

Intermec Technologies Corporation

1000CP01C
1000CP02C
1001CP01C

Tested to the following Specifications:

FCC 22H:2011
FCC 24E:2011

Report No. INMC0664

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

Last Date of Test: February 22, 2011
Intermec Technologies Corporation
Model: 1000CP01C, 1000CP02C, 1001CP01C

Emissions			
Test Description	Specification	Test Method	Pass/Fail
Out of Band Emissions	FCC 22H:2011	ANSI/TIA/EIA-603-C-2004	Pass
Out of Band Emissions	FCC 24E:2011	ANSI/TIA/EIA-603-C-2004	Pass
Effective Radiated Power (ERP)	FCC 22H:2011	ANSI/TIA/EIA-603-C-2004	Pass
Effective Radiated Power (EIRP)	FCC 24E:2011	ANSI/TIA/EIA-603-C-2004	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:

Donald Fecteau, IT 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		

Barometric Pressure

The recorded barometric pressure has been normalized to sea level.



Accreditations and Authorizations

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 National Voluntary Laboratory Accreditation Program (NVLAP) for satisfactory compliance with the requirements of ISO/IEC 17025 for Testing Laboratories. NVLAP is administered by the National Institute of Standards and Technology (NIST), an agency of the U.S. Commerce Department. 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.

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, Brooklyn Park: 2834E-1*)

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.

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).



Accreditations and Authorizations

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, G-84, C-2687, T-1658, and R-2318, Irvine: R-1943, G-85, C-2766, and T-1659, Sultan: R-871, G-83, C-1784, and T-1511, Brooklyn Park: R-3125, G-86, G-141, C-3464, and T-1634).*

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).

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, Brooklyn Park: US0175)*

VIETNAM

Vietnam MIC has approved Northwest EMC as an accredited test lab. Per Decision No. 194/QD-QLCL (dated December 15, 2009), Northwest EMC test reports can be used for Vietnam approval submissions.

SCOPE

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

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



Northwest EMC Locations



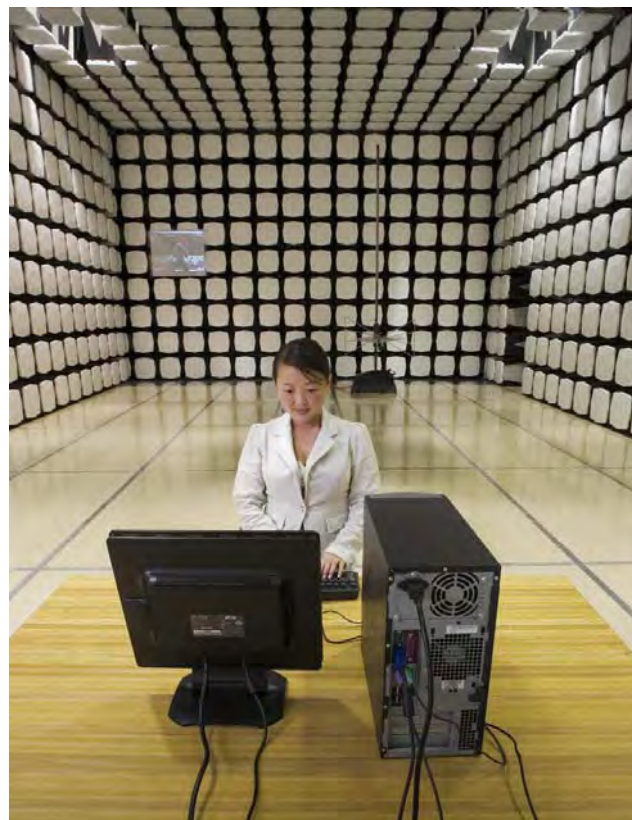
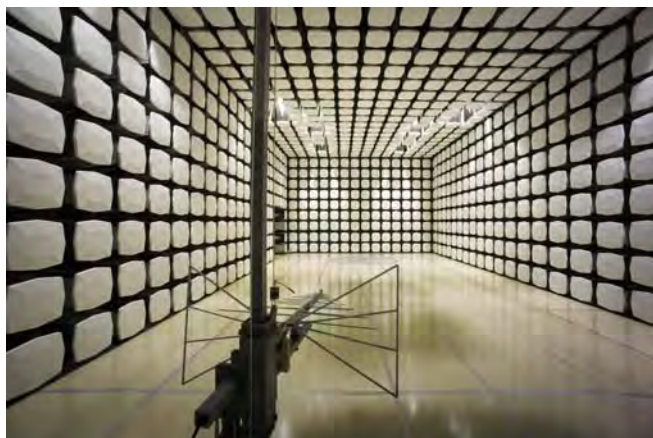
Oregon
Labs EV01-EV12
22975 NW Evergreen Pkwy
Suite 400
Hillsboro, OR 97124
(503) 844-4066

California
Labs OC01-OC13
41 Tesla
Irvine, CA 92618
(949) 861-8918

Minnesota
Labs MN01-MN08
9349 W Broadway Ave.
Brooklyn Park,
MN 55445
(763) 425-2281

Washington
Labs SU01-SU07
14128 339th Ave. SE
Sultan, WA 98294
(360) 793-8675

New York
Labs WA01-WA04
4939 Jordan Rd.
Elbridge, NY 13060
(315) 685-0796



Party Requesting the Test

Company Name:	Intermec Technologies Corporation
Address:	6001 36th Avenue West
City, State, Zip:	Everett, WA 98203-1264
Test Requested By:	Wayne Rieger
Model:	1000CP01C, 1000CP02C, 1001CP01C
First Date of Test:	2/18/2011
Last Date of Test:	2/22/2011
Receipt Date of Samples:	2/18/2011
Equipment Design Stage:	Prototype
Equipment Condition:	No Damage

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

Handheld computers containing two radio modules. One is the Sierra Wireless Model MC5728V, which is a CDMA (EVDO Rev A) radio module. The other is the Intermec Model RC12, which is an 802.11a/b/g/n – Bluetooth radio module

Testing Objective:

To demonstrate compliance with FCC 22H and FCC 24E requirements for spurious radiated emissions and radiated power. The antenna port conducted measurements are documented in a separate report.

CONFIGURATION 1 INMC0664**Software/Firmware Running during test**

Description	Version
Windows Mobile	6.5

EUT

Description	Manufacturer	Model/Part Number	Serial Number
Handheld Computer	Intermec Technologies Corp	1001CP01C	24511047145

Peripherals in test setup boundary

Description	Manufacturer	Model/Part Number	Serial Number
Power Supply	Intermec Technologies Corp	AE39	02061000875
USB SNAPON	Intermec Technologies Corp	225-773-001	HDIP D-SUB, A3
Battery Pack	Intermec Technologies Corp	1001AB01	16661001477

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power	No	1.8m	No	Power Supply	AC Mains
DC Leads	No	1.8m	Yes	SNAPON	Power Supply

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

CONFIGURATION 2 INMC0664**Software/Firmware Running during test**

Description	Version
Windows Mobile	6.5

EUT

Description	Manufacturer	Model/Part Number	Serial Number
Handheld Computer	Intermec Technologies Corp	1000CP02C	24511047014

Peripherals in test setup boundary

Description	Manufacturer	Model/Part Number	Serial Number
Power Supply	Intermec Technologies Corp	AE39	02061000875
USB SNAPON	Intermec Technologies Corp	225-773-001	HDIP D-SUB, A3
Battery Pack	Intermec Technologies Corp	1000AB01	16961000158

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power	No	1.8m	No	Power Supply	AC Mains
DC Leads	No	1.8m	Yes	SNAPON	Power Supply

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

CONFIGURATION 3 INMC0664**Software/Firmware Running during test**

Description	Version
Windows Mobile	6.5

EUT

Description	Manufacturer	Model/Part Number	Serial Number
Handheld Computer	Intermec Technologies Corp	1000CP01C	24411047085

Peripherals in test setup boundary

Description	Manufacturer	Model/Part Number	Serial Number
Power Supply	Intermec Technologies Corp	AE39	02061000875
USB SNAPON	Intermec Technologies Corp	225-773-001	HDIP D-SUB, A3
Battery Pack	Intermec Technologies Corp	1000AB01	16961000158

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power	No	1.8m	No	Power Supply	AC Mains
DC Leads	No	1.8m	Yes	SNAPON	Power Supply

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	2/18/2011	Out of Band 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	2/22/2011	ERP Part 22H, EIRP Part 24E	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.

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, All bits up, 1xEV-DO Rev A
Transmitting, All bits up, CDMA 1xRTT, SC3, SO32 (+SCH)

CHANNELS TESTED

Low = Ch.1013, 824.7MHz
Mid = Ch. 384, 836.52MHz
High = Ch. 777, 848.31MHz

POWER SETTINGS INVESTIGATED

120VAC/60Hz

FREQUENCY RANGE INVESTIGATED

Start Frequency 30 MHz Stop Frequency 10 GHz

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
Universal Radio Communication Tester	Rhode & Schwarz	CMU200	BSU	NCR	0
Spectrum Analyzer	Agilent	E4440	AFE	11/29/2010	12
Antenna, Biconilog	EMCO	3141	AXG	2/15/2010	13
EV12 Cables	N/A	Bilog Cables	EVS	7/14/2010	13
Pre-Amplifier	Miteq	AM-1616-1000	AVM	7/14/2010	13
Antenna, Horn	ETS	3115	AIB	9/8/2010	24
EV12 Cables	N/A	Double Ridge Horn Cables	EVT	11/22/2010	13
Pre-Amplifier	Miteq	AMF-3D00100800-32-13P	AVF	7/14/2010	13
Antenna, Horn	ETS	3160.07	AHZ	9/8/2010	24
EV12 Cables	N/A	Standard Gain Horn Cables	EVU	7/14/2010	13
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVH	7/14/2010	13
Antenna, Horn	EMCO	3115	AHE	10/22/2009	24
Power Meter	Gigatronics	8651A	SPM	1/7/2010	16
Power Sensor	Gigatronics	80701A	SPL	1/7/2010	16
Signal Generator	Agilent	E8257D	TGX	12/10/2008	27

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

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. The measurement uncertainty estimation is available upon request.

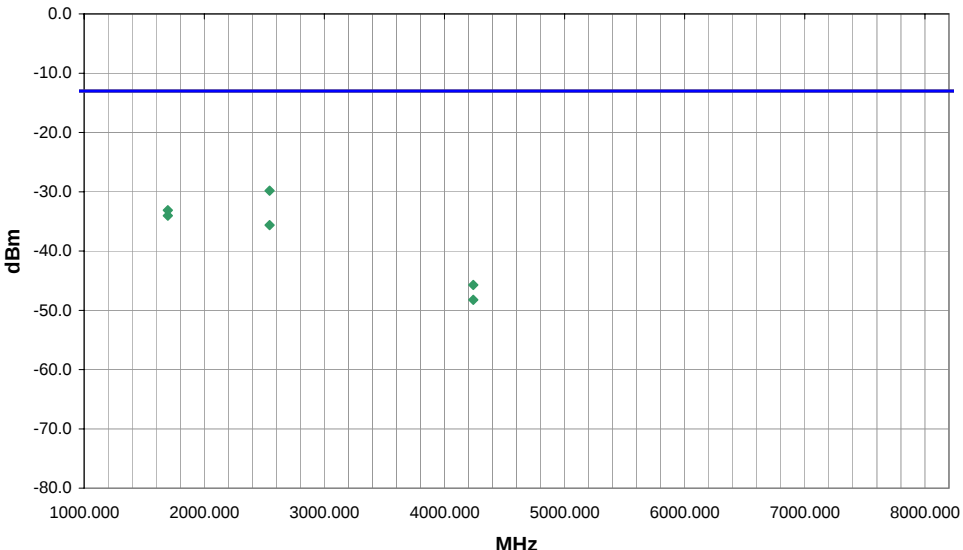
TEST DESCRIPTION

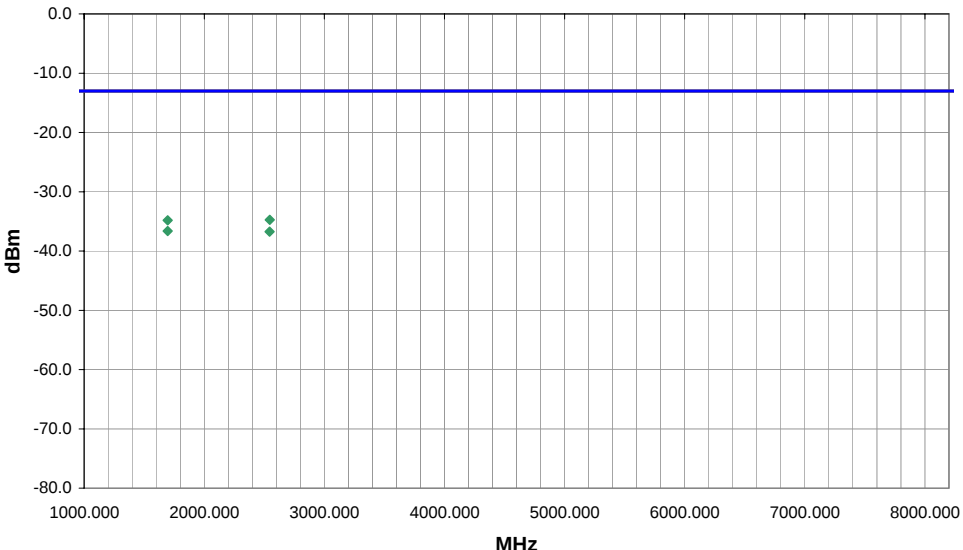
The highest gain antenna to be used with the EUT was tested for final measurements. The EUT was configured for the lowest, a middle, and the highest transmit frequency in each operational band. For each configuration, the spectrum was scanned throughout the specified range. While scanning, emissions 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 C63.10:2009). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

