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The RM160 (Falcon) PCMCIA radio, Intermec Part Number (IPN) 214-956-915A, PC Board version 009, as tested herein DOES COMPLY to FCC Part 15.247 and Canada RSS-210 as a Direct Sequence Spread Spectrum system or Digital Transmission System. This report addresses the Class II Permissive Change provisions of FCC and IC FCC rules. The report shows the AC power line conducted emissions for the transmitter to the new FCC limits.

Anyone requiring a complete copy of this report should contact Engineering Records, Intermec Technologies, Cedar Rapids office.

MEASUREMENT/TECHNICAL REPORT

Technologies Corporation
EMC Test Laboratory
Cedar Rapids, IA

INTERMEC TECHNOLOGIES CORPORATION
RM915P
PCMCIA VERSION
902-928 MHz SST RADIO MODULE

DOC. NO.: 577-501-251
REPORT NO: 050215-2

FCC ID: EHARM915P

DATE: February 15, 2005

This report concerns: Original Grant _____ Class II Permissive Change X

Equipment Type: 902-928 MHz Direct Sequence Spread Spectrum Transceiver

CE: This device has shown compliance with the conducted emissions limits in 15.107, 15.207, or 18.307 adopted under FCC 02-157 (ET Docket 98-80). The device may be marketed after July 11, 2005, and is not affected by the 15.37(j) or 18.123 transition provisions.

FCC Part 15.247 and Industry Canada RSS-210 Issue 5

Measurement procedure used: ANSI C63.4-2003 and Canada RSS-210

Report Prepared by:	Report Prepared For:
Dave Fry Intermec Technologies Corporation EMC Test Laboratory 550 Second Street S.E. Cedar Rapids, Iowa 52401 Phone: (319) 846-2415 FAX: (319) 846-2475	Darrell Williams Intermec Technologies Corporation 550 Second Street S.E. Cedar Rapids, Iowa 52401 Phone: (319) 369-3100 FAX: (319) 369-3299

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1.0 COMPLIANCE CERTIFICATION

The electromagnetic compatibility test and data evaluations findings of this report have been prepared by the EMC Test Lab, Intermec Technologies Corporation, in accordance with applicable specifications instructions required per-

FCC SECTION	CANADA RSS-210	TEST NAME
15.33, 15.35	4.0	Range of Meas., Meas. Detectors
15.15, 15.31	5.3, 5.8, 9.0, 11.0	General Requirements, Meas. Methods
2.925, 15.19	5.10	Labeling
15.21	5.11, 14.0	Information to the User
15.207, 15.107	6.6, 7.4/3.2	AC Line Conducted Emissions, TX, RX
1.1307 (b)(1)	14.0 & RSS-102	RF Safety, Exposure Limits

The data and equipment configuration represented herein are related only to the sample tested. The data presented herein is traceable to the National Institute of Standards and Technology.

This report is not an endorsement of the tested product by NVLAP, NIST or any agency of the U.S. Government.

NVLAP®

NVLAP LAB CODE 100269-0

Accredited by the National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program.

Intermec Technologies Corporation
EMC Test Laboratory
550 Second Street S.E.
Cedar Rapids, Iowa 52401

The scope of accreditations addressed in this report is limited to NVLAP codes:

[12/FCC15b] ANSI C63.4 (2001) with FCC Method - 47 CFR Part 15, Subpart B: Unintentional Radiators

[12/FCC15c] ANSI C63.4 (2001) with FCC Method - 47 CFR Part 15, Subpart C: Intentional Radiators

[12/T51] AS/NZS CISPR 22 (2002) and AS/NZS 3548 (1997) Electromagnetic Interference - Limits and Methods of Measurement of Information Technology Equipment

*[12/RSS210]*RSS-210, Issue 5 (November 2001)Low Power Licence-Exempt Radiocommunication Devices

[12/RSS210a] RSS-210, Issue 5, Amendment 2 (April 26, 2003)

Dave Fry — Date 03/18/05
Dave Fry
Regulatory Engineer III

Darrell Williams — Date 03-28-05
Customer Product Rep. mm/dd/yy

Darrell F Williams - Engineering Mgr.
Print/Type Name and Position

EMC 017

Technology International (Europe) Ltd.

CERTIFIED NARTE ENGINEER

National Association of Radio and Telecommunications Engineers

1.1 Measurement Uncertainties:

ESI 40 Receiver / Spectrum Analyzer

Radiated Emissions on 3 Meter Open Area Test Site

30-300 MHz	**has an Expanded Measurement Uncertainty of + 3.04 -3.99 dB**
200-1000 MHz	**has an Expanded Measurement Uncertainty of + 4.59 -3.01 dB**
1-5 GHz without pre-amp	**has an Expanded Measurement Uncertainty of + 2.99 -2.93 dB**
1-5 GHz	**has an Expanded Measurement Uncertainty of + 3.16 –3.11 dB**
5-18 GHz	**has an Expanded Measurement Uncertainty of + 3.20 –3.15 dB**

AC Line Conducted Emissions

0.15-30 MHz	**has an Expanded Measurement Uncertainty of + 0.59 -0.44 dB**

Confidence Statement
The measurement uncertainty statements above use a Coverage Factor K = 2.
The Coverage Factor K = 2 equates to an approximate confidence level of 95%.

1.2 Compliance Statement

The product complies with the FCC and Industry Canada limits with margins of greater than 7 dB. Uncertainties from measurement equipment or measurement site do not effect the compliance for this product.

2.0 GENERAL INFORMATION

2.1 Product Description

This report addresses a Class II Permissive Change for the FCC ID: EHARM915P radio (Falcon). The radio transmitter continues to comply to the FCC regulations under 15.247 and Industry Canada RSS-210. The recent rules change by the FCC requires an updated AC power line conducted emissions test to the new frequency range and limits. This report addresses the Class II Permissive Change rules according to FCC and Industry Canada regulations.

