Intermec Technologies Corporation

6820 Printer

July 10, 2005

Report No. ITRM0084

Report Prepared By



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

© 2005 Northwest EMC, Inc



22975 NW Evergreen Parkway Suite 400 Hillsboro, Oregon 97124

Certificate of Test

Issue Date: July 10, 2005
Intermec Technologies Corporation
Model: 6820 Printer

Emissions					
Specification Test Method Pass Fail					
FCC 15.207 AC Powerline Conducted Emissions:2005-04	ANSI C63.4:2003	\boxtimes			
FCC 15.247(d) Spurious Radiated Emissions:2005-04	ANSI C63.4:2003	\boxtimes			

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

Test Facility

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

Northwest EMC, Inc.

22975 NW Evergreen Parkway, Suite 400; Hillsboro, OR 97124

Phone: (503) 844-4066

Fax: 844-3826

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

Approved By:

Greg Kiemel, Director of Engineering

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

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

Revision History

Revision 05/05/03

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.



200629-0 200630-0 200676-0

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



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



TÜV Product Service: Included in 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.



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



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



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

What is measurement uncertainty?

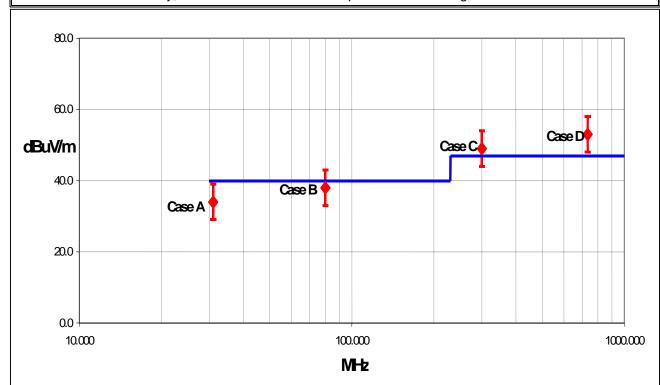
When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. The following 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.



Test Result Scenarios:

Case A: Product complies.

Case B: Product conditionally complies. It is not possible to say with 95% confidence that the product complies.

Case C: Product conditionally does not comply. It is not possible to say with 95% confidence that the product does not comply.

Case D: Product does not comply.

Measurement Uncertainty

Radiated Emissions ≤ 1 GHz		Value (dB)				
	Probability Biconical		Log Pe	eriodic	D	ipole	
	Distribution	Ante	enna	Ante	enna	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 u _c (y)		- 1.88	- 1.87	- 1.41	- 1.26	- 1.27	- 1.25
Expanded uncertainty <i>U</i>	normal (k=2)	+ 3.72	+ 3.64	+ 4.46	+ 2.59	+ 2.61	+ 2.49
(level of confidence ≈ 95%)		- 3.77	- 3.73	-2.81	- 2.52	- 2.55	- 2.49

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

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

Radiated Immunity		
	Probability	Value
	Distribution	(+/- dB)
Combined standard uncertainty uc(y)	normal	1.05
Expanded uncertainty <i>U</i> (level of confidence ≈ 95 %)	normal (k = 2)	2.11

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

Legend

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

 $\it U$ = combined standard uncertainty multiplied by the coverage factor: $\it k$. 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 $\it k$ =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 339th Ave. SE Sultan, WA 98294 (888) 364-2378 FAX (360) 793-2536

Product Description

Revision 10/3/03

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:	6820 Printer
First Date of Test:	06-20-2005
Last Date of Test:	06-24-2005
Receipt Date of Samples:	06-20-2005
Equipment Design Stage:	Production
Equipment Condition:	No visual damage.

Information Provided by the Party Requesting the Test

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

Functional Description of the EUT (Equipment Under Test): Bluetooth Enabled Printer.

Client Justification for EUT Selection:

Representative of a production sample

Client Justification for Test Selection:

This printer was previously certified under FCC 15.247 (FCC ID: EHABTS080-1). Now the enclosure has been modified to accept a larger docking port required by a new hand-held terminal, the Intermec CK60. No other changes have been made to the radio or its antenna. So only spurious radiated emissions and AC powerline conducted emissions were measured. No other tests were affected.

EUT Photo



Modifications

	Equipment modifications						
Item	Test	Date	Modification	Note	Disposition of EUT		
1	Spurious Radiated Emissions	06/20/2005	No EMI suppression devices were added or modified during this test.	Same configuration as delivered.	EUT remained at Northwest EMC.		
2	AC Powerline Conducted Emissions	06/24/2005	No EMI suppression devices were added or modified during this test.	Same configuration as delivered.	EUT remained at Northwest EMC.		

Spurious Radiated Emissions

Revision 10/1/03

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:	
High	
Mid	
Low	

Operating Modes Investigated:

No Hop

Data Rates Investigated:

Maximum

Output Power Setting(s) Investigated:

Maximum

Power Input Settings Investigated:

120 VAC, 60 Hz.

Frequency Range Investigated					
Start Frequency	30 MHz	Stop Frequency	26 GHz		

Software\Firmware Applied During Test												
Exercise software	Bluetest	Version	Unknown									
Description												
The system was tested us	ing special test software to	exercise the functions of th	e device during the									
testing including transmit r	node, channel frequency, a	and power.										

EUT and Peripherals			
Description	Manufacturer	Model/Part Number	Serial Number
EUT- 6820 Printer	Intermec Technologies Corporation	6820	unknown
AC Adapter	Intermec Technologies Corporation	851-064-001	0001771
Handheld Computer	Intermec Technologies Corporation	CK61	33390400263

Spurious Radiated Emissions

Revision 10/1/03

Remote Equipment Outside of Test Setup Boundary													
Description Manufacturer Model/Part Number Serial Number													
Laptop PC	Dell	TS30GI	Unknown										
Equipment isolated from the	EUT so as not to contribute to the	ne measurement result is considered to be out	side the test setup boundary										

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Serial	Yes	5.0	No	EUT- 6820 Printer	Laptop PC
DC Leads	No	1.6	No	EUT- 6820 Printer	AC Adapter
AC Power	No	2.0	No	AC Adapter	AC Mains

Measurement Equip	oment				
Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Agilent	E4446A	AAQ	04/08/2005	13 mo
Antenna, Biconilog	EMCO	3141	AXE	12/03/2003	24 mo
Pre-Amplifier	Amplifier Research	LN1000A	APS	03/01/2005	13 mo
Antenna, Horn	EMCO	3115	AHC	09/07/2004	12 mo
Pre-Amplifier	Miteq	AMF-4D-005180-24-10P	APJ	05/05/2005	3 mo
Pre-Amplifier	Miteq	AMF-4D-005180-24-10P	APC	02/17/2005	13 mo
Antenna, Horn	EMCO	3160-08	AHK	NCR	NA
Antenna, Horn	EMCO	3160-09	AHG	NCR	NA
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	02/15/2005	13 mo
High Pass Filter	Micro-Tronics	HPM50111	HFO	03/09/2005	13 mo
Attenuator	Coaxicom	66702 5910-20	RBJ	02/25/2005	13 mo

Test Description

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



Spurious Radiated Emissions

Revision 10/1/03

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	and detectors specified. No	video filter was used.					

