

Meteorcomm LLC.

TEST REPORT FOR

**Base 48V
Model: 63030-48**

Tested To The Following Standards:

**Spurious Emissions Only
In Accordance With
FCC Part 80 and Part 90I**

Report No.: 94195-13

Date of issue: March 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:

Meteorcomm LLC.
1201 SW 7th Street
Renton, WA 98057

Representative: Fred Cleveland
Customer Reference Number: 12399

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

Dianne Dudley
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Project Number: 94195

March 14, 2013

March 14, 2013

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 80 & Part 90I

Description	Test Procedure/Method	Results
Radiated Spurious Emissions	FCC Part 80 / 47 CFR §80.211(f)	Pass
Radiated Spurious Emissions	FCC Part 90I / 47 CFR §90.210(b)	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

Base 48V

Manuf: Meteorcomm LLC.
Model: 63030-48
Serial: 63B4000101BK

GPS Antenna

Manuf: SYNERGY SYSTEMS, LLC
Model: SMA-35
Serial: NA

Programmable Power Supply

Manuf: Ametek
Model: XG100-17MGA
Serial: 1107A05456

PERIPHERAL DEVICES

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

Laptop

Manuf: DELL
Model: Latitude E6410
Serial: Meteorcomm AN2421

Laptop Power Supply

Manuf: DELL
Model: FA90PE1-00
Serial: NA

Mouse

Manuf: DELL
Model: M-UAR DEL7
Serial: NA

FCC PART 80

This report contains EMC emissions test results under United States Federal Communications Commission (FCC) 47 CFR Part 80 for the filing of applications for licenses to operate radio facilities in the maritime services.

Part 80 Radiated Spurious Emissions

Test Data Sheets

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

Customer: **Meteorcomm LLC.**

Specification: **47 CFR §80.211(f) Spurious Emissions**

Work Order #: **94195**

Date: 3/14/2013

Test Type: **Maximized Emissions**

Time: 15:14:12

Equipment: **Base 48V**

Sequence#: 34

Manufacturer: Meteorcomm LLC.

Tested By: Steven Pittsford

Model: 63030-48

S/N: 63B4000101BK

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03227	Cable	32026-29080-29080-84	5/2/2011	5/2/2013
T2	AN02871	Spectrum Analyzer	E4440A	4/22/2011	4/22/2013
T3	AN01271	Preamp	83017A	8/18/2011	8/18/2013
T4	AN03123	Cable	32026-2-29801-12	10/14/2011	10/14/2013
T5	AN02308	Preamp	8447D	4/3/2012	4/3/2014
T6	AN01993	Biconilog Antenna	CBL6111C	3/2/2012	3/2/2014
T7	ANP05360	Cable	RG214	12/3/2012	12/3/2014
T8	ANP05366	Cable	RG-214	10/14/2011	10/14/2013
T9	AN00052	Loop Antenna	6502	5/16/2012	5/16/2014
T10	ANP05965	Cable	Various	8/26/2011	8/26/2013
T11	AN01467	Horn Antenna-ANSI C63.5 Calibration	3115	10/19/2011	10/19/2013

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Programmable Power Supply	Ametek	XG100-17MGA	1107A05456
GPS Antenna	SYNERGY SYSTEMS, LLC	SMA-35	NA
Base 48V*	Meteorcomm LLC.	63030-48	63B4000101BK

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop	DELL	Latitude E6410	Meteorcomm AN2421
Laptop Power Supply	DELL	FA90PE1-00	NA
Mouse	DELL	M-UAR DEL7	NA

Test Conditions / Notes:

Temperature: 21°C
Pressure: 103.4kPa
Humidity: 33%
Frequency: 9kHz-2.5GHz
Device is a transmitter/receiver operating at 217-220MHz. The transmitter is transmitting. Transmitter is tuned for Low and High Frequency (217.6125MHz & 219.9875MHz). Transmit and Receive ports terminated in characteristic load. EUT is powered by 48VDC via support power supply.
Ethernet traffic is established on maintenance port with support equipment located outside the test area. All EUT ports are filled. Below 30MHz CISPR Bandwidths, 30MHz-1GHz, RBW=100kHz VBW=300kHz & 1-2.5GHz, RBW=1MHz VBW=3MHz

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					
	MHz	dBμV	T9	T10	T11		Table	dBμV/m	dBμV/m	dB	Ant
1	138.579k	60.1	+0.0	+0.0	+0.0	+0.0	+0.0	69.6	82.2	-12.6	Paral
			+0.0	+0.0	+0.0	+0.0			High		141
			+9.5	+0.0	+0.0						
2	138.580k	58.4	+0.0	+0.0	+0.0	+0.0	+0.0	67.9	82.2	-14.3	Perpe
			+0.0	+0.0	+0.0	+0.0	360		Low		141
			+9.5	+0.0	+0.0						
3	134.067k	54.9	+0.0	+0.0	+0.0	+0.0	+0.0	64.4	82.2	-17.8	Paral
			+0.0	+0.0	+0.0	+0.0	360		Low		141
			+9.5	+0.0	+0.0						
4	134.067k	54.6	+0.0	+0.0	+0.0	+0.0	+0.0	64.1	82.2	-18.1	Paral
			+0.0	+0.0	+0.0	+0.0			High		141
			+9.5	+0.0	+0.0						
5	138.438k	54.5	+0.0	+0.0	+0.0	+0.0	+0.0	64.0	82.2	-18.2	Paral
			+0.0	+0.0	+0.0	+0.0	360		Low		141
			+9.5	+0.0	+0.0						
6	138.580k	54.4	+0.0	+0.0	+0.0	+0.0	+0.0	63.9	82.2	-18.3	Perpe
			+0.0	+0.0	+0.0	+0.0			High		141
			+9.5	+0.0	+0.0						
7	277.300k	54.1	+0.0	+0.0	+0.0	+0.0	+0.0	63.7	82.2	-18.5	Paral
			+0.0	+0.0	+0.0	+0.0			Low		141
			+9.6	+0.0	+0.0						
8	133.930k	54.0	+0.0	+0.0	+0.0	+0.0	+0.0	63.5	82.2	-18.7	Perpe
			+0.0	+0.0	+0.0	+0.0			High		141
			+9.5	+0.0	+0.0						
9	123.069k	53.8	+0.0	+0.0	+0.0	+0.0	+0.0	63.4	82.2	-18.8	Paral
			+0.0	+0.0	+0.0	+0.0			High		141
			+9.6	+0.0	+0.0						

10	277.340k	53.7	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 357	63.3	82.2 High	-18.9	Paral 141
11	123.069k	53.2	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 360	62.8	82.2 Low	-19.4	Paral 141
12	133.930k	52.5	+0.0 +0.0 +9.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 360	62.0	82.2 Low	-20.2	Perpe 141
13	275.800k	52.2	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 19	61.8	82.2 Low	-20.4	Perpe 141
14	277.660k	51.4	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 360	61.0	82.2 High	-21.2	Perpe 141
15	439.974M	68.6	+0.6 -28.1 +0.0	+0.0 +17.1 +0.0	+0.0 +1.4 +0.0	+0.0 +1.4 +0.0	+0.0 354	61.0	82.2 High	-21.2	Horiz 201
16	123.070k	50.9	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 360	60.5	82.2 Low	-21.7	Perpe 141
17	123.070k	50.5	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	60.1	82.2 High	-22.1	Perpe 141
18	413.860k	50.5	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 360	60.1	82.2 High	-22.1	Paral 141
19	414.700k	50.0	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	59.6	82.2 Low	-22.6	Paral 141
20	553.660k	48.7	+0.0 +0.0 +9.8	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 360	58.5	82.2 High	-23.7	Paral 141
21	435.235M	66.1	+0.6 -28.0 +0.0	+0.0 +17.0 +0.0	+0.0 +1.4 +0.0	+0.0 +1.4 +0.0	+0.0 360	58.5	82.2 Low	-23.7	Horiz 210
22	136.041k	48.1	+0.0 +0.0 +9.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	57.6	82.2 High	-24.6	Paral 141
23	413.300k	47.5	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	57.1	82.2 Low	-25.1	Perpe 141
24	415.530k	47.1	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 360	56.7	82.2 High	-25.5	Perpe 141
25	555.000k	46.8	+0.0 +0.0 +9.8	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	56.6	82.2 Low	-25.6	Paral 141
26	439.976M	64.0	+0.6 -28.1 +0.0	+0.0 +17.1 +0.0	+0.0 +1.4 +0.0	+0.0 +1.4 +0.0	+0.0 360	56.4	82.2 High	-25.8	Vert 192

