Shine Micro INC.

ADDENDUM TEST REPORT TO 91642-5

AIS Test Set, ST162

Tested To The Following Standards:

FCC Part 15 Subpart C Sections 15.209
and
RSS-210 Issue 8

Report No.: 91642-5A

Date of issue: March 10, 2011

ACCREDITED
Testing Certificates:
803.01, 803.02, 803.05, 803.06

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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Testing the Future
CKC LABORATORIES, INC.

TABLE OF CONTENTS

ADMINISTRATIVE INFORMATION

Test Report Information

REPORT PREPARED FOR:

Shine Micro INC.
9405 Oak Bay Road
Port Ludlow, WA 98365

Representative: Mark Supik
Customer Reference Number: 1102171CKC05

REPORT PREPARED BY:

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

Project Number: 91642

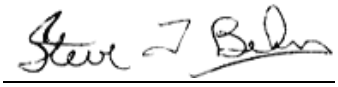
DATE OF EQUIPMENT RECEIPT: February 23, 2011
DATE(S) OF TESTING: February 23-24, 2011

Revision History

Original: Testing of the AIS Test Set, ST162 to FCC Part 15 Subpart C Sections 15.209 and RSS-210 Issue 8
Addendum A: To add clarification when readings were actually ambient readings and to add a separate data sheet just for power output.

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

Site Registration & Accreditation Information

Location	CB #	Japan	Canada	FCC
Bothell	US0081	R-2296, C-2506, T-1489 & G-284	3082C-1	318736

SUMMARY OF RESULTS

Standard / Specification: FCC Part 15 Subpart C 15.209, 15.215 and RSS-210 Issue 8

Description	Test Procedure/Method	Results
Power Output	FCC Part 15 Subpart C Section 15.209 / ANSI C63.4 (2003)	Pass
Radiated Emissions	FCC Part 15 Subpart C Section 15.209(a)/ ANSI C63.4 (2003)	Pass
Bandedge	FCC Part 15 Subpart C Section 15.209(a) / ANSI C63.4 (2003)	Pass
20 dB Bandwidth	FCC Part 15 Subpart C Section 15.215(c) / ANSI C63.4 (2003)	Pass
99% Bandwidth	RSS-210 Issue 8	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

AIS Test Set
Manuf: Shine Micro INC
Model: ST162
Serial: 162T3-110121-015

PERIPHERAL DEVICES

The EUT was not tested with peripheral devices.

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.

15.209 Power Output

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

Customer: **Shine Micro INC**
Specification: **15.209 Radiated Emissions**
Work Order #: **91642** Date: 2/24/2011
Test Type: **Radiated Scan** Time: 1:21:39 PM
Equipment: **AIS Test Set** Sequence#: 23
Manufacturer: Shine Micro INC Tested By: Armando del Angel
Model: ST162
S/N: 162T3-110121-015

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN01316	Preamp	8447D	5/21/2010	5/21/2012
T2	AN01993	Biconilog Antenna	CBL6111C	10/9/2009	10/9/2011
T3	AN03121	Cable	32026-2-29080-84	10/23/2009	10/23/2011
T4	ANP05360	Cable	RG214	11/8/2010	11/8/2012
T5	ANP05547	Cable	Heliax	5/18/2010	5/18/2012
T6	AN02871	Spectrum Analyzer	E4440A	4/29/2009	4/29/2011

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
AIS Test Set*	Shine Micro INC	ST162	162T3-110121-015

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

Temp: 20°C
Humidity: 34%
Pressure: 102.1kPa
Frequency: 30-1000MHz
RBW: 120kHz
VBW: 360kHz
EUT is located on the center of the test table 80cm above the ground plane.
EUT is transmitting at 161.975MHz.
EUT is positioned on the worst orientation.
Test is being performed with fresh batteries.
Output Power is set at -100dBm

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	161.975M	55.4	-29.0 +0.6	+11.2 +0.0	+0.3	+0.7	+0.0 241	39.2	43.5 Fundamental Frequency	-4.3	Horiz 180
2	161.975M	43.1	-29.0 +0.6	+11.2 +0.0	+0.3	+0.7	+0.0 360	26.9	43.5 Fundamental Frequency	-16.6	Verti 100

15.209(a) Radiated Spurious Emissions

Test Data Sheets

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

Customer: **Shine Micro INC**
Specification: **15.209 Radiated Emissions**
Work Order #: **91642** Date: 2/24/2011
Test Type: **Radiated Scan** Time: 14:04:52
Equipment: **AIS Test Set** Sequence#: 22
Manufacturer: Shine Micro INC Tested By: Armando del Angel
Model: ST162
S/N: 162T3-110121-015

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03121	Cable	32026-2-29080-84	10/23/2009	10/23/2011
T2	ANP05360	Cable	RG214	11/8/2010	11/8/2012
T3	ANP05547	Cable	Heliax	5/18/2010	5/18/2012
	AN02871	Spectrum Analyzer	E4440A	4/29/2009	4/29/2011
T4	AN00052	Loop Antenna	6502	6/8/2010	6/8/2012

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
AIS Test Set*	Shine Micro INC	ST162	162T3-110121-015

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

Temp: 20°C
Humidity: 34%
Pressure: 102.1kPa
Frequency: 0.009-30MHz
RBW: 200Hz 9kHz-150kHz and 9kHz 0.150-30MHz
VBW: 360Hz 9kHz-150kHz and 27kHz 0.150-30MHz

EUT is located on the center of the test table 80cm above the ground plane.
EUT is transmitting at 161.975MHz
EUT is positioned on the worst orientation.
Test is being performed with fresh batteries.
Output Power is set at -100dBm

