

Intermec Technologies Corporation

DRCB in CV30

September 5, 2006

Report No. ITRM0131.1

Report Prepared By



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

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EMC Test Report



22975 NW Evergreen Parkway
Suite 400
Hillsboro, Oregon 97124

Certificate of Test

Issue Date: September 5, 2006
Intermec Technologies Corporation
Model: DRCB in CV30

Emissions				
Test Description	Specification	Test Method	Pass	Fail
Spurious Radiated Emissions	FCC 15.247:2006	ANSI C63.4:2003	☒	☐
AC Powerline Conducted Emissions	FCC 15.207:2006	ANSI C63.4:2003	☒	☐

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:

Greg Kiemel, Director of Engineering

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.

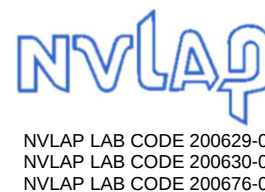
Product compliance is the responsibility of the client, therefore the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. This Report may only be duplicated in its entirety. The results of this test pertain only to the sample(s) tested, 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 89/336/EEC, ANSI C63.4, MIL-STD 461E, DO-160D and SAE J1113. 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.



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. USA0401C.



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, and R-2318, Irvine: C-2094 and R-1943, Sultan: R-871, C-1784 and R-1761).



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.



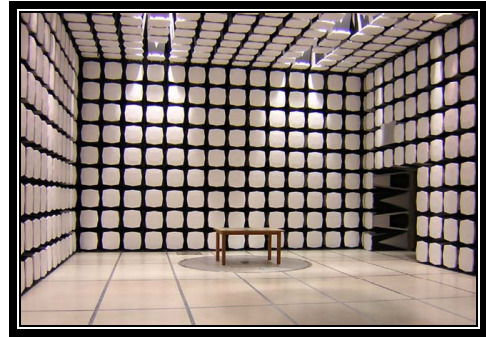
GOST: Northwest EMC, Inc. has been assessed and accredited by the Russian Certification bodies Certinform VNIINMASH, CERTINFO, SAMTES, and Federal CHEC, to perform EMC and Hygienic testing for Information Technology Products. As a result of their laboratory assessment, they will accept test results from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



SCOPE

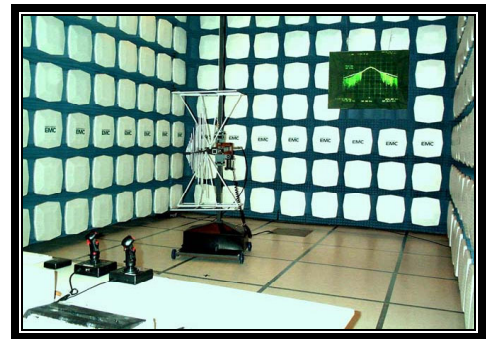
For details on the Scopes of our Accreditations, please visit:

<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:	Scott Holub
Model:	DRCB in CV30
First Date of Test:	August 11, 2006
Last Date of Test:	August 25, 2006
Receipt Date of Samples:	August 11, 2006
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test**Functional Description of the EUT (Equipment Under Test):**

802.11b/g radio (DRCB).

Testing Objective:

The CV30 is a scaled down version of the CV60 forklift mounted unit. The DRCB 802.11b/g is a new radio in the CV30.

CONFIGURATION 1 ITRM0131**Software/Firmware Running during test**

Description	Version
FCC Test Utility	Utility version 1.01, Firmware version 1.39.0.14

EUT

Description	Manufacturer	Model/Part Number	Serial Number
EUT - Mobile PC	Intermec Technologies Corporation	CV30	20110640002
Bluetooth Radio	Unknown	BTM311	Unknown
802.11(b)/(g) radio	Wistron	DRCB	Unknown

Peripherals in test setup boundary

Description	Manufacturer	Model/Part Number	Serial Number
Antenna	Centurion Wireless	CAF94606	060616
Keyboard	Intermec Technologies Corporation	850-809-003	BAK042406014983
AC Adapter	Intermec Technologies Corporation	073573	519603

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Antenna	Yes	1.0m	No	Antenna	CV30
Keyboard	Yes	0.6m	No	Keyboard	CV30
Ethernet	No	1.2m	No	CV30	Unterminated
Serial	Yes	1.0m	No	CV30	Unterminated
Serial	Yes	1.2m	No	CV30	Unterminated
DC	No	1.6m	Yes	CV30	AC Adapter
AC	No	2m	No	AC Adapter	AC Mains
	No	1.2m	No	CV30	Unterminated

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

Equipment modifications					
Item	Date	Test	Modification	Note	Disposition of EUT
1	8/11/2006	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
2	8/14/2006	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
3	8/16/2006	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
4	8/25/2006	AC Powerline Conducted 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 high channel, modulated signal
Transmitting mid channel, modulated signal
Transmitting low channel, modulated signal

POWER SETTINGS INVESTIGATED

120VAC/60Hz

FREQUENCY RANGE INVESTIGATED

Start Frequency 30 MHz Stop Frequency 26 GHz

CLOCKS AND OSCILLATORS

Not provided by client.

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
High Pass Filter	Micro-Tronics	HPM50111	HFO	4/4/2006	13
EV01 cables c,g, h			EVA	3/30/2006	13
Antenna, Biconilog	EMCO	3141	AXE	12/28/2005	24
Pre-Amplifier	Miteq	AM-1616-1000	AOL	1/4/2006	13
EV01 cables g,h,j			EVB	3/30/2006	13
Pre-Amplifier	Miteq	AMF-4D-010100-24-10P	APW	8/2/2005	13
Antenna, Horn	EMCO	3115	AHJ	5/20/2005	24
EV01 cables g,h,i			EVF	4/17/2006	13
Pre-Amplifier	Miteq	AMF-4D-005180-24-10P	APC	5/12/2006	13
Antenna, Horn	EMCO	3160-08	AHK	NCR	0
EV01 Cable D			EVD	3/30/2006	13
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	3/23/2006	13
Antenna, Horn	EMCO	3160-09	AHG	NCR	0
Spectrum Analyzer	Agilent	E4446A	AAT	4/4/2006	12

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

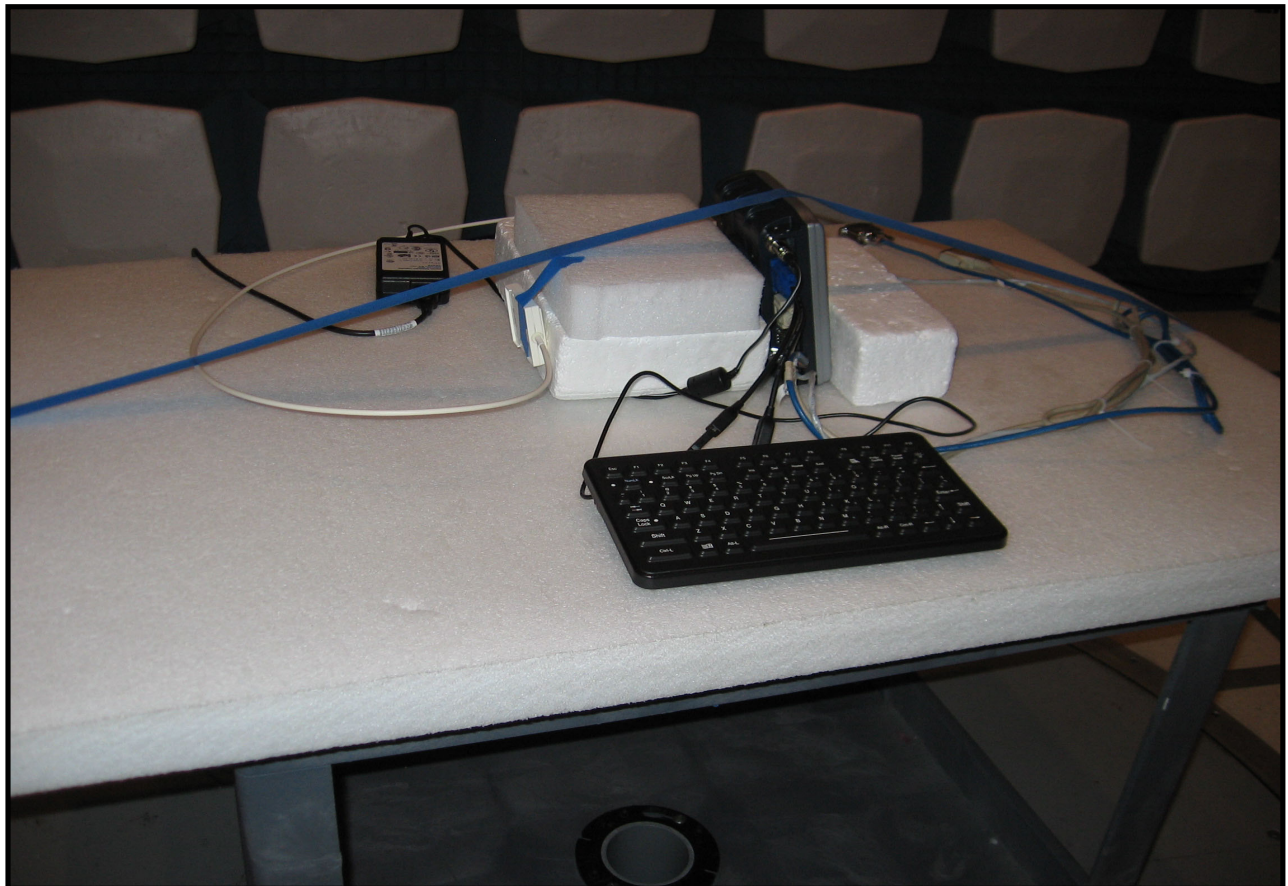
The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify 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.

