



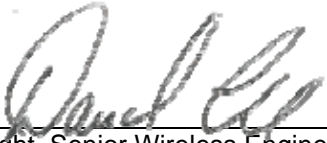
Nemko Test Report: 4132RUS1rev1

Applicant: RF Monolithics, Inc.
4441 Sigma Road
Dallas, TX 7524
USA

**Equipment Under Test:
(E.U.T.)** CM2200

In Accordance With: **FCC Part 15, Subpart C, 15.249**
Operation within the bands 902-928 MHz,
2400-2483.5 MHz, 5725-5875 MHz, and
24.0-24.25 GHz.

Tested By: Nemko USA Inc.
802 N. Kealy
Lewisville, Texas 75057-3136

TESTED BY: 
David Light, Senior Wireless Engineer **DATE:** 17 May 2007

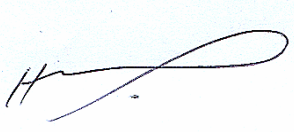
APPROVED BY: 
Harry Ward, Verificator **DATE:** 17th May 2007

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Section 1. Summary Of Test Results

Manufacturer: RF Monolithics, Inc.

Model No.: CM2200

Serial No.: 000003dc

General: **All measurements are traceable to national standards.**

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 15.249. All tests were conducted using measurement procedure ANSI C63.4-2003. Radiated Emissions were made on an open area test site.

- | | | | |
|-------------------------------------|----------------------------|-------------------------------------|---------------------|
| <input type="checkbox"/> | New Submission | <input checked="" type="checkbox"/> | Production Unit |
| <input checked="" type="checkbox"/> | Class II Permissive Change | <input type="checkbox"/> | Pre-Production Unit |

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.

See " Summary of Test Data".



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Nemko USA, Inc.

CFR 47, PART 15, SUBPART C, Paragraph 15.249

Operation within the bands 902-928 MHz,
2400-2483.5 MHz, 5725-5875 MHz,
and 24.0-24.25 GHz.

EQUIPMENT: CM2200

PROJECT NO.: 4132RUS1rev1

Summary Of Test Data

| NAME OF TEST | PARA. NO. | RESULT |
|---------------------|------------------|---------------|
| Conducted Emissions | 15.207 | NA |
| Radiated Emissions | 15.249 | Complies |

Footnotes For N/A's:

The device is battery powered.

Section 2. General Equipment Specification

Frequency Range: Single

Operating Frequency(ies) of Sample: 916.5

Tunable Bands: None

Number of Channels: One

Channel Spacing: NA

User Frequency Adjustment: None

Integral Antenna **Yes**
 No

Section 3. Radiated Emissions

| | |
|----------------------------------|-------------------|
| NAME OF TEST: Radiated Emissions | PARA. NO.: 15.249 |
| TESTED BY: David Light | DATE: 17 May 2007 |

Minimum Standard: Para no. 15.249

(a) The field strengths shall not exceed the following:

| Carrier (MHz) | Field Strength (mV/m) | Field Strength (dBµV) | Harmonic (µV/m) | Harmonic (dBµV) |
|---------------|-----------------------|-----------------------|-----------------|-----------------|
| 902-928 | 50 | 94 | 500 | 54 |
| 2400-2483.5 | 50 | 94 | 500 | 54 |
| 5725-5875 | 50 | 94 | 500 | 54 |
| 24000-24250 | 250 | 108 | 2500 | 68 |

(b) Field strength limits are specified at a distance of 3 metres.

(c) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated limits of 15.209 whichever is the less attenuation.

(d) ...for frequencies above 1000 MHz, the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

Test Results: Complies

Measurement Data: See attached table.

Equipment Used: 1464-1484-1485-1016-993-759-760-1514-1554

Temperature: 22 °C

Relative Humidity: 45 %

For battery powered equipment, the device was tested with a fresh battery per 15.31(e).

Test Data - Radiated Emissions

Carrier Power

| Meas. Freq. (MHz) | Ant. Pol. (H/V) | Atten. (dB) | Meter Reading (dBuV) | Antenna Factor (dB) | Cable Loss (dB) | RF Gain (dB) | Corrected Reading (dBuV/m) | Spec. limit (dBuV/m) | CR/SL Diff. (dB) | Pass Fail Unc. | Comment |
|-------------------|-----------------|-------------|----------------------|---------------------|-----------------|--------------|----------------------------|----------------------|------------------|----------------|---------|
| 916.5 | V | 0 | 76 | 23.2 | 9.2 | 25.1 | 83.3 | 94.0 | -10.7 | Pass | |
| 916.5 | H | 0 | 66.9 | 23.2 | 9.2 | 25.1 | 74.2 | 94.0 | -19.8 | Pass | |
| | | | | | | | | | | | |