The RM160, FCC ID: EHARM915P, PCMCIA radio is a 902-928 MHz direct sequence spread spectrum (DSSS) transmitter. Intermec Technologies Corporation uses the RM160 within the 6710 Access Point and the 6400 mobile computer for real time inventory control in the warehouses and commercial retail environment. Marketing has discontinued for the Access Point, however some 6400 units remain in the sales plan through 2005.

The radio digital emissions continue to meet the requirements outlined in the Permissive Change report issued November 1, 1996, ref. 961101-1 577-500-626. Antennas used with this transmitter are also on listed in this or previous reports for the RM160. This report also adds the RF safety statements to the FCC file. The RM160 radio when configured within the 6400 is used in the hand, there are no belt pouched or belt clips offered for sale with the mobile computer. The 6710 access point highest gain antenna is +6 dBi. The MPE calculations within show the highest gain antenna complies with the RF exposure limits defined by both the Federal Communications Commission and Industry Canada.

The testing for this report is done with a production version RM160 module assembly within a production version 6400 mobile computer.

2.2 Related Submittal(s)/Grants(s)

Original Grant: FCC ID: EHARM915L Sept. 4, 1996
Class II Permissive Change: Jan. 3, 1997

Industry Canada: 1008 102269 Dec. 30, 1996
Industry Canada: 1223A-102269 Oct. 20, 2004, File 46390-1223, Sub No. 102196

2.2 Tested Systems Details Items tested:

Model Number (Serial Number)	FCC ID:	Description	Cable Description
RM160 PN: 705-361-001 SN: prototype	EHARM915P	902-928 MHz DSSS PCMCIA radio version 009 PCB	N/A
Hand Held Computer PN: 6400C164200504 SN: 33200100702	Contains TX FCC ID: EHARM915P IC: 1223A-120269	Norand Pen*Key 6400 terminal with RM160 installed	external comm., charging adapter
Integral Antenna 0 dBi PN: Not Available SN: N/A	N/A	Norand " F " Model micro strip for 6400 terminal	N/A
AC Charger MN: UP0351A-12P SN: 91550737	N/A	UMEC AC/DC power supply	detachable AC and 40 cm permanently attached DC cord

2.3 Test Methodology / Deviations

This section addresses the following: FCC Sections 15.15 General Requirements, 15.31 Measurement Standards, 15.33 Range of Measurement, and 15.35 Measurement Detectors

Industry Canada RSS-210 sections; 4.1 Instrumentation, 4.2 Measurement Bandwidths, 5.3 Test Method, 5.17, Digital Circuits Emissions, 5.18 Modular Construction, 6.3 Restricted Bands and Unwanted Emissions Frequencies, 9.0 AC Wireline Conducted Measurement Method, 11.0 Radiation Measurement Method

Per FCC rules 15.31 (k) the measurements on an intentional radiator operating over a range greater than 10 MHz requires testing on channels at the bottom, middle and top of the range of operation.

The internal test software of the 6400 with the 902-928 MHz spread spectrum transmitter radio assembly is capable of operating the radio continuously in either transmit or receive modes.

The radio operates in 3 modes. Modes 1 and 3 are full 902-928 MHz. Mode 1 sends data at 225 kbps and mode 3 is 450 kbps. Both modes use the same chipping rate. Mode 2 is a 5 MHz channel that sends 90 kbps data rate; this mode uses a slower chipping rate than modes 1 and 3.

The margins of compliance when tested in mode 3 did not indicate the need to verify all operating conditions and channels.

Where possible ANSI C63.4 2003 and RSS-210 Issue 5 is referenced testing. Details on measurement equipment, set-up, test details and calculations are presented within the specific test section.

Refer to the diagrams and test setup figures in section 8.0 for details.

2.4 Test Facility

The location of the open area test site and conducted measurement facility used to collect the test data is 90 West Cemetery Road, Fairfax, Iowa 52228. The laboratory is accredited with a scope

covering the required measurements and was deemed competent to test and submit test data for equipment subject to verification, Declaration of Conformity, and certification under FCC Section 2.948(d).

The test site was also submitted to Industry Canada for the performance of radiated measurements and is reference by the file number IC 3909. Test site complies too CISPR Publication 22 for methods of measurements for radiated and conducted emissions testing.

3.0 PHOTOGRAPHS

3.1 None, remains as filed.
3.2 None, remains as filed.
3.3 Test setup pictures appendix B

4.0 PRODUCT LABELING AND INFORMATION TO THE USER

4.1 PRODUCT LABELING
Remains as originally filed.

4.2 INFORMATION TO THE USER
Appendix C shows the compliance information provided to the user.

5.0 THEORIES OF OPERATION
Remains as originally filed.

6.0 BLOCK DIAGRAM
Remains as originally filed.

7.0 SCHEMATICS
Remains as originally filed.

8.0 CONDUCTED AND RADIATED EMISSIONS TEST DATA

The following tests and results are recorded within this section.

AC Wireline Conducted Emissions

RF Safety, Exposure Limits

EQUIPMENT: RM915P Radio Module

NAME OF TEST: TX, RX AC Wireline Conducted Emissions

FCC RULE NUMBER: 15.209 (a)
CANADA RSS-210 Par: 6.6-7.4

MINIMUM STANDARD: FCC Rules § 15.207 Conducted limits.
(a) Except as shown in paragraphs (b) and (c) of this section, 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 in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this 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 applies at the boundary between the frequency ranges.

Frequency of emission (MHz) Conducted limit (dBμV)

	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

*Decreases with the logarithm of the frequency.

Canada RSS-210 6.6, 7.4

This is a measurement of the extent of unwanted emissions conducted back into the AC electrical network by LPDs. Note that this test is only for unwanted emissions and not the wanted conducted emissions of AC Carrier Current devices described in section 8.3. This test applies when the device has any one or more of the following characteristics:
(i) The carrier frequency is within 0.45-30 MHz; (ii) The equipment power supply contains switching circuitry (any frequency); (iii) Internal clock or local oscillator frequency is within 0.45-30 MHz.

