

Intermec Technologies Corporation

CK3x with DDIB

(x denotes a1 (alpha-numeric), n1 (numeric), or c1 (China))

Report No. INMC0504

Report Prepared By



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

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EMC Test Report

Certificate of Test
Last Date of Test: December 18, 2008
Intermec Technologies Corporation
Model: CK3x with DDIB

Emissions			
Test Description	Specification	Test Method	Pass/Fail
Spurious Radiated Emissions	FCC 15.247 (DTS):2008	ANSI C63.4:2003 KDB No. 558074	Pass
Spurious Radiated Emissions	FCC 15.247 (FHSS):2008	ANSI C63.4:2003 DA 00-705:2000	Pass
Spurious Radiated Emissions	FCC 15.407:2008	ANSI C63.4:2003 DA 02-2138:2002	Pass
Spurious Radiated Emissions	FCC 15.209:2008	ANSI C63.4:2003	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 (Site filing #2834D-2).

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-Gen, Issue 2 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. (*Site Filing Numbers - Hillsboro: 2834D-1, 2834D-2, Sultan: 2834C-1, Irvine: 2834B-1, 2834B-2*)



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.



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 (US0017). 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



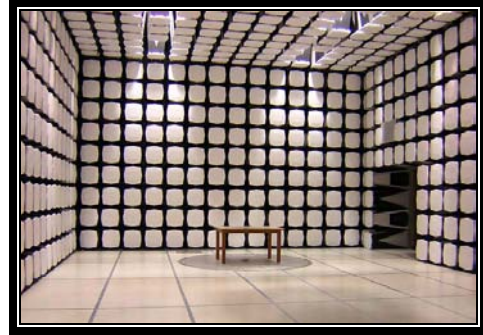
KCC: Northwest EMC, Inc is a CAB designated by MRA partners and recognized by Korea. (*Assigned Lab Numbers: Hillsboro: US0017, Irvine: US0158, Sultan: US0157*)



SCOPE

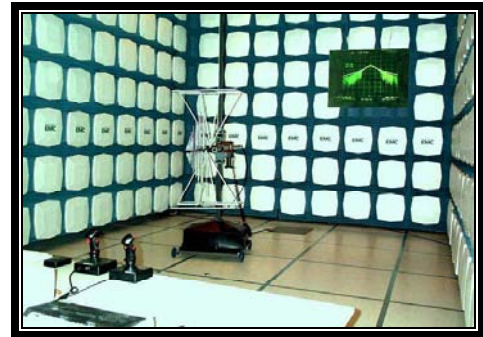
For details on the Scopes of our Accreditations, please visit:

<http://www.nwemc.com/accreditations/>



**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:	6001 36th Avenue West
City, State, Zip:	Everett, WA 98203-1264
Test Requested By:	Sean MacKellar
Model:	CK3x with DDIB
First Date of Test:	December 17, 2008
Last Date of Test:	December 17, 2008
Receipt Date of Samples:	November 19, 2008
Equipment Design Stage:	Prototype
Equipment Condition:	No Damage

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

One combination 802.11a/b/g - Bluetooth radio module installed in an industrial handheld computer.

Testing Objective:

Demonstrate compliance of the DDIB module in the CK3 to FCC 15.247 radiated emissions requirements.

CONFIGURATION 2 INMC0504**Software/Firmware Running during test**

Description	Version
FCC Test Utility (802.11)	1.01

EUT

Description	Manufacturer	Model/Part Number	Serial Number
EUT - 802.11 radio	Intermec	DDIB	000B6B8D3470
CK3 Hand Held Computer	Intermec	CK3	20310858065

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power	No	1.9m	No	AC Mains	DC Power Supply
DC Power	PA	1.9m	No	DC Power Supply	Desktop Dock
USB	Yes	1.9m	No	Desktop Dock	Unterminated
RS232	Yes	1.9m	No	Desktop Dock	Unterminated

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

CONFIGURATION 3 INMC0504**Software/Firmware Running during test**

Description	Version
FCC Test Utility (Bluetooth)	1.01

EUT

Description	Manufacturer	Model/Part Number	Serial Number
EUT - Bluetooth radio	Intermec	DDIB	000B6B97B9D3
CK3 Hand Held Computer	Intermec	CK3	20310858065

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power	No	1.9m	No	AC Mains	DC Power Supply
DC Power	PA	1.9m	No	DC Power Supply	Desktop Dock
USB	Yes	1.9m	No	Desktop Dock	Unterminated
RS232	Yes	1.9m	No	Desktop Dock	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	12/18/2008	Spurious Radiated 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

Continuous Tx, 802.11

CHANNELS USED FOR FINAL DATA

Channel 1 - 2412MHz

Channel 6 - 2437MHz

Channel 11 - 2462MHz

Channel 149 - 5745MHz

Channel 157 - 5785MHz

Channel 165 - 5825MHz

DATA RATES USED FOR FINAL DATA

1Mbps

11Mbps

6Mbps

36Mbps

54Mbps

POWER SETTINGS INVESTIGATED

Internal Battery

POWER SETTINGS USED FOR FINAL DATA

Internal Battery

FREQUENCY RANGE INVESTIGATED

Start Frequency 30MHz Stop Frequency 40GHz

CLOCKS AND OSCILLATORS

2412MHz

2437MHz

2462MHz

5745MHz

5785MHz

5825MHz

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	AAV	12/11/2008	13
Antenna, Biconilog	EMCO	3141	AXG	11/4/2008	13
Antenna, Horn	ETS	3115	AIB	8/25/2008	24
Antenna, Horn	ETS	3160.07	AHZ	10/14/2008	24
Antenna, Horn	ETS	3160-08	AIA	NCR	0
Antenna, Horn	EMCO	3160-09	AHG	NCR	0
Antenna, Horn	EMCO	3160-10	AHI	NCR	0
Pre-Amplifier	Miteq	AM-1616-1000	AVM	6/17/2008	13
Pre-Amplifier	Miteq	AMF-3D00100800-32-13P	AVF	6/17/2008	13
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVH	5/14/2008	13
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVI	5/14/2008	13
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	12/2/2008	13
Pre-Amplifier	Miteq	JS4-26004000-40-8P	APV	7/14/2008	13
EV12 Cables		Bilog Cables	EVS	6/17/2008	13
EV12 Cables		Double Ridge Horn Cables	EVT	6/17/2008	13
EV12 Cables		Standard Gain Horn Cables	EVU	5/14/2008	13
EV01 Cables		18-26GHz Standard Gain Horn Cable	EVD	12/2/2008	13
EV01 Cables		26-40GHz Standard Gain Horn Cable	EVE	7/14/2008	13

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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 axes, 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
EMC **SPURIOUS RADIATED EMISSIONS DATA SHEET** PSA 2007.07.21
EMI 2008.7.3

EUT: CK3x with DDIB	Work Order: INMC0504
Serial Number: 000B6B8D3470, 20310858065	Date: 12/01/08
Customer: Intermec Technologies Corporation	Temperature: 21.8° C
Attendees: None	Humidity: 42%
Project: None	Barometric Pres.: 1016.1mb
Tested by: Dan Haas	Power: Internal Battery
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 15.247 (DTS):2008	ANSI C63.4:2003, KDB No. 558074

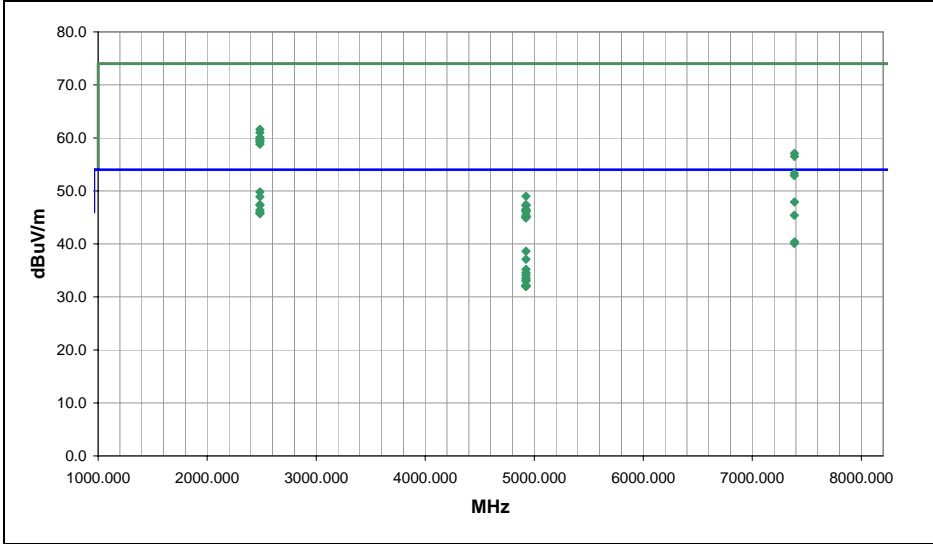
TEST PARAMETERS
Antenna Height(s) (m) 1 - 4 Test Distance (m) 3

COMMENTS
 EUT Vertical.

EUT OPERATING MODES
 Continuous Tx, 802.11 (b/g), High channel, 1Mbps, Antenna 1.

DEVIATIONS FROM TEST STANDARD
 No deviations.

Run #	2	Signature 
Configuration #	2	
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
2483.342	31.3	-1.5	305.0	1.5	3.0	20.0	H-Horn	AV	0.0	49.8	54.0	-4.2	High channel, 1Mbps, EUT vertical.
2483.347	30.4	-1.5	113.0	1.7	3.0	20.0	H-Horn	AV	0.0	48.9	54.0	-5.1	High channel, 1Mbps, EUT vertical. Antenna 2
7386.597	33.7	14.2	170.0	1.0	3.0	0.0	H-Horn	AV	0.0	47.9	54.0	-6.1	High channel, 1Mbps, EUT vertical.
2483.718	28.9	-1.5	241.0	1.0	3.0	20.0	V-Horn	AV	0.0	47.4	54.0	-6.6	High channel, 1Mbps, EUT on side.
2483.252	28.8	-1.5	268.0	1.0	3.0	20.0	V-Horn	AV	0.0	47.3	54.0	-6.7	High channel, 1Mbps, EUT horizontal.
2483.515	27.9	-1.5	77.0	2.1	3.0	20.0	V-Horn	AV	0.0	46.4	54.0	-7.6	High channel, 1Mbps, EUT vertical.
2483.625	27.5	-1.5	47.0	2.0	3.0	20.0	V-Horn	AV	0.0	46.0	54.0	-8.0	High channel, 1Mbps, EUT vertical. Antenna 2
2483.462	27.3	-1.5	134.0	1.4	3.0	20.0	H-Horn	AV	0.0	45.8	54.0	-8.2	High channel, 1Mbps, EUT on side.
2483.328	27.2	-1.5	265.0	1.0	3.0	20.0	H-Horn	AV	0.0	45.7	54.0	-8.3	High channel, 1Mbps, EUT horizontal.
7385.197	31.2	14.2	160.0	1.0	3.0	0.0	H-Horn	AV	0.0	45.4	54.0	-8.6	High channel, 1Mbps, EUT vertical. Antenna 2
2483.155	43.1	-1.5	305.0	1.5	3.0	20.0	H-Horn	PK	0.0	61.6	74.0	-12.4	High channel, 1Mbps, EUT vertical.
2483.615	42.5	-1.5	113.0	1.7	3.0	20.0	H-Horn	PK	0.0	61.0	74.0	-13.0	High channel, 1Mbps, EUT vertical. Antenna 2
7388.605	26.2	14.2	208.0	1.0	3.0	0.0	V-Horn	AV	0.0	40.4	54.0	-13.6	High channel, 1Mbps, EUT vertical.
2483.133	41.6	-1.5	268.0	1.0	3.0	20.0	V-Horn	PK	0.0	60.1	74.0	-13.9	High channel, 1Mbps, EUT horizontal.
7385.510	25.9	14.2	174.0	1.2	3.0	0.0	V-Horn	AV	0.0	40.1	54.0	-13.9	High channel, 1Mbps, EUT vertical. Antenna 2
2483.250	41.3	-1.5	241.0	1.0	3.0	20.0	V-Horn	PK	0.0	59.8	74.0	-14.2	High channel, 1Mbps, EUT on side.
2483.305	41.1	-1.5	77.0	2.1	3.0	20.0	V-Horn	PK	0.0	59.6	74.0	-14.4	High channel, 1Mbps, EUT vertical.
2483.207	40.8	-1.5	265.0	1.0	3.0	20.0	H-Horn	PK	0.0	59.3	74.0	-14.7	High channel, 1Mbps, EUT horizontal.
2483.858	40.8	-1.5	47.0	2.0	3.0	20.0	V-Horn	PK	0.0	59.3	74.0	-14.7	High channel, 1Mbps, EUT vertical. Antenna 2
2483.433	40.3	-1.5	134.0	1.4	3.0	20.0	H-Horn	PK	0.0	58.8	74.0	-15.2	High channel, 1Mbps, EUT on side.

