontal Peak Emissions Graph (Battery operated, Transmit mode): 30MHz to 1000MHz**



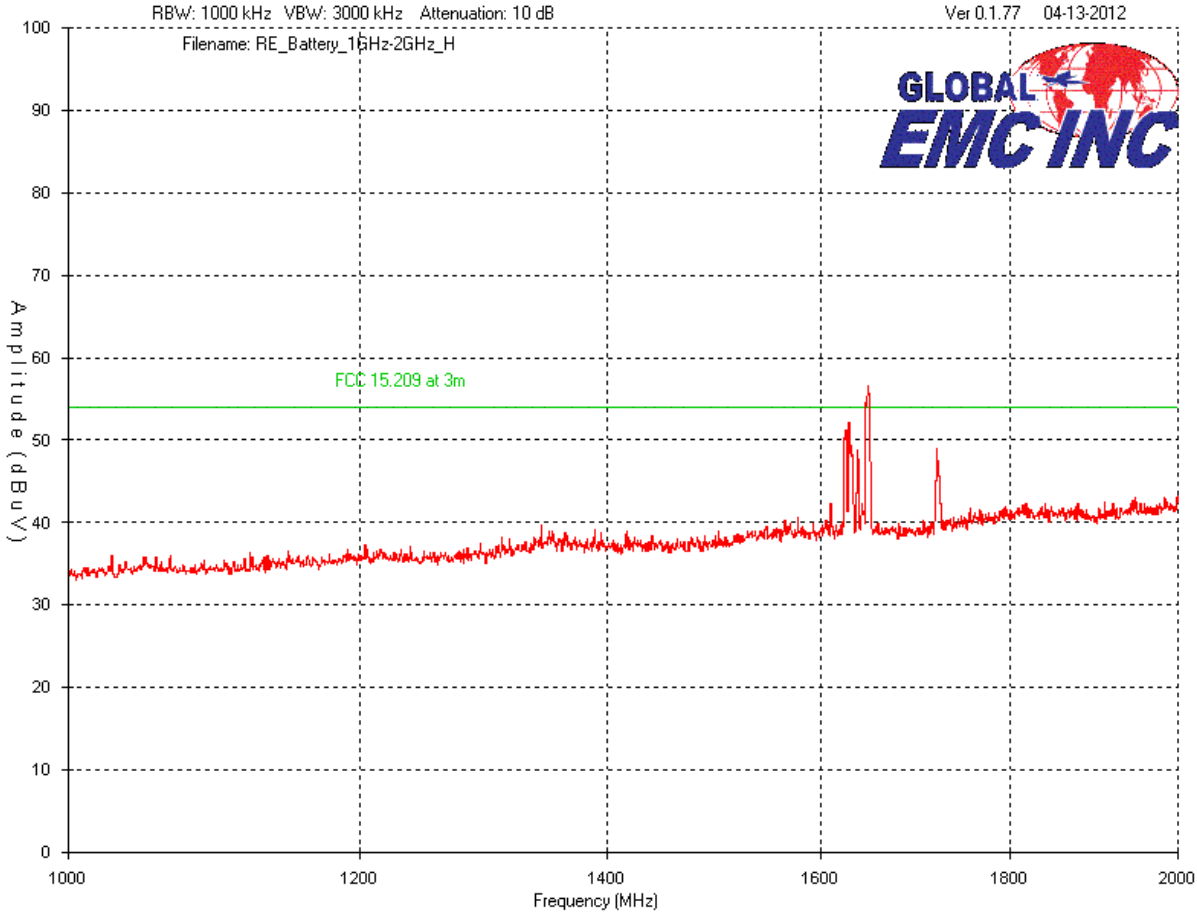
|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

**Vertical Peak Emissions Graph (Battery operated, Transmit mode): 1MHz to 2MHz**




|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

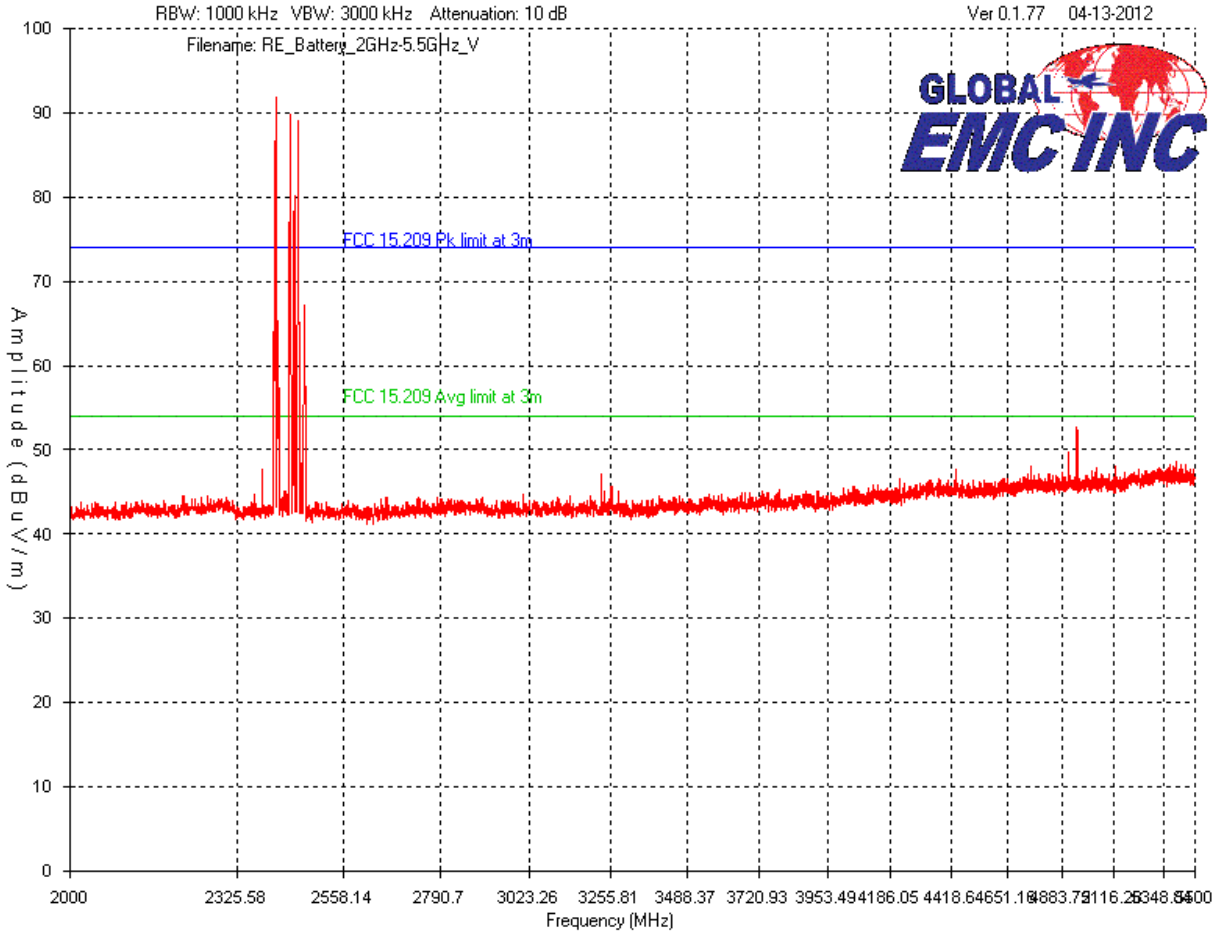
**Horizontal Peak Emissions Graph (Battery operated, Transmit mode): 1MHz to 2MHz**




© Global EMC Inc. This test report shall not be reproduced except in full, without written approval of Global EMC Inc

|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

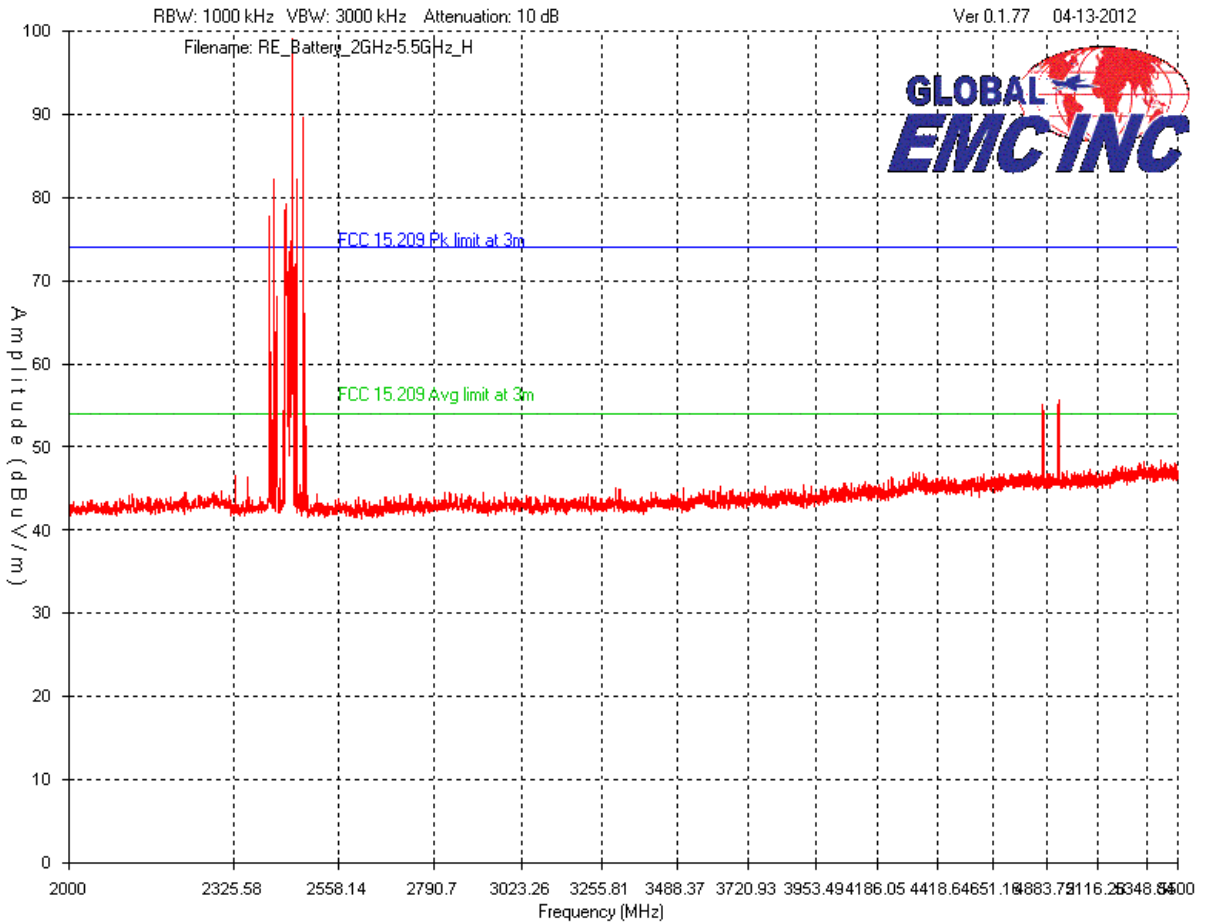
**Vertical Peak Emissions Graph (Battery operated, Transmit mode): 2GHz to 5.5GHz**




