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Emissions Testing of the WaveRider EUM3006A

in accordance with FCC Part 15.247 (2004)

Spread Spectrum Operation 902 - 928 & 2400 - 2483.5 & 5725 - 5850 MHz.

Test Personnel: T. Nguyen, H. Shahryar, D. Raynes, I. Romanov

Prepared for:

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1.0 INTRODUCTION

1.1 SCOPE

The purpose of this report is to present the findings and results of compliance testing performed in accordance with CFR Title 47 FCC Part 15.247 (2004), Spread Spectrum Operation 902 - 928 & 2400 - 2483.5 & 5725 - 5850 MHz.

All test procedures, limits, and results defined in this document apply to the WaveRider Communications Ltd. Waverider EUM3006A unit, referred to herein as the Equipment Under Test (EUT).

The results contained in this report relate only to the item tested.

This report does not imply product endorsement by NVLAP or the Canadian or US governments.

1.2 APPLICANT

This test report has been prepared for WaveRider Communications Ltd., located in Calgary, Alberta, Canada.

1.3 TEST SAMPLE DESCRIPTION

The test sample provided for testing was a WaveRider EUM3006A:

| Product Type: | Wireless Ethernet Modem |
|--------------------------|-------------------------|
| Model Number: | Waverider EUM3006A |
| Serial Number: | N/A |
| Cables: | Ethernet/Power |
| Power Requirements: | 120 VAC, 50/60 Hz |
| Peripheral Equipment: | Personal Computer |

More detailed information is provided by WaveRider Communications Ltd. in Appendix A.

1.4 GENERAL TEST CONDITIONS AND ASSUMPTIONS

The EUT was set up and exercised using the configurations, modes of operation and arrangements defined in this report only. All inputs and outputs to and from other equipment associated with the EUT were adequately simulated.

Where relevant, the EUT was only tested using the monitoring methods and test criteria defined in this report.

Environmental conditions are recorded for each test.

1.5 SCOPE OF TESTING

Testing was performed in accordance with FCC Part 15 Subpart C (2004), and ANSI C63.4 (2004).

1.5.1 VARIATIONS IN TEST METHODS

There were no variations from the test procedures outlined above.

1.5.2 TEST SAMPLE CONFIGURATION & MODIFICATIONS

The EUT met the requirements without modification.

2.0 MEASUREMENT UNCERTAINTY

For Radiated E-Field Emissions and Conducted Emissions, the uncertainties in the measurements were calculated using the methods outlined in the NAMAS document, NIS81: May 1984.

| Frequency | = ± 1 kHz |
|----------------|-------------|
| Amplitude (RE) | = ± 4.01 dB |
| Amplitude (CE) | = ± 3.25 dB |

3.0 TEST RESULTS

STATEMENT OF COMPLIANCE

The client equipment referred to in this report was found to comply with the requirements as stated below.

The EUT was subjected to the following tests. Compliance status is reported as **PASS** or **FAIL**. Test conditions that are not applicable to the EUT are marked **n/a**. If testing was not performed at this time, the appropriate field is marked **n/t**.

The following table summarizes the test results in terms of the specification and class or level applied, the unique test sample identification, the EUT modification state, and configuration as applicable.

| TEST CASE | TEST TYPE | SPECIFICATION | TEST SAMPLE | MOD. STATE | CONFIGURATION | RESULT |
|--------------|--|--|-----------------------|---------------|---------------|--------|
| § 3.1 | Conducted Emissions at AC lines | FCC Part 15.107 and 15.207 | WaveRider EUM3006A | nil | See § 1.5.2 | PASS |
| § 3.2 | Conducted Emissions at Antenna Port | FCC Part 15.247 | WaveRider EUM3006A | nil | See § 1.5.2 | PASS |
| § 3.3.1 | Radiated Emissions (Rx Mode) | FCC Part 15.109 | WaveRider EUM3006A | nil | See § 1.5.2 | PASS |
| § 3.3.2 | Radiated Emissions (Tx Mode) | FCC Parts 2.1053, 15.205, 15.209 & 15.247 | WaveRider EUM3006A | nil | See § 1.5.2 | PASS |

3.1 CONDUCTED EMISSIONS ON AC POWER LINES (15.107 & 15.207)

3.1.1 Receive Mode (Part 15.107

| Test Lab: Electronics Test Centre (Airdrie) Test Personnel: T. Nguyen, H. Shahryar Test Date: 6 March 2006 | Product: WaveRider EU | M300 | 6A | | |
|--|--------------------------------------|---------|-----|---------|---------|
| Test Result, WaveRider EUM3006A: PASS | | | | | |
| Objectives/Criteria | Specification: | | | | |
| The Conducted emissions produced by a system or sub-system shall not exceed the | Frequency | Class A | | Class B | |
| | (MHz) | QP | Avg | QP | Avg |
| limits for the specifications as stated. | 0.150 - 0.50 | 79 | 66 | 66 – 56 | 56 - 46 |
| The EUT was assessed against the requirements for Class B . | 0.50 - 5.0 | 73 | 60 | 56 | 46 |
| Temperature = $19 ^{\circ}\text{C}$ Humidity = 25 % | 5 – 30 | 73 | 60 | 60 | 50 |
| | Units of measurement are $dB\mu V$. | | | | |
| All QP measurements were below the specified Average limit. | | | | | |
| Refer to the test data and plots for more detail. | | | | | |



Plot of Conducted Emissions on AC Power Lines: Line 1

Plot of Conducted Emissions on AC Power Lines: Line 2



Plot of Conducted Emissions Test Chamber Ambient: (measurement noise floor): Line 1



Plot of Conducted Emissions Test Chamber Ambient: (measurement noise floor): Line 2



3.1.2 Transmit Mode (Part 15.207)

$3.1.2.1 f_c = 905 MHz$

| Test Lab: Electronics Test Centre (Airdrie) Test Personnel: T.Nguyen, H. Shahryar, I. Romanov Test Date: 6 March 2006 | Product: WaveRider EU | M300 | 6A | | |
|--|--|--------------------------|-----------------------------|-----------------------------|---------------------|
| Test Result, WaveRid | er EUM3006A: I | PASS | | | |
| Objectives/Criteria The Conducted emissions produced by a system or sub-system shall not exceed the limits for the apacifications on stated | Specification: Frequency (MHz) | Clas QP | ss A Avg | Clas QP | ss B Avg |
| The EUT was assessed against the requirements for <u>Class B</u> . Temperature = $19 ^{\circ}$ C Humidity = $25 ^{\circ}$ % | 0.150 - 0.50 0.50 - 5.0 5 - 30 Units of measu | 79 73 73 iremei | 66 60 60 nt are dE | 66 – 56 56 60 3μV. | 56 - 46 46 50 |
| All QP measurements were below the specified Average limit. Refer to the test data and plots for more detail. | | | | | |



