INTERMEC Technologies Corporation

802MIG2 in the CK30 Hand-held Scanner

Test Report

July 24, 2003

Report No.
INMC0071

Report Prepared By:

NORTHWEST EMC

1-888-EMI-CERT

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22975 NW Evergreen Parkway
Suite 400
Hillsboro, Oregon 97124

Certificate of Test

Issue Date: July 24, 2003

INTERMEC Technologies Corporation
Model : 802MIG2 in the CK30 Hand-held Scanner
Report No: INMC0071

Emissions

Description	Pass	Fail
FCC 15.247, Occupied Bandwidth	☒	☐
FCC 15.247, Output Power	☒	☐
FCC 15.247, Band Edge Compliance	☒	☐
FCC 15.247, Spurious Conducted Emissions	☒	☐
FCC 15.247, Power Spectral Density	☒	☐
FCC 15.247, Spurious Radiated Emissions	☒	☐
FCC 15.207, AC Powerline Conducted Emissions	☒	☐

The equipment was tested in the configuration and mode(s) of operation provided by the client. The specific tests and test levels were specified by the client. Any additional tests, or product configurations that should be tested are the responsibility of the client. Product compliance is the responsibility of the client.

List of Modifications to equipment under test required to meet the requirements:

- No EMI suppression devices were added or modified. The EUT was tested as delivered.

Deviations to the test standard

- No deviations were made to standard test methods.

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 the FCC (Federal Communications Commission), and accepted by the FCC in a letter maintained in our files.

Approved By:

Don Facteau, IS Manager

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 Number	Description	Date	Page Number
00	None		

Accreditations and Authorizations

FCC: The Open Area Test Sites, 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.

TCB: 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: Accreditation has been granted to Northwest EMC, Inc. to perform the Electromagnetic Compatibility (EMC) tests described in the Scope of Accreditation. Assessment performed to ISO/IEC 17025. Certificate Number: 200629-0, Certificate Number: 200630-0.

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. (A2LA)

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. USA0302C

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.

Accreditations and Authorizations

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.

Industry Canada: Accredited by Industry Canada for performance of radiated measurements. Our open area test sites comply with RSP 100, Issue 7, section 3.3.

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 Nos. - Evergreen: C-1071 and R-1025, Trails End: C-694 and R-677, Sultan: C-905, R-871 and R-1172, North Sioux City C-1246, R-1185 and R-1217)*

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.

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

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

	NVLAP	FCC	NIST	TUV PS	TUV Rheinland	Nemko	Technology International	Industry Canada	BSMI	VCCI	GOST	NATA
IEC 1000-4-2	✓			✓	✓	✓	✓					
IEC 1000-4-3	✓			✓	✓	✓	✓					
IEC 1000-4-4	✓			✓	✓	✓	✓					
IEC 1000-4-5	✓			✓	✓	✓	✓					
IEC 1000-4-6	✓			✓	✓	✓	✓					
IEC 1000-4-8	✓			✓	✓	✓	✓					
IEC 1000-4-11	✓			✓	✓	✓	✓					
IEC 1000-3-2	✓			✓	✓	✓	✓					
IEC 1000-3-3	✓			✓	✓	✓	✓					
AS/NZS 3548	✓											✓
CNS 13438	✓								✓			
ISO/IEC17025	✓			✓	✓	✓	✓		✓			
Radiated Emissions	✓			✓	✓	✓	✓	✓	✓	✓	✓	
Conducted Emissions	✓			✓	✓	✓	✓	✓	✓	✓	✓	
OATS Sites	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	
Hillsboro 5-Meter Chamber (EV01)	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	
TCB for Licensed Transmitters		✓										
TCB for un-Licensed Transmitters		✓										
Cab for R&TTE			✓									
CAB for EMC			✓									

This chart represents only a partial NVLAP Scope, please reference http://ts.nist.gov/ts/htdocs/210/214/214.htm for the full NVLAP Scope of Accreditation

What is measurement uncertainty?

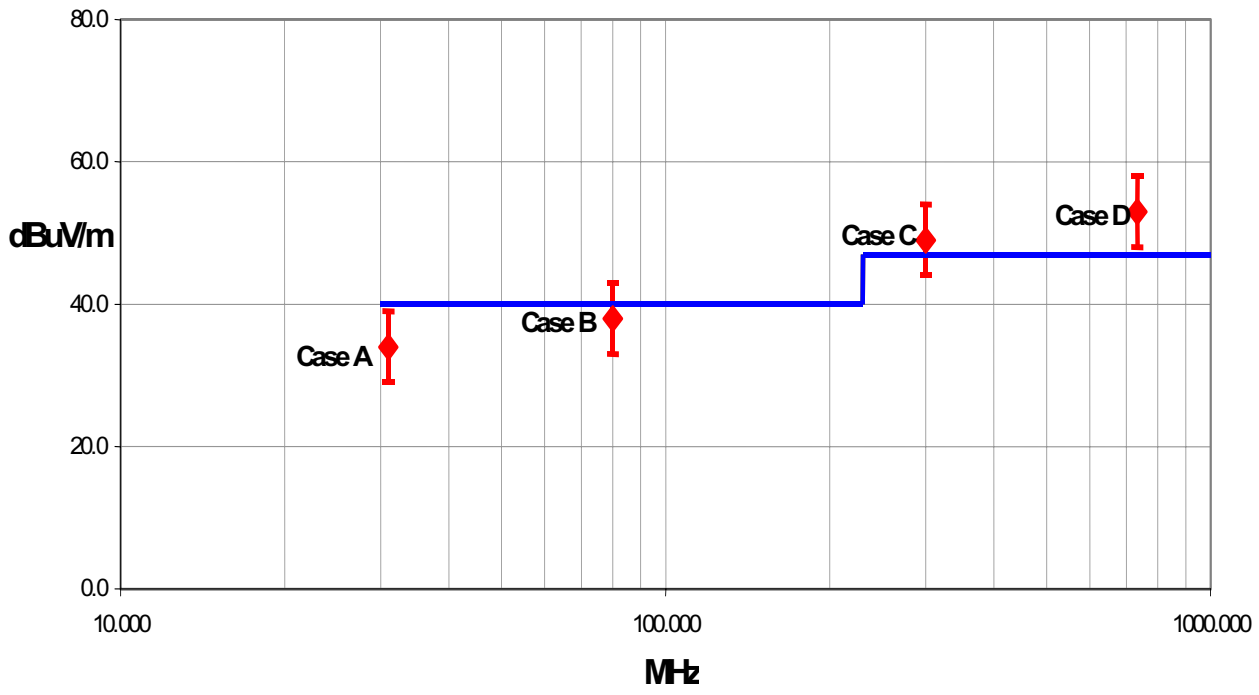
When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. The following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

Radiated Emissions ≤ 1 GHz		Value (dB)					
	Probability Distribution	Biconical Antenna		Log Periodic Antenna		Dipole Antenna	
Test Distance		3m	10m	3m	10m	3m	10m
Combined standard uncertainty $u_c(y)$	normal	+ 1.86 - 1.88	+ 1.82 - 1.87	+ 2.23 - 1.41	+ 1.29 - 1.26	+ 1.31 - 1.27	+ 1.25 - 1.25
Expanded uncertainty ***U*** (level of confidence ≈ 95%)	normal (k=2)	+ 3.72 - 3.77	+ 3.64 - 3.73	+ 4.46 -2.81	+ 2.59 - 2.52	+ 2.61 - 2.55	+ 2.49 - 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 ***U*** (level of confidence ≈ 95%)	normal (k=2)	+ 2.57 - 2.51	+ 2.76 - -2.70

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

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

Conducted Immunity		
	Probability Distribution	Value (+/- dB)
Combined standard uncertainty ***uc(y)***	normal	1.05
Expanded uncertainty ***U*** (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

41 Tesla Ave.
Irvine, CA 92618
(888) 364-2378
FAX (503) 844-3826

Oregon

Evergreen Facility

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

Oregon

Trails End Facility

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

South Dakota

North Sioux City Facility

745 N. Derby Lane
P.O. Box 217
North Sioux City, SD 57049
(605) 232-5267
FAX (605) 232-3873

Washington

Sultan Facility

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

Party Requesting the Test

Company Name:	INTERMEC Technologies Corporation
Address:	6001 36th Avenue West
City, State, Zip:	Everett, WA, 98203-9280
Test Requested By:	Cheryl White
Model:	802MIG2
First Date of Test:	06-24-2003
Last Date of Test:	07-15-03
Receipt Date of Samples:	06-24-2003
Equipment Design Stage:	Production
Equipment Condition:	No visual damage.

Information Provided by the Party Requesting the Test

Clocks/Oscillators:	Not available at time of test.
I/O Ports:	Mini PCI interface to host device

Functional Description of the EUT (Equipment Under Test):

Mini PCI radio card capable of 802.11(b) and 802.11(g) communications. Will be installed in Intermec's CK30 Handheld Scanner

Client Justification for EUT Selection:

The product is a representative production sample.

Client Justification for Test Selection

These tests are required for the FCC Certification of the radio under 15.247

Equipment modifications				
Item #	Test	Date	Modification	Note
1	Output Power	06-24-2003	No EMI suppression devices were added or modified during this test.	Same configuration as delivered.
2	Occupied Bandwidth	06-25-2003	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.
3	Band Edge Compliance	06-25-2003	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.
4	Spurious Conducted Emissions	06-25-2003	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.
5	Spurious Radiated Emissions – Stand Alone Configuration	06-24-2003 & 06-25-2003	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.
6	Power Spectral Density	06-26-2003	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.
7	Conducted Emissions	06-26-2003	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.
8	Spurious Radiated Emissions – Simultaneous Transmission with Bluetooth	07-14-2003 & 07-15-2003	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.

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:
802.11(b)
802.11(g)

Data Rates Investigated:
6 Mbit
11 Mbit
36 Mbit
54 Mbit

Output Power Setting(s) Investigated:
Maximum

Power Input Settings Investigated:
Battery

Software\Firmware Applied During Test			
Exercise software	FccTest.exe	Version	1/1/1601
Description			
The system was tested using special software developed to test all functions of the device during the test. The software allowed the selection of transmit channel and data rate. These were varied to produce the highest level of emissions. The OS of the host device was Ver. 0.00.00.0072			

Occupied Bandwidth

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
Radio (EUT)	Intermec	802MIG2	C1
Hand Held Scanner (Host for Radio)	Intermec	CK30	C1

Cables

None. No cables were attached to EUT

Measurement Equipment

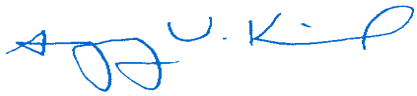
Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Tektronix	2784	AAO	02/26/2003	24 mo

Test Description

Requirement: Per 47 CFR 15.247(a)(2), the 6 dB bandwidth of a direct sequence channel must be at least 500kHz. The measurement is made with the spectrum analyzer's resolution bandwidth set to 100kHz, and the video bandwidth set to greater than or equal to the resolution bandwidth.

Configuration: The occupied bandwidth was measured with the EUT set to low, medium, and high transmit frequencies. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its maximum data rate using direct sequence modulation.

Completed by:



_____

NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C1	Date:	06/25/03
Customer:	Intermec Corporation	Temperature:	77 degrees F
Attendees:	C.D. White	Tested by: Greg Kiemel	Humidity: 38% RH
Customer Ref. No.:	N/A	Power: DC from Host Unit	Job Site: EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(a)(2)	Year: Most Current	Method:	FCC 97-114, ANSI C63.4	Year: 1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The minimum 6dB bandwidth is 500KHz

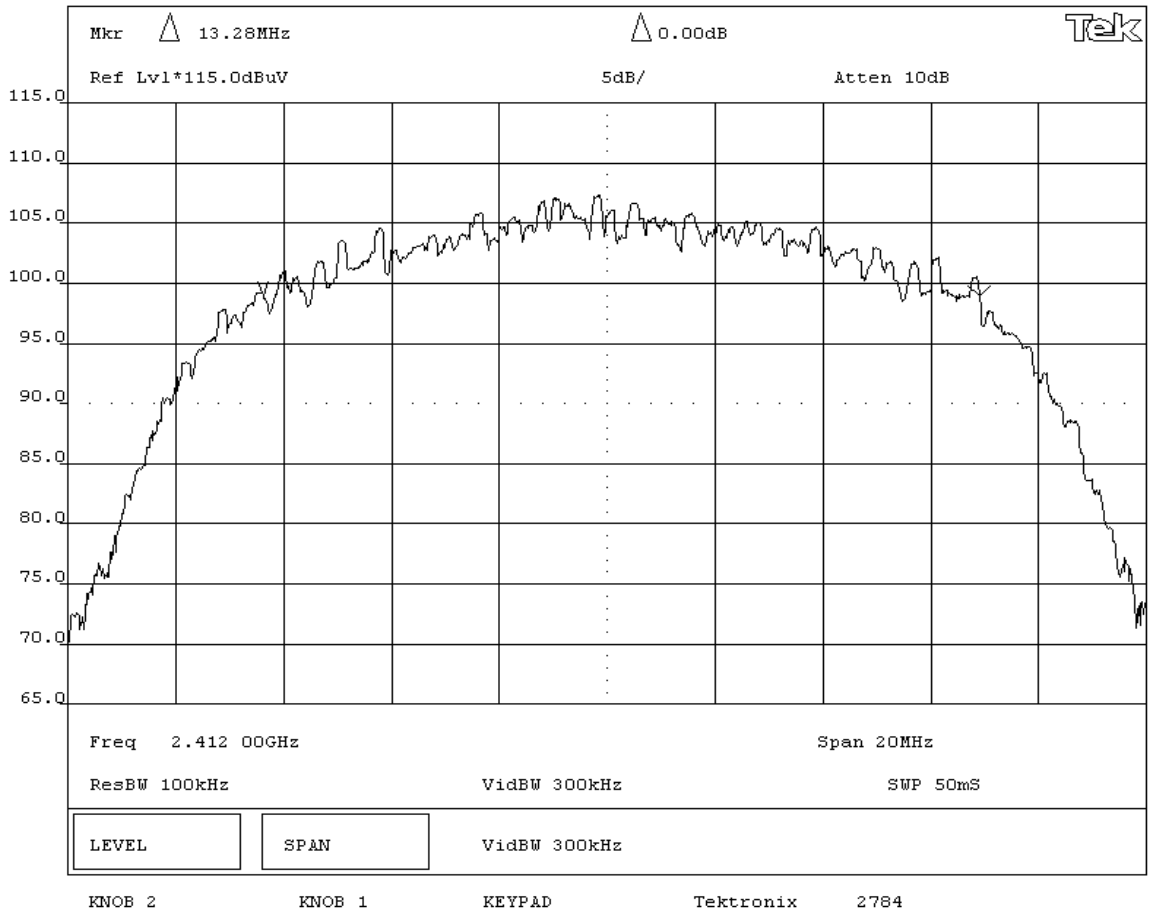
RESULTS	BANDWIDTH
Pass	13.28 MHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Occupied Bandwidth - Low Channel



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C1	Date:	06/25/03
Customer:	Intermec Corporation	Temperature:	77 degrees F
Attendees:	C.D. White	Tested by: Greg Kiemel	Humidity: 38% RH
Customer Ref. No.:	N/A	Power: DC from Host Unit	Job Site: EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(a)(2)	Year: Most Current	Method:	FCC 97-114, ANSI C63.4	Year: 1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The minimum 6dB bandwidth is 500KHz

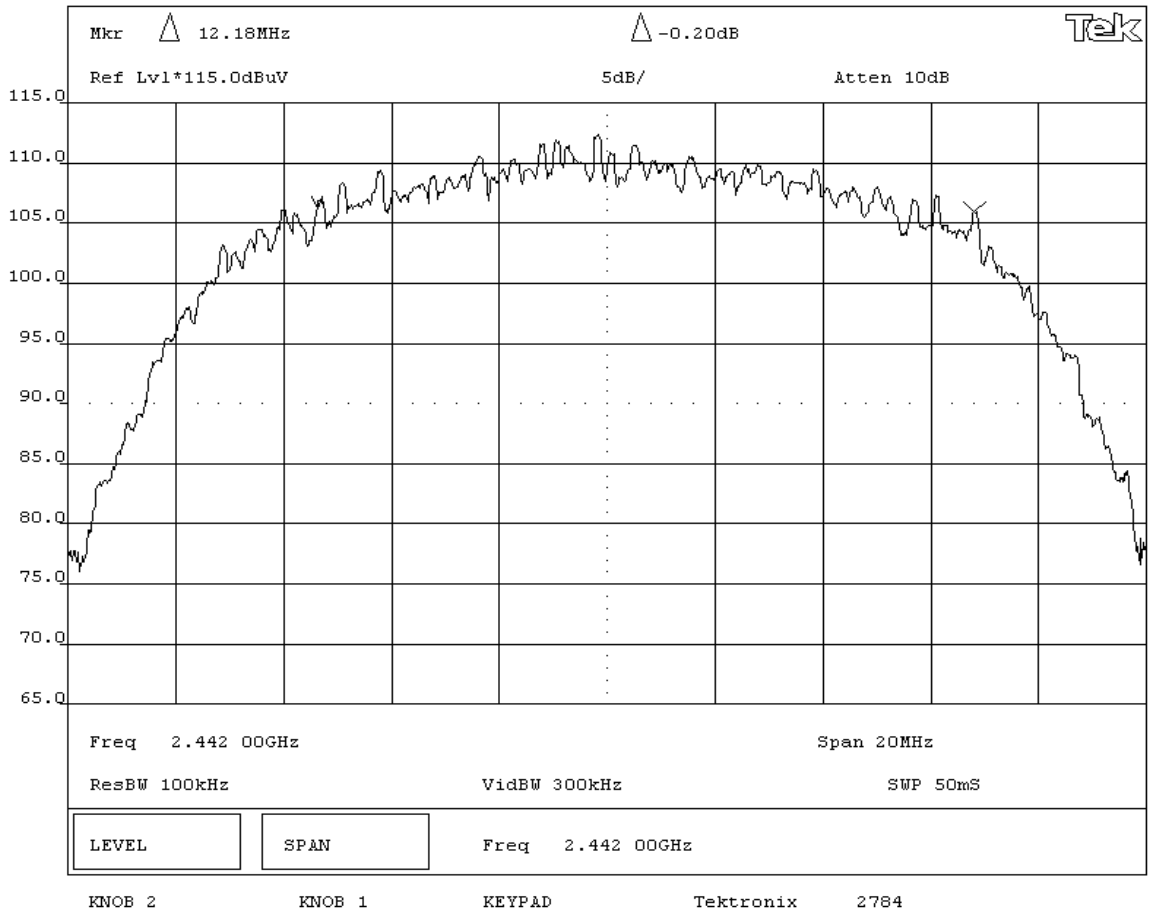
RESULTS	BANDWIDTH
Pass	12.18 MHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Occupied Bandwidth - Mid Channel



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C1	Date:	06/25/03
Customer:	Intermec Corporation	Temperature:	77 degrees F
Attendees:	C.D. White	Tested by: Greg Kiemel	Humidity: 38% RH
Customer Ref. No.:	N/A	Power: DC from Host Unit	Job Site: EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(a)(2)	Year: Most Current	Method:	FCC 97-114, ANSI C63.4	Year: 1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The minimum 6dB bandwidth is 500KHz

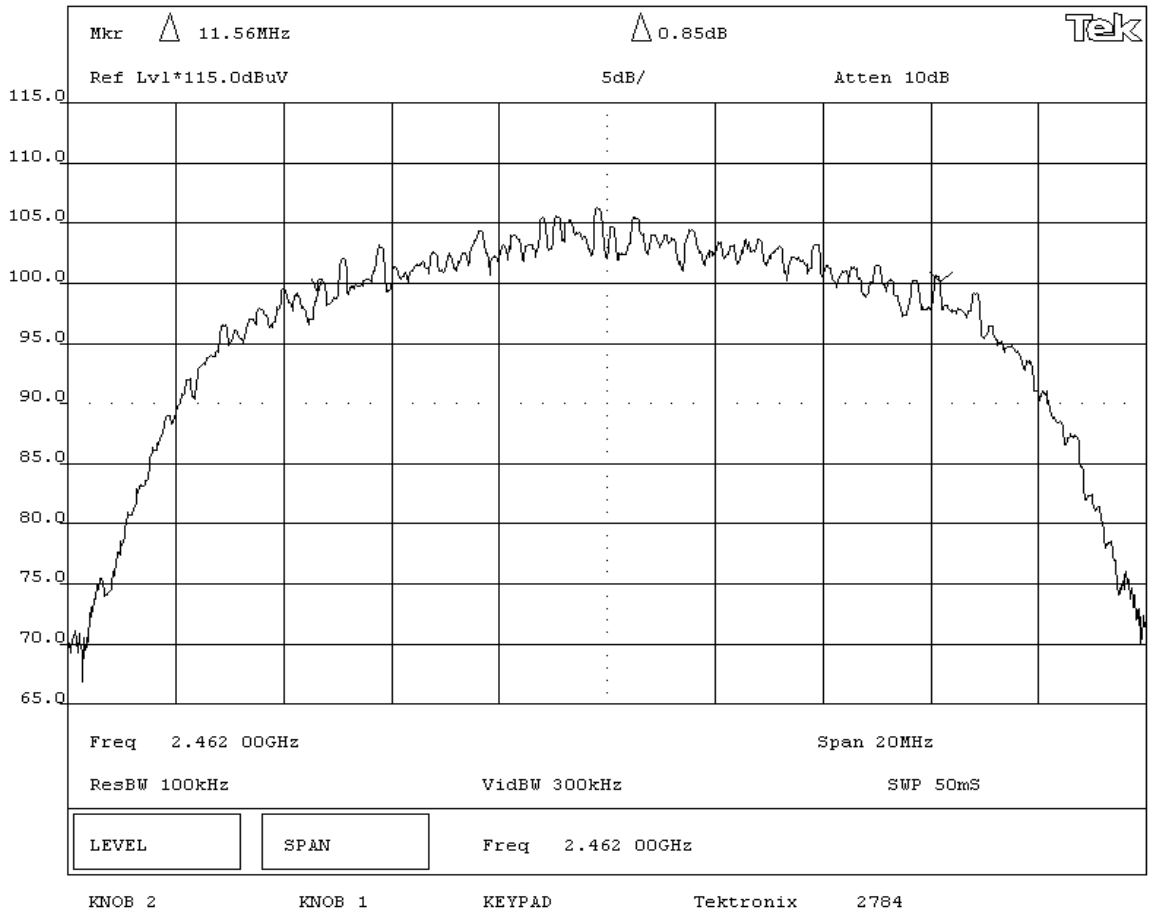
RESULTS	BANDWIDTH
Pass	11.56 MHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Occupied Bandwidth - High Channel



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2	Work Order:	INMC0081
Serial Number:	C1	Date:	06/25/03
Customer:	Intermec Corporation	Temperature:	77 degrees F
Attendees:	C.D. White	Tested by: Greg Kiemel	Humidity: 38% RH
Customer Ref. No.:	N/A	Power: DC from Host Unit	Job Site: EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(a)(2)	Year: Most Current	Method:	FCC 97-114, ANSI C63.4	Year: 1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The minimum 6dB bandwidth is 500KHz

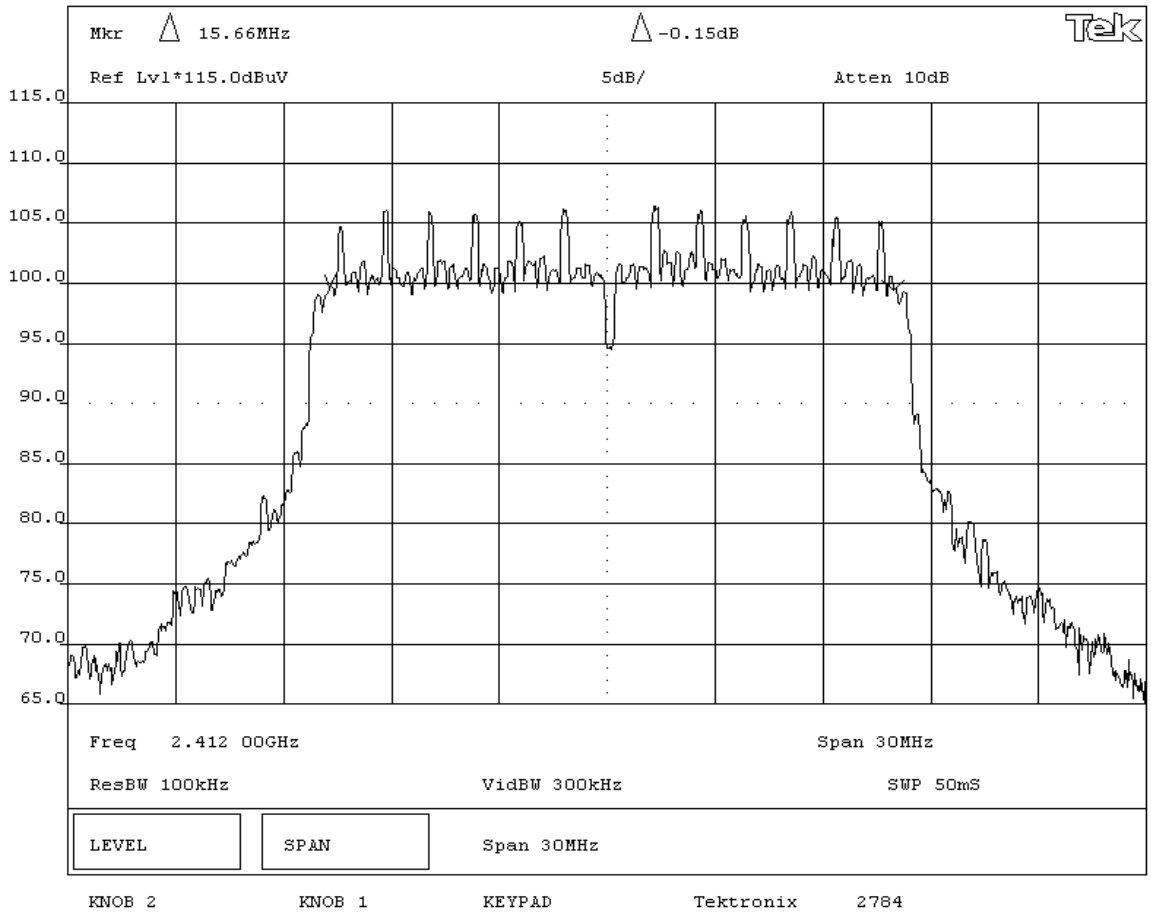
RESULTS	BANDWIDTH
Pass	15.66 MHz

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Occupied Bandwidth - Low Channel - 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(a)(2)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The minimum 6dB bandwidth is 500KHz

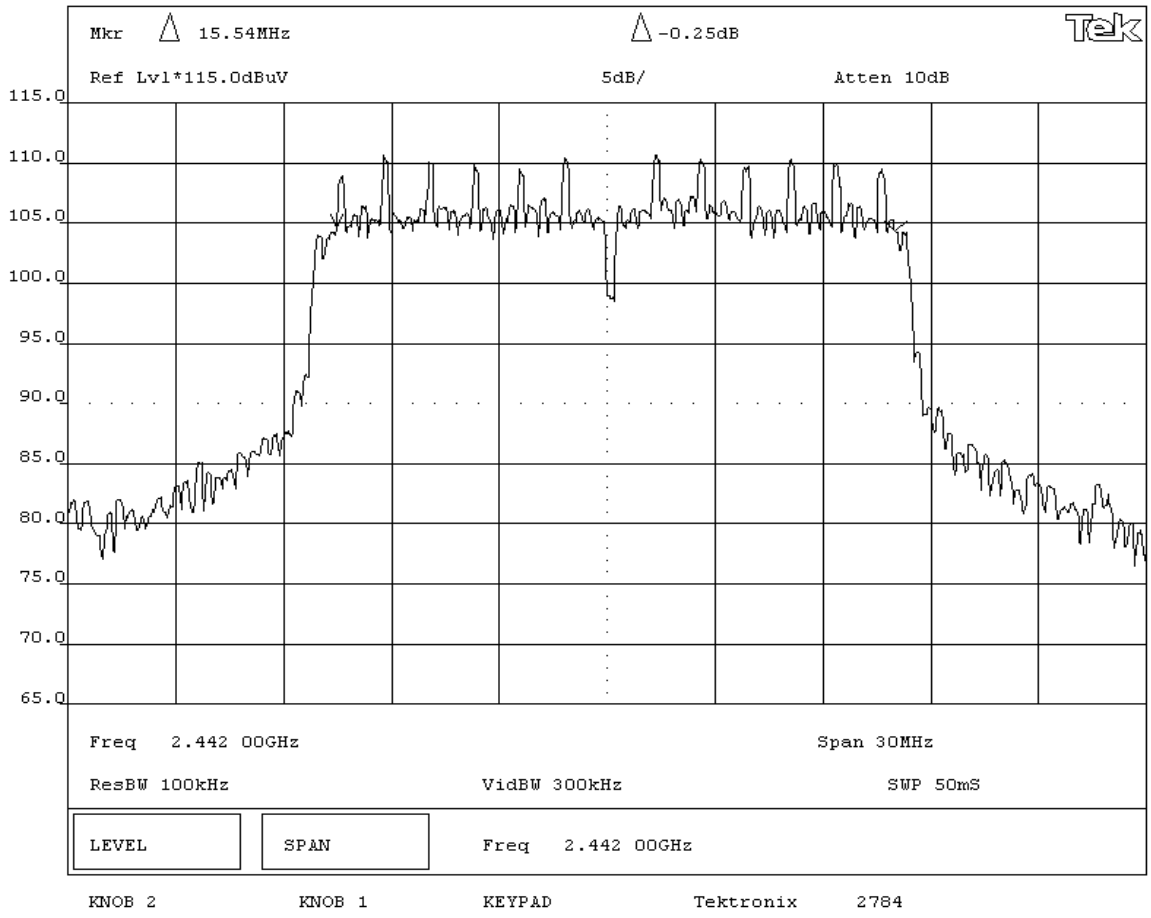
RESULTS	BANDWIDTH
Pass	15.54 MHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Occupied Bandwidth - Mid Channel - 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2	Work Order:	INMC0081
Serial Number:	C1	Date:	06/25/03
Customer:	Intermec Corporation	Temperature:	77 degrees F
Attendees:	C.D. White	Tested by: Greg Kiemel	Humidity: 38% RH
Customer Ref. No.:	N/A	Power: DC from Host Unit	Job Site: EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(a)(2)	Year: Most Current	Method:	FCC 97-114, ANSI C63.4	Year: 1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The minimum 6dB bandwidth is 500KHz

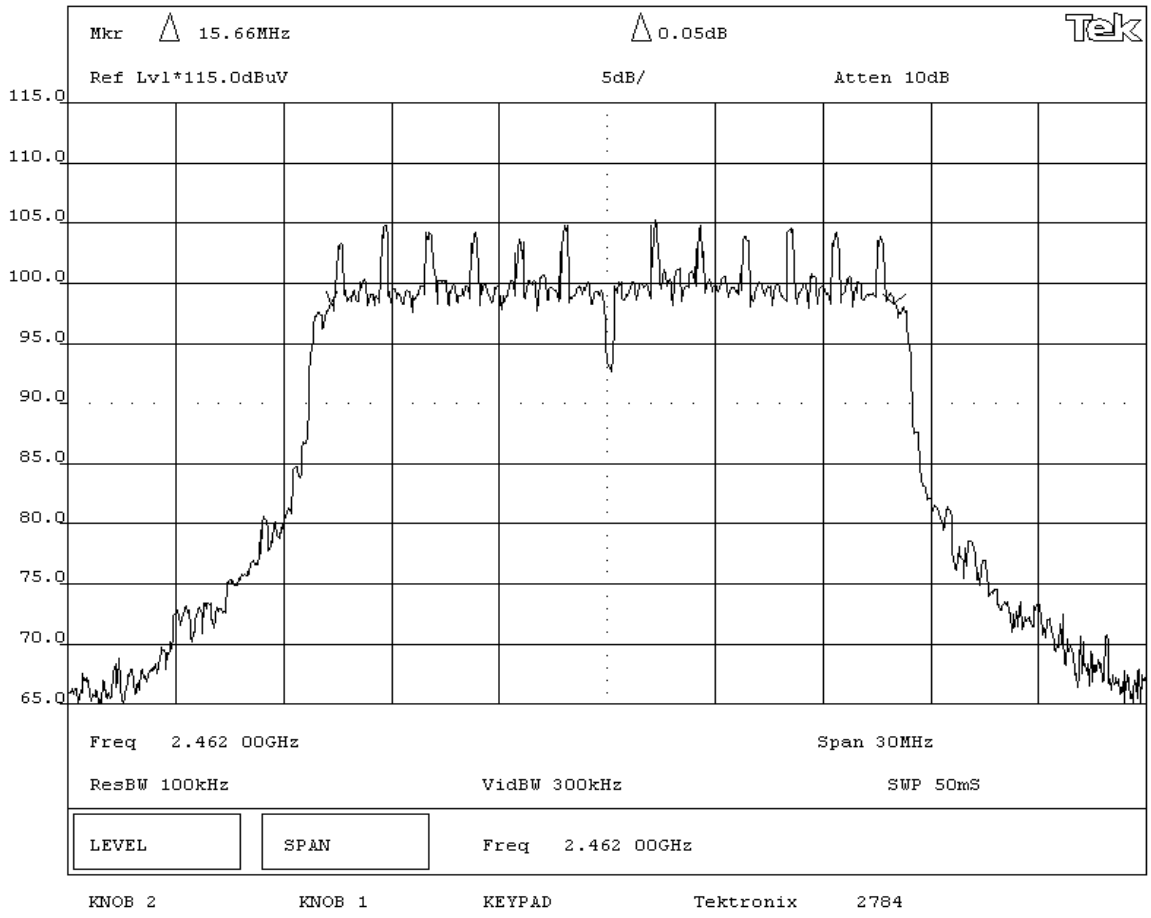
RESULTS	BANDWIDTH
Pass	15.66 MHz

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Occupied Bandwidth - High Channel - 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(a)(2)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The minimum 6dB bandwidth is 500KHz

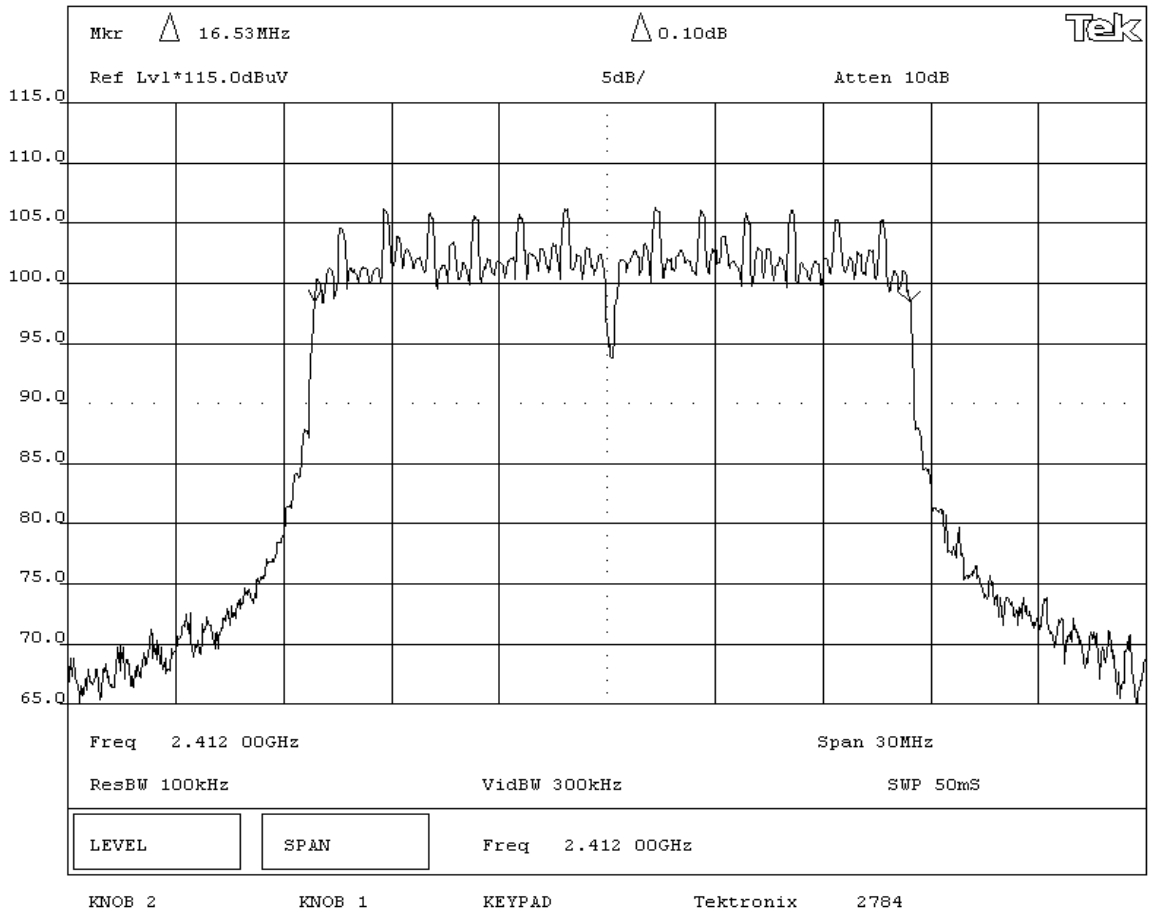
RESULTS	BANDWIDTH
Pass	16.53 MHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Occupied Bandwidth - Low Channel - 36 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(a)(2)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The minimum 6dB bandwidth is 500KHz

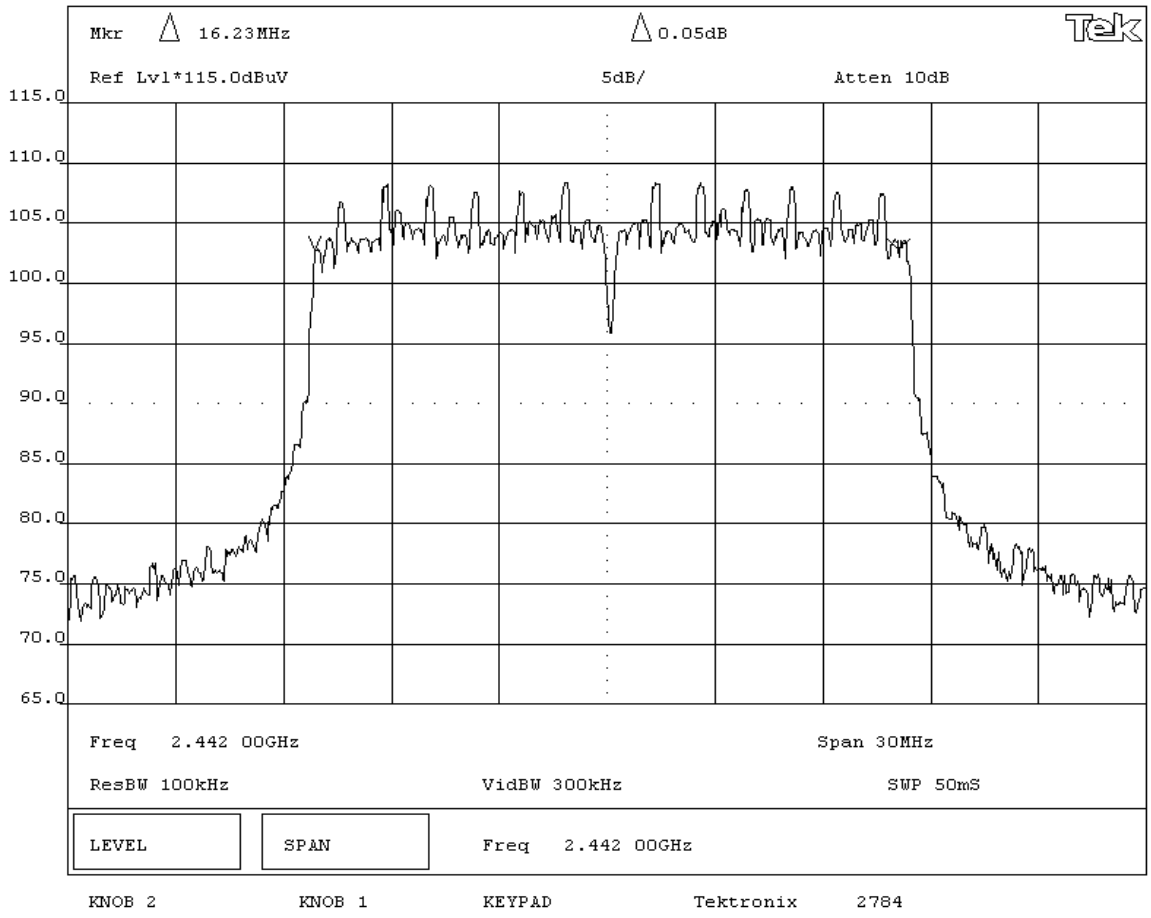
RESULTS	BANDWIDTH
Pass	16.23 MHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Occupied Bandwidth - Mid Channel - 36 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(a)(2)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The minimum 6dB bandwidth is 500KHz

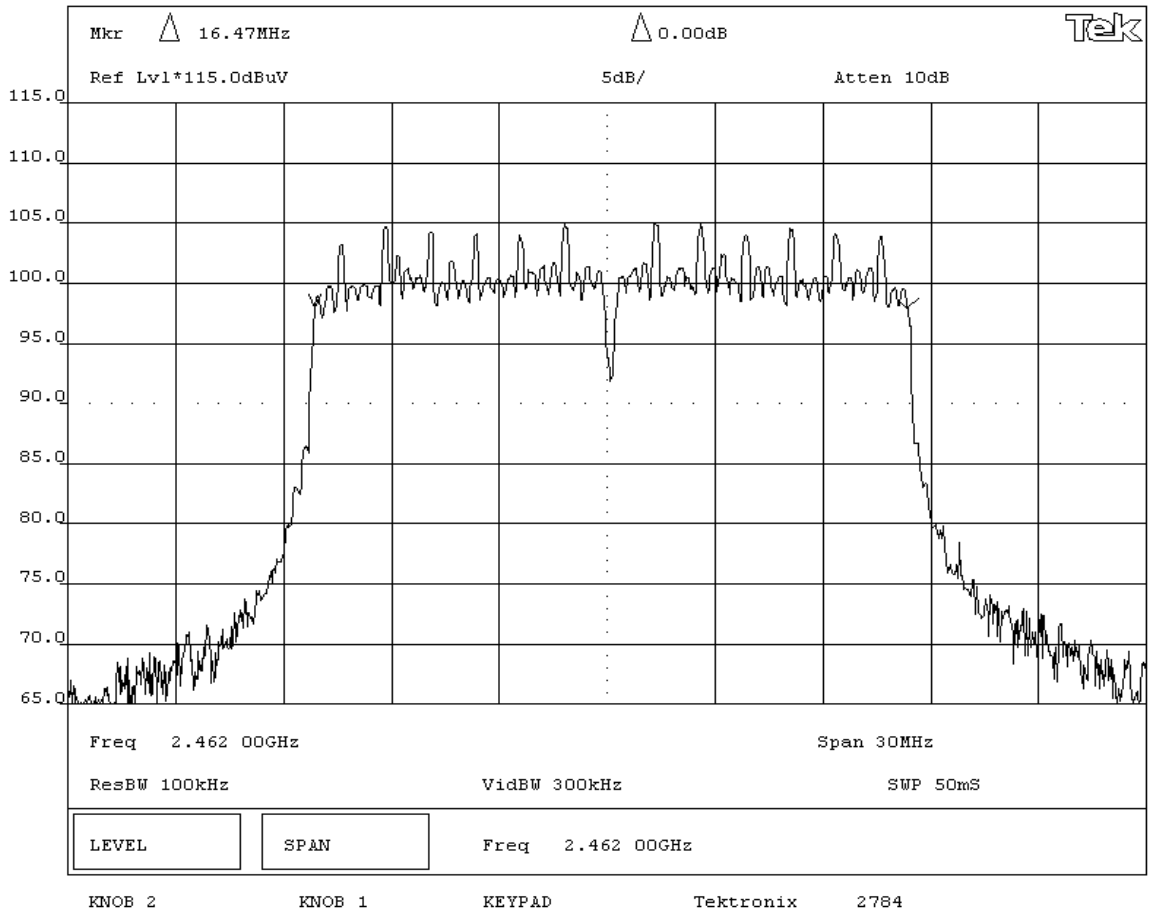
RESULTS	BANDWIDTH
Pass	16.47 MHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Occupied Bandwidth - High Channel - 36 Mbit



NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(a)(2)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The minimum 6dB bandwidth is 500KHz

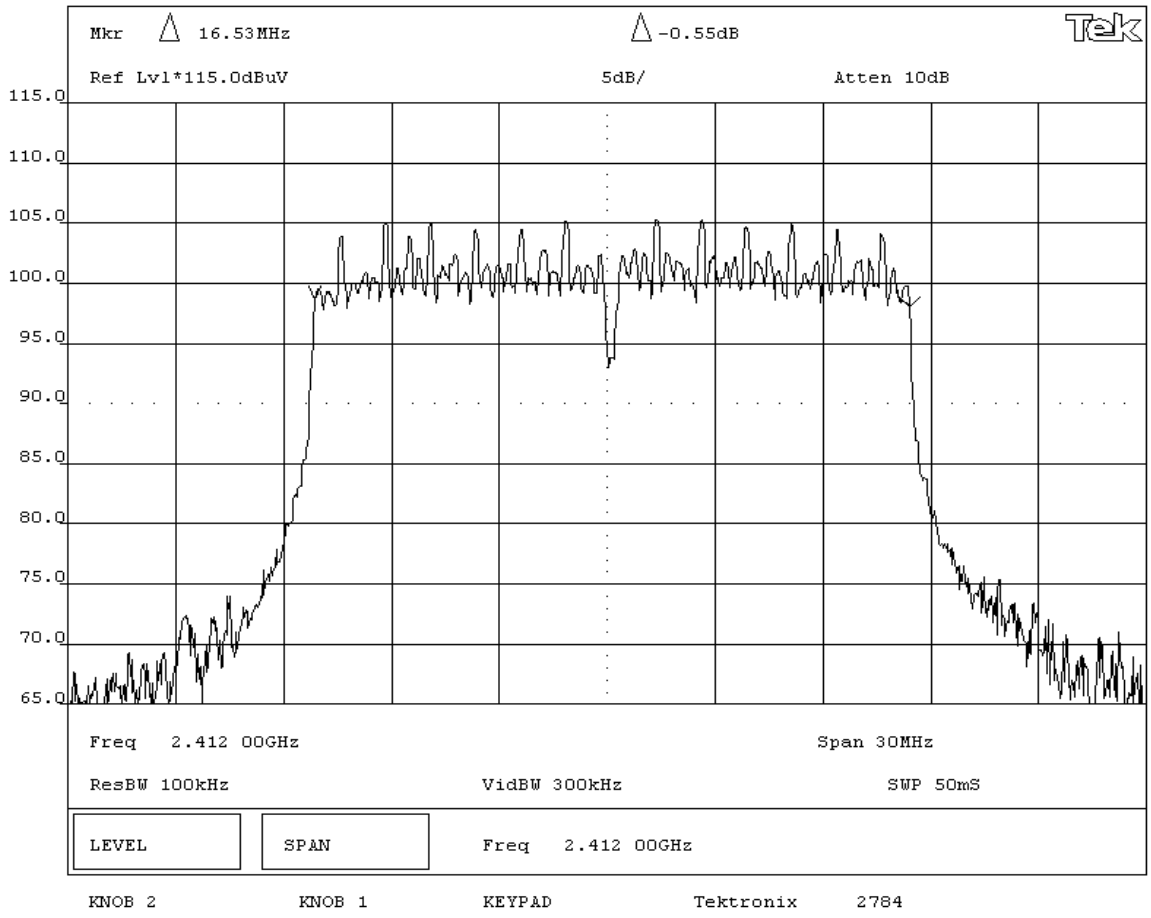
RESULTS	BANDWIDTH
Pass	16.53 MHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Occupied Bandwidth - Low Channel - 54 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(a)(2)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The minimum 6dB bandwidth is 500KHz

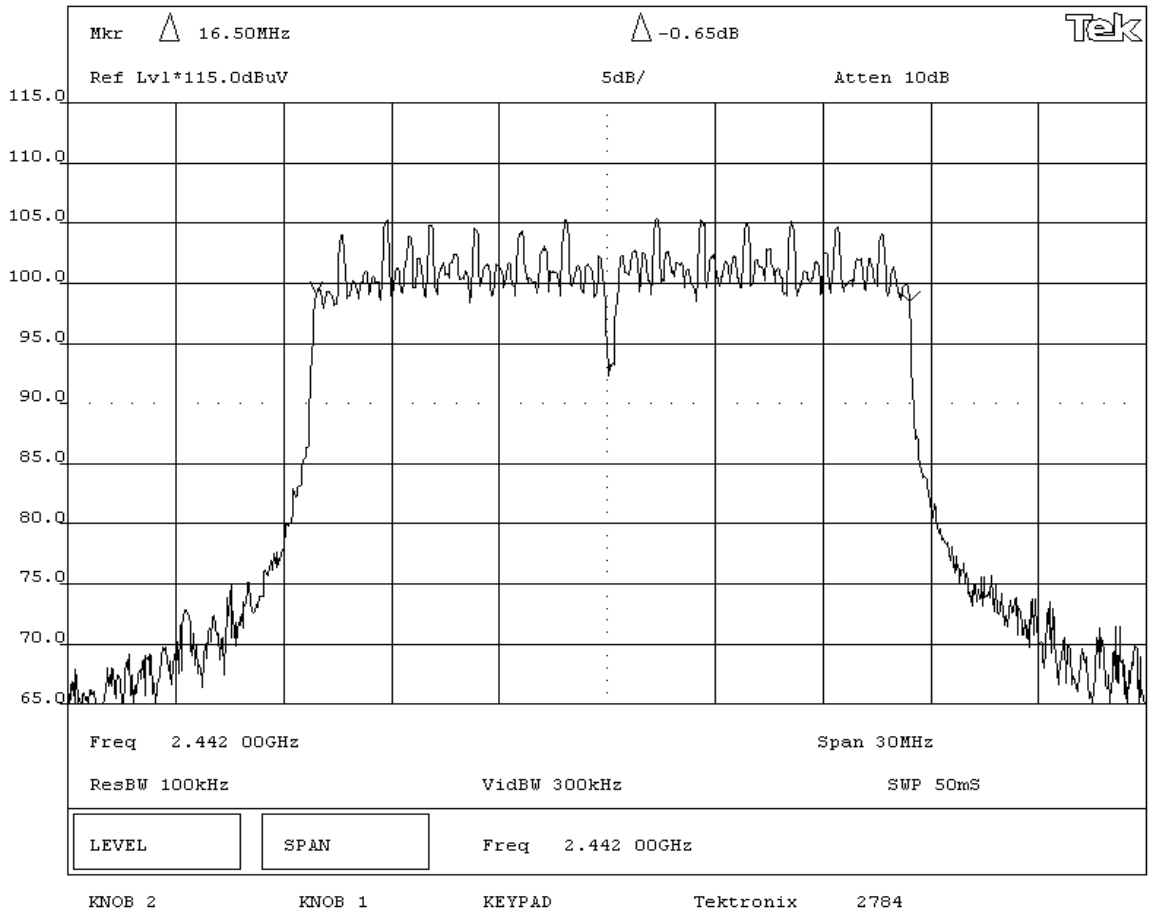
RESULTS	BANDWIDTH
Pass	16.5 MHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Occupied Bandwidth - Mid Channel - 54 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(a)(2)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The minimum 6dB bandwidth is 500KHz

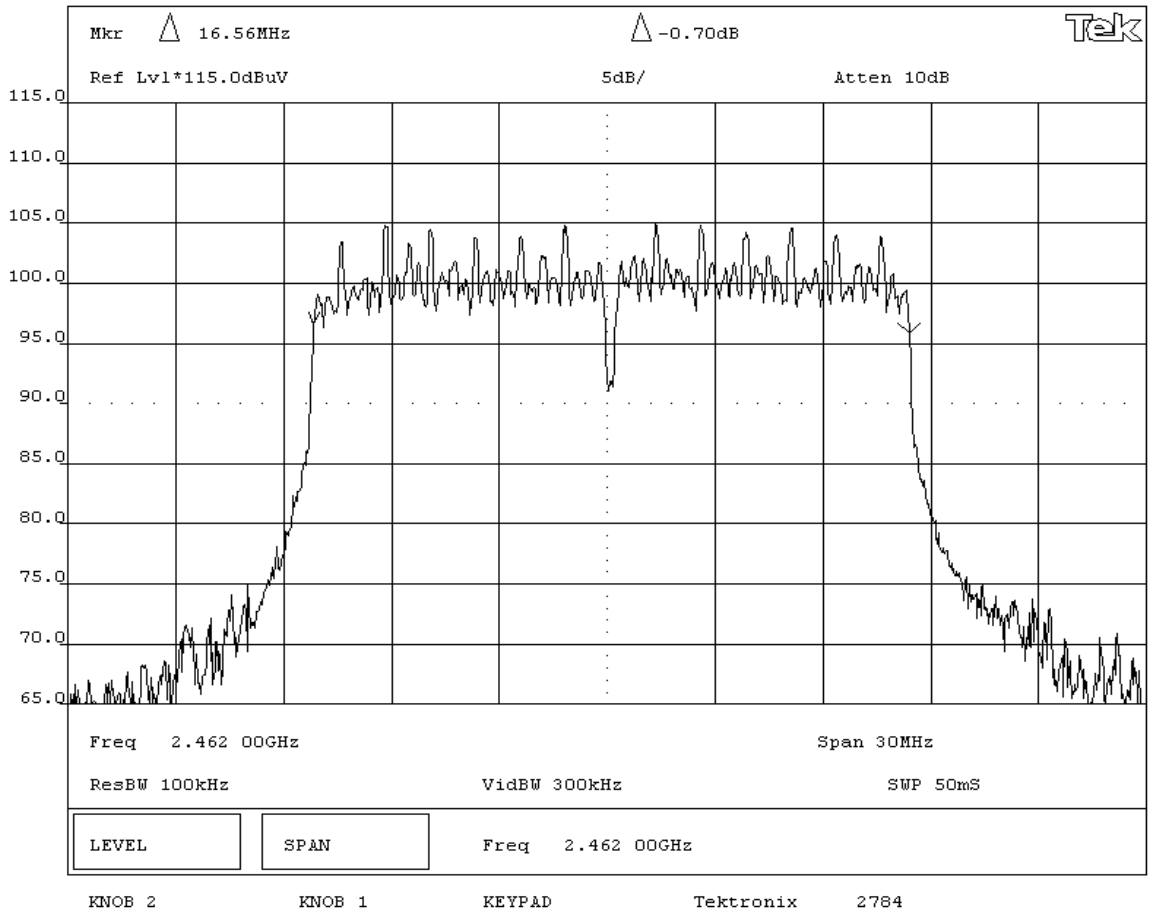
RESULTS	BANDWIDTH
Pass	16.56 MHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Occupied Bandwidth - High Channel - 54 Mbit



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:
802.11(b)
802.11(g)

Data Rates Investigated:
6 Mbit
11 Mbit
36 Mbit
54 Mbit

Output Power Setting(s) Investigated:
Maximum

Power Input Settings Investigated:
Battery

Software\Firmware Applied During Test

Exercise software	FccTest.exe	Version	1/1/1601
Description			
The system was tested using special software developed to test all functions of the device during the test. The software allowed the selection of transmit channel and data rate. These were varied to produce the highest level of emissions. The OS of the host device was Ver. 0.00.00.0072			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
Radio (EUT)	Intermec	802MIG2	C1
Hand Held Scanner (Host for Radio)	Intermec	CK30	C1

Cables

None. No cables were attached to EUT

Measurement Equipment

Description	Manufacturer	Model	Identifier	Last Cal	Interval
RF Detector Diode	RLC Electronics	CR-133-R	ZZA	NCR	NA
Oscilloscope	Tektronix	TDS3052	TOE	07/16/2002	12 mo
Power Meter	Hewlett Packard	E4418A	SPA	06/21/2002	24 mo
Power Sensor	Hewlett-Packard	8481H	SPB	06/21/2002	24 mo
Signal Generator	Hewlett Packard	8341B	TGN	12/20/2002	12 mo

Test Description

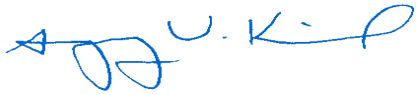
Requirement: Per 47 CFR 15.247(b)(3), the maximum peak output power must not exceed 1 Watt.

Configuration: The peak output power was measured with the EUT set to low, medium, and high transmit frequencies. The EUT was transmitting at its maximum output power. The data rate of the radio was varied to determine the level that produced the highest output power.

The measurement was made using a direct connection between the RF output of the EUT and a RF detector diode. The DC output of the diode was measured with the oscilloscope. The signal generator, tuned to the transmit frequency, was then substituted for the EUT. The CW output of the signal generator was adjusted until the DC output of the RF detector diode match the peak level produced when connected to the EUT. To further reduce measurement error, the power meter and sensor were then used to measure the output power level of the signal generator.

De Facto EIRP Limit: Per 47 CFR 15.247 (b)(1-3), the EUT meets the de facto EIRP limit of +36dBm.

Completed by:



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NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/24/03
Customer:	Intermec Corporation			Temperature:	75 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	37% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(b)(3)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, at maximum output power. 802.11(b) modulation scheme. No change in output power noted at lower data rates

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum peak conducted output power does not exceed 1 Watt

RESULTS	AMPLITUDE
Pass	54.1 mW

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Output Power - Low, Mid, & High Channels

Frequency (MHz)	Power (mW)
2412	17.0
2442	54.1
2462	12.5

NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/24/03
Customer:	Intermec Corporation			Temperature:	75 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	37% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(b)(3)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, at maximum output power. 802.11(g) modulation scheme.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum peak conducted output power does not exceed 1 Watt

RESULTS	AMPLITUDE
Pass	47.7 mW

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Output Power - Low, Mid, & High Channels

Data Rate = 6 Mbit

Frequency (MHz)	Power (mW)
2412	16.1
2442	47.7
2462	11.5

Data Rate = 36 Mbit

Frequency (MHz)	Power (mW)
2412	14.9
2442	27.5
2462	12.4

Data Rate = 54 Mbit

Frequency (MHz)	Power (mW)
2412	12.4
2442	12.2
2462	12.4

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
Low

Operating Modes Investigated:
802.11(b)
802.11(g)

Data Rates Investigated:
6 Mbit
11 Mbit
36 Mbit
54 Mbit

Output Power Setting(s) Investigated:
Maximum

Power Input Settings Investigated:
Battery

Software\Firmware Applied During Test			
Exercise software	FccTest.exe	Version	1/1/1601
Description			
The system was tested using special software developed to test all functions of the device during the test. The software allowed the selection of transmit channel and data rate. These were varied to produce the highest level of emissions. The OS of the host device was Ver. 0.00.00.0072			

Band Edge Compliance of RF Conducted Emissions

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
Radio (EUT)	Intermec	802MIG2	C1
Hand Held Scanner (Host for Radio)	Intermec	CK30	C1

Cables

None. No cables were attached to EUT

Measurement Equipment

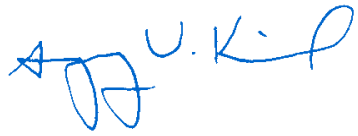
Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Tektronix	2784	AAO	02/26/2003	24 mo

Test Description

Requirement: Per 47 CFR 15.247(c), in any 100 kHz bandwidth outside the authorized band, the maximum level of radio frequency power must be at least 20dB down from the highest emission level within the authorized band. The measurement is made with the spectrum analyzer's resolution bandwidth set to 100 kHz, and the video bandwidth set to greater than or equal to the resolution bandwidth.

Configuration: The spurious RF conducted emissions at the edges of the authorized band were measured with the EUT set to low and high transmit frequencies. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its maximum data rate using direct sequence modulation. The channels closest to the band edges were selected. The spectrum was scanned across each band edge from 25 MHz below the band edge to 25 MHz above the band edge.

Completed by:



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NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission at the edge of the authorized band is 20 dB down from the fundamental

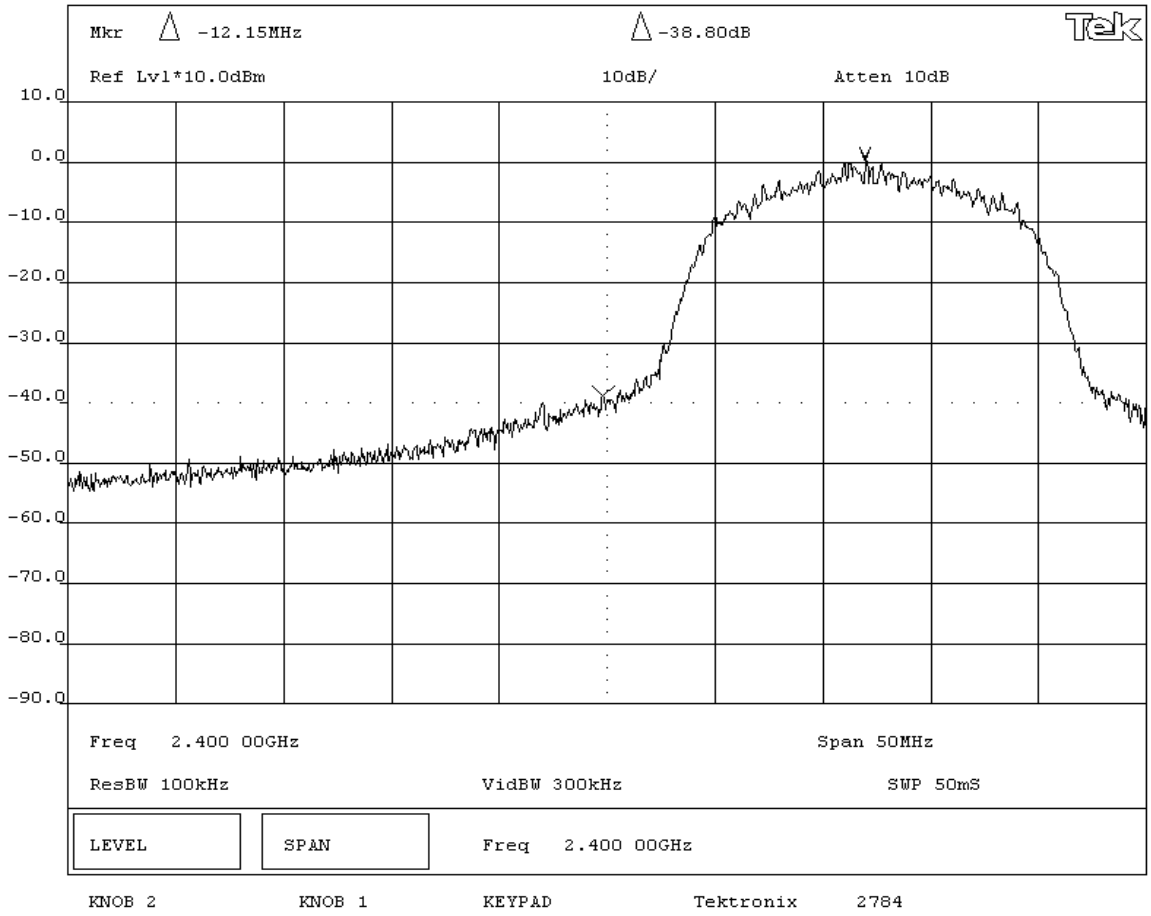
RESULTS	AMPLITUDE
Pass	-38.8 dB

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Band Edge Compliance - Low Channel



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission at the edge of the authorized band is 20 dB down from the fundamental

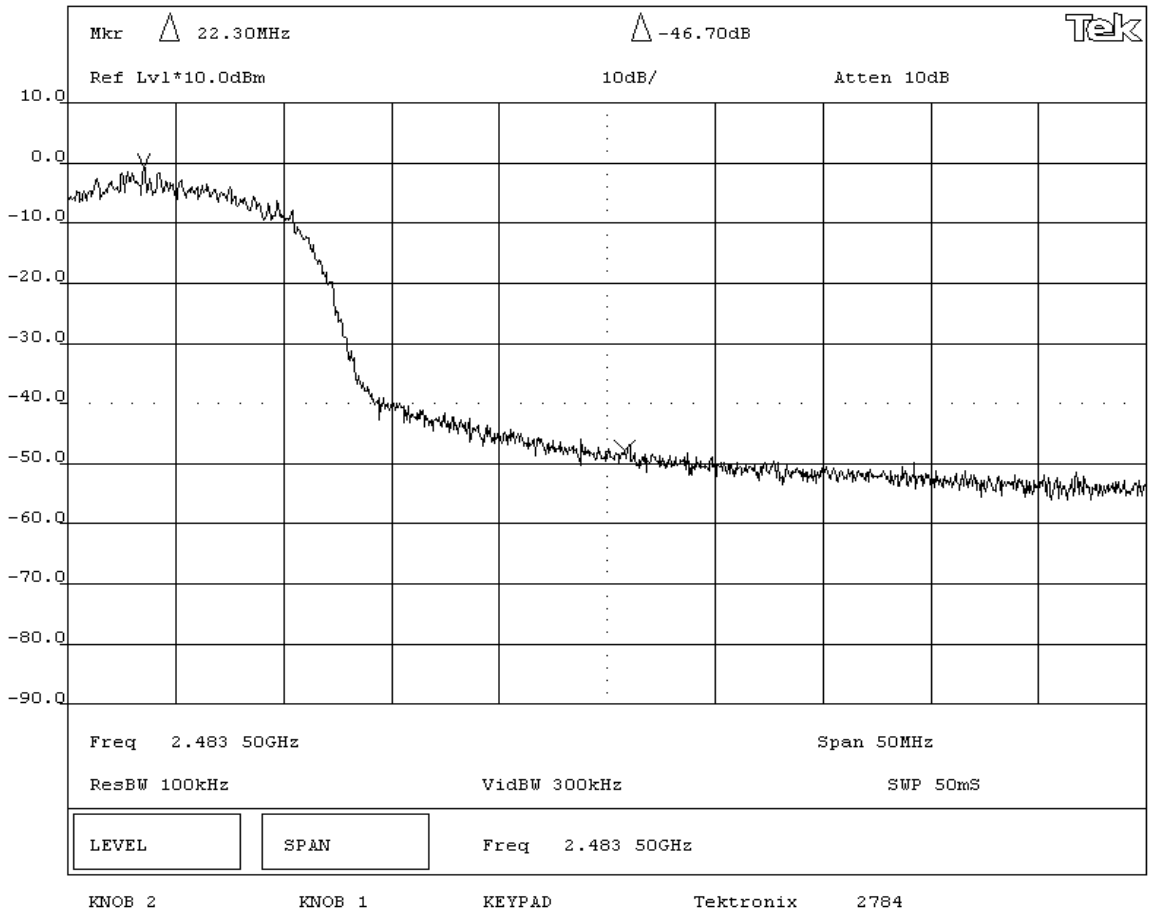
RESULTS	AMPLITUDE
Pass	-46.7 dB

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Band Edge Compliance - High Channel



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2	Work Order:	INMC0081
Serial Number:	C1	Date:	06/25/03
Customer:	Intermec Corporation	Temperature:	77 degrees F
Attendees:	C.D. White	Tested by: Greg Kiemel	Humidity: 38% RH
Customer Ref. No.:	N/A	Power: DC from Host Unit	Job Site: EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year: Most Current	Method:	FCC 97-114, ANSI C63.4	Year: 1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission at the edge of the authorized band is 20 dB down from the fundamental

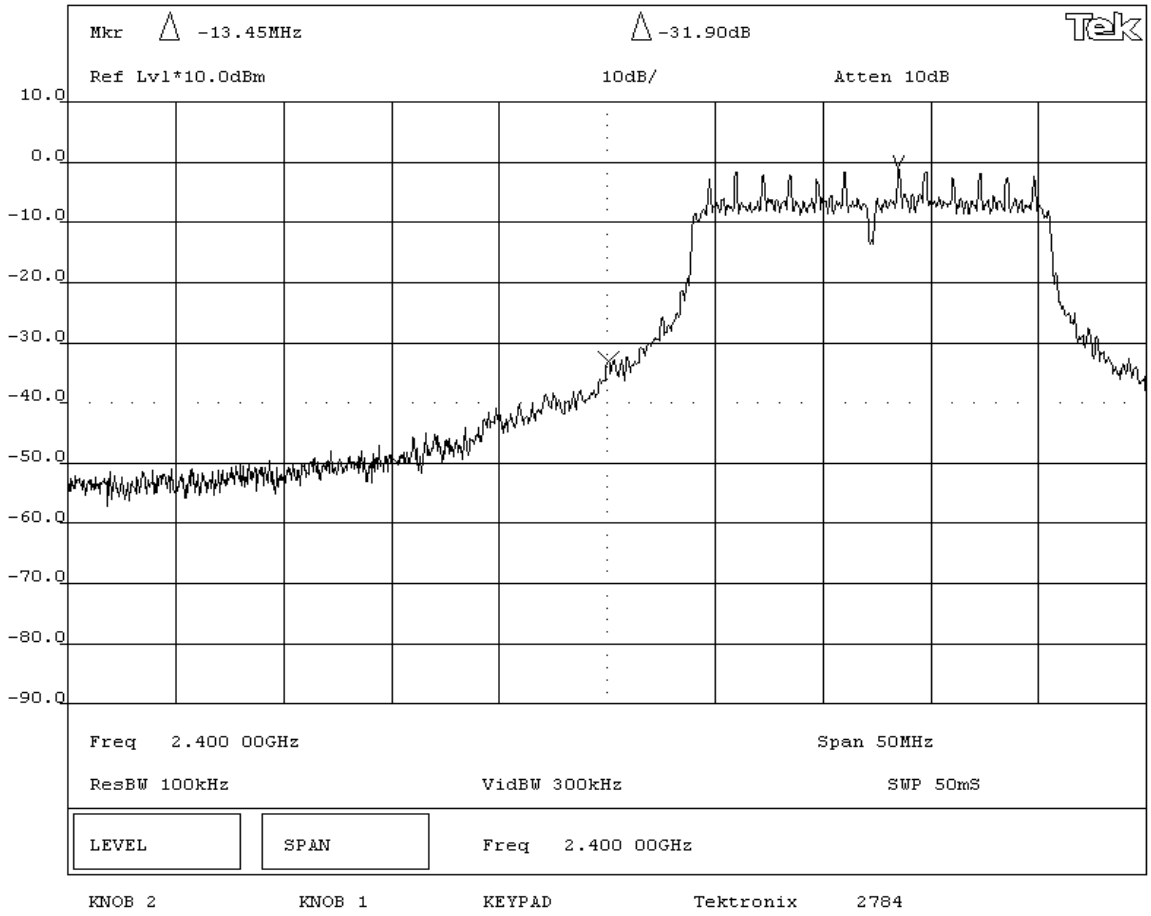
RESULTS	AMPLITUDE
Pass	-31.9 dB

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Band Edge Compliance - Low Channel - 6 Mbit



NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission at the edge of the authorized band is 20 dB down from the fundamental

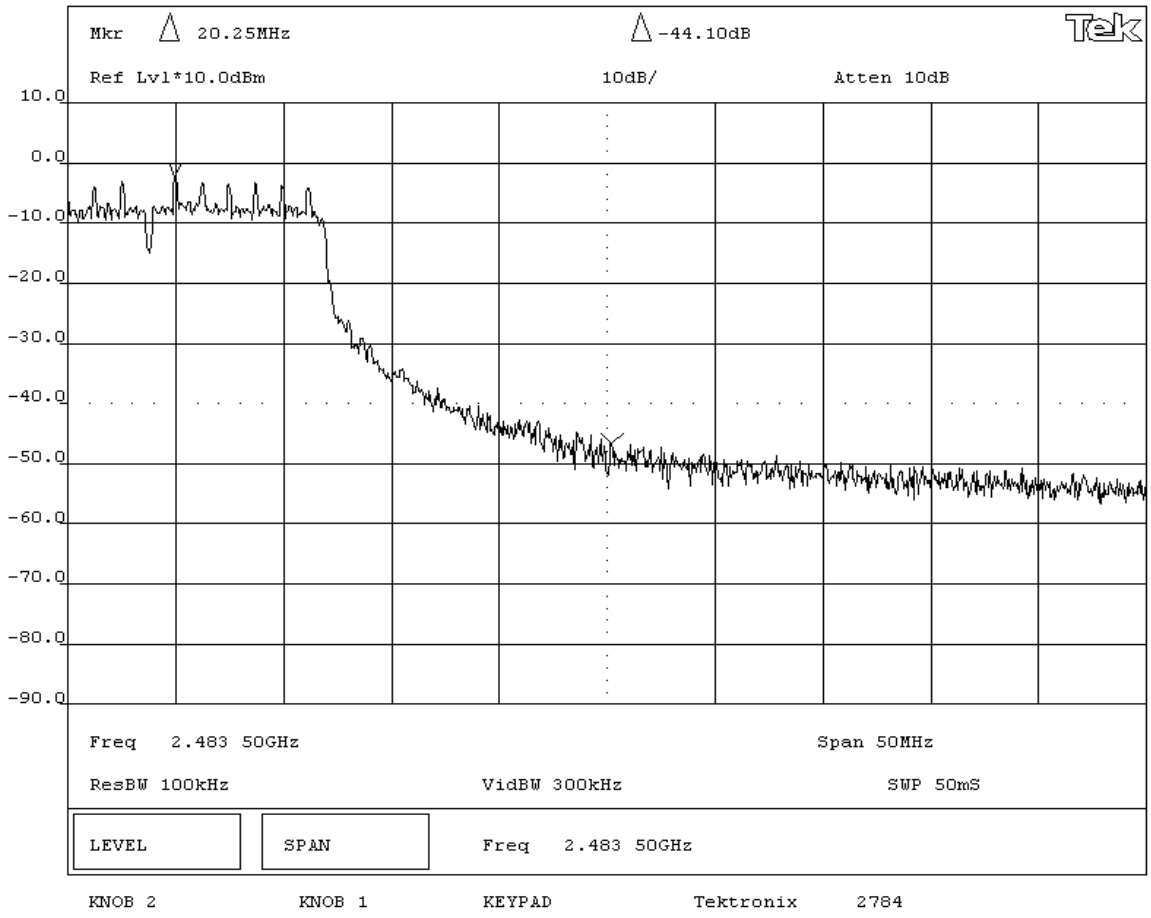
RESULTS	AMPLITUDE
Pass	-44.1 dB

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Band Edge Compliance - High Channel - 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission at the edge of the authorized band is 20 dB down from the fundamental

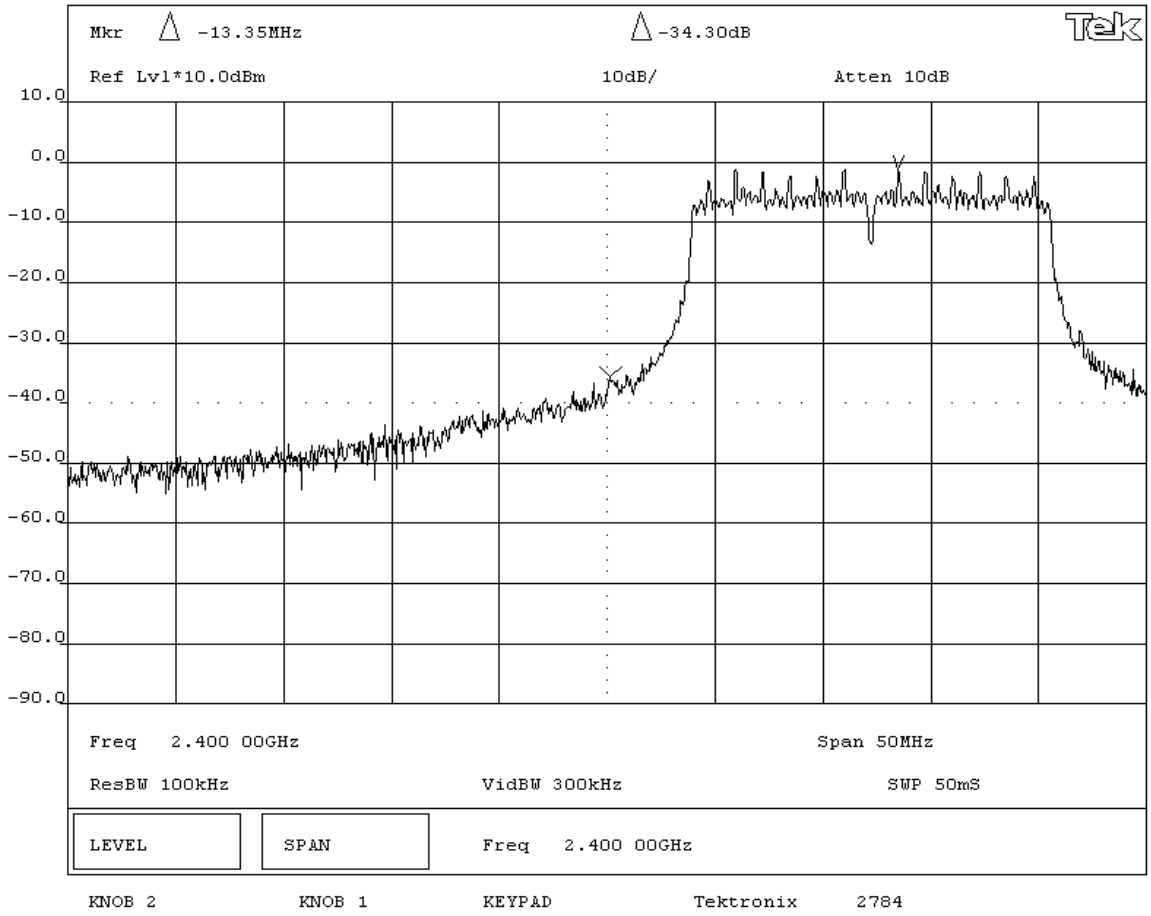
RESULTS	AMPLITUDE
Pass	-34.3 dB

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Band Edge Compliance - Low Channel - 36 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission at the edge of the authorized band is 20 dB down from the fundamental

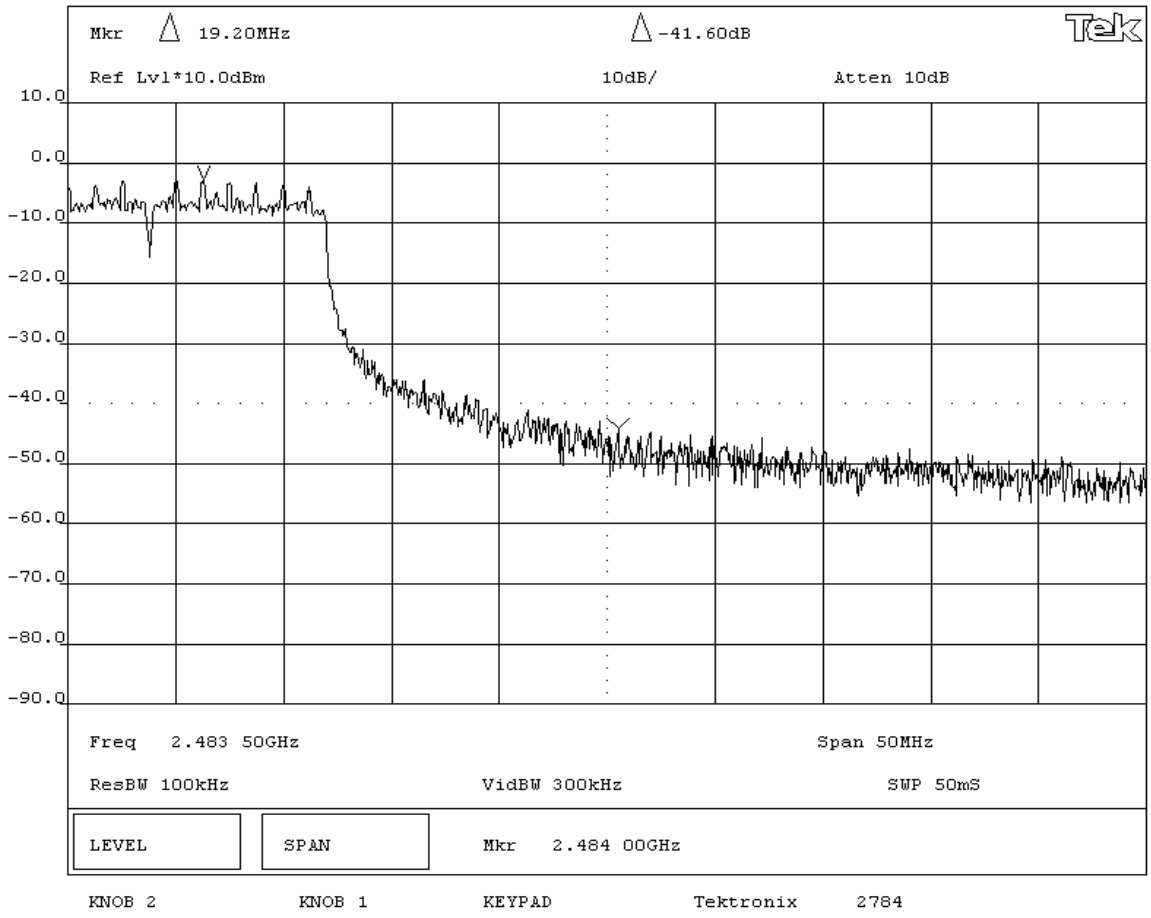
RESULTS	AMPLITUDE
Pass	-41.6 dB

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Band Edge Compliance - High Channel - 36 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission at the edge of the authorized band is 20 dB down from the fundamental

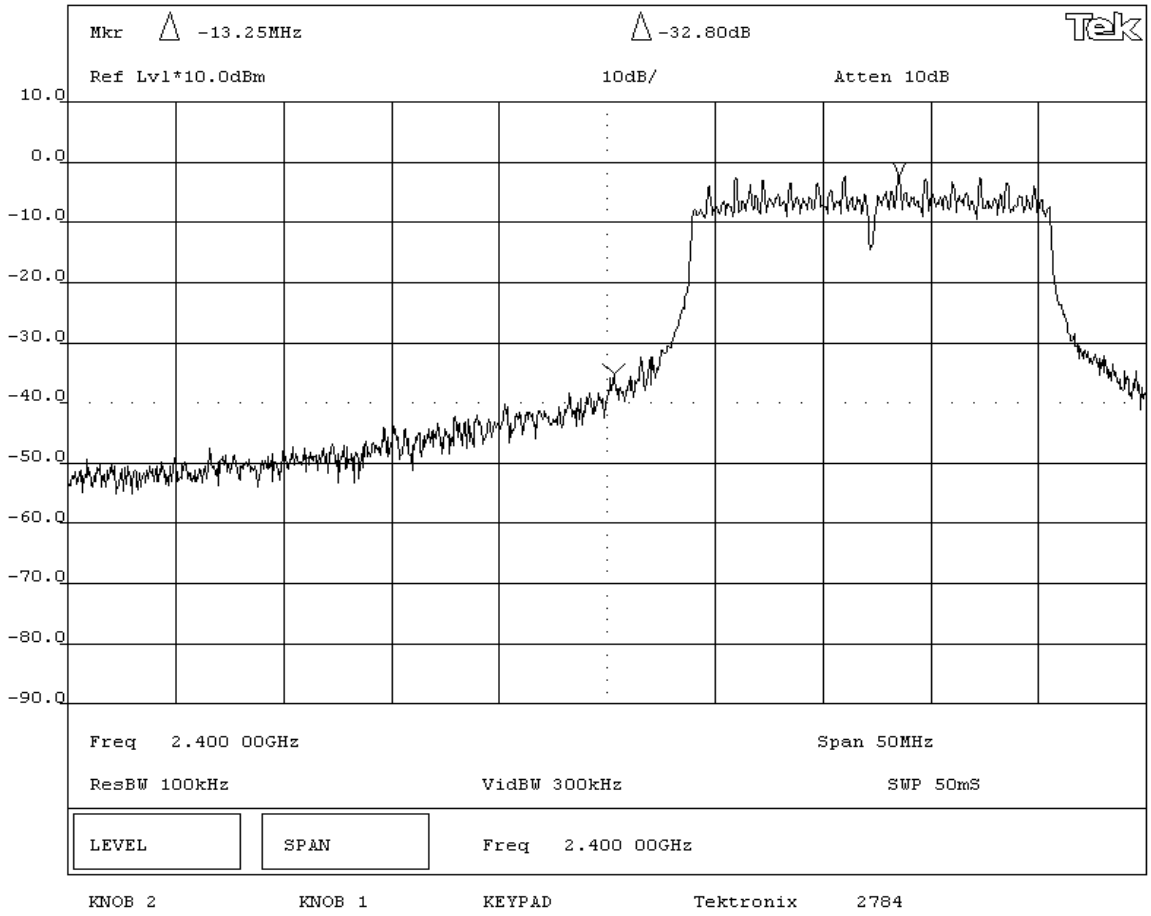
RESULTS	AMPLITUDE
Pass	-32.8 dB

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Band Edge Compliance - Low Channel - 54 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission at the edge of the authorized band is 20 dB down from the fundamental

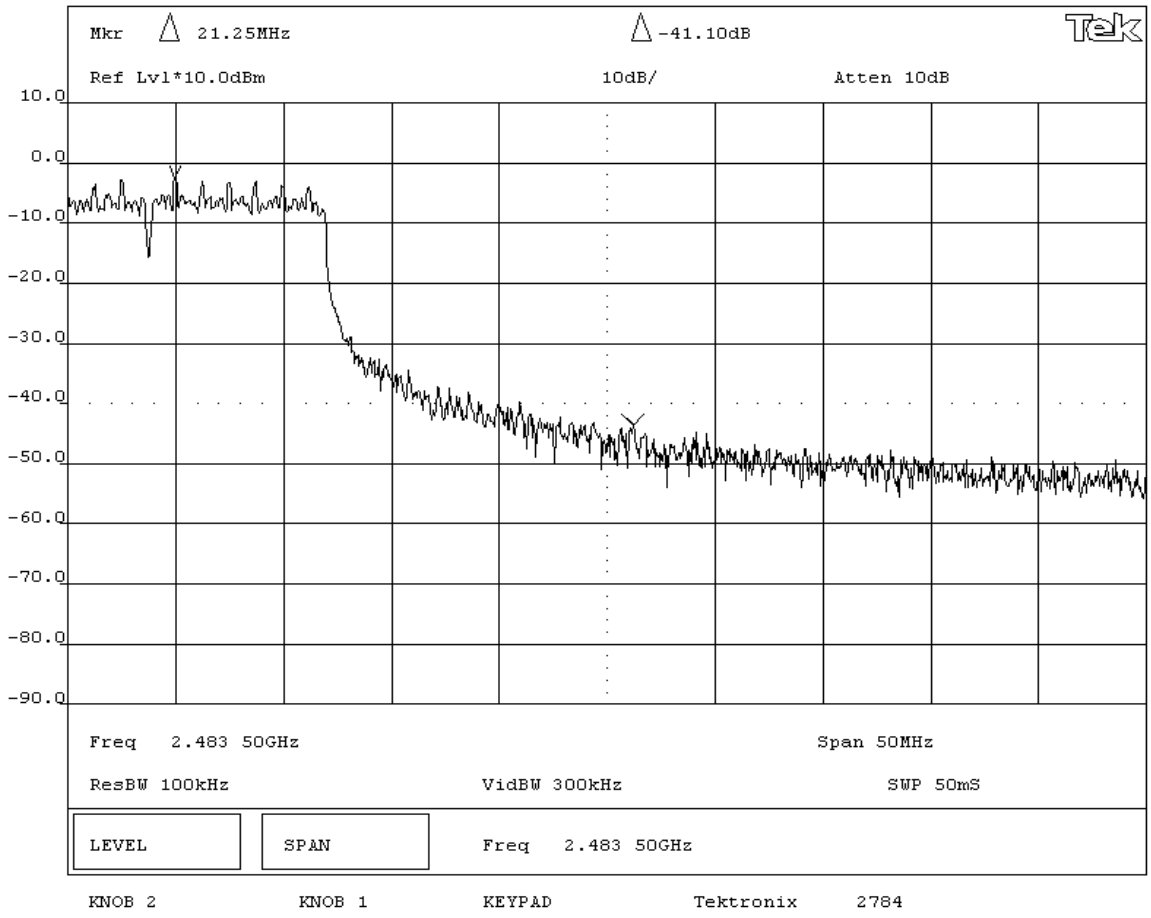
RESULTS	AMPLITUDE
Pass	-41.1 dB

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Band Edge Compliance - High Channel - 54 Mbit



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:
802.11(b)
802.11(g)

Data Rates Investigated:
6 Mbit
11 Mbit
36 Mbit
54 Mbit

Output Power Setting(s) Investigated:
Maximum

Power Input Settings Investigated:
Battery

Frequency Range Investigated			
Start Frequency	0 MHz	Stop Frequency	25 GHz

Software\Firmware Applied During Test			
Exercise software	FccTest.exe	Version	1/1/1601
Description			
The system was tested using special software developed to test all functions of the device during the test. The software allowed the selection of transmit channel and data rate. These were varied to produce the highest level of emissions. The OS of the host device was Ver. 0.00.00.0072			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
Radio (EUT)	Intermec	802MIG2	C1
Hand Held Scanner (Host for Radio)	Intermec	CK30	C1

Cables

None. No cables were attached to EUT

Measurement Equipment

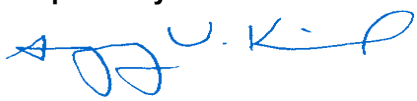
Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Tektronix	2784	AAO	02/26/2003	24 mo

Test Description

Requirement: Per 47 CFR 15.247(c), in any 100 kHz bandwidth outside the authorized band, the maximum level of radio frequency power must be at least 20dB down from the highest emission level within the authorized band. The measurement is made with the spectrum analyzer's resolution bandwidth set to 100 kHz, and the video bandwidth set to greater than or equal to the resolution bandwidth.

