Excellence in Compliance Testing

# Certification Test Report

## FCC ID: V2A-TR3

## FCC Rule Part: 15.247

## ACS Report Number: 09-0163.W06.1A

Manufacturer: Infinity Metering
Model: TR3

Test Begin Date: April 27, 2009
Test End Date: April 30, 2009

Report Issue Date: March 20, 2012

FOR THE SCOPE OF ACCREDITATION UNDER LAB Code 200612-0

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

**Reviewed by:** _____

**Kirby Munroe**
**Director, Wireless Certifications**
**ACS, Inc.**



**This report contains 17 pages**

# TABLE OF CONTENTS

# 1 GENERAL

## 1.1 Purpose

The purpose of this report is to demonstrate compliance with Part 15 Subpart C of the FCC's Code of Federal Regulations and Industry Canada's Radio Standards Specification RSS-210.

## 1.2 Product description

The Infinity Metering, Inc. Tesla AMR meter is a transceiver to be used in the utility industry to transmit meter-reading data from a utility meter to a mobile data-collecting device.

Technical details:
Frequency Range: 903.5 – 926.5 MHz
Operating channels: 50
Channel Spacing: 200 kHz
Modulation Type: FSK
Operating Voltage: 3.6V Battery

Manufacturer Information:
Infinity Metering
PO Box 948
Claremore, OK 74018

Test Sample Serial Number(s): SN1

Test Sample Condition: The test samples were provided in good working order with no visible defects.

## 1.3 Test Methodology and Considerations

The EUT was tested in a configuration representative of typical installation and use. The EUT does not provide a permanent or temporary RF output for the measurement of conducted RF characteristics therefore all measurements were performed radiated.

# 2 TEST FACILITIES

## 2.1 Location

The radiated and conducted emissions test sites are located at the following address:

Advanced Compliance Solutions
5015 B.U. Bowman Drive
Buford, GA 30518
Phone: (770) 831-8048
Fax: (770) 831-8598

## 2.2 Laboratory Accreditations/Recognitions/Certifications

ACS is accredited to ISO/IEC 17025 by the National Institute of Standards and Technology under their National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 200612-0. Unless otherwise specified, all tests methods described within this report are covered under the ISO/IEC 17025 scope of accreditation.

The Semi-Anechoic Chamber Test Site, Open Area Test Site (OATS) and Conducted Emissions Site have been fully described, submitted to, and accepted by the FCC, Industry Canada and the Japanese Voluntary Control Council for Interference by information technology equipment.

FCC Registration Number: 511277
Industry Canada Lab Code: IC 4175A-1
VCCI Member Number: 1831

- VCCI OATS Registration Number R-1526
- VCCI Conducted Emissions Site Registration Number: C-1608

## 2.3 Radiated Emissions Test Site Description

### 2.3.1 Semi-Anechoic Chamber Test Site

The Semi-Anechoic Chamber Test Site consists of a 20' x 30' x 18' shielded enclosure. The chamber is lined with Toyo Ferrite Grid Absorber, model number FFG-1000. The ferrite tile grid is 101 x 101 x 19mm thick and weighs approximately 550 grams. These tiles are mounted on steel panels and installed directly on the inner walls of the chamber.

The turntable is 150cm in diameter and is located 160cm from the back wall of the chamber. The chamber is grounded via 1 - 8' copper ground rod, installed at the center of the back wall, it is bound to the ground plane using 3/4" stainless steel braided cable.

The turntable is all steel, flush mounted table installed in an all steel frame. The table is remotely operated from inside the control room located 25' from the range. The turntable is electrically bonded to the surrounding ground plane via steel fingers installed on the edge of the turn table. The steel fingers make constant contact with the ground plane during operation.

Behind the turntable is a 3' x 6' x 4' deep shielded pit used for support equipment if necessary. The pit is equipped with 1 - 4" PVC chases from the turntable to the pit that allow for cabling to the EUT if necessary. The underside of the turntable can be accessed from the pit so cables can be supplied to the EUT from the pit.

A diagram of the Semi-Anechoic Chamber Test Site is shown in Figure 2.3-1 below:

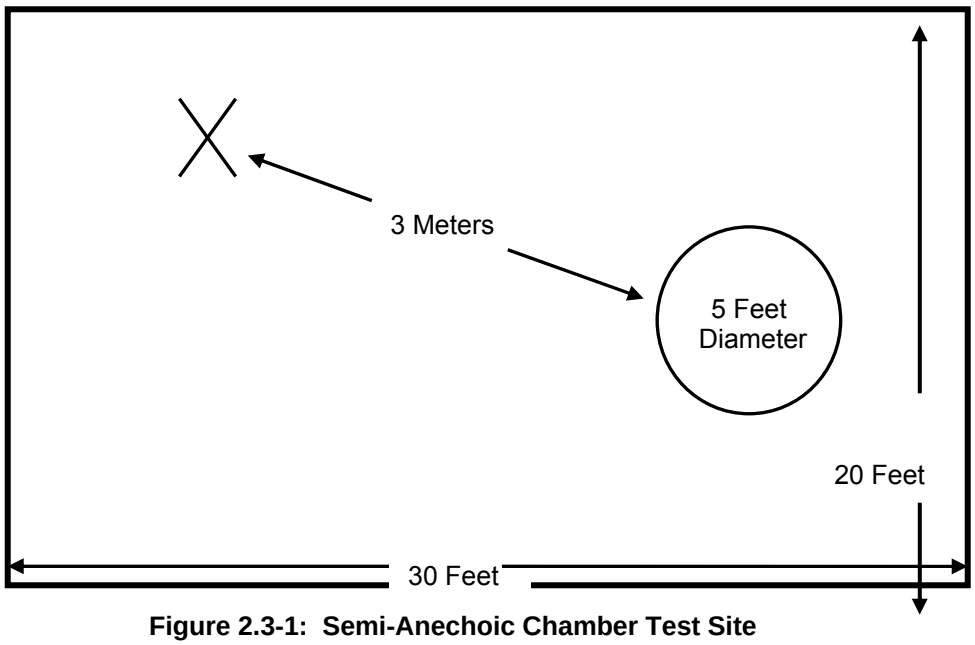


**Figure 2.3-1: Semi-Anechoic Chamber Test Site**

### 2.3.2 Open Area Tests Site (OATS)

The open area test site consists of a 40' x 66' concrete pad covered with a perforated electro-plated galvanized sheet metal. The perforations in the sheet metal are 1/8" holes that are staggered every 3/16". The individual sheets are placed to overlap each other by 1/4" and are riveted together to provide a continuous seam. Rivets are spaced every 3" in a 3 x 20 meter perimeter around the antenna mast and EUT area. Rivets in the remaining area are spaced as necessary to properly secure the ground plane and maintain the electrical continuity.

The entire ground plane extends 12' beyond the turntable edge and 16' beyond the antenna mast when set to a 10 meter measurement distance. The ground plane is grounded via 4 - 8' copper ground rods, each installed at a corner of the ground plane and bound to the ground plane using 3/4" stainless steel braided cable.

The turntable is an all aluminum 10' flush mounted table installed in an all aluminum frame. The table is remotely operated from inside the control room located 40' from the range. The turntable is electrically bonded to the surrounding ground plane via steel fingers installed on the edge of the turn table. The steel fingers make constant contact with the ground plane during operation.

Adjacent to the turntable is a 7' x 7' square and 4' deep concrete pit used for support equipment if necessary. The pit is equipped with 5 - 4" PVC chases from the pit to the control room that allow for cabling to the EUT if necessary. The underside of the turntable can be accessed from the pit so cables can be supplied to the EUT from the pit. The pit is covered with 2 sheets of 1/4" diamond style re-enforced steel sheets. The sheets are painted to match the perforated steel ground plane; however the underside edges have been masked off to maintain the electrical continuity of the ground plane. All reflecting objects are located outside of the ellipse defined in ANSI C63.4.

A diagram of the Open Area Test Site is shown in Figure 2.3-2 below:

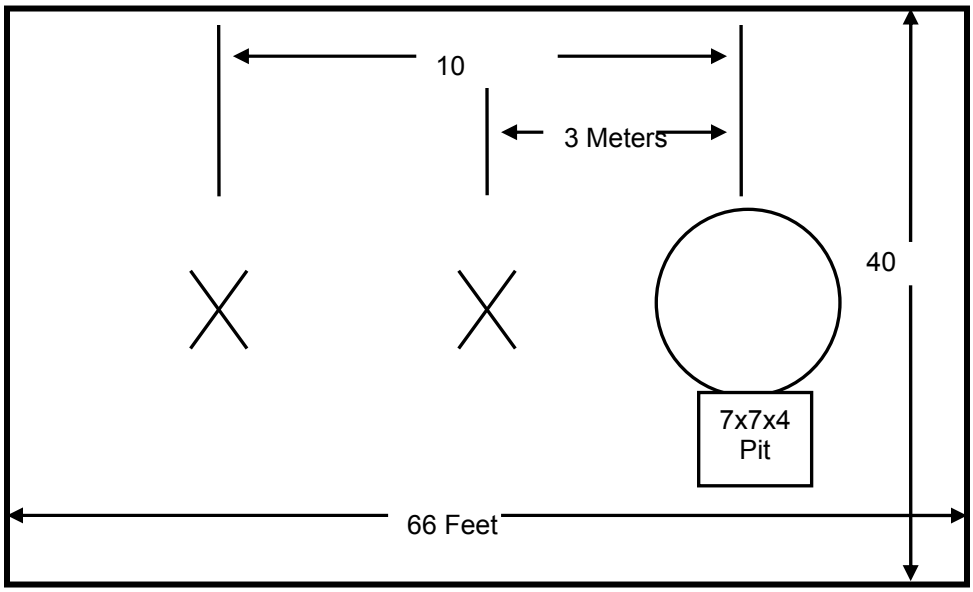


**Figure 2.3-2: Open Area Test Site**

## 3 APPLICABLE STANDARD REFERENCES

The following standards were used:

- ANSI C63.4-2003: Method of Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the 9KHz to 40GHz
- US Code of Federal Regulations (CFR): Title 47, Part 2, Subpart J: Equipment Authorization Procedures, 2011
- US Code of Federal Regulations (CFR): Title 47, Part 15, Subpart C: Radio Frequency Devices, Intentional Radiators, 2011
- FCC Public Notice DA 00-705 - Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems, March 30, 2000
- Industry Canada Radio Standards Specification: RSS-210 - Low-power License-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment, Issue 8 December 2010
- Industry Canada Radio Standards Specification: RSS-GEN – General Requirements and Information for the Certification of Radiocommunication Equipment, Issue 3 December 2010.

## 4 LIST OF TEST EQUIPMENT

The calibration interval of test equipment is annually or the manufacturer's recommendations. Where the calibration interval deviates from the annual cycle based on the instrument manufacturer's recommendations, it shall be stated below.