Plot of Conducted Emissions on AC Power Lines: Line 1

Plot of Conducted Emissions on AC Power Lines: Line 2



$f_c = 915 \text{ MHz}$

| Test Lab: Electronics Test Centre (Airdrie) Test Personnel: T. Nguyen, H. Shahryar, I. Romanov | Product: WaveRider EU | M300 | 6A | | | |
|--|--------------------------|---------|----------|---------|---------|--|
| | | | | | | |
| Test Result, WaveRic | ler EUM3006A: I | PASS | | | | |
| Objectives/Criteria | Specification: | | | | | |
| The Conducted emissions produced by a | Frequency | Class A | | Clas | Class B | |
| system or sub-system shall not exceed the | (MHz) | QP | Avg | QP | Avg | |
| limits for the specifications as stated. | 0.150 - 0.50 | 79 | 66 | 66 – 56 | 56 - 46 | |
| The EUT was assessed against the requirements for Class B . | 0.50 – 5.0 | 73 | 60 | 56 | 46 | |
| Temperature = $19 ^{\circ}\text{C}$ Humidity = 25 % | 5 – 30 | 73 | 60 | 60 | 50 | |
| | Units of measu | ireme | nt are d | ΒμV. | | |
| All QP measurements were below the specified Average limit. Refer to the test data and plots for more detail. | | | | | | |



Plot of Conducted Emissions on AC Power Lines: Line 1

Plot of Conducted Emissions on AC Power Lines: Line 2



f_c = 925 MHz

| Test Lab: Electronics Test Centre (Airdrie) Test Personnel: T. Nguyen, H. Shahryar, | Product: WaveRider EU | JM300 | 6A | | |
|--|--------------------------|-------|----------|---------|---------|
| I. Romanov Test Date: 6 March 2006 | | | | | |
| Test Result, WaveRider EUM3006A: PASS | | | | | |
| Objectives/Criteria | Specification: | | | | |
| The Conducted emissions produced by a | Frequency | Cla | ss A | Clas | ss B |
| system or sub-system shall not exceed the | (MHz) | QP | Avg | QP | Avg |
| limits for the specifications as stated. | 0.150 - 0.50 | 79 | 66 | 66 – 56 | 56 - 46 |
| requirements for Class B . | 0.50 – 5.0 | 73 | 60 | 56 | 46 |
| Temperature = 19 °C Humidity = 25 % | 5 – 30 | 73 | 60 | 60 | 50 |
| | Units of measu | ireme | nt are c | lBμV. | |
| All QP measurements were below the specified Average limit. | | | | | |

Refer to the test data and plots for more detail.



Plot of Conducted Emissions on AC Power Lines: Line 1

Plot of Conducted Emissions on AC Power Lines: Line 2



4.2 CONDUCTED EMISSIONS MEASURED AT ANTENNA PORT (PART 15.247 & 15.31)

| Test Lab: Electronics Test Centre (Airdrie) | | | Product: | | | |
|--|-------------------------------|-----------------------------------|--|-------------------|-----------------------------------|--|
| Test Date: 24 April 2006 | | | | | | |
| Test Result, WaveRider EUM3006A : PASS | | | | | | |
| Objectives/Criteria The Conducted emissions produced by a device shall meet the specifications as stated. | | | | | | |
| I emperature = 22.5 °C Humidity = 25 % | | | | | | |
| 15.247(a): 6 dE | BW ≥ 500 kHz | | 15.247(b): 1 Wa | att (30 dBm) | | |
| Carrier Frequency [MHz] | Bandwidth [MHz] | Delta from limit [MHz] | Carrier Frequency [MHz] | RF Power [dBm] | Delta [dB from limit] | |
| 905 | 2.590 | + 2.090 | 905 | 26.3 | - 3.7 | |
| 915 | 2.620 | + 2.120 | 915 | 26.1 | - 3.9 | |
| 925 | 2.565 | + 2.065 | 925 | 24.9 | - 5.1 | |
| 15.31(e) RF ou | tput @ 85% sup | ply voltage | 15.31(e) RF output @ 115% supply voltage | | | |
| Carrier Frequency [MHz] | RF Power [dBm] | Delta [dB from 100% supply] | Carrier Frequency [MHz] | RF Power [dBm] | Delta [dB from 100% supply] | |
| 905 | 26.0 | - 0.3 | 905 | 25.9 | - 0.4 | |
| 915 | 25.9 | - 0.2 | 915 | 25.7 | - 0.4 | |
| 925 | 24.8 | - 0.1 | 925 | 24.6 | - 0.3 | |
| 15.247(d): -20 | dB f c | | 15.247(e): 8 dBm (115 dBμV) | | | |
| Carrier Frequency [MHz] | | | Carrier Frequency [MHz] | RF Power [dBm] | Delta [dB from limit] | |
| 905 | There were r | no emissions | 905 | 6.50 | - 1.50 | |
| 915 | measured within -10 dB of the | | 915 | 5.75 | - 2.25 | |
| 925 925 4.55 - 3.45 | | | | | | |
| Measurements were performed while the WaveRider EUM3006A was transmitting continuously. Refer to the test data and plots for more detail. | | | | | | |

Spectrum Analyzer Plot of 6 dB Bandwidth: Tx @ 905 MHz



Spectrum Analyzer Plot of Maximum Peak Output Power: Tx @ 905 MHz Attenuation = 30.0 dB \Rightarrow 26.3 dBm



Spectrum Analyzer Plot of 6 dB Bandwidth: Tx @ 915 MHz



Spectrum Analyzer Plot of Maximum Peak Output Power: Tx @ 915 MHz Attenuation = 30.5 dB \Rightarrow 26.1 dBm



Spectrum Analyzer Plot of 6 dB Bandwidth: Tx @ 925 MHz



Spectrum Analyzer Plot of Maximum Peak Output Power: Tx @ 925 MHz Attenuation = 30.0 dB \Rightarrow 24.9 dBm