Configuration: The spurious RF conducted emissions were measured with the EUT set to low, medium, and high transmit frequencies. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its maximum data rate using direct sequence modulation. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.

Completed by:



_____

NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

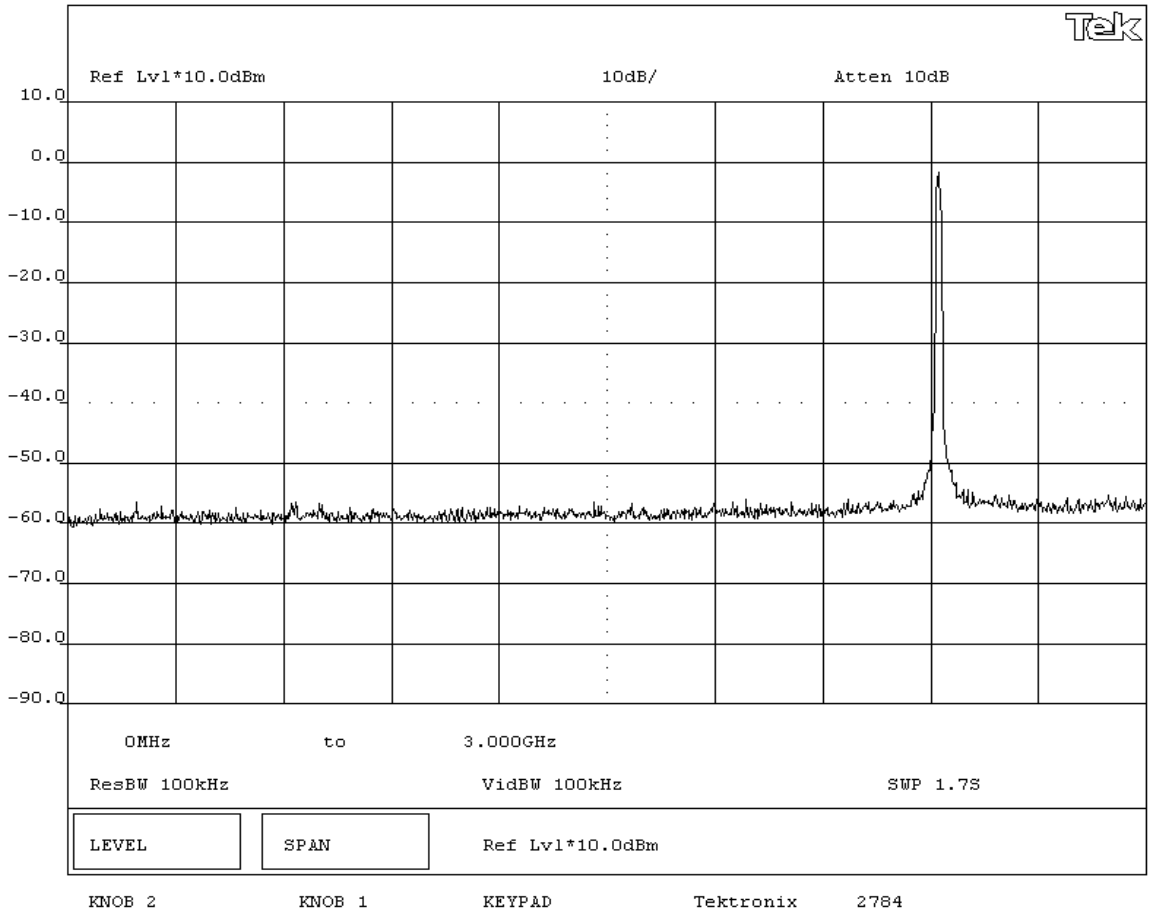
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 0MHz-3GHz



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

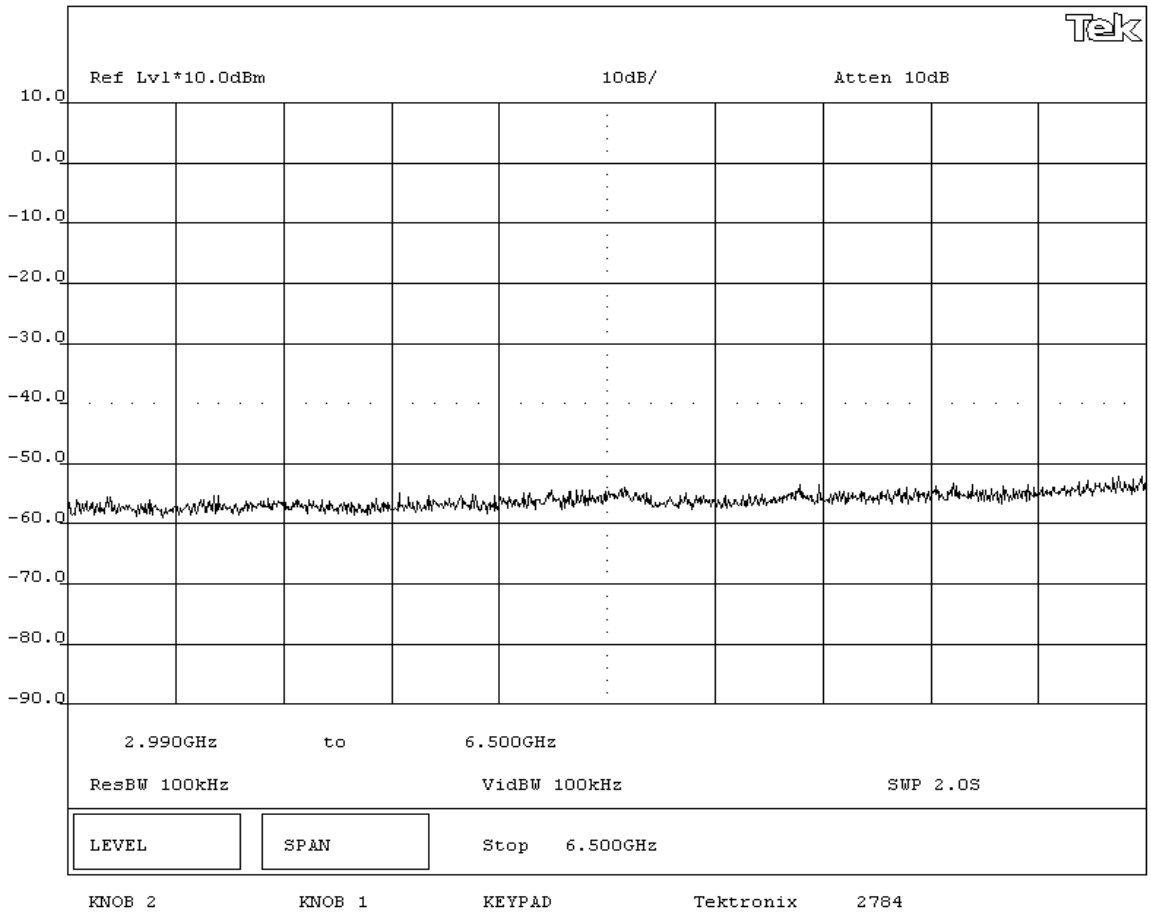
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 3GHz-6.5GHz



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

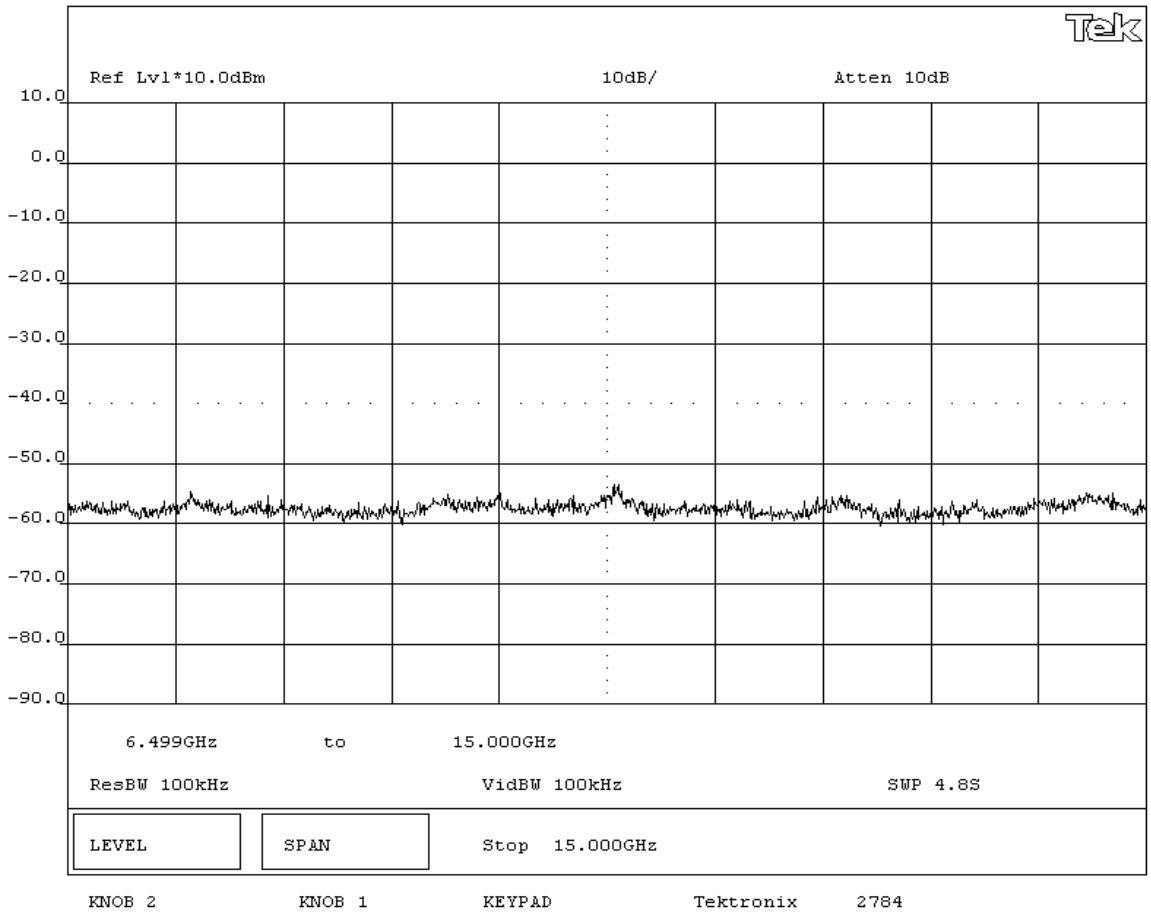
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 6.5GHz-15GHz



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

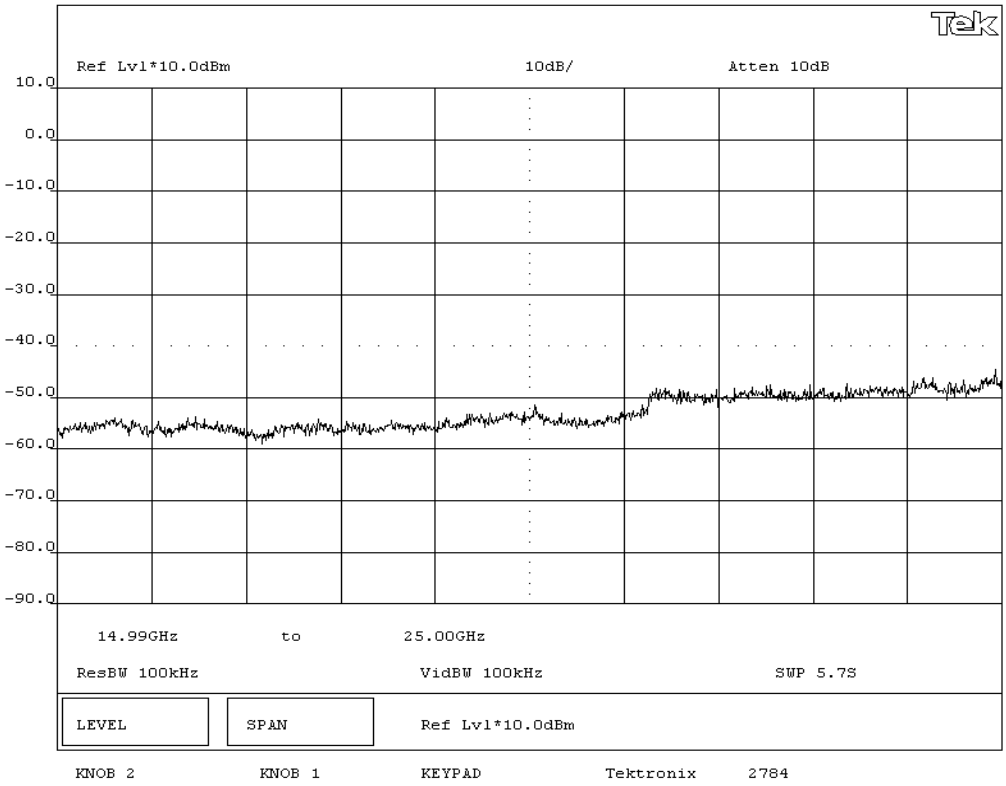
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 15GHz - 25GHz



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

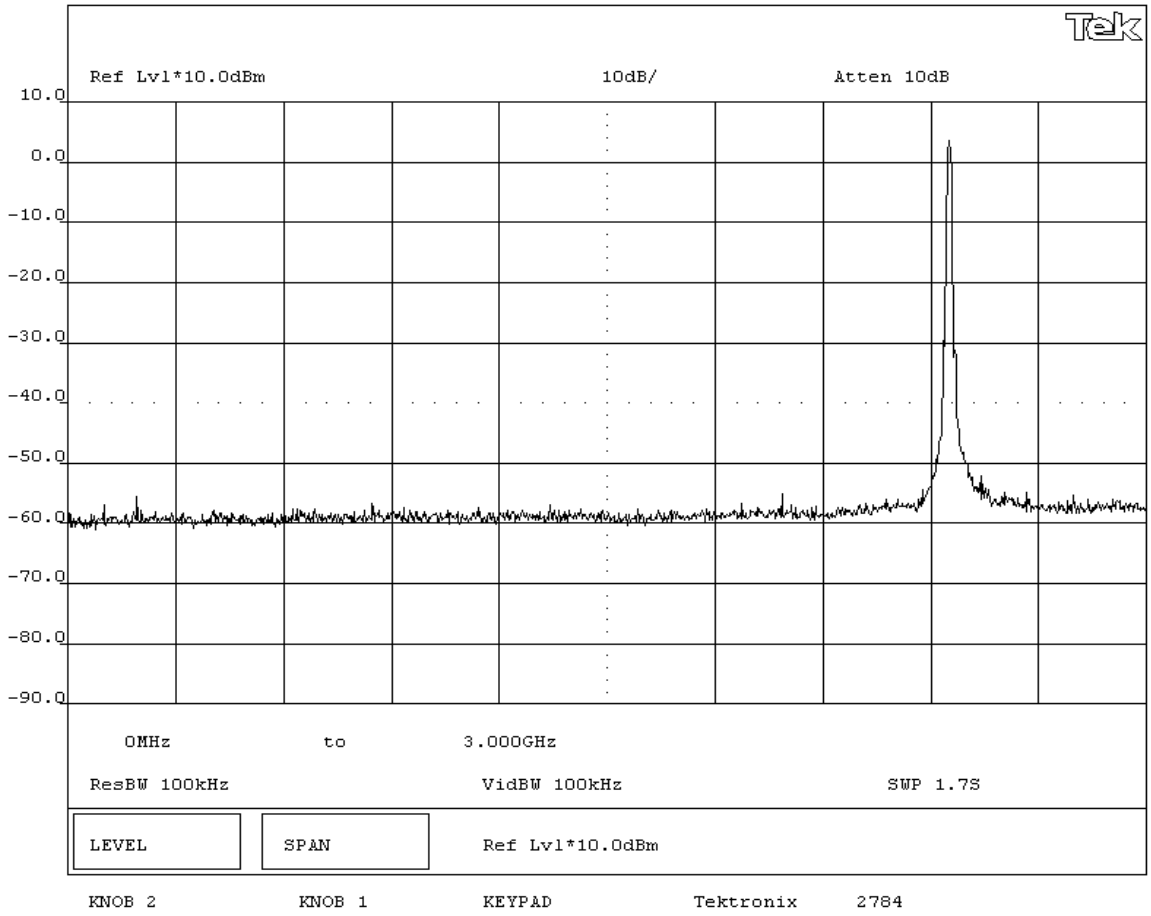
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 0MHz-3GHz



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

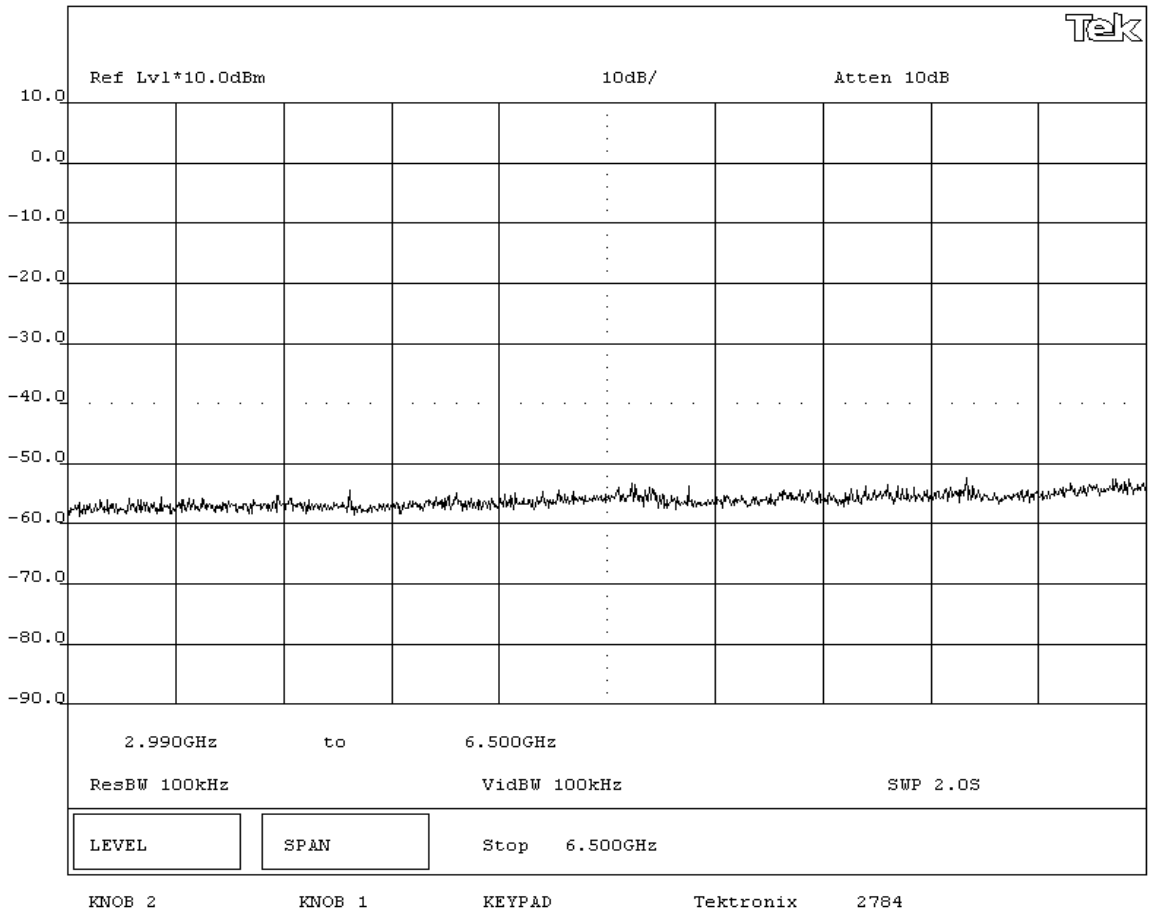
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 3GHz-6.5GHz



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

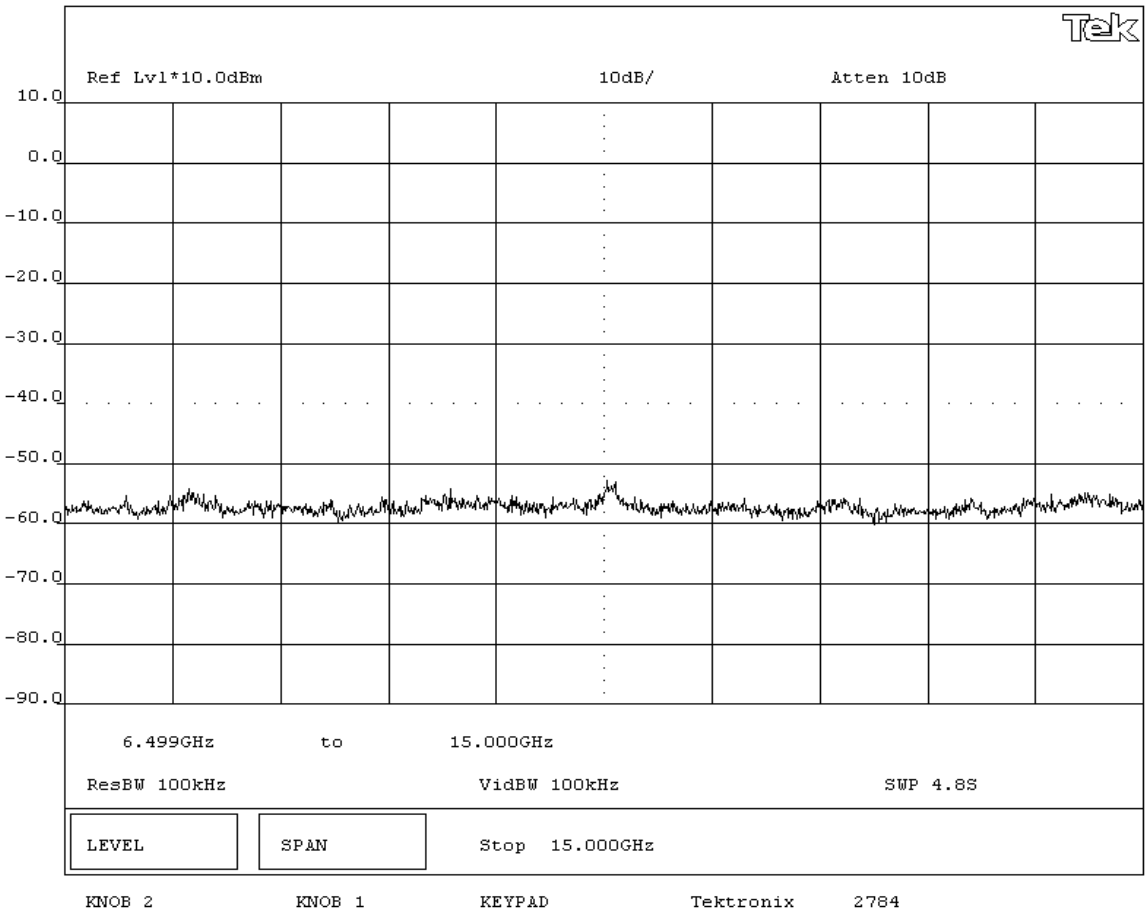
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 6.5GHz-15GHz



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

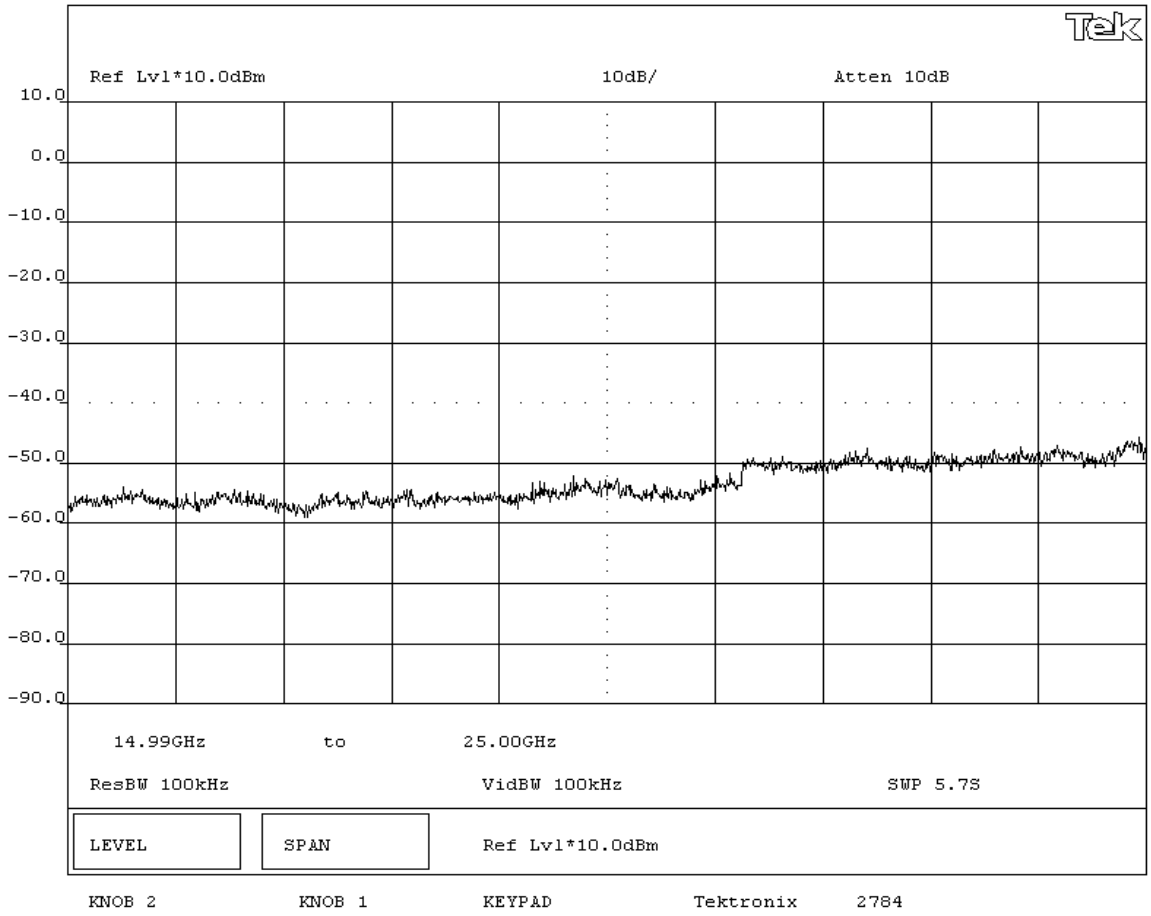
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 15GHz-25GHz



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

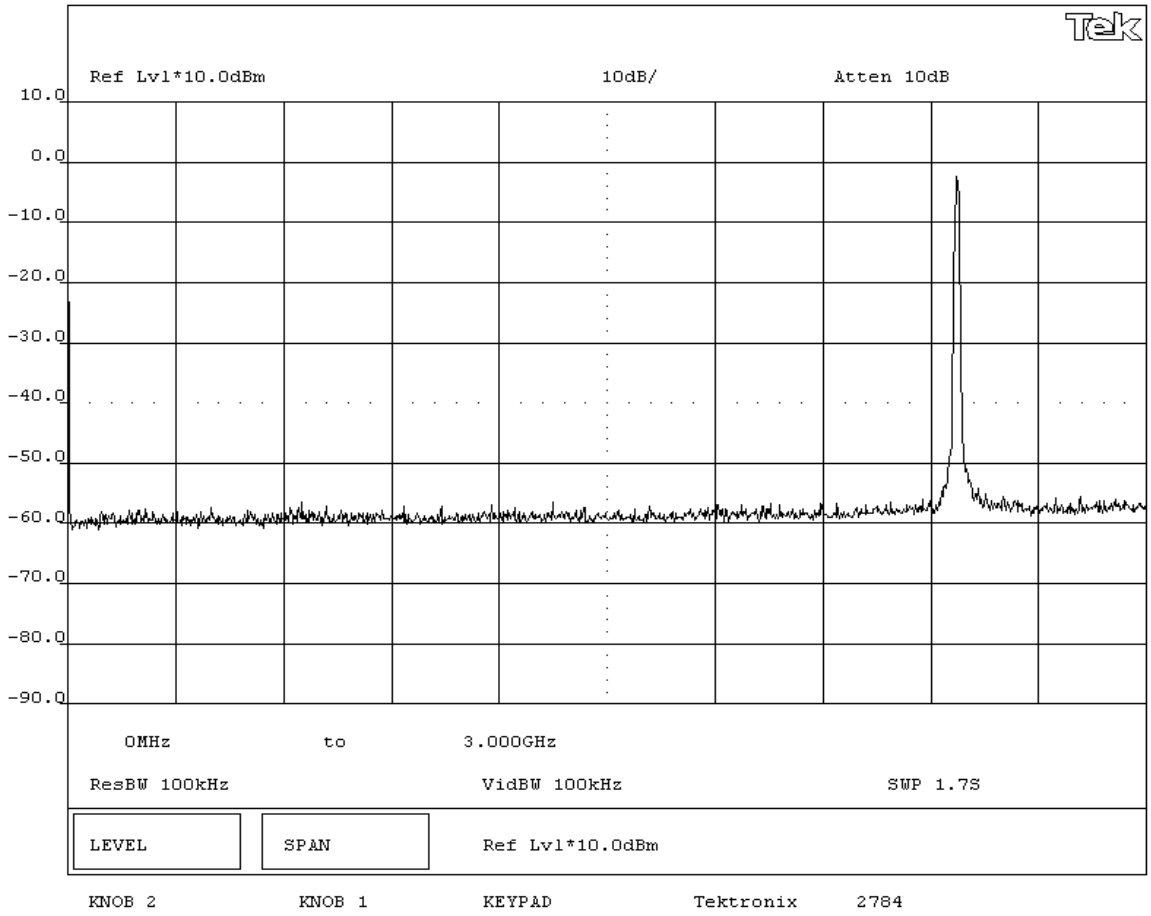
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 0MHz-3GHz



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

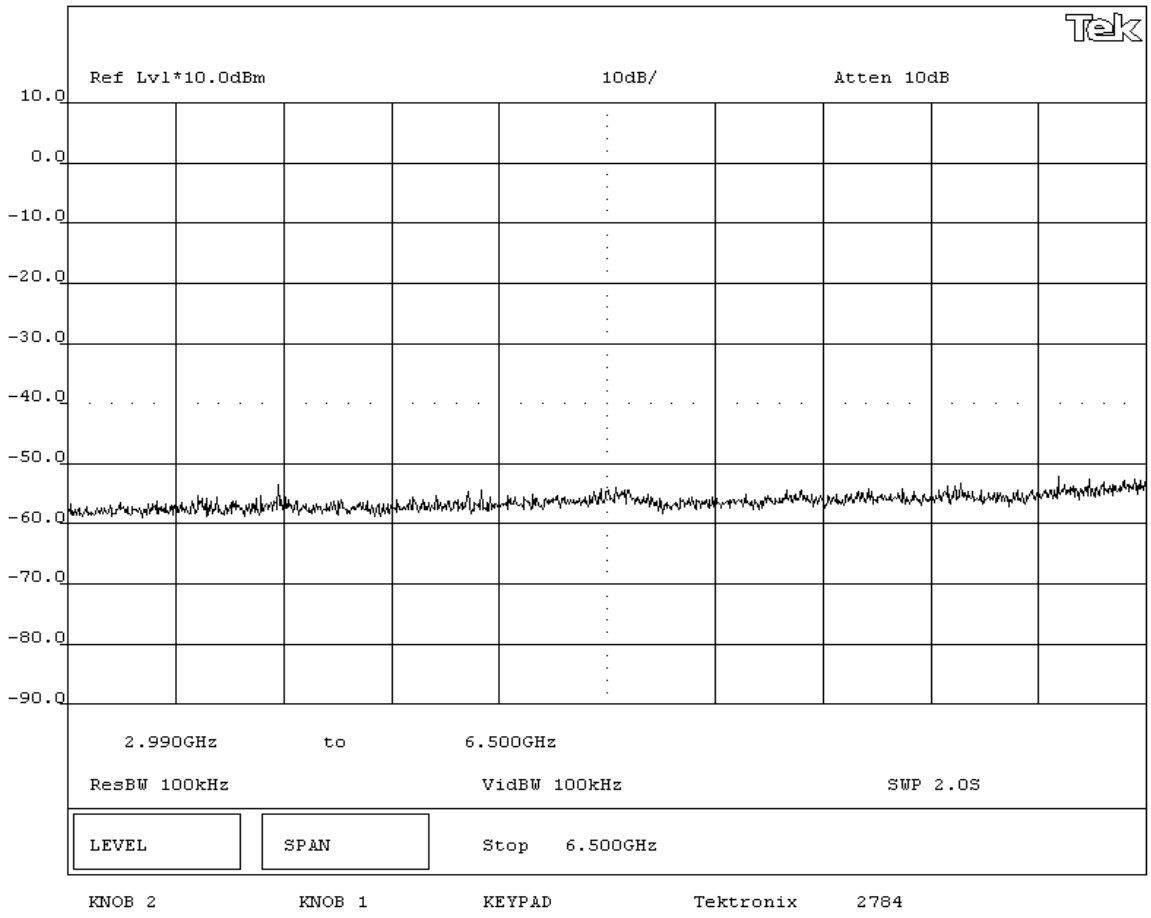
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 3GHz-6.5GHz



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

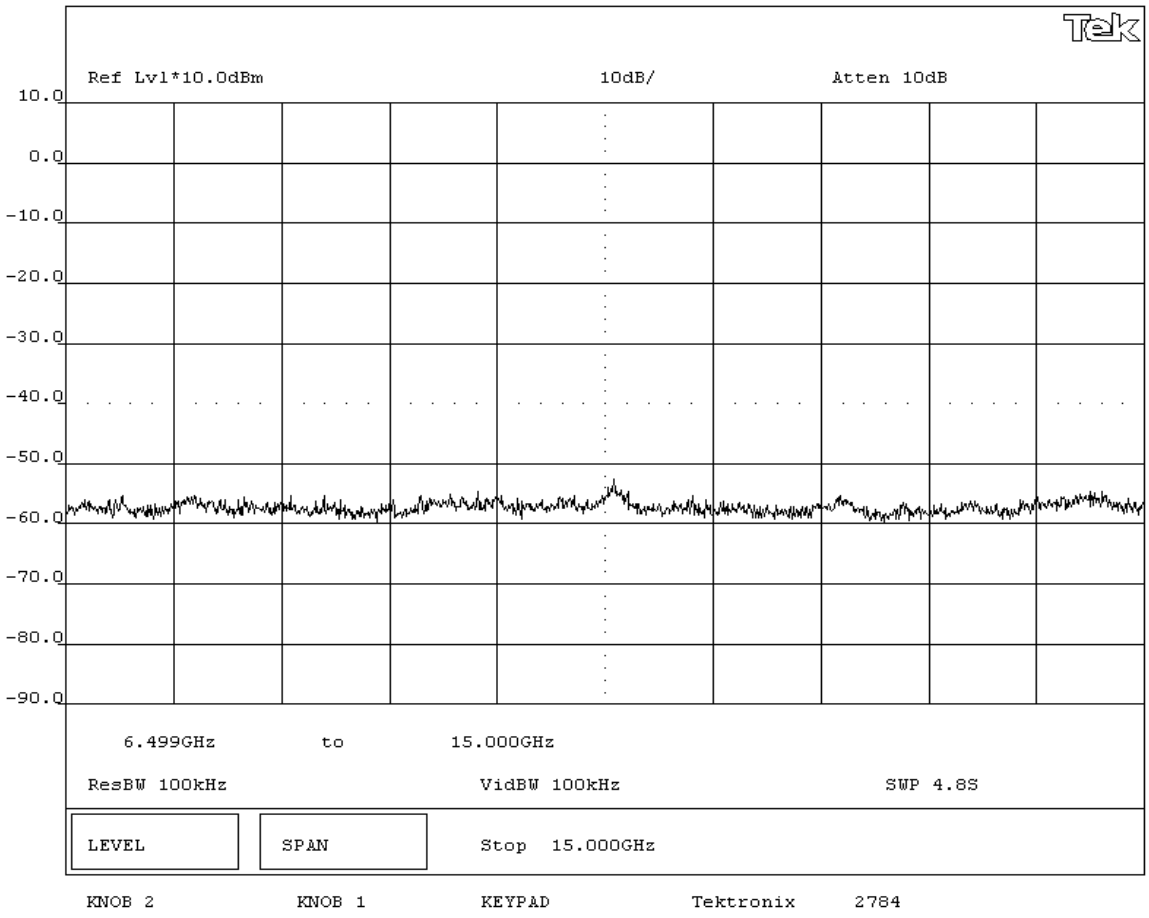
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 6.5GHz-15GHz



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

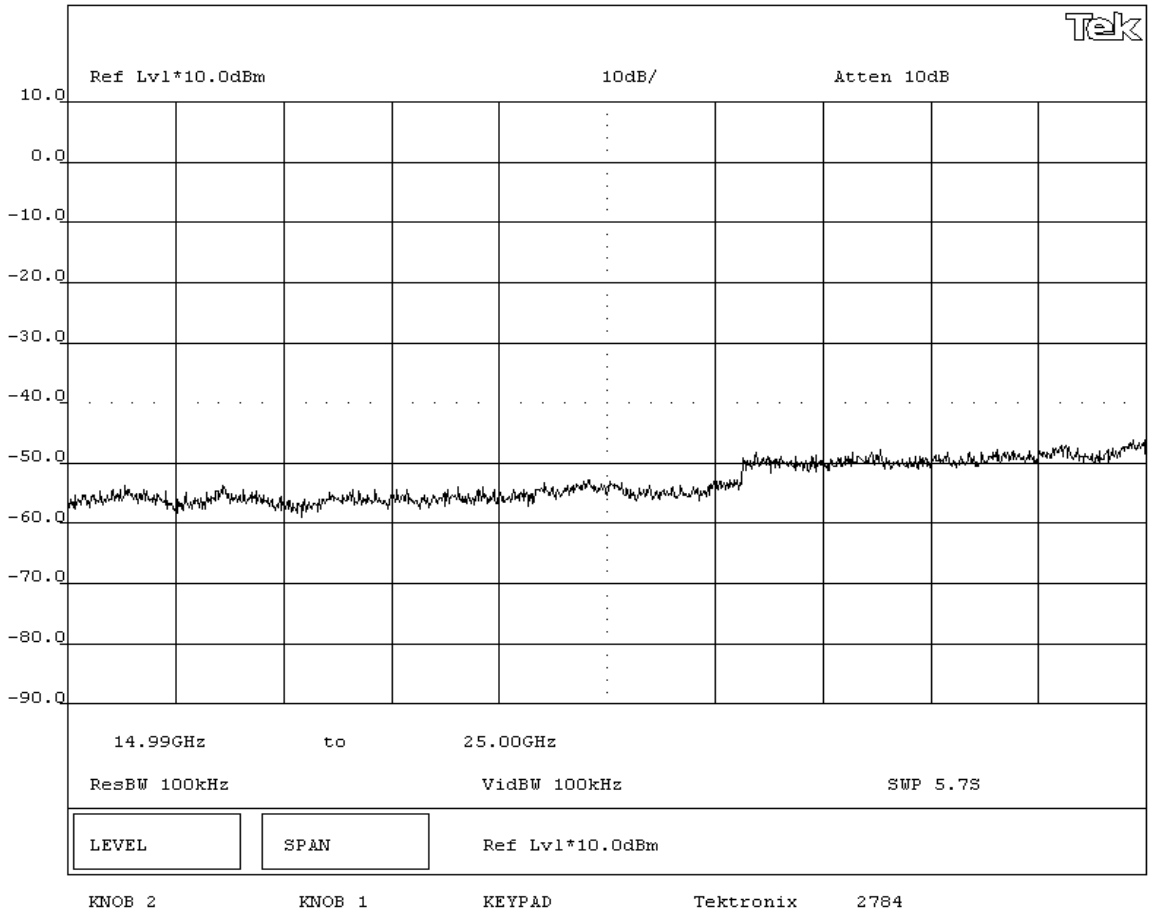
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 15GHz-25GHz



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

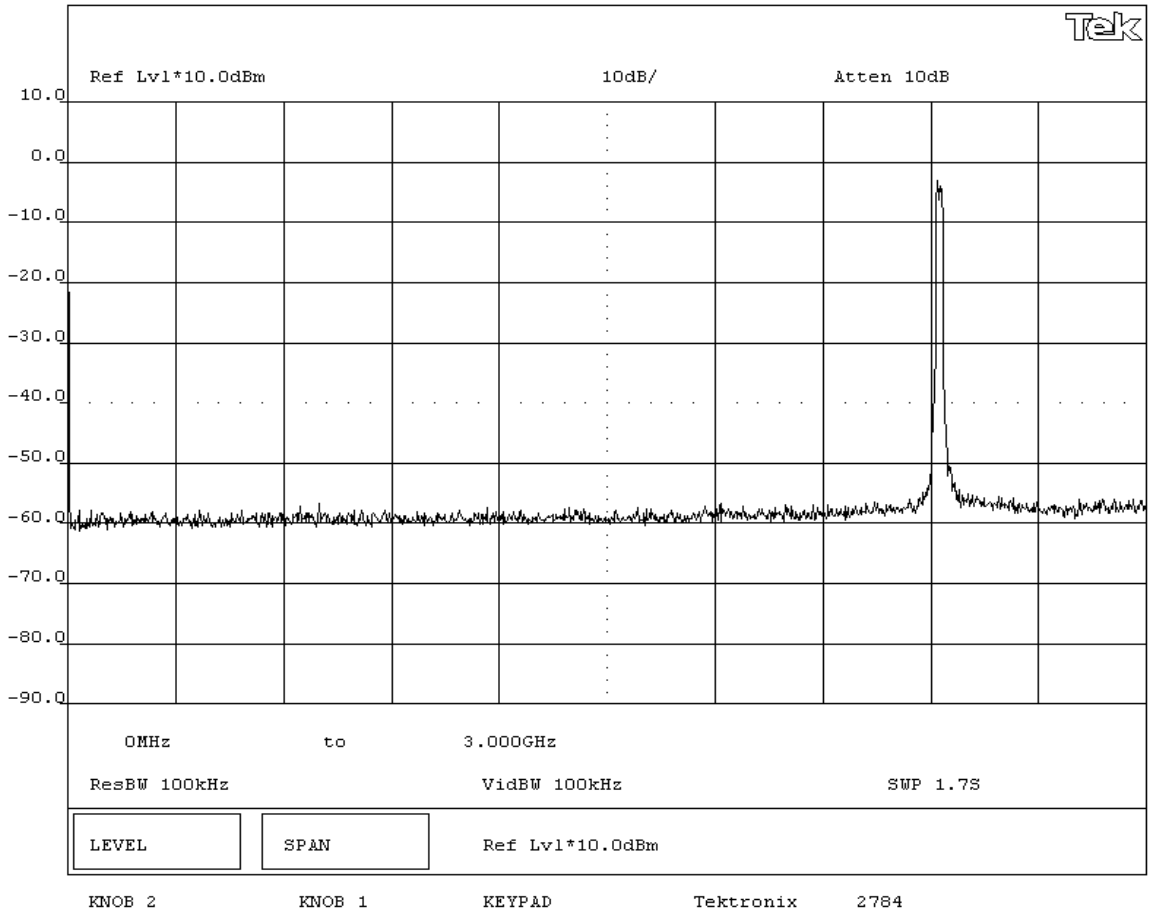
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 0MHz-3GHz - 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

