# Intermec Technologies Corporation

## 802UIAG

June 03, 2005

Report No. ITRM0066

**Report Prepared By** 



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

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## **Certificate of Test**

Issue Date: June 03, 2005 Intermec Technologies Corporation Model: 802UIAG

Emissions			
Specification	Test Method	Pass	Fail
FCC 15.207 AC Powerline Conducted Emissions:2004	ANSI C63.4:2003	$\boxtimes$	
FCC 15.209(a) Radiated Emissions:2005-04	ANSI C63.4:2003	$\square$	
FCC 15.407(a)(1)-(3) Emission Bandwidth:2005-04	ANSI C63.4:2003	$\square$	
FCC 15.407(a)(1)-(3) Peak Transmit Power:2005-04	ANSI C63.4:2003	$\square$	
FCC 15.407(a)(1)-(3) Power Spectral Density:2005-04	ANSI C63.4:2003	$\square$	
FCC 15.407(a)(6) Peak Excursion of Mod. Envelope:2005-04	ANSI C63.4:2003	$\square$	
FCC 15.407(b)(1)-(6) Spurious Radiated Emissions:2005-04	ANSI C63.4:2003	$\square$	
FCC 15.407(g) Frequency Stability:2005-04	FCC Part 2.1055:2004		

#### Modifications made to the product

See the Modifications section of this report

#### Test Facility

 The measurement facility used to collect the data is located at: Northwest EMC, Inc.; 22975 NW Evergreen Parkway, Suite 400; Hillsboro, OR 97124 Phone: (503) 844-4066 Fax: 844-3826 This site has been fully described in a report filed with and accepted by the FCC (Federal Communications Commission) and Industry Canada.

Approved By:	
ADU.K.P	
Greg Kiemel, Director of Engineering	

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

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



Revision Number	Description	Date	Page Number
00	None		



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

**NVLAP:** Northwest EMC, Inc. is recognized under the United States Department of Commerce, National Institute of Standards and Technology, and National Voluntary Laboratory Accreditation Program for satisfactory compliance with the requirements of ISO/IEC 17025 for Testing Laboratories. The NVLAP accreditation encompasses Electromagnetic Compatibility Testing in accordance with the European Union EMC Directive 89/336/EEC, ANSI C63.4, MIL-STD 461E, DO-160D and SAE J1113. Additionally, Northwest EMC is accredited by NVLAP to perform radio testing in accordance with the European Union R&TTE Directive 1999/5/EEC, the requirements of FCC, and the RSS radio standards for Industry Canada.

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

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

TÜV Product Service: Included in TUV Product Service Group's Listing of Recognized Laboratories. It qualifies in connection with the TUV Certification after Recognition of Agent's Testing Program for the product categories and/or standards shown in TUV's current Listing of CARAT Laboratories, available from TUV. A certificate was issued to represent that this laboratory continues to meet TUV's CARAT Program requirements. Certificate No. USA0401C.

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













Revision 03/18/05



**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).

**Technology International:** Assessed in accordance with ISO Guide 25 defining the general international requirements for the competence of calibration and testing laboratories and with ITI assessment criteria LACO196. Based upon that assessment, Interference Technology International, Ltd., has granted approval for specifications implementing the EU Directive on EMC (89/336/EEC and amendments). The scope of the approval was provided on a Schedule of Assessment supplied with the certificate and is available upon request.

**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 and R-1025, Irvine: C-2094 and R-1943, Newberg: C-1877 and R-1760, Sultan: R-871, C-1784 and R-1761).* 

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

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

SCOPE For details on the Scopes of our Accreditations, please visit: http://www.nwemc.com/scope.asp







BSMI



NEMKO



#### What is measurement uncertainty?

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. The following statement of measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" value. In the case of transient tests (ESD, EFT, Surge, Voltage Dips and Interruptions), the test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements.

The following documents were the basis for determining the uncertainty levels of our measurements:

- "ISO Guide to the Expression of Uncertainty in Measurements", October 1993
- "NIS81: The Treatment of Uncertainty in EMC Measurements", May 1994
- "IEC CISPR 16-3 A1 f1 Ed.1: Radio-interference measurements and statistical techniques", December 2000

#### How might measurement uncertainty be applied to test results?

If the diamond marks the measured value for the test and the vertical bars bracket the range of + and measurement uncertainty, then test results can be interpreted from the diagram below.



Case D: Product does not comply.



Radiated Emissions ≤ 1 GHz		Value (	dB)				
	Probability	Bico	nical	Log Pe	eriodic	Di	pole
	Distribution	Ante	enna	Ante	nna	An	tenna
Test Distance		3m	10m	3m	10m	3m	10m
Combined standard	normal	+ 1.86	+ 1.82	+ 2.23	+ 1.29	+ 1.31	+ 1.25
uncertainty <i>u<sub>c</sub>(y)</i>		- 1.88	- 1.87	- 1.41	- 1.26	- 1.27	- 1.25
Expanded uncertainty <b>U</b>	normal (k=2)	+ 3.72	+ 3.64	+ 4.46	+ 2.59	+ 2.61	+ 2.49
(level of confidence $\approx$ 95%)		- 3.77	- 3.73	-2.81	- 2.52	- 2.55	- 2.49

Radiated Emissions > 1 GHz	Value (dB)		
	Probability	Without High	With High
	Distribution	Pass Filter	Pass Filter
Combined standard uncertainty <i>u<sub>c</sub>(y)</i>	normal	+ 1.29	+ 1.38
		- 1.25	- 1.35
Expanded uncertainty <b>U</b>	normal (k=2)	+ 2.57	+ 2.76
(level of confidence $\approx$ 95%)		- 2.51	2.70

Conducted Emissions		
	Probability	Value
	Distribution	(+/- dB)
Combined standard uncertainty <i>uc(y)</i>	normal	1.48
Expanded uncertainty <b>U</b> (level of confidence ≈ 95 %)	normal (k = 2)	2.97

Radiated Immunity		
	Probability	Value
	Distribution	(+/- dB)
Combined standard uncertainty <i>uc(y)</i>	normal	1.05
Expanded uncertainty <b>U</b>	normal $(k - 2)$	2 11
(level of confidence $\approx$ 95 %)	$\operatorname{Hormal}\left( R=2\right)$	2.11

Conducted Immunity		
	Probability	Value
	Distribution	(+/- dB)
Combined standard uncertainty <i>uc(y</i> )	normal	1.05
Expanded uncertainty <b>U</b> (level of confidence ≈ 95 %)	normal (k = 2)	2.10

#### Legend

 $u_c(y)$  = square root of the sum of squares of the individual standard uncertainties

U = combined standard uncertainty multiplied by the coverage factor: **k**. This defines an interval about the measured result that will encompass the true value with a confidence level of approximately 95%. If a higher level of confidence is required, then k=3 (CL of 99.7%) can be used. Please note that with a coverage factor of one, uc(y) yields a confidence level of only 68%.



## **Facilities**



#### 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 – EV10

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



#### Oregon

Trails End Facility Labs TE01 – TE03

30475 NE Trails End Lane Newberg, OR 97132 (503) 844-4066 FAX (503) 537-0735



#### Washington

Sultan Facility

Labs SU01 – SU07

14128 339<sup>th</sup> Ave. SE Sultan, WA 98294 (888) 364-2378 FAX (360) 793-2536



Party Requesting the Test	
Company Name:	Intermec Technologies Corporation
Address:	550 Second St. SE
City, State, Zip:	Cedar Rapids, IA 52401-2023
Test Requested By:	Scott Holub
Model:	802UIAG
First Date of Test:	3-08-2005
Last Date of Test:	5-02-2005
Receipt Date of Samples:	3-07-2005
Equipment Design Stage:	Production
Equipment Condition:	No visual damage.

#### Information Provided by the Party Requesting the Test

Clocks/Oscillators:	Not provided.
I/O Ports:	Not Provided.

#### Functional Description of the EUT (Equipment Under Test):

802.11(a)/(b)/(g) radio in CK60 hand-held computer.

#### Client Justification for EUT Selection:

Not Provided

#### **Client Justification for Test Selection:**

Testing was performed to demonstrate compliance with the FCC Part 15E rules for an intentional radiator. This test also demonstrated compliance with FCC Part 15.407 emissions limits while the colocated radios were transmitting simultaneously. Testing was performed with the EUT collocated with an Intermec Technologies, Bluetooth enabled PB42 Printer. Each radio transmits through its own antenna.

#### **EUT Photo**





## **Modifications**

	Equipment modifications				
Item	Test	Date	Modification	Note	Disposition of EUT
1	Spurious Radiated Emissions	03/29/2005	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.	EUT remained at Northwest EMC.
2	AC Powerline Conducted Emissions	03/29/2005	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.	EUT remained at Northwest EMC.
3	Emissions Bandwidth	04/15/2005	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.	EUT remained at Northwest EMC.
4	Conducted Spurious Emissions of transmitter and receiver	04/19/2005	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.	EUT remained at Northwest EMC.
5	Frequency Stability	04/21/2005	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.	EUT remained at Northwest EMC.
6	Peak Transmit Power	05/02/2005	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.	EUT remained at Northwest EMC.
7	Peak Power Spectral Density	05/02/2005	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.	EUT remained at Northwest EMC.
8	Peak Excursion of the Modulation Envelope	05/02/2005	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.	EUT remained at Northwest EMC.



#### Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:
Ch 36 (5180 MHz)
Ch 40 (5200 MHz)
Ch 48 (5240 MHz)
Ch 52 (5260 MHz)
Ch 60 (5300 MHz)
Ch 64 (5320 MHz)
Ch 149 (5745 MHz)
Ch 155 (5775 MHz)
Ch 161 (5805 MHz)

#### Operating Modes Investigated: Continuous transmit

Data Rates Investigated:
6 Mbps (802.11a)
36 Mbps (802.11a)
54 Mbps (802.11a)

## Output Power Setting(s) Investigated:

Maximum default

#### Power Input Settings Investigated:

120 VAC/60Hz

Software\Firmware Applied During Test						
Exercise software	cTxRx Win CE	Version	0.1.2.1			
Description						
The system was tested using special software developed to test all functions of the device during the test.						

EUT and Peripherals							
Description	Manufacturer	Model/Part Number	Serial Number				
EUT- 802.11(a)/(b)/(g) radio	Intermec Technologies Corporation	802UIAG	Unknown				
AC Adapter	Intermec Technologies Corporation	851-061-002	3335175				
Host Device	Intermec Technologies Corporation	CK61	33390400265				



Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	Yes	1.9	PA	AC Power Adapter	Host Device
AC Power	No	2.0	No	AC Power Adapter	AC Mains
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

Measurement Equipment							
Description	Manufacturer	Model	Identifier	Last Cal	Interval		
Spectrum Analyzer	Tektronix	2784	AAO	01/02/2005	12 mo		

#### **Test Description**

**Requirements:** Per 15.403(c), "...the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Determination of the emissions bandwidth is based on the use of measurement instrumentation employing a peak detector function with an instrument resolutions bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement."

**Configuration:** FCC Public Notice DA 02-2138 was followed. The transmit frequency was set to the lowest, a medium, and the highest channels in each band. The transmit power was set to its default maximum. The lowest, a medium, and the highest data rates were measured. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

The spectrum analyzer settings were as follows:

- Span = approximately 1.5 to 2 times the emission bandwidth, centered on the transmit channel.
- RBW = Approx. 1% of the emission bandwidth (B). This was an iterative process where an exact match of 1% may not be achieved. The largest value of RBW that came close to 1% of the emission bandwidth was used.
- A peak detector was used.
- > The marker-delta function was then used to measure 26 dB emission bandwidth.

Completed by:	
Rocky la	Peling

Northwest Emission Bandwidth							
EMC		EIIISSION	Danuwiui			01/30/01	
EUT:	802UIAG				Work Order:	ITRM0066	
Serial Number:	Unknown				Date:	04/15/05	
Customer:	Intermec Corporation				Temperature:	22°C	
Attendees:	None		Tested by:	Rod Peloquin	Humidity:	38% RH	
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06	
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003	
SAMPLE CALCULATI	ONS						
COMMENTS							
Tested in CK61 Hand	Held Computer						
EUT OPERATING MO	DES						
Modulated at 6 Mbit.	Maximum output power.						
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
The emission bandwi	dth shall be determined by measu	ring the 26 dB bandwidth of the mo	odulated carrier using	measurment instrumen	tation employing a pe	ak detector and a	
RBW approximately e	qual to 1% of the emission bandw	ridth.					
RESULTS	RESULTS BANDWIDTH						
Pass 28.35 MHz							
SIGNATURE							
Tested By-	Porting to Peleng						
rooted by:							
DESCRIPTION OF TES	ST						

Emission Bandwidth - Low Channel - 5.15 to 5.25 GHz Band



		Ennesion	Banama			01/30/01	
EUT:	802UIAG				Work Order:	ITRM0066	
Serial Number:	Unknown				Date:	04/15/05	
Customer:	Intermec Corporation				Temperature:	22°C	
Attendees:	None		Tested by:	Rod Peloquin	Humidity:	38% RH	
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06	
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003	
SAMPLE CALCULATI	ONS						
COMMENTS							
Tested in CK61 Hand	Held Computer						
EUT OPERATING MO	DES						
Modulated at 6 Mbit. N	Maximum output power.						
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
The emission bandwie RBW approximately e	dth shall be determined by measur qual to 1% of the emission bandw	ring the 26 dB bandwidth of the m idth.	odulated carrier using	measurment instrumen	ntation employing a pe	ak detector and a	
RESULTS	SULTS BANDWIDTH						
Pass 28.45 MHz							
SIGNATURE							
Portug ter Perlings							
DESCRIPTION OF TE	ST						

Emission Bandwidth - Mid Channel - 5.15 to 5.25 GHz Band



NORTHWEST		Emission	Pondwidt	h			
EMC		Emission	Danuwiui	in in in its state of the state		Rev BETA 01/30/01	
EUT:	802UIAG				Work Order:	ITRM0066	
Serial Number:	Unknown				Date:	04/15/05	
Customer:	Intermec Corporation				Temperature:	22°C	
Attendees:	None		Tested by:	Rod Peloquin	Humidity:	38% RH	
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06	
TEST SPECIFICATION	NS						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.	.4 Year:	2002, 2003	
SAMPLE CALCULATI	ONS						
COMMENTS							
Tested in CK61 Hand	Held Computer						
EUT OPERATING MO	DES						
Modulated at 6 Mbit.	Maximum output power.						
<b>DEVIATIONS FROM T</b>	EST STANDARD						
None							
REQUIREMENTS							
The emission bandwi	dth shall be determined by measu	ring the 26 dB bandwidth of the me	odulated carrier using	measurment instrumen	tation employing a pe	ak detector and a	
RBW approximately e	equal to 1% of the emission bandw	idth.					
RESULTS	RESULTS BANDWIDTH						
Pass 29.0 MHz							
SIGNATURE							
Tested By:	Rocky Le Preling						
	· · · · ·						
DESCRIPTION OF TES	ST						

Emission Bandwidth - High Channel - 5.15 to 5.25 GHz Band



NORTHWEST		Emission	Bandwidt	h		Rev BETA 01/30/01	
EUT:	802UIAG				Work Order:	ITRM0066	
Serial Number:	Unknown				Date:	04/15/05	
Customer:	Intermec Corporation				Temperature:	22°C	
Attendees:	None		Tested by:	Rod Peloquin	Humidity:	38% RH	
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06	
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003	
SAMPLE CALCULATIO	ONS						
COMMENTS							
Tested in CK61 Hand	Held Computer						
EUT OPERATING MOD	DES						
Modulated at 6 Mbit. N	laximum output power.						
<b>DEVIATIONS FROM TI</b>	EST STANDARD						
None							
REQUIREMENTS							
The emission bandwic RBW approximately e	of the shall be determined by measure qual to 1% of the emission bandw	ring the 26 dB bandwidth of the m idth.	odulated carrier using	measurment instrumer	ntation employing a pe	ak detector and a	
RESULTS	RESULTS BANDWIDTH						
Pass 30.0 MHz							
SIGNATURE							
	Porting les Preleng						

Emission Bandwidth - Low Channel - 5.25 to 5.35 GHz Band



NORTHWEST		Emission	Bandwidt	h		Rev BETA 01/30/01	
EUT:	802UIAG				Work Order:	ITRM0066	
Serial Number:	Unknown				Date:	04/15/05	
Customer:	Intermec Corporation				Temperature:	22°C	
Attendees:	None		Tested by:	Rod Peloquin	Humidity:	38% RH	
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06	
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.	4 Year:	2002, 2003	
SAMPLE CALCULATIO	ONS						
COMMENTS							
Tested in CK61 Hand	Heid Computer						
EUT OPERATING MOL	JES Animum output power						
DEVIATIONS EDOM T							
None	EST STANDARD						
REQUIREMENTS							
The emission bandwid RBW approximately e	Ith shall be determined by measu qual to 1% of the emission bandw	ring the 26 dB bandwidth of the m idth.	odulated carrier using	measurment instrumen	tation employing a pea	ak detector and a	
RESULTS	RESULTS BANDWIDTH						
Pass 30.2 MHz							
SIGNATURE							
Tested By:	Rochy Le Releng						

Emission Bandwidth - Mid Channel - 5.25 to 5.35 GHz Band



NORTHWEST Emission Bandwidth							
EIVIC		Lillission	Danawia			01/30/01	
EUT:	802UIAG				Work Order:	ITRM0066	
Serial Number:	Unknown				Date:	04/15/05	
Customer:	Intermec Corporation				Temperature:	22°C	
Attendees:	None		Tested by:	Rod Peloquin	Humidity:	38% RH	
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06	
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.	.4 Year:	2002, 2003	
SAMPLE CALCULATI	ONS						
COMMENTS							
Tested in CK61 Hand	Held Computer						
EUT OPERATING MO	DES						
Modulated at 6 Mbit.	Aaximum output power.						
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
The emission bandwie RBW approximately e	dth shall be determined by measu qual to 1% of the emission bandw	ring the 26 dB bandwidth of the mo idth.	odulated carrier using	measurment instrumen	tation employing a pe	ak detector and a	
RESULTS	RESULTS BANDWIDTH						
Pass 32.6 MHz							
SIGNATURE							
Tested By:	Porting to Reling						
DESCRIPTION OF TES	ST						

Emission Bandwidth - High Channel - 5.25 to 5.35 GHz Band



EMC Emission Bandwidth								
EUT:	802UIAG				Work Order:	ITRM0066		
Serial Number:	Unknown				Date:	04/15/05		
Customer:	Intermec Corporation	termec Corporation						
Attendees:	None		Tested by:	Rod Peloquin	Humidity:	38% RH		
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATION	IS							
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.	4 Year:	2002, 2003		
SAMPLE CALCULATI	ONS							
COMMENTS								
Tested in CK61 Hand	Held Computer							
EUT OPERATING MOI	DES							
Modulated at 6 Mbit. N	Maximum output power.							
DEVIATIONS FROM T	EST STANDARD							
None								
REQUIREMENTS		in a the OC dD beau doubth of the m				ale data atau an dia		
RBW approximately e	qual to 1% of the emission bandw	idth.	boulated carrier using	measurment instrumen	tation employing a pe	ak detector and a		
RESULTS			BANDWIDTH					
Pass			34.15 MHz					
SIGNATURE								
Rochy to Reling								
DESCRIPTION OF TES	ST							

Emission Bandwidth - Low Channel - 5.725 to 5.825 GHz Band



EMC Emission Bandwidth								
EUT:	802UIAG				Work Order:	ITRM0066		
Serial Number:	Unknown				Date:	04/15/05		
Customer:	Intermec Corporation				Temperature:	22°C		
Attendees:	None		Tested by:	Rod Peloquin	Humidity:	38% RH		
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATION	IS							
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003		
SAMPLE CALCULATIO	ONS							
COMMENTS Tested in CK61 Hand EUT OPERATING MOI Modulated at 6 Mbit. N	COMMENTS Tested in CK61 Hand Held Computer EUT OPERATING MODES							
DEVIATIONS FROM T	EST STANDARD							
None								
REQUIREMENTS								
The emission bandwid RBW approximately e	dth shall be determined by measur qual to 1% of the emission bandw	ring the 26 dB bandwidth of the m idth.	odulated carrier using	measurment instrumen	tation employing a pea	ak detector and a		
RESULTS			BANDWIDTH					
Pass	Pass 34.2 MHz							
SIGNATURE								
	Tested By:							

Emission Bandwidth - Mid Channel - 5.725 to 5.825 GHz Band



NORTHWEST EMC		Emission	Bandwidt	th		Rev BETA 01/30/01
EUT:	802UIAG				Work Order	ITRM0066
Serial Number:	Unknown				Date	: 04/15/05
Customer:	Intermec Corporation				Temperature	: 22°C
Attendees:	None		Tested by:	Rod Peloquin	Humidity	: 38% RH
Customer Ref. No.:	N/A	N/A Power: 120VAC/60Hz			Job Site	: EV06
TEST SPECIFICATION	IS					
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.4	4 Year	2002, 2003
SAMPLE CALCULATI	ONS					
COMMENTS						
Tested in CK61 Hand	Held Computer					
EUT OPERATING MO	DES					
Modulated at 6 Mbit. N	Maximum output power.					
DEVIATIONS FROM T	EST STANDARD					
None						
REQUIREMENTS						
The emission bandwie RBW approximately e	dth shall be determined by measu equal to 1% of the emission bandy	uring the 26 dB bandwidth of the r width.	nodulated carrier using	measurment instrument	ation employing a pe	ak detector and a
RESULTS			BANDWIDTH			
Pass			32.0 MHz			
SIGNATURE						
Tested By:	Porting to Feling					
DESCRIPTION OF TE	ST					
	Emissian B	and width Link Ch	annal E 70E	to E ODE CU-	Dand	



NORTHWEST Emission Bandwidth							
EIVIC		Lillission	Danawia			01/30/01	
EUT:	802UIAG				Work Order:	ITRM0066	
Serial Number:	Unknown	nknown Date: 04/15/05					
Customer:	Intermec Corporation				Temperature:	22°C	
Attendees:	None	None Tested by: Rod Peloquin			Humidity:	38% RH	
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06	
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003	
SAMPLE CALCULATI	ONS						
COMMENTS							
Tested in CK61 Hand	Held Computer						
EUT OPERATING MO	DES						
Modulated at 36 Mbit.	Maximum output power.						
<b>DEVIATIONS FROM T</b>	EST STANDARD						
None							
REQUIREMENTS							
The emission bandwie RBW approximately e	dth shall be determined by measu qual to 1% of the emission bandw	ring the 26 dB bandwidth of the mo idth.	odulated carrier using	measurment instrumen	tation employing a pe	ak detector and a	
RESULTS			BANDWIDTH				
Pass			19.65 MHz				
SIGNATURE							
Tested By:							
DESCRIPTION OF TES	ST						

Emission Bandwidth - Low Channel - 5.15 to 5.25 GHz Band



EUT:         802UIAG         Work Order:         ITRM0066           Serial Number:         Unknown         Date:         04/15/05           Customer:         Internec Corporation         Temperature:         22°C           Attendees:         None         Tested by:         Rod Peloquin         Humidity:         38% RH           Customer Ref. No.:         INA         Power:         120VAC/60Hz         Job Site:         EV06           TEST SPECIFICATIONS         Specification:         47 CFR 15.407(a)(1)-(3)         Year:         2005-04         Method:         DA 02-2138, ANSI C63.4         Year:         2002, 2003           SAMPLE CALCULATIONS         COMMENTS         E         E         E         E         E         E           COMMENTS         EUT OPERATING MODES         EUT OPERATING MODES         E         E         E         E         E	EMC Emission Bandwidth								
Serial Number:       Unknown       Date:       04/15/05         Customer:       Intermec Corporation       Temperature:       22° C         Attendees:       None       Tested by:       Rod Peloquin       Humidity:       38% RH         Customer Ref. No.:       IVA       Power:       120VAC/60Hz       Job Site:       EV06         TEST SPECIFICATIONS       Specification:       [47 CFR 15.407(a)(1)-(3)       Year:       2005-04       Method:       DA 02-2138, ANSI C63.4       Year:       2002, 2003         SAMPLE CALCULATIONS	EUT	[: 802UIAG			Work Order:	ITRM0066			
Customer:       Intermec Corporation       Temperature:       22°C         Attendees:       None       Tested by:       Rod Peloquin       Humidity:       33% RH         Customer Ref. No.:       N/A       Power:       120VAC/60Hz       Job Site:       EV06         TEST SPECIFICATIONS       Specification:       47 CFR 15.407(a)(1)-(3)       Year:       2005-04       Method:       DA 02-2138, ANSI C63.4       Year:       2002, 2003         SAMPLE CALCULATIONS       COMMENTS       Tested in CK61 Hand Held Computer       EUT OPERATING MODES       EUT OPERATING MODES	Serial Number	r: Unknown	nknown Date: 04/15/05						
Attendees:       None       Tested by:       Rod Peloquin       Humidity:       38% RH         Customer Ref. No.:       IVA       Power:       120VAC/60Hz       Job Site:       EV06         TEST SPECIFICATIONS	Customer	r: Intermec Corporation			Temperature:	22°C			
Customer Ref. No.:  N/A         Power:  120VAC/60Hz         Job Site:  EV06           TEST SPECIFICATIONS	Attendees	s: None	Humidity:	38% RH					
Comments         Comments           Tested in CK61 Hand Held Computer         EUT OPERATING MODES	Customer Ref. No.	.: N/A	Power	120VAC/60Hz	Job Site:	EV06			
Specification:       47 CFR 15.407(a)(1)-(3)       Year:       2005-04       Method:       DA 02-2138, ANSI C63.4       Year:       2002, 2003         SAMPLE CALCULATIONS	TEST SPECIFICATIO	INS							
SAMPLE CALCULATIONS COMMENTS Tested in CK61 Hand Held Computer EUT OPERATING MODES	Specification	1: 47 CFR 15.407(a)(1)-(3) Year: 2005-04	Method	DA 02-2138, ANSI C63	.4 Year:	2002, 2003			
COMMENTS Tested in CK61 Hand Held Computer EUT OPERATING MODES	SAMPLE CALCULAT	TIONS							
COMMENTS Tested in CK61 Hand Held Computer EUT OPERATING MODES									
Tested in CK61 Hand Held Computer EUT OPERATING MODES	COMMENTS								
EUT OPERATING MODES	Tested in CK61 Hand	d Held Computer							
	EUT OPERATING MO	DDES							
Modulated at 36 Mbit. Maximum output power.	Modulated at 36 Mbit	t. Maximum output power.							
DEVIATIONS FROM TEST STANDARD	DEVIATIONS FROM 1	TEST STANDARD							
None	None								
REQUIREMENTS	REQUIREMENTS								
The emission bandwidth shall be determined by measuring the 26 dB bandwidth of the modulated carrier using measurment instrumentation employing a peak detector and a RBW approximately equal to 1% of the emission bandwidth.	The emission bandwi RBW approximately e	<i>i</i> dth shall be determined by measuring the 26 dB bandwidth equal to 1% of the emission bandwidth.	of the modulated carrier using	measurment instrumen	ntation employing a pea	ak detector and a			
RESULTS BANDWIDTH	RESULTS		BANDWIDTH						
Pass 19.7 MHz	Pass								
SIGNATURE									
Tested By:									

Emission Bandwidth - Mid Channel - 5.15 to 5.25 GHz Band



Emission Bandwidth								
EUT	802UIAG				Work Order:	ITRM0066		
Serial Number:	Unknown				Date	04/15/05		
Customer:	Intermec Corporation				Temperature:	22°C		
Attendees:	Ione Tested by: Rod Peloguin					38% RH		
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATION	S							
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003		
SAMPLE CALCULATIO	ONS					,,		
COMMENTS	COMMENTS							
Tested in CK61 Hand	Held Computer							
EUT OPERATING MOD	DES							
Modulated at 36 Mbit.	Maximum output power.							
DEVIATIONS FROM TI	EST STANDARD							
None								
REQUIREMENTS								
The emission bandwic RBW approximately ee	dth shall be determined by measur qual to 1% of the emission bandw	ring the 26 dB bandwidth of the m idth.	odulated carrier using	measurment instrumen	ntation employing a pe	ak detector and a		
RESULTS			BANDWIDTH					
Pass			19.65 MHz					
SIGNATURE								
Tested By:	Rochy Le Reling							

Emission Bandwidth - High Channel - 5.15 to 5.25 GHz Band



NORTHWEST Emission Bandwidth								
EMIC		LIIISSION	Danuwiu			01/30/01		
EUT:	802UIAG				Work Order:	ITRM0066		
Serial Number:	Unknown	Inknown Date: 04/15/05						
Customer:	Intermec Corporation				Temperature:	22°C		
Attendees:	None Tested by: Rod Peloquin			Humidity:	38% RH			
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATION	IS							
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003		
SAMPLE CALCULATI	ONS							
COMMENTS								
Tested in CK61 Hand	Held Computer							
EUT OPERATING MO	DES							
Modulated at 36 Mbit.	Maximum output power.							
DEVIATIONS FROM T	EST STANDARD							
None								
REQUIREMENTS								
The emission bandwie RBW approximately e	dth shall be determined by measu qual to 1% of the emission bandw	ring the 26 dB bandwidth of the me idth.	odulated carrier using	measurment instrumen	itation employing a pe	ak detector and a		
RESULTS			BANDWIDTH					
Pass			19.7 MHz					
SIGNATURE								
Tested By:	Tested By:							
DESCRIPTION OF THE	ST							