EUT: CK3x with DDIB	Work Order: INMC0504
Serial Number: 000B6B8D3470, 20310858065	Date: 12/16/08
Customer: Intermec Technologies Corporation	Temperature: 18.4° C
Attendees: None	Humidity: 19%
Project: None	Barometric Pres.: 1024.1mb
Tested by: Dan Haas	Power: Internal Battery
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 15.247 (DTS):2008	ANSI C63.4:2003, KDB No. 558074

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

COMMENTS

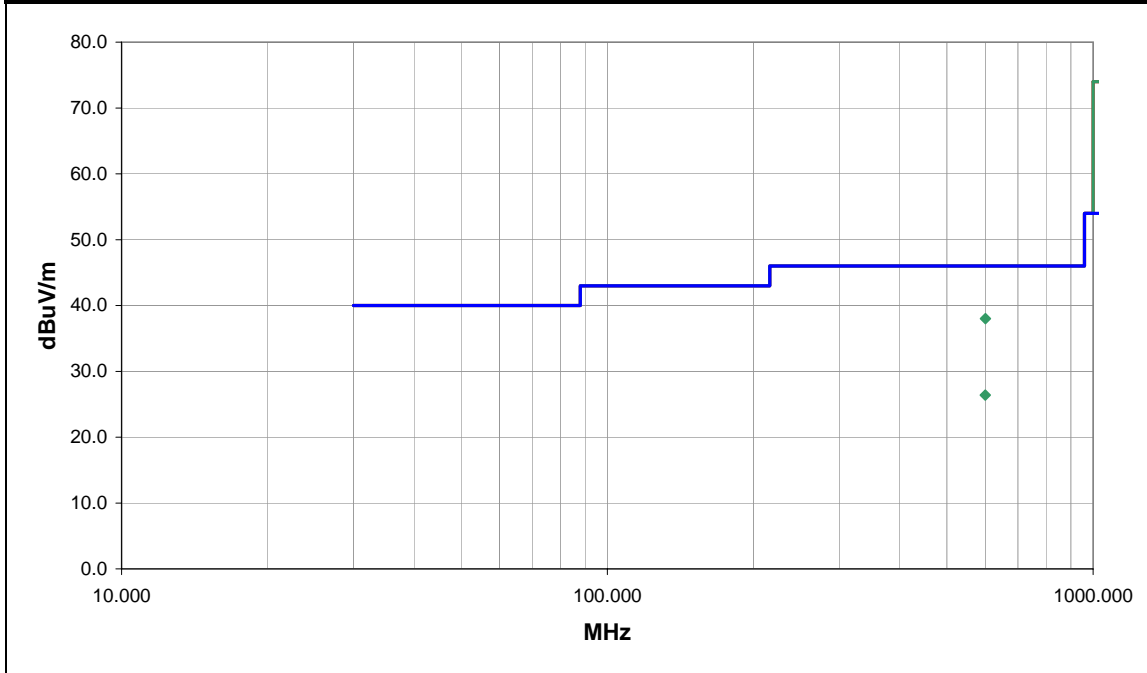
EUT OPERATING MODES

Continuous Tx, 802.11(a), channel 149, 6Mbps

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	6	Signature 
Configuration #	2	
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
600.022	29.8	8.2	188.0	1.0	3.0	0.0	V-Bilog	QP	0.0	38.0	46.0	-8.0	
600.013	18.2	8.2	84.0	1.0	3.0	0.0	H-Bilog	QP	0.0	26.4	46.0	-19.6	

EUT: CK3x with DDIB	Work Order: INMC0504
Serial Number: 000B6B8D3470, 20310858065	Date: 12/16/08
Customer: Intermec Technologies Corporation	Temperature: 21.3° C
Attendees: None	Humidity: 34%
Project: None	Barometric Pres.: 1026.5mb
Tested by: Dan Haas	Power: Internal Battery
	Job Site: EV12

TEST SPECIFICATIONS	
FCC 15.247 (DTS):2008	ANSI C63.4:2003, KDB No. 558074
Test Method	

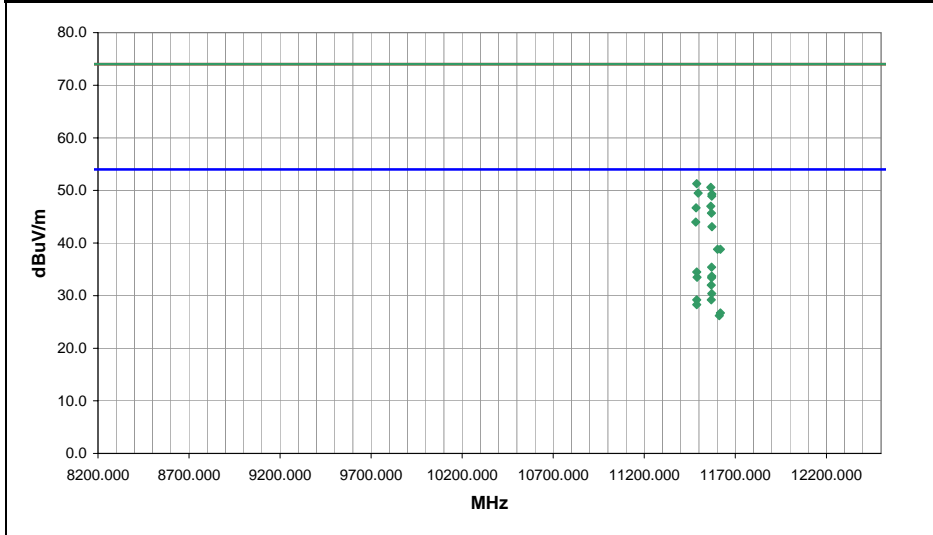
TEST PARAMETERS	
Antenna Height(s) (m)	1 - 4
Test Distance (m)	3

COMMENTS
See notes for EUT orientation, channel, and data rate.

EUT OPERATING MODES
Continuous Tx, 802.11 (a).

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	7	Signature 
Configuration #	2	
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
11569.970	47.4	-12.0	98.0	1.0	3.0	0.0	H-Horn	AV	0.0	35.4	54.0	-18.6	EUT vertical, channel 157, 6Mbps, antenna 1.
11488.000	46.6	-12.1	115.0	1.0	3.0	0.0	H-Horn	AV	0.0	34.5	54.0	-19.5	EUT vertical, channel 149, 6Mbps, antenna 1.
11570.000	45.7	-12.0	129.0	1.3	3.0	0.0	V-Horn	AV	0.0	33.7	54.0	-20.3	EUT vertical, channel 157, 6Mbps, antenna 1.
11489.970	45.6	-12.1	137.0	1.0	3.0	0.0	V-Horn	AV	0.0	33.5	54.0	-20.5	EUT vertical, channel 149, 6Mbps, antenna 1.
11569.900	45.4	-12.0	109.0	1.0	3.0	0.0	H-Horn	AV	0.0	33.4	54.0	-20.6	EUT on side, channel 157, 6Mbps, antenna 1.
11568.070	44.0	-12.0	186.0	1.3	3.0	0.0	V-Horn	AV	0.0	32.0	54.0	-22.0	EUT on side, channel 157, 6Mbps, antenna 1.
11488.200	63.4	-12.1	115.0	1.0	3.0	0.0	H-Horn	PK	0.0	51.3	74.0	-22.7	EUT vertical, channel 149, 6Mbps, antenna 1.
11565.570	62.6	-12.0	98.0	1.0	3.0	0.0	H-Horn	PK	0.0	50.6	74.0	-23.4	EUT vertical, channel 157, 6Mbps, antenna 1.
11570.070	42.4	-12.0	231.0	1.3	3.0	0.0	V-Horn	AV	0.0	30.4	54.0	-23.6	EUT horizontal, channel 157, 6Mbps, antenna 1.
11495.970	61.6	-12.1	137.0	1.0	3.0	0.0	V-Horn	PK	0.0	49.5	74.0	-24.5	EUT vertical, channel 149, 6Mbps, antenna 1.
11571.700	61.3	-12.0	109.0	1.0	3.0	0.0	H-Horn	PK	0.0	49.3	74.0	-24.7	EUT on side, channel 157, 6Mbps, antenna 1.
11568.170	41.2	-12.0	112.0	1.0	3.0	0.0	H-Horn	AV	0.0	29.2	54.0	-24.8	EUT horizontal, channel 157, 6Mbps, antenna 1.
11487.800	41.3	-12.1	210.0	1.0	3.0	0.0	V-Horn	AV	0.0	29.2	54.0	-24.8	EUT vertical, channel 149, 6Mbps, antenna 2.
11570.630	60.9	-12.0	129.0	1.3	3.0	0.0	V-Horn	PK	0.0	48.9	74.0	-25.1	EUT vertical, channel 157, 6Mbps, antenna 1.
11487.930	40.4	-12.1	112.0	1.0	3.0	0.0	H-Horn	AV	0.0	28.3	54.0	-25.7	EUT vertical, channel 149, 6Mbps, antenna 2.
11565.000	59.0	-12.0	186.0	1.3	3.0	0.0	V-Horn	PK	0.0	47.0	74.0	-27.0	EUT on side, channel 157, 6Mbps, antenna 1.
11618.270	38.6	-11.9	85.0	3.2	3.0	0.0	V-Horn	AV	0.0	26.7	54.0	-27.3	EUT vertical, channel 165, 6Mbps, antenna 1.
11484.600	58.8	-12.1	210.0	1.0	3.0	0.0	V-Horn	PK	0.0	46.7	74.0	-27.3	EUT vertical, channel 149, 6Mbps, antenna 2.
11612.100	38.1	-11.9	99.0	2.1	3.0	0.0	H-Horn	AV	0.0	26.2	54.0	-27.8	EUT vertical, channel 165, 6Mbps, antenna 1.
11569.000	57.7	-12.0	231.0	1.3	3.0	0.0	V-Horn	PK	0.0	45.7	74.0	-28.3	EUT horizontal, channel 157, 6Mbps, antenna 1.

NORTHWEST **EMC** **SPURIOUS RADIATED EMISSIONS DATA SHEET** PSA 2007.07.21
EMI 2008.7.3

EUT: CK3x with DDIB	Work Order: INMC0504
Serial Number: 000B6B8D3470, 20310858065	Date: 12/17/08
Customer: Intermed Technologies Corporation	Temperature: 21.3° C
Attendees: None	Humidity: 34%
Project: None	Barometric Pres.: 1026.5mb
Tested by: Dan Haas	Power: Internal Battery
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 15.247 (DTS):2008	ANSI C63.4:2003, KDB No. 558074

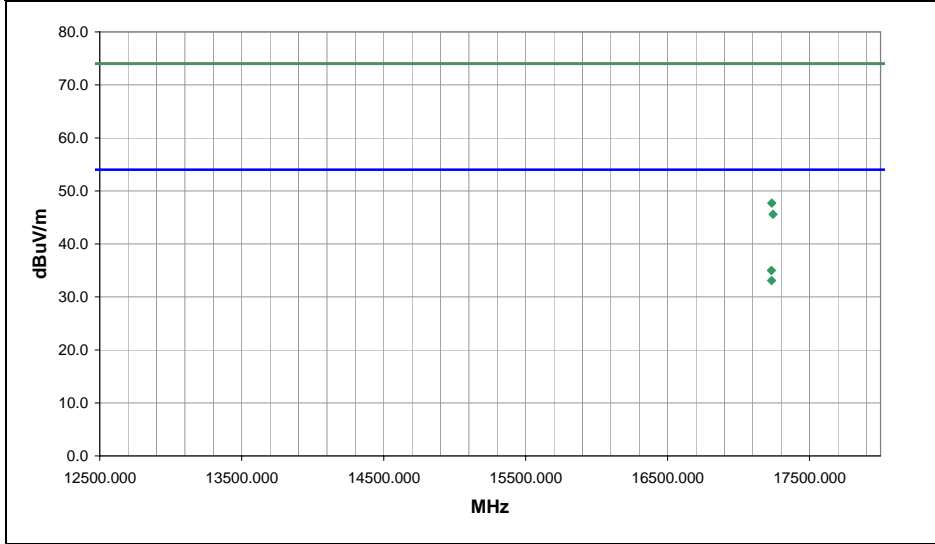
TEST PARAMETERS	
Antenna Height(s) (m) 1 - 4	Test Distance (m) 3

COMMENTS
See notes for EUT orientation, channel, and data rate.

EUT OPERATING MODES
Continuous Tx, 802.11 (a).