Plot of Conducted Emissions at Antenna Port: RBW = 100 kHz. VBW = 300 kHz



Plot of Conducted Emissions at Antenna Port: RBW = 100 kHz. VBW = 300 kHz



Plot of Conducted Emissions at Antenna Port: RBW = 100 kHz. VBW = 300 kHz



Plot of Conducted Emissions at Antenna Port: RBW = 100 kHz. VBW = 300 kHz



Plot of Conducted Emissions at Antenna Port: RBW = 100 kHz. VBW = 300 kHz



Plot of Conducted Emissions at Antenna Port: RBW = 100 kHz. VBW = 300 kHz



WaveRider Communications EUM3006A Tx: fc = 905 MHz Project # m01e3595 Test Meter Gain/Loss Transducer Level Li Frequency Reading Factor Factor dB[uVolts] [MHz] [dB(uV)] [dB] [dB] No. Frequency Reading -----Range: 1 2000 - 5800MHz -----_____ 1 3620.002 36.33 pk .57 0 36.9 2 4875.152 33.87 pk .73 0 34.6 WaveRider Communications EUM3006A Tx: fc = 915 MHz Project # m01e3595 Test Meter Gain/Loss Transducer Level Li No. Frequency Reading Factor Factor dB[uVolts] [MHz] [dB(uV)] [dB] [dB] _____ Range: 1 2000 - 5800MHz ------1 3659.866 41.52 pk .58 0 42.1 2 4925.267 34.46 pk .74 0 35.2 3 5490.199 43.49 pk .81 0 44.3 Range: 5800 - 10000MHz -----4 6403.869 32.07 pk .93 0 33 WaveRider Communications EUM3006A Tx: fc = 925 MHz Project # m01e3595 Meter Gain/Loss Transducer Level Li Reading Factor Factor dB[uVolts] [dB(uV)] [dB] [dB] Test No. Frequency Reading [MHz] Range: 1 2000 - 5800MHz ------0 1 3700.11 37.42 pk .58 38 33.25 pk .75 2 4975.002 0 34 3 5550.185 40.48 pk .82 0 41.3

Spectrum Analyzer Plot of RF Power Spectral Density: Tx @ 905 MHz Attenuation = 30.0 dB \Rightarrow 6.50 dBm



Spectrum Analyzer Plot of Power Spectral Density per Part 15.247(d): Tx @ 915 MHz: Attenuation = 30.5 dB \Rightarrow 5.75 dBm



Spectrum Analyzer Plot of Power Spectral Density per Part 15.247(d): Tx @ 925 MHz Attenuation = 30.0 dB \Rightarrow 4.55 dBm







Plot of Conducted Emissions at Antenna Port: Upper Band Edge



4.3 RADIATED EMISSIONS INCLUDING RESTRICTED BANDS OF OPERATION

4.3a Receive Mode (Part 15.109)

| Test Lab: Electronics Test Centre (Airdrie) | | Product: | | | |
|--|--|--------------------------|--------------------|----------------------------|--------------------------|
| Test Personnel: T. Nguyen, H. Shahryar, I. Romanov | | WaveRider El | JM3006A | | |
| Test Date: 24 April 2006 | | | | | |
| | Test | Result, WaveRid | er EUM3006A: | PASS | |
| Objectives/Cri | teria | | Specification: | FCC Part 15 Sul | opart C |
| The Radiated | E-Field emission | s produced by | Frequency | Class A Class | s B |
| a system or su | ub-system, measu | ured at a | [MHz] C | QP@3m QP@ | 2 3m |
| exceed the lim | nits for the specifi | cations as | 30 – 88 | 49.54 40.00 |) |
| stated. | | 88 – 216 | 53.98 43.52 | 2 | |
| requirements | with a margin of | of 6dB. | 216 – 960 | 56.90 46.02 | 2 |
| The EUT was requirements | assessed agains of <u>Class B</u> . | t the | above 960 | 60.00 53.98 | 3 |
| Temperature = | = 19 °C Humi | dity = 25 % | | | |
| Horizontal: | | - | Vertical: | - | |
| Frequency [MHz] | Field Strength [dBµV/m] | Delta [dB from limit] | Frequency [MHz] | Field Strength [dBµV/m] | Delta [dB from limit] |
| 505.9250 | 44.95 | - 1.07 | 461.9265 | 41.08 | - 4.94 |
| 461.9249 | 40.83 | - 5.19 | 505.9254 | 40.86 | - 5.16 |
| 139.9259 43.52 - 11.57 149.9178 44.95 - 8.0 ⁴ | | | | - 8.04 | |
| There were no more emissions measured within -10 dB of the specified limit. Refer to the test data and plots for more detail. | | | | | |

Radiated Emissions Data:

The emissions data is presented in tabular form, showing the uncorrected spectrum analyzer reading, the correction factors applied, the net result, the value(s) of up to 4 limits at the frequency measured, and the margin between the result and the limit(s).

For example:

| Test Meter Ga Frequency Reading | in/Loss Transduce Factor Facto | er Level Limit:1 or [dB(uVolts)] | 2 | 3 | 4 |
|---|-----------------------------------|-------------------------------------|-------------|---------------------------|-------------|
| [MHz] [dB(uV) |] [dB] [dB] |] | | | |
| <mark>94.0036</mark> 37.1 q Azimuth: 156 Hei | p 2.2 8.5 ght:113 Vert M | 47.8 54 Margin [dB] -6.2 | 43.5 4.3 | 50.5 <mark>-2.7</mark> | 40.5 7.3 |

| Ų | |
|---|--|
| | |

| <mark>↓</mark> | | The applicable Limit |
|-------------------------|--------------|---|
| Test Frequency [MHz] | 94.0036 | Test Frequency f = 94.0036 MHz |
| Meter Reading [dB (uV)] | 37.1 qp | The reading with Quasi-Peak detector |
| Gain/Loss Factor [dB] | 2.2 | Net correction for preamp gain & cable loss |
| Transducer Factor [dB] | 8.5 | Correction for antenna loss |
| Level [dB (uVolts)] | 47.8 | Corrected value for field strength |
| Azimuth: | 156 | The turntable was 156 degrees CW from facing the antenna |
| Height: | 113 | The antenna was 113 cm above the ground |
| Limit: 1 Margin [dB] | 54 -6.2 | The value of Limit 1 at 94.0036 MHz The field strength is 6.2 dB below Limit 1 |
| Limit: 2 Margin [dB] | 43.5 4.3 | The value of Limit 2 at 94.0036 MHz The field strength is 4.3 dB above Limit 2 |
| Limit: 3 Margin [dB] | 50.5 -2.7 | The value of Limit 3 at 94.0036 MHz The field strength is 2.7 dB below Limit 3 |
| Limit: 4 Margin [dB] | 40.5 7.3 | The value of Limit 4 at 94.0036 MHz The field strength is 7.3 dB above Limit 4 |

Meter Reading in dBuV + Gain/Loss Factor in dB + Transducer Factor in dB = Corrected Field Strength Note: When a preamp is used, the resulting gain is compensated.