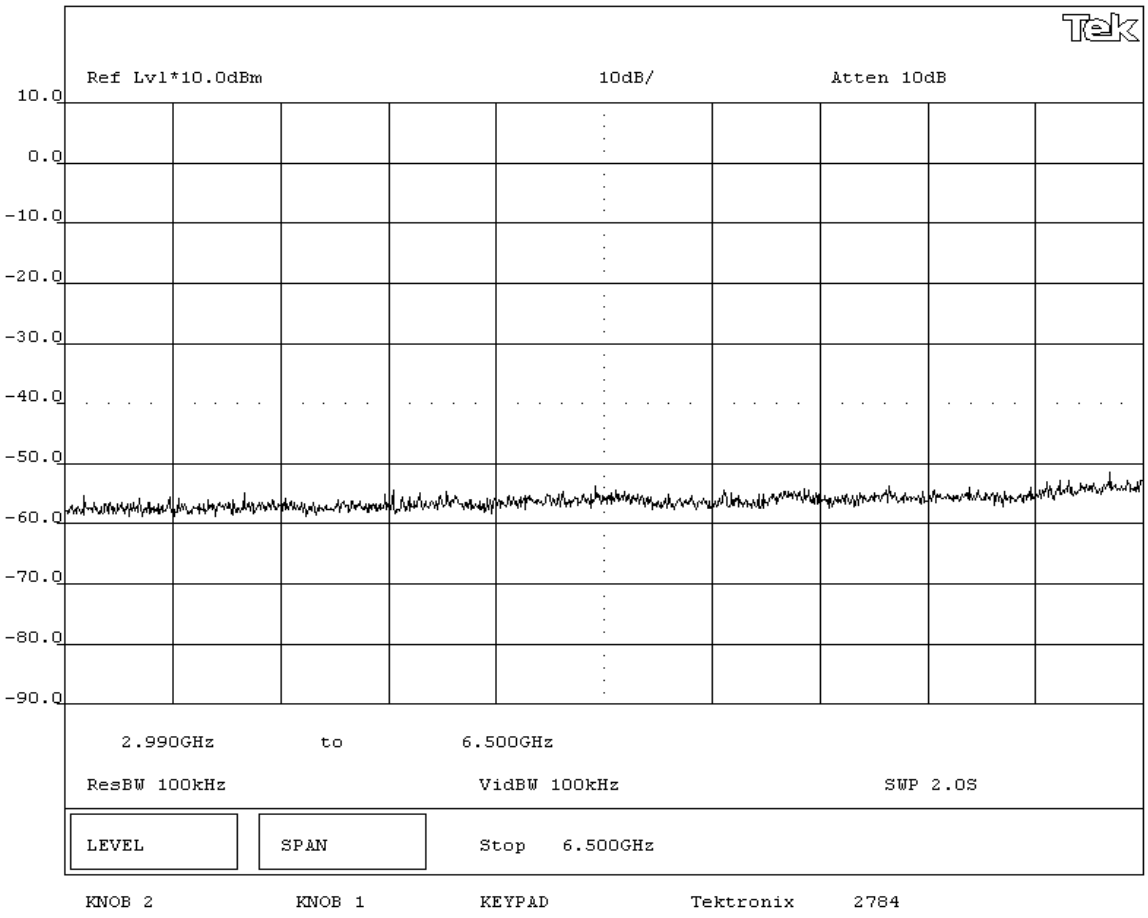
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 3GHz-6.5GHz - 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

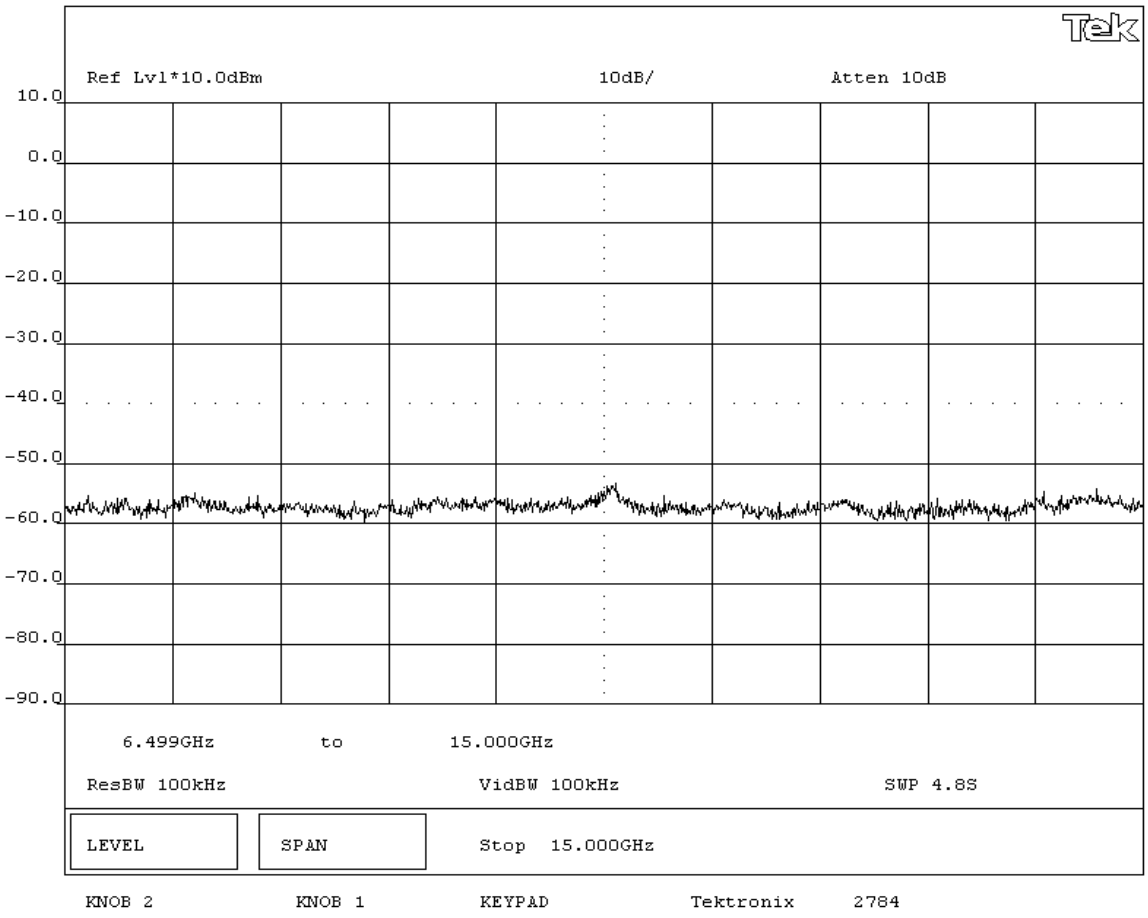
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 6.5GHz-15GHz - 6 Mbit



NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

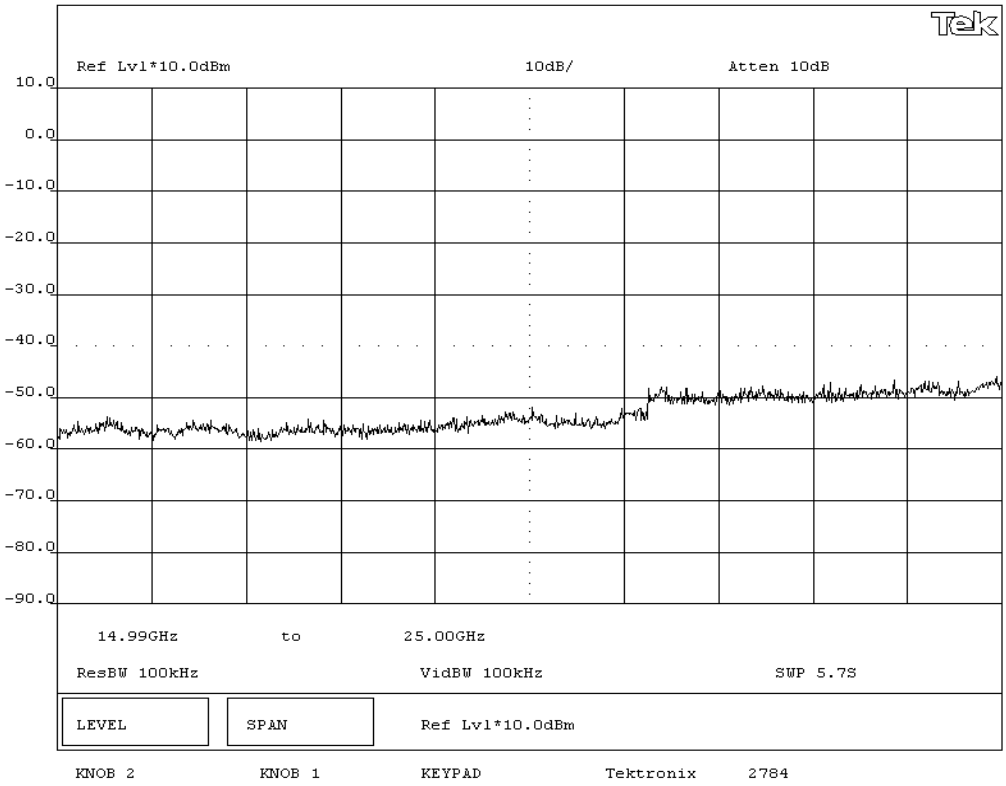
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 15GHz - 25GHz 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

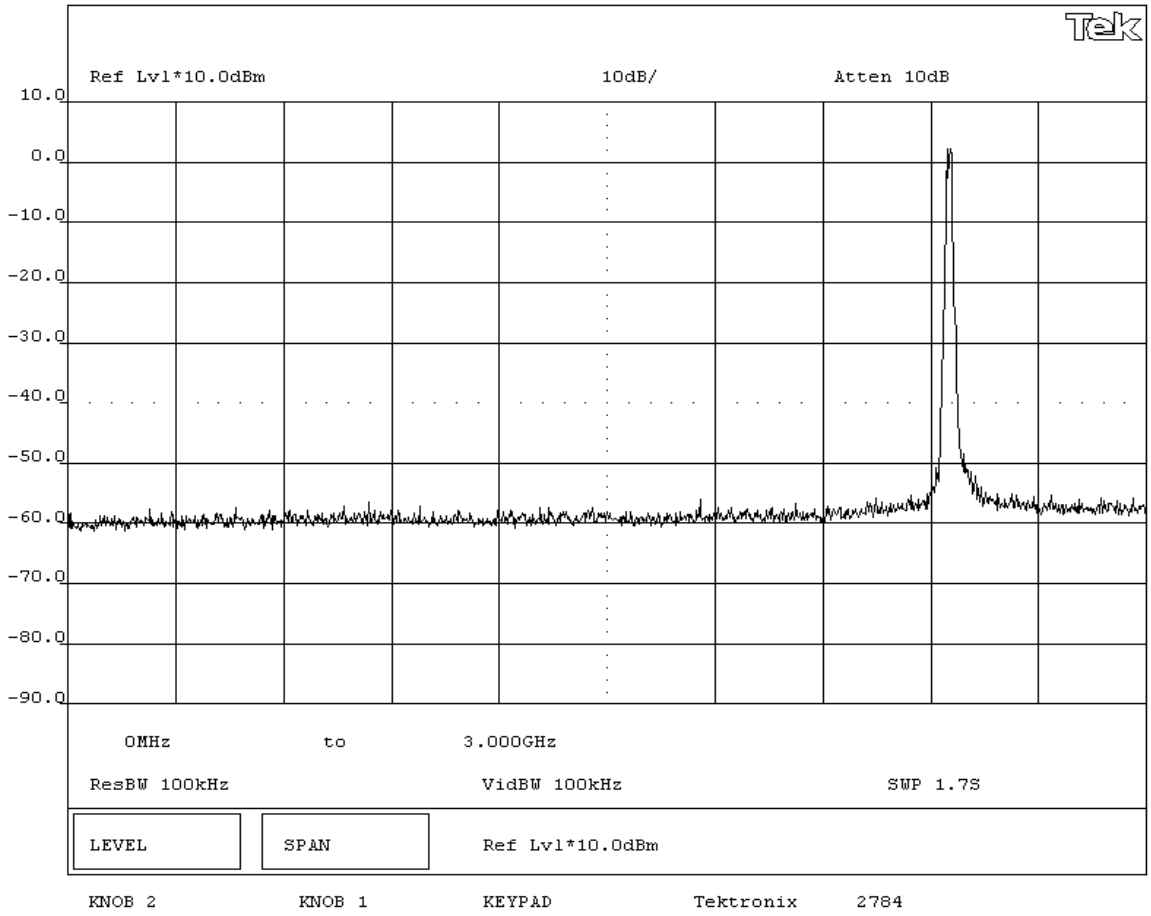
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 0MHz-3GHz - 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

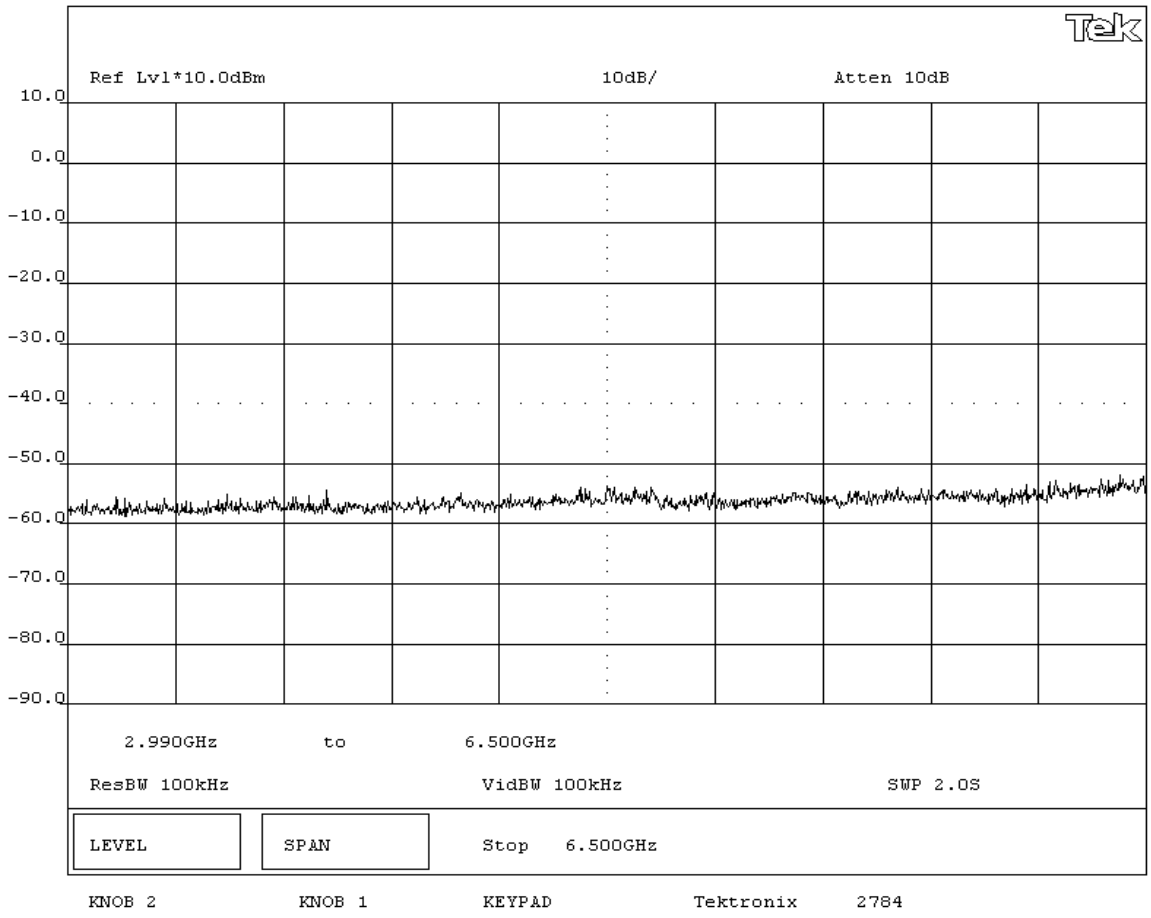
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 3GHz-6.5GHz - 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

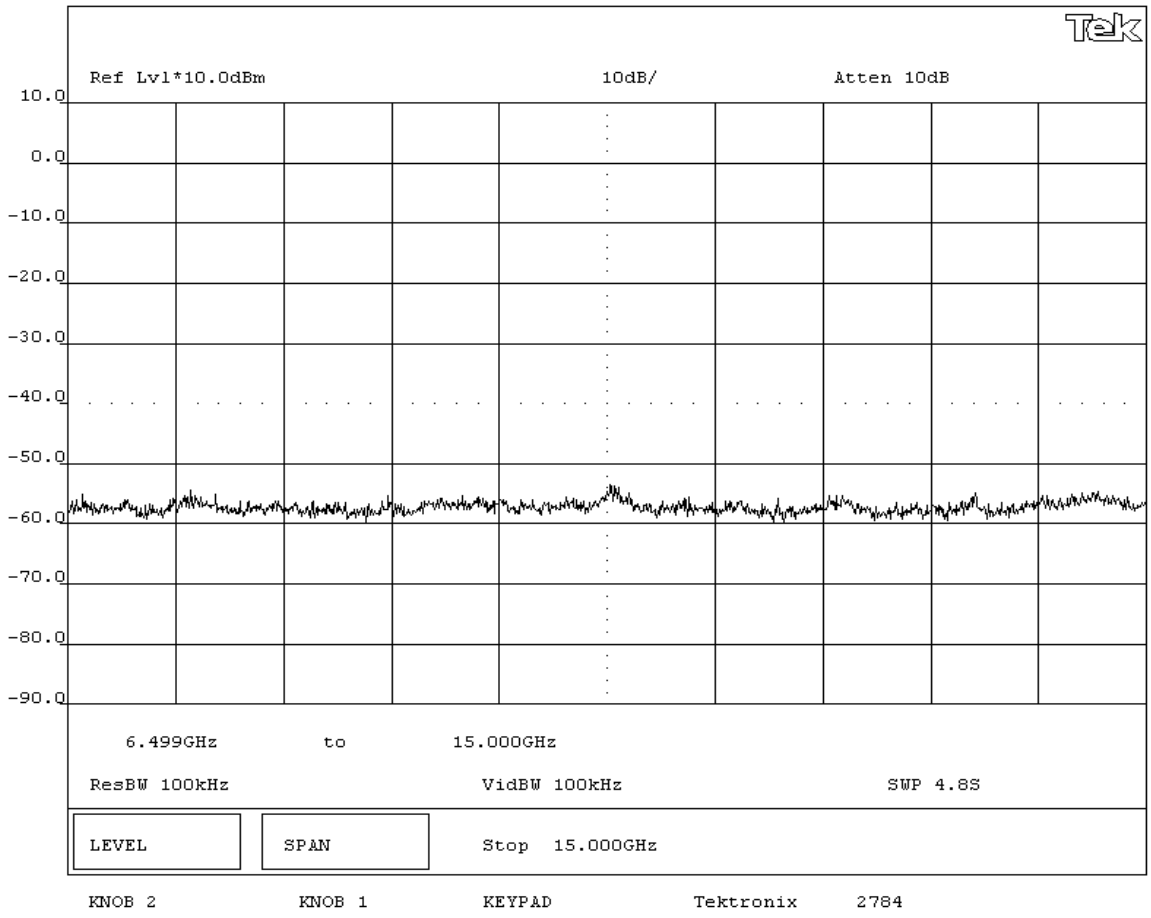
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 6.5GHz-15GHz - 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

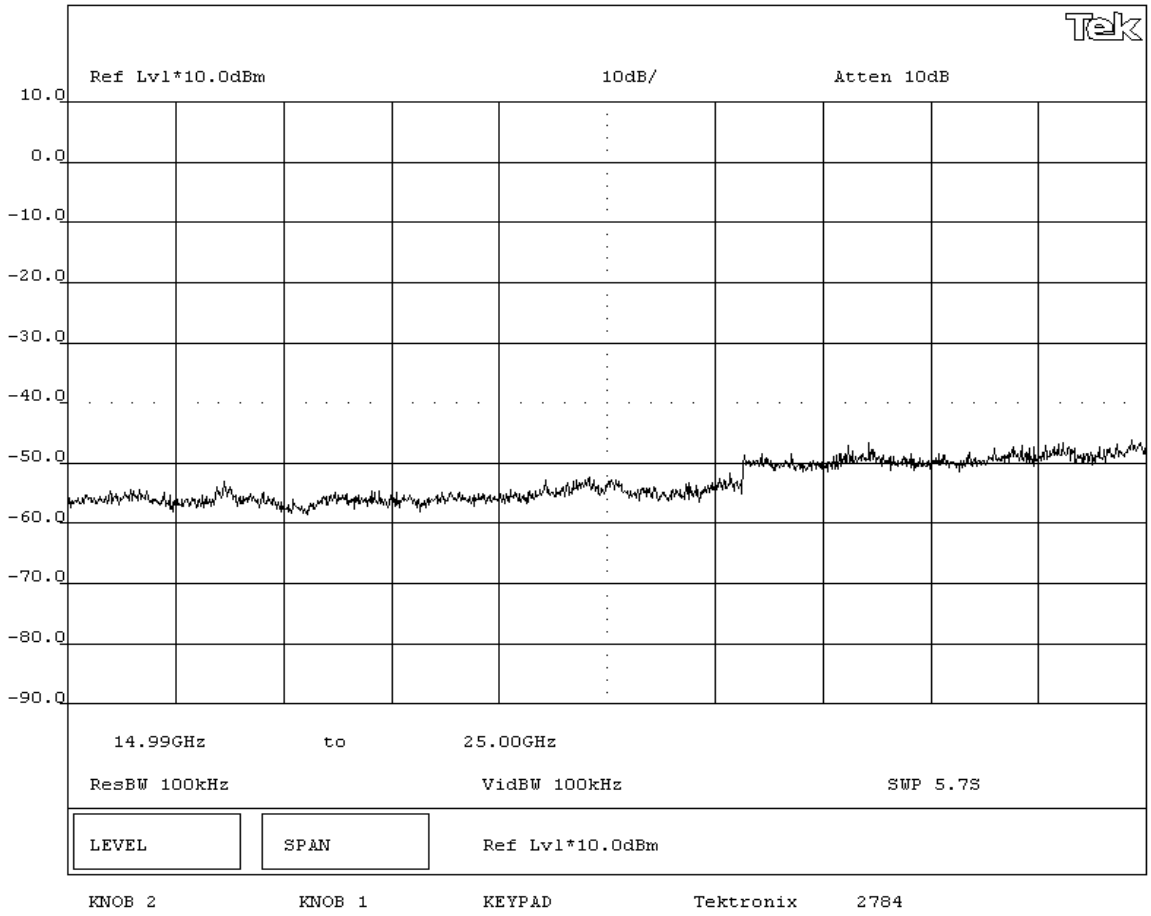
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 15GHz-25GHz - 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

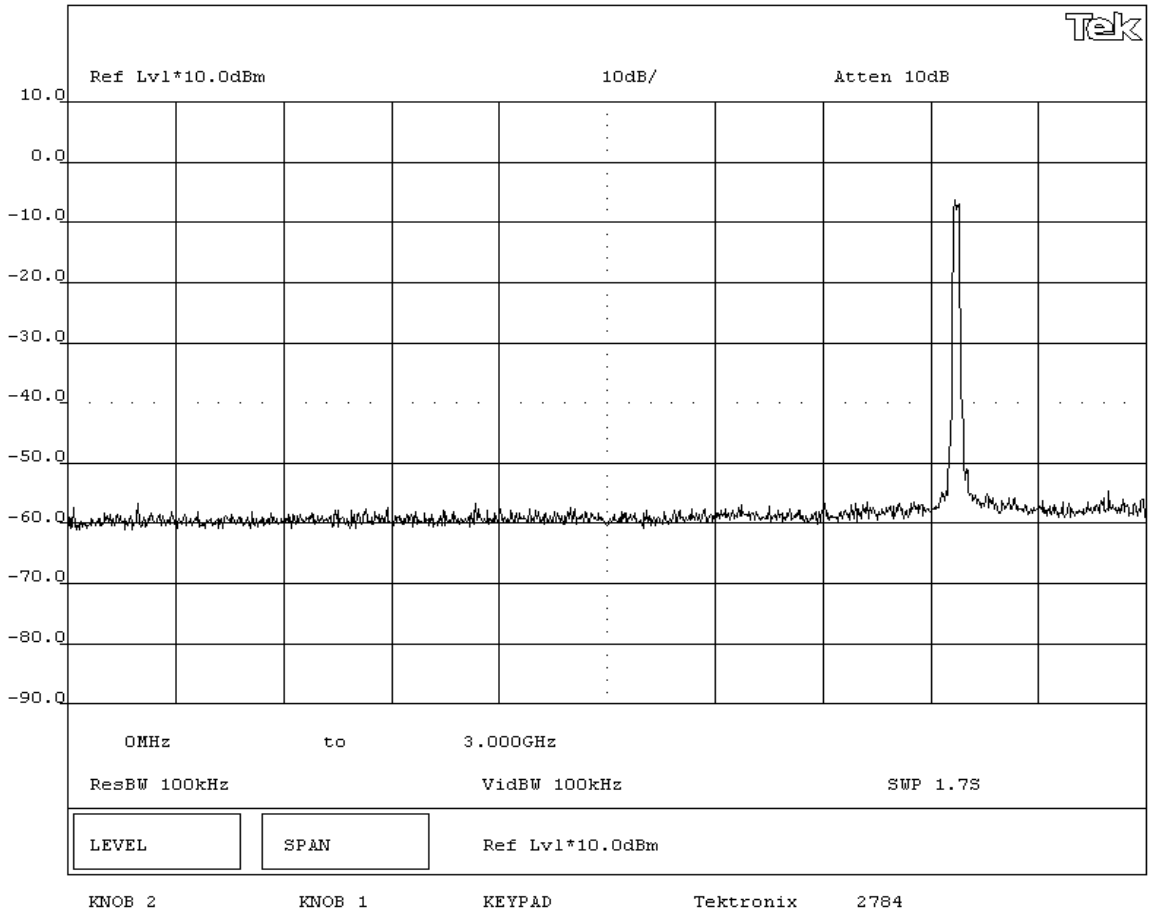
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 0MHz-3GHz - 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

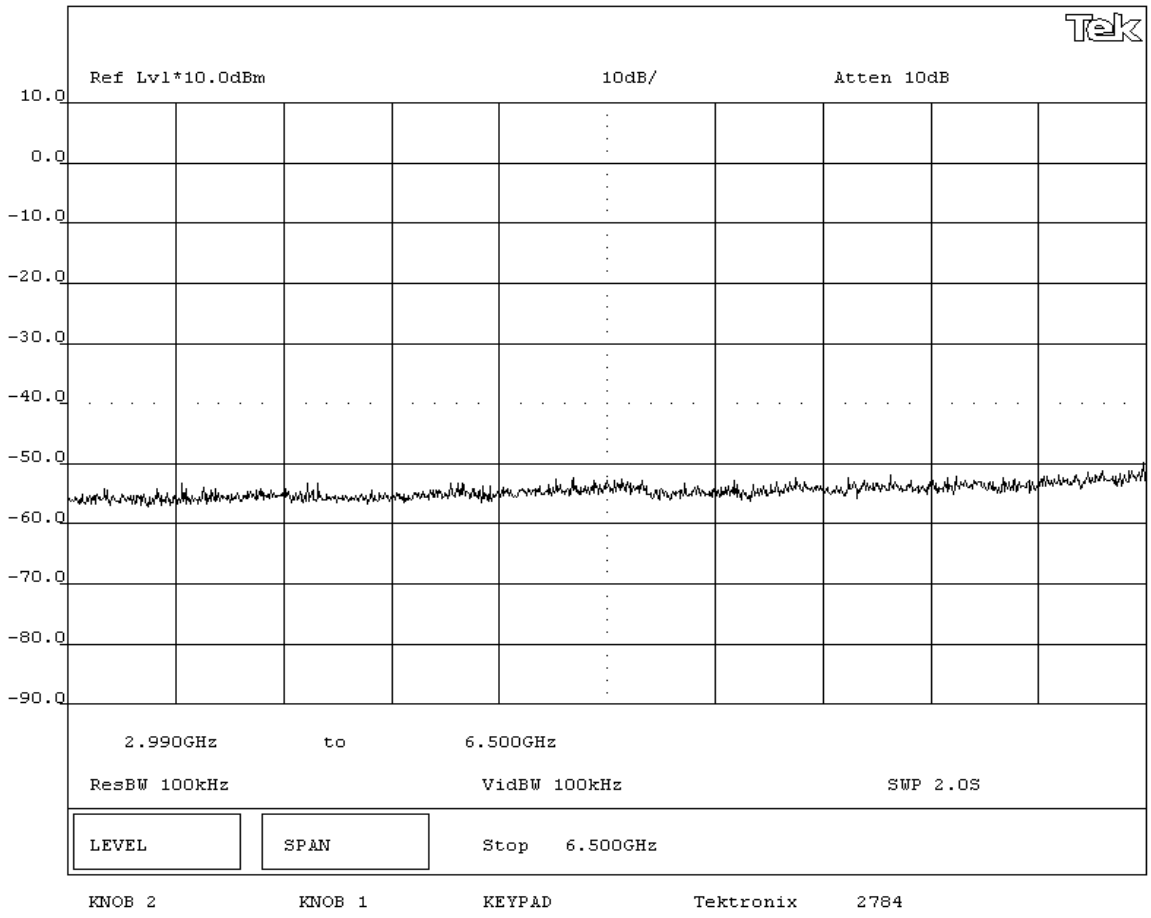
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 3GHz-6.5GHz - 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

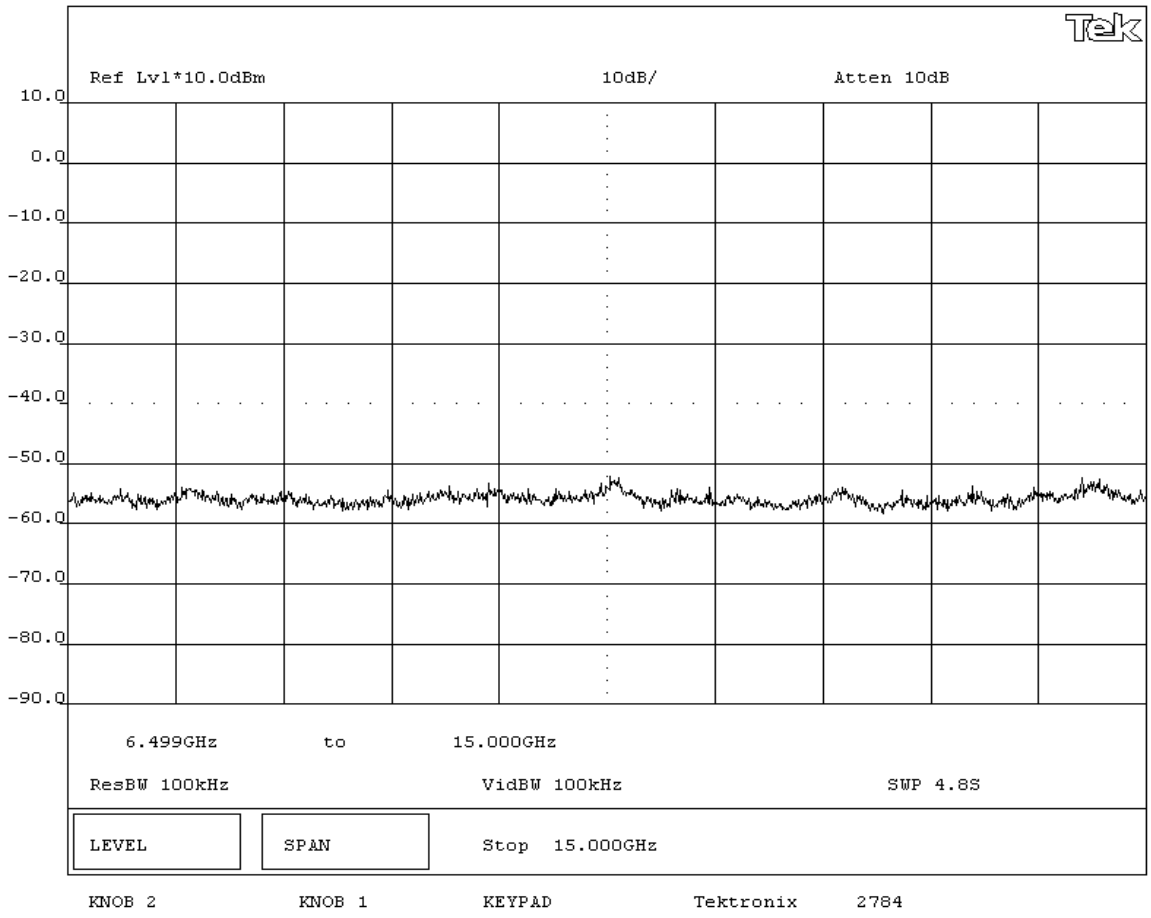
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 6.5GHz-15GHz - 6 Mbit



NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

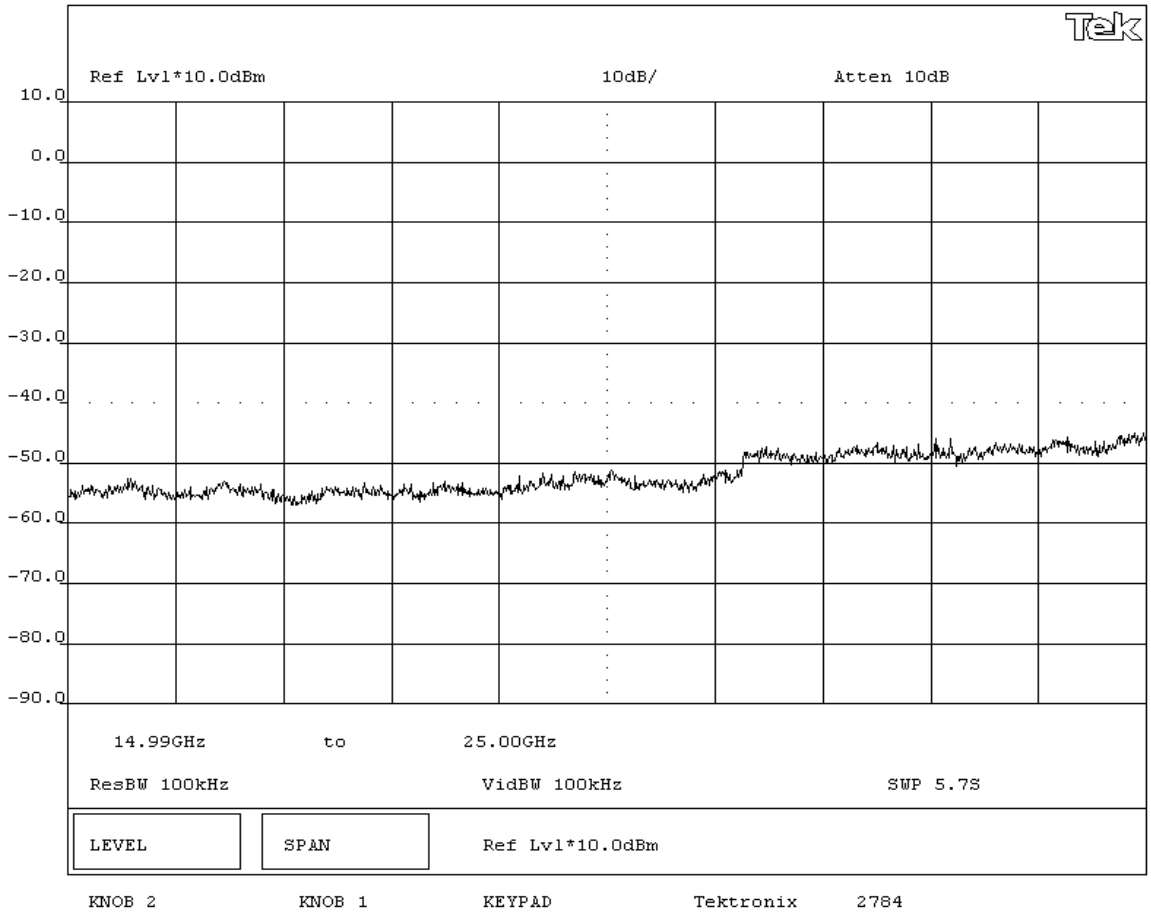
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 15GHz-25GHz - 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

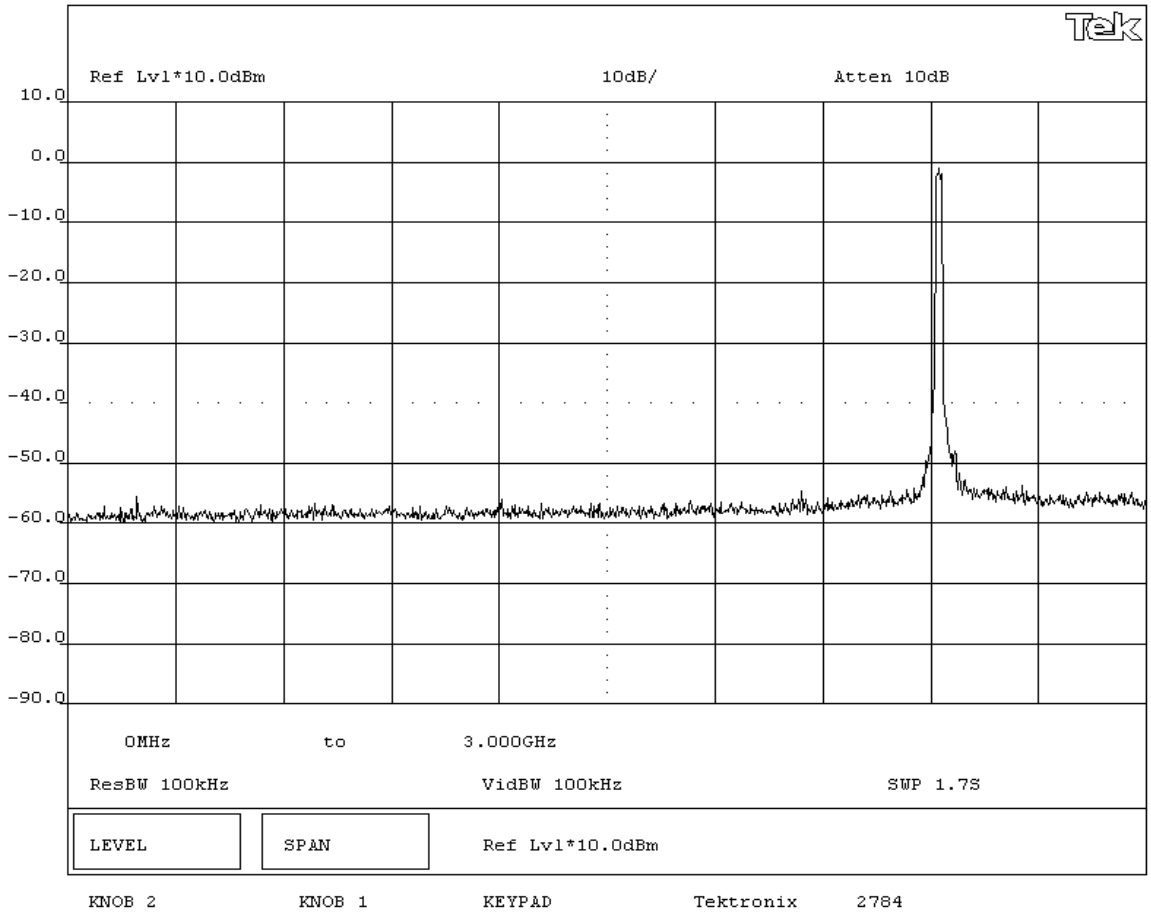
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 0MHz-3GHz - 36 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

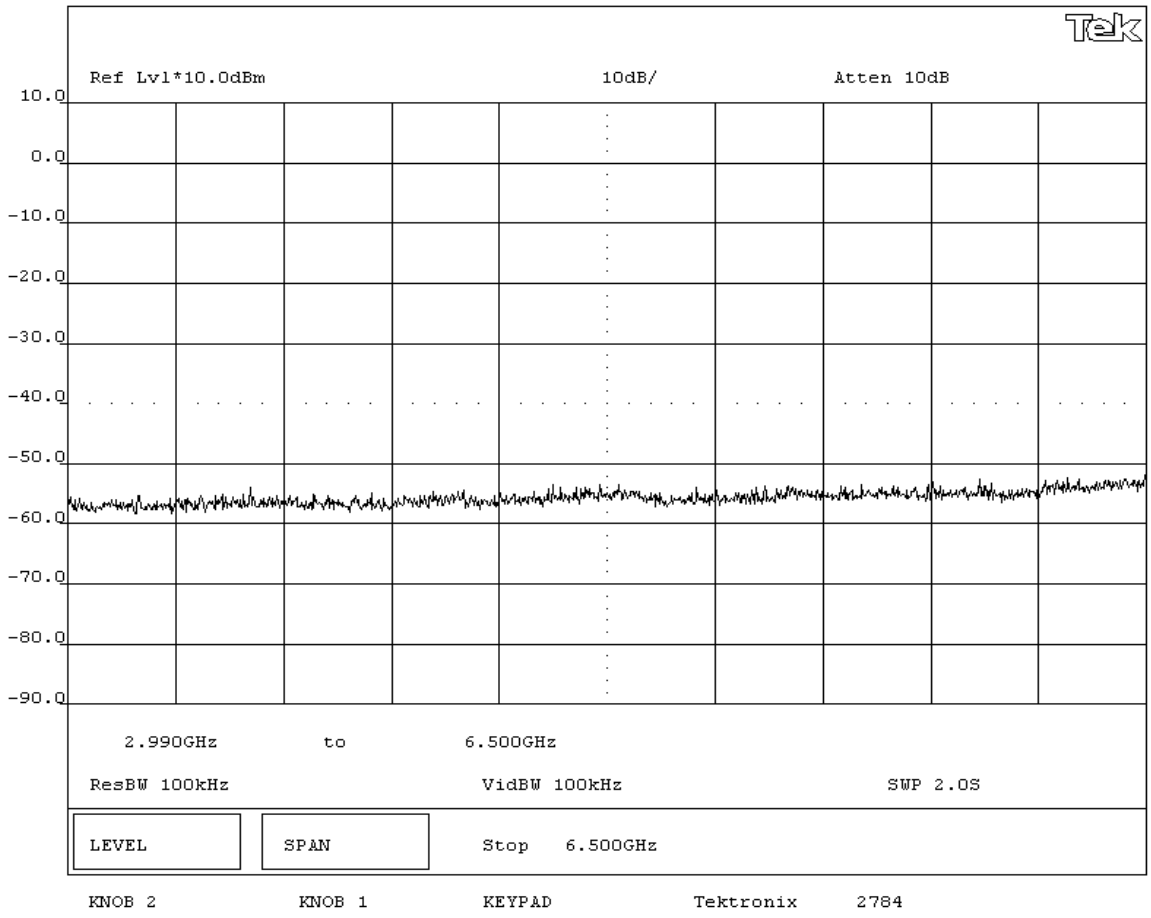
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 3GHz-6.5GHz - 36 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

