Technical Information

APPLICANT		MANUFACTURER	
Name:	Magnetek	Name:	Magnetek
Address:	N50W13605 Overview Dr	Address:	N50W13605 Overview Dr
City, State, Zip:	Menomonee Falls, WI 53051	City, State, Zip:	Menomonee Falls, WI 53051

FILING TYPE: Original Application - Limited Modular Approval

TEST SPECIFICATION:

FCC Rules and Regulations Part 15, Subpart C, Section 15.231

Radio Standards Specification, RSS-210, Issue 7, June, 2007 and RSS-GEN, Issue 2, June 2007

TEST PROCEDURE: ANSI C63.4:2003

Test Sample Description

TEST SAMPLE:	RF Module
BRANDNAME(s):	Enrange
MODEL(s):	Telerange
FCC ID:	TNE-430LMA1
IC ID:	6145A-430LMA1
TYPE:	Control Transceiver
POWER REQUIREMENTS:	3.0 to 3.6 VDC Derived from Host
FREQUENCY OF OPERATION:	430 to 440 MHz
CONFIGURATION:	The RF Module was tested in 2 different test beds. One was simulating a handheld, battery powered device with an integral antenna and one was simulating an AC powered base device with an external antenna.

The module complies with the requirements for a limited modular approval under Section 15.212(b) of the FCC Rules.

Tests Performed

The test methods performed on the RF Module are shown below:

FCC Part 15, Subpart C	Industry Canada RSS-210 Issue 7, June 2007	Industry Canada RSS-GEN Issue 2, June 2007	Test Method
15.231(b)	A1.1.2(1)	N/A	Field Strength of Emissions
15.231(b)(2)	A1.1.2(2)	4.5	Duty Cycle Determination
15.231(b)(3)	A1.1.2(3)	N/A	Field Strength of Spurious Emissions
15.231(c)	A1.1.3	N/A	Bandwidth of Emission
15.107 / 15.207(a)	N/A	7.2.2	Conducted Emissions
15.109(a)	N/A	7.2.3	Receiver Radiated Emissions

General Test Requirements

1. The measurement procedures of ANSI C63.4:2003 were utilized as specified in FCC Part 15, Subpart C, Section 15.31(a)(3) and IC RSS-GEN Section 4.1.
2. All radiated emissions measurements were performed on an Open Area Test Site (OATS), listed with the FCC and IC, in accordance with FCC Section 15.31(d) and IC Section 4.2.
3. The level of the fundamental field strength was measured with the AC input varied from 85 to 115% of rated. The worst case results are reported in accordance with FCC Section 15.231(e) and IC Section 4.3(e).
4. All measurements were performed at the specified 3 meter test distance as required by FCC Section 15.31(f) and IC Section 7.25.
5. The EUT was rotated throughout 360 degrees for all radiated emissions measurements as specified in FCC Section 15.31(f)(5) and IC Section 4.3(h).
6. All readily accessible EUT controls were adjusted in such a manner as to maximize the level of emissions in accordance with FCC Section 15.31(g) and IC Section 4.3(h).
7. Appropriate accessories were attached to all EUT ports during the performance of radiated emissions measurements as required by FCC Section 15.31(i) and IC Section 4.3(d).
8. AC line conducted emissions were measured utilizing a 50 Ohm / 50 MicroHenry LISN as specified in FCC Section 15.31(1) and IC Section 7.2.2.
   The EUT operated over the frequency range of 430 to 440 MHz. A total range of 10 MHz. Testing was performed with the device operating at 2 frequencies, 1 at the top and 1 at the bottom of the range of operation in accordance with FCC Section 15.31(m) and IC Section 4.3(f)(g).
9. The frequency spectrum was investigated from the lowest frequency generated in the device up to the 10^{th} harmonic of the highest fundamental frequency in accordance with FCC Section 15.33(a)(1) and IC Section 4.9.
10. All measurements were taken with a peak detector function as specified in FCC Section 15.35(a) and IC Section 4.4. The duty cycle, calculated in accordance with FCC Section 15.35(c) and IC Section 4.5, was applied to the peak readings in order to obtain the average value of emissions. The peak value of emissions was verified to meet the 20 dB requirement of FCC Section 15.35(b) and IC Section 7.2.1.

Certification and Signatures

We certify that this report is a true representation of the results obtained from the tests of the equipment stated. We further certify that the measurements shown in this report were made in accordance with the procedures indicated and vouch for the qualifications of all Retlif Testing Laboratories personnel taking them.

Robert P. Warren
EMC Test Engineer
NARTE Certified Technician EMC-000498-NT

Richard J. Reitz
Laboratory Manager
iNARTE Certified Engineer ATL-0036-E

Non-Warranty Provision
The testing services have been performed, findings obtained and reports prepared in accordance with generally accepted laboratory principles and practices. This warranty is in lieu of all others, either expressed or implied.

Non-Endorsement
This test report contains only findings and results arrived at after employing the specific test procedures and standards listed herein. It is not intended to constitute a recommendation, endorsement or certification of the product or material tested. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

Requirements and Test Results

Requirement:
FCC Section 15.231(a) - Periodic operation in the band 40.66 - 40.7 MHz and above 70 MHz
The provisions of this Section are restricted to periodic operation within the band 40.66-40.7 MHz and above 70 MHz. Except as shown in Paragraph (e) of this Section, the intentional radiator is restricted to the transmissions of a control signal such as those used with alarm systems, door openers, remote switches, etc. Continuous transmissions, voice, video and the radio control of toys are not permitted. Data is permitted to be sent with a control signal.

IC RSS-210, A1.1 - Momentarily Operated Devices
The frequency bands and field strength limits in Tables 4 and 5 are only for the transmission of a control signal such as that used with alarm systems, door openers, remote switches, etc. Radio control of toys or model aircrafts, and continuous transmissions such as voice or video are not permitted except as provided in A1.1.5. Data is permitted to be sent with a control signal.

- Results:
  The device operates over the frequency range of 430 to 440 MHz and is for the transmission of a control signal. Data is sent with the control signal.

Requirement:
FCC Sections 15.231(a)(1)-(5)
Periodic operation in the band 40.66 - 40.7 MHz and above 70 MHz
The following conditions were met in order to comply with the provisions for momentary operation:

IC RSS-210, A1.1.1(a)-(d) - Types of Momentary Signals
The following conditions were met in order to comply with the provisions for momentary operation:

FCC 15.231(a)(1): A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

IC A1.1.1(a): A manually operated transmitter shall employ a push-to-operate switch and be under manual control at all transmission times. When released, the transmitter shall cease transmission (holdover time of up to 5 seconds of operation).

- Results:
  The device is a manually operated, push to operate transmitter under manual control. The device ceased transmission within 5 seconds of deactivation.

FCC 15.231(a)(2): A transmitter activated automatically shall cease transmission within 5 seconds after activation.

IC A1.1.1(b): A transmitter activated automatically shall cease transmission with 5 seconds after activation, (i.e. maximum 5 seconds of operation).

- Results:
  Transmission ends within 5 seconds after activation.

Requirements and Test Results (con't)

FCC 15.231(a)(3): Periodic transmissions at regular predetermined intervals are not permitted. However, polling or supervision transmissions, including data, to determine system integrity of transmitters used in security or safety applications are allowed if the total duration of transmissions does not exceed more than two seconds per hour for each transmitter. There is no limit on the number of individual transmissions, provided the total transmission time does not exceed two seconds per hour.

IC A1.1.1(c): Periodic transmissions at regular predetermined intervals are not permitted, except as provided in A1.1.5. However, polling or supervision transmissions, to determine system integrity of transmitters used in security or safety applications are allowed if the total duration of transmissions does not exceed 2 seconds per hour for each transmitter.

- Results:
  The transmitter does not perform periodic transmissions.

FCC 15.231(a)(4): Intentional radiators which are employed for radio control purposes during emergencies involving fire, security and safety of life, when activated to signal an alarm, may operate during the pendency of the alarm condition.

IC A1.1.1(d): Intentional radiators employed for radio control purposes during emergencies involving fire, security of goods (e.g. burglar alarms), and safety-of-life, when activated to signal an alarm, may operate during the interval of the alarm condition.

- Results:
  This device is not employed for radio control purposes during emergencies involving fire, security and safety of life.

FCC 15.231(a)(5): Transmission of set-up information for security systems may exceed the transmission duration limits in paragraphs (a)(1) and (a)(2) of this section, provided such transmission are under the control of a professional installer and do not exceed ten seconds after a manually operated switch is released or a transmitter is activated automatically. Such set-up information may include data.

- Results:
  The transmission of set-up information for security systems did not exceed the transmission duration limits in paragraph (a)(1) and (a)(2).

Requirements and Test Results (con't)

Requirement:

FCC Section 15.231(b) - Field Strength of Emissions

In addition to the provisions of Section 15.205, the field strength of emissions from intentional radiators operated under this Section shall not exceed the limits specified in Table 1.

IC RSS-210, A1.1.2(1) - Field Strengths and Frequency Bands

The field strength of emissions from momentarily operated intentional radiators shall not exceed the limits specified in Table 1:

Table 1 - Test Limits, Field Strength of Emissions

Fundamental Frequency (MHz)	Field Strength of Fundamental microvolts/meter @3 meters (watts, e.i.r.p.) Quasi Peak or Average	Field Strength of Spurious Emissions microvolts/meter @3 meters Quasi Peak or Average
40.66 to 40.70	2,250	225
70 to 130	1,250 (470 nW)	125
130 to 174	1,250 to 3,750**	125 to 375**
174 to 260	3,750 (4.2 µW)	375
260 to 470	3,750 to 12,500**	375 to 1,250**
Above 470	12,500 (47 µW)	1,250

**Linear Interpolations
For 130-174 MHz: FS (microvolts/m) = (56.82 x F) - 6,136
For 260-470 MHz: FS (microvolts/m) = (41.67 x F) - 7,083
The maximum permitted unwanted emission level is 20 dB below the maximum permitted fundamental level.

The Fundamental and Harmonic Emissions limits for a device operating at 430.3 MHz and 439.7 MHz are listed in Table 2.

Table 2 - Fundamental and Harmonic Limits

Frequency of Operation MHz	Fundamental µV/m	Harmonics µV/m
430.3	10845.8	1084.6
439.7	11237.5	1123.8

- Results:
  The Fundamental and Harmonics field strengths did not exceed the limits specified in Table 2 at a test distance of 3 meters, taken with an Average Detector. See Table 3 for the Fundamental and Harmonic emissions test results.

Table 3 - Fundamental and Harmonics Test Results

Configuration	Fundamental Frequency MHz	Maximum Fundamental µV/m	Maximum Harmonics µV/m
Base	430.3	6237.3	749.9
Base	439.7	6095.4	263.0
Remote	430.3	4265.8	121.6
Remote	439.7	3427.7	131.8

Requirements and Test Results (con't)

Requirement:
FCC Section 15.231(b)(2) - Duty Cycle Determination-Pulsed Operation
Intentional radiators operating under the provisions of the Section shall demonstrate compliance with the limits on the field strength emissions, as shown in Table 1, based on the average value of the measured emissions. As an alternative, compliance with the limits in the Table 1 may be based on the use of measurement instrumentation with a CISPR quasi-peak detector. The specific method of measurement employed shall be specified int eh application for equipment authorization. If average emission measurements are employed, the provisions in Section 15.35 for averaging pulsed emissions and for limiting peak emissions apply. Further, compliance with the provisions of Section 15.205 shall be demonstrated using the measurement instrumentation specified in that Section.

IC RSS-GEN, Paragraph 4.5, Pulsed Operation
When the field strength (or envelope power) is not constant or when it is in pulses, and an average detector is specified to be used, the value of field strength or power shall be determined by averaging over one complete pulse train, including blanking intervals within the pulse train, as long as the pulse train does not exceed 0.1 seconds. In cases where the pulse train exceeds 0.1 seconds, the average value (of field strength or output power) shall be determined during a 0.1 second interval during which the field strength or power is at its maximum value.

The unit's RF output was directly coupled to the input of the spectrum analyzer. The analyzer was set for a frequency span of 0 Hz. The sweep time was then adjusted in order to display one full pulse train. The transmitter on time was then summed and compared to the time for one full cycle in order to obtain the duty cycle. (See plots for additional information).

- Results:
  The emissions did not exceed the limits specified in Table 1. See below for the exact method of calculating the average field strength.

Transmitter On Time = 11 milliseconds (maximum per cycle)
Transmitter Cycle Time = 100 milliseconds (100 ms maximum)
Transmitter Duty Cycle = 11 %

CALCULATION

Duty Cycle (11/100) = 11 %
Correction Factor =20 log (0.11) = -19.2 dB

Requirements and Test Results (con't)

Requirement:
FCC Section 15.231(b)(3) - Field Strength of Spurious Emissions
The limits on the field strength of the spurious emissions specified in Table 1 are based on the fundamental frequency of the intentional radiator. Spurious emissions shall be attenuated to the average (or, alternatively, CISPR quasi-peak) limits shown in Table 1 or to the general limits shown in Section 15.209, whichever limit permits a higher field strength.

IC RSS-210, A1.1.2(3) - Field Strength of Unwanted Emissions
The limits on the field strength of unwanted emissions in Table 4 of RSS-210 are based on the fundamental frequency of the intentional radiator. Unwanted emissions shall be attenuated to the limits shown in Table 2 of RSS-210 or to the limits shown in Table 4 of RSS-210, whichever is less stringent.

- Results:
  No spurious emissions were observed within 20 dB of the specified limit.

Requirement:
FCC Section 15.231(c) - Bandwidth of Emissions
The bandwidth of the emissions shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

IC RSS-210, A1.1.3 - Bandwidth of Momentary Signals
For the purpose of Section A1.1, the 99% bandwidth shall be no wider than 0.25% of the center frequency for devices operating between 70-900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency.

- Results:
  The bandwidth was measured and found to be 111.0 kHz.

Requirements and Test Results (con't)

Requirement:

FCC Section 15.107/15.207(a) - Conducted Limits

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits shown in Table 4, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of the paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applied at the boundary between the frequency ranges.

IC RSS-GEN, Section 7.2.2 -

Transmitter and Receiver AC Power Lines Conducted Emissions Limits

The purpose of this test is to measure unwanted radio frequency currents induced in any AC conductor external to the equipment which could conduct interference to other equipment via the AC electrical network.

Except when the requirements applicable to a given device state otherwise, for any liscense-exempt radio communication device equipped to operate from the public utility AC power supply, either directly or indirectly, the radio frequency voltage that is conducted back onto the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in Table 4. The tighter limit applies at the frequency range boundaries.

The conducted emissions shall be measured with a 50 ohm/50 microhenry line impedance stabilization network.

Table 4 - Conducted Emission Limits

Frequency of Emission (MHz)	**Conducted Limit (dBµV)**	
	Quasi-Peak	Average
0.15 to 0.5	66 to 56*	56 to 46*
0.5 to 5	56	46
5 to 30	60	50
*Decreases due to logarithm of the frequency		

Conducted Emissions Modifications:

Capacitors were installed on the Stationary Transceiver Base from the 115 VAC Hot Line to Ground and the 115 VAC Neutral Line to Ground. The capacitors are manufactured by Digi-Key, Part Number: BC1615-ND, with a value of 0.047 uF.

- Results:
  The conducted emissions observed did not exceed the limits specified in Table 4 when tested with the receiver on receiving a wanted signal.

Requirements and Test Results (con't)

Requirement:

FCC Section 15.109(a) - Receiver Radiated Emissions

Except for Class A digital devices, the field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the values shown in Table 5.

IC RSS-GEN, 7.2.3 - Receiver Spurious Emission Limits

Receiver spurious emissions at any discrete frequency shall not exceed 2 nanowatts in the band 30-1000 MHz, or 5 nanowatts above 1 GHz. All spurious emissions shall comply with the limits specified in Table 5.