**Table 4-1: Test Equipment**

| Equipment Calibration Information | | | | | |
|---|---|---|---|---|---|
| **ACS#** | **Mfg.** | **Eq. type** | **Model** | **S/N** | **Cal. Due** |
| 1 | Rohde & Schwarz | Spectrum Analyzers | ESMI - Display | 833771/007 | 9/19/2009 |
| 2 | Rohde & Schwarz | Spectrum Analyzers | ESMI - Receiver | 839587/003 | 9/19/2009 |
| 22 | Agilent | Amplifiers | 8449B | 3008A00526 | 10/22/2009 |
| 25 | Chase | Antennas | CBL6111 | 1043 | 8/22/2009 |
| 30 | Spectrum Technologies | Antennas | DRH-0118 | 970102 | 5/7/2009 |
| 167 | ACS | Cable Set | Chamber EMI Cable Set | 167 | 2/6/2010 |
| 193 | ACS | Cable Set | OATS cable Set | 193 | 1/5/2010 |
| 277 | Emco | Antennas | 93146 | 9904-5199 | 9/9/2009 |
| 283 | Rohde & Schwarz | Spectrum Analyzers | FSP40 | 1000033 | 9/19/2009 |
| 321 | | | | | |
| 331 | Microwave Circuits | Filters | H1G513G1 | 31417 | 7/28/2009 |
| 343 | Florida RF Cables | Cables | SMRE-200W-12.0-SMRE | N/A | 5/4/2010 |
| 430 | RF Cables | Cables | SMS-290AW-480-SMS | N/A | 5/4/2010 |
| RE21 | Agilent | EMC Analyzer | E7405A | MY45104916 | 4/24/2010 |

**Note1:** Items characterized on an annual cycle. The date shown indicates the next due date.

## 5 SUPPORT EQUIPMENT

**Table 5-1: Support Equipment**

| Item # | Manufacturer | Equipment Type | Model Number | Serial Number | FCC ID |
|---|---|---|---|---|---|
| | | | | | |
| The device was tested stand alone therefore no support equipment was utilized. | | | | | |
| | | | | | |

## 6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM

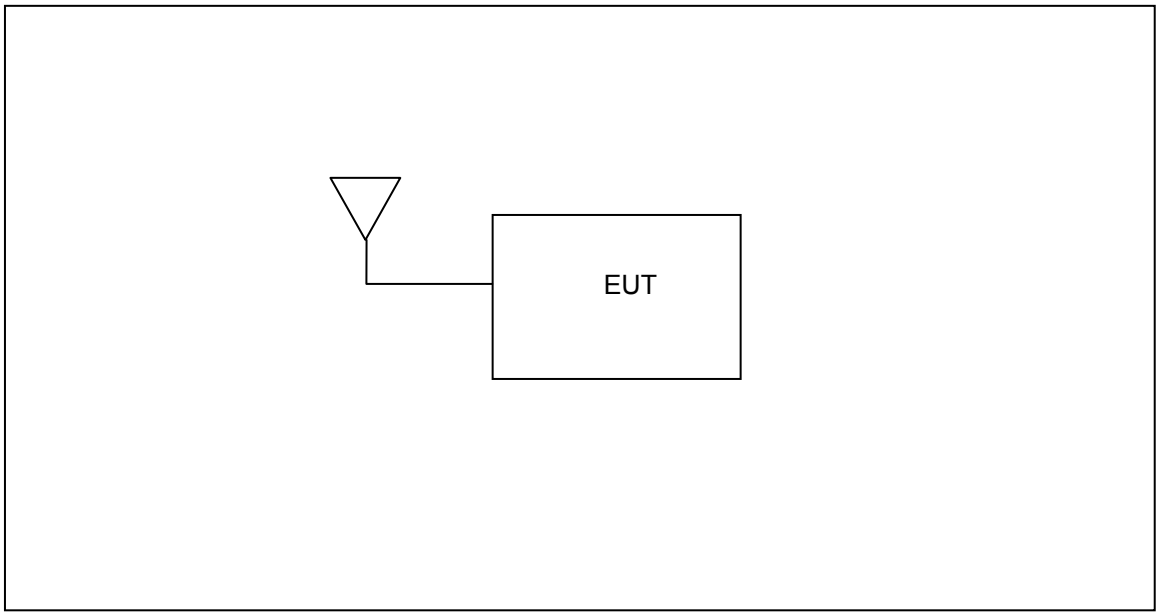


**Figure 6-1: EUT Test Setup**

# 7 SUMMARY OF TESTS

Along with the tabular data shown below, plots were taken of all signals deemed important enough to document.

## 7.1 Antenna Requirement – FCC: Section 15.203

The EUT employs a permanently attached internal integral helical monopole 1dBi gain antenna which can not be modified.

## 7.2 Peak Output Power - FCC Section 15.247(b)(2) IC: RSS-210 A8.4(1)

### 7.2.1 Measurement Procedure (Radiated Method)

Antenna conducted measurements could not be performed on this device, therefore radiated tests were performed to show compliance with the peak output power limit according to the alternative test methods in the FCC publication DA 00-705.

The procedures set forth in ANSI C63.4 were followed with respect to maximizing the peak emission. The resolution bandwidth of the spectrum analyzer was set to 1 MHz which was greater the 20 dB bandwidth measured in section 7.3.4. The video bandwidth was set to 3 MHz and a peak detector using the Max Hold function was utilized.

The power was calculated using the following equation:

$$P = {(E * d)^2} \Big/ {30 * G}$$

Where: G = Numeric Gain of the transmitting antenna with reference to an isotropic radiator
d = The distance in meters from which the field strength was measured
E = The measured maximum fundamental field strength in V/m

### 7.2.2 Measurement Results

Results are shown in Tables 7.2.2-1 to 7.2.2-2 below.

**Table 7.2.2-1: Fundamental Field Strength**

| Frequency (MHz) | Uncorrected Level (dBuV) | Antenna Polarity (H/V) | Correction Factors (dB) | Corrected Level (dBuV/m) |
|---|---|---|---|---|
| **903.50** | 98.04 | V | 28.07 | 126.11 |
| **915.00** | 97.76 | V | 28.20 | 125.96 |
| **926.50** | 97.27 | V | 28.07 | 125.34 |

**Table 7.2.2-2: Maximum Peak Output Power**

| Measurement Distance (m) | Antenna Gain (dBi) | Field Strength (V/m) | Antenna Gain (Num) | Power (mW) | Power (dBm) |
|---|---|---|---|---|---|
| 3 | 1 | 2.02 | 1.26 | 973.02 | 29.88 |

## 7.3 Channel Usage Requirements

### 7.3.1 Carrier Frequency Separation – FCC: Section 15.247(a)(1) IC: RSS-210 A8.1(b)

#### 7.3.1.1 Measurement Procedure

The span of the spectrum analyzer was set wide enough to capture two adjacent peaks and the RBW and VBW were set to ≥ 1% of the span.