Completed by:

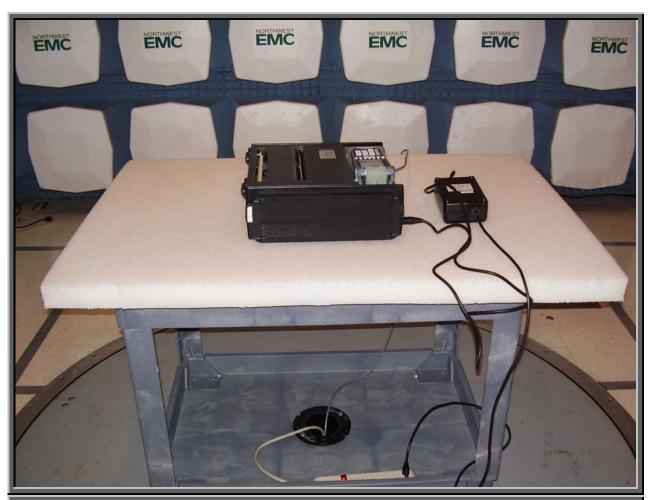
Holy Arling

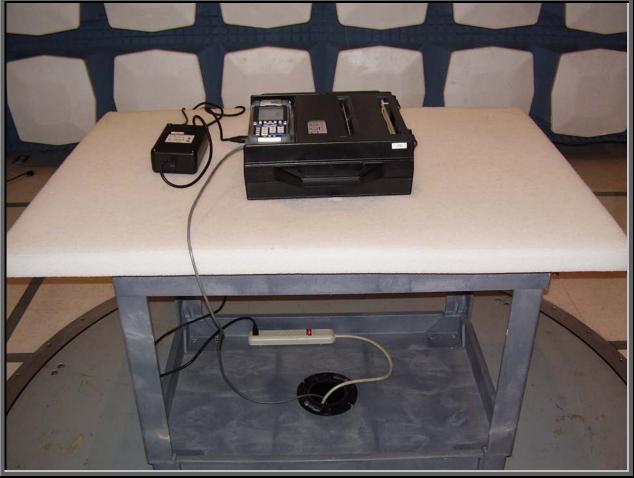
NORTHWEST EMC						R/	٩Ľ)I	Δ7	TE	D) [ΞN	ΛI	S	SI	C	N	IS	I	Α	١T	Ά	S	Н	Ε	E.	Т						Р	SA 2		.6.17 E I 2005		
	UT-	6820	Prin	iter																										Wor	k Or	der:	Ιπ	RM	0084	1			
Serial Num																																		/20/					
Custo		Inter	mec	Tecl	hnc	logi	es (Cori	nor	atic	n																		T	emr	erat				-				
Attend							-	<u> </u>	P O · ·																						umi								ANSI C63.4:2003
Pro		10110	_																								-	Saro	met										741401 000.4.2000
Tested		Hally	Λel	hkan	nai	had												D	24/0	r. 1	20\	/AC	. 60	Нz			_	Jaic	met		Job S								
TEST SPECIFIC	ΔTI	ONS	ASI	ikaii	IIG	iiau												-	JWE		est									Ť	JOD (JILE.		701					
FCC 15.247(d) S	Spuri	ous	Rad	iated	l En	niss	ion	s:20	05-	04											ANS				03														
Antenna Heigh					1 -	4											Τc	et I	Dief	an	ce (m)			3														
COMMENTS	L(S) (I	11)			1 -	4											16	31 1	ופוע	an	CE (111)			3														
EUT OPERATIN Transmitting Blueto DEVIATIONS F No deviations.	ooth H	igh C	hanne		DAR	D																																	
Run#				1			П																																
				•												,			Λ		in	1		0															
Configuration #	ŧ														11		Ph-	1 10	1	1	In	7/1	~																
Results			Р	ass						S	ign	atui	e	1	7	0	0	1			1																		
80.0 _T																																					1		
1 †																																				+	t		
70.0 -																																							
60.0 -																														1									
50.0							1				F															H										F			
W//Nng 40.0 -																														•	•								
30.0 -																																							
20.0 -																																					-		
10.0 -																																					-		
0.0 +			4			Ц				+				+				+				+				\vdash			4				+				-		
2400	000	24	10.4	200	2	420 '	00	Λ.	245	· ·	ากก	٠.	24/	0.0	200	, ,	215	50.0	200		215	· ·	000	2	17	Դ Ռ	Λ Λ	2	100	004	n 1	240		200	21	501	000	n	
2400	.000	24	10.0	500	۷.	1 20	.00	υ.	243	0.0	JUC	, .	244	Ю.(JUC	, 2		ЛН:		,	240	.U.C	000	۷.	470	J.U	00	24	ŧ0U.	.00	U 2	249	0.0	000	23	300).00	U	
	I						Π			Т			丁				П	Exte	rnal	T			П				_ C	istar	nce	Π			T			C	ompar	ed to	
Freq			litude		Fact			٩zim		1		ight			stan		A	ttenu		n	Po	larity	′	De	tect	or	Ac	ljustn			djust				Limit		Spe	c.	<u></u>
(MHz)		(dE	BuV)		(dB	3)	(0	degre	es)	L	(me	ters)		(m	eter	s)	L	(dE	В)								L	(dB)	_	dBuV.	m	L	dBu∖	//m	L	(dB)	Comments
2483.500		24	1.6		-2.	3		147	.0		1.	.1			3.0			20	.0		H-I	Hor	n		ΑV			0.0)		42.3	3		54.	.0		-11.	7	EUT Horizontal
2483.500		24	1.6		-2.	3		149	.0		1.	.5			3.0			20	.0		V-I	Hori	n		ΑV			0.0)		42.3	3		54.	.0		-11.	7	EUT Vertical
2483.500		39	9.3		-2.	3		149	.0		1.	.5			3.0			20	.0		V-I	Hori	n		PΚ			0.0)		57.0			74.	.0		-17.	.0	EUT Vertical
2483.500			3.7		-2.	3		147	.0		1				3.0			20			H-I	Hor	n		PK			0.0)		56.4			74.	.0		-17.	6	EUT Horizontal