Table 5 - Radiated Emission Limits

Frequency of Emission (MHz)	Field Strength (microvolts/meter)
30 to 88	100
88 to 216	150
216 to 960	200
Above 960	500

- Results:
  The emissions observed did not exceed the limits specified in Table 5.

General Requirements FCC and IC

RF Exposure Limits

The following power measurement was calculated from field strength measurements as outlined in Paragraph 4.2 of RSS-102, Issue 2:

$$TP = \frac{FS \times (D)^2}{30 \times G}$$

FS = 0.056885 (Peak)
D = 3 M
G = 1.0
TP = 17 milliwatts

In accordance with Paragraph 2.5.1 of RSS-102, Issue 2, this device is exempt from SAR evaluation since the TP is less than 200 milliwatts.

Spectrum Analyzer Desensitization Considerations

Due to the nature of the emissions being measured, care was taken to ensure that the resolution bandwidth of the spectrum analyzer was adequate to provide accurate measurements. The following formula was utilized:

minimum bandwidth = 1/{minimum pulse width (in seconds) x 1.5} = Hz

Setting pulse desensitization equal to zero and utilizing the minimum observed pulse width of 11 ms yields a minimum required bandwidth of 60.61 Hz. FCC specified bandwidths of 100 kHz and 1 MHz were utilized below and above 1GHz, respectively.

Equipment Lists

FCC Section 15.231(b) - Field Strength of Emissions
IC RSS-210, A1.1.2(1) - Field Strength and Frequency Bands

Base Module

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
8017	Double Ridge Guide	EMCO	1 - 18 GHz	3115	8/6/2007	2/6/2009
8060A	Cable	Retlif	10 kHz - 18 GHz	25' Type N	8/14/2008	8/14/2009
8061A	Cable	Retlif	10 kHz - 18 GHz	25' Type N	1/26/2009	1/26/2010
8071	Spectrum Analyzer	Hewlett Packard	100Hz-2.5 GHz/2-22GH	8566B	12/27/2007	2/27/2009
8072	Spectrum Analyzer Display	Hewlett Packard		85662A	12/27/2007	2/27/2009
8080	Receiver	Rohde & Schwarz	20-1300 MHz	ESVP	1/8/2008	2/8/2009
8300	OATS Site NSA	RSI	3/10 Meter Site		8/15/2008	8/15/2009
8317	Preamplifier	Agilent	1-26.5 GHz, 30 dB	8449B	4/6/2007	4/6/2009
8365	Biconilog	EMCO	26 MHz - 3 GHz	3142C	9/12/2007	9/12/2009
8411	Preamplifier	Sonoma Instrument	9 kHz - 1 GHz	310N	9/23/2008	9/23/2009

Remote Module

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
713	EMI Test Receiver	Rohde & Schwarz	20 Hz - 26.5 GHz	ESIB26	8/23/2008	8/23/2009
8017	Double Ridge Guide	EMCO	1 - 18 GHz	3115	8/6/2007	2/6/2009
8076	Spectrum Analyzer	Hewlett Packard	100 Hz - 1.5 GHz	8568B	8/15/2008	8/15/2009
8077	Spectrum Analyzer	Hewlett Packard		85662A	8/15/2008	8/15/2009
8300	OATS Site NSA	RSI	3/10 Meter Site		8/15/2008	8/15/2009
8300B	OATS Cable				9/10/2008	9/10/2009
8317	Preamplifier	Agilent	1-26.5 GHz, 30 dB	8449B	4/6/2007	4/6/2009
8365	Biconilog	EMCO	26 MHz - 3 GHz	3142C	9/12/2007	9/12/2009
8411	Preamplifier	Sonoma Instrument	9 kHz - 1 GHz	310N	9/23/2008	9/23/2009

FCC Section 15.231(b)(2) - Duty Cycle Determination - Pulsed Operation
IC RSS-210, A1.1.2(2), RSS-GEN, 4.5 - Pulsed Operation

Base Module

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
8076	Spectrum Analyzer	Hewlett Packard	100 Hz - 1.5 GHz	8568B	8/15/2008	8/15/2009
8077	Spectrum Analyzer	Hewlett Packard		85662A	8/15/2008	8/15/2009

Remote Module

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
8076	Spectrum Analyzer	Hewlett Packard	100 Hz - 1.5 GHz	8568B	8/15/2008	8/15/2009
8077	Spectrum Analyzer	Hewlett Packard		85662A	8/15/2008	8/15/2009
8410B	3cm Magnetic-Field Loop	EMCO	1.5GHz	7405-002	8/8/2008	8/8/2009

Equipment Lists (con't)

FCC Section 15.231(b)(3) - Field Strength of Spurious Emissions
IC RSS-210, A1.1.2(3) - Field Strength of Unwanted Emissions

Base Module

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
8017	Double Ridge Guide	EMCO	1 - 18 GHz	3115	8/6/2007	2/6/2009
8060A	Cable	Retlif	10 kHz - 18 GHz	25' Type N	8/14/2008	8/14/2009
8061A	Cable	Retlif	10 kHz - 18 GHz	25' Type N	1/26/2009	1/26/2010
8076	Spectrum Analyzer	Hewlett Packard	100 Hz - 1.5 GHz	8568B	8/15/2008	8/15/2009
8077	Spectrum Analyzer	Hewlett Packard		85662A	8/15/2008	8/15/2009
8080	Receiver	Rohde & Schwarz	20-1300 MHz	ESVP	1/8/2008	2/8/2009
8300	OATS Site NSA	RSI	3/10 Meter Site		8/15/2008	8/15/2009
8317	Preamplifier	Agilent	1-26.5 GHz, 30 dB	8449B	4/6/2007	4/6/2009
8365	Biconilog	EMCO	26 MHz - 3 GHz	3142C	9/12/2007	9/12/2009
8411	Preamplifier	Sonoma Instrument	9 kHz - 1 GHz	310N	9/23/2008	9/23/2009

Remote Module

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
8076	Spectrum Analyzer	Hewlett Packard	100 Hz - 1.5 GHz	8568B	8/15/2008	8/15/2009
8077	Spectrum Analyzer	Hewlett Packard		85662A	8/15/2008	8/15/2009
8080	Receiver	Rohde & Schwarz	20-1300 MHz	ESVP	1/8/2008	1/8/2009
8300	OATS Site NSA	RSI	3/10 Meter Site		8/15/2008	8/15/2009
8300B	OATS Cable				9/10/2008	9/10/2009
8365	Biconilog	EMCO	26 MHz - 3 GHz	3142C	9/12/2007	9/12/2009
8411	Preamplifier	Sonoma Instrument	9 kHz - 1 GHz	310N	9/23/2008	9/23/2009

FCC Section 15.231(c) - Bandwidth of Emission
IC RSS-210, A1.1.3 - Bandwidth of Momentary Signals

Base Module

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
713	EMI Test Receiver	Rohde & Schwarz	20 Hz - 26.5 GHz	ESIB26	8/23/2008	8/23/2009
8357	10.0 dB Attenuator	Narda	DC - 11 GHz, 20 W	768-10	6/6/2008	6/6/2009

Remote Module

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
713	EMI Test Receiver	Rohde & Schwarz	20 Hz - 26.5 GHz	ESIB26	8/23/2008	8/23/2009
8410B	3cm Magnetic-Field Loop	EMCO	1.5GHz	7405-002	8/8/2008	8/8/2009

Equipment Lists (con't)

FCC Section 15.107/15.207(a) - Conducted Limits
IC RSS-GEN, 7.2.2 - Transmitter and Receiver AC Power Lines Conducted Emission Limits

Base Module

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
713	EMI Test Receiver	Rohde & Schwarz	20 Hz - 26.5 GHz	ESIB26	8/23/2008	8/23/2009
8194	LISN	Solar Electronics	10 kHz - 30 MHz	8028-50-TS-24-B	11/17/2007	11/17/2009
8195	LISN	Solar Electronics	10 kHz - 30 MHz	8028-50-TS-24-B	11/17/2007	11/17/2009
8357	10.0 dB Attenuator	Narda	DC - 11 GHz, 20 W	768-10	6/6/2008	6/6/2009
8366A	Cable 20' BNC	Retlif	10 kHz - 1 GHz	n/a	10/30/2008	10/30/2009

FCC Section 15.109(a) - Receiver Radiated Emissions
IC RSS-GEN, 7.2.3 - Receiver Spurious Emission Limits

Base Module

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8060A	Cable	Retlif	10 kHz - 18 GHz	25' Type N	8/14/2008	8/14/2009
8061A	Cable	Retlif	10 kHz - 18 GHz	25' Type N	1/26/2009	1/26/2010
8076	Spectrum Analyzer	Hewlett Packard	100 Hz - 1.5 GHz	8568B	8/15/2008	8/15/2009
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8080	Receiver	Rohde & Schwarz	20-1300 MHz	ESVP	1/8/2008	2/8/2009
8300	OATS Site NSA	RSI	3/10 Meter Site		8/15/2008	8/15/2009
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8411	Preamplifier	Sonoma Instrument	9 kHz - 1 GHz	310N	9/23/2008	9/23/2009

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8300	OATS Site NSA	RSI	3/10 Meter Site		8/15/2008	8/15/2009
8300B	OATS Cable				9/10/2008	9/10/2009
8365	Biconilog	EMCO	26 MHz - 3 GHz	3142C	9/12/2007	9/12/2009
8411	Preamplifier	Sonoma Instrument	9 kHz - 1 GHz	310N	9/23/2008	9/23/2009

Field Strength of Emissions
FCC Part 15, Subpart C, Section 15.231(b)
IC RSS-210, A1.1.2(1)
Test Data - Base Module

Test Method:	Field Strength of Emissions - Peak		
Test Specification:	FCC Part 15 Subpart C, Paragraph 15.231(b) IC RSS-210, Section A1.1.2 (1)		
Customer:	Magnetek	**Job No.**	R-1290P-1
Test Sample:	430-440MHz Stationary Transceiver (Base)		
Part No.:	00282164 v.1.1	**FCC ID:**	TNE-430LMA1
Operating Mode:	Continuously transmitting a RF signal at 430.3MHz on CH. A		
Technician:	R. Wilson	**Date:**	1-27 to 29-09

Test Freq.	Antenna Pol./Height	EUT Azimuth	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)/Meters	Degrees	dBµV	dB	dBµV/m	uV/m	uV/m
430.3	V / 1.0	345	110.3	-15.2	95.1	56885.3	108458.0
430.3	H / 2.1	143	106.4	-15.2	91.2	36307.8	108458.0
860.6	V / 1.6	345	84.5	-7.8	76.7	6839.1	10845.8
860.6	H / 2.1	143	67.6	-7.8	59.8	977.2	10845.8
1290.9	V / 1.6	157	49.7	-8.1	41.6	120.2	10845.8
1290.9	H / 1.0	84	48.2	-8.1	40.1	101.2	10845.8
1721.2	V / 1.0	180	49.4	-6.1	43.3	146.2	5000.0
1721.2	H / 1.0	180	49.6	-6.1	43.5	149.6	5000.0
2151.5	V / 1.0	171	47.3	-4.2	43.1	142.9	10845.8
2151.5	H / 1.0	207	47.3	-4.2	43.1	142.9	10845.8
2581.8	V / 1.0	161	50.3	-2.8	47.5	237.1	10845.8
2581.8	H /1.1	131	47.1	-2.8	44.3	164.1	10845.8
3012.1	V / 1.1	195	46.6	-0.7	45.9	197.2	10845.8
3012.1	H / 1.0	159	45.6	-0.7	44.9	175.8	10845.8
3442.4	V / 1.0	171	46.9	1.3	48.2	257.0	10845.8
3442.4	H / 1.0	193	47.9	1.3	49.2	288.4	10845.8
*3872.7	V / 1.0	180	46.1	2.2	48.3	260.0	5000.0
*3872.7	H / 1.0	180	46.1	2.2	48.3	260.0	5000.0
*4303.0	V / 1.0	180	46.1	4.2	50.3	327.3	5000.0
*4303.0	H / 1.0	180	46.1	4.2	50.3	327.3	5000.0

Notes:

1) Test Distance: 3 Meters
2) Detector Function: Peak
3) The frequency range was scanned from 30 MHz to 4.4 GHz.
4) All emissions not recorded were more than 20 dB below the specified limit.
5) Emissions from the EUT do not exceed the specified limits.
6) *=Noise Floor Measurements (Minimum system sensitivity)

Test Method:	Field Strength of Emissions - Average		
Test Specification:	FCC Part 15 Subpart C, Paragraph 15.231(b) IC RSS-210, Section A1.1.2 (1)		
Customer:	Magnetek	**Job No.**	R-1290P-1
Test Sample:	430-440MHz Stationary Transceiver (Base)		
Part No.:	00282164 v.1.1	**FCC ID:**	TNE-430LMA1
Operating Mode:	Continuously transmitting a RF signal at 430.3MHz on CH. A		
Technician:	R. Wilson	**Date:**	1-27 to 29-09

Test Freq.	Antenna Pol./Height	EUT Azimuth	Peak Reading	Duty Cycle Correction	Corrected Reading	Converted Reading	Avg. Limit
MHz	(V/H)-Meters	Degrees	dBµV	dB	dBµV/m	uV/m	uV/m
430.3	V / 1.0	345	95.1	-19.2	75.9	6237.3	10845.8
430.3	H / 2.1	143	91.2	-19.2	72.0	3981.1	10845.8
860.6	V / 1.6	345	76.7	-19.2	57.5	749.9	1084.6
860.6	H / 2.1	143	59.8	-19.2	40.6	107.2	1084.6
1290.9	V / 1.6	157	41.6	-19.2	22.4	13.2	1084.6
1290.9	H / 1.0	84	40.1	-19.2	20.9	11.1	1084.6
1721.2	V / 1.0	180	43.3	-19.2	24.1	16.0	500.0
1721.2	H / 1.0	180	43.5	-19.2	24.3	16.4	500.0
2151.5	V / 1.0	171	43.1	-19.2	23.9	15.7	1084.6
2151.5	H / 1.0	207	43.1	-19.2	23.9	15.7	1084.6
2581.8	V / 1.0	161	47.5	-19.2	28.3	26.0	1084.6
2581.8	H /1.1	131	44.3	-19.2	25.1	18.0	1084.6
3012.1	V / 1.1	195	45.9	-19.2	26.7	21.6	1084.6
3012.1	H / 1.0	159	44.9	-19.2	25.7	19.3	1084.6
3442.4	V / 1.0	171	48.2	-19.2	29.0	28.2	1084.6
3442.4	H / 1.0	193	49.2	-19.2	30.0	31.6	1084.6
*3872.7	V / 1.0	180	48.3	-19.2	29.1	28.5	500.0
*3872.7	H / 1.0	180	48.3	-19.2	29.1	28.5	500.0
*4303.0	V / 1.0	180	50.3	-19.2	31.1	35.9	500.0
*4303.0	H / 1.0	180	50.3	-19.2	31.1	35.9	500.0

Notes:

1) Average Values Calculated from Peak Readings
2) Duty Cycle: 11.0%
3) Duty Cycle Correction: -19.2 dB

Test Method:	Field Strength of Emissions - Peak		
Test Specification:	FCC Part 15 Subpart C, Paragraph 15.231(b) IC RSS-210, Section A1.1.2 (1)		
Customer:	Magnetek	**Job No.**	R-1290P-1
Test Sample:	430-440MHz Stationary Transceiver (Base)		
Part No.:	00282164 v.1.1	**FCC ID:**	TNE-430LMA1
Operating Mode:	Continuously transmitting a RF signal at 439.7 MHz on CH. C		
Technician:	R. Wilson	**Date:**	1-27 to 29-09