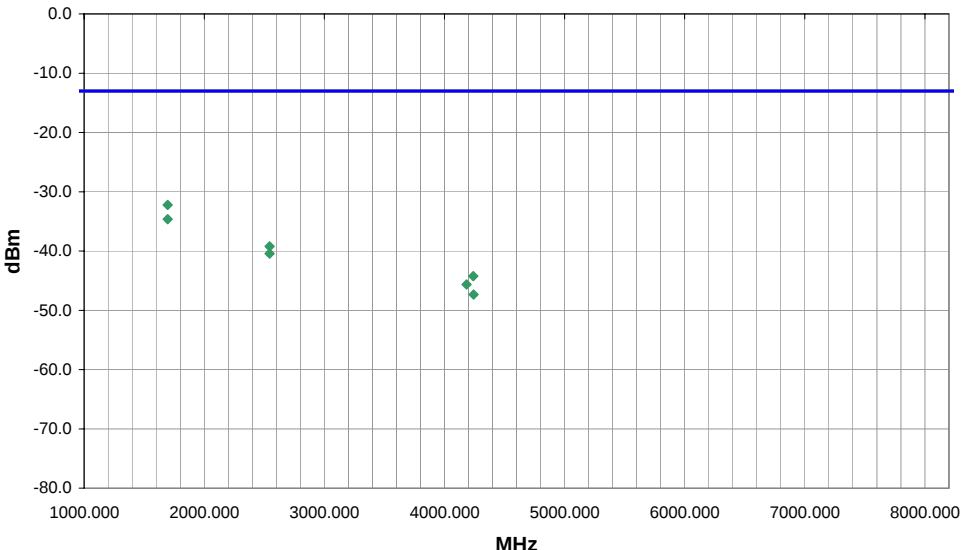
For licensed transmitters, the FCC references TIA/EIA-603 as the measurement procedure standard. TIA/EIA-603 Section 2.2.12 describes a method for measuring radiated spurious emissions that utilizes an antenna substitution method:

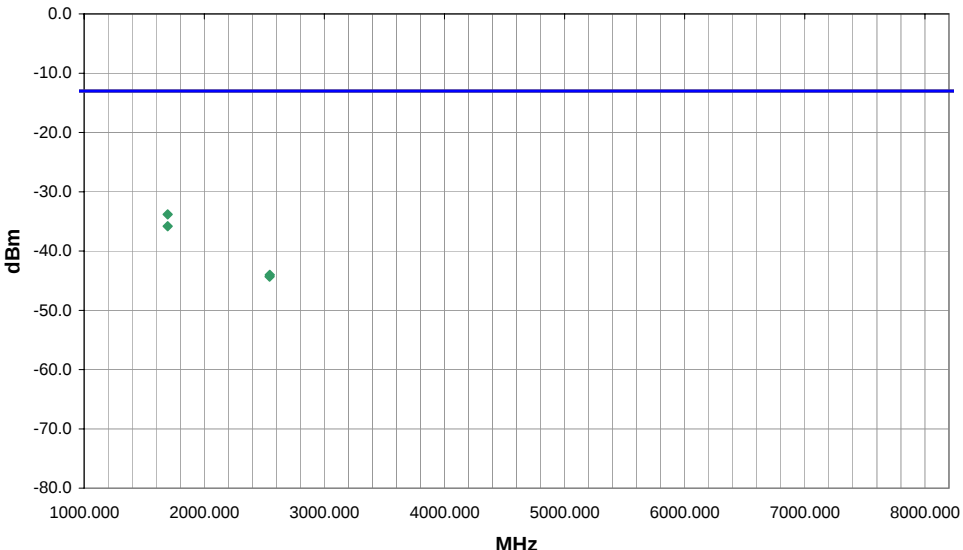
At an approved test site, the transmitter is placed on a remotely controlled turntable, and the measurement antenna is placed 3 meters from the transmitter. The turntable azimuth is varied to maximize the level of spurious emissions. The height of the measurement antenna is also varied from 1 to 4 meters. The amplitude and frequency of the highest emissions are noted. The transmitter is then replaced with a ½ wave dipole that is successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator is connected to the dipole (horn antenna for frequencies above 1 GHz), and its output is adjusted to match the level previously noted for each frequency. The output of the signal generator is recorded, and by factoring in the cable loss to the antenna and its gain; the power (dBm) into an ideal ½ wave dipole antenna is determined for each radiated spurious emission.

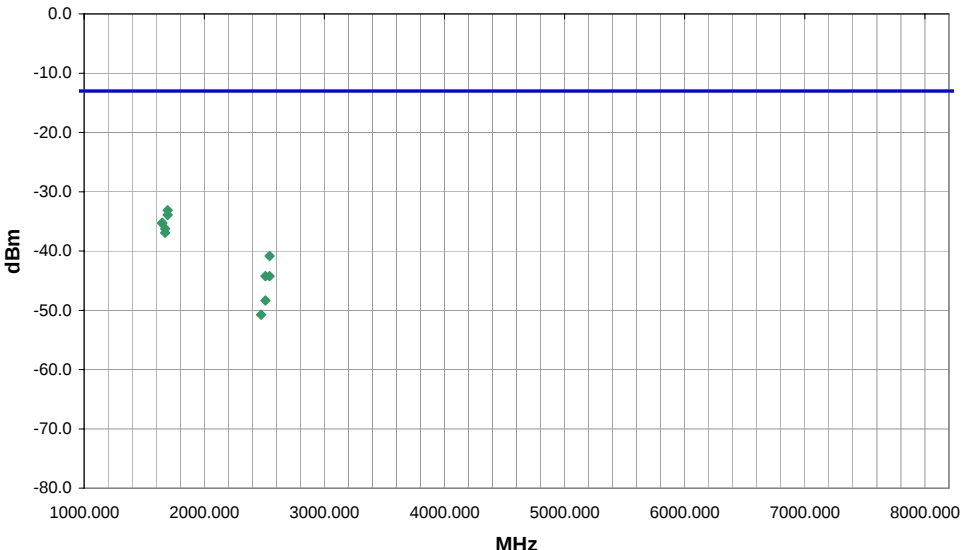
For the purposes of preliminary measurements, the field strength of the spurious emissions can be measured and compared with a 3 meter limit. The 3 meter limit was calculated to be 82.5 dBuV/m at 3 meters. The final measurements must be made utilizing the substitution method described above.

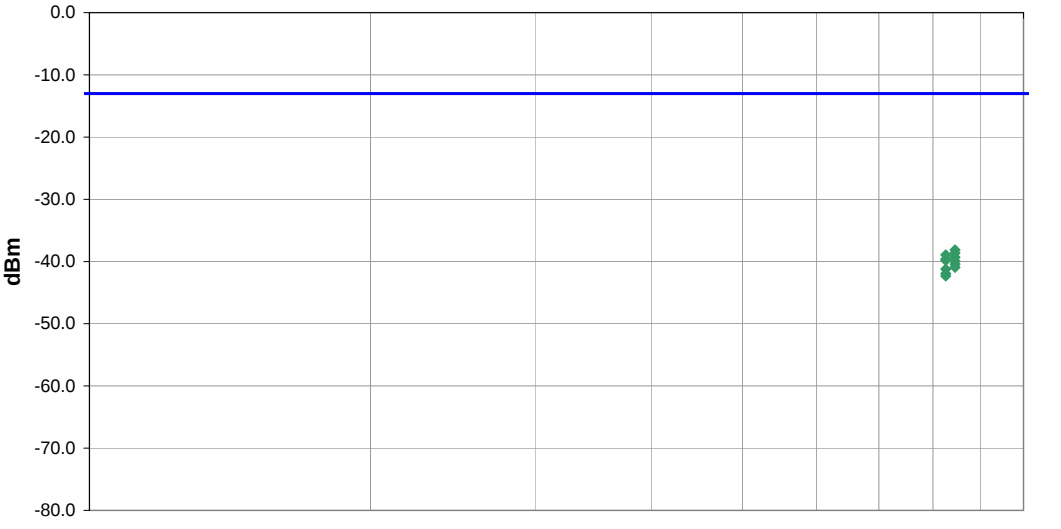
NORTHWEST		PSA 2008.07.21									
EMC		EMI 2008.1.9									
OUT OF BAND EMISSIONS - PART 22H											
EUT: 1000CP01C		Work Order: INMC0664									
Serial Number: 24411047085		Date: 02/17/11									
Customer: Intermec Technologies Corporation		Temperature: 23									
Attendees: None		Humidity: 32%									
Project: None		Barometric Pres.: 29.55									
Tested by: Rod Peloquin		Power: 120VAC/60Hz	Job Site: EV12								
TEST SPECIFICATIONS		Test Method									
FCC 22H:2011		ANSI/TIA/EIA-603-C-2004									
TEST PARAMETERS											
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3								
COMMENTS											
A1, USB snap on adapter											
EUT OPERATING MODES											
Transmitting, All bits up, EV-DO, Cell											
DEVIATIONS FROM TEST STANDARD											
No deviations.											
Run #	5	 Signature									
Configuration #	3										
Results	Pass										
											
Freq (MHz)		Azimuth (degrees)	Height (meters)		Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
2543.922		197.0	1.0		V-Horn	PK	1.04E-06	-29.8	-13.0	-16.8	High channel, EUT on side
1696.392		10.0	1.0		H-Horn	PK	4.87E-07	-33.1	-13.0	-20.1	High channel, EUT horizontal
1696.292		296.0	1.1		V-Horn	PK	3.95E-07	-34.0	-13.0	-21.0	High channel, EUT on side
2543.863		251.0	1.0		H-Horn	PK	2.74E-07	-35.6	-13.0	-22.6	High channel, EUT horizontal
4240.033		315.0	1.0		V-Horn	PK	2.67E-08	-45.7	-13.0	-32.7	High channel, EUT on side
4239.167		58.0	1.0		H-Horn	PK	1.50E-08	-48.2	-13.0	-35.2	High channel, EUT horizontal

NORTHWEST		PSA 2008.07.21										
EMC		EMI 2008.1.9										
OUT OF BAND EMISSIONS - PART 22H												
EUT: 1000CP01C		Work Order: INMC0664										
Serial Number: 24411047085		Date: 02/18/11										
Customer: Intermec Technologies Corporation		Temperature: 23										
Attendees: None		Humidity: 32%										
Project: None		Barometric Pres.: 29.55										
Tested by: Rod Peloquin		Power: 120VAC/60Hz	Job Site: EV12									
TEST SPECIFICATIONS		Test Method										
FCC 22H:2011		ANSI/TIA/EIA-603-C-2004										
TEST PARAMETERS												
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3									
COMMENTS												
A1, USB snap on adapter												
EUT OPERATING MODES												
Transmitting, All bits up, CDMA 1xRTT, SC3, SO32 (+SCH), Cell												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	9	 Signature										
Configuration #	3											
Results	Pass											
												