#### 7.3.1.2 Measurement Results

The adjacent channel separation was measured to be 200 kHz. Results are shown below in Figure 7.3.1.2-1.

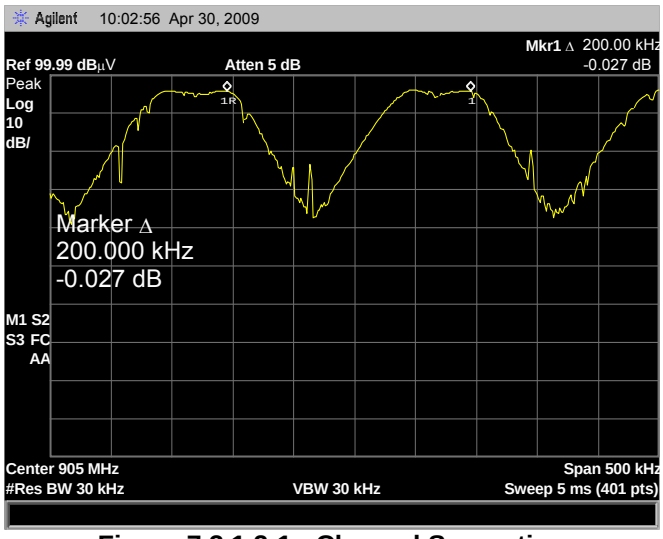


**Figure 7.3.1.2-1: Channel Separation**

### 7.3.2 Number of Hopping Channels – FCC: Section 15.247(a)(1)(i) IC: RSS-210 A8.1(c)

The device employs 50 hopping channels. Results are shown below in Figure 7.3.2-1.

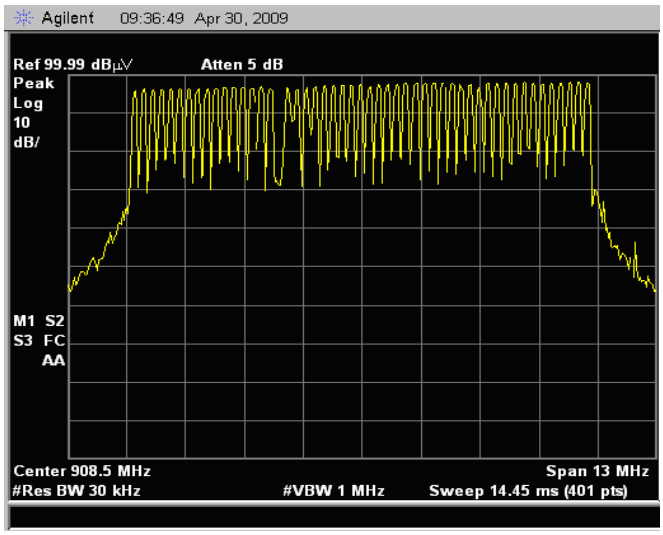


**Figure 7.3.2-1: Hopping Channels**

### 7.3.3 Channel Dwell Time – FCC: Section 15.247(a)(1)(i) IC: RSS-210 A8.1(c)

#### 7.3.3.1 Measurement Procedure

The RF output port of the EUT was directly connected to the input of the spectrum analyzer. The hopping channel is centered on the analyzer and the span set to 0 Hz. Sweep time was adjusted to capture the burst duration of the emission. The sweep time was then adjusted to 20s show all channel occupations within that period. The marker–delta function of the analyzer was employed to measure the burst duration and period.

#### 7.3.3.2 Measurement Results

The duration of the RF transmission is 14.48 ms. There is a 12.4 second period to when the device returns to the same channel according to the pseudorandom frequency table before transmitting another 14.48ms burst. Therefore the average time of occupancy on any channel in a 20 second period is 28.96ms. A single transmission is shown in figure 7.3.3.2-1 below. A 20 second sweep is shown in 7.3.3.2-2 below.