27	556.200k	46.2	+0.0 +0.0 +9.8	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	56.0	82.2 Low	-26.2	Perpe 141
28	555.260k	45.2	+0.0 +0.0 +9.8	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 360	55.0	82.2 High	-27.2	Perpe 141
29	136.041k	44.9	+0.0 +0.0 +9.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 360	54.4	82.2 Low	-27.8	Paral 141
30	692.490k	43.0	+0.0 +0.0 +9.9	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 360	52.9	82.2 High	-29.3	Paral 141
31	136.040k	43.0	+0.0 +0.0 +9.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 360	52.5	82.2 Low	-29.7	Perpe 141
32	136.040k	42.5	+0.0 +0.0 +9.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	52.0	82.2 High	-30.2	Perpe 141
33	104.880k	42.4	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 360	52.0	82.2 Low	-30.2	Paral 141
34	105.444k	41.7	+0.0 +0.0 +9.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	51.2	82.2 High	-31.0	Paral 141
35	690.500k	41.0	+0.0 +0.0 +9.9	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	50.9	82.2 Low	-31.3	Perpe 141
36	435.210M	58.0	+0.6 -28.0 +0.0	+0.0 +17.0 +0.0	+0.0 +1.4 +0.0	+0.0 +1.4 +0.0	+0.0 +0.0 +0.0	50.4	82.2 Low	-31.8	Vert 212
37	105.440k	40.7	+0.0 +0.0 +9.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 360	50.2	82.2 Low	-32.0	Perpe 141
38	879.960M	48.4	+0.9 -27.5 +0.0	+0.0 +22.9 +0.0	+0.0 +2.0 +0.0	+0.0 +2.2 +0.0	+0.0 +0.0 360	48.9	82.2 High	-33.3	Vert 99
39	1.107M	38.3	+0.0 +0.0 +9.8	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 360	48.1	82.2 High	-34.1	Paral 141
40	1099.870M	61.8	+0.9 +0.0 +0.0	+0.0 +0.0 +1.2	-36.3 +0.0 +19.8	+0.3 +0.0 +0.0	+0.0 +0.0 +0.0	47.7	82.2 High	-34.5	Vert 99
41	659.972M	51.3	+0.8 -28.3 +0.0	+0.0 +20.3 +0.0	+0.0 +1.7 +0.0	+0.0 +1.9 +0.0	+0.0 +0.0 +0.0	47.7	82.2 High	-34.5	Horiz 129
42	652.834M	51.3	+0.8 -28.3 +0.0	+0.0 +20.3 +0.0	+0.0 +1.7 +0.0	+0.0 +1.8 +0.0	+0.0 +0.0 360	47.6	82.2 Low	-34.6	Vert 154
43	1100.075M	61.4	+1.0 +0.0 +0.0	+0.0 +0.0 +1.2	-36.3 +0.0 +19.8	+0.3 +0.0 +0.0	+0.0 +0.0 +0.0	47.4	82.2 High	-34.8	Horiz 125

44	659.952M	50.9	+0.8 -28.3 +0.0	+0.0 +20.3 +0.0	+0.0 +1.7 +0.0	+0.0 +1.9	+0.0	47.3	82.2 High	-34.9	Vert 139
45	105.440k	37.8	+0.0 +0.0 +9.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	+0.0	47.3	82.2 High	-34.9	Perpe 141
46	879.946M	46.0	+0.9 -27.5 +0.0	+0.0 +22.9 +0.0	+0.0 +2.0 +0.0	+0.0 +2.2	+0.0	46.5	82.2 High	-35.7	Horiz 154
47	1.109M	36.2	+0.0 +0.0 +9.8	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	+0.0	46.0	82.2 Low	-36.2	Paral 141
48	652.842M	49.3	+0.8 -28.3 +0.0	+0.0 +20.3 +0.0	+0.0 +1.7 +0.0	+0.0 +1.8	+0.0 360	45.6	82.2 Low	-36.6	Horiz 146
49	1088.100M	59.7	+0.9 +0.0 +0.0	+0.0 +0.0 +1.2	-36.4 +0.0 +19.7	+0.3 +0.0	+0.0 360	45.4	82.2 Low	-36.8	Horiz 119
50	91.120M	61.3	+0.3 -28.0 +0.0	+0.0 +9.1 +0.0	+0.0 +0.6 +0.0	+0.0 +0.5	+0.0	43.8	82.2 High	-38.4	Vert 99
51	870.450M	43.1	+0.9 -27.5 +0.0	+0.0 +22.8 +0.0	+0.0 +2.0 +0.0	+0.0 +2.2	+0.0	43.5	82.2 Low	-38.7	Horiz 99
52	870.428M	42.3	+0.9 -27.5 +0.0	+0.0 +22.8 +0.0	+0.0 +2.0 +0.0	+0.0 +2.2	+0.0	42.7	82.2 Low	-39.5	Vert 99
53	1400.075M	54.2	+1.1 +0.0 +0.0	+0.0 +0.0 +1.4	-35.3 +0.0 +21.0	+0.3 +0.0	+0.0 360	42.7	82.2 Low	-39.5	Horiz 99
54	249.990M	54.2	+0.5 -27.1 +0.0	+0.0 +12.5 +0.0	+0.0 +1.0 +0.0	+0.0 +1.0	+0.0 360	42.1	82.2 High	-40.1	Horiz 100
55	1088.045M	56.2	+0.9 +0.0 +0.0	+0.0 +0.0 +1.2	-36.4 +0.0 +19.7	+0.3 +0.0	+0.0 360	41.9	82.2 Low	-40.3	Vert 140
56	249.990M	53.7	+0.5 -27.1 +0.0	+0.0 +12.5 +0.0	+0.0 +1.0 +0.0	+0.0 +1.0	+0.0	41.6	82.2 Low	-40.6	Horiz 99
57	692.846M	44.2	+0.8 -28.2 +0.0	+0.0 +20.5 +0.0	+0.0 +1.7 +0.0	+0.0 +1.9	+0.0	40.9	82.2 Low	-41.3	Vert 100
58	693.110M	43.9	+0.8 -28.2 +0.0	+0.0 +20.5 +0.0	+0.0 +1.7 +0.0	+0.0 +1.9	+0.0 360	40.6	82.2 High	-41.6	Vert 99
59	1399.975M	51.7	+1.1 +0.0 +0.0	+0.0 +0.0 +1.4	-35.3 +0.0 +21.0	+0.3 +0.0	+0.0	40.2	82.2 Low	-42.0	Vert 112
60	23.630M	33.4	+0.1 +0.0 +6.3	+0.0 +0.0 +0.2	+0.0 +0.0 +0.0	+0.0 +0.0	+0.0	40.0	82.2 High	-42.2	Paral 141

61	2000.090M	44.3	+1.4 +0.0 +0.0	+0.0 +0.0 +1.7	-34.3 +0.0 +26.5	+0.4 +0.0	+0.0	40.0	82.2 High	-42.2	Vert 100
62	1399.900M	51.3	+1.1 +0.0 +0.0	+0.0 +0.0 +1.4	-35.3 +0.0 +21.0	+0.3 +0.0	+0.0 360	39.8	82.2 High	-42.4	Horiz 136
63	61.200M	59.9	+0.2 -28.0 +0.0	+0.0 +6.7 +0.0	+0.0 +0.5 +0.0	+0.0 +0.4	+0.0 5	39.7	82.2 Low	-42.5	Vert 99
64	1400.030M	50.8	+1.1 +0.0 +0.0	+0.0 +0.0 +1.4	-35.3 +0.0 +21.0	+0.3 +0.0	+0.0	39.3	82.2 High	-42.9	Vert 115
65	2000.075M	43.6	+1.4 +0.0 +0.0	+0.0 +0.0 +1.7	-34.3 +0.0 +26.5	+0.4 +0.0	+0.0	39.3	82.2 Low	-42.9	Vert 102
66	1424.975M	50.2	+1.1 +0.0 +0.0	+0.0 +0.0 +1.4	-35.2 +0.0 +21.1	+0.3 +0.0	+0.0 360	38.9	82.2 Low	-43.3	Vert 112
67	28.803M	33.6	+0.2 +0.0 +4.7	+0.0 +0.0 +0.2	+0.0 +0.0 +0.0	+0.0 +0.0	+0.0	38.7	82.2 Low	-43.5	Perpe 141
68	154.840M	52.9	+0.4 -27.6 +0.0	+0.0 +11.2 +0.0	+0.0 +0.8 +0.0	+0.0 +0.8	+0.0 322	38.5	82.2 Low	-43.7	Vert 99
69	900.002M	37.7	+0.9 -27.4 +0.0	+0.0 +23.0 +0.0	+0.0 +2.0 +0.0	+0.0 +2.3	+0.0	38.5	82.2 High	-43.7	Vert 99
70	23.633M	31.8	+0.1 +0.0 +6.3	+0.0 +0.0 +0.2	+0.0 +0.0 +0.0	+0.0 +0.0	+0.0 11	38.4	82.2 Low	-43.8	Paral 141
71	600.000M	42.7	+0.7 -28.3 +0.0	+0.0 +20.0 +0.0	+0.0 +1.6 +0.0	+0.0 +1.7	+0.0 2	38.4	82.2 High	-43.8	Horiz 126
72	564.776M	43.3	+0.7 -28.3 +0.0	+0.0 +19.4 +0.0	+0.0 +1.6 +0.0	+0.0 +1.7	+0.0 360	38.4	82.2 Low	-43.8	Horiz 126
73	1000.020M	53.4	+0.9 +0.0 +0.0	+0.0 +0.0 +1.2	-36.8 +0.0 +19.3	+0.2 +0.0	+0.0	38.2	82.2 High	-44.0	Horiz 100
74	90.120M	55.7	+0.3 -28.0 +0.0	+0.0 +9.0 +0.0	+0.0 +0.6 +0.0	+0.0 +0.5	+0.0	38.1	82.2 Low	-44.1	Vert 99
75	600.010M	42.3	+0.7 -28.3 +0.0	+0.0 +20.0 +0.0	+0.0 +1.6 +0.0	+0.0 +1.7	+0.0	38.0	82.2 Low	-44.2	Horiz 131
76	2499.990M	41.6	+1.6 +0.0 +0.0	+0.0 +0.0 +1.9	-34.0 +0.0 +26.4	+0.5 +0.0	+0.0 145	38.0	82.2 Low	-44.2	Horiz 112
77	560.022M	42.9	+0.7 -28.3 +0.0	+0.0 +19.3 +0.0	+0.0 +1.6 +0.0	+0.0 +1.7	+0.0 360	37.9	82.2 High	-44.3	Horiz 123