WaveRider Communications EUM3006A Rx: fc = 915 MHz Project # m01e3595 09

| Test Frequency [MHz] | Meter G 7 Reading [dB(uV)] | ain/Loss Factor [dB] | Transducer I Factor dB[1 [dB] | Level 1Volts/ | Limit:1 (meter] | 2 | 3 <mark>U</mark> | 4 |
|----------------------------------|--|----------------------------|-------------------------------------|------------------|--------------------|-----------------|---------------------|----------------|
| Range: 1 139.9259 Azimuth: | 30 - 1000MHz 19.57 qp 163 Height:1 | 2.4 42 Horz | 9.98 Margin | 31.95 [dB]: | 53.98 -22.03 | 50.46 -18.51 | 43.52 -11.57 | 40.46 -8.51 |
| 149.9269 | 19.41 qp | 2.4 | 9.23 | 31.04 | 53.98 | 50.46 | 43.52 | 40.46 |
| Azimuth: | 358 Height:1 | 54 Horz | Margin | [dB]: | -22.94 | -19.42 | -12.48 | -9.42 |
| 175.9242 | 17.65 qp | 2.72 | 9.91 | 30.28 | 53.98 | 50.46 | 43.52 | 40.46 |
| Azimuth: | 156 Height:1 | 20 Horz | Margin | [dB]: | -23.7 | -20.18 | -13.24 | -10.18 |
| 199.9154 | 16.01 qp | 2.9 | 10.78 | 29.69 | 53.98 | 50.46 | 43.52 | 40.46 |
| Azimuth: | 164 Height:1 | 11 Horz | Margin | [dB]: | -24.29 | -20.77 | -13.83 | -10.77 |
| 461.9249 | 18.78 qp | 4.54 | 17.51 | 40.83 | 56.9 | 57.46 | 46.02 | 47.46 |
| Azimuth: | 177 Height:1 | 38 Horz | Margin | [dB]: | -16.07 | -16.63 | -5.19 | -6.63 |
| 505.925 | 22.11 qp | 4.88 | 17.96 | 44.95 | 56.9 | 57.46 | 46.02 | 47.46 |
| Azimuth: | 26 Height:1 | 34 Horz | Margin | [dB]: | -11.95 | -12.51 | -1.07 | -2.51 |
| Range: 1 149.9178 Azimuth: | 30 - 1000MHz 23.05 qp 79 Height:1 | 2.4 02 Vert | 10.03 Margin | 35.48 [dB]: | 53.98 -18.5 | 50.46 -14.98 | 43.52 -8.04 | 40.46 -4.98 |
| 461.9265 | 19.24 qp | 4.54 | 17.3 | 41.08 | 56.9 | 57.46 | 46.02 | 47.46 |
| Azimuth: | 349 Height:9 | 9 Vert | Margin | [dB]: | -15.82 | -16.38 | -4.94 | -6.38 |
| 505.9254 | 18.6 qp | 4.88 | 17.38 | 40.86 | 56.9 | 57.46 | 46.02 | 47.46 |
| Azimuth: | 4 Height:1 | 03 Vert | Margin | [dB]: | -16.04 | -16.6 | -5.16 | -6.6 |

LIMIT 1: FCC Part 15 Class A 3m LIMIT 2: ICES-003 Class A 3m LIMIT 3: FCC Part 15 Class B 3m ⇐ LIMIT 4: ICES-003 Class B 3m

qp - Quasi-Peak detector

Plot of Radiated Emissions:



Plot of Radiated Emissions:



Plot of Radiated Emissions:



Plot of Radiated Emissions:



Plot of Radiated Emissions:



Plot of Radiated Emissions:



4.3b Transmit Mode (Part 2.1053, 15.205, 15.209 & 15.247)

| Test Lab: Electronics Test Centre (Airdrie) | Product: | | | | |
|---|--|--|--|--|--|
| Test Personnel: T. Nguyen, H. Shahryar, I. Romanov | WaveRider EUM3006A | | | | |
| Test Date: 24 – 28 April 2006 | | | | | |
| Test Result, WaveRid | ler EUM3006A: PASS | | | | |
| The Radiated E-Field emissions produced by EUT, measured at a distance of 3m, shall not exceed these limits within the restricted bands of operation. Any emissions lying outside these bands shall be at least 20 dB down from the level of the fundamental. Attenuation below the limits of 15.209 is not required. | $\begin{array}{llllllllllllllllllllllllllllllllllll$ | | | | |

Restricted Bands of Operation per Part 15.205:

| MHz | MHz | MHz | MHz | MHz | GHz | GHz |
|--------------------------|--------------------------|---------------------------|----------------------------|----------------------------------|-------------|-------------|
| 0.0900000 – | 8.2910000 - | 16.804250 - | 162.01250 - | 1660.0000 – | 3.6000000 – | 14.470000 – |
| 0.1100000 | 8.2940000 | 16.804750 | 167.17000 | 1710.0000 | 4.4000000 | 14.500000 |
| 0.4950000 - | 8.3620000 - | 25.500000 - | 167.72000 - | 1718.8000 – | 4.5000000 – | 15.350000 – |
| 0.5050000 | 8.3660000 | 25.670000 | 173.20000 🛔 | 1722.2000 | 5.1500000 | 16.200000 |
| 2.1735000 - | 8.3762500 - | 37.500000 - | 240.00000 – | 2200.0000 – | 5.3500000 – | 17.700000 – |
| 2.1905000 | 8.3867500 | 38.250000 | 285.00000 | 2300.0000 | 5.4600000 | 21.400000 |
| 4.1250000 - | 8.4142500 - | 73.000000 - | 322.00000 - | 2310.0000 – | 7.2500000 – | 22.010000 – |
| 4.1280000 | 8.4147500 | 74.600000 | 335.40000 | 2390.0000 | 7.7500000 | 23.120000 |
| 4.1772500 - | 12.290000 - | 74.800000 - | 399.90000 - | 2483.5000 - | 8.0250000 – | 23.600000 - |
| 4.1777500 | 12.293000 | 75.200000 | 410.00000 | 2500.0000 | 8.5000000 | 24.000000 |
| 4.2072500 - | 12.519750 - | 108.00000 - | 608.00000 – | 2655.0000 – | 9.0000000 – | 31.200000 – |
| 4.2077500 | 12.520250 | 121.94000 <mark>**</mark> | 614.00000 | 2900.0000 | 9.2000000 | 31.800000 |
| 5.6770000 - | 12.576750 - | 123.00000 - | 960.00000 – | 32600000 – | 9.3000000 – | 36.430000 - |
| 5.6830000 | 12.577250 | 138.00000 <mark>**</mark> | 1240.0000 <mark>***</mark> | 3267.0000 | 9.5000000 | 36.500000 |
| 6.2150000 - | 13.360000 - | 149.90000 - | 1300.0000 – | 3332.0000 - | 10.600000 – | Above |
| 6.2180000 | 13.410000 | 150.05000 | 1427.0000 <mark>***</mark> | 3339.0000 | 12.700000 | 38.600000 |
| 6.2677500 - | 16.420000 - | 156.52475- | 1435.0000 – | 3345.8000 – | 13.250000 – | |
| 6.2682500 | 16.423000 | 156.52525 | 1626.5000 | 3358.0000 | 13.400000 | |
| 6.3117500 - 6.3122500 | 16.694750 - 16.695250 | 156.70000 - 156.90000 | 1645.5000 – 1646.5000 | 3500.0000 – 3600.0000 **** | | |