To claim test exemption, the engineering brief or test report shall contain a statement that the conditions of test exemption are met. More information on this is in section 9. The test on the transmitter may be combined with the test of section 7.4 on the receiver.

CANADA MINIMUM STANDARD:

(a) On any frequency or frequencies within the band of 0.45-30 MHz, the measured RF voltage (CISPR meter) shall not exceed 250 microvolts (across 50 ohms).
(b) Transmitters marketed for use only in a commercial, industrial or business environment and not intended for use in homes are permitted a limit of 1000 microvolts (0.45 - 1.705 MHz) and 3000 microvolts (1.705 - 30 MHz).

TEST PROCEDURE:

As referenced in ANSI C63.4--2003 place the EUT on a wooden table inside a shield room. Connect the AC power supply to the LISN mounted on the floor behind the table. Measure from .15 to 30 MHz the conducted emissions while the radio is transmitting, then repeat with the radio in receive mode.

Preliminary testing was made using a spectrum analyzer to determine the maximum emissions placement of the EUT. Measurements were made and plots of the conducted emissions were produced. The test receiver was used to scan the frequency range from 150 kHz to 30 MHz using the peak and average detectors as compared to the average and quasi-peak limit.

Final measurements using the quasi-peak and average measurements of the highest emissions were made with the test receiver.

Refer to appendix B for photographs of the maximum emissions placement of the EUT during AC wireline conducted testing.

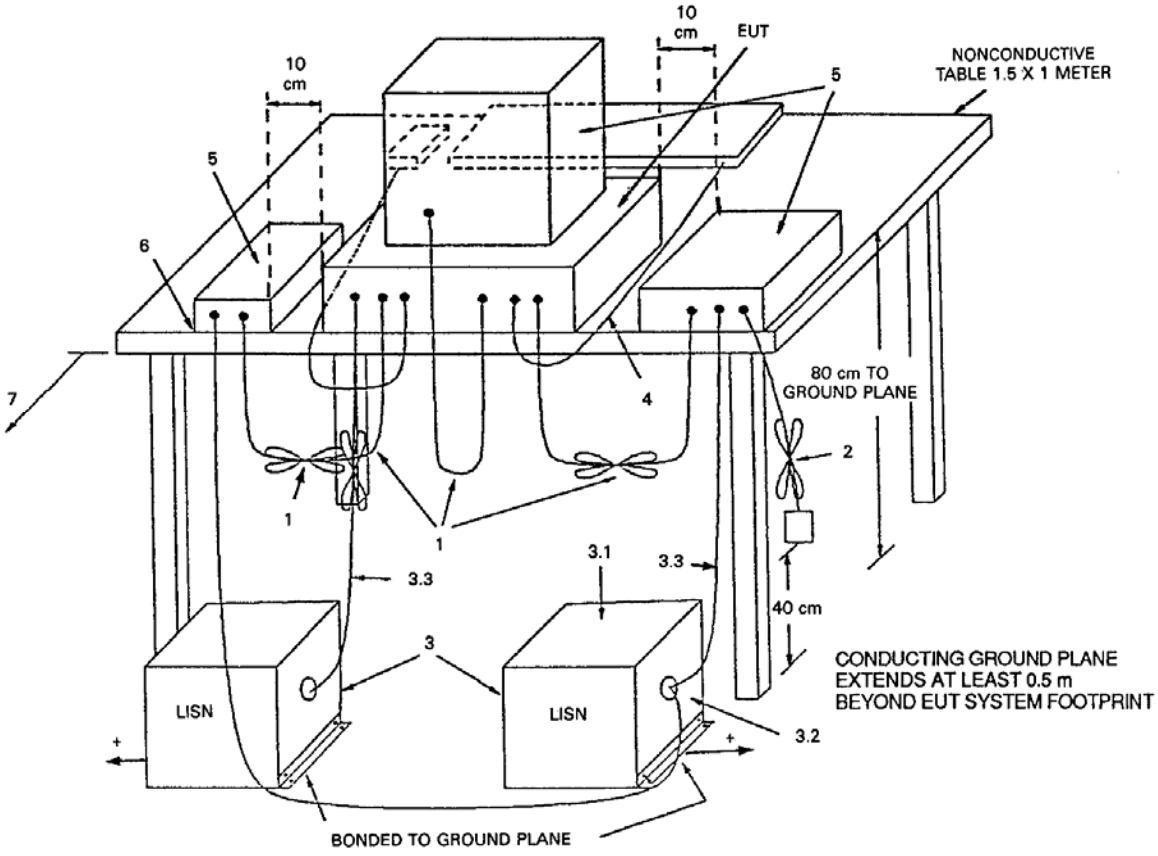
GENERAL AND ENVIRONMENTAL CONDITIONS:

For FCC and Industry Canada, testing was performed within a shield room, setup as described in ANSI C63.4-2003 section 5.2. The EUT was powered by single phase 120 Volts ~ 60 Hz AC power.

Environmental conditions at the time of testing were a temperature 21 C, pressure 30.1 inches and relative humidity of 28 %.

TEST EQUIPMENT:	LISN	Rohde & Schwarz, ESH3.Z5
	EMI Test Receiver	Rohde & Schwarz, ESI-40
PERFORMED BY:	Dave Fry	Date: Feb. 17, 2005

NAME OF TEST: AC Wireline Conducted Emissions, TX and RX



+LISNs may have to be moved to the side to meet 3.3 below.

LEGEND:

1. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth forming a bundle 30 to 40 cm long, hanging approximately in the middle between ground plane and table.
2. I/O cables that are connected to a peripheral shall be bundled in center. The end of the cable may be terminated if required using correct terminating impedance. The total length shall not exceed 1 m.
3. EUT connected to one LISN. Unused LISN connectors shall be terminated in 50 Ω LISN can be placed on top of, or immediately beneath, ground plane.

3.1 All other equipment powered from second LISN.
3.2 Multiple outlet strip can be used for multiple power cords of non-EUT equipment.
3.3 LISN at least 80 cm from nearest part of EUT chassis.
Cables of hand-operated devices, such as keyboards, mouses, etc., have to be placed as close as possible to the host.

