

Ittron, Inc.

ADDENDUM TO TEST REPORT 92785-10

AMR Transceiver Device for Endpoint Installation Model: 900 BCR

Tested To The Following Standards:

FCC Part 15 Subpart C Sections 15.231
and
RSS 210 Issue 8
(Partial Testing Only)

Report No.: 92785-10A

Date of issue: August 22, 2013



This test report bears the accreditation symbol indicating that the testing performed herein meets the test and reporting requirements of ISO/IEC 17025 under the applicable scope of EMC testing for CKC Laboratories, Inc.

We strive to create long-term, trust based relationships by providing sound, adaptive, customer first testing services. We embrace each of our customers' unique EMC challenges, not as an interruption to set processes, but rather as the reason we are in business.

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ADMINISTRATIVE INFORMATION

Test Report Information

REPORT PREPARED FOR:

Ittron, Inc.
2111 N. Molter Road
Liberty Lake, WA 99019

Representative: Jay Holcomb
Customer Reference Number: 52031

DATE OF EQUIPMENT RECEIPT:**DATE(S) OF TESTING:****REPORT PREPARED BY:**

Joyce Walker
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Project Number: 92785

June 5, 2013

May 30 -June 5, 2013

Revision History

Original: Partial testing of the AMR Transceiver Device for Endpoint Installation, 900 BCR to FCC Part 15 Subpart C Sections 15.231 and RSS-210..

Addendum A: The testing conditions were said to be in accordance with DA00-705 when in fact they were in accordance with ANSI C63.4.

Report Authorization

The test data contained in this report documents the observed testing parameters pertaining to and are relevant for only the sample equipment tested in the agreed upon operational mode(s) and configuration(s) as identified herein. Compliance assessment remains the client's responsibility. This report may not be used to claim product endorsement by A2LA or any government agencies. This test report has been authorized for release under quality control from CKC Laboratories, Inc.

A handwritten signature in black ink that reads "Steve Behm".

Steve Behm
Director of Quality Assurance & Engineering Services
CKC Laboratories, Inc.

Test Facility Information



Our laboratories are configured to effectively test a wide variety of product types. CKC utilizes first class test equipment, anechoic chambers, data acquisition and information services to create accurate, repeatable and affordable test results.

TEST LOCATION(S):
CKC Laboratories, Inc.
22116 23rd Drive S.E., Suite A
Bothell, WA 98021-4413

Software Versions

CKC Laboratories Proprietary Software	Version
EMITest Emissions	5.00.14
Immunity	5.00.07

Site Registration & Accreditation Information

Location	CB #	TAIWAN	CANADA	FCC	JAPAN
Bothell	US0081	SL2-IN-E-1145R	3082C-1	318736	A-0148

SUMMARY OF RESULTS

Standard / Specification: FCC Part 15 Subpart C 15.231 and RSS 210 Issue 8

Description	Test Procedure/Method	Results
Fundamental and Field Strength of Spurious Emissions	FCC Part 15 Subpart C Section 15.231(b) / RSS 210 Issue 8 / ANSI C63.4	Pass

Conditions During Testing

This list is a summary of the conditions noted for or modifications made to the equipment during testing.

Summary of Conditions
None

EQUIPMENT UNDER TEST (EUT)

EQUIPMENT UNDER TEST

AMR Transceiver Device for Endpoint Installation

Manuf: Itron, Inc.
Model: 900 BCR
Serial: 37400023

3dB Glass Mount Antenna

Manuf: Tessco
Model: MM3-925SMA
Serial: NA

5dB Magnetic Mount

Manuf: PCTel
Model: Z3182
Serial: NA

PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

BCR Charging/USB Connection Station

Manuf: Itron, Inc.
Model: NA
Serial: NA

Laptop

Manuf: Dell
Model: Latitude E6410
Serial: JBDPWN1

USB 2.0 Kit

Manuf: S.I. Tech
Model: 2172
Serial: NA

FCC PART 15 SUBPART C

This report contains EMC emissions test results under United States Federal Communications Commission (FCC) 47 CFR 15C requirements for Unlicensed Radio Frequency Devices, Subpart C - Intentional Radiators.

15.231(b) / RSS 210 Field Strength of Spurious Emissions

3dB Glass Mount Antenna Test Data Sheets

Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: **Itron, Inc.**

Specification: **15.231(b) Fundamental Field Strength**

Work Order #: **92785**

Date: 5/30/2013

Test Type: **Maximized Emissions**

Time: 17:01:59

Equipment: **AMR transceiver device for endpoint installation**

Sequence#: 4

Manufacturer: Itron, Inc.

Tested By: Rodney MacInnes

Model: 900 BCR

S/N: 37400023

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02308	Preamp	8447D	4/3/2012	4/3/2014
T2	AN01996	Biconilog Antenna	CBL6111C	3/2/2012	3/2/2014
T3	AN03227	Cable	32026-29080-29080-84	3/29/2013	3/29/2015
T4	ANP05360	Cable	RG214	12/3/2012	12/3/2014
T5	ANP05366	Cable	RG-214	10/14/2011	10/14/2013
T6	AN02872	Spectrum Analyzer	E4440A	7/23/2011	7/23/2013

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
3dB glass mount antenna	Tessco	MM3-925SMA	NA
AMR transceiver device for endpoint installation*	Itron, Inc.	900 BCR	37400023

Support Devices:

Function	Manufacturer	Model #	S/N
BCR Charging/USB connection Station	Itron, Inc.	NA	NA
Laptop	Dell	Latitude E6410	JBDPWN1

Test Conditions / Notes:

The EUT is placed in the center of the turntable on a Styrofoam table 80cm above the ground plane , EUT is installed in device cradle attached to computer through USB to fiber adaptor.

Freq Tested: 950MHz-955MHz

Fundamental Frequency: 952MHz

MAS Modulation

Firmware setting = 90

Emission profile evaluated with Tessco MM3-925SMA 3dB glass mount antenna

15.31(e) compliance: a freshly charged battery is installed

Test method in accordance with ANSI C63.4

Temperature: 22°C

Pressure: 101.5kPa

Humidity: 35%

Software: MC3SuperRaptorTest

Version: 4.0.1.5

Ext Attn: 0 dB

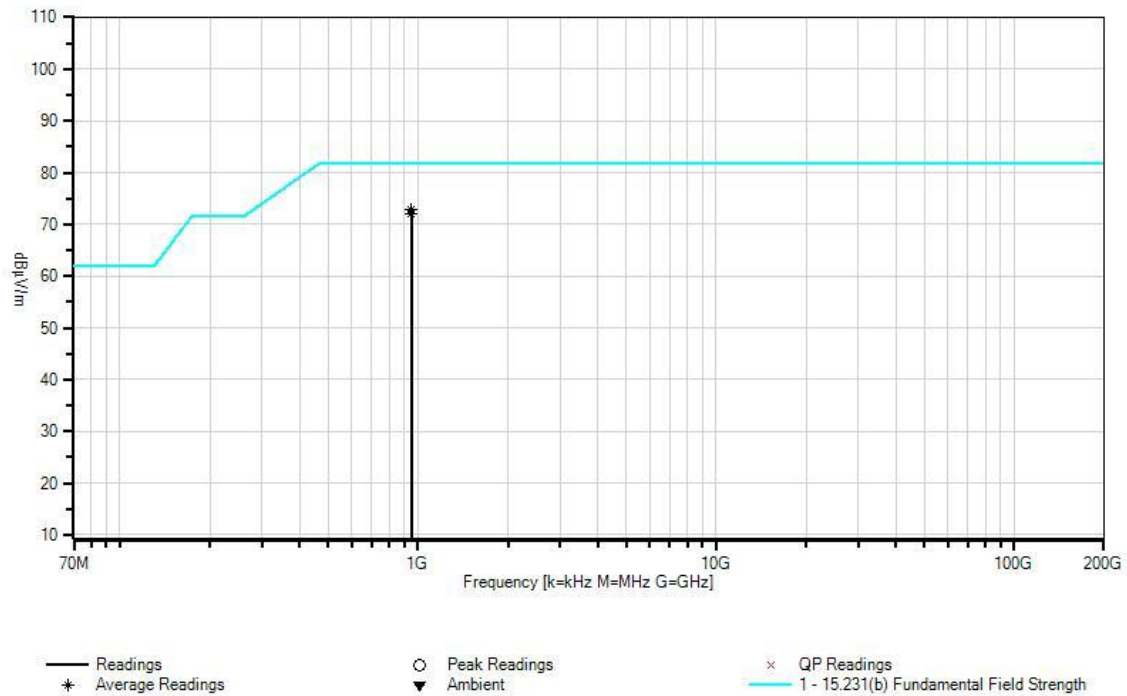
Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBμV	dB	dB	dB	dB	Table	dBμV/m	dBμV/m	dB	Ant
1	951.780M	71.1	-27.3	+23.4	+1.1	+2.1	+0.0	72.8	81.9	-9.1	Vert
	Ave		+2.4	+0.0			140				142
^	951.780M	92.2	-27.3	+23.4	+1.1	+2.1	+0.0	93.9	81.9	+12.0	Vert
			+2.4	+0.0			140				142
3	951.781M	70.3	-27.3	+23.4	+1.1	+2.1	+0.0	72.0	81.9	-9.9	Horiz
	Ave		+2.4	+0.0			140				169
^	951.781M	89.2	-27.3	+23.4	+1.1	+2.1	+0.0	90.9	81.9	+9.0	Horiz
			+2.4	+0.0			140				169