Freq (MHz)		Azimuth (degrees)	Height (meters)			Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
2545.830		217.0	1.0			V-Horn	PK	3.37E-07	-34.7	-13.0	-21.7	High channel, EUT on side
1695.913		17.0	1.0			H-Horn	PK	3.29E-07	-34.8	-13.0	-21.8	High channel, EUT horizontal
1696.020		250.0	1.1			V-Horn	PK	2.17E-07	-36.6	-13.0	-23.6	High channel, EUT on side
2544.097		274.0	1.0			H-Horn	PK	2.12E-07	-36.7	-13.0	-23.7	High channel, EUT horizontal

NORTHWEST		PSA 2008.07.21										
EMC		EMI 2008.1.9										
OUT OF BAND EMISSIONS - PART 22H												
EUT: 1000CP02C		Work Order: INMC0664										
Serial Number: 24511047014		Date: 02/18/11										
Customer: Intermec Technologies Corporation		Temperature: 23										
Attendees: None		Humidity: 32%										
Project: None		Barometric Pres.: 29.55										
Tested by: Rod Peloquin		Power: 120VAC/60Hz	Job Site: EV12									
TEST SPECIFICATIONS		Test Method										
FCC 22H:2011		ANSI/TIA/EIA-603-C-2004										
TEST PARAMETERS												
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3									
COMMENTS												
B1, USB snap on adapter												
EUT OPERATING MODES												
Transmitting, All bits up, EV-DO, Cell												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	8	 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
1695.967		105.0	1.0			H-Horn	PK	5.99E-07	-32.2	-13.0	-19.2	High channel, EUT horizontal
1695.987		301.0	1.1			V-Horn	PK	3.44E-07	-34.6	-13.0	-21.6	High channel, EUT on side
2543.963		13.0	1.0			V-Horn	PK	1.19E-07	-39.2	-13.0	-26.2	High channel, EUT on side
2543.983		40.0	1.3			H-Horn	PK	9.06E-08	-40.4	-13.0	-27.4	High channel, EUT horizontal
4240.137		333.0	1.0			V-Horn	PK	3.78E-08	-44.2	-13.0	-31.2	High channel, EUT on side
4183.500		205.0	1.0			H-Horn	PK	2.74E-08	-45.6	-13.0	-32.6	Mid channel, EUT horizontal
4242.663		271.0	1.0			H-Horn	PK	1.85E-08	-47.3	-13.0	-34.3	High channel, EUT horizontal

NORTHWEST		PSA 2008.07.21									
EMC		EMI 2008.1.9									
OUT OF BAND EMISSIONS - PART 22H											
EUT: 1000CP02C		Work Order: INMC0664									
Serial Number: 24511047014		Date: 02/18/11									
Customer: Intermec Technologies Corporation		Temperature: 23									
Attendees: None		Humidity: 32%									
Project: None		Barometric Pres.: 29.55									
Tested by: Rod Peloquin		Power: 120VAC/60Hz	Job Site: EV12								
TEST SPECIFICATIONS		Test Method									
FCC 22H:2011		ANSI/TIA/EIA-603-C-2004									
TEST PARAMETERS											
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3								
COMMENTS											
B1, USB snap on adapter											
EUT OPERATING MODES											
Transmitting, All bits up, CDMA 1xRTT, SC3, SO32 (+SCH), Cell											
DEVIATIONS FROM TEST STANDARD											
No deviations.											
Run #	10	 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
1695.903		85.0	1.1		H-Horn	PK	4.14E-07	-33.8	-13.0	-20.8	High channel, EUT horizontal
1695.745		315.0	1.2		V-Horn	PK	2.61E-07	-35.8	-13.0	-22.8	High channel, EUT on side
2544.613		283.0	1.0		V-Horn	PK	3.95E-08	-44.0	-13.0	-31.0	High channel, EUT on side
2543.722		42.0	1.2		H-Horn	PK	3.69E-08	-44.3	-13.0	-31.3	High channel, EUT horizontal

NORTHWEST		PSA 2008.07.21										
EMC		EMI 2008.1.9										
OUT OF BAND EMISSIONS - PART 22H												
EUT: 1001CP01C		Work Order: INMC0664										
Serial Number: 24511047145		Date: 02/16/11										
Customer: Intermec Technologies Corporation		Temperature: 23										
Attendees: None		Humidity: 32%										
Project: None		Barometric Pres.: 29.55										
Tested by: Rod Peloquin		Power: 120VAC/60Hz	Job Site: EV12									
TEST SPECIFICATIONS		Test Method										
FCC 22H:2011		ANSI/TIA/EIA-603-C-2004										
TEST PARAMETERS												
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3									
COMMENTS												
C1, USB snap on adapter												
EUT OPERATING MODES												
Transmitting, All bits up, CDMA 1xRTT, SC3, SO32 (+SCH), Cell												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	2	Signature 										
Configuration #	1											
Results	Pass											
												
Freq (MHz)		Azimuth (degrees)	Height (meters)			Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
1695.878		75.0	1.0			H-Horn	PK	4.87E-07	-33.1	-13.0	-20.1	High channel, EUT horizontal
1696.012		269.0	1.1			V-Horn	PK	4.05E-07	-33.9	-13.0	-20.9	High channel, EUT on side
1649.983		275.0	1.1			V-Horn	PK	3.00E-07	-35.2	-13.0	-22.2	Low channel, EUT on side
1649.650		181.0	1.0			H-Horn	PK	2.93E-07	-35.3	-13.0	-22.3	Low channel, EUT horizontal
1673.723		298.0	1.0			V-Horn	PK	2.38E-07	-36.2	-13.0	-23.2	Mid channel, EUT on side
1673.640		57.0	1.0			H-Horn	PK	2.03E-07	-36.9	-13.0	-23.9	Mid channel, EUT horizontal
2544.155		227.0	1.0			V-Horn	PK	8.26E-08	-40.8	-13.0	-27.8	High channel, EUT on side
2544.538		79.0	1.3			H-Horn	PK	3.78E-08	-44.2	-13.0	-31.2	High channel, EUT horizontal
2509.618		254.0	1.0			V-Horn	PK	3.78E-08	-44.2	-13.0	-31.2	Mid channel, EUT on side
2509.360		69.0	1.0			H-Horn	PK	1.47E-08	-48.3	-13.0	-35.3	Mid channel, EUT horizontal
2473.642		230.0	1.0			V-Horn	PK	8.46E-09	-50.7	-13.0	-37.7	Low channel, EUT on side

NORTHWEST		OUT OF BAND EMISSIONS - PART 22H		PSA 2008.07.21																																																																																																																																																																																							
EMC				EMI 2008.1.9																																																																																																																																																																																							
EUT: 1001CP01C			Work Order: INMC0664																																																																																																																																																																																								
Serial Number: 24511047145			Date: 02/18/11																																																																																																																																																																																								
Customer: Intermed Technologies Corporation			Temperature: 23																																																																																																																																																																																								
Attendees: None			Humidity: 32%																																																																																																																																																																																								
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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, All bits up, 1xEV-DO Rev A

Transmitting, All bits up, CDMA 1xRTT, SC3, SO32 (+SCH)

CHANNELS TESTED

Low = Ch. 25, 1851.25MHz

Mid = Ch. 600, 1880MHz

High = Ch. 1175, 1908.75MHz

POWER SETTINGS INVESTIGATED

120VAC/60Hz

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	20 GHz
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SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Universal Radio Communication Test	Rhode & Schwarz	CMU200	BSU	NCR	0
Spectrum Analyzer	Agilent	E4440	AFE	11/29/2010	12
Antenna, Biconilog	EMCO	3141	AXG	2/15/2010	13
EV12 Cables	N/A	Bilog Cables	EVS	7/14/2010	13
Pre-Amplifier	Miteq	AM-1616-1000	AVM	7/14/2010	13
Antenna, Horn	ETS	3115	AIB	9/8/2010	24
EV12 Cables	N/A	Double Ridge Horn Cables	EVT	11/22/2010	13
Pre-Amplifier	Miteq	AMF-3D00100800-32-13P	AVF	7/14/2010	13
Antenna, Horn	ETS	3160.07	AHZ	9/8/2010	24
EV12 Cables	N/A	Standard Gain Horn Cables	EVU	7/14/2010	13
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVH	7/14/2010	13
Antenna, Horn	EMCO	3115	AHE	10/22/2009	24
Power Meter	Gigatronics	8651A	SPM	1/7/2010	16
Power Sensor	Gigatronics	80701A	SPL	1/7/2010	16
Signal Generator	Agilent	E8257D	TGX	12/10/2008	27
Antenna, Horn	ETS Lindgren	3160-09	AIV	NCR	0
Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AVU	9/15/2010	13
Cable	ESM Cable Corp.	KMKM-72	EVY	9/15/2010	13
Antenna, Horn	ETS	3160-08	AIA	NCR	0
EV12 Cables	N/A	Standard Gain Horn Cables	EVU	7/14/2010	13
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVI	7/14/2010	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

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. The measurement uncertainty estimation is available upon request.

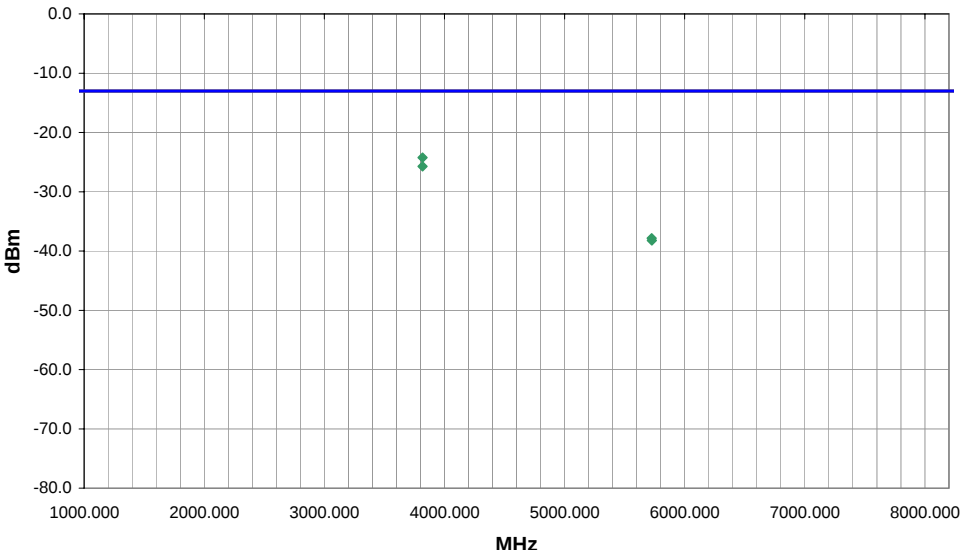
TEST DESCRIPTION

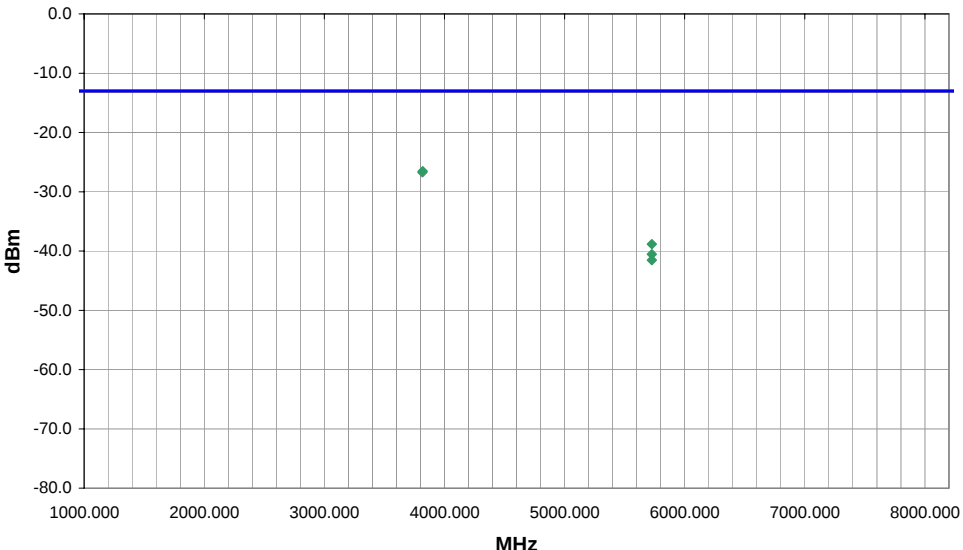
The highest gain antenna to be used with the EUT was tested for final measurements. The EUT was configured for the lowest, a middle, and the highest transmit frequency in each operational band. For each configuration, the spectrum was scanned throughout the specified range. While scanning, emissions 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 C63.10:2009). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