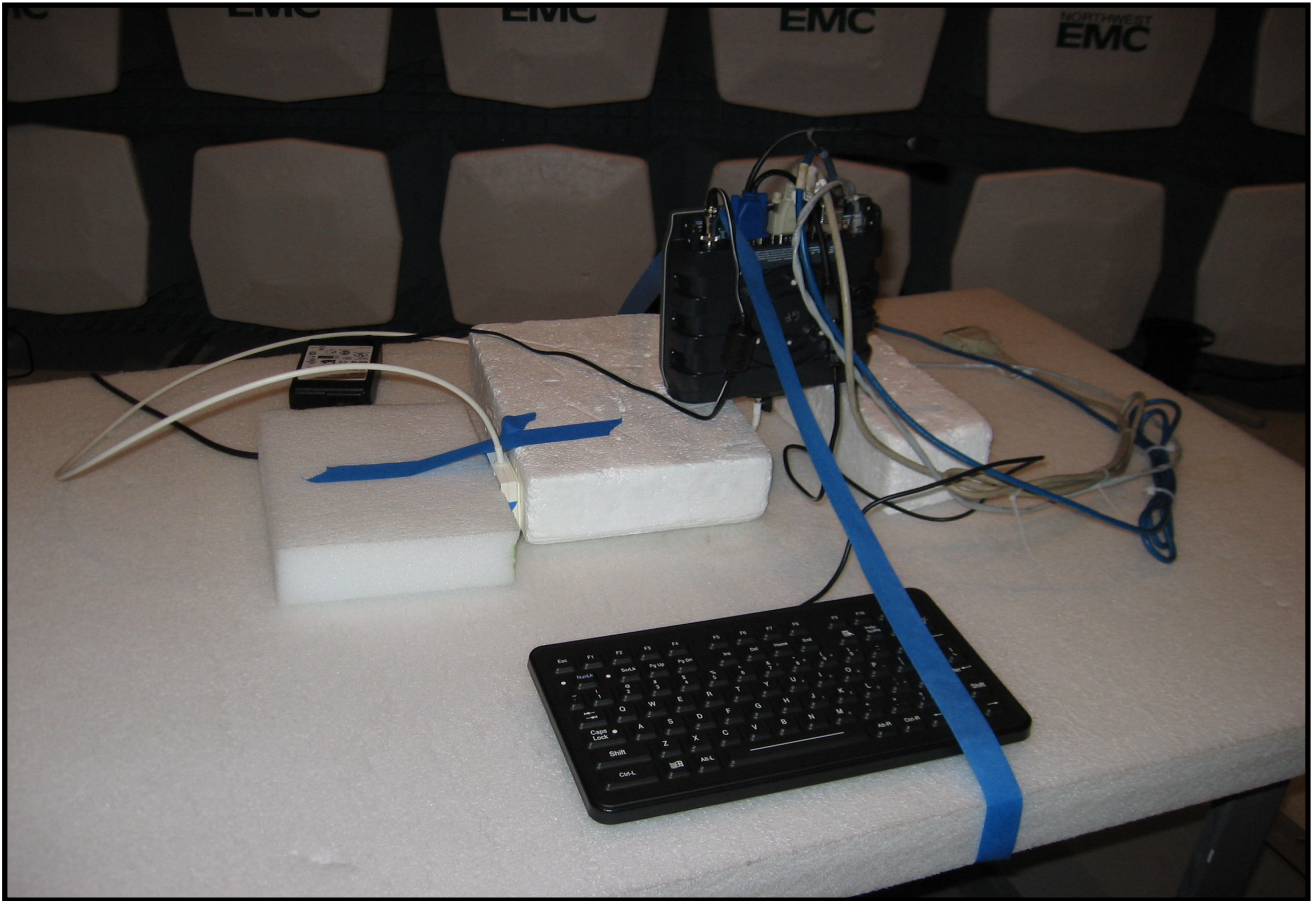
NORTHWEST		SPURIOUS RADIATED EMISSIONS		PSA 2006.05.30									
EMC				EMI 2006.7.11									
EUT:	DRCB in CV30			Work Order:	ITRM0131								
Serial Number:	20110640002			Date:	08/11/06								
Customer:	Intermec Technologies Corporation			Temperature:	25								
Attendees:	None			Humidity:	33%								
Project:	None			Barometric Pres.:	30.11								
Tested by:	Holly Ashkannejhad		Power:	120VAC/60Hz	Job Site:	EV01							
TEST SPECIFICATIONS			Test Method										
FCC 15.247:2006 DTS			ANSI C63.4:2003, KDB No. 558074										
TEST PARAMETERS													
Antenna Height(s) (m)	1 - 4		Test Distance (m)	3									
COMMENTS													
EUT OPERATING MODES													
Transmitting low channel, modulated signal													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #	1		Signature <i>Holly Ashkannejhad</i> NVLAP Lab Code 200630-0										
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
7238.844	30.2	13.1	288.0	2.0	3.0	0.0	V-Horn	AV	0.0	43.3	54.0	-10.7	802.11(b), 1Mbps
12060.780	24.6	16.1	183.0	1.0	3.0	0.0	V-Horn	AV	0.0	40.7	54.0	-13.3	802.11(b), 1Mbps
12061.510	24.4	16.1	149.0	2.0	3.0	0.0	H-Horn	AV	0.0	40.5	54.0	-13.5	802.11(b), 1Mbps
7236.927	27.0	13.1	134.0	1.0	3.0	0.0	H-Horn	AV	0.0	40.1	54.0	-13.9	802.11(b), 1Mbps
4824.007	32.9	6.4	172.0	1.0	3.0	0.0	H-Horn	AV	0.0	39.3	54.0	-14.7	802.11(b), 1Mbps
4823.946	30.5	6.4	338.0	1.0	3.0	0.0	V-Horn	AV	0.0	36.9	54.0	-17.1	802.11(b), 1Mbps
12059.230	37.8	16.1	149.0	2.0	3.0	0.0	H-Horn	PK	0.0	53.9	74.0	-20.1	802.11(b), 1Mbps
4824.108	27.2	6.4	161.0	1.0	3.0	0.0	H-Horn	AV	0.0	33.6	54.0	-20.4	802.11(b), 11Mbps
7234.842	40.2	13.1	288.0	2.0	3.0	0.0	V-Horn	PK	0.0	53.3	74.0	-20.7	802.11(b), 1Mbps
12061.140	37.2	16.1	183.0	1.0	3.0	0.0	V-Horn	PK	0.0	53.3	74.0	-20.7	802.11(b), 1Mbps
4824.075	26.4	6.4	348.0	1.2	3.0	0.0	V-Horn	AV	0.0	32.8	54.0	-21.2	802.11(b), 11Mbps
4824.492	25.7	6.4	301.0	1.0	3.0	0.0	V-Horn	AV	0.0	32.1	54.0	-21.9	802.11(g), 6Mbps
7233.892	38.7	13.1	134.0	1.0	3.0	0.0	H-Horn	PK	0.0	51.8	74.0	-22.2	802.11(b), 1Mbps
4824.967	25.0	6.4	293.0	1.5	3.0	0.0	V-Horn	AV	0.0	31.4	54.0	-22.6	802.11(g), 54Mbps
4824.183	24.7	6.4	335.0	1.0	3.0	0.0	H-Horn	AV	0.0	31.1	54.0	-22.9	802.11(g), 6Mbps
4824.200	24.7	6.4	243.0	1.0	3.0	0.0	H-Horn	AV	0.0	31.1	54.0	-22.9	802.11(g), 54Mbps
4824.208	24.7	6.4	346.0	1.5	3.0	0.0	V-Horn	AV	0.0	31.1	54.0	-22.9	802.11(g), 36Mbps
4825.667	24.7	6.4	66.0	1.0	3.0	0.0	H-Horn	AV	0.0	31.1	54.0	-22.9	802.11(g), 36Mbps
4821.867	40.5	6.4	161.0	1.0	3.0	0.0	H-Horn	PK	0.0	46.9	74.0	-27.1	802.11(b), 11Mbps
4822.192	40.4	6.4	301.0	1.0	3.0	0.0	V-Horn	PK	0.0	46.8	74.0	-27.2	802.11(g), 6Mbps

