

Intermec Technologies Corporation

IP30 with IM4

February 19, 2008

Report No. ITRM0173.1

Report Prepared By



www.nwemc.com
1-888-EMI-CERT

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EMC Test Report

Certificate of Test
Issue Date: February 19, 2008
Intermec Technologies Corporation
Model: IP30 with IM4

Emissions			
Test Description	Specification	Test Method	Pass/Fail
Spurious Radiated Emissions	FCC 15.247 (FHSS):2007	ANSI C63.4:2003 DA 00-705:2000	Pass

Modifications made to the product
See the Modifications section of this report

Test Facility

The measurement facility used to collect the data is located at:

Northwest EMC, Inc.
22975 NW Evergreen Parkway, Suite 400
Hillsboro, OR 97124

Phone: (503) 844-4066 Fax: 844-3826

This site has been fully described in a report filed with and accepted by the FCC (Federal Communications Commission) and Industry Canada.

Approved By:



Ethan Schoonover, Sultan Lab Manager



NVLAP Lab Code: 200630-0

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America.

Product compliance is the responsibility of the client, therefore the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. This Report may only be duplicated in its entirety. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test.

Revision Number	Description	Date	Page Number
00	None		

FCC: Accredited by NVLAP for performance of FCC radio, digital, and ISM device testing. Our Open Area Test Sites, certification chambers, and conducted measurement facilities have been fully described in reports filed with the FCC and accepted by the FCC in letters maintained in our files. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by the FCC as a Telecommunications Certification Body (TCB). This allows Northwest EMC to certify transmitters to FCC specifications in accordance with 47 CFR 2.960 and 2.962.



NVLAP: Northwest EMC, Inc. is accredited under the United States Department of Commerce, National Institute of Standards and Technology, and National Voluntary Laboratory Accreditation Program for satisfactory compliance with the requirements of ISO/IEC 17025 for Testing Laboratories. The NVLAP accreditation encompasses Electromagnetic Compatibility Testing in accordance with the European Union EMC Directive 2004/108/EC, and ANSI C63.4. Additionally, Northwest EMC is accredited by NVLAP to perform radio testing in accordance with the European Union R&TTE Directive 1999/5/EEC, the requirements of FCC, and the RSS radio standards for Industry Canada.



NVLAP LAB CODE 200629-0
 NVLAP LAB CODE 200630-0
 NVLAP LAB CODE 200676-0
 NVLAP LAB CODE 200761-0

Industry Canada: Accredited by NVLAP for performance of Industry Canada RSS and ICES testing. Our Open Area Test Sites and certification chambers comply with RSS 212, Issue 1 (Provisional) and have been filed with Industry Canada and accepted. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by NIST and recognized by Industry Canada as a Certification Body (CB) per the APEC Mutual Recognition Arrangement (MRA). This allows Northwest EMC to certify transmitters to Industry Canada technical requirements.



CAB: Designated by NIST and validated by the European Commission as a Conformity Assessment Body (CAB) to conduct tests and approve products to the EMC directive and transmitters to the R&TTE directive, as described in the U.S. - EU Mutual Recognition Agreement.



TÜV Product Service: Included in TÜV Product Service Group's Listing of Recognized Laboratories. It qualifies in connection with the TÜV Certification after Recognition of Agent's Testing Program for the product categories and/or standards shown in TÜV's current Listing of CARAT Laboratories, available from TÜV. A certificate was issued to represent that this laboratory continues to meet TÜV's CARAT Program requirements. Certificate No. USA0604C.



TÜV Rheinland: Authorized to carryout EMC tests by order and under supervision of TÜV Rheinland. This authorization is based on "Conditions for EMC-Subcontractors" of November 1992.



NEMKO: Assessed and accredited by NEMKO (Norwegian testing and certification body) for European emissions and immunity testing. As a result of NEMKO's laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification (Authorization No. ELA 119).



Australia/New Zealand: The National Association of Testing Authorities (NATA), Australia has been appointed by the ACA as an accreditation body to accredit test laboratories and competent bodies for EMC standards. Accredited test reports or assessments by competent bodies must carry the NATA logo. Test reports made by an overseas laboratory that has been accredited for the relevant standards by an overseas accreditation body that has a Mutual Recognition Agreement (MRA) with NATA are also accepted as technical grounds for product conformity. The report should be endorsed with the respective logo of the accreditation body (NVLAP).