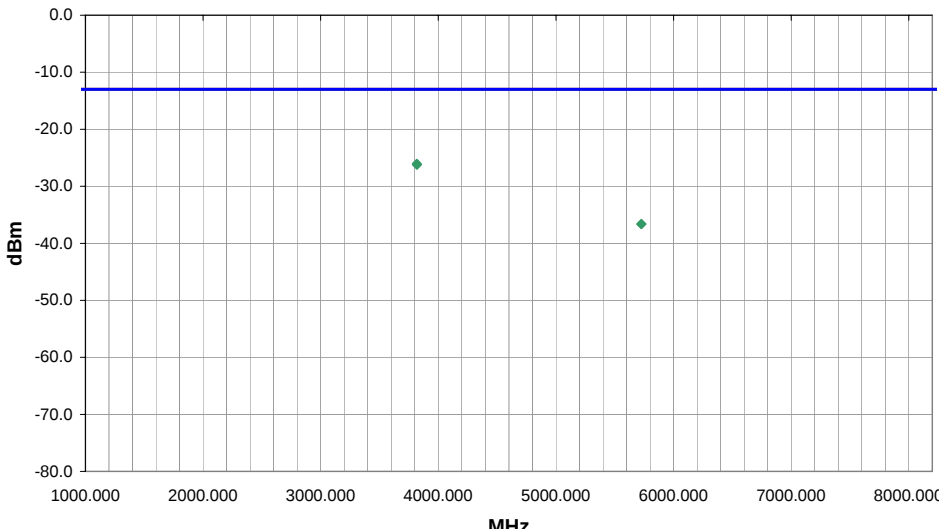
For licensed transmitters, the FCC references TIA/EIA-603 as the measurement procedure standard. TIA/EIA-603 Section 2.2.12 describes a method for measuring radiated spurious emissions that utilizes an antenna substitution method:

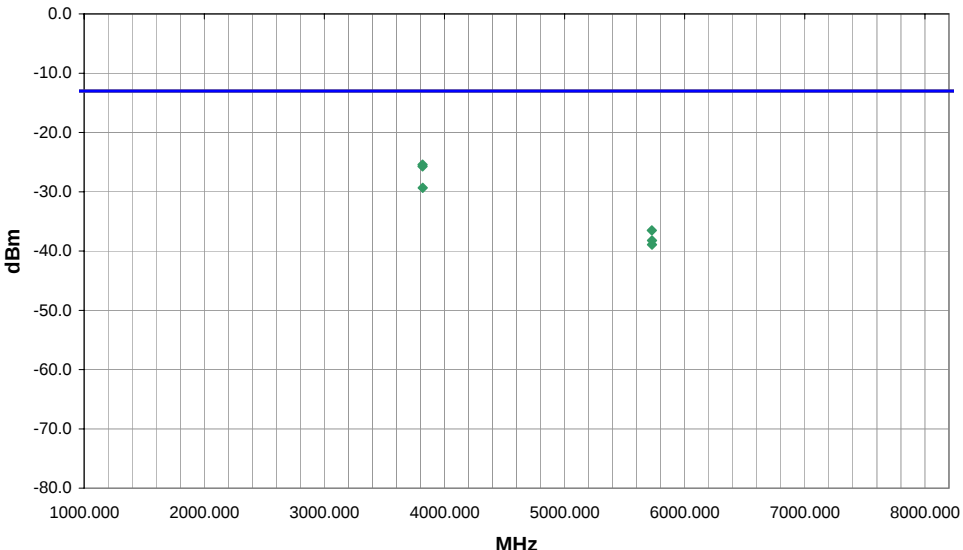
At an approved test site, the transmitter is placed on a remotely controlled turntable, and the measurement antenna is placed 3 meters from the transmitter. The turntable azimuth is varied to maximize the level of spurious emissions. The height of the measurement antenna is also varied from 1 to 4 meters. The amplitude and frequency of the highest emissions are noted. The transmitter is then replaced with a ½ wave dipole that is successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator is connected to the dipole (horn antenna for frequencies above 1 GHz), and its output is adjusted to match the level previously noted for each frequency. The output of the signal generator is recorded, and by factoring in the cable loss to the antenna and its gain; the power (dBm) into an ideal ½ wave dipole antenna is determined for each radiated spurious emission.

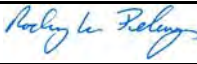
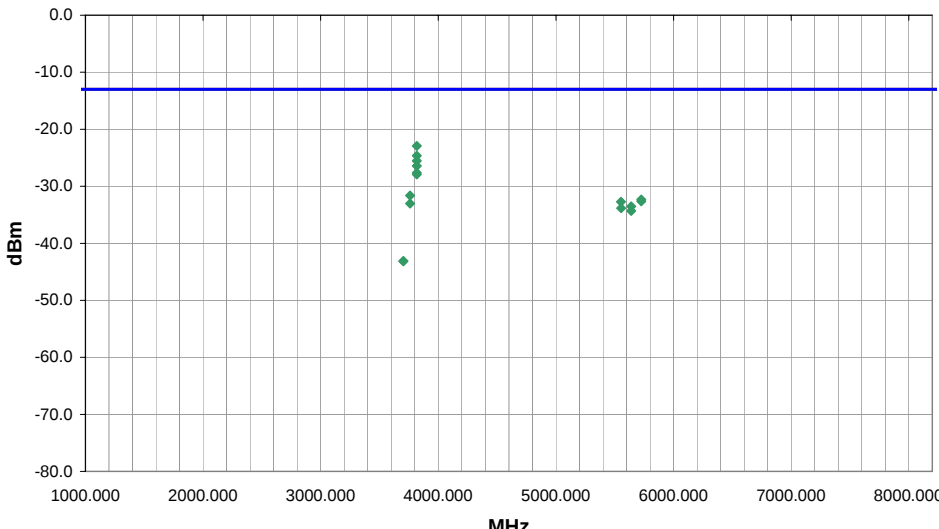
For the purposes of preliminary measurements, the field strength of the spurious emissions can be measured and compared with a 3 meter limit. The 3 meter limit was calculated to be 82.5 dBuV/m at 3 meters. The final measurements must be made utilizing the substitution method described above.

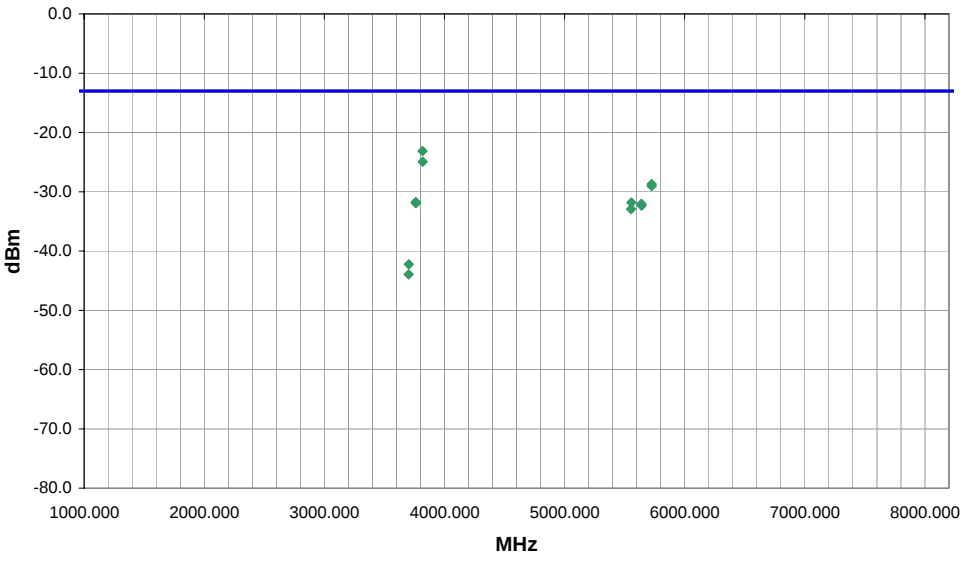
NORTHWEST		PSA 2008.07.21										
EMC		EMI 2008.1.9										
OUT OF BAND EMISSIONS - PART 24E												
EUT: 1000CP01C		Work Order: INMC0664										
Serial Number: 24411047085		Date: 02/17/11										
Customer: Intermec Technologies Corporation		Temperature: 23										
Attendees: None		Humidity: 32%										
Project: None		Barometric Pres.: 29.55										
Tested by: Rod Peloquin		Power: 120VAC/60Hz	Job Site: EV12									
TEST SPECIFICATIONS		Test Method										
FCC 24E:2011		ANSI/TIA/EIA-603-C-2004										
TEST PARAMETERS												
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3									
COMMENTS												
A1, USB snap on adapter												
EUT OPERATING MODES												
Transmitting, All bits up, EV-DO Rev A, PCS												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	6	 Signature										
Configuration #	3											
Results	Pass											
												
Freq (MHz)		Azimuth (degrees)	Height (meters)			Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
3818.040		329.0	1.0			H-Horn	PK	3.78E-06	-24.2	-13.0	-11.2	High channel, EUT horizontal
3817.979		308.0	1.0			V-Horn	PK	2.67E-06	-25.7	-13.0	-12.7	High channel, EUT on side
5725.275		356.0	1.0			V-Horn	PK	1.65E-07	-37.8	-13.0	-24.8	High channel, EUT on side
5726.075		340.0	1.0			H-Horn	PK	1.50E-07	-38.2	-13.0	-25.2	High channel, EUT horizontal

NORTHWEST		OUT OF BAND EMISSIONS - PART 24E		PSA 2008.07.21 EMI 2008.1.9								
EMC												
EUT: 1000CP01C			Work Order: INMC0664									
Serial Number: 24411047085			Date: 02/18/11									
Customer: Intermec Technologies Corporation			Temperature: 23									
Attendees: None			Humidity: 32%									
Project: None			Barometric Pres.: 29.55									
Tested by: Rod Peloquin		Power: 120VAC/60Hz		Job Site: EV12								
TEST SPECIFICATIONS			Test Method									
FCC 24E:2011			ANSI/TIA/EIA-603-C-2004									
TEST PARAMETERS												
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3								
COMMENTS												
A1, USB snap on adapter												
EUT OPERATING MODES												
Transmitting, All bits up, CDMA 1xRTT, SC3, SO32 (+SCH), PCS												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	12		 Signature									
Configuration #	3											
Results	Pass											
												
Freq (MHz)			Azimuth (degrees)	Height (meters)		Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
3818.416			322.0	1.2		V-Horn	PK	2.22E-06	-26.5	-13.0	-13.5	High channel, EUT on side
3816.588			294.0	1.0		H-Horn	PK	2.12E-06	-26.7	-13.0	-13.7	High channel, EUT horizontal
5726.330			350.0	1.0		V-Horn	PK	1.31E-07	-38.8	-13.0	-25.8	High channel, EUT on side
5726.830			9.0	1.0		H-Horn	PK	8.85E-08	-40.5	-13.0	-27.5	High channel, EUT horizontal
5726.510			176.0	1.0		V-Horn	PK	7.03E-08	-41.5	-13.0	-28.5	High channel, EUT horizontal

NORTHWEST		OUT OF BAND EMISSIONS - PART 24E		PSA 2008.07.21								
EMC				EMI 2008.1.9								
EUT:	1000CP02C	Work Order:		INMC0664								
Serial Number:	24511047014	Date:		02/17/11								
Customer:	Intermec Technologies Corporation	Temperature:		23								
Attendees:	None	Humidity:		32%								
Project:	None	Barometric Pres.:		29.55								
Tested by:	Rod Peloquin	Power:	120VAC/60Hz	Job Site: EV12								
TEST SPECIFICATIONS			Test Method									
FCC 24E:2011			ANSI/TIA/EIA-603-C-2004									
TEST PARAMETERS												
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3									
COMMENTS												
B1, USB snap on adapter												
EUT OPERATING MODES												
Transmitting, All bits up, EV-DO Rev A, PCS												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	7	 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
3817.023			344.0	1.0		H-Horn	PK	2.50E-06	-26.0	-13.0	-13.0	High Channel, EUT horizontal
3818.371			348.0	1.0		V-Horn	PK	2.38E-06	-26.2	-13.0	-13.2	High Channel, EUT on side
5725.292			335.0	1.0		H-Horn	PK	2.17E-07	-36.6	-13.0	-23.6	High Channel, EUT horizontal
5727.325			335.0	1.0		V-Horn	PK	2.17E-07	-36.6	-13.0	-23.6	High Channel, EUT on side