78	154.914M	52.3	+0.4 -27.6 +0.0	+0.0 +11.2 +0.0	+0.0 +0.8 +0.0	+0.0 +0.8 +0.0	+0.0	37.9	82.2 High	-44.3	Vert 99
79	88.560M	55.5	+0.3 -28.0 +0.0	+0.0 +8.8 +0.0	+0.0 +0.6 +0.0	+0.0 +0.5 +0.0	+0.0	37.7	82.2 High	-44.5	Horiz 275
80	900.002M	36.7	+0.9 -27.4 +0.0	+0.0 +23.0 +0.0	+0.0 +2.0 +0.0	+0.0 +2.3 +0.0	+0.0 359	37.5	82.2 Low	-44.7	Horiz 99
81	1999.990M	41.8	+1.4 +0.0 +0.0	+0.0 +0.0 +1.7	-34.3 +0.0 +26.5	+0.4 +0.0 +0.0	+0.0 350	37.5	82.2 Low	-44.7	Horiz 112
82	2399.995M	41.2	+1.5 +0.0 +0.0	+0.0 +0.0 +1.9	-34.0 +0.0 +26.4	+0.5 +0.0 +0.0	+0.0	37.5	82.2 High	-44.7	Horiz 129
83	2000.420M	41.8	+1.4 +0.0 +0.0	+0.0 +0.0 +1.7	-34.3 +0.0 +26.5	+0.4 +0.0 +0.0	+0.0 360	37.5	82.2 High	-44.7	Horiz 129
84	900.012M	36.6	+0.9 -27.4 +0.0	+0.0 +23.0 +0.0	+0.0 +2.0 +0.0	+0.0 +2.3 +0.0	+0.0 360	37.4	82.2 High	-44.8	Horiz 99
85	94.850M	54.3	+0.3 -27.9 +0.0	+0.0 +9.5 +0.0	+0.0 +0.6 +0.0	+0.0 +0.5 +0.0	+0.0 360	37.3	82.2 Low	-44.9	Horiz 245
86	799.998M	37.8	+0.8 -27.9 +0.0	+0.0 +22.4 +0.0	+0.0 +1.9 +0.0	+0.0 +2.1 +0.0	+0.0 360	37.1	82.2 Low	-45.1	Horiz 99
87	1599.985M	46.4	+1.2 +0.0 +0.0	+0.0 +0.0 +1.5	-34.9 +0.0 +22.5	+0.3 +0.0 +0.0	+0.0 360	37.0	82.2 Low	-45.2	Vert 100
88	1199.805M	50.1	+1.0 +0.0 +0.0	+0.0 +0.0 +1.3	-35.9 +0.0 +20.2	+0.3 +0.0 +0.0	+0.0	37.0	82.2 High	-45.2	Vert 124
89	1000.005M	52.1	+0.9 +0.0 +0.0	+0.0 +0.0 +1.2	-36.8 +0.0 +19.3	+0.2 +0.0 +0.0	+0.0 360	36.9	82.2 High	-45.3	Vert 142
90	1425.005M	48.1	+1.1 +0.0 +0.0	+0.0 +0.0 +1.4	-35.2 +0.0 +21.1	+0.3 +0.0 +0.0	+0.0 360	36.8	82.2 High	-45.4	Horiz 99
91	1000.005M	52.0	+0.9 +0.0 +0.0	+0.0 +0.0 +1.2	-36.8 +0.0 +19.3	+0.2 +0.0 +0.0	+0.0 360	36.8	82.2 Low	-45.4	Horiz 138
92	900.016M	36.0	+0.9 -27.4 +0.0	+0.0 +23.0 +0.0	+0.0 +2.0 +0.0	+0.0 +2.3 +0.0	+0.0 360	36.8	82.2 Low	-45.4	Vert 99
93	2499.975M	40.1	+1.6 +0.0 +0.0	+0.0 +0.0 +1.9	-34.0 +0.0 +26.4	+0.5 +0.0 +0.0	+0.0 316	36.5	82.2 Low	-45.7	Vert 102
94	1799.895M	43.2	+1.3 +0.0 +0.0	+0.0 +0.0 +1.6	-34.6 +0.0 +24.6	+0.3 +0.0 +0.0	+0.0 360	36.4	82.2 Low	-45.8	Vert 103

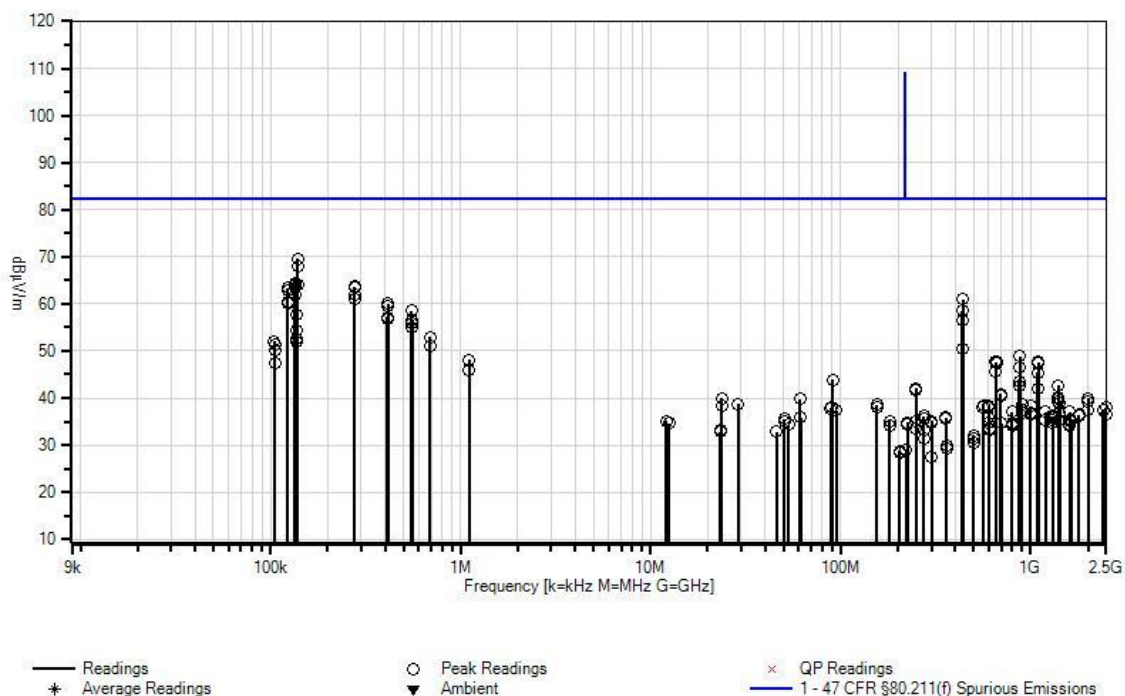
95	1000.045M	51.6	+0.9 +0.0 +0.0	+0.0 +0.0 +1.2	-36.8 +0.0 +19.3	+0.2 +0.0	+0.0	36.4	82.2 Low	-45.8	Vert 98
96	1300.030M	48.4	+1.0 +0.0 +0.0	+0.0 +0.0 +1.3	-35.5 +0.0 +20.7	+0.3 +0.0	+0.0	36.2	82.2 High	-46.0	Vert 99
97	275.000M	47.6	+0.5 -27.1 +0.0	+0.0 +13.0 +0.0	+0.0 +1.1 +0.0	+0.0 +1.1	+0.0 360	36.2	82.2 Low	-46.0	Horiz 126
98	1799.930M	42.9	+1.3 +0.0 +0.0	+0.0 +0.0 +1.6	-34.6 +0.0 +24.6	+0.3 +0.0	+0.0 360	36.1	82.2 High	-46.1	Vert 100
99	1300.155M	48.2	+1.0 +0.0 +0.0	+0.0 +0.0 +1.3	-35.5 +0.0 +20.7	+0.3 +0.0	+0.0 360	36.0	82.2 Low	-46.2	Vert 101
100	61.515M	56.1	+0.2 -28.0 +0.0	+0.0 +6.7 +0.0	+0.0 +0.5 +0.0	+0.0 +0.4	+0.0	35.9	82.2 High	-46.3	Vert 99
101	599.992M	40.2	+0.7 -28.3 +0.0	+0.0 +20.0 +0.0	+0.0 +1.6 +0.0	+0.0 +1.7	+0.0 360	35.9	82.2 High	-46.3	Vert 100
102	357.582M	45.1	+0.6 -27.5 +0.0	+0.0 +15.2 +0.0	+0.0 +1.2 +0.0	+0.0 +1.3	+0.0	35.9	82.2 Low	-46.3	Horiz 114
103	275.010M	46.9	+0.5 -27.1 +0.0	+0.0 +13.0 +0.0	+0.0 +1.1 +0.0	+0.0 +1.1	+0.0	35.5	82.2 High	-46.7	Horiz 99
104	50.520M	54.1	+0.2 -28.0 +0.0	+0.0 +8.5 +0.0	+0.0 +0.4 +0.0	+0.0 +0.3	+0.0	35.5	82.2 High	-46.7	Horiz 275
105	358.900M	44.7	+0.6 -27.5 +0.0	+0.0 +15.2 +0.0	+0.0 +1.2 +0.0	+0.0 +1.3	+0.0 15	35.5	82.2 High	-46.7	Horiz 99
106	1425.075M	46.7	+1.1 +0.0 +0.0	+0.0 +0.0 +1.4	-35.2 +0.0 +21.1	+0.3 +0.0	+0.0	35.4	82.2 Low	-46.8	Horiz 99
107	1624.935M	44.4	+1.2 +0.0 +0.0	+0.0 +0.0 +1.6	-34.9 +0.0 +22.8	+0.3 +0.0	+0.0	35.4	82.2 High	-46.8	Vert 100
108	1199.980M	48.5	+1.0 +0.0 +0.0	+0.0 +0.0 +1.3	-35.9 +0.0 +20.2	+0.3 +0.0	+0.0 360	35.4	82.2 Low	-46.8	Horiz 99
109	1600.030M	44.8	+1.2 +0.0 +0.0	+0.0 +0.0 +1.5	-34.9 +0.0 +22.5	+0.3 +0.0	+0.0 360	35.4	82.2 High	-46.8	Vert 100
110	1200.045M	48.4	+1.0 +0.0 +0.0	+0.0 +0.0 +1.3	-35.9 +0.0 +20.2	+0.3 +0.0	+0.0	35.3	82.2 Low	-46.9	Vert 101
111	1299.980M	47.5	+1.0 +0.0 +0.0	+0.0 +0.0 +1.3	-35.5 +0.0 +20.7	+0.3 +0.0	+0.0	35.3	82.2 Low	-46.9	Horiz 99

