

Meteorcomm LLC.

TEST REPORT FOR

**Base Station Tranceiver
Model: 63030-48**

Tested To The Following Standards:

FCC Part 90I and RSS-119 Issue 11

Report No.: 93781-2

Date of issue: November 1, 2012



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.

TABLE OF CONTENTS

| | |
|---|---|
| Administrative Information | 3 |
| Test Report Information | 3 |
| Report Authorization | 3 |
| Test Facility Information | 4 |
| Site Registration & Accreditation Information | 4 |
| Summary of Results | 5 |
| Conditions During Testing | 5 |
| Equipment Under Test | 6 |
| Peripheral Devices | 6 |
| FCC Part 90I & RSS-119 | 7 |
| FCC Part 90I § 210(f) Emissions Mask & RSS-119 § 5.8 Transmitter Unwanted Emissions | 7 |

ADMINISTRATIVE INFORMATION

Test Report Information

REPORT PREPARED FOR:

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

Representative: Bernd Friedrich
Customer Reference Number: 12095

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: 93781

October 25, 2012

October 25-26, 2012

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 # | Taiwan | Canada | FCC | Japan |
|----------|--------|----------------|---------|--------|----------------------------|
| Bothell | US0081 | SL2-IN-E-1145R | 3082C-1 | 318736 | R-2296 C-2506 T-1489 G-284 |

SUMMARY OF RESULTS

Standard / Specification: FCC Part 90I and RSS - 119 Issue 11

| Description | Test Procedure/Method | Results |
|--------------------------------|-----------------------|---------|
| Emissions Mask | FCC Part 90I § 210(f) | Pass |
| Transmitter Unwanted Emissions | RSS-119 § 5.8 | 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

Base Station Transceiver

Manuf: Meteorcomm LLC.

Model: 63030-48

Serial: 63B4000101BK

PERIPHERAL DEVICES

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

Programmable Power Supply

Manuf: AMETEK

Model: XG100-17MGA

Serial: 1051A05348

50 ohm Terminator

Manuf: Bird

Model: 100-A-MFN-30

Serial: 0524

GPS Antenna, SMA-35 3-5V

Manuf: Synergy Systems, LLC.

Model: 10001339

Serial: NA8

FCC PART 90I & RSS-119

This report contains EMC emissions test results under United States Federal Communications Commission (FCC) requirements for licensed devices.

FCC Part 90I § 210(f) Emissions Mask & RSS-119 § 5.8 Transmitter Unwanted Emissions

Test Set up / Conditions

The EUT is located on the center of the test table 80cm above the ground plane. The Power supply is located under the table on the ground plane. The RF port is terminated into a 50ohm terminator. The GPS port is terminated with a GPS antenna. The EUT's duty cycle is 30%

The Engineer tested Low and High channels at 10w and 75w.

Testing performed per TIA/603C

Temp: 22°C, Relative Humidity: 33%, Pressure: 101.7kPa
Freq: 0.009-3000MHz

Engineer: A. del Angel

| Test Equipment | | | | | |
|----------------|-------------------------------------|--------------|----------------------|------------|------------|
| Asset # | Description | Manufacturer | Model | Cal Date | Cal Due |
| AN01517 | Preamp | HP | 8447D | 2/24/2011 | 2/24/2013 |
| AN01993 | Biconilog Antenna | Chase | CBL6111C | 3/2/2012 | 3/2/2014 |
| AN03227 | Cable | Astrolab | 32026-29080-29080-84 | 5/2/2011 | 5/2/2013 |
| ANP05360 | Cable | Belden | RG214 | 11/8/2010 | 11/8/2012 |
| ANP05366 | Cable | Belden | RG-214 | 10/14/2011 | 10/14/2013 |
| AN02871 | Spectrum Analyzer | Agilent | E4440A | 4/22/2011 | 4/22/2013 |
| AN01271 | Preamp | HP | 83017A | 8/18/2011 | 8/18/2013 |
| AN01467 | Horn Antenna-ANSI C63.5 Calibration | Horn Antenna | 3115 | 10/19/2011 | 10/19/2013 |
| AN03123 | Cable | Astrolab | 32026-2-29801-12 | 10/14/2011 | 10/14/2013 |
| ANP05542 | Cable | Andrews | Helix | 9/27/2011 | 9/27/2013 |
| AN00052 | Loop Antenna | EMCO | 6502 | 5/16/2012 | 5/16/2014 |

Test Data

Operating Frequency: 220-222MHz
 Channels: Low and High
 Highest Measured Output
 Power: 48.45 (dBm)= 70 (Watts)
 Distance: 3 meters
 Limit: $55+10\text{Log}(P)=$ 73.45 dBc

| Freq. (MHz) | Reference Level (dBm) | Antenna Polarity (H/V) | dBc |
|-------------|-----------------------|------------------------|--------|
| 443.98 | -38.3009804 | Horiz | 86.75 |
| 440.03 | -41.5009804 | Vert | 89.95 |
| 1,100.00 | -51.2009804 | Horiz | 99.65 |
| 1,400.00 | -51.6009804 | Horiz | 100.05 |
| 93.27 | -52.0009804 | Horiz | 100.45 |
| 887.94 | -52.0009804 | Vert | 100.45 |
| 665.97 | -52.5009804 | Horiz | 100.95 |
| 880.04 | -52.8009804 | Vert | 101.25 |
| 1,095.00 | -52.9009804 | Horiz | 101.35 |
| 1,425.00 | -55.1009804 | Vert | 103.55 |
| 1,300.00 | -55.3009804 | Vert | 103.75 |
| 1,600.00 | -55.4009804 | Vert | 103.85 |
| 249.95 | -56.0009804 | Horiz | 104.45 |
| 1,540.00 | -57.4009804 | Vert | 105.85 |
| 660.03 | -57.6009804 | Vert | 106.05 |
| 1,200.00 | -59.7009804 | Vert | 108.15 |
| 599.94 | -60.2009804 | Vert | 108.65 |
| 749.80 | -61.0009804 | Vert | 109.45 |
| 1,375.00 | -61.3009804 | Vert | 109.75 |
| 750.08 | -61.3009804 | Horiz | 109.75 |
| 499.98 | -61.3009804 | Vert | 109.75 |
| 695.89 | -61.5009804 | Vert | 109.95 |

Test Setup Photos