Emission Bandwidth - Low Channel - 5.25 to 5.35 GHz Band



NORTHWEST								
EMC		Emission	Danuwiui	.n		Rev BETA 01/30/01		
EUT:	802UIAG				Work Order:	ITRM0066		
Serial Number:	Unknown				Date:	04/15/05		
Customer:	Intermec Corporation				Temperature:	22°C		
Attendees:	None	one Tested by: Rod Peloquin			Humidity:	38% RH		
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATION	IS							
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003		
SAMPLE CALCULATI	ONS							
COMMENTS								
Tested in CK61 Hand	Held Computer							
EUT OPERATING MOI	DES							
Modulated at 36 Mbit.	Maximum output power.							
DEVIATIONS FROM T	EST STANDARD							
None								
REQUIREMENTS								
The emission bandwid	dth shall be determined by measu	ring the 26 dB bandwidth of the m	odulated carrier using	measurment instrumen	ntation employing a pea	ak detector and a		
RBW approximately e	qual to 1% of the emission bandw	idth.						
RESULTS			BANDWIDTH					
Pass	20.05 MHz							
SIGNATURE								
Tested Day	Portug le Reling							
rested By:	- V							
DESCRIPTION OF TES	ST							

Emission Bandwidth - Mid Channel - 5.25 to 5.35 GHz Band



EMC Emission Bandwidth								
EUT:	802UIAG				Work Order:	ITRM0066		
Serial Number:	nknown Date 04/15/05							
Customer:	Intermec Corporation				Temperature:	22°C		
Attendees:	one Tested by: Rod Peloguin				Humidity:	38% RH		
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATION	IS							
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.	4 Year:	2002, 2003		
SAMPLE CALCULATIO	ONS		•					
COMMENTS	COMMENTS							
Tested in CK61 Hand	Held Computer							
EUT OPERATING MOD	DES							
Modulated at 36 Mbit.	Maximum output power.							
DEVIATIONS FROM T	EST STANDARD							
None								
REQUIREMENTS								
The emission bandwic RBW approximately ee	Ith shall be determined by measu qual to 1% of the emission bandw	ring the 26 dB bandwidth of the m idth.	odulated carrier using	measurment instrumen	tation employing a pea	ak detector and a		
RESULTS			BANDWIDTH					
Pass			20.25 MHz					
SIGNATURE								
Tested By:	Rochy la Pieling							

Emission Bandwidth - High Channel - 5.25 to 5.35 GHz Band



NORTHWEST EMC	EMC Emission Bandwidth						
EUT:	802UIAG				Work Order:	ITRM0066	
Serial Number:	Unknown				Date:	04/15/05	
Customer:	Intermec Corporation			-	Temperature:	22°C	
Attendees:	None		Tested by:	Rod Peloquin	Humidity:	38% RH	
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06	
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.	.4 Year:	2002, 2003	
SAMPLE CALCULATI	ONS						
COMMENTS							
Tested in CK61 Hand	Held Computer						
EUT OPERATING MOI	DES						
Modulated at 36 Mbit.	Maximum output power.						
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
The emission bandwie RBW approximately e	oth shall be determined by measur qual to 1% of the emission bandw	ring the 26 dB bandwidth of the m idth.	odulated carrier using	measurment instrumen	tation employing a pe	ak detector and a	
RESULTS			BANDWIDTH				
Pass			22.0 MHz				
SIGNATURE							
Tested By:							
DESCRIPTION OF TES	ST						
	Emission Ba	andwidth - Low Cha	annel - 5.725	to 5.825 GHz	Band		



EMC Emission Bandwidth								
EUT:	802UIAG				Work Order:	ITRM0066		
Serial Number:	nknown Date: 04/15/05							
Customer:	Intermec Corporation				Temperature:	22°C		
Attendees:	one Tested by: Rod Peloguin				Humidity:	38% RH		
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATION	IS							
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.4	4 Year:	2002, 2003		
SAMPLE CALCULATIO	ONS							
COMMENTS	COMMENTS							
Tested in CK61 Hand	Held Computer							
EUT OPERATING MOD	DES							
Modulated at 36 Mbit.	Maximum output power.							
DEVIATIONS FROM T	EST STANDARD							
None								
REQUIREMENTS								
The emission bandwic RBW approximately ee	Ith shall be determined by measu qual to 1% of the emission bandw	ring the 26 dB bandwidth of the m idth.	odulated carrier using	measurment instrument	tation employing a pea	ak detector and a		
RESULTS			BANDWIDTH					
Pass			20.65 MHz					
SIGNATURE								
Tested By:	Rochy le Prelug							

Emission Bandwidth - Mid Channel - 5.725 to 5.825 GHz Band



Northwest Emission Bandwidth							
EMC	EIIISSION	Danuwiu	.11		01/30/01		
EUT: 802UIAG				Work Order:	ITRM0066		
Serial Number: Unknown	nknown Date: 04/1						
Customer: Intermec Corporation				Temperature:	22°C		
Attendees: None	lone Tested by: Rod Peloquin			Humidity:	38% RH		
Customer Ref. No.: N/A		Power:	120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATIONS							
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003		
SAMPLE CALCULATIONS							
COMMENTS							
Tested in CK61 Hand Held Computer							
EUT OPERATING MODES							
Modulated at 36 Mbit. Maximum output power	r.						
DEVIATIONS FROM TEST STANDARD							
None							
REQUIREMENTS							
The emission bandwidth shall be determined	by measuring the 26 dB bandwidth of the m	odulated carrier using I	measurment instrumen	tation employing a pe	ak detector and a		
RBW approximately equal to 1% of the emiss	ion bandwidth.						
RESULTS		BANDWIDTH					
Pass	20.65 MHz						
SIGNATURE							
Rochy le Roling							
DESCRIPTION OF TEST							

Emission Bandwidth - High Channel - 5.725 to 5.825 GHz Band



EMC		Emission	Bandwidi	in		Rev BETA 01/30/01		
EUT:	802UIAG				Work Order:	ITRM0066		
Serial Number:	Unknown				Date:	04/15/05		
Customer:	Intermec Corporation				Temperature:	22°C		
Attendees:	None		Tested by:	Rod Peloquin	Humidity:	38% RH		
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV06			
TEST SPECIFICATION	IS							
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.	.4 Year:	2002, 2003		
SAMPLE CALCULATI	ONS							
COMMENTS	Used Committee							
Tested in CK61 Hand	Heid Computer							
EUT OPERATING MO	DES							
Modulated at 54 Mbit.	Maximum output power.							
DEVIATIONS FROM T	EST STANDARD							
None								
REQUIREMENTS	dth chall be determined by measur	ring the 26 dB bandwidth of the m		measurment instrumen	tation omnloving a na	ak dataatar and a		
RBW approximately e	qual to 1% of the emission bandw	idth.	Source carrier using	measurment instrumen	nation employing a pe	ak delector and a		
RESULTS	RESULTS BANDWIDTH							
Pass 19.6 MHz								
SIGNATURE								
Porting to Relenge								
DESCRIPTION OF THE								

Emission Bandwidth - Low Channel - 5.15 to 5.25 GHz Band



NORTHWEST		Emission	Bandwidt	th		Rev BETA 01/30/01		
EUT:	802UIAG				Work Order:	ITRM0066		
Serial Number:	Unknown				Date:	04/15/05		
Customer:	Intermec Corporation				Temperature:	22°C		
Attendees:	None		Tested by:	Rod Peloquin	Humidity:	38% RH		
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV06			
TEST SPECIFICATION	IS							
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003		
SAMPLE CALCULATIO	ONS							
COMMENTS								
Tested in CK61 Hand	Held Computer							
EUT OPERATING MOD	DES							
Modulated at 54 Mbit.	Maximum output power.							
DEVIATIONS FROM T	EST STANDARD							
None								
REQUIREMENTS								
The emission bandwic RBW approximately e	The emission bandwidth shall be determined by measuring the 26 dB bandwidth of the modulated carrier using measurment instrumentation employing a peak detector and a RBW approximately equal to 1% of the emission bandwidth.							
RESULTS	RESULTS BANDWIDTH							
Pass 19.65 MHz								
SIGNATURE								
Tested By:								

Emission Bandwidth - Mid Channel - 5.15 to 5.25 GHz Band



Northwest Emission Dandwidth							
EMC		EIIISSION	Danuwiui			01/30/01	
EUT:	802UIAG				Work Order:	ITRM0066	
Serial Number:	Unknown				Date:	04/15/05	
Customer:	Intermec Corporation				Temperature:	22°C	
Attendees:	None		Tested by:	Rod Peloquin	Humidity:	38% RH	
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV06		
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003	
SAMPLE CALCULATI	ONS						
COMMENTS							
Tested in CK61 Hand	Held Computer						
EUT OPERATING MO	DES						
Modulated at 54 Mbit.	Maximum output power.						
<b>DEVIATIONS FROM T</b>	EST STANDARD						
None							
REQUIREMENTS							
The emission bandwi	dth shall be determined by measu	ring the 26 dB bandwidth of the mo	odulated carrier using	measurment instrumen	tation employing a pe	ak detector and a	
RBW approximately e	qual to 1% of the emission bandw	idth.					
RESULTS	RESULTS BANDWIDTH						
Pass	ass 19.75 MHz						
SIGNATURE							
Rochy Le Peling							
DESCRIPTION OF TEST							

Emission Bandwidth - High Channel - 5.15 to 5.25 GHz Band



NORTHWEST		Emission	Bandwidt	h		Rev BETA 01/30/01	
EUT:	802UIAG				Work Order:	ITRM0066	
Serial Number:	Unknown				Date:	04/15/05	
Customer:	Intermec Corporation				Temperature:	22°C	
Attendees:	None		Tested by:	Rod Peloquin	Humidity:	38% RH	
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV06		
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003	
SAMPLE CALCULATIO	ONS						
COMMENTS							
Tested in CK61 Hand	Held Computer						
Modulated at 54 Mbit.	Maximum output power.						
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
The emission bandwidth shall be determined by measuring the 26 dB bandwidth of the modulated carrier using measurment instrumentation employing a peak detector and a RBW approximately equal to 1% of the emission bandwidth.							
RESULTS	RESULTS BANDWIDTH						
SIGNATURE							
Tested By:							

Emission Bandwidth - Low Channel - 5.25 to 5.35 GHz Band



NORTHWEST		Emission	Bandwidt	:h		Rev BETA 01/30/01	
EUT:	802UIAG				Work Order:	ITRM0066	
Serial Number:	Unknown				Date:	04/15/05	
Customer:	Intermec Corporation				Temperature:	22°C	
Attendees:	None		Tested by:	Rod Peloquin	Humidity:	38% RH	
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06	
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003	
SAMPLE CALCULATI	ONS						
COMMENTS							
Tested in CK61 Hand	Held Computer						
EUT OPERATING MOI	DES						
Modulated at 54 Mbit.	Maximum output power.						
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS		nin mither OC dD been dwidther of the m	a dulated a series using			ale data atau an dia	
RBW approximately e	qual to 1% of the emission bandw	ring the 26 dB bandwidth of the m idth.	odulated carrier using	measurment instrumer	itation employing a pe	ak detector and a	
RESULTS	RESULTS BANDWIDTH						
Pass	ass 19.8 MHz						
SIGNATURE							
Rochy le Relenge							
Tested By: DESCRIPTION OF TES							

Emission Bandwidth - Mid Channel - 5.25 to 5.35 GHz Band



NORTHWEST EMC		Emission	Bandwidt	th		Rev BETA 01/30/01	
EUT:	802UIAG				Work Order:	ITRM0066	
Serial Number:	Unknown	Unknown Date: 04/15/0					
Customer:	Intermec Corporation				Temperature:	22°C	
Attendees:	None		Tested by:	Rod Peloquin	Humidity:	38% RH	
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV06		
TEST SPECIFICATION	NS						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003	
SAMPLE CALCULATI	ONS						
COMMENTS							
Tested in CK61 Hand	Held Computer						
EUT OPERATING MO	DES						
Modulated at 54 Mbit.	Maximum output power.						
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
RBW approximately e	equal to 1% of the emission bandw	ring the 26 dB bandwidth of the m ridth.	odulated carrier using	measurment instrumer	itation employing a pe	ak detector and a	
RESULTS	RESULTS BANDWIDTH						
Pass	ass 19.65 MHz						
SIGNATURE							
Tested By:							
DESCRIPTION OF TES	ST						

Emission Bandwidth - High Channel - 5.25 to 5.35 GHz Band


NORTHWEST	NORTHWEST						
EMC		Emission	Bandwidt	n		Rev BETA 01/30/01	
EUT:	802UIAG				Work Order:	ITRM0066	
Serial Number:	Unknown				Date:	04/15/05	
Customer:	Intermec Corporation	termec Corporation					
Attendees:	None	None Tested by: Rod Peloquin				38% RH	
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06	
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003	
SAMPLE CALCULATI	ONS						
COMMENTS							
Tested in CK61 Hand	Held Computer						
EUT OPERATING MO	DES						
Modulated at 54 Mbit.	Maximum output power.						
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
The emission bandwi	dth shall be determined by measu	ring the 26 dB bandwidth of the m	odulated carrier using	measurment instrumen	tation employing a pe	ak detector and a	
RBW approximately e	qual to 1% of the emission bandw	idth.					
RESULTS	RESULTS BANDWIDTH						
Pass	Pass 19.8 MHz						
SIGNATURE							
Rocky to Pelings							
	· · · · ·						
DESCRIPTION OF TES	ST						

Emission Bandwidth - Low Channel - 5.725 to 5.825 GHz Band



NORTHWEST								
EMC		Emission I	Bandwidt	th		Rev BETA 01/30/01		
EUT:	802UIAG				Work Order:	ITRM0066		
Serial Number:	Unknown				Date:	04/15/05		
Customer:	Intermec Corporation				Temperature:	22°C		
Attendees:	None		Tested by:	Rod Peloquin	Humidity:	38% RH		
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATION	IS							
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003		
SAMPLE CALCULATI	ONS							
COMMENTS								
Tested in CK61 Hand	Held Computer							
EUT OPERATING MO	DES							
Modulated at 54 Mbit.	Maximum output power.							
DEVIATIONS FROM T	EST STANDARD							
None								
REQUIREMENTS								
The emission bandwi	dth shall be determined by measu	ring the 26 dB bandwidth of the mo	odulated carrier using	measurment instrumer	ntation employing a pea	ak detector and a		
RBW approximately e	qual to 1% of the emission bandw	idth.						
RESOLIS								
irass 19.5 Mil2								
SIGNATURE								
Roching to Release								
Tooted Due								
rested By:								
DESCRIPTION OF TH								

Emission Bandwidth - Mid Channel - 5.725 to 5.825 GHz Band



NORTHWEST EMC		Emission	Bandwidt	:h		Rev BETA 01/30/01	
EUT:	802UIAG				Work Order:	ITRM0066	
Serial Number:	Unknown				Date:	04/15/05	
Customer:	Intermec Corporation				Temperature:	22°C	
Attendees:	None	one Tested by: Rod Peloquin					
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06	
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003	
SAMPLE CALCULATIO	ONS						
COMMENTS							
COMMENTS	Hold Computer						
FUT ODERATING MOD							
Modulated at 54 Mbit	Maximum output power						
DEVIATIONS EROM T							
None	EST STANDARD						
REQUIREMENTS							
The emission bandwidth shall be determined by measuring the 26 dB bandwidth of the modulated carrier using measurment instrumentation employing a peak detector and a RBW approximately equal to 1% of the emission bandwidth.							
RESULTS			BANDWIDTH				
Pass 19.55 MHz							
SIGNATURE							
Kochy tu Pieleng							

Emission Bandwidth - High Channel - 5.725 to 5.825 GHz Band







#### Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:
Ch 36 (5180 MHz)
Ch 40 (5200 MHz)
Ch 48 (5240 MHz)
Ch 52 (5260 MHz)
Ch 60 (5300 MHz)
Ch 64 (5320 MHz)
Ch 149 (5745 MHz)
Ch 155 (5775 MHz)
Ch 161 (5805 MHz)

## **Operating Modes Investigated:**

Continuous transmit

Data Rates Investigated:	
6 Mbps (802.11a)	
36 Mbps (802.11a)	
54 Mbps (802.11a)	

#### **Output Power Setting(s) Investigated:**

Maximum default

## **Power Input Settings Investigated:**

120 VAC/60Hz

Software\Firmware Applied During Test						
Exercise software	cTxRx Win CE	Version	0.1.2.1			
Description						
The system was tested using special software developed to test all functions of the device during the test.						

EUT and Peripherals							
Description	Manufacturer	Model/Part Number	Serial Number				
EUT- 802.11(a)/(b)/(g) radio	Intermec Technologies Corporation	802UIAG	Unknown				
AC Adapter	Intermec Technologies Corporation	851-061-002	3335175				
Host Device	Intermec Technologies Corporation	СК61	33390400265				

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	Yes	1.9	PA	AC Power Adapter	Host Device
AC Power	No	2.0	No	AC Power Adapter	AC Mains
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

Measurement Equipment							
Description	Manufacturer	Model	Identifier	Last Cal	Interval		
Signal Generator	Hewlett Packard	8341B	TGN	02/07/2005	13 mo		
Power Meter	Hewlett Packard	E4418A	SPA	07/23/2004	24 mo		
Power Sensor	Hewlett-Packard	8481H	SPB	07/23/2004	24 mo		
RF Detector	RLC Electronics	CR-133-R	ZZA	NCR	NA		
Oscilloscope	Tektronix	TDS 3052	TOF	12/02/2004	13 mo		
Spectrum Analyzer	Agilent	E4446A	AAQ	04/08/2005	13 mo		

#### **Test Description**

**Requirements:** Per FCC 15.403(n), the maximum conducted output power is "the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode."

Per 15.407(a), the power limits are:

- (1) "For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or 4 dBm + 10log B, where B is the 26-dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- (2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- (3) For the band 5.725-5.825 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1 W or 17 dBm + 10log B, where B is the 26-dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 17 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-topoint U-NII devices operating in this band may employ transmitting antennas with directional gain up to 23 dBi without any corresponding reduction in the transmitter peak output power or peak power spectral density. For fixed, point-to-point U-NII transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in peak transmitter power and peak power spectral density for each 1 dB of antenna gain in excess of 23 dBi would be required. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional



applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. NOTE: The Commission strongly recommends that parties employing U-NII devices to provide critical communications services should determine if there are any nearby Government radar systems that could affect their operation.

(4) The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement conforming to the above definitions for the emission in question."

**Configuration:** FCC Public Notice DA 02-2138 was followed. The transmit frequency was set to the lowest, a medium, and the highest channels in each band. The transmit power was set to its default maximum. The lowest, a medium, and the highest data rates were measured. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input. The amplitude accuracy of the spectrum analyzer was further enhanced by calibrating the setup using the power meter and synthesized signal generator.

Prior to measuring peak transmit power; the emission bandwidth (B) and the transmission pulse duration (T) were measured. Both are required to determine the method of measuring Peak Transmit Power. The method of measuring the emission bandwidth and the associated data are found elsewhere in this test report. The transmission pulse duration (T) was measured across a constant amplitude pulse using an RF detector diode and an oscilloscope. The scope photos precede the power measurement data.

Method #1 found in FCC Public Notice DA02-2138 was used because the analyzer sweep time was less than or equal to T.

The spectrum analyzer settings were as follows:

- > The span was set to encompass entire emission bandwidth (B), centered on the transmit channel.
- The RBW = 1 MHz, VBW >= 3 MHz
- Sample detector mode because the bin width (span / number of spectral points) < 0.5 RBW.
- > Trace average 100 traces in power averaging mode (not video averaging).
- > Power was integrated across "B", by using the channel power function of the analyzer.

>
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EMC Peak Output Power							
EUT:	802UIAG				Work Order:	ITRM0066	
Serial Number:	Unknown				Date:	05/02/05	
Customer:	termec Corporation				Temperature:	22°C	
Attendees:	None		Tested by:	Greg Kiemel	Humidity:	38% RH	
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06	
TEST SPECIFICATION	IS		-				
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.4	Year:	2002, 2004	
SAMPLE CALCULATIO	ONS						
COMMENTS							
The output of the RF of	letector diode is negative polarit	у.					
EUT OPERATING MOD	DES						
The transmission puls	se duration is the same for all da	ta rates and transmit channels.					
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
Public Notice DA 02-213 required to determine the	38 allows averaging across the trans the method of measuring Peak Trans	nsmission pulse duration (T) - even if smit Power.	it is longer than 30/B (wh	nere B = 26 dB emission ba	andwidth of the signal	). The value of T is	
RESULTS			Value of T				
Pass	1.02 mS						
SIGNATURE							
Northy the Relenge							
DESCRIPTION OF TES				(T)			

#### Transmission Pulse Duration (T)



NORTHWEST Peak Output Power						
EUT:	802UIAG				Work Order:	ITRM0066
Serial Number:	Unknown				Date:	05/02/05
Customer:	Intermec Corporation				Temperature:	22°C
Attendees:	None	one Tested by: Rod Peloquin			Humidity:	38% RH
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06
TEST SPECIFICATION	NS			1		
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.4	Year:	2002, 2004
SAMPLE CALCULATI	ONS					
EIRP (peak) = Peak Pe	ower + Maximum Antenna Gain					
COMMENTS						
Tested in CK60 Comp	buter. The transmission pulse dur	ation (1) is 1.024 ms. The "OFF" t	ime is less than 9 us.			
EUT OPERATING MO	DES					
The transmission put	se duration is the same for all dat	a rates and transmit channels.				
DEVIATIONS FROM T	EST STANDARD					
REQUIREMENTS	a band the peak transmit power abo	I not avaged the lesser of 50mW or	4dBm + 10 log B whor	a R is the 26 dR emission	hondwidth in MH-	
If the antenna gain is g	reater than 6 dBi, the output must be	a reduced by the amount in dB that t	he directional dain of th	e antenna exceeds 6 dBi	bandwiden in iviniz.	
in the antenna gain is g		e reduced by the amount in db that t	ne directional gain of th	e antenna execcus e ubi.		
RESULTS						
Pass						
SIGNATURE						
Horly to Kelengs Tested By:						
DESCRIPTION OF TE	ST					
	De el Arete					

Peak Output Power - Low Channel - 5.15 to 5.25 GHz Band



EMC Peak Output Power							
EUT:	802UIAG			Work Order:	ITRM0066		
Serial Number:	Unknown			Date:	05/02/05		
Customer:	Intermec Corporation	termec Corporation			22°C		
Attendees:	None		Tested by: Rod Peloquin	Humidity:	38% RH		
Customer Ref. No.:	N/A		Power: 120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATION	S						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004		
SAMPLE CALCOLATI							
EIRP (peak) = Peak Po	wer + Maximum Antenna Gain						
COMMENTS							
Tested in CK60 Comp	uter. The transmission pulse durat	ion (T) is 1.024 ms. The "OFF" t	ime is less than 9 us.				
EUT OPERATING MOD	DES						
The transmission puls	e duration is the same for all data	rates and transmit channels.					
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
For the 5.15 - 5.25 GHz	band, the peak transmit power snall	not exceed the lesser of 50mvv or	4dBm + 10 log B, where B is the 26 dB emission ba	andwidth in MHz.			
if the antenna gain is gr	eater than 6 dBi, the output must be	reduced by the amount in dB that I	the directional gain of the antenna exceeds 6 dBl.				
RESULTS		<u> </u>					
Pass							
SIGNATURE							
Tested By:	Porty le Reling						
-							
DESCRIPTION OF TES	ST						
	Peak Ou	tput Power - Mid C	hannel - 5.15 to 5.25 GHz Ba	nd			

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5200	28.45	18.54	17	4	17.00	15.07	-1.93



EMC Peak Output Power								
EUT:	802UIAG			Work Order:	ITRM0066			
Serial Number:	Unknown			Date:	05/02/05			
Customer:	Intermec Corporation	termec Corporation			22°C			
Attendees:	None		Tested by: Rod Peloquin	Humidity:	38% RH			
Customer Ref. No.:	N/A		Power: 120VAC/60Hz	Job Site:	EV06			
TEST SPECIFICATION	IS							
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C6	3.4 Year:	2002, 2004			
EIRP (peak) = Peak Po	ower + Maximum Antenna Gain							
COMMENTS Tested in CK60 Comp	COMMENTS Tested in CK60 Computer. The transmission pulse duration (T) is 1.024 ms. The "OFF" time is less than 9 us.							
The transmission puls	DES se duration is the same for all data	rates and transmit channels.						
DEVIATIONS FROM T	EST STANDARD							
None								
REQUIREMENTS								
For the 5.15 - 5.25 GHz	band, the peak transmit power shall	not exceed the lesser of 50mW or	4dBm + 10 log B, where B is the 26 dB emission I	andwidth in MHz.				
If the antenna gain is gr	reater than 6 dBi, the output must be	reduced by the amount in dB that the	he directional gain of the antenna exceeds 6 dBi.					
RESULTS								
Pass								
SIGNATURE								
Tested By:	Porting te Reling							
DESCRIPTION OF TES	st Da a la Oart	nat Damas I link (		l				
	Peak Out	put Power - High C	nannel - 5.15 to 5.25 GHz B	and				

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5240	29	18.62	17	4	17.00	16.30	-0.70



EMC Peak Output Power								
EUT: 802UIAG			Work Order:	ITRM0066				
Serial Number: Unknown			Date:	05/02/05				
Customer: Intermec Corporation			Temperature:	22°C				
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH				
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06				
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004				
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Gair	ı							
Tested in CK60 Computer. The transmission pulse of	luration (T) is 1 024 ms The "OFF" tir	ne is less than 9 us						
EUT OPERATING MODES								
The transmission pulse duration is the same for all	data rates and transmit channels							
DEVIATIONS FROM TEST STANDARD								
None								
REQUIREMENTS								
For the 5.25 - 5.35 GHz band, the peak transmit power	shall not exceed the lesser of 250mW or	11dBm + 10 log B, where B is the 26 dB emission	bandwidth in MHz.					
If the antenna gain is greater than 6 dBi, the output mus	t be reduced by the amount in dB that th	e directional gain of the antenna exceeds 6 dBi.		I				
		<u> </u>						
RESULIS								
Kochy le Pelugs Tested By:								
DESCRIPTION OF TEST	DESCRIPTION OF TEST							
Peak C	Peak Output Power - Low Channel - 5.25 to 5.35 GHz Band							

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5260	30	25.77	24	4	24.00	16.33	-7.67



EMC Peak Output Power							
EUT: 802UIAG			Work Order:	ITRM0066			
Serial Number: Unknown			Date:	05/02/05			
Customer: Intermec Corporation	Customer: Intermec Corporation						
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH			
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06			
TEST SPECIFICATIONS							
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004			
SAMPLE CALCULATIONS							
EIRP (peak) = Peak Power + Maximum Antenna Gain							
COMMENTS	ration (T) is 1 024 ms. The "OFF" tin	na ia laga than Que					
Tested in CK60 Computer. The transmission pulse du	ration (1) is 1.024 firs. The OFF un	në is less than 9 us.					
EUT OPERATING MODES	ta rates and transmit channels						
	ta fates and transmit enamiers.						
None							
REQUIREMENTS							
For the 5.25 - 5.35 GHz band, the peak transmit power sh	all not exceed the lesser of 250mW or	11dBm + 10 log B, where B is the 26 dB emission	bandwidth in MHz.				
If the antenna gain is greater than 6 dBi, the output must h	be reduced by the amount in dB that the	e directional gain of the antenna exceeds 6 dBi.					
RESULIS							
FIGNATURE							
Nochy to Pieling							
DESCRIPTION OF TEST							
Peak Or	Itput Power - Mid Ch	annel - 5.25 to 5.35 GHz Ba	nd				

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5300	30.2	25.80	24	4	24.00	16.81	-7.19



EMC Peak Output Power							
EUT: 802UIAG			Work Order:	ITRM0066			
Serial Number: Unknown			Date:	05/02/05			
Customer: Intermec Corporation			Temperature:	22°C			
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH			
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06			
TEST SPECIFICATIONS							
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004			
SAMPLE CALCULATIONS							
EIRP (peak) = Peak Power + Maximum Antenna Gai	1						
Tested in CK60 Computer. The transmission pulse	duration (T) is 1.024 ms. The "OFF" tir	me is less than 9 us.					
EUT OPERATING MODES							
The transmission pulse duration is the same for all	data rates and transmit channels.						
DEVIATIONS FROM TEST STANDARD							
None							
REQUIREMENTS							
For the 5.25 - 5.35 GHz band, the peak transmit power	shall not exceed the lesser of 250mW or	11dBm + 10 log B, where B is the 26 dB emission	bandwidth in MHz.				
If the antenna gain is greater than 6 dBi, the output mu	t be reduced by the amount in dB that the	e directional gain of the antenna exceeds 6 dBi.					
RESULTS							
Pass							
SIGNATURE							
Rochy to Felings							
DESCRIPTION OF TEST							
Peak C	utput Power - High Ch	nannel - 5.25 to 5.35 GHz Ba	and				