4. Non-EUT components being tested.
5. Rear of EUT, including peripherals, shall be all aligned and flush with rear of tabletop.
6. Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the floor ground plane.

Test Configuration
Tabletop Equipment Conducted Emissions

NAME OF TEST: AC Wireline Conducted Emissions, TX and RX

CALCULATIONS AND CONVERSION FACTORS:

The conducted emissions are calculated using the following. The receiver reading is added to the correction factor "Transd (dB)" (includes LISN insertion loss, RF cable loss and filter loss (if used)) to create “Level (dBµV)”. The “LIMIT” is subtracted from “Level” to show "Margin". Margin will be displayed as a positive margin below the limit.

The conversion for calculating dB (µV) to microvolts (µV) follows.

dB(µV) to µV (dB (µV) / 20) anti log = µV

µV to dB (µV) 20 (log µV) = dB (µV)

TEST RESULTS: Complies with FCC and Industry Canada (IC) requirements while operated at 120 VAC. Listed below are the operation configuration and AC voltage.

MEASURED DATA: Judgment: For FCC testing; Passed by 25.4 dB of margin. Calculations were made at 0.456 MHz with the corrected AV level of 21.30 dBuV. This then is subtracted from the limit of 46.8 dBuV.

Unless otherwise noted, all final measurements are made using an average or quasi-peak detector and a 9 kHz measurement bandwidth with the data being compared to the CISPR quasi-peak and average limit.

CONDUCTED EMISSION MEASUREMENT DATA:

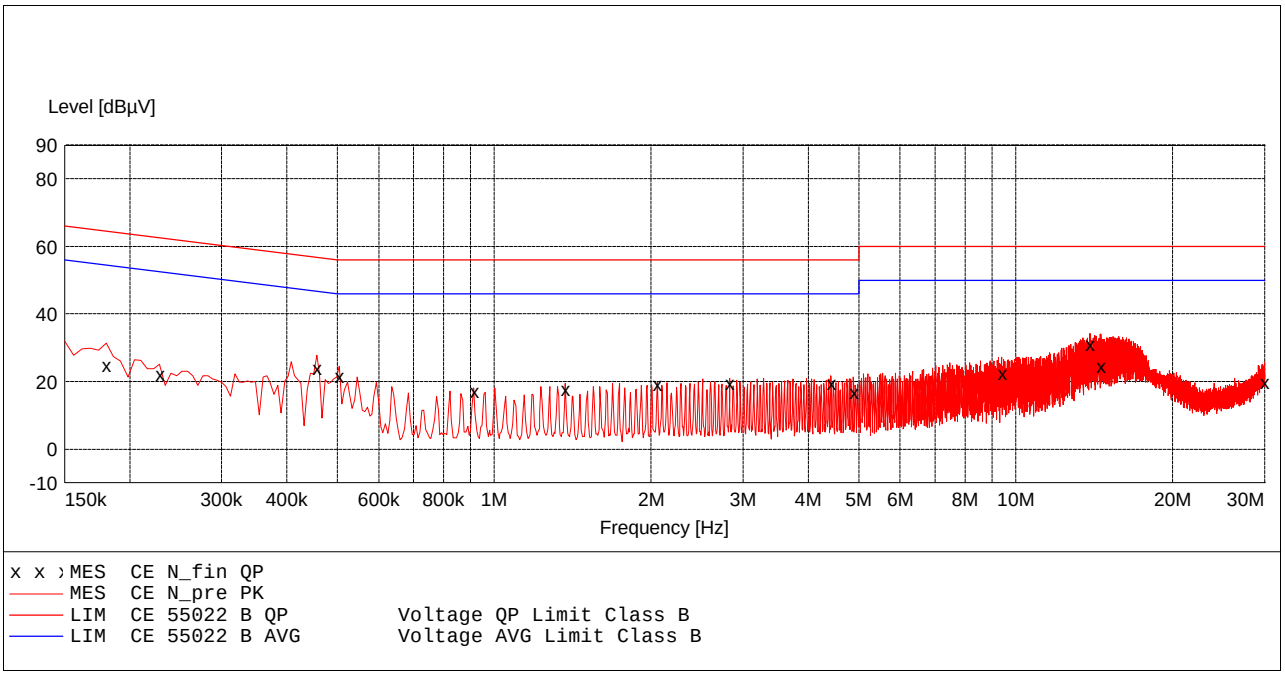
Emission Test

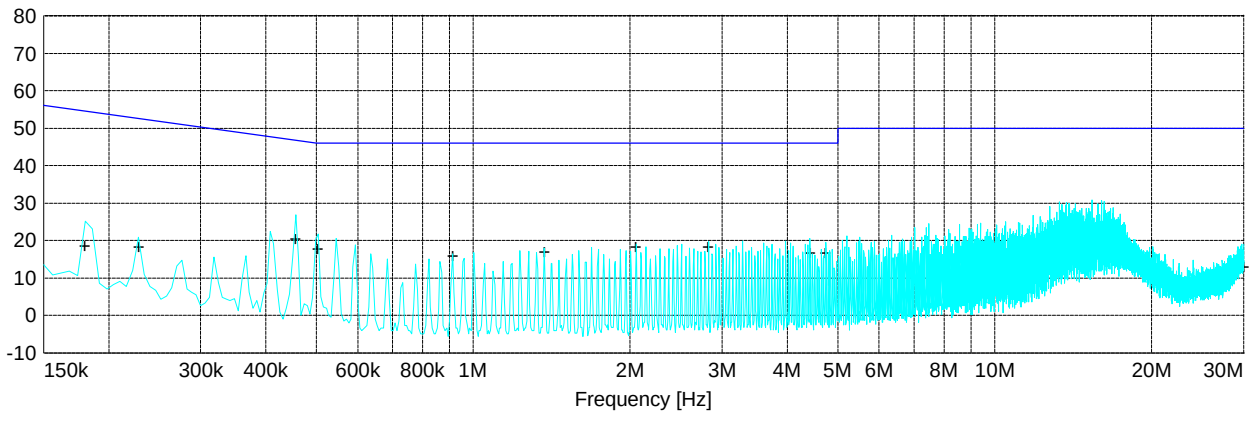
EUT: EHARM915P Falcon PCMCIA Radio
Manufacturer / Eng.: Intermec / D Williams
Operating Condition: emissions test program
Test Site: EMC Lab, Cedar Rapids IA
Operator: df
Test Specification: CISPR 22 Class B
Comment: Max test, N Side, 120 V TX
Start of Test: 2/17/05 / 3:53:52PM