CKC Laboratories, Inc. Date: 5/30/2013 Time: 17:01:59 Itron, Inc. WO#: 92785
 Test Distance: 3 Meters Sequence#: 4 Vert
 Itron, Inc. AMR transceiver device for endpoint installation P/N: 900 BCR



Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: **Itron, Inc.**
 Specification: **15.231(b) Spurious Field Strength (>470 MHz Transmitter)**
 Work Order #: **92785** Date: 5/31/2013
 Test Type: **Maximized Emissions** Time: 08:32:12
 Equipment: **AMR transceiver device for endpoint installation** Sequence#: 4
 Manufacturer: Itron, Inc. Tested By: Rodney MacInnes
 Model: 900 BCR
 S/N: 37400023

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02308	Preamplifier	8447D	4/3/2012	4/3/2014
T2	AN01996	Biconilog Antenna	CBL6111C	3/2/2012	3/2/2014
T3	AN03227	Cable	32026-29080-29080-84	3/29/2013	3/29/2015
T4	ANP05360	Cable	RG214	12/3/2012	12/3/2014
T5	ANP05366	Cable	RG-214	10/14/2011	10/14/2013
T6	AN02872	Spectrum Analyzer	E4440A	7/23/2011	7/23/2013
T7	AN03209	Preamplifier	83051A	3/5/2013	3/5/2015
T8	AN01467	Horn Antenna-ANSI C63.5 Calibration	3115	10/19/2011	10/19/2013
T9	AN03123	Cable	32026-2-29801-12	10/14/2011	10/14/2013
T10	ANP05965	Cable	Various	8/26/2011	8/26/2013
T11	AN03170	High Pass Filter	HM1155-11SS	9/6/2011	9/6/2013
	AN00052	Loop Antenna	6502	5/16/2012	5/16/2014

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
3dB glass mount antenna	Tessco	MM3-925SMA	NA
AMR transceiver device for endpoint installation*	Itron, Inc.	900 BCR	37400023

Support Devices:

Function	Manufacturer	Model #	S/N
BCR Charging/USB connection Station	Itron, Inc.	NA	NA
USB 2.0 Kit	S.I. Tech	2172	NA
Laptop	Dell	Latitude E6410	JBDPWN1

Test Conditions / Notes:

The EUT is placed in the center of the turntable on a Styrofoam table 80cm above the ground plane , EUT is installed in device cradle attached to computer through USB to fiber adaptor.

Freq Tested: 9kHz - 10GHz

Fundamental Frequency: 952MHz

MAS Modulation

Firmware setting = 90

Emission profile evaluated with Tessco MM3-925SMA 3dB glass mount antenna

Frequency range of measurement = 9 kHz- 10 GHz.

9 kHz -150 kHz;RBW=200 Hz,VBW=200 Hz;150 kHz-30 MHz;RBW=9 kHz,VBW=9 kHz;30 MHz-1000 MHz;RBW=120 kHz,VBW=120 kHz,1000 MHz-10,000 MHz;RBW=1 MHz,VBW=1 MHz.

15.31(e) compliance: a freshly charged battery is installed

Test method in accordance with ANSI C63.4

Temperature: 22°C

Pressure: 101.5kPa

Humidity: 35%

Software: MC3SuperRaptorTest

Version: 4.0.1.5

Ext Attn: 0 dB

Measurement Data:

Reading listed by margin.

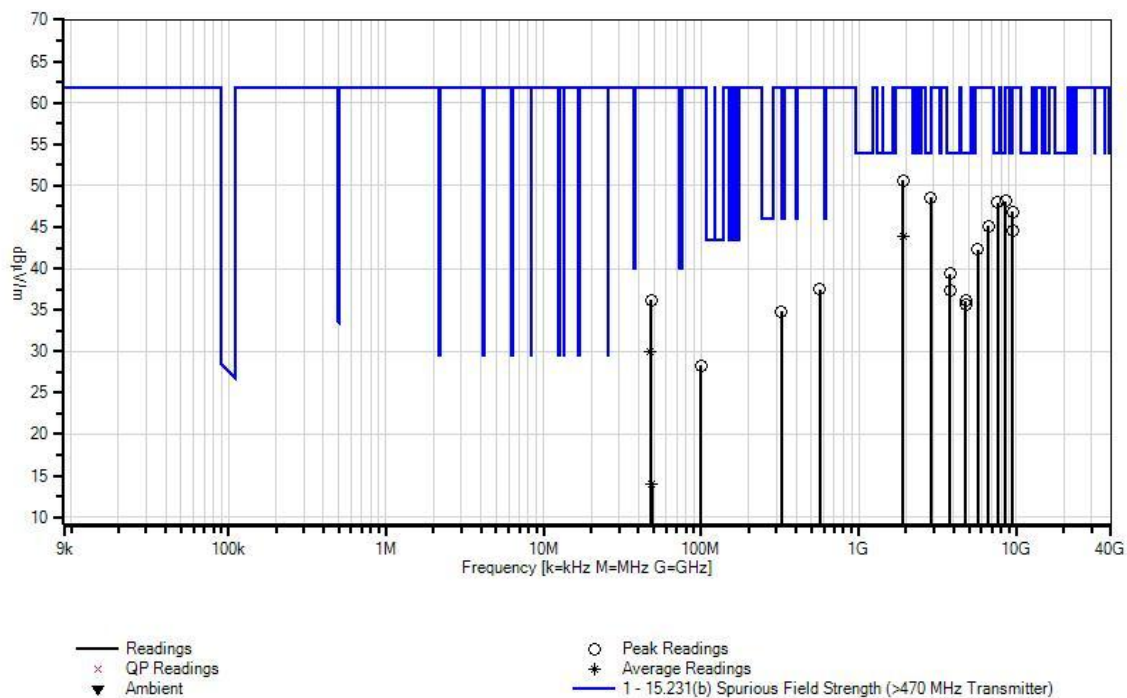
Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7 T11	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBμV	dB	dB	dB	dB	Table	dBμV/m	dBμV/m	dB	Ant
1	2856.000M	48.3	+0.0 +0.0 +0.5	+0.0 +0.0 +2.1	+0.0 -30.2 +0.3	+0.0 +27.6	+0.0	48.6	54.0	-5.4	Horiz 164
2	2856.000M	48.3	+0.0 +0.0 +0.5	+0.0 +0.0 +2.1	+0.0 -30.2 +0.3	+0.0 +27.6	+0.0 360	48.6	54.0	-5.4	Vert 139
3	7616.000M	35.5	+0.0 +0.0 +0.8	+0.0 +0.0 +3.6	+0.0 -28.2 +0.2	+0.0 +36.1	+0.0 276	48.0	54.0	-6.0	Horiz 140
4	7616.000M	35.5	+0.0 +0.0 +0.8	+0.0 +0.0 +3.6	+0.0 -28.2 +0.2	+0.0 +36.1	+0.0 276	48.0	54.0	-6.0	Vert 140
5	322.000M	45.2	-27.2 +1.2 +0.0	+13.9 +0.0 +0.0	+0.6 +0.0 +0.0	+1.1 +0.0	+0.0 140	34.8	46.0	-11.2	Vert 142
6	1904.000M	53.3	+0.0 +0.0 +0.3	+0.0 +0.0 +1.7	+0.0 -30.6 +0.3	+0.0 +25.6	+0.0	50.6	61.9	-11.3	Vert 170