VCCI: Accepted as an Associate Member to the VCCI, Acceptance No. 564. Conducted and radiated measurement facilities have been registered in accordance with Regulations for Voluntary Control Measures, Article 8. (*Registration Numbers. - Hillsboro: C-1071, R-1025, C-2687, T-289, and R-2318, Irvine: R-1943, C-2766, and T-298, Sultan: R-871, C-1784, and T-294.*)



BSMI: Northwest EMC has been designated by NIST and validated by C-Taipei (BSMI) as a CAB to conduct tests as described in the APEC Mutual Recognition Agreement. License No.SL2-IN-E-1017.



GOST: Northwest EMC, Inc. has been assessed and accredited by the Russian Certification bodies Certinform VNIINMASH, CERTINFO, SAMTES, and Federal CHEC, to perform EMC and Hygienic testing for Information Technology Products. As a result of their laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification



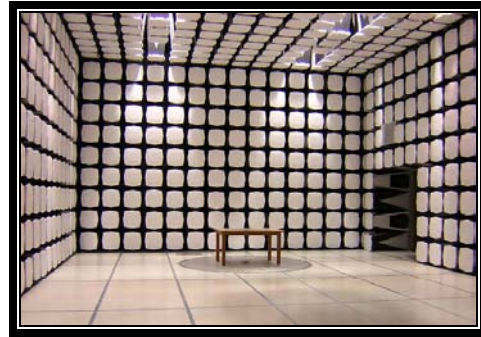
MIC: Northwest EMC, Inc is a CAB designated by MRA partners and recognized by Korea. (*Assigned Lab Numbers: Hillsboro: US0017, Irvine: US0158, Sultan: US0157*)



SCOPE

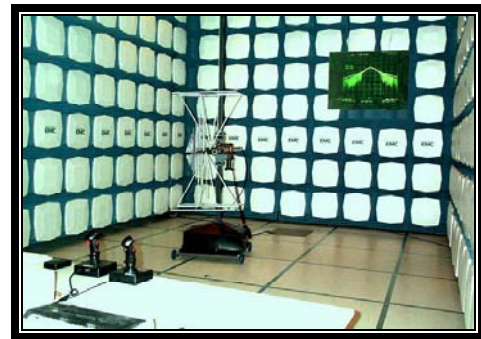
For details on the Scopes of our Accreditations, please visit:

<http://www.nwemc.com/scope.asp>



**California – Orange County Facility
Labs OC01 – OC13**

41 Tesla Ave. Irvine, CA 92618
(888) 364-2378 Fax: (503) 844-3826



**Oregon – Evergreen Facility
Labs EV01 – EV11**

22975 NW Evergreen Pkwy. Suite 400 Hillsboro, OR 97124
(503) 844-4066 Fax: (503) 844-3826



**Washington – Sultan Facility
Labs SU01 – SU07**

14128 339th Ave. SE Sultan, WA 98294
(888) 364-2378

Party Requesting the Test

Company Name:	Intermec Technologies Corporation
Address:	550 Second St. SE
City, State, Zip:	Cedar Rapids, IA 52401-2023
Test Requested By:	Dave Fry
Model:	IP30 with IM4
First Date of Test:	February 13, 2008
Last Date of Test:	February 13, 2008
Receipt Date of Samples:	February 13, 2008
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT (Equipment Under Test):

The IP30 is a new pistol grip RFID scanner that mates with the CN3, CN3e and CK61. It uses the IM4 RFID module.

Testing Objective:

The IM4 RFID module has full modular approval under FCC ID: EHAIM4. This testing will demonstrate compliance to FCC 15.247 radiated emissions specifications when the IM4 uses a new antenna for the IP30.