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	8	Signature 
Configuration #	2	
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
17231.900	34.2	0.8	130.0	1.0	3.0	0.0	H-Horn	AV	0.0	35.0	54.0	-19.0	EUT vertical, channel 149, 6Mbps, antenna 1.
17232.870	32.4	0.7	200.0	1.0	3.0	0.0	V-Horn	AV	0.0	33.1	54.0	-20.9	EUT vertical, channel 149, 6Mbps, antenna 1.
17233.230	47.0	0.7	130.0	1.0	3.0	0.0	H-Horn	PK	0.0	47.7	74.0	-26.3	EUT vertical, channel 149, 6Mbps, antenna 1.
17242.200	44.9	0.7	200.0	1.0	3.0	0.0	V-Horn	PK	0.0	45.6	74.0	-28.4	EUT vertical, channel 149, 6Mbps, antenna 1.

EMC **SPURIOUS RADIATED EMISSIONS DATA SHEET**

PSA 2007.07.21
EMI 2008.7.3

EUT: CK3x with DDIB		Work Order: INMC0504	
Serial Number: 000B6B8D3470, 20310858065		Date: 12/17/08	
Customer: Intermec Technologies Corporation		Temperature: 21.3° C	
Attendees: None		Humidity: 34%	
Project: None		Barometric Pres.: 1026.5mb	
Tested by: Dan Haas		Power: Internal Battery	
		Job Site: EV12	

TEST SPECIFICATIONS		Test Method	
FCC 15.247 (DTS):2008		ANSI C63.4:2003, KDB No. 558074	

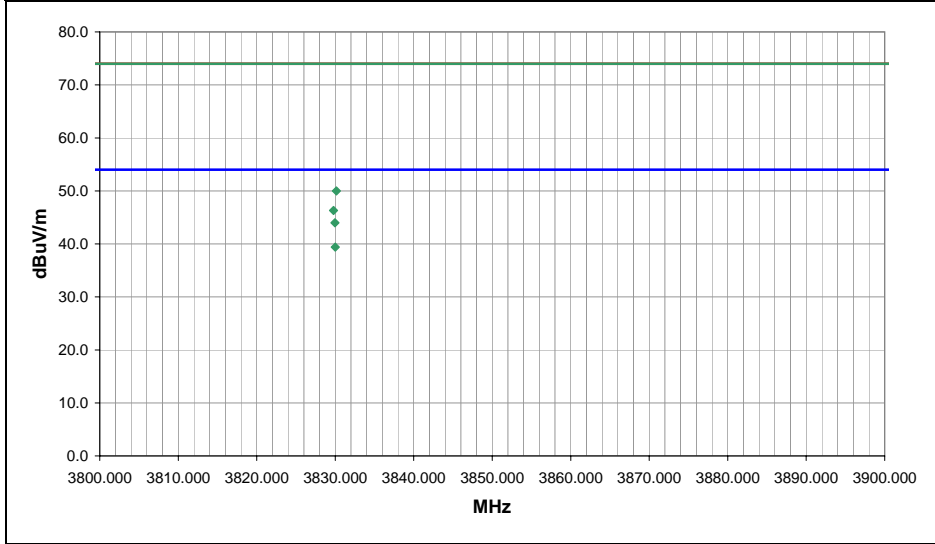
TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS
See notes for EUT orientation, channel, and data rate.

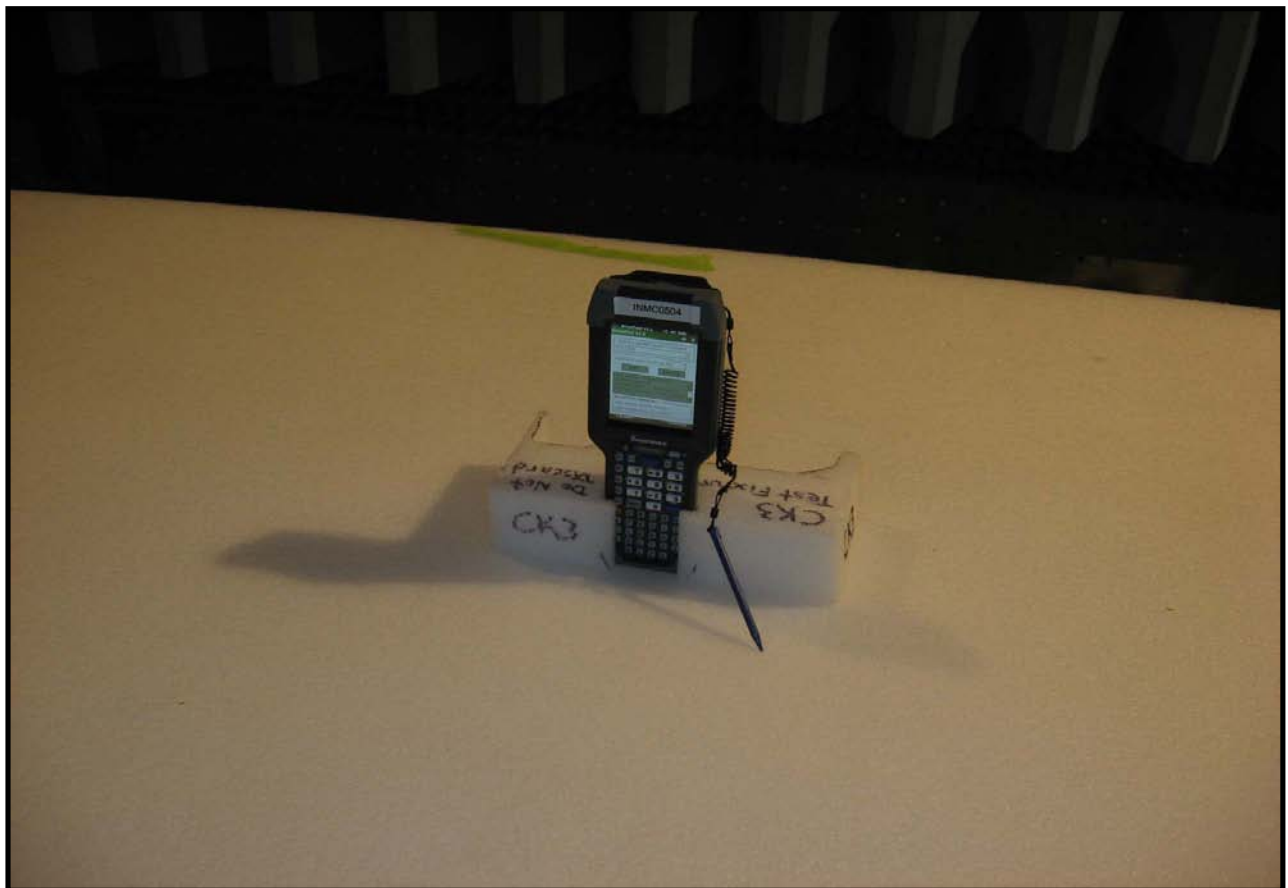
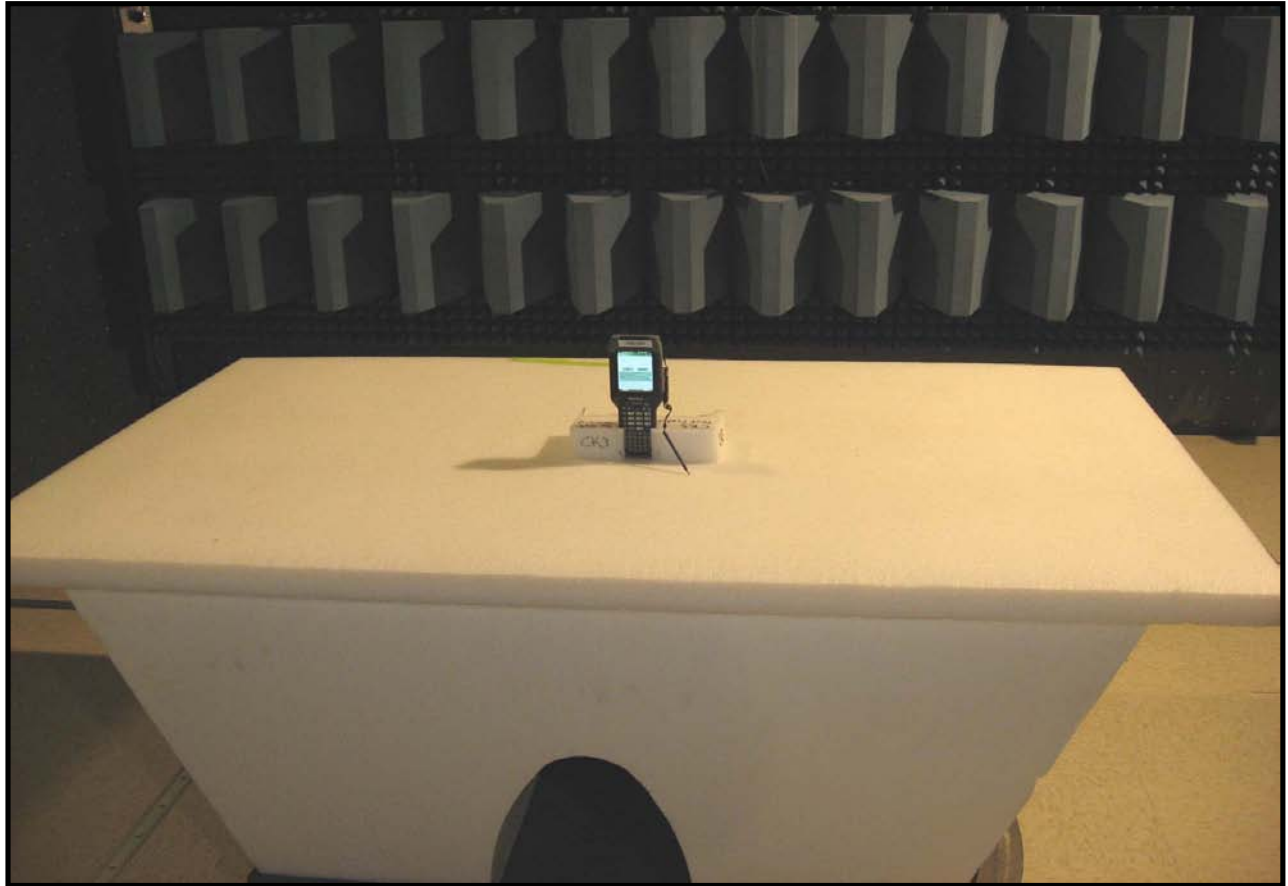
EUT OPERATING MODES
Continuous Tx, 802.11 (a).

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	9	Signature
Configuration #	2	
Results	Pass	