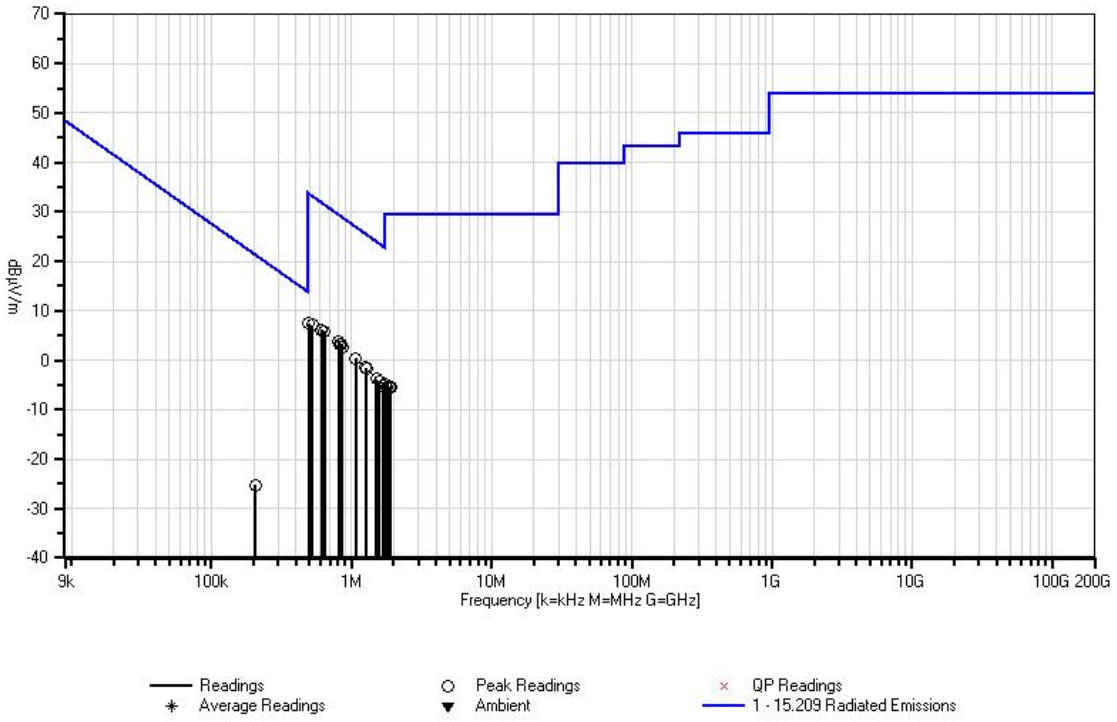
Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	641.315k	36.3	+0.0	+0.0	+0.0	+9.5	-40.0	5.8	31.4	-25.6	Paral 100
2	812.753k	34.2	+0.0	+0.0	+0.1	+9.5	-40.0	3.8	29.4	-25.6	Paral 100
3	612.045k	36.7	+0.0	+0.0	+0.0	+9.4	-40.0	6.1	31.9	-25.8	Paral 100
4	850.385k	33.5	+0.0	+0.0	+0.1	+9.6	-40.0	3.2	29.0	-25.8	Paral 100
5	522.145k	37.8	+0.0	+0.0	+0.0	+9.4	-40.0	7.2	33.2	-26.0	Paral 100
6	823.206k	33.7	+0.0	+0.0	+0.1	+9.5	-40.0	3.3	29.3	-26.0	Paral 100
7	497.057k	38.1	+0.0	+0.0	+0.0	+9.4	-40.0	7.5	33.7	-26.2	Paral 100
8	858.748k	32.9	+0.0	+0.0	+0.1	+9.6	-40.0	2.6	28.9	-26.3	Paral 100
9	1.076M	30.7	+0.0	+0.0	+0.1	+9.6	-40.0	0.4	26.9	-26.5	Paral 100
10	1.070M	30.5	+0.0	+0.0	+0.1	+9.6	-40.0	0.2	27.0	-26.8	Paral 100
11	1.264M	28.8	+0.0	+0.0	+0.1	+9.6	-40.0	-1.5	25.5	-27.0	Paral 100
12	1.279M	28.6	+0.0	+0.0	+0.1	+9.6	-40.0	-1.7	25.4	-27.1	Paral 100
13	1.505M	26.5	+0.0	+0.0	+0.1	+9.6	-40.0	-3.8	24.0	-27.8	Paral 100
14	1.584M	25.9	+0.0	+0.0	+0.1	+9.6	-40.0	-4.4	23.5	-27.9	Paral 100
15	1.676M	25.1	+0.0	+0.0	+0.1	+9.6	-40.0	-5.2	23.0	-28.2	Paral 100
16	1.747M	25.2	+0.0	+0.0	+0.1	+9.7	-40.0	-5.0	29.5	-34.5	Paral 100
17	1.779M	24.8	+0.0	+0.0	+0.1	+9.7	-40.0	-5.4	29.5	-34.9	Paral 100

18	1.896M	24.8	+0.0	+0.0	+0.1	+9.7	-40.0	-5.4	29.5	-34.9	Paral 100
19	1.860M	24.7	+0.0	+0.0	+0.1	+9.7	-40.0	-5.5	29.5	-35.0	Paral 100
20	1.889M	24.7	+0.0	+0.0	+0.1	+9.7	-40.0	-5.5	29.5	-35.0	Paral 100
21	204.780k	45.1	+0.0	+0.0	+0.0	+9.6	-80.0	-25.3	21.4	-46.7	Paral 100
22	99.960k	30.2	+0.0	+0.0	+0.0	+9.7	-80.0	-40.1	27.6	-67.7	Paral 100

CKC Laboratories, Inc. Date: 2/24/2011 Time: 14:04:52 Shine Micro INC WO#: 91642
15.209 Radiated Emissions Test Distance: 3 Meters Parallel Sequence#: 22 Ext ATTN: 0 dB



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

Customer: **Shine Micro INC**
Specification: **15.209 Radiated Emissions**
Work Order #: **91642** Date: 2/24/2011
Test Type: **Radiated Scan** Time: 1:21:39 PM
Equipment: **AIS Test Set** Sequence#: 19
Manufacturer: Shine Micro INC Tested By: Armando del Angel
Model: ST162
S/N: 162T3-110121-015

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN01316	Preamp	8447D	5/21/2010	5/21/2012
T2	AN01993	Biconilog Antenna	CBL6111C	10/9/2009	10/9/2011
T3	AN03121	Cable	32026-2-29080-84	10/23/2009	10/23/2011
T4	ANP05360	Cable	RG214	11/8/2010	11/8/2012
T5	ANP05547	Cable	Heliax	5/18/2010	5/18/2012
T6	AN02871	Spectrum Analyzer	E4440A	4/29/2009	4/29/2011

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
AIS Test Set*	Shine Micro INC	ST162	162T3-110121-015

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

Temp: 20°C
Humidity: 34%
Pressure: 102.1kPa
Frequency: 30-1000MHz
RBW: 120kHz
VBW: 360kHz

EUT is located on the center of the test table 80cm above the ground plane.
EUT is transmitting at 161.975MHz
EUT is positioned on the worst orientation.
Test is being performed with fresh batteries.
Output Power is set at -100dBm
Carrier frequency also shown on plot

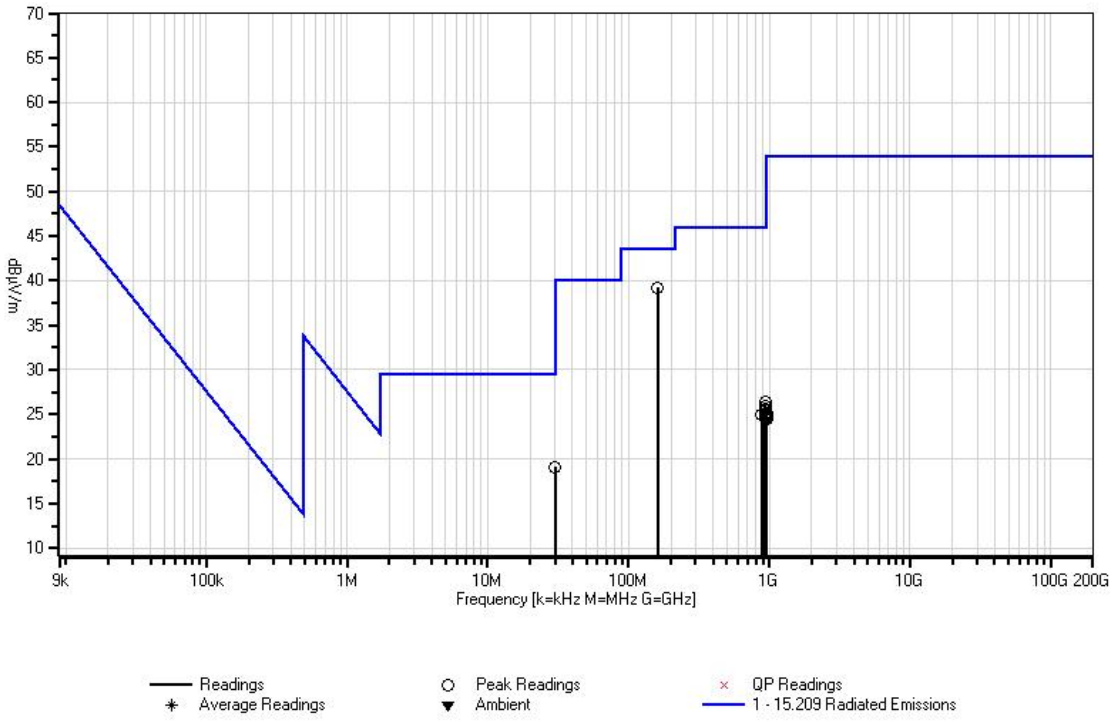
Ext Attn: 0 dB

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	930.542M	27.7	-29.1 +1.5	+23.5 +0.0	+0.8	+2.0	+0.0 241	26.4	46.0	-19.6	Horiz 180
2	939.580M	27.1	-29.1 +1.5	+23.6 +0.0	+0.8	+2.0	+0.0 241	25.9	46.0	-20.1	Horiz 180
3	943.400M	26.7	-29.1 +1.5	+23.7 +0.0	+0.8	+2.0	+0.0 241	25.6	46.0	-20.4	Horiz 180
4	944.589M	26.6	-29.1 +1.5	+23.7 +0.0	+0.8	+2.0	+0.0 241	25.5	46.0	-20.5	Horiz 180