NORTHWEST		SPURIOUS RADIATED EMISSIONS		PSA 2006.05.30									
EMC				EMI 2006.7.11									
EUT:	DRCB in CV30			Work Order:	ITRM0131								
Serial Number:	20110640002			Date:	08/11/06								
Customer:	Intermec Technologies Corporation			Temperature:	25								
Attendees:	None			Humidity:	33%								
Project:	None			Barometric Pres.:	30.11								
Tested by:	Holly Ashkannejhad	Power:	120VAC/60Hz	Job Site:	EV01								
TEST SPECIFICATIONS			Test Method										
FCC 15.247:2006 DTS			ANSI C63.4:2003, KDB No. 558074										
TEST PARAMETERS													
Antenna Height(s) (m)	1 - 4		Test Distance (m)	3									
COMMENTS													
EUT OPERATING MODES													
Transmitting mid channel, modulated signal													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #	3		Signature <i>Holly Ashkannejhad</i> NVLAP Lab Code 200630-0										
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
12187.920	24.7	16.2	19.0	1.0	3.0	0.0	V-Horn	AV	0.0	40.9	54.0	-13.1	802.11(b), 1Mbps
12185.270	24.6	16.2	45.0	1.0	3.0	0.0	H-Horn	AV	0.0	40.8	54.0	-13.2	802.11(b), 1Mbps
7311.541	24.7	13.3	263.0	1.0	3.0	0.0	V-Horn	AV	0.0	38.0	54.0	-16.0	802.11(b), 1Mbps
7312.984	24.6	13.3	155.0	1.7	3.0	0.0	H-Horn	AV	0.0	37.9	54.0	-16.1	802.11(b), 1Mbps
12185.500	37.9	16.2	19.0	1.0	3.0	0.0	V-Horn	PK	0.0	54.1	74.0	-19.9	802.11(b), 1Mbps
12186.240	37.6	16.2	45.0	1.0	3.0	0.0	H-Horn	PK	0.0	53.8	74.0	-20.2	802.11(b), 1Mbps
4873.975	26.8	6.5	315.0	1.0	3.0	0.0	V-Horn	AV	0.0	33.3	54.0	-20.7	802.11(b), 1Mbps
4873.680	26.2	6.5	161.0	1.0	3.0	0.0	H-Horn	AV	0.0	32.7	54.0	-21.3	802.11(b), 1Mbps
4871.270	24.9	6.5	240.0	1.0	3.0	0.0	V-Horn	AV	0.0	31.4	54.0	-22.6	802.11(g), 6Mbps
7312.250	37.9	13.3	263.0	1.0	3.0	0.0	V-Horn	PK	0.0	51.2	74.0	-22.8	802.11(b), 1Mbps
4871.690	24.7	6.5	265.0	1.0	3.0	0.0	V-Horn	AV	0.0	31.2	54.0	-22.8	802.11(b), 1Mbps
4872.380	24.7	6.5	157.0	1.0	3.0	0.0	H-Horn	AV	0.0	31.2	54.0	-22.8	802.11(b), 1Mbps
4872.600	24.7	6.5	219.0	1.0	3.0	0.0	H-Horn	AV	0.0	31.2	54.0	-22.8	802.11(g), 36Mbps
4872.700	24.7	6.5	109.0	1.0	3.0	0.0	H-Horn	AV	0.0	31.2	54.0	-22.8	802.11(g), 54Mbps
4873.200	24.7	6.5	269.0	1.0	3.0	0.0	V-Horn	AV	0.0	31.2	54.0	-22.8	802.11(g), 54Mbps
4873.320	24.7	6.5	141.0	3.2	3.0	0.0	V-Horn	AV	0.0	31.2	54.0	-22.8	802.11(g), 36Mbps
4873.420	24.7	6.5	123.0	1.0	3.0	0.0	H-Horn	AV	0.0	31.2	54.0	-22.8	802.11(g), 6Mbps
7311.665	37.3	13.3	155.0	1.7	3.0	0.0	H-Horn	PK	0.0	50.6	74.0	-23.4	802.11(b), 1Mbps
4873.320	41.1	6.5	315.0	1.0	3.0	0.0	V-Horn	PK	0.0	47.6	74.0	-26.4	802.11(b), 1Mbps
4872.615	40.2	6.5	161.0	1.0	3.0	0.0	H-Horn	PK	0.0	46.7	74.0	-27.3	802.11(b), 1Mbps