SCAN TABLE: "CE ESI R&S N"

Short Description: EN 55022 Voltage N Side

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	30.0 MHz	6.0 kHz	MaxPeak Average	1.0 ms	9 kHz	C LISN R&S N





MES CE N_pre AV
MES CE N_fin AV
LIM CE 55022 B AVG Voltage AVG Limit Class B

MEASUREMENT RESULT: "CE N_fin QP"

2/17/05 3:58PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.180000	24.90	0.00	64.50	39.60	N	GND
0.228000	22.30	0.00	62.50	40.20	N	GND
0.456000	24.00	0.00	56.80	32.70	N	GND
0.504000	21.60	0.00	56.00	34.40	N	GND
0.912000	17.20	0.00	56.00	38.80	N	GND
1.368000	17.70	0.00	56.00	38.30	N	GND
2.052000	19.20	0.20	56.00	36.80	N	GND
2.826000	19.50	0.20	56.00	36.50	N	GND
4.422000	19.30	0.20	56.00	36.70	N	GND
4.878000	16.90	0.20	56.00	39.10	N	GND
9.390000	22.60	0.30	60.00	37.40	N	GND
13.860000	31.00	0.30	60.00	29.00	N	GND
14.538000	24.70	0.20	60.00	35.30	N	GND
29.994000	19.80	0.20	60.00	40.20	N	GND

MEASUREMENT RESULT: "CE N_fin AV"

2/17/05 3:58PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.180000	18.70	0.00	54.50	35.80	N	GND
0.228000	18.40	0.00	52.50	34.20	N	GND
0.456000	20.50	0.00	46.80	26.30	N	GND
0.504000	17.70	0.00	46.00	28.30	N	GND
0.912000	16.10	0.00	46.00	29.90	N	GND
1.368000	17.00	0.00	46.00	29.00	N	GND
2.052000	18.50	0.20	46.00	27.50	N	GND
2.826000	18.40	0.20	46.00	27.60	N	GND
4.422000	16.70	0.20	46.00	29.30	N	GND
4.740000	16.90	0.20	46.00	29.10	N	GND
9.390000	13.40	0.30	50.00	36.60	N	GND
13.308000	15.30	0.30	50.00	34.70	N	GND
15.360000	15.50	0.20	50.00	34.50	N	GND
29.994000	13.00	0.20	50.00	37.00	N	GND