Test Freq.	Antenna Pol./Height	EUT Azimuth	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)/Meters	Degrees	dBµV	dB	dBµV/m	uV/m	uV/m
439.7	V / 1.3	345	110.1	-15.2	94.9	55590.4	112375.0
439.7	H / 1.9	143	104.3	-15.2	89.1	28510.2	|
879.4	V / 1.6	345	73.9	-6.3	67.6	2398.9	11237.5
879.4	H / 2.1	143	56.0	-6.3	49.7	305.5	|
1319.1	V / 1.0	178	48.5	-7.4	41.1	113.5	5000.0
1319.1	H / 1.0	177	47.5	-7.4	40.1	101.2	|
1758.8	V / 1.0	159	49.9	-5.0	44.9	175.8	11237.5
1758.8	H / 1.1	162	49.2	-5.0	44.2	162.2	|
2198.5	V / 1.0	202	47.9	-3.2	44.7	171.8	11237.5
2198.5	H / 1.3	198	46.1	-3.2	42.9	139.6	|
2638.2	V / 1.0	178	49.3	-2.6	46.7	216.3	11237.5
2638.2	H /1.0	173	47.3	-2.6	44.7	171.8	|
3077.9	V / 1.0	176	46.9	-0.7	46.2	204.2	11237.5
3077.9	H / 1.0	156	46.1	-0.7	45.4	186.2	|
3517.6	V / 1.0	154	46.7	1.3	48.0	251.2	11237.5
3517.6	H / 1.1	212	46.8	1.3	48.1	254.1	|
*3957.3	V / 1.0	180	45.3	3.7	49.0	281.8	5000.0
*3957.3	H / 1.0	180	45.3	3.7	49.0	281.8	|
*4397.0	V / 1.0	180	45.3	4.2	49.5	298.5	5000.0
*4397.0	H / 1.0	180	45.3	4.2	49.5	298.5	|

Notes:

1) Test Distance: 3 Meters
2) Detector Function: Peak
3) The frequency range was scanned from 30 MHz to 4.4 GHz.
4) All emissions not recorded were more than 20 dB below the specified limit.
5) Emissions from the EUT do not exceed the specified limits.
6) *=Noise Floor Measurements (Minimum system sensitivity)

Test Method:	Field Strength of Emissions - Average		
Test Specification:	FCC Part 15 Subpart C, Paragraph 15.231(b) IC RSS-210, Section A1.1.2 (1)		
Customer:	Magnetek	**Job No.**	R-1290P-1
Test Sample:	430-440MHz Stationary Transceiver (Base)		
Part No.:	00282164 v.1.1	**FCC ID:**	TNE-430LMA1
Operating Mode:	Continuously transmitting a RF signal at 439.7 MHz on CH. C		
Technician:	R. Wilson	**Date:**	1-27 to 29-09

Test Freq.	Antenna Pol./Height	EUT Azimuth	Peak Reading	Duty Cycle Correction	Corrected Reading	Converted Reading	Avg. Limit
MHz	(V/H)-Meters	Degrees	dBµV	dB	dBµV/m	uV/m	uV/m
439.7	V / 1.3	345	94.9	-19.2	75.7	6095.4	11237.5
439.7	H / 1.9	143	89.1	-19.2	69.9	3126.1	11237.5
879.4	V / 1.6	345	67.6	-19.2	48.4	263.0	1123.8
879.4	H / 2.1	143	49.7	-19.2	30.5	33.5	1123.8
1319.1	V / 1.0	178	41.1	-19.2	21.9	12.4	500.0
1319.1	H / 1.0	177	40.1	-19.2	20.9	11.1	500.0
1758.8	V / 1.0	159	44.9	-19.2	25.7	19.3	1123.8
1758.8	H / 1.1	162	44.2	-19.2	25.0	17.8	1123.8
2198.5	V / 1.0	202	44.7	-19.2	25.5	18.8	1123.8
2198.5	H / 1.3	198	42.9	-19.2	23.7	15.3	1123.8
2638.2	V / 1.0	178	46.7	-19.2	27.5	23.7	1123.8
2638.2	H /1.0	173	44.7	-19.2	25.5	18.8	1123.8
3077.9	V / 1.0	176	46.2	-19.2	27.0	22.4	1123.8
3077.9	H / 1.0	156	45.4	-19.2	26.2	20.4	1123.8
3517.6	V / 1.0	154	48.0	-19.2	28.8	27.5	1123.8
3517.6	H / 1.1	212	48.1	-19.2	28.9	27.9	1123.8
*3957.3	V / 1.0	180	49.0	-19.2	29.8	30.9	500.0
*3957.3	H / 1.0	180	49.0	-19.2	29.8	30.9	500.0
*4397.0	V / 1.0	180	49.5	-19.2	30.3	32.7	500.0
*4397.0	H / 1.0	180	49.5	-19.2	30.3	32.7	500.0

Notes:

1) Average Values Calculated from Peak Readings
2) Duty Cycle: 11.0%
3) Duty Cycle Correction: -19.2 dB

Field Strength of Emissions
FCC Part 15, Subpart C, Section 15.231(b)
IC RSS-210, A1.1.2(1)
Test Data - Remote Module

Test Method:	Field Strength of Emissions		
Test Specification:	FCC Part 15 Subpart C, Section 15.231(b) IC RSS-210, Section A1.1.2 (1)		
Customer:	Magnetek	**Job No.**	R-1290P-1
Test Sample:	430-440MHz Portable Transceiver (Remote)		
Part No.:	00282164 v.1.1	**FCC ID:**	TNE-430LMA1
Operating Mode:	Continuously transmitting a RF signal at 430.3MHz on CH. A		
Technician:	RW	**Date:**	12-29-08
Notes:	Detector: Peak, Unless otherwise specified	Test Distance: 3 Meters	

Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)/Meters	X / Y / Z	dBµV	dB	dBµV/m	uV/m	uV/m
430.3	V / 1.0	X	106.3	-15.2	91.1	35892.2	108458.0
|	V / 1.0	Y	93.4	-15.2	78.2	8128.3	|
|	V / 1.1	Z	97.3	-15.2	82.1	12735.0	|
|	H / 1.6	X	94.5	-15.2	79.3	9225.7	|
|	H / 1.8	Y	108.4	-15.2	93.2	45708.8	|
430.3	H / 1.7	Z	106.2	-15.2	91.0	35481.3	108458.0
860.6	V / 1.0	X	70.1	-7.8	62.3	1303.2	10845.8
|	V / 2.4	Y	52.4	-7.8	44.6	169.8	|
|	V / 1.0	Z	60.3	-7.8	52.5	421.7	|
|	H / 1.3	X	56.5	-7.8	48.7	272.3	|
|	H / 1.8	Y	68.7	-7.8	60.9	1109.2	|
860.6	H / 1.6	Z	64.8	-7.8	57.0	707.9	10845.8
1290.9	V / 1.0	X	45.8	-8.1	37.7	76.7	10845.8
|	V / 1.1	Y	47.1	-8.1	39.0	89.1	|
|	V / 1.0	Z	48.4	-8.1	40.3	103.5	|
|	H / 2.0	X	50.3	-8.1	42.2	128.8	|
|	H / 1.2	Y	49.8	-8.1	41.7	121.6	|
1290.9	H / 1.0	Z	43.3	-8.1	35.2	57.5	10845.8
1721.2	V / 1.0	X	43.2	-6.1	37.1	71.6	5000.0
|	V / 1.0	Y	46.0	-6.1	39.9	98.9	|
|	V / 1.4	Z	46.3	-6.1	40.2	102.3	|
|	H / 1.0	X	42.5	-6.1	36.4	66.1	|
|	H / 1.0	Y	44.1	-6.1	38.0	79.4	|
1721.2	H / 1.5	Z	46.7	-6.1	40.6	107.2	5000.0
2151.5	V / 1.0	X	40.5	-4.2	36.3	65.3	10845.8
|	V / 1.1	Y	41.7	-4.2	37.5	75.0	|
|	V / 1.0	Z	39.8	-4.2	35.6	60.2	|
|	H / 1.0	X	42.9	-4.2	38.7	86.1	|
|	H / 1.2	Y	39.1	-4.2	34.9	55.6	|
2151.5	H / 1.0	Z	43.1	-4.2	38.9	88.1	10845.8

Test Method:	Field Strength of Emissions		
Test Specification:	FCC Part 15 Subpart C, Section 15.231(b) IC RSS-210, Section A1.1.2 (1)		
Customer:	Magnetek	**Job No.**	R-1290P-1
Test Sample:	430-440MHz Portable Transceiver (Remote)		
Part No.:	00282164 v.1.1	**FCC ID:**	TNE-430LMA1
Operating Mode:	Continuously transmitting a RF signal at 430.3MHz on CH. A		
Technician:	RW	**Date:**	12-29-08
Notes:	Detector: Peak, unless otherwise specified	Test Distance: 3 Meters	

Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)-Meters	X / Y / Z	dBµV	dB	dBµV/m	uV/m	uV/m
*2581.8	V / 1.0	X	41.0	-2.8	38.2	81.3	10845.8
|	V / 1.0	Y	41.0	-2.8	38.2	81.3	|
|	V / 1.0	Z	41.0	-2.8	38.2	81.3	|
|	H / 1.0	X	41.0	-2.8	38.2	81.3	|
|	H / 1.0	Y	41.0	-2.8	38.2	81.3	|
*2581.8	H /1.0	Z	41.0	-2.8	38.2	81.3	10845.8
*3012.1	V / 1.0	X	38.5	-0.7	37.8	77.6	10845.8
|	V / 1.0	Y	38.5	-0.7	37.8	77.6	|
|	V / 1.0	Z	38.5	-0.7	37.8	77.6	|
|	H / 1.0	X	38.5	-0.7	37.8	77.6	|
|	H / 1.0	Y	38.5	-0.7	37.8	77.6	|
*3012.1	H / 1.0	Z	38.5	-0.7	37.8	77.6	10845.8
*3442.4	V / 1.0	X	39.0	1.3	40.3	103.5	10845.8
|	V / 1.0	Y	39.0	1.3	40.3	103.5	|
|	V / 1.0	Z	39.0	1.3	40.3	103.5	|
|	H / 1.0	X	39.0	1.3	40.3	103.5	|
|	H / 1.0	Y	39.0	1.3	40.3	103.5	|
*3442.4	H / 1.0	Z	39.0	1.3	40.3	103.5	10845.8
*3872.7	V / 1.0	X	38.1	2.2	40.3	103.5	5000.0
|	V / 1.0	Y	38.1	2.2	40.3	103.5	|
|	V / 1.0	Z	38.1	2.2	40.3	103.5	|
|	H / 1.0	X	38.1	2.2	40.3	103.5	|
|	H / 1.0	Y	38.1	2.2	40.3	103.5	|
*3872.7	H / 1.0	Z	38.1	2.2	40.3	103.5	5000.0
*4303.0	V / 1.0	X	37.5	4.2	41.7	121.6	5000.0
|	V / 1.0	Y	37.5	4.2	41.7	121.6	|
|	V / 1.0	Z	37.5	4.2	41.7	121.6	|
|	H / 1.0	X	37.5	4.2	41.7	121.6	|
|	H / 1.0	Y	37.5	4.2	41.7	121.6	|
*4303.0	H / 1.0	Z	37.5	4.2	41.7	121.6	5000.0
	The frequency range was scanned from 30 MHz to 4.4 GHz. All emissions not recorded were more						
	than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.						
	*=Noise Floor Measurements (Minimum system sensitivity)						

Test Method:	Field Strength of Emissions		
Test Specification:	FCC Part 15 Subpart C, Section 15.231(b) IC RSS-210, Section A1.1.2 (1)		
Customer:	Magnetek	**Job No.**	R-1290P-1
Test Sample:	430-440MHz Portable Transceiver (Remote)		
Part No.:	00282164 v.1.1	**FCC ID:**	TNE-430LMA1
Operating Mode:	Continuously transmitting a RF signal at 430.3MHz on CH. A		
Technician:	RW	**Date:**	12-29-08
Notes:	Average values calculated from Peak readings Duty Cycle: 9.3% Duty Cycle		

Test Freq.	Antenna Pol./Height	EUT Orientation	Peak Reading	Duty Cycle Correction	Corrected Reading	Converted Reading	Avg. Limit
MHz	(V/H)-Meters	X / Y / Z	dBµV	dB	dBµV/m	uV/m	uV/m
430.3	V / 1.0	X	91.1	-20.6	70.5	3349.7	10845.8
|	V / 1.0	Y	78.2	-20.6	57.6	758.6	|
|	V / 1.1	Z	82.1	-20.6	61.5	1188.3	|
|	H / 1.6	X	79.3	-20.6	58.7	861.1	|
|	H / 1.8	Y	93.2	-20.6	72.6	4265.8	|
430.3	H / 1.7	Z	91.0	-20.6	70.4	3311.3	10845.8
860.6	V / 1.0	X	62.3	-20.6	41.7	121.6	1084.6
|	V / 2.4	Y	44.6	-20.6	24.0	15.8	|
|	V / 1.0	Z	52.5	-20.6	31.9	39.4	|
|	H / 1.3	X	48.7	-20.6	28.1	25.4	|
|	H / 1.8	Y	60.9	-20.6	40.3	103.5	|
860.6	H / 1.6	Z	57.0	-20.6	36.4	66.1	1084.6
1290.9	V / 1.0	X	37.7	-20.6	17.1	7.2	1084.6
|	V / 1.1	Y	39.0	-20.6	18.4	8.3	|
|	V / 1.0	Z	40.3	-20.6	19.7	9.7	|
|	H / 2.0	X	42.2	-20.6	21.6	12.0	|
|	H / 1.2	Y	41.7	-20.6	21.1	11.4	|
1290.9	H / 1.0	Z	35.2	-20.6	14.6	5.4	1084.6
1721.2	V / 1.0	X	37.1	-20.6	16.5	6.7	500.0
|	V / 1.0	Y	39.9	-20.6	19.3	9.2	|
|	V / 1.4	Z	40.2	-20.6	19.6	9.6	|
|	H / 1.0	X	36.4	-20.6	15.8	6.2	|
|	H / 1.0	Y	38.0	-20.6	17.4	7.4	|
1721.2	H / 1.5	Z	40.6	-20.6	20.0	10.0	500.0
2151.5	V / 1.0	X	36.3	-20.6	15.7	6.1	1084.6
|	V / 1.1	Y	37.5	-20.6	16.9	7.0	|
|	V / 1.0	Z	35.6	-20.6	15.0	5.6	|
|	H / 1.0	X	38.7	-20.6	18.1	8.0	|
|	H / 1.2	Y	34.9	-20.6	14.3	5.2	|
2151.5	H / 1.0	Z	38.9	-20.6	18.3	8.2	1084.6

Test Method:	Field Strength of Emissions		
Test Specification:	FCC Part 15 Subpart C, Section 15.231(b) IC RSS-210, Section A1.1.2 (1)		
Customer:	Magnetek	**Job No.**	R-1290P-1
Test Sample:	430-440MHz Portable Transceiver (Remote)		
Part No.:	00282164 v.1.1	**FCC ID:**	TNE-430LMA1
Operating Mode:	Continuously transmitting a RF signal at 430.3MHz on CH. A		
Technician:	RW	**Date:**	12-29-08
Notes:	Average values calculated from Peak readings Duty Cycle: 9.3% Duty Cycle		