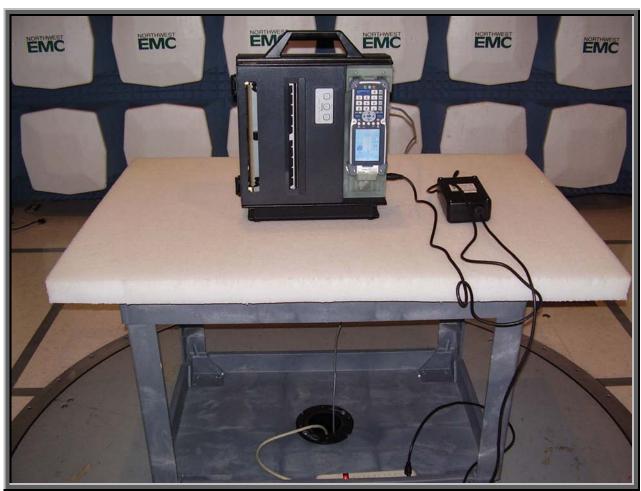
NORTHWES EMC			R	ADIAT	ED E	MISS	IONS I	DATA	SHE	ET			05.6.17 BETA EMI 2005.6.19	
		6820 Print	er							v		ITRM0084		
Serial N										_		06/20/05		
	stomer: endees:		ecnnolog	ies Corpora	iion					Те	mperature Humidity			ANSI C63.4:200
	roject:	Itolic								Barometri	ic Pressure			711101 000.4.200
Tes	ted by:	Holly Ash	kannejhad				Power:	120VAC, 6	0Hz		Job Site]
TEST SPECI								Test Metho						
FCC 15.247(d			ated Emiss	ions:2005-0	4			ANSI C63.4	1:2003					
Antenna Hei		(m)	1 - 4				Test Distar	nce (m)	3					
COMMENTS EUT OPERA	TING N													
Transmitting Blue DEVIATIONS No deviations.														
Run#		;	3				/ a ^	1.	10					
Configuratio Results	n#	Pa	ass	_	Signature	H	oly S	huyl	~					
80.0)													
70.0	H												+	
70.0	1													
60.0	!												_	
50.0	*				•									
w//ngp	+													
3 0.0	, 📙				•									
20.0	, 📙													
10.0	, 🕌													
0.0	, 🏻													
490	00.00	590	00.000	6900.000	790	00.000	8900.00 MHz	0 990	00.000	10900.00	00 11	900.000		
		Ι	1			Π	External	1		Distance		<u> </u>	Compared to	
Freq (MHz)		Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	Attenuation (dB)	Polarity	Detector	Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Spec. (dB)	Comments
4960.02		42.3	6.4	79.0	1.1	3.0	0.0	V-Horn	AV	0.0	48.7	54.0	-5.3	EUT Vertica
4959.89 4961.64		40.2 52.7	6.4 6.4	159.0 79.0	1.0 1.1	3.0 3.0	0.0 0.0	H-Horn V-Horn	AV PK	0.0 0.0	46.6 59.1	54.0 74.0	-7.4 -14.9	EUT Horizont EUT Vertica
4959.53		51.3	6.4	159.0	1.0	3.0	0.0	H-Horn	PK	0.0	57.7	74.0	-16.3	EUT Horizont
12403.89	90	18.6	17.1	53.0	2.1	3.0	0.0	H-Horn	AV	0.0	35.7	54.0	-18.3	EUT Horizont
12400.72		18.4	17.1	40.0	1.0	3.0	0.0	V-Horn	AV	0.0	35.5	54.0	-18.5	EUT Vertica
7436.67		21.1	12.0	298.0	3.2	3.0	0.0	H-Horn	AV	0.0	33.1	54.0	-20.9	EUT Horizont
7439.08		21.1	12.0	207.0 40.0	1.0	3.0	0.0	V-Horn	AV	0.0	33.1	54.0	-20.9	EUT Vertica
12402.2° 12402.2°		32.5 32.1	17.1 17.1	40.0 53.0	1.0 2.1	3.0 3.0	0.0 0.0	V-Horn H-Horn	PK PK	0.0 0.0	49.6 49.2	74.0 74.0	-24.4 -24.8	EUT Vertica EUT Horizont
7437.74		35.0	12.0	207.0	1.0	3.0	0.0	V-Horn	PK	0.0	47.0	74.0	-24.0	EUT Vertica
7440.96		34.8	12.0	298.0	3.2	3.0	0.0	H-Horn	PK	0.0	46.8	74.0	-27.2	EUT Horizont

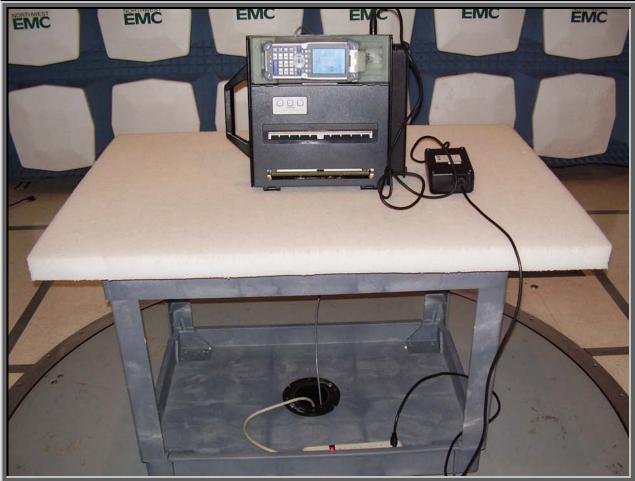
NORTHWEST EMC			R	ADIA	TE	D EI	MISS	SIONS	DATA	SHE	ET		PSA	2005.6.17 BETA EMI 2005.6.19	
		6820 Printe	er								W	ork Order:			
Serial Num Custo		Intermec T	echnolog	aies Corne	oration						Te	Date: mperature:	06/20/05 24		
Attend	lees:			,								Humidity:	43%		ANSI C63.4:2003
	ject:	Holly Ashl	anneiha	4				Dower	120VAC, 6	60Hz	Barometri	ic Pressure Job Site:			
TEST SPECIFIC			aillejild	u				rower:	Test Metho			Job Site:	L V U I		
TEST PARAME Antenna Heigh COMMENTS	TER	s	ted Emiss	sions:200	5-04			Test Dista	ANSI C63.	4:2003					
EUT OPERATIN Transmitting Bluet DEVIATIONS F	ooth N	Mid Channel	NDARD												
No deviations.			1												
Run # Configuration #	tt.		1	-			11	o. A	lin1-	9					
Configuration ? Results	,	Pa	ss	-	Sia	nature	H	oly An	Y						
				-	- 3										ı
80.0															
1															
70.0															
60.0 -															
00.0	*														
+															
50.0														*	
٤														•	
W//N9															
ġ															
30.0 -														*	
30.0															
20.0															
10.0															
0.0															
4800	.000	_	5300	.000		5800	0.000	6	300.000		6800.000		7300	.000	
1000	.000		2000			2000					3000.000		. 550		
								MHz							
	ı	1		1				External	1	1	Distance			Compared to	
Freq		Amplitude	Factor	Azimuth (dograda		Height	Distance	e Attenuation	Polarity	Detector	Adjustment	Adjusted	Spec. Lim dBuV/m	it Spec.	0
(MHz) 4883.933		(dBuV) 42.3	(dB) 6.2	(degrees		neters) 1.2	(meters) (dB) 0.0	V-Horn	AV	(dB) 0.0	dBuV/m 48.5	54.0	(dB) -5.5	Comments EUT Vertical
4884.042		41.8	6.2	49.0		1.1	3.0	0.0	H-Horn	AV	0.0	48.0	54.0	-6.0	EUT Horizontal
4884.987 4884.042		52.8 50.8	6.2 6.2	66.0 49.0		1.2 1.1	3.0 3.0	0.0 0.0	V-Horn H-Horn	PK PK	0.0 0.0	59.0 57.0	74.0 74.0	-15.0 -17.0	EUT Vertical EUT Horizontal
7327.671		22.3	6.∠ 11.9	93.0		1.1	3.0	0.0	H-Horn	AV	0.0	34.2	54.0	-17.0	EUT Horizontal
7326.225		21.4	11.9	261.0		1.2	3.0	0.0	V-Horn	AV	0.0	33.3	54.0	-20.7	EUT Vertical
7327.141		35.8	11.8	93.0		1.9	3.0	0.0	H-Horn	PK	0.0	47.6	74.0	-26.4	EUT Horizontal
7326.959		34.8	11.8	261.0		1.2	3.0	0.0	V-Horn	PK	0.0	46.6	74.0	-27.4	EUT Vertical