112	1199.990M	48.3	+1.0 +0.0 +0.0	+0.0 +0.0 +1.3	-35.9 +0.0 +20.2	+0.3 +0.0 +0.0	+0.0 360	35.2	82.2 High	-47.0	Horiz 99
113	180.600M	51.4	+0.4 -27.4 +0.0	+0.0 +9.1 +0.0	+0.0 +0.8 +0.0	+0.0 +0.8	+0.0	35.1	82.2 Low	-47.1	Horiz 147
114	299.990M	46.0	+0.5 -27.1 +0.0	+0.0 +13.5 +0.0	+0.0 +1.1 +0.0	+0.0 +1.1	+0.0 360	35.1	82.2 Low	-47.1	Horiz 100
115	1625.075M	44.1	+1.2 +0.0 +0.0	+0.0 +0.0 +1.6	-34.9 +0.0 +22.8	+0.3 +0.0	+0.0 153	35.1	82.2 Low	-47.1	Vert 100
116	12.131M	25.3	+0.1 +0.0 +9.6	+0.0 +0.0 +0.1	+0.0 +0.0 +0.0	+0.0 +0.0	+0.0 5	35.1	82.2 Low	-47.1	Perpe 141
117	250.008M	47.1	+0.5 -27.1 +0.0	+0.0 +12.5 +0.0	+0.0 +1.0 +0.0	+0.0 +1.0	+0.0	35.0	82.2 Low	-47.2	Vert 151
118	50.500M	53.6	+0.2 -28.0 +0.0	+0.0 +8.5 +0.0	+0.0 +0.4 +0.0	+0.0 +0.3	+0.0	35.0	82.2 Low	-47.2	Horiz 245
119	225.000M	48.9	+0.4 -27.2 +0.0	+0.0 +10.8 +0.0	+0.0 +0.9 +0.0	+0.0 +1.0	+0.0	34.8	82.2 High	-47.4	Horiz 134
120	1299.945M	47.0	+1.0 +0.0 +0.0	+0.0 +0.0 +1.3	-35.5 +0.0 +20.7	+0.3 +0.0	+0.0	34.8	82.2 High	-47.4	Horiz 126
121	600.000M	39.1	+0.7 -28.3 +0.0	+0.0 +20.0 +0.0	+0.0 +1.6 +0.0	+0.0 +1.7	+0.0	34.8	82.2 Low	-47.4	Vert 100
122	700.004M	38.0	+0.8 -28.2 +0.0	+0.0 +20.5 +0.0	+0.0 +1.7 +0.0	+0.0 +1.9	+0.0 360	34.7	82.2 High	-47.5	Horiz 99
123	300.004M	45.6	+0.5 -27.1 +0.0	+0.0 +13.5 +0.0	+0.0 +1.1 +0.0	+0.0 +1.1	+0.0 360	34.7	82.2 High	-47.5	Horiz 101
124	12.551M	24.9	+0.1 +0.0 +9.6	+0.0 +0.0 +0.1	+0.0 +0.0 +0.0	+0.0 +0.0	+0.0 3	34.7	82.2 High	-47.5	Perpe 141
125	699.996M	37.9	+0.8 -28.2 +0.0	+0.0 +20.5 +0.0	+0.0 +1.7 +0.0	+0.0 +1.9	+0.0	34.6	82.2 Low	-47.6	Horiz 99
126	800.014M	35.3	+0.8 -27.9 +0.0	+0.0 +22.4 +0.0	+0.0 +1.9 +0.0	+0.0 +2.1	+0.0	34.6	82.2 High	-47.6	Vert 99
127	225.000M	48.6	+0.4 -27.2 +0.0	+0.0 +10.8 +0.0	+0.0 +0.9 +0.0	+0.0 +1.0	+0.0	34.5	82.2 Low	-47.7	Horiz 99
128	53.280M	53.6	+0.2 -28.0 +0.0	+0.0 +7.9 +0.0	+0.0 +0.4 +0.0	+0.0 +0.3	+0.0	34.4	82.2 Low	-47.8	Vert 99

129	800.000M	35.1	+0.8 -27.9 +0.0	+0.0 +22.4 +0.0	+0.0 +1.9 +0.0	+0.0 +2.1	+0.0	34.4	82.2 High	-47.8	Horiz 177
130	1599.725M	43.7	+1.2 +0.0 +0.0	+0.0 +0.0 +1.5	-34.9 +0.0 +22.5	+0.3 +0.0	+0.0 71	34.3	82.2 High	-47.9	Horiz 115
131	1599.855M	43.6	+1.2 +0.0 +0.0	+0.0 +0.0 +1.5	-34.9 +0.0 +22.5	+0.3 +0.0	+0.0 360	34.2	82.2 Low	-48.0	Horiz 99
132	181.440M	50.5	+0.4 -27.4 +0.0	+0.0 +9.1 +0.0	+0.0 +0.8 +0.0	+0.0 +0.8	+0.0 67	34.2	82.2 High	-48.0	Horiz 134
133	800.012M	34.9	+0.8 -27.9 +0.0	+0.0 +22.4 +0.0	+0.0 +1.9 +0.0	+0.0 +2.1	+0.0 360	34.2	82.2 Low	-48.0	Vert 140
134	607.982M	37.7	+0.7 -28.3 +0.0	+0.0 +20.0 +0.0	+0.0 +1.6 +0.0	+0.0 +1.8	+0.0 360	33.5	82.2 High	-48.7	Horiz 125
135	249.990M	45.6	+0.5 -27.1 +0.0	+0.0 +12.5 +0.0	+0.0 +1.0 +0.0	+0.0 +1.0	+0.0 360	33.5	82.2 High	-48.7	Vert 99
136	275.024M	44.7	+0.5 -27.1 +0.0	+0.0 +13.0 +0.0	+0.0 +1.1 +0.0	+0.0 +1.1	+0.0 360	33.3	82.2 Low	-48.9	Vert 99
137	23.510M	26.5	+0.1 +0.0 +6.4	+0.0 +0.0 +0.2	+0.0 +0.0 +0.0	+0.0 +0.0	+0.0 360	33.2	82.2 High	-49.0	Perpe 141
138	608.010M	37.3	+0.7 -28.3 +0.0	+0.0 +20.0 +0.0	+0.0 +1.6 +0.0	+0.0 +1.8	+0.0	33.1	82.2 Low	-49.1	Horiz 131
139	46.050M	48.9	+0.2 -28.0 +0.0	+0.0 +11.0 +0.0	+0.0 +0.4 +0.0	+0.0 +0.3	+0.0	32.8	82.2 Low	-49.4	Horiz 245
140	23.278M	26.1	+0.1 +0.0 +6.4	+0.0 +0.0 +0.2	+0.0 +0.0 +0.0	+0.0 +0.0	+0.0 360	32.8	82.2 Low	-49.4	Perpe 141
141	500.006M	38.3	+0.7 -28.2 +0.0	+0.0 +18.2 +0.0	+0.0 +1.4 +0.0	+0.0 +1.6	+0.0	32.0	82.2 High	-50.2	Vert 178
142	275.010M	42.8	+0.5 -27.1 +0.0	+0.0 +13.0 +0.0	+0.0 +1.1 +0.0	+0.0 +1.1	+0.0	31.4	82.2 High	-50.8	Vert 99
143	500.022M	37.6	+0.7 -28.2 +0.0	+0.0 +18.2 +0.0	+0.0 +1.4 +0.0	+0.0 +1.6	+0.0 326	31.3	82.2 Low	-50.9	Vert 100
144	499.995M	36.9	+0.7 -28.2 +0.0	+0.0 +18.2 +0.0	+0.0 +1.4 +0.0	+0.0 +1.6	+0.0	30.6	82.2 Low	-51.6	Horiz 117
145	499.992M	36.8	+0.7 -28.2 +0.0	+0.0 +18.2 +0.0	+0.0 +1.4 +0.0	+0.0 +1.6	+0.0	30.5	82.2 High	-51.7	Horiz 113

146	359.560M	39.1	+0.6 -27.5 +0.0	+0.0 +15.3 +0.0	+0.0 +1.2 +0.0	+0.0 +1.3 +0.0	+0.0	30.0	82.2 High	-52.2	Vert 125
147	359.740M	38.5	+0.6 -27.5 +0.0	+0.0 +15.3 +0.0	+0.0 +1.2 +0.0	+0.0 +1.3 +0.0	+0.0 360	29.4	82.2 Low	-52.8	Vert 109
148	221.170M	43.5	+0.4 -27.2 +0.0	+0.0 +10.5 +0.0	+0.0 +0.9 +0.0	+0.0 +0.9 +0.0	+0.0 360	29.0	82.2 Low	-53.2	Vert 133
149	203.760M	44.7	+0.4 -27.3 +0.0	+0.0 +9.2 +0.0	+0.0 +0.9 +0.0	+0.0 +0.9 +0.0	+0.0	28.8	82.2 High	-53.4	Horiz 134
150	203.770M	44.2	+0.4 -27.3 +0.0	+0.0 +9.2 +0.0	+0.0 +0.9 +0.0	+0.0 +0.9 +0.0	+0.0	28.3	82.2 Low	-53.9	Horiz 147
151	300.010M	38.3	+0.5 -27.1 +0.0	+0.0 +13.5 +0.0	+0.0 +1.1 +0.0	+0.0 +1.1 +0.0	+0.0	27.4	82.2 Low	-54.8	Vert 141

CKC Laboratories, Inc. Date: 3/14/2013 Time: 15:14:12 Meteorcomm LLC. WO#: 94195
Test Distance: 3 Meters Sequence#: 34 Parallel
Meteorcomm LLC. Base 48V P/N: 63030-48



Test Setup Photos



FCC PART 90I

This report contains EMC emissions test results under United States Federal Communications Commission (FCC) 47 CFR Part 90I requirements for radio communications systems licensed and used in the Public Safety, Industrial/Business Radio Pool, and Radiolocation Radio Services.