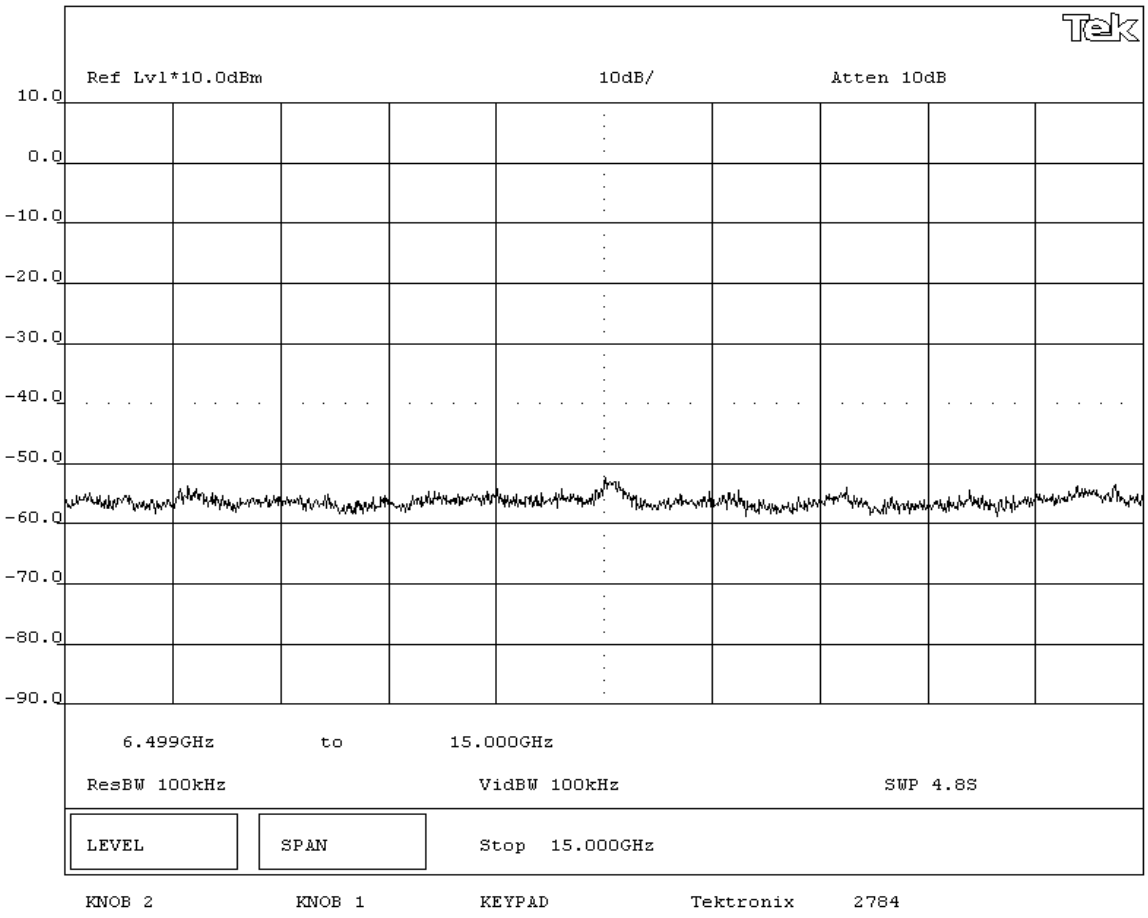
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 6.5GHz-15GHz - 36 Mbit



NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

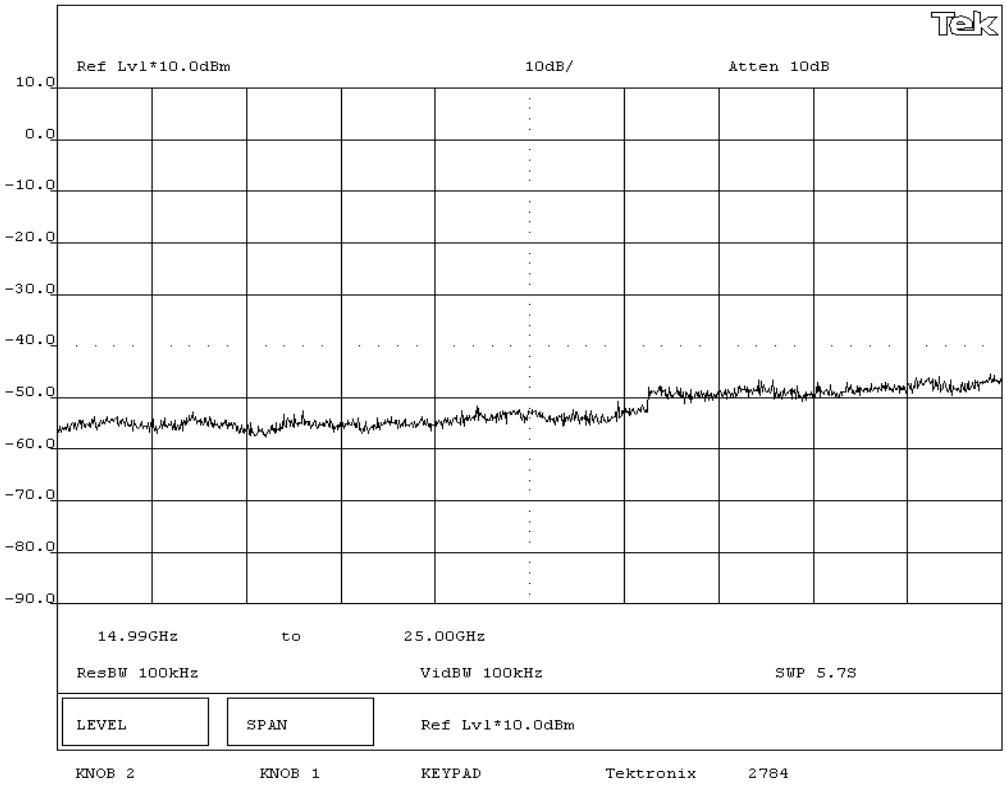
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 15GHz - 25GHz - 36 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

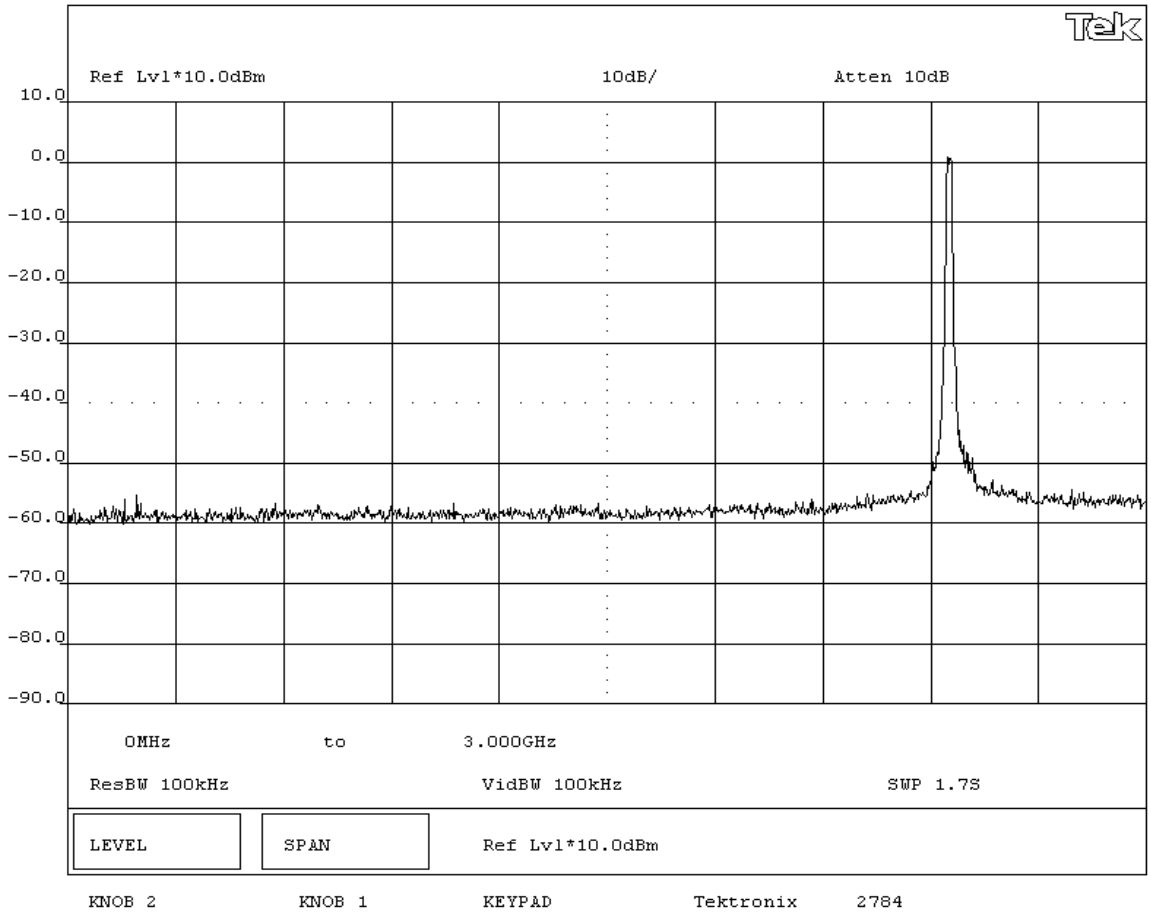
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 0MHz-3GHz - 36 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

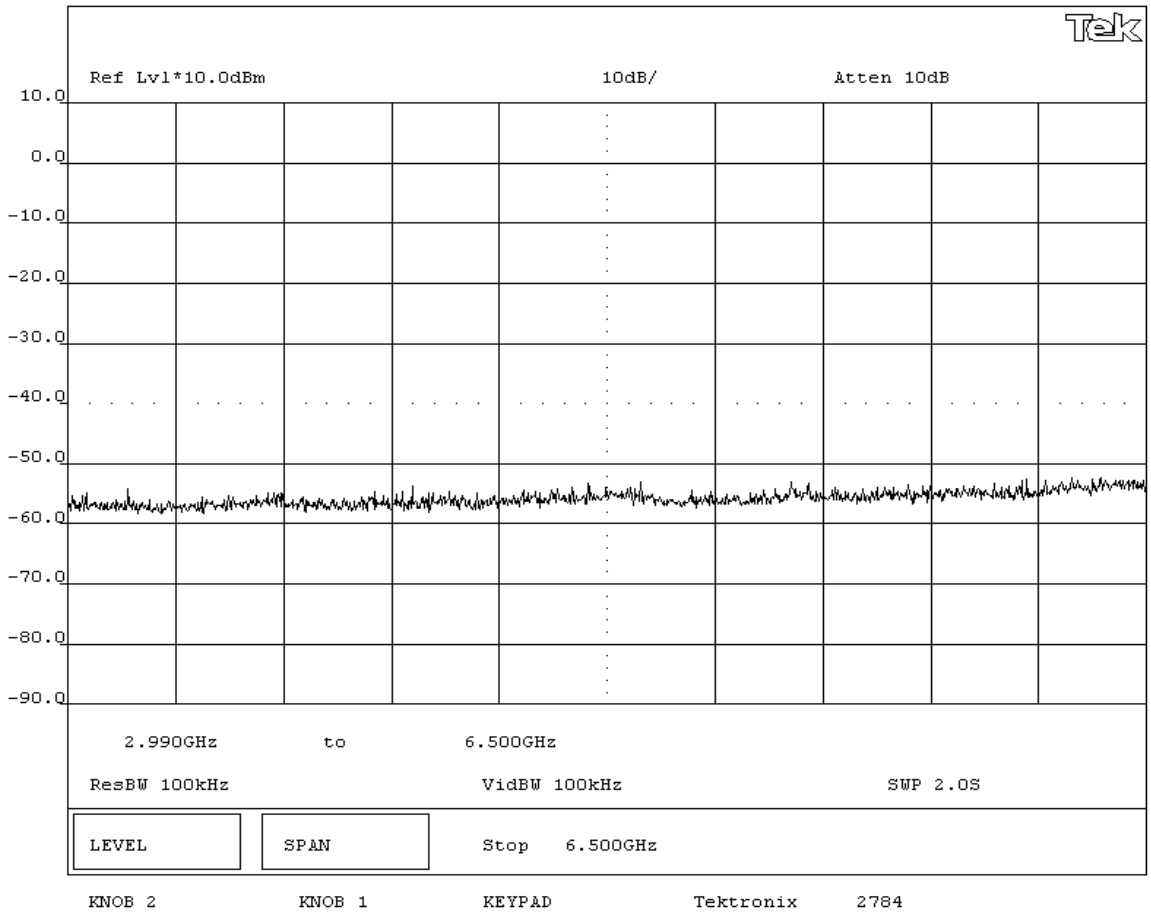
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 3GHz-6.5GHz - 36 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

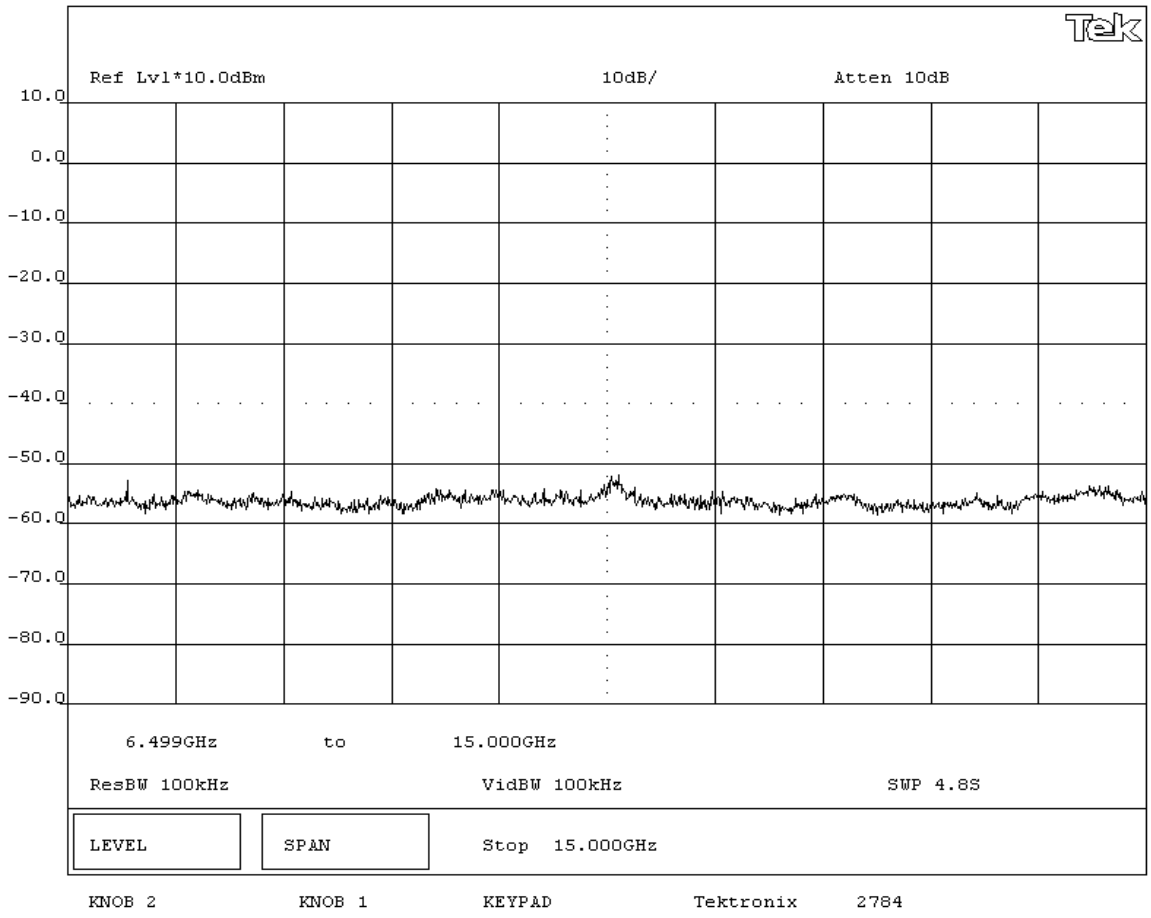
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 6.5GHz-15GHz - 36 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

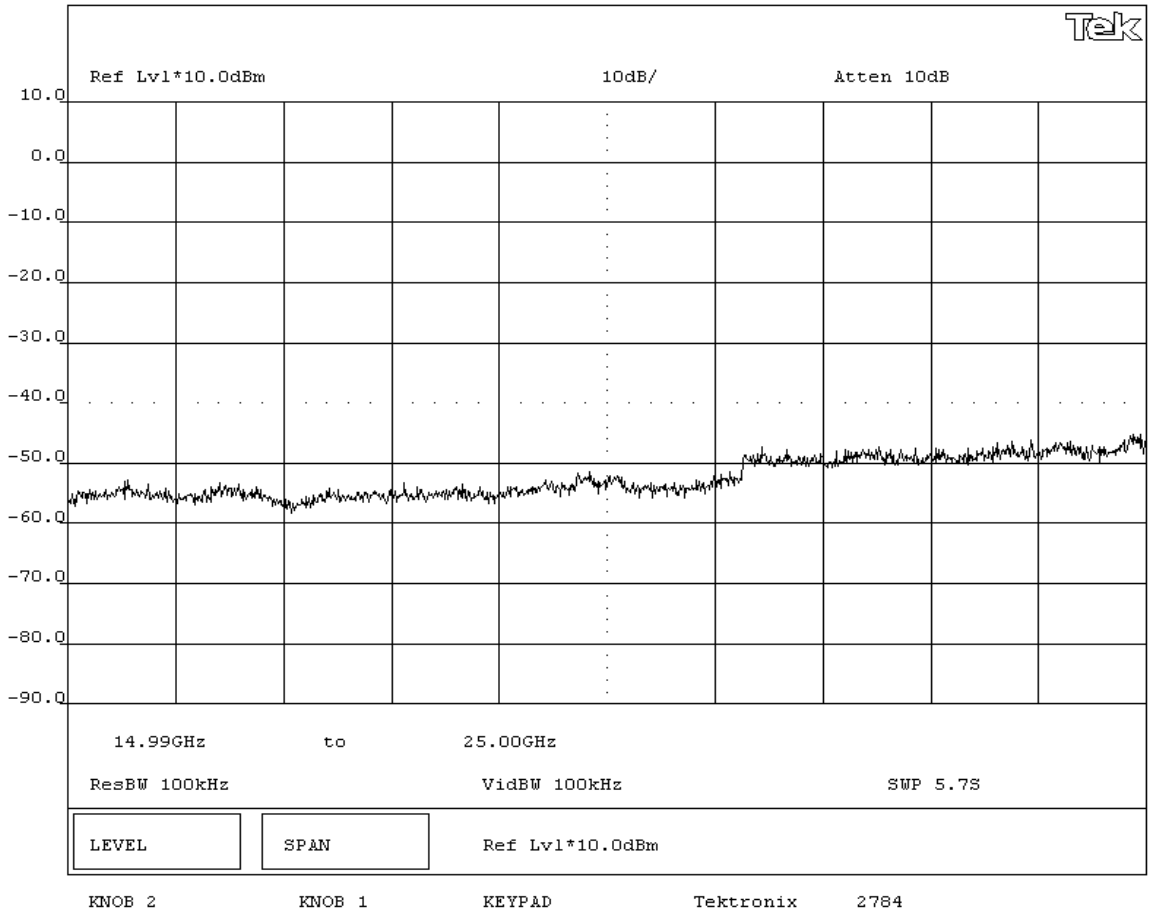
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 15GHz-25GHz - 36 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

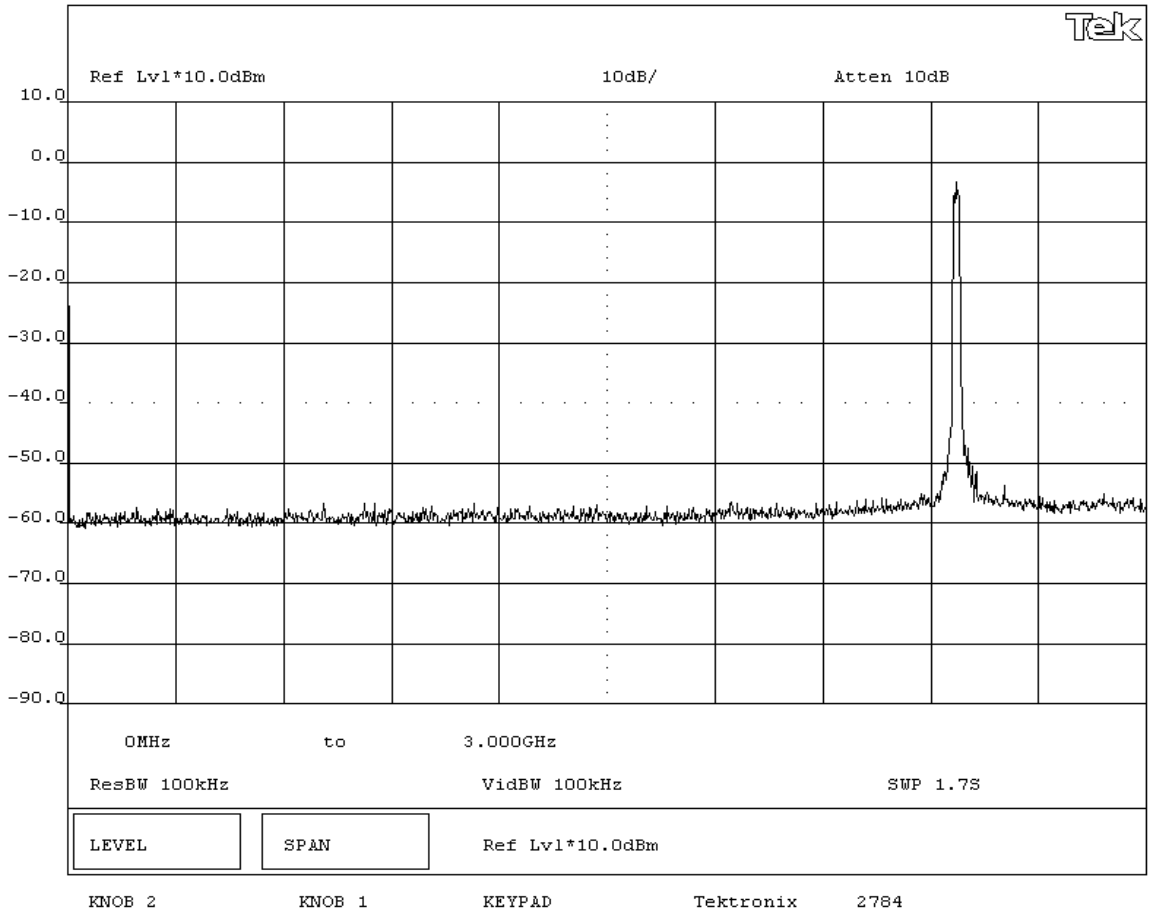
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 0MHz-3GHz - 36 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

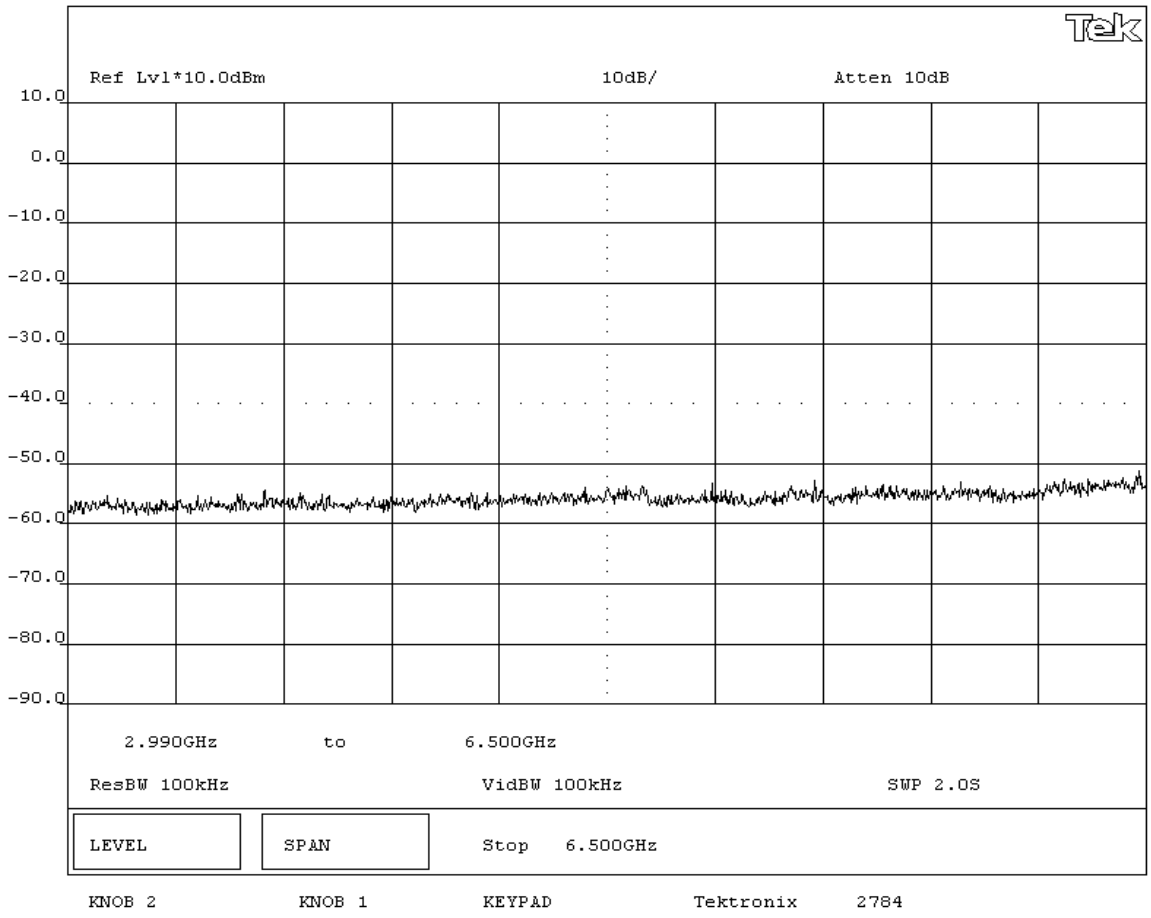
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 3GHz-6.5GHz - 36 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

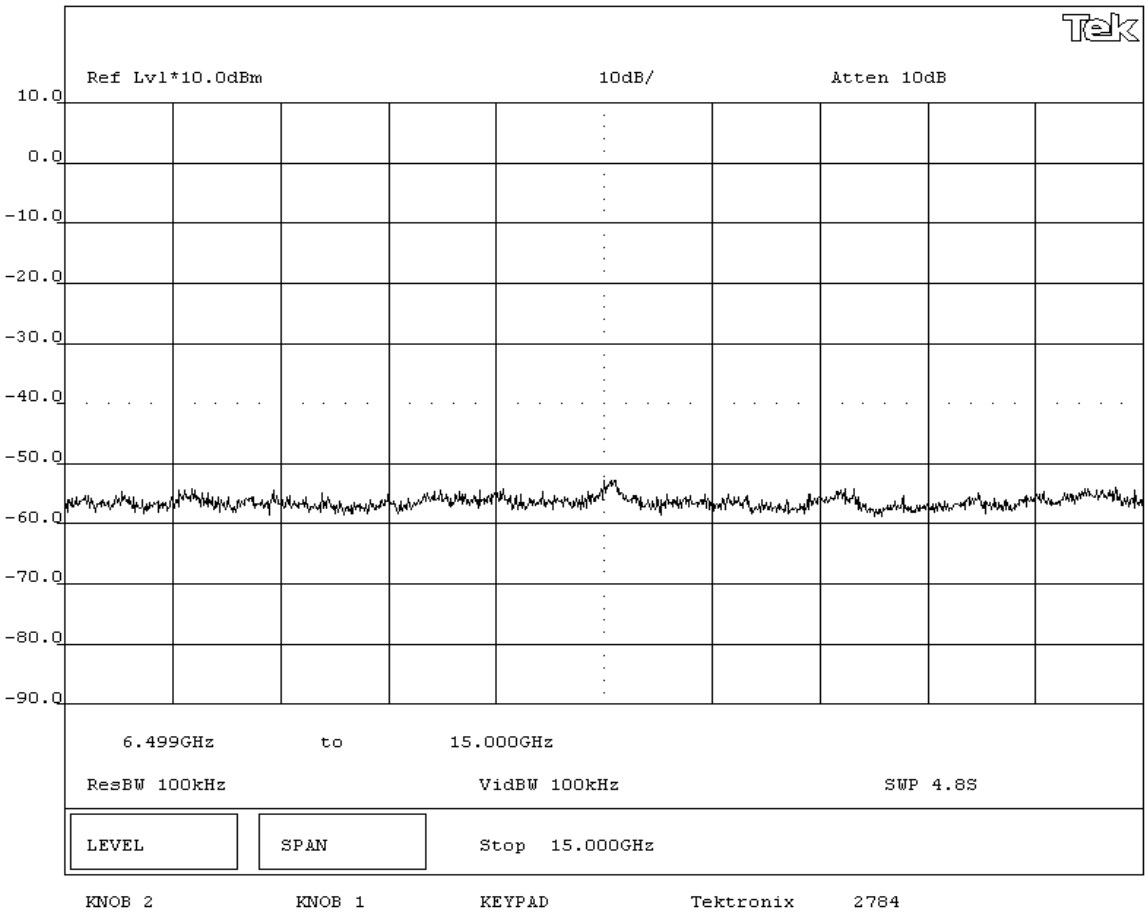
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 6.5GHz-15GHz - 36 Mbit



NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

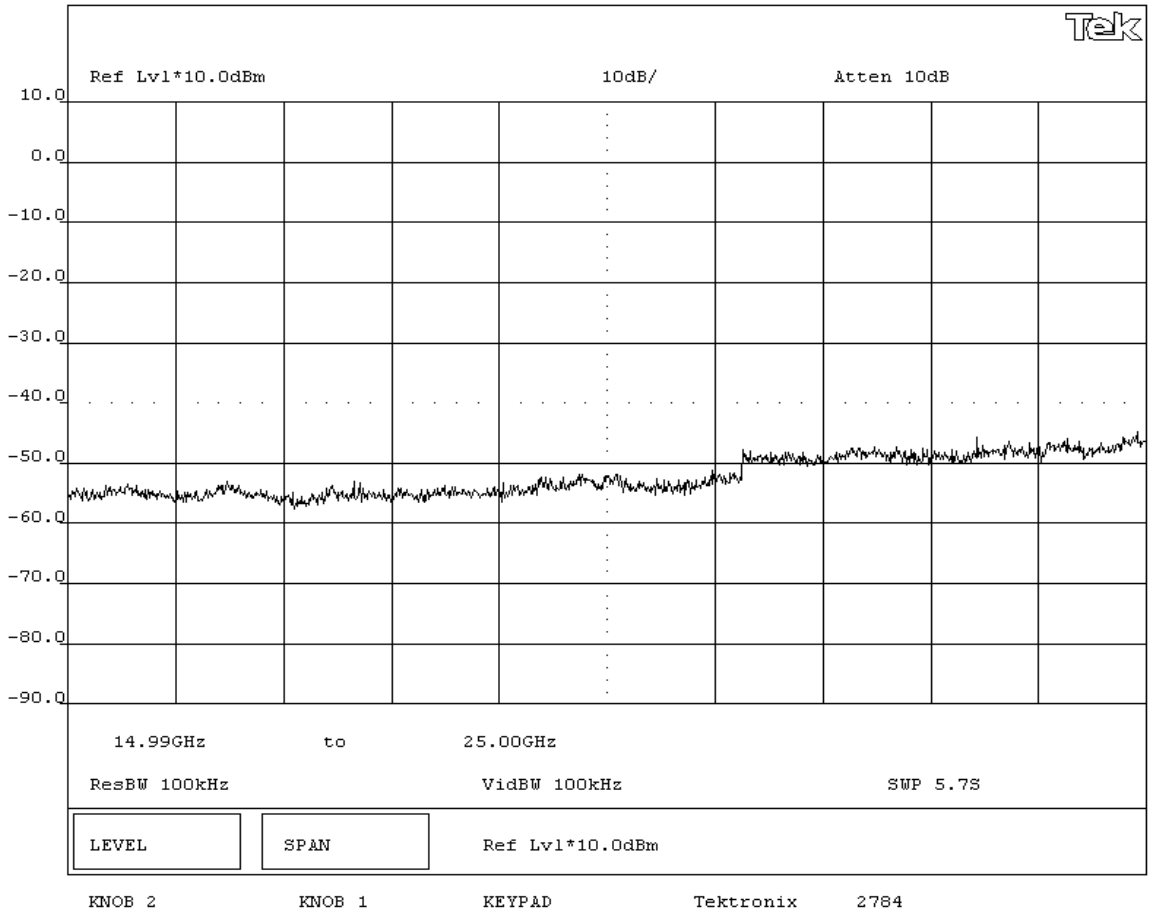
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 15GHz-25GHz - 36 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

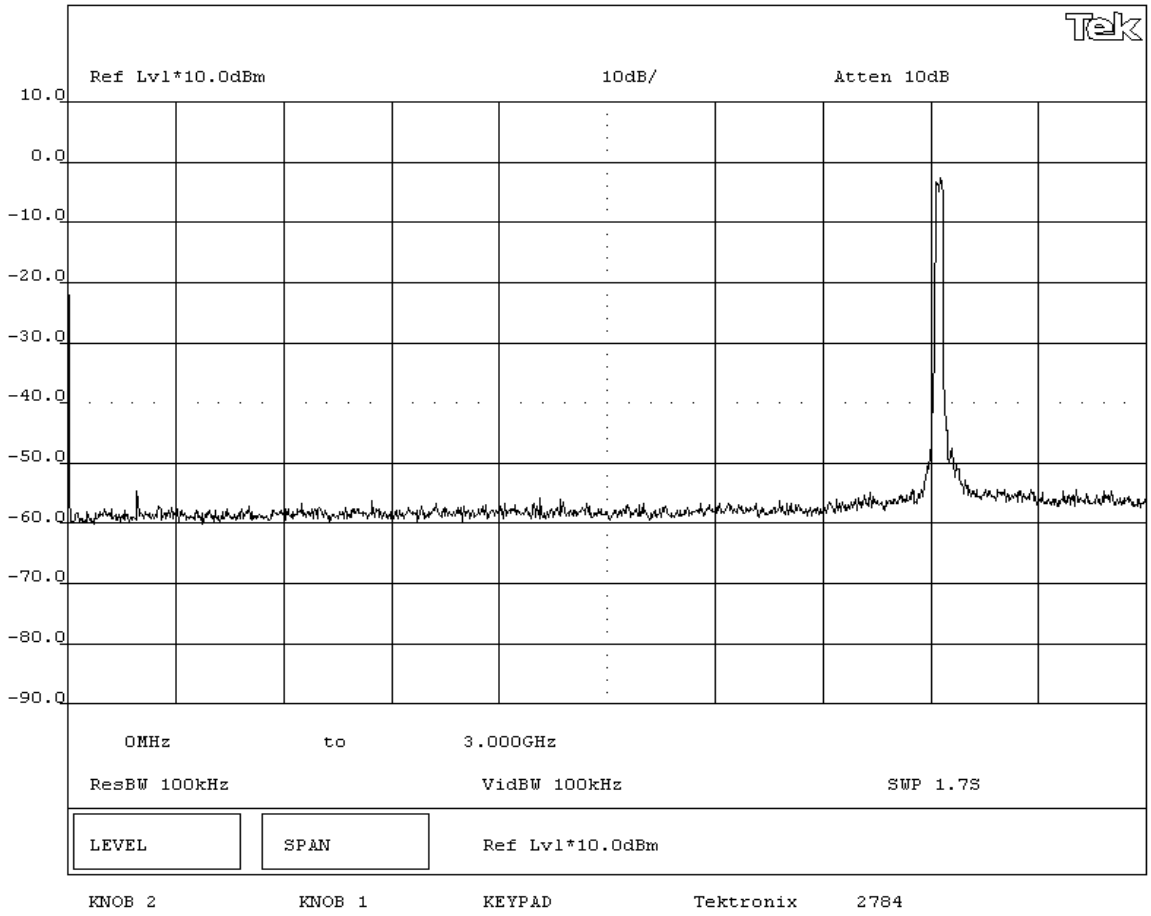
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 0MHz-3GHz - 54 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

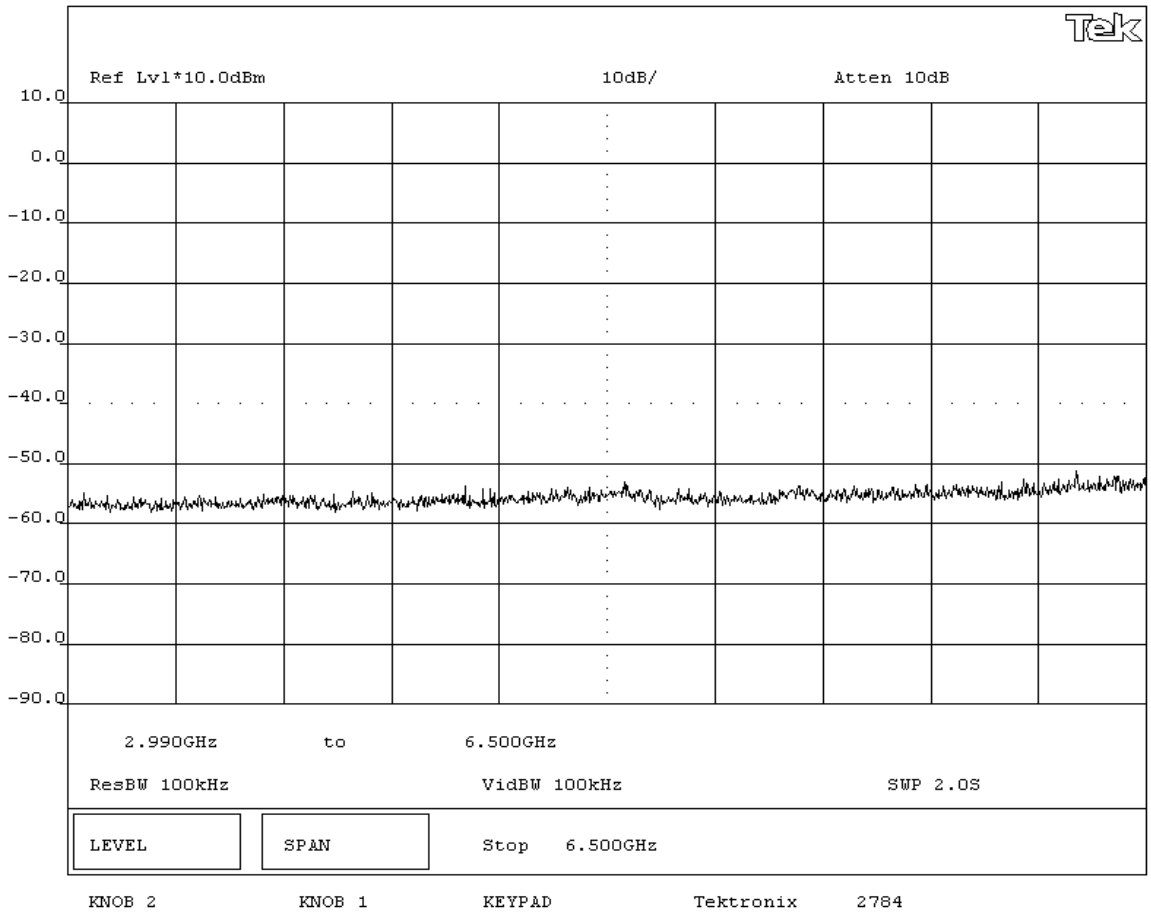
Pass

SIGNATURE

Tested By: A. U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 3GHz-6.5GHz - 54 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

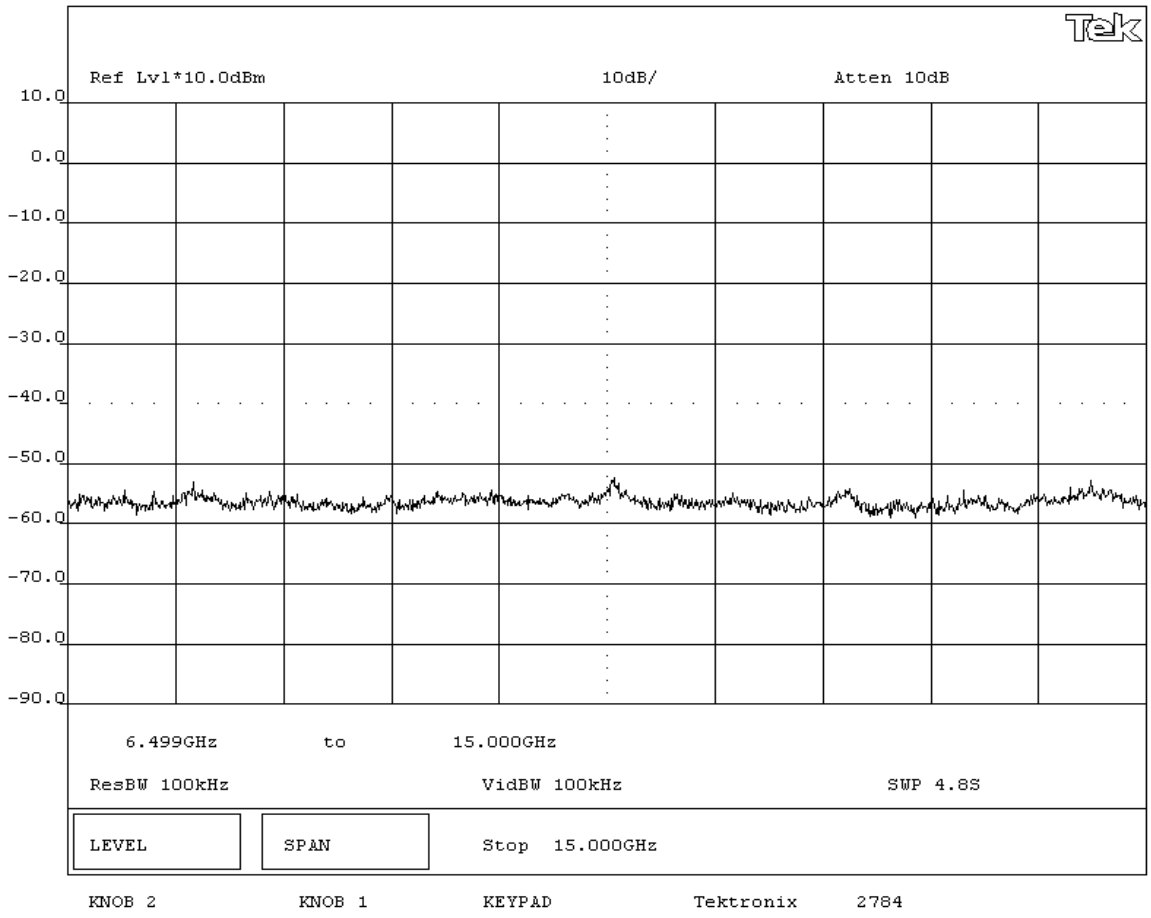
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 6.5GHz-15GHz - 54 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