NORTHWEST		EMC		OUT OF BAND EMISSIONS - PART 24E		PSA 2008.07.21 EMI 2008.1.9						
EUT: 1000CP02C				Work Order: INMC0664								
Serial Number: 24511047014				Date: 02/18/11								
Customer: Intermec Technologies Corporation				Temperature: 23								
Attendees: None				Humidity: 32%								
Project: None				Barometric Pres.: 29.55								
Tested by: Rod Peloquin		Power: 120VAC/60Hz		Job Site: EV12								
TEST SPECIFICATIONS				Test Method								
FCC 24E:2011				ANSI/TIA/EIA-603-C-2004								
TEST PARAMETERS												
Antenna Height(s) (m)		1 - 4		Test Distance (m)		3						
COMMENTS												
B1, USB snap on adapter												
EUT OPERATING MODES												
Transmitting, All bits up, CDMA 1xRTT, SC3, SO32 (+SCH), PCS												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #		11		 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
3817.783			340.0	1.2		H-Horn	PK	2.86E-06	-25.4	-13.0	-12.4	High channel, EUT horizontal
3817.583			309.0	1.0		V-Horn	PK	2.67E-06	-25.7	-13.0	-12.7	High channel, EUT on side
3818.092			314.0	1.0		V-Horn	PK	1.17E-06	-29.3	-13.0	-16.3	High channel, EUT horizontal
5726.117			326.0	1.0		V-Horn	PK	2.22E-07	-36.5	-13.0	-23.5	High channel, EUT horizontal
5727.292			211.0	1.0		V-Horn	PK	1.50E-07	-38.2	-13.0	-25.2	High channel, EUT on side
5727.175			212.0	1.0		H-Horn	PK	1.28E-07	-38.9	-13.0	-25.9	High channel, EUT horizontal

NORTHWEST		OUT OF BAND EMISSIONS - PART 24E		PSA 2008.07.21						
EMC				EMI 2008.1.9						
EUT:	1001CP01C	Work Order:		INMC0664						
Serial Number:	24511047145	Date:		02/16/11						
Customer:	Intermec Technologies Corporation	Temperature:		23						
Attendees:	None	Humidity:		32%						
Project:	None	Barometric Pres.:		29.55						
Tested by:	Rod Peloquin	Power:	120VAC/60Hz	Job Site: EV12						
TEST SPECIFICATIONS			Test Method							
FCC 24E:2011			ANSI/TIA/EIA-603-C-2004							
TEST PARAMETERS										
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3							
COMMENTS										
C1, USB snap on adapter										
EUT OPERATING MODES										
Transmitting, All bits up, CDMA 1xRTT, SC3, SO32 (+SCH), PCS										
DEVIATIONS FROM TEST STANDARD										
No deviations.										
Run #	1	 Signature								
Configuration #	1									
Results	Pass									
										
Freq (MHz)		Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
3816.682		360.0	1.0	H-Horn	PK	5.09E-06	-22.9	-13.0	-9.9	High Channel, EUT horizontal
3816.548		336.0	1.0	H-Horn	PK	3.44E-06	-24.6	-13.0	-11.6	High Channel, EUT vertical
3816.656		10.0	1.0	V-Horn	PK	2.80E-06	-25.5	-13.0	-12.5	High Channel, EUT on side
3817.569		307.0	1.1	V-Horn	PK	2.28E-06	-26.4	-13.0	-13.4	High Channel, EUT vertical
3816.676		321.0	1.0	V-Horn	PK	1.73E-06	-27.6	-13.0	-14.6	High Channel, EUT horizontal
3816.548		45.0	1.0	H-Horn	PK	1.61E-06	-27.9	-13.0	-14.9	High Channel, EUT on side
3760.175		28.0	1.2	V-Horn	PK	6.87E-07	-31.6	-13.0	-18.6	Mid Channel, EUT on side
5725.408		4.0	1.4	H-Horn	PK	5.85E-07	-32.3	-13.0	-19.3	High Channel, EUT horizontal
5725.192		351.0	1.0	V-Horn	PK	5.46E-07	-32.6	-13.0	-19.6	High Channel, EUT on side
5553.175		280.0	1.2	V-Horn	PK	5.33E-07	-32.7	-13.0	-19.7	Low Channel, EUT on side
3760.333		325.0	1.0	H-Horn	PK	4.98E-07	-33.0	-13.0	-20.0	Mid Channel, EUT horizontal
5639.825		10.0	1.5	H-Horn	PK	4.44E-07	-33.5	-13.0	-20.5	Mid Channel, EUT horizontal
5553.608		131.0	1.5	H-Horn	PK	4.14E-07	-33.8	-13.0	-20.8	Low Channel, EUT horizontal
5640.017		328.0	1.2	V-Horn	PK	3.69E-07	-34.3	-13.0	-21.3	Mid Channel, EUT on side
3702.646		210.0	1.4	V-Horn	PK	4.87E-08	-43.1	-13.0	-30.1	Low Channel, EUT on side
3703.498		352.0	1.0	H-Horn	PK	4.87E-08	-43.1	-13.0	-30.1	Low Channel, EUT horizontal

NORTHWEST		PSA 2008.07.21									
EMC		EMI 2008.1.9									
OUT OF BAND EMISSIONS - PART 24E											
EUT: 1001CP01C		Work Order: INMC0664									
Serial Number: 24511047145		Date: 02/17/11									
Customer: Intermec Technologies Corporation		Temperature: 23									
Attendees: None		Humidity: 32%									
Project: None		Barometric Pres.: 29.55									
Tested by: Rod Peloquin		Power: 120VAC/60Hz	Job Site: EV12								
TEST SPECIFICATIONS		Test Method									
FCC 24E:2011		ANSI/TIA/EIA-603-C-2004									
TEST PARAMETERS											
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3								
COMMENTS											
C1, USB snap on adapter											
EUT OPERATING MODES											
Transmitting, All bits up, EV-DO Rev A, PCS											
DEVIATIONS FROM TEST STANDARD											
No deviations.											
Run #	3	 Signature									
Configuration #	1										
Results	Pass										
											
Freq (MHz)		Azimuth (degrees)	Height (meters)		Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
3816.796		350.0	1.1		V-Horn	PK	4.87E-06	-23.1	-13.0	-10.1	High channel, EUT on side
3818.123		12.0	1.0		H-Horn	PK	3.21E-06	-24.9	-13.0	-11.9	High channel, EUT horizontal
5725.192		13.0	1.3		H-Horn	PK	1.34E-06	-28.7	-13.0	-15.7	High channel, EUT horizontal
5725.358		348.0	1.1		V-Horn	PK	1.25E-06	-29.0	-13.0	-16.0	High channel, EUT on side
3760.875		13.0	1.0		H-Horn	PK	6.72E-07	-31.7	-13.0	-18.7	Mid channel, EUT horizontal
5555.125		21.0	1.0		H-Horn	PK	6.56E-07	-31.8	-13.0	-18.8	Low channel, EUT horizontal
3760.867		360.0	1.0		V-Horn	PK	6.41E-07	-31.9	-13.0	-18.9	Mid channel, EUT on side
5639.233		19.0	1.0		H-Horn	PK	6.27E-07	-32.0	-13.0	-19.0	Mid channel, EUT horizontal
5641.158		350.0	1.3		V-Horn	PK	5.85E-07	-32.3	-13.0	-19.3	Mid channel, EUT on side
5552.650		5.0	1.3		V-Horn	PK	5.09E-07	-32.9	-13.0	-19.9	Low channel, EUT on side
3703.173		346.0	1.0		H-Horn	PK	5.99E-08	-42.2	-13.0	-29.2	Low channel, EUT horizontal
3701.804		120.0	1.4		V-Horn	PK	4.05E-08	-43.9	-13.0	-30.9	Low channel, EUT on side

Effective Radiated Power (ERP)

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, All bits up, CDMA 1xRTT RC3 SO55, Cell band

Transmitting, All bits up, EV-DO Rev A, Cell band

CHANNELS TESTED

Low = Ch.1013, 824.7MHz

Mid = Ch. 384, 836.52MHz

High = Ch. 777, 848.31MHz

POWER SETTINGS INVESTIGATED

120VAC/60Hz

FREQUENCY RANGE INVESTIGATED

Start Frequency	824 MHz	Stop Frequency	848 MHz
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SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4446A	AAQ	1/10/2011	12
EV01 Cables	N/A	Bilog Cables	EVA	7/9/2010	13
Antenna, Bilog	Teseq	CBL 6141B	AXR	11/29/2010	13
MXG Vector Singal Generator	Agilent	N5182A	TIF	NCR	0
Power Meter	Gigatronics	8651A	SPM	1/7/2010	16
Power Sensor	Gigatronics	80701A	SPL	1/7/2010	16
Antenna, Dipole	ETS	3121C-DB4	ADH	3/6/2009	24

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

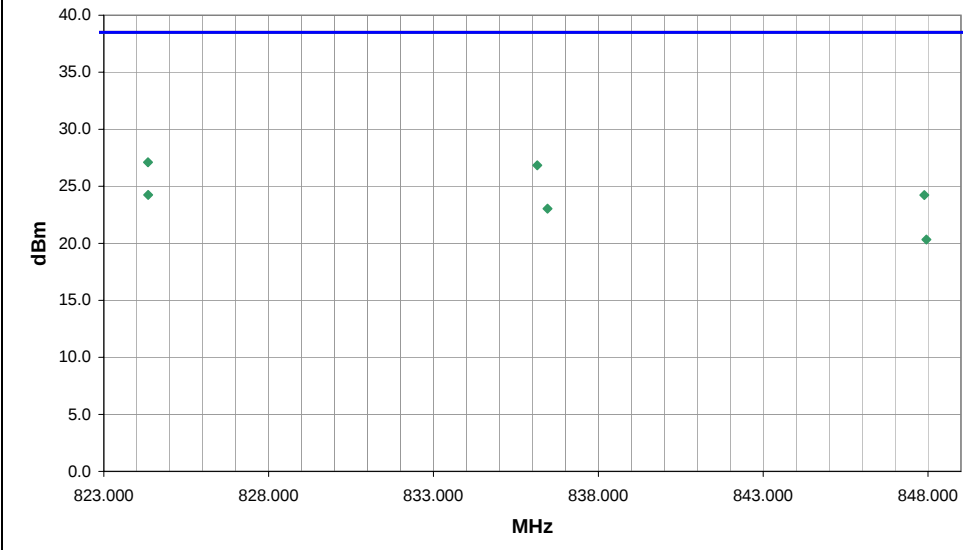
Measurements were made using the bandwidths and detectors specified. No video filter was used.