NORTHWEST EMC			RA	ADIAT	ED E	MISS	IONS	DATA	SHE	EΤ			05.6.17 BETA EMI 2005.6.19	
		6820 Print	er							V		ITRM0084		
Serial Nur		Intermec T	- - - - -	ies Corpora	tion					Te	Date: emperature:	06/20/05		
Atten			comologi	.00 001 por a						16	Humidity:			ANSI C63.4:200
	oject:									Barometr	ic Pressure			
Teste TEST SPECIFI			kannejhad				Power:	120VAC, 6 Test Metho			Job Site:	EV01		
FCC 15.247(d)			ted Emiss	ions:2005-0	4			ANSI C63.4						
TEST PARAMI Antenna Heigi COMMENTS			1 - 4				Test Distar	nce (m)	3					
EUT OPERATI														
DEVIATIONS F			NDARD											
No deviations.			5	ı					-					
Run #	#		,	-		11	o 1	lin1.	0					
Configuration Results	#	Pa	ISS	1	Signature	Ho	ly A	7						
results						20.000	A-100m							
80.0 -													\neg	
70.0 -													T	
70.0 -														
60.0 -													-	
	Щ												4	
50.0 -												4	<u> </u>	
Š 40 0		•												
W//Ngp														
ਰ														
30.0 -													+	
20.0 -													_	
20.0														
40.0														
10.0 -														
0.0 -	\vdash		+	\Box					+			+	_	
4500	0.000	550	0.000	6500.000	750	00.000	8500.00	0 950	00.000	10500.0	00 11	500.000		
							MHz							
							External			Distance			Compared to	
Freq (MHz)		Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	Attenuation (dB)	Polarity	Detector	Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Spec. (dB)	Comments
4803.942		37.0	5.8	82.0	1.3	3.0	0.0	V-Horn	AV	0.0	42.8	54.0	-11.2	EUT Vertical
4803.594		36.8	5.8	103.0	1.8	3.0	0.0	H-Horn	AV	0.0	42.6	54.0	-11.4	EUT Horizonta
12011.190 12009.340		20.1 20.0	17.3 17.3	189.0 151.0	1.0 1.3	3.0 3.0	0.0 0.0	V-Horn H-Horn	AV AV	0.0 0.0	37.4 37.3	54.0 54.0	-16.6 -16.7	EUT Vertical EUT Horizonta
4804.531	'	49.3	5.8	82.0	1.3	3.0	0.0	V-Horn	PK	0.0	55.1	74.0	-18.9	EUT Vertical
4805.429		47.7	5.8	103.0	1.8	3.0	0.0	H-Horn	PK	0.0	53.5	74.0	-20.5	EUT Horizonta
12007.530 12008.080		33.9	17.3	189.0	1.0	3.0	0.0	V-Horn	PK	0.0	51.2	74.0	-22.8	EUT Vertical
12008.080	'	33.9	17.3	151.0	1.3	3.0	0.0	H-Horn	PK	0.0	51.2	74.0	-22.8	EUT Horizonta









AC Powerline Conducted Emissions

Revision 10/1/03

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:	
High	
Mid	
Low	

Operating Modes Investigated:

No Hop

Data Rates Investigated:

Maximum

Output Power Setting(s) Investigated:

Maximum

Power Input Settings Investigated:

120 VAC, 60 Hz.

Software\Firmware Appli	Software\Firmware Applied During Test											
Exercise software	Bluetest	Version	Unknown									
Description												
The system was tested us	ing special test software to	exercise the functions of th	e device during the									
testing including transmit n	node, channel frequency, a	and power.	-									

EUT and Peripherals			
Description	Manufacturer	Model/Part Number	Serial Number
EUT- 6820 Printer	Intermec Technologies Corporation	6820	Unknown
AC Adapter	Intermec Technologies Corporation	851-064-001	0000413
Handheld Computer	Intermec Technologies Corporation	CK61	33390400263

Remote Equipment	Outside of Test Setup E	Boundary	
Description	Manufacturer	Model/Part Number	Serial Number
Laptop PC	Dell	TS30GI	Unknown
Equipment isolated from the	EUT so as not to contribute to the	ne measurement result is considered to be out	side the test setup boundary

AC Powerline Conducted Emissions

Revision 10/1/03

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Serial	Yes	5.0	No	EUT- 6820 Printer	Laptop PC
DC Leads	No	1.6	No	EUT- 6820 Printer	AC Adapter
AC Power	No	2.0	No	AC Adapter	AC Mains

Measurement Equipm	nent				
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
Spectrum Analyzer	Agilent	E4446A	AAQ	04/08/2005	13 mo

Test Description

Requirement: 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 lowest, the highest, and a middle channel in the operational band. The EUT was transmitting at its maximum data rate. For each mode, the spectrum was scanned from 150 kHz to 30 MHz. The test setup and procedures were in accordance with ANSI C63.4-2003.