5	938.892M	26.6	-29.1 +1.5	+23.6 +0.0	+0.8	+2.0	+0.0 241	25.4	46.0	-20.6	Horiz 180
6	953.668M	26.2	-29.1 +1.5	+23.8 +0.0	+0.8	+2.0	+0.0 241	25.2	46.0	-20.8	Horiz 180
7	30.067M	27.3	-29.4 +0.3	+20.6 +0.0	+0.1	+0.2	+0.0 241	19.1	40.0	-20.9	Horiz 180
8	947.970M	26.2	-29.1 +1.5	+23.7 +0.0	+0.8	+2.0	+0.0 241	25.1	46.0	-20.9	Horiz 180
9	954.920M	26.1	-29.1 +1.5	+23.8 +0.0	+0.8	+2.0	+0.0 241	25.1	46.0	-20.9	Horiz 180
10	877.689M	27.1	-29.2 +1.5	+22.9 +0.0	+0.8	+1.9	+0.0 241	25.0	46.0	-21.0	Horiz 180
11	953.918M	26.0	-29.1 +1.5	+23.8 +0.0	+0.8	+2.0	+0.0 241	25.0	46.0	-21.0	Horiz 180
12	942.335M	26.0	-29.1 +1.5	+23.7 +0.0	+0.8	+2.0	+0.0 241	24.9	46.0	-21.1	Horiz 180
13	952.729M	25.9	-29.1 +1.5	+23.8 +0.0	+0.8	+2.0	+0.0 241	24.9	46.0	-21.1	Horiz 180
14	941.772M	25.9	-29.1 +1.5	+23.7 +0.0	+0.8	+2.0	+0.0 241	24.8	46.0	-21.2	Horiz 180
15	950.349M	25.8	-29.1 +1.5	+23.8 +0.0	+0.8	+2.0	+0.0 241	24.8	46.0	-21.2	Horiz 180
16	957.612M	25.6	-29.1 +1.5	+23.9 +0.0	+0.8	+2.0	+0.0 241	24.7	46.0	-21.3	Horiz 180
17	943.775M	25.7	-29.1 +1.5	+23.7 +0.0	+0.8	+2.0	+0.0 241	24.6	46.0	-21.4	Horiz 180
18	959.240M	25.5	-29.1 +1.5	+23.9 +0.0	+0.8	+2.0	+0.0 241	24.6	46.0	-21.4	Horiz 180
19	956.297M	25.5	-29.1 +1.5	+23.8 +0.0	+0.8	+2.0	+0.0 241	24.5	46.0	-21.5	Horiz 180

CKC Laboratories, Inc. Date: 2/24/2011 Time: 1:21:39 PM Shine Micro INC WO#: 91642
15.209 Radiated Emissions Test Distance: 3 Meters Horizontal Sequence#: 19 Ext ATTN: 0 dB



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

Customer: **Shine Micro INC**
Specification: **15.209 Radiated Emissions**
Work Order #: **91642** Date: 2/24/2011
Test Type: **Radiated Scan** Time: 1:13:23 PM
Equipment: **AIS Test Set** Sequence#: 18
Manufacturer: Shine Micro INC Tested By: Armando del Angel
Model: ST162
S/N: 162T3-110121-015

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN01316	Preamp	8447D	5/21/2010	5/21/2012
T2	AN01993	Biconilog Antenna	CBL6111C	10/9/2009	10/9/2011
T3	AN03121	Cable	32026-2-29080-84	10/23/2009	10/23/2011
T4	ANP05360	Cable	RG214	11/8/2010	11/8/2012
T5	ANP05547	Cable	Heliax	5/18/2010	5/18/2012
T6	AN02871	Spectrum Analyzer	E4440A	4/29/2009	4/29/2011

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
AIS Test Set*	Shine Micro INC	ST162	162T3-110121-015

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

Temp: 20°C
Humidity: 34%
Pressure: 102.1kPa
Frequency: 30-1000MHz
RBW: 120kHz
VBW: 360kHz

EUT is located on the center of the test table 80cm above the ground plane.
EUT is transmitting at 161.975MHz
EUT is positioned on the worst orientation.
Test is being performed with fresh batteries.
Output Power is set at -100dBm.
Carrier frequency also shown on plot

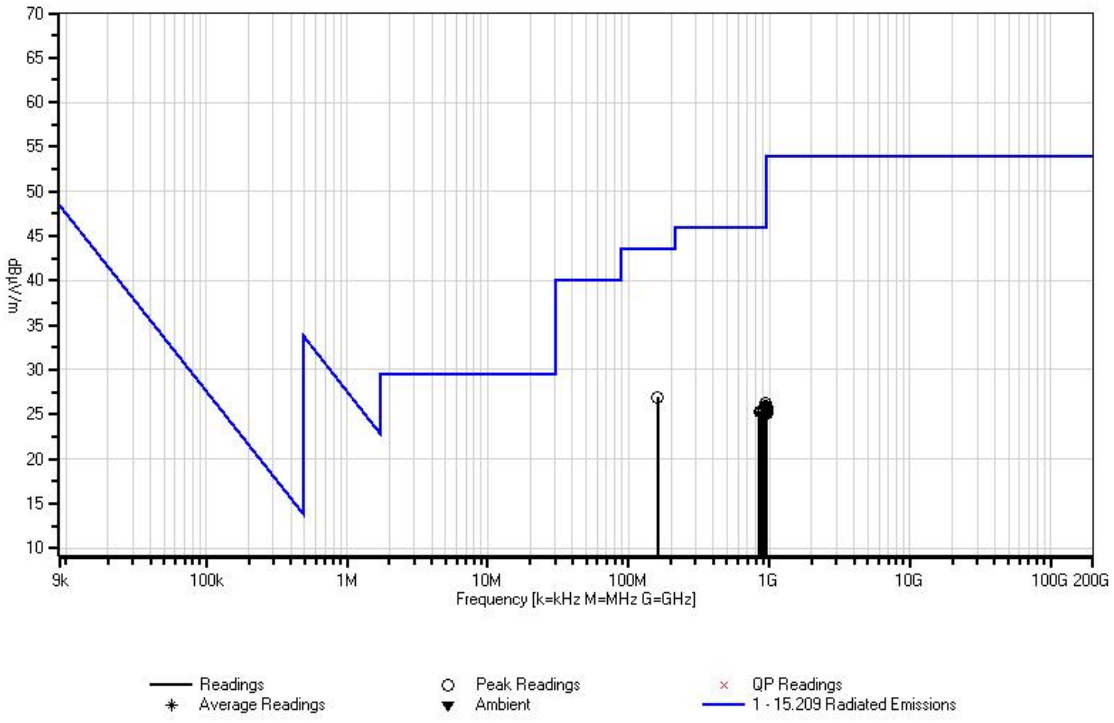
Ext Attn: 0 dB

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	947.532M	27.4	-29.1 +1.5	+23.7 +0.0	+0.8	+2.0	+0.0 360	26.3	46.0	-19.7	Verti 100
2	939.956M	27.1	-29.1 +1.5	+23.6 +0.0	+0.8	+2.0	+0.0 360	25.9	46.0	-20.1	Verti 100
3	949.723M	26.8	-29.1 +1.5	+23.8 +0.0	+0.8	+2.0	+0.0 360	25.8	46.0	-20.2	Verti 100
4	950.537M	26.7	-29.1 +1.5	+23.8 +0.0	+0.8	+2.0	+0.0 360	25.7	46.0	-20.3	Verti 100

