

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

REPORT PREPARED BY:

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

Project Number: 92785

DATE OF EQUIPMENT RECEIPT:
DATE(S) OF TESTING:

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.



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%

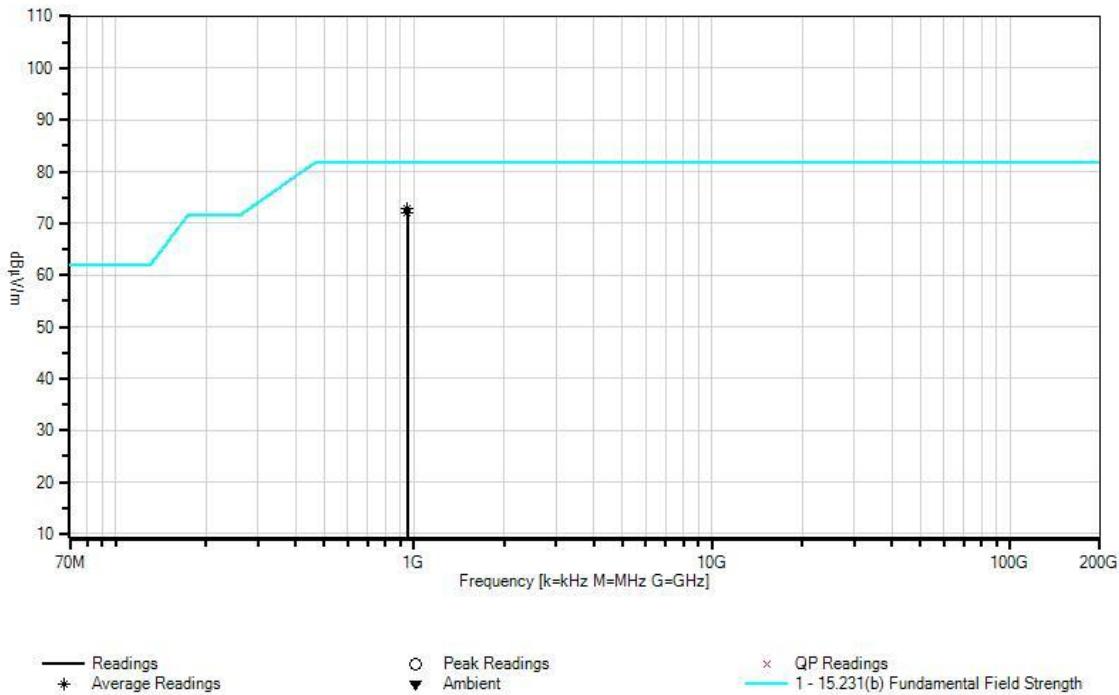
Software: MC3SuperRaptorTest

Version: 4.0.1.5

Ext Attn: 0 dB

#	Freq MHz	Rdng dB μ V	Reading listed by margin.				Test Distance: 3 Meters			
			T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB
			T5 dB	T6 dB						Ant
1	951.780M	71.1	-27.3	+23.4	+1.1	+2.1	+0.0	72.8	81.9	-9.1
	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
			+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
	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
			+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	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
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:

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

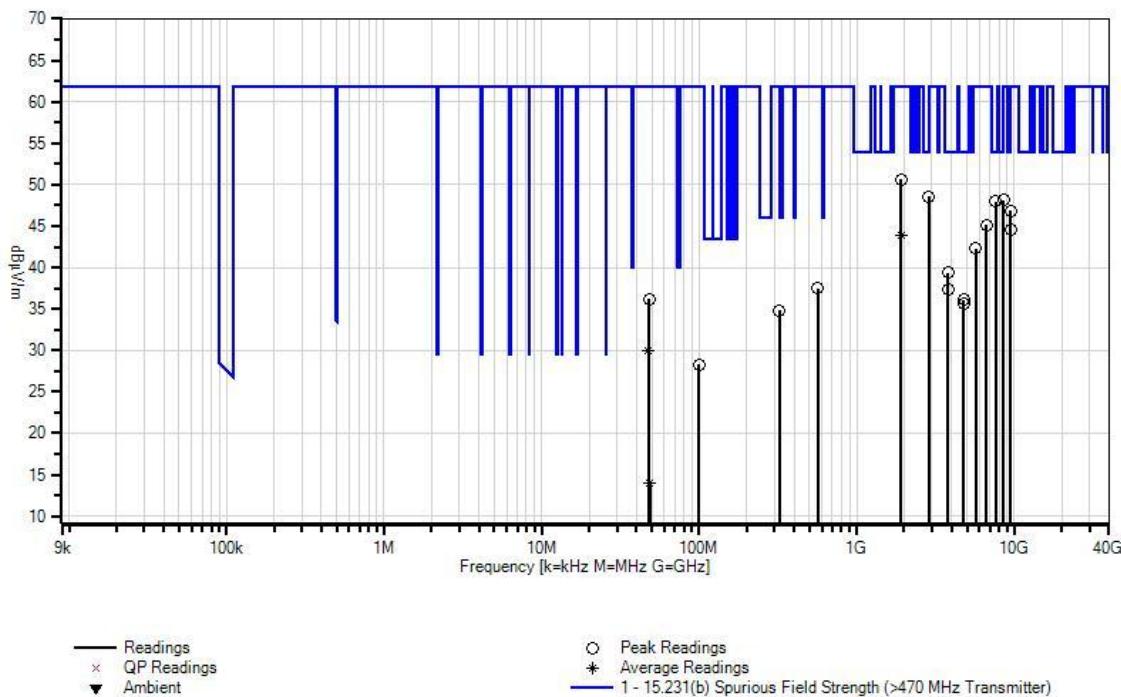
Ext Attn: 0 dB

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

7	8568.000M	34.2	+0.0	+0.0	+0.0	+0.0	+0.0	48.2	61.9	-13.7	Vert
			+0.0	+0.0	-27.9	+36.8	276				140
			+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
			+0.0	+0.0	-27.9	+36.8	276				140
			+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
			+0.0	+0.0	-31.1	+29.9	314				140
			+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
			+0.0	+0.0	-27.8	+34.8	276				140
			+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
			+0.0	+0.0	-31.1	+29.9	360				115
			+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
			+0.0	+0.0	-28.6	+34.7	276				140
			+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
			+0.0	+0.0	-28.6	+34.7	276				140
			+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
			+0.0	+0.0	-27.8	+34.8	276				140
			+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
			+0.0	+0.0	-30.9	+31.8	276				140
			+0.2	+2.6	+0.3						
16	1904.057M	46.5	+0.0	+0.0	+0.0	+0.0	+0.0	43.8	61.9	-18.1	Horiz
Ave			+0.0	+0.0	-30.6	+25.6	60				109
			+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
			+0.0	+0.0	-30.6	+25.6	360				143
			+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
			+0.0	+0.0	-30.9	+31.8	276				140
			+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
			+0.0	+0.0	-29.9	+33.9	276				140
			+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
			+0.0	+0.0	-29.9	+33.9	276				140
			+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
			+1.7	+0.0	+0.0	+0.0	140				142
			+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
			+0.3	+0.0	+0.0	+0.0	140				142
			+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
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
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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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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