Holy Arling

	THWEST MC	C	ONE)UC	T	ΕC	E	MIS	SS	ION	S	D/	4 T.	Α :	SHE	Ε	T)5.6.24)5.5.05
		: 6820 Print	er													Wor	k Order:	ITRM	0084		
Seri	ial Number	:															Date:	06/24/	/05		
	Customer	: Intermec 1	echnolo	gies Co	rpora	tion										Temp	erature:	26			
	Attendees																umidity:				
Cus	st. Ref. No.									_	14001				Barom		ressure				
TECT OF		: Holly Ashl	kannejha	d						Power	120\	AC,	60Hz			•	Job Site:	EV01			
	PECIFICAT	FCC 15.20	7 AC Box	vorlino	Cond	ueto	d Emic	cione:	2005 (14	Ma	athod	ANG	CG2	4:2003						
op.	ecincation	. FCC 13.20	/ AC FO	wernine	Cond	ucte	u Ellis	5510115.2	2005-0) +	1010	stilou	ANO	C03.	4.2003						
SAMPLE	CALCUL	ATIONS																			
Radiate	ed Emissions	: Field Strength	= Measure	d Level +	Antenn	a Fact	tor + Cal	ole Factor	- Ampli	ifier Gain +	Distanc	ce Adju	stment f	actor -	External A	Attenua	tion				
Conducte	ed Emissions	: Adjusted Leve	el = Measur	ed Level -	+ Transo	ducer F	Factor +	Cable Att	enuatio	n Factor +	Externa	l Atten	uator								
New AC Ac		851-064-001. S	N: 0000413																		
	ERATING																				
		Low Channel	ND A D D																		
No deviation	ons.	M TEST STA	ANDARD												Line			Run #			
Pass	<u> </u>														Line	L1		Kull #	1		
Other											Т										
Other													H	fly	A	ling	N	7			
Ω	80														16	sted E	зу:				
	.5																				
7	70																				
6	50																				
5	50																				
Angp 4	10	mylly																			
		, il k/	/\w	\\^		Wal.	ای امد	A AAAA amba d	Laskla.				اساران	ر افادر عا	أد ماهسس	<u>.</u>					
3	30		₩.	V	77	144	HIM	M/M-m/q/	:Nahal-Aid	A HAMANINA MARINA		The sales		المناط			•				
2	20																				
1	0																				
	0																				
	0.1					1			ı	MHz			10)						10	00
						1				External	1							I		Compa	ared to
	req (Mz)	Amplitude (dBuV)					sducer dB)	Cable (dB)		Attenuation (dB)			(blank eq	ector ual peaks m scan)		A	Adjusted dBuV	Spec. dBu		Sp (d	ec. B)
<u> </u>	0.192) 075				<u> </u>	0.0		0.2	20.0	<u> </u>						477		52 O		6.0
	0.192						0.0		0.2 0.3	20.0 20.0							47.7 37.4		53.9 46.0		-6.2 -8.6
	0.720						0.0		0.3	20.0							37.4 45.4		54.2		-8.8
	0.167						0.0		0.2	20.0							37.3		46.4		-0.0 -9.0
	0.82						0.0		0.3	20.0							36.9		46.0		-9.1
	0.586						0.0		0.3	20.0							36.9		46.0		-9.1
	0.717						0.0		0.3	20.0							36.8		46.0		-9.2
	0.859	9 16.0					0.0		0.3	20.0)						36.3		46.0		-9.7
	0.245						0.0		0.2	20.0							41.9		51.9		-10.0
	0.185						0.0		0.2	20.0							44.2		54.3		-10.0
	0.205						0.0		0.2	20.0							43.0		53.4		-10.4
	0.786						0.0		0.3	20.0							35.6		46.0		-10.4
	0.424						0.0		0.2	20.0							36.7		47.4		-10.6
	0.440						0.0		0.2	20.0							36.3		47.1		-10.7
	0.69′ 0.40₄						0.0		0.3 0.2	20.0 20.0							35.2 36.9		46.0 47.8		-10.8 -10.8
	0.402						0.0		0.2	20.0							36.9 42.2		53.2		-10.8
	0.210						0.0		0.2	20.0							44.4		55.8		-11.3
	0.68						0.0		0.3	20.0							34.5		46.0		-11.5

	THWEST	C	ONI	DUC	СТ	ΕC	Ε	MI	SS	101	IS	D	4 T.	Α :	SHE	ΕT			2005.6.24 2005.5.05
		6820 Pri	nter													Work Order	: ITRM00	34	
Seri	ial Number:															Date	06/24/05		
	Customer	Intermed	Technol	ogies C	orpora	ation									To	emperature			
	Attendees															Humidity			
Cus	st. Ref. No.:		h l - a - a - a - l -							D	4201	/^^	COL 1-		Baromet	ric Pressure			
TEST SD	Tested by:	Holly As	nkannejh	ad						Power	: 120\	AC,	60HZ			Job Site	: EV01		
	ecification:		07 AC Pa	werline	Cond	luctor	d Fmis	eione.	2005-0	14	M	ethod	· ANS	LC63	4:2003				
٥,		1 00 13.2	.07 40 1 0	wermie	00110	ucic	u Liiiis	310113.	2005	.				000.	1.2003				
SAMPLE	CALCUL	ATIONS																	
Radiate	ed Emissions	Field Streng	gth = Measu	red Level +	- Antenr	na Fact	tor + Cal	ole Factor	r - Ampl	ifier Gain +	Distan	ce Adju	ıstment	Factor +	External Atte	enuation			
	ed Emissions	: Adjusted Le	vel = Measu	red Level	+ Trans	ducer f	Factor +	Cable At	tenuatio	n Factor +	Externa	al Atter	nuator						
New AC Ad	NTS daptor: MN: 8	851-064-001.	SN: 000041	3.															
	RATING I		al.																
	ng Bluetooth			1															
No deviation		W ILSI S	IANDANI																
RESULT:	S														Line		Run#		
Pass																N		2	
Other											_								
Other													4	fly	All	ed Bv:	7		
8	0														1630	ва Бу.			
7	-n																		
'	0																		
6	0			_															
5	0																		
ABDu 4	.0	AN DAY	η ,,,	19/1	A		h /h-vh-vi	√nn\∧hn⊿	ALDA.	11 1									
	0	 	M. J		W	#	•	1 di Alia	and dirth	Hadankaphaph	Velop 194		ر داری دران	l Halaadi Halaadi					
2	0		' W	1	1 1											-			
1	0																		
	0 ├── 0.1					1							10	<u> </u>					100
	0.1								I	MHz				J					100
	req	Amplitude	1				sducer	Cabl		External Attenuation				ector qual peaks		Adjusted	Spec. Lim		mpared to Spec.
(M	1Hz)	(dBuV)	7			(dB)	(dB)		(dB)			[PK] fre	om scan)		dBuV	dBuV	7	(dB)
	0.197 0.498						0.0		0.2	20.0 20.0						47.9 40.0			-5.8 -6.0
	0.498						0.0		0.2	20.0						40.0			-6.0 -6.0
	0.416						0.0		0.2	20.0						41.4			-6.1
	0.444						0.0		0.2	20.0						40.7			-6.2
	0.461						0.0		0.2	20.0						40.3			-6.3
	0.469	19.	8				0.0		0.2	20.0)					40.0) 46		-6.5
	0.613						0.0		0.3	20.0						39.3			-6.7
	0.423						0.0		0.2	20.0						40.4			-7.0
	0.407						0.0		0.2	20.0						40.3			-7.4
	0.402						0.0		0.2	20.0						40.2			-7.6
	0.603						0.0		0.3	20.0						38.3			-7.7 -7.8
	0.448 0.753						0.0		0.2	20.0 20.0						39.1 38.2			-7.8 -7.8
	0.753						0.0		0.3	20.0						38.2 39.2			-7.8 -7.8
	1.135						0.0		0.3	20.0						37.8			-8.2
	1.037						0.0		0.3	20.0						37.7			-8.3
	0.391						0.0		0.2	20.0						39.5			-8.5
	1.015	17.	1				0.0		0.3	20.0)					37.4	46	.0	-8.6