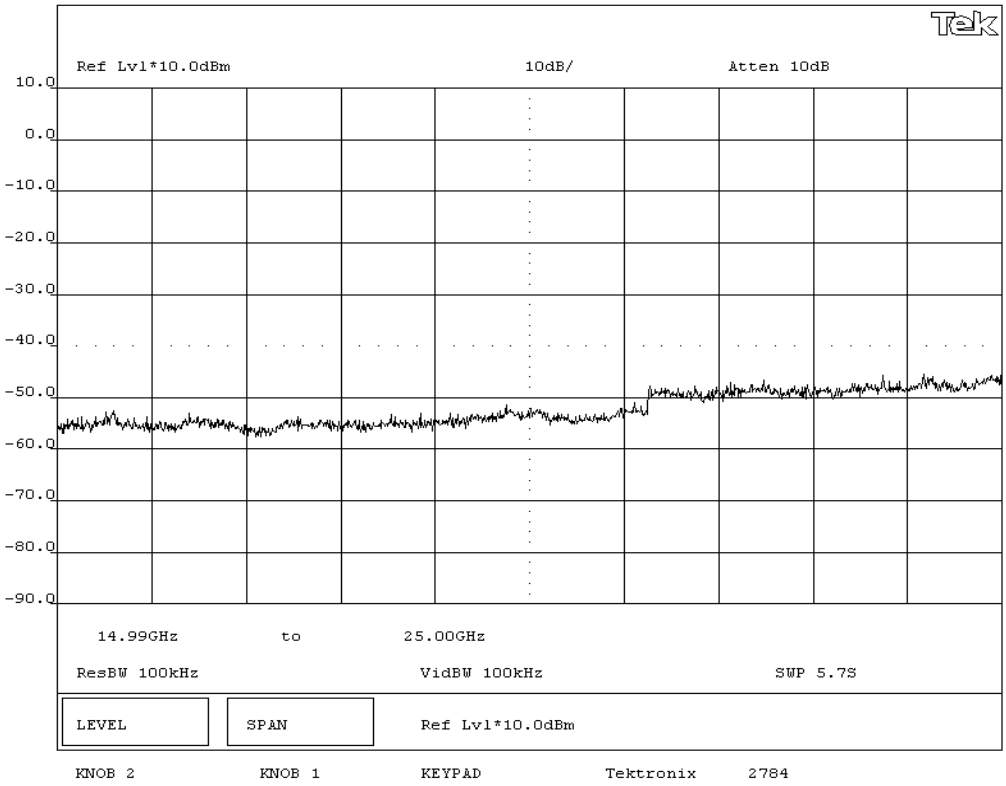
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 15GHz - 25GHz - 54 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

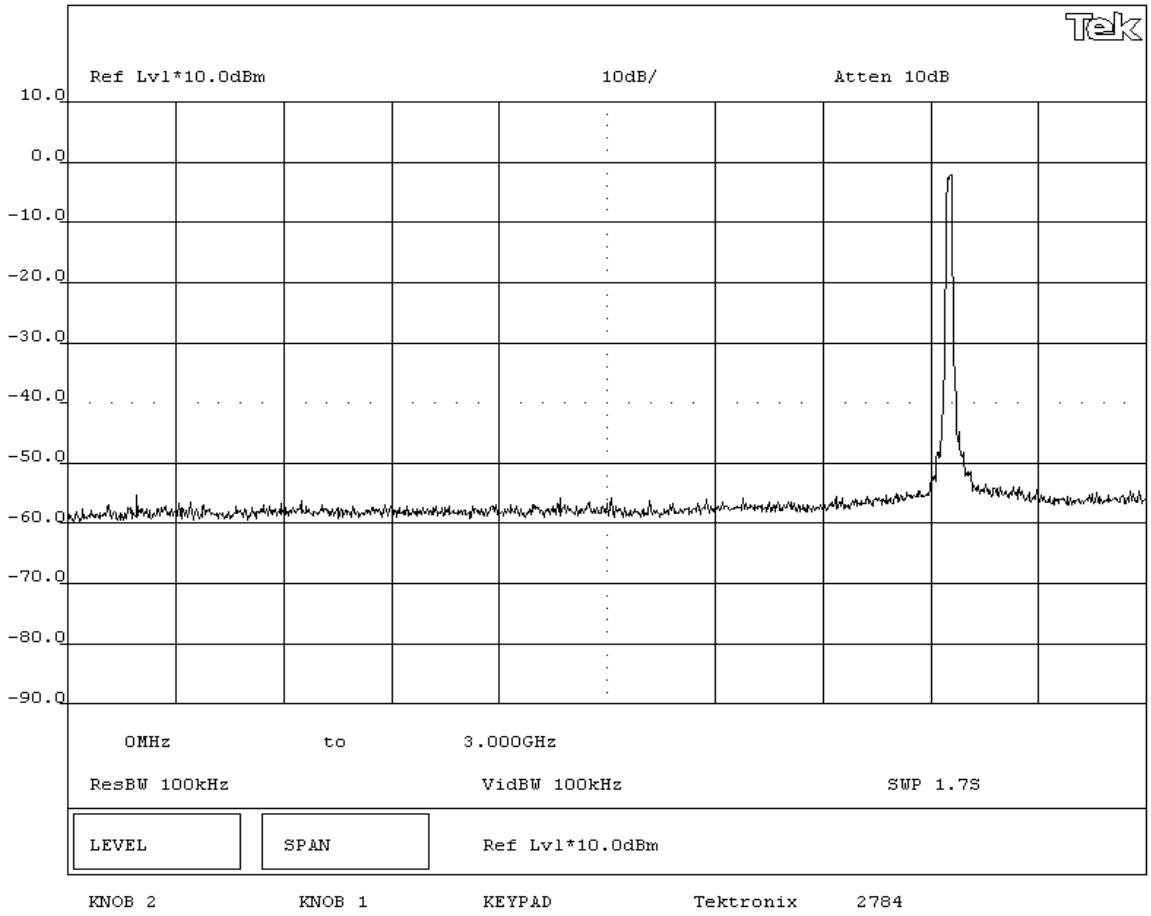
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 0MHz-3GHz - 54 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

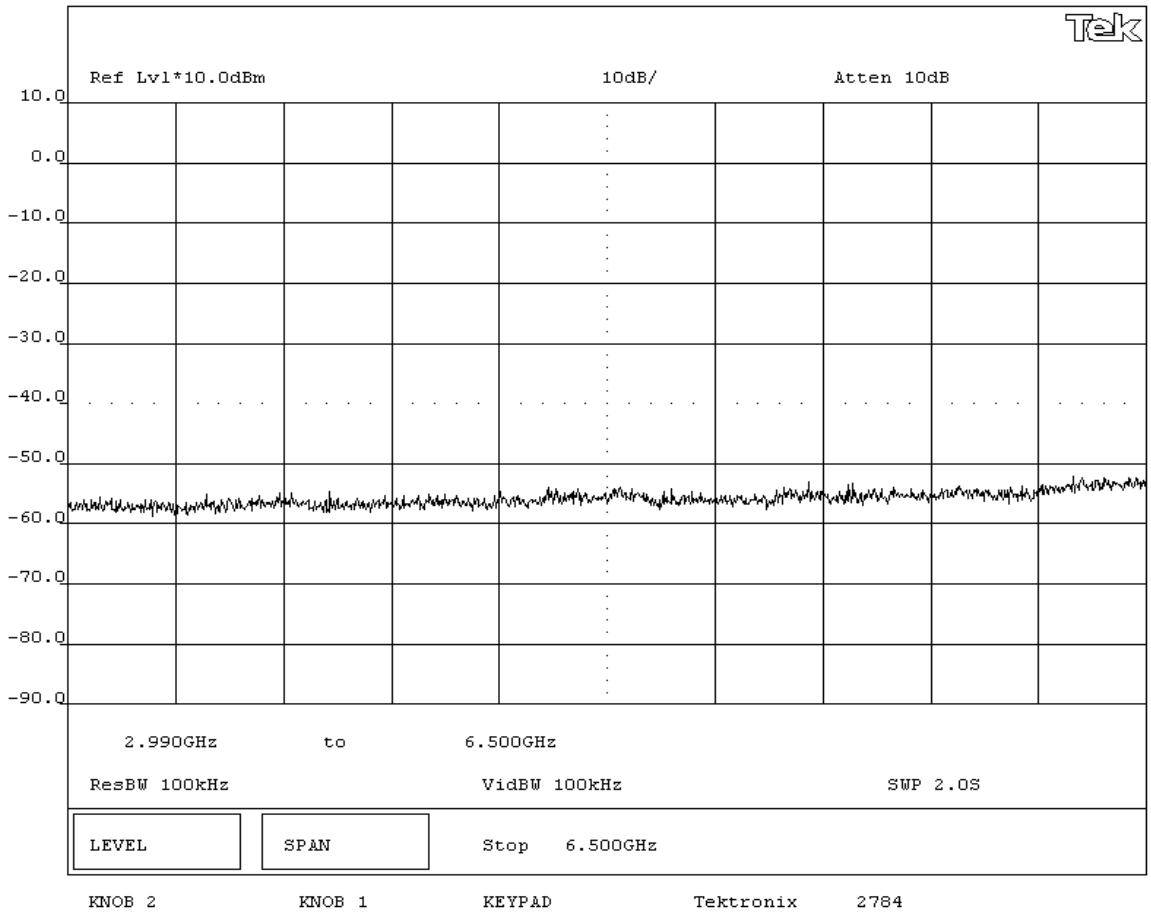
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 3GHz-6.5GHz - 54 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

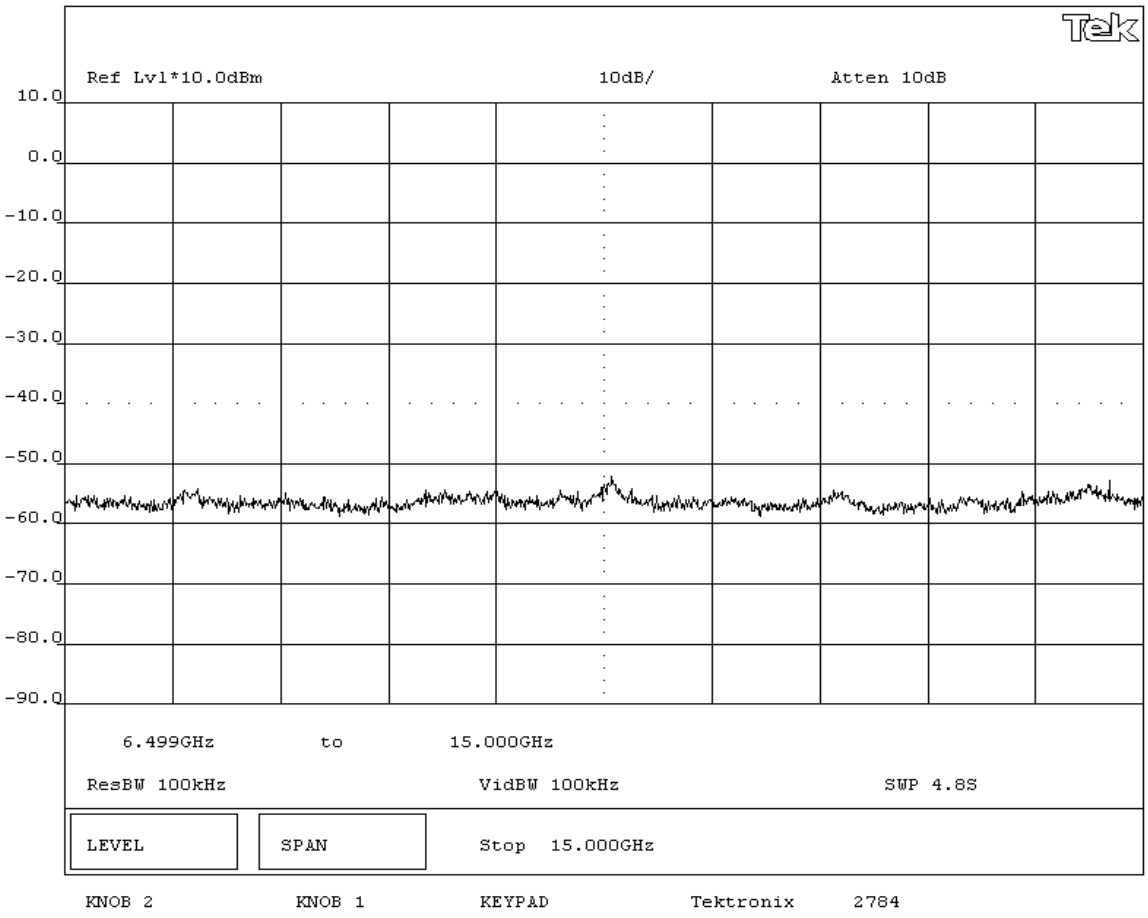
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 6.5GHz-15GHz - 54 Mbit



NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

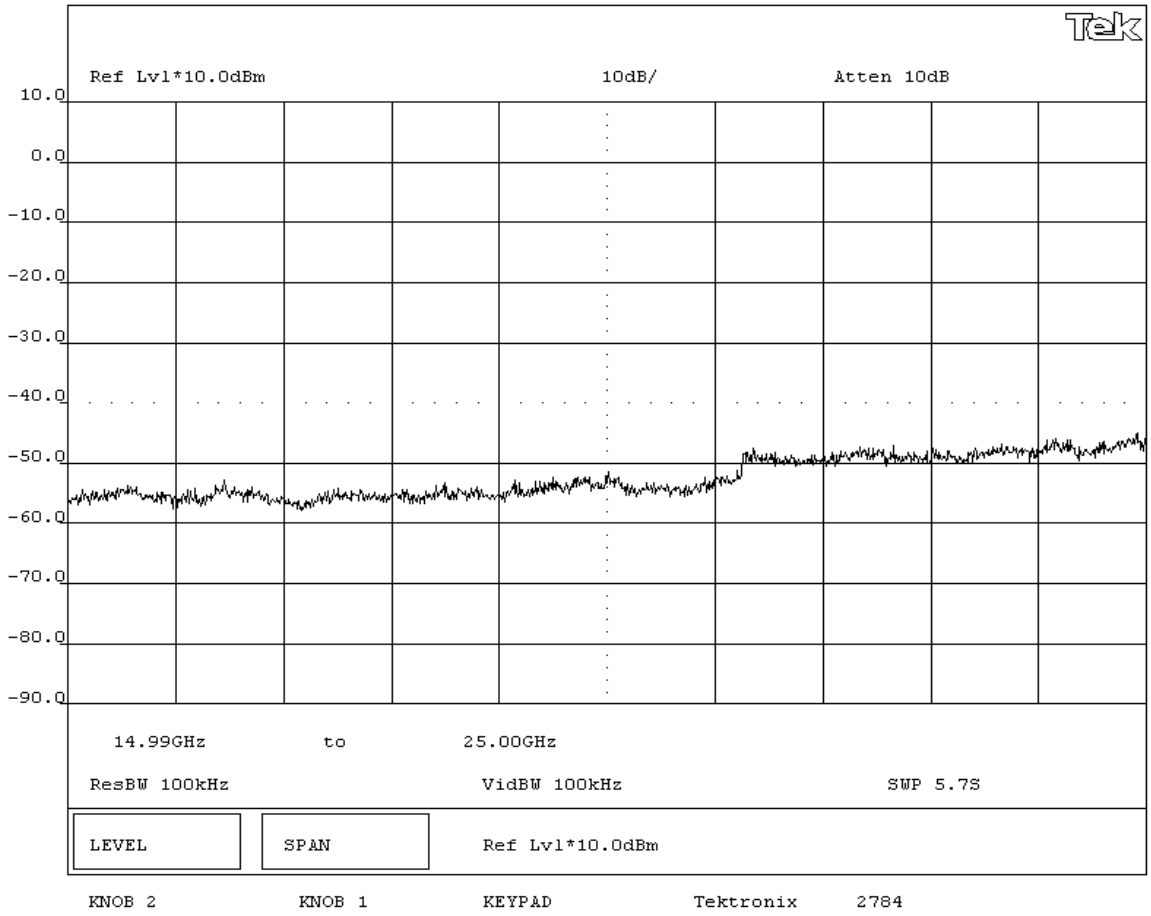
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 15GHz-25GHz - 54 Mbit



NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

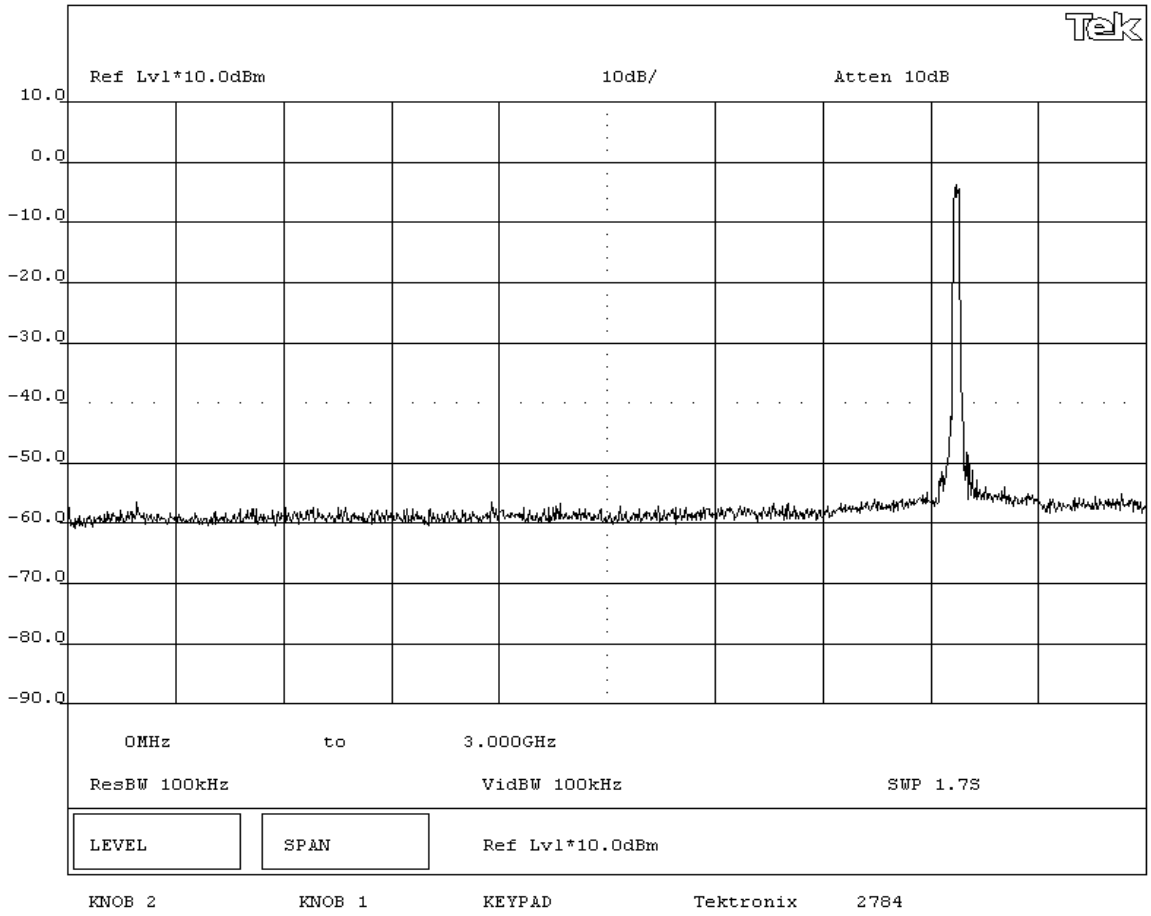
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 0MHz-3GHz - 54 Mbit



NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

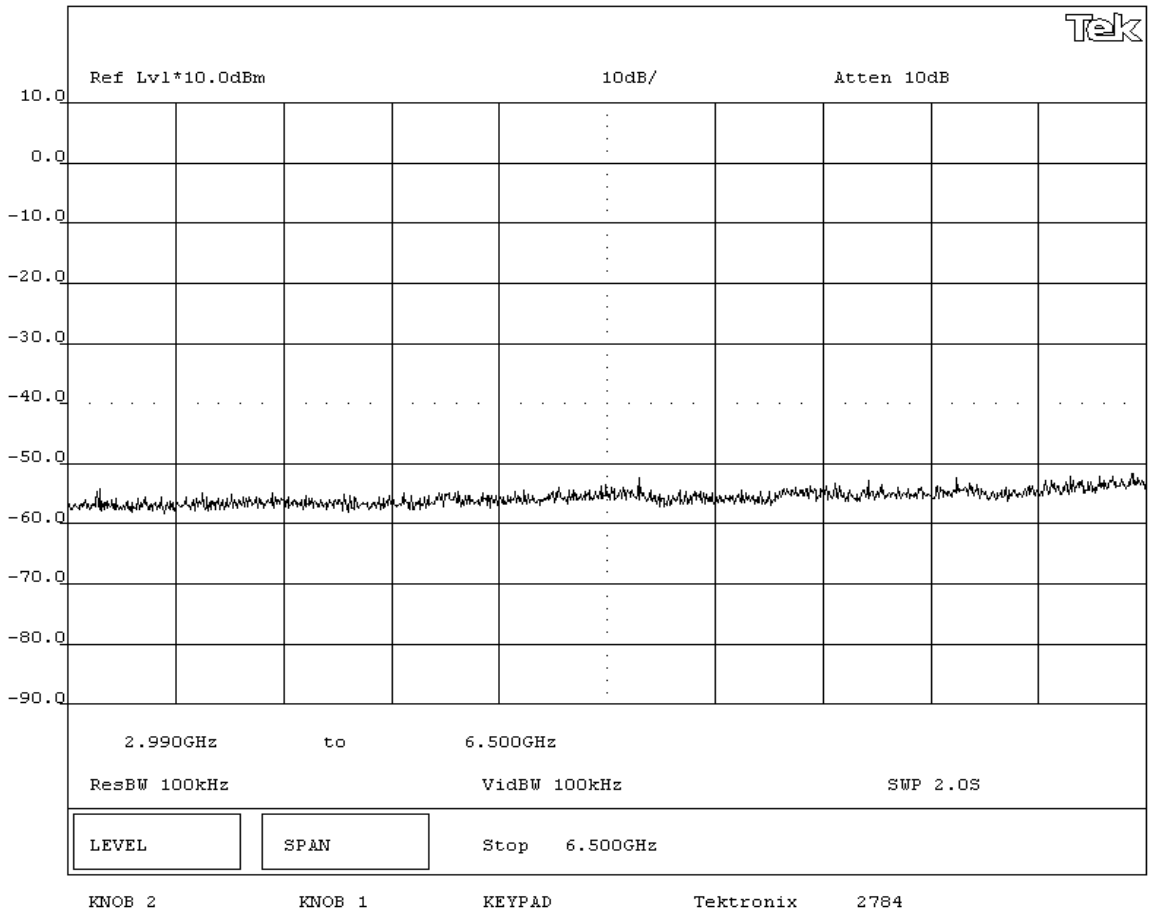
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 3GHz-6.5GHz - 54 Mbit



NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

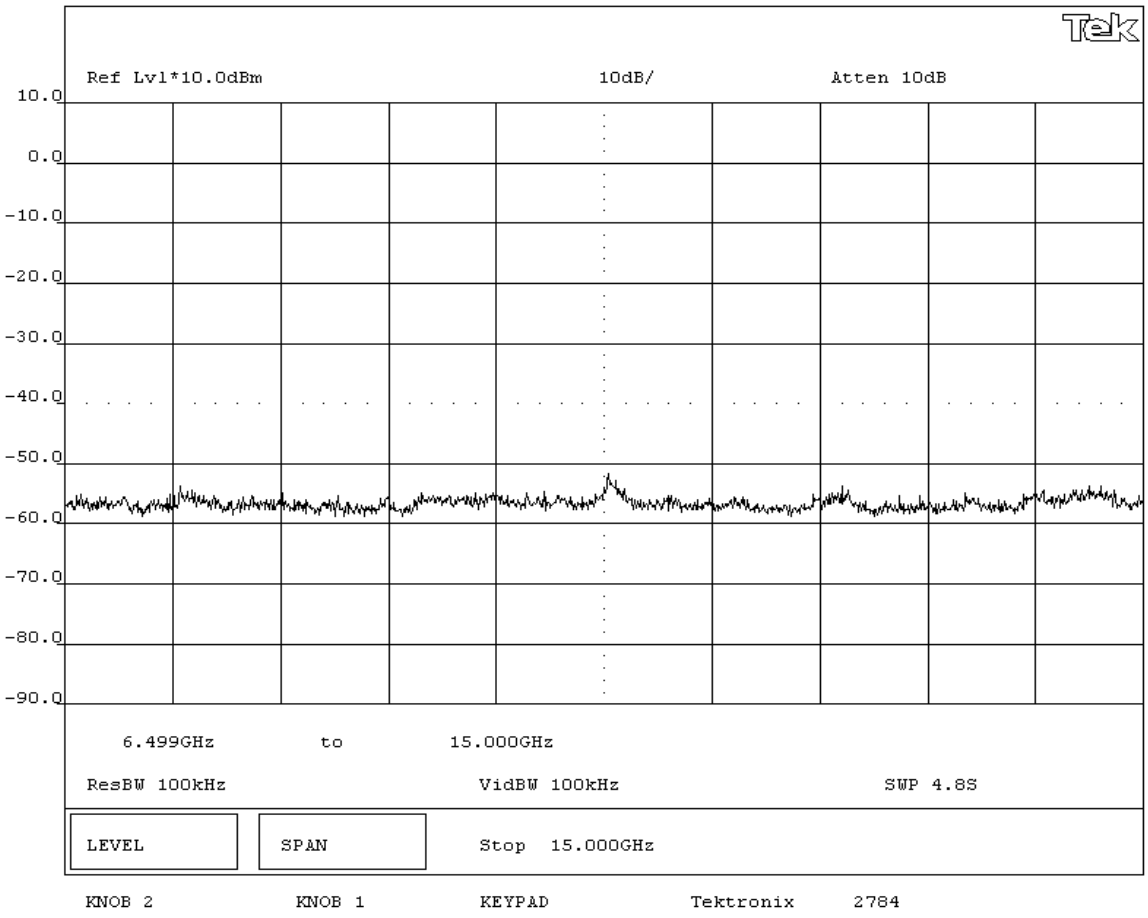
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 6.5GHz-15GHz - 54 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/25/03
Customer:	Intermec Corporation			Temperature:	77 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(c)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission outside of the authorized band is 20 dB down from the fundamental

RESULTS

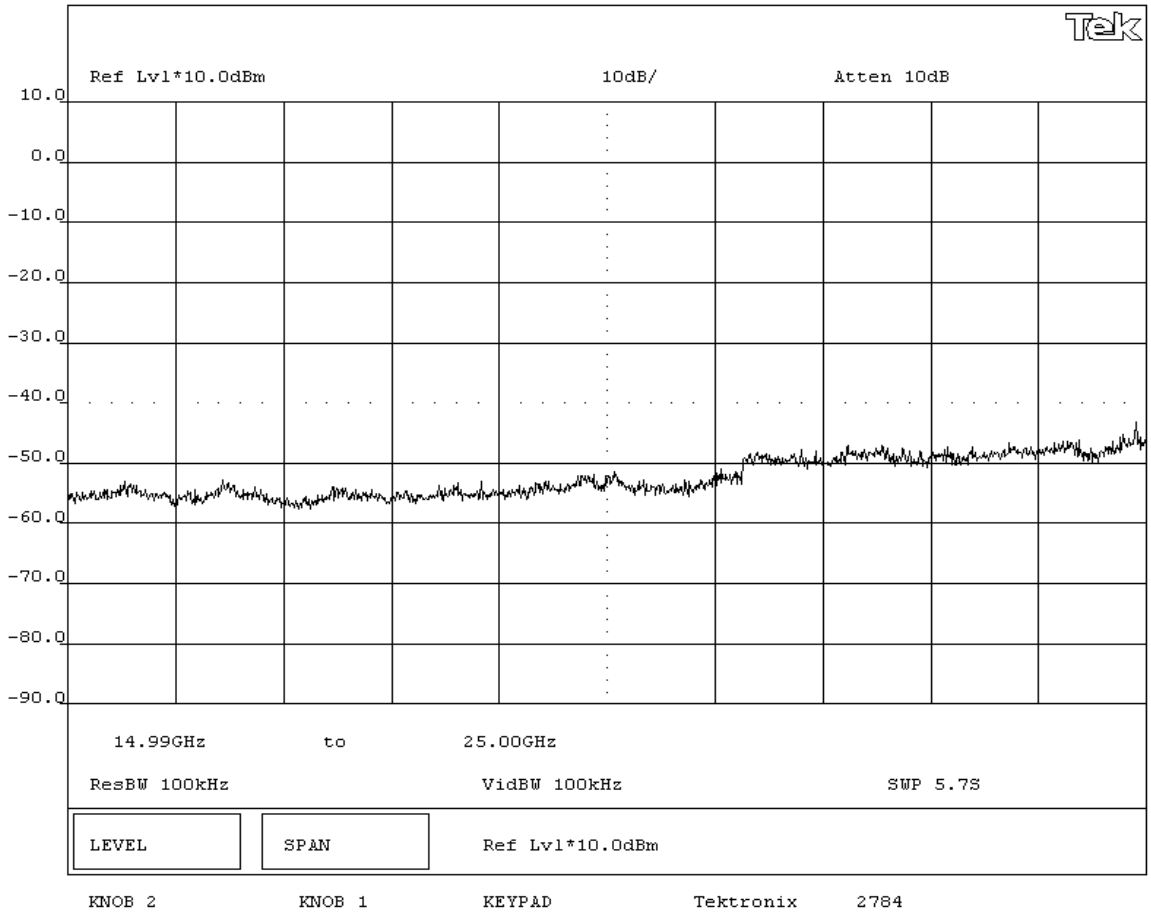
Pass

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 15GHz-25GHz - 54 Mbit



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:
802.11(b)
802.11(g)

Data Rates Investigated:
6 Mbit
11 Mbit
36 Mbit
54 Mbit

Output Power Setting(s) Investigated:
Maximum

Power Input Settings Investigated:
Battery

Software\Firmware Applied During Test			
Exercise software	FccTest.exe	Version	1/1/1601
Description			
The system was tested using special software developed to test all functions of the device during the test. The software allowed the selection of transmit channel and data rate. These were varied to produce the highest level of emissions. The OS of the host device was Ver. 0.00.00.0072			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
Radio (EUT)	Intermec	802MIG2	C1
Hand Held Scanner (Host for Radio)	Intermec	CK30	C1

Cables

None. No cables were attached to EUT

Measurement Equipment

Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Tektronix	2784	AAO	02/26/2003	24 mo

Test Description

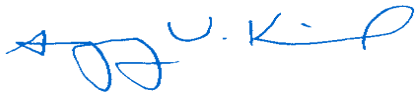
Requirement: Per 47 CFR 15.247(d), the peak power spectral density conducted from the antenna port of a direct sequence transmitter must not be greater than +8 dBm in any 3 kHz band during any time interval of continuous transmission.

Configuration: The peak power spectral density measurements were measured with the EUT set to low, mid, and high transmit frequencies. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its maximum data rate using direct sequence modulation. Per the procedure outlined in FCC 97-114, the spectrum analyzer was used as follows:

> The emission peak(s) were located and zoom in on within the passband. The resolution bandwidth was set to 3 kHz, the video bandwidth was set to greater than or equal to the resolution bandwidth. The sweep speed was set equal to the span divided by 3 kHz (sweep = (SPAN/3 kHz)). For example, given a span of 1.5 MHz, the sweep should be 1.5 x 106 ÷ 3 x 103 = 500 seconds. External attenuation was used and added to the reading. The following FCC procedure was used for modifying the power spectral density measurements:

"If the spectrum line spacing cannot be resolved on the available spectrum analyzer, the noise density function on most modern conventional spectrum analyzers will directly measure the noise power density normalized to a 1 Hz noise power bandwidth. Add 34.8 dB for correction to 3 kHz."

Completed by:



_____

NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/26/03
Customer:	Intermec Corporation			Temperature:	75 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	41% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(d)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

Meter reading on spectrum analyzer is internally compensated for cable loss and external attenuation.
Power Spectral Density per 3kHz bandwidth = Power Spectral Density per 1 Hz bandwidth + Bandwidth Correction Factor.
Bandwidth Correction Factor = 10*log(3 kHz / 1 Hz) = 34.8 dB

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum peak power spectral density conducted from a DSSS transmitter does not exceed 8 dBm in any 3 kHz band

RESULTS | **AMPLITUDE**

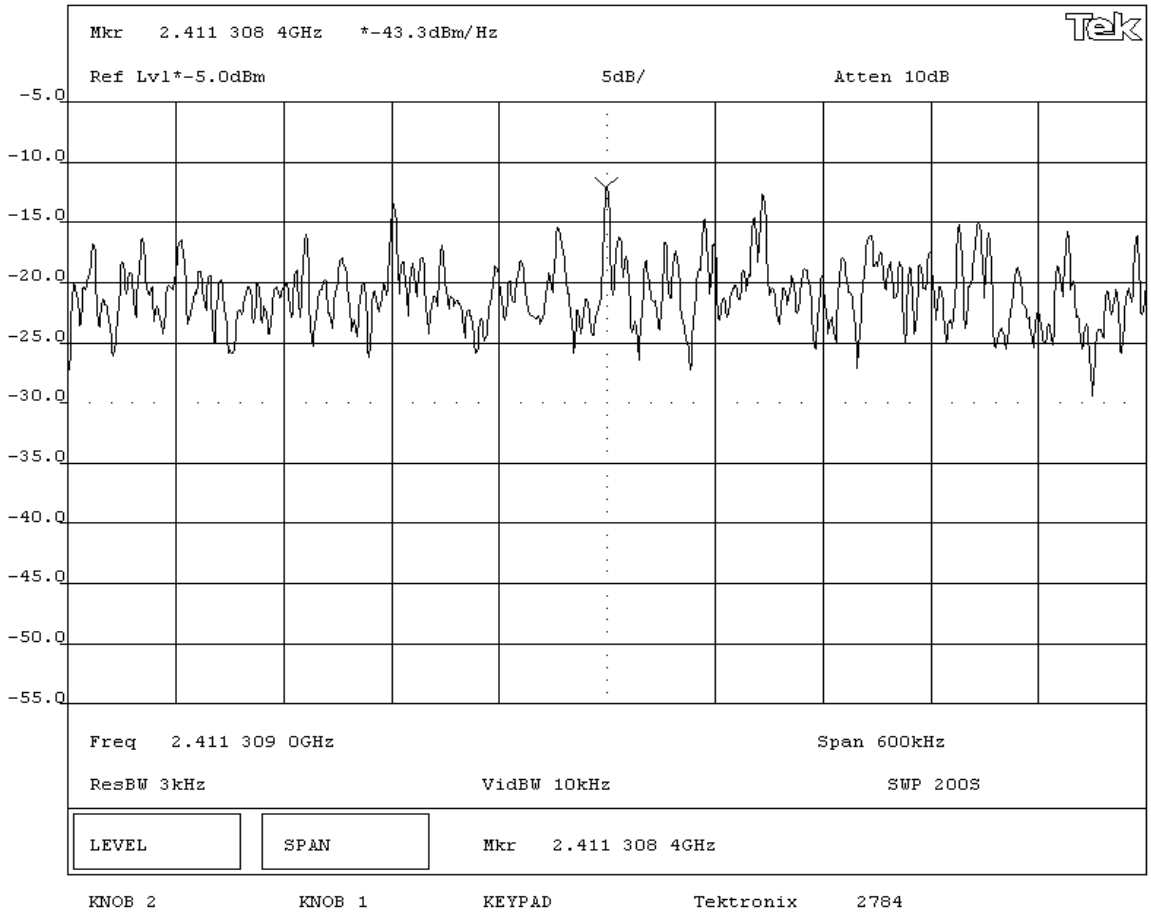
Pass | Power Spectral Density = -8.5 dBm / 3kHz

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Power Spectral Density - Low Channel



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/26/03
Customer:	Intermec Corporation			Temperature:	75 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	41% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(d)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

Meter reading on spectrum analyzer is internally compensated for cable loss and external attenuation.

Power Spectral Density per 3kHz bandwidth = Power Spectral Density per 1 Hz bandwidth + Bandwidth Correction Factor.

Bandwidth Correction Factor = 10*log(3 kHz / 1 Hz) = 34.8 dB

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum peak power spectral density conducted from a DSSS transmitter does not exceed 8 dBm in any 3 kHz band

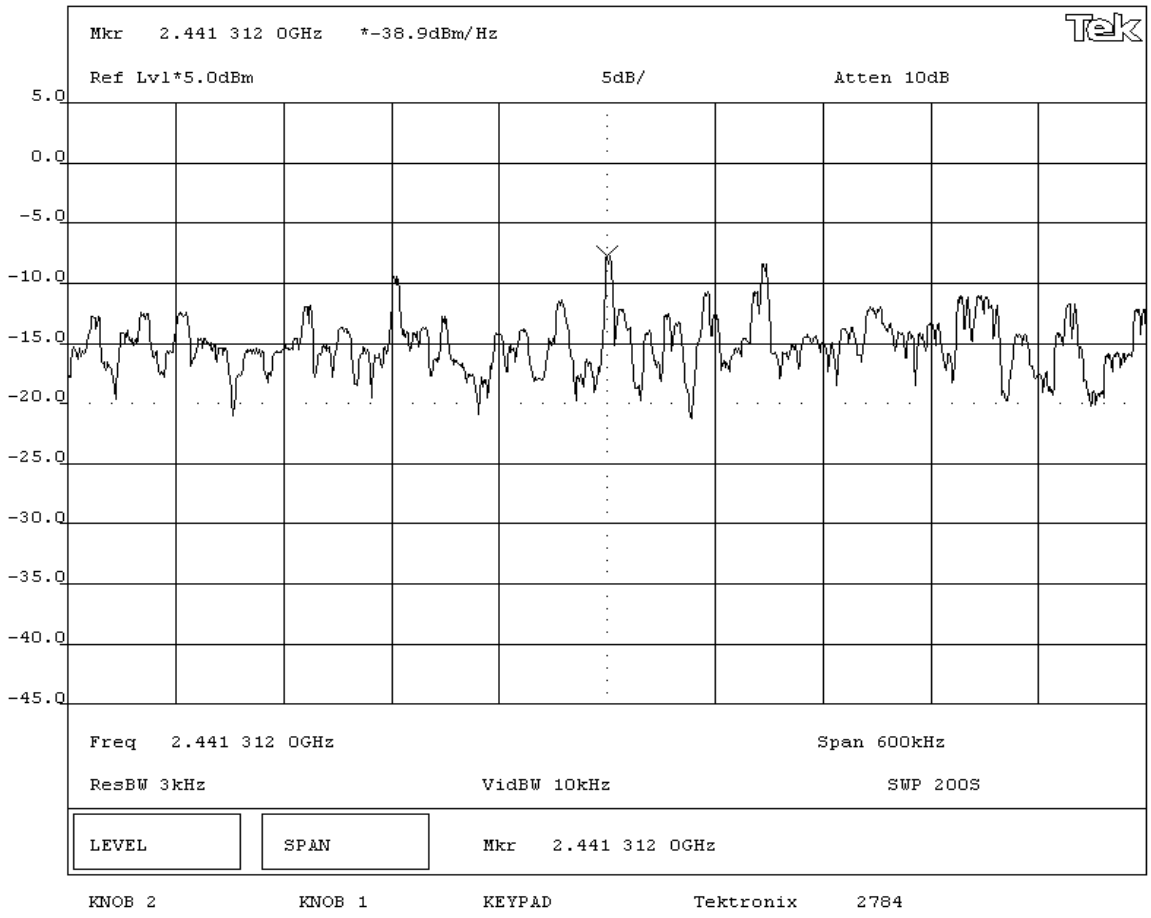
RESULTS	AMPLITUDE
Pass	Power Spectral Density = -4.1 dBm / 3kHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Power Spectral Density - Mid Channel



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C1			Date:	06/26/03
Customer:	Intermec Corporation			Temperature:	75 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	41% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(d)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

Meter reading on spectrum analyzer is internally compensated for cable loss and external attenuation.

Power Spectral Density per 3kHz bandwidth = Power Spectral Density per 1 Hz bandwidth + Bandwidth Correction Factor.