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5320	32.6	26.13	24	4	24.00	17.24	-6.76



EMC Peak Output Power						
EUT: 802UIAG			Work Order:	ITRM0066		
Serial Number: Unknown			Date:	05/02/05		
Customer: Intermec Corporation	Temperature:	22°C				
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH		
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATIONS						
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004		
SAMPLE CALCULATIONS						
EIRP (peak) = Peak Power + Maximum Antenna Gain						
COMMENTS		an in loss than 0 we				
Tested in CK60 Computer. The transmission pulse durat	ion (1) is 1.024 ms. The "OFF" tin	hë is less than 9 us.				
EUT OPERATING MODES	rates and transmit shannels					
	rates and transmit channels.					
None						
REQUIREMENTS						
For the 5 725 - 5 825 GHz hand, the peak transmit power sh	all not exceed the lesser of 1 W or 1	7dBm + 10 log B where B is the 26 dB emission h	andwidth in MHz			
If the antenna gain is greater than 6 dBi, the output must be	reduced by the amount in dB that the	e directional gain of the antenna exceeds 6 dBi	andwidth in winz.			
RESULTS						
Pass						
SIGNATURE						
Rochy te Relenger						
DESCRIPTION OF TEST						
Peak Outp	ut Power - Low Cha	innei - 5.725 to 5.825 GHz B	and			

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5745	34.15	32.33	30	4	30.00	14.64	-15.36

<u>₩</u> A	gilent 14:	56:08	Ma	y 2,20	005	)							
Ref 15	dBm			#{	Att	en 20 di	3						
#Samp													
Log 1Й								~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					
dB/						/							
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#PAvg													
100					$\rightarrow$								
W1 S2 Convers													
center #Res B	5.745 00 W 1 MHz	9 GHZ				:	≢VBW 8 M	Hz		Swee	p 1	spar ms (6	601 pts)
Char	nel Pow	/er							Po	ower Sp	ect	ral D	ensity
14	.64 dB	m /	34	.1500	2	MHz				-60.7	70	dBn	ı/Hz

NORTHWEST	Peak Out	put Power		Rev BETA 01/30/01							
EUT: 802UIAG			Work Order:	ITRM0066							
Serial Number: Unknown			Date:	05/02/05							
Customer: Intermec Corporation Temperature: 22°C											
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH							
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06							
TEST SPECIFICATIONS											
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004							
SAMPLE CALCULATIONS											
EIRP (peak) = Peak Power + Maximum Antenna Gain											
Tested in CK60 Computer. The transmission pulse du	ration (T) is 1.024 ms. The "OFF" tir	ne is less than 9 us.									
EUT OPERATING MODES											
The transmission pulse duration is the same for all da	ita rates and transmit channels.										
DEVIATIONS FROM TEST STANDARD											
None											
REQUIREMENTS											
For the 5.725 - 5.825 GHz band, the peak transmit power	shall not exceed the lesser of 1 W or 1	7dBm + 10 log B, where B is the 26 dB emission b	andwidth in MHz.								
If the antenna gain is greater than 6 dBi, the output must	be reduced by the amount in dB that the	e directional gain of the antenna exceeds 6 dBi.									
RESULTS											
Pass											
SIGNATURE											
Rochy to Felings											
DESCRIPTION OF TEST											
Peak Ou	uput Power - Mid Cha	nnel - 5.725 to 5.825 GHz B	and								

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5775	34.2	32.34	30	4	30.00	14.40	-15.60



NORTHWEST EMC	Peak Out	put Power		Rev BETA 01/30/01							
EUT: 802UIAG			Work Order:	ITRM0066							
Serial Number: Unknown			Date:	05/02/05							
Customer: Intermec Corporation Temperature: 22°C											
Attendees: None Tested by: Rod Peloquin Humidity: 38% RH											
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06							
TEST SPECIFICATIONS											
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004							
SAMPLE CALCULATIONS											
EIRP (peak) = Peak Power + Maximum Antenna Gain											
COMMENTS		i- i then 0									
Tested in CK80 Computer: The transmission pulse durat	ion (1) is 1:024 lins. The OFF un	le is less than 9 us.									
EUT OPERATING MODES	rates and transmit channels										
The transmission pulse duration is the same for all data	rates and transmit channels.										
None											
PEOLIDEMENTS											
For the 5 725 - 5 825 GHz band, the peak transmit power sh	all not exceed the lesser of 1 W or 1	7dBm + 10 log B where B is the 26 dB emission h	andwidth in MHz								
If the antenna gain is greater than 6 dBi, the output must be	reduced by the amount in dB that the	directional gain of the antenna exceeds 6 dBi									
RESULTS											
Pass											
SIGNATURE											
Nochy te Relenges Tested By:											
DESCRIPTION OF TEST											
Peak Outpo	ut Power - High Cha	innei - 5./25 to 5.825 GHz E	sand								

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5805	32	32.05	30	4	30.00	14.22	-15.78

<b>₩</b> A	gilent 15:	05:56	May 2	2,200	5						
Ref 15	dBm			#At	ten 20 di	В					
#Samp			K							7	
Log 1Й							~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
dB/											
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∠∠ dB	war	man .								and a second	the second se
ab	and the second s										- The amount
#PAva											
100											
W1 S2											
Center #Res B	5.805 00 W 1 MHz	0 GHz				#VBW 8 M	Hz		Swee	Spa p1ms(	n 50 MHz 601 pts)
Char	nel Pow	er						Po	ower Sp	ectral [	)ensity
14	.22 dB	m /3	2.0	000	MHz				-60.8	34 dBi	n/Hz

EMC	Peak Out	put Power		Rev BETA 01/30/01							
EUT: 802UIAG			Work Order:	ITRM0066							
Serial Number: Unknown			Date:	05/02/05							
Customer: Intermec Corporation			Temperature:	22°C							
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH							
Customer Ref. No.: N/A	Customer Ref. No.: N/A Power: 120VAC/60Hz Job Site: EV06										
TEST SPECIFICATIONS											
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63	.4 Year:	2002, 2004							
SAMPLE CALCULATIONS											
EIRP (peak) = Peak Power + Maximum Antenna Gain											
COMMENTS	tion (T) is 4 024 may The #OFF#	time is less than 0									
Tested in CK60 Computer. The transmission pulse dura	ition (1) is 1.024 ms. The OFF	time is less than 9 us.									
EUT OPERATING MODES	rates and transmit shannels										
None											
REQUIREMENTS											
For the 5.15 - 5.25 GHz band, the peak transmit power sha	I not exceed the lesser of 50mW o	r 4dBm + 10 log B, where B is the 26 dB emission	h bandwidth in MHz.								
If the antenna gain is greater than 6 dBi, the output must be	reduced by the amount in dB that	the directional gain of the antenna exceeds 6 dB	i.								
RESULTS											
Pass											
Nochy le Pielings Tested By:											
DESCRIPTION OF TEST											
Peak Out	ut Power - Low Ch	annel - 5.15 to 5.25 GHz B	and								

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5180	19.65	16.93	17	4	16.93	9.80	-7.13

<b>∦</b> A	<b>gilent</b> 13:4	14:07 Ma	ay 2,200	5						
Ref 15	dBm		#At	ten 20 di	В					
#Samp Lo∝				<						
LU9 10				Manura	and the second	,	·····			
dB/										
Offst				/			\			
ZZ dB			ۍ	r			۱ ۱	<b>.</b>		
		and the second	month					monterry	and and a second	
	and a second	~~~~								and the second s
#PHVg 100										
W1 S2										
Center	5.180 00	GHz							Spar	n 50 MHz
#Res B	W 1 MHz				#VBW 8 M	Hz		Swee	p1 ms(6	601 pts)
Char	nel Pow	er					P	ower Sp	ectral D	ensity
9.8	30 dBm	/19	.6500	MHz				-63.2	13 dBm	ı/Hz

NORTHWEST EMC		Peak Out	tput Power		Rev BETA 01/30/01
EUT:	802UIAG			Work Order:	ITRM0066
Serial Number:	Unknown			Date:	05/02/05
Customer:	Intermec Corporation			Temperature:	22°C
Attendees:	None		Tested by: Rod Peloquin	Humidity:	38% RH
Customer Ref. No.:	N/A		Power: 120VAC/60Hz	Job Site:	EV06
TEST SPECIFICATION	S				
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004
SAMPLE CALCOLATI					
EIRP (peak) = Peak Po	wer + Maximum Antenna Gain				
COMMENTS					
Tested in CK60 Comp	uter. The transmission pulse durat	ion (T) is 1.024 ms. The "OFF" t	ime is less than 9 us.		
EUT OPERATING MOD	DES				
The transmission puls	e duration is the same for all data	rates and transmit channels.			
DEVIATIONS FROM T	EST STANDARD				
None					
REQUIREMENTS					
For the 5.15 - 5.25 GHz	band, the peak transmit power snall	not exceed the lesser of 50mvv or	4dBm + 10 log B, where B is the 26 dB emission ba	andwidth in MHz.	
if the antenna gain is gr	eater than 6 dBi, the output must be	reduced by the amount in dB that I	the directional gain of the antenna exceeds 6 dBl.		
RESULTS		<u> </u>			
Pass					
SIGNATURE					
Tested By:	Porty le Reling				
-					
DESCRIPTION OF TES	ST				
	Peak Ou	tput Power - Mid C	hannel - 5.15 to 5.25 GHz Ba	nd	

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5200	19.7	16.94	17	4	16.94	11.66	-5.28



NORTHWEST		Peak Out	put Power		Rev BETA 01/30/01							
EUT:	802UIAG			Work Order:	ITRM0066							
Serial Number:	Unknown			Date:	05/02/05							
Customer:	Intermec Corporation			Temperature:	22°C							
Attendees:	None		Tested by: Rod Peloquin	Humidity:	38% RH							
Customer Ref. No.:	N/A	V/A Power: 120VAC/60Hz Job Site: EV06										
TEST SPECIFICATION	T SPECIFICATIONS											
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C6	3.4 Year:	2002, 2004							
EIRP (peak) = Peak Po	ower + Maximum Antenna Gain											
COMMENTS Tested in CK60 Comp	uter. The transmission pulse durat	ion (T) is 1.024 ms. The "OFF" ti	me is less than 9 us.									
The transmission puls	DES se duration is the same for all data	rates and transmit channels.										
DEVIATIONS FROM T	EST STANDARD											
None												
REQUIREMENTS												
For the 5.15 - 5.25 GHz	band, the peak transmit power shall	not exceed the lesser of 50mW or	4dBm + 10 log B, where B is the 26 dB emission I	andwidth in MHz.								
If the antenna gain is gr	reater than 6 dBi, the output must be	reduced by the amount in dB that the	he directional gain of the antenna exceeds 6 dBi.									
RESULTS												
Pass												
SIGNATURE												
Rochy Le Peleny												
DESCRIPTION OF TES	st Da a la Oart	nat Damas I link (		l								
	Peak Out	put Power - High C	nannel - 5.15 to 5.25 GHz B	and								

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5240	19.65	16.93	17	4	16.93	12.80	-4.13



EMC Peak Output Power							
EUT: 802UIAG			Work Order:	ITRM0066			
Serial Number: Unknown			Date:	05/02/05			
Customer: Intermec Corporation			Temperature:	22°C			
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH			
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06			
TEST SPECIFICATIONS							
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004			
SAMPLE CALCULATIONS							
EIRP (peak) = Peak Power + Maximum Antenna Gain							
Tested in CK60 Computer. The transmission pulse de	uration (T) is 1.024 ms. The "OFF" tin	ne is less than 9 us.					
EUT OPERATING MODES							
The transmission pulse duration is the same for all d	ata rates and transmit channels.						
DEVIATIONS FROM TEST STANDARD							
None							
REQUIREMENTS							
For the 5.25 - 5.35 GHz band, the peak transmit power s	nall not exceed the lesser of 250mW or	11dBm + 10 log B, where B is the 26 dB emission	bandwidth in MHz.				
If the antenna gain is greater than 6 dBi, the output must	be reduced by the amount in dB that the	e directional gain of the antenna exceeds 6 dBi.					
RESULTS							
Pass							
SIGNATURE							
Northy the Pielings							
DESCRIPTION OF TEST							
Peak O	utput Power - Low Ch	annel - 5.25 to 5.35 GHz Ba	and				

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5260	19.7	23.94	24	4	23.94	13.61	-10.33

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EMC Peak Output Power							
EUT: 802UIAG			Work Order:	ITRM0066			
Serial Number: Unknown			Date:	05/02/05			
Customer: Intermec Corporation			Temperature:	22°C			
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH			
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06			
TEST SPECIFICATIONS							
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004			
SAMPLE CALCULATIONS							
EIRP (peak) = Peak Power + Maximum Antenna Gain							
Tested in CK60 Computer. The transmission pulse du	ration (T) is 1.024 ms. The "OFF" tir	ne is less than 9 us.					
EUT OPERATING MODES							
The transmission pulse duration is the same for all da	ata rates and transmit channels.						
DEVIATIONS FROM TEST STANDARD							
None							
REQUIREMENTS							
For the 5.25 - 5.35 GHz band, the peak transmit power sh	all not exceed the lesser of 250mW or	11dBm + 10 log B, where B is the 26 dB emission	bandwidth in MHz.				
If the antenna gain is greater than 6 dBi, the output must	be reduced by the amount in dB that the	e directional gain of the antenna exceeds 6 dBi.					
RESULTS							
Pass							
SIGNATURE							
Rochy te Pelings Tested By:							
DESCRIPTION OF TEST							
Peak O	utput Power - Mid Ch	annel - 5.25 to 5.35 GHz Ba	nd				

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5300	20.05	24.02	24	4	24.00	14.47	-9.53



EMC Peak Output Power							
EUT: 802UIAG			Work Order:	ITRM0066			
Serial Number: Unknown			Date:	05/02/05			
Customer: Intermec Corporation			Temperature:	22°C			
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH			
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06			
TEST SPECIFICATIONS							
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004			
SAMPLE CALCULATIONS							
EIRP (peak) = Peak Power + Maximum Antenna Gai	1						
Tested in CK60 Computer. The transmission pulse	duration (T) is 1.024 ms. The "OFF" tir	me is less than 9 us.					
EUT OPERATING MODES							
The transmission pulse duration is the same for all	data rates and transmit channels.						
DEVIATIONS FROM TEST STANDARD							
None							
REQUIREMENTS							
For the 5.25 - 5.35 GHz band, the peak transmit power	shall not exceed the lesser of 250mW or	11dBm + 10 log B, where B is the 26 dB emission	bandwidth in MHz.				
If the antenna gain is greater than 6 dBi, the output mu	t be reduced by the amount in dB that the	e directional gain of the antenna exceeds 6 dBi.					
RESULTS							
Pass							
SIGNATURE							
Rochy te Pelings Tested By:							
DESCRIPTION OF TEST							
Peak C	utput Power - High Ch	nannel - 5.25 to 5.35 GHz Ba	and				

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5320	20.25	24.06	24	4	24.00	14.86	-9.14



EMC Peak Output Power							
EUT: 80	02UIAG			Work Order:	ITRM0066		
Serial Number: U	nknown			Date:	05/02/05		
Customer: In	termec Corporation			Temperature:	22°C		
Attendees: N	one		Tested by: Rod Peloquin	Humidity:	38% RH		
Customer Ref. No.: N	/A		Power: 120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATIONS							
Specification: 47	7 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004		
SAMPLE CALCULATION	IS						
EIRP (peak) = Peak Powe	er + Maximum Antenna Gain						
COMMENTS Tested in CK60 Compute	a. The transmission pulse durat	ion (T) io 1.024 ms. The "OEE" tim	a is less than Que				
Tested in CKoo Compute	ar. The transmission pulse durat	on (1) is 1.024 ms. The OFF unit	ie is less than 9 us.				
EUT OPERATING MODE	S duration is the same for all data	rates and transmit shannels					
The transmission pulse of	duration is the same for an uata	ates and transmit channels.					
DEVIATIONS FROM TES							
REQUIREMENTS							
For the 5 725 - 5 825 GHz	band the neak transmit power shi	all not exceed the lesser of 1 W or 17	ZdBm + 10 log B where B is the 26 dB emission h	andwidth in MHz			
If the antenna gain is great	ater than 6 dBi, the output must be i	reduced by the amount in dB that the	directional gain of the antenna exceeds 6 dBi.				
n the antonna gain to g.co.		coulded by the amount in all the set					
RESULTS							
Pass							
SIGNATURE Nochy the Pelings Tested By:							
DESCRIPTION OF TEST							
	Peak Outpr	ut Power - Low Cha	nnel - 5.725 to 5.825 GHz B	and			

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5745	22	30.42	30	4	30.00	12.22	-17.78



EMC Peak Output Power							
EUT: 802UIAG			Work Order:	ITRM0066			
Serial Number: Unknown			Date:	05/02/05			
Customer: Intermec Corporation			Temperature	22°C			
Attendees: None		Tested by: Rod Peloquin	Humidity	38% RH			
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06			
TEST SPECIFICATIONS							
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004			
SAMPLE CALCULATIONS							
EIRP (peak) = Peak Power + Maximum Antenna Gair							
Tested in CK60 Computer The transmission pulse of	luration (T) is 1 024 ms. The "OFF" tin	ne is less than 9 us					
FUT OPERATING MODES		lie 15 1655 (lian 5 us.					
The transmission pulse duration is the same for all	lata rates and transmit channels.						
DEVIATIONS FROM TEST STANDARD							
None							
REQUIREMENTS							
For the 5.725 - 5.825 GHz band, the peak transmit pow	er shall not exceed the lesser of 1 W or 1	7dBm + 10 log B, where B is the 26 dB emission b	andwidth in MHz.				
If the antenna gain is greater than 6 dBi, the output mus	t be reduced by the amount in dB that the	e directional gain of the antenna exceeds 6 dBi.					
RESULTS							
Kochy le Pielings Tested By:							
DESCRIPTION OF TEST							
Peak Or	Itput Power - Mid Cha	nnel - 5.725 to 5.825 GHz B	and				

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5775	20.65	30.15	30	4	30.00	11.98	-18.02



EMC Peak Output Power							
EUT: 802UIAG			Work Order:	ITRM0066			
Serial Number: Unknown			Date:	05/02/05			
Customer: Intermec Corporation			Temperature:	22°C			
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH			
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06			
TEST SPECIFICATIONS							
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004			
SAMPLE CALCULATIONS							
EIRP (peak) = Peak Power + Maximum Antenna Gain							
COMMENTS	uration (T) is 1 024 ms The "OFF" tin	no is loss than Que					
Tested in CK60 Computer. The transmission pulse of	Jration (1) is 1.024 ms. The OFF un	he is less than 9 us.					
EUT OPERATING MODES	ate rates and transmit channels						
	did fales and fransmit chamers.						
DEVIATIONS FROM TEST STANDARD							
DEOLIDEMENTS							
For the 5 725 - 5 825 GHz hand, the neak transmit nowe	r shall not exceed the lesser of 1 W or 1	ZdBm + 10 log B where B is the 26 dB emission b	andwidth in MHz				
If the enterna dain is greater than 6 dBi, the output must	be reduced by the amount in dB that the	e directional gain of the antenna exceeds 6 dBi					
If the differing gain is greater than o der, the carper mast	De leudee by the amount in the stat and	e directional gain of the america execces e ap.					
RESULTS							
Pass							
SIGNATURE							
Kochy le Reling							
DESCRIPTION OF TEST							
Peak Out	put Power - High Cha	annel - 5.725 to 5.825 GHz E	Band				

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5805	20.65	30.15	30	4	30.00	11.76	-18.24



EMC Peak Output Power								
EUT: 802UIAG				Wo	rk Order: ITRM006	6		
Serial Number: Unknown					Date: 05/02/05			
Customer: Intermec Corporation				Tem	perature: 22°C			
Attendees: None		Tested by:	Rod Peloquin	F	Humidity: 38% RH			
Customer Ref. No.: N/A		Job Site: EV06						
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4	Year: 2002, 200	04		
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Gain	EIRP (peak) = Peak Power + Maximum Antenna Gain							
Tested in CK60 Computer. The transmission pulse dura	ation (T) is 1.024 ms. The "OFF"	time is less than 9 us.						
EUT OPERATING MODES								
The transmission pulse duration is the same for all dat	a rates and transmit channels.							
DEVIATIONS FROM TEST STANDARD								
None								
REQUIREMENTS								
For the 5.15 - 5.25 GHz band, the peak transmit power sha	Il not exceed the lesser of 50mW o	r 4dBm + 10 log B, where	e B is the 26 dB emission	n bandwidth ir	n MHz.			
If the antenna gain is greater than 6 dBi, the output must be	reduced by the amount in dB that	the directional gain of the	e antenna exceeds 6 dBi	i.				
RESULTS								
Pass								
SIGNATURE								
Rochy to Reling								
DESCRIPTION OF TEST								
Peak Outp	out Power - Low Ch	annel - 5.15 t	o 5.25 GHz B	and				

Freque (MH	ency Iz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
518	30	19.6	16.92	17	4	16.92	9.70	-7.22
* A	gilent	13:45:41 M	ay 2, 2005					
Ref 15	dBm		#Atter	n 20 dB				
#Samp Log 10					****			
dB/ Offst								
dB		- Abaraharan	- Marine - Carlos Marine - Mar			<u> </u>	an more thank	
		and and a						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
#PAvg 100 W1 S2								
Center #Res B	5.180 W 1 M	0 00 GHz 1Hz		#VBW :	8 MHz	I	Sweep 1 m	Span 50 MHz s (601 pts)
Chan	inel F	Power				Pov	ver Spectra	al Density
9.7	'0 d	Bm /19	9.6000 M	Hz			-63.23 d	18m/Hz

NORTHWEST EMC		Peak Out	tput Power		Rev BETA 01/30/01		
EUT:	802UIAG			Work Order:	ITRM0066		
Serial Number:	Unknown			Date:	05/02/05		
Customer:	Intermec Corporation			Temperature:	22°C		
Attendees:	None		Tested by: Rod Peloquin	Humidity:	38% RH		
Customer Ref. No.:	N/A	I/A Power: 120VAC/60Hz			EV06		
TEST SPECIFICATION	S						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004		
SAMPLE CALCOLATI							
EIRP (peak) = Peak Po	wer + Maximum Antenna Gain						
COMMENTS							
Tested in CK60 Comp	uter. The transmission pulse durat	ion (T) is 1.024 ms. The "OFF" t	ime is less than 9 us.				
EUT OPERATING MOD	DES						
The transmission puls	e duration is the same for all data	rates and transmit channels.					
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
For the 5.15 - 5.25 GHz	band, the peak transmit power snall	not exceed the lesser of 50mvv or	4dBm + 10 log B, where B is the 26 dB emission ba	andwidth in MHz.			
if the antenna gain is gr	eater than 6 dBi, the output must be	reduced by the amount in dB that I	the directional gain of the antenna exceeds 6 dBl.				
RESULTS		<u> </u>					
Pass							
SIGNATURE							
Tested By:	Porty le Reling						
-							
DESCRIPTION OF TES	ST						
	Peak Ou	tput Power - Mid C	hannel - 5.15 to 5.25 GHz Ba	nd			

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5200	19.65	16.93	17	4	16.93	9.72	-7.21

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NORTHWEST		Peak Out	put Power		Rev BETA 01/30/01	
EUT:	802UIAG			Work Order:	ITRM0066	
Serial Number:	Unknown			Date:	05/02/05	
Customer:	Intermec Corporation			Temperature:	22°C	
Attendees:	None		Tested by: Rod Peloquin	Humidity:	38% RH	
Customer Ref. No.:	N/A	I/A Power: 120VAC/60Hz			EV06	
TEST SPECIFICATION	IS					
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C6	3.4 Year:	2002, 2004	
EIRP (peak) = Peak Po	ower + Maximum Antenna Gain					
COMMENTS Tested in CK60 Comp	uter. The transmission pulse durat	ion (T) is 1.024 ms. The "OFF" ti	me is less than 9 us.			
The transmission puls	DES se duration is the same for all data	rates and transmit channels.				
DEVIATIONS FROM T	EST STANDARD					
None						
REQUIREMENTS						
For the 5.15 - 5.25 GHz	band, the peak transmit power shall	not exceed the lesser of 50mW or	4dBm + 10 log B, where B is the 26 dB emission I	andwidth in MHz.		
If the antenna gain is gr	reater than 6 dBi, the output must be	reduced by the amount in dB that the	he directional gain of the antenna exceeds 6 dBi.			
RESULTS						
Pass						
SIGNATURE						
Tested By:	Porting te Reling					
DESCRIPTION OF TES	st Da a la Oart	nat Damas I link (		l		
	Peak Out	put Power - High C	nannel - 5.15 to 5.25 GHz B	and		

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5240	19.75	16.96	17	4	16.96	11.18	-5.78



NORTHWEST	Peak Out	put Power		Rev BETA 01/30/01				
EUT: 802UIAG			Work Order:	ITRM0066				
Serial Number: Unknown			Date:	05/02/05				
Customer: Intermec Corporation			Temperature:	22°C				
Attendees: None	s: None Tested by: Rod Peloquin							
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06				
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004				
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Gain								
Tested in CK60 Computer. The transmission pulse de	uration (T) is 1.024 ms. The "OFF" tin	ne is less than 9 us.						
EUT OPERATING MODES								
The transmission pulse duration is the same for all d	ata rates and transmit channels.							
DEVIATIONS FROM TEST STANDARD								
None								
REQUIREMENTS								
For the 5.25 - 5.35 GHz band, the peak transmit power s	nall not exceed the lesser of 250mW or	11dBm + 10 log B, where B is the 26 dB emission	bandwidth in MHz.					
If the antenna gain is greater than 6 dBi, the output must	be reduced by the amount in dB that the	e directional gain of the antenna exceeds 6 dBi.						
RESULTS								
Pass								
SIGNATURE								
Rochy Le Pielings Tested By:								
DESCRIPTION OF TEST								
Peak O	utput Power - Low Ch	annel - 5.25 to 5.35 GHz Ba	and					

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5260	19.7	23.94	24	4	23.94	11.95	-11.99

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NORTHWEST EMC	Peak Out	put Power		Rev BETA 01/30/01				
EUT: 802UIAG			Work Order	ITRM0066				
Serial Number: Unknown			Date	: 05/02/05				
Customer: Intermec Corporation			Temperature	: 22°C				
Attendees: None	ees: None Tested by: Rod Peloquin							
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site	: EV06				
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year	: 2002, 2004				
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Gain								
Tested in CK60 Computer. The transmission pulse di	ration (T) is 1 024 ms The "OFF" tir	ne is less than 9 us						
The transmission pulse duration is the same for all d	ata rates and transmit channels							
None								
REQUIREMENTS								
For the 5.25 - 5.35 GHz band, the peak transmit power s	hall not exceed the lesser of 250mW or	11dBm + 10 log B, where B is the 26 dB emission	bandwidth in MHz.					
If the antenna gain is greater than 6 dBi, the output must	be reduced by the amount in dB that th	e directional gain of the antenna exceeds 6 dBi.						
		<u> </u>						
RESULTS								
Pass								
Rocky le Releys								
DESCRIPTION OF TEST								
Peak O	utput Power - Mid Ch	annel - 5.25 to 5.35 GHz Ba	nd					

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5300	19.8	23.97	24	4	23.97	12.88	-11.09





EMC Peak Output Power								
EUT: 802UIAG			Work Order:	ITRM0066				
Serial Number: Unknown			Date:	05/02/05				
Customer: Intermec Corporation			Temperature:	22°C				
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH				
Customer Ref. No.: N/A	Power: 120VAC/60Hz	Job Site:	EV06					
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004				
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Gain								
COMMENTS	ion (T) is 1 024 ms. The "OEE" tin	a is loss than Que						
FUT OPERATING MODES	1011 (1) IS 1.024 ms. me or am	le is less than a us.						
The transmission pulse duration is the same for all data	rates and transmit channels							
DEVIATIONS FROM TEST STANDARD								
None								
REQUIREMENTS								
For the 5.25 - 5.35 GHz band, the peak transmit power shall	not exceed the lesser of 250mW or	11dBm + 10 log B, where B is the 26 dB emission	bandwidth in MHz.					
If the antenna gain is greater than 6 dBi, the output must be	reduced by the amount in dB that the	e directional gain of the antenna exceeds 6 dBi.						
RESULTS								
Pass								
SIGNATURE								
Norty te Relings Tested By								
DESCRIPTION OF TEST								
Peak Out	Peak Output Power - High Channel - 5.25 to 5.35 GHz Band							

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5320	19.65	23.93	24	4	23.93	13.26	-10.67