NORTHWEST		PSA 2006.05.30 EMI 2006.7.11																																																																																																																																																																																																																																																																																																							
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<table border="1" style="width:100%; border-collapse: collapse; font-size: 0.8em;"> <thead> <tr> <th>Freq (MHz)</th> <th>Amplitude (dBuV)</th> <th>Factor (dB)</th> <th>Azimuth (degrees)</th> <th>Height (meters)</th> <th>Distance (meters)</th> <th>External Attenuation (dB)</th> <th>Polarity</th> <th>Detector</th> <th>Distance Adjustment (dB)</th> <th>Adjusted dBuV/m</th> <th>Spec. Limit dBuV/m</th> <th>Compared to Spec. (dB)</th> <th>Comments</th> </tr> </thead> <tbody> <tr><td>12309.080</td><td>26.5</td><td>16.1</td><td>251.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>V-Horn</td><td>AV</td><td>0.0</td><td>42.6</td><td>54.0</td><td>-11.4</td><td>802.11(b), 1Mbps</td></tr> <tr><td>12308.890</td><td>26.0</td><td>16.1</td><td>193.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>H-Horn</td><td>AV</td><td>0.0</td><td>42.1</td><td>54.0</td><td>-11.9</td><td>802.11(b), 1Mbps</td></tr> <tr><td>12308.840</td><td>24.9</td><td>16.1</td><td>226.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>H-Horn</td><td>AV</td><td>0.0</td><td>41.0</td><td>54.0</td><td>-13.0</td><td>802.11(b), 11Mbps</td></tr> <tr><td>12308.850</td><td>24.7</td><td>16.1</td><td>98.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>V-Horn</td><td>AV</td><td>0.0</td><td>40.8</td><td>54.0</td><td>-13.2</td><td>802.11(b), 11Mbps</td></tr> <tr><td>7388.200</td><td>27.1</td><td>13.6</td><td>215.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>H-Horn</td><td>AV</td><td>0.0</td><td>40.7</td><td>54.0</td><td>-13.3</td><td>802.11(b), 1Mbps</td></tr> <tr><td>4923.933</td><td>32.5</td><td>6.7</td><td>5.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>V-Horn</td><td>AV</td><td>0.0</td><td>39.2</td><td>54.0</td><td>-14.8</td><td>802.11(b), 1Mbps</td></tr> <tr><td>7385.210</td><td>25.3</td><td>13.6</td><td>218.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>H-Horn</td><td>AV</td><td>0.0</td><td>38.9</td><td>54.0</td><td>-15.1</td><td>802.11(b), 11Mbps</td></tr> <tr><td>7384.955</td><td>24.8</td><td>13.6</td><td>138.0</td><td>1.4</td><td>0.0</td><td>0.0</td><td>V-Horn</td><td>AV</td><td>0.0</td><td>38.4</td><td>54.0</td><td>-15.6</td><td>802.11(b), 1Mbps</td></tr> <tr><td>7385.070</td><td>24.6</td><td>13.6</td><td>203.0</td><td>1.8</td><td>0.0</td><td>0.0</td><td>V-Horn</td><td>AV</td><td>0.0</td><td>38.2</td><td>54.0</td><td>-15.8</td><td>802.11(b), 11Mbps</td></tr> <tr><td>4924.013</td><td>30.4</td><td>6.7</td><td>16.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>H-Horn</td><td>AV</td><td>0.0</td><td>37.1</td><td>54.0</td><td>-16.9</td><td>802.11(b), 1Mbps</td></tr> <tr><td>4923.940</td><td>29.2</td><td>6.7</td><td>358.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>H-Horn</td><td>AV</td><td>0.0</td><td>35.9</td><td>54.0</td><td>-18.1</td><td>802.11(b), 1Mbps</td></tr> <tr><td>12309.020</td><td>39.2</td><td>16.1</td><td>193.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>H-Horn</td><td>PK</td><td>0.0</td><td>55.3</td><td>74.0</td><td>-18.7</td><td>802.11(b), 1Mbps</td></tr> <tr><td>12308.730</td><td>38.8</td><td>16.1</td><td>251.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>V-Horn</td><td>PK</td><td>0.0</td><td>54.9</td><td>74.0</td><td>-19.1</td><td>802.11(b), 1Mbps</td></tr> <tr><td>12310.200</td><td>37.6</td><td>16.1</td><td>98.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>V-Horn</td><td>PK</td><td>0.0</td><td>53.7</td><td>74.0</td><td>-20.3</td><td>802.11(b), 11Mbps</td></tr> <tr><td>12311.400</td><td>37.5</td><td>16.1</td><td>226.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>H-Horn</td><td>PK</td><td>0.0</td><td>53.6</td><td>74.0</td><td>-20.4</td><td>802.11(b), 11Mbps</td></tr> <tr><td>4923.950</td><td>26.5</td><td>6.7</td><td>5.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>V-Horn</td><td>AV</td><td>0.0</td><td>33.2</td><td>54.0</td><td>-20.8</td><td>802.11(b), 1Mbps</td></tr> <tr><td>7384.515</td><td>39.3</td><td>13.6</td><td>215.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>H-Horn</td><td>PK</td><td>0.0</td><td>52.9</td><td>74.0</td><td>-21.1</td><td>802.11(b), 1Mbps</td></tr> <tr><td>4924.105</td><td>26.0</td><td>6.7</td><td>257.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>V-Horn</td><td>AV</td><td>0.0</td><td>32.7</td><td>54.0</td><td>-21.3</td><td>802.11(b), 11Mbps</td></tr> <tr><td>7387.330</td><td>38.3</td><td>13.6</td><td>218.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>H-Horn</td><td>PK</td><td>0.0</td><td>51.9</td><td>74.0</td><td>-22.1</td><td>802.11(b), 11Mbps</td></tr> <tr><td>7384.500</td><td>38.0</td><td>13.6</td><td>203.0</td><td>1.8</td><td>0.0</td><td>0.0</td><td>V-Horn</td><td>PK</td><td>0.0</td><td>51.6</td><td>74.0</td><td>-22.4</td><td>802.11(b), 11Mbps</td></tr> </tbody> </table>				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	12309.080	26.5	16.1	251.0	1.0	0.0	0.0	V-Horn	AV	0.0	42.6	54.0	-11.4	802.11(b), 1Mbps	12308.890	26.0	16.1	193.0	1.0	0.0	0.0	H-Horn	AV	0.0	42.1	54.0	-11.9	802.11(b), 1Mbps	12308.840	24.9	16.1	226.0	1.0	0.0	0.0	H-Horn	AV	0.0	41.0	54.0	-13.0	802.11(b), 11Mbps	12308.850	24.7	16.1	98.0	1.0	0.0	0.0	V-Horn	AV	0.0	40.8	54.0	-13.2	802.11(b), 11Mbps	7388.200	27.1	13.6	215.0	1.0	0.0	0.0	H-Horn	AV	0.0	40.7	54.0	-13.3	802.11(b), 1Mbps	4923.933	32.5	6.7	5.0	1.0	0.0	0.0	V-Horn	AV	0.0	39.2	54.0	-14.8	802.11(b), 1Mbps	7385.210	25.3	13.6	218.0	1.0	0.0	0.0	H-Horn	AV	0.0	38.9	54.0	-15.1	802.11(b), 11Mbps	7384.955	24.8	13.6	138.0	1.4	0.0	0.0	V-Horn	AV	0.0	38.4	54.0	-15.6	802.11(b), 1Mbps	7385.070	24.6	13.6	203.0	1.8	0.0	0.0	V-Horn	AV	0.0	38.2	54.0	-15.8	802.11(b), 11Mbps	4924.013	30.4	6.7	16.0	1.0	0.0	0.0	H-Horn	AV	0.0	37.1	54.0	-16.9	802.11(b), 1Mbps	4923.940	29.2	6.7	358.0	1.0	0.0	0.0	H-Horn	AV	0.0	35.9	54.0	-18.1	802.11(b), 1Mbps	12309.020	39.2	16.1	193.0	1.0	0.0	0.0	H-Horn	PK	0.0	55.3	74.0	-18.7	802.11(b), 1Mbps	12308.730	38.8	16.1	251.0	1.0	0.0	0.0	V-Horn	PK	0.0	54.9	74.0	-19.1	802.11(b), 1Mbps	12310.200	37.6	16.1	98.0	1.0	0.0	0.0	V-Horn	PK	0.0	53.7	74.0	-20.3	802.11(b), 11Mbps	12311.400	37.5	16.1	226.0	1.0	0.0	0.0	H-Horn	PK	0.0	53.6	74.0	-20.4	802.11(b), 11Mbps	4923.950	26.5	6.7	5.0	1.0	0.0	0.0	V-Horn	AV	0.0	33.2	54.0	-20.8	802.11(b), 1Mbps	7384.515	39.3	13.6	215.0	1.0	0.0	0.0	H-Horn	PK	0.0	52.9	74.0	-21.1	802.11(b), 1Mbps	4924.105	26.0	6.7	257.0	1.0	0.0	0.0	V-Horn	AV	0.0	32.7	54.0	-21.3	802.11(b), 11Mbps	7387.330	38.3	13.6	218.0	1.0	0.0	0.0	H-Horn	PK	0.0	51.9	74.0	-22.1	802.11(b), 11Mbps	7384.500	38.0	13.6	203.0	1.8	0.0	0.0	V-Horn	PK	0.0	51.6	74.0	-22.4	802.11(b), 11Mbps
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																																																																																																																																																																																																																																																																																												
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12308.850	24.7	16.1	98.0	1.0	0.0	0.0	V-Horn	AV	0.0	40.8	54.0	-13.2	802.11(b), 11Mbps																																																																																																																																																																																																																																																																																												
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4923.933	32.5	6.7	5.0	1.0	0.0	0.0	V-Horn	AV	0.0	39.2	54.0	-14.8	802.11(b), 1Mbps																																																																																																																																																																																																																																																																																												
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12308.730	38.8	16.1	251.0	1.0	0.0	0.0	V-Horn	PK	0.0	54.9	74.0	-19.1	802.11(b), 1Mbps																																																																																																																																																																																																																																																																																												
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NORTHWEST		SPURIOUS RADIATED EMISSIONS		PSA 2006.05.30									
EMC				EMI 2006.7.11									
EUT: DRCB in CV30			Work Order: ITRM0131										
Serial Number: 20110640002			Date: 08/16/06										
Customer: Intermec Technologies Corporation			Temperature: 25										
Attendees: None			Humidity: 33%										
Project: None			Barometric Pres.: 30.11										
Tested by: Holly Ashkannejhad			Power: 120VAC/60Hz		Job Site: EV01								
TEST SPECIFICATIONS			Test Method										
FCC 15.247:2006 DTS			ANSI C63.4:2003, KDB No. 558074										
TEST PARAMETERS													
Antenna Height(s) (m)		1 - 4		Test Distance (m)									
				3									
COMMENTS													
EUT OPERATING MODES													
Transmitting high channel, modulated signal													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #		8											
Configuration #		1											
Results		Pass		NVLAP Lab Code 200630-0									
		Signature <i>Holly Ashkannejhad</i>											
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
2484.028	24.8	1.1	10.0	1.0	3.0	20.0	V-Horn	AV	0.0	45.9	54.0	-8.1	802.11(b) 11Mbps
2484.402	24.8	1.1	271.0	1.0	3.0	20.0	H-Horn	AV	0.0	45.9	54.0	-8.1	802.11(b) 1Mbps
2484.180	24.7	1.1	16.0	1.7	3.0	20.0	H-Horn	AV	0.0	45.8	54.0	-8.2	802.11(b) 11Mbps
2484.367	24.7	1.1	36.0	1.1	3.0	20.0	V-Horn	AV	0.0	45.8	54.0	-8.2	802.11(g) 6Mbps
2484.481	24.7	1.1	38.0	1.0	3.0	20.0	H-Horn	AV	0.0	45.8	54.0	-8.2	802.11(g) 36Mbps
2484.636	24.7	1.1	177.0	1.0	3.0	20.0	H-Horn	AV	0.0	45.8	54.0	-8.2	802.11(g) 54Mbps
2485.007	24.7	1.1	154.0	1.1	3.0	20.0	V-Horn	AV	0.0	45.8	54.0	-8.2	802.11(g) 36Mbps
2485.064	24.7	1.1	337.0	3.0	3.0	20.0	V-Horn	AV	0.0	45.8	54.0	-8.2	802.11(g) 54Mbps
2485.536	24.7	1.1	359.0	2.3	3.0	20.0	V-Horn	AV	0.0	45.8	54.0	-8.2	802.11(b) 1Mbps
2485.738	24.7	1.1	309.0	1.0	3.0	20.0	H-Horn	AV	0.0	45.8	54.0	-8.2	802.11(g) 6Mbps
2485.393	38.5	1.1	271.0	1.0	3.0	20.0	H-Horn	PK	0.0	59.6	74.0	-14.4	802.11(b) 1Mbps
2484.696	38.4	1.1	359.0	2.3	3.0	20.0	V-Horn	PK	0.0	59.5	74.0	-14.5	802.11(b) 1Mbps
2485.437	38.4	1.1	309.0	1.0	3.0	20.0	H-Horn	PK	0.0	59.5	74.0	-14.5	802.11(g) 6Mbps
2483.620	38.0	1.1	10.0	1.0	3.0	20.0	V-Horn	PK	0.0	59.1	74.0	-14.9	802.11(b) 11Mbps
2485.124	37.9	1.1	337.0	3.0	3.0	20.0	V-Horn	PK	0.0	59.0	74.0	-15.0	802.11(g) 54Mbps
2485.304	37.9	1.1	154.0	1.1	3.0	20.0	V-Horn	PK	0.0	59.0	74.0	-15.0	802.11(g) 36Mbps
2484.057	37.8	1.1	16.0	1.7	3.0	20.0	H-Horn	PK	0.0	58.9	74.0	-15.1	802.11(b) 11Mbps
2484.291	37.7	1.1	36.0	1.1	3.0	20.0	V-Horn	PK	0.0	58.8	74.0	-15.2	802.11(g) 6Mbps
2484.389	37.6	1.1	38.0	1.0	3.0	20.0	H-Horn	PK	0.0	58.7	74.0	-15.3	802.11(g) 36Mbps
2485.152	37.6	1.1	177.0	1.0	3.0	20.0	H-Horn	PK	0.0	58.7	74.0	-15.3	802.11(g) 54Mbps