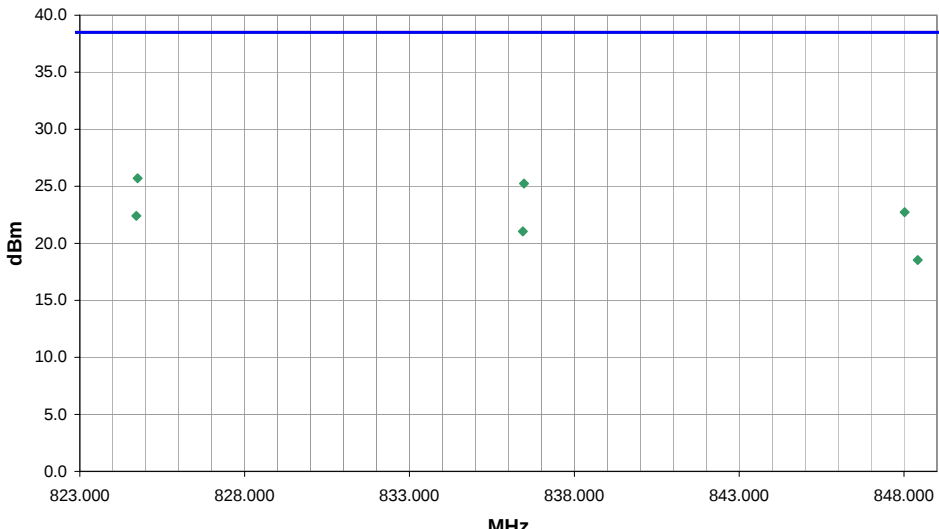
MEASUREMENT UNCERTAINTY

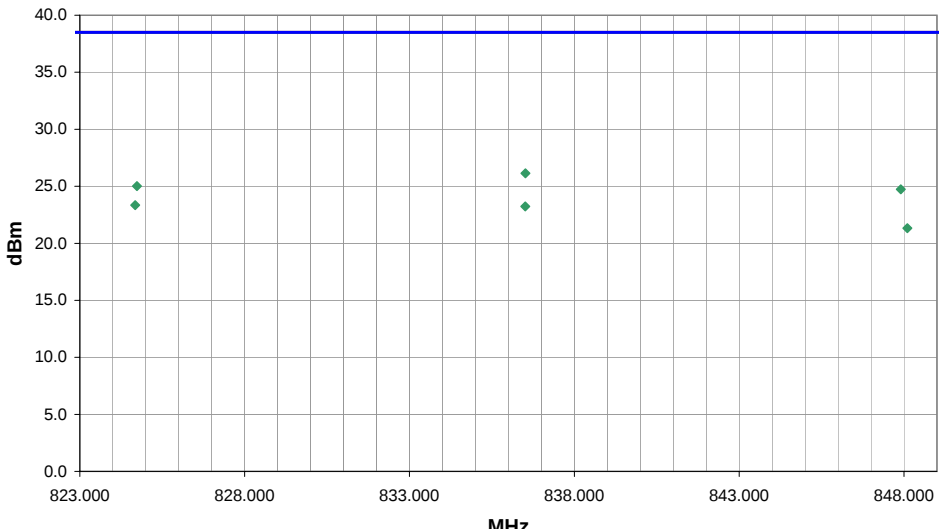
A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. The measurement uncertainty estimation is available upon request.

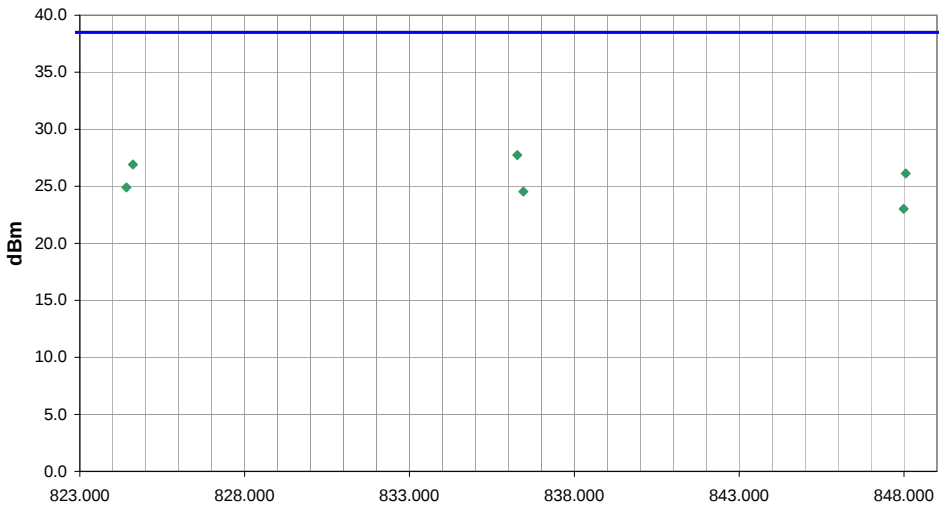
TEST DESCRIPTION

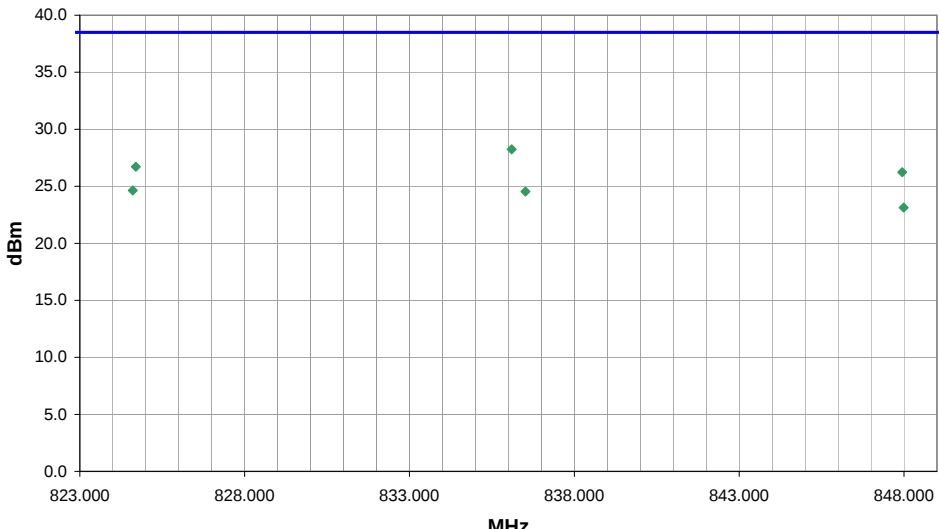
The fundamental emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height (1-4 meters) and polarization. The amplitude and frequency of the highest emission were noted. The EUT was then replaced with a ½ wave dipole that was successively tuned to the highest emission. A signal generator was connected to the dipole, and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded. The signal generator, amplifier, and cable were then connected to an analyzer and the power output was recorded. By factoring in the dipole antenna gain (dBi), the effective radiated power for the maximum fundamental emission was determined. The ERP value was obtained from taking the value in EIRP – 2.15.

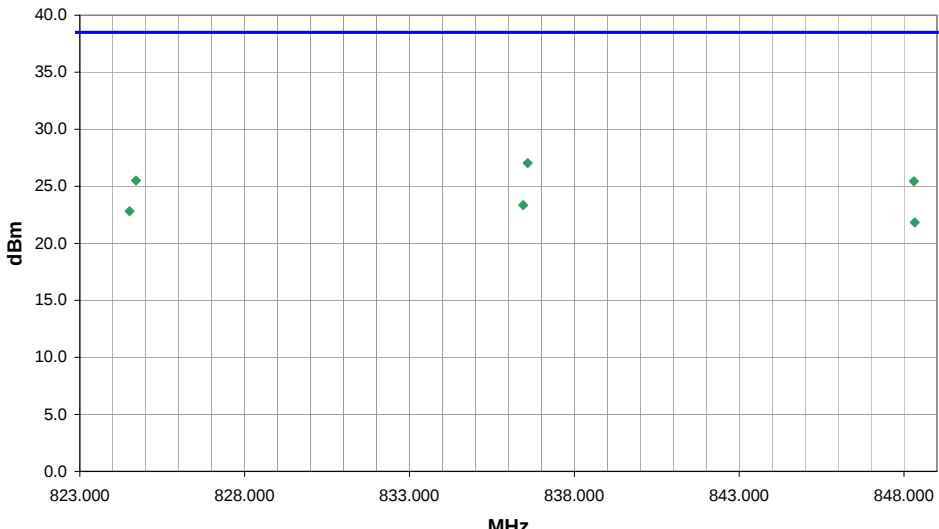
NORTHWEST		Effective Radiated Power (ERP)		PSA 2008.07.21 EMI 2008.1.9						
EMC										
EUT:	1001CP01C	Work Order:		INMC0664						
Serial Number:	24511047145	Date:		02/22/11						
Customer:	Intermec Technologies Corporation	Temperature:		23						
Attendees:	none	Humidity:		32%						
Project:	None	Barometric Pres.:		29.55						
Tested by:	Rod Peloquin	Power:	120VAC/60Hz	Job Site: EV12						
TEST SPECIFICATIONS		Test Method								
FCC 22H:2011		ANSI/TIA/EIA-603-C-2004								
TEST PARAMETERS										
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3							
COMMENTS										
C1, USB snap on adapter										
EUT OPERATING MODES										
Transmitting, All bits up, EV-DO Rev A, Cell band										
DEVIATIONS FROM TEST STANDARD										
No deviations.										
Run #	7	 Signature								
Configuration #	1									
Results	Pass									
										
Freq (MHz)		Azimuth (degrees)	Height (meters)	Polarity	Detector	ERP (Watts)	ERP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
824.340		121.0	1.0	H-Bilog	PK	5.14E-01	27.1	38.5	-11.4	Low Channel, EUT horizontal
824.345		130.0	1.0	H-Bilog	PK	4.83E-01	26.8	38.5	-11.7	Mid Channel, EUT horizontal
824.345		98.0	1.5	V-Bilog	PK	2.65E-01	24.2	38.5	-14.3	Low Channel, EUT on side
824.345		125.0	1.1	H-Bilog	PK	2.65E-01	24.2	38.5	-14.3	High Channel, EUT horizontal
824.345		105.0	1.5	V-Bilog	PK	2.01E-01	23.0	38.5	-15.5	Mid Channel, EUT on side
824.345		98.0	1.4	V-Bilog	PK	1.08E-01	20.3	38.5	-18.2	High Channel, EUT on side

NORTHWEST		Effective Radiated Power (ERP)		PSA 2008.07.21 EMI 2008.1.9								
EMC												
EUT:	1001CP01C	Work Order:		INMC0664								
Serial Number:	24511047145	Date:		02/22/11								
Customer:	Intermec Technologies Corporation	Temperature:		23								
Attendees:	none	Humidity:		32%								
Project:	None	Barometric Pres.:		29.55								
Tested by:	Rod Peloquin	Power:	120VAC/60Hz	Job Site: EV12								
TEST SPECIFICATIONS		Test Method										
FCC 22H:2011		ANSI/TIA/EIA-603-C-2004										
TEST PARAMETERS												
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3									
COMMENTS												
C1, USB snap on adapter												
EUT OPERATING MODES												
Transmitting, All bits up, CDMA 1xRTT RC3 SO55, Cell band												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	8	 Signature										
Configuration #	1											
Results	Pass											
												
Freq (MHz)			Azimuth (degrees)	Height (meters)		Polarity	Detector	ERP (Watts)	ERP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
824.750			134.0	1.0		H-Bilog	PK	3.72E-01	25.7	38.5	-12.8	Low Channel, EUT horizontal
836.475			135.0	1.0		H-Bilog	PK	3.34E-01	25.2	38.5	-13.3	Mid Channel, EUT horizontal
848.020			135.0	1.0		H-Bilog	PK	1.87E-01	22.7	38.5	-15.8	High Channel, EUT horizontal
824.715			111.0	1.5		V-Bilog	PK	1.74E-01	22.4	38.5	-16.1	Low Channel, EUT on side
836.440			111.0	1.5		V-Bilog	PK	1.27E-01	21.0	38.5	-17.5	Mid Channel, EUT on side
848.420			108.0	1.5		V-Bilog	PK	7.13E-02	18.5	38.5	-20.0	High Channel, EUT on side

NORTHWEST		Effective Radiated Power (ERP)		PSA 2008.07.21 EMI 2008.1.9								
EMC												
EUT:	1000CP02C	Work Order:		INMC0664								
Serial Number:	24511047014	Date:		02/22/11								
Customer:	Intermec Technologies Corporation	Temperature:		23								
Attendees:	none	Humidity:		32%								
Project:	None	Barometric Pres.:		29.55								
Tested by:	Rod Peloquin	Power:	120VAC/60Hz	Job Site: EV12								
TEST SPECIFICATIONS		Test Method										
FCC 22H:2011		ANSI/TIA/EIA-603-C-2004										
TEST PARAMETERS												
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3									
COMMENTS												
B1, USB snap on adapter												
EUT OPERATING MODES												
Transmitting, All bits up, CDMA 1xRTT RC3 SO55, Cell band												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	9	 Signature										
Configuration #	2											
Results	Pass											
												
Freq (MHz)			Azimuth (degrees)	Height (meters)		Polarity	Detector	ERP (Watts)	ERP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
836.515			130.0	1.0		H-Bilog	PK	4.11E-01	26.1	38.5	-12.4	Mid Channel, EUT horizontal
824.735			130.0	1.1		H-Bilog	PK	3.17E-01	25.0	38.5	-13.5	Low Channel, EUT horizontal
847.905			127.0	1.0		H-Bilog	PK	2.97E-01	24.7	38.5	-13.8	High Channel, EUT horizontal
824.680			157.0	1.3		V-Bilog	PK	2.16E-01	23.3	38.5	-15.2	Low Channel, EUT on side
836.510			157.0	1.3		V-Bilog	PK	2.11E-01	23.2	38.5	-15.3	Mid Channel, EUT on side
848.100			157.0	1.3		V-Bilog	PK	1.36E-01	21.3	38.5	-17.2	High Channel, EUT on side