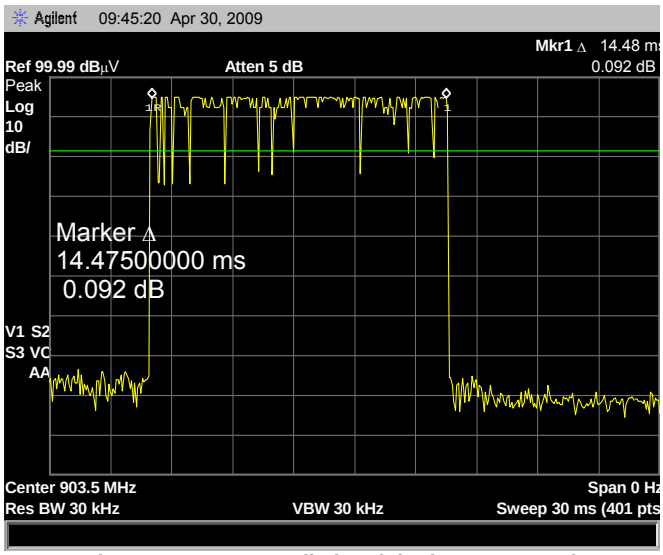


**Figure 7.3.3.2-1: Dwell Time (Single Occurrence)**

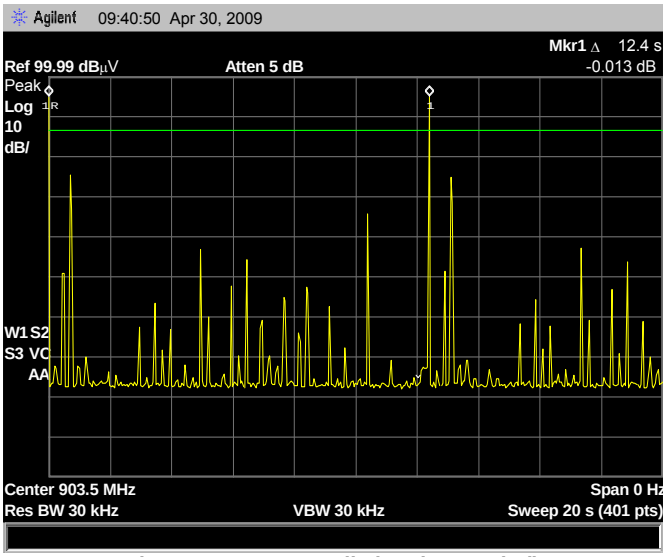


**Figure 7.3.3.2-2: Dwell Time (20s Period)**

### 7.3.4 20dB - FCC: Section 15.247(a)(1)(i) IC: RSS-210 A8.1(c)

#### 7.3.4.1 Measurement Procedure

The span of the spectrum analyzer display was set to 1 MHz. The RBW of the spectrum analyzer was set to 10 kHz. The trace was set to max hold with a peak detector active. The Delta function of the analyzer was utilized to determine the 20 dB bandwidth of the emission.

#### 7.3.4.2 Measurement Results

Results are shown below in Table 7.3.4.2-1 and Figures 7.3.4.2-1 through 7.3.4.2-3.

**Table 7.3.4.2-1: 20dB / 99% Bandwidth**

| Frequency (MHz) | 20dB Bandwidth (kHz) |
|---|---|
| 903.5 | 95 |
| 915.0 | 95 |
| 926.5 | 95 |