7	8568.000M	34.2	+0.0	+0.0	+0.0	+0.0	+0.0	48.2	61.9	-13.7	Vert 140
			+0.0	+0.0	-27.9	+36.8	276				
			+1.0	+3.8	+0.3						
8	8568.000M	34.2	+0.0	+0.0	+0.0	+0.0	+0.0	48.2	61.9	-13.7	Horiz 140
			+0.0	+0.0	-27.9	+36.8	276				
			+1.0	+3.8	+0.3						
9	3808.000M	37.6	+0.0	+0.0	+0.0	+0.0	+0.0	39.4	54.0	-14.6	Vert 140
			+0.0	+0.0	-31.1	+29.9	314				
			+0.3	+2.1	+0.6						
10	9520.000M	34.7	+0.0	+0.0	+0.0	+0.0	+0.0	46.8	61.9	-15.1	Vert 140
			+0.0	+0.0	-27.8	+34.8	276				
			+0.8	+4.0	+0.3						
11	3808.000M	35.5	+0.0	+0.0	+0.0	+0.0	+0.0	37.3	54.0	-16.7	Horiz 115
			+0.0	+0.0	-31.1	+29.9	360				
			+0.3	+2.1	+0.6						
12	6664.000M	34.7	+0.0	+0.0	+0.0	+0.0	+0.0	45.1	61.9	-16.8	Vert 140
			+0.0	+0.0	-28.6	+34.7	276				
			+0.5	+3.5	+0.3						
13	6664.000M	34.7	+0.0	+0.0	+0.0	+0.0	+0.0	45.1	61.9	-16.8	Horiz 140
			+0.0	+0.0	-28.6	+34.7	276				
			+0.5	+3.5	+0.3						
14	9520.000M	32.5	+0.0	+0.0	+0.0	+0.0	+0.0	44.6	61.9	-17.3	Horiz 140
			+0.0	+0.0	-27.8	+34.8	276				
			+0.8	+4.0	+0.3						
15	4760.000M	32.1	+0.0	+0.0	+0.0	+0.0	+0.0	36.1	54.0	-17.9	Horiz 140
			+0.0	+0.0	-30.9	+31.8	276				
			+0.2	+2.6	+0.3						
16	1904.057M Ave	46.5	+0.0	+0.0	+0.0	+0.0	+0.0	43.8	61.9	-18.1	Horiz 109
			+0.0	+0.0	-30.6	+25.6	60				
			+0.3	+1.7	+0.3						
^	1904.000M	57.3	+0.0	+0.0	+0.0	+0.0	+0.0	54.6	61.9	-7.3	Horiz 143
			+0.0	+0.0	-30.6	+25.6	360				
			+0.3	+1.7	+0.3						
18	4760.000M	31.7	+0.0	+0.0	+0.0	+0.0	+0.0	35.7	54.0	-18.3	Vert 140
			+0.0	+0.0	-30.9	+31.8	276				
			+0.2	+2.6	+0.3						
19	5712.000M	34.5	+0.0	+0.0	+0.0	+0.0	+0.0	42.3	61.9	-19.6	Horiz 140
			+0.0	+0.0	-29.9	+33.9	276				
			+0.5	+3.0	+0.3						
20	5712.000M	34.5	+0.0	+0.0	+0.0	+0.0	+0.0	42.3	61.9	-19.6	Vert 140
			+0.0	+0.0	-29.9	+33.9	276				
			+0.5	+3.0	+0.3						
21	565.400M	42.4	-28.3	+19.3	+0.8	+1.6	+0.0	37.5	61.9	-24.4	Vert 142
			+1.7	+0.0	+0.0	+0.0	140				
			+0.0	+0.0	+0.0						
22	48.130M	54.3	-28.0	+9.0	+0.2	+0.4	+0.0	36.2	61.9	-25.7	Horiz 142
			+0.3	+0.0	+0.0	+0.0	140				
			+0.0	+0.0	+0.0						

23	47.500M	47.7	-28.0	+9.3	+0.2	+0.4	+0.0	29.9	61.9	-32.0	Vert
Ave			+0.3	+0.0	+0.0	+0.0	140				142
			+0.0	+0.0	+0.0						
^	47.500M	64.3	-28.0	+9.3	+0.2	+0.4	+0.0	46.5	61.9	-15.4	Vert
			+0.3	+0.0	+0.0	+0.0	140				142
			+0.0	+0.0	+0.0						
25	99.800M	45.1	-27.9	+9.7	+0.3	+0.6	+0.0	28.3	61.9	-33.6	Vert
			+0.5	+0.0	+0.0	+0.0	140				142
			+0.0	+0.0	+0.0						
26	48.430M	32.2	-28.0	+8.9	+0.2	+0.4	+0.0	14.0	61.9	-47.9	Horiz
Ave			+0.3	+0.0	+0.0	+0.0	140				142
			+0.0	+0.0	+0.0						

CKC Laboratories, Inc. Date: 5/31/2013 Time: 08:32:12 Itron, Inc. WO#: 92785
Test Distance: 3 Meters Sequence#: 4 Vert
Itron, Inc. AMR transceiver device for endpoint installation P/N: 900 BCR



Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: **Itron, Inc.**
 Specification: **RSS 210 A.1.1 Table A Spurious Field Strength (>470 MHz Transmitter)**
 Work Order #: **92785** Date: 5/31/2013
 Test Type: **Maximized Emissions** Time: 08:32:12
 Equipment: **AMR transceiver device for endpoint installation** Sequence#: 4
 Manufacturer: Itron, Inc. Tested By: Rodney MacInnes
 Model: 900 BCR
 S/N: 37400023

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02308	Preamp	8447D	4/3/2012	4/3/2014
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T6	AN02872	Spectrum Analyzer	E4440A	7/23/2011	7/23/2013
T7	AN03209	Preamp	83051A	3/5/2013	3/5/2015
T8	AN01467	Horn Antenna-ANSI C63.5 Calibration	3115	10/19/2011	10/19/2013
T9	AN03123	Cable	32026-2-29801-12	10/14/2011	10/14/2013
T10	ANP05965	Cable	Various	8/26/2011	8/26/2013
T11	AN03170	High Pass Filter	HM1155-11SS	9/6/2011	9/6/2013
	AN00052	Loop Antenna	6502	5/16/2012	5/16/2014

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
3dB glass mount antenna	Tessco	MM3-925SMA	NA
AMR transceiver device for endpoint installation*	Itron, Inc.	900 BCR	37400023

Support Devices:

Function	Manufacturer	Model #	S/N
BCR Charging/USB connection Station	Itron, Inc.	NA	NA
USB 2.0 Kit	S.I. Tech	2172	NA
Laptop	Dell	Latitude E6410	JBDPWN1

Test Conditions / Notes:

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Fundamental Frequency: 952MHz

MAS Modulation

Firmware setting = 90

Emission profile evaluated with Tessco MM3-925SMA 3dB glass mount antenna

Frequency range of measurement = 9 kHz- 10 GHz.

9 kHz -150 kHz;RBW=200 Hz,VBW=200 Hz;150 kHz-30 MHz;RBW=9 kHz,VBW=9 kHz;30 MHz-1000 MHz;RBW=120 kHz,VBW=120 kHz,1000 MHz-10,000 MHz;RBW=1 MHz,VBW=1 MHz.

15.31(e) compliance: a freshly charged battery is installed

Test method in accordance with ANSI C63.4

Temperature: 22°C

Pressure: 101.5kPa

Humidity: 35%

Software: MC3SuperRaptorTest

Version: 4.0.1.5

Ext Attn: 0 dB

Measurement Data:

Reading listed by margin.

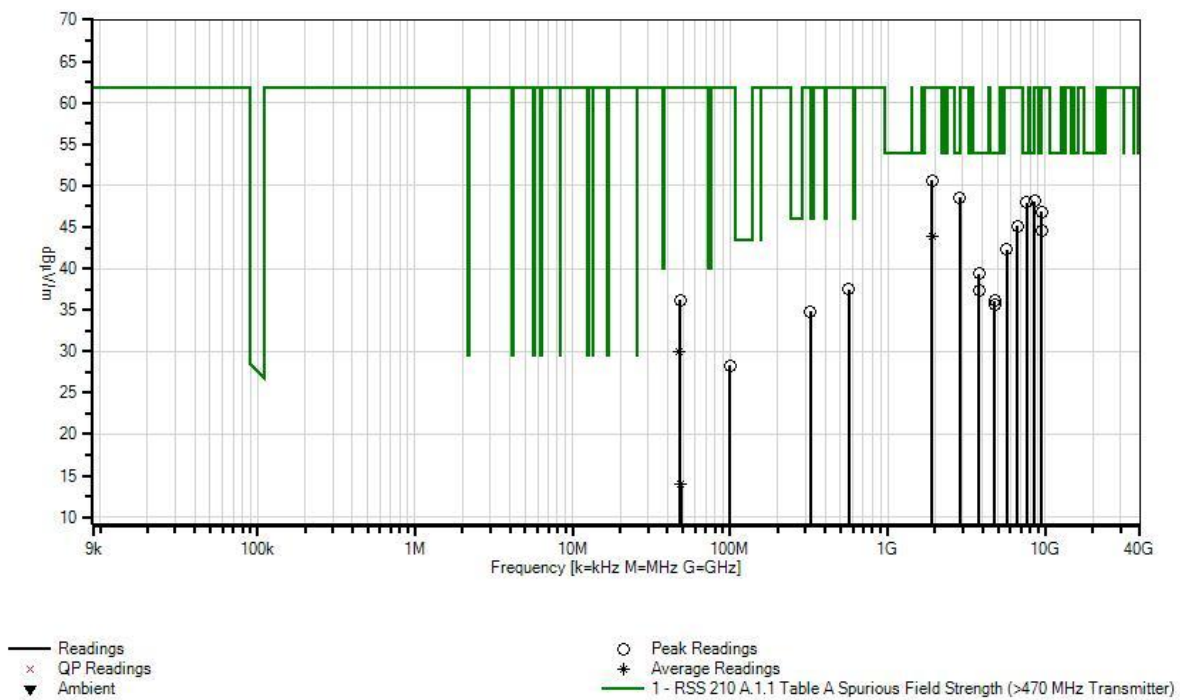
Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7 T11	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBμV	dB	dB	dB	dB	Table	dBμV/m	dBμV/m	dB	Ant
1	2856.000M	48.3	+0.0 +0.0 +0.5	+0.0 +0.0 +2.1	+0.0 -30.2 +0.3	+0.0 +27.6	+0.0	48.6	54.0	-5.4	Horiz 164
2	2856.000M	48.3	+0.0 +0.0 +0.5	+0.0 +0.0 +2.1	+0.0 -30.2 +0.3	+0.0 +27.6	+0.0 360	48.6	54.0	-5.4	Vert 139
3	7616.000M	35.5	+0.0 +0.0 +0.8	+0.0 +0.0 +3.6	+0.0 -28.2 +0.2	+0.0 +36.1	+0.0 276	48.0	54.0	-6.0	Horiz 140
4	7616.000M	35.5	+0.0 +0.0 +0.8	+0.0 +0.0 +3.6	+0.0 -28.2 +0.2	+0.0 +36.1	+0.0 276	48.0	54.0	-6.0	Vert 140
5	322.000M	45.2	-27.2 +1.2 +0.0	+13.9 +0.0 +0.0	+0.6 +0.0 +0.0	+1.1 +0.0	+0.0 140	34.8	46.0	-11.2	Vert 142
6	1904.000M	53.3	+0.0 +0.0 +0.3	+0.0 +0.0 +1.7	+0.0 -30.6 +0.3	+0.0 +25.6	+0.0	50.6	61.9	-11.3	Vert 170