NORTHWEST		Effective Radiated Power (ERP)		PSA 2008.07.21 EMI 2008.1.9						
EMC										
EUT:	1000CP02C	Work Order:		INMC0664						
Serial Number:	24511047014	Date:		02/22/11						
Customer:	Intermec Technologies Corporation	Temperature:		23						
Attendees:	none	Humidity:		32%						
Project:	None	Barometric Pres.:		29.55						
Tested by:	Rod Peloquin	Power:	120VAC/60Hz	Job Site: EV12						
TEST SPECIFICATIONS		Test Method								
FCC 22H:2011		ANSI/TIA/EIA-603-C-2004								
TEST PARAMETERS										
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3							
COMMENTS										
B1, USB snap on adapter										
EUT OPERATING MODES										
Transmitting, All bits up, EV-DO Rev A, Cell band										
DEVIATIONS FROM TEST STANDARD										
No deviations.										
Run #	10	 Signature								
Configuration #	2									
Results	Pass									
										
Freq (MHz)		Azimuth (degrees)	Height (meters)	Polarity	Detector	ERP (Watts)	ERP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
836.270		126.0	1.1	H-Bilog	PK	5.94E-01	27.7	38.5	-10.8	Mid Channel, EUT horizontal
824.610		126.0	1.1	H-Bilog	PK	4.91E-01	26.9	38.5	-11.6	Low Channel, EUT horizontal
848.055		126.0	1.1	H-Bilog	PK	4.10E-01	26.1	38.5	-12.4	High Channel, EUT horizontal
824.410		163.0	1.2	V-Bilog	PK	3.10E-01	24.9	38.5	-13.6	Low Channel, EUT on side
836.455		163.0	1.2	V-Bilog	PK	2.84E-01	24.5	38.5	-14.0	Mid Channel, EUT on side
847.990		163.0	1.2	V-Bilog	PK	2.01E-01	23.0	38.5	-15.5	High Channel, EUT on side

NORTHWEST		Effective Radiated Power (ERP)		PSA 2008.07.21 EMI 2008.1.9						
EMC										
EUT:	1000CP01C	Work Order:		INMC0664						
Serial Number:	24411047085	Date:		02/22/11						
Customer:	Intermec Technologies Corporation	Temperature:		23						
Attendees:	none	Humidity:		32%						
Project:	None	Barometric Pres.:		29.55						
Tested by:	Rod Peloquin	Power:	120VAC/60Hz	Job Site: EV12						
TEST SPECIFICATIONS		Test Method								
FCC 22H:2011		ANSI/TIA/EIA-603-C-2004								
TEST PARAMETERS										
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3							
COMMENTS										
A1, USB snap on adapter										
EUT OPERATING MODES										
Transmitting, All bits up, EV-DO Rev A, Cell band										
DEVIATIONS FROM TEST STANDARD										
No deviations.										
Run #	11	 Signature								
Configuration #	3									
Results	Pass									
										
Freq (MHz)		Azimuth (degrees)	Height (meters)	Polarity	Detector	ERP (Watts)	ERP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
836.100		129.0	1.1	H-Bilog	PK	6.67E-01	28.2	38.5	-10.3	Mid Channel, EUT horizontal
824.700		129.0	1.1	H-Bilog	PK	4.69E-01	26.7	38.5	-11.8	Low Channel, EUT horizontal
847.945		129.0	1.1	H-Bilog	PK	4.20E-01	26.2	38.5	-12.3	High Channel, EUT horizontal
824.605		168.0	1.3	V-Bilog	PK	2.91E-01	24.6	38.5	-13.9	Low Channel, EUT on side
836.515		164.0	1.3	V-Bilog	PK	2.84E-01	24.5	38.5	-14.0	Mid Channel, EUT on side
847.990		164.0	1.3	V-Bilog	PK	2.06E-01	23.1	38.5	-15.4	High Channel, EUT on side

NORTHWEST		Effective Radiated Power (ERP)		PSA 2008.07.21 EMI 2008.1.9								
EMC												
EUT:	1000CP01C	Work Order:		INMC0664								
Serial Number:	24411047085	Date:		02/22/11								
Customer:	Intermec Technologies Corporation	Temperature:		23								
Attendees:	none	Humidity:		32%								
Project:	None	Barometric Pres.:		29.55								
Tested by:	Rod Peloquin	Power:	120VAC/60Hz	Job Site: EV12								
TEST SPECIFICATIONS		Test Method										
FCC 22H:2011		ANSI/TIA/EIA-603-C-2004										
TEST PARAMETERS												
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3									
COMMENTS												
A1, USB snap on adapter												
EUT OPERATING MODES												
Transmitting, All bits up, CDMA 1xRTT RC3 SO55, Cell band												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	12	 Signature										
Configuration #	3											
Results	Pass											
												
Freq (MHz)			Azimuth (degrees)	Height (meters)		Polarity	Detector	ERP (Watts)	ERP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
836.585			125.0	1.0		H-Bilog	PK	5.06E-01	27.0	38.5	-11.5	Mid Channel, EUT horizontal
824.702			130.0	1.0		H-Bilog	PK	3.56E-01	25.5	38.5	-13.0	Low Channel, EUT horizontal
848.300			130.0	1.0		H-Bilog	PK	3.49E-01	25.4	38.5	-13.1	High Channel, EUT horizontal
836.450			167.0	1.3		V-Bilog	PK	2.16E-01	23.3	38.5	-15.2	Mid Channel, EUT on side
824.510			167.0	1.3		V-Bilog	PK	1.91E-01	22.8	38.5	-15.7	Low Channel, EUT on side
848.325			167.0	1.3		V-Bilog	PK	1.52E-01	21.8	38.5	-16.7	High Channel, EUT on side

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, All bits up, CDMA2000 1xRTT RC3 SO55, PCS band

Transmitting, All bits up, EV-DO Rev A, PCS band

CHANNELS TESTED

Low = Ch. 25, 1851.25MHz

Mid = Ch. 600, 1880MHz

High = Ch. 1175, 1908.75MHz

POWER SETTINGS INVESTIGATED

120VAC/60Hz

FREQUENCY RANGE INVESTIGATED

Start Frequency	1850 MHz	Stop Frequency	1910 MHz
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SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4446A	AAQ	1/10/2011	12
Antenna, Horn	EMCO	3115	AHC	7/8/2010	24
EV01 Cables	N/A	Double Ridge Horn Cables	EVB	7/9/2010	13
Power Meter	Gigatronics	8651A	SPM	1/7/2010	16
Power Sensor	Gigatronics	80701A	SPL	1/7/2010	16
MXG Vector Singal Generator	Agilent	N5182A	TIF	NCR	0
Antenna, Horn	EMCO	3115	AHE	10/22/2009	24

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

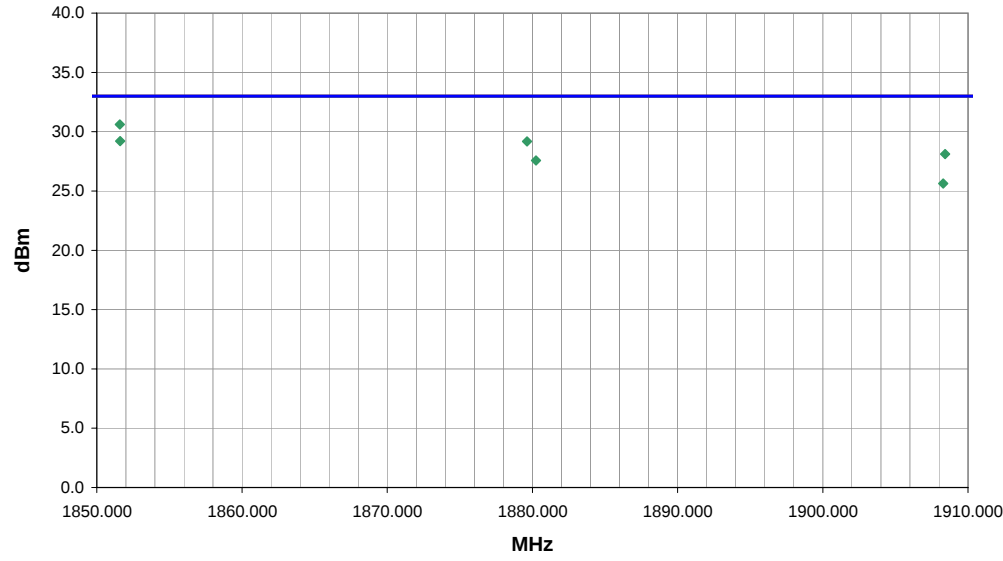
Measurements were made using the bandwidths and detectors specified. No video filter was used.

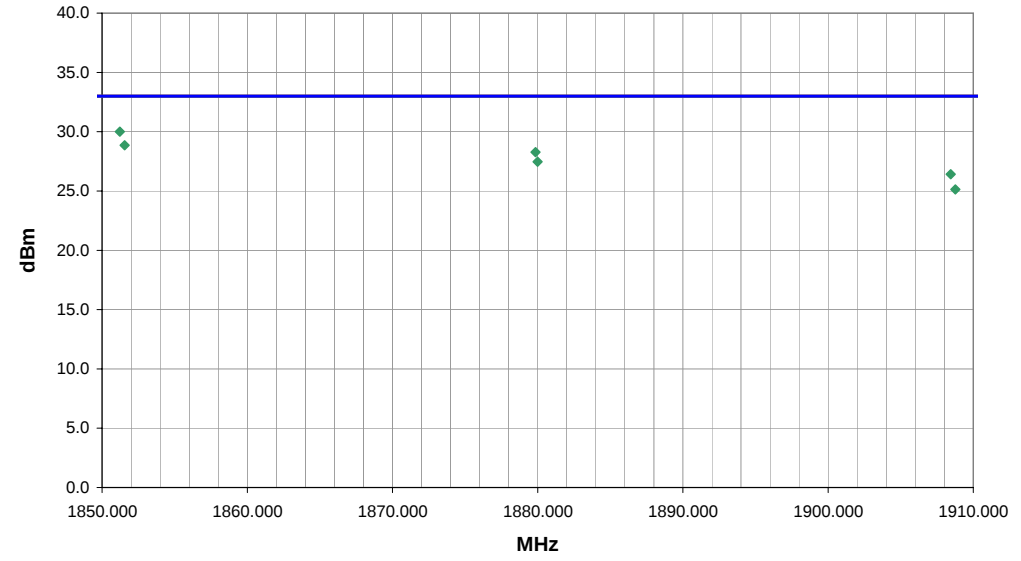
MEASUREMENT UNCERTAINTY

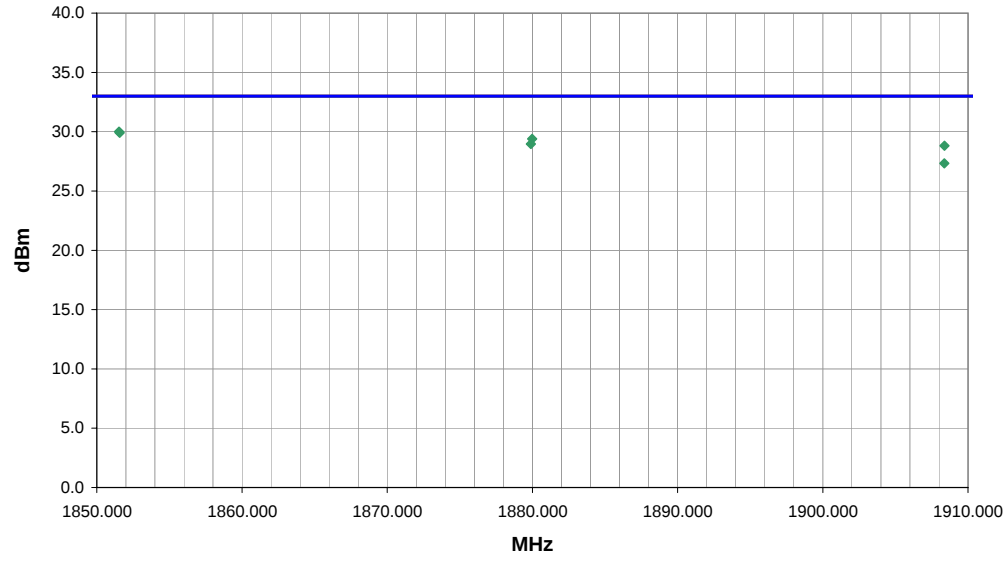
A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. The measurement uncertainty estimation is available upon request.