## 🔆 Agilent 15:27:17 May 2, 2005

*Samp Log 10 dB/ Offst 22 dB *PRvg 1.0 MHz *PRvg 100 W1 S2 Center 5.320 00 GHz *Res BW 1 MHz Channel Power 13.26 dBm /19.6500 MHz *Res BW 1 MHz *PRvg 13.26 dBm /19.6500 MHz *Res BW 1 MHz *PRvg -59.68 dBm/Hz	Ref 15	dBm		#At:	ten 20 df	3					
Log 10 dB/ Offst 22 dB RBW 1.0 MHz *PAvg 100 W1 S2 Center 5.320 00 GHz *Res BW 1 MHz *VBW 8 MHz Channel Power 13.26 dBm /19.6500 MHz -59.68 dBm/Hz	#Samp	ab iii			K			, ,			
100 dB/ 22 dB   MB/ 22 dB   MB/ 22 dB   MB/ 20 dB   MB/ 20 dB </td <td>Log</td> <td></td> <td></td> <td></td> <td>and the second se</td> <td>and the second second</td> <td>and and a second second</td> <td>man</td> <td></td> <td></td> <td></td>	Log				and the second se	and the second second	and and a second second	man			
with size RBW a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a	10 dB7										
22 dB   RBW   Image: constraint of the second seco	0ffst				/						
**PAvg   **PAvg     1.0   MHz     **PAvg   **     100   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **     **   **	22 dB			w. Pasper all and the				, ,	manne		
*PAvg   1.0 MHz   1.0 MHz     100   1.0 MHz   1.0 MHz     1.0 MHz   1.0 MHz   1.0 MHz     Center   5.320 00 GHz   Span 50 MHz     *Res BW 1 MHz   *VBW 8 MHz   Sweep 1 ms (601 pts)     Channel Power   Power Spectral Density     13.26 dBm /19.6500 MHz   -59.68 dBm/Hz		RRW	and a start of the							Carrier Marker and	Maria
#PAvg     100     W1 S2     Center 5.320 00 GHz     #Res BW 1 MHz     #VBW 8 MHz     Sweep 1 ms (601 pts)     Power Spectral Density     13.26 dBm /19.6500 MHz     -59.68 dBm/Hz		101 ML									And a second second
#PHvg 100 W1 S2   Span 50 MHz     Center 5.320 00 GHz   Span 50 MHz     *Res BW 1 MHz   *VBW 8 MHz   Sweep 1 ms (601 pts)     Channel Power   Power Spectral Density     13.26 dBm /19.6500 MHz   -59.68 dBm/Hz	5.0	-T.O.I.II	חב—— ו								
W1     S2     Span 50 MHz       Center 5.320 00 GHz     Span 50 MHz     Span 50 MHz       #Res BW 1 MHz     #VBW 8 MHz     Sweep 1 ms (601 pts)       Channel Power     Power Spectral Density       13.26 dBm     /19.6500 MHz     -59.68 dBm/Hz	#PHvg 100										
Span 50 MHz       Span 50 MHz       #Res BW 1 MHz     Sweep 1 ms (601 pts)       Channel Power     Power Spectral Density       13.26 dBm /19.6500 MHz     -59.68 dBm/Hz	W1 S2										
*Res BW 1 MHz *VBW 8 MHz Sweep 1 ms (601 pts)   Channel Power Power Spectral Density   13.26 dBm /19.6500 MHz -59.68 dBm/Hz	Center	5.320 00	) GHz							Spar	150 MHz
Channel PowerPower Spectral Density13.26 dBm /19.6500 MHz-59.68 dBm/Hz	#Res Bl	W 1 MHz				#VBW 8 M	Hz		Swee	p1 ms(6	601 pts)
13.26 dBm /19.6500 MHz -59.68 dBm/Hz	Chan	nel Pow	/er					P	ower Sp	ectral D	ensity
	13.	.26 dB	m /19	.6500	MHz				-59.6	58 dBr	ı/Hz

EMC Peak Output Power								
EUT: 802UIAG			Work Order:	ITRM0066				
Serial Number: Unknown	Serial Number: Unknown Date: 05/02/05							
Customer: Intermec Corporation			Temperature:	22°C				
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH				
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06				
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.4	4 Year:	2002, 2004				
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Ga	.in							
COMMENTS	duration (T) is 1.024 ms The "OFF" tir	ne is less than 9 us						
	duration (1) is 1.024 ms. The OFF un	le is less trian 9 us.						
The transmission pulse duration is the same for al	II data rates and transmit channels							
DEVIATIONS FROM TEST STANDARD								
None								
REQUIREMENTS								
For the 5.725 - 5.825 GHz band, the peak transmit por	wer shall not exceed the lesser of 1 W or 1	7dBm + 10 log B, where B is the 26 dB emission b	andwidth in MHz.					
If the antenna gain is greater than 6 dBi, the output me	ust be reduced by the amount in dB that the	e directional gain of the antenna exceeds 6 dBi.						
RESULTS								
SIGNATURE								
Norty to Pielings								
DESCRIPTION OF TEST								
Peak Output Power - Low Channel - 5.725 to 5.825 GHz Band								

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5745	19.8	29.97	30	4	29.97	10.77	-19.20



EMC Peak Output Power								
EUT: 802UIAG			Work Order:	ITRM0066				
Serial Number: Unknown			Date:	05/02/05				
Customer: Intermec Corporation			Temperature:	22°C				
Attendees: None	ndees: None Tested by: Rod Peloquin							
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06				
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2004				
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Gain								
Tested in CK60 Computer. The transmission pulse du	ration (T) is 1.024 ms. The "OFF" tir	ne is less than 9 us.						
EUT OPERATING MODES								
The transmission pulse duration is the same for all d	ata rates and transmit channels.							
DEVIATIONS FROM TEST STANDARD								
None								
REQUIREMENTS								
For the 5.725 - 5.825 GHz band, the peak transmit power	shall not exceed the lesser of 1 W or 1	17dBm + 10 log B, where B is the 26 dB emission b	andwidth in MHz.					
If the antenna gain is greater than 6 dBi, the output must	be reduced by the amount in dB that th	e directional gain of the antenna exceeds 6 dBi.						
RESULTS								
Pass								
SIGNATURE								
Northy le Pielings Tested By:								
DESCRIPTION OF TEST								
Peak Output Power - Mid Channel - 5.725 to 5.825 GHz Band								

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5775	19.5	29.90	30	4	29.90	10.41	-19.49

### 🔆 Agilent 15:04:39 May 2, 2005



EMC Peak Output Power								
EUT: 802UIAG			Work Order:	ITRM0066				
Serial Number: Unknown			Date:	05/02/05				
Customer: Intermec Corporation			Temperature:	22°C				
Attendees: None	dees: None Tested by: Rod Peloquin							
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06				
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	.4 Year:	2002, 2004				
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Gain								
Tested in CK60 Computer. The transmission pulse du	ration (T) is 1.024 ms. The "OFF" tir	ne is less than 9 us.						
EUT OPERATING MODES								
The transmission pulse duration is the same for all da	ta rates and transmit channels.							
DEVIATIONS FROM TEST STANDARD								
None								
REQUIREMENTS								
For the 5.725 - 5.825 GHz band, the peak transmit power	shall not exceed the lesser of 1 W or 1	7dBm + 10 log B, where B is the 26 dB emission b	oandwidth in MHz.					
If the antenna gain is greater than 6 dBi, the output must	be reduced by the amount in dB that the	e directional gain of the antenna exceeds 6 dBi.						
RESULTS								
Pass								
SIGNATURE								
Norty le Relenge								
Description of test	and Damage Illight Oh		Dava d					
Peak Output Power - High Channel - 5.725 to 5.825 GHz Band								

Frequency (MHz)	B (MHz)	B Limit (dBm)	Fixed Limit (dBm)	Antenna Gain (dBi)	Actual Limit (dBm)	Measured Power (dBm)	Margin (dB)
5805	19.55	29.91	30	4	29.91	10.39	-19.52






#### Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:
Ch 36 (5180 MHz)
Ch 40 (5200 MHz)
Ch 48 (5240 MHz)
Ch 52 (5260 MHz)
Ch 60 (5300 MHz)
Ch 64 (5320 MHz)
Ch 149 (5745 MHz)
Ch 155 (5775 MHz)
Ch 161 (5805 MHz)

### **Operating Modes Investigated:** Continuous transmit

Data Rates Investigated:
6 Mbps (802.11a)
36 Mbps (802.11a)
54 Mbps (802.11a)

# **Output Power Setting(s) Investigated:**

Maximum default

## **Power Input Settings Investigated:**

120 VAC/60Hz

Software\Firmware Applied During Test							
Exercise software	cTxRx Win CE	Version	0.1.2.1				
Description							
The system was tested us	ing special software develo	ped to test all functions of t	he device during the test.				



EUT and Peripherals							
Description	Manufacturer	Model/Part Number	Serial Number				
EUT- 802.11(a)/(b)/(g) radio	Intermec Technologies Corporation	802UIAG	Unknown				
AC Adapter	Intermec Technologies Corporation	851-061-002	3335175				
Host Device	Intermec Technologies Corporation	CK61	33390400265				

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	Yes	1.9	PA	AC Power Adapter	Host Device
AC Power	No	2.0	No	AC Power Adapter	AC Mains
PA = Cable is peri	nanently att	ached to the device	e. Shielding	and/or presence of ferrite m	ay be unknown.

Measurement Equipment								
Description	Manufacturer	Model	Identifier	Last Cal	Interval			
Signal Generator	Hewlett Packard	8341B	TGN	02/07/2005	13 mo			
Power Meter	Hewlett Packard	E4418A	SPA	07/23/2004	24 mo			
Power Sensor	Hewlett-Packard	8481H	SPB	07/23/2004	24 mo			
Spectrum Analyzer	Agilent	E4446A	AAQ	04/08/2005	13 mo			

#### **Test Description**

**Requirements:** Per 15.403(m), "...The peak power spectral density is the maximum power spectral density, within the specified measurement bandwidth, within the U-NII device operating band."

Per 15.407(a)(5), "...Measurements are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less."

Per 15.407(a), the peak power spectral density limits are:

- (1) "For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or 4 dBm + 10log B, where B is the 26-dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- (2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- (3) For the band 5.725-5.825 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1 W or 17 dBm + 10log B, where B is the 26-dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 17 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both



the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain up to 23 dBi without any corresponding reduction in the transmitter peak output power or peak power spectral density. For fixed, point-to-point U-NII transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in peak transmitter power and peak power spectral density for each 1 dB of antenna gain in excess of 23 dBi would be required. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. NOTE: The Commission strongly recommends that parties employing U-NII devices to provide critical communications services should determine if there are any nearby Government radar systems that could affect their operation.

**Configuration:** FCC Public Notice DA 02-2138 was followed. The transmit frequency was set to the lowest, a medium, and the highest channels in each band. The transmit power was set to its default maximum. The lowest, a medium, and the highest data rates were measured. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input. The amplitude accuracy of the spectrum analyzer was further enhanced by calibrating the setup using the power meter and synthesized signal generator.

Prior to measuring peak power spectral density, the emission bandwidth (B) and the transmission pulse duration (T) were measured. Both are required to determine the method of measuring peak power spectral density. The method of measuring the emission bandwidth and the associated data are found elsewhere in this test report. The transmission pulse duration (T) was measured across a constant amplitude pulse using an RF detector diode and an oscilloscope. The scope photos are found with the peak power measurement data elsewhere in this report.

Method #2 found in FCC Public Notice DA02-2138 was used because the analyzer sweep time was less than or equal to T.

The spectrum analyzer settings were as follows:

- > The span was set to encompass entire emission bandwidth (B), centered on the transmit channel.
- > RBW = 1 MHz, VBW >= 3 MHz because the emission bandwidth (B) is greater than 1 MHz
- Sample detector mode because the bin width (span / number of spectral points) < 0.5 RBW.
- Trace average 100 traces in power averaging mode (not video averaging).

The peak power spectral density (PPSD) was determined to be the highest level found across the emission in any 1 MHz band after 100 sweeps of power averaging (not video averaging).

Completed by:	
Rocky Le	Peling

NORTHWEST	l l	Peak Power S	pectral Densi	ty		Rev BETA 01/30/01	
EUT:	802UIAG				Work Order:	ITRM0066	
Serial Number:	Unknown				Date:	05/12/05	
Customer:	Intermec Corporation				Temperature:	22°C	
Attendees:	None		Tested by: Rod Pelo	quin	Humidity:	38% RH	
Customer Ref. No.:	N/A		Power: 120VAC/6	0Hz	Job Site:	EV06	
TEST SPECIFICATION	NS						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-213	38, ANSI C63.4	Year:	2002, 2003	
EIRP (peak) = Peak Po	ower + Maximum Antenna Gain						
Tested in CK60 Comp	outer. The transmission pulse du	ration (T) is 1.024 ms. The "OFF" f	time is less than 9 us.				
EUT OPERATING MO	DES						
The transmission pul	se duration is the same for all da	ta rates and transmit channels.					
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
For the 5.15 - 5.25 GHz	z band, the peak power spectral de	nsity shall not exceed 4dBm in any 1	MHz band.				
If the antenna gain is g	reater than 6 dBi, the peak power s	pectral density must be reduced by t	he amount in dB that the directiona	I gain of the antenna	exceeds 6 dBi.		
RESULTS							
Pass							
SIGNATURE Nochy la Releng Tested By:							
DESCRIPTION OF TE	ST						
	Peak Power S	pectral Density - Lov	w Channel - 5.15 to	5.25 GHz B	and		

Frequency (MHz)	Antenna Gain (dBi)	Limit (dBm)	Measured PPSD (dBm)	Margin (dB)
5180	4	4.00	3.08	-0.92



NORTHWEST EMC		Peak Power S	pectral Density		Rev BETA 01/30/01			
EUT:	802UIAG		-	Work Order:	ITRM0066			
Serial Number:	Unknown			Date:	05/12/05			
Customer:	Intermec Corporation			Temperature:	22°C			
Attendees:	None		Tested by: Rod Peloquin	Humidity:	38% RH			
Customer Ref. No.:	N/A		Power: 120VAC/60Hz	Job Site:	EV06			
TEST SPECIFICATION	s							
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63	3.4 Year:	2002, 2003			
SAMPLE CALCULATIO	ONS							
EIRP (peak) = Peak Pov	wer + Maximum Antenna Gain							
Tested in CK60 Compu	uter. The transmission pulse dur	ation (T) is 1.024 ms. The "OFF" ti	me is less than 9 us.					
EUT OPERATING MOD	DES							
The transmission puls	e duration is the same for all dat	a rates and transmit channels.						
DEVIATIONS FROM TE	ST STANDARD							
None								
REQUIREMENTS								
For the 5.15 - 5.25 GHz	band, the peak power spectral der	sity shall not exceed 4dBm in any 1	MHz band.					
If the antenna gain is gre	eater than 6 dBi, the peak power s	pectral density must be reduced by the	ie amount in dB that the directional gain of the ant	enna exceeds 6 dBi.				
RESULTS								
Pass								
SIGNATURE								
Rochy ter Relings								
DESCRIPTION OF TES	T							
	Peak Power	Spectral Density - M	lid Channel - 5.15 to 5.25 GI	Iz Band				

Frequency (MHz)	Antenna Gain (dBi)	Limit (dBm)	Measured PPSD (dBm)	Margin (dB)
5200	4	4.00	3.46	-0.54

### 🔆 Agilent 14:18:13 May 12, 2005



NORTHWEST FMC	Peak Power S	pectral Density	Rev BETA				
EUT: 802UIAG		-	Work Order: ITRM0066				
Serial Number: Unknown			Date: 05/12/05				
Customer: Intermec Corporation			Temperature: 22°C				
Attendees: None		Tested by: Rod Peloquin	Humidity: 38% RH				
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site: EV06				
TEST SPECIFICATIONS							
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.4	4 Year: 2002, 2003				
SAMPLE CALCULATIONS							
EIRP (peak) = Peak Power + Maximum Antenna Gain							
Tested in CK60 Computer. The transmission pulse due	ration (T) is 1.024 ms. The "OFF" tir	ne is less than 9 us.					
EUT OPERATING MODES							
The transmission pulse duration is the same for all da	ta rates and transmit channels.						
DEVIATIONS FROM TEST STANDARD							
None							
REQUIREMENTS							
For the 5.15 - 5.25 GHz band, the peak power spectral de	nsity shall not exceed 4dBm in any 1 M	/Hz band.					
If the antenna gain is greater than 6 dBi, the peak power s	pectral density must be reduced by th	e amount in dB that the directional gain of the anter	ina exceeds 6 dBi.				
RESULTS							
Pass							
SIGNATURE	SIGNATURE						
Norty le Relings							
Peak Power Spectral Density - High Channel - 5.15 to 5.25 GHz Band							

Frequency (MHz)	Antenna Gain (dBi)	Limit (dBm)	Measured PPSD (dBm)	Margin (dB)
5240	4	4.00	3.46	-0.54

## 🔆 Agilent 14:11:30 May 12, 2005

								M	kr1 5.24	1 83 GHz
Ref 15	dBm		#At	ten 20 di	3				3.	463 dBm
#Avg										
Log						1				
10 JD 7				and the second	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	a second and a second sec				
011°* QD\										
dB										
							Á	M.		
PAva		and and the second	~~~~					Manan Marka	and and a second	
100 V1 S2	and the second									Margan Margan
\$3 FC										
<b>£</b> (f):										
FTun										
Swp										
Center	5.240 00	) GHz							Spar	1 50 MHz
#Res B	W 1 MHz				₩VBW 3 M	Hz		Swee	p1 ms(6	601 pts)

EMC Peak Power Spectral Density									
EUT: 802UIAG			Work Order:	ITRM0066					
Serial Number: Unknown			Date:	05/02/05					
Customer: Intermec Corporation	Customer: Intermec Corporation								
Attendees: None	Attendees: None Tested by: Rod Peloquin								
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06					
TEST SPECIFICATIONS				-					
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2003					
SAMPLE CALCULATIONS									
EIRP (peak) = Peak Power + Maximum Antenna Gain									
COMMENTS	ion (T) is 1 024 ms. The "OFF" tin	ne is less than 9 us							
FUT OPERATING MODES	ion (1) is 1.024 lins. The OFF un	ie is iess than 5 us.							
The transmission pulse duration is the same for all data	rates and transmit channels								
DEVIATIONS FROM TEST STANDARD									
None									
REQUIREMENTS									
For the 5.25 - 5.35 GHz band, the peak power spectral dens	ity shall not exceed 11dBm in any 1	MHz band.							
If the antenna gain is greater than 6 dBi, the peak power spe	ctral density must be reduced by the	amount in dB that the directional gain of the ante	nna exceeds 6 dBi.						
RESULTS									
Pass									
SIGNATURE									
Nochy le Picturgs Tested By:									
DESCRIPTION OF TEST									
Peak Power S	pectral Density - Lo	w Channel - 5.25 to 5.35 GI	Iz Band						

Frequency	Antenna Gain	Antenna Limit Gain		Margin
(MHz)	(dBi)	(dBm)	(dBm)	(dB)
5260	4	11.00	5.66	-5.34

🔆 Agilent 16:58:54 May 2, 2005

								M	kr1 5.26	2 75 GHz
Ref 15	dBm		#At	ten 20 di	3				5.4	658 dBm
#Samp Log										
10 dB/					and a second	and the second second	and the second sec			
Uffst 22 dB				/						
	Marke	r	Markamered	d.			\ \	Mart warmer	Monda	
#PAva	5.262	75000 58 dBm	0 GHz						Manufacture and a second s	and the second
100 W1 S2	- Anno									Contra Arable
S3 FC										
<b>£</b> (f): FTun										
Ѕwр										
Center	5.260 00	0 GHz							Spar	1 50 MHz
#Res B	W 1 MHz				₩VBW 3 M	Hz		Swee	p 1 ms (6	601 pts)

INTITWEST Peak Power Spectral Density									
EUT: 802UIAG			Work Order:	ITRM0066					
Serial Number: Unknown			Date:	05/02/05					
Customer: Intermec Corporation	Customer: Intermec Corporation								
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH					
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06					
TEST SPECIFICATIONS									
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2003					
SAMPLE CALCULATIONS									
EIRP (peak) = Peak Power + Maximum Antenna Gain									
Tested in CK60 Computer. The transmission pulse dura	tion (T) is 1.024 ms. The "OFF" tin	ne is less than 9 us.							
EUT OPERATING MODES									
The transmission pulse duration is the same for all data	rates and transmit channels.								
DEVIATIONS FROM TEST STANDARD									
None									
REQUIREMENTS									
For the 5.25 - 5.35 GHz band, the peak power spectral dense	sity shall not exceed 11dBm in any 1	MHz band.							
If the antenna gain is greater than 6 dBi, the peak power sp	ectral density must be reduced by the	amount in dB that the directional gain of the anter	nna exceeds 6 dBi.						
RESULTS									
Pass									
SIGNATURE									
Rochy le Pielings Tested By:									
DESCRIPTION OF TEST									
Peak Power S	pectral Density - Mi	d Channel - 5.25 to 5.35 GH	Iz Band						

Frequency	Antenna Gain	Limit	Measured PPSD	Margin
(MHz)	(dBi)	(dBm)	(dBm)	(dB)
5300	4	11.00	5.81	-5.19

## 🔆 Agilent 17:01:17 May 2, 2005

							M	kr1 5.30	1 50 GHz
Ref 15	dBm		#At	ten 20 dl	В			5.	810 dBm
#Samp						1			
Log					ab at both a sec	\$			
10 dB/ 011-1									
dffst 22 dB				]					
	Marke	r """	and the second				Marrie Marrie	man .	
	5.301	50000	ØGHz					- Topper	MA
#PAvg	5.81	LØ dBm	`						- May
100	mat								M.M.
W1 S2									
S3 FC									
<b>£</b> (f):									
FTun									
Swp									
Center	5.300 00	) GHz						Spar	n 50 MHz
#Res B	W 1 MHz				₩VBW 3 M	Hz	Swee	p 1 ms (	601 pts)

NORTHWEST Peak Power Spectral Density Rev BETA CALADATION									
EUT: 802UIAG			Work Order:	ITRM0066					
Serial Number: Unknown			Date:	05/02/05					
Customer: Intermec Corporation	Customer: Intermec Corporation								
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH					
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06					
TEST SPECIFICATIONS									
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2003					
SAMPLE CALCULATIONS									
EIRP (peak) = Peak Power + Maximum Antenna Gain									
Tested in CK60 Computer. The transmission pulse durat	tion (T) is 1.024 ms. The "OFF" tin	ne is less than 9 us							
The transmission pulse duration is the same for all data	rates and transmit channels.								
DEVIATIONS FROM TEST STANDARD									
None									
REQUIREMENTS									
For the 5.25 - 5.35 GHz band, the peak power spectral dens	ity shall not exceed 11dBm in any 1	MHz band.							
If the antenna gain is greater than 6 dBi, the peak power spe	ectral density must be reduced by the	amount in dB that the directional gain of the anter	nna exceeds 6 dBi.						
RESULTS									
Pass									
SIGNATURE									
Rochy to Reling									
Desk Dever Sectral Density, High Channel, 5 25 to 5 25 CHz Dand									
reak rower 5	Dectial Density - Hig	gii Ghannei - 5.25 to 5.35 Gi	nz Dailu						

Frequency (MHz)	Antenna Gain (dBi)	Limit (dBm)	Measured PPSD (dBm)	Margin (dB)
5320	4	11.00	6.71	-4.29

## 🔆 Agilent 17:03:28 May 2, 2005

								М	kr1 5.32	2 50 GHz
Ref 15	dBm		#At	ten 20 di	В				6.	708 dBm
#Samp Log					and a believe that					
10 dB/										
0ffst 22 dB				J			ļ,			
	Marke	r """"	and a constant					and the second	when whether and	
#PAva	5.322 6.70	50000 18 dBm	0 GHZ							we have
100 W1 S2										and the second s
S3 FC										
<b>£</b> (f): FTun										
Ѕพр										
Center	5.320 00	0 GHz				·			Spar	150 MHz
#Res B	W 1 MHz				₩VBW 3 M	Hz		Swee	p 1 ms (6	501 pts)

EMC Peak Power Spectral Density									
EUT: 802UIAG			Work Order:	ITRM0066					
Serial Number: Unknown			Date:	05/02/05					
Customer: Intermec Corporation	Customer: Intermec Corporation								
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH					
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06					
TEST SPECIFICATIONS									
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2003					
SAMPLE CALCULATIONS									
EIRP (peak) = Peak Power + Maximum Antenna Gain									
Tested in CK60 Computer. The transmission pulse dur	ation (T) is 1.024 ms. The "OFF" tin	ne is less than 9 us.							
EUT OPERATING MODES									
The transmission pulse duration is the same for all date	a rates and transmit channels.								
DEVIATIONS FROM TEST STANDARD									
None									
REQUIREMENTS									
For the 5.725 - 5.825 GHz band, the peak power spectral	density shall not exceed 17dBm in any	1 MHz band.							
If the antenna gain is greater than 6 dBi, the peak power s	pectral density must be reduced by the	amount in dB that the directional gain of the anter	nna exceeds 6 dBi.						
RESULTS									
Pass									
SIGNATURE									
Norty to Relings									
DESCRIPTION OF TEST									
Peak Power S	pectral Density - Low	/ Channel - 5.725 to 5.825 G	Hz Band						

Frequency (MHz)	Antenna Gain (dBi)	Limit (dBm)	Measured PPSD (dBm)	Margin (dB)
5745	4	17.00	3.76	-13.24

🔆 Agilent 17:22:35 May 2, 2005

								M	kr1 5.74	1 92 GHz
Ref 15	dBm		#Ati	ten 20 di	3				3.	756 dBm
#Samp										
Log					1					
10				er an	rows for the second	work	-mm			
aB7							$  \rangle$			
dffst 22 dB										
	Marke	r 🦷	manun					Marray Marray	Mrr.d.	
#PAva	5.741 3 7ª	92000 56 dBm	ØGHz						M. W. W.	m
100 V1 S2										A North Star
\$3 FC										
<b>£</b> (f):										
FTun										
Swp										
Center	5.745 00	0 GHz							Spar	1 50 MHz
#Res B	W 1 MHz				ŧVBW 3 Μ	Hz		Swee	p 1 ms (6	601 pts)

Reveal Peak Power Spectral Density								
EUT: 802UIAG			Work Order:	ITRM0066				
Serial Number: Unknown			Date:	05/02/05				
Customer: Intermec Corporation			Temperature:	22°C				
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH				
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06				
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2003				
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Gain								
Tested in CK60 Computer. The transmission pulse dura	tion (T) is 1.024 ms. The "OFF" tin	ne is less than 9 us.						
EUT OPERATING MODES								
The transmission pulse duration is the same for all data	a rates and transmit channels.							
DEVIATIONS FROM TEST STANDARD								
None								
REQUIREMENTS								
For the 5.725 - 5.825 GHz band, the peak power spectral d	ensity shall not exceed 17dBm in any	1 MHz band.						
If the antenna gain is greater than 6 dBi, the peak power sp	ectral density must be reduced by the	amount in dB that the directional gain of the anter	nna exceeds 6 dBi.					
RESULTS								
Pass								
SIGNATURE								
Korly to Relings Tested By								
DESCRIPTION OF TEST								
Peak Power Sp	ectral Density - Mid	Channel - 5.725 to 5.825 G	Hz Band					

Frequency (MHz)	Antenna Gain (dBi)	Limit (dBm)	Measured PPSD (dBm)	Margin (dB)
5775	4	17.00	3.78	-13.22

🔆 Agilent 17:24:51 May 2, 2005

								М	kr1 5.77	6 83 GHz
Ref 15	dBm		#At	ten 20 di	3				3.1	782 dBm
#Samp∣ Loq										
109										
10 dB/ 011-1					man	and the second	mont			
0ffst 22 dB				/						
	Marke	r	Varia Marian	<i>,</i>			× 1	malan with	· · · · ·	
- D O	5.776	83000	ØGHz						and the second	n <sub>m</sub>
#PHvg	- 3.70	sz abm								1
100 V1 S2	Where the second second									N North
S3 FC										
<b>£</b> (f):										
FTun										
Swp										
Center	5.775 00	) GHz							Spar	150 MHz
#Res B	W 1 MHz				₩VBW 3 M	Hz		Swee	p 1 ms (6	601 pts)

FMC Peak Power Spectral Density								
EUT: 802UIAG			Work Order:	ITRM0066				
Serial Number: Unknown			Date:	05/02/05				
Customer: Intermec Corporation			Temperature:	22°C				
Attendees: None		Tested by: Rod Peloguin	Humidity:	38% RH				
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06				
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2003				
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Gain								
Tested in CK60 Computer. The transmission pulse durat	tion (T) is 1.024 ms. The "OFF" tin	ne is less than 9 us.						
FUT OPERATING MODES								
The transmission pulse duration is the same for all data	rates and transmit channels.							
DEVIATIONS FROM TEST STANDARD								
None								
REQUIREMENTS								
For the 5.725 - 5.825 GHz band, the peak power spectral de	nsity shall not exceed 17dBm in any	1 MHz band.						
If the antenna gain is greater than 6 dBi, the peak power spe	ectral density must be reduced by the	e amount in dB that the directional gain of the anter	nna exceeds 6 dBi.					
RESULTS								
Pass								
SIGNATURE								
Norty le Pielings Tested By:								
DESCRIPTION OF TEST								
Peak Power Spe	ectral Density - High	n Channel - 5.725 to 5.825 C	Hz Band					

Frequency	Antenna Gain	Limit	Measured PPSD	Margin
(MHz)	(dBi)	(dBm)	(dBm)	(dB)
5805	4	17.00	3.46	-13.54