	ORTHWES			CC	N	DU	C	T	ΕĮ) E	MIS	SS	101	15	S D	Α	ТА	SHE	ΕT					5.6.24 5.5.05
		EUT:	6820	Printer															Work Orde	_		4		
S	erial N	umber:																	Dat	e: 06	6/24/05			
		tomer:		пес Те	chnolo	ogies	Cor	pora	tion	1								Т	emperatur					
		ndees:	None																Humidit	_				
C	Cust. Re	et. No.: ted by:	Hally	Achka	nneih	he						_	Powe	. 12	20VAC	, 601	17	Baromet	ric Pressu Job Sit					
TEST S		FICATION OF THE PROPERTY OF TH		ASIIKa	milejna	au							rowe	. 12	OVAC	, 0 01	12		300 31	e. E	VUI			
				5.207	AC Po	werli	ne C	ond	ucte	d Emi	ssions:2	2005-	-04		Meth	od: A	NSI C63	.4:2003						
0.445			TION																					
SAMPL					Measur	ed Lev	οΙ + Δ	ntenn	a Far	rtor + Ca	ble Factor	- Amn	lifier Gain	+ Dist	tance A	diustm	ent Factor	+ External Atte	nuation					
				-									on Factor -					LXIOMATA	ridation					
СОММ																								
New AC	Adapto	r: MN: 85	51-064-0	001. SN:	000041	3.																		
EUT O																								
Transmi	tting Bl	uetooth I	Mid Cha	innel																				
DEVIA	TIONS	FROM	TEST	STAN	IDARI																			
No devia			0	017.0																				
RESUL	LTS																	Line		R	un #			
Pass																			N			3		
Other														T										
																	, .	, sil	1	0				
																-	Lle	, And	my					
																7	100					_		
																		Test	ed By:					
	80 г									,														
	00																							
	70								-														+	
	60								Η.															
		•																						
	50																							
	30																							
>			/		١.																			
dBuV	40		N 🗚 🖺	u A	٨.,	1			-														+	
ᇴ				WI/	M., IM	11./1	ιM	I۸I	AA.	₩ ₩₩	mahahah	W 40 a	Maryaphy											
			M V	"	ľ	M	MI,	UN	M	'		ווייציי	MMMMANA.	.			سر معلقه	والمراويان						
	30		1 1	1	1	'W	" "	М					1111	144		, salat.	a de la constitución	والمؤسوس والمأكل أرويا أو	lin libra					
				V		1		"T	'	•				. 1.1		"								
	20																						Ш	
	_																							
	10								-														+	
	0																						Щ	
	0.1	1								1							10						10	0
													8411-											•
													MHz											
													F	-				1				1		
	Freq		Ampli	tude					Tra	nsducer	Cable	,	External Attenuation	,			Detector		Adjusted	ء ا ا	Spec. Limi		ompa Spe	red to
	(MHz)		(dBu							(dB)	(dB)		(dB)			(b	ank equal peaks PK] from scan)		dBuV	ľ	dBuV		(dE	
	· · · · · · ·					\perp			L					\perp		\perp	Ay nom scan)			\perp		\perp		
		0.417		20.9						0.0		0.2	20.						41		47.			-6.4
		0.335		22.7						0.0		0.2	20.						42		49.			-6.4
		0.481 0.410		19.0						0.0		0.2	20.						39		46.			-7.1
		0.410		20.3 18.6						0.0		0.2 0.3	20. 20.						40 38		47. 46.			-7.1 -7.1
		0.511		18.4						0.0		0.3	20.						38		46.			-7.1 -7.4
		0.628		18.3						0.0		0.3	20.						38		46.			-7.4
		0.702		18.2						0.0		0.3	20.						38		46.			-7.5
		0.325		21.5						0.0		0.2	20.						41		49.			-7.9
		1.075		17.8						0.0		0.3	20.						38		46.			-7.9
		0.954		17.7						0.0		0.3	20.						38		46.			-8.0
		0.884		17.6						0.0		0.3	20.						37		46.			-8.1
		1.000		17.5						0.0		0.3	20.						37		46.			-8.2
		1.475 0.985		17.2 17.1						0.0		0.3	20. 20.						37 37		46. 46.			-8.5 -8.6
		1.655		17.1 17.0						0.0		0.3 0.4	20. 20.						37 37		46. 46.			-8.6 -8.6
		1.025		17.0						0.0		0.4	20.						37		46.			-8.7
		0.391		19.1						0.0		0.2	20.						39		48.			-8.7
		0.879		16.9						0.0		0.3	20.						37		46.			-8.8