*Note: This device incorporates a previously certified module for Bluetooth operation at 2.4GHz to 2.4835 GHz as documented in this report.*

|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

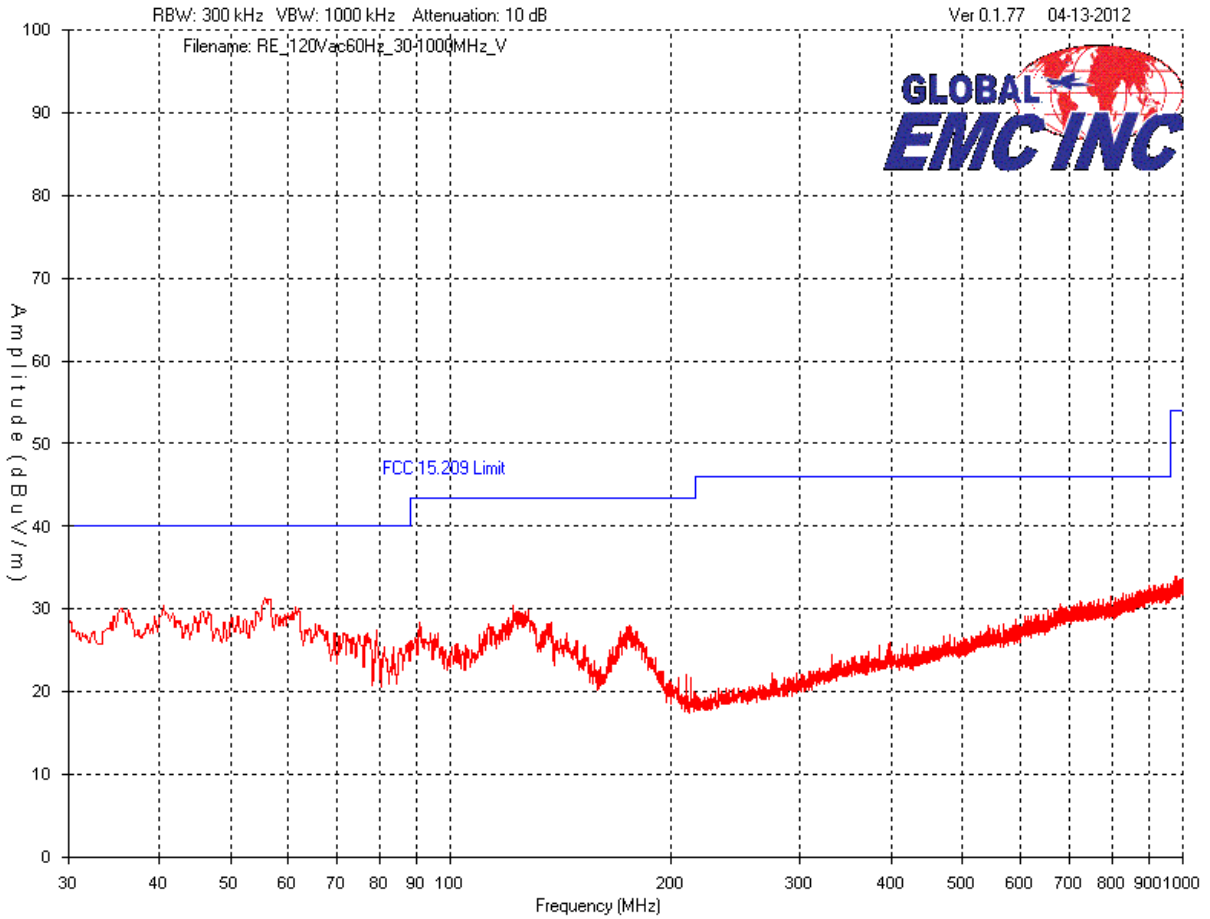
**Horizontal Peak Emissions Graph (Battery operated, Transmit mode): 2MHz to 5.5MHz**




**Note: This device incorporates a previously certified module for Bluetooth operation at 2.4GHz to 2.4835 GHz as documented in this report.**

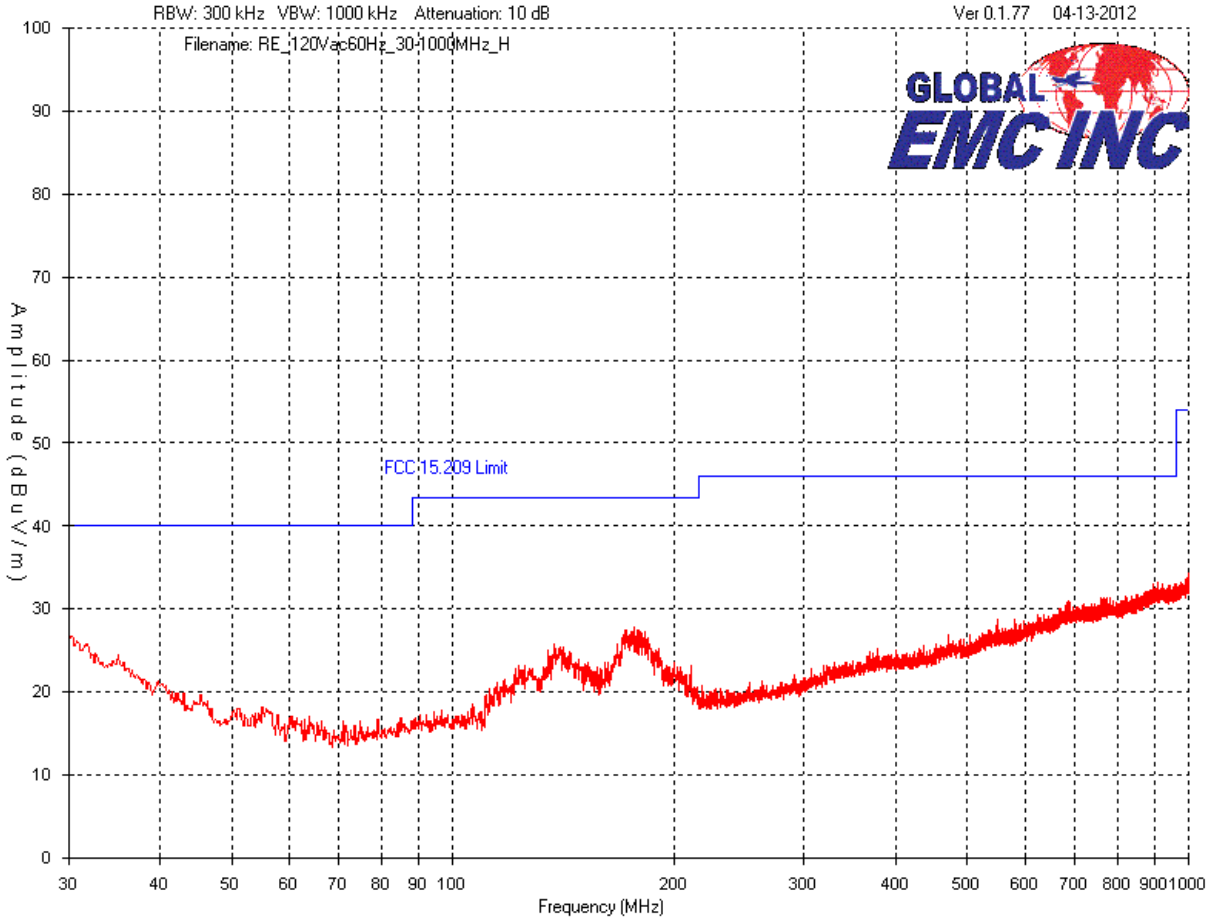
|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

**Vertical Peak Emissions Graph (120Vac, 60Hz): 30MHz to 1000MHz**



|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

**Horizontal Peak Emissions Graph (120Vac, 60Hz): 30MHz to 1000MHz**



© Global EMC Inc. This test report shall not be reproduced except in full, without written approval of Global EMC Inc



|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

## Final Measurements

### Quasi Peak Emissions Table-3

| Product category   |                              | Class B             |                 |              |                               |                               |             |        |
|--|------------------------------|---------------------|-----------------|--------------|-------------------------------|-------------------------------|-------------|--------|
| Supply voltage   |                              | (Battery Operated)  |                 |              |                               |                               |             |        |
| Frequency range  |                              | 30MHz to 1000MHz    |                 |              |                               |                               |             |        |
| <i>Quasi Peak emissions with respect to Quasi Peak limits - Vertical</i>   |                              |                     |                 |              |                               |                               |             |        |
| Test Frequency (MHz)   | Received signal (dB $\mu$ V) | Antenna factor (dB) | Cable loss (dB) | Pre-Amp (dB) | Emission Level dB( $\mu$ V/m) | Emission limit dB( $\mu$ V/m) | Margin (dB) | Result |
| 826.855  | 27.7                         | 22.0                | 1.2             | -30.0        | 20.9                          | 46.0                          | 25.1        | Pass   |
| 825.303  | 26.4                         | 22.0                | 1.2             | -30.1        | 19.5                          | 46.0                          | 26.5        | Pass   |
| 817.931  | 27.2                         | 21.9                | 1.2             | -30.1        | 20.2                          | 46.0                          | 25.8        | Pass   |
| 819.677  | 26.5                         | 21.9                | 1.2             | -30.1        | 19.5                          | 46.0                          | 26.5        | Pass   |
| 804.836  | 27.5                         | 21.8                | 1.2             | -30.1        | 20.4                          | 46.0                          | 25.6        | Pass   |
| 822.296  | 27.4                         | 22.0                | 1.2             | -30.1        | 20.5                          | 46.0                          | 25.5        | Pass   |
| <i>Quasi Peak emissions with respect to Quasi Peak limits - Horizontal</i> |                              |                     |                 |              |                               |                               |             |        |
| Test Frequency (MHz)   | Received signal (dB $\mu$ V) | Antenna factor (dB) | Cable loss (dB) | Pre-Amp (dB) | Emission Level dB( $\mu$ V/m) | Emission limit dB( $\mu$ V/m) | Margin (dB) | Result |
| 823.751  | 28.6                         | 22.0                | 1.2             | -30.1        | 21.7                          | 46.0                          | 24.3        | Pass   |
| 804.157  | 27.5                         | 21.7                | 1.2             | -30.1        | 20.3                          | 46.0                          | 25.7        | Pass   |
| 822.005  | 26.9                         | 22.0                | 1.2             | -30.1        | 20.0                          | 46.0                          | 26.0        | Pass   |
| 821.132  | 25.2                         | 22.0                | 1.2             | -30.1        | 18.3                          | 46.0                          | 27.7        | Pass   |
| 816.185  | 26.4                         | 21.9                | 1.2             | -30.1        | 19.4                          | 46.0                          | 26.6        | Pass   |
| 807.843  | 26.5                         | 21.8                | 1.2             | -30.1        | 19.4                          | 46.0                          | 26.6        | Pass   |


|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

| Product category   |                        | Class B                   |                 |              |                         |                         |             |        |
|--|------------------------|---------------------------|-----------------|--------------|-------------------------|-------------------------|-------------|--------|
| Supply voltage   |                        | <b>(Battery Operated)</b> |                 |              |                         |                         |             |        |
| Frequency range  |                        | 1GHz to 2GHz              |                 |              |                         |                         |             |        |
| <i>Peak emissions with respect to Average limits - Vertical</i>      |                        |                           |                 |              |                         |                         |             |        |
| Test Frequency (MHz)   | Received signal (dBμV) | Antenna factor (dB)       | Cable loss (dB) | Pre-Amp (dB) | Emission Level dB(μV/m) | Emission limit dB(μV/m) | Margin (dB) | Result |
| 1645.67  | 57.7                   | 27.6                      | 1.8             | -36.6        | 50.5                    | 54.0                    | 3.5         | Pass   |
| 1641.00  | 56.4                   | 27.6                      | 1.8             | -36.6        | 49.2                    | 54.0                    | 4.8         | Pass   |
| <i>Average emissions with respect to Average limits - Horizontal</i> |                        |                           |                 |              |                         |                         |             |        |
| Test Frequency (MHz)   | Received signal (dBμV) | Antenna factor (dB)       | Cable loss (dB) | Pre-Amp (dB) | Emission Level dB(μV/m) | Emission limit dB(μV/m) | Margin (dB) | Result |
| 1647.67  | 34.1                   | 27.6                      | 1.8             | -36.6        | 26.9                    | 54.0                    | 27.1        | Pass   |
| 1628.33  | 33.9                   | 27.6                      | 1.8             | -36.6        | 26.7                    | 54.0                    | 27.3        | Pass   |
| 1625.67  | 33.9                   | 27.6                      | 1.8             | -36.6        | 26.7                    | 54.0                    | 27.3        | Pass   |

| Product category   |                        | Class B                   |                 |              |                         |                         |             |        |
|--|------------------------|---------------------------|-----------------|--------------|-------------------------|-------------------------|-------------|--------|
| Supply voltage   |                        | <b>(Battery Operated)</b> |                 |              |                         |                         |             |        |
| Frequency range  |                        | 2GHz to 5.5GHz            |                 |              |                         |                         |             |        |
| <i>Peak emissions with respect to Average limits - Vertical</i>      |                        |                           |                 |              |                         |                         |             |        |
| Test Frequency (MHz)   | Received signal (dBμV) | Antenna factor (dB)       | Cable loss (dB) | Pre-Amp (dB) | Emission Level dB(μV/m) | Emission limit dB(μV/m) | Margin (dB) | Result |
| 4949.23  | 50.2                   | 33.9                      | 1.2             | -35.7        | 52.6                    | 54.0                    | 1.4         | Pass   |
| <i>Average emissions with respect to Average limits - Horizontal</i> |                        |                           |                 |              |                         |                         |             |        |
| Test Frequency (MHz)   | Received signal (dBμV) | Antenna factor (dB)       | Cable loss (dB) | Pre-Amp (dB) | Emission Level dB(μV/m) | Emission limit dB(μV/m) | Margin (dB) | Result |
| 4936.5   | 33.3                   | 33.9                      | 3.0             | 1.2          | -35.7                   | 35.7                    | 54.0        | Pass   |
| 4863.64  | 33.1                   | 33.8                      | 2.9             | 1.2          | -35.7                   | 35.3                    | 54.0        | Pass   |

Note: 1) See 'Appendix B – EUT & Test Setup Photographs' for photos showing the test set-up for the highest radiated emission.