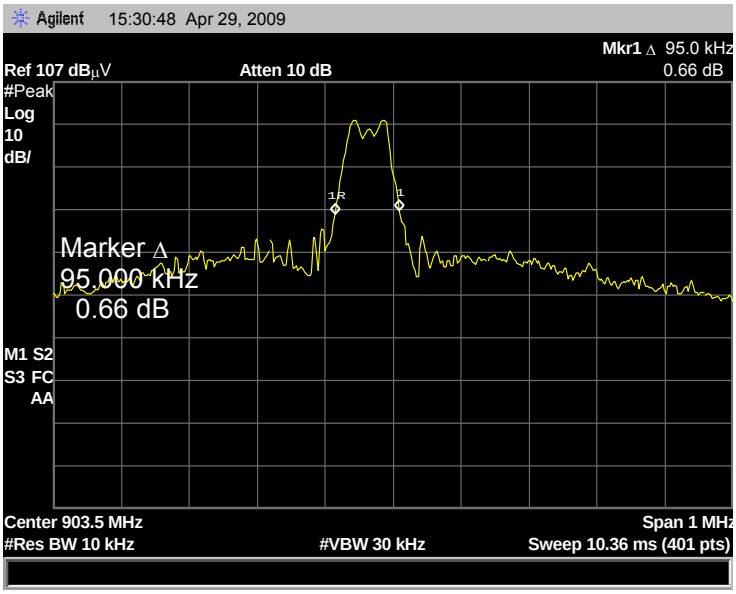


**Figure 7.3.4.2-1: 20dB BW LCH**

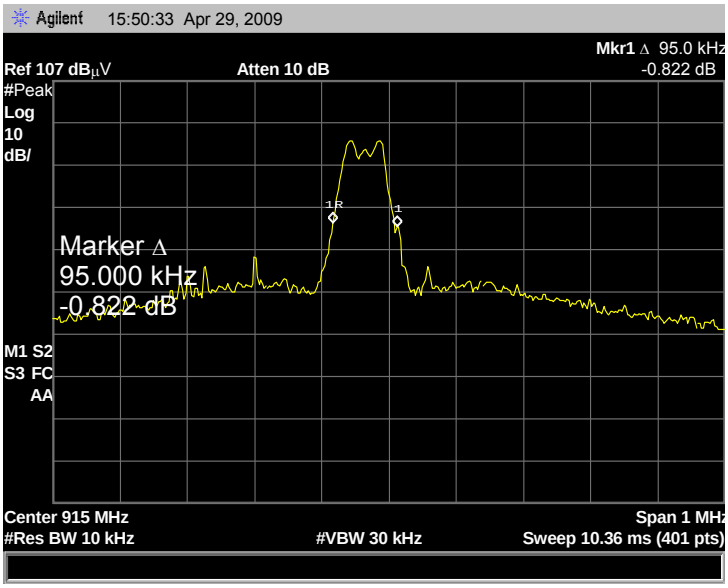


**Figure 7.3.4.2-2: 20dB BW MCH**

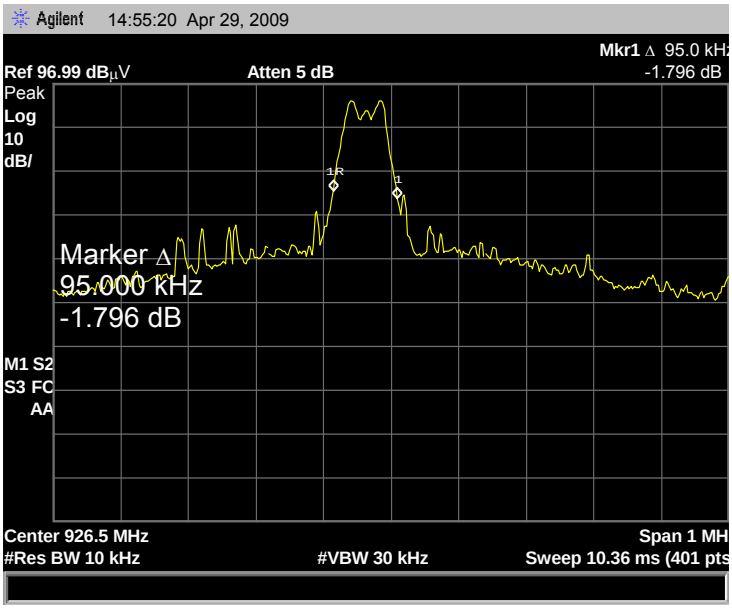


**Figure 7.3.4.2-3: 20dB BW HCH**

## 7.4 Band-Edge Compliance and Spurious Emissions-FCC 15.247(d) IC:RSS-210 2.2, A8.5

### 7.4.1 Band-Edge Compliance of RF Conducted Emissions

#### 7.4.1.1 Measurement Procedure

The EUT was investigated at the lowest and highest channel available to determine band-edge compliance. For each measurement the spectrum analyzer's RBW was set to 100 kHz. The Delta function of the analyzer was utilized to determine compliance.

#### 7.4.1.2 Measurement Results

Results are shown in the figures 7.4.1.2-1 to 7.4.1.2-4 below.

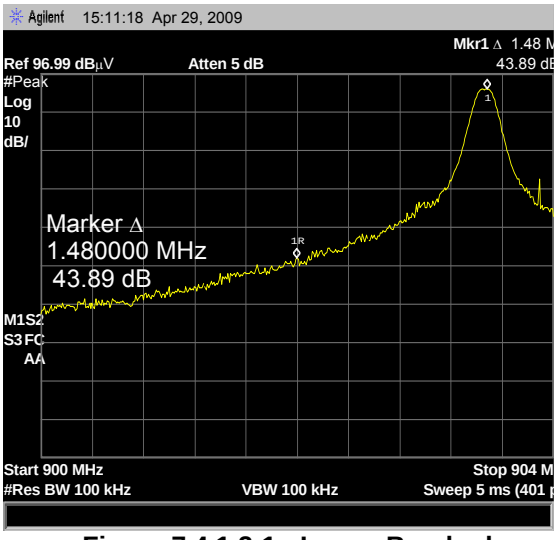


**Figure 7.4.1.2-1: Lower Band-edge**

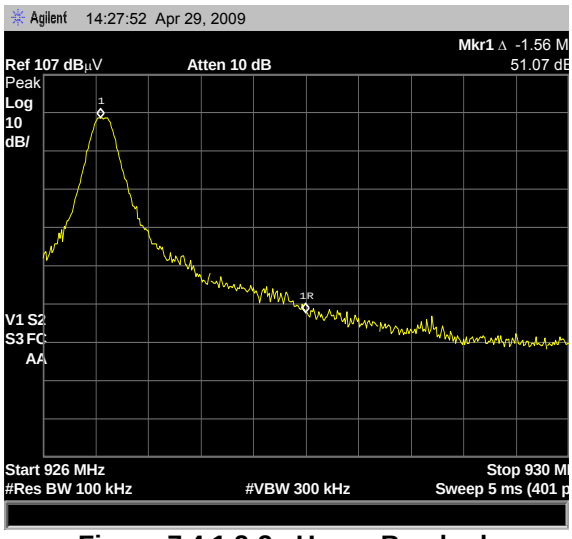


**Figure 7.4.1.2-2: Upper Band-edge**

**HOPPING MODE:**

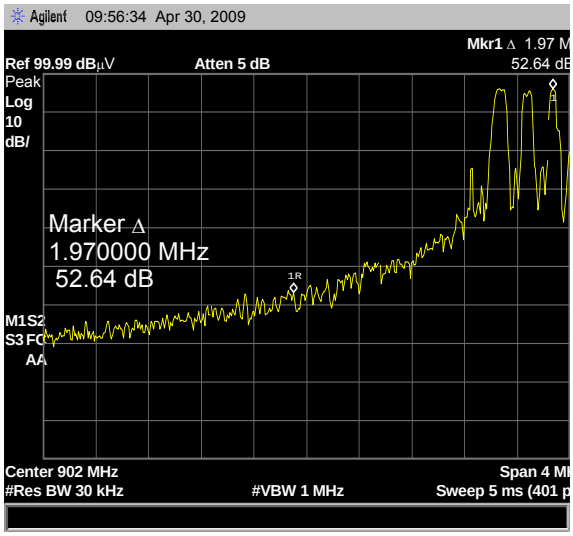


**Figure 7.4.1.2-3: Lower Band-edge**

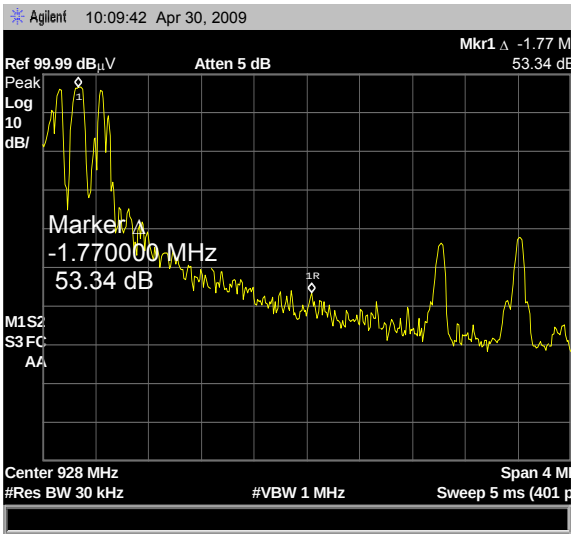


**Figure 7.4.1.2-4: Upper Band-edge**

### 7.4.2 RF Conducted Spurious Emissions

#### 7.4.2.1 Measurement Procedure

Antenna conducted measurements could not be performed on this device; therefore radiated tests were performed to show compliance with the spurious RF conducted limit according to FCC publication DA 00-705.