	RTHWES		(CC	N	DU	IC	Т	Εľ	ΣE	MIS	SS	ION	S	D	A	ΤА	SHE	E	T				005.6.24 005.5.05
			6820 F	rinter															Wo	ork Order:	ITRN	0084		
Se	erial Nu																				06/24	l/05		
		tomer:		ec Te	chnolo	gies	Cor	pora	tion											perature:				
С	ust. Re		None															Baron		Humidity: Pressure		<u> </u>		
		ted by:	Holly	Ashka	nnejha	ad							Power:	120	VAC	, 60H	łz	24.01.		Job Site:				
TEST S																								
,	specific	cation:	FCC 1	5.207	AC Po	werli	ne C	ond	ucte	d Emis	ssions:2	2005-	04	N	/letho	d: A	NSI C63	.4:2003						
SAMPL	E CAI	LCULA	TIONS																					
				-									lifier Gain +			-		+ External	Attenu	ation				
Condu COMM		issions:	Adjusted	Level =	= Measu	red Lev	/el + 1	Transo	ducer	Factor +	Cable Atte	enuatio	on Factor +	Exterr	nal Atte	enuato	or							
New AC		r: MN: 85	1-064-0	01. SN:	0000413	3.																		
	-																							
EUT O	DEDAT	FINIC M	ODES																					
EUT OF Transmit																								
l	9 =																							
DEVIA	TIONS	FROM	TEST	STAN	IDARD																			
No devia	tions.																							
RESUL Pass	TS																	Line	L1		Run		4	
1 455																		1	LI				·	
Other														П					U 100		2			
																	1/ 1	Λ	1	1				
																+	foli	1 /2						
																/	, ,		ested				•	
																				,				
	80																							٦
	70																							
	60													Т										1
		•																						
	50													_										-
_		•	۱ ۱			\rightarrow																		
3	40		\ /\	.N.	أللند	. h																		
dBuV	40		\ N1	Mund		416	۸.	d a	, M	M ortune														
			\ <u> </u>	\	ין יוש	M	1	" /	ηŊ	, 	Mhhhar	₩₩	nikki .	.			da stat .	a Lea	.du					
	30		14	V	-	Ш	-1	М.	Н		•	- "	1614/14	Wald		int it	TIPE	chia di		distr				1
			١.	7		IV		N	1							, I				10-41				
	20																							-
	10																							
	10																							
	0																							4
	0.1								1	l							10						1	00
													MHz											
	_												External			1								pared to
	Freq		Amplit (dBu							nsducer (dB)	Cable (dB)		Attenuation (dB)			(bl	Detector ank equal peaks	3		Adjusted dBuV		. Limit luV		pec. (dB)
1 '	(MHz)		(UDU	•,					'	(30)	(ub)		(GD)			1	PK] from scan)			aba v	uE	.u v		ردی
		0.468		22.2						0.0		0.2	20.0					•		42.4		46.6		-4.1
		0.479		21.0						0.0		0.2	20.0							41.2		46.4		-5.1
		0.527 0.385		19.8 21.9						0.0		0.2 0.2	20.0 20.0							40.0 42.1		46.0 48.2		-6.0 -6.0
		0.200		27.2						0.0		0.2	20.0							47.4		53.6		-6.2
		0.375		21.7						0.0		0.2	20.0							41.9		48.4		-6.5
		0.688		19.1 21.5						0.0		0.3 0.2	20.0 20.0							39.4 41.7		46.0 48.6		-6.6 -6.8
		0.368		21.5 20.4						0.0		0.2 0.2	20.0							40.6		48.6		-0.8 -7.0
		0.419	:	20.2						0.0		0.2	20.0)						40.4		47.5		-7.0
		0.445		19.4						0.0		0.2	20.0							39.6		47.0		-7.3
		0.361 0.353		20.9 20.6						0.0		0.2 0.2	20.0 20.0							41.1 40.8		48.7 48.9		-7.6 -8.1
		0.353		20.6 17.7						0.0		0.2 0.2	20.0							40.8 37.9		46.0		-8.1 -8.1
		1.019		17.5						0.0		0.3	20.0)						37.8		46.0		-8.2
		0.965		17.5						0.0		0.3	20.0							37.8		46.0		-8.2
		0.931		17.5 17.5						0.0		0.3 0.3	20.0 20.0							37.8 37.8		46.0 46.0		-8.2 -8.2
		0.492		17.6						0.0		0.3	20.0							37.8		46.1		-8.3

	ORTHWES			CO	N	טנ	JC	T	Εſ) E	MI	SS	101	15	S D	Α	TΑ	Sł	1EE	ΞT				005.6.24 005.5.05
		EUT:	6820 I	Printer															W	ork Order:	_			
S	erial N	umber:																		Date:	06/2	24/05		
		tomer:		nec Tec	chnolo	ogies	s Co	rpora	tior	1									Те	mperature:				
		ndees:	None																	Humidity:				
	ust. Re	ted by:	Hally	\chka	nnaih	ad							Powe	r. 13	20VA0	- 601	- -	В	arometri	c Pressure Job Site:	_			
TEST S		FICATION.		ASIIKa	mejna	au							Fowe	1. 12	ZUVAC	J, 601	12			JOD Site.	EV	U I		
				5.207	AC Po	werl	ine	Cond	ucte	ed Emis	ssions:	2005-	-04		Meth	od: A	NSI C	3.4:20	03					
SAMPL					Manaum	مالم	ual i	Antone	о Го	otos i Co	ble Feeter		olifier Gain	. Die	tones A	معدد الم	ant Fast	a Fut	arnol Atton	ation				
				-									on Factor			-		OI + EXI	ernai Aller	luation				
COMM		ilioolorio.	rajaoto	3 E0 (0)	Wodou	100 20	7011	riano	auco	T dotor T	ouble 7 to	onaci	on r dotor	LA	orrical 7 to	toridat	<u> </u>							
New AC	Adapto	r: MN: 85	1-064-0	001. SN:	000041	3.																		
EUT O																								
DEVIA		FROM	TEST	STAN	DARD)																		
No devia																		Lin	•		Rui	. #		
Pass	.10																	LIN	e L'	1	Kul	11#	5	
Other																4	400	5/		W.	7		_	
	80 г																		Teste	d By:				_
	70																							
	60				\	_																		
	50			<u> </u>	_																			
dBuV	40			MM	. /	ΙM	۱M	.A		M. A. M	h.a													
	30		'Wyw		/	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1		Y	וישרע	<i>ሌላ</i> ነላ/ር	MAN	(1111 /4 / 1/1/1/1				ne lu (u.lladdo	111	dadt				
	20		_		איין	l	-	ויין ון	1							Marill b	· Inter-							
	10																							
	0																40							⊣
	0.1									1			MHz				10							100
	Freq		Amplit (dBu						Tra	insducer (dB)	Cabl (dB)		External Attenuatio (dB)	n		(t	Detecto			Adjusted dBuV		ec. Limit	5	pared to Spec. (dB)
	(MHz)													\perp			[PK] from sca	n)						
	_	0.456		22.8	_	_	-	_	_	0.0		0.2	20			_	_	_	_	43.0		46.8		-3.7
		0.468		22.0						0.0		0.2	20							42.2		46.6		-4.3
		0.450		22.2						0.0		0.2	20							42.4		46.9		-4.4 5.2
		0.440 0.395		21.6 22.0						0.0		0.2	20 20							41.8 42.2		47.1 48.0		-5.2 -5.7
		0.395		22.0 21.2						0.0		0.2	20							42.2 41.4		48.0 47.3		-5. <i>1</i> -5.8
		0.429		19.3						0.0		0.2	20							39.6		46.0		-5.o -6.4
		0.542		19.3						0.0		0.3	20							39.6		46.0		-6.4
		0.488		19.1						0.0		0.2	20							39.3		46.2		-6.8
		0.497		18.6						0.0		0.2	20							38.8		46.0		-7.2
		1.415		18.3						0.0		0.3	20							38.6		46.0		-7.4
		0.956		17.8						0.0		0.3	20							38.1		46.0		-7.9
		0.926		17.8						0.0		0.3	20							38.1		46.0		-7.9
		0.266		23.1						0.0		0.2	20							43.3		51.2		-7.9
		1.175		17.6						0.0		0.3	20							37.9		46.0		-8.1
		1.095 1.035		17.5 17.4						0.0		0.3	20 20							37.8 37.7		46.0 46.0		-8.2 -8.3
		1.035		17.4 17.2						0.0		0.3	20							37.7 37.6		46.0 46.0		-8.3 -8.4
		0.150		27.3						0.0		0.4	20							47.5		56.0		-8.5