7	8568.000M	34.2	+0.0	+0.0	+0.0	+0.0	+0.0	48.2	61.9	-13.7	Vert 140
			+0.0	+0.0	-27.9	+36.8	276				
			+1.0	+3.8	+0.3						
8	8568.000M	34.2	+0.0	+0.0	+0.0	+0.0	+0.0	48.2	61.9	-13.7	Horiz 140
			+0.0	+0.0	-27.9	+36.8	276				
			+1.0	+3.8	+0.3						
9	3808.000M	37.6	+0.0	+0.0	+0.0	+0.0	+0.0	39.4	54.0	-14.6	Vert 140
			+0.0	+0.0	-31.1	+29.9	314				
			+0.3	+2.1	+0.6						
10	9520.000M	34.7	+0.0	+0.0	+0.0	+0.0	+0.0	46.8	61.9	-15.1	Vert 140
			+0.0	+0.0	-27.8	+34.8	276				
			+0.8	+4.0	+0.3						
11	3808.000M	35.5	+0.0	+0.0	+0.0	+0.0	+0.0	37.3	54.0	-16.7	Horiz 115
			+0.0	+0.0	-31.1	+29.9	360				
			+0.3	+2.1	+0.6						
12	6664.000M	34.7	+0.0	+0.0	+0.0	+0.0	+0.0	45.1	61.9	-16.8	Vert 140
			+0.0	+0.0	-28.6	+34.7	276				
			+0.5	+3.5	+0.3						
13	6664.000M	34.7	+0.0	+0.0	+0.0	+0.0	+0.0	45.1	61.9	-16.8	Horiz 140
			+0.0	+0.0	-28.6	+34.7	276				
			+0.5	+3.5	+0.3						
14	9520.000M	32.5	+0.0	+0.0	+0.0	+0.0	+0.0	44.6	61.9	-17.3	Horiz 140
			+0.0	+0.0	-27.8	+34.8	276				
			+0.8	+4.0	+0.3						
15	4760.000M	32.1	+0.0	+0.0	+0.0	+0.0	+0.0	36.1	54.0	-17.9	Horiz 140
			+0.0	+0.0	-30.9	+31.8	276				
			+0.2	+2.6	+0.3						
16	1904.057M Ave	46.5	+0.0	+0.0	+0.0	+0.0	+0.0	43.8	61.9	-18.1	Horiz 109
			+0.0	+0.0	-30.6	+25.6	60				
			+0.3	+1.7	+0.3						
^	1904.000M	57.3	+0.0	+0.0	+0.0	+0.0	+0.0	54.6	61.9	-7.3	Horiz 143
			+0.0	+0.0	-30.6	+25.6	360				
			+0.3	+1.7	+0.3						
18	4760.000M	31.7	+0.0	+0.0	+0.0	+0.0	+0.0	35.7	54.0	-18.3	Vert 140
			+0.0	+0.0	-30.9	+31.8	276				
			+0.2	+2.6	+0.3						
19	5712.000M	34.5	+0.0	+0.0	+0.0	+0.0	+0.0	42.3	61.9	-19.6	Horiz 140
			+0.0	+0.0	-29.9	+33.9	276				
			+0.5	+3.0	+0.3						
20	5712.000M	34.5	+0.0	+0.0	+0.0	+0.0	+0.0	42.3	61.9	-19.6	Vert 140
			+0.0	+0.0	-29.9	+33.9	276				
			+0.5	+3.0	+0.3						
21	565.400M	42.4	-28.3	+19.3	+0.8	+1.6	+0.0	37.5	61.9	-24.4	Vert 142
			+1.7	+0.0	+0.0	+0.0	140				
			+0.0	+0.0	+0.0						
22	48.130M	54.3	-28.0	+9.0	+0.2	+0.4	+0.0	36.2	61.9	-25.7	Horiz 142
			+0.3	+0.0	+0.0	+0.0	140				
			+0.0	+0.0	+0.0						

23	47.500M	47.7	-28.0	+9.3	+0.2	+0.4	+0.0	29.9	61.9	-32.0	Vert
Ave			+0.3	+0.0	+0.0	+0.0	140				142
			+0.0	+0.0	+0.0						
^	47.500M	64.3	-28.0	+9.3	+0.2	+0.4	+0.0	46.5	61.9	-15.4	Vert
			+0.3	+0.0	+0.0	+0.0	140				142
			+0.0	+0.0	+0.0						
25	99.800M	45.1	-27.9	+9.7	+0.3	+0.6	+0.0	28.3	61.9	-33.6	Vert
			+0.5	+0.0	+0.0	+0.0	140				142
			+0.0	+0.0	+0.0						
26	48.430M	32.2	-28.0	+8.9	+0.2	+0.4	+0.0	14.0	61.9	-47.9	Horiz
Ave			+0.3	+0.0	+0.0	+0.0	140				142
			+0.0	+0.0	+0.0						

CKC Laboratories, Inc. Date: 5/31/2013 Time: 08:32:12 Itron, Inc. WO#: 92785
Test Distance: 3 Meters Sequence#: 4 Vert
Itron, Inc. AMR transceiver device for endpoint installation P/N: 900 BCR



5dB Magnetic Mount
Test Data Sheets

Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: **Itron, Inc.**
 Specification: **15.231(b) Fundamental Field Strength**
 Work Order #: **92785** Date: 6/5/2013
 Test Type: **Maximized Emissions** Time: 08:21:45
 Equipment: **AMR transceiver device for endpoint installation** Sequence#: 5
 Manufacturer: Itron, Inc. Tested By: Rodney MacInnes
 Model: 900 BCR
 S/N: 37400023

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03227	Cable	32026-29080-29080-84	3/29/2013	3/29/2015
T2	AN02872	Spectrum Analyzer	E4440A	7/23/2011	7/23/2013
T3	AN02308	Preamplifier	8447D	4/3/2012	4/3/2014
T4	AN01996	Biconilog Antenna	CBL6111C	3/2/2012	3/2/2014
T5	ANP05360	Cable	RG214	12/3/2012	12/3/2014
T6	ANP05366	Cable	RG-214	10/14/2011	10/14/2013
T7	ANP05435	Attenuator	PE7015-10	10/5/2012	10/5/2014

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
5dB magnetic mount	PCTel	Z3182	NA
AMR transceiver device for endpoint installation*	Itron, Inc.	900 BCR	37400023

Support Devices:

Function	Manufacturer	Model #	S/N
BCR Charging/USB connection Station	Itron, Inc.	NA	NA
USB 2.0 Kit	S.I. Tech	2172	NA
Laptop	Dell	Latitude E6410	JBDPWN1

Test Conditions / Notes:

The EUT is placed in the center of the turntable on a Styrofoam table 80cm above the ground plane , EUT is installed in device cradle attached to computer through USB to fiber adaptor.