2) Radiated emission test was performed with transmitting mode as well as in receiving mode, however the test results for transmitting mode is presented in this test report.

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

## Test Equipment List

| Equipment                 | Model No.                | Manufacturer    | Last calibration date | Next calibration due date | Asset #   |
|---------------------------|--------------------------|-----------------|-----------------------|---------------------------|-----------|
| EMI Test Receiver         | ESL 6                    | Rohde & Schwarz | Oct-06, 2011          | Oct-06, 2013              | GEMC 160  |
| BiLog Antenna             | 3142-C                   | ETS             | Jan 17, 2011          | Jan 17, 2013              | GEMC 8    |
| Loop Antenna              | EM 6871                  | Electro-Metrics | Jan 31, 2011          | Jan 31, 2013              | GEMC 70   |
| Loop Antenna              | EM 6872                  | Electro-Metrics | Jan 31, 2011          | Jan 31, 2013              | GEMC 71   |
| Chase Preamp 9kHz - 2 GHz | CPA9231A                 | Chase           | Aug 25, 2010          | Aug 25, 2012              | GEMC 6403 |
| Q-Par 1.5-18 GHz Horn     | 6878/24                  | Q-par           | Aug 25, 2010          | Aug 25, 2012              | GEMC 6365 |
| 1-26G pre-amp             | HP 8449B                 | HP              | Aug 25, 2010          | Aug 25, 2012              | GEMC 6351 |
| RF Cable 7m               | LMR-400-7M-50OHM-MN-MN   | LexTec          | NCR                   | NCR                       | GEMC 28   |
| RF Cable 10m              | LMR-400-10M-50OHM-MN-MN  | LexTec          | NCR                   | NCR                       | GEMC 29   |
| RF Cable 0.5M             | LMR-400-0.5M-50OHM-MN-MN | LexTec          | NCR                   | NCR                       | GEMC 31   |

This report module is based on GEMC template "FCC - 15.209 - Radiated Emissions\_Rev1.doc"

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

## ***RFID Emissions Mask***

### **Purpose**

The purpose of this test is to ensure that the RF energy unintentionally emitted from the EUT does not exceed the limits listed below as defined in the applicable test standard, as measured from a receiving antenna. This helps protect other devices which may be using the same spectrum allocations for similar or other purposes. This also ensures the transmit range of the device is within the pre-determined suitable range. This also ensures public safety by not exceeding a level which has been deemed safe for human exposure.

### **Limit(s) and Method**

The limits are as defined in FCC Part 15, Section 15.225

Method is using a loop antenna and converting to voltage based on the impedance of free space.

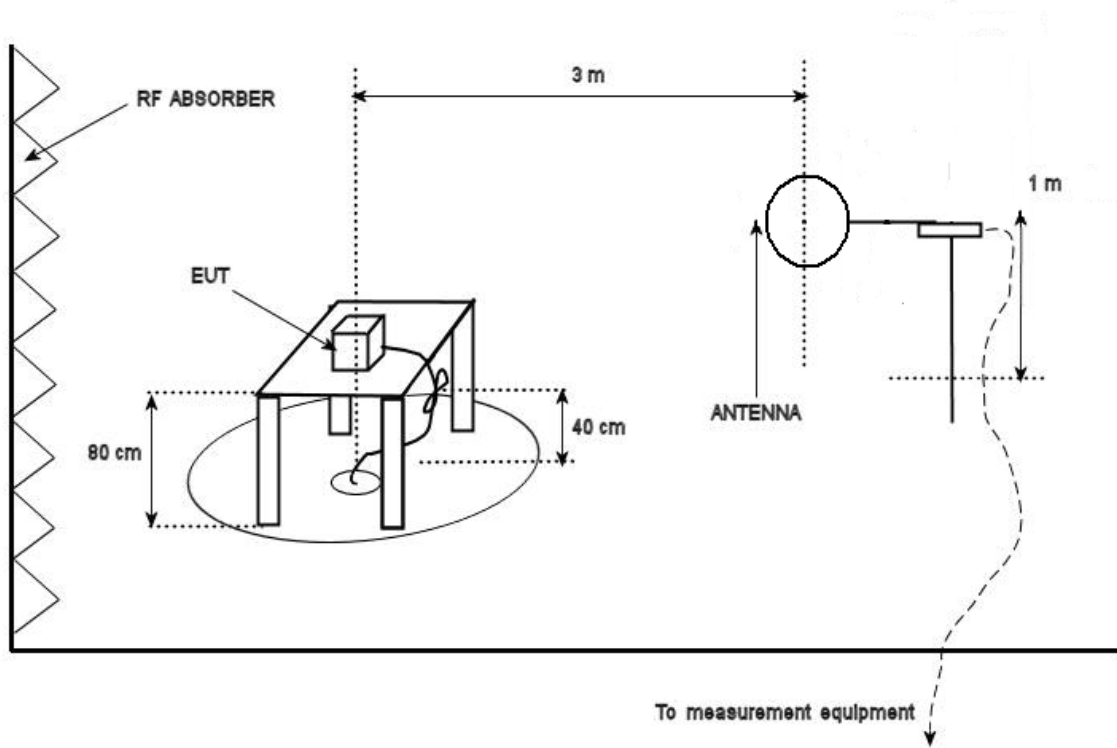
| Frequency range (MHz) | Limit (uV/m @ 30 m) | Limit (dBuV/m @ 3 m) |
|-----------------------|---------------------|----------------------|
| 13.110-13.410         | 106                 | 80.5                 |
| 13.410-13.553         | 334                 | 90.5                 |
| 13.553-13.567         | 15,848              | 124.0                |
| 13.567-13.710         | 334                 | 90.5                 |
| 13.710-14.010         | 106                 | 80.5                 |

<sup>1</sup>Limit is with a Quasi Peak detector using bandwidths defined in CISPR16.

Devices scanned below 30 MHz are scanned at a 3 meter test distance, and in accordance with FCC Part 15, Subpart A, Section 15.31, an extrapolation factor of 40 dB/decade was used. For example for 3 meter measurements, an extrapolation factor of  $20 \text{ Log}(uV/m) + 40 \text{ Log}(30m / 3m)$  is applied.

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

### Typical RFID Emissions Mask Test Setup




### Measurement Uncertainty

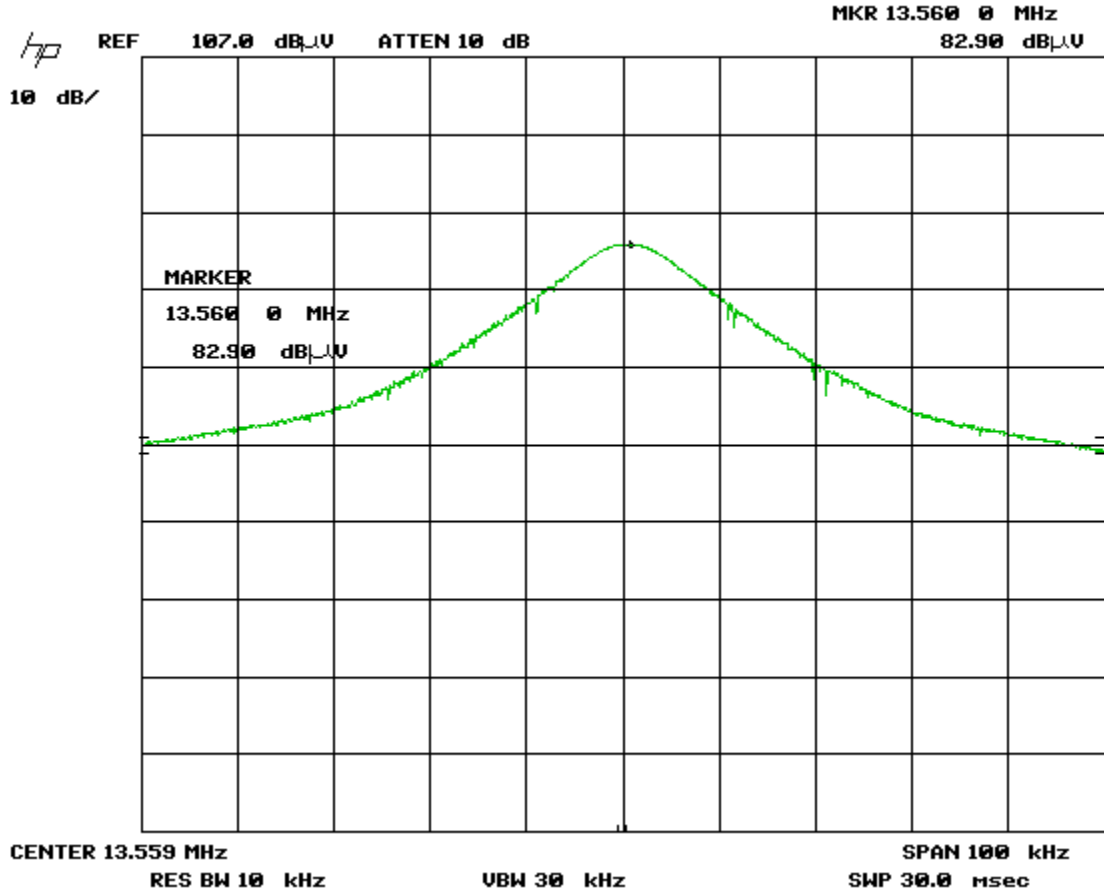
The expanded measurement uncertainty is calculated in accordance with CISPR 16-4-2 and is  $\pm 4.4$  dB with a 'k=2' coverage factor and a 95% confidence level.


### Preliminary Graphs

Note the graphs shown below are for graphical illustration. For final measurements, please refer to the final measurement table where applicable. The graph shown below is a maximized peak measurement graph, measured with a resolution bandwidth greater than the final required detector and over a full 0-360 rotation. Also the loop was orientated at 0 degrees and 90 degrees and a maximized reading is shown. This peaking process is done as a worst case measurement. This process enables the detection of frequencies of concern for final measurement, and provides considerable time savings.