Test Freq.	Antenna Pol./Height	EUT Orientation	Peak Reading	Duty Cycle Correction	Corrected Reading	Converted Reading	Avg. Limit
MHz	(V/H)-Meters	X / Y / Z	dBµV	dB	dBµV/m	uV/m	uV/m
*2581.8	V / 1.0	X	38.2	-20.6	17.6	7.59	1084.6
|	V / 1.0	Y	38.2	-20.6	17.6	7.59	|
|	V / 1.0	Z	38.2	-20.6	17.6	7.59	|
|	H / 1.0	X	38.2	-20.6	17.6	7.59	|
|	H / 1.0	Y	38.2	-20.6	17.6	7.59	|
*2581.8	H /1.0	Z	38.2	-20.6	17.6	7.59	1084.6
*3012.1	V / 1.0	X	37.8	-20.6	17.2	7.24	1084.6
|	V / 1.0	Y	37.8	-20.6	17.2	7.24	|
|	V / 1.0	Z	37.8	-20.6	17.2	7.24	|
|	H / 1.0	X	37.8	-20.6	17.2	7.24	|
|	H / 1.0	Y	37.8	-20.6	17.2	7.24	|
*3012.1	H / 1.0	Z	37.8	-20.6	17.2	7.24	1084.6
*3442.4	V / 1.0	X	40.3	-20.6	19.7	9.66	1084.6
|	V / 1.0	Y	40.3	-20.6	19.7	9.66	|
|	V / 1.0	Z	40.3	-20.6	19.7	9.66	|
|	H / 1.0	X	40.3	-20.6	19.7	9.66	|
|	H / 1.0	Y	40.3	-20.6	19.7	9.66	|
*3442.4	H / 1.0	Z	40.3	-20.6	19.7	9.66	1084.6
*3872.7	V / 1.0	X	40.3	-20.6	19.7	9.66	500.0
|	V / 1.0	Y	40.3	-20.6	19.7	9.66	|
|	V / 1.0	Z	40.3	-20.6	19.7	9.66	|
|	H / 1.0	X	40.3	-20.6	19.7	9.66	|
|	H / 1.0	Y	40.3	-20.6	19.7	9.66	|
*3872.7	H / 1.0	Z	40.3	-20.6	19.7	9.66	500.0
*4303.0	V / 1.0	X	41.7	-20.6	21.1	11.35	500.0
|	V / 1.0	Y	41.7	-20.6	21.1	11.35	|
|	V / 1.0	Z	41.7	-20.6	21.1	11.35	|
|	H / 1.0	X	41.7	-20.6	21.1	11.35	|
|	H / 1.0	Y	41.7	-20.6	21.1	11.35	|
*4303.0	H / 1.0	Z	41.7	-20.6	21.1	11.35	500.0
	*=Noise Floor Measurements (Minimum system sensitivity)						

Test Method:	Field Strength of Emissions		
Test Specification:	FCC Part 15 Subpart C, Section 15.231(b) IC RSS-210, Section A1.1.2(1)		
Customer:	Magnetek	**Job No.**	R-1290P-1
Test Sample:	430-440MHz Portable Transceiver (Remote)		
Part No.:	00282164 v.1.1	**FCC ID:**	TNE-430LMA1
Operating Mode:	Continuously transmitting a RF signal at 439.7MHz on CH. C		
Technician:	RW	**Date:**	12-31-08
Notes:	Detector: Peak, Unless otherwise specified	Test Distance: 3 Meters	

Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)/Meters	X / Y / Z	dBµV	dB	dBµV/m	uV/m	uV/m
439.7	V / 1.0	X	106.1	-15.2	90.9	35075.2	112375.
|	V / 1.0	Y	94.6	-15.2	79.4	9332.5	|
|	V / 1.3	Z	96.6	-15.2	81.4	11748.9	|
|	H / 1.0	X	93.6	-15.2	78.4	8317.6	|
|	H / 1.7	Y	106.5	-15.2	91.3	36728.2	|
439.7	H / 1.8	Z	104.1	-15.2	88.9	27861.2	112375.
879.4	V / 1.0	X	69.3	-6.3	63.0	1412.5	11237.5
|	V / 1.1	Y	64.3	-6.3	58.0	794.3	|
|	V / 1.0	Z	59.1	-6.3	52.8	436.5	|
|	H / 1.0	X	59.7	-6.3	53.4	467.7	|
|	H / 1.0	Y	67.3	-6.3	61.0	1122.0	|
879.4	H / 1.0	Z	58.9	-6.3	52.6	426.6	11237.5
1319.1	V / 1.5	X	47.5	-7.4	40.1	101.2	5000.0
|	V / 1.0	Y	47.4	-7.4	40.0	100.0	|
|	V / 1.0	Z	49.2	-7.4	41.8	123.0	|
|	H / 2.0	X	52.4	-7.4	45.0	177.8	|
|	H / 1.0	Y	50.1	-7.4	42.7	136.5	|
1319.1	H / 1.0	Z	46.2	-7.4	38.8	87.1	5000.0
*1758.8	V / 1.0	X	57.5	-5.0	52.5	421.7	11237.5
|	V / 1.0	Y	57.5	-5.0	52.5	421.7	|
|	V / 1.0	Z	57.5	-5.0	52.5	421.7	|
|	H / 1.0	X	57.5	-5.0	52.5	421.7	|
|	H / 1.0	Y	57.5	-5.0	52.5	421.7	|
*1758.8	H / 1.0	Z	57.5	-5.0	52.5	421.7	11237.5
2198.5	V / 1.0	X	41.5	-3.2	38.3	82.2	11237.5
|	V / 1.0	Y	42.6	-3.2	39.4	93.3	|
|	V / 1.1	Z	40.9	-3.2	37.7	76.7	|
|	H / 1.0	X	44.6	-3.2	41.4	117.5	|
|	H / 1.1	Y	40.2	-3.2	37.0	70.8	|
2198.5	H / 1.0	Z	43.5	-3.2	40.3	103.5	11237.5
	*= Noise Floor Measurements (minimum sensitivity).						

Test Method:	Field Strength of Emissions		
Test Specification:	FCC Part 15 Subpart C, Section 15.231(b) IC RSS-210, Section A1.1.2 (1)		
Customer:	Magnetek	**Job No.**	R-1290P-1
Test Sample:	430-440MHz Portable Transceiver (Remote)		
Part No.:	00282164 v.1.1	**FCC ID:**	TNE-430LMA1
Operating Mode:	Continuously transmitting a RF signal at 439.7MHz on CH. C		
Technician:	RW	**Date:**	12-31-08
Notes:	Detector: Peak, unless otherwise specified	Test Distance: 3 Meters	

Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)-Meters	X / Y / Z	dBµV	dB	dBµV/m	uV/m	uV/m
*2638.2	V / 1.0	X	56.1	-2.6	53.5	473.2	11237.5
|	V / 1.0	Y	56.1	-2.6	53.5	473.2	|
|	V / 1.0	Z	56.1	-2.6	53.5	473.2	|
|	H / 1.0	X	56.1	-2.6	53.5	473.2	|
|	H / 1.0	Y	56.1	-2.6	53.5	473.2	|
*2638.2	H / 1.0	Z	56.1	-2.6	53.5	473.2	11237.5
*3077.9	V / 1.0	X	39.7	-0.7	39.0	89.1	11237.5
|	V / 1.0	Y	39.7	-0.7	39.0	89.1	|
|	V / 1.0	Z	39.7	-0.7	39.0	89.1	|
|	H / 1.0	X	39.7	-0.7	39.0	89.1	|
|	H / 1.0	Y	39.7	-0.7	39.0	89.1	|
*3077.9	H / 1.0	Z	39.7	-0.7	39.0	89.1	11237.5
*3517.6	V / 1.0	X	37.2	1.3	38.5	84.1	11237.5
|	V / 1.0	Y	37.2	1.3	38.5	84.1	|
|	V / 1.0	Z	37.2	1.3	38.5	84.1	|
|	H / 1.0	X	37.2	1.3	38.5	84.1	|
|	H / 1.0	Y	37.2	1.3	38.5	84.1	|
*3517.6	H / 1.0	Z	37.2	1.3	38.5	84.1	11237.5
*3957.3	V / 1.0	X	37.0	3.7	40.7	108.4	5000.0
|	V / 1.0	Y	37.0	3.7	40.7	108.4	|
|	V / 1.0	Z	37.0	3.7	40.7	108.4	|
|	H / 1.0	X	37.0	3.7	40.7	108.4	|
|	H / 1.0	Y	37.0	3.7	40.7	108.4	|
*3957.3	H / 1.0	Z	37.0	3.7	40.7	108.4	5000.0
*4397.0	V / 1.0	X	36.9	4.2	41.1	113.5	5000.0
|	V / 1.0	Y	36.9	4.2	41.1	113.5	|
|	V / 1.0	Z	36.9	4.2	41.1	113.5	|
|	H / 1.0	X	36.9	4.2	41.1	113.5	|
|	H / 1.0	Y	36.9	4.2	41.1	113.5	|
*4397.0	H / 1.0	Z	36.9	4.2	41.1	113.5	5000.0
	The frequency range was scanned from 30 MHz to 4.4 GHz. All emissions not recorded were more						
	than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.						
	*=Noise Floor Measurements (Minimum system sensitivity)						

Test Method:	Field Strength of Emissions		
Test Specification:	FCC Part 15 Subpart C, Section 15.231(b) IC RSS-210, Section A1.1.2 (1)		
Customer:	Magnetek	**Job No.**	R-1290P-1
Test Sample:	430-440MHz Portable Transceiver (Remote)		
Part No.:	00282164 v.1.1	**FCC ID:**	TNE-430LMA1
Operating Mode:	Continuously transmitting a RF signal at 439.7MHz on CH. C		
Technician:	RW	**Date:**	12-31-08

Notes: Average values calculated from Peak readings Duty Cycle: 9.3% Duty Cycle Correction: -

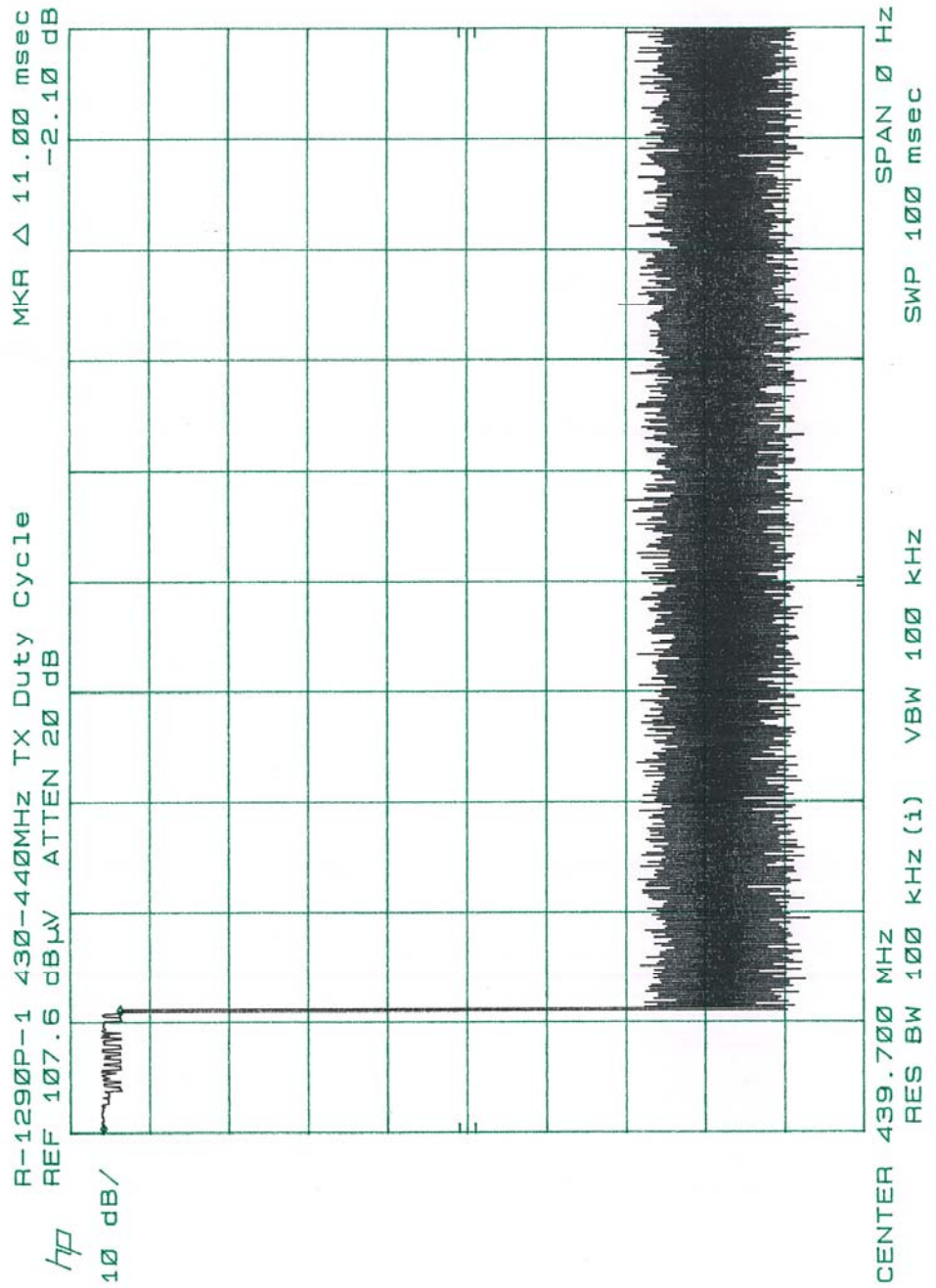
Test Freq.	Antenna Pol./Height	EUT Orientation	Peak Reading	Duty Cycle Correction	Corrected Reading	Converted Reading	Avg. Limit
MHz	(V/H)-Meters	X / Y / Z	dBµV	dB	dBµV/m	uV/m	uV/m
439.7	V / 1.0	X	90.9	-20.6	70.3	3273.4	11237.5
|	V / 1.0	Y	79.4	-20.6	58.8	871.0	|
|	V / 1.3	Z	81.4	-20.6	60.8	1096.5	|
|	H / 1.0	X	78.4	-20.6	57.8	776.2	|
|	H / 1.7	Y	91.3	-20.6	70.7	3427.7	|
439.7	H / 1.8	Z	88.9	-20.6	68.3	2600.2	11237.5
879.4	V / 1.0	X	63.0	-20.6	42.4	131.8	1123.8
|	V / 1.1	Y	58.0	-20.6	37.4	74.1	|
|	V / 1.0	Z	52.8	-20.6	32.2	40.7	|
|	H / 1.0	X	53.4	-20.6	32.8	43.7	|
|	H / 1.0	Y	61.0	-20.6	40.4	104.7	|
879.4	H / 1.8	Z	52.6	-20.6	32.0	39.8	1123.8
1319.1	V / 1.5	X	40.1	-20.6	19.5	9.44	500.0
|	V / 1.0	Y	40.0	-20.6	19.4	9.33	|
|	V / 1.0	Z	41.8	-20.6	21.2	11.48	|
|	H / 2.0	X	45.0	-20.6	24.4	16.60	|
|	H / 1.0	Y	42.7	-20.6	22.1	12.73	|
1319.1	H / 1.0	Z	38.8	-20.6	18.2	8.12	500.0
*1758.8	V / 1.0	X	52.5	-20.6	31.9	39.35	1123.8
|	V / 1.0	Y	52.5	-20.6	31.9	39.35	|
|	V / 1.0	Z	52.5	-20.6	31.9	39.35	|
|	H / 1.0	X	52.5	-20.6	31.9	39.35	|
|	H / 1.0	Y	52.5	-20.6	31.9	39.35	|
*1758.8	H / 1.0	Z	52.5	-20.6	31.9	39.35	1123.8
2198.5	V / 1.0	X	38.3	-20.6	17.7	7.67	1123.8
|	V / 1.0	Y	39.4	-20.6	18.8	8.71	|
|	V / 1.1	Z	37.7	-20.6	17.1	7.16	|
|	H / 1.0	X	41.4	-20.6	20.8	10.96	|
|	H / 1.1	Y	37.0	-20.6	16.4	6.61	|
2198.5	H / 1.0	Z	40.3	-20.6	19.7	9.66	1123.8
	*=Noise Floor Measurements (Minimum system sensitivity)						

Test Method:	Field Strength of Emissions		
Test Specification:	FCC Part 15 Subpart C, Section 15.231(b) IC RSS-210, Section A1.1.2 (1)		
Customer:	Magnetek	**Job No.**	R-1290P-1
Test Sample:	430-440MHz Portable Transceiver (Remote)		
Part No.:	00282164 v.1.1	**FCC ID:**	TNE-430LMA1
Operating Mode:	Continuously transmitting a RF signal at 439.7MHz on CH. C		
Technician:	RW	**Date:**	1-5-09