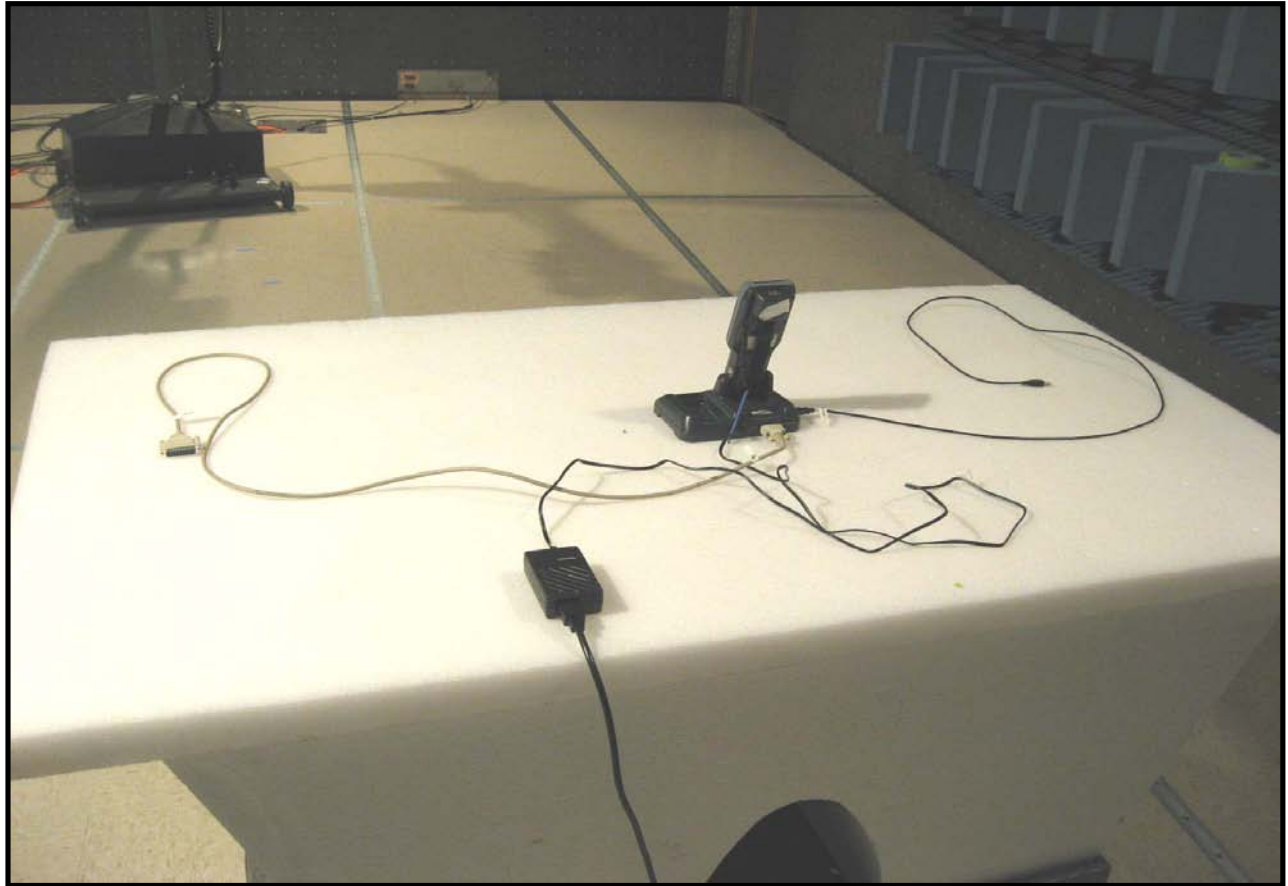


Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
3829.970	39.7	4.3	326.0	1.0	3.0	0.0	H-Horn	AV	0.0	44.0	54.0	-10.0	EUT vertical, channel 149, 6Mbps, antenna 1.
3830.000	35.1	4.3	238.0	1.0	3.0	0.0	V-Horn	AV	0.0	39.4	54.0	-14.6	EUT vertical, channel 149, 6Mbps, antenna 1.
3830.140	45.7	4.3	326.0	1.0	3.0	0.0	H-Horn	PK	0.0	50.0	74.0	-24.0	EUT vertical, channel 149, 6Mbps, antenna 1.
3829.770	42.0	4.3	238.0	1.0	3.0	0.0	V-Horn	PK	0.0	46.3	74.0	-27.7	EUT vertical, channel 149, 6Mbps, antenna 1.









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, Bluetooth
Continuous Tx, Bluetooth, High channel, DH5, GFSK
Continuous Tx, Bluetooth

CHANNELS USED FOR FINAL DATA

Low Channel - 1 (2402MHz)
Mid Channel - 39 (2439MHz)
High Channel - 79 (2480MHz)

DATA RATES USED FOR FINAL DATA

GFSK-DH5
QPSK-2DH5
8DPSK-3DH5

POWER SETTINGS INVESTIGATED

Internal Battery

POWER SETTINGS USED FOR FINAL DATA

Internal Battery

FREQUENCY RANGE INVESTIGATED

Start Frequency	30MHz	Stop Frequency	18GHz
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CLOCKS AND OSCILLATORS

2404MHz
2439MHz
2480MHz

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	AAY	12/11/2008	13
EV12 Cables		Bilog Cables	EVS	6/17/2008	13
Pre-Amplifier	Miteq	AM-1616-1000	AVM	6/17/2008	13
Antenna, Biconilog	EMCO	3141	AXG	11/4/2008	13
EV12 Cables		Double Ridge Horn Cables	EVT	6/17/2008	13
Pre-Amplifier	Miteq	AMF-3D00100800-32-13P	AVF	6/17/2008	13
Antenna, Horn	ETS	3115	AIB	8/25/2008	24
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVH	5/14/2008	13
Antenna, Horn	ETS	3160.07	AHZ	10/14/2008	24
EV12 Cables		Standard Gain Horn Cables	EVU	5/14/2008	13
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVI	5/14/2008	13
Antenna, Horn	ETS	3160-08	AIA	NCR	0

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: CK3x with DDIB	Work Order: INMC0504
Serial Number: 000B6B97B9D3, 20310858065	Date: 12/01/08
Customer: Intermec Technologies Corporation	Temperature: 21.8° C
Attendees: none	Humidity: 42%
Project: None	Barometric Pres.: 1016.1mb
Tested by: Dan Haas	Power: Internal Battery
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 15.247 (FHSS):2008	ANSI C63.4:2003, DA 00-705:2000

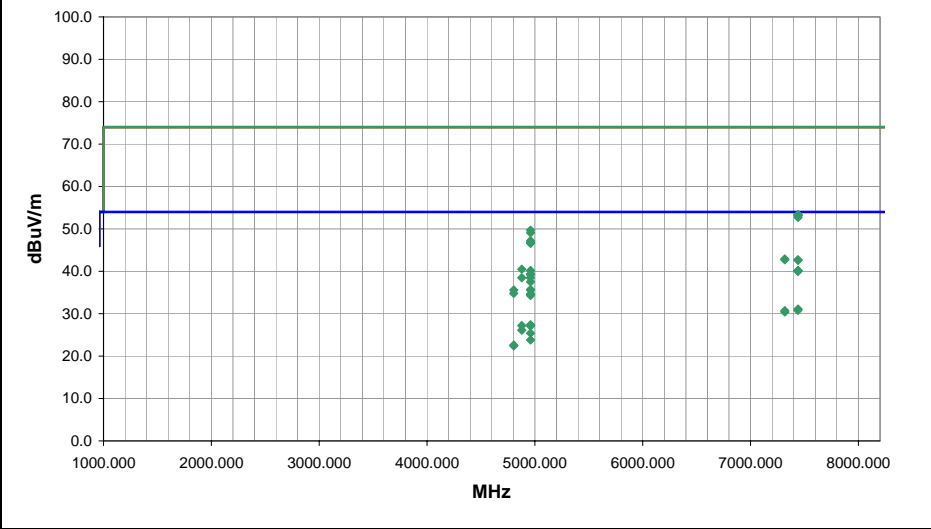
TEST PARAMETERS	
Antenna Height(s) (m) 1 - 4	Test Distance (m) 3

COMMENTS
See notes for EUT orientaion, channel, and data rate.

EUT OPERATING MODES
Continuous Tx, Bluetooth

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	1	Signature 
Configuration #	3	
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
7439.765	25.8	14.4	142.0	3.1	3.0	0.0	V-Horn	AV	0.0	40.2	54.0	-13.8	EUT Vertical, High channel, 8DPSK-3DH5.
7439.330	25.7	14.4	270.0	1.0	3.0	0.0	H-Horn	AV	0.0	40.1	54.0	-13.9	EUT Vertical, High channel, QPSK-2DH5.
7438.820	25.7	14.4	257.0	1.0	3.0	0.0	H-Horn	AV	0.0	40.1	54.0	-13.9	EUT Vertical, High channel, 8DPSK-3DH5.
7439.240	25.6	14.4	190.0	1.0	3.0	0.0	V-Horn	AV	0.0	40.0	54.0	-14.0	EUT Vertical, High channel, QPSK-2DH5.
4960.015	32.3	7.1	138.0	1.0	3.0	0.0	H-Horn	AV	0.0	39.4	54.0	-14.6	EUT Vertical, High channel, GFSK-DH5.
4960.010	32.1	7.1	192.0	1.0	3.0	0.0	H-Horn	AV	0.0	39.2	54.0	-14.8	EUT Vertical, High channel, 8DPSK-3DH5.
4960.010	28.5	7.1	217.0	1.1	3.0	0.0	V-Horn	AV	0.0	35.6	54.0	-18.4	EUT Vertical, High channel, QPSK-2DH5.
4959.960	27.5	7.1	161.0	1.3	3.0	0.0	H-Horn	AV	0.0	34.6	54.0	-19.4	EUT Vertical, High channel, QPSK-2DH5.

EUT: CK3x with DDIB	Work Order: INMC0504
Serial Number: 000B6B97B9D3, 20310858065	Date: 12/15/08
Customer: Intermec Technologies Corporation	Temperature: 21.8° C
Attendees: none	Humidity: 42%
Project: None	Barometric Pres.: 1016.1mb
Tested by: Dan Haas	Power: Internal Battery
	Test Method
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 15.247 (FHSS):2008	ANSI C63.4:2003, DA 00-705:2000

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

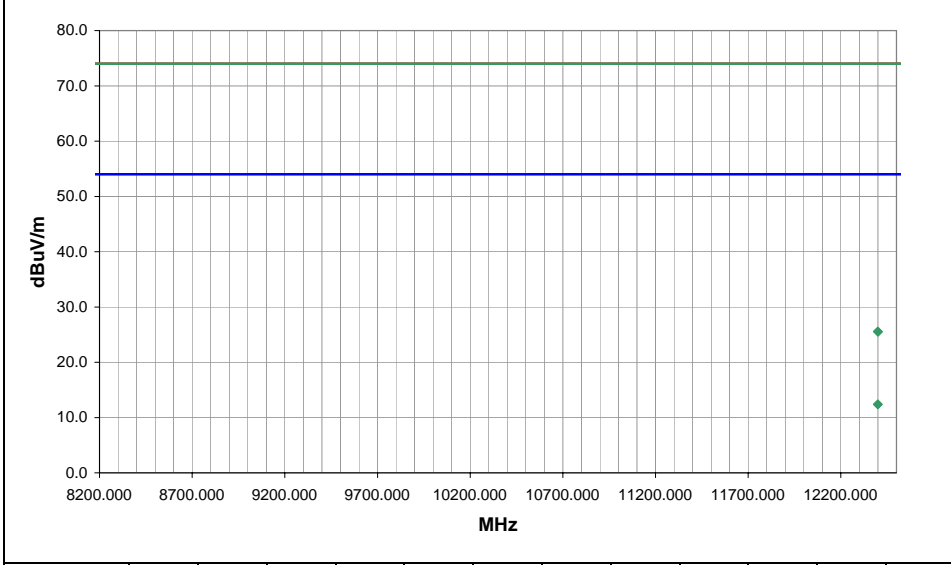
COMMENTS

EUT OPERATING MODES
Continuous Tx, Bluetooth, High channel, DH5, GFSK

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	3
Configuration #	3
Results	Pass

Signature 



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
12398.610	23.0	-10.6	43.0	3.2	3.0	0.0	V-Horn	AV	0.0	12.4	54.0	-41.6	EUT Vertical, High channel, GFSK-DH5.
12399.960	23.0	-10.6	132.0	3.1	3.0	0.0	H-Horn	AV	0.0	12.4	54.0	-41.6	EUT Vertical, High channel, GFSK-DH5.
12399.040	36.2	-10.6	132.0	3.1	3.0	0.0	H-Horn	PK	0.0	25.6	74.0	-48.4	EUT Vertical, High channel, GFSK-DH5.
12400.540	36.1	-10.6	43.0	3.2	3.0	0.0	V-Horn	PK	0.0	25.5	74.0	-48.5	EUT Vertical, High channel, GFSK-DH5.

SPURIOUS RADIATED EMISSIONS DATA SHEET

EMC

EUT: CK3x with DDIB	Work Order: INMC0504
Serial Number: 000B6B97B9D3, 20310858065	Date: 12/16/08
Customer: Intermecc Technologies Corporation	Temperature: 21.8° C
Attendees: none	Humidity: 42%
Project: None	Barometric Pres.: 1016.1mb
Tested by: Dan Haas	Power: Internal Battery
	Job Site: EV12

TEST SPECIFICATIONS		Test Method
FCC 15.247 (FHSS):2008		ANSI C63.4:2003, DA 00-705:2000

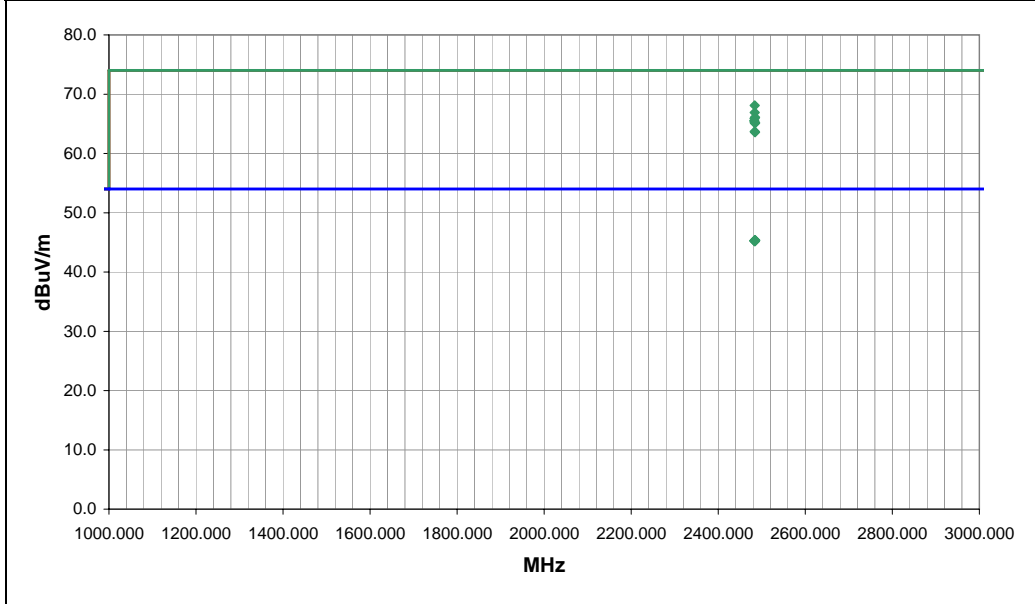
TEST PARAMETERS		
Antenna Height(s) (m)	1 - 4	Test Distance (m)
		3

COMMENTS
See notes for EUT orientation and data type.