Part 90I Radiated Spurious Emissions

Test Data Sheets

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

Customer: **Meteorcomm LLC.**

Specification: **47 CFR §90.210(b) Spurious Emissions Base 24**

Work Order #: **94195** Date: 3/14/2013

Test Type: **Maximized Emissions** Time: 15:14:12

Equipment: **Base 48V** Sequence#: 34

Manufacturer: Meteorcomm LLC. Tested By: Steven Pittsford

Model: 63030-48

S/N: 63B4000101BK

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03227	Cable	32026-29080-29080-84	5/2/2011	5/2/2013
T2	AN02871	Spectrum Analyzer	E4440A	4/22/2011	4/22/2013
T3	AN01271	Preamp	83017A	8/18/2011	8/18/2013
T4	AN03123	Cable	32026-2-29801-12	10/14/2011	10/14/2013
T5	AN02308	Preamp	8447D	4/3/2012	4/3/2014
T6	AN01993	Biconilog Antenna	CBL6111C	3/2/2012	3/2/2014
T7	ANP05360	Cable	RG214	12/3/2012	12/3/2014
T8	ANP05366	Cable	RG-214	10/14/2011	10/14/2013
T9	AN00052	Loop Antenna	6502	5/16/2012	5/16/2014
T10	ANP05965	Cable	Various	8/26/2011	8/26/2013
T11	AN01467	Horn Antenna-ANSI C63.5 Calibration	3115	10/19/2011	10/19/2013

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Programmable Power Supply	Ametek	XG100-17MGA	1107A05456
GPS Antenna	SYNERGY SYSTEMS, LLC	SMA-35	NA
Base 48V*	Meteorcomm LLC.	63030-48	63B4000101BK

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop	DELL	Latitude E6410	Meteorcomm AN2421
Laptop Power Supply	DELL	FA90PE1-00	NA
Mouse	DELL	M-UAR DEL7	NA

Test Conditions / Notes:

Temperature: 21°C
Pressure: 103.4kPa
Humidity: 33%
Frequency: 9kHz-2.5GHz
Device is a transmitter/receiver operating at 217-220MHz. The transmitter is transmitting. Transmitter is tuned for Low and High Frequency (217.6125MHz & 219.9875MHz). Transmit and Receive ports terminated in characteristic load. EUT is powered by 48VDC via support power supply.
Ethernet traffic is established on maintenance port with support equipment located outside the test area. All EUT ports are filled. Below 30MHz CISPR Bandwidths, 30MHz-1GHz, RBW=100kHz VBW=300kHz & 1-2.5GHz, RBW=1MHz VBW=3MHz

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					
	MHz	dBμV	T9	T10	T11		Table	dBμV/m	dBμV/m	dB	Ant
1	138.579k	60.1	+0.0	+0.0	+0.0	+0.0	+0.0	69.6	82.2	-12.6	Paral
			+0.0	+0.0	+0.0	+0.0			High		141
			+9.5	+0.0	+0.0						
2	138.580k	58.4	+0.0	+0.0	+0.0	+0.0	+0.0	67.9	82.2	-14.3	Perpe
			+0.0	+0.0	+0.0	+0.0	360		Low		141
			+9.5	+0.0	+0.0						
3	134.067k	54.9	+0.0	+0.0	+0.0	+0.0	+0.0	64.4	82.2	-17.8	Paral
			+0.0	+0.0	+0.0	+0.0	360		Low		141
			+9.5	+0.0	+0.0						
4	134.067k	54.6	+0.0	+0.0	+0.0	+0.0	+0.0	64.1	82.2	-18.1	Paral
			+0.0	+0.0	+0.0	+0.0			High		141
			+9.5	+0.0	+0.0						
5	138.438k	54.5	+0.0	+0.0	+0.0	+0.0	+0.0	64.0	82.2	-18.2	Paral
			+0.0	+0.0	+0.0	+0.0	360		Low		141
			+9.5	+0.0	+0.0						
6	138.580k	54.4	+0.0	+0.0	+0.0	+0.0	+0.0	63.9	82.2	-18.3	Perpe
			+0.0	+0.0	+0.0	+0.0			High		141
			+9.5	+0.0	+0.0						
7	277.300k	54.1	+0.0	+0.0	+0.0	+0.0	+0.0	63.7	82.2	-18.5	Paral
			+0.0	+0.0	+0.0	+0.0			Low		141
			+9.6	+0.0	+0.0						
8	133.930k	54.0	+0.0	+0.0	+0.0	+0.0	+0.0	63.5	82.2	-18.7	Perpe
			+0.0	+0.0	+0.0	+0.0			High		141
			+9.5	+0.0	+0.0						
9	123.069k	53.8	+0.0	+0.0	+0.0	+0.0	+0.0	63.4	82.2	-18.8	Paral
			+0.0	+0.0	+0.0	+0.0			High		141
			+9.6	+0.0	+0.0						

10	277.340k	53.7	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 357	63.3	82.2 High	-18.9	Paral 141
11	123.069k	53.2	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 360	62.8	82.2 Low	-19.4	Paral 141
12	133.930k	52.5	+0.0 +0.0 +9.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 360	62.0	82.2 Low	-20.2	Perpe 141
13	275.800k	52.2	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 19	61.8	82.2 Low	-20.4	Perpe 141
14	277.660k	51.4	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 360	61.0	82.2 High	-21.2	Perpe 141
15	439.974M	68.6	+0.6 -28.1 +0.0	+0.0 +17.1 +0.0	+0.0 +1.4 +0.0	+0.0 +1.4 +0.0	+0.0 354	61.0	82.2 High	-21.2	Horiz 201
16	123.070k	50.9	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 360	60.5	82.2 Low	-21.7	Perpe 141
17	413.860k	50.5	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 360	60.1	82.2 High	-22.1	Paral 141
18	123.070k	50.5	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	60.1	82.2 High	-22.1	Perpe 141
19	414.700k	50.0	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	59.6	82.2 Low	-22.6	Paral 141
20	435.235M	66.1	+0.6 -28.0 +0.0	+0.0 +17.0 +0.0	+0.0 +1.4 +0.0	+0.0 +1.4 +0.0	+0.0 360	58.5	82.2 Low	-23.7	Horiz 210
21	553.660k	48.7	+0.0 +0.0 +9.8	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 360	58.5	82.2 High	-23.7	Paral 141
22	136.041k	48.1	+0.0 +0.0 +9.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	57.6	82.2 High	-24.6	Paral 141
23	413.300k	47.5	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	57.1	82.2 Low	-25.1	Perpe 141
24	415.530k	47.1	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 360	56.7	82.2 High	-25.5	Perpe 141
25	555.000k	46.8	+0.0 +0.0 +9.8	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	56.6	82.2 Low	-25.6	Paral 141
26	439.976M	64.0	+0.6 -28.1 +0.0	+0.0 +17.1 +0.0	+0.0 +1.4 +0.0	+0.0 +1.4 +0.0	+0.0 360	56.4	82.2 High	-25.8	Vert 192

27	556.200k	46.2	+0.0 +0.0 +9.8	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	56.0	82.2 Low	-26.2	Perpe 141
28	555.260k	45.2	+0.0 +0.0 +9.8	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 360	55.0	82.2 High	-27.2	Perpe 141
29	136.041k	44.9	+0.0 +0.0 +9.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 360	54.4	82.2 Low	-27.8	Paral 141
30	692.490k	43.0	+0.0 +0.0 +9.9	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 360	52.9	82.2 High	-29.3	Paral 141
31	136.040k	43.0	+0.0 +0.0 +9.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 360	52.5	82.2 Low	-29.7	Perpe 141
32	136.040k	42.5	+0.0 +0.0 +9.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	52.0	82.2 High	-30.2	Perpe 141
33	104.880k	42.4	+0.0 +0.0 +9.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 360	52.0	82.2 Low	-30.2	Paral 141
34	105.444k	41.7	+0.0 +0.0 +9.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	51.2	82.2 High	-31.0	Paral 141
35	690.500k	41.0	+0.0 +0.0 +9.9	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	50.9	82.2 Low	-31.3	Perpe 141
36	435.210M	58.0	+0.6 -28.0 +0.0	+0.0 +17.0 +0.0	+0.0 +1.4 +0.0	+0.0 +1.4 +0.0	+0.0 +0.0 +0.0	50.4	82.2 Low	-31.8	Vert 212
37	105.440k	40.7	+0.0 +0.0 +9.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 360	50.2	82.2 Low	-32.0	Perpe 141
38	879.960M	48.4	+0.9 -27.5 +0.0	+0.0 +22.9 +0.0	+0.0 +2.0 +0.0	+0.0 +2.2 +0.0	+0.0 +0.0 360	48.9	82.2 High	-33.3	Vert 99
39	1.107M	38.3	+0.0 +0.0 +9.8	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 360	48.1	82.2 High	-34.1	Paral 141
40	1099.870M	61.8	+0.9 +0.0 +0.0	+0.0 +0.0 +1.2	-36.3 +0.0 +19.8	+0.3 +0.0 +0.0	+0.0 +0.0 +0.0	47.7	82.2 High	-34.5	Vert 99
41	659.972M	51.3	+0.8 -28.3 +0.0	+0.0 +20.3 +0.0	+0.0 +1.7 +0.0	+0.0 +1.9 +0.0	+0.0 +0.0 +0.0	47.7	82.2 High	-34.5	Horiz 129
42	652.834M	51.3	+0.8 -28.3 +0.0	+0.0 +20.3 +0.0	+0.0 +1.7 +0.0	+0.0 +1.8 +0.0	+0.0 +0.0 360	47.6	82.2 Low	-34.6	Vert 154
43	1100.075M	61.4	+1.0 +0.0 +0.0	+0.0 +0.0 +1.2	-36.3 +0.0 +19.8	+0.3 +0.0 +0.0	+0.0 +0.0 +0.0	47.4	82.2 High	-34.8	Horiz 125