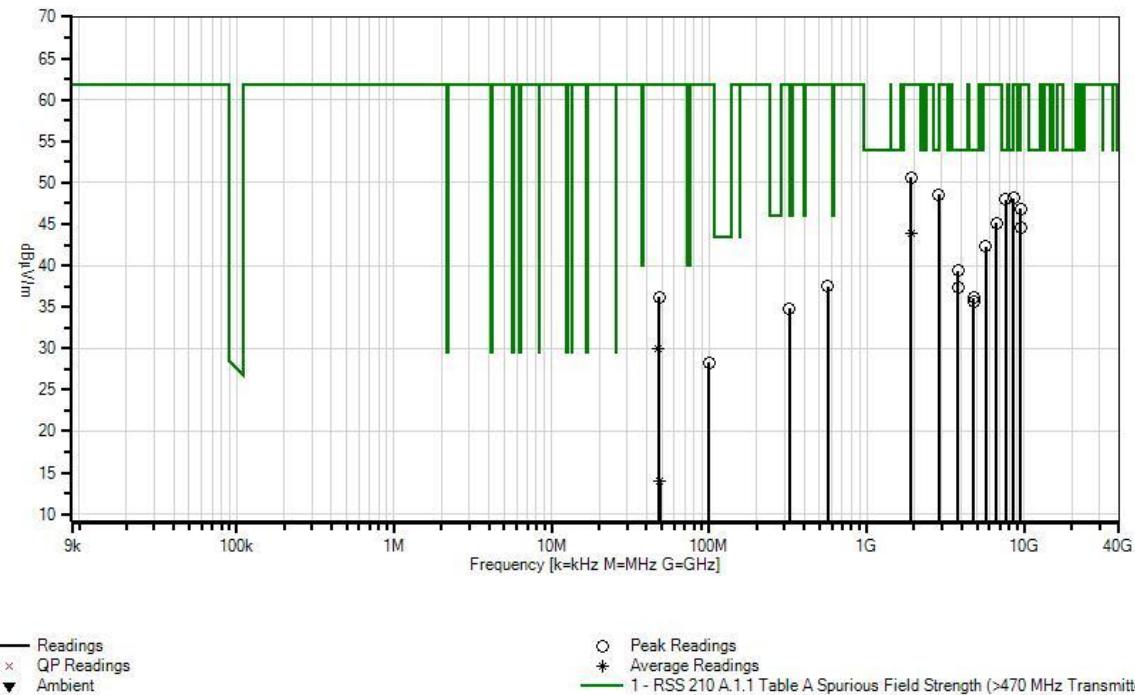
Ext Attn: 0 dB

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

7	8568.000M	34.2	+0.0	+0.0	+0.0	+0.0	+0.0	48.2	61.9	-13.7	Vert
			+0.0	+0.0	-27.9	+36.8	276				140
			+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
			+0.0	+0.0	-27.9	+36.8	276				140
			+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
			+0.0	+0.0	-31.1	+29.9	314				140
			+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
			+0.0	+0.0	-27.8	+34.8	276				140
			+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
			+0.0	+0.0	-31.1	+29.9	360				115
			+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
			+0.0	+0.0	-28.6	+34.7	276				140
			+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
			+0.0	+0.0	-28.6	+34.7	276				140
			+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
			+0.0	+0.0	-27.8	+34.8	276				140
			+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
			+0.0	+0.0	-30.9	+31.8	276				140
			+0.2	+2.6	+0.3						
16	1904.057M	46.5	+0.0	+0.0	+0.0	+0.0	+0.0	43.8	61.9	-18.1	Horiz
Ave			+0.0	+0.0	-30.6	+25.6	60				109
			+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
			+0.0	+0.0	-30.6	+25.6	360				143
			+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
			+0.0	+0.0	-30.9	+31.8	276				140
			+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
			+0.0	+0.0	-29.9	+33.9	276				140
			+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
			+0.0	+0.0	-29.9	+33.9	276				140
			+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
			+1.7	+0.0	+0.0	+0.0	140				142
			+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
			+0.3	+0.0	+0.0	+0.0	140				142
			+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	Preamp	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