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

Continuous TX 802.11 low channel
 Continuous TX 802.11 mid channel
 Continuous TX 802.11 high channel

POWER SETTINGS INVESTIGATED

120V/60Hz

SAMPLE CALCULATIONS

Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
High Pass Filter	T.T.E.	7766	HFG	12/19/2005	13
Attenuator	Coaxicom	66702 2910-20	AUA	5/2/2006	13
LISN	Solar	9252-50-R-24-BNC	LIQ	12/13/2005	13
Receiver	Rohde & Schwartz	ESCI	ARG	6/22/2006	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

Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 50 Ω measuring port is terminated by a 50 Ω EMI meter or a 50 Ω resistive load. All 50 Ω measuring ports of the LISN are terminated by 50 Ω .

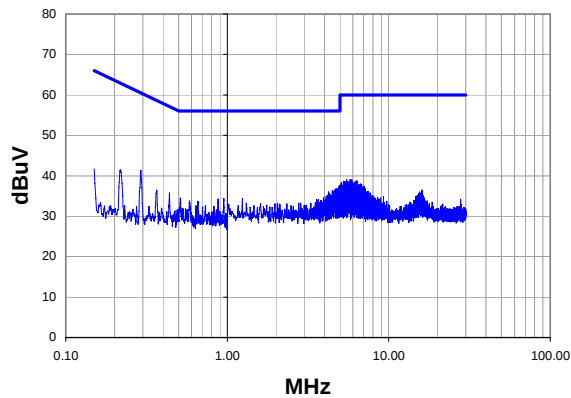
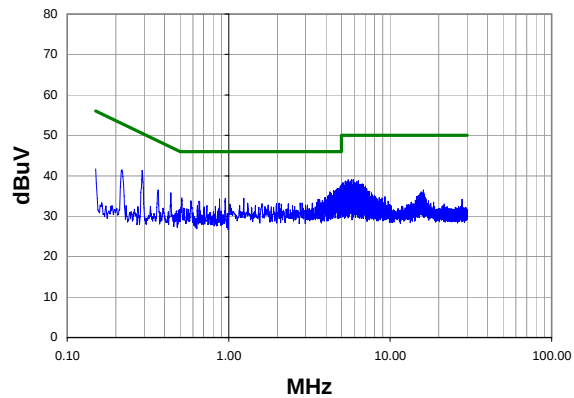
EMC**AC POWERLINE CONDUCTED EMISSIONS**

NVLAP Lab Code 200630-0

Work Order:	ITRM0131	Date:	08/25/06	<i>David DiVergigelis</i>	
Project:	None	Temperature:	23C		
Job Site:	EV07	Humidity:	45%		
Serial Number:	20110640002	Barometric Pres.:	30.07"		
				Tested by:	David DiVergigelis
EUT:	DRCB in CV30				
Configuration:	1				
Customer:	Intermec Technologies				
Attendees:	C.D. White				
EUT Power:	120V/60Hz				
Operating Mode:	Running FCC Utility Test				
Deviations:	No Deviations				
Comments:	Continuous TX 802.11 low channel				

Test Specifications	Class B	Test Method
FCC 15.207 Class B		ANSI C63.4

Run #	2	Line:	High Line	Ext. Attenuation:	20	Results	Pass
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Quasi-Peak**Average****Peak Data - vs - Quasi Peak Limit**

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
4.976	17.2	0.5	37.7	56.0	-18.3
4.904	16.8	0.5	37.3	56.0	-18.7
4.752	16.4	0.5	36.9	56.0	-19.1
0.291	20.4	0.9	41.3	60.5	-19.1
4.680	16.2	0.5	36.7	56.0	-19.3
4.824	16.2	0.5	36.7	56.0	-19.3
4.608	16.0	0.5	36.5	56.0	-19.5
4.464	15.8	0.5	36.3	56.0	-19.7
4.536	15.6	0.5	36.1	56.0	-19.9
4.240	15.5	0.5	36.0	56.0	-20.0
4.320	15.1	0.5	35.6	56.0	-20.4
4.168	14.7	0.5	35.2	56.0	-20.8
4.384	14.6	0.5	35.1	56.0	-20.9
5.770	18.6	0.5	39.1	60.0	-20.9
4.096	14.5	0.5	35.0	56.0	-21.0
5.480	18.5	0.5	39.0	60.0	-21.0
5.920	18.5	0.5	39.0	60.0	-21.0
6.360	18.3	0.5	38.8	60.0	-21.2
3.952	14.2	0.5	34.7	56.0	-21.3
5.260	18.2	0.5	38.7	60.0	-21.3