*	Agilent	17:27:28	May	2,	2005	
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								M	kr1 5. <u>80</u>	2 75 G <u>Hz</u>
Ref 15	dBm		#At	ten 20 di	3				3.4	456 dBm
#Samp										
Log					1					
10 JR7				prosent	anter section of	and the second	morning			
UD7										
dfrst 22 dB										
	Marke	r	Manunder	~			\ \	Museum and an		
	5.802	75000	0 GHz						and a strategy and	
#PAva	3.45	56 dBm							"Web	When .
100 V1 S2	~~~~									MAN HA
\$3 FC										
<b>£</b> (f):										
FTun										
Swp										
Center	5.805 00	0 GHz							Spar	1 50 MHz
#Res B	W 1 MHz				₩VBW 3 M	Hz		Swee	p 1 ms (6	601 pts)

NORTHWEST EMC	EMC Peak Power Spectral Density Rev BETA CIJ2001								
EUT:	802UIAG			Work Order:	ITRM0066				
Serial Number:	Unknown			Date:	05/02/05				
Customer:	Intermec Corporation			Temperature:	22°C				
Attendees:	None	one Tested by: Rod Peloquin							
Customer Ref. No.:	N/A		Power: 120VAC/60Hz	Job Site:	EV06				
TEST SPECIFICATION	NS								
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63	.4 Year:	2002, 2003				
SAMPLE CALCULATI	ONS								
EIRP (peak) = Peak Pe	ower + Maximum Antenna Gain								
COMMENTS									
Tested in CK60 Comp	outer. The transmission pulse dur	ation (T) is 1.024 ms. The "OFF" t	ime is less than 9 us.						
EUT OPERATING MO	DES								
The transmission pul	se duration is the same for all dat	a rates and transmit channels.							
DEVIATIONS FROM T	EST STANDARD								
None									
REQUIREMENTS									
For the 5.15 - 5.25 GH	z band, the peak power spectral der	sity shall not exceed 4dBm in any 1	MHz band.						
if the antenna gain is g	reater than 6 dBi, the peak power sp	ectral density must be reduced by t	ne amount in dB that the directional gain of the a	intenna exceeds 6 dBi.					
RESULTS									
Pass									
SIGNATURE									
Rocky le Releys									
DESCRIPTION OF TH	ст								
DESCRIPTION OF TE	Baals Bassan Gr	a stud Dansitur I su		L Donal					
	Peak Power Sp	ectral Density - Lo	W Channel - 5.15 to 5.25 G	Hz Band					

Frequency (MHz)	Antenna Gain (dBi)	Limit (dBm)	Measured PPSD (dBm)	Margin (dB)
5180	4	4.00	1.23	-2.77



NORTHWEST							
EMC		Peak Power S	Spectral Density		Rev BETA 01/30/01		
EUT:	802UIAG			Work Order:	ITRM0066		
Serial Number:	Unknown			Date:	05/02/05		
Customer:	Intermec Corporation			Temperature:	22°C		
Attendees:	None		Tested by: Rod Peloquin	Humidity:	38% RH		
Customer Ref. No.:	N/A		Power: 120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2003		
SAMPLE CALCULATION	ONS						
EIRP (peak) = Peak Po	ower + Maximum Antenna Gain						
Tested in CK60 Comp	uter The transmission nulse du	ration (T) is 1 024 ms The "OFF"	time is less than 9 us				
EUT OPERATING MOI							
The transmission puls	se duration is the same for all d	ata rates and transmit channels.					
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
For the 5.15 - 5.25 GHz	band, the peak power spectral de	ensity shall not exceed 4dBm in any 1	1 MHz band.				
If the antenna gain is gr	eater than 6 dBi, the peak power	spectral density must be reduced by	the amount in dB that the directional gain of the anter	nna exceeds 6 dBi.			
RESULTS							
Pass							
SIGNATURE							
Rochy Le Releng							
DESCRIPTION OF TES	ST						
	Peak Power	r Spectral Density - M	Mid Channel - 5.15 to 5.25 GH	z Band			

Frequency (MHz)	Antenna Gain (dBi)	Limit (dBm)	Measured PPSD (dBm)	Margin (dB)
5200	4	4.00	1.42	-2.58

## 🔆 Agilent 16:53:22 May 2, 2005 Mkr1 5.198 25 GHz Ref 15 dBm #Samp Log 10 dB/ Offst 22 dB 1.418 dBm #Atten 20 dB \_1 • Marker 5.198250000 GHz 1.418 dBm The Arrest #PAvg 100 W1 S2 S3 FC **£**(f): FTun Swp Center 5.200 00 GHz #Res BW 1 MHz Span 50 MHz #VBW 3 MHz Sweep 1 ms (601 pts)

EMC		Peak Power	Spectral Density		Rev BETA 01/30/01			
EUT:	802UIAG			Work Order:	ITRM0066			
Serial Number:	Unknown			Date:	05/02/05			
Customer:	Intermec Corporation			Temperature:	22°C			
Attendees:	None	one Tested by: Rod Peloquin						
Customer Ref. No.:	N/A		Power: 120VAC/60Hz	Job Site:	EV06			
TEST SPECIFICATION	IS							
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2003			
SAMPLE CALCULATION	ONS							
EIRP (peak) = Peak Po	ower + Maximum Antenna Gain							
COMMENTS	uter The transmission pulse dur	ation (T) is 1 024 ms. The "OFF"	time is less than 0 us					
Tested In CKeb Comp	uter. The transmission pulse dur	ation (1) is 1.024 lins. The OFF	time is less than 9 us.					
The transmission puls	JES o duration is the same for all dat	a rates and transmit channels						
DEVIATIONS EPOM T		a rates and transmit channels.						
None	LOT STANDARD							
REQUIREMENTS								
For the 5.15 - 5.25 GHz	band, the peak power spectral der	sity shall not exceed 4dBm in any	1 MHz band.					
If the antenna gain is gr	eater than 6 dBi, the peak power sp	pectral density must be reduced by	the amount in dB that the directional gain of the ante	nna exceeds 6 dBi.				
DECULTO								
RESULTS								
SIGNATURE								
Rochy le Relegy								
DESCRIPTION OF TES	ST							
	Peak Power S	Spectral Density - I	High Channel - 5.15 to 5.25 GI	Iz Band				

Frequency (MHz)	Antenna Gain (dBi)	Limit (dBm)	Measured PPSD (dBm)	Margin (dB)
5240	4	4.00	2.06	-1.94



NORTHWEST	Peak Power S	pectral Density		Rev BETA			
EUT: 802UIAG			Work Order:	ITRM0066			
Serial Number: Unknown			Date:	05/02/05			
Customer: Intermec Corporation			Temperature:	22°C			
Attendees: None		Tested by: Rod Peloguin	Humidity:	38% RH			
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06			
TEST SPECIFICATIONS							
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.4	4 Year:	2002, 2003			
SAMPLE CALCULATIONS							
EIRP (peak) = Peak Power + Maximum Antenna Gain							
Tested in CK60 Computer. The transmission pulse dur	ation (T) is 1.024 ms. The "OFF" tin	ne is less than 9 us.					
EUT OPERATING MODES							
The transmission pulse duration is the same for all dat	a rates and transmit channels.						
DEVIATIONS FROM TEST STANDARD							
None							
REQUIREMENTS							
For the 5.25 - 5.35 GHz band, the peak power spectral der	sity shall not exceed 11dBm in any 1	MHz band.	L & 10				
If the antenna gain is greater than 6 dBi, the peak power s	ectral density must be reduced by the	amount in dB that the directional gain of the anter	nna exceeds 6 dBi.				
RESULTS							
Pass							
SIGNATURE							
Korly te Ralings Tested By:							
DESCRIPTION OF TEST		-					
Peak Power S	pectral Density - Lo	w Channel - 5.25 to 5.35 GH	Iz Band				

Frequency	Antenna Gain	Limit	Measured PPSD	Margin
	(UBI)	(автт)	(автт)	(UB)
5260	4	11.00	2.86	-8.15

🔆 Agilent 16:59:36 May 2, 2005

								М	kr1 5.25	8 67 GHz
Ref 15	dBm		#Ati	ten 20 di	3				2.3	855 dBm
#Samp Log					1					
10 dB/				- Andrews		and the second	man			
Uffst 22 dB										
	Marke	r	a cu /	/			<u> </u>			
#PAvg	5.258 2.85	67000 55 dBm	Ø GHZ					and the second second	men marker	
100 W1 S2	- Andrew Contract	"							<u> </u>	WHU HANNE
S3 FC	<i>8</i>									· · · · ·
<b>£</b> (f): FTun										
Swp										
Center	5.260 00	) GHz				·			Spar	150 MHz
#Res B	W 1 MHz				₩VBW 3 M	Hz		Swee	p 1 ms (6	601 pts)

EMC Peak Power Spectral Density								
EUT: 802UIAG			Work Order:	ITRM0066				
Serial Number: Unknown			Date:	05/02/05				
Customer: Intermec Corporation			Temperature:	22°C				
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH				
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06				
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2003				
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Gain								
Tested in CK60 Computer. The transmission pulse dura	tion (T) is 1.024 ms. The "OFF" tin	ne is less than 9 us.						
EUT OPERATING MODES								
The transmission pulse duration is the same for all data	rates and transmit channels.							
DEVIATIONS FROM TEST STANDARD								
None								
REQUIREMENTS								
For the 5.25 - 5.35 GHz band, the peak power spectral dense	sity shall not exceed 11dBm in any 1	MHz band.						
If the antenna gain is greater than 6 dBi, the peak power sp	ectral density must be reduced by the	amount in dB that the directional gain of the anter	nna exceeds 6 dBi.					
RESULTS								
Pass								
SIGNATURE								
Nochy le Pielings Tested By								
DESCRIPTION OF TEST								
Peak Power S	pectral Density - Mi	d Channel - 5.25 to 5.35 GH	Iz Band					

Frequency	Antenna Gain	Limit	Measured PPSD	Margin
(MHz)	(dBi)	(dBm)	(dBm)	(dB)
5300	4	11.00	3.80	-7.21

🔆 Agilent 17:02:03 May 2, 2005

								M	kr1 5.29	8 92 GHz
Ref 15	dBm		#At	ten 20 di	3				3.	795 dBm
#Samp Log					1					
10 dB/				- marine		and the second second	mund			
Uffst 22 dB										
	Marke	r		/			/	<b></b>		
#PAva	5.298 3.79	92000 15 dBm	ØGHz					A MANA	Mr. Marken	
100 W1 S2	March March 199								.,,	North Work of the
S3 FC										
£(f): FTun										
Swp										
Center	5.300 00	) GHz							Spar	150 MHz
#Res Bl	W 1 MHz				₩VBW 3 M	Hz		Swee	p1 ms(6	601 pts)

EMC Peak Power Spectral Density								
EUT: 802UIAG			Work Order:	ITRM0066				
Serial Number: Unknown	~		Date:	05/02/05				
Customer: Intermec Corporation			Temperature:	22°C				
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH				
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06				
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2003				
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Gain								
Tested in CK60 Computer. The transmission pulse dura	tion (T) is 1.024 ms. The "OFF" tim	ne is less than 9 us.						
EUT OPERATING MODES								
The transmission pulse duration is the same for all data	rates and transmit channels.							
DEVIATIONS FROM TEST STANDARD								
None								
REQUIREMENTS								
For the 5.25 - 5.35 GHz band, the peak power spectral dense	sity shall not exceed 11dBm in any 1	MHz band.						
If the antenna gain is greater than 6 dBi, the peak power sp	ectral density must be reduced by the	amount in dB that the directional gain of the anter	nna exceeds 6 dBi.					
RESULTS								
Pass								
SIGNATURE								
Porting the Felings Tested By:								
DESCRIPTION OF TEST								
Peak Power S	pectral Density - Hig	h Channel - 5.25 to 5.35 Gl	Iz Band					

Frequency	Antenna Gain	Limit	Measured PPSD	Margin
(MHz)	(dBi)	(dBm)	(dBm)	(dB)
5320	4	11.00	4.54	-6.47

🔆 Agilent 17:03:58 May 2, 2005

								M	kr1 5.313	8 25 GHz
Ref 15	dBm		#Ati	ten 20 di	3				4.5	535 dBm
#Samp Log					1					
10 dB/				- Contraction of the Contraction	way was a straight	and the second sec	many			
Uffst 22 dB				1						
0.D	Marke	r	a a comme					when .		
#PAva	5.318 4.53	25000 35 dBm	Ø GHz					- Whenhow	how when	
100 W1 S2	North March M									White way a second
S3 FC										
£(f): FTun										
Swp										
Center	5.320 00	) GHz							Spar	150 MHz
#Res Bl	W 1 MHz				₩VBW 3 M	Hz		Swee	p 1 ms (6	601 pts)

EMC Peak Power Spectral Density								
EUT: 802UIAG			Work Order:	ITRM0066				
Serial Number: Unknown Date: 05/02/C								
Customer: Intermec Corporation			Temperature:	22°C				
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH				
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06				
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2003				
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Gain								
Commenter Computer. The transmission pulse duration (T) is 1.024 ms. The "OFF" time is less than 9 us.								
The transmission pulse duration is the same for all data rates and transmit channels.								
DEVIATIONS FROM TEST STANDARD								
None								
REQUIREMENTS								
For the 5.725 - 5.825 GHz band, the peak power spectral	density shall not exceed 17dBm in any	1 MHz band.						
If the antenna gain is greater than 6 dBi, the peak power s	pectral density must be reduced by the	amount in dB that the directional gain of the anter	nna exceeds 6 dBi.					
RESULTS								
Pass								
SIGNATURE								
Rochy le Pelings Tested By								
DESCRIPTION OF TEST								
Peak Power Spectral Density - Low Channel - 5.725 to 5.825 GHz Band								

Frequency	Antenna Gain	Limit	Measured PPSD	Margin
	(UDI)	(UDIII)	(UDIII)	(UD)
5745	4	17.00	1.54	-15.46

## 🔆 Agilent 17:23:14 May 2, 2005

								М	kr1 5.74	4 00 GHz
Ref 15	dBm		#Ati	ten 20 di	В				1.	541 dBm
#Samp										
Log					1_					
10 787				and the second	and the second	mannon	wer-			
011-1 011-1				and the second s						
dfrst 22 dB										
	Marke	r		J						
	5.744	00000	ØGHz					Mulumakas		
#PAva	1.54	11 dRm	<b>'</b>					Man M	Munghing	
100 V1 S2	MANN									Mym
\$3 FC	W/W									~~~
<b>£</b> (f):										
FTun										
Swp										
Center	5.745 00	) GHz							Spar	1 50 MHz
#Res B	W 1 MHz				₩VBW 3 M	Hz		Swee	p 1 ms (6	601 pts)

FMC Peak Power Spectral Density								
EUT: 802UAG			Work Order:	UTRM0066				
EUT. 00201AG Work Order, IT								
General Number : Onknown Date: 000200 Date								
Attendees: None Tested by: Rod Peloruin Umiditu. 1290								
Customer Ref. No.: N/A Power 120/AC/60Hz Job Site: EV06								
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3) Year: 12005-04 Method: DA 02-2138, ANSI C63.4 Year: 12002, 2003								
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Gain	EIRP (peak) = Peak Power + Maximum Antenna Gain							
Tested in CK60 Computer. The transmission pulse durat	ion (T) is 1.024 ms. The "OFF" tin	ne is less than 9 us.						
EUT OPERATING MODES								
The transmission pulse duration is the same for all data	rates and transmit channels.							
DEVIATIONS FROM TEST STANDARD								
None								
REQUIREMENTS								
For the 5.725 - 5.825 GHz band, the peak power spectral de	nsity shall not exceed 17dBm in any	1 MHz band.						
If the antenna gain is greater than 6 dBi, the peak power spe	ctral density must be reduced by the	amount in dB that the directional gain of the anter	nna exceeds 6 dBi.					
RESULTS								
Pass								
SIGNATURE								
Rochy to Pielings Tested By								
Description of Test	a staal Demoiter Mid		Lin Daniel					
Peak Power Sp	ectral Density - Mid	Channel - 5./25 to 5.825 G	HZ Band					

Frequency	Antenna Gain	Limit	Measured PPSD	Margin
(MHz)	(dBi)	(dBm)	(dBm)	(dB)
5775	4	17.00	1.48	-15.52

	**	Agilent	17:25:53	Mav	2,	2005
--	----	---------	----------	-----	----	------

								M	kr1 5.76	8 92 GHz
Ref 15	dBm		#Ati	ten 20 di	3				1.	477 dBm
#Samp Log				4						
10 dB/				- Au	a la gradiente de la construcción d	and the second	and the second			
0ffst 22 dB										
	Marke	r		/						
#PQua	5./68	92000 77 dRm	0 GHZ					- with marker of	Montest	
100 V1 S2	- L								. when y	Marine .
S3 FC	W <sup>VV</sup>									"~~
<b>£</b> (f): FTun										
Swp										
Center	5.775 00	) GHz							Spar	n 50 MHz
#Res Bl	W 1 MHz				ŧVBW 3 M	Hz		Swee	p1 ms(6	601 pts)

NORTHWEST Peak Power Spectral Density Rev BET								
EUT: 802UIAG			Work Order:	ITRM0066				
Serial Number: Unknown Date: 05/02/05								
Customer: Intermec Corporation Temperature: 22°C								
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH				
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06				
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2003				
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Gain								
Tested in CK60 Computer. The transmission pulse dura	tion (T) is 1.024 ms. The "OFF" tin	ne is less than 9 us.						
EUT OPERATING MODES								
The transmission pulse duration is the same for all data rates and transmit channels.								
DEVIATIONS FROM TEST STANDARD								
None								
REQUIREMENTS								
For the 5.725 - 5.825 GHz band, the peak power spectral de	ensity shall not exceed 17dBm in any	1 MHz band.						
If the antenna gain is greater than 6 dBi, the peak power sp	ectral density must be reduced by the	amount in dB that the directional gain of the anter	nna exceeds 6 dBi.					
RESULTS								
Pass								
SIGNATURE								
Rocky to Relenge								
Peak Power Sp	ectral Density - High	n Gnannel - 5.725 to 5.825 G	Hz Band					

No. 8 9 4 7-00-00 M

Frequency	Antenna Gain	Limit	Measured PPSD	Margin
(MHz)	(dBi)	(dBm)	(dBm)	(dB)
5805	4	17.00	1.24	-15.76

. . . . . .

- 1987 - <b>A</b>	gilent 17:	28:06 Ma	ay 2,200	5						
	15		<u>,</u>	~~ "	_			M	kr1 5.80	3 17 GHz
Ret 15	dBm		#Ht	ten 20 di	В				1.	240 dBm
#Samp										
Log										
10					1 &					
dB/				Arenderer	when the second	and the state of the	Married Married Married			
Offst				-/			$ \rightarrow $			
22										
dB							$ \downarrow $			
	Marka	-		1			{			
	marke			1						
	5.803	17000	0 GHz'					Mart .		
• D.O	1 2/	10 20-	977 - F					Mannt	Maria	
#PHVg ₄oo	- 1.24	iu udii							- my and	
100	and the second	"							T 140	m.
V1 S2	- All									* WAY
S3 FC	yeers.									
<b>£</b> (f):										
FTun										
Swp										
Center	5.805 00	0 GHz							Spar	ı 50 MHz
#Res B	W 1 MHz				₩VBW 3 M	Hz		Swee	p 1 ms (6	601 pts)

EMC Peak Power Spectral Density								
EUT:	802UIAG				Work Order:	ITRM0066		
Serial Number:	Unknown				Date:	05/02/05		
Customer:	Intermec Corporation				Temperature:	22°C		
Attendees:	None	Humidity:	38% RH					
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATION	NS				_			
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	.4 Year:	2002, 2003		
SAMPLE CALCULATI	ONS							
EIRP (peak) = Peak Power + Maximum Antenna Gain								
COMMENTS	uter. The transmission pulse dur	ration (T) is 1 024 ms. The "OFF"	time is loss than 0 us					
Tested In Crob Comp	Duter. The transmission pulse dur	ation (1) is 1.024 ms. The OFF	time is less man 9 us.					
The transmission put	DES	ta rates and transmit channels						
DEVIATIONS FROM T	SE UNATION IS THE SUME IS. A. U.							
None	EST STANDARD							
REQUIREMENTS								
For the 5.15 - 5.25 GH:	z band, the peak power spectral der	nsity shall not exceed 4dBm in any	1 MHz band.					
If the antenna gain is g	reater than 6 dBi, the peak power s	pectral density must be reduced by	the amount in dB that the	directional gain of the a	intenna exceeds 6 dBi.			
RESULTS				Ŭ				
Pass								
SIGNATURE								
Tested By:	Porting te Relings							
DESCRIPTION OF TEL	ST							
	Book Bower St	postral Density Lo	w Channel	5 15 to 5 25 C	Hz Band			

Frequency (MHz)	Antenna Gain (dBi)	Limit (dBm)	Measured PPSD (dBm)	Margin (dB)
5180	4	4.00	-0.86	-4.86

### 🔆 Agilent 16:50:30 May 2, 2005 Mkr1 5.183 00 GHz Ref 15 dBm #Samp -0.859 dBm #Atten 20 dB Log LUG 10 dB/ 0ffst 22 dB 1 \$ Marker 5.183000000 GHz -0.859 dBm #PAvg Munun 100 W1 S2 S3 FC where where mar **£**(f): FTun Swp Center 5.180 00 GHz #Res BW 1 MHz Span 50 MHz #VBW 3 MHz Sweep 1 ms (601 pts)

NORTHWEST										
EMC		Peak Power	Spectral Density		Rev BETA 01/30/01					
EUT:	802UIAG Work Order: ITRM0066									
Serial Number:	Unknown			Date:	05/02/05					
Customer:	Intermec Corporation			Temperature:	22°C					
Attendees:	None		Tested by: Rod Peloquin	Humidity:	38% RH					
Customer Ref. No.:	N/A		Power: 120VAC/60Hz	Job Site:	EV06					
TEST SPECIFICATION	IS									
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2003					
SAMPLE CALCULATIO	ONS									
EIRP (peak) = Peak Po	wer + Maximum Antenna Gain									
COMMENTS Tostod in CK60 Comp	utor. The transmission pulse dur	ation (T) is 1.024 ms. The "OFF	" time is loss than Que							
FUT OPERATING MOI	uter. The transmission pulse dura	Ition (1) IS 1.024 ms. The OFF	time is less than 9 us.							
The transmission puls	UES se duration is the same for all dat:	a rates and transmit channels								
DEVIATIONS EPOM T		Trates and transmit onumers.								
None	EST STANDARD									
REQUIREMENTS										
For the 5.15 - 5.25 GHz	band, the peak power spectral den	sity shall not exceed 4dBm in any	y 1 MHz band.							
If the antenna gain is gr	eater than 6 dBi, the peak power sp	ectral density must be reduced by	y the amount in dB that the directional gain of the anter	nna exceeds 6 dBi.						
DECULTE										
Pass										
SIGNATURE										
Rochy le Peleng Tested By										
DESCRIPTION OF TES	DESCRIPTION OF TEST									
	Peak Power	Spectral Density -	Mid Channel - 5.15 to 5.25 GH	z Band						

Frequency (MHz)	Antenna Gain (dBi)	Limit (dBm)	Measured PPSD (dBm)	Margin (dB)
5200	4	4.00	-1.17	-5.17

## 🔆 Agilent 16:53:55 May 2, 2005 Mkr1 5.202 75 GHz -1.172 dBm Ref 15 dBm #Samp Log 10 dB/ Offst 22 dB #Atten 20 dB 1 \$ Marker 5.202750000 GHz -1.172 dBm #PAvg White 100 W1 S2 S3 FC 46. **£**(f): FTun Swp Center 5.200 00 GHz #Res BW 1 MHz Span 50 MHz #VBW 3 MHz Sweep 1 ms (601 pts)

NORTHWEST		Deels Dever							
EMC		Peak Power	Spectral Density		Rev BETA 01/30/01				
EUT:	802UIAG			Work Order:	ITRM0066				
Serial Number:	Unknown			Date:	05/02/05				
Customer:	Intermec Corporation			Temperature:	22°C				
Attendees:	None		Tested by: Rod Peloquin	Humidity:	38% RH				
Customer Ref. No.:	N/A		Power: 120VAC/60Hz	Job Site:	EV06				
TEST SPECIFICATION	IS								
Specification:	47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2003				
SAMPLE CALCULATION	ONS								
EIRP (peak) = Peak Po	ower + Maximum Antenna Gain								
COMMENTS	uter The transmission pulse dur	ation (T) is 1 024 ms. The "OFF"	time is less than 0 us						
Tested In CKeb Comp	uter. The transmission pulse dur	ation (1) is 1.024 lins. The OFF	time is less than 9 us.						
The transmission puls	JES o duration is the same for all dat	a rates and transmit channels							
DEVIATIONS EPOM T		a rates and transmit channels.							
None	LOT STANDARD								
REQUIREMENTS									
For the 5.15 - 5.25 GHz	band, the peak power spectral der	sity shall not exceed 4dBm in any	1 MHz band.						
If the antenna gain is gr	eater than 6 dBi, the peak power sp	pectral density must be reduced by	the amount in dB that the directional gain of the ante	nna exceeds 6 dBi.					
DECULTO									
RESULTS									
SIGNATURE									
Rochy le Release									
DESCRIPTION OF TES	ST								
	Peak Power Spectral Density - High Channel - 5.15 to 5.25 GHz Band								

Tx Data Rate: 54 Mbit

Frequency (MHz)	Antenna Gain (dBi)	Limit (dBm)	Measured PPSD (dBm)	Margin (dB)
5240	4	4.00	0.85	-3.16

## 🔆 Agilent 16:57:44 May 2, 2005 Mkr1 5.242 92 GHz Ref 15 dBm #Samp Log 10 dB/ Offst 22 dB 0.845 dBm #Atten 20 dB -1-\$ Marker 5.242920000 GHz 0.845 dBm Manuala #PAvg 100 WWWW MANNA W1 S2 S3 FC **£**(f): FTun Swp Center 5.240 00 GHz #Res BW 1 MHz Span 50 MHz Sweep 1 ms (601 pts) #VBW 3 MHz

Peak Power Spectral Density									
EUT: 802UIAG			Work Order:	ITRM0066					
Serial Number: Unknown			Date:	05/02/05					
Customer: Intermec Corporation			Temperature:	22°C					
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH					
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06					
TEST SPECIFICATIONS									
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.4	Year:	2002, 2003					
SAMPLE CALCULATIONS									
EIRP (peak) = Peak Power + Maximum Antenna Gain									
COMMENTS	action (T) is 4 004 may The MOFEN tim	is loss then 0 us							
Tested in CK60 Computer. The transmission pulse du	ration (1) is 1.024 ms. The "OFF" tim	ie is less than 9 us.							
EUT OPERATING MODES	to rates and transmit shannels								
	ta rates and transmit channels.								
None									
REQUIREMENTS									
For the 5.25 - 5.35 GHz band, the peak power spectral de	nsity shall not exceed 11dBm in any 1	MHz band.							
If the antenna gain is greater than 6 dBi, the peak powers	pectral density must be reduced by the	amount in dB that the directional gain of the anter	ina exceeds 6 dBi.						
	, , , , , , , , , , , , , , , , , , , ,								
RESULTS									
Kochy Le Pelings									
DESCRIPTION OF TEST									
Peak Power Spectral Density - Low Channel - 5.25 to 5.35 GHz Band									

Frequency	Antenna Gain (dBi)	Limit (dBm)	Measured PPSD (dBm)	Margin (dB)	
5260	4	11.00	1.67	-9.33	

🔆 Agilent 17:00:23 May 2, 2005



Reak Power Spectral Density								
EUT: 802UIAG			Work Order:	ITRM0066				
Serial Number: Unknown			Date:	05/02/05				
Customer: Intermec Corporation			Temperature:	22°C				
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH				
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06				
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2003				
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Gain								
Tested in CK60 Computer. The transmission pulse dura	tion (T) is 1.024 ms. The "OFF" tin	ne is less than 9 us.						
EUT OPERATING MODES								
The transmission pulse duration is the same for all data	rates and transmit channels.							
DEVIATIONS FROM TEST STANDARD								
None								
REQUIREMENTS								
For the 5.25 - 5.35 GHz band, the peak power spectral dense	sity shall not exceed 11dBm in any 1	MHz band.						
If the antenna gain is greater than 6 dBi, the peak power sp	ectral density must be reduced by the	amount in dB that the directional gain of the anter	nna exceeds 6 dBi.					
RESULTS								
Pass								
SIGNATURE								
Norty le Relings Tested By:								
Peak Power Spectral Density - Mid Channel - 5.25 to 5.35 GHz Band								

Frequency	quency Gain MHz) (dBi)		Measured PPSD (dBm)	Margin (dB)	
5300	4	11.00	2.41	-8.59	