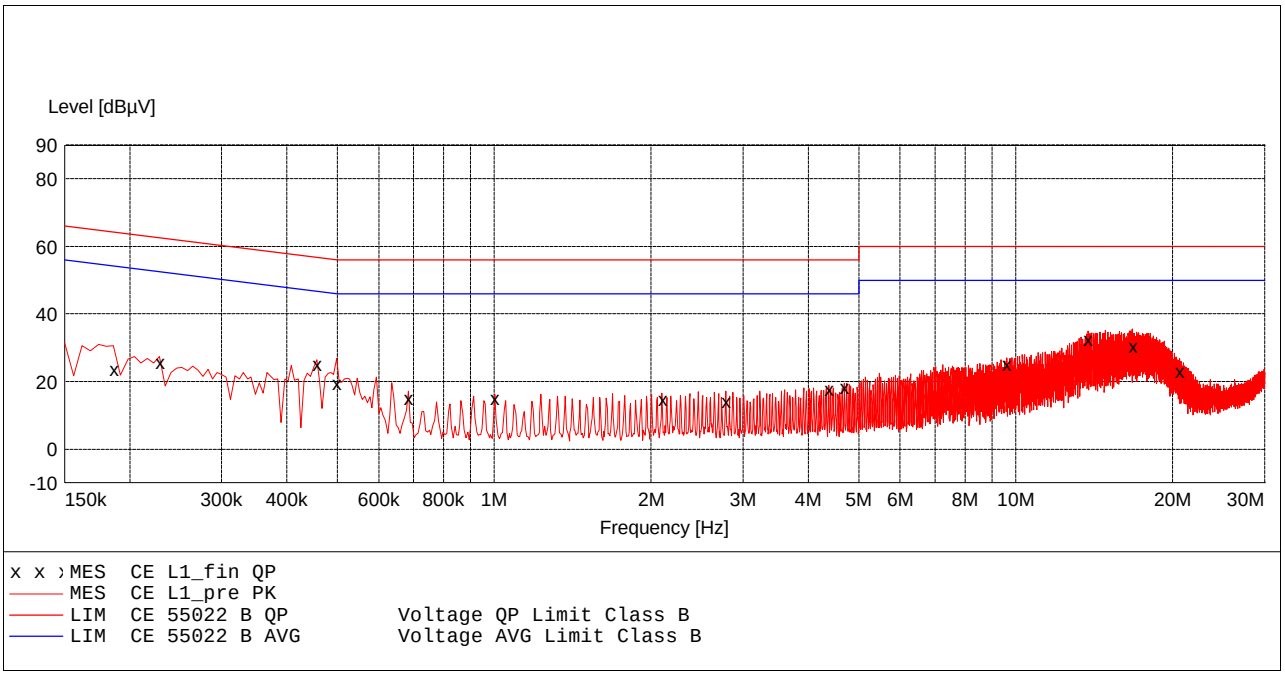
Emission Test

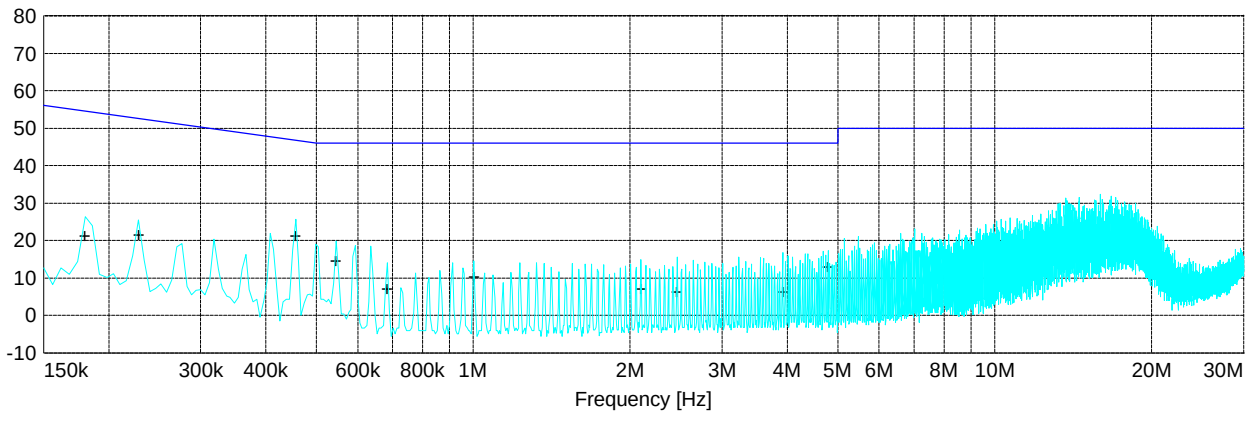
EUT: EHARM915P Falcon PCMCIA Radio
Manufacturer / Eng.: Intermec / D Williams
Operating Condition: emissions test program
Test Site: EMC Lab, Cedar Rapids IA
Operator: df
Test Specification: CISPR 22 Class B
Comment: Max test, L1 Side, 120V TX
Start of Test: 2/17/05 / 3:47:02PM

SCAN TABLE: "CE ESI R&S L1"

Short Description: EN 55022 Voltage L1 Side

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	30.0 MHz	6.0 kHz	MaxPeak Average	1.0 ms	9 kHz	C LISN R&S L1





MES CE L1_pre AV
MES CE L1_fin AV
LIM CE 55022 B AVG Voltage AVG Limit Class B

MEASUREMENT RESULT: "CE L1_fin QP"

2/17/05 3:51PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.186000	23.80	0.00	64.20	40.40	L1	GND
0.228000	25.80	0.00	62.50	36.80	L1	GND
0.456000	25.20	0.00	56.80	31.50	L1	GND
0.498000	19.30	0.00	56.00	36.70	L1	GND
0.684000	15.10	0.00	56.00	40.90	L1	GND
1.002000	15.30	0.00	56.00	40.70	L1	GND
2.094000	14.90	0.20	56.00	41.10	L1	GND
2.778000	14.30	0.20	56.00	41.70	L1	GND
4.374000	17.80	0.20	56.00	38.20	L1	GND
4.692000	18.40	0.20	56.00	37.60	L1	GND
9.612000	25.10	0.20	60.00	34.90	L1	GND
13.758000	32.50	0.10	60.00	27.50	L1	GND
16.716000	30.70	0.00	60.00	29.30	L1	GND
20.592000	23.30	-0.10	60.00	36.70	L1	GND

MEASUREMENT RESULT: "CE L1_fin AV"

2/17/05 3:51PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.180000	21.20	0.00	54.50	33.30	L1	GND
0.228000	21.50	0.00	52.50	31.10	L1	GND
0.456000	21.30	0.00	46.80	25.40	L1	GND
0.546000	14.70	0.00	46.00	31.30	L1	GND
0.684000	7.10	0.00	46.00	38.90	L1	GND
1.002000	10.30	0.00	46.00	35.70	L1	GND
2.094000	7.20	0.20	46.00	38.80	L1	GND
2.460000	6.40	0.20	46.00	39.60	L1	GND
3.918000	6.30	0.20	46.00	39.70	L1	GND
4.782000	13.10	0.20	46.00	32.90	L1	GND
9.612000	17.20	0.20	50.00	32.80	L1	GND
13.662000	17.50	0.10	50.00	32.50	L1	GND
15.942000	17.90	0.00	50.00	32.10	L1	GND
20.544000	9.70	-0.10	50.00	40.30	L1	GND

EQUIPMENT: RM915P Radio Module

NAME OF TEST: RF Exposure Safety

FCC RULE NUMBER: **§ 1.1310 Radiofrequency radiation exposure limits.**

The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in § 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of § 2.1093 of this chapter. Further information on evaluating compliance with these limits can be found in the FCC's OST/OET Bulletin Number 65, ''Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation.''

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*($900/f^2$)	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*($180/f^2$)	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density
NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/ controlled limits apply provided he or she is made aware of the potential for exposure.
NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be ex-posed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

§ 2.1091 Radiofrequency radiation exposure evaluation: mobile devices.

(a) Requirements of this section are a consequence of Commission responsibilities under the National Environmental Policy Act to evaluate the environmental significance of its actions. See subpart I of part 1 of this chapter, in particular § 1.1307(b).

(b) For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20-centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons. In this context, the term ''fixed location'' means that the device is physically secured at one location and is not able to be easily moved to another location. Transmitting devices designed to be used by consumers or workers that can be easily relocated, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20-centimeter separation requirement.

CANADA RSS-210 Par.: 14.0 (see RSS-102)

CANADA RSS-102

4.2 Exemption power levels for portable radios are: - Operation at frequencies below 1.0 GHz with an output power equal to or less than 200 milliwatts (mW); - Operation at frequencies between 1.0 and 2.2 GHz with an output power equal to or less than 100 mW.