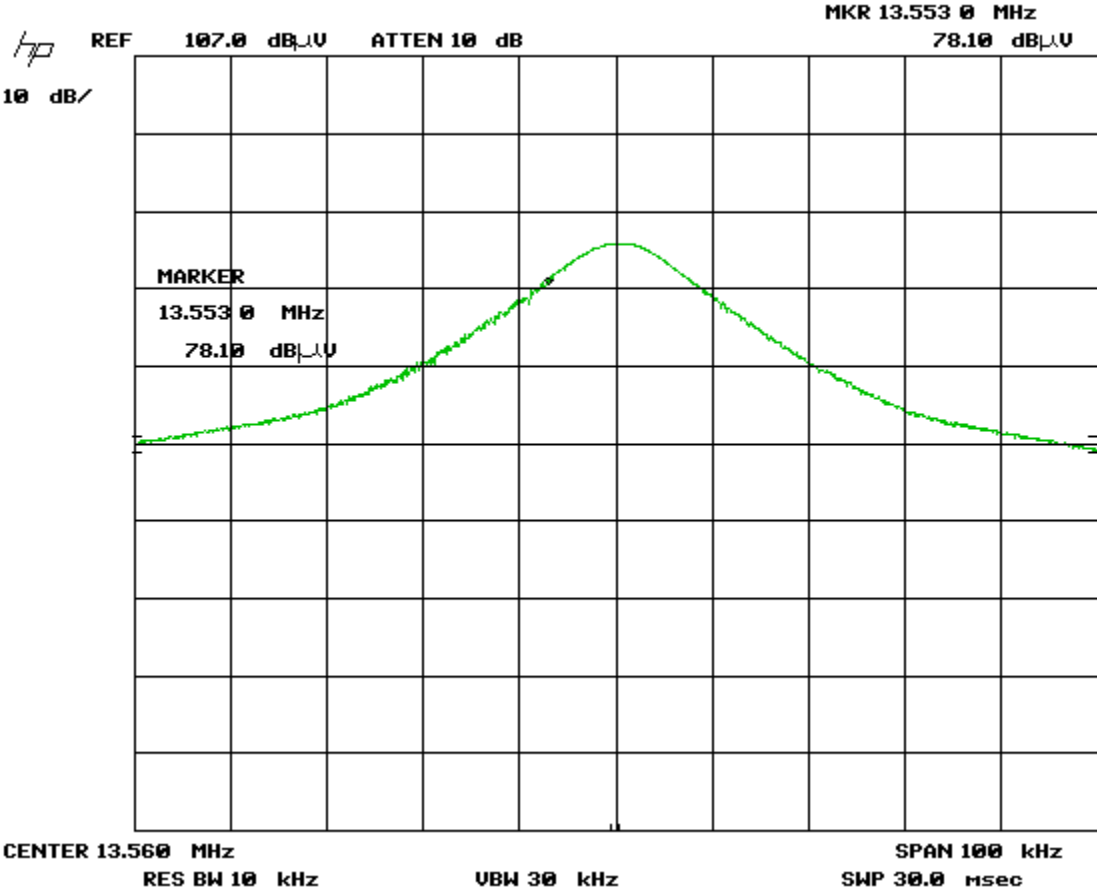
|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

Peak emission at carrier frequency: 13.56MHz




|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

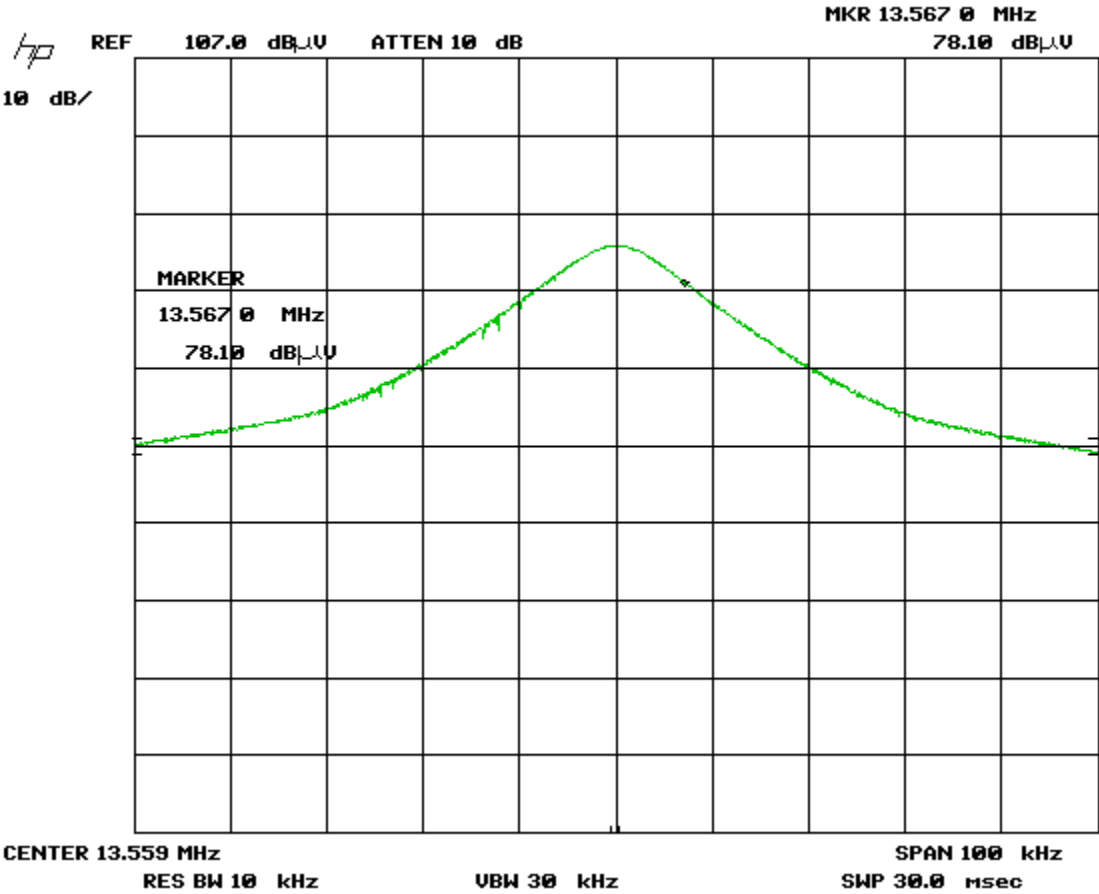
Peak emission at frequency: 13.553MHz



© Global EMC Inc. This test report shall not be reproduced except in full, without written approval of Global EMC Inc


|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

Peak emission at frequency: 13.567MHz

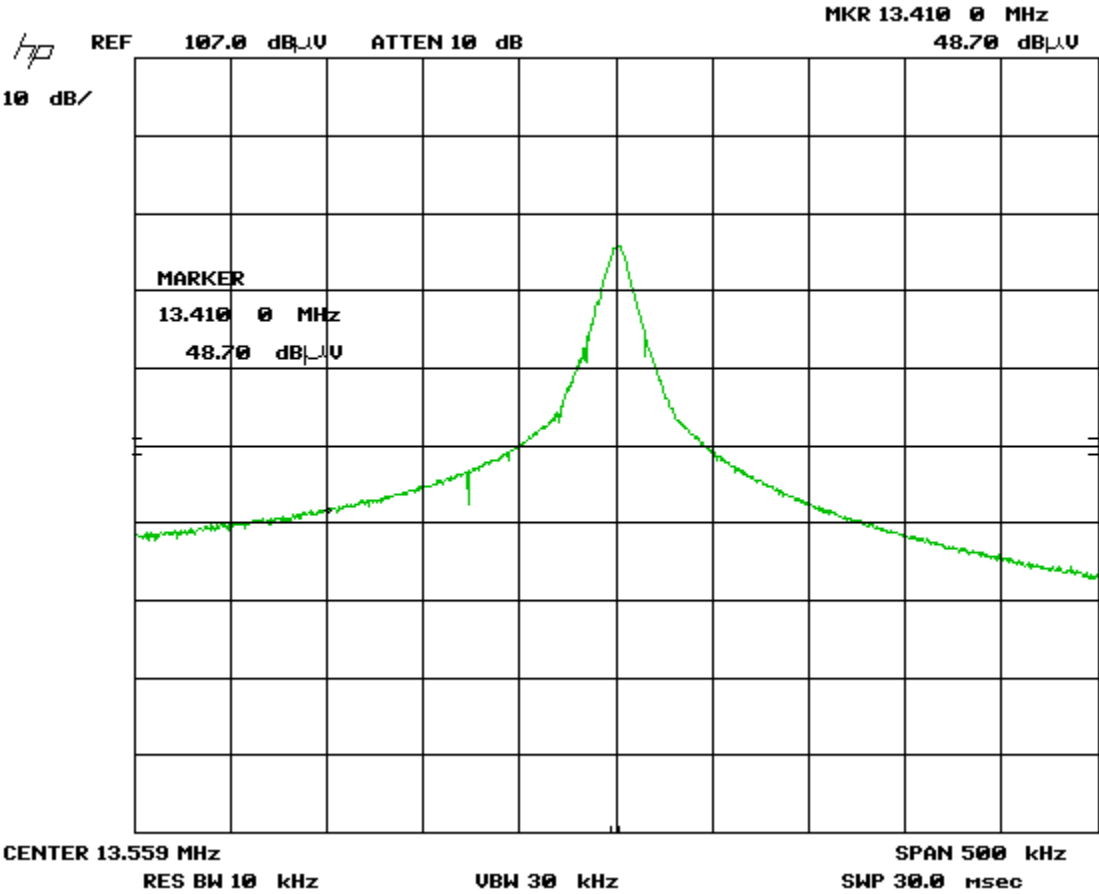


© Global EMC Inc. This test report shall not be reproduced except in full, without written approval of Global EMC Inc




|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

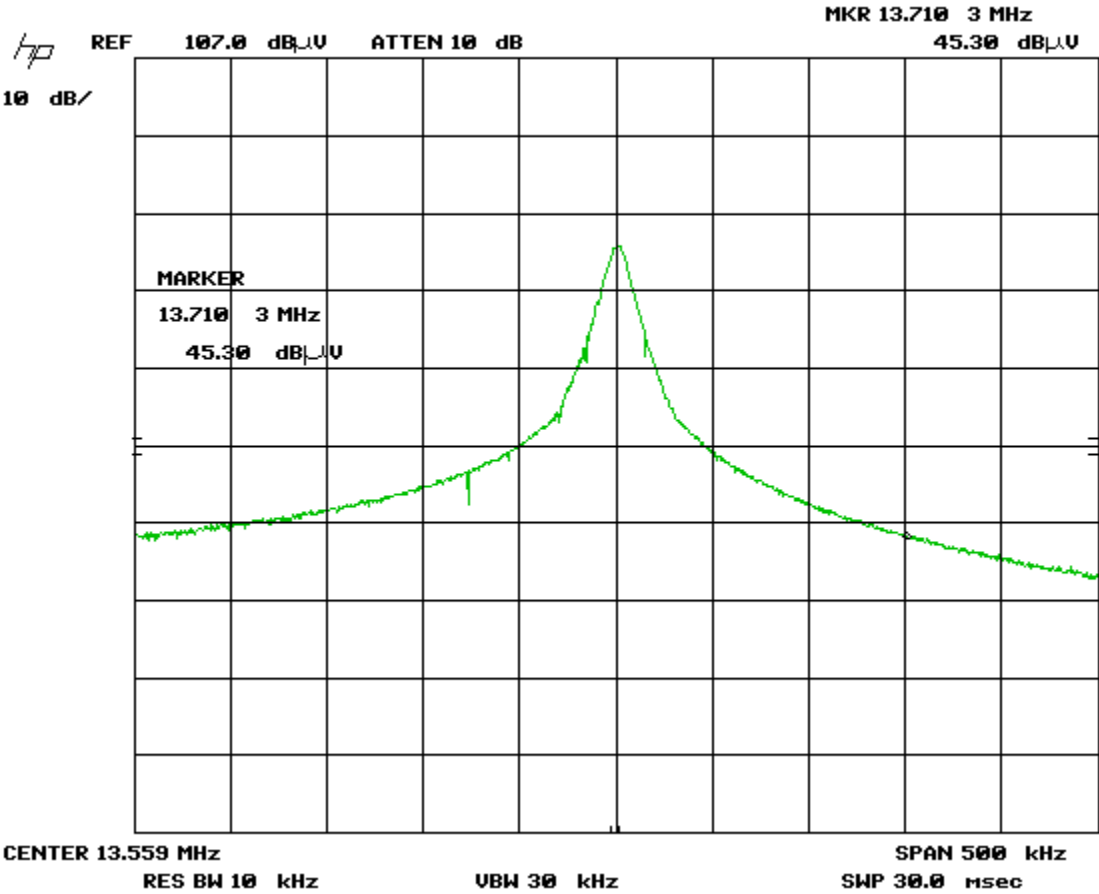
Peak emission at frequency: 13.410MHz




© Global EMC Inc. This test report shall not be reproduced except in full, without written approval of Global EMC Inc