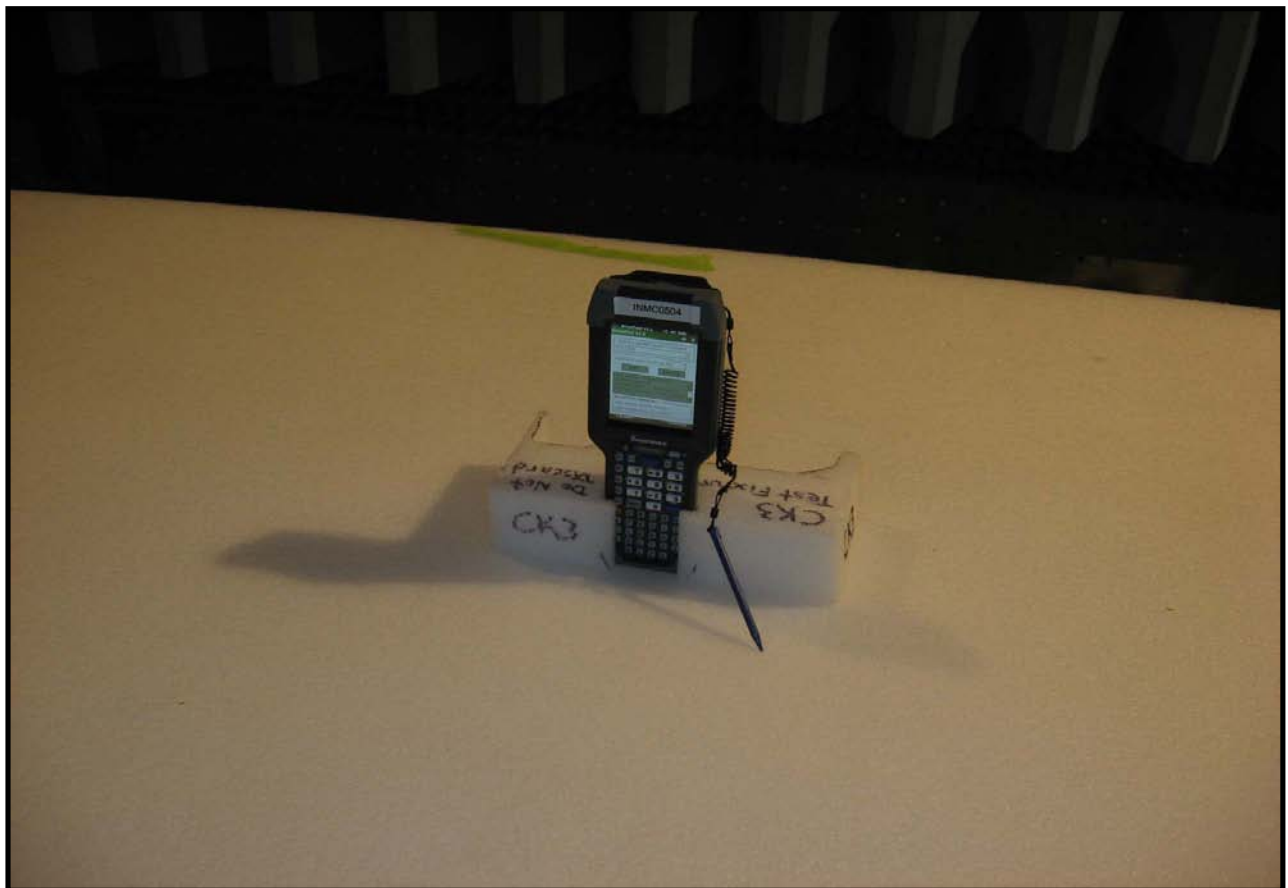
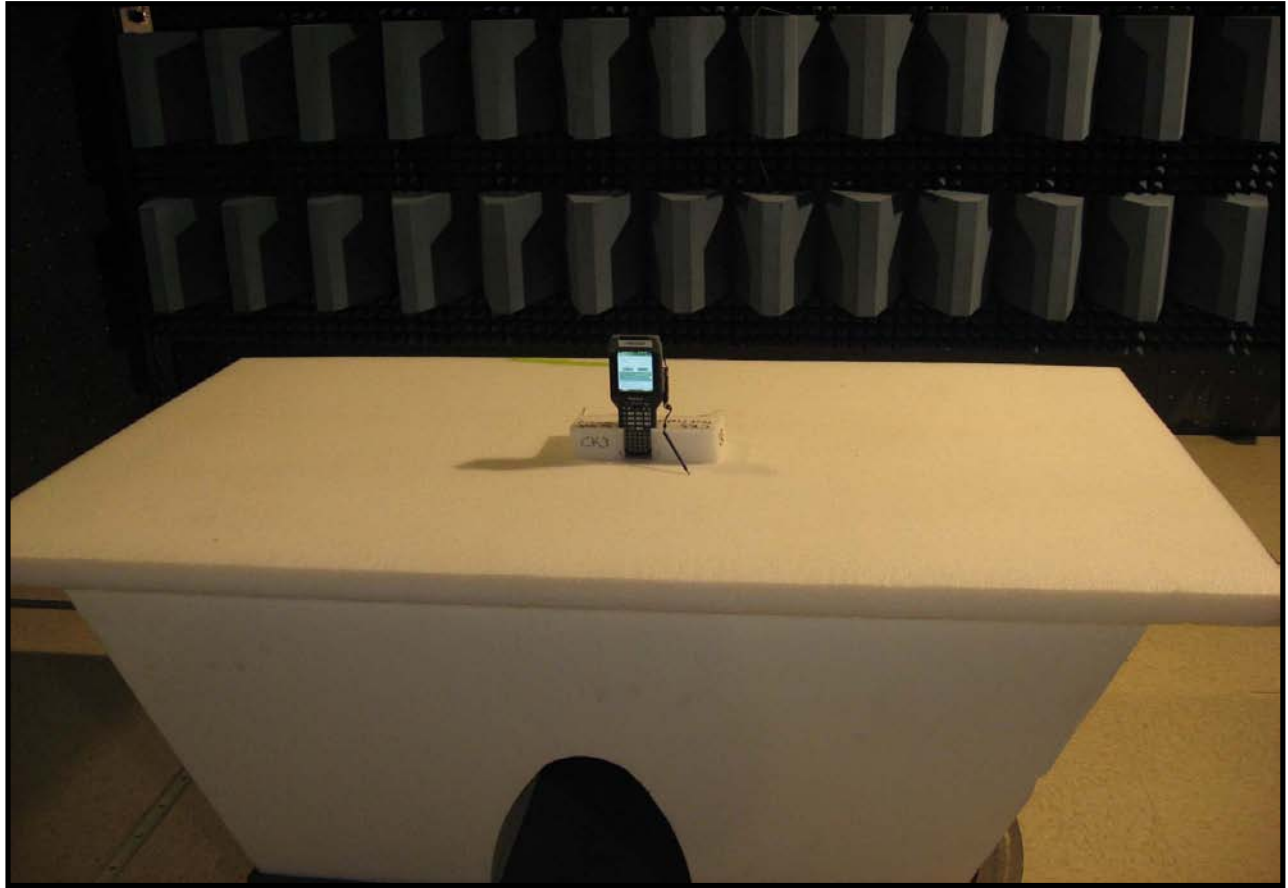
EUT OPERATING MODES
Continuous Tx, Bluetooth, High channel

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	4	Signature 
Configuration #	3	
Results	Pass	

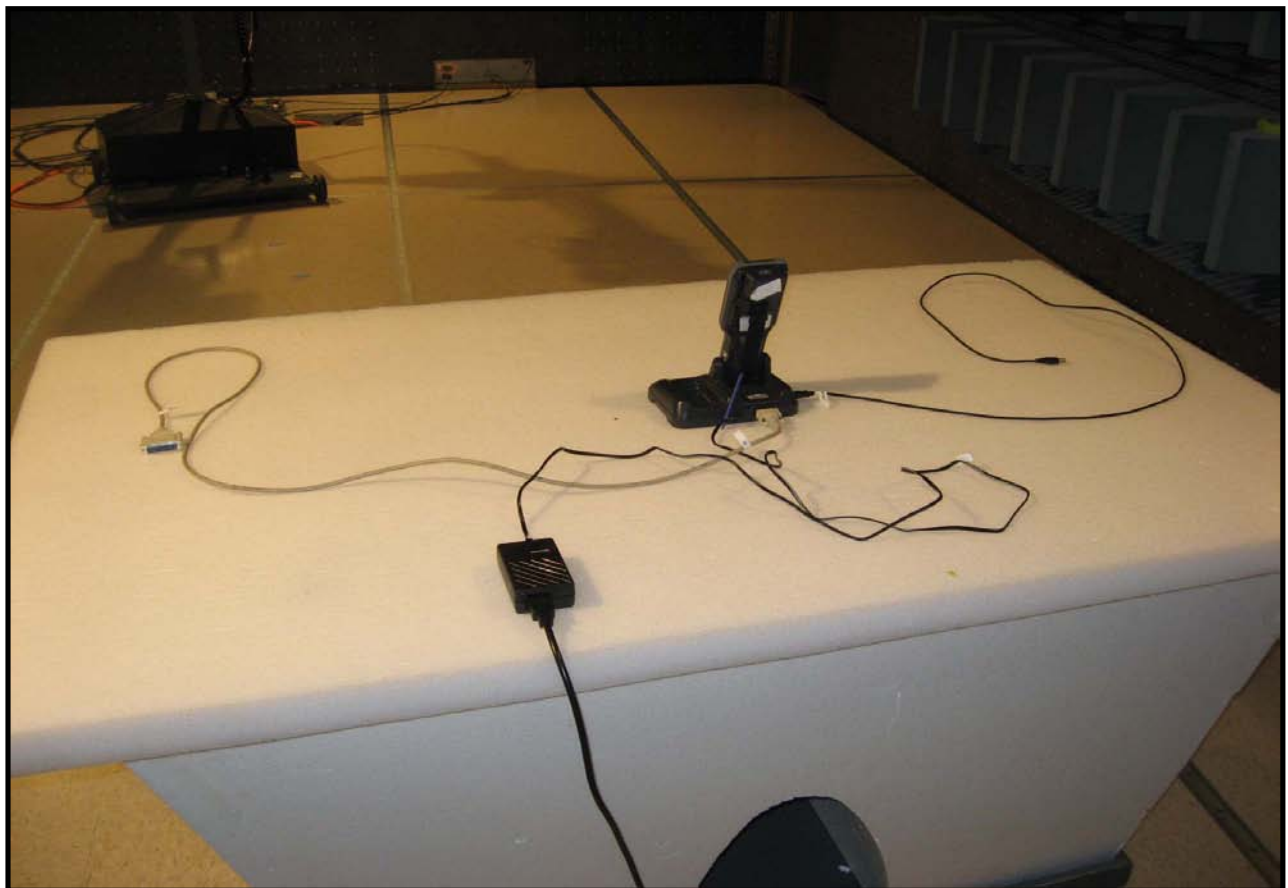
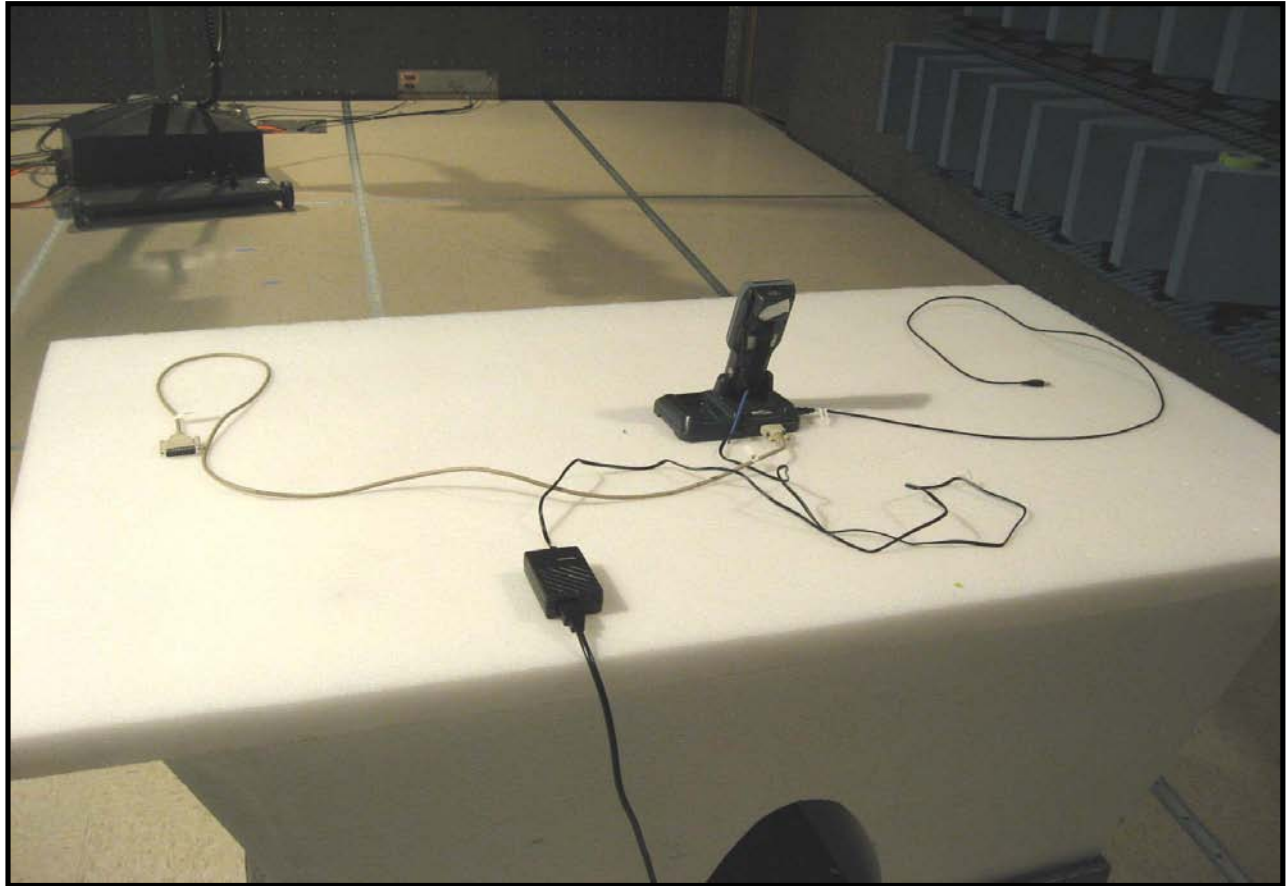


Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
2483.708	49.6	-1.5	278.0	1.0	3.0	20.0	H-Horn	PK	0.0	68.1	74.0	-5.9	EUT vertical, GFSK/DH5
2483.723	48.4	-1.5	277.0	1.0	3.0	20.0	H-Horn	PK	0.0	66.9	74.0	-7.1	EUT vertical, QPSK/2DH5
2484.400	47.6	-1.5	359.0	2.1	3.0	20.0	H-Horn	PK	0.0	66.1	74.0	-7.9	EUT on side, GFSK/DH5
2483.547	47.4	-1.5	270.0	1.0	3.0	20.0	V-Horn	PK	0.0	65.9	74.0	-8.1	EUT horizontal, GFSK/DH5
2482.556	47.0	-1.5	130.0	1.0	3.0	20.0	V-Horn	PK	0.0	65.5	74.0	-8.5	EUT vertical, QPSK/2DH5
2484.446	26.9	-1.5	278.0	1.0	3.0	20.0	H-Horn	AV	0.0	45.4	54.0	-8.6	EUT vertical, GFSK/DH5
2483.546	26.8	-1.5	130.0	1.0	3.0	20.0	V-Horn	AV	0.0	45.3	54.0	-8.7	EUT vertical, QPSK/2DH5
2483.547	26.8	-1.5	270.0	1.0	3.0	20.0	V-Horn	AV	0.0	45.3	54.0	-8.7	EUT horizontal, GFSK/DH5
2483.785	26.8	-1.5	299.0	2.0	3.0	20.0	H-Horn	AV	0.0	45.3	54.0	-8.7	EUT vertical, 8DPSK/3DH5
2483.813	26.8	-1.5	314.0	1.4	3.0	20.0	V-Horn	AV	0.0	45.3	54.0	-8.7	EUT vertical, GFSK/DH5
2484.410	26.8	-1.5	128.0	1.0	3.0	20.0	V-Horn	AV	0.0	45.3	54.0	-8.7	EUT vertical, 8DPSK/3DH5
2484.437	26.8	-1.5	99.0	1.0	3.0	20.0	V-Horn	AV	0.0	45.3	54.0	-8.7	EUT on side, GFSK/DH5
2484.508	26.8	-1.5	22.0	1.0	3.0	20.0	H-Horn	AV	0.0	45.3	54.0	-8.7	EUT horizontal, GFSK/DH5
2483.723	26.7	-1.5	277.0	1.0	3.0	20.0	H-Horn	AV	0.0	45.2	54.0	-8.8	EUT vertical, QPSK/2DH5
2484.107	26.7	-1.5	359.0	2.1	3.0	20.0	H-Horn	AV	0.0	45.2	54.0	-8.8	EUT on side, GFSK/DH5
2483.785	46.7	-1.5	299.0	2.0	3.0	20.0	H-Horn	PK	0.0	65.2	74.0	-8.8	EUT vertical, 8DPSK/3DH5
2484.437	46.7	-1.5	99.0	1.0	3.0	20.0	V-Horn	PK	0.0	65.2	74.0	-8.8	EUT on side, GFSK/DH5
2484.508	46.6	-1.5	22.0	1.0	3.0	20.0	H-Horn	PK	0.0	65.1	74.0	-8.9	EUT horizontal, GFSK/DH5
2483.813	45.2	-1.5	314.0	1.4	3.0	20.0	V-Horn	PK	0.0	63.7	74.0	-10.3	EUT vertical, GFSK/DH5
2484.410	45.1	-1.5	128.0	1.0	3.0	20.0	V-Horn	PK	0.0	63.6	74.0	-10.4	EUT vertical, 8DPSK/3DH5









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(a)

CHANNELS USED FOR FINAL DATA

Channel 36 - 5180MHz
 Channel 48 - 5240MHz
 Channel 52 - 5260MHz
 Channel 64 - 5320MHz
 Channel 100 - 5500MHz
 Channel 116 - 5580MHz
 Channel 140 - 5700MHz

POWER SETTINGS INVESTIGATED

Internal Battery

POWER SETTINGS USED FOR FINAL DATA

Internal Battery

FREQUENCY RANGE INVESTIGATED

Start Frequency	30MHz	Stop Frequency	40GHz
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CLOCKS AND OSCILLATORS

None Provided

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	AAY	12/11/2008	13
Antenna, Biconilog	EMCO	3141	AXG	11/4/2008	13
Antenna, Horn	ETS	3115	AIB	8/25/2008	24
Antenna, Horn	ETS	3160.07	AHZ	10/14/2008	24
Antenna, Horn	ETS	3160-08	AIA	NCR	0
Antenna, Horn	EMCO	3160-09	AHG	NCR	0
Antenna, Horn	EMCO	3160-10	AHI	NCR	0
Pre-Amplifier	Miteq	AM-1616-1000	AVM	6/17/2008	13
Pre-Amplifier	Miteq	AMF-3D00100800-32-13P	AVF	6/17/2008	13
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVH	5/14/2008	13
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVI	5/14/2008	13
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	12/2/2008	13
Pre-Amplifier	Miteq	JS4-26004000-40-8P	APV	7/14/2008	13
EV12 Cables		Bilog Cables	EVS	6/17/2008	13
EV12 Cables		Double Ridge Horn Cables	EVT	6/17/2008	13
EV12 Cables		Standard Gain Horn Cables	EVU	5/14/2008	13
EV01 Cables		18-26GHz Standard Gain Horn Cable	EVD	12/2/2008	13
EV01 Cables		26-40GHz Standard Gain Horn Cable	EVE	7/14/2008	13

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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 antenna of each type to be used with the EUT were tested. The EUT was configured for the lowest, a middle, and the highest transmit frequency in each operational band. For each configuration, the spectrum was scanned throughout the specified range. Measurements were made to satisfy the three requirements of 47 CFR 15.407: Field strength under 1GHz, Restricted Bands of 47 CFR 15.205, and EIRP of 47 CFR 15.407. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.4:2003). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

The amplitude and frequency of the highest emissions were noted. The EUT was then replaced with a 1/2 wave dipole that was successively tuned to each of the highest spurious emissions. A signal generator was connected to the dipole (horn antenna for frequencies above 1GHz), and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the cable loss to the dipole antenna (or horn) and its gain (dBi); the effective radiated power for each radiated spurious emission was determined.

EUT: CK3x with DDIB	Work Order: INMC0504
Serial Number: 000B6B8D3470, 20310858065	Date: 12/16/08
Customer: Intermec Technologies Corporation	Temperature: 18.4° C
Attendees: None	Humidity: 19%
Project: None	Barometric Pres.: 1024.1mb
Tested by: Dan Haas	Power: Internal Battery
	Job Site: EV12

TEST SPECIFICATIONS	
FCC 15.209:2008	ANSI C63.4:2003
Test Method	

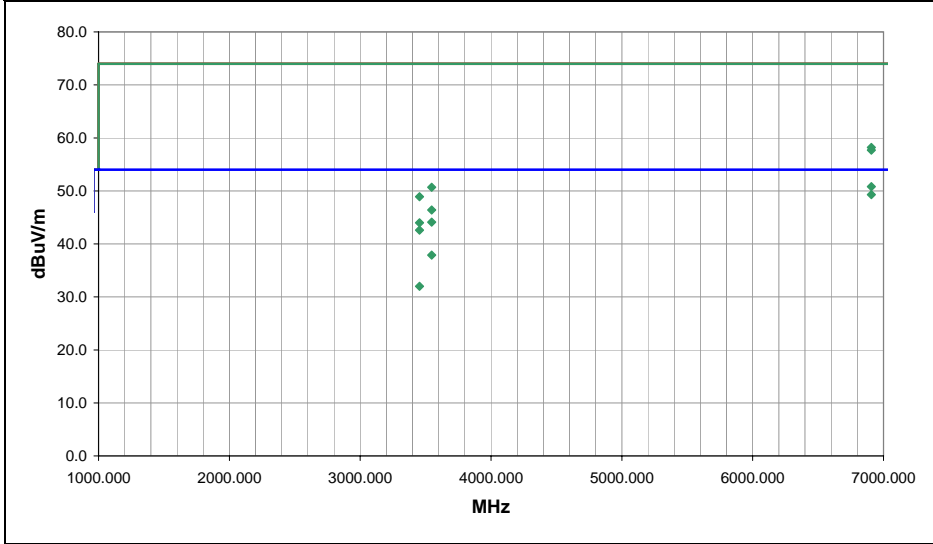
TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS
See notes for EUT orientation, channel, and data rate.