CONFIGURATION 1 ITRM0175

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
RFID radio	IntermecTechnologies Corporation	IP30	3207440109
RFID radio	IntermecTechnologies Corporation	IP30	3207440137

Remote Equipment Outside of Test Setup Boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Hand Held Computer	IntermecTechnologies Corporation	CN3	29800701691
Computer Dock	IntermecTechnologies Corporation	AD6	16450700134
AC Adapter	IntermecTechnologies Corporation	073573	701002

Equipment modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2/13/2008	Radiated Spurious Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

MODES OF OPERATION

Transmitting max output power (29 dBm in software), PRASK Modulation

Transmitting max output power (29 dBm in software), OOK Modulation

CHANNELS TESTED

Low, Channel 5, 902.75 MHz

Mid, Channel 30, 915 MHz

High, Channel 54, 927.25 MHz

POWER SETTINGS INVESTIGATED

Battery

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	10 GHz
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SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4446A	AAT	12/7/2007	13
Pre-Amplifier	Miteq	AM-1616-1000	AOL	12/29/2006	16
Antenna, Biconilog	EMCO	3141	AXE	1/15/2008	24
EV01 Cables		Bilog Cables	EVA	10/23/2007	13
High Pass Filter 1.2 - 18 GHz	Micro-Tronics	HPM50108	HFV	4/29/2008	13
High Pass Filter	Micro-Tronics	HPM50111	HFO	1/16/2008	13
Pre-Amplifier	Miteq	AMF-4D-010100-24-10P	APW	1/3/2008	13
Antenna, Horn	EMCO	3115	AHC	8/24/2006	24
EV01 Cables		Double Ridge Horn Cables	EVB	1/3/2008	13
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	6/22/2007	13
Antenna, Horn	ETS	3160-07	AHU	NCR	0
EV01 Cables		Standard Gain Horns Cables	EVF	10/23/2007	13

MEASUREMENT BANDWIDTHS

	Frequency Range	Peak Data	Quasi-Peak Data	Average Data
	(MHz)	(kHz)	(kHz)	(kHz)
	0.01 - 0.15	1.0	0.2	0.2
	0.15 - 30.0	10.0	9.0	9.0
	30.0 - 1000	100.0	120.0	120.0
	Above 1000	1000.0	N/A	1000.0

Measurements were made using the bandwidths and detectors specified. No video filter was used.

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.4:2003). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

EUT: IP30 with IM4	Work Order: ITRM0175
Serial Number: 32074400109 & 32074400137	Date: 02/13/08
Customer: Intermec Technologies Corporation	Temperature: 22°C
Attendees: None	Humidity: 24%
Project: None	Barometric Pres.: 30.26
Tested by: Rod Peloquin	Power: Battery
	Job Site: EV01

TEST SPECIFICATIONS		Test Method
FCC 15.247 (FHSS):2007		ANSI C63.4:2003 DA 00-705:2000

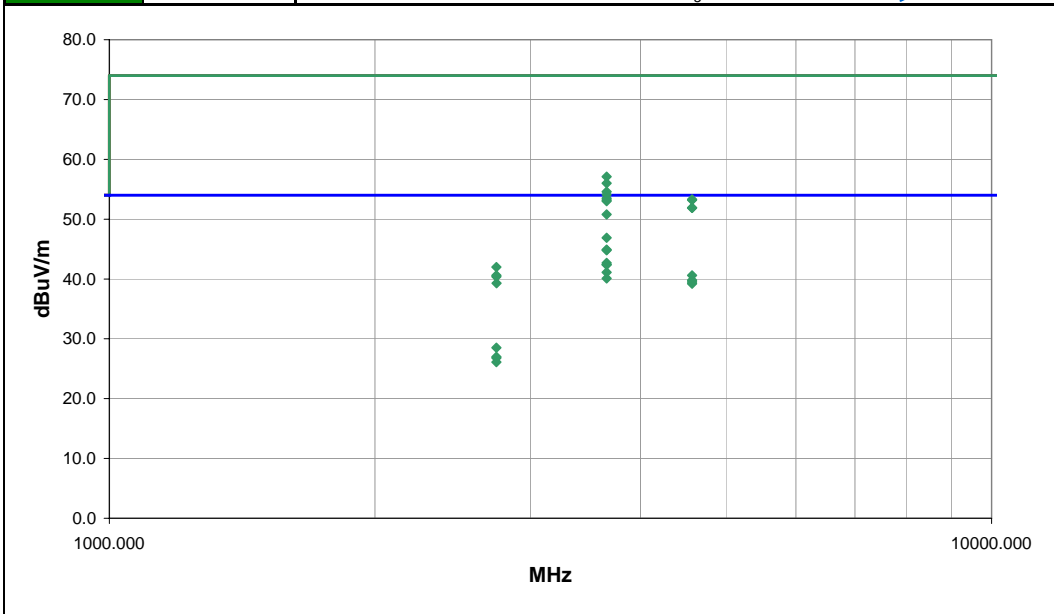
TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS
Standalone