5	954.795M	26.7	-29.1 +1.5	+23.8 +0.0	+0.8	+2.0	+0.0 360	25.7	46.0	-20.3	Verti 100
6	954.670M	26.5	-29.1 +1.5	+23.8 +0.0	+0.8	+2.0	+0.0 360	25.5	46.0	-20.5	Verti 100
7	958.176M	26.4	-29.1 +1.5	+23.9 +0.0	+0.8	+2.0	+0.0 360	25.5	46.0	-20.5	Verti 100
8	959.929M	26.4	-29.1 +1.5	+23.9 +0.0	+0.8	+2.0	+0.0 360	25.5	46.0	-20.5	Verti 100
9	956.986M	26.3	-29.1 +1.5	+23.9 +0.0	+0.8	+2.0	+0.0 360	25.4	46.0	-20.6	Verti 100
10	917.929M	27.0	-29.2 +1.5	+23.3 +0.0	+0.8	+2.0	+0.0 360	25.4	46.0	-20.6	Verti 100
11	913.725M	27.0	-29.2 +1.5	+23.3 +0.0	+0.8	+2.0	+0.0 360	25.4	46.0	-20.6	Verti 100
12	953.417M	26.4	-29.1 +1.5	+23.8 +0.0	+0.8	+2.0	+0.0 360	25.4	46.0	-20.6	Verti 100
13	929.101M	26.7	-29.1 +1.5	+23.5 +0.0	+0.8	+2.0	+0.0 360	25.4	46.0	-20.6	Verti 100
14	851.503M	28.0	-29.3 +1.4	+22.6 +0.0	+0.7	+1.9	+0.0 360	25.3	46.0	-20.7	Verti 100
15	881.533M	27.4	-29.2 +1.5	+22.9 +0.0	+0.8	+1.9	+0.0 360	25.3	46.0	-20.7	Verti 100
16	927.539M	26.6	-29.1 +1.5	+23.5 +0.0	+0.8	+2.0	+0.0 360	25.3	46.0	-20.7	Verti 100
17	892.224M	27.2	-29.2 +1.5	+23.0 +0.0	+0.8	+1.9	+0.0 360	25.2	46.0	-20.8	Verti 100
18	950.913M	26.2	-29.1 +1.5	+23.8 +0.0	+0.8	+2.0	+0.0 360	25.2	46.0	-20.8	Verti 100
19	955.546M	26.2	-29.1 +1.5	+23.8 +0.0	+0.8	+2.0	+0.0 360	25.2	46.0	-20.8	Verti 100

CKC Laboratories, Inc. Date: 2/24/2011 Time: 1:13:23 PM Shine Micro INC WO#: 91642
15.209 Radiated Emissions Test Distance: 3 Meters Vertical Sequence#: 18 Ext ATTN: 0 dB



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

Customer: **Shine Micro INC**
Specification: **15.209 Radiated Emissions**
Work Order #: **91642** Date: 2/24/2011
Test Type: **Radiated Scan** Time: 13:48:51
Equipment: **AIS Test Set** Sequence#: 21
Manufacturer: Shine Micro INC Tested By: Armando del Angel
Model: ST162
S/N: 162T3-110121-015

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03121	Cable	32026-2-29080-84	10/23/2009	10/23/2011
T2	ANP05547	Cable	Heliax	5/18/2010	5/18/2012
	AN02871	Spectrum Analyzer	E4440A	4/29/2009	4/29/2011
T3	AN03123	Cable	32026-2-29801-12	10/23/2009	10/23/2011
T4	ANP05542	Cable	Heliax	10/23/2009	10/23/2011
T5	AN02374	Horn Antenna-ANSI C63.5 Calibration	RGA-60	10/12/2009	10/12/2011
T6	AN03209	Preamp	83051A	10/29/2010	10/29/2012

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
AIS Test Set*	Shine Micro INC	ST162	162T3-110121-015

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

Temp: 20°C
Humidity: 34%
Pressure: 102.1kPa
Frequency: 1-2GHz
RBW: 1MHz
VBW: 3MHz

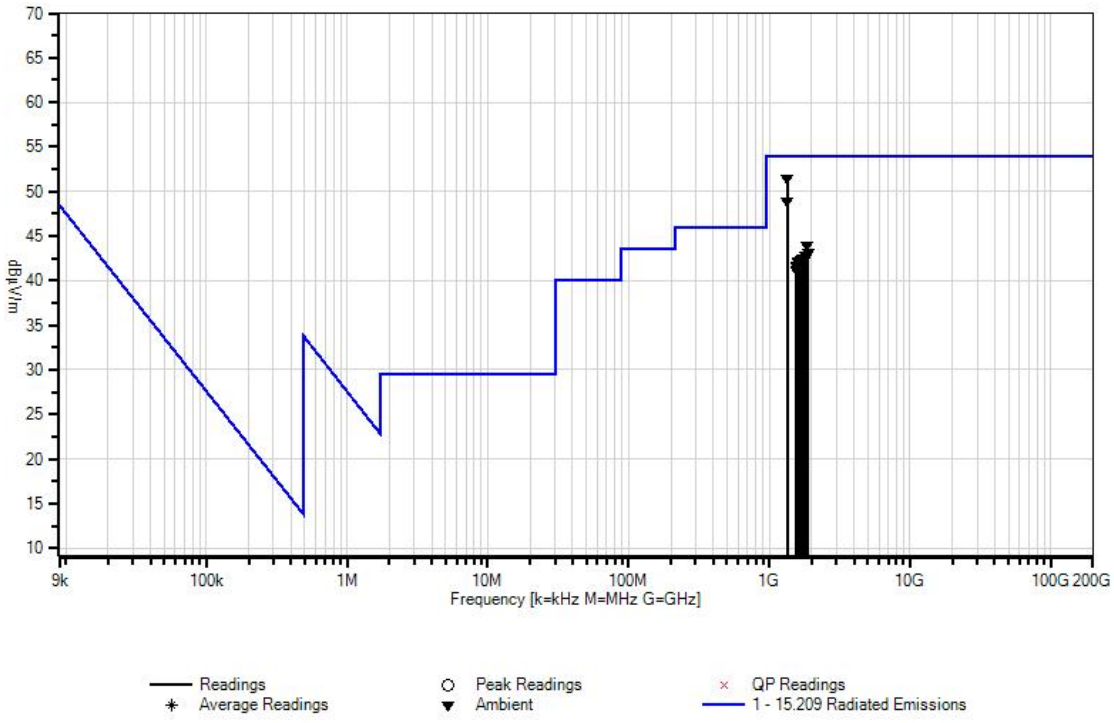
EUT is located on the center of the test table 80cm above the ground plane.
EUT is transmitting at 161.975MHz.
EUT is positioned on the worst orientation.
Test is being performed with fresh batteries.
Output Power is set at -100dBm