Freq Tested: 950MHz-955MHz

Fundamental Frequency: 952MHz

MAS Modulation

Firmware setting = 90

Emission profile evaluated with PCTel Z3182 5dB magnetic mount

15.31(e) compliance: a freshly charged battery is installed

Test method in accordance with ANSI C63.4

Temperature: 22°C

Pressure: 101.5kPa

Humidity: 35%

Software: MC3SuperRaptorTest

Version: 4.0.1.5

Ext Attn: 0 dB

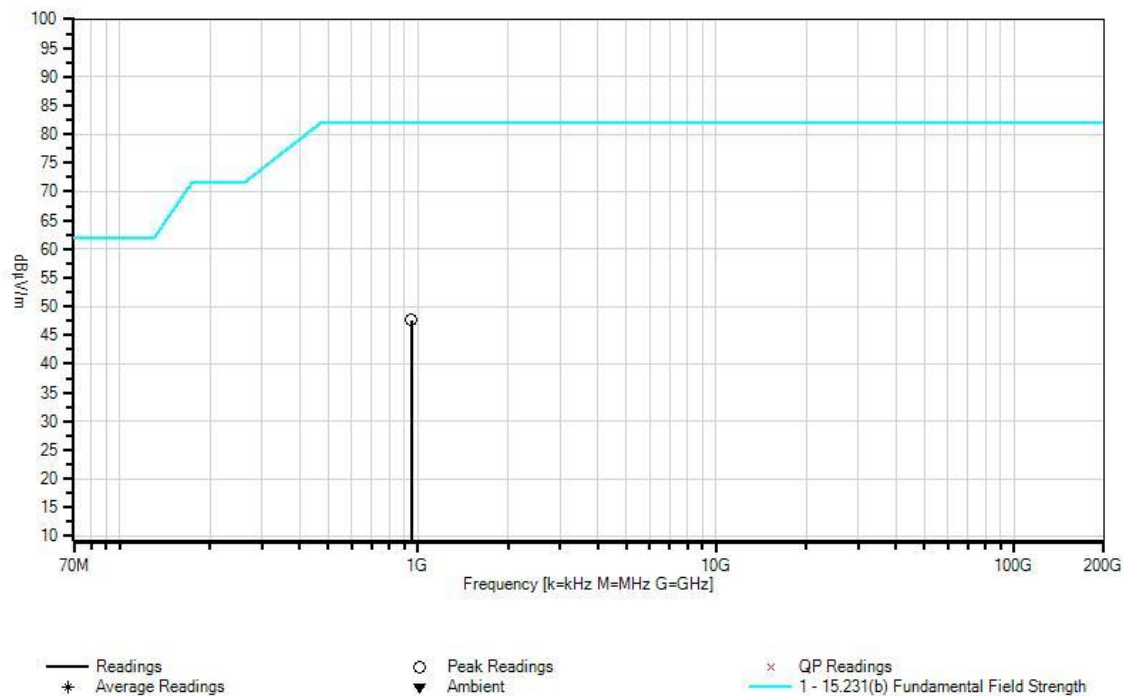
Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBμV	dB	dB	dB	dB	Table	dBμV/m	dBμV/m	dB	Ant
1	951.310M	36.3	+1.1 +2.1	+0.0 +2.4	-27.3 +9.6	+23.4	+0.0 160	47.6	81.9	-34.3	Horiz 99
2	951.310M	36.3	+1.1 +2.1	+0.0 +2.4	-27.3 +9.6	+23.4	+0.0 360	47.6	81.9	-34.3	Vert 99

CKC Laboratories, Inc. Date: 6/5/2013 Time: 08:21:45 Itron, Inc. WO#: 92785
 Test Distance: 3 Meters Sequence#: 5 Vert
 Itron, Inc. AMR transceiver device for endpoint installation P/N: 900 BCR



Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: **Itron, Inc.**
 Specification: **15.231(b) Spurious Field Strength (>470 MHz Transmitter)**
 Work Order #: **92785** Date: 6/5/2013
 Test Type: **Maximized Emissions** Time: 09:05:36
 Equipment: **AMR transceiver device for endpoint installation** Sequence#: 6
 Manufacturer: Itron, Inc. Tested By: Rodney MacInnes
 Model: 900 BCR
 S/N: 37400023

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03209	Preamp	83051A	3/5/2013	3/5/2015
T2	AN01467	Horn Antenna-ANSI C63.5 Calibration	3115	10/19/2011	10/19/2013
T3	AN03123	Cable	32026-2-29801-12	10/14/2011	10/14/2013
T4	AN03227	Cable	32026-29080-29080-84	3/29/2013	3/29/2015
T5	ANP05965	Cable	Various	8/26/2011	8/26/2013
	AN02872	Spectrum Analyzer	E4440A	7/23/2011	7/23/2013
T6	AN03170	High Pass Filter	HM1155-11SS	9/6/2011	9/6/2013
T7	AN02308	Preamp	8447D	4/3/2012	4/3/2014
T8	AN01996	Biconilog Antenna	CBL6111C	3/2/2012	3/2/2014
T9	ANP05360	Cable	RG214	12/3/2012	12/3/2014
T10	ANP05366	Cable	RG-214	10/14/2011	10/14/2013
T11	ANP05435	Attenuator	PE7015-10	10/5/2012	10/5/2014
	AN00052	Loop Antenna	6502	5/16/2012	5/16/2014

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
5dB magnetic mount	PCTel	Z3182	NA
AMR transceiver device for endpoint installation*	Itron, Inc.	900 BCR	37400023

Support Devices:

Function	Manufacturer	Model #	S/N
BCR Charging/USB connection Station	Itron, Inc.	NA	NA
USB 2.0 Kit	S.I. Tech	2172	NA
Laptop	Dell	Latitude E6410	JBDPWN1

Test Conditions / Notes:

The EUT is placed in the center of the turntable on a Styrofoam table 80cm above the ground plane, EUT is installed in device cradle attached to computer through USB to fiber adaptor.

Freq Tested: 9kHz - 10GHz

Fundamental Frequency: 952MHz

MAS Modulation

Firmware setting = 90

Emission profile evaluated with PCTel Z3182 5dB magnetic mount

Frequency range of measurement = 9 kHz- 10 GHz.

9 kHz -150 kHz;RBW=200 Hz,VBW=200 Hz;150 kHz-30 MHz;RBW=9 kHz,VBW=9 kHz;30 MHz-1000 MHz;RBW=120 kHz,VBW=120 kHz,1000 MHz-10,000 MHz;RBW=1 MHz,VBW=1 MHz.

15.31(e) compliance: a freshly charged battery is installed

Test method in accordance with ANSI C63.4

Temperature: 22°C

Pressure: 101.5kPa

Humidity: 35%

Software: MC3SuperRaptorTest

Version: 4.0.1.5

Note: No emissions observed below 30MHz

Ext Attn: 0 dB

Measurement Data:

Reading listed by margin.

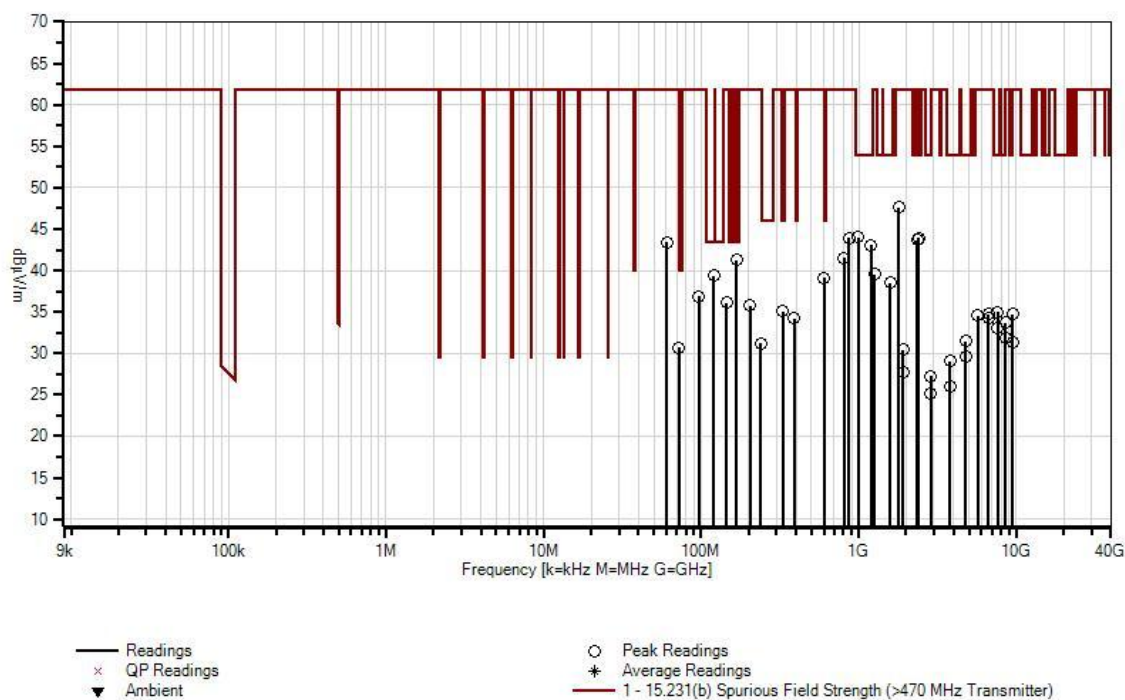
Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7 T11	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBμV	dB	dB	dB	dB	Table	dBμV/m	dBμV/m	dB	Ant
1	120.500M	44.6	+0.0 +0.0 +0.7	+0.0 +0.0 +0.6	+0.0 -27.8 +9.3	+0.4 +11.6	+0.0 360	39.4	43.5	-4.1	Vert 105
2	990.300M	31.6	+0.0 +0.0 +2.2	+0.0 +0.0 +2.5	+0.0 -27.1 +9.6	+1.1 +24.1	+0.0 360	44.0	54.0	-10.0	Vert 105
3	2340.000M	43.3	-30.4 +1.8 +0.0	+26.4 +0.3 +0.0	+0.5 +0.0 +0.0	+1.8 +0.0	+0.0 360	43.7	54.0	-10.3	Horiz 141
4	330.700M	35.6	+0.0 +0.0 +1.1	+0.0 +0.0 +1.2	+0.0 -27.2 +9.7	+0.6 +14.1	+0.0 360	35.1	46.0	-10.9	Vert 105
5	1200.000M	49.9	-30.7 +1.3 +0.0	+20.2 +0.9 +0.0	+0.3 +0.0 +0.0	+1.2 +0.0	+0.0 360	43.1	54.0	-10.9	Horiz 141