US only

** Canada 108 – 138 MHz

*** Canada 960 – 1427 MHz

Canada only

Radiated Emissions Data: Diversity Antenna, Horizontal polarization

Operation in Restricted Bands:

| nominal f _c (MHz) | f (MHz) | Field Strength (dBµV/m) Average | Limit (dBµV/m) Average | Delta (dB) | Antenna Polarization | Antenna Height (cm) | Azimuth (Degrees) |
|---------------------------------|-----------|--|------------------------------|---------------|-------------------------|---------------------------|----------------------|
| 905 | 3620.048 | 51.00 | 53.98 | -2.98 | Н | 105 | 33 |
| 905 | 3620.032 | 51.31 | 53.98 | -2.67 | V | 100 | 337 |
| 905 | 4875.216 | 47.97 | 53.98 | -6.01 | Н | 196 | 31 |
| 905 | 4874.888 | 47.87 | 53.98 | -6.11 | V | 257 | 5 |
| | | | | | | - | |
| 915 | 3659.895 | 48.84 | 53.98 | -5.14 | Н | 158 | 41 |
| 915 | 3660.013 | 53.45 | 53.98 | -0.53 | V | 104 | 349 |
| 915 | 4924.864 | 49.68 | 53.98 | -4.30 | Н | 140 | 282 |
| 915 | 4924.96 | 48.80 | 53.98 | -5.18 | V | 101 | 11 |
| 915 | 5490.115 | 48.58 | 53.98 | -5.40 | Н | 134 | 30 |
| 915 | 5489.968 | 44.13 | 53.98 | -9.85 | V | 151 | 32 |
| 915 | 6403.964 | 49.12 | 53.98 | -4.86 | Н | 137 | 15 |
| 915 | 6404.098 | 49.55 | 53.98 | -4.43 | V | 162 | 329 |
| | I | | Γ | | | | [|
| 925 | 3699.962 | 50.87 | 53.98 | -3.11 | Н | 149 | 41 |
| 925 | 3699.909 | 51.70 | 53.98 | -2.28 | V | 100 | 352 |
| 925 | 4974.908 | 49.50 | 53.98 | -4.48 | Н | 187 | 297 |
| 925 | 4974.792 | 46.33 | 53.98 | -7.65 | V | 209 | 110 |
| 925 | 5550.111 | 40.15 | 53.98 | -13.83 | Н | 187 | 297 |
| 925 | 5550.1753 | 40.81 | 53.98 | -13.17 | V | 153 | 36 |

Notes: The EUT faces the measuring antenna at 0° of turntable azimuth.

Investigation was performed up to 9.5 GHz

All unreported Average emissions were more than 20 dB below the 53.98 dB μ V/m limit.

All unreported Peak emissions were more than 16 dB below the 73.98 dB μ V/m limit.

Radiated Emissions Data: Diversity Antenna, Vertical polarization.

Operation in Restricted Bands:

| nominal f _c (MHz) | f (MHz) | Field Strength (dBµV/m) Average | Limit (dBµV/m) Average | Delta (dB) | Antenna Polarization | Antenna Height (cm) | Azimuth (Degrees) |
|--|----------|--|------------------------------|---------------|-------------------------|---------------------------|----------------------|
| 905 | 3619.978 | 51.40 | 53.98 | -2.58 | Н | 103 | 20 |
| 905 | 3620.048 | 50.21 | 53.98 | -3.77 | V | 100 | 337 |
| 905 | 4874.866 | 48.77 | 53.98 | -5.21 | Н | 174 | 29 |
| 905 | 4875.171 | 49.17 | 53.98 | -4.81 | V | 264 | 9 |
| | I | Γ | Γ | Γ | Γ | [| |
| 915 | 3660.013 | 53.94 | 53.98 | -0.04 | Н | 157 | 46 |
| 915 | 3660.047 | 52.75 | 53.98 | -1.23 | V | 122 | 352 |
| 915 | 4924.912 | 48.78 | 53.98 | -5.20 | Н | 116 | 340 |
| 915 | 4924.667 | 48.39 | 53.98 | -5.59 | V | 101 | 12 |
| 915 | 5490.004 | 48.58 | 53.98 | -5.40 | Н | 124 | 28 |
| 915 | 5490.062 | 43.93 | 53.98 | -10.05 | V | 150 | 41 |
| 915 | 6404.053 | 49.42 | 53.98 | -4.56 | Н | 145 | 18 |
| 915 | 6404.097 | 48.95 | 53.98 | -5.03 | V | 163 | 321 |
| | 1 | [| | | 1 | | |
| 925 | 3699.988 | 50.37 | 53.98 | -3.61 | Н | 152 | 40 |
| 925 | 3699.979 | 51.80 | 53.98 | -2.18 | V | 100 | 352 |
| 925 | 4974.824 | 49.40 | 53.98 | -4.58 | Н | 193 | 296 |
| 925 | 4975.02 | 47.83 | 53.98 | -6.15 | V | 191 | 330 |
| 925 | 5550.176 | 40.85 | 53.98 | -13.13 | Н | 187 | 297 |
| 925 | 5550.35 | 39.01 | 53.98 | -14.97 | V | 150 | 285 |

Notes: The EUT faces the measuring antenna at 0° of turntable azimuth.