44	659.952M	50.9	+0.8 -28.3 +0.0	+0.0 +20.3 +0.0	+0.0 +1.7 +0.0	+0.0 +1.9	+0.0	47.3	82.2 High	-34.9	Vert 139
45	105.440k	37.8	+0.0 +0.0 +9.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	+0.0	47.3	82.2 High	-34.9	Perpe 141
46	879.946M	46.0	+0.9 -27.5 +0.0	+0.0 +22.9 +0.0	+0.0 +2.0 +0.0	+0.0 +2.2	+0.0	46.5	82.2 High	-35.7	Horiz 154
47	1.109M	36.2	+0.0 +0.0 +9.8	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	+0.0	46.0	82.2 Low	-36.2	Paral 141
48	652.842M	49.3	+0.8 -28.3 +0.0	+0.0 +20.3 +0.0	+0.0 +1.7 +0.0	+0.0 +1.8	+0.0 360	45.6	82.2 Low	-36.6	Horiz 146
49	1088.100M	59.7	+0.9 +0.0 +0.0	+0.0 +0.0 +1.2	-36.4 +0.0 +19.7	+0.3 +0.0	+0.0 360	45.4	82.2 Low	-36.8	Horiz 119
50	91.120M	61.3	+0.3 -28.0 +0.0	+0.0 +9.1 +0.0	+0.0 +0.6 +0.0	+0.0 +0.5	+0.0	43.8	82.2 High	-38.4	Vert 99
51	870.450M	43.1	+0.9 -27.5 +0.0	+0.0 +22.8 +0.0	+0.0 +2.0 +0.0	+0.0 +2.2	+0.0	43.5	82.2 Low	-38.7	Horiz 99
52	1400.075M	54.2	+1.1 +0.0 +0.0	+0.0 +0.0 +1.4	-35.3 +0.0 +21.0	+0.3 +0.0	+0.0 360	42.7	82.2 Low	-39.5	Horiz 99
53	870.428M	42.3	+0.9 -27.5 +0.0	+0.0 +22.8 +0.0	+0.0 +2.0 +0.0	+0.0 +2.2	+0.0	42.7	82.2 Low	-39.5	Vert 99
54	249.990M	54.2	+0.5 -27.1 +0.0	+0.0 +12.5 +0.0	+0.0 +1.0 +0.0	+0.0 +1.0	+0.0 360	42.1	82.2 High	-40.1	Horiz 100
55	1088.045M	56.2	+0.9 +0.0 +0.0	+0.0 +0.0 +1.2	-36.4 +0.0 +19.7	+0.3 +0.0	+0.0 360	41.9	82.2 Low	-40.3	Vert 140
56	249.990M	53.7	+0.5 -27.1 +0.0	+0.0 +12.5 +0.0	+0.0 +1.0 +0.0	+0.0 +1.0	+0.0	41.6	82.2 Low	-40.6	Horiz 99
57	692.846M	44.2	+0.8 -28.2 +0.0	+0.0 +20.5 +0.0	+0.0 +1.7 +0.0	+0.0 +1.9	+0.0	40.9	82.2 Low	-41.3	Vert 100
58	693.110M	43.9	+0.8 -28.2 +0.0	+0.0 +20.5 +0.0	+0.0 +1.7 +0.0	+0.0 +1.9	+0.0 360	40.6	82.2 High	-41.6	Vert 99
59	1399.975M	51.7	+1.1 +0.0 +0.0	+0.0 +0.0 +1.4	-35.3 +0.0 +21.0	+0.3 +0.0	+0.0	40.2	82.2 Low	-42.0	Vert 112
60	2000.090M	44.3	+1.4 +0.0 +0.0	+0.0 +0.0 +1.7	-34.3 +0.0 +26.5	+0.4 +0.0	+0.0	40.0	82.2 High	-42.2	Vert 100

61	23.630M	33.4	+0.1 +0.0 +6.3	+0.0 +0.0 +0.2	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	40.0	82.2 High	-42.2	Paral 141
62	1399.900M	51.3	+1.1 +0.0 +0.0	+0.0 +0.0 +1.4	-35.3 +0.0 +21.0	+0.3 +0.0 +0.0	+0.0 360 +0.0	39.8	82.2 High	-42.4	Horiz 136
63	61.200M	59.9	+0.2 -28.0 +0.0	+0.0 +6.7 +0.0	+0.0 +0.5 +0.0	+0.0 +0.4 +0.0	+0.0 5 +0.0	39.7	82.2 Low	-42.5	Vert 99
64	1400.030M	50.8	+1.1 +0.0 +0.0	+0.0 +0.0 +1.4	-35.3 +0.0 +21.0	+0.3 +0.0 +0.0	+0.0 +0.0 +0.0	39.3	82.2 High	-42.9	Vert 115
65	2000.075M	43.6	+1.4 +0.0 +0.0	+0.0 +0.0 +1.7	-34.3 +0.0 +26.5	+0.4 +0.0 +0.0	+0.0 +0.0 +0.0	39.3	82.2 Low	-42.9	Vert 102
66	1424.975M	50.2	+1.1 +0.0 +0.0	+0.0 +0.0 +1.4	-35.2 +0.0 +21.1	+0.3 +0.0 +0.0	+0.0 360 +0.0	38.9	82.2 Low	-43.3	Vert 112
67	28.803M	33.6	+0.2 +0.0 +4.7	+0.0 +0.0 +0.2	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	38.7	82.2 Low	-43.5	Perpe 141
68	900.002M	37.7	+0.9 -27.4 +0.0	+0.0 +23.0 +0.0	+0.0 +2.0 +0.0	+0.0 +2.3 +0.0	+0.0 +0.0 +0.0	38.5	82.2 High	-43.7	Vert 99
69	154.840M	52.9	+0.4 -27.6 +0.0	+0.0 +11.2 +0.0	+0.0 +0.8 +0.0	+0.0 +0.8 +0.0	+0.0 322 +0.0	38.5	82.2 Low	-43.7	Vert 99
70	564.776M	43.3	+0.7 -28.3 +0.0	+0.0 +19.4 +0.0	+0.0 +1.6 +0.0	+0.0 +1.7 +0.0	+0.0 360 +0.0	38.4	82.2 Low	-43.8	Horiz 126
71	23.633M	31.8	+0.1 +0.0 +6.3	+0.0 +0.0 +0.2	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 11 +0.0	38.4	82.2 Low	-43.8	Paral 141
72	600.000M	42.7	+0.7 -28.3 +0.0	+0.0 +20.0 +0.0	+0.0 +1.6 +0.0	+0.0 +1.7 +0.0	+0.0 2 +0.0	38.4	82.2 High	-43.8	Horiz 126
73	1000.020M	53.4	+0.9 +0.0 +0.0	+0.0 +0.0 +1.2	-36.8 +0.0 +19.3	+0.2 +0.0 +0.0	+0.0 +0.0 +0.0	38.2	82.2 High	-44.0	Horiz 100
74	90.120M	55.7	+0.3 -28.0 +0.0	+0.0 +9.0 +0.0	+0.0 +0.6 +0.0	+0.0 +0.5 +0.0	+0.0 +0.0 +0.0	38.1	82.2 Low	-44.1	Vert 99
75	2499.990M	41.6	+1.6 +0.0 +0.0	+0.0 +0.0 +1.9	-34.0 +0.0 +26.4	+0.5 +0.0 +0.0	+0.0 145 +0.0	38.0	82.2 Low	-44.2	Horiz 112
76	600.010M	42.3	+0.7 -28.3 +0.0	+0.0 +20.0 +0.0	+0.0 +1.6 +0.0	+0.0 +1.7 +0.0	+0.0 +0.0 +0.0	38.0	82.2 Low	-44.2	Horiz 131
77	560.022M	42.9	+0.7 -28.3 +0.0	+0.0 +19.3 +0.0	+0.0 +1.6 +0.0	+0.0 +1.7 +0.0	+0.0 360 +0.0	37.9	82.2 High	-44.3	Horiz 123