6	1800.000M	49.8	-30.6 +1.6 +0.0	+24.6 +0.5 +0.0	+0.3 +0.0 +0.0	+1.4 +0.0 360	+0.0	47.6	61.9	-14.3	Horiz 141
7	1590.000M	43.2	-30.7 +1.5 +0.0	+22.4 +0.4 +0.0	+0.3 +0.0 +0.0	+1.4 +0.0 360	+0.0	38.5	54.0	-15.5	Horiz 141
8	870.700M	34.2	+0.0 +0.0 +2.0	+0.0 +0.0 +2.2	+0.0 -27.5 +9.7	+1.0 +22.3 360	+0.0	43.9	61.9	-18.0	Vert 105
9	2400.000M	43.3	-30.4 +1.9 +0.0	+26.4 +0.3 +0.0	+0.5 +0.0 +0.0	+1.9 +0.0 360	+0.0	43.9	61.9	-18.0	Horiz 141
10	60.700M	55.7	+0.0 +0.0 +0.5	+0.0 +0.0 +0.4	+0.0 -28.0 +9.2	+0.3 +5.3 360	+0.0	43.4	61.9	-18.5	Vert 105
11	7616.000M	19.3	-28.2 +3.6 +0.0	+36.1 +0.2 +0.0	+0.8 +0.0 +0.0	+3.2 +0.0 360	+0.0	35.0	54.0	-19.0	Horiz 140
12	809.200M	32.7	+0.0 +0.0 +1.9	+0.0 +0.0 +2.1	+0.0 -27.8 +9.7	+0.9 +22.0 360	+0.0	41.5	61.9	-20.4	Vert 105
13	167.400M	47.6	+0.0 +0.0 +0.8	+0.0 +0.0 +0.8	+0.0 -27.5 +9.4	+0.4 +9.8 360	+0.0	41.3	61.9	-20.6	Vert 105
14	7616.000M	17.3	-28.2 +3.6 +0.0	+36.1 +0.2 +0.0	+0.8 +0.0 +0.0	+3.2 +0.0 +0.0	+0.0	33.0	54.0	-21.0	Vert 140
15	1260.000M	46.1	-30.7 +1.3 +0.0	+20.5 +0.8 +0.0	+0.3 +0.0 +0.0	+1.2 +0.0 360	+0.0	39.5	61.9	-22.4	Horiz 141
16	4760.000M	24.7	-30.9 +2.6 +0.0	+31.8 +0.3 +0.0	+0.2 +0.0 +0.0	+2.8 +0.0 189	+0.0	31.5	54.0	-22.5	Vert 169
17	600.700M	33.6	+0.0 +0.0 +1.6	+0.0 +0.0 +1.7	+0.0 -28.3 +9.7	+0.8 +20.0 360	+0.0	39.1	61.9	-22.8	Vert 105
18	4760.000M	22.8	-30.9 +2.6 +0.0	+31.8 +0.3 +0.0	+0.2 +0.0 +0.0	+2.8 +0.0 360	+0.0	29.6	54.0	-24.4	Horiz 158
19	3808.000M	24.7	-31.1 +2.1 +0.0	+29.9 +0.6 +0.0	+0.3 +0.0 +0.0	+2.6 +0.0 282	+0.0	29.1	54.0	-24.9	Horiz 158
20	96.300M	44.8	+0.0 +0.0 +0.6	+0.0 +0.0 +0.5	+0.0 -27.9 +9.3	+0.3 +9.3 360	+0.0	36.9	61.9	-25.0	Vert 105
21	144.800M	41.2	+0.0 +0.0 +0.7	+0.0 +0.0 +0.7	+0.0 -27.6 +9.4	+0.4 +11.3 360	+0.0	36.1	61.9	-25.8	Vert 105
22	204.600M	41.8	+0.0 +0.0 +0.9	+0.0 +0.0 +0.9	+0.0 -27.3 +9.6	+0.5 +9.4 360	+0.0	35.8	61.9	-26.1	Vert 105

23	2856.000M	25.1	-30.2 +2.1 +0.0	+27.6 +0.3 +0.0	+0.5 +0.0 +0.0	+1.9 +0.0 344	+0.0	27.3	54.0	-26.7	Horiz 148
24	9520.000M	19.0	-27.8 +4.0 +0.0	+34.8 +0.3 +0.0	+0.8 +0.0 +0.0	+3.6 +0.0 360	+0.0	34.7	61.9	-27.2	Horiz 140
25	6664.000M	21.2	-28.6 +3.5 +0.0	+34.7 +0.3 +0.0	+0.5 +0.0 +0.0	+3.1 +0.0	+0.0	34.7	61.9	-27.2	Vert 140
26	5712.000M	23.7	-29.9 +3.0 +0.0	+33.9 +0.3 +0.0	+0.5 +0.0 +0.0	+3.1 +0.0 245	+0.0	34.6	61.9	-27.3	Horiz 140
27	5712.000M	23.7	-29.9 +3.0 +0.0	+33.9 +0.3 +0.0	+0.5 +0.0 +0.0	+3.1 +0.0	+0.0	34.6	61.9	-27.3	Vert 140
28	6664.000M	20.8	-28.6 +3.5 +0.0	+34.7 +0.3 +0.0	+0.5 +0.0 +0.0	+3.1 +0.0 360	+0.0	34.3	61.9	-27.6	Horiz 140
29	390.500M	32.9	+0.0 +0.0 +1.3	+0.0 +0.0 +1.4	+0.0 -27.7 +9.7	+0.7 +15.9 360	+0.0	34.2	61.9	-27.7	Vert 105
30	3808.000M	21.6	-31.1 +2.1 +0.0	+29.9 +0.6 +0.0	+0.3 +0.0 +0.0	+2.6 +0.0	+0.0	26.0	54.0	-28.0	Vert 122
31	8568.000M	16.3	-27.9 +3.8 +0.0	+36.8 +0.3 +0.0	+1.0 +0.0 +0.0	+3.4 +0.0	+0.0	33.7	61.9	-28.2	Vert 140
32	2856.000M	23.0	-30.2 +2.1 +0.0	+27.6 +0.3 +0.0	+0.5 +0.0 +0.0	+1.9 +0.0	+0.0	25.2	54.0	-28.8	Vert 122
33	8568.000M	14.5	-27.9 +3.8 +0.0	+36.8 +0.3 +0.0	+1.0 +0.0 +0.0	+3.4 +0.0 360	+0.0	31.9	61.9	-30.0	Horiz 140
34	9520.000M	15.7	-27.8 +4.0 +0.0	+34.8 +0.3 +0.0	+0.8 +0.0 +0.0	+3.6 +0.0	+0.0	31.4	61.9	-30.5	Vert 140
35	238.600M	34.3	+0.0 +0.0 +1.0	+0.0 +0.0 +1.0	+0.0 -27.1 +9.7	+0.5 +11.8 360	+0.0	31.2	61.9	-30.7	Vert 105
36	72.000M	42.1	+0.0 +0.0 +0.5	+0.0 +0.0 +0.4	+0.0 -28.0 +9.2	+0.3 +6.2 360	+0.0	30.7	61.9	-31.2	Vert 105
37	1904.000M	31.6	-30.6 +1.7 +0.0	+25.6 +0.3 +0.0	+0.3 +0.0 +0.0	+1.5 +0.0	+0.0	30.4	61.9	-31.5	Horiz 148
38	1904.000M	29.0	-30.6 +1.7 +0.0	+25.6 +0.3 +0.0	+0.3 +0.0 +0.0	+1.5 +0.0 360	+0.0	27.8	61.9	-34.1	Vert 180

CKC Laboratories, Inc. Date: 6/5/2013 Time: 09:05:36 Itron, Inc. WO#: 92785
 Test Distance: 3 Meters Sequence#: 6 Horiz
 Itron, Inc. AMR transceiver device for endpoint installation P/N: 900 BCR



Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: **Itron, Inc.**
 Specification: **RSS 210 A.1.1 Table A Spurious Field Strength (>470 MHz Transmitter)**
 Work Order #: **92785** Date: 6/5/2013
 Test Type: **Maximized Emissions** Time: 09:05:36
 Equipment: **AMR transceiver device for endpoint installation** Sequence#: 6
 Manufacturer: Itron, Inc. Tested By: Rodney MacInnes
 Model: 900 BCR
 S/N: 37400023

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03209	Preamp	83051A	3/5/2013	3/5/2015
T2	AN01467	Horn Antenna-ANSI C63.5 Calibration	3115	10/19/2011	10/19/2013
T3	AN03123	Cable	32026-2-29801-12	10/14/2011	10/14/2013
T4	AN03227	Cable	32026-29080-29080-84	3/29/2013	3/29/2015
T5	ANP05965	Cable	Various	8/26/2011	8/26/2013
	AN02872	Spectrum Analyzer	E4440A	7/23/2011	7/23/2013
T6	AN03170	High Pass Filter	HM1155-11SS	9/6/2011	9/6/2013
T7	AN02308	Preamp	8447D	4/3/2012	4/3/2014
T8	AN01996	Biconilog Antenna	CBL6111C	3/2/2012	3/2/2014
T9	ANP05360	Cable	RG214	12/3/2012	12/3/2014
T10	ANP05366	Cable	RG-214	10/14/2011	10/14/2013
T11	ANP05435	Attenuator	PE7015-10	10/5/2012	10/5/2014
	AN00052	Loop Antenna	6502	5/16/2012	5/16/2014

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
5dB magnetic mount	PCTel	Z3182	NA
AMR transceiver device for endpoint installation*	Itron, Inc.	900 BCR	37400023

Support Devices:

Function	Manufacturer	Model #	S/N
BCR Charging/USB connection Station	Itron, Inc.	NA	NA
USB 2.0 Kit	S.I. Tech	2172	NA
Laptop	Dell	Latitude E6410	JBDPWN1

Test Conditions / Notes:

The EUT is placed in the center of the turntable on a Styrofoam table 80cm above the ground plane, EUT is installed in device cradle attached to computer through USB to fiber adaptor.

Freq Tested: 9kHz-10GHz

Fundamental Frequency: 952MHz

MAS Modulation

Firmware setting = 90

Emission profile evaluated with PCTel Z3182 5dB magnetic mount

Frequency range of measurement = 9 kHz- 10 GHz.

9 kHz -150 kHz;RBW=200 Hz,VBW=200 Hz;150 kHz-30 MHz;RBW=9 kHz,VBW=9 kHz;30 MHz-1000 MHz;RBW=120 kHz,VBW=120 kHz,1000 MHz-10,000 MHz;RBW=1 MHz,VBW=1 MHz.

15.31(e) compliance: a freshly charged battery is installed

Test method in accordance with ANSI C63.4

Temperature: 22°C

Pressure: 101.5kPa

Humidity: 35%

Software: MC3SuperRaptorTest

Version: 4.0.1.5

Note: No emissions observed below 30MHz

Ext Attn: 0 dB

Measurement Data:

Reading listed by margin.

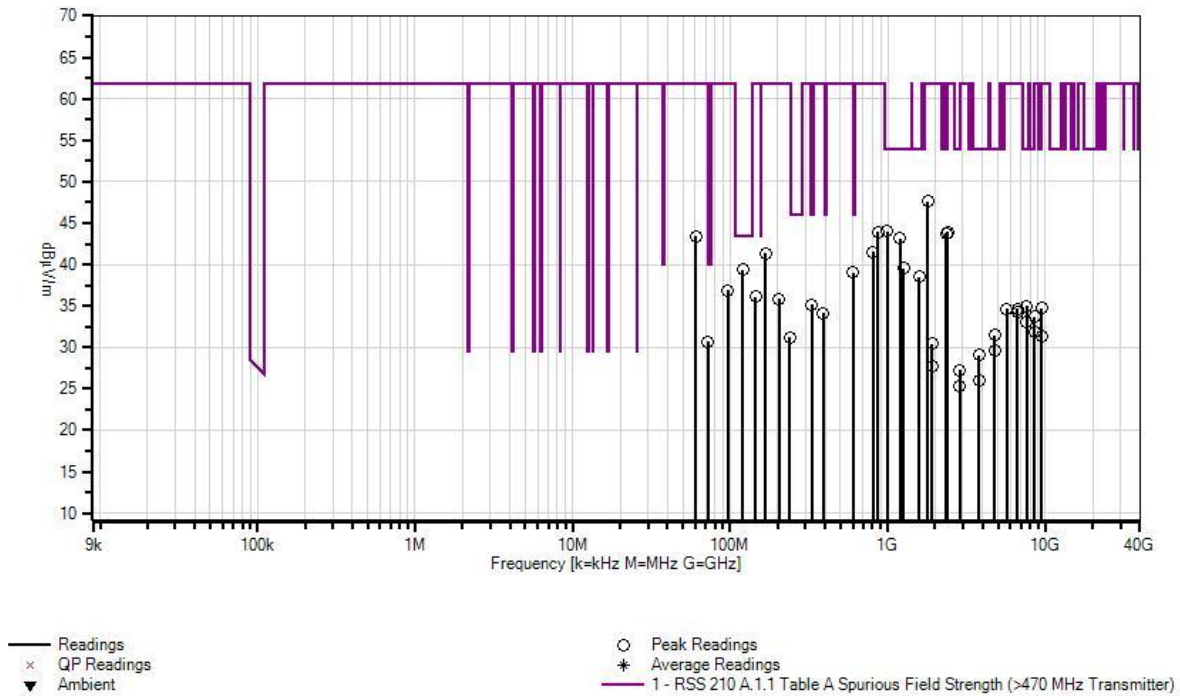
Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7 T11	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBμV	dB	dB	dB	dB	Table	dBμV/m	dBμV/m	dB	Ant
1	120.500M	44.6	+0.0 +0.0 +0.7	+0.0 +0.0 +0.6	+0.0 -27.8 +9.3	+0.4 +11.6	+0.0 360	39.4	43.5	-4.1	Vert 105
2	990.300M	31.6	+0.0 +0.0 +2.2	+0.0 +0.0 +2.5	+0.0 -27.1 +9.6	+1.1 +24.1	+0.0 360	44.0	54.0	-10.0	Vert 105
3	2340.000M	43.3	-30.4 +1.8 +0.0	+26.4 +0.3 +0.0	+0.5 +0.0 +0.0	+1.8 +0.0	+0.0 360	43.7	54.0	-10.3	Horiz 141
4	330.700M	35.6	+0.0 +0.0 +1.1	+0.0 +0.0 +1.2	+0.0 -27.2 +9.7	+0.6 +14.1	+0.0 360	35.1	46.0	-10.9	Vert 105
5	1200.000M	49.9	-30.7 +1.3 +0.0	+20.2 +0.9 +0.0	+0.3 +0.0 +0.0	+1.2 +0.0	+0.0 360	43.1	54.0	-10.9	Horiz 141

6	1800.000M	49.8	-30.6 +1.6 +0.0	+24.6 +0.5 +0.0	+0.3 +0.0 +0.0	+1.4 +0.0 360	+0.0	47.6	61.9	-14.3	Horiz 141
7	1260.000M	46.1	-30.7 +1.3 +0.0	+20.5 +0.8 +0.0	+0.3 +0.0 +0.0	+1.2 +0.0 360	+0.0	39.5	54.0	-14.5	Horiz 141
8	1590.000M	43.2	-30.7 +1.5 +0.0	+22.4 +0.4 +0.0	+0.3 +0.0 +0.0	+1.4 +0.0 360	+0.0	38.5	54.0	-15.5	Horiz 141
9	870.700M	34.2	+0.0 +0.0 +2.0	+0.0 +0.0 +2.2	+0.0 -27.5 +9.7	+1.0 +22.3 360	+0.0	43.9	61.9	-18.0	Vert 105
10	2400.000M	43.3	-30.4 +1.9 +0.0	+26.4 +0.3 +0.0	+0.5 +0.0 +0.0	+1.9 +0.0 360	+0.0	43.9	61.9	-18.0	Horiz 141
11	60.700M	55.7	+0.0 +0.0 +0.5	+0.0 +0.0 +0.4	+0.0 -28.0 +9.2	+0.3 +5.3 360	+0.0	43.4	61.9	-18.5	Vert 105
12	7616.000M	19.3	-28.2 +3.6 +0.0	+36.1 +0.2 +0.0	+0.8 +0.0 +0.0	+3.2 +0.0 360	+0.0	35.0	54.0	-19.0	Horiz 140
13	809.200M	32.7	+0.0 +0.0 +1.9	+0.0 +0.0 +2.1	+0.0 -27.8 +9.7	+0.9 +22.0 360	+0.0	41.5	61.9	-20.4	Vert 105
14	167.400M	47.6	+0.0 +0.0 +0.8	+0.0 +0.0 +0.8	+0.0 -27.5 +9.4	+0.4 +9.8 360	+0.0	41.3	61.9	-20.6	Vert 105
15	7616.000M	17.3	-28.2 +3.6 +0.0	+36.1 +0.2 +0.0	+0.8 +0.0 +0.0	+3.2 +0.0	+0.0	33.0	54.0	-21.0	Vert 140
16	4760.000M	24.7	-30.9 +2.6 +0.0	+31.8 +0.3 +0.0	+0.2 +0.0 +0.0	+2.8 +0.0 189	+0.0	31.5	54.0	-22.5	Vert 169
17	600.700M	33.6	+0.0 +0.0 +1.6	+0.0 +0.0 +1.7	+0.0 -28.3 +9.7	+0.8 +20.0 360	+0.0	39.1	61.9	-22.8	Vert 105
18	4760.000M	22.8	-30.9 +2.6 +0.0	+31.8 +0.3 +0.0	+0.2 +0.0 +0.0	+2.8 +0.0 360	+0.0	29.6	54.0	-24.4	Horiz 158
19	3808.000M	24.7	-31.1 +2.1 +0.0	+29.9 +0.6 +0.0	+0.3 +0.0 +0.0	+2.6 +0.0 282	+0.0	29.1	54.0	-24.9	Horiz 158
20	96.300M	44.8	+0.0 +0.0 +0.6	+0.0 +0.0 +0.5	+0.0 -27.9 +9.3	+0.3 +9.3 360	+0.0	36.9	61.9	-25.0	Vert 105
21	144.800M	41.2	+0.0 +0.0 +0.7	+0.0 +0.0 +0.7	+0.0 -27.6 +9.4	+0.4 +11.3 360	+0.0	36.1	61.9	-25.8	Vert 105
22	204.600M	41.8	+0.0 +0.0 +0.9	+0.0 +0.0 +0.9	+0.0 -27.3 +9.6	+0.5 +9.4 360	+0.0	35.8	61.9	-26.1	Vert 105