Investigation was performed up to 9.5 GHz

All unreported Average emissions were more than 20 dB below the 53.98 dB μ V/m limit.

All unreported Peak emissions were more than 16 dB below the 73.98 dB μ V/m limit.

Carrier and spurious emissions: nominal f_c = 905 MHz. Diversity Antenna, Horizontal polarization.

| Frequency (MHz) | Azimuth (Degrees) | Height (cm) | Ant. Pol. | Spectrum Analyzer Reading (dBuV) | Power Delivered To Tx Antenna (dBm) | Tx Antenna Gain (dBi) | EIRP (isotropic) (dBm) | ERP (dipole) (dBm) | ERP (W) | ERP Limit (W) | Delta (W) |
|--------------------|----------------------|----------------|--------------|---|---|-----------------------------|------------------------------|--------------------------|------------|---------------------|--------------|
| 904.8824 | 354 | 238 | Н | 96.08 (peak) | 24.51 | 5.9 | 30.41 | 28.26 | 0.67 | 4.00 | - 3.33 |
| 905.1965 | 8 | 121 | V | 75.09 (peak) | 6.34 | 4.4 | 10.74 | 8.59 | 0 | 4.00 | - 4.00 |

Carrier and spurious emissions: nominal f_c = 905 MHz. Diversity Antenna, Vertical polarization.

| Frequency (MHz) | Azimuth (Degrees) | Height (cm) | Ant. Pol. | Spectrum Analyzer Reading (dBuV) | Power Delivered To Tx Antenna (dBm) | Tx Antenna Gain (dBi) | EIRP (isotropic) (dBm) | ERP (dipole) (dBm) | ERP (W) | ERP Limit (W) | Delta (W) |
|--------------------|----------------------|----------------|--------------|---|---|-----------------------------|------------------------------|--------------------------|------------|---------------------|--------------|
| 905.0563 | 329 | 127 | н | 81.96 (peak) | 10.33 | 5.9 | 16.23 | 14.08 | 0.03 | 4.00 | - 3.97 |
| 905.8881 | 0 | 128 | V | 103.51 (peak) | 32.88 | 4.4 | 37.28 | 35.13 | 3.26 | 4.00 | - 0.74 |

| Frequency (MHz) | Azimuth (Degrees) | Height (cm) | Ant. Pol. | EUT Spectrum Analyzer Reading (dBuV) | Power Delivered To Tx Antenna (dBm) | Tx Anten na Gain (dBi) | EIRP (isotropic) (dBm) | ERP (dipole) (dBm) | ERP Limit (dBm) | Delta (dB) |
|--------------------|----------------------|----------------|--------------|--|---|------------------------------------|------------------------------|--------------------------|--------------------|---------------|
| 1809.9410 | 335 | 106 | Н | 64.9 (avg) | - 44.74 | 5.9 | - 38.84 | - 40.99 | -13 | - 27.99 |
| 1809.9680 | 359 | 100 | V | 61.6 (avg) | - 47.56 | 5.4 | - 42.16 | - 44.31 | -13 | - 31.31 |

Notes: The EUT faces the measuring antenna at 0° of turntable azimuth.

Investigation was performed up to 9.5 GHz

The carrier was measured with attenuation added to the system to prevent input saturation. Reported values are corrected for this attenuation.

All unreported emissions were found to be more than 20 dB below the applicable limit.

RBW = 1 MHz. VBW = 3 MHz.

Carrier and spurious emissions: nominal f_c = 915 MHz. Diversity Antenna, Horizontal polarization.

| Frequency (MHz) | Azimuth (Degrees) | Height (cm) | Ant. Pol. | Spectrum Analyzer Reading (dBuV) | Power Delivered To Tx Antenna (dBm) | Tx Antenna Gain (dBi) | EIRP (isotropic) (dBm) | ERP (dipole) (dBm) | ERP (W) | ERP Limit (W) | Delta (W) |
|--------------------|----------------------|----------------|--------------|---|---|-----------------------------|------------------------------|--------------------------|------------|---------------------|--------------|
| 914.9192 | 356 | 100 | Н | 94.62 (peak) | 22.59 | 5.8 | 28.39 | 26.24 | 0.42 | 4.00 | - 3.58 |
| 914.8844 | 335 | 101 | V | 77.47 (peak) | 7.79 | 4.3 | 12.09 | 9.94 | 0.01 | 4.00 | - 3.99 |

Carrier and spurious emissions: nominal f_c = 915 MHz. Diversity Antenna, Vertical polarization.

| Frequency (MHz) | Azimuth (Degrees) | Height (cm) | Ant. Pol. | Spectrum Analyzer Reading (dBuV) | Power Delivered To Tx Antenna (dBm) | Tx Antenna Gain (dBi) | EIRP (isotropic) (dBm) | ERP (dipole) (dBm) | ERP (W) | ERP Limit (W) | Delta (W) |
|--------------------|----------------------|----------------|--------------|---|---|-----------------------------|------------------------------|--------------------------|------------|---------------------|--------------|
| 914.8888 | 333 | 123 | н | 84.55 (qp) | 13.37 | 5.8 | 19.17 | 17.02 | 0.05 | 4.00 | - 3.95 |
| 914.8867 | 0 | 122 | V | 102.12 (peak) | 27.29 | 4.3 | 31.59 | 33.74 | 2.37 | 4.00 | - 1.63 |

| Frequency (MHz) | Azimuth (Degrees) | Height (cm) | Ant. Pol. | EUT Spectrum Analyzer Reading (dBuV) | Power Delivered To Tx Antenna (dBm) | Tx Anten na Gain (dBi) | EIRP (isotropic) (dBm) | ERP (dipole) (dBm) | ERP Limit (dBm) | Delta (dB) |
|--------------------|----------------------|----------------|--------------|--|---|------------------------------------|------------------------------|--------------------------|--------------------|---------------|
| 1829.9690 | 341 | 100 | н | 60.20 (avg) | - 48.95 | 5.6 | - 43.35 | - 45.5 | -13 | - 32.5 |
| 1830.0540 | 16 | 104 | V | 59.40 (avg) | - 49.58 | 5.4 | - 44.18 | - 46.33 | -13 | - 33.33 |

Notes: The EUT faces the measuring antenna at 0° of turntable azimuth.

Investigation was performed up to 9.5 GHz

The carrier was measured with attenuation added to the system to prevent input saturation. Reported values are corrected for this attenuation.

All unreported emissions were found to be more than 20 dB below the applicable limit.