🔆 Agilent 17:02:39 May 2, 2005

								М	kr1 5.29	7 50 GHz
Ref 15	dBm		#Ati	ten 20 di	3				2.	408 dBm
#Samp Log					1					
10 dB/				- Jan Marine	~~~~ <b>\</b>	and the second	m			
Uffst 22 dB										
	Marke	r Faaaa	0 CU-	/						
#PAvg	5.297 2.40	50000 18 dBm						Marken way	Maria	
100 W1 S2		Merenan .								Martin and
S3 FC	heart									
<b>£</b> (f): FTun										
Ѕ₩р										
Center	5.300 00	) GHz							Spar	1 50 MHz
#Res B	W 1 MHz				∎VBW 3 M	Hz		Swee	p 1 ms (6	601 pts)

Reak Power Spectral Density								
EUT: 802UIAG			Work Order:	ITRM0066				
Serial Number: Unknown	~		Date:	05/02/05				
Customer: Intermec Corporation			Temperature:	22°C				
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH				
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06				
TEST SPECIFICATIONS								
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.	4 Year:	2002, 2003				
SAMPLE CALCULATIONS								
EIRP (peak) = Peak Power + Maximum Antenna Gain								
Tested in CK60 Computer. The transmission pulse dura	tion (T) is 1.024 ms. The "OFF" tim	ne is less than 9 us.						
EUT OPERATING MODES								
The transmission pulse duration is the same for all data	rates and transmit channels.							
DEVIATIONS FROM TEST STANDARD								
None								
REQUIREMENTS								
For the 5.25 - 5.35 GHz band, the peak power spectral dense	sity shall not exceed 11dBm in any 1	MHz band.						
If the antenna gain is greater than 6 dBi, the peak power sp	ectral density must be reduced by the	amount in dB that the directional gain of the anter	nna exceeds 6 dBi.					
RESULTS								
Pass								
SIGNATURE								
Rocky to Pelings Tested By:								
Peak Power Spectral Density - High Channel - 5.25 to 5.35 GHz Band								

Frequency (MHz)	ncy Antenna Limit Gain (dBi) (dBm)		Measured PPSD (dBm)	Margin (dB)
5320	4	11.00	2.64	-8.36

## 🔆 Agilent 17:04:34 May 2, 2005

								М	kr1 5.32	1 00 GHz
Ref 15	dBm		#Ati	ten 20 di	3				2.	643 dBm
#Samp										
Log						1				
10 JD7				property	-	mount	man			
dB										
4D	Marke	r		/						
	5.321	00000	0 GHz				, 	West		
#PAua	2.6/	13 dRm	www.					mallingh-th	ch.	
100	- 2.0-								W MANA	
₩1 S2	. My Margar								Y	Maria
\$3 FC	and a start of the									and the second
<b>£</b> (f)·										
FTun										
Swp										
Center	5.320 00	) GHz							Spar	1 50 MHz
#Res B	W 1 MHz				∎VBW 3 M	Hz		Swee	p 1 ms (6	601 pts)

EMC Peak Power Spectral Density						
EUT: 802UIAG			Work Order:	ITRM0066		
Serial Number: Unknown			Date:	05/02/05		
Customer: Intermec Corporation			Temperature:	22°C		
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH		
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATIONS						
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.4	Year:	2002, 2003		
SAMPLE CALCULATIONS						
EIRP (peak) = Peak Power + Maximum Antenna Gain						
COMMENTS						
Tested in CK60 Computer. The transmission pulse du	ration (T) is 1.024 ms. The "OFF" tin	ne is less than 9 us.				
EUT OPERATING MODES						
The transmission pulse duration is the same for all da	ita rates and transmit channels.					
DEVIATIONS FROM TEST STANDARD						
None						
REQUIREMENTS	density shall not exceed 17dBm in any	1 MHz band				
ru in e 5.729 - 5.629 GHZ band, ine peak power spectral density shall not exceed i radium in any i MHZ dana.						
in the antennia gain is greater than o dbi, the peak power t	spectral density must be reduced by the		ina execces e abi.			
RESULTS						
Pass						
Tested By:						
DESCRIPTION OF TEST						
Peak Power S	pectral Density - Low	Channel - 5.725 to 5.825 G	Hz Band			

Frequency	Antenna Gain	Limit	Measured PPSD	Margin
(MHZ)	(dBi)	(dBm)	(dBm)	(dB)
5745	4	17.00	0.39	-16.61

🔆 Agilent 17:23:49 May 2, 2005



EMC Peak Power Spectral Density						
EUT: 802UIAG			Work Order:	ITRM0066		
Serial Number: Unknown			Date:	05/02/05		
Customer: Intermec Corporation			Temperature:	22°C		
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH		
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATIONS						
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.4	Year:	2002, 2003		
SAMPLE CALCULATIONS						
EIRP (peak) = Peak Power + Maximum Antenna G	ain					
COMMENTS	- duration (T) is 4 004 may The #OFF# tim					
Tested in CK60 Computer. The transmission puls	e duration (1) is 1.024 ms. The "OFF" tim	ie is less than 9 us.				
EUT OPERATING MODES	all data rates and transmit shannals					
DEVIATIONS EDOM TEST STANDARD	an data rates and transmit channels.					
None						
REQUIREMENTS						
For the 5.725 - 5.825 GHz band, the peak power spe	ectral density shall not exceed 17dBm in any	1 MHz band.				
If the antenna gain is greater than 6 dBi, the peak po	wer spectral density must be reduced by the	amount in dB that the directional gain of the anter	ina exceeds 6 dBi.			
RESULTS						
Rocky la Piele	ing .					
DESCRIPTION OF TEST						
Peak Powe	r Spectral Density - Mid	Channel - 5.725 to 5.825 G	Hz Band			

Frequency	Antenna Gain	Limit	Measured PPSD	Margin
(MHz)	(dBi)	(dBm)	(dBm)	(dB)
5775	4	17.00	0.81	-16.19

★ Agilent 17:26:28 May 2, 2005



EMC Peak Power Spectral Density						
EUT: 802UIAG			Work Order:	ITRM0066		
Serial Number: Unknown			Date:	05/02/05		
Customer: Intermec Corporation			Temperature:	22°C		
Attendees: None		Tested by: Rod Peloquin	Humidity:	38% RH		
Customer Ref. No.: N/A		Power: 120VAC/60Hz	Job Site:	EV06		
TEST SPECIFICATIONS						
Specification: 47 CFR 15.407(a)(1)-(3)	Year: 2005-04	Method: DA 02-2138, ANSI C63.4	4 Year:	2002, 2003		
SAMPLE CALCULATIONS						
EIRP (peak) = Peak Power + Maximum Antenna Ga	ain					
COMMENTS	o duration (T) is 1 024 ms The "OFF" tim	a is loss than Que				
FUT OPERATING MODES	e duration (1) is 1.024 his. The OFF un	ie is iess than 5 us.				
The transmission pulse duration is the same for a	II data rates and transmit channels					
DEVIATIONS FROM TEST STANDARD						
None						
REQUIREMENTS						
For the 5.725 - 5.825 GHz band, the peak power spec	ctral density shall not exceed 17dBm in any	1 MHz band.				
If the antenna dain is greater than 6 dBi, the beak power spectral density must be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.						
25011 70						
RESULTS						
FIGNATURE						
Kochy le Pele						
DESCRIPTION OF TEST						
Peak Power	Spectral Density - High	n Channel - 5.725 to 5.825 G	Hz Band			

Frequency	Antenna Gain	Limit	Measured PPSD	Margin
(MHz)	(dBi)	(dBm)	(dBm)	(dB)
5805	4	17.00	-0.03	-17.03

🔆 Agilent 17:28:46 May 2, 2005







# Peak Excursion of the Modulation Envelope

#### Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:
Ch 36 (5180 MHz)
Ch 40 (5200 MHz)
Ch 48 (5240 MHz)
Ch 52 (5260 MHz)
Ch 60 (5300 MHz)
Ch 64 (5320 MHz)
Ch 149 (5745 MHz)
Ch 155 (5775 MHz)
Ch 161 (5805 MHz)

### Operating Modes Investigated: Continuous transmit

Data Rates Investigated:
6 Mbps (802.11a)
36 Mbps (802.11a)
54 Mbps (802.11a)

#### Output Power Setting(s) Investigated: Maximum default

#### Power Input Settings Investigated: 120 VAC/60Hz

Software\Firmware Applied During Test						
Exercise software	cTxRx Win CE	Version	0.1.2.1			
Description						
The system was tested us	ing special software develo	pped to test all functions of t	the device during the test.			



## Peak Excursion of the Modulation Envelope

EUT and Peripherals						
Description	Manufacturer	Model/Part Number	Serial Number			
EUT- 802.11(a)/(b)/(g) radio	Intermec Technologies Corporation	802UIAG	Unknown			
AC Adapter	Intermec Technologies Corporation	851-061-002	3335175			
Host Device	Intermec Technologies Corporation	CK61	33390400265			

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	Yes	1.9	PA	AC Power Adapter	Host Device
AC Power	No	2.0	No	AC Power Adapter	AC Mains
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

Measurement Equipment					
Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Agilent	E4446A	AAQ	04/08/2005	13 mo

#### **Test Description**

**Requirements:** Per 15.407(a)(6), "The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified in this paragraph) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less."

**Configuration:** FCC Public Notice DA 02-2138 was followed. The transmit frequency was set to the lowest, a medium, and the highest channels in each band. The transmit power was set to its default maximum. The lowest, a medium, and the highest data rates were measured. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

The spectrum analyzer settings were as follows:

- Span set to encompass the entire emission bandwidth (B), centered on the transmit channel.
- Using the marker delta function, the largest difference between the following two traces was measured:
  - 1st Trace: RBW = 1 MHz, VBW >= 3 MHz with peak detector and max-hold settings.
  - o 2nd Trace: Use same settings as were used for peak conducted transmit power.

Completed by:	
ADU.K.P	

EMC	Peak Excu	ursion of the	e Modulat	tion Enve	lope	Rev BETA 01/30/01
EUT	802UIAG				Work Order	RM0066
Serial Number:	Unknown				Date: 05	5/02/05
Customer:	Intermec Corporation				Temperature: 22	2°C
Attendees:	None		Tested by:	Greg Kiemel	Humidity: 38	3% RH
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: E	/06
TEST SPECIFICATION	S			1		
Specification: SAMPLE CALCULATIO	47 CFR 15.407(a)(6)	Year: 2005-04	Method:	DA 02-2138, ANSI C6	3.4 Year: 20	002, 2003
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RESULTS			Peak Excursion			
			8.68 dB			
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Tested By:	~ ~					
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EUT:	802UIAG				Work Order: ITRM0066
Serial Number:	Unknown				Date: 05/02/05
Customer:	Intermec Corporation				Temperature: 22°C
Attendees:	None		Tested by:	Greg Kiemel	Humidity: 38% RH
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV06
EST SPECIFICATION	S				
Specification:	47 CFR 15.407(a)(6)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.4	Year: 2002, 2003
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OMMENTS	itor				
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ass			8.39 dB		
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Serial Number:	Unknown				Date: 05/02/05	
Customer:	Intermec Corporation				Temperature: 22°C	
Attendees:	None		Tested by	Greg Kiemel	Humidity: 38% RH	
Customer Ref. No.:	N/A		Power	120VAC/60Hz	JOD Site: EV06	
Specification:	47 CFR 15.407(a)(6)	Year: 2005-04	Method	DA 02-2138. ANSI C63.4	Year: 2002. 2003	
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	ADU.K.P					
Tested By:	VV					
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Peak Excursion of the Modulation Envelope - Low Channel - 5.25 to 5.35 GHz Band         Agilent 19:15:24 May 2, 2005         25 dBm       #Atten 20 dB	PTION OF TES	Т				
Agilent 19:15:24 May 2, 2005	Pea	k Excursion of	the Modulation En	velope - Low Ch	annel - 5.25 to 5	5.35 GHz Band
k g g g g g c c c c c c c c c c c c c c	25 dBm	13.13.24 May	#Atten 20 dB			▲ Mkr1   -8.33
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er 5.260 00 GHz Span 50			//			
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er 5.260 00 GHz Span 50		Change and	~~~~			man .
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	er 5.260	000 GHZ				Span 50

ЛС	Peak Exc	cursion of t	ne Modulat	tion Envelo	Pe Rev 01/3
EUT: 80	2UIAG				Work Order: ITRM0066
Serial Number: Un	known				Date: 05/02/05
Customer: Inte	ermec Corporation				Temperature: 22°C
Attendees: No	ne		Tested by:	Greg Kiemel	Humidity: 38% RH
stomer Ref. No.: N/	A		Power:	120VAC/60Hz	Job Site: EV06
SPECIFICATIONS	CER 15 407(a)(6)	Voar: 2005.04	Mothod	DA 02 2129 ANSI C62 4	Vor: 2002 2002
PLE CALCULATIONS	GFR 15.407(a)(b)	Tear: 2005-04	Method:	DA 02-2136, ANSI C63.4	Tear: 2002, 2003
IENTS					
d in Ck60 Computer					
PERATING MODES	mum output power				
TIONS FROM TEST					
HONST KOM TEST	STANDARD				
REMENTS					
tio of the peak excu	rsion of the modulation envelo	pe (measured using a peak h	old function) to the peak t	ransmit power shall not exc	eed 13 dB across any 1 MHz
idth or the emissio	n bandwidth whichever is less.				
TS			Peak Excursion 8.34 dB		
TURE			0.04 0.0		
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RIPTION OF TEST	Engine is a fit	Medulation			
Peak	Excursion of the	Modulation Enve	elope - Mid Cha	annel - 5.25 to 5	.35 GHz Band
Agilent 13	9:22:02 May 2.2	005			
rignon 1	0.22.02 Haj 2, 2				. Mkr1 û
25_ <u>dBm</u>	ŧ	#Htten 20 dB			-8.34
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s BW 1 MH:	Z	#VBI	W 8 MHz	S	weep 1 ms (601 p

С	Peak	Excursion o		aulat	ION ENV	elope		Rev B 01/30
EUT: 80	2UIAG					V	Vork Order: ITRM	10066
Serial Number: U	nknown					т.	Date: 05/02	2/05
Attendees: N	termec Corporation			Tested by:	Grea Kiemel	Te	Humidity: 38%	PH
stomer Ref. No.: N/	A			Power:	120VAC/60Hz		Job Site: EV06	5
SPECIFICATIONS								
Specification: 47	' CFR 15.407(a)(6)	Year: 2005-04		Method:	DA 02-2138, ANSI	C63.4	Year: 2002	, 2003
LE CALCULATION	5							
ENTS in Ck60 Compute	r							
PERATING MODE	S imum output power.							
TIONS FROM TES	T STANDARD							
REMENTS								
io of the peak exc idth or the emission	ursion of the modulation on bandwidth whichever	envelope (measured using a pistic lists is less.	peak hold function) t	o the peak tr	ansmit power shall	not exceed 13	dB across any 1	MHz
TS			Peak Exc	irsion				
TURE		)	0.U/ aB					
Tested By:	ADU.K.P	/						
IPTION OF TEST								
Peak	Excursion of	the Modulation E	nvelope - H	igh Cha	annel - 5.25	i to 5.35	GHz Band	b
Agilent 1	9:28:55 May	2,2005					⊿ MI	kr1 (
25 dBm		#Atten 20 dE	3		1		-	-8.07
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er 5.320	00 GHz						Spar	n 50 l
RW 1 MH	7	+	ŧVBW 8 MHz			Swee	en 1 ms ()	601 n

	Peak Excu	rsion of the	Modulat	tion Env	elope	Rev BETA
EUT.	8021114G				Work Order	ITRM0066
Serial Number:	Unknown				Date:	05/02/05
Customer	Intermec Corporation				Temperature:	22°C
Attendees:	None		Tested by:	Grea Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site:	EV06
TEST SPECIFICATION	S					
Specification:	47 CFR 15.407(a)(6)	Year: 2005-04	Method:	DA 02-2138, ANSI	C63.4 Year:	2002, 2003
SAMPLE CALCULATIO	DNS					
1						
COMMENTS	iter					
FUT OPERATING MOD	DES					
Modulated at 6 Mbit. N	aximum output power.					
DEVIATIONS FROM TH	ST STANDARD					
None						
REQUIREMENTS						
The ratio of the peak e bandwidth or the emis	xcursion of the modulation envelope (r sion bandwidth whichever is less.	neasured using a peak hold fu	nction) to the peak t	ransmit power shall	not exceed 13 dB across	any 1 MHz
			Peak Excursion			
Pass		8	eak Excursion			
SIGNATURE		- -				
	A U.K.					
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rested By:	• •					
DESCRIPTION OF TES	т					
Peak	Excursion of the Moo	ulation Envelope	e - Low Cha	nnel - 5.725	to 5.825 GHz I	Band
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Aglient	19.34.20 May 2, 200					
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Center 5./4:	000 GHZ				5	pan 50 MHz
#Res BW 1 M	Hz	#VBW 8	MHz		Sweep 1 m	s (601 nts)

NORTHWEST	Peak Excu	rsion of the	Modulat	ion Enve	elope	Rev BETA 01/30/01
EUT	80211140				Work Order: IT	RM0066
EUT:	Unknown				Work Order: IT	100000
Serial Number:	Intermed Corneration				Date: 03	0/02/05
Customer:	Nene		Tested by	Crog Kiemel	Temperature: 22	
Customer Ref. No :			Power:		International Contract of Cont	0% KT
Customer Ref. No.:	N/A		Power:	120VAC/60HZ	Job Site: E	706
TEST SPECIFICATION	5	V	Mathada			00.0000
Specification:	47 CFR 15.407(a)(6)	Year: 2005-04	Method:	DA 02-2138, ANSI C	63.4 Year: 20	002, 2003
SAMPLE CALCULATION	JNS					
COMMENTS						
Tested in Ck60 Compu	iter					
EUT OPERATING MOI	DES					
Modulated at 6 Mbit. N	laximum output power.					
DEVIATIONS FROM T	EST STANDARD					
None						
REQUIREMENTS						
The ratio of the peak e	excursion of the modulation envelope (r	neasured using a peak hold fu	nction) to the peak to	ansmit power shall n	ot exceed 13 dB across an	y 1 MHz
bandwidth or the emis	sion bandwidth whichever is less.					
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F 435			.74 UD			
SIGNATURE	-					
Tested By:	ADU.K.P					
DESCRIPTION OF TES						
Pea	k Excursion of the Mo	dulation Envelop	e - Mid Char	nel - 5.725 t	to 5.825 GHz Ba	and
🔆 Agilent	19:39:50 May 2, 200	)5				
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Center 5 77	5 00 БН౽				Sn	an 50 MHz
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#Res BW 1 M	Hz	#VBW 8	MHz		Sweep 1 ms	(601 pts)

NORTHWEST EMC	Peak E	Excursion of	the Modula	tion Envel	OPE Rev BET. 01/30/01
EUT: 80	2UIAG				Work Order: ITRM0066
Serial Number: U	nknown				Date: 05/02/05
Customer: In	termec Corporation				Temperature: 22°C
Attendees: N	one		Tested b	y: Greg Kiemel	Humidity: 38% RH
Customer Ref. No.: N	A		Powe	r: 120VAC/60Hz	Job Site: EV06
Specification: 4	CER 15 407(a)(6)	Vear: 2005.04	Motho	H DA 02 2129 ANSI C62 4	Vort 2002 2002
SAMPLE CALCULATION	S	fear: 2005-04	Metho	u:  DA 02-2138, ANSI C63.4	Tear: 2002, 2003
COMMENTS					
ested in Ck60 Compute	r				
EUT OPERATING MODE	S				
Iodulated at 6 Mbit. Max	kimum output power.				
EVIATIONS FROM TES	T STANDARD				
lone					
REQUIREMENTS	urgion of the modulation of	nvolopo (mossured using a po	ak hold function) to the neak	transmit nowor shall not o	xcood 12 dB across any 1 MHz
andwidth or the emissi	on bandwidth whichever is	less.	as note reneation) to the peak	a ansmit power shall not e	NOCEU IS UD ACIOSS ALLY I MINZ
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IESULIS			Peak Excursion		
			1.91 dB		
SIGNATORE					
	An U.K.P				
T	. 194				
Tested By:	• •				
DESCRIPTION OF TEST					
Peak	Excursion of th	e Modulation Env	elope - High Ch	annel - 5.725 to	5.825 GHz Band
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Sk: Aglient 1	9.40.00 May /	2,2005			
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NORTHWEST	Peak Excu	rsion of the l	Modulatio	on Envelop		ETA
EUT.	8021114.G				Work Order: ITPM0066	21
Serial Number:	Unknown				Date: 05/02/05	
Customer:	Intermec Corporation				Temperature: 22°C	
Attendees:	None		Tested by: Gr	reg Kiemel	Humidity: 38% RH	
Customer Ref. No.:	N/A		Power: 12	OVAC/60Hz	Job Site: EV06	
TEST SPECIFICATION	IS					
Specification:	47 CFR 15.407(a)(6) Y	ear: 2005-04	Method: DA	A 02-2138, ANSI C63.4	Year: 2002, 2003	
SAMPLE CALCULATI	ONS					
COMMENTS						
Tested in Ck60 Comp						
EUT OPERATING MO	Maximum output power					
DEVIATIONS EPOM T						
None						
REQUIREMENTS						
The ratio of the peak	excursion of the modulation envelope (me	easured using a peak hold fun	ction) to the peak trans	smit power shall not exceed	13 dB across any 1 MHz	
bandwidth or the emis	ssion bandwidth whichever is less.					
RESULTS		Pe	ak Excursion			
Pass		9.2	6 dB			
SIGNATURE						
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	ANUKIT					
Tested By:	V					
DESCRIPTION OF TES	ST					
Pea	k Excursion of the Mod	Iulation Envelope	e - Low Char	nnel - 5.15 to 5.2	5 GHz Band	
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A Adirette	10.52.50 May 2, 200.	J				
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Center 5.18	0 00 GHZ				Span 50 Mi	ΗZ
#Res BW 1 M	IHz	#VBW 8	MHz	Swe	ep 1 ms (601 pt	s)

NORTHWEST	Peak Excu	rsion of the	Modulat	ion Env <u>e</u> l	оре	Rev BETA
FUT	802UIAG				Work Order: ITRM004	66
Serial Number:	Unknown				Date: 05/02/05	i
Customer:	Intermec Corporation				Temperature: 22°C	
Attendees:	None		Tested by:	Greg Kiemel	Humidity: 38% RH	
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV06	
TEST SPECIFICATION	S					
Specification:	47 CFR 15.407(a)(6)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.	4 Year: 2002, 20	03
SAMPLE CALCULATIO	DNS					
000005070						
COMMENTS Tested in Ck60 Comp	itor					
FUT OPERATING MOD	)FS					
Modulated at 36 Mbit.	Maximum output power.					
DEVIATIONS FROM T	ST STANDARD					
None						
REQUIREMENTS						
The ratio of the peak e bandwidth or the emis	xcursion of the modulation envelope (r sion bandwidth whichever is less.	neasured using a peak hold fu	nction) to the peak tra	ansmit power shall not	exceed 13 dB across any 1 MH	łz
DECULTO						
RESULTS		P	ak Excursion			
SIGNATURE		9.	43 UD			
SIGNATORE						
	An U.K.P					
Tested By:	VJ					
DESCRIPTION OF TES	T					
Pea	ak Excursion of the Mo	odulation Envelor	be - Mid Cha	nnel - 5.15 to	5.25 GHz Band	
		•				
Anilent	19.02.26 May 2, 200	15				
Ne Aguerre	10.02.20 1103 2, 200	/5				
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Ref 25 dBm	#Ĥ	tten 20 dB			_9	49 dB
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Center 5 20	) 00 GHz				Snan	50 MH-2
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#Res BW 1 M	Hz	#VBW 8	MHz		-Sweep 1 ms (60	Jl pts)

	Peak Ex	cursion of th	e Modulat	ion Enve	lope	Rev BETA
EUT	8021114.G				Work Order: ITE	01/30/01
Serial Number	Unknown				Date: 05	02/05
Customer	Intermec Corporation				Temperature: 22	°C.
Attendees:	None		Tested by:	Greg Kiemel	Humidity: 38	% RH
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV	06
TEST SPECIFICATION	NS					
Specification:	47 CFR 15.407(a)(6)	Year: 2005-04	Method:	DA 02-2138, ANSI C63	3.4 Year: 200	02, 2003
SAMPLE CALCULATI	ONS					
COMMENTS						
Tested in Ck60 Comp	uter					
EUT OPERATING MO	DES					
Modulated at 36 Mbit.	Maximum output power.					
DEVIATIONS FROM T	EST STANDARD					
None						
REQUIREMENTS						
The ratio of the peak	excursion of the modulation envel	ope (measured using a peak hole	d function) to the peak tr	ansmit power shall no	et exceed 13 dB across any	1 MHz
bandwidth or the emi	ssion bandwidth whichever is less	S.				
RESULTS			Peak Excursion			
Pass			10.40 dB			
SIGNATURE						
	111.0					
	AND KAT					
Tested Bv:	V					
DESCRIPTION OF TE	ST					
Pea	ak Excursion of the	Modulation Envelo	ope - High Cha	annel - 5.15 t	o 5.25 GHz Bar	nd
			-peg. e			
	19-10-31 May 2	2005				
A Aductor	10.10.01 May 2,	2003				
					Δ	4kr1 0Hz
Raf 25 dRm		#A++on 20 dR			_	10.40 JR
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Center 5.24	0 00 GHZ				Spa	an 50 MHz
#Res BW 1 N	1Hz	#VBW	8 MHz		Sweep 1 ms	(601 pts)

NORTHWEST	Peak	Excursion o	f the Modula	ation Enve	lope	Rev BETA 01/30/01
FUT-	802UIAG				Work Order: ITRM00	66
Serial Number:	Unknown				Date: 05/02/0	5
Customer:	Intermec Corporation				Temperature: 22°C	-
Attendees:	None		Tested	by: Greg Kiemel	Humidity: 38% RH	1
Customer Ref. No.:	N/A		Pow	ver: 120VAC/60Hz	Job Site: EV06	
TEST SPECIFICATION	IS					
Specification:	47 CFR 15.407(a)(6)	Year: 2005-04	Metho	od: DA 02-2138, ANSI C63	.4 Year: 2002, 2	003
SAMPLE CALCULATIO	ONS					
COMMENTS	iter					
FUT OPERATING MOD	DES					
Modulated at 36 Mbit.	Maximum output power.					
DEVIATIONS FROM T	EST STANDARD					
None						
REQUIREMENTS						
The ratio of the peak e	excursion of the modulat	ion envelope (measured using a	peak hold function) to the pea	k transmit power shall not	exceed 13 dB across any 1 M	Hz
bandwidth or the emis	sion bandwidth whichev	ver is less.				
RESULTS			Peak Excursion			
SIGNATURE			9.22 GB			
	111/5	0				
	ATT.K	t				
Tested By:	VV					
DESCRIPTION OF THE	эт					
	k Excursion o	of the Modulation F	nvelone - Low C	hannel - 5 25 +/	5 35 GHz Band	
1.60						
Niz Automá	10-17-44 Ma					
Agrient	13.17.44 Ma	y Z, Z005				
					🔺 Mkr	1 0 Hz
Ref 25 dBm		#Atten 20 df	3			122 dB
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Center 5.26	0 00 GHz				Span	50 MHz
#Res BW 1 M	Hz		₩VRW 8 MHz		Sween 1 ms (6)	71 nts)
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NORTHWEST	Peak	Excu <u>rsion of t</u>	he Modulat	ion Envelo	
EUT-	802UIAG				Work Order: ITRM0066
Serial Number:	Unknown				Date: 05/02/05
Customer:	Intermec Corporation				Temperature: 22°C
Attendees:	None		Tested by:	Greg Kiemel	Humidity: 38% RH
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV06
TEST SPECIFICATION	S				
Specification:	47 CFR 15.407(a)(6)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.4	Year: 2002, 2003
SAMPLE CALCULATIO	DNS				
000005070					
COMMENTS	iter				
FUT OPERATING MOI	DES				
Modulated at 36 Mbit.	Maximum output power.				
DEVIATIONS FROM T	EST STANDARD				
None					
REQUIREMENTS					
The ratio of the peak e	excursion of the modulation	envelope (measured using a peak	hold function) to the peak tr	ansmit power shall not exc	eed 13 dB across any 1 MHz
bandwidth or the emis	sion bandwidth whichever	is less.			
RESULTS			Peak Excursion		
Pass			9.71 dB		
SIGNATURE					
	111.0	n			
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Tested By:	<u> </u>				
		-			
DESCRIPTION OF TES					
Pea	ak Excursion of	the Modulation Env	elope - Mid Cha	annel - 5.25 to 5	.35 GHz Band
🔆 Agilent	19:24:05 May	2,2005			
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Ref 25 dBm		#Atten 20 dB			-9.71 dB
#Peak					
Log		18			
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owb					
Center 5.30	0 00 GHz				Span 50 MHz
#Res BW 1 M	Hz	#UP	3W 8 MH≂	<	ween 1 ms (601 nts)