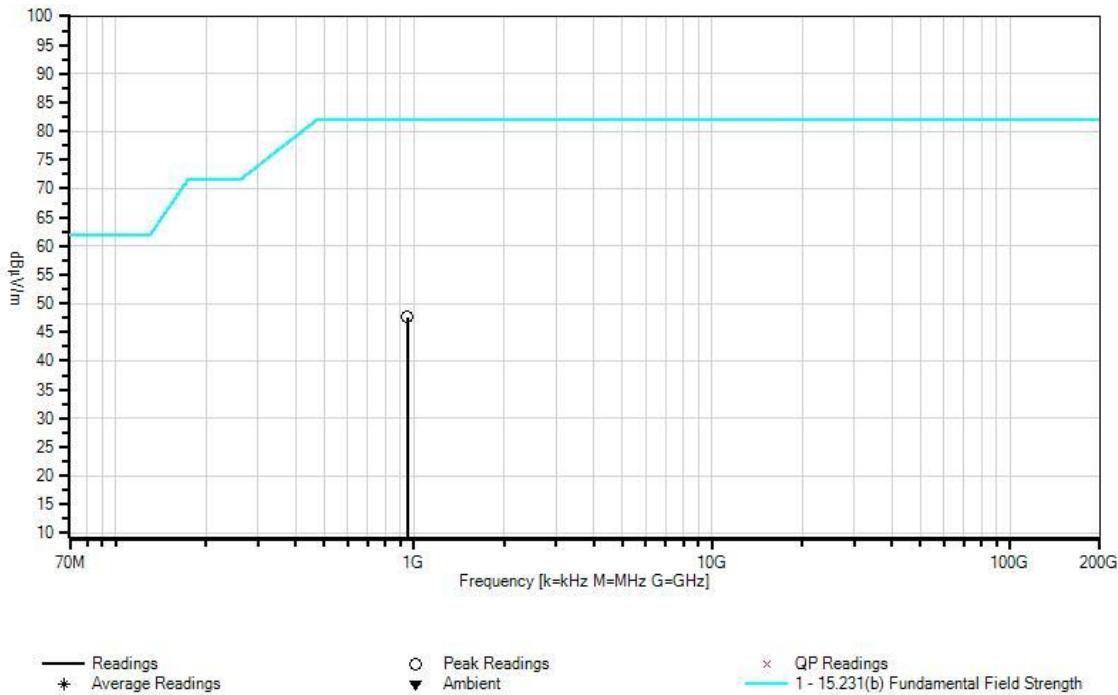
Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

Measurement Data		Reading listed by margin.				Test Distance: 3 Meters					
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
		MHz	dB μ V	dB	dB	dB	dB	Table	dB μ V/m	dB μ V/m	dB
1	951.310M	36.3	+1.1	+0.0	-27.3	+23.4	+0.0	47.6	81.9	-34.3	Horiz
			+2.1	+2.4	+9.6		160				99
2	951.310M	36.3	+1.1	+0.0	-27.3	+23.4	+0.0	47.6	81.9	-34.3	Vert
			+2.1	+2.4	+9.6		360				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:

he 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.

