

## **Exhibit M: Spurious Radiated Emissions**

**FCC ID: CM676A91343-600**

**Justification**

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

**Channels in Specified Band Investigated:**

High

Low

**Operating Modes Investigated:**

Typical

**Antennas Investigated:**

Integral

**Data Rates Investigated:**

Maximum

**Output Power Setting(s) Investigated:**

Maximum

**Power Input Settings Investigated:**

Battery

**Frequency Range Investigated**

|                 |        |                |         |
|-----------------|--------|----------------|---------|
| Start Frequency | 30 MHz | Stop Frequency | 6.14GHz |
|-----------------|--------|----------------|---------|

**Software\Firmware Applied During Test**

|                   |                              |         |         |
|-------------------|------------------------------|---------|---------|
| Exercise software | Standard Production Software | Version | Unknown |
|-------------------|------------------------------|---------|---------|

**Description**

The system was tested using standard operating production software to exercise the functions of the device during the testing.

**Equipment Modifications**

No EMI suppression devices were added or modified. The EUT was tested as delivered.

**EUT and Peripherals**

| Description  | Manufacturer      | Model/Part Number | Serial Number |
|--------------|-------------------|-------------------|---------------|
| EUT          | SpaceLabs Medical | 91347-05          | PO07          |
| Shorting bar | SpaceLabs Medical | N/A               | N/A           |

## Cables

| Cable Type    | Shield | Length (m) | Ferrite | Connection 1 | Connection 2 |
|---------------|--------|------------|---------|--------------|--------------|
| ECG Leads (5) | No     | .61        | No      | EUT          | Shorting bar |

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

## Measurement Equipment

| Description        | Manufacturer       | Model                | Identifier | Last Cal   | Interval |
|--------------------|--------------------|----------------------|------------|------------|----------|
| Spectrum Analyzer  | Hewlett-Packard    | 8566B                | AAL        | 03/19/2002 | 12 mo    |
| Quasi-Peak Adapter | Hewlett-Packard    | 85650A               | AQF        | 03/19/2002 | 12 mo    |
| Pre-Amplifier      | Amplifier Research | LN1000A              | APS        | 12/03/2001 | 12 mo    |
| Pre-Amplifier      | Miteq              | AMF-4D-005180-24-10P | APC        | 11/26/2001 | 12 mo    |
| Antenna, Biconilog | EMCO               | 3141                 | AXE        | 12/31/2001 | 12 mo    |
| Antenna, Horn      | EMCO               | 3115                 | AHC        | 08/24/2001 | 12 mo    |
| High Pass Filter   | Hewlett-Packard    | 84300-80037          | HFE        | 02/04/2002 | 12 mo    |
| High Pass Filter   | MicroLab           | FH-1001              | HFI        | 02/04/2002 | 12 mo    |

## Test Description

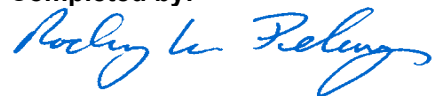
**Requirement:** The field strength of spurious radiated emissions shall meet the limits as defined in 47 CFR 95.1115. Field strength limits are specified at a distance of 3 meters. Below 960 MHz, measurements are made using instrumentation with a CISPR quasi-peak detector. Above 960 MHz, measurements are made using instrumentation with an averaging detector and a 1 MHz bandwidth.

**Configuration:** The antenna to be used with the EUT was tested. The EUT was transmitting while set at the lowest and highest channels available. The spectrum was scanned from 30 MHz to 6.14 GHz. While scanning, emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.4:1992). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

## Bandwidths Used for Measurements

| Frequency Range (MHz)                                                                                 | Peak Data (kHz) | Quasi-Peak Data (kHz) | Average Data (kHz) |
|-------------------------------------------------------------------------------------------------------|-----------------|-----------------------|--------------------|
| 0.01 – 0.15                                                                                           | 1.0             | 0.2                   | 0.2                |
| 0.15 – 30.0                                                                                           | 10.0            | 9.0                   | 9.0                |
| 30.0 – 1000                                                                                           | 100.0           | 120.0                 | 120.0              |
| Above 1000                                                                                            | 1000.0          | N/A                   | 1000.0             |
| <i>Measurements were made using the bandwidths and detectors specified. No video filter was used.</i> |                 |                       |                    |

Completed by:



|                 |                         |                      |               |
|-----------------|-------------------------|----------------------|---------------|
| EUT:            | 91347-05                | Work Order:          | SPAC0309      |
| Serial Number:  | PO07                    | Date:                | 6/14/02 16:33 |
| Customer:       | SpaceLabs Medical, Inc. | Temperature:         | 75            |
| Attendees:      | None                    | Humidity:            | 42%           |
| Cust. Ref. No.: |                         | Barometric Pressure: | 30.01         |
| Tested by:      | Rod Peloquin            | Power:               | 9VDC Battery  |
|                 |                         | Job Site:            | EV01          |

## TEST SPECIFICATIONS

|                |             |       |      |
|----------------|-------------|-------|------|
| Specification: | FCC 95_1115 | Year: | 2001 |
| Method:        | ANSI C63.4  | Year: | 1992 |

## SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

## COMMENTS

5 leads, shorting bar

## EUT OPERATING MODES

## DEVIATIONS FROM TEST STANDARD

No deviations.