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	1346.633M	48.1	+1.1	+1.9	+0.2	+2.1	+0.0	51.4	54.0	-2.6	Horiz
	Ambient		+24.8	-26.8			102				110
2	1346.633M	45.7	+1.1	+1.9	+0.2	+2.1	+0.0	49.0	54.0	-5.0	Horiz
	Ambient		+24.8	-26.8			102				110
3	1834.548M	36.8	+1.2	+2.5	+0.3	+2.5	+0.0	43.9	54.0	-10.1	Horiz
	Ambient		+27.2	-26.6			360				110
4	1881.584M	36.0	+1.2	+2.4	+0.3	+2.5	+0.0	43.2	54.0	-10.8	Horiz
	Ambient		+27.4	-26.6			360				110
5	1804.428M	35.8	+1.2	+2.6	+0.3	+2.4	+0.0	42.8	54.0	-11.2	Horiz
	Ambient		+27.1	-26.6			360				110
6	1800.715M	35.8	+1.2	+2.6	+0.3	+2.4	+0.0	42.8	54.0	-11.2	Horiz
	Ambient		+27.1	-26.6			360				110
7	1749.140M	36.0	+1.2	+2.7	+0.2	+2.4	+0.0	42.6	54.0	-11.4	Horiz
	Ambient		+26.8	-26.7			360				110
8	1805.666M	35.6	+1.2	+2.6	+0.3	+2.4	+0.0	42.6	54.0	-11.4	Horiz
	Ambient		+27.1	-26.6			360				110
9	1718.608M	36.1	+1.2	+2.6	+0.2	+2.4	+0.0	42.5	54.0	-11.5	Horiz
	Ambient		+26.7	-26.7			360				110
10	1693.852M	36.0	+1.1	+2.6	+0.3	+2.4	+0.0	42.3	54.0	-11.7	Horiz
	Ambient		+26.6	-26.7			360				110
11	1603.080M	36.8	+1.1	+2.3	+0.3	+2.3	+0.0	42.2	54.0	-11.8	Horiz
	Ambient		+26.1	-26.7			360				110
12	1702.104M	35.8	+1.2	+2.6	+0.3	+2.4	+0.0	42.2	54.0	-11.8	Horiz
	Ambient		+26.6	-26.7			360				110
13	1615.045M	36.6	+1.1	+2.3	+0.3	+2.3	+0.0	42.1	54.0	-11.9	Horiz
	Ambient		+26.2	-26.7			360				110
14	1617.933M	36.5	+1.1	+2.3	+0.3	+2.3	+0.0	42.0	54.0	-12.0	Horiz
	Ambient		+26.2	-26.7			360				110
15	1667.033M	36.0	+1.1	+2.5	+0.2	+2.3	+0.0	41.9	54.0	-12.1	Horiz
	Ambient		+26.5	-26.7			360				110
16	1566.442M	36.6	+1.1	+2.2	+0.3	+2.3	+0.0	41.8	54.0	-12.2	Horiz
	Ambient		+26.0	-26.7			360				110
17	1559.893M	36.5	+1.1	+2.2	+0.3	+2.3	+0.0	41.6	54.0	-12.4	Horiz
	Ambient		+25.9	-26.7			360				110
18	1604.318M	36.1	+1.1	+2.3	+0.3	+2.3	+0.0	41.6	54.0	-12.4	Horiz
	Ambient		+26.2	-26.7			360				110
19	1575.284M	36.1	+1.1	+2.2	+0.3	+2.3	+0.0	41.3	54.0	-12.7	Horiz
	Ambient		+26.0	-26.7			360				110
20	1574.302M	36.1	+1.1	+2.2	+0.3	+2.3	+0.0	41.3	54.0	-12.7	Horiz
	Ambient		+26.0	-26.7			360				110
21	1553.343M	36.0	+1.1	+2.2	+0.3	+2.3	+0.0	41.1	54.0	-12.9	Horiz
	Ambient		+25.9	-26.7			360				110

CKC Laboratories, Inc. Date: 2/24/2011 Time: 13:48:51 Shine Micro INC WO#: 91642
15.209 Radiated Emissions Test Distance: 3 Meters Horizontal Sequence#: 21 Ext ATTN: 0 dB



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

Customer: **Shine Micro INC**
Specification: **15.209 Radiated Emissions**
Work Order #: **91642** Date: 2/24/2011
Test Type: **Radiated Scan** Time: 1:38:42 PM
Equipment: **AIS Test Set** Sequence#: 20
Manufacturer: Shine Micro INC Tested By: Armando del Angel
Model: ST162
S/N: 162T3-110121-015

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03121	Cable	32026-2-29080-84	10/23/2009	10/23/2011
T2	ANP05547	Cable	Heliax	5/18/2010	5/18/2012
	AN02871	Spectrum Analyzer	E4440A	4/29/2009	4/29/2011
T3	AN03123	Cable	32026-2-29801-12	10/23/2009	10/23/2011
T4	ANP05542	Cable	Heliax	10/23/2009	10/23/2011
T5	AN02374	Horn Antenna-ANSI C63.5 Calibration	RGA-60	10/12/2009	10/12/2011
T6	AN03209	Preamp	83051A	10/29/2010	10/29/2012

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
AIS Test Set*	Shine Micro INC	ST162	162T3-110121-015

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

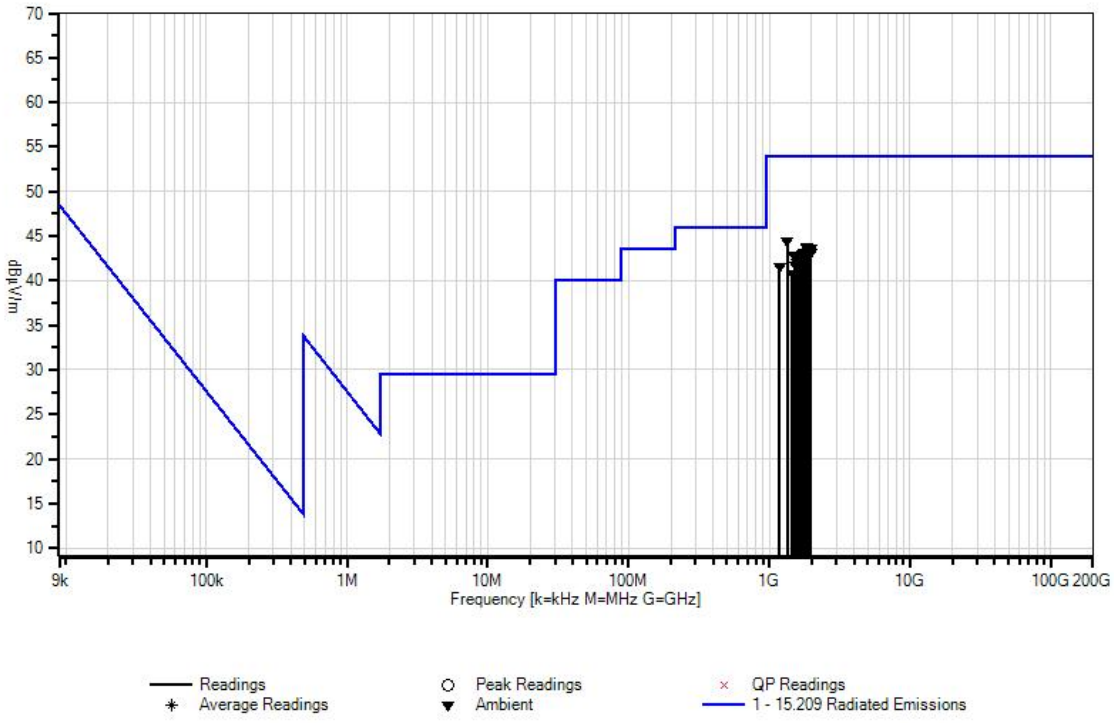
Temp: 20°C
Humidity: 34%
Pressure: 102.1kPa
Frequency: 1-2GHz
RBW: 1MHz
VBW: 3MHz
EUT is located on the center of the test table 80cm above the ground plane.
EUT is transmitting at 161.975MHz.
EUT is positioned on the worst orientation.
Test is being performed with fresh batteries.
Output Power is set at -100dBm