Bandwidth Correction Factor = 10*log(3 kHz / 1 Hz) = 34.8 dB

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at maximum data rate, 802.11(b) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum peak power spectral density conducted from a DSSS transmitter does not exceed 8 dBm in any 3 kHz band

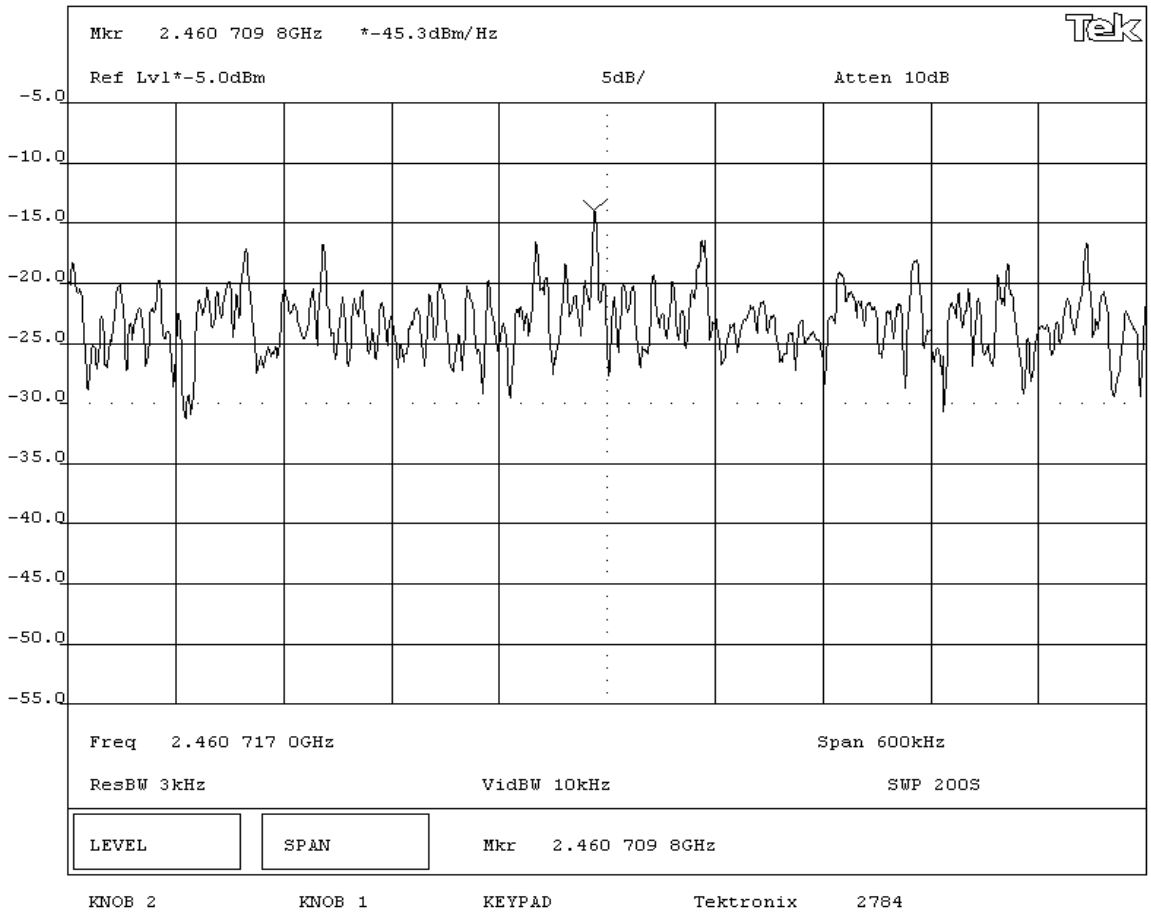
RESULTS	AMPLITUDE
Pass	Power Spectral Density = -10.5 dBm / 3kHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Power Spectral Density - High Channel



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/26/03
Customer:	Intermec Corporation			Temperature:	75 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	41% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(d)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

Meter reading on spectrum analyzer is internally compensated for cable loss and external attenuation.
Power Spectral Density per 3kHz bandwidth = Power Spectral Density per 1 Hz bandwidth + Bandwidth Correction Factor.
Bandwidth Correction Factor = 10*log(3 kHz / 1 Hz) = 34.8 dB

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum peak power spectral density conducted from a DSSS transmitter does not exceed 8 dBm in any 3 kHz band

RESULTS | **AMPLITUDE**

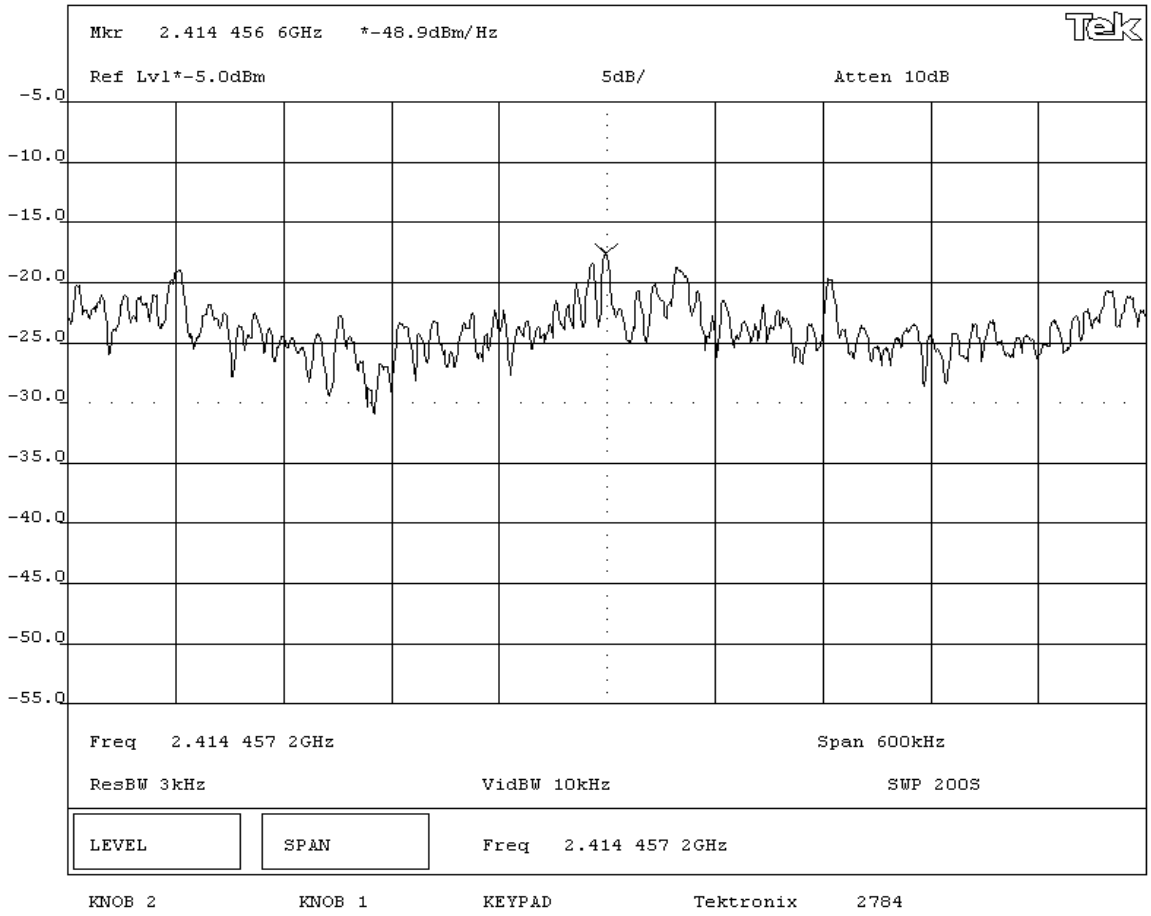
Pass | Power Spectral Density = -14.1 dBm / 3kHz

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Power Spectral Density - Low Channel - 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/26/03
Customer:	Intermec Corporation			Temperature:	75 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	41% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(d)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

Meter reading on spectrum analyzer is internally compensated for cable loss and external attenuation.
Power Spectral Density per 3kHz bandwidth = Power Spectral Density per 1 Hz bandwidth + Bandwidth Correction Factor.
Bandwidth Correction Factor = 10*log(3 kHz / 1 Hz) = 34.8 dB

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum peak power spectral density conducted from a DSSS transmitter does not exceed 8 dBm in any 3 kHz band

RESULTS

Pass

AMPLITUDE

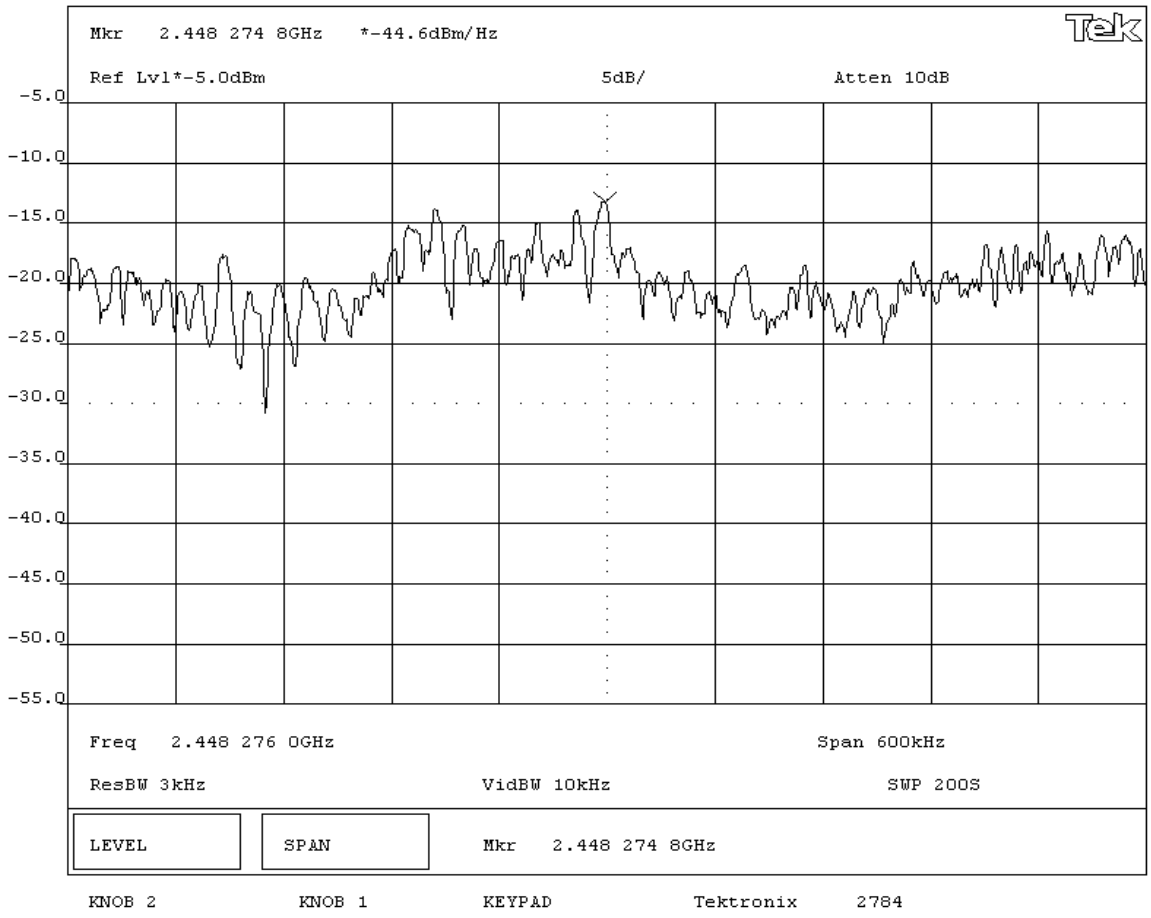
Power Spectral Density = -9.8 dBm / 3kHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Power Spectral Density - Mid Channel - 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/26/03
Customer:	Intermec Corporation			Temperature:	75 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	41% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(d)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

Meter reading on spectrum analyzer is internally compensated for cable loss and external attenuation.

Power Spectral Density per 3kHz bandwidth = Power Spectral Density per 1 Hz bandwidth + Bandwidth Correction Factor.

Bandwidth Correction Factor = 10*log(3 kHz / 1 Hz) = 34.8 dB

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum peak power spectral density conducted from a DSSS transmitter does not exceed 8 dBm in any 3 kHz band

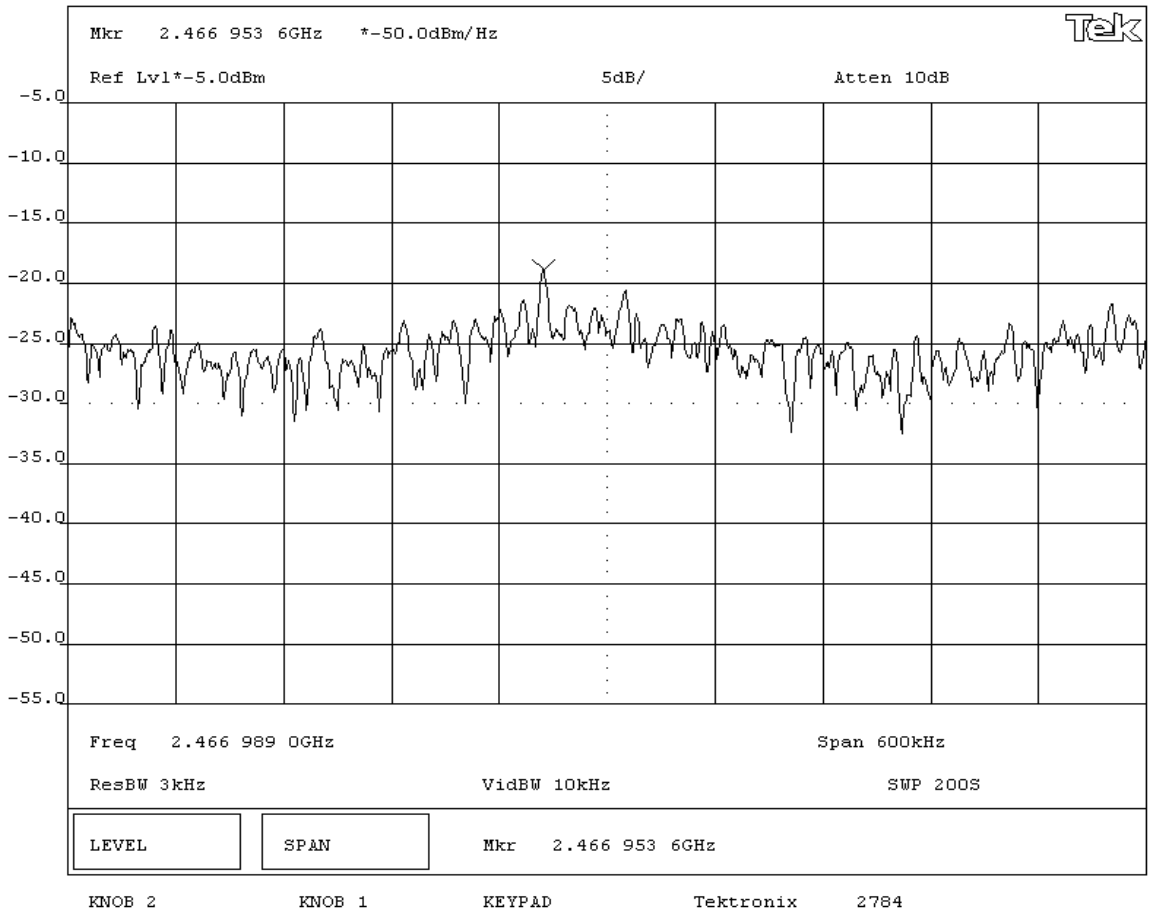
RESULTS	AMPLITUDE
Pass	Power Spectral Density = -15.2 dBm / 3kHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Power Spectral Density - High Channel - 6 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/26/03
Customer:	Intermec Corporation			Temperature:	75 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	41% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(d)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

Meter reading on spectrum analyzer is internally compensated for cable loss and external attenuation.
Power Spectral Density per 3kHz bandwidth = Power Spectral Density per 1 Hz bandwidth + Bandwidth Correction Factor.
Bandwidth Correction Factor = 10*log(3 kHz / 1 Hz) = 34.8 dB

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum peak power spectral density conducted from a DSSS transmitter does not exceed 8 dBm in any 3 kHz band

RESULTS | **AMPLITUDE**

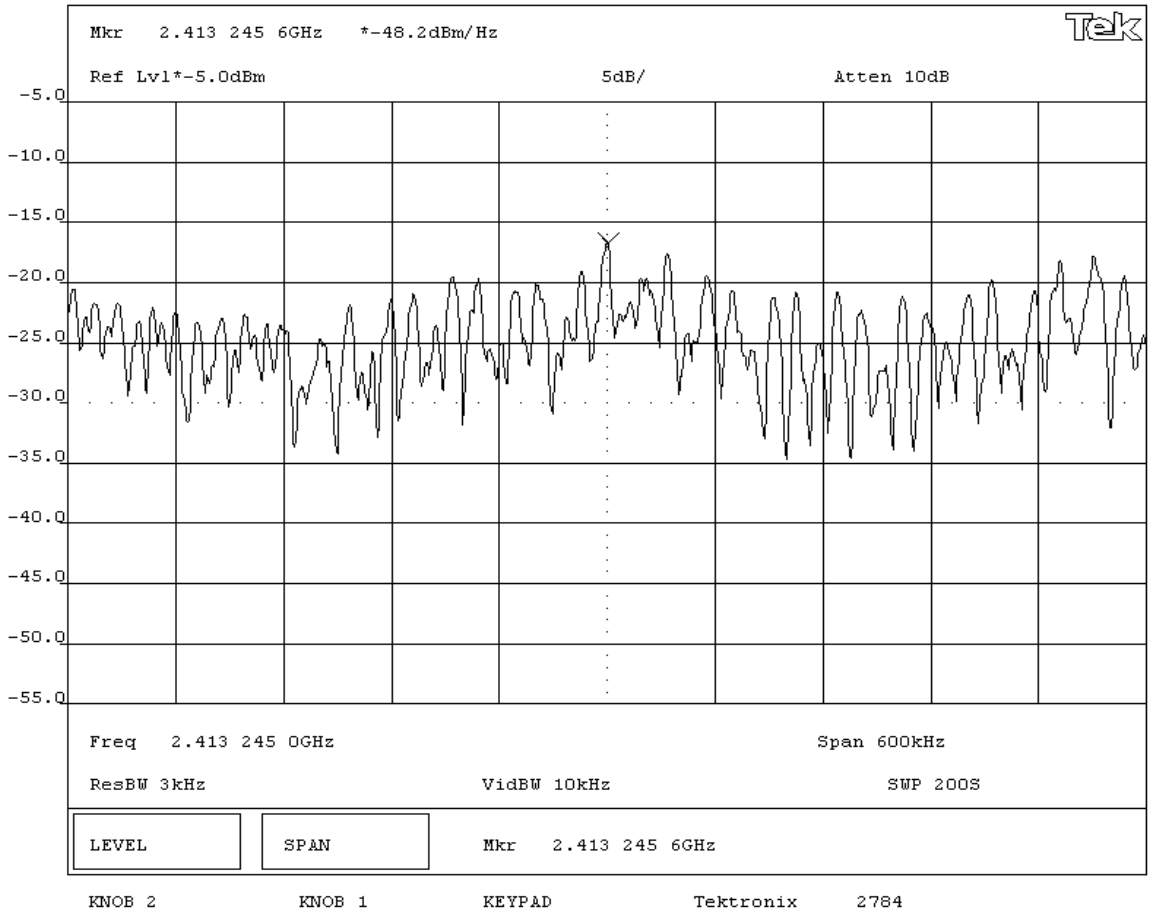
Pass | Power Spectral Density = -13.4 dBm / 3kHz

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Power Spectral Density - Low Channel - 36 Mbit



NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/26/03
Customer:	Intermec Corporation			Temperature:	75 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	41% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(d)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

Meter reading on spectrum analyzer is internally compensated for cable loss and external attenuation.
Power Spectral Density per 3kHz bandwidth = Power Spectral Density per 1 Hz bandwidth + Bandwidth Correction Factor.
Bandwidth Correction Factor = 10*log(3 kHz / 1 Hz) = 34.8 dB

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum peak power spectral density conducted from a DSSS transmitter does not exceed 8 dBm in any 3 kHz band

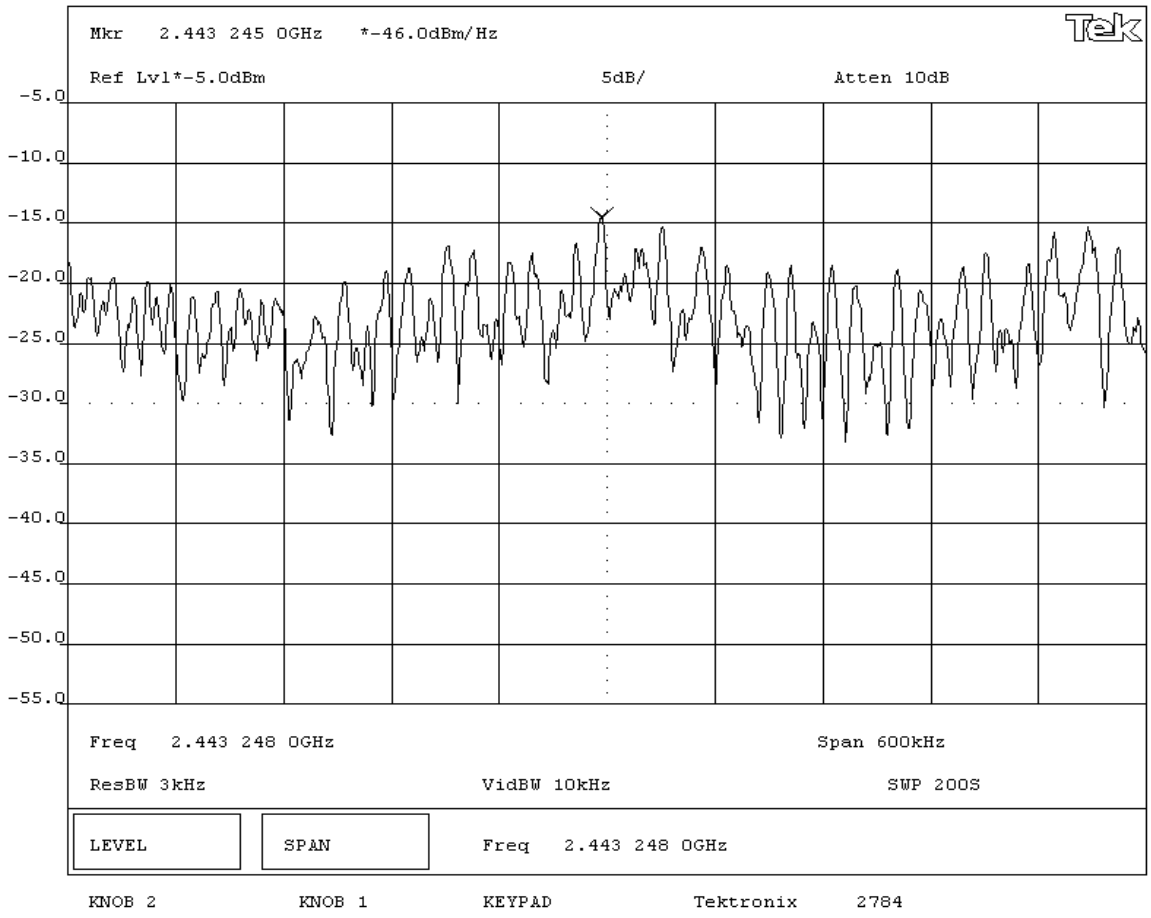
RESULTS	AMPLITUDE
Pass	Power Spectral Density = -11.2 dBm / 3kHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Power Spectral Density - Mid Channel - 36 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/26/03
Customer:	Intermec Corporation			Temperature:	75 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	41% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(d)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

Meter reading on spectrum analyzer is internally compensated for cable loss and external attenuation.

Power Spectral Density per 3kHz bandwidth = Power Spectral Density per 1 Hz bandwidth + Bandwidth Correction Factor.

Bandwidth Correction Factor = 10*log(3 kHz / 1 Hz) = 34.8 dB

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum peak power spectral density conducted from a DSSS transmitter does not exceed 8 dBm in any 3 kHz band

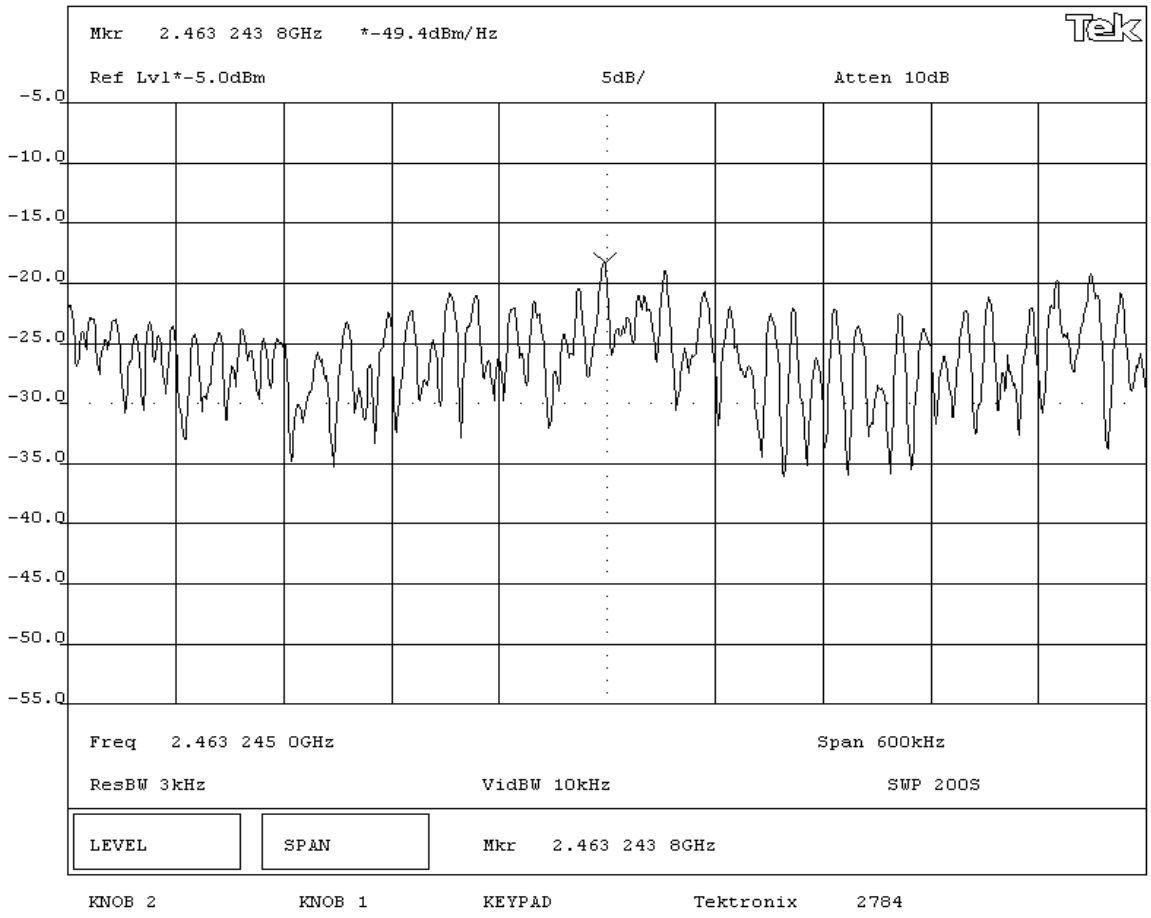
RESULTS	AMPLITUDE
Pass	Power Spectral Density = -14.6 dBm / 3kHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Power Spectral Density - High Channel - 36 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/26/03
Customer:	Intermec Corporation			Temperature:	75 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	41% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(d)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

Meter reading on spectrum analyzer is internally compensated for cable loss and external attenuation.
Power Spectral Density per 3kHz bandwidth = Power Spectral Density per 1 Hz bandwidth + Bandwidth Correction Factor.
Bandwidth Correction Factor = 10*log(3 kHz / 1 Hz) = 34.8 dB

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum peak power spectral density conducted from a DSSS transmitter does not exceed 8 dBm in any 3 kHz band

RESULTS | **AMPLITUDE**

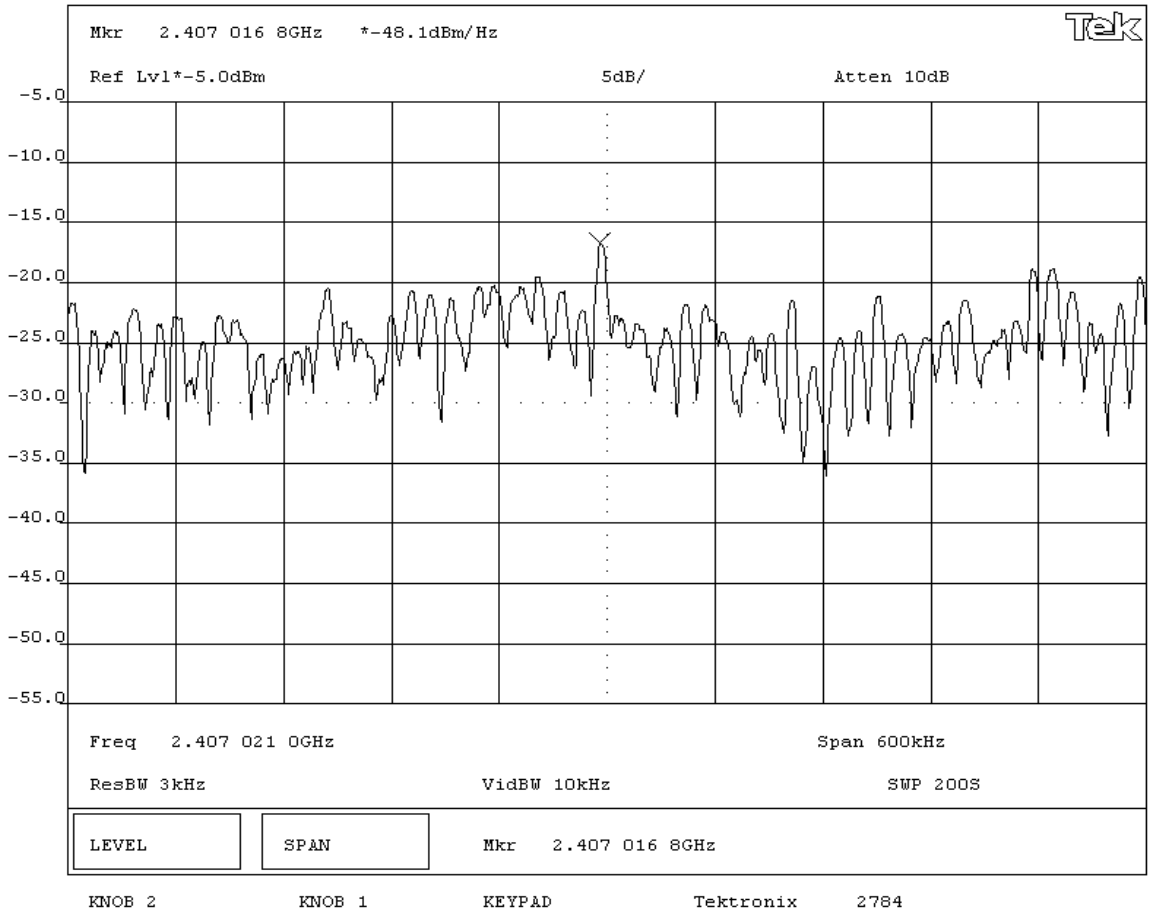
Pass | Power Spectral Density = -13.3 dBm / 3kHz

SIGNATURE

Tested By: U. Kiel

DESCRIPTION OF TEST

Power Spectral Density - Low Channel - 54 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/26/03
Customer:	Intermec Corporation			Temperature:	75 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	41% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(d)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

Meter reading on spectrum analyzer is internally compensated for cable loss and external attenuation.

Power Spectral Density per 3kHz bandwidth = Power Spectral Density per 1 Hz bandwidth + Bandwidth Correction Factor.

Bandwidth Correction Factor = 10*log(3 kHz / 1 Hz) = 34.8 dB

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum peak power spectral density conducted from a DSSS transmitter does not exceed 8 dBm in any 3 kHz band

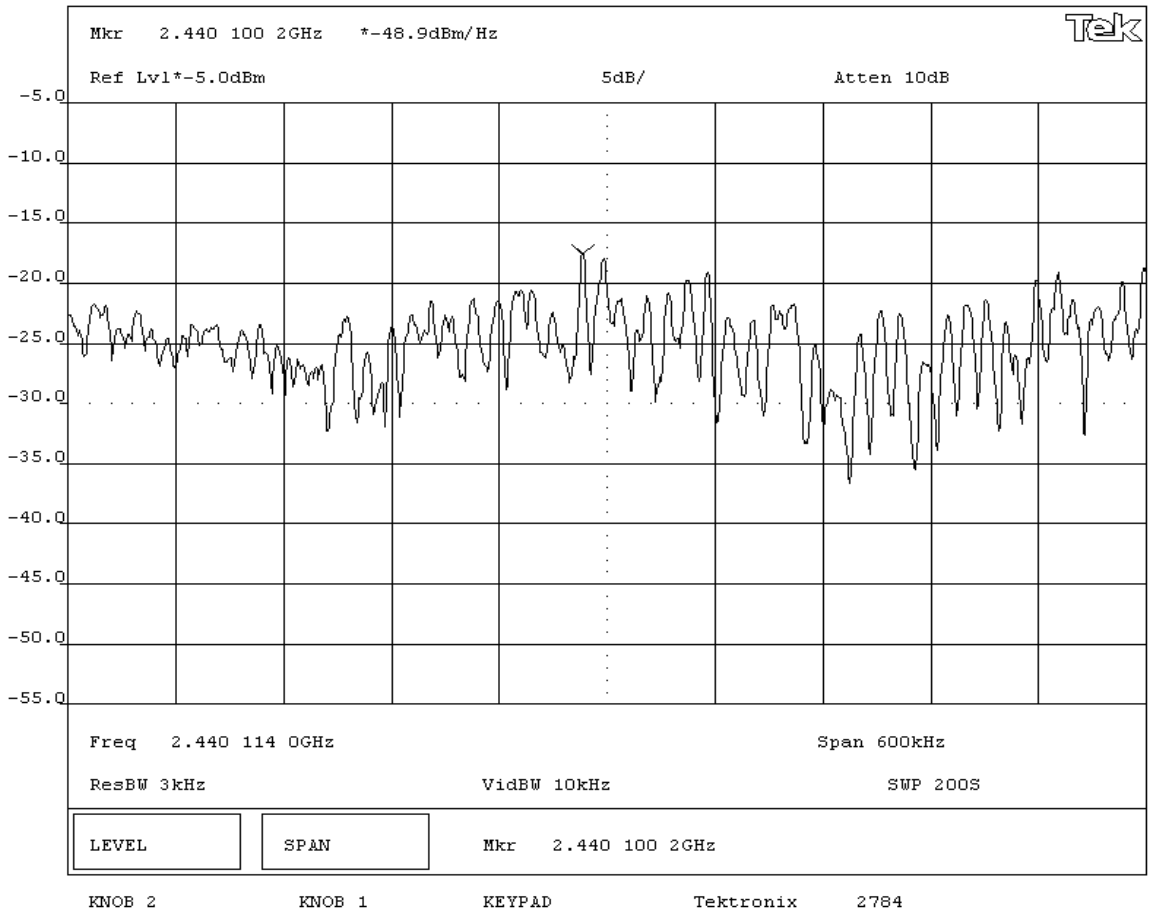
RESULTS	AMPLITUDE
Pass	Power Spectral Density = -14.1 dBm / 3kHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Power Spectral Density - Mid Channel - 54 Mbit



NORTHWEST EMC

EMISSIONS DATA SHEET

Rev BETA 01/30/01

EUT:	802MIG2			Work Order:	INMC0081
Serial Number:	C1			Date:	06/26/03
Customer:	Intermec Corporation			Temperature:	75 degrees F
Attendees:	C.D. White	Tested by:	Greg Kiemel	Humidity:	41% RH
Customer Ref. No.:	N/A	Power:	DC from Host Unit	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.247(d)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

Meter reading on spectrum analyzer is internally compensated for cable loss and external attenuation.
Power Spectral Density per 3kHz bandwidth = Power Spectral Density per 1 Hz bandwidth + Bandwidth Correction Factor.
Bandwidth Correction Factor = 10*log(3 kHz / 1 Hz) = 34.8 dB

COMMENTS

Tested in CK-30 Handheld Scanner

EUT OPERATING MODES

Modulated by PRBS at indicated data rate, 802.11(g) modulation scheme

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum peak power spectral density conducted from a DSSS transmitter does not exceed 8 dBm in any 3 kHz band

RESULTS

Pass

AMPLITUDE

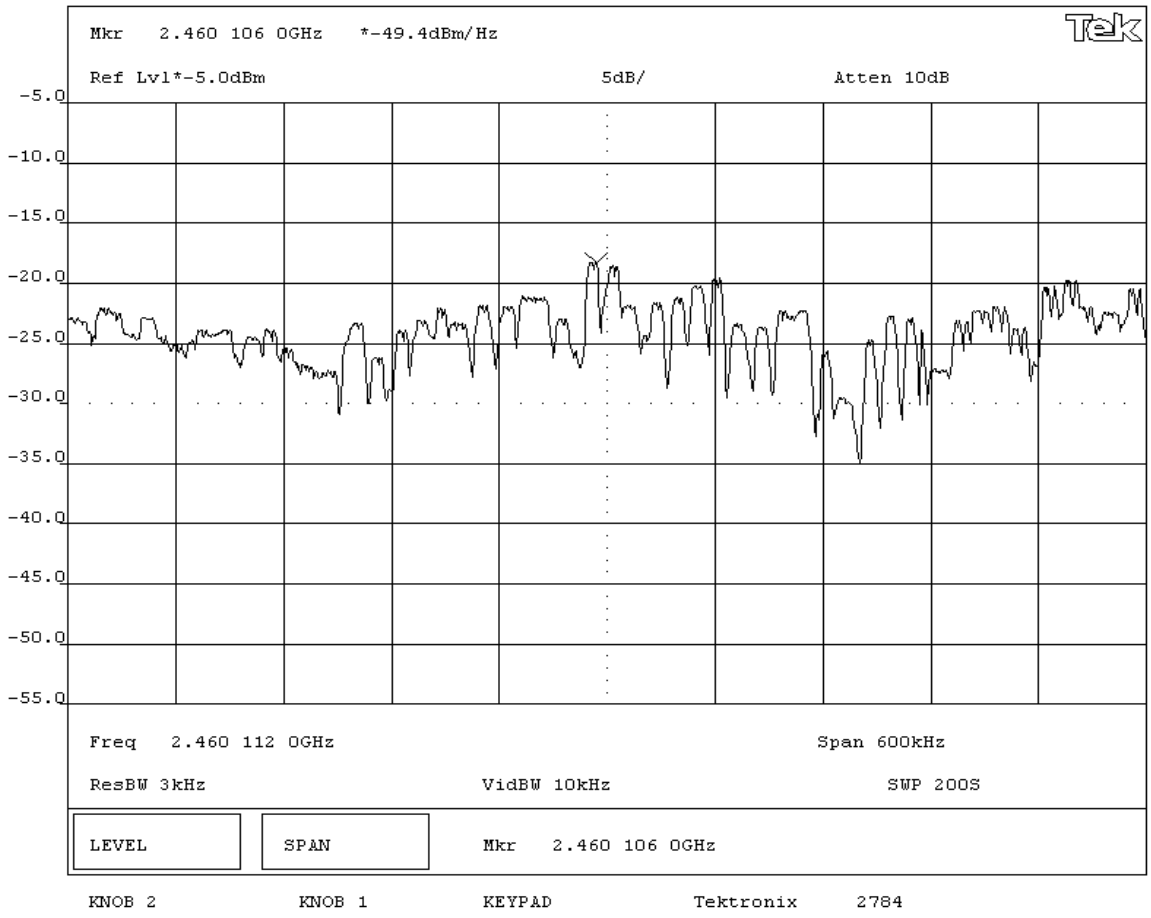
Power Spectral Density = -14.6 dBm / 3kHz

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Power Spectral Density - High Channel - 54 Mbit



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:
802.11(b)
802.11(g)
802.11(b) simultaneously transmitting with co-located Bluetooth radio
802.11(g) simultaneously transmitting with co-located Bluetooth radio

Data Rates Investigated:
6 Mbit
11 Mbit
36 Mbit
54 Mbit

Output Power Setting(s) Investigated:
Maximum

Power Input Settings Investigated:
Battery powered in stand-alone configuration
120 V, 60 Hz via the dock station

Antennas Investigated:
Integral

Frequency Range Investigated			
Start Frequency	30 MHz	Stop Frequency	26 GHz

Software\Firmware Applied During Test

Exercise software	FccTest.exe	Version	1/1/1601
Description			
The system was tested using special software developed to test all functions of the device during the test. The software allowed the selection of transmit channel and data rate. These were varied to produce the highest level of emissions. The OS of the host device was Ver. 0.00.00.0072			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
Radio (EUT)	Intermec	802MIG2	C2
Hand Held Scanner (Host for Radio)	Intermec	CK30	C2
Docking Station	Intermec	AD1	SAC0D2
Power Adapter	Elpac Power Systems	FW5012	001831

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB	Yes	1.8	No	Docking Station	Unterminated
Serial	Yes	1.8	No	Docking Station	Unterminated
LAN	No	6	No	Docking Station	Unterminated
DC Leads	PA	1.6	Yes	Docking Station	Power Adapter
AC Power	No	1.5	No	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	Hewlett-Packard	8566B	AAL	01/07/2003	12 mo
Quasi-Peak Adapter	Hewlett-Packard	85650A	AQF	01/07/2003	12 mo
Pre-Amplifier	Amplifier Research	LN1000A	APS	01/06/2003	12 mo
Antenna, Biconilog	EMCO	3141	AXE	12/31/2001	36 mo
Pre-Amplifier	Miteq	AMF-4D-005180-24-10P	APJ	01/06/2003	12 mo
High Pass Filter	RLC Electronics	F-100-4000-5-R (HPF>4GHz up to	HFF	05/01/2003	12 mo
Antenna, Horn	EMCO	3115	AHC	08/12/2002	12 mo
Pre-Amplifier	Miteq	AMF-4D-005180-24-10P	APC	08/09/2002	12 mo
Antenna, Horn	EMCO	3160-08	AHK	06/20/2003	12 mo
Spectrum Analyzer	Tektronix	2784	AAO	2/26/2003	12 mo
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	01/17/2003	12 mo
Antenna, Horn	EMCO	3160-09	AHG	01/15/2003	12 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.

Configuration: 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 EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.4:1992). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

Simultaneous Transmission: The EUT will be co-located with a Bluetooth radio: FCC ID: LUBBTM-1. The radios can transmit stand-alone or simultaneously. Each radio transmits through its own antenna.

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.**

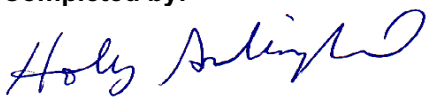
The worst case simultaneous transmission mode was determined to be with the EUT transmitting at the highest channel (channel 11 – 2462 MHz) with the Bluetooth radio transmitting at its highest channel (2480 MHz). Radiated band-edge compliance in the 2483.5 – 2500 MHz restricted band was measured in this configuration. Then, the entire frequency range was investigated with both radios transmitting at 2462 MHz.

During simultaneous transmission testing the Bluetooth radio was placed into a modulated, no-hop mode transmitting at it maximum data rate and power. The EUT operation was varied by modulation type and data rate to produce the worst-case emissions.

Bandwidths Used for Measurements

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 – 0.15	1.0	0.2	0.2
0.15 – 30.0	10.0	9.0	9.0
30.0 – 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0
Measurements were made using the bandwidths and detectors specified. No video filter was used.			

Completed by:



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NORTHWEST
EMC

OATS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C2			Date:	06/25/03
Customer:	INTERMEC Technologies Corporation			Temperature:	77
Attendees:	Cheryl White			Humidity:	35%
Cust. Ref. No.:				Barometric Pressure	30.04
Tested by:	Holly Ashkannejhad	Power:	120VAC, 60Hz	Job Site:	EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

802.11(b) modulation. Transmitting Channel 1, 7, or 11 at 11Mbit

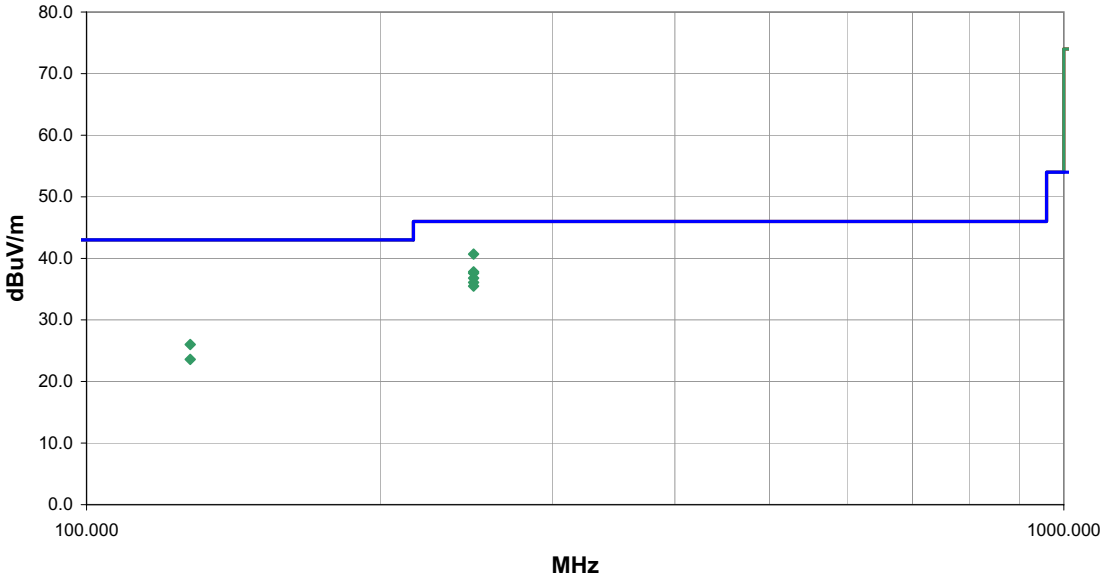
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	4

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
248.864	46.3	-15.6	272.0	1.1	3.0	10.0	H-Bilog	QP	0.0	40.7	46.0	-5.3	Transmitting High Channel
248.864	43.4	-15.6	355.0	1.1	3.0	10.0	V-Bilog	QP	0.0	37.8	46.0	-8.2	Transmitting low channel
248.864	43.2	-15.6	330.0	2.2	3.0	10.0	V-Bilog	QP	0.0	37.6	46.0	-8.4	Transmitting High Channel
248.866	42.4	-15.6	360.0	1.1	3.0	10.0	V-Bilog	QP	0.0	36.8	46.0	-9.2	Transmitting mid channel
248.864	41.7	-15.6	246.0	1.8	3.0	10.0	H-Bilog	QP	0.0	36.1	46.0	-9.9	Transmitting low channel
248.865	41.1	-15.6	233.0	1.8	3.0	10.0	H-Bilog	QP	0.0	35.5	46.0	-10.5	Transmitting mid channel
127.692	35.8	-19.8	305.0	1.0	3.0	10.0	V-Bilog	QP	0.0	26.0	43.0	-17.0	Transmitting low channel
127.662	33.4	-19.8	85.0	3.2	3.0	10.0	H-Bilog	QP	0.0	23.6	43.0	-19.4	Transmitting low channel

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2			Work Order:	INMC0071
Serial Number:	C2			Date:	06/25/03
Customer:	INTERMEC Technologies Corporation			Temperature:	77
Attendees:	Cheryl White			Humidity:	35%
Cust. Ref. No.:				Barometric Pressure	30.04
Tested by:	Holly Ashkannejhad	Power:	120VAC, 60Hz	Job Site:	EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

802.11(b) modulation. Transmitting Channel 11 at 11Mbit

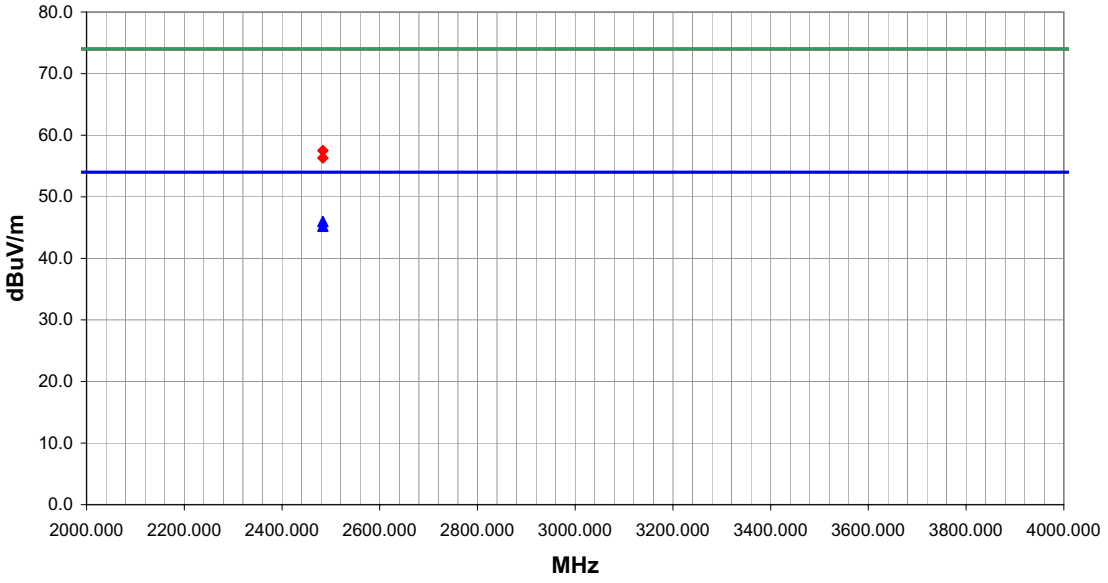
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	6

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
2483.500	29.0	1.0	266.0	2.2	3.0	16.0	H-Horn	AV	0.0	46.0	54.0	-8.0	Transmitting High Channel
2483.500	28.2	1.0	175.0	1.9	3.0	16.0	V-Horn	AV	0.0	45.2	54.0	-8.8	Transmitting High Channel
2483.500	40.5	1.0	266.0	2.2	3.0	16.0	H-Horn	PK	0.0	57.5	74.0	-16.5	Transmitting High Channel
2483.500	39.3	1.0	175.0	1.9	3.0	16.0	V-Horn	PK	0.0	56.3	74.0	-17.7	Transmitting High Channel

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C2	Date:	06/25/03
Customer:	INTERMEC Technologies Corporation	Temperature:	77
Attendees:	Cheryl White	Humidity:	35%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Holly Ashkannejhad	Power: 120VAC, 60Hz	Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

802.11(b) modulation. Transmitting mid channel at 11Mbit.