|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

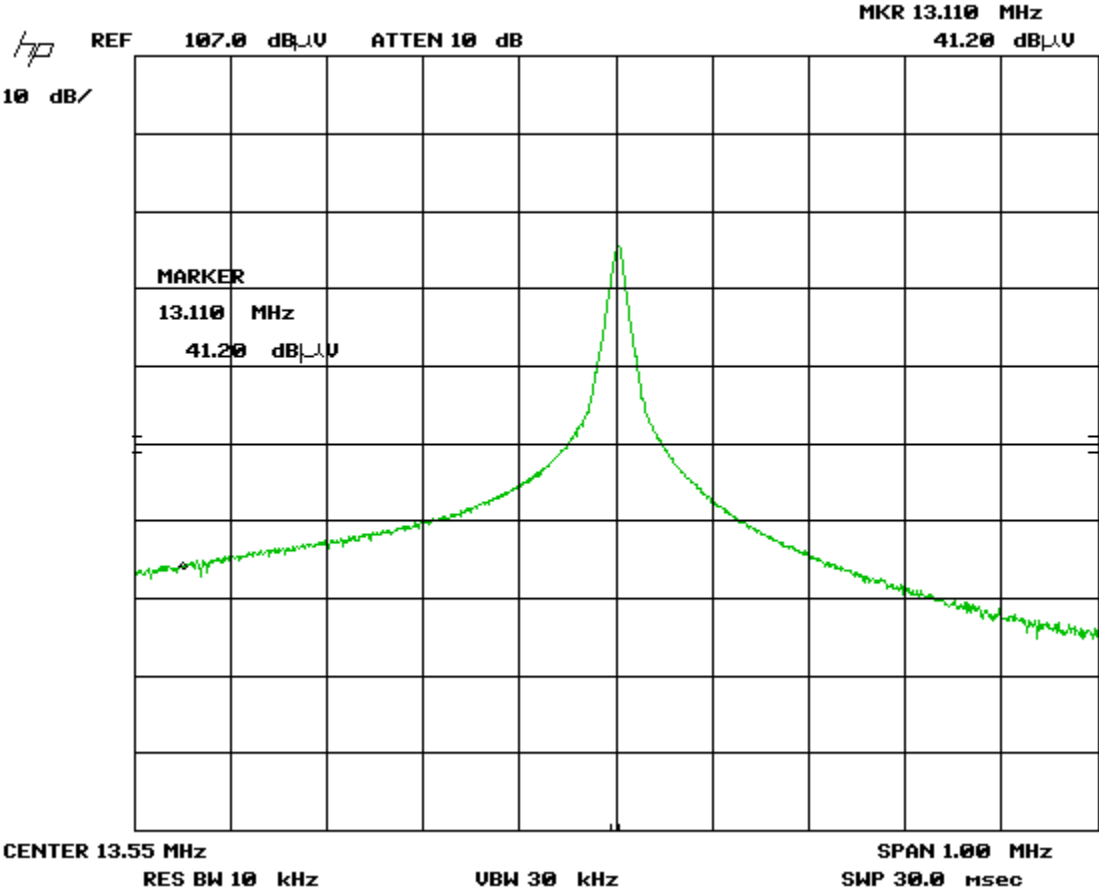
Peak emission at frequency: 13.710MHz




© Global EMC Inc. This test report shall not be reproduced except in full, without written approval of Global EMC Inc

|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

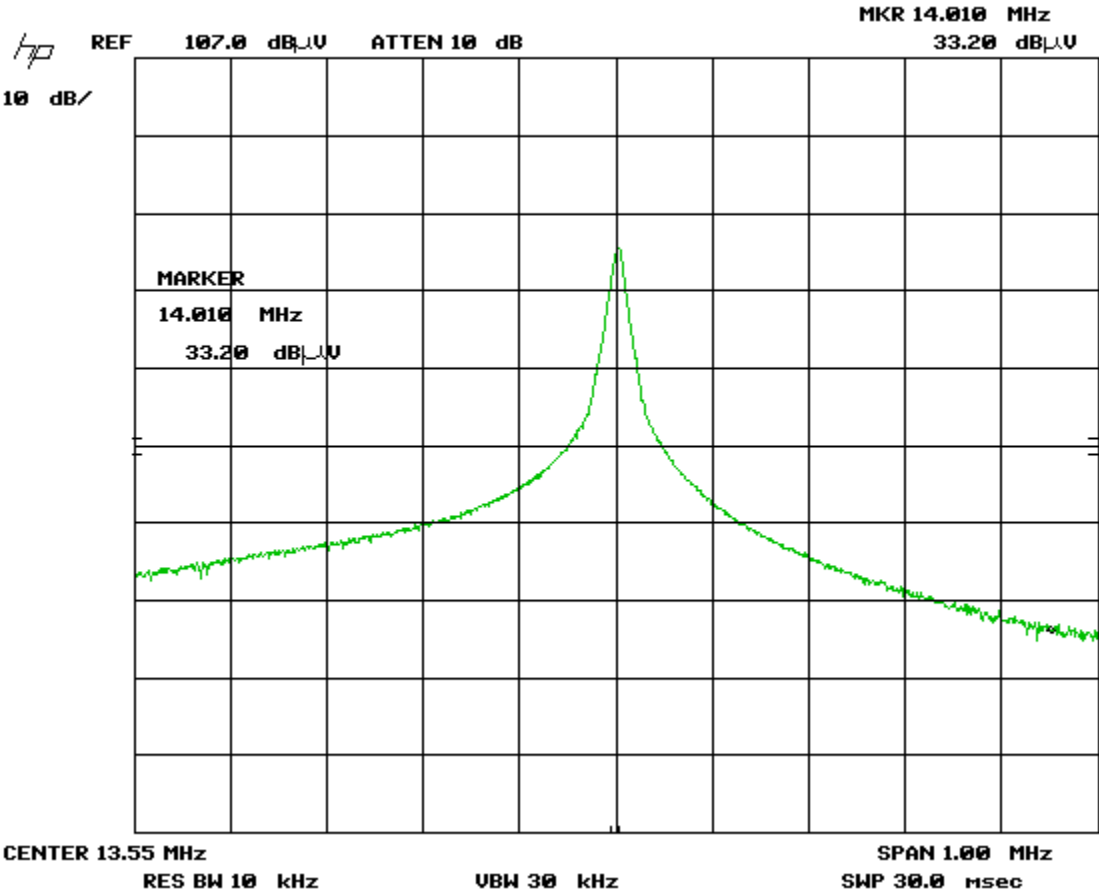
Peak emission at frequency: 13.110MHz



© Global EMC Inc. This test report shall not be reproduced except in full, without written approval of Global EMC Inc

|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

Peak emission at frequency: 14.010MHz



© Global EMC Inc. This test report shall not be reproduced except in full, without written approval of Global EMC Inc

|             |  |  |
|-------------|--|--|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |  |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |  |

## Final Measurements

For information purposes, the worst case peak reading(s) of intentional transmit compared to 15.209 limits is presented below.

| Test Frequency (MHz) | Received signal (dB $\mu$ V) | Antenna factor (dB) | Cable loss (dB) | Current to voltage factor | Pre-Amp (dB) | Emission Level dB( $\mu$ V/m) | Emission limit dB( $\mu$ V/m) | Margin (dB) | Result |
|----------------------|------------------------------|---------------------|-----------------|---------------------------|--------------|-------------------------------|-------------------------------|-------------|--------|
| 13.560               | 82.9                         | -16                 | 0.1             | 51.5                      | -30.1        | 88.4                          | 124.0                         | 35.6        | Pass   |
| 13.553               | 78.1                         | -16                 | 0.1             | 51.5                      | -30.1        | 83.6                          | 90.5                          | 6.9         | Pass   |
| 13.567               | 78.1                         | -16                 | 0.1             | 51.5                      | -30.1        | 83.6                          | 90.5                          | 6.9         | Pass   |
| 13.410               | 48.7                         | -16                 | 0.1             | 51.5                      | -30.1        | 54.2                          | 80.5                          | 26.3        | Pass   |
| 13.710               | 45.3                         | -16                 | 0.1             | 51.5                      | -30.1        | 50.8                          | 80.5                          | 29.7        | Pass   |
| 13.110               | 41.2                         | -16                 | 0.1             | 51.5                      | -30.1        | 46.7                          | 54.0                          | 7.3         | Pass   |
| 14.010               | 33.2                         | -16                 | 0.1             | 51.5                      | -30.1        | 38.7                          | 54.0                          | 15.3        | Pass   |

Note: 1) See 'Appendix B – EUT & Test Setup Photographs' for photos showing the test set-up for the highest RFID radiated emission mask.


2) No peak emissions were detected that exceeded the 15.209 limits, therefore no Quasi-peak measurements were deemed necessary.

|             |  |  |
|-------------|--|--|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |  |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |  |

### Test Equipment List

| Equipment                 | Model No.                | Manufacturer    | Last calibration date | Next calibration due date | Asset #   |
|---------------------------|--------------------------|-----------------|-----------------------|---------------------------|-----------|
| EMI Test Receiver         | ESL 6                    | Rohde & Schwarz | Oct-06, 2011          | Oct-06, 2013              | GEMC 160  |
| Loop Antenna              | EM 6872                  | Electro-Metrics | Jan 31, 2011          | Jan 31, 2013              | GEMC 71   |
| Chase Preamp 9kHz - 2 GHz | CPA9231A                 | Chase           | Aug 25, 2010          | Aug 25, 2012              | GEMC 6403 |
| RF Cable 7m               | LMR-400-7M-50OHM-MN-MN   | LexTec          | NCR                   | NCR                       | GEMC 28   |
| RF Cable 10m              | LMR-400-10M-50OHM-MN-MN  | LexTec          | NCR                   | NCR                       | GEMC 29   |
| RF Cable 0.5M             | LMR-400-0.5M-50OHM-MN-MN | LexTec          | NCR                   | NCR                       | GEMC 31   |