EUT OPERATING MODES
Transmitting max output power (29 dBm in software), mid channel

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	1	 Signature
Configuration #	1	
Results	Pass	



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
3661.017	39.5	7.4	168.0	1.4	3.0	0.0	H-Horn	AV	0.0	46.9	54.0	-7.1	PRASK, EUT vertical
3661.010	37.5	7.4	205.0	1.1	3.0	0.0	V-Horn	AV	0.0	44.9	54.0	-9.1	PRASK, EUT horizontal
3661.053	37.4	7.4	222.0	1.2	3.0	0.0	H-Horn	AV	0.0	44.8	54.0	-9.2	PRASK, EUT horizontal
3661.020	35.3	7.4	360.0	1.3	3.0	0.0	H-Horn	AV	0.0	42.7	54.0	-11.3	PRASK, EUT on side
3661.033	35.0	7.4	150.0	1.1	3.0	0.0	V-Horn	AV	0.0	42.4	54.0	-11.6	PRASK, EUT on side
3661.037	35.0	7.4	156.0	1.4	3.0	0.0	H-Horn	AV	0.0	42.4	54.0	-11.6	OOK, EUT vertical
3661.070	33.7	7.4	209.0	1.3	3.0	0.0	V-Horn	AV	0.0	41.1	54.0	-12.9	OOK, EUT horizontal
4576.307	31.5	9.1	156.0	1.0	3.0	0.0	H-Horn	AV	0.0	40.6	54.0	-13.4	PRASK, EUT vertical
3661.010	32.7	7.4	316.0	1.1	3.0	0.0	V-Horn	AV	0.0	40.1	54.0	-13.9	PRASK, EUT vertical
4576.303	30.7	9.1	282.0	1.0	3.0	0.0	V-Horn	AV	0.0	39.8	54.0	-14.2	PRASK, EUT horizontal
4576.260	30.4	9.1	208.0	1.4	3.0	0.0	V-Horn	AV	0.0	39.5	54.0	-14.5	OOK, EUT horizontal
4576.313	30.1	9.1	181.0	1.0	3.0	0.0	H-Horn	AV	0.0	39.2	54.0	-14.8	OOK, EUT vertical
3661.013	49.7	7.4	168.0	1.4	3.0	0.0	H-Horn	PK	0.0	57.1	74.0	-16.9	PRASK, EUT vertical
3661.037	48.6	7.4	156.0	1.4	3.0	0.0	H-Horn	PK	0.0	56.0	74.0	-18.0	OOK, EUT vertical
3661.053	47.2	7.4	205.0	1.1	3.0	0.0	V-Horn	PK	0.0	54.6	74.0	-19.4	PRASK, EUT horizontal
3660.857	46.7	7.4	222.0	1.2	3.0	0.0	H-Horn	PK	0.0	54.1	74.0	-19.9	PRASK, EUT horizontal
3660.977	46.1	7.4	209.0	1.3	3.0	0.0	V-Horn	PK	0.0	53.5	74.0	-20.5	OOK, EUT horizontal
4576.417	44.2	9.1	282.0	1.0	3.0	0.0	V-Horn	PK	0.0	53.3	74.0	-20.7	PRASK, EUT horizontal
3661.010	45.8	7.4	360.0	1.3	3.0	0.0	H-Horn	PK	0.0	53.2	74.0	-20.8	PRASK, EUT on side
4576.387	44.1	9.1	156.0	1.0	3.0	0.0	H-Horn	PK	0.0	53.2	74.0	-20.8	PRASK, EUT vertical