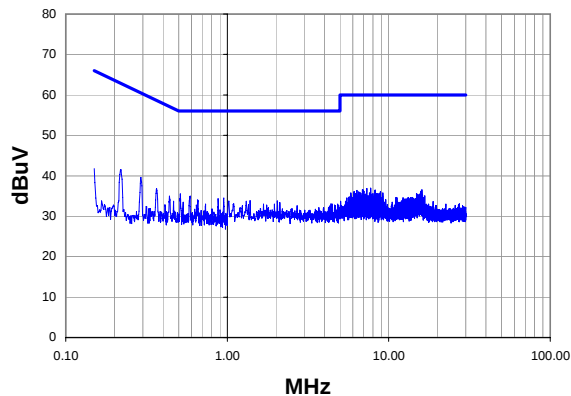
Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
4.976	17.2	0.5	37.7	46.0	-8.3
4.904	16.8	0.5	37.3	46.0	-8.7
4.752	16.4	0.5	36.9	46.0	-9.1
0.291	20.4	0.9	41.3	50.5	-9.1
4.680	16.2	0.5	36.7	46.0	-9.3
4.824	16.2	0.5	36.7	46.0	-9.3
4.608	16.0	0.5	36.5	46.0	-9.5
4.464	15.8	0.5	36.3	46.0	-9.7
4.536	15.6	0.5	36.1	46.0	-9.9
4.240	15.5	0.5	36.0	46.0	-10.0
4.320	15.1	0.5	35.6	46.0	-10.4
4.168	14.7	0.5	35.2	46.0	-10.8
4.384	14.6	0.5	35.1	46.0	-10.9
5.770	18.6	0.5	39.1	50.0	-10.9
4.096	14.5	0.5	35.0	46.0	-11.0
5.480	18.5	0.5	39.0	50.0	-11.0
5.920	18.5	0.5	39.0	50.0	-11.0
6.360	18.3	0.5	38.8	50.0	-11.2
3.952	14.2	0.5	34.7	46.0	-11.3
5.260	18.2	0.5	38.7	50.0	-11.3

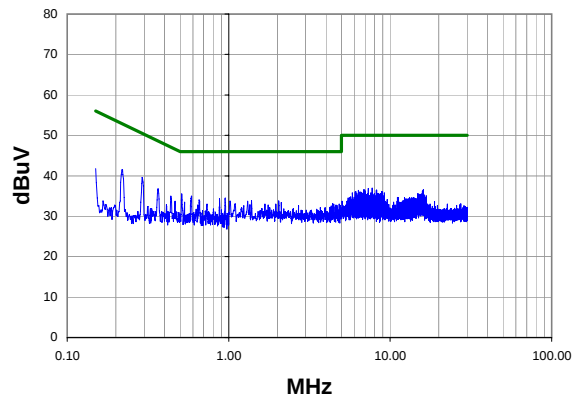
Work Order:	ITRM0131	Date:	08/25/06	<i>David DiVergigelis</i>	
Project:	None	Temperature:	23C		
Job Site:	EV07	Humidity:	45%		
Serial Number:	20110640002	Barometric Pres.:	30.07"		
				Tested by:	David DiVergigelis
EUT:	DRCB in CV30				
Configuration:	1				
Customer:	Intermec Technologies				
Attendees:	C.D. White				
EUT Power:	120V/60Hz				
Operating Mode:	Running FCC Utility Test				
Deviations:	No Deviations				
Comments:	Continuous TX 802.11 low channel				

Test Specifications				Class B		Test Method			
FCC 15.207 Class B						ANSI C63.4			
Run #	3	Line:	Neutral	Ext. Attenuation:	20	Results	Pass		

Quasi-Peak



Average



Peak Data - vs - Quasi Peak Limit

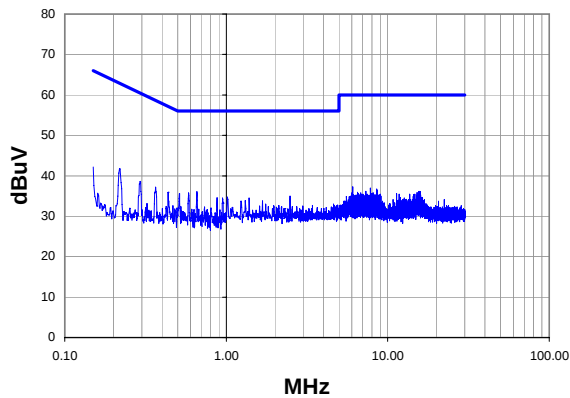
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.512	14.7	0.8	35.5	56.0	-20.5
0.291	18.6	0.9	39.5	60.5	-20.9
0.589	14.2	0.8	35.0	56.0	-21.0
0.218	20.5	1.0	41.5	62.9	-21.4
0.951	14.0	0.5	34.5	56.0	-21.5
0.879	13.8	0.6	34.4	56.0	-21.6
0.366	15.9	0.9	36.8	58.6	-21.8
0.657	13.3	0.7	34.0	56.0	-22.0
1.384	13.4	0.5	33.9	56.0	-22.1
0.439	14.1	0.9	35.0	57.1	-22.1
2.040	13.3	0.5	33.8	56.0	-22.2
1.016	13.2	0.5	33.7	56.0	-22.3
1.312	13.2	0.5	33.7	56.0	-22.3
0.533	12.7	0.8	33.5	56.0	-22.5
2.120	12.9	0.5	33.4	56.0	-22.6
0.465	12.9	0.8	33.7	56.6	-22.9
1.096	12.6	0.5	33.1	56.0	-22.9
4.400	12.6	0.5	33.1	56.0	-22.9
1.680	12.5	0.5	33.0	56.0	-23.0
1.960	12.5	0.5	33.0	56.0	-23.0

Peak Data - vs - Average Limit

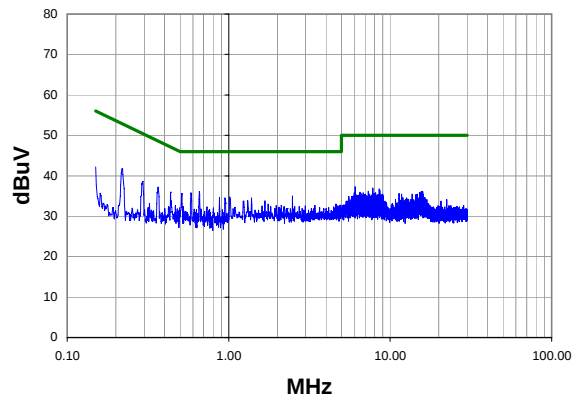
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.512	14.7	0.8	35.5	46.0	-10.5
0.291	18.6	0.9	39.5	50.5	-10.9
0.589	14.2	0.8	35.0	46.0	-11.0
0.218	20.5	1.0	41.5	52.9	-11.4
0.951	14.0	0.5	34.5	46.0	-11.5
0.879	13.8	0.6	34.4	46.0	-11.6
0.366	15.9	0.9	36.8	48.6	-11.8
0.657	13.3	0.7	34.0	46.0	-12.0
1.384	13.4	0.5	33.9	46.0	-12.1
0.439	14.1	0.9	35.0	47.1	-12.1
2.040	13.3	0.5	33.8	46.0	-12.2
1.016	13.2	0.5	33.7	46.0	-12.3
1.312	13.2	0.5	33.7	46.0	-12.3
0.533	12.7	0.8	33.5	46.0	-12.5
2.120	12.9	0.5	33.4	46.0	-12.6
0.465	12.9	0.8	33.7	46.6	-12.9
1.096	12.6	0.5	33.1	46.0	-12.9
4.400	12.6	0.5	33.1	46.0	-12.9
1.680	12.5	0.5	33.0	46.0	-13.0
1.960	12.5	0.5	33.0	46.0	-13.0

Work Order:	ITRM0131	Date:	08/25/06	<i>David DiVergigelis</i> Tested by: David DiVergigelis	
Project:	None	Temperature:	23C		
Job Site:	EV07	Humidity:	45%		
Serial Number:	20110640002	Barometric Pres.:	30.07"		
EUT:	DRCB in CV30				
Configuration:	1				
Customer:	Intermec Technologies				
Attendees:	C.D. White				
EUT Power:	120V/60Hz				
Operating Mode:	Running FCC Utility Test				
Deviations:	No Deviations				
Comments:	Continuous TX 802.11 mid channel				
Test Specifications FCC 15.207 Class B		Class B		Test Method ANSI C63.4	
Run #	4	Line:	Neutral	Ext. Attenuation: 20	Results Pass