For each measurement, the spectrum analyzer's RBW was set to 100 kHz and the VBW was set to 300 kHz. The peak detector and Max Hold function of the analyzer were utilized. The field strength of both the fundamental emission and all spurious emissions were measured with these settings. Results are provided in section 7.4.3 below.

### 7.4.3 Radiated Spurious Emissions - FCC Section 15.205 IC: RSS-210 2.2

#### 7.4.3.1 Measurement Procedure

Radiated emissions tests were made over the frequency range of 30MHz to 10GHz, 10 times the highest fundamental frequency.

The EUT was rotated through 360° and the receive antenna height was varied from 1m to 4m so that the maximum radiated emissions level would be detected. For frequencies below 1000MHz, quasi-peak measurements were made using a resolution bandwidth RBW of 120 kHz and a video bandwidth VBW of 300 kHz. For frequencies above 1000MHz, peak and average measurements were made with RBW and VBW of 1 MHz and 3 MHz respectively. For those frequencies that fell outside the restricted bands as defined in 15.205, the alternative test methods in the FCC publication DA 00-705 was followed using a RBW of 100kHz and VBW of 300kHz and peak detector.

The EUT was caused to generate a continuous carrier signal on the hopping channel.

#### 7.4.3.2 Duty Cycle Correction

For average radiated measurements in restricted bands, the measured level was reduced by a factor of 16.78dB to account for the duty cycle of the EUT. The duty cycle correction factor is determined using the formula: 20log (14.48/100) = -16.78dB. Reference section 7.3.3 for the dwell time for additional information.

#### 7.4.3.3 Measurement Results

Radiated spurious emissions found in the band of 30MHz to 10GHz are reported in the tables 7.4.3.3-1 to 7.4.3.3-3 below.

**Table 7.4.3.3-1: Radiated Spurious Emissions – 903.5 MHz**

| Frequency (MHz) | Level (dBuV) | | Antenna Polarity | Correction Factors | Corrected Level (dBuV/m) | | Limit (dBuV/m) | | Margin (dB) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | pk | Qpk/Avg | (H/V) | (dB) | pk | Qpk/Avg | pk | Qpk/Avg | pk | Qpk/Avg |
| **903.5** | 92.87 | 92.87 | H | 28.84 | 121.71 | 121.71 | -------- | -------- | --------- | --------- |
| **903.5** | 98.01 | 98.01 | V | 28.07 | 126.08 | 126.08 | -------- | -------- | --------- | --------- |
| **1807** | 63.41 | 63.41 | H | -3.23 | 60.18 | --------- | 106.1 | --------- | 45.9 | --------- |
| **1807** | 63.48 | 63.48 | V | -3.25 | 60.23 | --------- | 106.1 | --------- | 45.8 | --------- |
| **2710.5** | 56.61 | 56.61 | H | 0.90 | 57.51 | 40.72 | 74.0 | 54.0 | 16.5 | 13.3 |
| **2710.5** | 58.97 | 58.97 | V | 0.70 | 59.67 | 42.88 | 74.0 | 54.0 | 14.3 | 11.1 |
| **3614** | 59.00 | 59.00 | H | 3.95 | 62.95 | 46.16 | 74.0 | 54.0 | 11.1 | 7.8 |
| **3614** | 54.78 | 54.78 | V | 3.97 | 58.75 | 41.96 | 74.0 | 54.0 | 15.3 | 12.0 |
| **4517.5** | 55.89 | 55.89 | H | 5.53 | 61.42 | 44.63 | 74.0 | 54.0 | 12.6 | 9.4 |
| **4517.5** | 55.17 | 55.17 | V | 5.63 | 60.80 | 44.01 | 74.0 | 54.0 | 13.2 | 10.0 |
| **5421** | 49.29 | 49.29 | H | 8.11 | 57.40 | 40.61 | 74.0 | 54.0 | 16.6 | 13.4 |
| **5421** | 54.97 | 54.97 | V | 8.13 | 63.10 | 46.31 | 74.0 | 54.0 | 10.9 | 7.7 |
| **6324.5** | 39.94 | 39.94 | H | 9.69 | 49.63 | --------- | 106.1 | --------- | 56.5 | --------- |
| **6324.5** | 37.88 | 37.88 | V | 9.76 | 47.64 | --------- | 106.1 | --------- | 58.4 | --------- |
| **7228** | 52.45 | 52.45 | H | 11.38 | 63.83 | --------- | 106.1 | --------- | 42.2 | --------- |
| **7228** | 56.10 | 56.10 | V | 11.43 | 67.53 | --------- | 106.1 | --------- | 38.6 | --------- |
| **8131.5** | 42.65 | 42.65 | V | 12.32 | 54.97 | 38.19 | 74.0 | 54.0 | 19.0 | 15.8 |