Notes: Average values calculated from Peak readings Duty Cycle: 9.3% Duty Cycle Correction:

Test Freq.	Antenna Pol./Height	EUT Orientation	Peak Reading	Duty Cycle Correction	Corrected Reading	Converted Reading	Avg. Limit
MHz	(V/H)-Meters	X / Y / Z	dBµV	dB	dBµV/m	uV/m	uV/m
*2638.2	V / 1.0	X	53.5	-20.6	32.9	44.15	1123.8
|	V / 1.0	Y	53.5	-20.6	32.9	44.15	|
|	V / 1.0	Z	53.5	-20.6	32.9	44.15	|
|	H / 1.0	X	53.5	-20.6	32.9	44.15	|
|	H / 1.0	Y	53.5	-20.6	32.9	44.15	|
*2638.2	H / 1.0	Z	53.5	-20.6	32.9	44.15	1123.8
*3077.9	V / 1.0	X	39.0	-20.6	18.4	8.32	1123.8
|	V / 1.0	Y	39.0	-20.6	18.4	8.32	|
|	V / 1.0	Z	39.0	-20.6	18.4	8.32	|
|	H / 1.0	X	39.0	-20.6	18.4	8.32	|
|	H / 1.0	Y	39.0	-20.6	18.4	8.32	|
*3077.9	H / 1.0	Z	39.0	-20.6	18.4	8.32	1123.8
*3517.6	V / 1.0	X	38.5	-20.6	17.9	7.85	1123.8
|	V / 1.0	Y	38.5	-20.6	17.9	7.85	|
|	V / 1.0	Z	38.5	-20.6	17.9	7.85	|
|	H / 1.0	X	38.5	-20.6	17.9	7.85	|
|	H / 1.0	Y	38.5	-20.6	17.9	7.85	|
*3517.6	H / 1.0	Z	38.5	-20.6	17.9	7.85	1123.8
*3957.3	V / 1.0	X	40.7	-20.6	20.1	10.12	500.0
|	V / 1.0	Y	40.7	-20.6	20.1	10.12	|
|	V / 1.0	Z	40.7	-20.6	20.1	10.12	|
|	H / 1.0	X	40.7	-20.6	20.1	10.12	|
|	H / 1.0	Y	40.7	-20.6	20.1	10.12	|
*3957.3	H / 1.0	Z	40.7	-20.6	20.1	10.12	500.0
*4397.0	V / 1.0	X	41.1	-20.6	20.5	10.59	500.0
|	V / 1.0	Y	41.1	-20.6	20.5	10.59	|
|	V / 1.0	Z	41.1	-20.6	20.5	10.59	|
|	H / 1.0	X	41.1	-20.6	20.5	10.59	|
|	H / 1.0	Y	41.1	-20.6	20.5	10.59	|
*4397.0	H / 1.0	Z	41.1	-20.6	20.5	10.59	500.0
	*=Noise Floor Measurements (Minimum system sensitivity)						

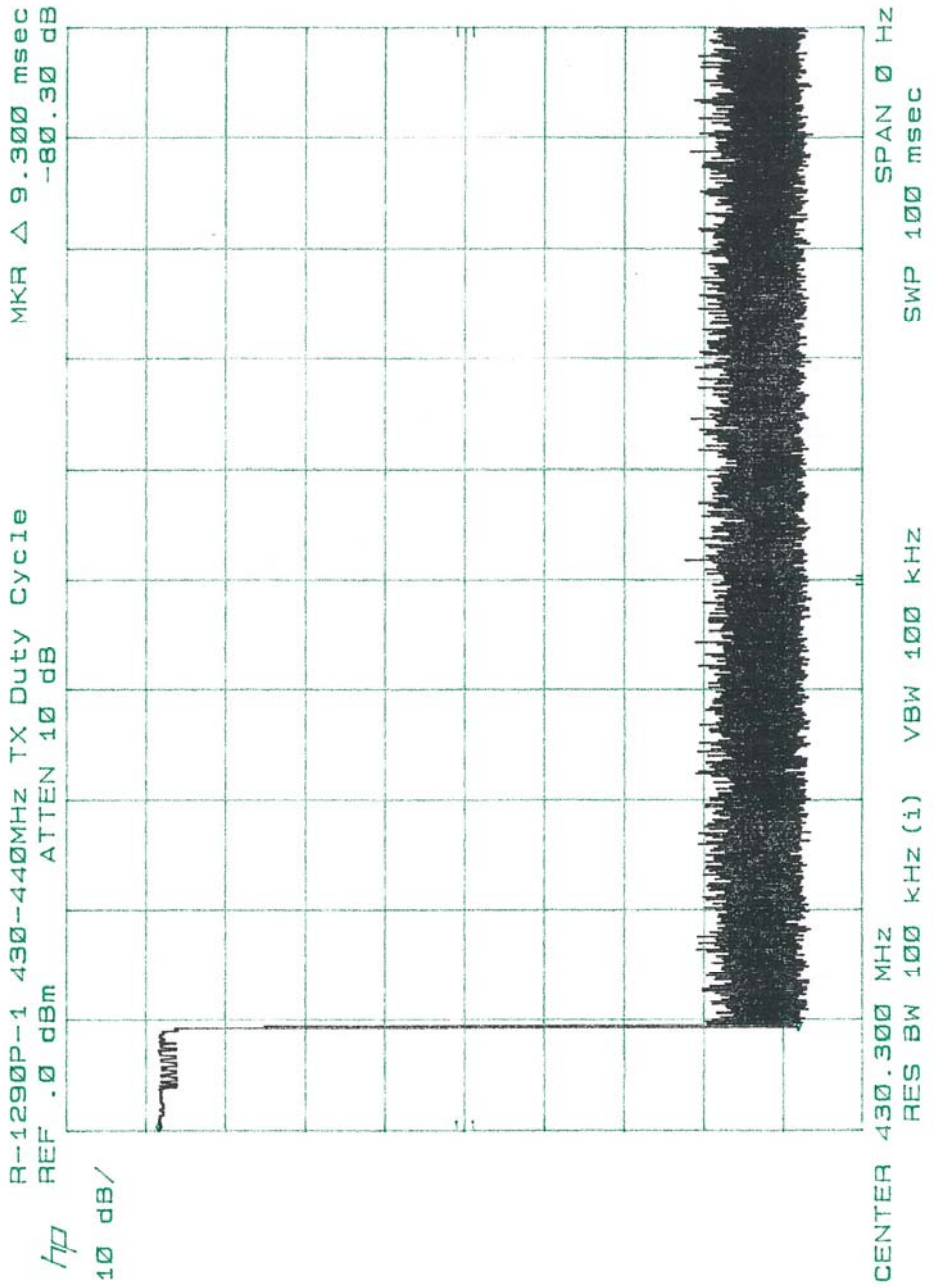
Duty Cycle Determination
FCC Part 15, Subpart C, Section 15.231(b)(2)
IC RSS-210, Section A1.1.2(2)
Test Data - Base Module



Test Method: **Duty Cycle Determination**
Test Specification: FCC Part 15.231(b)(2) and IC RSS-210, Section A1.1.2(2)
Notes: Measurement of cycle time = 11.0mSec.

Customer	Magnetek	
Test Sample	430-440MHz Stationary Transceiver (Base)	
Part Number	00282164 v.1.1	
Date 1-28-09	Tech: RW	Sheet 1 of 1

Duty Cycle Determination
FCC Part 15, Subpart C, Section 15.231(b)(2)
IC RSS-210, Section A1.1.2(2)
Test Data - Remote Module



Test Method: **Duty Cycle Determination**
Test Specification: FCC Part 15.231(b)(2) and IC RSS-210 Section A1.1.2(2)
Notes: Measurement of cycle time = 9.300mSec.

Customer	Magnetek	
Test Sample	430-440MHz Portable Transceiver (Remote)	
Part Number	00282164 v.1.1	
Date 12-22-08	Tech: RW	Sheet 1 of 1

Field Strength of Spurious Emissions
FCC Part 15, Subpart C, Section 15.231(b)(3)
IC RSS-210, Section A1.1.2(3)
Test Data - Base Module

Test Method:	Field Strength of Spurious Emissions - Peak		
Test Specification:	FCC Part 15, Subpart C, Paragraph 15.231(b)(3) IC RSS-210, Section A1.1.2(3)		
Customer:	Magnetek	**Job No.**	R-1290P-1
Test Sample:	430 to 440 MHz Stationary Transceiver (Base)		
Part No.:	00282164	**S/N :**	V.1.1
Operating Mode:	Continuously Transmitting Pulsed Signal on Channel C (439.7 MHz)		
Technician:	R. Wilson	**Date:**	1-27-09

Frequency	Antenna Polarization Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Limit
MHz	(V/H)/M	Axis	dBuV	dB	dBuV/m	uV/m	uV/m
I							
30.0							100.0
I							I
88.0							100.0
88.0							150.0
I							I
118.0	V / 1.0	180	24.5	9.0	33.5	47.3	I
118.0	H / 2.5	272	15.0	9.0	24.0	15.8	I
I							I
137.6	V / 1.0	183	12.7	8.9	21.6	12.0	I
137.6	H / 2.4	223	7.8	8.9	16.7	6.8	I
I							I
176.9	V / 1.0	151	6.5	10.7	17.2	7.2	I
176.9	H / 1.6	175	9.2	10.7	19.9	9.9	I
I							I
196.6	V / 1.0	249	20.7	11.3	32.0	39.8	150.0
196.6	H / 1.7	161	24.4	11.3	35.7	61.0	200.0
I							I
216.0							150.0
216.0							200.0
I							I
216.3	V / 1.0	96	20.0	11.9	31.9	39.4	I
216.3	H / 1.3	140	23.4	11.9	35.3	58.2	I
I							I
236.0	V / 1.0	170	15.2	12.9	28.1	25.4	I
236.0	H / 1.3	125	16.5	12.9	29.4	29.5	I
I							I
960.0							200.0
960.0							500.0
I							I
9300.0							500.0

Notes:

1) Test Distance: 3 Meters
2) Detector Function: Quasi- Peak below 1000MHz, Peak above 1000MHz.
3) The frequency range was scanned from 30 MHz to 4.4 GHz.
4) All emissions not recorded were more than 20 dB below the specified limit.
5) Emissions from the EUT do not exceed the specified limits.
6) * = Noise Floor Measurements (Minimum system sensitivity)

Field Strength of Spurious Emissions
FCC Part 15, Subpart C, Section 15.231(b)(3)
IC RSS-210, Section A1.1.2(3)
Test Data - Remote Module, Transmitter Mode

Test Method:	Field Strength of Spurious Emissions		
Test Specification:	FCC Part 15 Subpart C, Section 15.231(b)(3) IC RSS-210, Section A1.1.2(3)		
Customer:	Magnetek	**Job No.:**	R-1290P-1
Test Sample:	430-440MHz Portable Transceiver (Remote)		
Part No.:	00282164 v.1.1	**Serial No.:**	N/A
Operating Mode:	Continuously transmitting a RF signal at 430.3MHz on CH. A		
Technician:	RW	**Date:**	12-31-08

Notes: Test Distance: 3 Meters Temp: 8°C RH: 51.0%

Detector: Quasi-Peak from 30 MHz to 1 GHz, Peak above 1 GHz

Frequency	Antenna Position	EUT Orientation	Meter Readings	Correction Factor	Corrected Reading	Converted Reading	Limit
MHz	(V/H) / Meters	Degrees	dBuV	dB	dBuV/m	uV/m	uV/m
30							100
*38.0	H/1.0	180.0	3.5	13.7	17.2	7.24	
88							100
88							150
*110.0	H/1.0	180.0	8.0	9.5	17.5	7.50	
*185.0	H/1.0	180.0	0.8	11.4	12.2	4.07	
216							150
216							200
*225.0	H/1.0	180.0	1.2	12.7	13.9	4.95	
*600.0	H/1.0	180.0	2.8	22.1	24.9	17.58	
960							200
960							500
*995.0	H/1.0	180.0	-3.6	27.1	23.5	14.96	
2000							500

The frequency range was scanned from 30 MHz to 2.0 GHz.

The emissions observed from the EUT do not exceed the specified limits.

Emissions not recorded were more than 20dB under the specified limit.

* = Noise Floor Measurements (minimum sensitivity).

Field Strength of Spurious Emissions
FCC Part 15, Subpart C, Section 15.231(b)(3)
IC RSS-210, Section A1.1.2(3)
Test Data - Remote Module, Receive Mode 5

Test Method:	Field Strength of Spurious Emissions		
Test Specification:	FCC Part 15 Subpart C, Section 15.231(b)(3) IC RSS-210, Section A1.1.2(3)		
Customer:	Magnetek	**Job No.:**	R-1290P-1
Test Sample:	430-440MHz Portable Transceiver (Remote)		
Part No.:	00282164 v.1.1	**Serial No.:**	N/A
Operating Mode:	Receive Mode 5 on CH. A		
Technician:	RW	**Date:**	1-12-09

Notes: Test Distance: 3 Meters Temp: 2°C RH: 27.0%
Detector: Quasi-Peak from 30 MHz to 1 GHz, Peak above 1 GHz

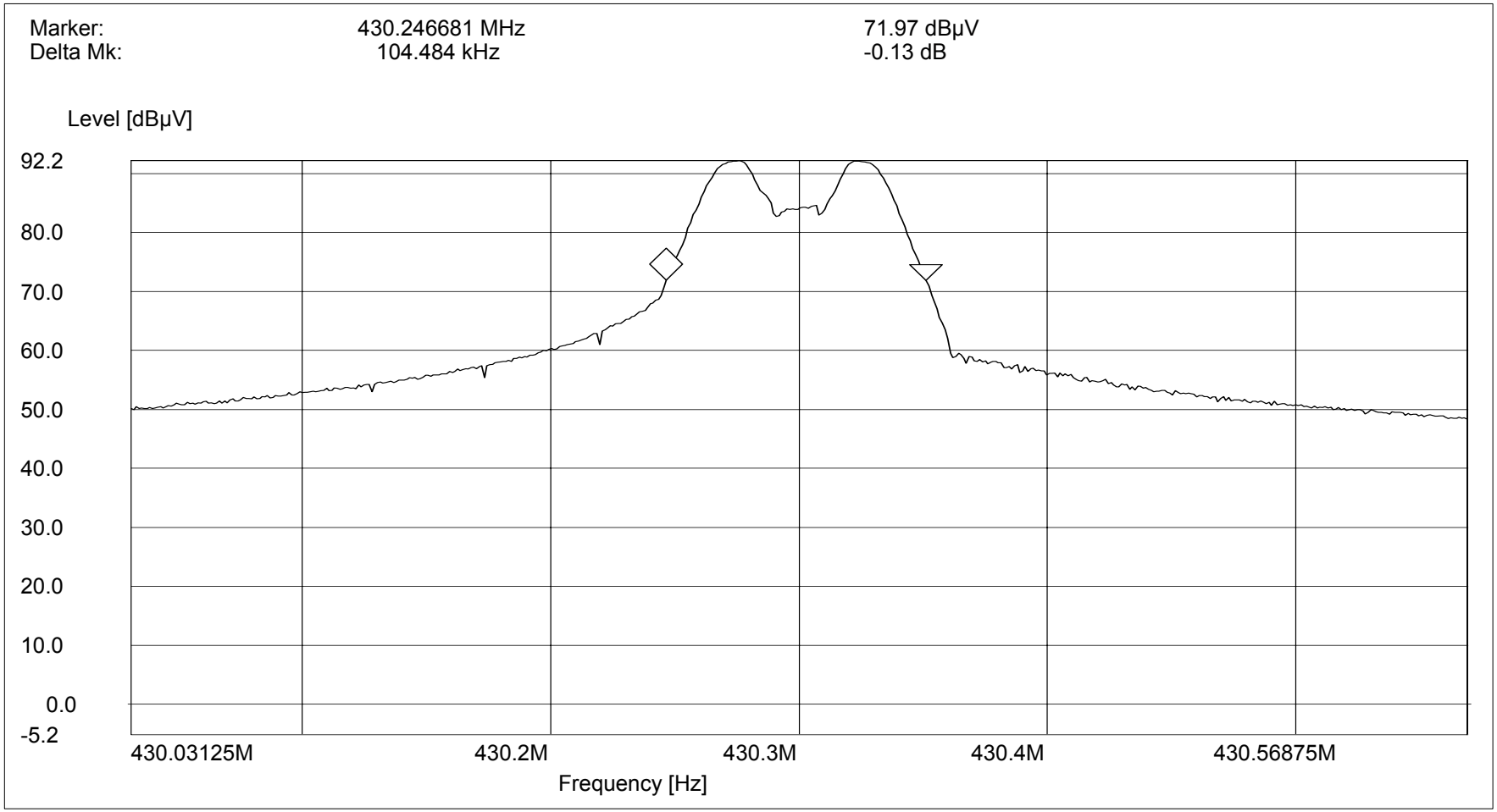
Frequency	Antenna Position	EUT Orientation	Meter Readings	Correction Factor	Corrected Reading	Converted Reading	Limit
MHz	(V/H) / Meters	Degrees	dBuV	dB	dBuV/m	uV/m	uV/m
30							100
*38.0	H/1.0	180.0	3.5	13.7	17.2	7.24	
88							100
88							150
*110.0	H/1.0	180.0	8.0	9.5	17.5	7.50	
*185.0	H/1.0	180.0	0.8	11.4	12.2	4.07	
216							150
216							200
*225.0	H/1.0	180.0	1.2	12.7	13.9	4.95	
*600.0	H/1.0	180.0	2.8	22.1	24.9	17.58	
960							200
960							500
*995.0	H/1.0	180.0	-3.6	27.1	23.5	14.96	
2000							500

The frequency range was scanned from 30 MHz to 2.0 GHz.
The emissions observed from the EUT do not exceed the specified limits.
Emissions not recorded were more than 20dB under the specified limit.
* = Noise Floor Measurements (minimum sensitivity).