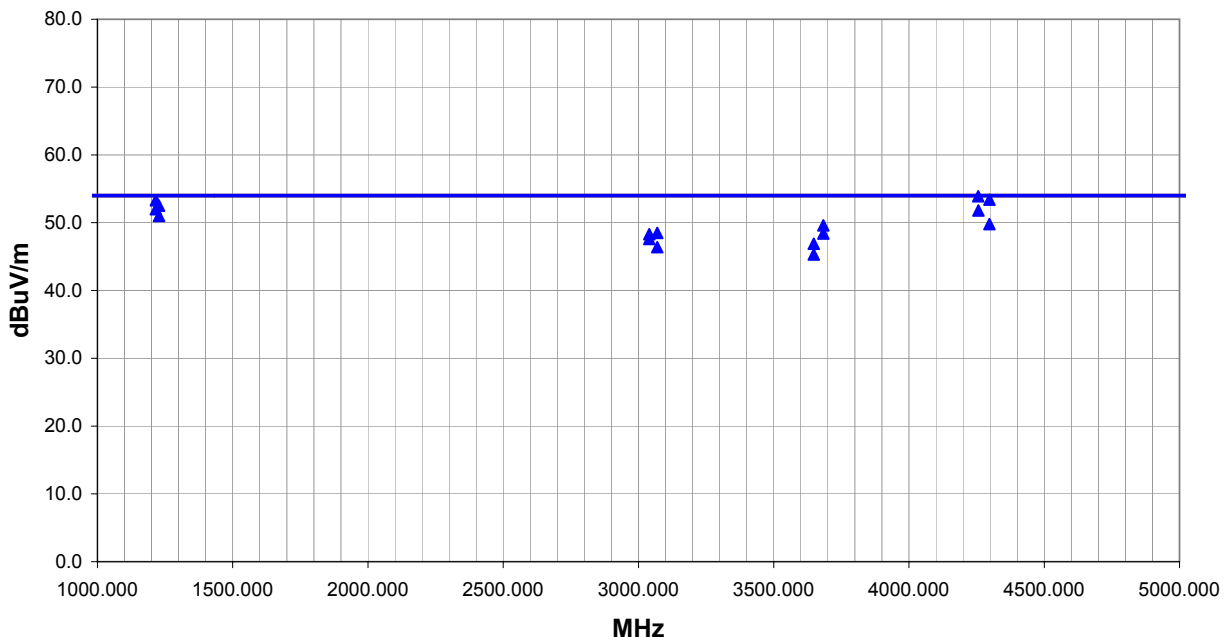
## RESULTS

|      | Test Distance (m) | Run # |
|------|-------------------|-------|
| Fail | 3                 | 2     |

Other

*Rod Peloquin*

Tested By:



| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|------------|------------------|-------------|-------------------|-----------------|-------------------|---------------------------|----------|----------|--------------------------|-----------------|--------------------|------------------------|
| 4256.206   | 49.2             | 4.7         | 112.0             | 1.0             | 3.0               | 0.0                       | V-Horn   | AV       | 0.0                      | 53.9            | 54.0               | -0.1                   |
| 4297.548   | 48.7             | 4.7         | 240.0             | 1.0             | 3.0               | 0.0                       | V-Horn   | AV       | 0.0                      | 53.4            | 54.0               | -0.6                   |
| 1216.069   | 59.6             | -6.3        | 270.0             | 1.2             | 3.0               | 0.0                       | V-Horn   | AV       | 0.0                      | 53.3            | 54.0               | -0.7                   |
| 1227.875   | 58.8             | -6.3        | 330.0             | 1.7             | 3.0               | 0.0                       | H-Horn   | AV       | 0.0                      | 52.5            | 54.0               | -1.5                   |
| 1216.075   | 58.3             | -6.3        | 291.0             | 1.2             | 3.0               | 0.0                       | H-Horn   | AV       | 0.0                      | 52.0            | 54.0               | -2.0                   |
| 4256.263   | 47.1             | 4.7         | 28.0              | 1.3             | 3.0               | 0.0                       | H-Horn   | AV       | 0.0                      | 51.8            | 54.0               | -2.2                   |
| 1227.878   | 57.3             | -6.3        | 261.0             | 1.2             | 3.0               | 0.0                       | V-Horn   | AV       | 0.0                      | 51.0            | 54.0               | -3.0                   |
| 4297.563   | 45.1             | 4.7         | 171.0             | 1.3             | 3.0               | 0.0                       | H-Horn   | AV       | 0.0                      | 49.8            | 54.0               | -4.2                   |
| 3683.626   | 46.2             | 3.4         | 81.0              | 1.1             | 3.0               | 0.0                       | V-Horn   | AV       | 0.0                      | 49.6            | 54.0               | -4.4                   |
| 3069.685   | 47.5             | 1.0         | 80.0              | 1.3             | 3.0               | 0.0                       | H-Horn   | AV       | 0.0                      | 48.5            | 54.0               | -5.5                   |
| 3683.624   | 45.0             | 3.4         | 241.0             | 1.2             | 3.0               | 0.0                       | H-Horn   | AV       | 0.0                      | 48.4            | 54.0               | -5.6                   |
| 3040.188   | 47.4             | 0.9         | 91.0              | 1.3             | 3.0               | 0.0                       | H-Horn   | AV       | 0.0                      | 48.3            | 54.0               | -5.7                   |
| 3040.188   | 46.7             | 0.9         | 14.0              | 1.0             | 3.0               | 0.0                       | V-Horn   | AV       | 0.0                      | 47.6            | 54.0               | -6.4                   |
| 3648.225   | 43.6             | 3.3         | 69.0              | 1.3             | 3.0               | 0.0                       | H-Horn   | AV       | 0.0                      | 46.9            | 54.0               | -7.1                   |
| 3069.686   | 45.4             | 1.0         | 0.0               | 1.3             | 3.0               | 0.0                       | V-Horn   | AV       | 0.0                      | 46.4            | 54.0               | -7.6                   |
| 3648.225   | 42.0             | 3.3         | 146.0             | 1.2             | 3.0               | 0.0                       | V-Horn   | AV       | 0.0                      | 45.3            | 54.0               | -8.7                   |