SPURIOUS RADIATED EMISSIONS

EMC

EUT: IP30 with IM4	Work Order: ITRM0175
Serial Number: 32074400137	Date: 02/13/08
Customer: Intermec Technologies Corporation	Temperature: 22°C
Attendees: None	Humidity: 24%
Project: None	Barometric Pres.: 30.26
Tested by: Rod Peloquin	Power: Battery
	Job Site: EV01

TEST SPECIFICATIONS		Test Method
FCC 15.247 (FHSS):2007		ANSI C63.4:2003 DA 00-705:2000

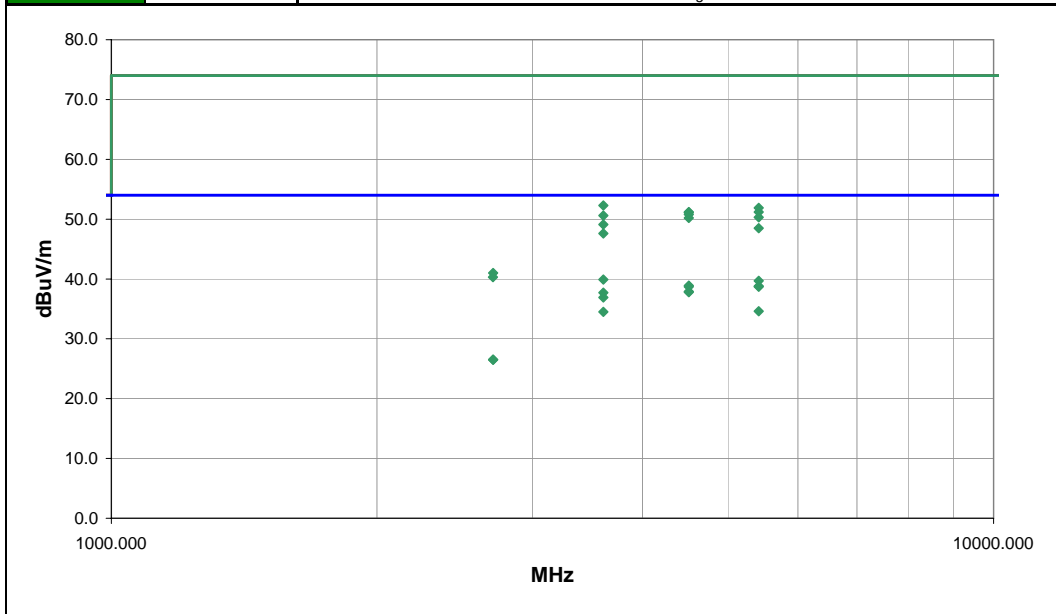
TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS
Standalone

EUT OPERATING MODES
Transmitting max output power (29 dBm in software), low channel

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	2	 Signature
Configuration #	1	
Results	Pass	