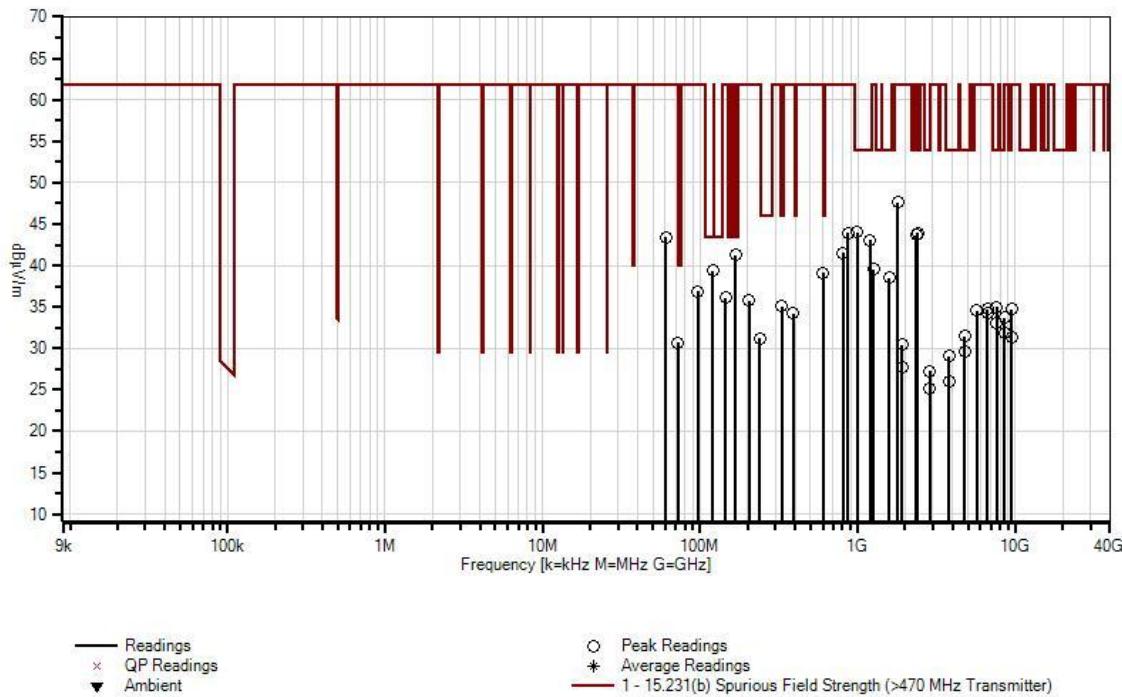
Test Distance: 3 Meters

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

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

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

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:

he 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.

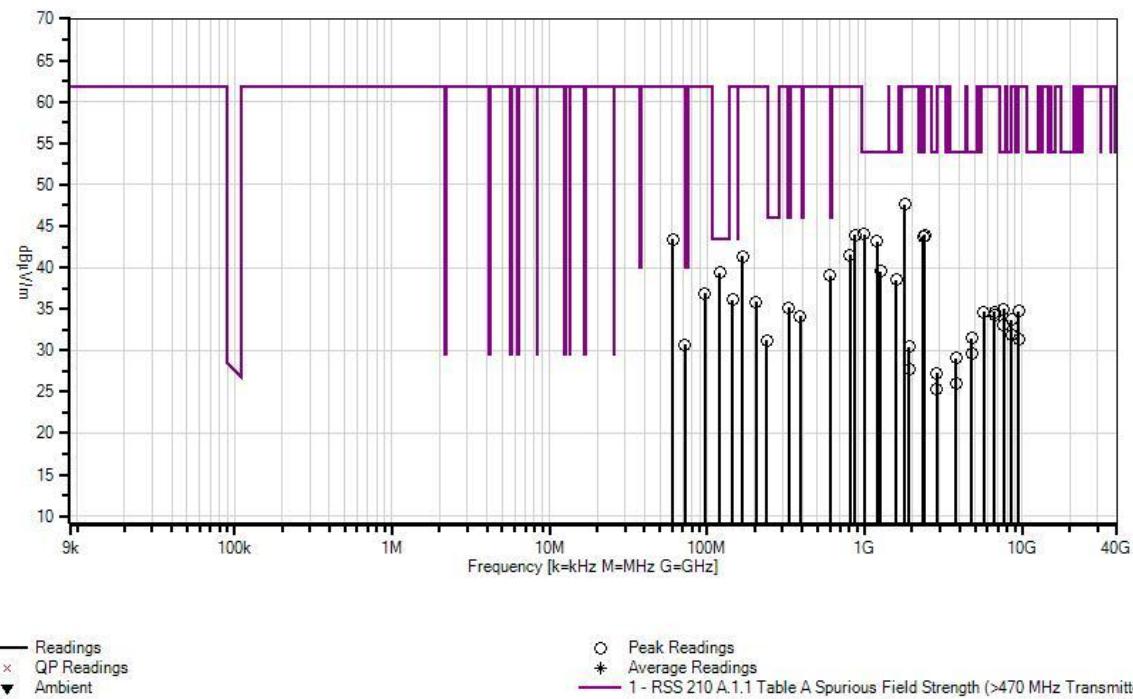
Test Distance: 3 Meters

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

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

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

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 $\text{dB}\mu\text{V}/\text{m}$, the spectrum analyzer reading in $\text{dB}\mu\text{V}$ was corrected by using the following formula. This reading was then compared to the applicable specification limit.

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