This report module is based on GEMC template "FCC - 15.225 - RFID Emissions Mask\_Rev1.doc"

|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

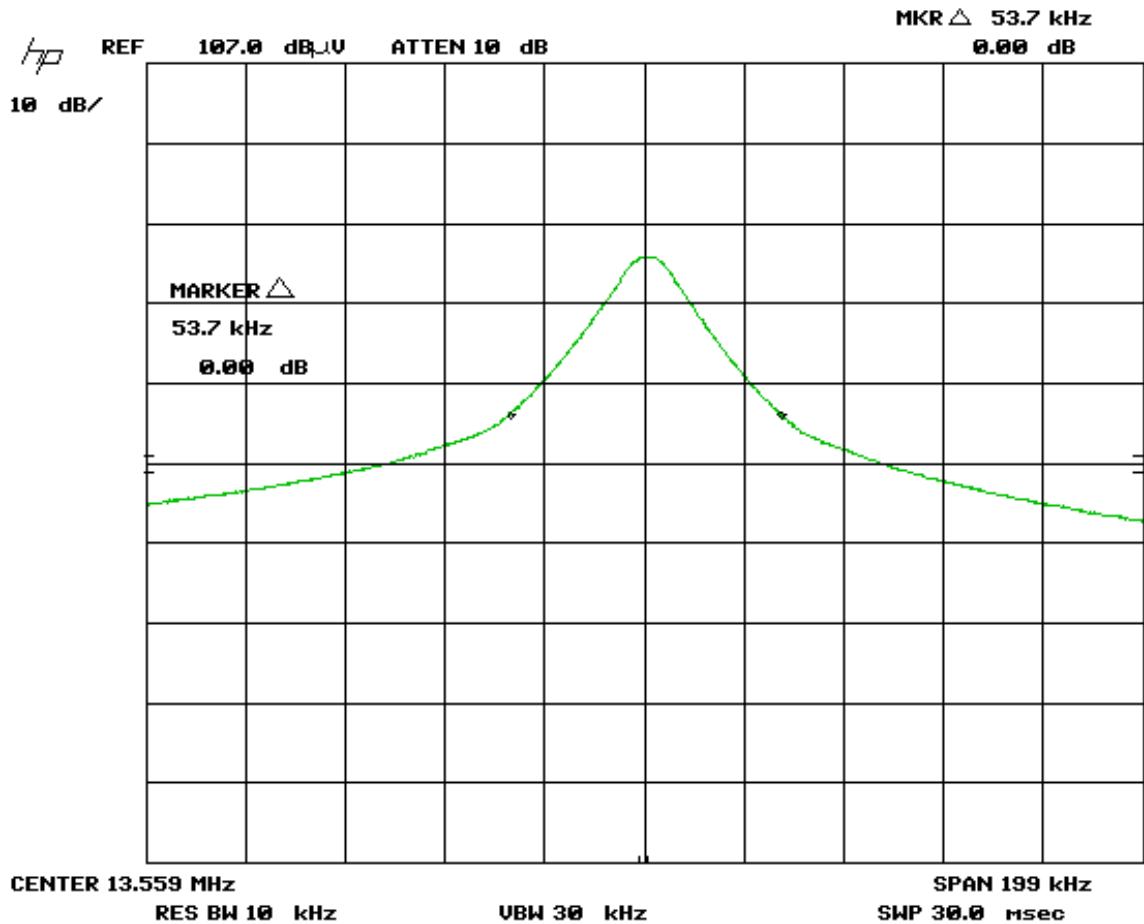
### 20 dB Bandwidth Measurement


The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limit in sec 15.209

### Test Results

| Channel Frequency (MHz) | 20dB Measured Bandwidth (kHz) |
|-------------------------|-------------------------------|
| 13.56                   | 53.7                          |

### 20 dB Bandwidth measurement graph



|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

## Carrier Frequency Stability

### Purpose

The purpose of this test is to ensure that the RF energy intentionally emitted from the EUT does not exceed the permitted bandwidth or level during extreme temperature variations. This helps protect radio broadcasts and receivers with spectrum nearby to the equipment under test from unwanted interference. This also helps ensure proper reception of the intended signal by ensuring the transmit frequency is correct over the expected temperature range.

### Limit(s) and Method


The limits are as defined in FCC Part 15, Section 15.225(e)

The frequency tolerance of the carrier signal shall be maintained within  $\pm 0.01\%$  of the operating frequency over 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 voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

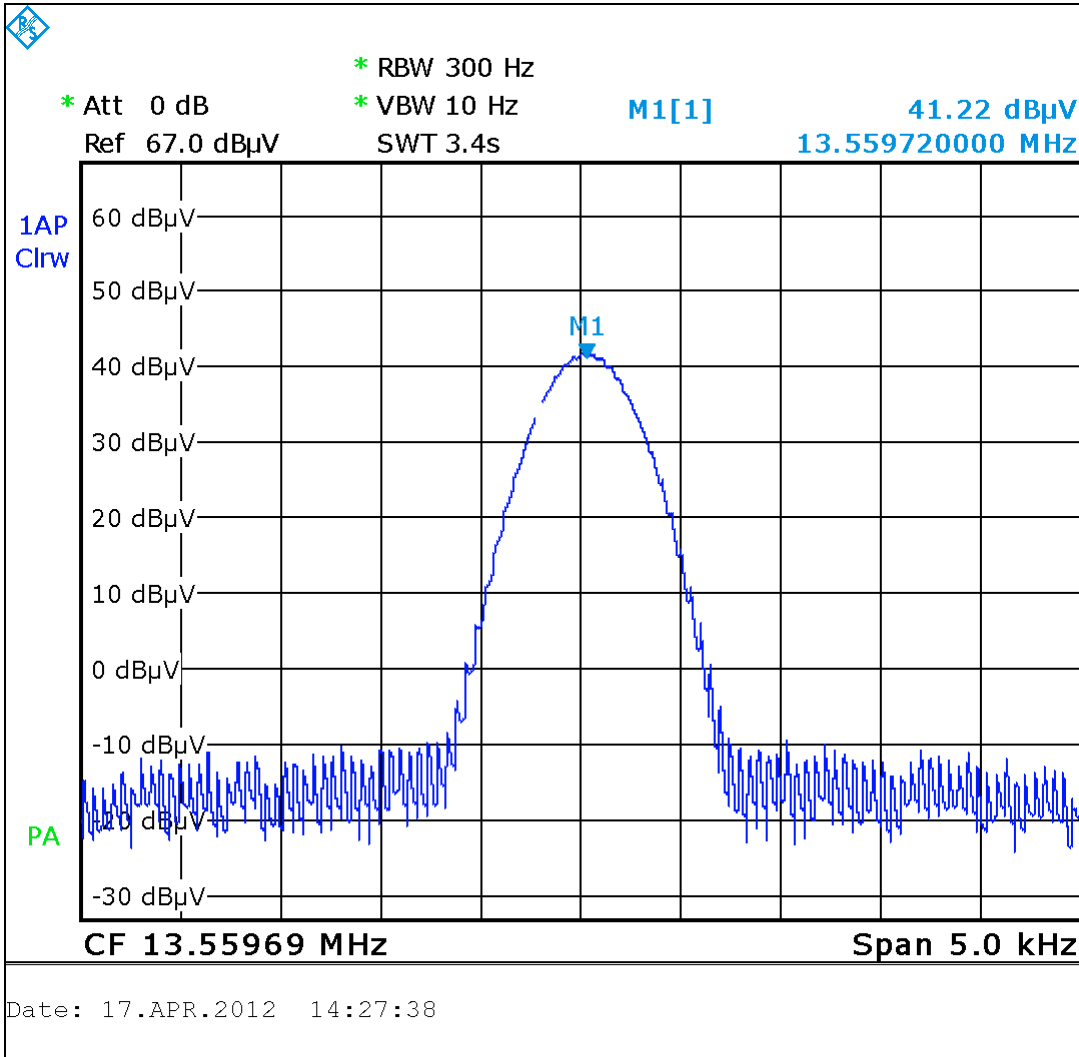
### Results / Measurement Graphs

No deviation in amplitude or frequency would cause any EUT to be non compliant with the specification. The worst case results are presented in the graphs below with the frequency shown. The device was checked at each 10 degree increment of temperature, however the worst case results at the extreme temperatures are presented in this test report.




|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

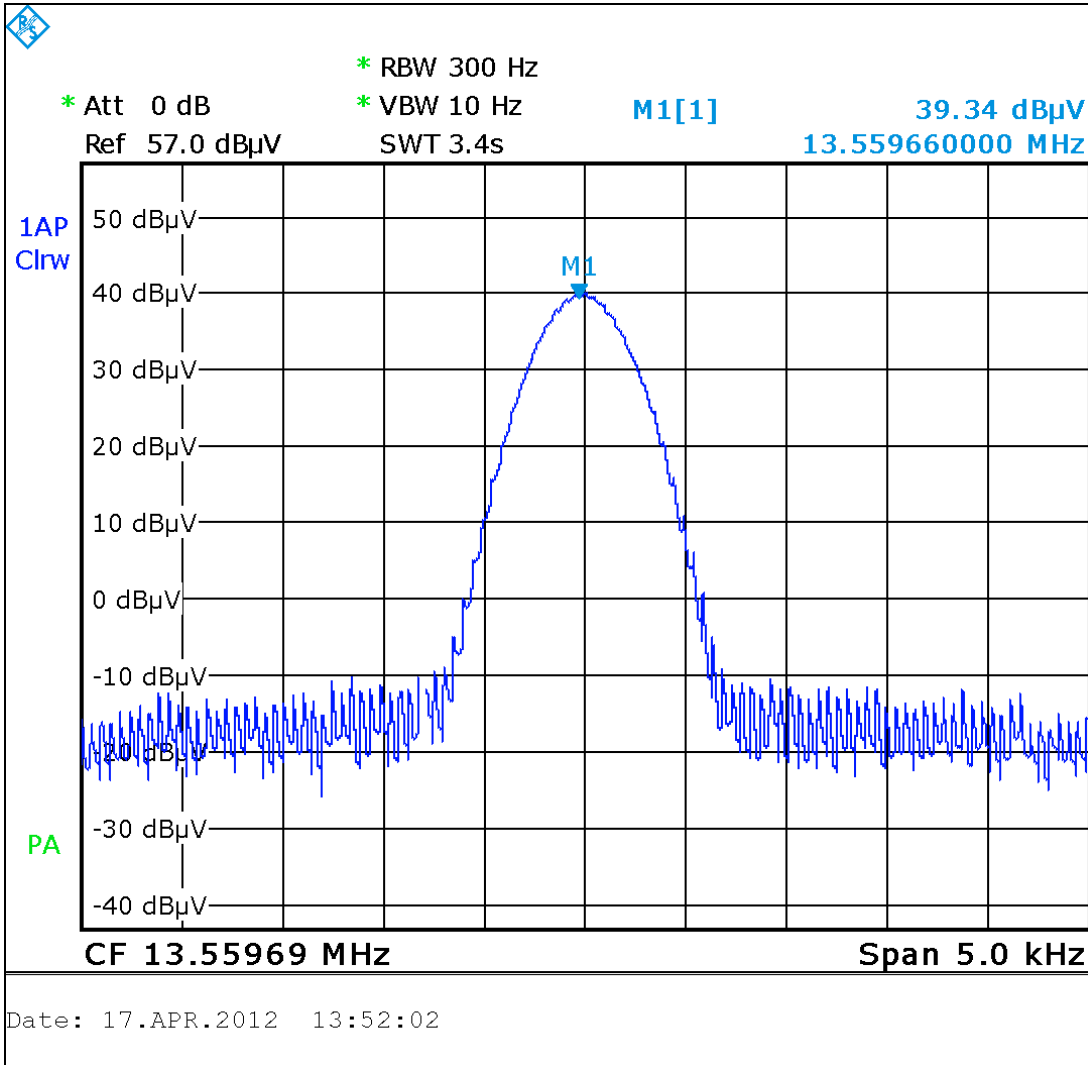
Measurement at lower temperature (-20<sup>0</sup>C)





|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |

Measurement at Higher temperature (+50°C)



|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

## Results Table


Carrier frequency stability shall be maintained to +/-0.01%(100ppm)

| Temperature (deg Celsius) | Measured Frequency (MHz) | % of operating frequency | Pass / Fail |
|---------------------------|--------------------------|--------------------------|-------------|
| -20                       | 13.55972                 | 0.00021                  | PASS        |
| +20                       | 13.55969                 | 0.00000                  | PASS        |
| +50                       | 13.55966                 | 0.00022                  | PASS        |

## Test Equipment List

| Equipment                  | Model No.              | Manufacturer    | Last calibration date | Next calibration due date | Asset #   |
|----------------------------|------------------------|-----------------|-----------------------|---------------------------|-----------|
| EMI Test Receiver          | ESL 6                  | Rohde & Schwarz | Oct 06, 2011          | Oct 06, 2013              | GEMC 160  |
| Loop Antenna               | EM 6872                | Electro-Metrics | Jan 31, 2011          | Jan 31, 2013              | GEMC 71   |
| Temperature/Humidity meter | HMP233                 | Vaisala         | Oct 14, 2011          | Oct 14, 2012              | CANE00043 |
| RF Cable 7m                | LMR-400-7M-50OHM-MN-MN | LexTec          | NCR                   | NCR                       | GEMC 28   |
| Temperature chamber        | AST-70                 | Thermotron      | NCR                   | NCR                       | GEMC 153  |

This report module is based on GEMC template "FCC - 15.225 - RFID Freq Stab\_Rev1.doc"

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

## General EUT Description

| Client Details   |  |
|--|--|
| Organization / Address                                       | Intelletto Technologies Inc.<br>3555-14 <sup>th</sup> Avenue unit 8<br>Markham, ON L3R 0H5<br>Canada               |
| Contact  | Homayoun Ahmadi  |
| Phone  | 905 943 4260 ext 244   |
| Email  | hahmadi@intelletto.com   |
| EUT (Equipment Under Test) Details                           |  |
| EUT Name (for report title)                                  | Blade Reader (Scanner)   |
| EUT Model / SN (if known)                                    | BR10   |
| EUT revision   | Prototype  |
| Software version   | 5.11   |
| Equipment category   | RFID Handheld  |
| EUT is powered using   | Battery  |
| Input voltage range(s) (V)                                   | 9Volt dc using switch-mode power supply  |
| Frequency range(s) (Hz)                                      | N/A  |
| Transmits RF energy? (describe)                              | Yes. 200mW   |
| Basic EUT functionality description                          | Blade Reader (Scanner) is a RFID Bluetooth reader (scanner) designed for the purpose of reading passive RFID-tags. |
| High level block diagram of EUT (attachment)                 | Please refer attachment  |
| Modes of operation   | Continuous Transmitting and receiving mode   |
| Frequency of all clocks present in EUT                       | 13.56MHz   |
| I/O cable description<br>Specify length and type             | None   |
| Available connectors on EUT                                  | DC power input   |
| Peripherals required to exercise EUT<br>Ex. Signal generator | None   |
| Dimensions of product  | W 9cm<br>H 22cm<br>D 29cm  |

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |

## EUT Functional Description

Blade Reader (Scanner) is a RFID Bluetooth reader (scanner) designed for the purpose of reading passive RFID-tags.