Ext Attn: 0 dB

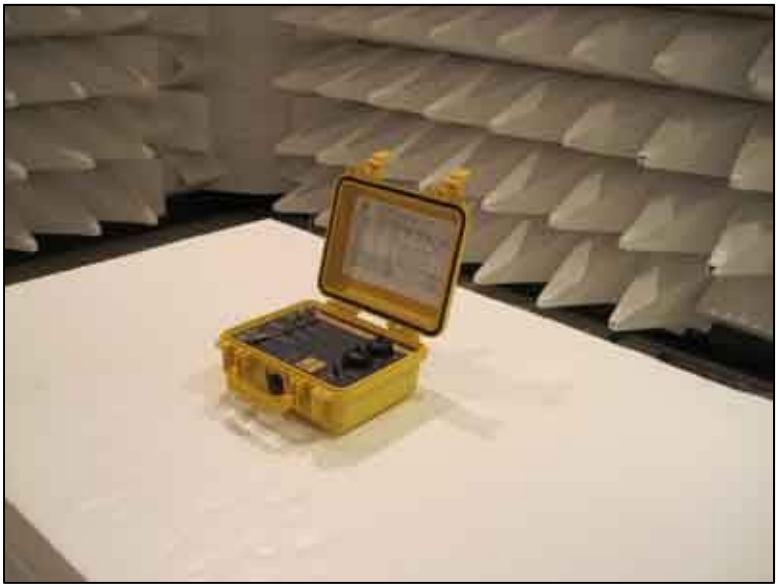
Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	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	1346.376M	41.1	+1.1	+1.9	+0.2	+2.1	+0.0	44.4	54.0	-9.6	Verti
	Ambient		+24.8	-26.8							100
2	1863.430M	36.6	+1.2	+2.5	+0.3	+2.5	+0.0	43.8	54.0	-10.2	Verti
	Ambient		+27.3	-26.6							100
3	1967.405M	36.2	+1.2	+2.3	+0.3	+2.5	+0.0	43.7	54.0	-10.3	Verti
	Ambient		+27.8	-26.6							100
4	1848.164M	36.4	+1.2	+2.5	+0.3	+2.5	+0.0	43.6	54.0	-10.4	Verti
	Ambient		+27.3	-26.6							100
5	1773.483M	36.4	+1.2	+2.7	+0.3	+2.4	+0.0	43.2	54.0	-10.8	Verti
	Ambient		+26.9	-26.7							100
6	1825.058M	36.1	+1.2	+2.5	+0.3	+2.5	+0.0	43.2	54.0	-10.8	Verti
	Ambient		+27.2	-26.6							100
7	1980.608M	35.7	+1.2	+2.2	+0.3	+2.5	+0.0	43.1	54.0	-10.9	Verti
	Ambient		+27.8	-26.6							100
8	1736.762M	36.4	+1.2	+2.7	+0.2	+2.4	+0.0	43.0	54.0	-11.0	Verti
	Ambient		+26.8	-26.7							100
9	1508.806M	38.3	+1.1	+2.0	+0.2	+2.2	+0.0	42.8	54.0	-11.2	Verti
	Ambient		+25.7	-26.7							100
10	1704.579M	36.3	+1.2	+2.6	+0.3	+2.4	+0.0	42.7	54.0	-11.3	Verti
	Ambient		+26.6	-26.7							100
11	1667.858M	36.8	+1.1	+2.5	+0.2	+2.3	+0.0	42.7	54.0	-11.3	Verti
	Ambient		+26.5	-26.7							100
12	1575.284M	37.4	+1.1	+2.2	+0.3	+2.3	+0.0	42.6	54.0	-11.4	Verti
	Ambient		+26.0	-26.7							100
13	1671.159M	36.5	+1.1	+2.5	+0.3	+2.4	+0.0	42.6	54.0	-11.4	Verti
	Ambient		+26.5	-26.7							100
14	1687.663M	36.4	+1.1	+2.5	+0.3	+2.4	+0.0	42.6	54.0	-11.4	Verti
	Ambient		+26.6	-26.7							100
15	1686.425M	36.3	+1.1	+2.5	+0.3	+2.4	+0.0	42.4	54.0	-11.6	Verti
	Ambient		+26.5	-26.7							100
16	1677.348M	36.0	+1.1	+2.5	+0.3	+2.4	+0.0	42.1	54.0	-11.9	Verti
	Ambient		+26.5	-26.7							100
17	1556.290M	36.9	+1.1	+2.2	+0.3	+2.3	+0.0	42.0	54.0	-12.0	Verti
	Ambient		+25.9	-26.7							100
18	1539.261M	36.8	+1.1	+2.1	+0.3	+2.3	+0.0	41.7	54.0	-12.3	Verti
	Ambient		+25.8	-26.7							100
19	1184.544M	39.6	+1.0	+1.8	+0.2	+2.0	+0.0	41.5	54.0	-12.5	Verti
	Ambient		+23.7	-26.8							100
20	1459.029M	36.5	+1.1	+2.0	+0.3	+2.2	+0.0	40.8	54.0	-13.2	Verti
	Ambient		+25.4	-26.7							100

CKC Laboratories, Inc. Date: 2/24/2011 Time: 1:38:42 PM Shine Micro INC WO#: 91642
15.209 Radiated Emissions Test Distance: 3 Meters Vertical Sequence#: 20 Ext ATTN: 0 dB