RBW = 1 MHz. VBW = 3 MHz

Carrier and spurious emissions: nominal f_c = 925 MHz. Diversity Antenna, Horizontal polarization.

| Frequency (MHz) | Azimuth (Degrees) | Height (cm) | Ant. Pol. | Spectrum Analyzer Reading (dBuV) | Power Delivered To Tx Antenna (dBm) | Tx Antenna Gain (dBi) | EIRP (isotropic) (dBm) | ERP (dipole) (dBm) | ERP (W) | ERP Limit (W) | Delta (W) |
|--------------------|----------------------|----------------|--------------|---|---|-----------------------------|------------------------------|--------------------------|------------|---------------------|--------------|
| 924.2950 | 335 | 207 | Н | 93.85 (peak) | 21.90 | 5.9 | 27.80 | 25.65 | 0.37 | 4.00 | - 3.36 |
| 924.8821 | 357 | 201 | V | 78.29 (peak) | 8.84 | 4.3 | 13.14 | 10.99 | 0.01 | 4.00 | - 3.99 |

Carrier and spurious emissions: nominal f_c = 925 MHz. Diversity Antenna, Vertical polarization.

| Frequency (MHz) | Azimuth (Degrees) | Height (cm) | Ant. Pol. | Spectrum Analyzer Reading (dBuV) | Power Delivered To Tx Antenna (dBm) | Tx Antenna Gain (dBi) | EIRP (isotropic) (dBm) | ERP (dipole) (dBm) | ERP (W) | ERP Limit (W) | Delta (W) |
|--------------------|----------------------|----------------|--------------|---|---|-----------------------------|------------------------------|--------------------------|------------|---------------------|--------------|
| 924.8871 | 334 | 123 | н | 86.05 (peak) | 15.00 | 5.9 | 20.90 | 18.75 | 0.12 | 4.00 | - 3.88 |
| 924.8879 | 8 | 120 | V | 101.64 (peak) | 31.29 | 4.3 | 35.59 | 33.44 | 2.21 | 4.00 | - 1.79 |

| Frequency (MHz) | Azimuth (Degrees) | Height (cm) | Ant. Pol. | EUT Spectrum Analyzer Reading (dBuV) | Power Delivered To Tx Antenna (dBm) | Tx Anten na Gain (dBi) | EIRP (isotropic) (dBm) | ERP (dipole) (dBm) | ERP Limit (dBm) | Delta (dB) |
|--------------------|----------------------|----------------|--------------|--|---|------------------------------------|------------------------------|--------------------------|--------------------|---------------|
| 1849.9940 | 360 | 124 | Н | 57.9 (avg) | - 52.56 | 5.7 | - 46.86 | - 49.01 | -13 | - 36.01 |
| 1849.9878 | 35 | 104 | V | 57.6 (avg) | - 53.19 | 5.6 | - 47.59 | - 49.74 | -13 | - 36.74 |

Notes: The EUT faces the measuring antenna at 0° of turntable azimuth.

Investigation was performed up to 9.5 GHz

The carrier was measured with attenuation added to the system to prevent input saturation. Reported values are corrected for this attenuation.

All unreported emissions were found to be more than 20 dB below the applicable limit.

RBW = 1 MHz. VBW = 3 MHz.

5.0 TEST FACILITY

5.1 LOCATION

The EUT was tested for Electromagnetic Compatibility at the Electronics Test Centre, located in Airdrie, Alberta, Canada.

The RF Anechoic Chamber (RFAC) is identified as Chamber 1, located in the main building complex at the Electronics Test Centre. Its usable working space measures 10.6 m long x 7.3 m wide x 6.5 m high.

This test site is listed with the FCC under Registration Number 99541. Measurements taken at this site are accepted by Industry Canada per file number IC 2046-1.

The floor, walls and ceiling consist of annealed steel panels. The walls and ceiling are covered with ferrite tile, augmented by RF absorbant foam material on the end wall nearest the turntable, and on the adjacent walls and the ceiling. The chamber floor supports a 15 cm high internal floor, constructed of annealed steel panels, that forms the ground plane, and is bonded to the chamber walls.

The 3-m diameter turntable is flush-mounted with the floor. A sub-floor cableway is provided to route cables between the turntable pit and EUT support equipment. Cables reach the EUT through an opening in the centre of the turntable.

Test instrumentation and EUT support equipment is located in two shielded vestibules located at the side of the main room. Cables are routed through bulkhead panels between the rooms as required. Power feeds are routed into the main room and vestibules through line filters providing at least 100 dB of attenuation between 10 kHz and 10 GHz.

5.2 GROUNDING PLAN

The EUT was located on a wooden table 80 cm above the ground plane.

The EUT was grounded in accordance with WaveRider Communications Ltd. specifications.

5.3 POWER

AC power was supplied via an Underwriter's Laboratories ULW100-69, 100 dB, 100 Ampere wall mounted filter. Bonding to ground is implemented at the chamber wall.

5.4 **EMISSIONS PROFILE**

Ambient conducted and radiated electromagnetic emission profiles were generated throughout the tests and are included in the test data.

5.5 TEST CONFIGURATION

The following diagrams illustrate the configuration of the EUT test and measurement equipment for Radiated and Conducted Emissions Testing of tabletop equipment.

Radiated

Tabletop



Conducted



6.0 TEST EQUIPMENT

The following equipment was used for this procedure. All measurement devices are calibrated annually, traceable to NIST.

6.1 RADIATED EMISSIONS

- a) Spectrum Analyzer with RF Preselector
- b) CISPR Quasi-peak Adapter
- c) Power Isolation Transformers
- d) Biconilog antenna (20 MHz to 2 GHz)
- e) DRG horn antenna (1 18 GHz)
- f) Antenna mast positioner and controller
- g) Flush-mounted turntable and controller
- h) Personal Computer and EMC software

6.2 CONDUCTED EMISSIONS

- a) Spectrum Analyzer with RF Preselector
- b) Line Impedance Stabilization Network, 50 µH
- c) CISPR Quasi-peak Adapter
- d) Power Isolation Transformers
- e) Personal Computer and EMC software

6.3 CALIBRATION

All measurement instrumentation conforms to ANSI C63.2. Calibration is maintained in accordance with manufacturer recommendations. Each measurement device is labeled with its ETC asset number and calibration due date.