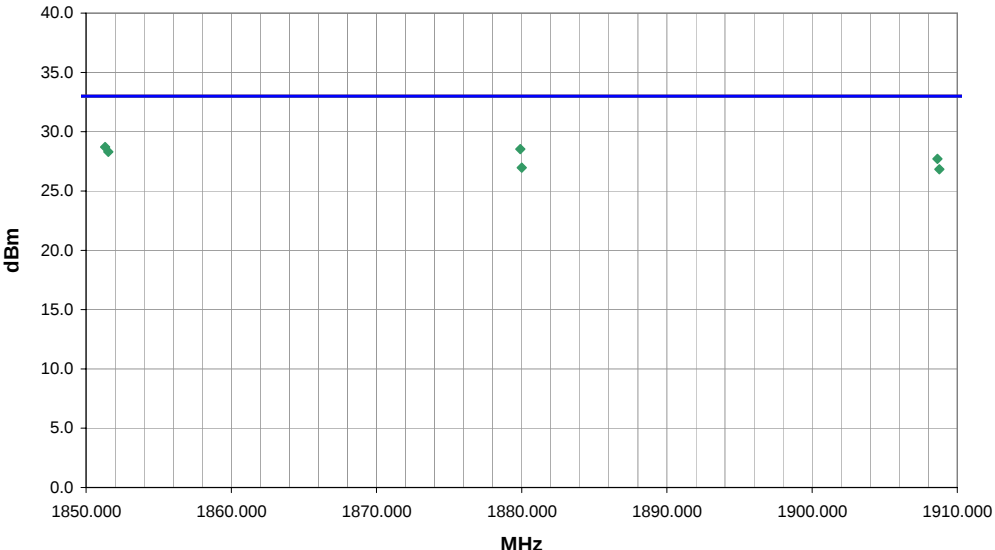
TEST DESCRIPTION

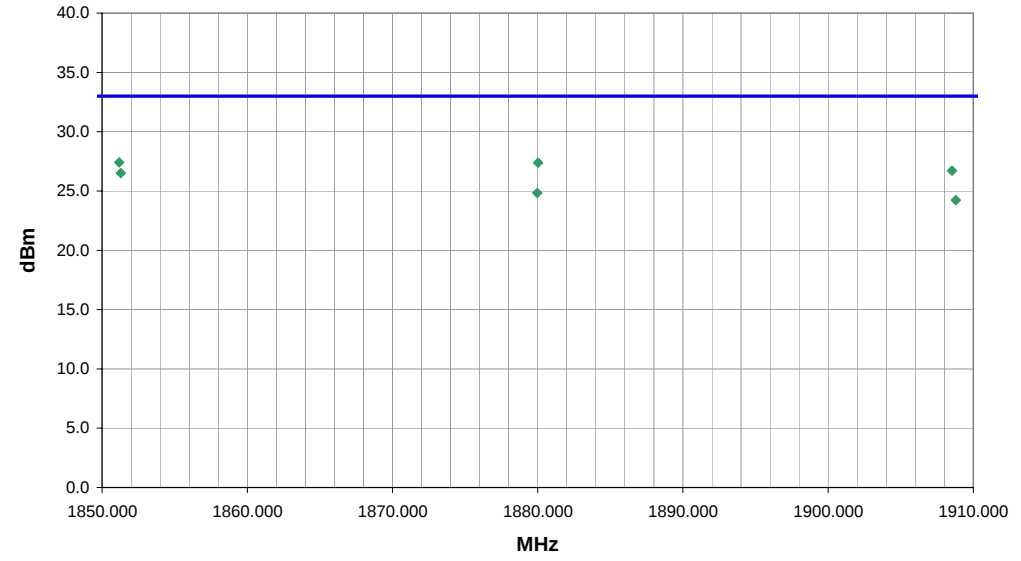
The fundamental emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height (1-4 meters) and polarization and manipulating the EUT antenna in 3 orthogonal planes. The antennas to be used with the EUT were tested. The EUT was transmitting while set at the lowest channel, a middle channel, and the highest channel available. The amplitude and frequency were noted. The EUT was then replaced with a horn antenna. A signal generator was connected to the horn antenna 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 gain (dBi) of the horn antenna the effective radiated power for each emission was determined.

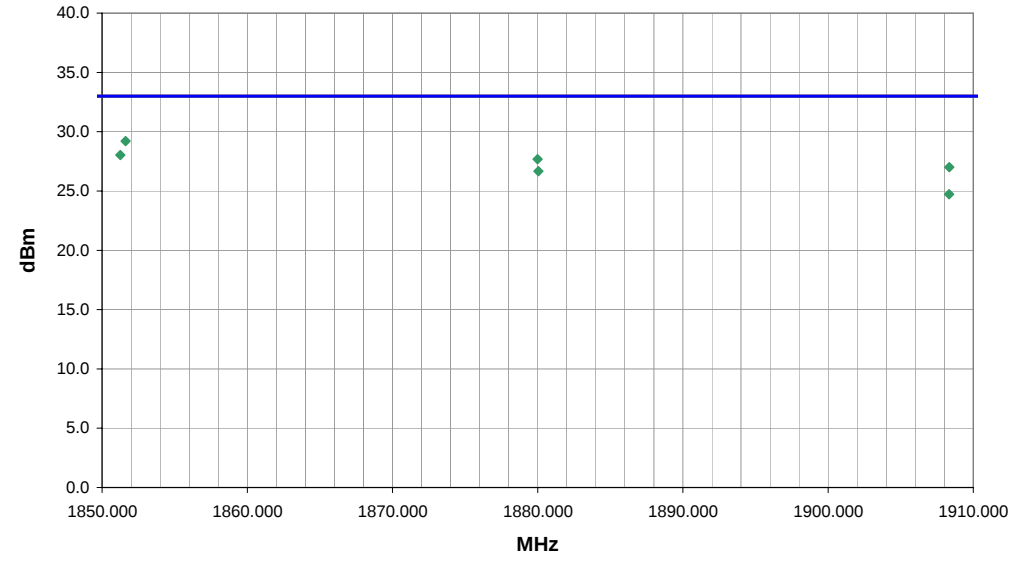
NORTHWEST		Effective Radiated Power (EIRP)		PSA 2008.07.21 EMI 2008.1.9								
EMC												
EUT: 1001CP01C		Work Order: INMC0664										
Serial Number: 24511047145		Date: 02/21/11										
Customer: Intermec Technologies Corporation		Temperature: 23										
Attendees: none		Humidity: 32%										
Project: None		Barometric Pres.: 29.55										
Tested by: Rod Peloquin		Power: 120VAC/60Hz		Job Site: EV12								
TEST SPECIFICATIONS		Test Method										
FCC 24E:2011		ANSI/TIA/EIA-603-C-2004										
TEST PARAMETERS												
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3								
COMMENTS												
C1, USB snap on adaptor												
EUT OPERATING MODES												
Transmitting, All bits up, EV-DO Rev A, PCS band												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	1											
Configuration #	1											
Results	Pass											
												
												
Freq (MHz)			Azimuth (degrees)	Height (meters)		Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
1851.588			308.0	1.0		V-Horn	PK	1.15E+00	30.6	33.0	-2.4	Low Channel, EUT on side
1851.606			36.0	1.6		H-Horn	PK	8.34E-01	29.2	33.0	-3.8	Low Channel, EUT vertical
1879.627			62.0	2.2		H-Horn	PK	8.28E-01	29.2	33.0	-3.8	Mid Channel, EUT vertical
1908.423			36.0	1.5		H-Horn	PK	6.47E-01	28.1	33.0	-4.9	High Channel, EUT vertical
1880.245			256.0	1.0		V-Horn	PK	5.71E-01	27.6	33.0	-5.4	Mid Channel, EUT on side
1908.289			277.0	1.0		V-Horn	PK	3.66E-01	25.6	33.0	-7.4	High Channel, EUT on side

NORTHWEST		Effective Radiated Power (EIRP)		PSA 2008.07.21									
EMC				EMI 2008.1.9									
EUT: 1001CP01C		Work Order: INMC0664											
Serial Number: 24511047145		Date: 02/21/11											
Customer: Intermec Technologies Corporation		Temperature: 23											
Attendees: none		Humidity: 32%											
Project: None		Barometric Pres.: 29.55											
Tested by: Rod Peloquin		Power: 120VAC/60Hz		Job Site: EV12									
TEST SPECIFICATIONS		Test Method											
FCC 24E:2011		ANSI/TIA/EIA-603-C-2004											
TEST PARAMETERS													
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3									
COMMENTS													
C1, USB snap on adapter													
EUT OPERATING MODES													
Transmitting, All bits up, CDMA2000 1xRTT RC3 SO55, PCS band													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #	2		 Signature										
Configuration #	1												
Results	Pass												
													
Freq (MHz)			Azimuth (degrees)	Height (meters)			Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
1851.227			283.0	1.0			V-Horn	PK	1.00E+00	30.0	33.0	-3.0	Low Channel, EUT on side
1851.553			26.0	1.3			H-Horn	PK	7.69E-01	28.9	33.0	-4.1	Low Channel, EUT vertical
1879.848			28.0	1.3			H-Horn	PK	6.73E-01	28.3	33.0	-4.7	Mid Channel, EUT vertical
1879.994			262.0	1.3			V-Horn	PK	5.58E-01	27.5	33.0	-5.5	Mid Channel, EUT on side
1908.447			45.0	1.5			H-Horn	PK	4.38E-01	26.4	33.0	-6.6	High Channel, EUT vertical
1908.762			312.0	1.3			V-Horn	PK	3.26E-01	25.1	33.0	-7.9	High Channel, EUT on side

NORTHWEST		Effective Radiated Power (EIRP)		PSA 2008.07.21 EMI 2008.1.9								
EMC												
EUT: 1000CP02C		Work Order: INMC0664										
Serial Number: 24511047014		Date: 02/21/11										
Customer: Intermec Technologies Corporation		Temperature: 23										
Attendees: none		Humidity: 32%										
Project: None		Barometric Pres.: 29.55										
Tested by: Rod Peloquin		Power: 120VAC/60Hz		Job Site: EV12								
TEST SPECIFICATIONS		Test Method										
FCC 24E:2011		ANSI/TIA/EIA-603-C-2004										
TEST PARAMETERS												
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3								
COMMENTS												
B1, USB snap on adaptor												
EUT OPERATING MODES												
Transmitting, All bits up, EV-DO Rev A, PCS band												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	3		 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
1851.530			275.0	1.0		V-Horn	PK	1.00E+00	30.0	33.0	-3.0	Low Channel, EUT on side
1851.571			31.0	1.9		H-Horn	PK	9.79E-01	29.9	33.0	-3.1	Low Channel, EUT vertical
1879.988			25.0	1.2		H-Horn	PK	8.71E-01	29.4	33.0	-3.6	Mid Channel, EUT vertical
1879.895			308.0	1.3		V-Horn	PK	7.89E-01	29.0	33.0	-4.0	Mid Channel, EUT on side
1908.382			42.0	1.5		H-Horn	PK	7.60E-01	28.8	33.0	-4.2	High Channel, EUT vertical
1908.365			309.0	1.3		V-Horn	PK	5.41E-01	27.3	33.0	-5.7	High Channel, EUT on side

NORTHWEST		Effective Radiated Power (EIRP)		PSA 2008.07.21																																																																																																			
EMC				EMI 2008.1.9																																																																																																			
EUT: 1000CP02C		Work Order: INMC0664																																																																																																					
Serial Number: 24511047014		Date: 02/21/11																																																																																																					
Customer: Intermec Technologies Corporation		Temperature: 23																																																																																																					
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Tested by: Rod Peloquin		Power: 120VAC/60Hz		Job Site: EV12																																																																																																			
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EMC				EMI 2008.1.9																																																																																																			
EUT: 1000CP01C		Work Order: INMC0664																																																																																																					
Serial Number: 24411047085		Date: 02/21/11																																																																																																					
Customer: Intermec Technologies Corporation		Temperature: 23																																																																																																					
Attendees: none		Humidity: 32%																																																																																																					
Project: None		Barometric Pres.: 29.55																																																																																																					
Tested by: Rod Peloquin		Power: 120VAC/60Hz		Job Site: EV12																																																																																																			
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