	NORTHWEST		(CO	NE	U	C	TE	ΞD	E	MIS	S	ON	S	D/	47	ГА	SHE	ΕT			.CQ 2005.6.24 EMI 2005.5.05
			6820 Pr	inter															Work Ord	er: l	TRM0084	
ÿ	Serial Nu																			_	6/24/05	
		omer:	Interme	c Tecl	nnolo	gies	Corp	orat	ion									Т	emperatu Humidi			
	Cust. Ref		None															Baromet	ric Pressu			
	Teste	ed by:	Holly A	shkan	nejha	d							Power:	120V	AC,	60H	z		Job Si			
TEST	SPECIF			207.4	C Dei			l·		l Cusia	aiama.0	00E 0	4	Ma	thod		101 000	4-2002				
	Specific	ation:	FCC 15	.207 A	C PO	weriir	ne C	onat	icted	ı Emis	sions:20	JU5-U	4	IVIE	tnoa	- Ar	ISI C63.	4:2003				
SAME	PLE CAL	CULA	TIONS																			
																		External Atte	enuation			
	ducted Emis	ssions:	Adjusted I	Level = N	Measur	ed Lev	el + T	ransd	ucer F	actor +	Cable Atte	nuation	Factor + E	xterna	l Atten	uator	r					
	C Adaptor:	MN: 85	1-064-00	1. SN: 00	000413																	
FUT (DPERAT	ING M	ODES																			
	nitting Blue			nnel																		
	ATIONS	FROM	TEST S	STAND	DARD																	
No dev																		Line			Run #	
Pass	213																		N	ľ		6
Other	,																			0		
																1	10.	Al	my/m	9		
																+	tons	190	1			
																			ed By:			-
	80.0								\Box													
	70.0																					
	00.0																					
	60.0																					
	50.0		+																			
									+					-								
<u> </u>	40.0		• \	/	1	ia ilik																
dBuV	40.0			L.M\\\	\	MIN	Λ	M.	la di	MMr	Mina .											
				M Y	LAI	'	/ //	11	w		" ነ ሣየ₩	MAKLA	Nat.		.		يران الطبا	ura di	.			
	30.0		-∀-	4	111		-"	W				1 134	Myaphuph			dar.	د پرستاند سازمه خالفان انه	and the same of the same	lan)			
			'		1			۱ 🏋	ין זי	1			' '		חקייו	ין יין						
	20.0																					
	10.0																					
	10.0																					
	0.0																					
	0.1	00							1.00	00						10	.000				1	100.000
												M	lHz									
												1	External			T						Compared to
	Freq		Amplitud							sducer	Cable	At	tenuation			(bloc	Detector		Adjuste	d	Spec. Limit dBuV	Spec.
	(MHz)		(dBuV)					(0	dB)	(dB)		(dB)			(Pi	nk equal peaks K] from scan)		dBuV		aBuv	(dB)
<u> </u>	(0.153	2	3.0				1		0.0	C	.0	20.0			1	AV	I	43	3.0	55.8	-12.8
	(0.153	29	9.8						0.0	C	0.0	20.0				QP		49	9.8	65.8	-16.0
		0.152 0.476		3.0 2.2						0.0).2).2	20.0 20.0							3.2 2.4	55.9 46.4	
	,	0.476		2.2 2.3						0.0		1.2	20.0							2.4 2.5	46.4	
	(1.8						0.0		.2	20.0							2.0	46.9	
		0.446	2							0.0		.2	20.0						41	1.1	46.3	-5.2
	(0.446 0.482	20	0.9						\cap	r	.2	20.0									
	(0.446 0.482 0.487	20 20	0.5						0.0			20.0).7	46.2	-5.5
	(0.446 0.482	20 20 19	0.5 9.9						0.0	C	.3	20.0						40).7).2).1	46.2 46.0	-5.5 -5.8
	(0.446 0.482 0.487 0.714 0.553 0.408	20 20 19 19 20	0.5 9.9 9.8 1.4						0.0 0.0 0.0	C C C	.3 .3 .2	20.0 20.0 20.0						40 40 41).2).1 1.6	46.2 46.0 46.0 47.7	-5.5 -5.8 -5.9 -6.0
		0.446 0.482 0.487 0.714 0.553 0.408 0.496	20 20 19 19 20 19	0.5 9.9 9.8 1.4 9.7						0.0 0.0 0.0 0.0	0 0 0	1.3 1.3 1.2 1.2	20.0 20.0 20.0 20.0						40 40 41 39	0.2 0.1 1.6 9.9	46.2 46.0 46.0 47.7 46.1	-5.5 -5.8 -5.9 -6.0 -6.1
		0.446 0.482 0.487 0.714 0.553 0.408 0.496 0.723	20 20 19 19 20 19	0.5 9.9 9.8 1.4 9.7 9.6						0.0 0.0 0.0 0.0 0.0	0 0 0 0).3).2).2).3	20.0 20.0 20.0 20.0 20.0						40 40 41 39 39	0.2 0.1 1.6 9.9	46.2 46.0 46.0 47.7 46.1 46.0	-5.5 -5.8 -5.9 -6.0 -6.1 -6.1
		0.446 0.482 0.487 0.714 0.553 0.408 0.496	20 20 19 19 20 19 19	0.5 9.9 9.8 1.4 9.7						0.0 0.0 0.0 0.0	0 0 0 0 0	1.3 1.3 1.2 1.2	20.0 20.0 20.0 20.0						40 40 41 39 39	0.2 0.1 1.6 9.9	46.2 46.0 46.0 47.7 46.1	-5.5 -5.8 -5.9 -6.0 -6.1 -6.1
		0.446 0.482 0.487 0.714 0.553 0.408 0.496 0.723 0.570 0.387 0.376	20 19 19 20 19 19 19 20 20	0.5 9.9 9.8 1.4 9.7 9.6 9.5 1.6						0.0 0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 0	1.3 1.2 1.2 1.3 1.3 1.2	20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0						40 40 41 39 39 39 41 42	0.2 0.1 1.6 9.9 9.9 9.8 1.8	46.2 46.0 46.0 47.7 46.1 46.0 46.0 48.1	-5.5 -5.8 -5.9 -6.0 -6.1 -6.1 -6.2 -6.3
		0.446 0.482 0.487 0.714 0.553 0.408 0.496 0.723 0.570 0.387	20 20 19 19 22 19 19 22 2	0.5 9.9 9.8 1.4 9.7 9.6 9.5						0.0 0.0 0.0 0.0 0.0 0.0		0.3 0.2 0.2 0.3 0.3	20.0 20.0 20.0 20.0 20.0 20.0 20.0						40 40 41 39 39 39 41 42 39	0.2 0.1 1.6 9.9 9.9 9.8 1.8	46.2 46.0 46.0 47.7 46.1 46.0 46.0 48.1	-5.5 -5.8 -5.9 -6.0 -6.1 -6.1 -6.2 -6.3 -7.0