6.3.1 CALIBRATION ACCURACY

Test equipment used to provide quantitative measurements are calibrated with standards traceable to the National Research Council, National Institute of Standards and Technology or other national standards. Instrumentation systems for emissions measurements have the following accuracies:

Frequency = $\pm 1 \text{ kHz}$ Amplitude (RE) = $\pm 4.01 \text{ dB}$ Amplitude (CE) = $\pm 3.25 \text{ dB}$

6.3.2 TEST EQUIPMENT DESCRIPTION

| Instrument | Manufacturer | Model No. | Asset No. | Calibration Due |
|---|------------------------------|---------------------|-----------|------------------|
| Spectrum Analyzer & Display | Hewlett Packard | 8566B & 85662 | 9168 | 7 September 2006 |
| RF Preselector | Hewlett Packard | 85685A | 9728 | 8 September 2006 |
| Quasi-Peak Adapter | Hewlett Packard | 85650A | 9243 | 8 September 2006 |
| Measurement System Software | Underwriters Laboratories | Version 6.0 | 4443 | n/a |
| Inverter (single phase) | California Instruments | 5000iX | 4378 | 6 September 2007 |
| Low Noise Amplifier | MITEQ | JS43-01001800-21-5P | 4354 | 7 January 2007 |
| Line Impedance Stabilization Network | EMCO | 3825/2r | 9331 | 5 January 2007 |
| Line Impedance Stabilization Network | EMCO | 3825/2r | 9259 | 5 January 2007 |
| Line Impedance Stabilization Network | EMCO | 38100/1SPEC | 9331 | 5 January 2007 |
| Line Impedance Stabilization Network | EMCO | 38100/1SPEC | 9259 | 5 January 2007 |
| Active Monopole | EMCO | 3301B | 9764 | 21 July 2007 |
| Biconilog Antenna | ARA | LPB-2520/A | 4318 | 7 January 2007 |
| Biconical Antenna | EMCO | 3104 | 9257 | 12 January 2007 |
| Log-periodic Array | EMCO | 3147 | 20721 | 18 January 2007 |
| DRG Horn | EMCO | 3106 | 9699 | 10 August 2007 |
| DRG Horn | Tensor | 4106 | 9576 | 11 January 2007 |
| DRG Horn | EMCO | 3115 | 9588 | 5 January 2007 |
| Low Noise Amplifier | MITEQ | JS43-01001800-21-5P | 4354 | 7 January 2007 |

Testing was performed with equipment selected from the following list.

Appendix A

Waverider EUM3006A

Test Sample Description

(from data provided by WaveRider Communications Ltd.)

| Product Name: Waverider EUM3006A | | | |
|----------------------------------|--------------------------|---|---------|
| Part/Model # : EUM3006A | Serial # : | | |
| Product Application | Designated Marketplaces | | |
| | Canada | Х | Other 🛛 |
| Commercial X | United States of America | Х | □ |
| Military L | European Union | | D |

GENERAL INFORMATION REQUIRED FOR ALL PRODUCTS

| Dimensions (L x W x H | l) 8.3"X5.8"X2.0" | Weight:2 lbs. | | | | | | |
|---|---|---|--|---------------------------|---------|------------|--|--|
| Power Requirements: | Power Requirements: AC X Voltage:120VAC # of AC phases: _1_ current: Amps frequency:60 Hz | | | | | | | |
| Product Intended Appli | cation Wirele | ess Ethernet modem | | | | | | |
| Product Deployment Er | vironments Outdo | oors -40C to 50C | | | | _ | | |
| Description of interconnecting leads & cables (Attach separate sheet, if | Туре: | Cable 1 Cross-over Ethernet cab | le | Cable 2 | Cable 3 | Cable 4 | | |
| required | Connectors: | RJ-45 | | | | | | |
| | Terminations : | None | | | | | | |
| | Shielding: | None | | | | | | |
| | Length: | ~ 15 ft. | | | | | | |
| List of internally genera | cillator / Switcher / LO | 11 MHz (DS 22 MHz (Mi 25 MHz (Eth 22 MHz (Re 70 MHz (Int 140 MHz (IF 905 – 925 MI 975 – 995 MI | SS BBP reference) croprocessor reference ernet reference) ference oscillator) ermediate frequency) ⁷ Oscillator) Hz (Desired frequenc Hz (Radio Frequency) | y) y Local Oscillator) | | | | |

CLIENT SAMPLE DESCRIPTION WIRELESS PRODUCT INFORMATION

Type of Radio Device (check all applicable Equipment Configurations)

| Intentional transmitter X | Receiver X | Transceiver |
|---------------------------|------------|-------------|
| | | |

Type of Radio Operating License

| Unlicensed Personal X Communication | Unlicensed National Information Infrastructure | ו | Ultra-Wideband Operation | | Licensed | |
|--|--|---|-----------------------------|--|----------|--|
|--|--|---|-----------------------------|--|----------|--|

Type of Modulation of Radio Device

| CDMA 🛛 | | TDMA | | Other | | |
|---|--------------------------------|---|-------------------|---|--|--|
| Spread Spectrum Technology X | | Direct sequencer | | Frequency hopper | | |
| Transmitter Power Output : 32.2 dBm EIRP, 26dBn | Emission Designator : 4M25G1D: | | | | | |
| | | 4M25= 4.25 MHz Ol 1 = Single channel w | BW; G vith dig | = Phase modulated Carrier, ital info.; D = Data transmission | | |

Information on Radio Frequencies

| Transmitter Operating Frequency(s) & Bandwidth | 905 – 925 MHz, 5MHz BW |
|---|---|
| Transmitter Channel Frequencies & separations (If required, attach a separate sheet) | 905, 915 and 925 to be used for testing |
| Receiver Operating Frequency(s) & Bandwidth | 905 – 925 MHz, 5MHz BW |
| Receiver Channel Frequencies & separations (If required, attach a separate sheet) | 905, 915 and 925 to be used for testing |

Information on Antenna(s)

| Is the antenna removable? | YES NO | x □ | Antenna Connector Type : Tensolite | Number of Antennas : 1 (diversity antenna) | | |
|--|----------------------|--------|---|--|--|--|
| Gain of Each Antenna (and tolerance) | | | 6.2 ± 0.5 dBi and 2 ± 0.5 dBi (vertical and horizontal polari | 6.2 ± 0.5 dBi and 2 ± 0.5 dBi (vertical and horizontal polarization, respectively) | | |
| Activity and State Circuitry during O | of Digital N Time | | Active | | | |

Radio Transmission Type

| Continuous X | Intermittent | ON Time/ OFF Time : |
|--|--------------|---------------------|
| Activity and State of Digital Circuitry during OFF Time | Active | |