4.3 Mobile radios (not portables, see 2.2 for definition) are exempt from RF evaluation if the operating frequency is below 1.5 GHz with effective radiated power (ERP) of 1.5 watts or less (i.e. EIRP of 2.5 watts or less) or above 1.5 GHz with ERP of 3 watts or less (i.e. EIRP of 5 watts or less).

Exposures produced by such radios shall not exceed the exposure limits (see section 3 below) specified in Health Canada's Safety Code 6. Health Canada's address is 775 Brookfield Road, Ottawa, Ontario Canada K1A 1C1; Tel: (613) 954-6699/ Fax: (613) 941-1734; e-mail: alice_mackinnon@hc-sc.gc.ca.

HEALTH CANADA SAFETY CODE 6, 99-EHD-237

Table 5

Exposure Limits for Persons Not Classed As RF and Microwave Exposed Workers (Including the General Public)

1 Frequency (MHz)	2 Electric Field Strength; rms (V/m)	3 Magnetic Field Strength; rms (A/m)	4 Power Density (W/m^2)	5 Averaging Time (min)
0.003–1	280	2.19		6
1–10	$280/f$	$2.19/f$		6
10–30	28	$2.19/f$		6
30–300	28	0.073	2*	6
300–1 500	$1.585f^{0.5}$	$0.0042f^{0.5}$	$f/150$	6
1 500–15 000	61.4	0.163	10	6
15 000–150 000	61.4	0.163	10	$616\,000/f^{1.2}$
150 000–300 000	$0.158f^{0.5}$	$4.21 \times 10^{-4} f^{0.5}$	$6.67 \times 10^{-5} f$	$616\,000/f^{1.2}$

* Power density limit is applicable at frequencies greater than 100 MHz.
Notes: 1. Frequency, f, is in MHz.
2. A power density of 10 W/m^2 is equivalent to 1 mW/cm^2.
3. A magnetic field strength of 1 A/ m corresponds to 1. 257 microtesla (μT) or 12. 57 milligauss (mG).

MINIMUM STANDARD: Summarized within the rules sections above.

PERFORMED BY: Dave Fry Date: Feb. 28, 2005

CALCULATION DATA: Observe appendix A that shows the transmitter RF exposure calculations.

WARNING STATEMENTS TO THE USER:

Mobile Computer Usage

The RM915P spread spectrum transmitter within the 6400 utilizes a lower gain antenna at the top of the unit. The normal operation keeps the operator as well as nearby persons greater than the 20-cm spacing to comply with the RF exposure requirements.

Calculations show compliance for RF exposure levels during normal operation. The user initiates transmitter operation when data is entered or scanned. The access point may poll the radios within range the response from the computer terminal is very brief.

During normal operation the operator intent is to laser scan labels on items or enter data on the keyboard. Normal operation directs the radio antenna away from the user and nearby persons. Making the operator aware of the potential for exposure the warning statement below will be included with the information to the user.

WARNING: per the FCC and Canada RF (radio frequency) exposure requirements,
(1) Only the antenna supplied and installed with this unit by Intermec Technologies is to be used with this computer terminal. The product is configured to ensure compliance to FCC and Canada RF exposure requirements.
(2) The user shall not touch the terminal top (antenna) and is to remain 20-cm (8 of and inches) from the antenna while the transmitter is in use. The radio cannot be co-located with any other transmitter.

Mobile Usage with High Gain Antennas

The RM915P spread spectrum transmitter when combined within access points for fixed mount unit uses higher gain antennas presented in the original report. The higher exposure for extremities outlined in the regulations would be more typical for normal usage. Installation instructions will highlight antenna placements that will limit the user and nearby persons to RF exposure.

Calculations show compliance for body exposure levels with installations where the operator remains greater than 20-cm from the antenna.

WARNING: Access Points with RM915P radio
Warning: per the FCC and Canadian RF (radio frequency) exposure requirements,
(1) Antennas must be supplied and installed as recommended by Intermec Technologies to ensure compliance to RF exposure requirements. Intermec antenna part numbers 805-472-001, 805-473-001, and 805-480-001. Correct antenna mounting is fully described within the Intermec Access Point Users Guide.
(2) When installing and using Intermec approved antennas associated the Intermec Access Point, a 20-cm (8-inch) passing distance must be maintained from any body part of the user or near by persons and the antenna. The antenna must not be touched during transmitter operation. The radio cannot be co-located with any other transmitter.

9.0 EQUIPMENT LIST

EQUIPMENT	MFG/MODEL	SERIAL NO.	CALIBRATION DATE	CALIBRATION CYCLE
Antenna, dipole	EMCO 3121C	9812-1414	03/03	24 Mo
Antenna, biconical	EMCO 3110B	1787	09/04	12 Mo
Antenna, log periodic	EMCO 3146	1262	09/04	12 Mo
Antenna, biconical	EMCO 3110B	1185	09/04	12 Mo
Antenna, log periodic	EMCO 3146	3277	09/04	12 Mo
Antenna, DRG Horn	EMOC 3115	4143	07/04	12 Mo
LISN	Rhode & Schwarz, ESH3-Z5	832479/018	11/04	12 Mo
LISN	EMCO 3825/2R	1026	01/04	12 Mo
TLISN	Fischer FCC-TLISN-T2	20046	04/04	12 Mo.
TLISN	Fischer FCC-TLISN-T4	20045	04/04	12 Mo.
Cap Voltage Probe	Fischer F-CVP-1	34	04/04	12 Mo.
Current Probe	Fischer F-33-4	10	05/04	12 Mo.
Common Mode ISN	Fischer F-CMISN	01004	05/04	12 Mo.
Preamplifier	HP 8449B	3008A00439	05/03	24 Mo
EMI Test Receiver	Rohde & Schwarz, ESI-40	1088.7490.40	06/04	24 Mo
Test Automation SW	Rohde & Schwarz, ES-K1 V1.6	2492	12/99	N/A

On Req. = On Request

APPENDIX A
RF EXPOSURE MPE CALCULATION

WORST CASE ANTENNA CONFIGURATION ONLY!