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
3611.020	32.7	7.2	187.0	1.2	3.0	0.0	H-Horn	AV	0.0	39.9	54.0	-14.1	PRASK, EUT vertical
5416.513	27.5	12.2	47.0	1.2	3.0	0.0	V-Horn	AV	0.0	39.7	54.0	-14.3	OOK, EUT horizontal
4513.770	30.3	8.6	214.0	1.0	3.0	0.0	V-Horn	AV	0.0	38.9	54.0	-15.1	OOK, EUT horizontal
5416.553	26.6	12.2	151.0	1.0	3.0	0.0	V-Horn	AV	0.0	38.8	54.0	-15.2	OOK, EUT horizontal
4513.833	30.1	8.6	188.0	1.2	3.0	0.0	V-Horn	AV	0.0	38.7	54.0	-15.3	OOK, EUT horizontal
5416.523	26.5	12.2	109.0	1.2	3.0	0.0	V-Horn	AV	0.0	38.7	54.0	-15.3	PRASK, EUT horizontal
4513.787	29.3	8.6	196.0	1.0	3.0	0.0	V-Horn	AV	0.0	37.9	54.0	-16.1	PRASK, EUT horizontal
4513.787	29.2	8.6	251.0	1.2	3.0	0.0	H-Horn	AV	0.0	37.8	54.0	-16.2	PRASK, EUT vertical
3611.043	30.5	7.2	340.0	1.0	3.0	0.0	V-Horn	AV	0.0	37.7	54.0	-16.3	PRASK, EUT horizontal
3611.047	29.7	7.2	153.0	1.1	3.0	0.0	V-Horn	AV	0.0	36.9	54.0	-17.1	OOK, EUT horizontal
5416.277	22.4	12.2	171.0	1.2	3.0	0.0	H-Horn	AV	0.0	34.6	54.0	-19.4	PRASK, EUT vertical
3610.990	27.3	7.2	159.0	1.0	3.0	0.0	V-Horn	AV	0.0	34.5	54.0	-19.5	OOK, EUT horizontal
3611.003	45.1	7.2	340.0	1.0	3.0	0.0	V-Horn	PK	0.0	52.3	74.0	-21.7	PRASK, EUT horizontal
5416.610	39.7	12.2	47.0	1.2	3.0	0.0	V-Horn	PK	0.0	51.9	74.0	-22.1	OOK, EUT horizontal
5416.340	39.0	12.2	151.0	1.0	3.0	0.0	V-Horn	PK	0.0	51.2	74.0	-22.8	OOK, EUT horizontal
4513.690	42.6	8.6	214.0	1.0	3.0	0.0	V-Horn	PK	0.0	51.2	74.0	-22.8	OOK, EUT horizontal
4513.820	42.5	8.6	188.0	1.2	3.0	0.0	V-Horn	PK	0.0	51.1	74.0	-22.9	OOK, EUT horizontal
4513.723	42.2	8.6	196.0	1.0	3.0	0.0	V-Horn	PK	0.0	50.8	74.0	-23.2	PRASK, EUT horizontal
3611.077	43.4	7.2	187.0	1.2	3.0	0.0	H-Horn	PK	0.0	50.6	74.0	-23.4	PRASK, EUT vertical
5417.280	38.1	12.2	109.0	1.2	3.0	0.0	V-Horn	PK	0.0	50.3	74.0	-23.7	PRASK, EUT horizontal

EUT: IP30 with IM4	Work Order: ITRM0175
Serial Number: 32074400109 & 32074400137	Date: 02/13/08
Customer: Intermec Technologies Corporation	Temperature: 22°C
Attendees: None	Humidity: 24%
Project: None	Barometric Pres.: 30.26
Tested by: Rod Peloquin	Power: Battery
	Job Site: EV01

TEST SPECIFICATIONS		Test Method
FCC 15.247 (FHSS):2007		ANSI C63.4:2003 DA 00-705:2000

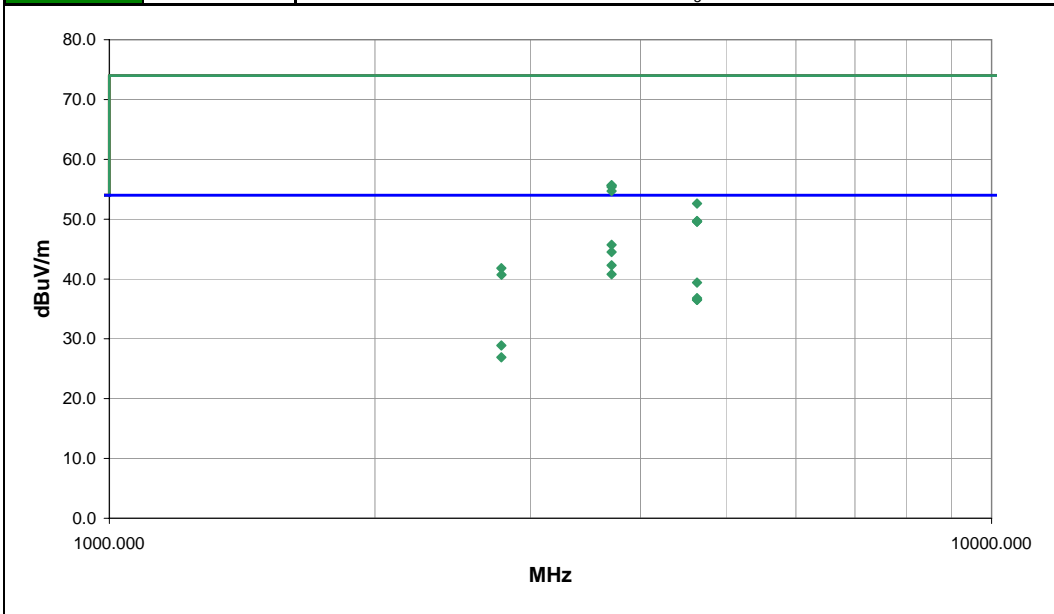
TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS
Standalone