EUT OPERATING MODES
Continuous Tx, 802.11(a)

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	5	Signature 
Configuration #	2	
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
6906.631	38.0	12.8	190.0	2.3	3.0	0.0	V-Horn	AV	0.0	50.8	54.0	-3.2	EUT vertical, channel 36, 6Mbps, Antenna 1
6906.616	36.5	12.8	10.0	1.0	3.0	0.0	H-Horn	AV	0.0	49.3	54.0	-4.7	EUT vertical, channel 36, 6Mbps, Antenna 1
3546.587	40.9	3.2	360.0	1.0	3.0	0.0	H-Horn	AV	0.0	44.1	54.0	-9.9	EUT vertical, channel 64, 6Mbps, Antenna 1
3453.305	39.8	2.8	19.0	1.3	3.0	0.0	H-Horn	AV	0.0	42.6	54.0	-11.4	EUT vertical, channel 36, 6Mbps, Antenna 1
6906.586	45.4	12.8	10.0	1.0	3.0	0.0	H-Horn	PK	0.0	58.2	74.0	-15.8	EUT vertical, channel 36, 6Mbps, Antenna 1
3546.622	34.7	3.2	209.0	1.0	3.0	0.0	V-Horn	AV	0.0	37.9	54.0	-16.1	EUT vertical, channel 64, 6Mbps, Antenna 1
6906.546	44.9	12.8	190.0	2.3	3.0	0.0	V-Horn	PK	0.0	57.7	74.0	-16.3	EUT vertical, channel 36, 6Mbps, Antenna 1
3453.360	29.2	2.8	100.0	1.8	3.0	0.0	V-Horn	AV	0.0	32.0	54.0	-22.0	EUT vertical, channel 36, 6Mbps, Antenna 1
3546.632	47.5	3.2	360.0	1.0	3.0	0.0	H-Horn	PK	0.0	50.7	74.0	-23.3	EUT vertical, channel 64, 6Mbps, Antenna 1
3452.940	46.1	2.8	19.0	1.3	3.0	0.0	H-Horn	PK	0.0	48.9	74.0	-25.1	EUT vertical, channel 36, 6Mbps, Antenna 1
3546.627	43.2	3.2	209.0	1.0	3.0	0.0	V-Horn	PK	0.0	46.4	74.0	-27.6	EUT vertical, channel 64, 6Mbps, Antenna 1
3453.320	41.2	2.8	100.0	1.8	3.0	0.0	V-Horn	PK	0.0	44.0	74.0	-30.0	EUT vertical, channel 36, 6Mbps, Antenna 1

EUT: CK3x with DDIB	Work Order: INMC0504
Serial Number: 000B6B8D3470, 20310858065	Date: 12/16/08
Customer: Intermec Technologies Corporation	Temperature: 18.4° C
Attendees: None	Humidity: 19%
Project: None	Barometric Pres.: 1024.1mb
Tested by: Dan Haas	Power: Internal Battery
	Job Site: EV12

TEST SPECIFICATIONS	
FCC 15.407:2008	ANSI C63.4:2003 DA 02-2138:2002
Test Method	

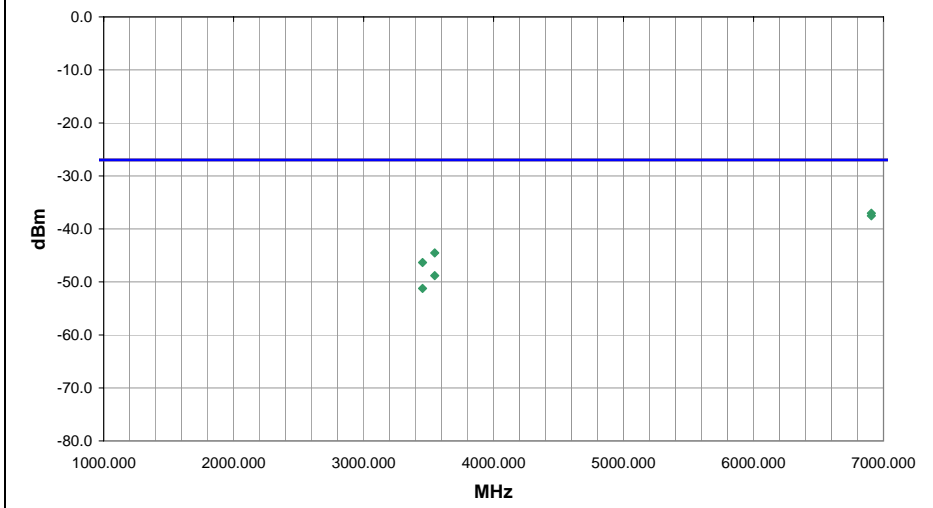
TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS
See notes for EUT orientation, channel, and data rate.

EUT OPERATING MODES
Continuous Tx, 802.11(a)

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	5	Signature 
Configuration #	2	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
6906.586	10.0	1.0	H-Horn	PK	1.98E-07	-37.0	-27.0	-10.0	EUT vertical, channel 36, 6Mbps, Antenna 1
6906.546	190.0	2.3	V-Horn	PK	1.77E-07	-37.5	-27.0	-10.5	EUT vertical, channel 36, 6Mbps, Antenna 1
3546.632	360.0	1.0	H-Horn	PK	3.52E-08	-44.5	-27.0	-17.5	EUT vertical, channel 64, 6Mbps, Antenna 1
3452.940	19.0	1.3	H-Horn	PK	2.33E-08	-46.3	-27.0	-19.3	EUT vertical, channel 36, 6Mbps, Antenna 1
3546.627	209.0	1.0	V-Horn	PK	1.31E-08	-48.8	-27.0	-21.8	EUT vertical, channel 64, 6Mbps, Antenna 1
3453.320	100.0	1.8	V-Horn	PK	7.54E-09	-51.2	-27.0	-24.2	EUT vertical, channel 36, 6Mbps, Antenna 1

EUT: CK3x with DDIB	Work Order: INMC0504
Serial Number: 000B6B8D3470, 20310858065	Date: 12/18/08
Customer: Intermec Technologies Corporation	Temperature: 20.8° C
Attendees: None	Humidity: 25%
Project: None	Barometric Pres.: 1007.4mb
Tested by: Dan Haas	Power: Internal Battery
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 15.209:2008	ANSI C63.4:2003

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

COMMENTS
See notes for EUT orientation and channel.

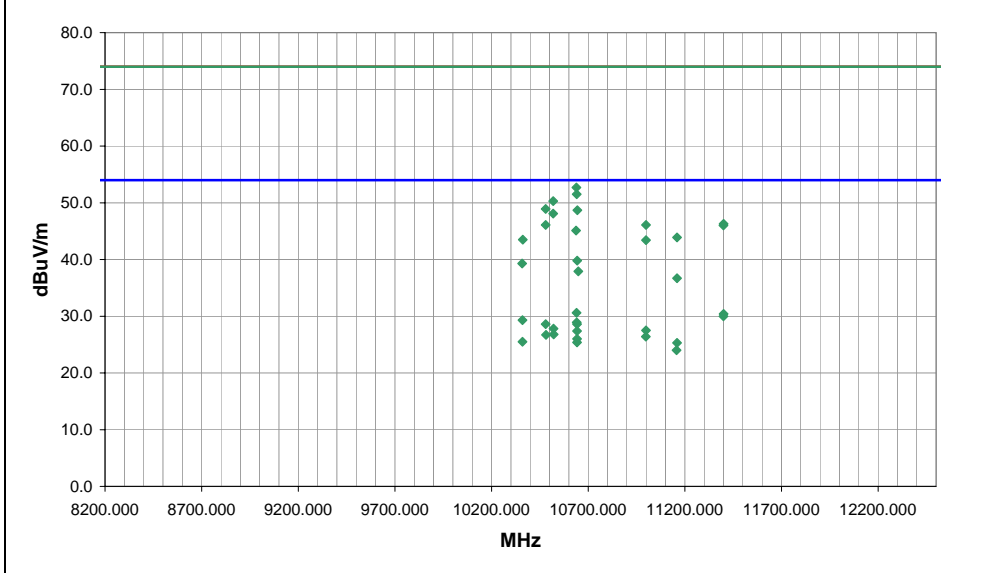
EUT OPERATING MODES

Continuous Tx, 802.11

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	12	Signature 
Configuration #	2	
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
10639.030	63.4	-10.7	151.0	1.0	3.0	0.0	H-Horn	PK	0.0	52.7	74.0	-21.3	EUT vertical, channel 64, 6Mbps
10640.670	62.2	-10.7	162.0	1.0	3.0	0.0	V-Horn	PK	0.0	51.5	74.0	-22.5	EUT vertical, channel 64, 6Mbps
10640.080	41.3	-10.7	151.0	1.0	3.0	0.0	H-Horn	AV	0.0	30.6	54.0	-23.4	EUT vertical, channel 64, 6Mbps
11400.250	42.4	-12.0	154.0	1.0	3.0	0.0	H-Horn	AV	0.0	30.4	54.0	-23.6	EUT vertical, channel 140, 6Mbps
10518.520	60.8	-10.5	142.0	1.0	3.0	0.0	H-Horn	PK	0.0	50.3	74.0	-23.7	EUT vertical, channel 52, 6Mbps
11400.050	42.0	-12.0	146.0	1.0	3.0	0.0	V-Horn	AV	0.0	30.0	54.0	-24.0	EUT vertical, channel 140, 6Mbps
10360.230	39.9	-10.6	169.0	1.0	3.0	0.0	H-Horn	AV	0.0	29.3	54.0	-24.7	EUT vertical, channel 36, 6Mbps
10640.240	39.7	-10.8	162.0	1.0	3.0	0.0	V-Horn	AV	0.0	28.9	54.0	-25.1	EUT vertical, channel 64, 6Mbps
10479.920	59.3	-10.4	151.0	1.0	3.0	0.0	H-Horn	PK	0.0	48.9	74.0	-25.1	EUT vertical, channel 48, 6Mbps
10644.200	59.4	-10.7	142.0	1.0	3.0	0.0	H-Horn	PK	0.0	48.7	74.0	-25.3	EUT on side, channel 64, 6Mbps
10642.250	39.4	-10.8	142.0	1.0	3.0	0.0	H-Horn	AV	0.0	28.6	54.0	-25.4	EUT on side, channel 64, 6Mbps
10479.960	39.0	-10.4	151.0	1.0	3.0	0.0	H-Horn	AV	0.0	28.6	54.0	-25.4	EUT vertical, channel 48, 6Mbps
10518.970	58.6	-10.5	158.0	1.0	3.0	0.0	V-Horn	PK	0.0	48.1	74.0	-25.9	EUT vertical, channel 52, 6Mbps
10520.730	38.3	-10.5	142.0	1.0	3.0	0.0	H-Horn	AV	0.0	27.8	54.0	-26.2	EUT vertical, channel 52, 6Mbps
10998.790	39.1	-11.6	116.0	1.0	3.0	0.0	H-Horn	AV	0.0	27.5	54.0	-26.5	EUT vertical, channel 100, 6Mbps
10642.050	38.1	-10.7	254.0	1.0	3.0	0.0	V-Horn	AV	0.0	27.4	54.0	-26.6	EUT on side, channel 64, 6Mbps
10521.430	37.3	-10.5	158.0	1.0	3.0	0.0	V-Horn	AV	0.0	26.8	54.0	-27.2	EUT vertical, channel 52, 6Mbps
10481.360	37.1	-10.4	161.0	1.0	3.0	0.0	V-Horn	AV	0.0	26.7	54.0	-27.3	EUT vertical, channel 48, 6Mbps
10997.870	38.0	-11.6	278.0	1.0	3.0	0.0	V-Horn	AV	0.0	26.4	54.0	-27.6	EUT vertical, channel 100, 6Mbps
11400.950	58.3	-12.0	154.0	1.0	3.0	0.0	H-Horn	PK	0.0	46.3	74.0	-27.7	EUT vertical, channel 140, 6Mbps

EUT: CK3x with DDIB	Work Order: INMC0504
Serial Number: 000B6B8D3470, 20310858065	Date: 12/18/08
Customer: Intermec Technologies Corporation	Temperature: 20.8° C
Attendees: None	Humidity: 25%
Project: None	Barometric Pres.: 1007.4mb
Tested by: Dan Haas	Power: Internal Battery
	Job Site: EV12

TEST SPECIFICATIONS	
FCC 15.407:2008	Test Method
	ANSI C63.4:2003 DA 02-2138:2002

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

COMMENTS
See notes for EUT orientation and channel.