Intermec
EMC Test Laboratory
Cedar Rapids, IA

David L. Fry
EMC Engineer
Date: Feb. 8, 2005

MPE Calculator

dBd + 2.17 = dBi

				Antenna Gain dBi	6.00
TX Frequency (MHz)	900	Watts	0.325	Antenna Gain dBd	3.83
Cable Losses dB	0.5	dBm	25.119	radiated dBm	30.619

Calculated EIRP (mW) 1153.144

Ocupational Limit
3 mW/cm ^{2}

General Public Limit
0.6 mW/cm ^{2}

$$\frac{EIRP}{4 \pi d^2} = mw/cm^2$$

d = cm ERP=mW

wavelength	
meters	cm
0.333333333	33.333
1/2 wavelength	16.667
1/5 wavelength	6.667
1/10 wavelength	3.333

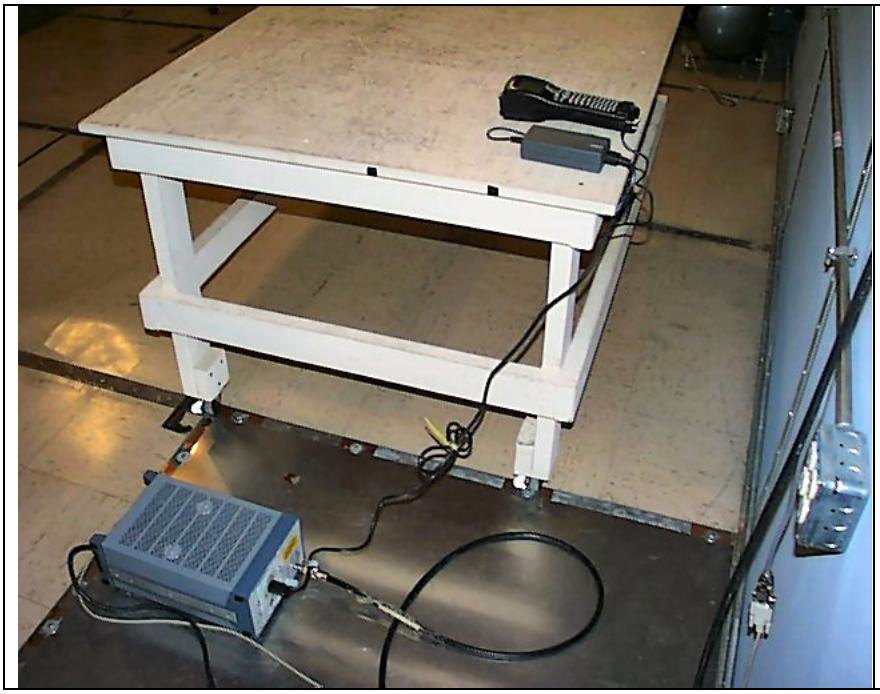
Freq. MHz	occ.limit		public limit
300-1,500	f/300		f/1500
1,500-10,000	5		1

Note:
Far field calculations remains linear to 1/2 wavelength.

0.325 watt EIRP 915 MHz Spread Spectrum 6 dBi Antenna

EIRP (milliwatts)	Distance (cm)	Distance (Meters)		mW/cm^2		Distance (inches)
1153.144	20	0.200		0.22941		7.87
1153.144	16.7	0.167		0.32903		6.57
1153.144	15	0.150		0.40784		5.91
1153.144	12.5	0.125		0.58729		4.92

APPENDIX B
TEST SETUP PHOTOS

	CONDUCTED EMISSIONS LISN AND EUT PLACEMENT

APPENDIX C
INFORMATION TO THE USER

Compliance Statement Insert

Device Name: Hand-held Computer **Model Number: 6400**

The responsible party for the compliance of this device is:

Intermec Technologies Corporation
6001 36th Avenue West
Everett, WA 98203 USA
(425) 348-2600

CAUTION: See users guide instructions for handling, charging, and replacing batteries. Failure to follow those instructions can result in personal injury, fire, or battery explosion.

This product complies to the following approvals. The user(s) of this product are cautioned to use accessories and peripherals approved by Intermec Technologies Corporation. The use of accessories other than those recommended, or changes to this product that are not approved by Intermec Technologies Corporation, may void the compliance of this product and may result in the loss of the users authority to operate the equipment.

FCC Digital Emissions Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the radio of television receiving antenna.
- Increase the separation between the computer equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the radio or television receiver is connected.
- Consult the dealer or an experienced radio television technician for help.

Canadian Digital Apparatus Compliance

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

FCC Spread Spectrum Transmitter Compliance

This device is also certified to operate under Part 15, Subpart C, Section 15.247 of the FCC rules for Intentional Radiation Products. This certification includes Docket 87-389 covering rules effective June 1994. It may not cause interference to authorized radio communication devices, and must accept any interference caused by those devices.

Canadian RSS-210 Spread Spectrum Transmitter Compliance

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

WARNING: per the FCC and Canada RF (radio frequency) exposure requirements,

1) Only the antenna supplied and installed with this unit by Intermec Technologies is to be used with this computer terminal. The product is configured to ensure compliance to FCC and Canada RF exposure requirements.
2) The user shall not touch the terminal top (antenna) and is to remain 20-cm (8 of and inches) from the antenna while the transmitter is in use. The radio cannot be co-located with any other transmitter.

Antenna Requirements

FCC rules section 15.203 and Canada RSS-210 require that this device be operated using an antenna furnished by Intermec Technologies Corporation. The antenna coupling on this product has been designed to accept only antennas manufactured by Intermec Technologies. Use of an antenna other than that furnished with the equipment is prohibited by FCC and Industry Canada rules.

European Notice

The 902-928 MHz Spread Spectrum Transmission (SST) radio referred to in accompanying documentation is not available for sale in Europe (including, but not limited to, Great Britain, Italy, Germany, France, Spain, Norway, Denmark, Sweden, Finland, Portugal, and the Benelux countries). Any references to 902-928 MHz SST, or modules containing 902-928 MHz SST radios, should be disregarded by the users of this product in Europe.