	Peak E	Excursion of th	e Modula	tion Envelo	PPE Rev 01/3
EUT:	802UIAG				Work Order: ITRM0066
Serial Number:	Unknown				Date: 05/02/05
Customer:	Intermec Corporation				Temperature: 22°C
Attendees:	None		Tested by	Greg Kiemel	Humidity: 38% RH
Customer Ref. No.:	N/A		Powers	120VAC/60Hz	Job Site: EV06
ST SPECIFICATION	3				
Specification:	47 CFR 15.407(a)(6)	Year: 2005-04	Method	DA 02-2138, ANSI C63.4	Year: 2002, 2003
MMENTS					
sted in Ck60 Compu	ter				
T OPERATING MOD	ES				
dulated at 36 Mbit. I	Maximum output power.				
VIATIONS FROM TE	ST STANDARD				
QUIREMENTS e ratio of the peak e	voursion of the modulation e	nyelone (measured using a neak hol	d function) to the neak t	ransmit nower shall not exc	eed 13 dB across any 1 MHz
ndwidth or the emis	sion bandwidth whichever is	less.	a randuony to the peak t	anonin power snall not exc	is all across any I WINZ
SULTS			Peak Excursion		
55			9.94 dB		
SNATURE					
	1 -U.V.D				
	ATT				
Tested By:	VV				
SCRIPTION OF TES	T				
Pea	k Excursion of t	he Modulation Envel	ope - High Ch	annel - 5.25 to 5	5.35 GHz Band
i Anilant	10-20-46 Mar 1	200E			
Real Agricent	19.30.40 May 2	1,2005			
					▲ Mkr1 (
ef 25 dBm -		#Atten 20 dB			-9.94
Peak 🗖 👘					
oun					
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nter 5.320	00 GHz				Span 50 I

NORTHWEST	Peak E	xcursion of th	e Modulat	ion Envel	оре	Rev BETA
	8021114.6				Work Order: ITRM	01/30/01
Sorial Number:	Unknown				Data: 05/02	/05
Customer:	Intermec Corporation				Temperature: 22°C	105
Attendees:	None		Tested by:	Greg Kiemel	Humidity: 38%	RH
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV06	
TEST SPECIFICATION	S					
Specification:	47 CFR 15.407(a)(6)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.4	Year: 2002,	2003
SAMPLE CALCULATIO	DNS					
COMMENTS						
Tested in Ck60 Compu	iter					
EUT OPERATING MOD	DES					
Modulated at 36 Mbit.	Maximum output power.					
DEVIATIONS FROM T	EST STANDARD					
REQUIREMENTS						
The ratio of the peak e	excursion of the modulation en	velope (measured using a peak bo	ld function) to the neak tr	ansmit nower shall not	exceed 13 dB across any 1	MHz
bandwidth or the emis	sion bandwidth whichever is le	SS.				
RESULTS			Peak Excursion			
Pass			9.86 GB			
SIGNATURE						
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Tested By:	00					
DESCRIPTION OF THE	ст					
		Madulation Envelo				-1
Peak	Excursion of the	Modulation Envelo	ope - Low Chai	nnei - 5./25 to	5.825 GHZ Ban	a
🔆 Agilent	19:36:25 May 2,	2005				
					<b>∆</b> Mk	r1 0Hz
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Contor E 74	5 00 CU-				C	EQ MU-
Center 5.74:	5 00 GHZ				ວpan	DØ MHZ
#Res BW 1 M	Hz	#VBW	8 MHz		Sweep 1 ms (6	601 pts)

NORTHWEST	Peak	Excursion of	the Modulat	ion Envel	ope	Rev BETA 01/30/01
FUT	802UIAG				Work Order: ITRM006	6
Serial Number:	Unknown				Date: 05/02/05	•
Customer:	Intermec Corporation				Temperature: 22°C	
Attendees:	None		Tested by:	Grea Kiemel	Humidity: 38% RH	
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV06	
TEST SPECIFICATION	s					
Specification:	47 CER 15 407(a)(6)	Year: 2005-04	Method	DA 02-2138 ANSI C63 4	Year: 2002 200	13
SAMPLE CALCULATIO	ONS	Teal: 2003-04	Metriod.	DA 02-2150, ANOI 005.4	Tear. 2002, 200	55
COMMENTS	itor					
FUT ODERATING MOL						
Modulated at 26 Mbit	Naximum output nowor					
Modulated at 50 Mbit.						
DEVIATIONS FROM T	EST STANDARD					
None						
The ratio of the section	vourcion of the module "	anvolopo (massure turiur	ak hold function) to the sector	anomit newer of all and	vood 12 dP cores 4	
handwidth or the peak e	excursion of the modulation	i envelope (measured using a pe	ak noid function) to the peak tr	ansmit power shall not e	xceed 13 dB across any 1 MH	2
bandwidth of the emis		13 1533.				
RESULTS			Peak Excursion			
Pass			9.55 dB			
SIGNATURE						
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	Am U.K.f					
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rested By:	• •					
DESCRIPTION OF TES	ЭТ					
		the Meduletian E	alone Mid Oh-	nol 5 705 4-		
rea	K EXCUISION OF	the wooulation En	velope - Mild Chan	inei - 3./23 to	5.023 GHZ Band	
🔆 Agilent	19:41:17 May	2,2005				
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Ret 25 dBm		#Atten 20 dB			-9.	.55 dB
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	and the second				MAL BANNING	
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Center 5 77	5 00 GH <del>-</del>				Snan E	50 MH-2
					- opanic	
#Res BW 1 M	Hz	#\	/BW 8 MHz		Sweep 1 ms (60)	1 pts)

	Peak	Excursion of	the Modulat	tion Enve	elope	Rev BETA 01/30/01
EUT:	802UIAG				Work Order: ITRM	0066
Serial Number:	Unknown				Date: 05/02/	05
Customer:	Intermec Corporation				Temperature: 22°C	
Attendees:	None		Tested by:	Greg Kiemel	Humidity: 38% F	RH
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV06	
Specification:	5 47 CER 15 407(a)(6)	Vear: 2005-04	Method:	DA 02-2138 ANSI C	3.4 Vear: 2002	2003
SAMPLE CALCULATION	DNS	Teal. 2003-04	Method.	DA 02-2138, ANSI CO	193.4 Tear. 2002,	2003
COMMENTS						
Tested in Ck60 Comp	ıter					
EUT OPERATING MOI	DES					
Modulated at 36 Mbit.	Maximum output power.					
DEVIATIONS FROM T	EST STANDARD					
None						
REQUIREMENTS					·	
i ne ratio of the peak e bandwidth or the emis	excursion of the modulati ision bandwidth whicheve	on envelope (measured using a pe er is less.	ak noid function) to the peak ti	ransmit power shall n	ot exceed 13 dB across any 1	VIFIZ
RESULTS			Peak Excursion			
SIGNATURE			9.04 aB			
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	An U.K.	P				
Tested P	U. NA					
restea By:						
DESCRIPTION OF TES	т					
Peak	Excursion of	the Modulation Env	elope - High Cha	nnel - 5.725	to 5.825 GHz Ban	d
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V1 V2 S3 FC £(f): mmm <sup>2</sup> FTun	per many many many many many many many many					Walker and a state of the second
V1 V2 S3 FC £(f): FTun Sup	per management with the					N Marco Martine Marco
V1 V2 S3 FC <b>£</b> (f): FTun Swp	perturbation of the second sec					**************************************
V1 V2 S3 FC £(f): FTun Swp	perturn br>perturn perturn pertur					**************************************
V1 V2 S3 FC (f): FTun Swp	perturbation of the second sec					al and a second se
V1 V2 S3 FC (f): FTun Swp	per the second sec					Water and and a
V1 V2 S3 FC W (f): mmm FTun Swp						Marine and and
V1 V2 S3 FC W E(f): mmm Swp						**************************************
V1 V2 S3 FC (f): FTun Swp Center 5.80	5 00 GHz				Span	50 MHz

NORTHWEST	Peak Exc	ursion of the	e Modulat	ion Envelo	<b>De</b> Rev BETA
FUT	802UIAG				Work Order: ITRM0066
Serial Number:	Unknown				Date: 05/02/05
Customer:	Intermec Corporation				Temperature: 22°C
Attendees:	None		Tested by:	Greg Kiemel	Humidity: 38% RH
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV06
TEST SPECIFICATION	S				
Specification:	47 CFR 15.407(a)(6)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.4	Year: 2002, 2003
SAMPLE CALCULATIO	JNS				
COMMENTS					
Tested in Ck60 Compu	Iter				
EUT OPERATING MOL	DES Maximum output power				
DEVIATIONS EROM T					
None					
REQUIREMENTS					
The ratio of the peak e	excursion of the modulation envelop	e (measured using a peak hold	I function) to the peak tr	ansmit power shall not exc	eed 13 dB across any 1 MHz
bandwidth or the emis	sion bandwidth whichever is less.				
RESULTS			Peak Excursion		
Pass			9.83 dB		
SIGNATURE					
Tested By:	ADU.K.P				
DESCRIPTION OF THE	х <b>т</b>				
DESCRIPTION OF TES	k Evolution of the N	Indulation Envolu		annol - E 15 to 5	25 GHz Band
Pea	K EXCUISION OF THE N	nouulation Envelo	the - row cu	annei - 5.15 to 5	
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Ref 25 dBm	#	Atten 20 dB			-9.83 dB
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dB/			1R 文		
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ETun					
Swp					
Center 5.180	0 00 GHz				Span 50 MHz
#Res BW 1 M	Hz	#VBW	8 MHz	S	weep 1 ms (601 pts)

EMC	Peak E	xcursion of the	e Modulat	ion Envelo	<b>De</b> Rev BETA 01/30/01
EUT:	802UIAG				Work Order: ITRM0066
Serial Number:	Unknown				Date: 05/02/05
Customer:	Intermec Corporation				Temperature: 22°C
Attendees:	None		Tested by:	Greg Kiemel	Humidity: 38% RH
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV06
Specification:	S 47 CER 15 407(a)(6)	Vear: 2005-04	Method	DA 02-2138 ANSI C63 4	Vear: 2002 2003
SAMPLE CALCULATION	47 CFR 15.407(a)(b)	fear: 2005-04	wethod:	DA 02-2136, ANSI C63.4	Tear: 2002, 2003
COMMENTS					
Tested in Ck60 Compu	uter				
EUT OPERATING MOD	DES				
Modulated at 54 Mbit.	Maximum output power.				
DEVIATIONS FROM T	EST STANDARD				
REQUIREMENTS					
The ratio of the peak e bandwidth or the emis	excursion of the modulation en ssion bandwidth whichever is le	velope (measured using a peak hold ess.	function) to the peak tra	ansmit power shall not exce	ed 13 dB across any 1 MHz
			Dook Evourning		
NESUETS Pass			R 36 dB		
SIGNATURE			0.30 UD		
SIGNATORE					
	Am U.K.P				
Tested Dur	. NA				
Tested By:	·				
DESCRIPTION OF TES	т				
Pea	ak Excursion of th	ne Modulation Envelo	ope - Mid Cha	nnel - 5.15 to 5.	25 GHz Band
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Aynem	13.03.10 May 2,	, 2003			
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		#Atten 20 ab			-0.30 dD
#Peak					
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ETun					
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Penter 5 200	й йй GHz				Snan 50 MHz
			A 100		
#Res BW 1 M	IHZ	#VBW	8 MHz	S	weep 1 ms (601 pts).

	Peak E	xcursion of the	e Modulatio	on Envelo	ре	Rev BETA
EUT:	802UIAG				Work Order: ITRM006	01/30/01
Serial Number:	Unknown				Date: 05/02/05	
Customer:	Intermec Corporation				Temperature: 22°C	
Attendees:	None		Tested by: Gr	eg Kiemel	Humidity: 38% RH	
Customer Ref. No.:	N/A		Power: 12	0VAC/60Hz	Job Site: EV06	
TEST SPECIFICATION		X 0005.04			×	
Specification: SAMPLE CALCULATION	47 CFR 15.407(a)(6) ONS	Year: 2005-04	Method: D/	A 02-2138, ANSI C63.4	Year: 2002, 200	3
COMMENTS						
Tested in Ck60 Comp	uter					
EUT OPERATING MOI	DES					
Modulated at 54 Mbit.	Maximum output power.					
DEVIATIONS FROM T	EST STANDARD					
None						
REQUIREMENTS						
The ratio of the peak e bandwidth or the emis	excursion of the modulation en ssion bandwidth whichever is le	velope (measured using a peak hold	I function) to the peak tran	smit power shall not exc	eed 13 dB across any 1 MH	
			Deals Francis			
RESULTS			Peak Excursion			
SIGNATURE			3.23 UD			
SIGNATORE						
	An U.K.P					
Tested Pro	. NA					
Tested By:						
DESCRIPTION OF TES	ST					
Pea	k Excursion of th	e Modulation Envelo	ope - High Char	nnel - 5.15 to 5	.25 GHz Band	
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Aglient	19.12.00 May 2	, 2005				
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+r⊓vg	Alberton and a second second			٩.	AVA MAN	
V1 V2	Wand and and a second sec	M		A Loton	and the second sec	Mary .
V1 V2 S3 FC	a manager	prill		A MANN	When have a second s	MAN MALAN
V1 V2 S3 FC	Martin Marine Star	profile		- Mary	When begins and	Mary Mary Mary Mary Mary Mary Mary Mary
V1 V2 S3 FC	Martin and a second second	pr.M			When the state of	Mary Marrie
*FHV9 V1 V2 S3 FC	Martin and a second second				Margaret and the second	North Contraction
*rnvg V1 V2 S3 FC £(f):	Martin br>Martin Martin				where he was a feature of the second se	Mary Marchan
*FHV9 V1 V2 S3 FC #(f): FTun	Martin and and and and and and and and and an				and	Mary Mary
₩FΠV9 V1 V2 S3 FC ₩ €(f): FTun Swp	Martin and and and and and and and and and an				Manda and and and and and and and and and	Mary Mary Mary Mary Mary Mary Mary Mary
*FHV9 V1 V2 S3 FC \$ \$ \$ \$ FTun \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Martin and and and and and and and and and an				Manager and a second	Mary Mary Mary Mary Mary Mary Mary Mary
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*FHV9 V1 V2 S3 FC S3 FC ************************************					Margaret Contraction	Mary Mary Ark
*FHV9 V1 V2 S3 FC S3 FC ************************************	Martin and and and and and and and and and an				When have a second seco	Man Mar Au
*FHV9 V1 V2 S3 FC S3 FC \$ (f): Swp	Martin and and and and and and and and and an				Margare and a	Man Maria
*rnvg V1 V2 S3 FC S3 FC ff(f): FTun Swp Center 5.24	0 00 GHz				Span 5	10 MHz

NORTHWEST	Peak Ex	cursion of the	Modulati	ion Envelo	De Rev BETA
FUT	802UIAG				Work Order: ITRM0066
Serial Number:	Unknown				Date: 05/02/05
Customer:	Intermec Corporation				Temperature: 22°C
Attendees:	None		Tested by:	Greg Kiemel	Humidity: 38% RH
Customer Ref. No.:	N/A		Power: 1	120VAC/60Hz	Job Site: EV06
TEST SPECIFICATION	IS				
SAMPLE CALCULATI	47 CFR 15.407(a)(6)	Year: 2005-04	Method: I	DA 02-2138, ANSI C63.4	Year: 2002, 2003
COMMENTS					
Tested in Ck60 Comp	uter				
EUT OPERATING MOI	DES				
Modulated at 54 Mbit.	Maximum output power.				
DEVIATIONS FROM T	EST STANDARD				
None					
REQUIREMENTS					
The ratio of the peak e	excursion of the modulation envelo	ope (measured using a peak hold	function) to the peak tra	nsmit power shall not exce	eed 13 dB across any 1 MHz
bandwidth or the emis	ssion bandwidth whichever is less.				
RESULTS			Peak Excursion		
Pass			9.04 dB		
SIGNATURE					
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	ATT				
Tested By:	VV				
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DESCRIPTION OF TES		Meduletice Envil	no 1 am 01 -		25 Olda Demai
Pea	ik Excursion of the	wodulation Envelo	pe - Low Cha	nnei - 5.25 to 5	.35 GHZ Band
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$\mathcal{E}(f)$ : $\gamma \gamma					Service Servic
ETun					
Swp					
Center 5.26	0 00 GHz				Snan 50 MHz
			o MII_	~	
#Kes BW 1 M	HZ	#VBM 3	8 MHZ	S	weep 1 ms (601 pts)

NORTHWEST	Peak Excu	ursion of the	Modulat	tion Envelo	
EUT	8021114.G				Work Order: ITBM0066
Serial Number:	Unknown				Date: 05/02/05
Customer:	Intermec Corporation				Temperature: 22°C
Attendees:	None		Tested by:	Greg Kiemel	Humidity: 38% RH
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV06
TEST SPECIFICATION	IS				
Specification:	47 CFR 15.407(a)(6)	Year: 2005-04	Method:	DA 02-2138, ANSI C63.4	Year: 2002, 2003
SAMPLE CALCULATI	ONS				
COMMENTS					
Tested in Ck60 Comp	uter				
EUT OPERATING MOI	DES				
Modulated at 54 Mbit.	Maximum output power.				
DEVIATIONS FROM T	EST STANDARD				
REQUIREMENTS					
The ratio of the peak e	excursion of the modulation envelope	(measured using a peak hold fu	nction) to the peak t	ransmit power shall not exc	eed 13 dB across any 1 MHz
bandwidth or the emis	ssion bandwidth whichever is less.		,		,
RESULTS		P	eak Excursion		
Pass		9	.86 dB		
SIGNATURE					
	111.0				
	AMU.K.T				
Tested By:					
		_			
DESCRIPTION OF TES	ST				
Pe	ak Excursion of the M	odulation Envelo	pe - Mid Cha	annel - 5.25 to 5	.35 GHz Band
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A Adment	10.20.20 May 2, 20	01			
					∆ Mkrl 0 Hz
Ref 25 dBm	#A	ltten 20 dB			–9.86 dB
#Dook	····				0.00 48
#Feak					stell stell
Log					
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					Succe EQ MU
Center 5.30	0 00 GHZ				ରpan 50 MHz
#Res BW 1 M	Hz	#VBW 8	MHz	S	ween 1 ms (601 nts)

EMC	Peak E	Excursion of th	e Modula	tion Envelo	Rev BETA 01/30/01
EUT:	802UIAG				Work Order: ITRM0066
Serial Number:	Unknown				Date: 05/02/05
Customer:	Intermec Corporation			_	Temperature: 22°C
Attendees:	None		Tested by	: Greg Kiemel	Humidity: 38% RH
Customer Ref. No.:	N/A		Power	: 120VAC/60Hz	Job Site: EV06
Specification:	5 47 CER 15 407(a)(6)	Voor: 2005.04	Mothod	DA 02 2129 ANSI C62 4	Xoor: 2002 2002
SAMPLE CALCULATION	DNS	Tear. 2003-04	Wethod	. DA 02-2138, ANSI 063.4	Tear. 2002, 2003
COMMENTS					
ested in Ck60 Comp	uter				
UT OPERATING MOI	DES				
Nodulated at 54 Mbit.	Maximum output power.				
EVIATIONS FROM T	EST STANDARD				
lone					
REQUIREMENTS					
ne ratio of the peak e andwidth or the emis	excursion of the modulation e ssion bandwidth whichever is	nvelope (measured using a peak hol	a function) to the peak t	ransmit power shall not exc	eed 13 dB across any 1 MHz
and the entry	Sector Build math whichever is				
RESULTS			Peak Excursion		
			9.15 dB		
SIGNATURE	~				
	An U.K.P				
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Tested By:	~ ~				
DESCRIPTION OF TES	ST				
Pos	k Excursion of t	he Modulation Envel	one - High Ch	annel - 5 25 to 5	5 35 GHz Band
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siz -	10-00-01 N	0.0005			
🔆 Agilent	19:32:21 May 2	2,2005			
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ket 25 dBm		#Htten 20 dB			-9.15 dB
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Center 5 32	0 00 GHz				Span 50 MHz
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икез Би 1 М	HZ	#VBW	δMHZ	S	weep 1 ms (601 pts)

NORTHWEST	Peak E	xcursion of the	e Modulat	tion Envelo	
EUT	8021114G				Work Order: ITRM0066
Serial Number:	Unknown				Date: 05/02/05
Customer:	Intermec Corporation				Temperature: 22°C
Attendees:	None		Tested by	Greg Kiemel	Humidity: 38% RH
Customer Ref. No.:	N/A		Power	120VAC/60Hz	Job Site: EV06
TEST SPECIFICATION	S				
Specification:	47 CFR 15.407(a)(6)	Year: 2005-04	Method	DA 02-2138, ANSI C63.4	Year: 2002, 2003
SAMPLE CALCULATIO	ONS				
COMMENTS	the r				
FUT OPERATING MOL					
Port OPERATING WOR	Maximum output nower				
DEVIATIONS EROM T	EST STANDARD				
None					
REQUIREMENTS					
The ratio of the peak e	excursion of the modulation e	nvelope (measured using a peak hold	function) to the peak t	ransmit power shall not exc	ceed 13 dB across any 1 MHz
bandwidth or the emis	sion bandwidth whichever is	less.			-
RESULTS			Peak Excursion		
Pass			9.39 dB		
SIGNATURE					
	UNI. A				
	AMU.K.P				
Tested By:	$\nabla \Delta$				
DESCRIPTION OF TES	ST				
Peak	Excursion of th	e Modulation Envelop	be - Low Cha	nnel - 5.725 to 5	5.825 GHz Band
Acilent	19·38·07 May 2	2005			
Nix Adirent	10.00.07 1103 2	., 2003			
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Ref 25 dBm		#Atten 20 dB			-9 39 dE
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Center 5.74	5 00 GHz				Span 50 MH:
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EMC	Peak Exe	cursion of the	e Modulat	ion Envelo	ope	Rev BETA 01/30/01
EUT:	802UIAG				Work Order: ITRN	0066
Serial Number:	Unknown				Date: 05/02	2/05
Customer:	Intermec Corporation				Temperature: 22°C	
Attendees:	None		Tested by:	Greg Kiemel	Humidity: 38%	RH
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV06	5
ST SPECIFICATION		X 0005.04			× 0000	
Specification:	47 CFR 15.407(a)(6) DNS	Year: 2005-04	Method:	DA 02-2138, ANSI C63.4	Year: 2002	, 2003
MMENTS						
sted in Ck60 Compu	iter					
T OPERATING MOD	DES					
dulated at 54 Mbit.	Maximum output power.					
VIATIONS FROM TI	EST STANDARD					
ne						
QUIREMENTS	voursion of the modulation envolu	and (managined using a neak hold	(unation) to the neak tr	anomit newer shall not av	and 12 dB careco any 4	MU
e ratio of the peak end	sion bandwidth whichever is less.	ope (measured using a peak hold	runction) to the peak tr	ansmit power snall not ex	ceed 13 dB across any 1	IVINZ
SULTS			Peak Excursion			
SS			8.81 dB			
GNATURE						
	An U.K.P					
	$\sim 00$					
Tested By:	VV					
SCRIPTION OF TES	T					
Bool	Executaion of the N	Adulation Envolor	o Mid Char	nol 5 725 to 4	ODE CH- Don	d
real	Excursion of the R	Nodulation Envelop	be - Ivilu Chan	inei - 5.725 to :	0.020 GHZ Dah	a
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enter 5.77:	UN GHZ				Spar	HM שכו
Res RW 1 M	Hz	#VBU :	8 MHz		Sween 1 ms ()	601 nts

EMC	Peak	Excursion of th	ne Modulat	ion Envelo	PPE Rev BETA 01/30/01
EUT:	802UIAG				Work Order: ITRM0066
Serial Number:	Unknown				Date: 05/02/05
Customer:	Intermec Corporation				Temperature: 22°C
Attendees:	None		Tested by:	Greg Kiemel	Humidity: 38% RH
Customer Ref. No.:	N/A		Power:	120VAC/60Hz	Job Site: EV06
Specification:	47 CER 15 407(a)(6)	Year: 2005-04	Method:	DA 02-2138 ANSI C63 4	Vear: 2002 2003
SAMPLE CALCULATI	ONS	1 cal. 2003-04	metriod.	DA 02-2130, ANOI 003.4	Tear. 2002, 2003
COMMENTS					
ested in Ck60 Comp	uter				
UT OPERATING MOI	DES				
Nodulated at 54 Mbit.	Maximum output power.				
EVIATIONS FROM T	EST STANDARD				
lone					
REQUIREMENTS					
ne ratio of the peak e andwidth or the emis	excursion of the modulation ssion bandwidth whichever i	envelope (measured using a peak ho is less.	or runction) to the peak t	ransmit power shall not exc	ceed 13 dB across any 1 MHz
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Testeu By:					
DESCRIPTION OF TES	ST				
Peak	Excursion of th	ne Modulation Envelo	ppe - High Cha	nnel - 5.725 to !	5.825 GHz Band
Anilent	19.56.21 May	2, 2005			
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ontor 5 90	5 00 CU-				Span 50 MU-
enter 3.00	3 00 OHZ				Span Se MHZ
Res BW 1 M	Hz	#VBk	8 MHz		Sweep 1 ms (601 pts)





## Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:
Channel 36 (5180MHz)
Channel 48 (5240MHz)
Channel 52 (5260MHz)
Channel 64 (5320MHz)
Channel 149 (5745MHz)
Channel 155 (5775MHz)
Channel 161 (5805MHz)

## Operating Modes Investigated:

Continuous transmit

Data Rates Investigated:
6Mbps
36Mbps
54Mbps

Power Input Settings Investigated:	
120 VAC, 60 Hz.	

Frequency Range Invest	igated		
Start Frequency	30 MHz	Stop Frequency	40 GHz

Software\Firmware Appl	ied During Test		
Exercise software	cTxRx Win CE	Version	0.1.2.1
Description			
The system was tested us	sing special software de	veloped to test all fund	tions of the device during the test.

EUT and Peripherals			
Description	Manufacturer	Model/Part Number	Serial Number
EUT - 802.11 (a)/(b)/(g) radio module	Intermec Technologies Corporation	802UIAG	Unknown
Host Device - Handheld Computer	Intermec Technologies Corporation	CK61	33390400093
AC Power Adapter	Elpac Power Systems	FW1812	000168

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	Yes	1.9	PA	AC Power Adapter	Host Device
AC Power	No	2.0	No	AC Power Adapter	AC Mains
PA = Cable is peri	manently att	ached to the device	e. Shieldina	and/or presence of ferrite m	nav be unknown.

Measurement Equipme	nt				
Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Hewlett-Packard	8566B	AAL	12/02/2004	13 mo
Quasi-Peak Adapter	Hewlett-Packard	85650A	AQF	12/02/2004	13 mo
Pre-Amplifier	Amplifier Research	LN1000A	APS	03/01/2005	13 mo
Pre-Amplifier	Miteq	AMF-4D-005180-24- 10P	APJ	01/05/2004	16 mo
Antenna, Biconilog	EMCO	3141	AXE	12/03/2003	24 mo
Antenna, Horn	EMCO	3115	AHC	09/07/2004	12 mo
Spectrum Analyzer	Tektronix	2784	AAO	01/02/2005	12 mo
Antenna, Horn	EMCO	3160-09	AHG	NCR	NA
Antenna, Horn	EMCO	3160-08	AHK	NCR	NA
Pre-Amplifier	Miteq	JSD4-18002600-26- 8P	APU	02/15/2005	13 mo
Pre-Amplifier	Miteq	AMF-4D-005180-24- 10P	APC	02/17/2005	13 mo
5.25 GHz Notch Filter	K&L Microwave	8N50-5250/X200-0/0	HFK	04/01/2004	24 mo
5.8 GHz Notch Filter	Micro-Tronics	BRC50705	HFQ	03/09/2005	13 mo
7.5-9.5 GHZ Bandpass Filter	K&L Microwave	7ED20-8500/E2000- O/O	HFL	04/05/2004	24 mo
High Pass Filter	K&L Microwave	1WP01-15000/E6000- O/O	HFJ	04/05/2004	24 mo
Pre-Amplifier	Miteq	JS4-26004000-40-8P	APV	02/21/2005	13 mo
Pre-Amplifier	Miteq	JS4-26004000-50-5A	AON	02/21/2005	13 mo
Antenna, Horn	EMCO	3160-10	AHI	NCR	NA

## **Test Description**

Requirements: Per 15.407(b), the undesirable emission limits are as follows:

Except as shown in paragraph (b)(6) of this section, the peak emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band.
- (3) For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an



EIRP of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz.

- (4) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- (5) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in Sec. 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in Sec. 15.207.
- (6) The provisions of Sec. 15.205 apply to intentional radiators operating under this section.
- (7) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency block edges as the design of the equipment permits.

Configuration: The only antenna to be used with the EUT was 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. 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 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.