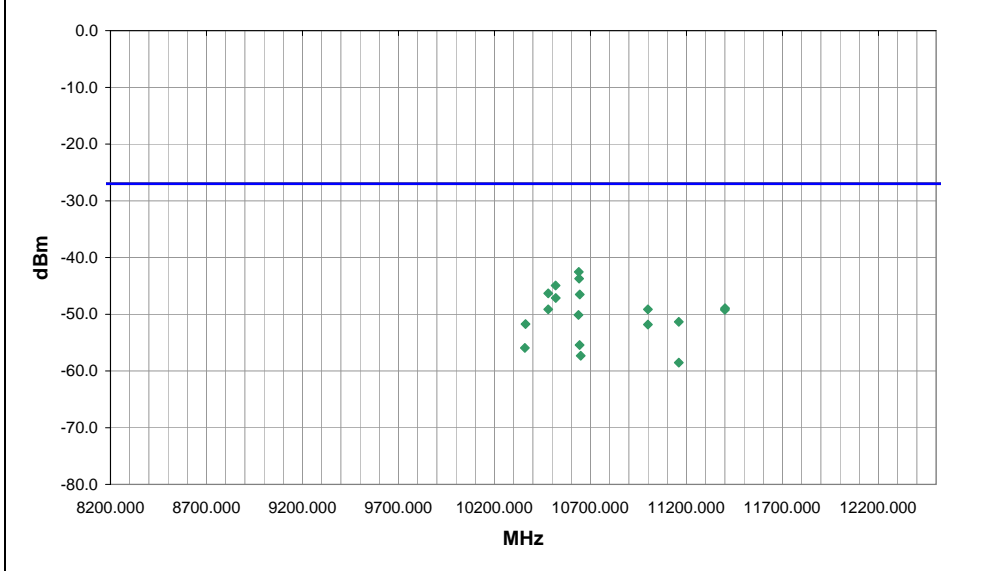
EUT OPERATING MODES

Continuous Tx, 802.11

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	12	Signature 
Configuration #	2	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
10639.030	151.0	1.0	H-Horn	PK	5.59E-08	-42.5	-27.0	-15.5	EUT vertical, channel 64, 6Mbps
10640.670	162.0	1.0	V-Horn	PK	4.24E-08	-43.7	-27.0	-16.7	EUT vertical, channel 64, 6Mbps
10518.520	142.0	1.0	H-Horn	PK	3.21E-08	-44.9	-27.0	-17.9	EUT vertical, channel 52, 6Mbps
10479.920	151.0	1.0	H-Horn	PK	2.33E-08	-46.3	-27.0	-19.3	EUT vertical, channel 48, 6Mbps
10644.200	142.0	1.0	H-Horn	PK	2.22E-08	-46.5	-27.0	-19.5	EUT on side, channel 64, 6Mbps
10518.970	158.0	1.0	V-Horn	PK	1.94E-08	-47.1	-27.0	-20.1	EUT vertical, channel 52, 6Mbps
11400.950	154.0	1.0	H-Horn	PK	1.28E-08	-48.9	-27.0	-21.9	EUT vertical, channel 140, 6Mbps
10480.310	161.0	1.0	V-Horn	PK	1.22E-08	-49.1	-27.0	-22.1	EUT vertical, channel 48, 6Mbps
10999.180	116.0	1.0	H-Horn	PK	1.22E-08	-49.1	-27.0	-22.1	EUT vertical, channel 100, 6Mbps
11399.650	146.0	1.0	V-Horn	PK	1.19E-08	-49.2	-27.0	-22.2	EUT vertical, channel 140, 6Mbps
10637.500	254.0	1.0	V-Horn	PK	9.71E-09	-50.1	-27.0	-23.1	EUT on side, channel 64, 6Mbps
11160.010	148.0	1.0	H-Horn	PK	7.36E-09	-51.3	-27.0	-24.3	EUT vertical, channel 116, 6Mbps
10361.290	169.0	1.0	H-Horn	PK	6.72E-09	-51.7	-27.0	-24.7	EUT vertical, channel 36, 6Mbps
10999.240	278.0	1.0	V-Horn	PK	6.56E-09	-51.8	-27.0	-24.8	EUT vertical, channel 100, 6Mbps
10642.950	232.0	1.0	H-Horn	PK	2.86E-09	-55.4	-27.0	-28.4	EUT horizontal, channel 64, 6Mbps
10358.500	105.0	1.3	V-Horn	PK	2.55E-09	-55.9	-27.0	-28.9	EUT vertical, channel 36, 6Mbps
10649.200	113.0	1.0	V-Horn	PK	1.85E-09	-57.3	-27.0	-30.3	EUT horizontal, channel 64, 6Mbps
11159.630	57.0	1.0	V-Horn	PK	1.40E-09	-58.5	-27.0	-31.5	EUT vertical, channel 116, 6Mbps

EMC

EUT: CK3x with DDIB	Work Order: INMC0504
Serial Number: 000B6B8D3470, 20310858065	Date: 12/18/08
Customer: Intertec Technologies Corporation	Temperature: 20.8° C
Attendees: None	Humidity: 25%
Project: None	Barometric Pres.: 1007.4mb
Tested by: Dan Haas	Power: Internal Battery
	Job Site: EV12

TEST SPECIFICATIONS		Test Method
FCC 15.209:2008		ANSI C63.4:2003

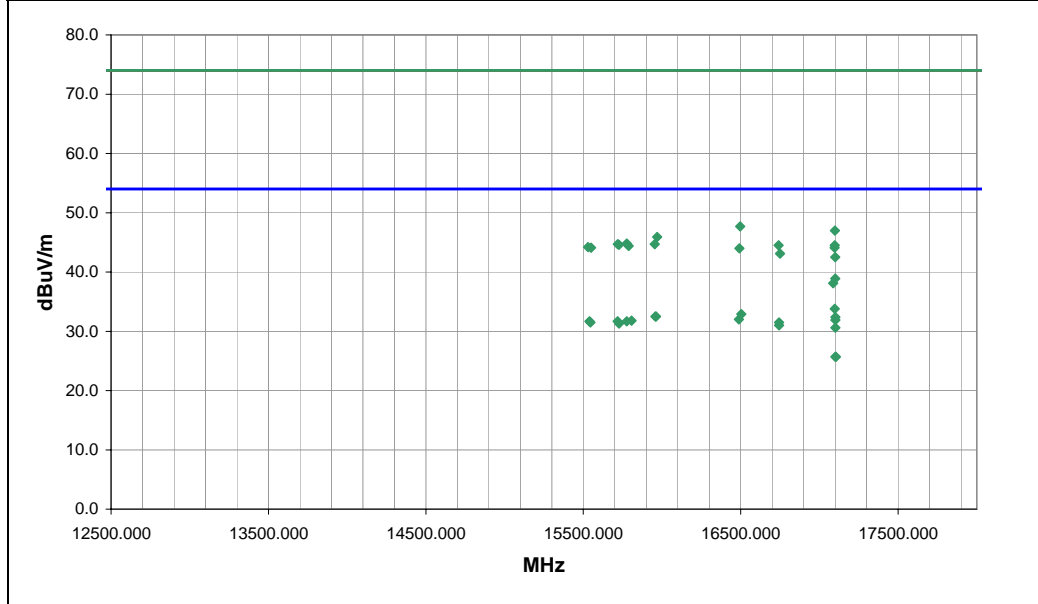
TEST PARAMETERS		
Antenna Height(s) (m)	1 - 4	Test Distance (m)
		3

COMMENTS
See notes for EUT orientation and channel.

EUT OPERATING MODES
Continuous Tx, 802.11(a)

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	13	Signature 
Configuration #	2	
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
17097.450	32.7	1.1	140.0	1.0	3.0	0.0	H-Horn	AV	0.0	33.8	54.0	-20.2	EUT vertical, channel 140
16503.800	31.5	1.4	192.0	1.0	3.0	0.0	H-Horn	AV	0.0	32.9	54.0	-21.1	EUT vertical, channel 100
15958.050	30.9	1.6	206.0	1.0	3.0	0.0	V-Horn	AV	0.0	32.5	54.0	-21.5	EUT vertical, channel 64
15962.100	30.9	1.6	143.0	1.0	3.0	0.0	H-Horn	AV	0.0	32.5	54.0	-21.5	EUT vertical, channel 64
17101.650	31.3	1.1	208.0	1.0	3.0	0.0	H-Horn	AV	0.0	32.4	54.0	-21.6	EUT on side, channel 140
16489.050	30.6	1.4	187.0	1.0	3.0	0.0	V-Horn	AV	0.0	32.0	54.0	-22.0	EUT vertical, channel 100
17101.350	30.8	1.1	137.0	1.2	3.0	0.0	V-Horn	AV	0.0	31.9	54.0	-22.1	EUT on side, channel 140
15806.700	30.3	1.5	22.0	1.0	3.0	0.0	H-Horn	AV	0.0	31.8	54.0	-22.2	EUT vertical, channel 52
15718.100	30.2	1.5	233.0	1.0	3.0	0.0	V-Horn	AV	0.0	31.7	54.0	-22.3	EUT vertical, channel 48
15775.700	30.2	1.5	28.0	1.0	3.0	0.0	V-Horn	AV	0.0	31.7	54.0	-22.3	EUT vertical, channel 52
15539.650	30.3	1.4	111.0	1.0	3.0	0.0	H-Horn	AV	0.0	31.7	54.0	-22.3	EUT vertical, channel 36
15545.300	30.1	1.4	116.0	1.8	3.0	0.0	V-Horn	AV	0.0	31.5	54.0	-22.5	EUT vertical, channel 36
16743.700	30.1	1.4	189.0	1.0	3.0	0.0	H-Horn	AV	0.0	31.5	54.0	-22.5	EUT vertical, channel 116
15727.000	29.8	1.5	65.0	1.7	3.0	0.0	H-Horn	AV	0.0	31.3	54.0	-22.7	EUT vertical, channel 48
16743.950	29.6	1.4	178.0	1.4	3.0	0.0	V-Horn	AV	0.0	31.0	54.0	-23.0	EUT vertical, channel 116
17101.300	29.5	1.1	157.0	1.2	3.0	0.0	V-Horn	AV	0.0	30.6	54.0	-23.4	EUT vertical, channel 140
16496.300	46.2	1.5	192.0	1.0	3.0	0.0	H-Horn	PK	0.0	47.7	74.0	-26.3	EUT vertical, channel 100
17098.050	45.9	1.1	140.0	1.0	3.0	0.0	H-Horn	PK	0.0	47.0	74.0	-27.0	EUT vertical, channel 140
15969.600	44.3	1.6	143.0	1.0	3.0	0.0	H-Horn	PK	0.0	45.9	74.0	-28.1	EUT vertical, channel 64
17101.600	24.6	1.1	19.0	1.0	3.0	0.0	H-Horn	AV	0.0	25.7	54.0	-28.3	EUT horizontal, channel 140

SPURIOUS RADIATED EMISSIONS DATA SHEET

EUT: CK3x with DDIB	Work Order: INMC0504
Serial Number: 000B6B8D3470, 20310858065	Date: 12/18/08
Customer: Intermec Technologies Corporation	Temperature: 20.8° C
Attendees: None	Humidity: 25%
Project: None	Barometric Pres.: 1007.4mb
Tested by: Dan Haas	Power: Internal Battery
	Job Site: EV12

TEST SPECIFICATIONS		Test Method
FCC 15.407:2008		ANSI C63.4:2003 DA 02-2138:2002

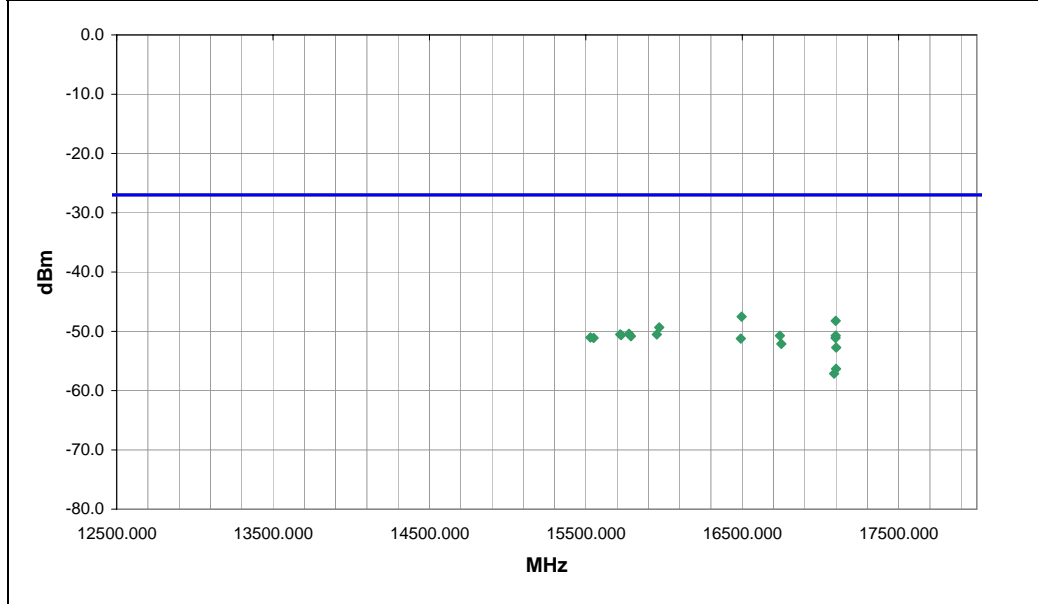
TEST PARAMETERS		
Antenna Height(s) (m)	1 - 4	Test Distance (m)
		3

COMMENTS
See notes for EUT orientation and channel.

EUT OPERATING MODES
Continuous Tx, 802.11(a)

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	13	Signature 
Configuration #	2	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
16496.300	192.0	1.0	H-Horn	PK	1.77E-08	-47.5	-27.0	-20.5	EUT vertical, channel 100
17098.050	140.0	1.0	H-Horn	PK	1.50E-08	-48.2	-27.0	-21.2	EUT vertical, channel 140
15969.600	143.0	1.0	H-Horn	PK	1.17E-08	-49.3	-27.0	-22.3	EUT vertical, channel 64
15775.700	28.0	1.0	V-Horn	PK	9.06E-09	-50.4	-27.0	-23.4	EUT vertical, channel 52