Quasi-Peak



Average



Peak Data - vs - Quasi Peak Limit

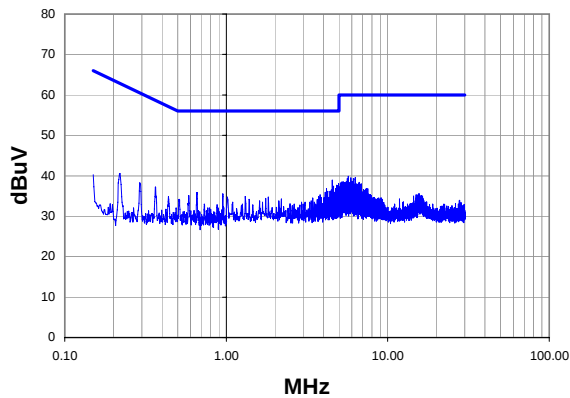
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.658	15.4	0.7	36.1	56.0	-19.9
0.585	15.0	0.8	35.8	56.0	-20.2
0.514	14.8	0.8	35.6	56.0	-20.4
2.480	14.5	0.5	35.0	56.0	-21.0
0.436	15.1	0.9	36.0	57.1	-21.2
0.218	20.7	1.0	41.7	62.9	-21.2
1.016	14.2	0.5	34.7	56.0	-21.3
0.366	16.3	0.9	37.2	58.6	-21.4
0.876	14.0	0.6	34.6	56.0	-21.4
0.949	14.0	0.5	34.5	56.0	-21.5
1.384	14.0	0.5	34.5	56.0	-21.5
0.295	17.7	0.9	38.6	60.4	-21.8
1.312	13.4	0.5	33.9	56.0	-22.1
1.680	13.3	0.5	33.8	56.0	-22.2
1.232	13.2	0.5	33.7	56.0	-22.3
6.060	16.8	0.5	37.3	60.0	-22.7
1.752	12.5	0.5	33.0	56.0	-23.0
4.624	12.5	0.5	33.0	56.0	-23.0
7.820	16.5	0.5	37.0	60.0	-23.0
4.904	12.3	0.5	32.8	56.0	-23.2

Peak Data - vs - Average Limit

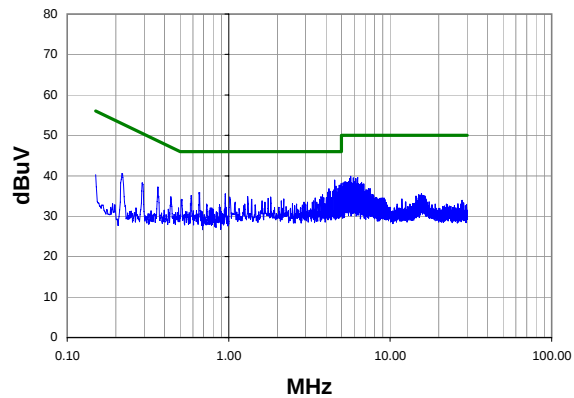
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.658	15.4	0.7	36.1	46.0	-9.9
0.585	15.0	0.8	35.8	46.0	-10.2
0.514	14.8	0.8	35.6	46.0	-10.4
2.480	14.5	0.5	35.0	46.0	-11.0
0.436	15.1	0.9	36.0	47.1	-11.2
0.218	20.7	1.0	41.7	52.9	-11.2
1.016	14.2	0.5	34.7	46.0	-11.3
0.366	16.3	0.9	37.2	48.6	-11.4
0.876	14.0	0.6	34.6	46.0	-11.4
0.949	14.0	0.5	34.5	46.0	-11.5
1.384	14.0	0.5	34.5	46.0	-11.5
0.295	17.7	0.9	38.6	50.4	-11.8
1.312	13.4	0.5	33.9	46.0	-12.1
1.680	13.3	0.5	33.8	46.0	-12.2
1.232	13.2	0.5	33.7	46.0	-12.3
6.060	16.8	0.5	37.3	50.0	-12.7
1.752	12.5	0.5	33.0	46.0	-13.0
4.624	12.5	0.5	33.0	46.0	-13.0
7.820	16.5	0.5	37.0	50.0	-13.0
4.904	12.3	0.5	32.8	46.0	-13.2

Work Order:	ITRM0131	Date:	08/25/06	<i>David DiVergigelis</i> Tested by: David DiVergigelis	
Project:	None	Temperature:	23C		
Job Site:	EV07	Humidity:	45%		
Serial Number:	20110640002	Barometric Pres.:	30.07"		
EUT:	DRCB in CV30				
Configuration:	1				
Customer:	Intermec Technologies				
Attendees:	C.D. White				
EUT Power:	120V/60Hz				
Operating Mode:	Running FCC Utility Test				
Deviations:	No Deviations				
Comments:	Continuous TX 802.11 mid channel				
Test Specifications FCC 15.207 Class B		Class B		Test Method ANSI C63.4	
Run #	5	Line:	High Line	Ext. Attenuation: 20	Results Pass

Quasi-Peak



Average



Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
4.536	18.4	0.5	38.9	56.0	-17.1
4.976	17.6	0.5	38.1	56.0	-17.9
4.832	17.2	0.5	37.7	56.0	-18.3
4.904	17.1	0.5	37.6	56.0	-18.4
4.608	16.9	0.5	37.4	56.0	-18.6
4.168	16.3	0.5	36.8	56.0	-19.2
4.752	16.3	0.5	36.8	56.0	-19.2
4.464	16.0	0.5	36.5	56.0	-19.5
4.248	15.7	0.5	36.2	56.0	-19.8
4.392	15.7	0.5	36.2	56.0	-19.8
4.096	15.4	0.5	35.9	56.0	-20.1
4.688	15.4	0.5	35.9	56.0	-20.1
5.700	19.4	0.5	39.9	60.0	-20.1
0.657	15.1	0.7	35.8	56.0	-20.2
6.290	19.1	0.5	39.6	60.0	-20.4
0.952	15.0	0.5	35.5	56.0	-20.5
5.920	19.0	0.5	39.5	60.0	-20.5
3.808	14.8	0.5	35.3	56.0	-20.7
5.630	18.8	0.5	39.3	60.0	-20.7
6.140	18.8	0.5	39.3	60.0	-20.7

Peak Data - vs - Average Limit

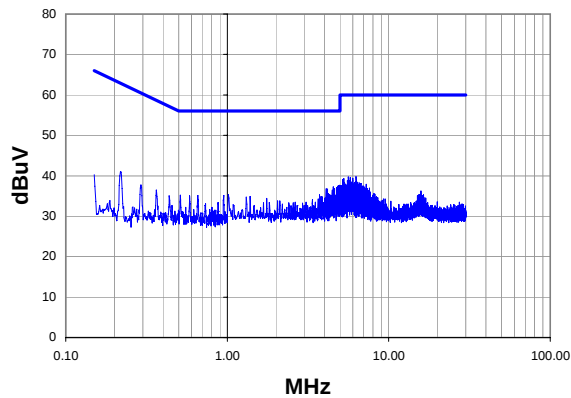
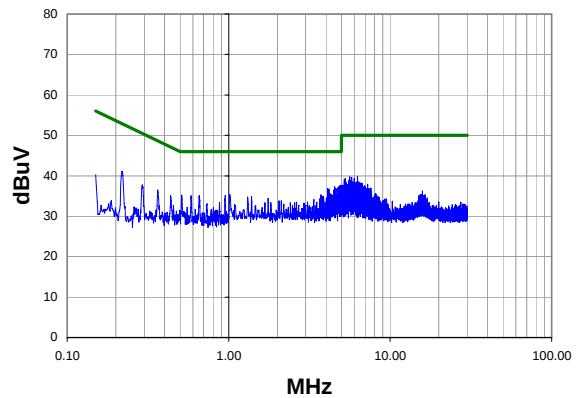
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
4.536	18.4	0.5	38.9	46.0	-7.1
4.976	17.6	0.5	38.1	46.0	-7.9
4.832	17.2	0.5	37.7	46.0	-8.3
4.904	17.1	0.5	37.6	46.0	-8.4
4.608	16.9	0.5	37.4	46.0	-8.6
4.168	16.3	0.5	36.8	46.0	-9.2
4.752	16.3	0.5	36.8	46.0	-9.2
4.464	16.0	0.5	36.5	46.0	-9.5
4.248	15.7	0.5	36.2	46.0	-9.8
4.392	15.7	0.5	36.2	46.0	-9.8
4.096	15.4	0.5	35.9	46.0	-10.1
4.688	15.4	0.5	35.9	46.0	-10.1
5.700	19.4	0.5	39.9	50.0	-10.1
0.657	15.1	0.7	35.8	46.0	-10.2
6.290	19.1	0.5	39.6	50.0	-10.4
0.952	15.0	0.5	35.5	46.0	-10.5
5.920	19.0	0.5	39.5	50.0	-10.5
3.808	14.8	0.5	35.3	46.0	-10.7
5.630	18.8	0.5	39.3	50.0	-10.7
6.140	18.8	0.5	39.3	50.0	-10.7