Bandwidths Used for Me	asurements		
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 n	nade using the handwidths	and detectors specified No.	video filter was used

Completed by:
Holy Arlingh







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Seria	al Number:																													0	Date:	03/	09/0	)5		
	Customer:	Inte	erme	ec T	ech	inolo	ogie	s Co	orpo	rati	on																	Т	emp	era	ture:	23	,			
Cue	Attendees:	nor	ie																							F	aro	mot	HI ric P	umi	dity:	39%	% 22			
Cus	Tested by:	Hol	lv A	shk	anr	neiha	ad											Po	wer	12	20V	AC.	60H	z		-	aiu	met	J	lob	Site:	EV	01			
T SPE	ECIFICAT	ION	Ś																			- /														
Spe	ecification:	FC	C 15	.407	7(b)	(1-6)	) Sp	urio	us F	Rad	iate	d E	mis	ssio	ons:	20	05-0	04			Me	thod	: AI	NSI	C63.	.4:2	003									
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# Spurious Radiated Emissions – Simultaneous Transmission

#### Justification

The EUT is a 802.11(a)/(b)/(g) radio co-located with a previously certified radio installed inside Intermec's Handheld Computer, Model CK60 and Intermec's Bluetooth enabled printer, Model PB42. The CK60 contains the EUT, and a Bluetooth radio (FCC ID: HN2-BTM311). The PB42 contains a Bluetooth radio (FCCID: HN2-PB42). This test demonstrates compliance with FCC 15.407 emissions limits while the co-located radios are transmitting simultaneously. Each radio transmits through its own antenna.

All possible combinations of harmonic emissions from the 802.11(a)/(b)/(g), and Bluetooth radios were compared numerically. It was determined that there were no possible coincidental harmonics below 1 GHz. All the radios were configured for simultaneous transmission at the channels specified below.

Channels in Specif	ied Band Investigated:
802.11(a):	149, 64, 36
Bluetooth:	61, 54, 16, 17

Operating Modes Investigated:
Simultaneous transmission of 802.11(a) Channel 149 and Bluetooth Channel 61
Simultaneous transmission of 802.11(a) Channel 64 and Bluetooth Channel 54
Simultaneous transmission of 802.11(a) Channel 36 and Bluetooth Channel 16
Simultaneous transmission of 802.11(a) Channel 64 and Bluetooth Channel 17

#### **Data Rates Investigated:**

6 Mbps (802.11a) Bluetooth default maximum

# Output Power Setting(s) Investigated:

Maximum default

# Power Input Settings Investigated:

120 VAC, 60 Hz.

Frequency Range Invest	gated		
Start Frequency	30 MHz	Stop Frequency	25 GHz

Software\Firmware Appli	ed During Test											
Exercise software	cTxRx Win CE	Version	0.1.2.1									
CSR Bluetest Unknown												
Description												
The system was tested using special software developed to test all functions of the device during the test.												

# Spurious Radiated Emissions – Simultaneous Transmission

EUT and Peripherals			
Description	Manufacturer	Model/Part Number	Serial Number
EUT - 802.11 a/b/g radio card	Intermec Technologies Corporation	802UIAG	Unknown
Host Device - Handheld Computer	Intermec Technologies Corporation	CK61	33390400093
Bluetooth enabled printer	Intermec Technologies Corporation	PB42	SAC001
AC Power Adapter	Intermec Technologies Corporation	073573-003	6079450
AC Power Adapter	Intermec Technologies Corporation	851-061-002	038962

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	Yes	1.9	PA	AC Power Adapter	Host Device
AC Power	No	2.0	No	AC Power Adapter	AC Mains
DC Leads	No	1.8	Yes	Bluetooth enabled printer	AC Power Adapter
AC Power	No	2.0	No	Bluetooth enabled printer	AC Mains
PA = Cable is p	ermanently	attached to the	device. Sh	ielding and/or presence of ferrite	e may be unknown.

Measurement Equip	oment				
Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Hewlett-Packard	8566B	AAL	12/02/2004	13 mo
Pre-Amplifier	Miteq	AMF-4D-005180-24-10P	APJ	01/05/2004	16 mo
Antenna, Horn	EMCO	3115	AHC	09/07/2004	12 mo
Pre-Amplifier	Miteq	AMF-4D-005180-24-10P	APC	02/17/2005	13 mo
Antenna, Horn	EMCO	3160-09	AHG	NCR	NA
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	02/15/2005	13 mo
Spectrum Analyzer	Tektronix	2784	AAO	01/02/2005	12 mo
Attenuator	Coaxicom	66702 5910-20	RBJ	02/25/2005	13 mo
High Pass Filter	Micro-Tronics	HPM50111	HFO	03/09/2005	13 mo

# **Test Description**

**<u>Requirement</u>**: The field strength of any spurious emissions or modulation products that fall in a restricted band, as defined in 47 CFR 15.205, is measured. The peak level must comply with the limits specified in 47 CFR 15.35(b). The average level (taken with a 10Hz VBW) must comply with the limits specified in 15.209.

<u>Configuration</u>: The EUT is a 802.11(a)/(b)/(g) radio co-located with a previously certified radio installed inside Intermec's Handheld Computer, Model CK60 and Intermec's Bluetooth enabled printer, Model PB42. The CK60 contains the EUT, and a Bluetooth radio (FCC ID: HN2-BTM311). The PB42 contains a Bluetooth radio (FCCID: HN2-PB42). This test demonstrates compliance with FCC 15.407 emissions limits while the co-located radios are transmitting simultaneously. Each radio transmits through its own antenna.



**Simultaneous Transmission**: For co-located radios, it is necessary to measure the field strength of spurious emissions, while co-located radios are transmitting simultaneously. The following is an excerpt from the FCC/TCB training Q & A, October 2002, Day 2, Question 7:

Assuming that the radios do not share an antenna, only radiated tests for simultaneous transmission is required. If the radios share an antenna, antenna conducted measurements would also be required. Only one set of worst case simultaneous transmission data is going to be requested to be submitted at this time. The test engineer should indicate the worst case condition and provide justification as to why the worst case condition was chosen. The grantee should be reminded that even if the FCC requests one set of data, they are responsible for compliance for all modes of simultaneous transmission.

All possible combinations of harmonic emissions from the CDMA, 802.11(b), and Bluetooth radios were compared numerically. It was determined that there were no possible coincidental harmonics below 1 GHz. The frequency range from 1 GHZ to 26 GHz was investigated for channel combinations that would produce coincidental harmonics.

All the radios were configured for simultaneous transmission at the channels specified in the previous pages. The highest gain antennas to be used with the radios were tested. The spectrum was scanned throughout the specified range. While scanning, emissions from the radios were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antennas in three orthogonal axes, and adjusting the measurement antenna height and polarization (per ANSI C63.4:2003). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

Bandwidths Used for Me	asurements									
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 n	nade using the bandwidths a	and detectors specified. No	video filter was used.							

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#### Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:
Ch 36 (5180 MHz)
Ch 48 (5240 MHz)
Ch 52 (5260 MHz)
Ch 64 (5320 MHz)
Ch 149 (5745 MHz)
Ch 161 (5805 MHz)

#### **Operating Modes Investigated:**

Continuous transmit

# Data Rates Investigated:

6 Mbps (802.11a)

# Output Power Setting(s) Investigated:

Maximum default

# Power Input Settings Investigated: 120 VAC/60Hz 7.8 Vdc nominal battery

Software\Firmware Appli	Software\Firmware Applied During Test										
Exercise software	cTxRx Win CE	Version	0.1.2.1								
Description											
The system was tested us	ing special software develo	ped to test all functions of t	he device during the test.								

EUT and Peripherals			
Description	Manufacturer	Model/Part Number	Serial Number
EUT- 802.11(a)/(b)/(g) radio	Intermec Technologies Corporation	802UIAG	Unknown
AC Adapter	Intermec Technologies Corporation	851-061-002	3335175
Host Device	Intermec Technologies Corporation	CK61	33390400265



Cables									
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2				
DC Leads	Yes	1.9	PA	AC Power Adapter	Host Device				
AC Power	No	2.0	No	AC Power Adapter	AC Mains				
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.									

Measurement Equipment					
Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Tektronix	2784	AAO	01/02/2005	12 mo
Chamber, Temp./Humidity Chamber	Cincinnati Sub Zero (CSZ)	ZH-32-2-2- H/AC	ТВА	09/07/2004	12 mo
Harmonic/Flicker Test System	Hewlett-Packard	6843A	THA	12/02/2004	13 mo
DC Power Supply	Topward	TPS-2000	TPD	NCR	NA
Multimeter	Tektronix	DMM912	MMH	12/02/2004	13 mo

#### **Test Description**

**Requirements:** Per 15.407(g), "Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual."

**Configuration:** 47 CFR 2.1055 was followed (also reference Ref Oct02 TCB Q&A rev2\_clean1.doc emailed 12/09/02 to TCBs). The transmit frequency was set to the lowest, and the highest channels in each band. A direct connection was made between the RF output of the EUT and a spectrum analyzer. The spectrum analyzer had an internal precision frequency reference that far exceeded the frequency stability requirements of the EUT. Although the carrier was OFDM modulated, it was possible to zoom in and resolve the center frequency of the emission. An extremely accurate frequency measurement was made using a RBW and VBW = 1 kHz and a 5kHz SPAN.

**Variations of Ambient Temperature:** The EUT was placed inside a suitable temperature / humidity chamber to vary ambient temperature. Frequency stability was measured for variations of ambient temperature from –30 to +50 degrees C. Frequency measurements were made at the temperature extremes and at 10 degree C intervals. Sufficient time at each temperature interval was provided for the frequency determining circuitry to stabilize.

**Variations of Supply Voltage:** While powered from an AC adapter, frequency stability was measured for variations of primary supply voltage from 85 to 115 percent of the mains voltage.

The EUT can also be powered from a battery, so frequency stability was also measured for variations of DC supply voltage to the EUT. The primary DC supply voltage was reduced to the battery operating end point which was 7.0 Vdc.

Completed by:	
Rocky la	Peleng

NORTHWEST EMC		Frequenc	y Stabilit	У			Rev BETA 01/30/01
EUT:	802UIAG				Work Ord	er: ITRM0066	
Serial Number:	Unknown				Da	te: 04/21/05	
Customer:	INTERMEC Technologies Corpora	ation			Temperatu	e: see below	
Attendees:	None		Tested by:	Rod Peloquin	Humidi	ty: 38% RH	
Customer Ref. No.:	N/A		Power:	see below	Job Si	te: EV06 & EV09	)
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(g)	Year: 2005-04	Method:	47 CFR 2.1055	Ye	ar: 2004	
SAMPLE CALCULATI	ONS						
COMMENTS							
EUT OPERATING MOI	DES						
Transmitting mid bane	d with no modulation (CW mode).						
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
Manufacturers of UNII operation specified in	I devices are responsible for ensur the users manual.	ring frequency stability such that	an emission is maintai	ned within the band of	f operation under all o	conditions of no	rmal
RESULTS			MINIMUM FREQUENC	Y STABILITY			
Pass			3.25 ppm				
SIGNATURE							
Tested By:	Porting la Peling						
DESCRIPTION OF TES	51						

# Frequency Stability - Low Channel - 5150 to 5250 MHz Band

#### Frequency Stability with Variation of Ambient Temperature (Primary Supply = 120V, 60Hz)

Temp	Assigned Frequency	Measured Frequency	Tolerance	Specification
(°C)	(MHz)	(MHz)	(ppm)	(ppm)
-30	5180.00000	5180.006430	1.24	20
-20	5180.00000	5180.010330	1.99	20
-10	5180.00000	5180.009130	1.76	20
0	5180.00000	5180.006760	1.31	20
10	5180.00000	5179.997740	0.44	20
20	5180.00000	5179.992330	1.48	20
30	5180.00000	5179.984770	2.94	20
40	5180.00000	5179.983980	3.09	20
50	5180.00000	5179.983140	3.25	20

#### Frequency Stability with Variation of Primary Supply Voltage (Ambient Temperature = 21°C)

Voltage	Assigned Frequency	Measured Frequency	Tolerance	Specification
(VAC, 60Hz)	(MHz)	(MHz)	(ppm)	(ppm)
138 (115%)	5180.00000	5179.987240	2.46	20
132 (110%)	5180.00000	5179.987250	2.46	20
126 (105%)	5180.00000	5179.987290	2.45	20
120 (100%)	5180.00000	5179.987460	2.42	20
114 (95%)	5180.00000	5179.987290	2.45	20
108 (90%)	5180.00000	5179.987280	2.46	20
102 (85%)	5180.00000	5179.987300	2.45	20

Voltage (VDC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
8.4 (Max)	5180.00000	5179.987220	2.47	20
8.2 (105%)	5180.00000	5179.987240	2.46	20
7.8 (100%)	5180.00000	5179.987280	2.46	20
7.4 (95%)	5180.00000	5179.987300	2.45	20
7.0 (Min)	5180.00000	5179.987360	2.44	20

NORTHWEST EMC		Frequenc	y Stabilit	У			Rev BETA 01/30/01
EUT:	802UIAG				Work Orde	er: ITRM0066	
Serial Number:	Unknown				Dat	e: 04/21/05	
Customer:	INTERMEC Technologies Corpora	ation			Temperatur	e: see below	
Attendees:	None		Tested by:	Rod Peloquin	Humidi	ty: 38% RH	
Customer Ref. No.:	N/A		Power:	see below	Job Sit	e: EV06 & EV09	)
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(g)	Year: 2005-04	Method:	47 CFR 2.1055	Yea	ar: 2004	
SAMPLE CALCULATION	ONS						
COMMENTS							
EUT OPERATING MOI	DES						
Transmitting mid bane	d with no modulation (CW mode).						
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
Manufacturers of UNII operation specified in	I devices are responsible for ensur the users manual.	ring frequency stability such that	an emission is maintai	ned within the band of	f operation under all o	conditions of no	rmal
RESULTS			MINIMUM FREQUENC	Y STABILITY			
Pass			3.03 ppm				
SIGNATURE							
Tested By:	Porting le Feling						
DESCRIPTION OF TES	51						

# Frequency Stability - High Channel - 5150 to 5250 MHz Band

#### Frequency Stability with Variation of Ambient Temperature (Primary Supply = 120V, 60Hz)

Temp	Assigned Frequency	Measured Frequency	Tolerance	Specification
(°C)	(MHz)	(MHz)	(ppm)	(ppm)
-30	5240.00000	5240.007380	1.41	20
-20	5240.00000	5240.011020	2.10	20
-10	5240.00000	5240.009630	1.84	20
0	5240.00000	5240.006930	1.32	20
10	5240.00000	5239.997780	0.42	20
20	5240.00000	5239.992440	1.44	20
30	5240.00000	5239.984880	2.89	20
40	5240.00000	5239.984140	3.03	20
50	5240.00000	5239.987280	2.43	20

#### Frequency Stability with Variation of Primary Supply Voltage (Ambient Temperature = 21°C)

Voltage	Assigned Frequency	Measured Frequency	Tolerance	Specification
(VAC, 60Hz)	(MHz)	(MHz)	(ppm)	(ppm)
138 (115%)	5240.00000	5239.987460	2.39	20
132 (110%)	5240.00000	5239.987460	2.39	20
126 (105%)	5240.00000	5239.987960	2.30	20
120 (100%)	5240.00000	5239.987780	2.33	20
114 (95%)	5240.00000	5239.987690	2.35	20
108 (90%)	5240.00000	5239.987690	2.35	20
102 (85%)	5240.00000	5239.987000	2.48	20

Voltage (VDC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
8.4 (Max)	5240.00000	5239.987670	2.35	20
8.2 (105%)	5240.00000	5239.987670	2.35	20
7.8 (100%)	5240.00000	5239.987670	2.35	20
7.4 (95%)	5240.00000	5239.987650	2.36	20
7.0 (Min)	5240.00000	5239.987590	2.37	20

NORTHWEST EMC		Frequenc	y Stabilit	у		Rev BE 01/30/0	ETA 01
EUT:	802UIAG				Work Ore	der: ITRM0066	
Serial Number:	Unknown				Da	ate: 04/21/05	
Customer:	INTERMEC Technologies Corpora	ation			Temperatu	ire: see below	
Attendees:	None		Tested by:	Rod Peloquin	Humid	lity: 38% RH	
Customer Ref. No.:	N/A		Power:	see below	Job S	ite: EV06 & EV09	
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(g)	Year: 2005-04	Method:	47 CFR 2.1055	Y	ear: 2004	
SAMPLE CALCULATION	ONS						
COMMENTS							
EUT OPERATING MOI	DES						
Transmitting mid band	d with no modulation (CW mode).						
DEVIATIONS FROM T	EST STANDARD						
REQUIREMENTS							
Manufacturers of UNII operation specified in	devices are responsible for ensur the users manual.	ing frequency stability such that	an emission is maintai	ned within the band of	f operation under all	conditions of normal	
RESULTS			MINIMUM FREQUENC	Y STABILITY			
Pass			2.99 ppm				
SIGNATURE							
Tested By:	Porting la Felings						
DESCRIPTION OF TES	51						

# Frequency Stability - Low Channel - 5250 to 5350 MHz Band

#### Frequency Stability with Variation of Ambient Temperature (Primary Supply = 120V, 60Hz)

Temp	Assigned Frequency	Measured Frequency	Tolerance	Specification
(°C)	(MHz)	(MHz)	(ppm)	(ppm)
-30	5260.00000	5260.007580	1.44	20
-20	5260.00000	5260.011230	2.13	20
-10	5260.00000	5260.009760	1.86	20
0	5260.00000	5260.006870	1.31	20
10	5260.00000	5259.997800	0.42	20
20	5260.00000	5259.992360	1.45	20
30	5260.00000	5259.985020	2.85	20
40	5260.00000	5259.984260	2.99	20
50	5260.00000	5259.987640	2.35	20

#### Frequency Stability with Variation of Primary Supply Voltage (Ambient Temperature = 21°C)

Voltage	Assigned Frequency	Measured Frequency	Tolerance	Specification
(VAC, 60Hz)	(MHz)	(MHz)	(ppm)	(ppm)
138 (115%)	5260.00000	5259.987560	2.37	20
132 (110%)	5260.00000	5259.987560	2.37	20
126 (105%)	5260.00000	5259.987580	2.36	20
120 (100%)	5260.00000	5259.987580	2.36	20
114 (95%)	5260.00000	5259.987580	2.36	20
108 (90%)	5260.00000	5259.987580	2.36	20
102 (85%)	5260.00000	5259.987660	2.35	20

Voltage (VDC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
8.4 (Max)	5260.00000	5259.987780	2.32	20
8.2 (105%)	5260.00000	5259.987000	2.47	20
7.8 (100%)	5260.00000	5259.987900	2.30	20
7.4 (95%)	5260.00000	5259.987930	2.29	20
7.0 (Min)	5260.00000	5259.987980	2.29	20

NORTHWEST EMC		Frequenc	y Stabilit	У			Rev BETA 01/30/01
EUT:	802UIAG				Work Ord	er: ITRM0066	
Serial Number:	Unknown				Dat	te: 04/21/05	
Customer:	INTERMEC Technologies Corpora	ation		-	Temperatur	re: see below	
Attendees:	None		Tested by:	Rod Peloquin	Humidi	ty: 38% RH	
Customer Ref. No.:	N/A		Power:	see below	Job Sit	te: EV06 & EV09	i
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(g)	Year: 2005-04	Method:	47 CFR 2.1055	Yea	ar: 2004	
SAMPLE CALCULATION	ONS						
COMMENTS							
EUT OPERATING MOI	DES						
Transmitting mid ban	d with no modulation (CW mode).						
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
Manufacturers of UNII operation specified in	I devices are responsible for ensur the users manual.	ring frequency stability such that	an emission is maintai	ned within the band of	f operation under all o	conditions of no	rmal
RESULTS			MINIMUM FREQUENC	Y STABILITY			
Pass			2.77 ppm				
SIGNATURE							
Tested By:	Porting le Feling						
DESCRIPTION OF TES	51						

# Frequency Stability - High Channel - 5250 to 5350 MHz Band

#### Frequency Stability with Variation of Ambient Temperature (Primary Supply = 120V, 60Hz)

Temp	Assigned Frequency	Measured Frequency	Tolerance	Specification
(°C)	(MHz)	(MHz)	(ppm)	(ppm)
-30	5320.00000	5320.007140	1.34	20
-20	5320.00000	5320.011610	2.18	20
-10	5320.00000	5320.010290	1.93	20
0	5320.00000	5320.007360	1.38	20
10	5320.00000	5319.998090	0.36	20
20	5320.00000	5319.992680	1.38	20
30	5320.00000	5319.985240	2.77	20
40	5320.00000	5319.988300	2.20	20
50	5320.00000	5319.988400	2.18	20

#### Frequency Stability with Variation of Primary Supply Voltage (Ambient Temperature = 21°C)

Voltage	Assigned Frequency	Measured Frequency	Tolerance	Specification
(VAC, 60Hz)	(MHz)	(MHz)	(ppm)	(ppm)
138 (115%)	5320.00000	5319.987840	2.29	20
132 (110%)	5320.00000	5319.987840	2.29	20
126 (105%)	5320.00000	5319.987820	2.29	20
120 (100%)	5320.00000	5319.987810	2.29	20
114 (95%)	5320.00000	5319.987790	2.30	20
108 (90%)	5320.00000	5319.987770	2.30	20
102 (85%)	5320.00000	5319.987770	2.30	20

Voltage (VDC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
8.4 (Max)	5320.00000	5319.988400	2.18	20
8.2 (105%)	5320.00000	5319.988380	2.18	20
7.8 (100%)	5320.00000	5319.988280	2.20	20
7.4 (95%)	5320.00000	5319.988320	2.20	20
7.0 (Min)	5320.00000	5319.988270	2.20	20

EMC Frequency Stability Rev BETA 01/2001						ETA 01	
EUT:	802UIAG				Work Ord	er: ITRM0066	
Serial Number:	Unknown				Da	te: 04/21/05	
Customer:	INTERMEC Technologies Corpora	ation			Temperatu	re: see below	
Attendees:	None	one Tested by: Rod Peloquin			Humidi	ty: 38% RH	
Customer Ref. No.:	N/A	N/A Power: see below			Job Si	te: EV06 & EV09	
TEST SPECIFICATION	IS		-				
Specification:	47 CFR 15.407(g)	Year: 2005-04	Method:	47 CFR 2.1055	Ye	ar: 2004	
SAMPLE CALCULATION	ONS						
EUT OPERATING MOI	DES d with no modulation (CW mode)						
None	EST STANDARD						
REQUIREMENTS							
Manufacturers of UNII operation specified in	devices are responsible for ensur the users manual.	ring frequency stability such that	an emission is maintai	ned within the band of	f operation under all	conditions of normal	
RESULTS	RESULTS MINIMUM FREQUENCY STABILITY						
Pass 2.67 ppm							
SIGNATURE							
Tested By:	Porting le Felings						
DESCRIPTION OF TES	ST						

# Frequency Stability - Low Channel - 5725 to 5825 MHz Band

#### Frequency Stability with Variation of Ambient Temperature (Primary Supply = 120V, 60Hz)

Temp	Assigned Frequency	igned Frequency Measured Frequency		Specification
(°C)	(MHz)	(MHz)	(ppm)	(ppm)
-30	5745.00000	5745.011210	1.95	20
-20	5745.00000	5745.015360	2.67	20
-10	5745.00000	5745.013850	2.41	20
0	5745.00000	5745.010460	1.82	20
10	5745.00000	5745.000760	0.13	20
20	5745.00000	5744.994730	0.92	20
30	5745.00000	5744.987060	2.25	20
40	5745.00000	5744.985990	2.44	20
50	5745.00000	5744.986700	2.32	20

#### Frequency Stability with Variation of Primary Supply Voltage (Ambient Temperature = 21°C)

Voltage	Assigned Frequency	Measured Frequency	Tolerance	Specification
(VAC, 60Hz)	(MHz)	(MHz)	(ppm)	(ppm)
138 (115%)	5745.00000	5744.989510	1.83	20
132 (110%)	5745.00000	5744.989510	1.83	20
126 (105%)	5745.00000	5744.989510	1.83	20
120 (100%)	5745.00000	5744.989580	1.81	20
114 (95%)	5745.00000	5744.989660	1.80	20
108 (90%)	5745.00000	5744.989720	1.79	20
102 (85%)	5745.00000	5744.989940	1.75	20

Voltage (VDC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
8.4 (Max)	5745.00000	5744.990400	1.67	20
8.2 (105%)	5745.00000	5744.990480	1.66	20
7.8 (100%)	5745.00000	5744.990540	1.65	20
7.4 (95%)	5745.00000	5744.990650	1.63	20
7.0 (Min)	5745.00000	5744.990800	1.60	20

EMC Frequency Stability Rev BETA 01/30/01							
EUT:	802UIAG				Work Ord	er: ITRM0066	
Serial Number:	Unknown				Da	te: 04/21/05	
Customer:	INTERMEC Technologies Corpora	ation			Temperatu	re: see below	
Attendees:	None		Tested by:	Rod Peloquin	Humidi	ty: 38% RH	
Customer Ref. No.:	V/A Power: see below			Job Si	te: EV06 & EV09		
TEST SPECIFICATION	IS						
Specification:	47 CFR 15.407(g)	Year: 2005-04	Method:	47 CFR 2.1055	Ye	ar: 2004	
SAMPLE CALCULATI	ONS						
COMMENTS							
EUT OPERATING MOI	DES						
Transmitting mid bane	d with no modulation (CW mode).						
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
Manufacturers of UNII operation specified in	I devices are responsible for ensu the users manual.	ring frequency stability such that	an emission is maintai	ned within the band of	f operation under all o	conditions of norm	nal
RESULTS	RESULTS MINIMUM FREQUENCY STABILITY						
Pass 2.74 ppm							
SIGNATURE							
Tested By:	Porting la Peling						
DESCRIPTION OF TES	31						

# Frequency Stability - High Channel - 5725 to 5825 MHz Band

#### Frequency Stability with Variation of Ambient Temperature (Primary Supply = 120V, 60Hz)

Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
-30	5805.00000	5805.011780	2.03	20
-20	5805.00000	5805.015900	2.74	20
-10	5805.00000	5805.013620	2.35	20
0	5805.00000	5805.011340	1.95	20
10	5805.00000	5805.001020	0.18	20
20	5805.00000	5804.995080	0.85	20
30	5805.00000	5804.987260	2.19	20
40	5805.00000	5804.986090	2.40	20
50	5805.00000	5804.987420	2.17	20

#### Frequency Stability with Variation of Primary Supply Voltage (Ambient Temperature = 21°C)

Voltage	Assigned Frequency	Measured Frequency	Tolerance	Specification
(VAC, 60Hz)	(MHz)	(MHz)	(ppm)	(ppm)
138 (115%)	5805.00000	5804.989880	1.74	20
132 (110%)	5805.00000	5804.989680	1.78	20
126 (105%)	5805.00000	5804.989600	1.79	20
120 (100%)	5805.00000	5804.989560	1.80	20
114 (95%)	5805.00000	5804.989450	1.82	20
108 (90%)	5805.00000	5804.989380	1.83	20
102 (85%)	5805.00000	5804.989340	1.84	20

Voltage (VDC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
8.4 (Max)	5805.00000	5804.991280	1.50	20
8.2 (105%)	5805.00000	5804.991420	1.48	20
7.8 (100%)	5805.00000	5804.991660	1.44	20
7.4 (95%)	5805.00000	5804.991160	1.52	20
7.0 (Min)	5805.00000	5804.991060	1.54	20







#### Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:
Mid channel, Channel 41, 5.15-5.25GHz band (low band)
Mid channel, Channel 58, 5.25-5.35GHz band (mid band)
Mid channel, Channel 153, 5.725-5.825GHz band (high band)

**Operating Modes Investigated:** Transmitting 802.11(a)

Data Rates Investigated: 802.11(a) 6Mbps

# Output Power Setting(s) Investigated:

Maximum

# Power Input Settings Investigated:

120VAC, 60Hz

Software\Firmware Applied During Test					
Exercise software	CTxRx WIN CE	Version	0.1.2.1		
Description					
The system was tested using special software developed to test all functions of the device during the test.					

EUT and Peripherals						
Description	Manufacturer	Model/Part Number	Serial Number			
802.11(b)/(g)/(a) radio	Intermec Technologies Corporation	802UIAG	Unknown			
Handheld Computer	Intermec Technologies Corporation	CK61	33390400093			
AC Power Adapter	Elpac Power Systems	FW1812	038962			

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	Yes	1.9	PA	AC Power Adapter	Host Device
AC Power	No	2.0	No	AC Power Adapter	AC Mains
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

Measurement Equipment						
Description	Manufacturer	Model	Identifier	Last Cal	Interval	
LISN	Solar	9252-50-R-24- BNC	LIP	12/29/2004	13 mo	
High Pass Filter	TTE	H97-100k-50- 720B	HFC	12/29/2004	13 mo	
Quasi-Peak Adapter	Hewlett-Packard	85650A	AQF	12/02/2004	13 mo	
Spectrum Analyzer	Hewlett-Packard	8566B	AAL	12/02/2004	13 mo	
Spectrum Analyzer Display	Hewlett Packard	85662A	AALD	12/02/2004	13 mo	

#### **Test Description**

**<u>Requirement:</u>** Per 47 15.207(d), if the EUT is connected to the AC power line indirectly, obtaining its power from another device that is connected to the AC power line, then it should be tested to demonstrate compliance with the conducted limits of 15.207.

**<u>Configuration</u>**: The EUT will be powered from a device that could be connected to the AC power line. Therefore, the measurements were made on the device used to power the EUT. The AC power line conducted emissions were measured with the EUT operating at the middle channel of each operational band. The EUT was transmitting at the data rate with the worst emissions. For each mode, the spectrum was scanned from 150 kHz to 30 MHz. The test setup and procedures were in accordance with ANSI C63.4-1992.

Completed by:					
Holy Arlingh					