EUT OPERATING MODES
Transmitting max output power (29 dBm in software), high

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	3	 Signature
Configuration #	1	
Results	Pass	



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
3709.053	38.1	7.6	194.0	1.1	3.0	0.0	V-Horn	AV	0.0	45.7	54.0	-8.3	PRASK, EUT horizontal
3708.990	36.9	7.6	168.0	1.6	3.0	0.0	H-Horn	AV	0.0	44.5	54.0	-9.5	PRASK, EUT vertical
3709.043	34.7	7.6	170.0	1.6	3.0	0.0	H-Horn	AV	0.0	42.3	54.0	-11.7	OOK, EUT vertical
3709.087	33.2	7.6	11.0	1.1	3.0	0.0	V-Horn	AV	0.0	40.8	54.0	-13.2	OOK, EUT horizontal
4636.287	30.0	9.4	206.0	1.0	3.0	0.0	V-Horn	AV	0.0	39.4	54.0	-14.6	PRASK, EUT horizontal
4636.320	27.4	9.4	167.0	1.0	3.0	0.0	H-Horn	AV	0.0	36.8	54.0	-17.2	PRASK, EUT vertical
4636.283	27.1	9.4	46.0	1.0	3.0	0.0	V-Horn	AV	0.0	36.5	54.0	-17.5	OOK, EUT horizontal
4636.300	27.1	9.4	45.0	1.0	3.0	0.0	H-Horn	AV	0.0	36.5	54.0	-17.5	OOK, EUT vertical
3708.953	48.1	7.6	168.0	1.6	3.0	0.0	H-Horn	PK	0.0	55.7	74.0	-18.3	PRASK, EUT vertical
3709.020	48.0	7.6	170.0	1.6	3.0	0.0	H-Horn	PK	0.0	55.6	74.0	-18.4	OOK, EUT vertical
3709.027	47.8	7.6	194.0	1.1	3.0	0.0	V-Horn	PK	0.0	55.4	74.0	-18.6	PRASK, EUT horizontal
3709.020	47.1	7.6	11.0	1.1	3.0	0.0	V-Horn	PK	0.0	54.7	74.0	-19.3	OOK, EUT horizontal
4636.463	43.2	9.4	206.0	1.0	3.0	0.0	V-Horn	PK	0.0	52.6	74.0	-21.4	PRASK, EUT horizontal
4636.113	40.3	9.4	167.0	1.0	3.0	0.0	H-Horn	PK	0.0	49.7	74.0	-24.3	PRASK, EUT vertical
4636.007	40.2	9.4	45.0	1.0	3.0	0.0	H-Horn	PK	0.0	49.6	74.0	-24.4	OOK, EUT vertical
4636.060	40.2	9.4	46.0	1.0	3.0	0.0	V-Horn	PK	0.0	49.6	74.0	-24.4	OOK, EUT horizontal
2781.760	25.8	3.1	212.0	1.5	3.0	0.0	H-Horn	AV	0.0	28.9	54.0	-25.1	PRASK, EUT vertical
2781.660	23.8	3.1	353.0	1.0	3.0	0.0	V-Horn	AV	0.0	26.9	54.0	-27.1	PRASK, EUT horizontal
2781.997	38.7	3.1	212.0	1.5	3.0	0.0	H-Horn	PK	0.0	41.8	74.0	-32.2	PRASK, EUT vertical
2782.630	37.6	3.1	353.0	1.0	3.0	0.0	V-Horn	PK	0.0	40.7	74.0	-33.3	PRASK, EUT horizontal