..\EMCShare\AUTOMATE\DATASHTS\RADEMEV Rev C.xls Document Control #EMC DS EM RAD HFE

Spurious Emissions and Harmonics

| Freq MHz | Reading dBuV | Horn Pre-Amp dB | Cable dB | Cable dB | Corrected Reading dBuV/m | Spec dBuV/m | Margin dB | Polarity Ant |
|----------|--------------|-----------------|----------|----------|--------------------------|-------------|-----------|--------------|
| 1833.0 | 50.7 | +27.2 -32.1 | +0.7 | +2.1 | 48.6 | 54.0 | -5.4 | Vert |
| 2749.5 | 49.3 | +29.4 -32.7 | +0.8 | +2.9 | 49.7 | 54.0 | -4.3 | Vert |
| 3666.0 | 45.5 | +30.5 -32.3 | +0.8 | +2.8 | 47.3 | 54.0 | -6.7 | Vert |
| 4582.0 | 45.0 | +32.3 -31.8 | +1.0 | +3.1 | 49.6 | 54.0 | -4.4 | Vert |
| 1833.0 | 48.2 | +28.3 -32.1 | +0.7 | +2.2 | 47.3 | 54.0 | -6.7 | Horiz |

The spectrum was searched from 30 MHz to 10 GHz. All emissions within 20 dB of the specification limit are reported.

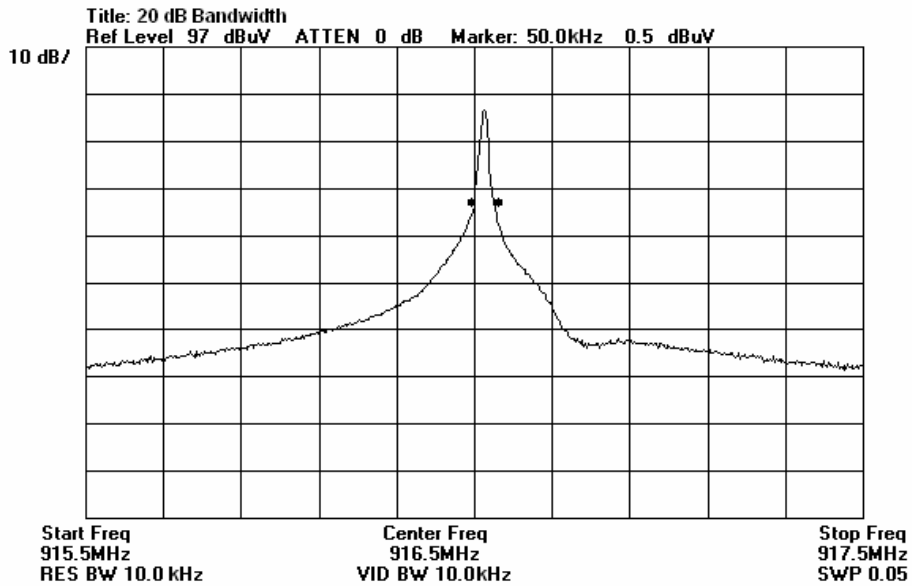
All readings are PEAK unless otherwise stated.

The device was tested on three orthogonal axis'.

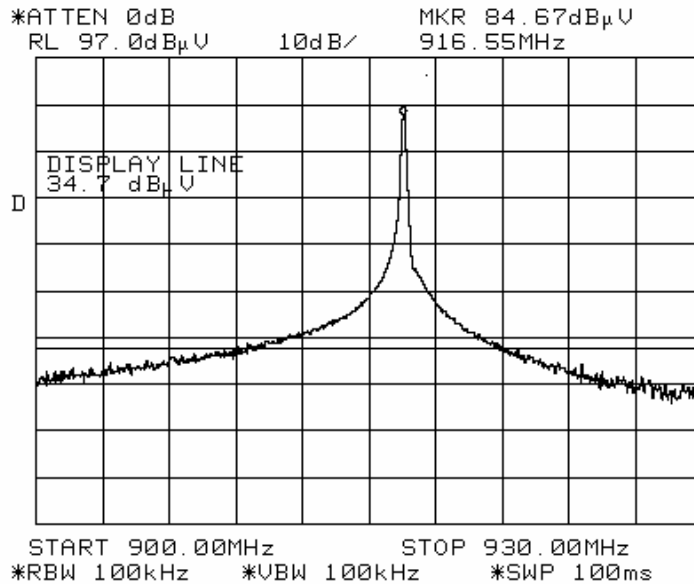
Analyzer settings:

Below 1000 MHz, RBW=VBW=100 kHz
Above 1000 MHz, RBW=VBW=1 MHz

20 dB Bandwidth



Bandedge Measurement



Section 4. Test Equipment List

| Nemko ID | Description | Manufacturer Model Number | Serial Number | Calibration Date | Calibration Due |
|----------|---------------------------|--------------------------------|---------------|---------------------|--------------------|
| 1464 | Spectrum analyzer | Hewlett Packard 8563E | 3551A04428 | 01/24/07 | 01/24/09 |
| 1484 | Cable | Storm PR90-010-072 | N/A | 05/02/07 | 05/01/08 |
| 1485 | Cable | Storm PR90-010-216 | N/A | 05/02/07 | 05/01/08 |
| 1016 | Pre-Amp | HEWLETT PACKARD 8449A | 2749A00159 | 05/01/07 | 04/30/08 |
| 791 | PREAMP, 25dB | Nemko USA, Inc. LNA25 | 398 | 05/01/07 | 04/30/08 |
| 993 | Horn antenna | A.H. Systems SAS-200/571 | XXX | 08/01/05 | 08/02/07 |
| 759 | ANTENNA, LOG PERIODIC | A.H. SYSTEMS SAS-200/510 | 556 | 03/30/07 | 03/29/08 |
| 760 | Antenna biconical | Electro Metrics MFC-25 | 477 | 01/19/07 | 01/19/08 |
| 1514 | CABLE ASSY, LAB 2- B OATS | Nemko USA, Inc. SITE B OATS | N/A | 06/08/06 | 06/08/07 |
| 1554 | Amplifier, RF | RF Consultants LNA-25 | 0 | 09/29/06 | 09/29/07 |

Nemko USA, Inc.

CFR 47, PART 15, SUBPART C, Paragraph 15.249

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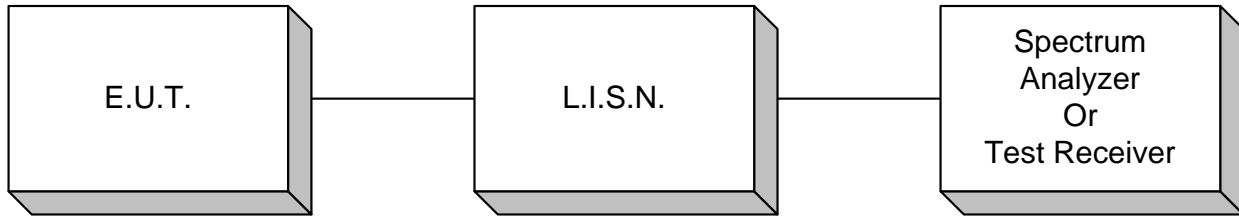
EQUIPMENT: CM2200

PROJECT NO.: 4132RUS1rev1

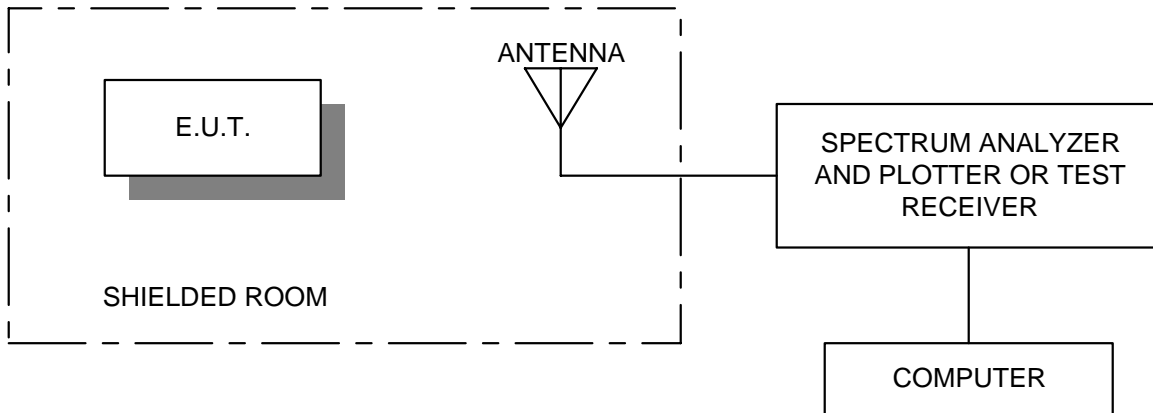
ANNEX A

TEST DIAGRAMS

Conducted Emissions



Radiated Prescan



Test Site For Radiated Emissions