Test Setup Photos



15.209(a) Bandedge

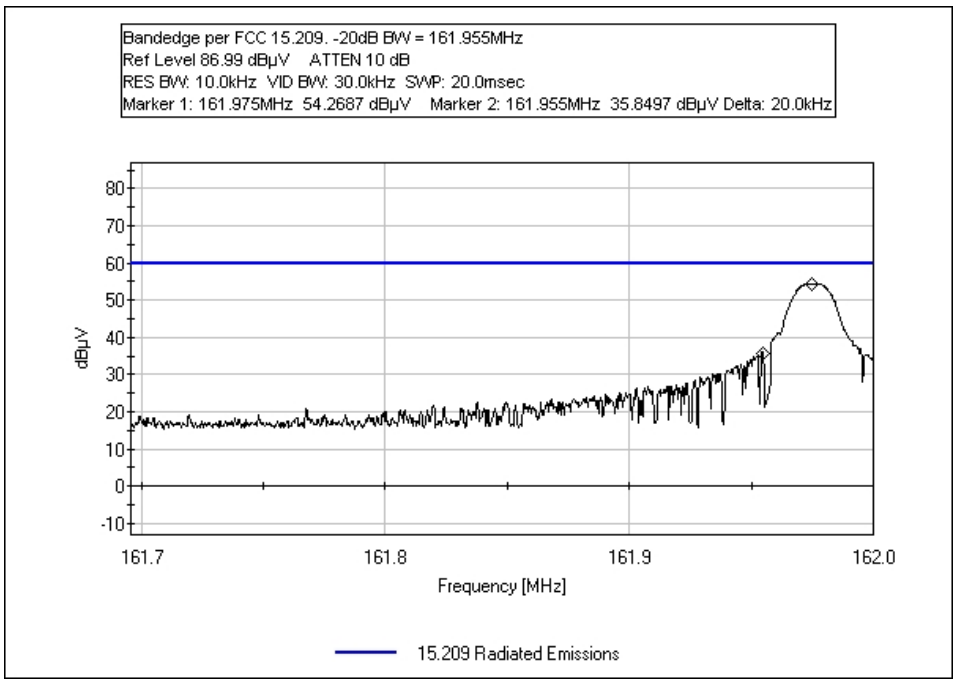
Test Conditions / Setup

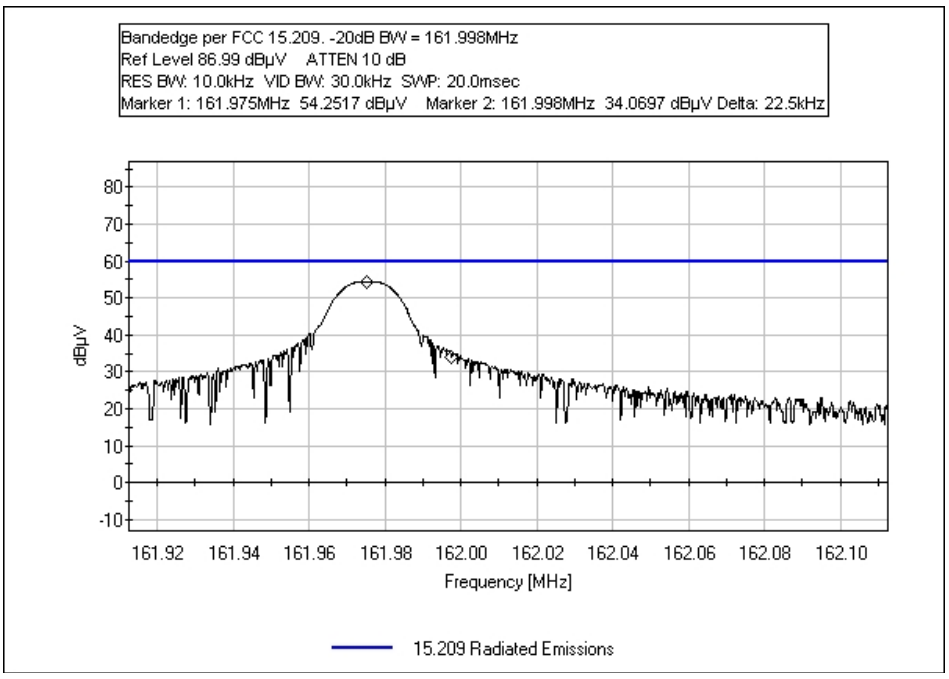
The EUT is located on the center of the test table 80cm above the ground plane. The EUT is transmitting at 161.975MHz. The EUT is positioned on the worst orientation. Test is being performed with fresh batteries. Output Power is set at -100dBm.

Engineer Name: A. Del Angel

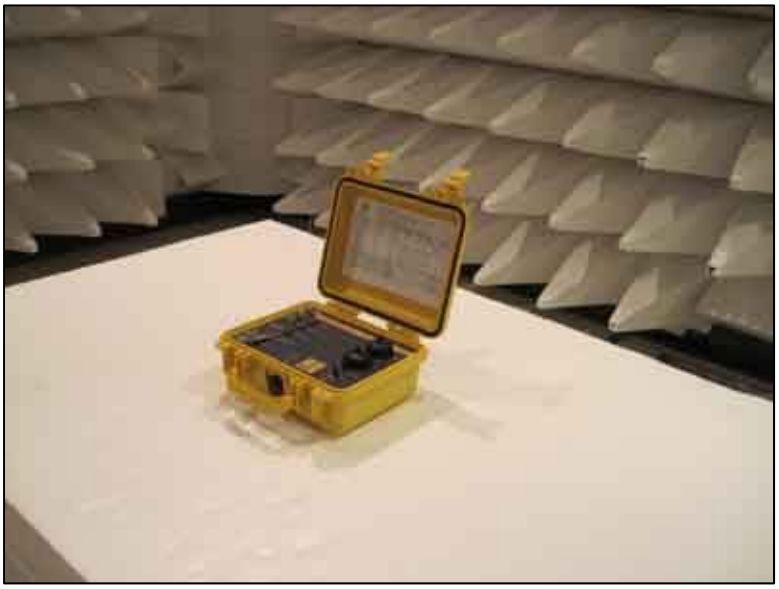
Test Equipment					
Asset/Serial #	**Description**	**Model**	**Manufacturer**	**Cal Date**	**Cal Due**
01993	Biconilog Antenna	CBL6111C	Chase	10/9/2009	10/9/2011
P05360	Cable	RG214	Belden	11/8/2010	11/8/2012
01316	Preamp	8447D	HP	5/21/2010	5/21/2012
P05547	Cable	Heliax	Andrews	5/18/2010	5/18/2012
02871	Spectrum Analyzer	E4440A	Agilent	4/29/2009	4/29/2011
03121	Cable	32026-2-29080-84	Astrolab	10/23/2009	10/23/2011

Test Plots


Bandedge per FCC 15.209. -20dB BW = 161.955MHz
Ref Level 86.99 dBµV ATTEN 10 dB
RES BW: 10.0kHz VID BW: 30.0kHz SWP: 20.0msec
Marker 1: 161.975MHz 54.2687 dBµV Marker 2: 161.955MHz 35.8497 dBµV Delta: 20.0kHz
dBµV
80
70
60
50
40
30
20
10
0
-10
161.7
161.8
161.9
162.0
Frequency [MHz]
15.209 Radiated Emissions


Bandedge per FCC 15.209. -20dB BW = 161.998MHz
Ref Level 86.99 dBµV ATTEN 10 dB
RES BW: 10.0kHz VID BW: 30.0kHz SWP: 20.0msec
Marker 1: 161.975MHz 54.2517 dBµV Marker 2: 161.998MHz 34.0697 dBµV Delta: 22.5kHz
dBµV
80
70
60
50
40
30
20
10
0
-10
161.92
161.94
161.96
161.98
162.00
162.02
162.04
162.06
162.08
162.10
Frequency [MHz]
15.209 Radiated Emissions

Test Setup Photos



15.215(c) 20dB Bandwidth

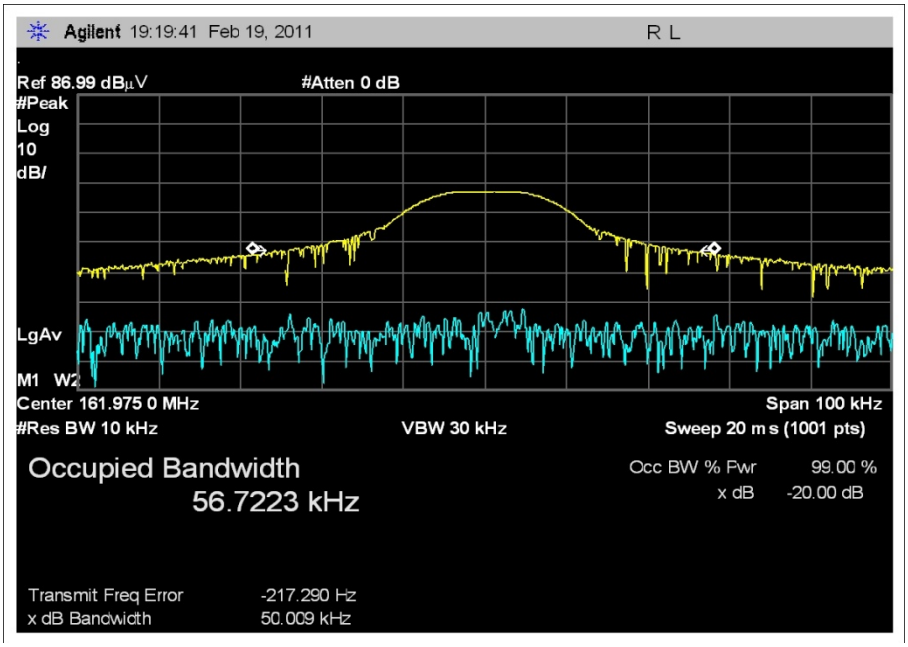
Test Conditions / Setup

The EUT is located on the center of the test table 80cm above the ground plane. The EUT is transmitting at 161.975MHz. The EUT is positioned on the worst orientation. Test is being performed with fresh batteries. Output Power is set at -100dBm.