EMC**AC POWERLINE CONDUCTED EMISSIONS**

NVLAP Lab Code 200630-0

Work Order:	ITRM0131	Date:	08/25/06	<i>David DiVergigelis</i>
Project:	None	Temperature:	23C	
Job Site:	EV07	Humidity:	45%	
Serial Number:	20110640002	Barometric Pres.:	30.07"	
EUT:		DRCB in CV30		
Configuration:	1			
Customer:	Intermec Technologies			
Attendees:	C.D. White			
EUT Power:	120V/60Hz			
Operating Mode:	Running FCC Utility Test			
Deviations:	No Deviations			
Comments:	Continuous TX 802.11 high channel			

Test Specifications	Class B	Test Method
FCC 15.207 Class B		ANSI C63.4
Run #	6	Line: High Line
Ext. Attenuation:	20	Results Pass

Quasi-Peak**Average****Peak Data - vs - Quasi Peak Limit**

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
4.976	17.2	0.5	37.7	56.0	-18.3
4.904	17.1	0.5	37.6	56.0	-18.4
4.832	16.9	0.5	37.4	56.0	-18.6
4.536	16.8	0.5	37.3	56.0	-18.7
4.752	16.5	0.5	37.0	56.0	-19.0
4.096	16.3	0.5	36.8	56.0	-19.2
4.608	16.3	0.5	36.8	56.0	-19.2
4.168	16.2	0.5	36.7	56.0	-19.3
4.464	16.0	0.5	36.5	56.0	-19.5
6.280	19.3	0.5	39.8	60.0	-20.2
5.620	19.2	0.5	39.7	60.0	-20.3
4.240	15.1	0.5	35.6	56.0	-20.4
5.770	19.1	0.5	39.6	60.0	-20.4
1.016	14.9	0.5	35.4	56.0	-20.6
4.320	14.9	0.5	35.4	56.0	-20.6
5.990	18.9	0.5	39.4	60.0	-20.6
3.728	14.8	0.5	35.3	56.0	-20.7
5.260	18.8	0.5	39.3	60.0	-20.7
0.512	14.4	0.8	35.2	56.0	-20.8
4.680	14.7	0.5	35.2	56.0	-20.8

Peak Data - vs - Average Limit

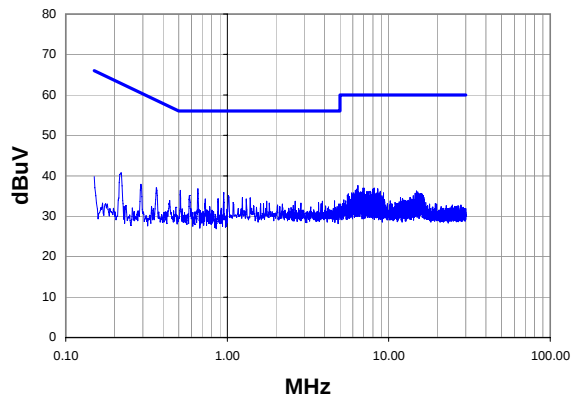
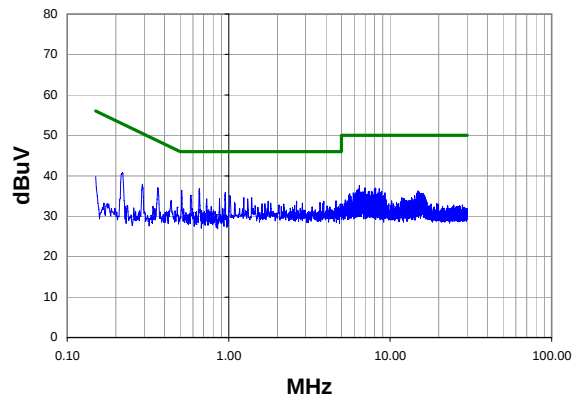
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
4.976	17.2	0.5	37.7	46.0	-8.3
4.904	17.1	0.5	37.6	46.0	-8.4
4.832	16.9	0.5	37.4	46.0	-8.6
4.536	16.8	0.5	37.3	46.0	-8.7
4.752	16.5	0.5	37.0	46.0	-9.0
4.096	16.3	0.5	36.8	46.0	-9.2
4.608	16.3	0.5	36.8	46.0	-9.2
4.168	16.2	0.5	36.7	46.0	-9.3
4.464	16.0	0.5	36.5	46.0	-9.5
6.280	19.3	0.5	39.8	50.0	-10.2
5.620	19.2	0.5	39.7	50.0	-10.3
4.240	15.1	0.5	35.6	46.0	-10.4
5.770	19.1	0.5	39.6	50.0	-10.4
1.016	14.9	0.5	35.4	46.0	-10.6
4.320	14.9	0.5	35.4	46.0	-10.6
5.990	18.9	0.5	39.4	50.0	-10.6
3.728	14.8	0.5	35.3	46.0	-10.7
5.260	18.8	0.5	39.3	50.0	-10.7
0.512	14.4	0.8	35.2	46.0	-10.8
4.680	14.7	0.5	35.2	46.0	-10.8

EMC**AC POWERLINE CONDUCTED EMISSIONS**

NVLAP Lab Code 200630-0

Work Order:	ITRM0131	Date:	08/25/06	<i>David DiVergigelis</i>	
Project:	None	Temperature:	23C		
Job Site:	EV07	Humidity:	45%		
Serial Number:	20110640002	Barometric Pres.:	30.07"		
				Tested by:	David DiVergigelis
EUT:	DRCB in CV30				
Configuration:	1				
Customer:	Intermec Technologies				
Attendees:	C.D. White				
EUT Power:	120V/60Hz				
Operating Mode:	Running FCC Utility Test				
Deviations:	No Deviations				
Comments:	Continuous TX 802.11 high channel				

Test Specifications	Class B	Test Method
FCC 15.207 Class B		ANSI C63.4
Run #	7	Line: Neutral
		Ext. Attenuation: 20
		Results Pass

Quasi-Peak**Average****Peak Data - vs - Quasi Peak Limit**

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.658	16.1	0.7	36.8	56.0	-19.2
0.512	15.6	0.8	36.4	56.0	-19.6
0.951	15.3	0.5	35.8	56.0	-20.2
0.584	14.4	0.8	35.2	56.0	-20.8
1.016	14.6	0.5	35.1	56.0	-20.9
1.240	14.1	0.5	34.6	56.0	-21.4
1.384	14.0	0.5	34.5	56.0	-21.5
0.878	13.8	0.6	34.4	56.0	-21.6
0.364	16.1	0.9	37.0	58.6	-21.6
1.312	13.8	0.5	34.3	56.0	-21.7
0.730	13.6	0.7	34.3	56.0	-21.7
0.220	19.8	1.0	40.8	62.8	-22.0
4.608	13.3	0.5	33.8	56.0	-22.2
1.752	13.2	0.5	33.7	56.0	-22.3
2.632	13.2	0.5	33.7	56.0	-22.3
3.880	13.2	0.5	33.7	56.0	-22.3
6.430	17.1	0.5	37.6	60.0	-22.4
0.293	17.0	0.9	37.9	60.4	-22.5
1.088	12.9	0.5	33.4	56.0	-22.6
3.680	12.9	0.5	33.4	56.0	-22.6

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.658	16.1	0.7	36.8	46.0	-9.2
0.512	15.6	0.8	36.4	46.0	-9.6
0.951	15.3	0.5	35.8	46.0	-10.2
0.584	14.4	0.8	35.2	46.0	-10.8
1.016	14.6	0.5	35.1	46.0	-10.9
1.240	14.1	0.5	34.6	46.0	-11.4
1.384	14.0	0.5	34.5	46.0	-11.5
0.878	13.8	0.6	34.4	46.0	-11.6
0.364	16.1	0.9	37.0	48.6	-11.6
1.312	13.8	0.5	34.3	46.0	-11.7
0.730	13.6	0.7	34.3	46.0	-11.7
0.220	19.8	1.0	40.8	52.8	-12.0
4.608	13.3	0.5	33.8	46.0	-12.2
1.752	13.2	0.5	33.7	46.0	-12.3
2.632	13.2	0.5	33.7	46.0	-12.3
3.880	13.2	0.5	33.7	46.0	-12.3
6.430	17.1	0.5	37.6	50.0	-12.4
0.293	17.0	0.9	37.9	50.4	-12.5
1.088	12.9	0.5	33.4	46.0	-12.6
3.680	12.9	0.5	33.4	46.0	-12.6

