

MEASUREMENT/TECHNICAL REPORT



Technologies Corporation
EMC Test Laboratory
Cedar Rapids, IA

Intermec Technologies Corporation 2100 UAP RFID Reader

REPORT NO: 20040504-1

DATE: May 4, 2004

This report concerns: Original Grant _____ Class II change <u> X </u> This report concerns: Class II Permissive Change to add antennas to this FHSS radio certified under FCC 15.247. All antennas are lower in gain compared to currently approved antennas and include a listing of the description, gain and RF exposure. 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, Industry Canada Industry Canada RSP-100, RSS-210, RSS-102 Universal Access Point with 915 MHz RFID Radio FCC ID: HN2UAPRFID-900	
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APPENDIXES (may be file attachments for electronic applications of approval)

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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 Rules 47CFR Part 15 Subpart C,
15.203
15.207
15.247

Antenna Requirement
Conducted Limits (AC Wireline)
Operation in the band 902-928 MHz

FCC Rules 47CFR Parts 1.1307
FCC Rules 47CFR Parts 2.1091

Environmental Assessments
RF Radiation Exposure Evaluation: Mobile Devices

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 LAB CODE 100269-0

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

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Technology
International
(Europe) Ltd.

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

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

[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,
EMC Engineer III

Date 07/15/04
mm/dd/yy

Product Representative

Date _____
mm/dd/yy

Print/Type Name and Position



National Association of Radio and
Telecommunications Engineers

The programming station uses a low gain panel antenna with a minimum 6 feet of RG 58 cable to introduce 0.7 dB loss in the antenna path. The net gain of this antenna system will be -5.7 dBi gain.

4.0 AC Wireline Conducted Emissions

The emissions contained within the original application comply with the CISPR 22 emissions limits defined for Class B products. These emissions limits are now specified with the FCC rules changes in sections 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.

Please review the original application file FCC ID: HN2UAPRFID-900 that was FCC granted 03/21/2000. The application file contains the original report, the AC conducted emissions section is in the file Report 4 of 4. Copied below are the AC wireline conducted emissions data for review.

Section 5.6 CONDUCTED POWERLINE EMISSIONS 5.6.1 Measurement Procedure

The power line conducted emissions were measured at 110 V. In each case the EUT was put into a hopping mode. The source of the emissions (digital circuitry or transmitter) was confirmed by turning the transmitter off. The emissions were measured in the hot and neutral sides of the power line. 5.6.2 Measurement Results

All emissions were caused by the digital circuitry and all were below the limit. CISPR 22 Class B limits were used. The emissions found are listed below.

Line	Frequency (MHz)	Peak Level (dBμV)	QP -Level (dBμV)	Avg. Level (dBμV)	Limit (*) (dBμV)	Margin (dB)
Neutral	.155	52.4	38.5	32.4	56	23.6
Neutral	.180	47.6	33.1	28.8	55	26.2
Neutral	.648	32.5	24.8	23.2	46	22.8
Neutral	9.3	31.2	26.1	24.0	60	36
Neutral	11.1	29.1	25.3	25.1	60	34.9
Neutral	22.3	30.4	26.4	23.8	60	36.2
Neutral	23.7	30.6	24.3	22.7	60	37.3
Hot	.155	52.3	38.1	31.7	56	24.3
Hot	.180	46.2	32.9	28.9	55	26.1
Hot	.640	33.1	23.7	22.7	46	23.3
Hot	11.1	29.4	25.8	24.6	60	35.4
Hot	18.7	30.9	23.9	22.4	60	37.6
Hot	22.3	31.1	26.1	22.7	60	37.3
Hot	27.1	33.9	28.4	26.2	60	33.8

(*) Limits for average measurement

5.0 RF Exposure

The 20-cm spacing limit for antenna safe distance remains effective when using the additional antennas. All have a lower gain than those currently approved. The warnings to the user remain unchanged. See Appendix B for antenna list and RF Exposure calculations.