## EUT Configuration

- Blade Reader (Scanner) was tested in auto mode and ensured the RF transmission was continuously on.
- During the tests, incorporated Bluetooth module (T9J-RN42) was active and was paired with external Bluetooth module (T9JRN41-1) where applicable.
- Blade Reader (Scanner) was fully charged using switch-mode power supply, model: 3A-181WP09 for the testing where applicable.

## Operational Setup


These devices are required to be attached to the EUT for its normal operation.

- None

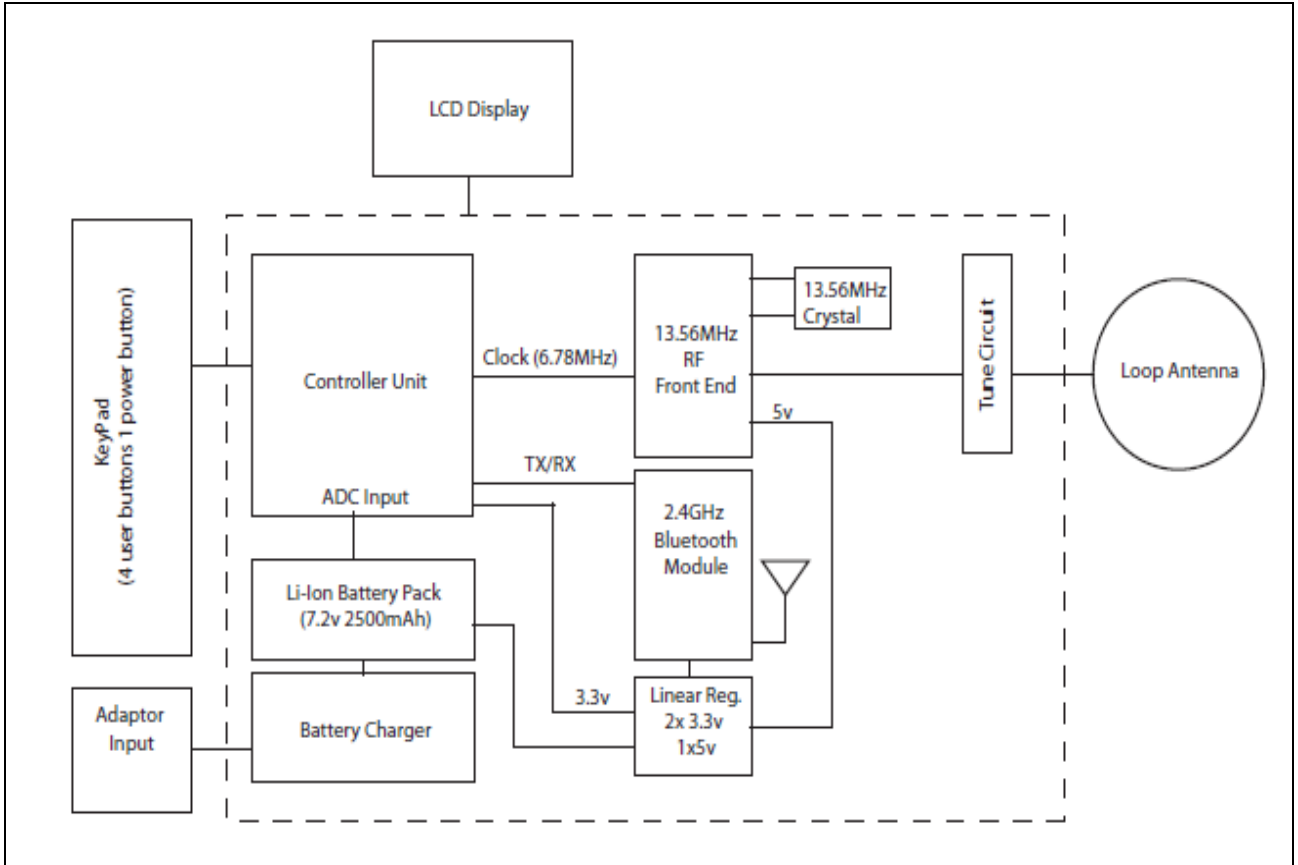
## Modifications for Compliance


The following modifications were made during testing for the sample to achieve compliance with the testing requirements:

- None

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |


### EUT Block Diagram



|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |


## Appendix B – EUT & Test Setup Photos



|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |




**Blade Reader (Scanner) - Front view**

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |




**Blade Reader (Scanner) - Side view**

|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |




**Blade Reader (Scanner) with switch mode power supply/charger**

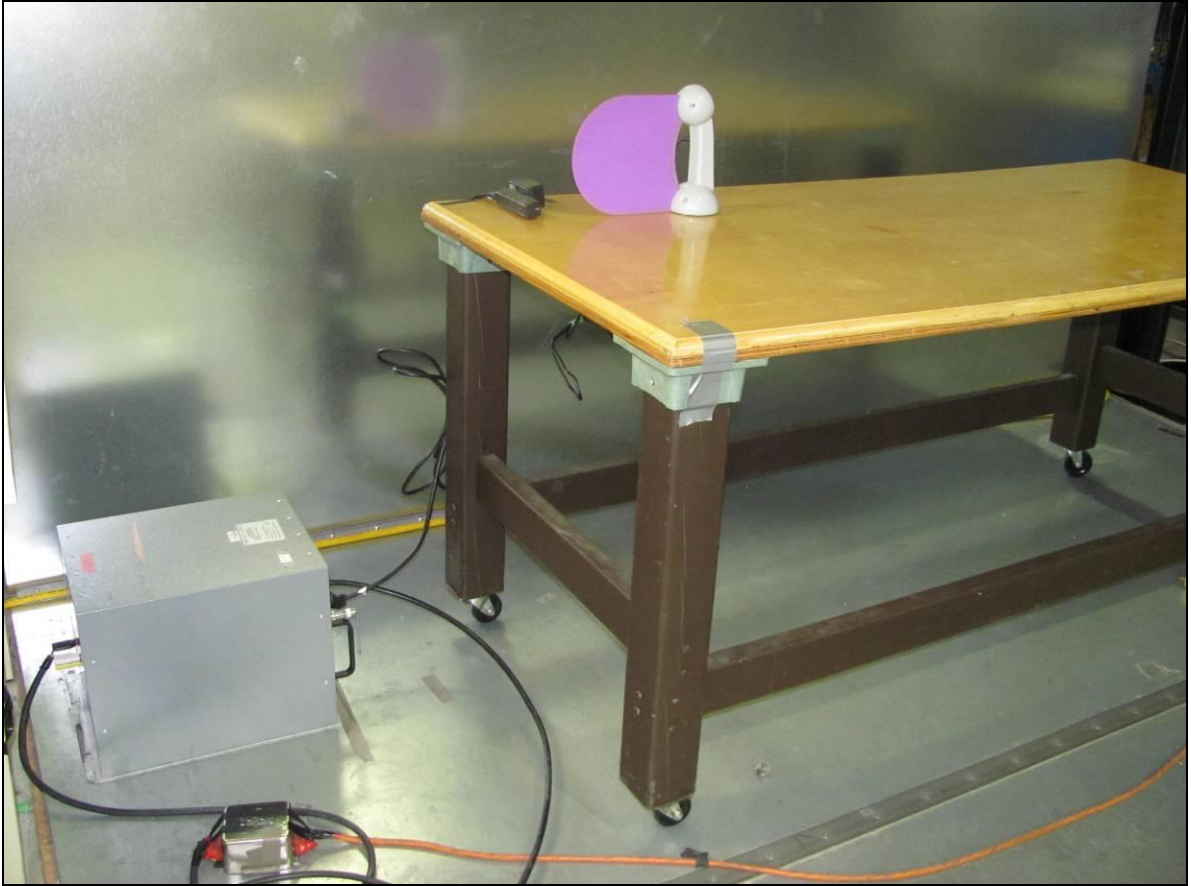
|             |   |   |
|-------------|---|---|
| Client      | Intelletto Technologies Inc.                  |  |
| Product     | Blade Reader (Scanner)                        |   |
| Standard(s) | FCC Part 15 Subpart C 2011 & RSS-210: Issue 8 |   |




**Blade Reader (Scanner) with switch mode power supply/charger and external blue tooth device**



|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |




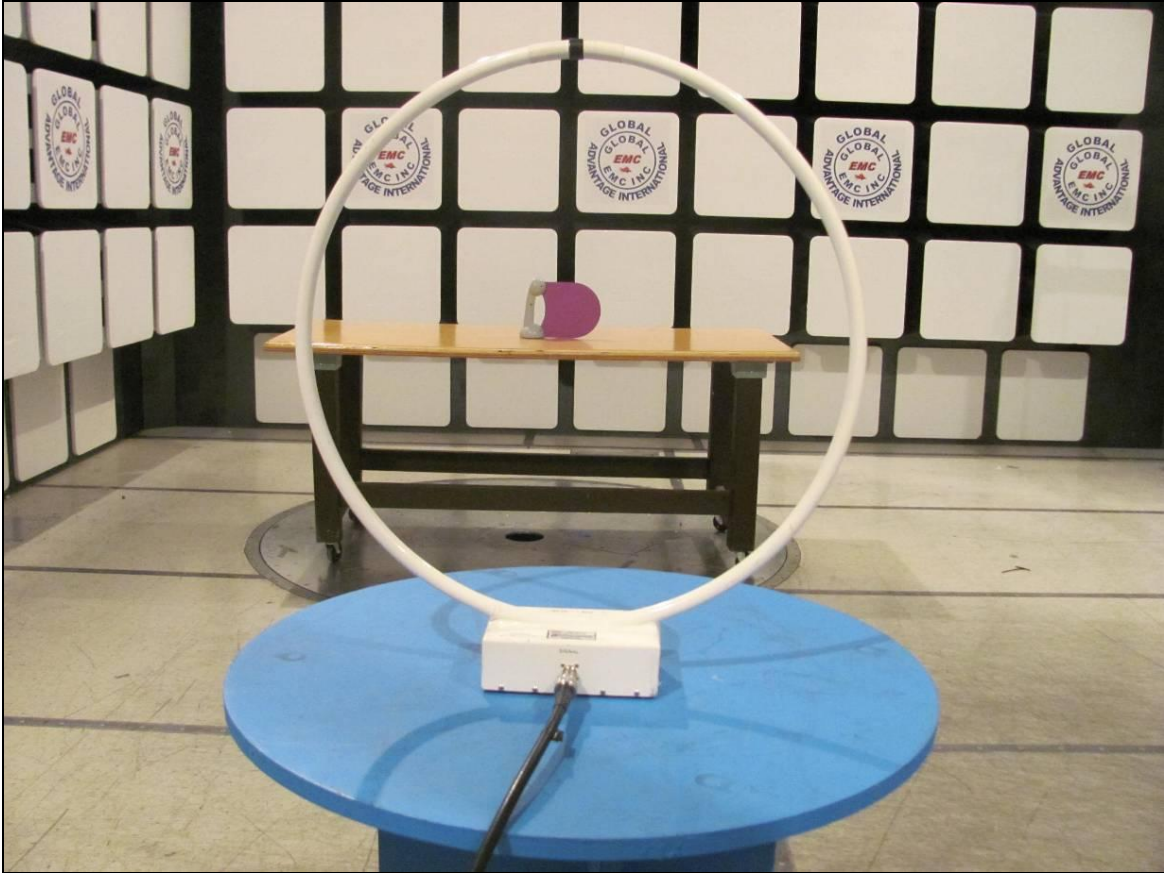
**Power Line Conducted Emissions Test Set up \_ Photo 1**