Bandwidth of Emission
FCC Part 15, Subpart C, Section 15.231(c)
IC RSS-210, Section A1.1.3
Test Data - Base Module

Bandwidth of Emission

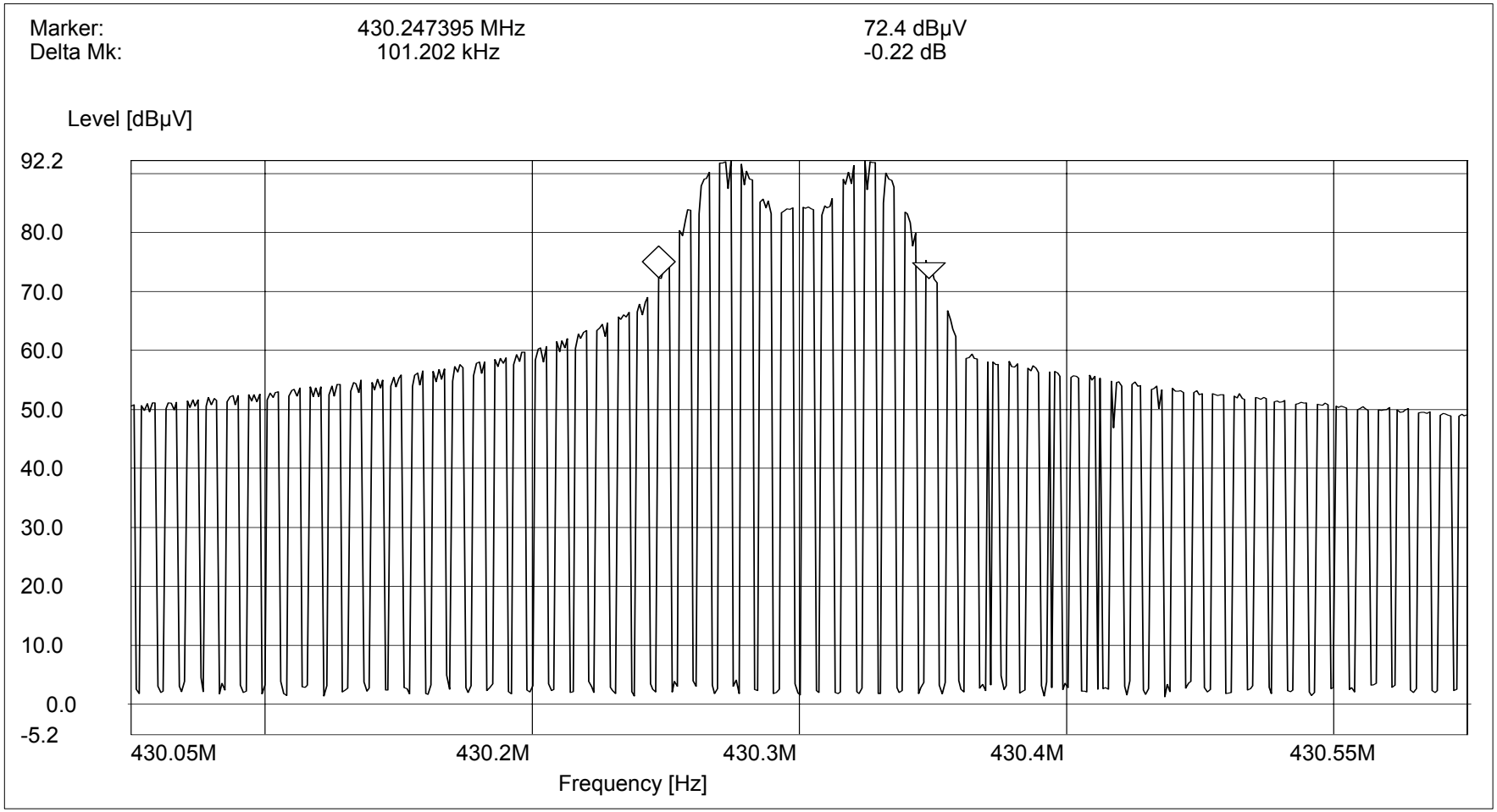
Customer: Magnetek
Test Sample: 430-440MHz Stationary Transceiver (Base)
Part Number: 00282164 v.1.1
Test Specification: FCC Part 15, Subpart C, Section 15.231(c)/IC RSS-210, Section A1.1.3
Mode of Operation: Continuously Transmitting a Pulsed 430.3MHz on Channel A
Technician/Date: RW / 1-5-09
Notes:



Sheet 1 of 4

Bandwidth of Emission

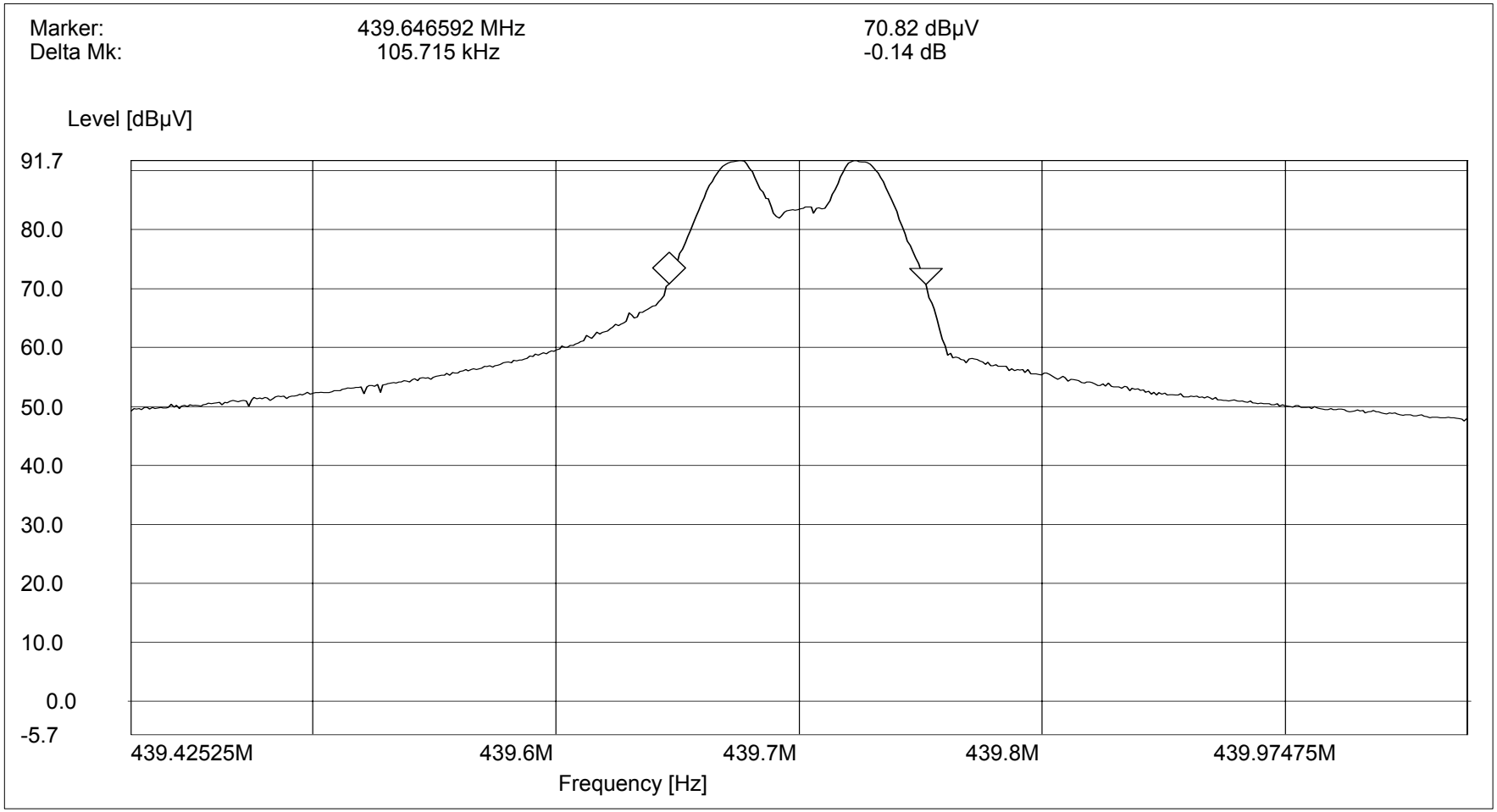
Customer: Magnetek
Test Sample: 430-440MHz Stationary Transceiver (Base)
Part Number: 00282164 v.1.1
Test Specification: FCC Part 15, Subpart C, Section 15.231(c)/IC RSS-210, Section A1.1.3
Mode of Operation: Continuously Transmitting a Pulsed 430.3MHz on Channel A
Technician/Date: RW / 1-5-09
Notes:



Sheet 2 of 4

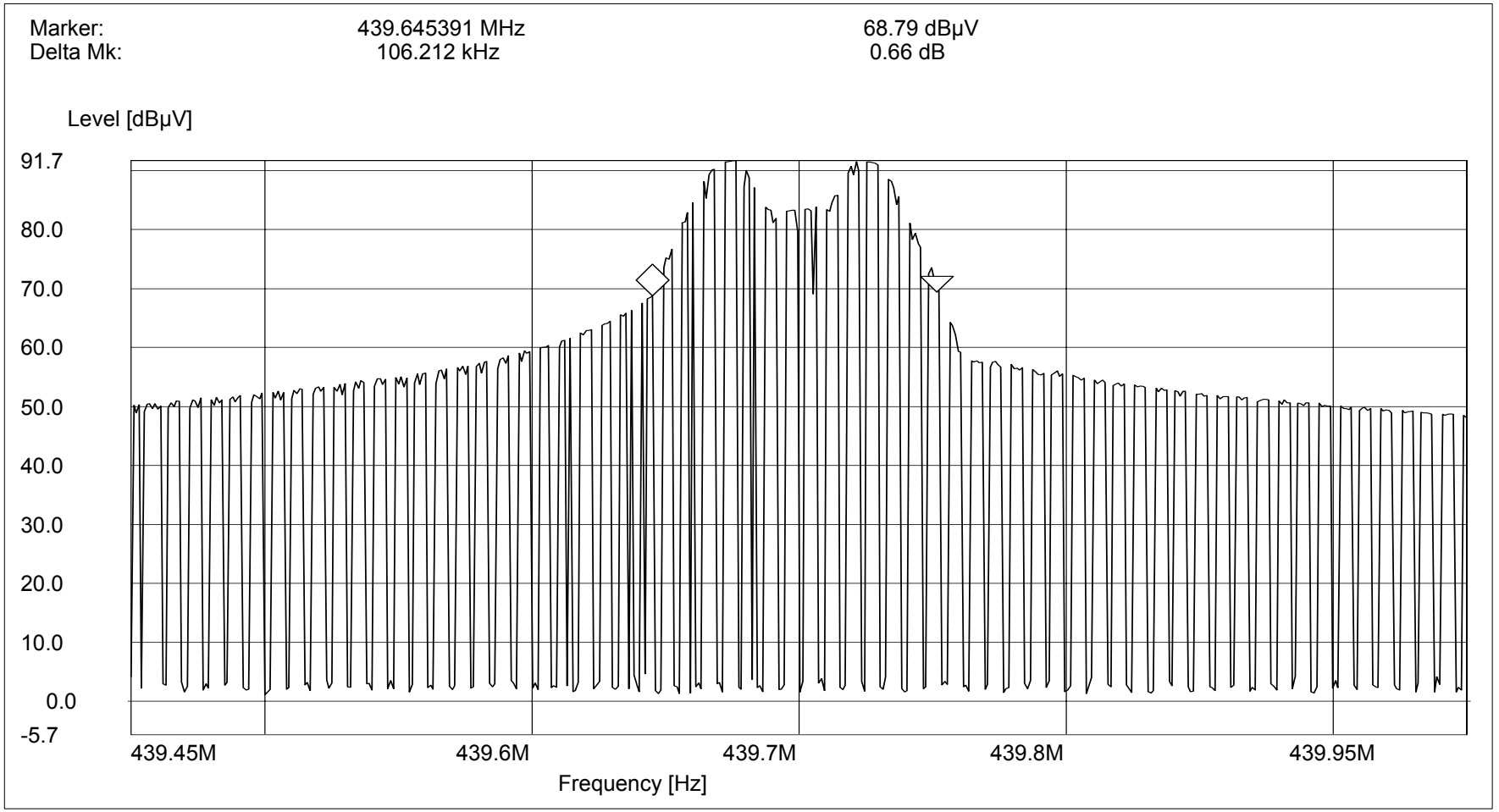
Bandwidth of Emission

Customer: Magnetek
Test Sample: 430-440MHz Stationary Transceiver (Base)
Part Number: 00282164 v.1.1
Test Specification: FCC Part 15, Subpart C, Section 15.231(c)/IC RSS-210, Section A1.1.3
Mode of Operation: Continuously Transmitting a Pulsed 439.7MHz on Channel C
Technician/Date: RW / 1-5-09
Notes:



Bandwidth of Emission

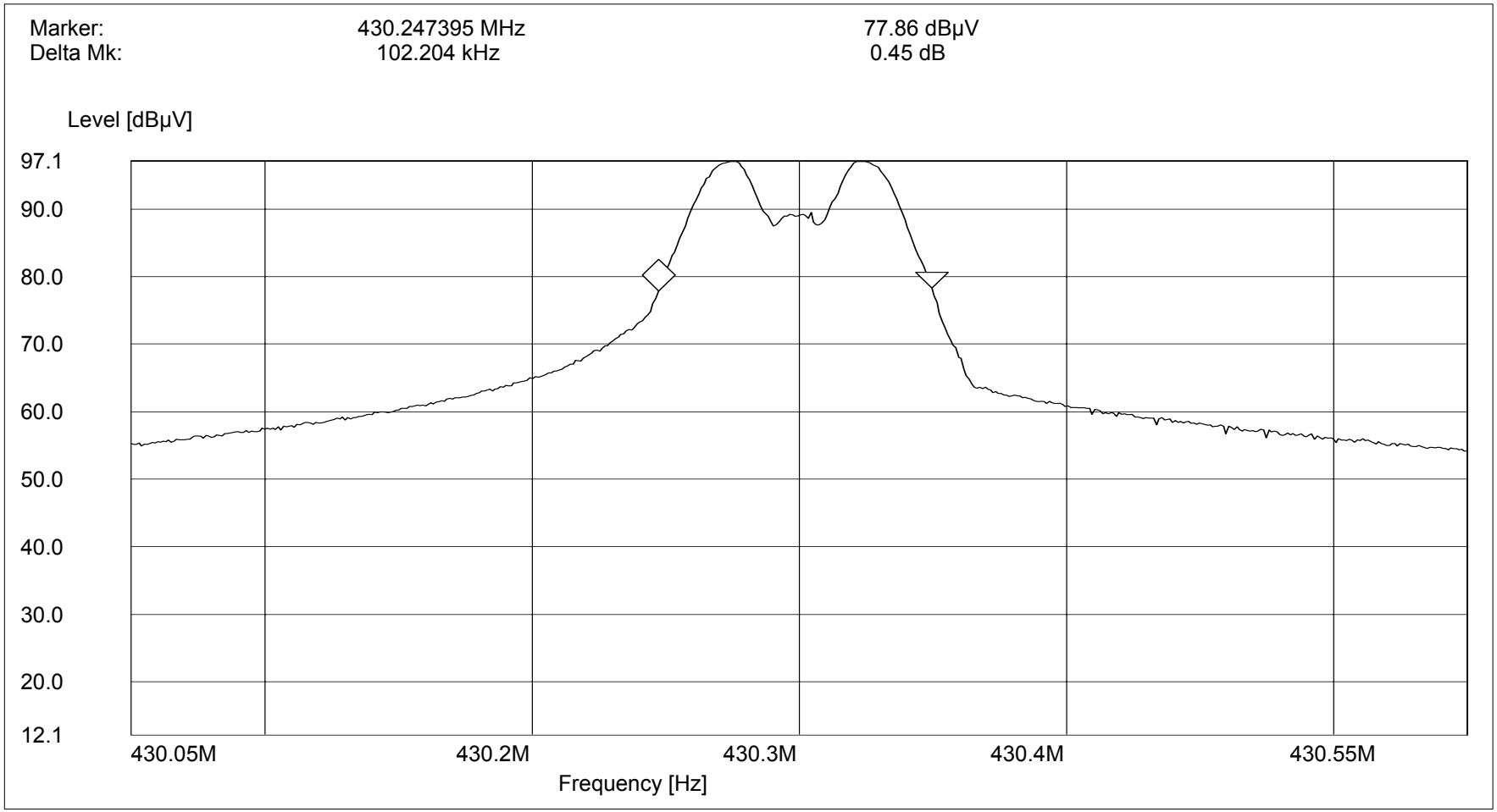
Customer: Magnetek
Test Sample: 430-440MHz Stationary Transceiver (Base)
Part Number: 00282164 v.1.1
Test Specification: FCC Part 15, Subpart C, Section 15.231(c)/IC RSS-210, Section A1.1.3
Mode of Operation: Continuously Transmitting a Pulsed 439.7MHz on Channel C
Technician/Date: RW / 1-5-09
Notes:



Bandwidth of Emission
FCC Part 15, Subpart C, Section 15.231(c)
IC RSS-210, Section A1.1.3
Test Data - Remote Module

Bandwidth of Emission

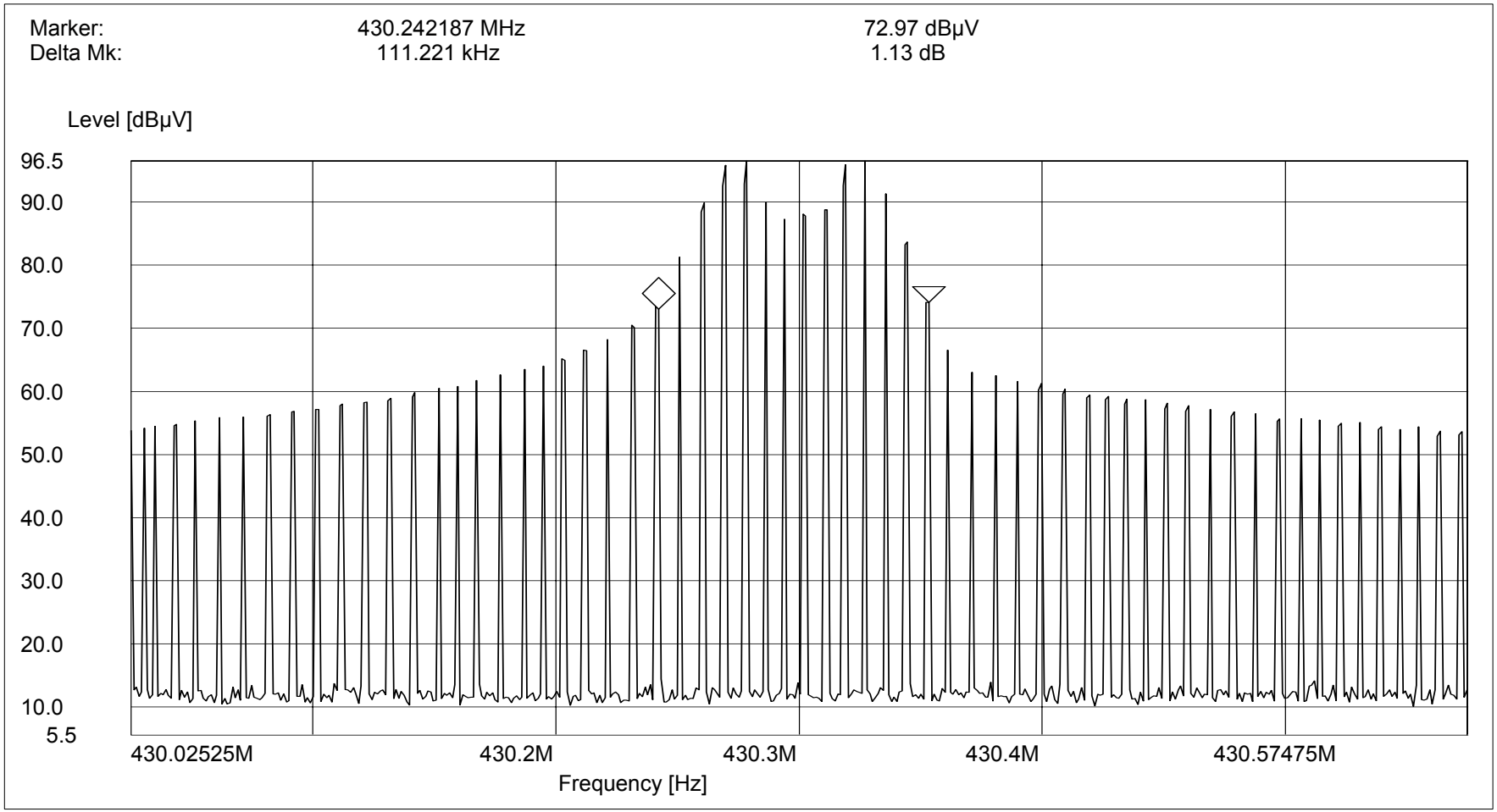
Customer: Magnetek
Test Sample: 430-440MHz Portable Transceiver (Remote)
Part Number: 00282164 v.1.1
Test Specification: FCC Part 15, Subpart C, Section 15.231(c) / IC RSS-210, Section A1.1.3
Mode of Operation: Continuously Transmitting a Pulsed 430.3MHz on Channel A
Technician/Date: RW / 1-5-09
Notes:



Sheet 1 of 4

Bandwidth of Emission

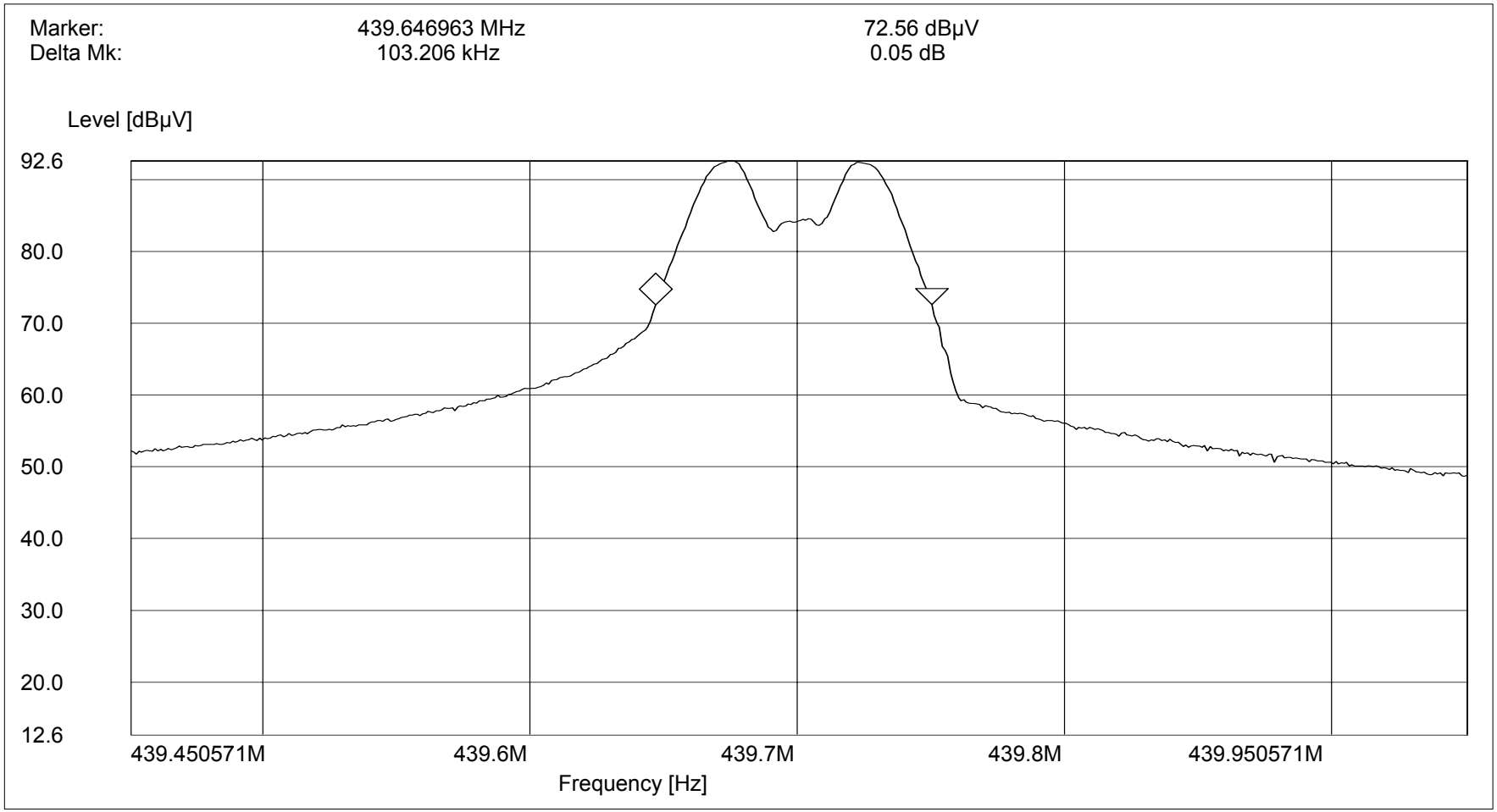
Customer: Magnetek
Test Sample: 430-440MHz Portable Transceiver (Remote)
Part Number: 00282164 v.1.1
Test Specification: FCC Part 15, Subpart C, Section 15.231(c) / IC RSS-210, Section A1.1.3
Mode of Operation: Continuously Transmitting a Pulsed 430.3MHz on Channel A
Technician/Date: RW / 1-5-09
Notes:



Sheet 2 of 4

Bandwidth of Emission

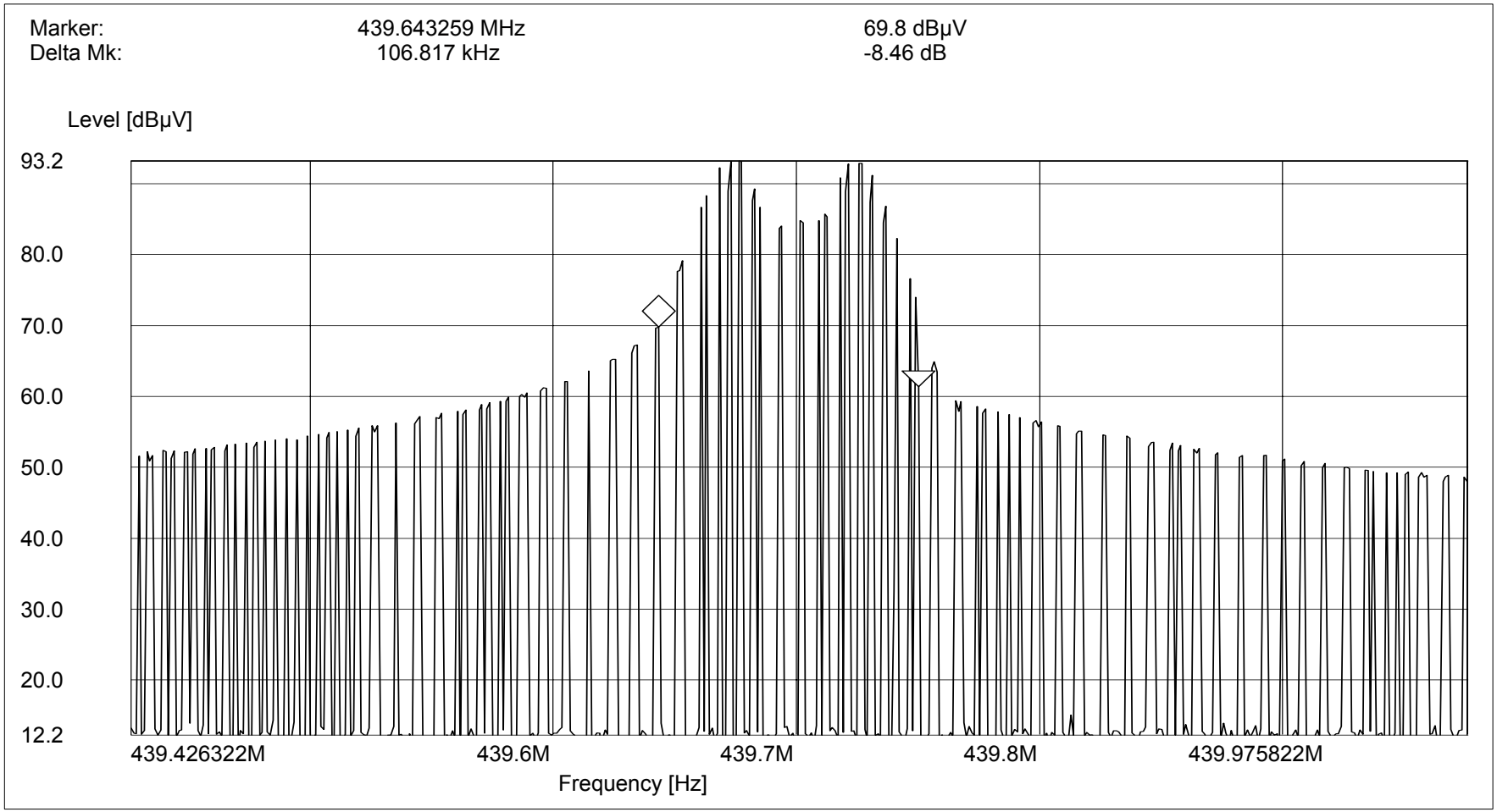
Customer: Magnetek
Test Sample: 430-440MHz Portable Transceiver (Remote)
Part Number: 00282164 v.1.1
Test Specification: FCC Part 15, Subpart C, Section 15.231(c) / IC RSS-210, Section A1.1.3
Mode of Operation: Continuously Transmitting a Pulsed 439.7MHz on Channel C
Technician/Date: RW / 1-5-09
Notes:



Sheet 3 of 4

Bandwidth of Emission

Customer: Magnetek
Test Sample: 430-440MHz Portable Transceiver (Remote)
Part Number: 00282164 v.1.1
Test Specification: FCC Part 15, Subpart C, Section 15.231(c) / IC RSS-210, Section A1.1.3
Mode of Operation: Continuously Transmitting a Pulsed 439.7MHz on Channel C
Technician/Date: RW / 1-5-09
Notes:



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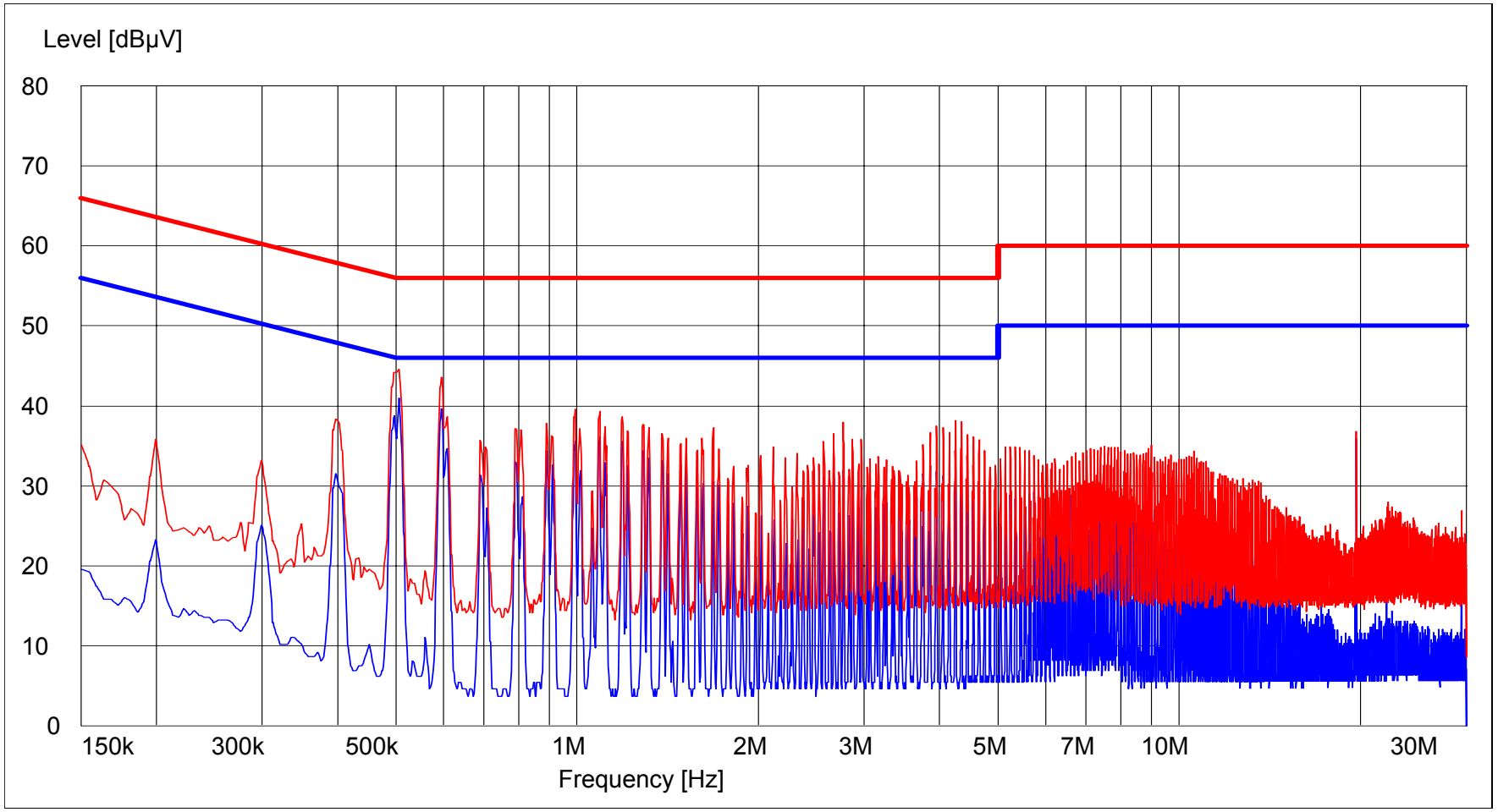
Conducted Emissions, Power Leads, 150 kHz to 30 MHz
FCC Part 15, Subpart C, Section 15.107/15.207(a)
RSS GEN, Section 7.2.2
Test Data

Retlif Testing Laboratories, R-1290P-1
Conducted Emissions
FCC Section 15.107/15.207(a), RSS GEN, Section 7.2.2

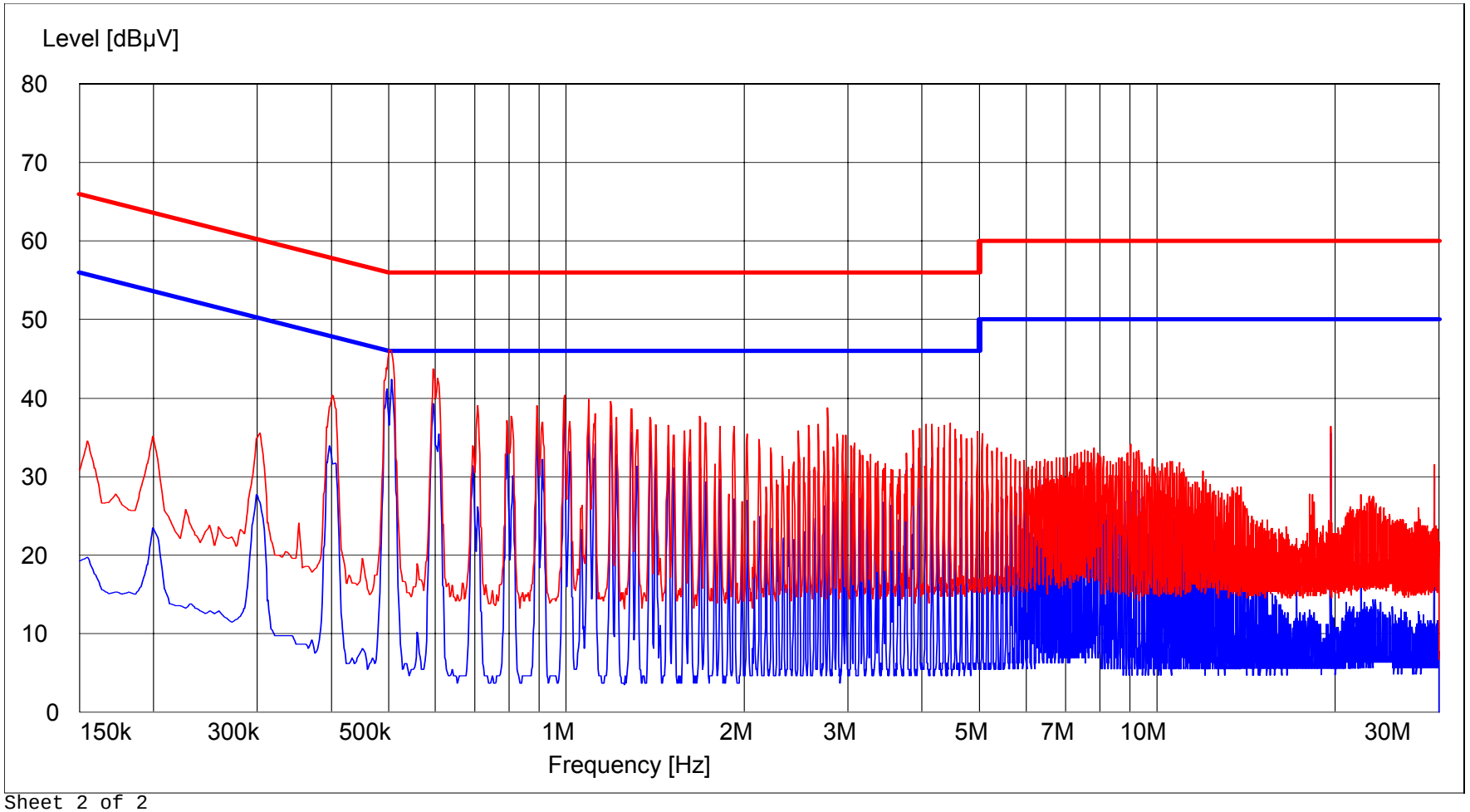
Customer: Magnetek
Test Sample: 430-440MHz Stationary Transceiver (Base)
Part Number: 00282164 v.1.1
Test Specification: FCC Part 15, Subpart C, Section 15.107/15.207(a), RSS GEN, Section 7.2.2
Mode of Operation: Continuously Transmitting a Pulsed 439.7MHz signal on CH. C
Technician/Date: RW/2-2-09
Lead Tested: 115VAC, 60Hz Hot



Sheet 1 of 2

Retlif Testing Laboratories, R-1290P-1
Conducted Emissions
FCC Section 15.107/15.207(a), RSS GEN, Section 7.2.2

Customer: Magnetek
Test Sample: 430-440MHz Stationary Transceiver (Base)
Part Number: 00282164 v.1.1
Test Specification: FCC Part 15, Subpart C, Section 15.107/15.207(a), RSS GEN, Section 7.2.2
Mode of Operation: Continuously Transmitting a Pulsed 439.7MHz signal on CH. C
Technician/Date: RW/2-2-09
Lead Tested: 115VAC, 60Hz Neutral



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Receiver Radiated Emissions
FCC Part 15, Subpart C, Section 15.109(a)
IC RSS-GEN, Section 7.2.3
Test Data - Base Module

Test Method:	Receiver Radiated Emissions - Peak		
Test Specification:	FCC Part 15, Subpart C, Section 15.109(a) IC RSS-GEN, Section 7.2.3		
Customer:	Magnetek	**Job No.**	R-1290P-1
Test Sample:	430 to 440 MHz Stationary Transceiver (Base)		
Part No.:	00282164	**S/N :**	V.1.1
Operating Mode:	Continuously Transmitting Pulsed Signal on Channel C (439.7 MHz)		
Technician:	R. Wilson	**Date:**	1-27-09

Frequency	Antenna Polarization Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Limit
MHz	(V/H)/M	Axis	dBuV	dB	dBuV/m	uV/m	uV/m
I							
30.0							100.0
I							I
88.0							100.0
88.0							150.0
I							I
118.0	V / 1.0	180	24.5	9.0	33.5	47.3	I
118.0	H / 2.5	272	15.0	9.0	24.0	15.8	I
I							I
137.6	V / 1.0	183	12.7	8.9	21.6	12.0	I
137.6	H / 2.4	223	7.8	8.9	16.7	6.8	I
I							I
176.9	V / 1.0	151	6.5	10.7	17.2	7.2	I
176.9	H / 1.6	175	9.2	10.7	19.9	9.9	I
I							I
196.6	V / 1.0	249	20.7	11.3	32.0	39.8	150.0
196.6	H / 1.7	161	24.4	11.3	35.7	61.0	200.0
I							I
216.0							150.0
216.0							200.0
I							I
216.3	V / 1.0	96	20.0	11.9	31.9	39.4	I
216.3	H / 1.3	140	23.4	11.9	35.3	58.2	I
I							I
236.0	V / 1.0	170	15.2	12.9	28.1	25.4	I
236.0	H / 1.3	125	16.5	12.9	29.4	29.5	I
I							I
960.0							200.0
960.0							500.0
I							I
9300.0							500.0

Notes:

1) Test Distance: 3 Meters
2) Detector Function: Quasi- Peak below 1000MHz, Peak above 1000MHz.
3) The frequency range was scanned from 30 MHz to 4.4 GHz.
4) All emissions not recorded were more than 20 dB below the specified limit.
5) Emissions from the EUT do not exceed the specified limits.
6) * = Noise Floor Measurements (Minimum system sensitivity)

Receiver Radiated Emissions
FCC Part 15, Subpart C, Section 15.109(a)
IC RSS-GEN, Section 7.2.3
Test Data - Remote Module, Transmitter Mode

Test Method:	**Receiver Radiated Emissions**		
Test Specification:	**FCC Part 15 Subpart C, Section 15.109(a)** **IC RSS-GEN, Section 7.2.3**		
Customer:	Magnetek	**Job No.:**	R-1290P-1
Test Sample:	430-440MHz Portable Transceiver (Remote)		
Part No.:	00282164 v.1.1	**Serial No.:**	N/A
Operating Mode:	Continuously transmitting a RF signal at 430.3MHz on CH. A		
Technician:	RW	**Date:**	12-31-08

Notes: Test Distance: 3 Meters Temp: 8°C RH: 51.0%
Detector: Quasi-Peak from 30 MHz to 1 GHz, Peak above 1 GHz

Frequency	Antenna Position	EUT Orientation	Meter Readings	Correction Factor	Corrected Reading	Converted Reading	Limit
MHz	(V/H) / Meters	Degrees	dBuV	dB	dBuV/m	uV/m	uV/m
30							100
*38.0	H/1.0	180.0	3.5	13.7	17.2	7.24	
88							100
88							150
*110.0	H/1.0	180.0	8.0	9.5	17.5	7.50	
*185.0	H/1.0	180.0	0.8	11.4	12.2	4.07	
216							150
216							200
*225.0	H/1.0	180.0	1.2	12.7	13.9	4.95	
*600.0	H/1.0	180.0	2.8	22.1	24.9	17.58	
960							200
960							500
*995.0	H/1.0	180.0	-3.6	27.1	23.5	14.96	
2000							500

The frequency range was scanned from 30 MHz to 2.0 GHz.
The emissions observed from the EUT do not exceed the specified limits.
Emissions not recorded were more than 20dB under the specified limit.
* = Noise Floor Measurements (minimum sensitivity).

Receiver Radiated Emissions
FCC Part 15, Subpart C, Section 15.109(a)
IC RSS-GEN, Section 7.2.3
Test Data - Remote Module, Receive Mode 5

Test Method:	Receiver Radiated Emissions		
Test Specification:	FCC Part 15 Subpart C, Section 15.109(a) IC RSS-GEN, Section 7.2.3		
Customer:	Magnetek	**Job No.:**	R-1290P-1
Test Sample:	430-440MHz Portable Transceiver (Remote)		
Part No.:	00282164 v.1.1	**Serial No.:**	N/A
Operating Mode:	Receive Mode 5 on CH. A		
Technician:	RW	**Date:**	1-12-09

Notes: Test Distance: 3 Meters Temp: 2°C RH: 27.0%
Detector: Quasi-Peak from 30 MHz to 1 GHz, Peak above 1 GHz

Frequency	Antenna Position	EUT Orientation	Meter Readings	Correction Factor	Corrected Reading	Converted Reading	Limit
MHz	(V/H) / Meters	Degrees	dBuV	dB	dBuV/m	uV/m	uV/m
30							100
*38.0	H/1.0	180.0	3.5	13.7	17.2	7.24	
88							100
88							150
*110.0	H/1.0	180.0	8.0	9.5	17.5	7.50	
*185.0	H/1.0	180.0	0.8	11.4	12.2	4.07	
216							150
216							200
*225.0	H/1.0	180.0	1.2	12.7	13.9	4.95	
*600.0	H/1.0	180.0	2.8	22.1	24.9	17.58	
960							200
960							500
*995.0	H/1.0	180.0	-3.6	27.1	23.5	14.96	
2000							500

The frequency range was scanned from 30 MHz to 2.0 GHz.
The emissions observed from the EUT do not exceed the specified limits.
Emissions not recorded were more than 20dB under the specified limit.
* = Noise Floor Measurements (minimum sensitivity).