23	2856.000M	25.1	-30.2 +2.1 +0.0	+27.6 +0.3 +0.0	+0.5 +0.0 +0.0	+1.9 +0.0 344	+0.0	27.3	54.0	-26.7	Horiz 148
24	9520.000M	19.0	-27.8 +4.0 +0.0	+34.8 +0.3 +0.0	+0.8 +0.0 +0.0	+3.6 +0.0 360	+0.0	34.7	61.9	-27.2	Horiz 140
25	6664.000M	21.2	-28.6 +3.5 +0.0	+34.7 +0.3 +0.0	+0.5 +0.0 +0.0	+3.1 +0.0	+0.0	34.7	61.9	-27.2	Vert 140
26	5712.000M	23.7	-29.9 +3.0 +0.0	+33.9 +0.3 +0.0	+0.5 +0.0 +0.0	+3.1 +0.0	+0.0	34.6	61.9	-27.3	Vert 140
27	5712.000M	23.7	-29.9 +3.0 +0.0	+33.9 +0.3 +0.0	+0.5 +0.0 +0.0	+3.1 +0.0 245	+0.0	34.6	61.9	-27.3	Horiz 140
28	6664.000M	20.8	-28.6 +3.5 +0.0	+34.7 +0.3 +0.0	+0.5 +0.0 +0.0	+3.1 +0.0 360	+0.0	34.3	61.9	-27.6	Horiz 140
29	390.500M	32.9	+0.0 +0.0 +1.3	+0.0 +0.0 +1.4	+0.0 -27.7 +9.7	+0.7 +15.9 360	+0.0	34.2	61.9	-27.7	Vert 105
30	3808.000M	21.6	-31.1 +2.1 +0.0	+29.9 +0.6 +0.0	+0.3 +0.0 +0.0	+2.6 +0.0	+0.0	26.0	54.0	-28.0	Vert 122
31	8568.000M	16.3	-27.9 +3.8 +0.0	+36.8 +0.3 +0.0	+1.0 +0.0 +0.0	+3.4 +0.0	+0.0	33.7	61.9	-28.2	Vert 140
32	2856.000M	23.0	-30.2 +2.1 +0.0	+27.6 +0.3 +0.0	+0.5 +0.0 +0.0	+1.9 +0.0	+0.0	25.2	54.0	-28.8	Vert 122
33	8568.000M	14.5	-27.9 +3.8 +0.0	+36.8 +0.3 +0.0	+1.0 +0.0 +0.0	+3.4 +0.0 360	+0.0	31.9	61.9	-30.0	Horiz 140
34	9520.000M	15.7	-27.8 +4.0 +0.0	+34.8 +0.3 +0.0	+0.8 +0.0 +0.0	+3.6 +0.0	+0.0	31.4	61.9	-30.5	Vert 140
35	238.600M	34.3	+0.0 +0.0 +1.0	+0.0 +0.0 +1.0	+0.0 -27.1 +9.7	+0.5 +11.8 360	+0.0	31.2	61.9	-30.7	Vert 105
36	72.000M	42.1	+0.0 +0.0 +0.5	+0.0 +0.0 +0.4	+0.0 -28.0 +9.2	+0.3 +6.2 360	+0.0	30.7	61.9	-31.2	Vert 105
37	1904.000M	31.6	-30.6 +1.7 +0.0	+25.6 +0.3 +0.0	+0.3 +0.0 +0.0	+1.5 +0.0	+0.0	30.4	61.9	-31.5	Horiz 148
38	1904.000M	29.0	-30.6 +1.7 +0.0	+25.6 +0.3 +0.0	+0.3 +0.0 +0.0	+1.5 +0.0 360	+0.0	27.8	61.9	-34.1	Vert 180

CKC Laboratories, Inc. Date: 6/5/2013 Time: 09:05:36 Itron, Inc. WO#: 92785
 Test Distance: 3 Meters Sequence#: 6 Horiz
 Itron, Inc. AMR transceiver device for endpoint installation P/N: 900 BCR



Test Setup Photos



3dB Glass Mount Antenna, Test Setup



5dB Magnetic Mount Antenna, Test Setup

SUPPLEMENTAL INFORMATION

Measurement Uncertainty

Uncertainty Value	Parameter
4.73 dB	Radiated Emissions
3.34 dB	Mains Conducted Emissions
3.30 dB	Disturbance Power

The reported measurement uncertainties are calculated based on the worst case of all laboratory environments from CKC Laboratories, Inc. test sites. Only those parameters which require estimation of measurement uncertainty are reported. The reported worst case measurement uncertainty is less than the maximum values derived in CISPR 16-4-2. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k=2$. Compliance is deemed to occur provided measurements are below the specified limits.

Emissions Test Details

TESTING PARAMETERS

Unless otherwise indicated, the following configuration parameters are used for equipment setup: The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. Cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the setup photographs. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables.

The emissions data was taken with a spectrum analyzer or receiver. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in the table below. The corrected data was then compared to the applicable emission limits. Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in dB μ V/m, the spectrum analyzer reading in dB μ V was corrected by using the following formula. This reading was then compared to the applicable specification limit.

SAMPLE CALCULATIONS		
	Meter reading	(dBμV)
+	Antenna Factor	(dB)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dBμV/m)

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed were used to collect the emissions data. A spectrum analyzer or receiver was used for all measurements. Unless otherwise specified, the following table shows the measuring equipment bandwidth settings that were used in designated frequency bands. For testing emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used.

MEASURING EQUIPMENT BANDWIDTH SETTINGS PER FREQUENCY RANGE			
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
CONDUCTED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	9 kHz	150 kHz	200 Hz
RADIATED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz
RADIATED EMISSIONS	1000 MHz	>1 GHz	1 MHz

SPECTRUM ANALYZER/RECEIVER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the emissions tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "positive peak" detector mode. Whenever a "quasi-peak" or "average" reading was recorded, the measurement was annotated with a "QP" or an "Ave" on the appropriate rows of the data sheets. In cases where quasi-peak or average limits were employed and data exists for multiple measurement types for the same frequency then the peak measurement was retained in the report for reference, however the numbering for the affected row was removed and an arrow or carrot ("^") was placed in the far left-hand column indicating that the row above takes precedence for comparison to the limit. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

Peak

In this mode, the spectrum analyzer or receiver recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature called "peak hold," the measurement device had the ability to measure intermittent or low duty cycle transient emission peak levels. In this mode the measuring device made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

Quasi-peak measurements were taken using the quasi-peak detector when the true peak values exceeded or were within 2 dB of a quasi-peak specification limit. Additional QP measurements may have been taken at the discretion of the operator.

Average

Average measurements were taken using the average detector when the true peak values exceeded or were within 2 dB of an average specification limit. Additional average measurements may have been taken at the discretion of the operator. If the specification or test procedure requires trace averaging, then the averaging was performed using 100 samples or as required by the specification. All other average measurements are performed using video bandwidth averaging. To make these measurements, the test engineer reduces the video bandwidth on the measuring device until the modulation of the signal is filtered out. At this point the measuring device is set into the linear mode and the scan time is reduced