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |




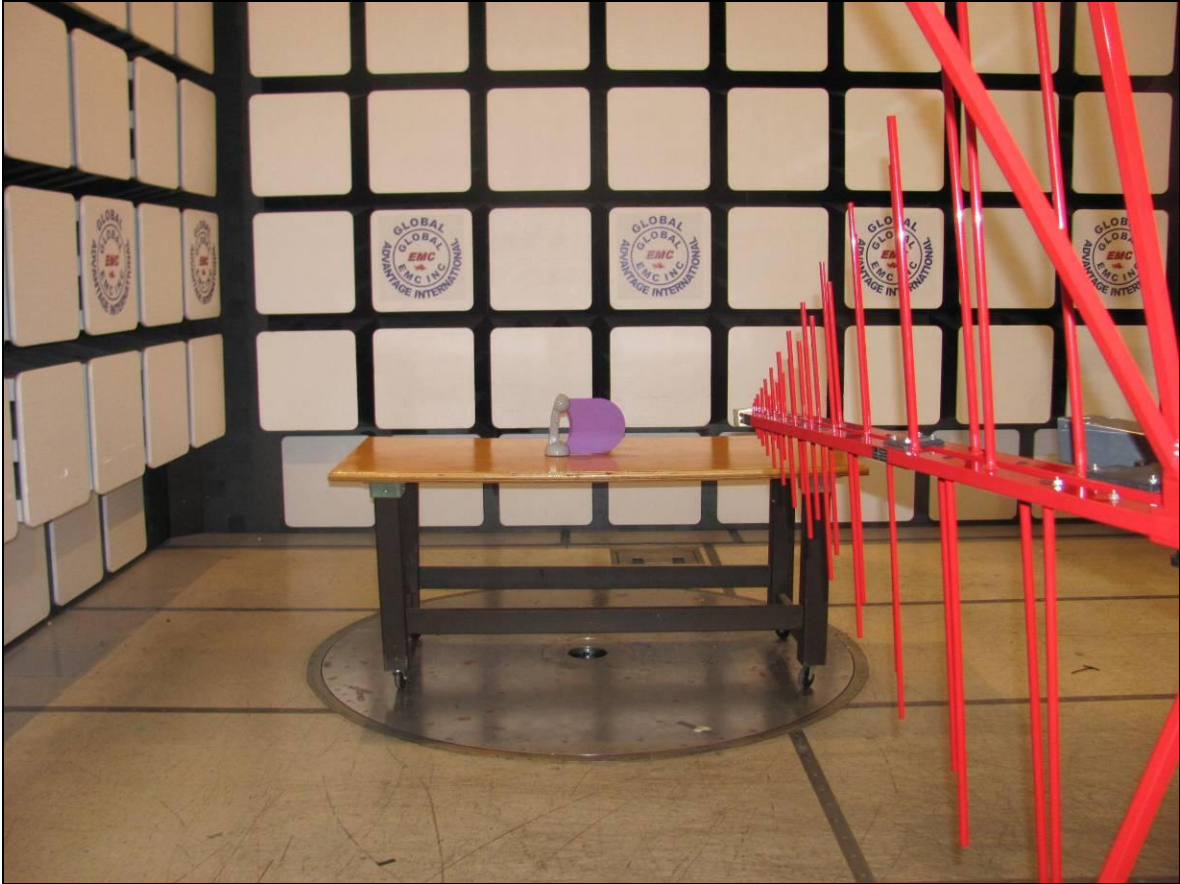
**Power Line Conducted Emissions Test Set up \_ Photo 2**

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |




**Radiated Emissions Test Set up \_ Photo 1**

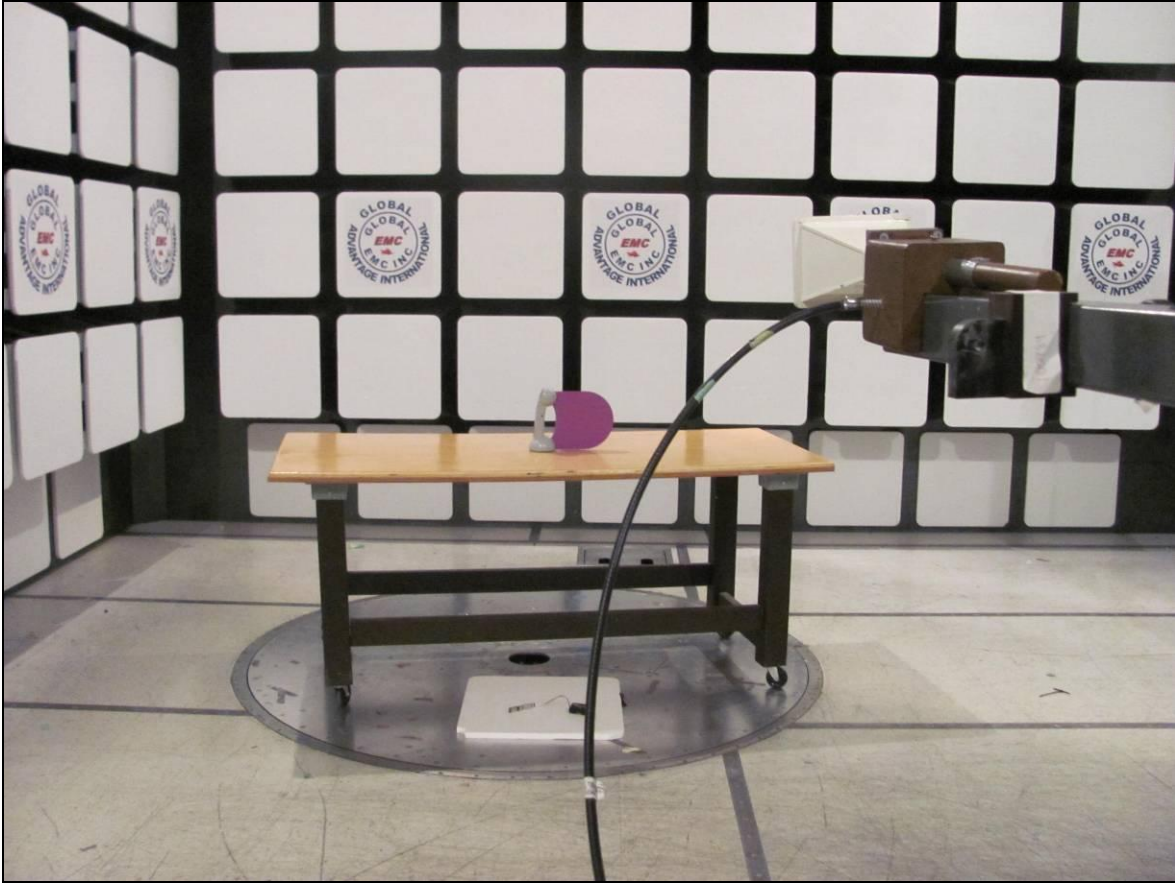
|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |




**Radiated Emissions Test Set up \_ Photo 2**

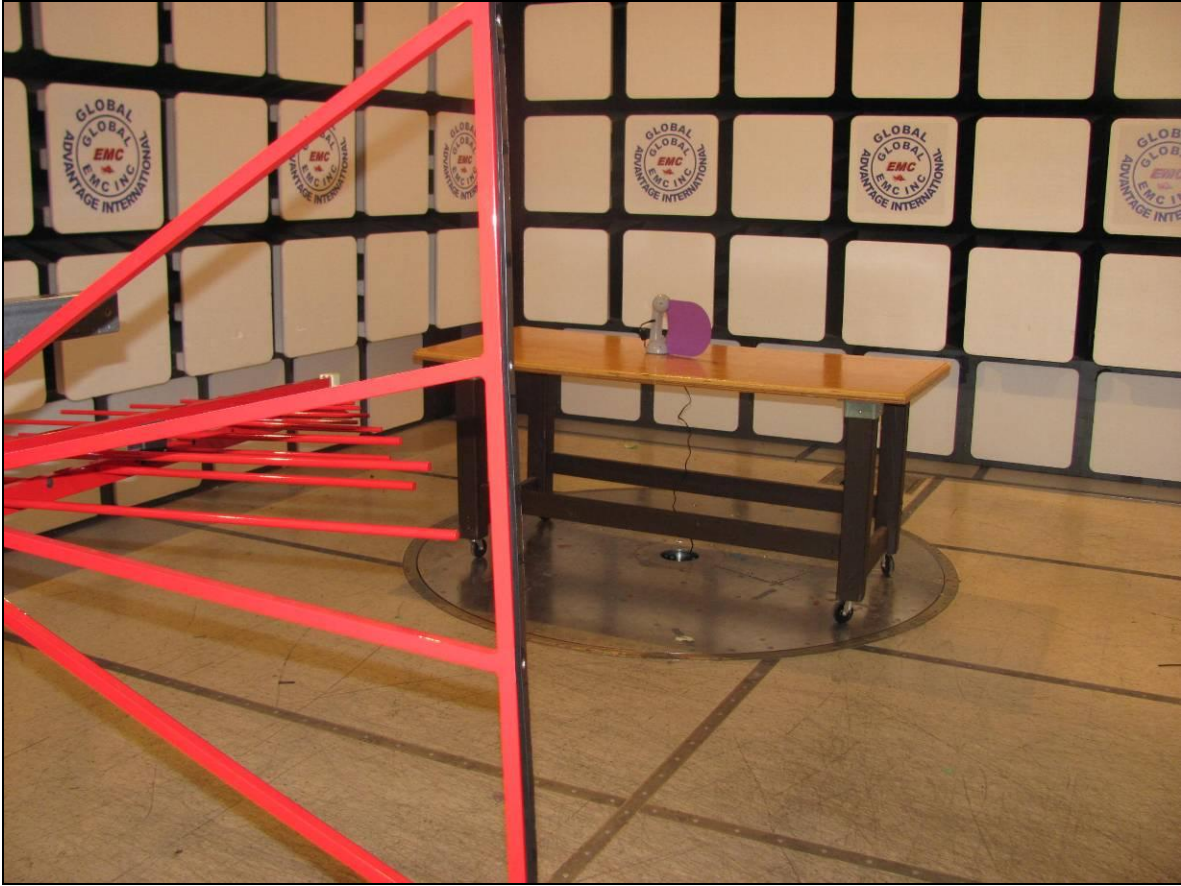


|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |




**Radiated Emissions Test Set up \_ Photo 3**

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |



**Radiated Emissions Test Set up \_ Photo 4**

|             |  |   |
|-------------|--|---|
| Client      | <b>Intelletto Technologies Inc.</b>                      |  |
| Product     | <b>Blade Reader (Scanner)</b>                            |   |
| Standard(s) | <b>FCC Part 15 Subpart C 2011 &amp; RSS-210: Issue 8</b> |   |



**Carrier Frequency Stability Test Set up**