78	154.914M	52.3	+0.4 -27.6 +0.0	+0.0 +11.2 +0.0	+0.0 +0.8 +0.0	+0.0 +0.8 +0.0	+0.0	37.9	82.2 High	-44.3	Vert 99
79	88.560M	55.5	+0.3 -28.0 +0.0	+0.0 +8.8 +0.0	+0.0 +0.6 +0.0	+0.0 +0.5 +0.0	+0.0	37.7	82.2 High	-44.5	Horiz 275
80	2000.420M	41.8	+1.4 +0.0 +0.0	+0.0 +0.0 +1.7	-34.3 +0.0 +26.5	+0.4 +0.0 +0.0	+0.0 360	37.5	82.2 High	-44.7	Horiz 129
81	2399.995M	41.2	+1.5 +0.0 +0.0	+0.0 +0.0 +1.9	-34.0 +0.0 +26.4	+0.5 +0.0 +0.0	+0.0	37.5	82.2 High	-44.7	Horiz 129
82	900.002M	36.7	+0.9 -27.4 +0.0	+0.0 +23.0 +0.0	+0.0 +2.0 +0.0	+0.0 +2.3 +0.0	+0.0 359	37.5	82.2 Low	-44.7	Horiz 99
83	1999.990M	41.8	+1.4 +0.0 +0.0	+0.0 +0.0 +1.7	-34.3 +0.0 +26.5	+0.4 +0.0 +0.0	+0.0 350	37.5	82.2 Low	-44.7	Horiz 112
84	900.012M	36.6	+0.9 -27.4 +0.0	+0.0 +23.0 +0.0	+0.0 +2.0 +0.0	+0.0 +2.3 +0.0	+0.0 360	37.4	82.2 High	-44.8	Horiz 99
85	94.850M	54.3	+0.3 -27.9 +0.0	+0.0 +9.5 +0.0	+0.0 +0.6 +0.0	+0.0 +0.5 +0.0	+0.0 360	37.3	82.2 Low	-44.9	Horiz 245
86	799.998M	37.8	+0.8 -27.9 +0.0	+0.0 +22.4 +0.0	+0.0 +1.9 +0.0	+0.0 +2.1 +0.0	+0.0 360	37.1	82.2 Low	-45.1	Horiz 99
87	1599.985M	46.4	+1.2 +0.0 +0.0	+0.0 +0.0 +1.5	-34.9 +0.0 +22.5	+0.3 +0.0 +0.0	+0.0 360	37.0	82.2 Low	-45.2	Vert 100
88	1199.805M	50.1	+1.0 +0.0 +0.0	+0.0 +0.0 +1.3	-35.9 +0.0 +20.2	+0.3 +0.0 +0.0	+0.0	37.0	82.2 High	-45.2	Vert 124
89	1000.005M	52.1	+0.9 +0.0 +0.0	+0.0 +0.0 +1.2	-36.8 +0.0 +19.3	+0.2 +0.0 +0.0	+0.0 360	36.9	82.2 High	-45.3	Vert 142
90	900.016M	36.0	+0.9 -27.4 +0.0	+0.0 +23.0 +0.0	+0.0 +2.0 +0.0	+0.0 +2.3 +0.0	+0.0 360	36.8	82.2 Low	-45.4	Vert 99
91	1000.005M	52.0	+0.9 +0.0 +0.0	+0.0 +0.0 +1.2	-36.8 +0.0 +19.3	+0.2 +0.0 +0.0	+0.0 360	36.8	82.2 Low	-45.4	Horiz 138
92	1425.005M	48.1	+1.1 +0.0 +0.0	+0.0 +0.0 +1.4	-35.2 +0.0 +21.1	+0.3 +0.0 +0.0	+0.0 360	36.8	82.2 High	-45.4	Horiz 99
93	2499.975M	40.1	+1.6 +0.0 +0.0	+0.0 +0.0 +1.9	-34.0 +0.0 +26.4	+0.5 +0.0 +0.0	+0.0 316	36.5	82.2 Low	-45.7	Vert 102
94	1799.895M	43.2	+1.3 +0.0 +0.0	+0.0 +0.0 +1.6	-34.6 +0.0 +24.6	+0.3 +0.0 +0.0	+0.0 360	36.4	82.2 Low	-45.8	Vert 103

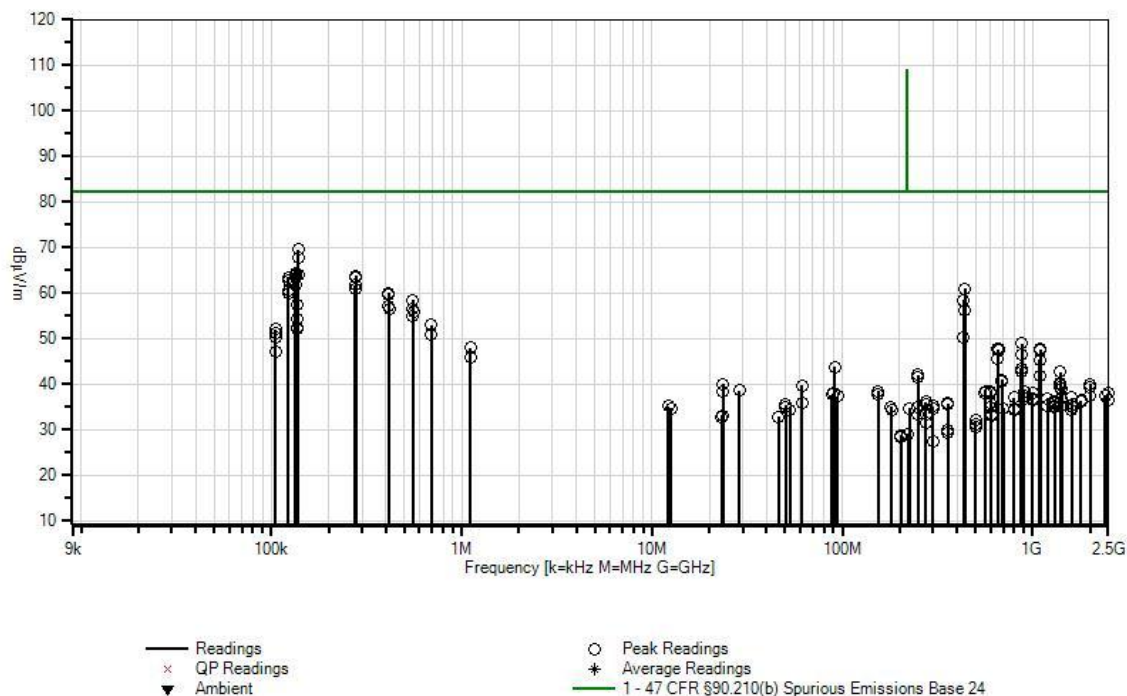
95	1000.045M	51.6	+0.9 +0.0 +0.0	+0.0 +0.0 +1.2	-36.8 +0.0 +19.3	+0.2 +0.0	+0.0	36.4	82.2 Low	-45.8	Vert 98
96	1300.030M	48.4	+1.0 +0.0 +0.0	+0.0 +0.0 +1.3	-35.5 +0.0 +20.7	+0.3 +0.0	+0.0	36.2	82.2 High	-46.0	Vert 99
97	275.000M	47.6	+0.5 -27.1 +0.0	+0.0 +13.0 +0.0	+0.0 +1.1 +0.0	+0.0 +1.1	+0.0 360	36.2	82.2 Low	-46.0	Horiz 126
98	1799.930M	42.9	+1.3 +0.0 +0.0	+0.0 +0.0 +1.6	-34.6 +0.0 +24.6	+0.3 +0.0	+0.0 360	36.1	82.2 High	-46.1	Vert 100
99	1300.155M	48.2	+1.0 +0.0 +0.0	+0.0 +0.0 +1.3	-35.5 +0.0 +20.7	+0.3 +0.0	+0.0 360	36.0	82.2 Low	-46.2	Vert 101
100	61.515M	56.1	+0.2 -28.0 +0.0	+0.0 +6.7 +0.0	+0.0 +0.5 +0.0	+0.0 +0.4	+0.0	35.9	82.2 High	-46.3	Vert 99
101	599.992M	40.2	+0.7 -28.3 +0.0	+0.0 +20.0 +0.0	+0.0 +1.6 +0.0	+0.0 +1.7	+0.0 360	35.9	82.2 High	-46.3	Vert 100
102	357.582M	45.1	+0.6 -27.5 +0.0	+0.0 +15.2 +0.0	+0.0 +1.2 +0.0	+0.0 +1.3	+0.0	35.9	82.2 Low	-46.3	Horiz 114
103	358.900M	44.7	+0.6 -27.5 +0.0	+0.0 +15.2 +0.0	+0.0 +1.2 +0.0	+0.0 +1.3	+0.0 15	35.5	82.2 High	-46.7	Horiz 99
104	50.520M	54.1	+0.2 -28.0 +0.0	+0.0 +8.5 +0.0	+0.0 +0.4 +0.0	+0.0 +0.3	+0.0	35.5	82.2 High	-46.7	Horiz 275
105	275.010M	46.9	+0.5 -27.1 +0.0	+0.0 +13.0 +0.0	+0.0 +1.1 +0.0	+0.0 +1.1	+0.0	35.5	82.2 High	-46.7	Horiz 99
106	1624.935M	44.4	+1.2 +0.0 +0.0	+0.0 +0.0 +1.6	-34.9 +0.0 +22.8	+0.3 +0.0	+0.0	35.4	82.2 High	-46.8	Vert 100
107	1425.075M	46.7	+1.1 +0.0 +0.0	+0.0 +0.0 +1.4	-35.2 +0.0 +21.1	+0.3 +0.0	+0.0	35.4	82.2 Low	-46.8	Horiz 99
108	1600.030M	44.8	+1.2 +0.0 +0.0	+0.0 +0.0 +1.5	-34.9 +0.0 +22.5	+0.3 +0.0	+0.0 360	35.4	82.2 High	-46.8	Vert 100
109	1199.980M	48.5	+1.0 +0.0 +0.0	+0.0 +0.0 +1.3	-35.9 +0.0 +20.2	+0.3 +0.0	+0.0 360	35.4	82.2 Low	-46.8	Horiz 99
110	1200.045M	48.4	+1.0 +0.0 +0.0	+0.0 +0.0 +1.3	-35.9 +0.0 +20.2	+0.3 +0.0	+0.0	35.3	82.2 Low	-46.9	Vert 101
111	1299.980M	47.5	+1.0 +0.0 +0.0	+0.0 +0.0 +1.3	-35.5 +0.0 +20.7	+0.3 +0.0	+0.0	35.3	82.2 Low	-46.9	Horiz 99