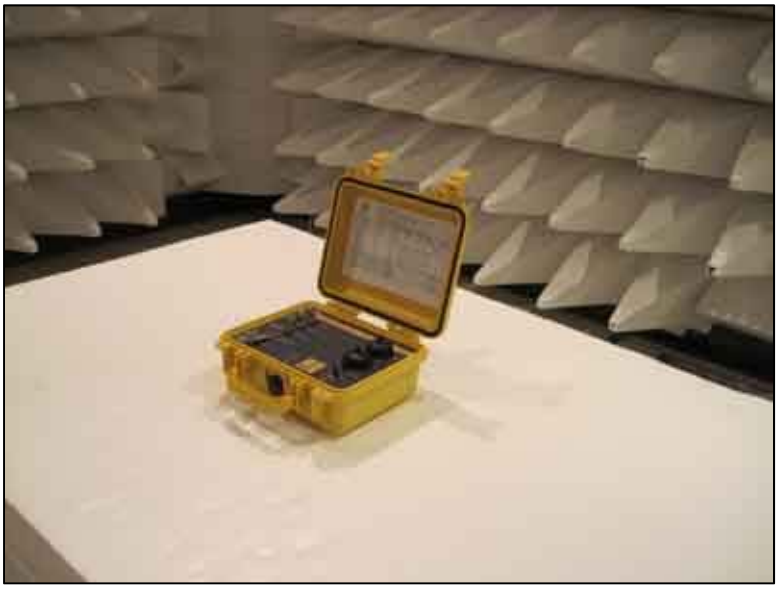
Engineer Name: A. Del Angel

Test Equipment					
Asset/Serial #	**Description**	**Model**	**Manufacturer**	**Cal Date**	**Cal Due**
01993	Biconilog Antenna	CBL6111C	Chase	10/9/2009	10/9/2011
P05360	Cable	RG214	Belden	11/8/2010	11/8/2012
01316	Preamp	8447D	HP	5/21/2010	5/21/2012
P05547	Cable	Heliax	Andrews	5/18/2010	5/18/2012
02871	Spectrum Analyzer	E4440A	Agilent	4/29/2009	4/29/2011
03121	Cable	32026-2-29080-84	Astrolab	10/23/2009	10/23/2011

Test Plots



Test Setup Photos



RSS-210

99 % Bandwidth

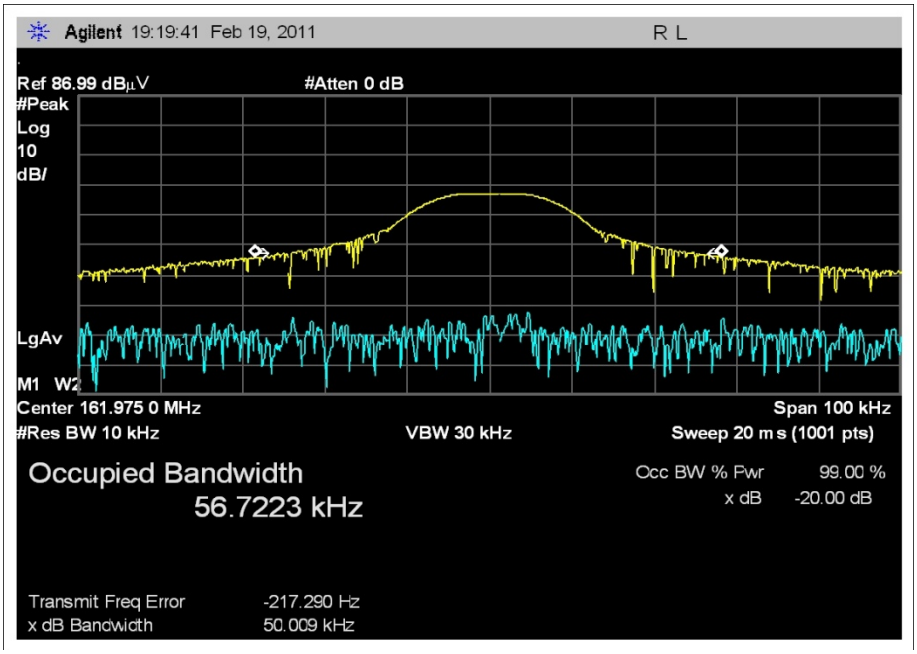
Test Conditions / Setup

The EUT is located on the center of the test table 80cm above the ground plane. The EUT is transmitting at 161.975MHz. The EUT is positioned on the worst orientation. Test is being performed with fresh batteries. Output Power is set at -100dBm.

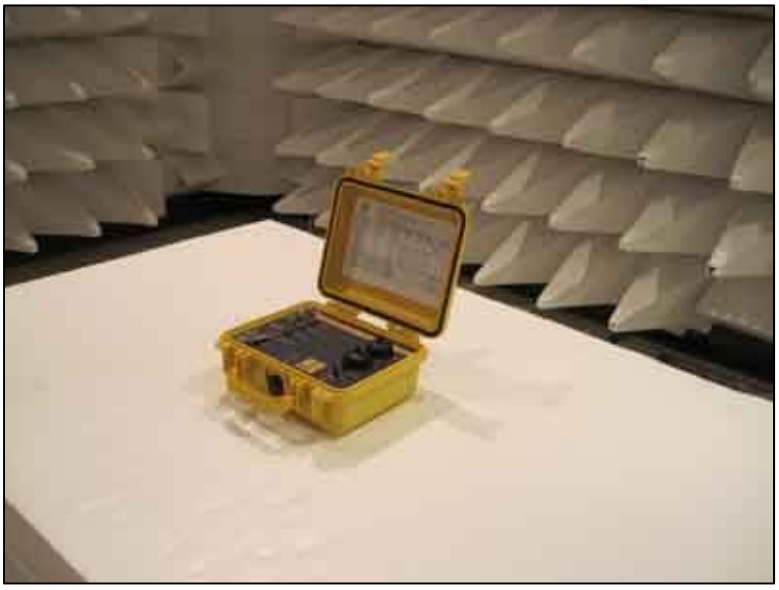
Engineer Name: A. Del Angel

Test Equipment					
Asset/Serial #	**Description**	**Model**	**Manufacturer**	**Cal Date**	**Cal Due**
01993	Biconilog Antenna	CBL6111C	Chase	10/9/2009	10/9/2011
P05360	Cable	RG214	Belden	11/8/2010	11/8/2012
01316	Preamp	8447D	HP	5/21/2010	5/21/2012
P05547	Cable	Heliax	Andrews	5/18/2010	5/18/2012
02871	Spectrum Analyzer	E4440A	Agilent	4/29/2009	4/29/2011
03121	Cable	32026-2-29080-84	Astrolab	10/23/2009	10/23/2011

Test Data



Test Setup Photos



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

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 dBµV/m, the spectrum analyzer reading in dBµV 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. 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
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 "Peak" mode. Whenever a "Quasi-Peak" or "Average" reading is listed as one of the highest readings, this is indicated as a "QP" or an "Ave" on the appropriate rows of the data sheets. 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/receiver readings recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature of the measuring device called "peak hold," the measuring device had the ability to measure transients 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

When the true peak values exceeded or were within 2 dB of the specification limit, quasi-peak measurements were taken using the quasi-peak detector.

Average

For certain frequencies, average measurements may be made using the spectrum analyzer/receiver. 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.