**Table 7.4.3.3-2: Radiated Spurious Emissions – 915.0 MHz**

| Frequency (MHz) | Level (dBuV) | | Antenna Polarity | Correction Factors | Corrected Level (dBuV/m) | | Limit (dBuV/m) | | Margin (dB) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | pk | Qpk/Avg | (H/V) | (dB) | pk | Qpk/Avg | pk | Qpk/Avg | pk | Qpk/Avg |
| **915** | 93.07 | 93.07 | H | 28.95 | 122.02 | 122.02 | -------- | -------- | --------- | --------- |
| **915** | 97.76 | 97.76 | V | 28.20 | 125.96 | 125.96 | -------- | -------- | --------- | --------- |
| **1830** | 64.89 | 64.89 | H | -3.11 | 61.78 | --------- | 106.0 | --------- | 44.2 | --------- |
| **1830** | 64.79 | 64.79 | V | -3.14 | 61.65 | --------- | 106.0 | --------- | 44.3 | --------- |
| **2745** | 60.12 | 60.12 | H | 1.02 | 61.14 | 44.36 | 74.0 | 54.0 | 12.9 | 9.6 |
| **2745** | 61.20 | 61.20 | V | 0.82 | 62.02 | 45.24 | 74.0 | 54.0 | 12.0 | 8.8 |
| **3660** | 61.23 | 61.23 | H | 4.08 | 65.31 | 48.53 | 74.0 | 54.0 | 8.7 | 5.5 |
| **3660** | 57.93 | 57.93 | V | 4.11 | 62.04 | 45.26 | 74.0 | 54.0 | 12.0 | 8.7 |
| **4575** | 53.74 | 53.74 | H | 5.68 | 59.42 | 42.64 | 74.0 | 54.0 | 14.6 | 11.4 |
| **4575** | 57.86 | 57.86 | V | 5.78 | 63.64 | 46.86 | 74.0 | 54.0 | 10.4 | 7.1 |
| **5490** | 47.36 | 47.36 | H | 8.32 | 55.68 | --------- | 106.0 | --------- | 50.3 | --------- |
| **5490** | 49.43 | 49.43 | V | 8.32 | 57.75 | --------- | 106.0 | --------- | 48.2 | --------- |
| **6405** | 41.89 | 41.89 | H | 9.91 | 51.80 | --------- | 106.0 | --------- | 54.2 | --------- |
| **6405** | 41.66 | 42.66 | V | 9.95 | 51.61 | --------- | 106.0 | --------- | 54.4 | --------- |
| **7320** | 55.09 | 55.09 | H | 11.44 | 66.53 | 49.74 | 74.0 | 54.0 | 7.5 | 4.3 |
| **7320** | 57.61 | 57.61 | V | 11.50 | 69.11 | 52.33 | 74.0 | 54.0 | 4.9 | 1.7 |
| **8235** | 46.65 | 46.65 | H | 12.42 | 59.07 | 42.29 | 74.0 | 54.0 | 14.9 | 11.7 |

**Table 7.4.3.3-3: Radiated Spurious Emissions – 926.5 MHz**

| Frequency (MHz) | Level (dBuV) | | Antenna Polarity | Correction Factors | Corrected Level (dBuV/m) | | Limit (dBuV/m) | | Margin (dB) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | pk | Qpk/Avg | (H/V) | (dB) | pk | Qpk/Avg | pk | Qpk/Avg | pk | Qpk/Avg |
| **926.5** | 92.86 | 92.86 | H | 28.94 | 121.80 | 121.80 | -------- | -------- | --------- | --------- |
| **926.5** | 96.97 | 96.97 | V | 28.07 | 125.04 | 125.04 | -------- | -------- | --------- | --------- |
| **1853** | 63.97 | 63.97 | H | -2.99 | 60.98 | --------- | 105.0 | --------- | 44.1 | --------- |
| **1853** | 65.45 | 65.45 | V | -3.03 | 62.42 | --------- | 105.0 | --------- | 42.6 | --------- |
| **2779.5** | 59.65 | 59.65 | H | 1.14 | 60.79 | 44.01 | 74.0 | 54.0 | 13.2 | 10.0 |
| **2779.5** | 58.51 | 58.51 | V | 0.94 | 59.45 | 42.67 | 74.0 | 54.0 | 14.5 | 11.3 |
| **3706** | 59.80 | 59.80 | H | 4.22 | 64.02 | 47.23 | 74.0 | 54.0 | 10.0 | 6.8 |
| **3706** | 57.68 | 57.68 | V | 4.26 | 61.94 | 45.16 | 74.0 | 54.0 | 12.1 | 8.8 |
| **4632.5** | 55.55 | 55.55 | H | 5.84 | 61.39 | 44.61 | 74.0 | 54.0 | 12.6 | 9.4 |
| **4632.5** | 58.58 | 58.58 | V | 5.94 | 64.52 | 47.74 | 74.0 | 54.0 | 9.5 | 6.3 |
| **5559** | 48.05 | 48.05 | H | 8.40 | 56.45 | --------- | 105.0 | --------- | 48.6 | --------- |
| **5559** | 53.15 | 53.15 | V | 8.42 | 61.57 | --------- | 105.0 | --------- | 43.5 | --------- |
| **6485.5** | 40.87 | 40.87 | H | 10.13 | 51.00 | --------- | 105.0 | --------- | 54.0 | --------- |
| **6485.5** | 39.36 | 39.36 | V | 10.14 | 49.50 | --------- | 105.0 | --------- | 55.5 | --------- |
| **7412** | 52.79 | 52.79 | H | 11.49 | 64.28 | 47.50 | 74.0 | 54.0 | 9.7 | 6.5 |
| **7412** | 57.90 | 57.90 | V | 11.58 | 69.48 | 52.69 | 74.0 | 54.0 | 4.5 | 1.3 |

#### 7.4.3.4 Sample Calculation:

$R_C = R_U + CF_T$

Where:

| | | |
|---|---|---|
| $CF_T$ | = | Total Correction Factor (AF+CA+AG)-DC (Average Measurements Only) |
| $R_U$ | = | Uncorrected Reading |
| $R_C$ | = | Corrected Level |
| AF | = | Antenna Factor |
| CA | = | Cable Attenuation |
| AG | = | Amplifier Gain |
| DC | = | Duty Cycle Correction Factor |

Example Calculation PEAK:
Corrected Level: 56.61 + 0.90= 57.51dBuV
Margin: 74dBuV – 57.51dBuV = 16.5dB

Example Calculation AVERAGE:
Corrected Level: 56.61 + 0.90 – 16.78= 41.72dBuV
Margin: 54dBuV – 41.72dBuV = 13.3dB

## 8 CONCLUSION

In the opinion of ACS, Inc. the TR3, manufactured by Infinity Metering meets the requirements of FCC Part 15 subpart C and Industry Canada's Radio Standards Specification RSS-210.

# END REPORT