112	1199.990M	48.3	+1.0 +0.0 +0.0	+0.0 +0.0 +1.3	-35.9 +0.0 +20.2	+0.3 +0.0 +0.0	+0.0 360	35.2	82.2 High	-47.0	Horiz 99
113	12.131M	25.3	+0.1 +0.0 +9.6	+0.0 +0.0 +0.1	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 5	35.1	82.2 Low	-47.1	Perpe 141
114	299.990M	46.0	+0.5 -27.1 +0.0	+0.0 +13.5 +0.0	+0.0 +1.1 +0.0	+0.0 +1.1 +0.0	+0.0 360	35.1	82.2 Low	-47.1	Horiz 100
115	1625.075M	44.1	+1.2 +0.0 +0.0	+0.0 +0.0 +1.6	-34.9 +0.0 +22.8	+0.3 +0.0 +0.0	+0.0 153	35.1	82.2 Low	-47.1	Vert 100
116	180.600M	51.4	+0.4 -27.4 +0.0	+0.0 +9.1 +0.0	+0.0 +0.8 +0.0	+0.0 +0.8 +0.0	+0.0	35.1	82.2 Low	-47.1	Horiz 147
117	50.500M	53.6	+0.2 -28.0 +0.0	+0.0 +8.5 +0.0	+0.0 +0.4 +0.0	+0.0 +0.3 +0.0	+0.0	35.0	82.2 Low	-47.2	Horiz 245
118	250.008M	47.1	+0.5 -27.1 +0.0	+0.0 +12.5 +0.0	+0.0 +1.0 +0.0	+0.0 +1.0 +0.0	+0.0	35.0	82.2 Low	-47.2	Vert 151
119	1299.945M	47.0	+1.0 +0.0 +0.0	+0.0 +0.0 +1.3	-35.5 +0.0 +20.7	+0.3 +0.0 +0.0	+0.0	34.8	82.2 High	-47.4	Horiz 126
120	600.000M	39.1	+0.7 -28.3 +0.0	+0.0 +20.0 +0.0	+0.0 +1.6 +0.0	+0.0 +1.7 +0.0	+0.0	34.8	82.2 Low	-47.4	Vert 100
121	225.000M	48.9	+0.4 -27.2 +0.0	+0.0 +10.8 +0.0	+0.0 +0.9 +0.0	+0.0 +1.0 +0.0	+0.0	34.8	82.2 High	-47.4	Horiz 134
122	300.004M	45.6	+0.5 -27.1 +0.0	+0.0 +13.5 +0.0	+0.0 +1.1 +0.0	+0.0 +1.1 +0.0	+0.0 360	34.7	82.2 High	-47.5	Horiz 101
123	12.551M	24.9	+0.1 +0.0 +9.6	+0.0 +0.0 +0.1	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 3	34.7	82.2 High	-47.5	Perpe 141
124	700.004M	38.0	+0.8 -28.2 +0.0	+0.0 +20.5 +0.0	+0.0 +1.7 +0.0	+0.0 +1.9 +0.0	+0.0 360	34.7	82.2 High	-47.5	Horiz 99
125	800.014M	35.3	+0.8 -27.9 +0.0	+0.0 +22.4 +0.0	+0.0 +1.9 +0.0	+0.0 +2.1 +0.0	+0.0	34.6	82.2 High	-47.6	Vert 99
126	699.996M	37.9	+0.8 -28.2 +0.0	+0.0 +20.5 +0.0	+0.0 +1.7 +0.0	+0.0 +1.9 +0.0	+0.0	34.6	82.2 Low	-47.6	Horiz 99
127	225.000M	48.6	+0.4 -27.2 +0.0	+0.0 +10.8 +0.0	+0.0 +0.9 +0.0	+0.0 +1.0 +0.0	+0.0	34.5	82.2 Low	-47.7	Horiz 99
128	53.280M	53.6	+0.2 -28.0 +0.0	+0.0 +7.9 +0.0	+0.0 +0.4 +0.0	+0.0 +0.3 +0.0	+0.0	34.4	82.2 Low	-47.8	Vert 99

129	800.000M	35.1	+0.8 -27.9 +0.0	+0.0 +22.4 +0.0	+0.0 +1.9 +0.0	+0.0 +2.1	+0.0	34.4	82.2 High	-47.8	Horiz 177
130	1599.725M	43.7	+1.2 +0.0 +0.0	+0.0 +0.0 +1.5	-34.9 +0.0 +22.5	+0.3 +0.0	+0.0 71	34.3	82.2 High	-47.9	Horiz 115
131	1599.855M	43.6	+1.2 +0.0 +0.0	+0.0 +0.0 +1.5	-34.9 +0.0 +22.5	+0.3 +0.0	+0.0 360	34.2	82.2 Low	-48.0	Horiz 99
132	181.440M	50.5	+0.4 -27.4 +0.0	+0.0 +9.1 +0.0	+0.0 +0.8 +0.0	+0.0 +0.8	+0.0 67	34.2	82.2 High	-48.0	Horiz 134
133	800.012M	34.9	+0.8 -27.9 +0.0	+0.0 +22.4 +0.0	+0.0 +1.9 +0.0	+0.0 +2.1	+0.0 360	34.2	82.2 Low	-48.0	Vert 140
134	249.990M	45.6	+0.5 -27.1 +0.0	+0.0 +12.5 +0.0	+0.0 +1.0 +0.0	+0.0 +1.0	+0.0 360	33.5	82.2 High	-48.7	Vert 99
135	607.982M	37.7	+0.7 -28.3 +0.0	+0.0 +20.0 +0.0	+0.0 +1.6 +0.0	+0.0 +1.8	+0.0 360	33.5	82.2 High	-48.7	Horiz 125
136	275.024M	44.7	+0.5 -27.1 +0.0	+0.0 +13.0 +0.0	+0.0 +1.1 +0.0	+0.0 +1.1	+0.0 360	33.3	82.2 Low	-48.9	Vert 99
137	23.510M	26.5	+0.1 +0.0 +6.4	+0.0 +0.0 +0.2	+0.0 +0.0 +0.0	+0.0 +0.0	+0.0 360	33.2	82.2 High	-49.0	Perpe 141
138	608.010M	37.3	+0.7 -28.3 +0.0	+0.0 +20.0 +0.0	+0.0 +1.6 +0.0	+0.0 +1.8	+0.0	33.1	82.2 Low	-49.1	Horiz 131
139	23.278M	26.1	+0.1 +0.0 +6.4	+0.0 +0.0 +0.2	+0.0 +0.0 +0.0	+0.0 +0.0	+0.0 360	32.8	82.2 Low	-49.4	Perpe 141
140	46.050M	48.9	+0.2 -28.0 +0.0	+0.0 +11.0 +0.0	+0.0 +0.4 +0.0	+0.0 +0.3	+0.0	32.8	82.2 Low	-49.4	Horiz 245
141	500.006M	38.3	+0.7 -28.2 +0.0	+0.0 +18.2 +0.0	+0.0 +1.4 +0.0	+0.0 +1.6	+0.0	32.0	82.2 High	-50.2	Vert 178
142	275.010M	42.8	+0.5 -27.1 +0.0	+0.0 +13.0 +0.0	+0.0 +1.1 +0.0	+0.0 +1.1	+0.0	31.4	82.2 High	-50.8	Vert 99
143	500.022M	37.6	+0.7 -28.2 +0.0	+0.0 +18.2 +0.0	+0.0 +1.4 +0.0	+0.0 +1.6	+0.0 326	31.3	82.2 Low	-50.9	Vert 100
144	499.995M	36.9	+0.7 -28.2 +0.0	+0.0 +18.2 +0.0	+0.0 +1.4 +0.0	+0.0 +1.6	+0.0	30.6	82.2 Low	-51.6	Horiz 117
145	499.992M	36.8	+0.7 -28.2 +0.0	+0.0 +18.2 +0.0	+0.0 +1.4 +0.0	+0.0 +1.6	+0.0	30.5	82.2 High	-51.7	Horiz 113

146	359.560M	39.1	+0.6 -27.5 +0.0	+0.0 +15.3 +0.0	+0.0 +1.2 +0.0	+0.0 +1.3 +0.0	+0.0	30.0	82.2 High	-52.2	Vert 125
147	359.740M	38.5	+0.6 -27.5 +0.0	+0.0 +15.3 +0.0	+0.0 +1.2 +0.0	+0.0 +1.3 +0.0	+0.0 360	29.4	82.2 Low	-52.8	Vert 109
148	221.170M	43.5	+0.4 -27.2 +0.0	+0.0 +10.5 +0.0	+0.0 +0.9 +0.0	+0.0 +0.9 +0.0	+0.0 360	29.0	82.2 Low	-53.2	Vert 133
149	203.760M	44.7	+0.4 -27.3 +0.0	+0.0 +9.2 +0.0	+0.0 +0.9 +0.0	+0.0 +0.9 +0.0	+0.0	28.8	82.2 High	-53.4	Horiz 134
150	203.770M	44.2	+0.4 -27.3 +0.0	+0.0 +9.2 +0.0	+0.0 +0.9 +0.0	+0.0 +0.9 +0.0	+0.0	28.3	82.2 Low	-53.9	Horiz 147
151	300.010M	38.3	+0.5 -27.1 +0.0	+0.0 +13.5 +0.0	+0.0 +1.1 +0.0	+0.0 +1.1 +0.0	+0.0	27.4	82.2 Low	-54.8	Vert 141

CKC Laboratories, Inc. Date: 3/14/2013 Time: 15:14:12 Meteorcomm LLC. WO#: 94195
Test Distance: 3 Meters Sequence#: 34 Parallel
Meteorcomm LLC. Base 48V P/N: 63030-48



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

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	(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.