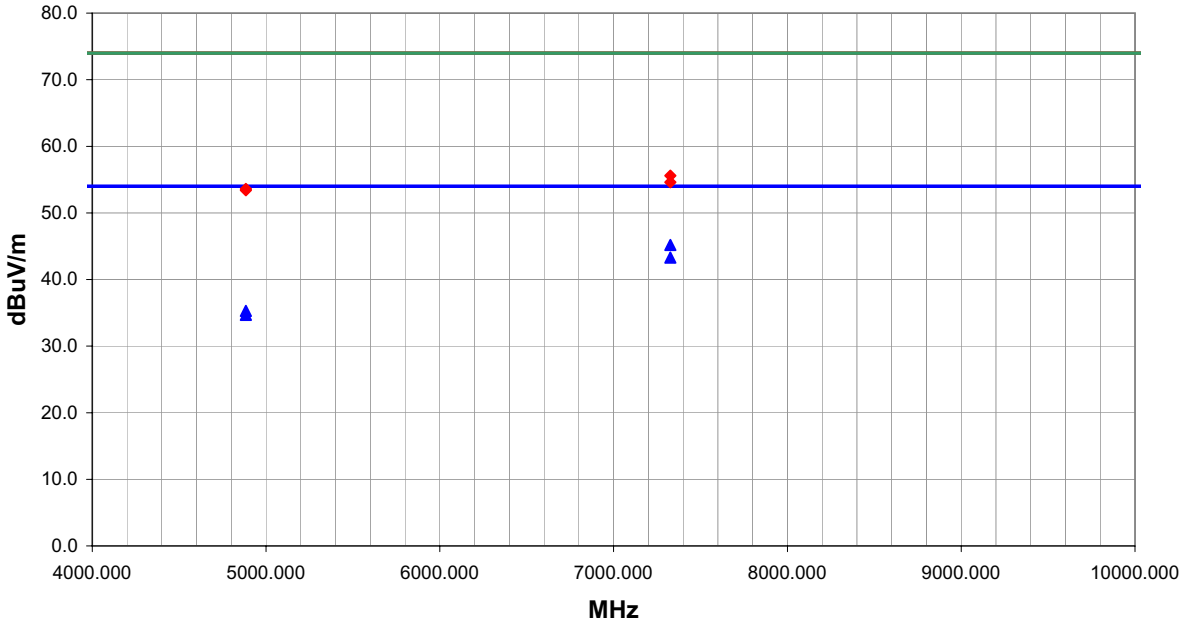
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	8

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
7326.757	34.2	11.0	198.0	1.3	3.0	0.0	H-Horn	AV	0.0	45.2	54.0	-8.8
7326.757	32.3	11.0	226.0	1.2	3.0	0.0	V-Horn	AV	0.0	43.3	54.0	-10.7
4883.867	29.1	6.2	224.0	1.1	3.0	0.0	V-Horn	AV	0.0	35.3	54.0	-18.7
4883.867	28.5	6.2	147.0	1.4	3.0	0.0	H-Horn	AV	0.0	34.7	54.0	-19.3
7326.757	44.6	11.0	198.0	1.3	3.0	0.0	H-Horn	PK	0.0	55.6	74.0	-18.4
7326.757	43.6	11.0	226.0	1.2	3.0	0.0	V-Horn	PK	0.0	54.6	74.0	-19.4
4883.867	47.4	6.2	147.0	1.4	3.0	0.0	H-Horn	PK	0.0	53.6	74.0	-20.4
4883.867	47.2	6.2	224.0	1.1	3.0	0.0	V-Horn	PK	0.0	53.4	74.0	-20.6

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.10
03/10/2003

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C2	Date:	06/25/03
Customer:	INTERMEC Technologies Corporation	Temperature:	72
Attendees:	Cheryl White	Humidity:	38%
Cust. Ref. No.:		Barometric Pressure	30.19
Tested by:	Rod Peloquin	Power: 120VAC, 60Hz	Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

802.11(b) modulation, 11 Mbit

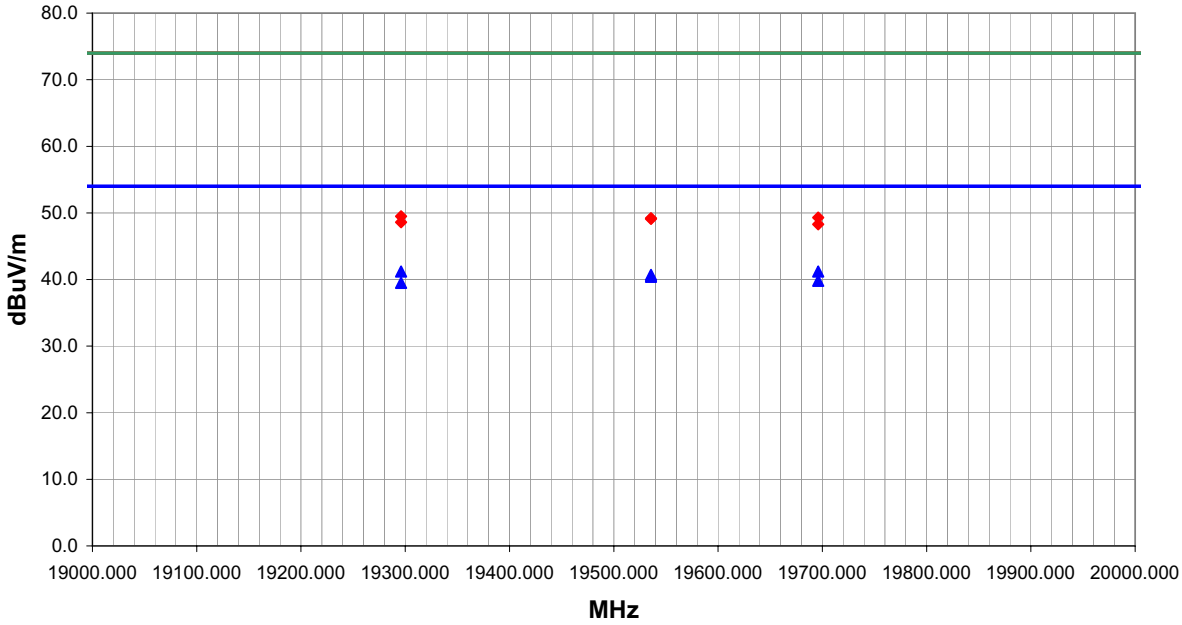
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	3

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
19296.000	33.0	8.2	216.0	1.1	3.0	0.0	V-High Horr	AV	0.0	41.2	54.0	-12.8	low channel
19696.000	32.5	8.7	288.0	1.2	3.0	0.0	H-High Horr	AV	0.0	41.2	54.0	-12.8	high channel
19535.740	32.2	8.5	213.0	1.1	3.0	0.0	V-High Horr	AV	0.0	40.7	54.0	-13.3	mid channel
19535.740	31.9	8.5	289.0	1.2	3.0	0.0	H-High Horr	AV	0.0	40.4	54.0	-13.6	mid channel
19696.000	31.1	8.7	219.0	1.1	3.0	0.0	V-High Horr	AV	0.0	39.8	54.0	-14.2	high channel
19296.000	31.3	8.2	214.0	1.0	3.0	0.0	H-High Horr	AV	0.0	39.5	54.0	-14.5	low channel
19296.000	41.3	8.2	216.0	1.1	3.0	0.0	V-High Horr	PK	0.0	49.5	74.0	-24.5	low channel
19696.000	40.6	8.7	288.0	1.2	3.0	0.0	H-High Horr	PK	0.0	49.3	74.0	-24.7	high channel
19535.740	40.7	8.5	213.0	1.1	3.0	0.0	V-High Horr	PK	0.0	49.2	74.0	-24.8	mid channel
19535.740	40.6	8.5	289.0	1.2	3.0	0.0	H-High Horr	PK	0.0	49.1	74.0	-24.9	mid channel
19296.000	40.4	8.2	214.0	1.0	3.0	0.0	H-High Horr	PK	0.0	48.6	74.0	-25.4	low channel
19696.000	39.6	8.7	219.0	1.1	3.0	0.0	V-High Horr	PK	0.0	48.3	74.0	-25.7	high channel

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2	Work Order:	INMC0081
Serial Number:	C2	Date:	06/25/03
Customer:	INTERMEC Technologies Corporation	Temperature:	81
Attendees:		Humidity:	34%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Holly Ashkannejhad	Power: 120VAC, 60Hz	Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

802.11(g) modulation. Transmitting Low Channel at 6, 36, or 54Mbit.

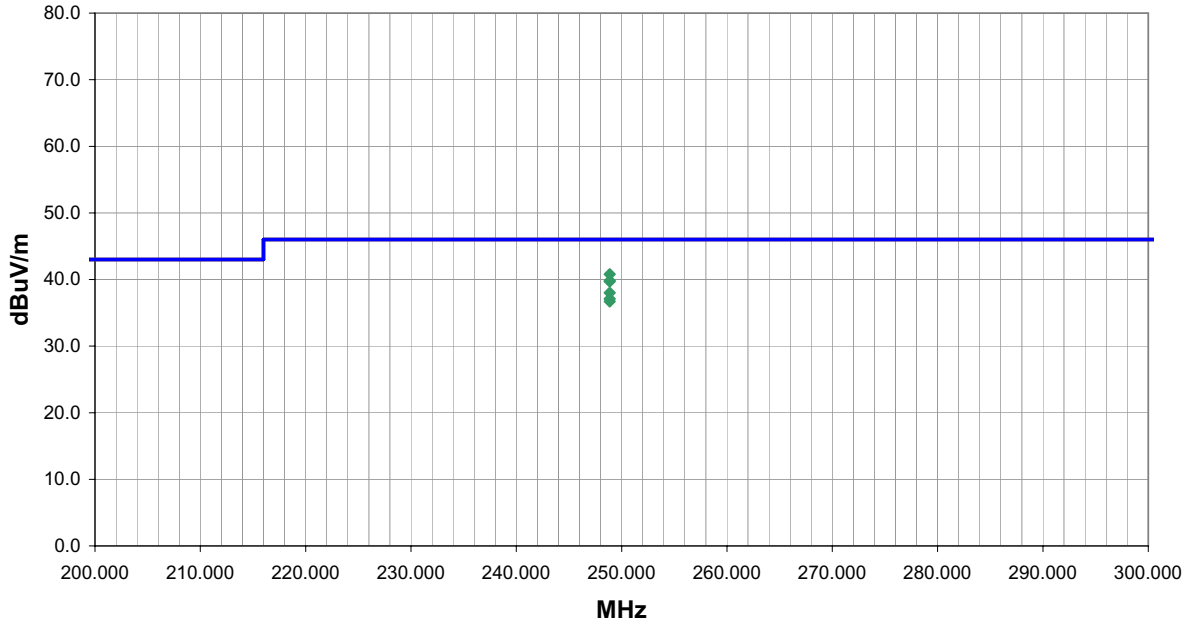
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	4

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
248.865	46.4	-15.6	272.0	1.0	3.0	10.0	H-Bilog	QP	0.0	40.8	46.0	-5.2	54Mbit data rate
248.863	45.4	-15.6	301.0	1.0	3.0	10.0	H-Bilog	QP	0.0	39.8	46.0	-6.2	6Mbit data rate
248.865	45.3	-15.6	279.0	1.0	3.0	10.0	H-Bilog	QP	0.0	39.7	46.0	-6.3	36MBit data rate
248.864	43.6	-15.6	27.0	1.5	3.0	10.0	V-Bilog	QP	0.0	38.0	46.0	-8.0	36MBit data rate
248.864	42.7	-15.6	349.0	1.6	3.0	10.0	V-Bilog	QP	0.0	37.1	46.0	-8.9	6Mbit data rate
248.865	42.3	-15.6	357.0	1.1	3.0	10.0	V-Bilog	QP	0.0	36.7	46.0	-9.3	54Mbit data rate

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2	Work Order:	INMC0081
Serial Number:	C2	Date:	06/25/03
Customer:	INTERMEC Technologies Corporation	Temperature:	81
Attendees:		Humidity:	34%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Holly Ashkannejhad	Power: 120VAC, 60Hz	Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

802.11(g) modulation, transmitting high channel at 6, 36, or 54Mbit.

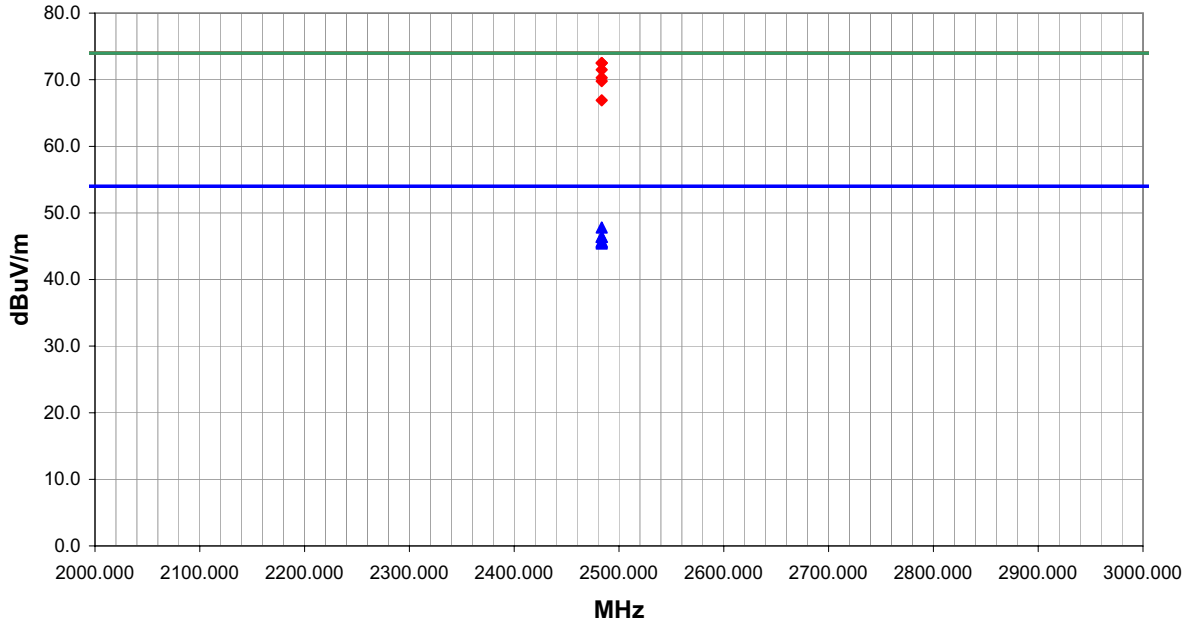
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	6

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
2483.500	30.8	1.0	253.0	2.5	3.0	16.0	H-Horn	AV	0.0	47.8	54.0	-6.2	6MBit data rate
2483.500	29.4	1.0	171.0	1.3	3.0	16.0	H-Horn	AV	0.0	46.4	54.0	-7.6	36Mbit data rate
2483.500	29.4	1.0	170.0	1.2	3.0	16.0	H-Horn	AV	0.0	46.4	54.0	-7.6	54MBit data rate
2483.500	28.7	1.0	236.0	1.2	3.0	16.0	V-Horn	AV	0.0	45.7	54.0	-8.3	36Mbit data rate
2483.500	28.6	1.0	233.0	1.2	3.0	16.0	V-Horn	AV	0.0	45.6	54.0	-8.4	54MBit data rate
2483.500	28.4	1.0	235.0	1.2	3.0	16.0	V-Horn	AV	0.0	45.4	54.0	-8.6	6MBit data rate
2483.500	55.5	1.0	171.0	1.3	3.0	16.0	H-Horn	PK	0.0	72.5	74.0	-1.5	36Mbit data rate
2483.500	55.5	1.0	170.0	1.2	3.0	16.0	H-Horn	PK	0.0	72.5	74.0	-1.5	54MBit data rate
2483.500	54.5	1.0	233.0	1.2	3.0	16.0	V-Horn	PK	0.0	71.5	74.0	-2.5	54MBit data rate
2483.500	53.3	1.0	254.0	2.5	3.0	16.0	H-Horn	PK	0.0	70.3	74.0	-3.7	6MBit data rate
2483.500	52.8	1.0	236.0	1.2	3.0	16.0	V-Horn	PK	0.0	69.8	74.0	-4.2	36Mbit data rate
2483.500	49.9	1.0	235.0	1.2	3.0	16.0	V-Horn	PK	0.0	66.9	74.0	-7.1	6MBit data rate

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2	Work Order:	INMC0081
Serial Number:	C2	Date:	06/25/03
Customer:	INTERMEC Technologies Corporation	Temperature:	81
Attendees:		Humidity:	34%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Holly Ashkannejhad	Power: 120VAC, 60Hz	Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

802.11(g) modulation. Transmitting Mid Channel at 6Mbit.

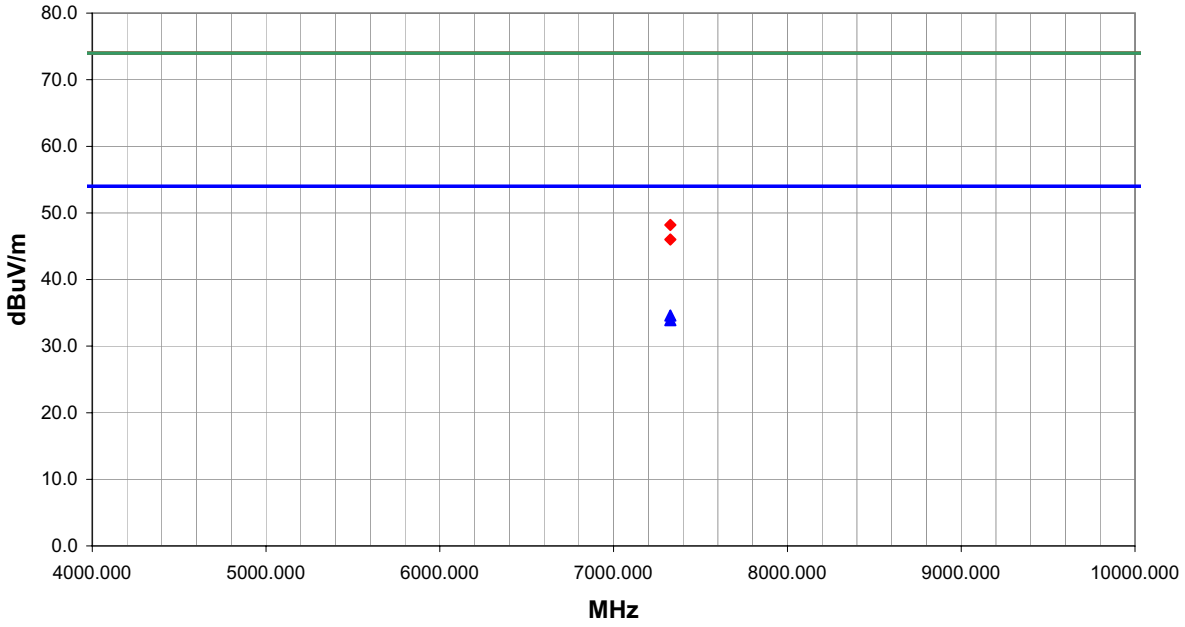
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	2

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
7326.200	23.6	11.0	211.0	1.3	3.0	0.0	H-Horn	AV	0.0	34.6	54.0	-19.4
7326.200	22.9	11.0	226.0	1.1	3.0	0.0	V-Horn	AV	0.0	33.9	54.0	-20.1
7326.200	37.2	11.0	211.0	1.3	3.0	0.0	H-Horn	PK	0.0	48.2	74.0	-25.8
7326.200	35.0	11.0	226.0	1.1	3.0	0.0	V-Horn	PK	0.0	46.0	74.0	-28.0

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.10
03/10/2003

EUT:	802MIG2	Work Order:	INMC0081
Serial Number:	C2	Date:	06/25/03
Customer:	INTERMEC Technologies Corporation	Temperature:	72
Attendees:	Cheryl White	Humidity:	38%
Cust. Ref. No.:		Barometric Pressure	30.19
Tested by:	Rod Peloquin	Power: 120VAC, 60Hz	Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

802.11(g) modulation, 6 Mbit data rate

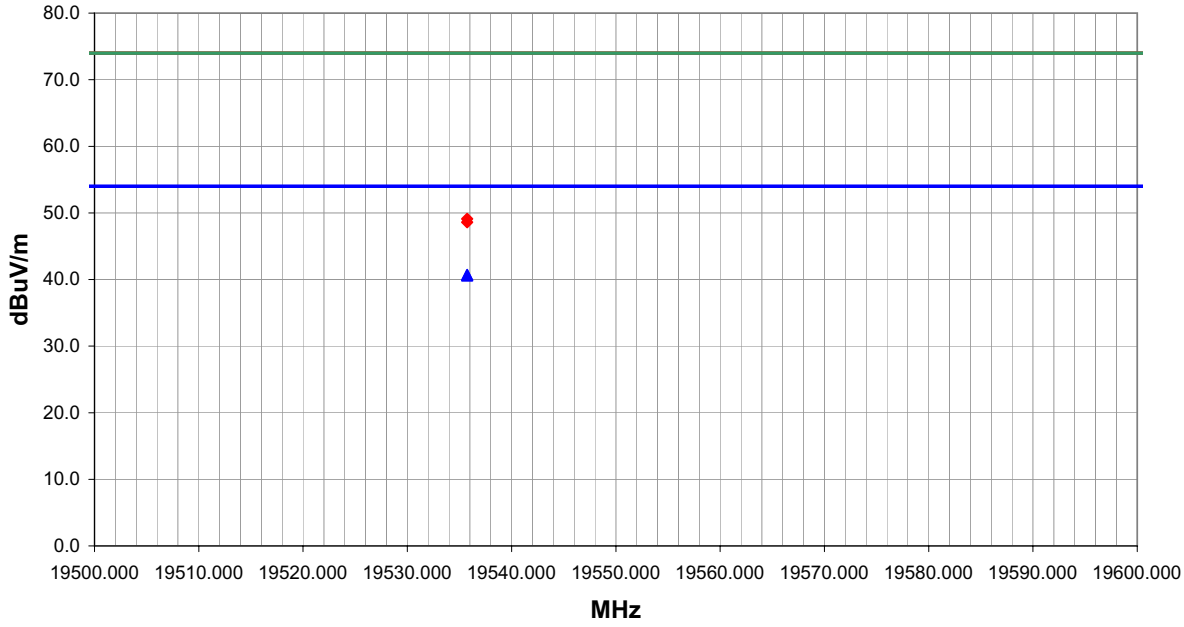
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	8

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
19535.740	32.2	8.5	294.0	1.2	3.0	0.0	H-High Horr	AV	0.0	40.7	54.0	-13.3	mid channel
19535.740	32.1	8.5	213.0	1.2	3.0	0.0	V-High Horr	AV	0.0	40.6	54.0	-13.4	mid channel
19535.740	40.6	8.5	294.0	1.2	3.0	0.0	H-High Horr	PK	0.0	49.1	74.0	-24.9	mid channel
19535.740	40.1	8.5	213.0	1.2	3.0	0.0	V-High Horr	PK	0.0	48.6	74.0	-25.4	mid channel

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C2	Date:	07/15/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:		Humidity:	41%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Holly Ashkannejhad	Power: 120VAC, 60Hz	Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

Tx 802.11(b) 11Mbit High Channel (2462MHz) and Bluetooth Channel 2462MHz

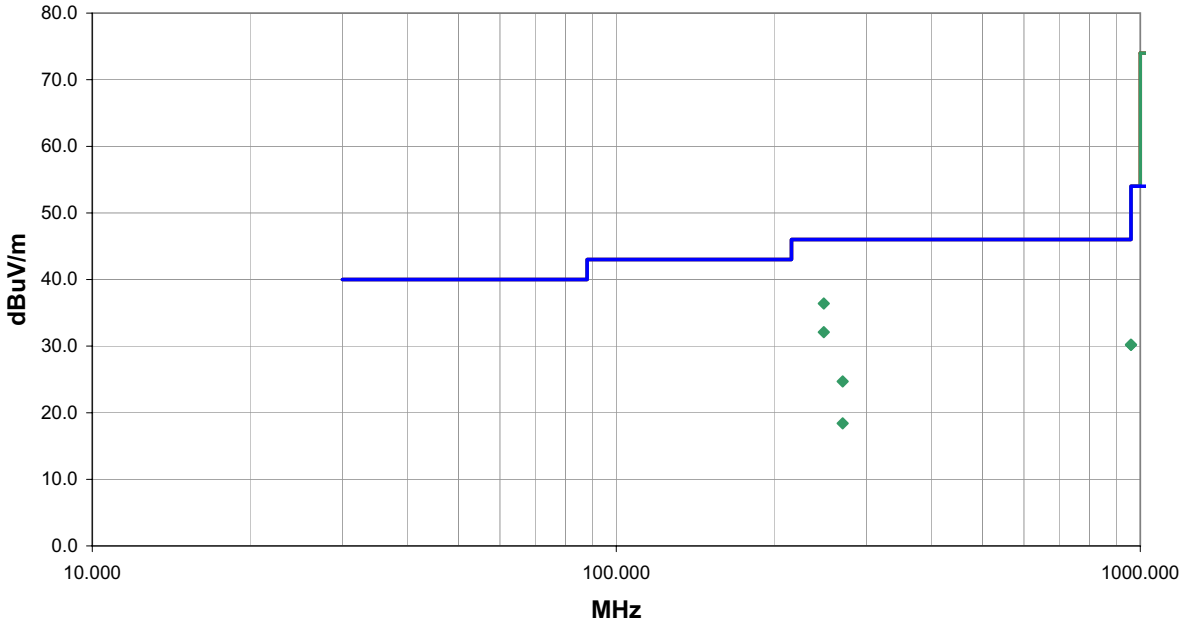
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	31

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
248.867	42.0	-15.6	318.0	2.3	3.0	10.0	V-Bilog	QP	0.0	36.4	46.0	-9.6
248.867	37.7	-15.6	257.0	1.1	3.0	10.0	H-Bilog	QP	0.0	32.1	46.0	-13.9
959.946	23.4	-3.2	33.0	1.2	3.0	10.0	V-Bilog	QP	0.0	30.2	46.0	-15.8
959.968	23.4	-3.2	117.0	1.0	3.0	10.0	H-Bilog	QP	0.0	30.2	46.0	-15.8
270.506	29.8	-15.1	218.0	1.6	3.0	10.0	V-Bilog	QP	0.0	24.7	46.0	-21.3
270.501	23.5	-15.1	75.0	3.0	3.0	10.0	H-Bilog	QP	0.0	18.4	46.0	-27.6

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C2	Date:	07/14/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:		Humidity:	41%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Holly Ashkannejhad	Power: 120VAC, 60Hz	Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

Tx 802.11(b) 11Mbit High Channel (2462MHz) and Bluetooth High Channel (2480MHz)

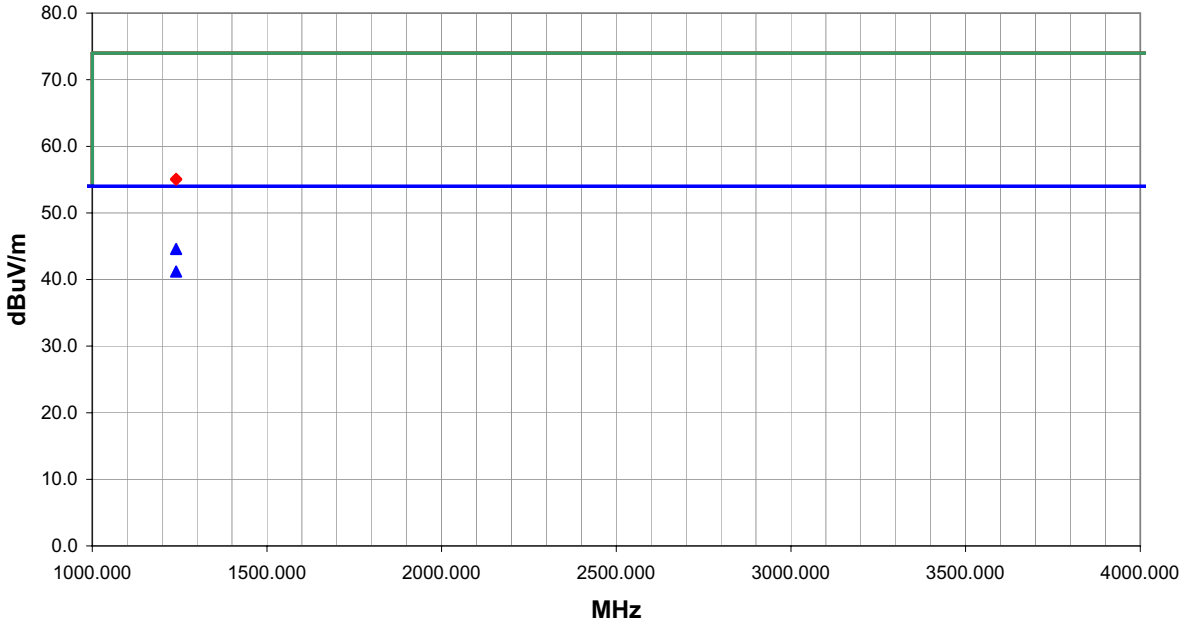
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	14

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
1240.000	31.1	-6.5	360.0	1.4	3.0	20.0	V-Horn	AV	0.0	44.6	54.0	-9.4
1240.000	27.7	-6.5	0.0	1.0	3.0	20.0	H-Horn	AV	0.0	41.2	54.0	-12.8
1240.000	41.6	-6.5	0.0	1.0	3.0	20.0	H-Horn	PK	0.0	55.1	74.0	-18.9
1240.000	41.5	-6.5	360.0	1.4	3.0	20.0	V-Horn	PK	0.0	55.0	74.0	-19.0

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2	Work Order:	INMC0095
Serial Number:	C2	Date:	07/15/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:	Cheryl White	Humidity:	38%
Cust. Ref. No.:		Barometric Pressure	30.01
Tested by:	Greg Kiemel Power: 120 V	Job Site:	TE01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

Tx 802.11(b) 11 Mbit High Channel (2462 MHz) & Bluetooth High Channel (2480 MHz)

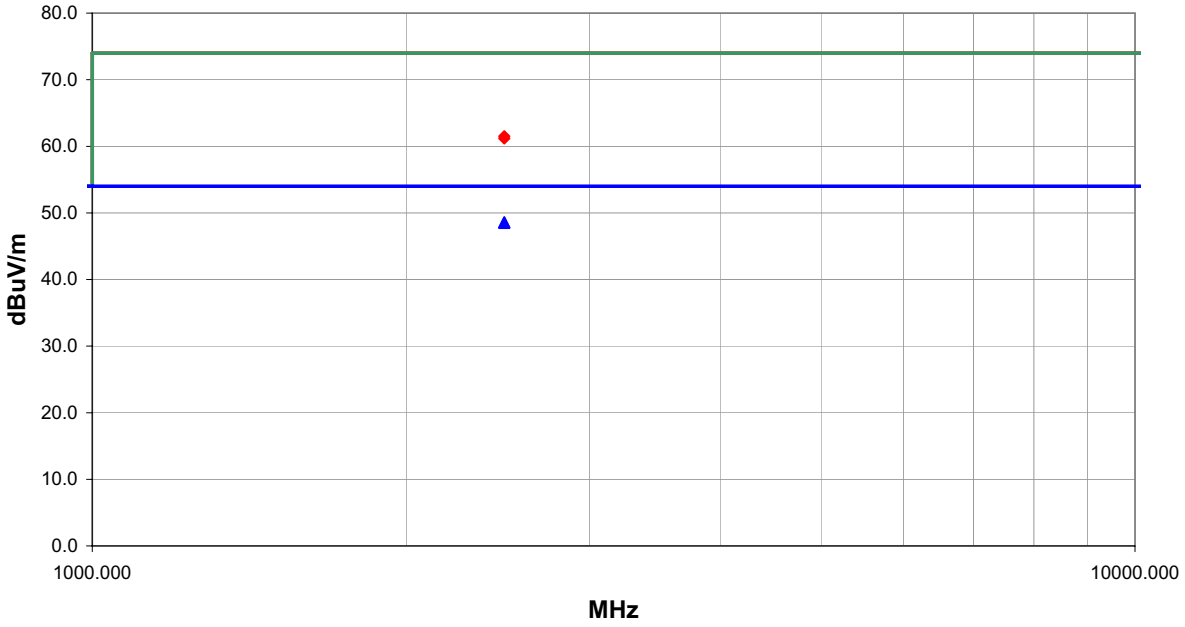
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	4

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
2483.500	28.1	0.5	93.0	1.3	3.0	20.0	H-Horn	AV	0.0	48.6	54.0	-5.4
2483.500	28.0	0.5	154.0	1.2	3.0	20.0	V-Horn	AV	0.0	48.5	54.0	-5.5
2483.500	41.0	0.5	154.0	1.2	3.0	20.0	V-Horn	PK	0.0	61.5	74.0	-12.5
2483.500	40.7	0.5	93.0	1.3	3.0	20.0	H-Horn	PK	0.0	61.2	74.0	-12.8

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C2	Date:	07/14/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:		Humidity:	41%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Holly Ashkannejhad	Power: 120VAC, 60Hz	Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

Tx 802.11(b) 11Mbit High Channel (2462MHz) and Bluetooth Channel 2462MHz

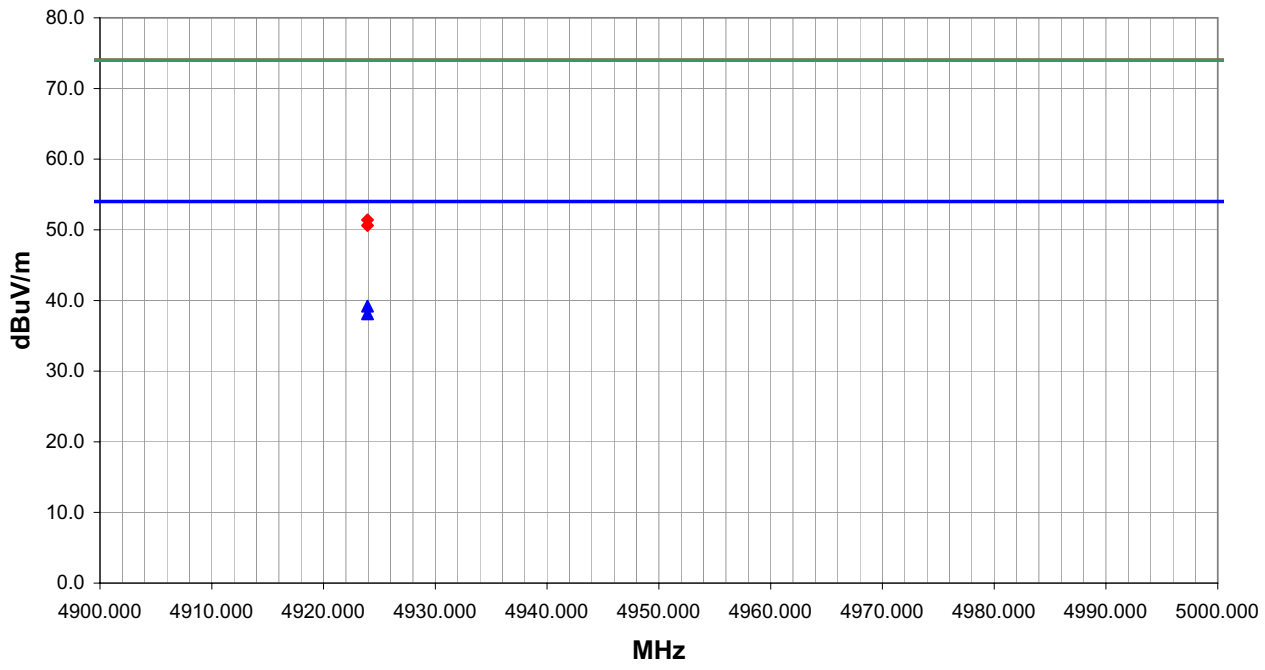
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	19

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
4923.938	33.0	6.2	136.0	1.2	3.0	0.0	H-Horn	AV	0.0	39.2	54.0	-14.8
4923.938	31.9	6.2	180.0	1.2	3.0	0.0	V-Horn	AV	0.0	38.1	54.0	-15.9
4923.938	45.2	6.2	137.0	1.2	3.0	0.0	H-Horn	PK	0.0	51.4	74.0	-22.6
4923.938	44.4	6.2	180.0	1.2	3.0	0.0	V-Horn	PK	0.0	50.6	74.0	-23.4

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C2	Date:	07/15/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:		Humidity:	41%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Holly Ashkannejhad	Power: 120VAC, 60Hz	Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

Tx 802.11(b) 11Mbit High Channel (2462MHz) and Bluetooth Channel 2462MHz

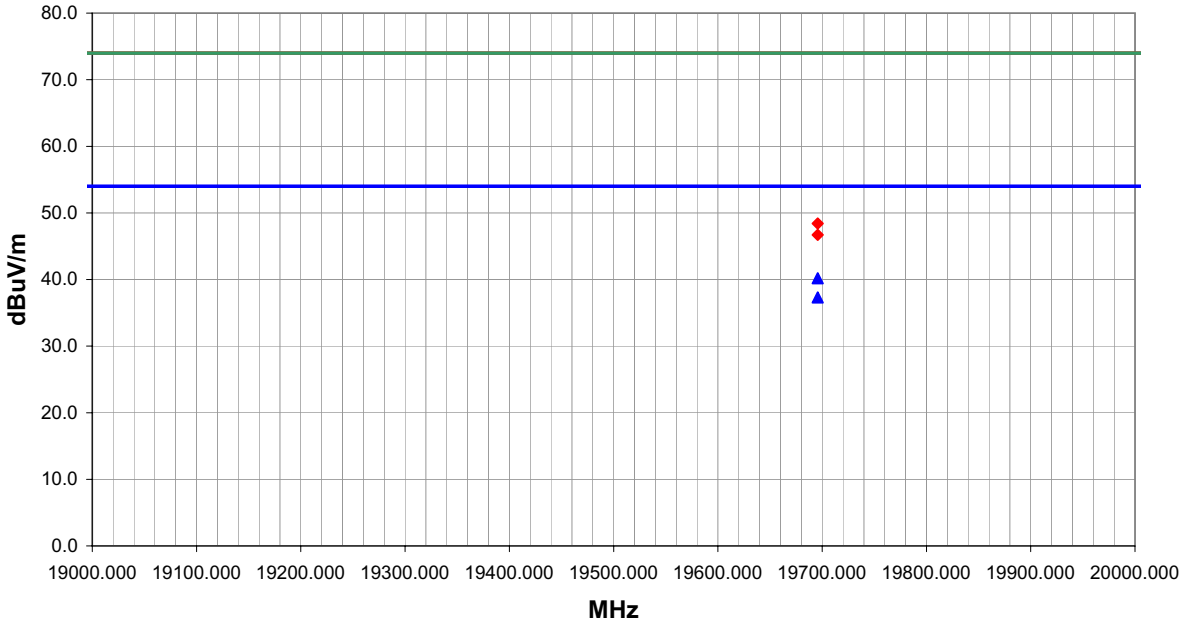
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	35

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
19695.760	31.5	8.7	200.0	1.0	3.0	0.0	V-High Horr	AV	0.0	40.2	54.0	-13.8
19695.760	28.6	8.7	270.0	1.0	3.0	0.0	H-High Horr	AV	0.0	37.3	54.0	-16.7
19695.760	39.7	8.7	200.0	1.0	3.0	0.0	V-High Horr	PK	0.0	48.4	74.0	-25.6
19695.760	38.0	8.7	270.0	1.0	3.0	0.0	H-High Horr	PK	0.0	46.7	74.0	-27.3

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C2	Date:	07/14/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:		Humidity:	41%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Holly Ashkannejhad	Power: 120VAC, 60Hz	Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

Tx 802.11(g) 6Mbit High Channel (2462MHz) and Bluetooth Channel 2462MHz

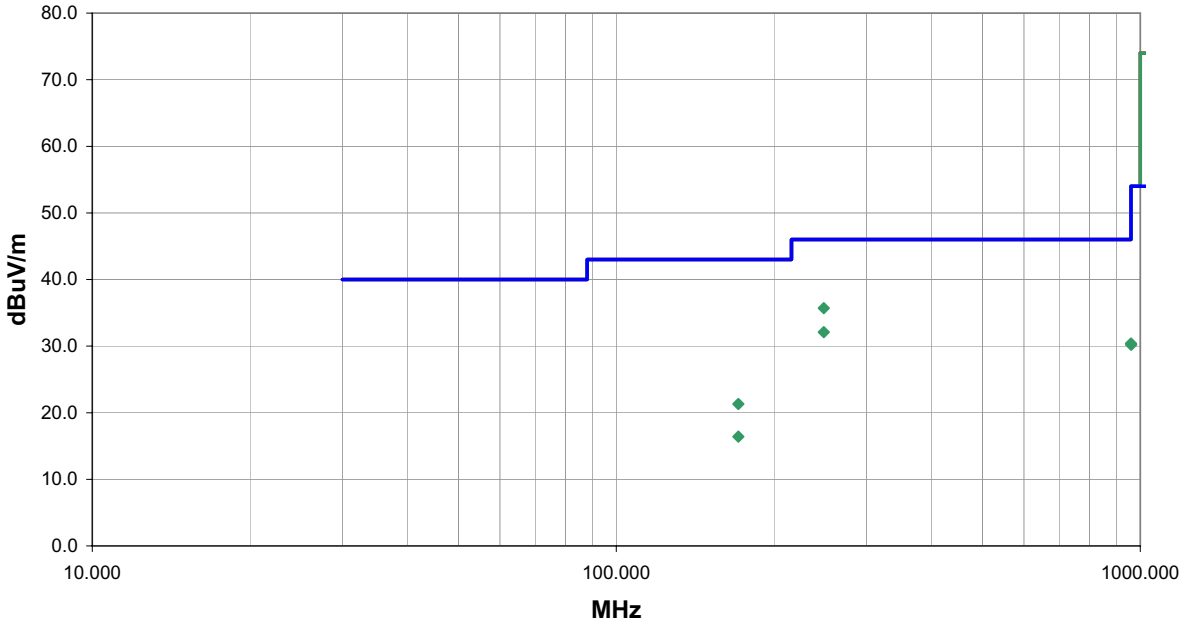
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	29

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
248.867	41.3	-15.6	284.0	2.3	3.0	10.0	V-Bilog	QP	0.0	35.7	46.0	-10.3
248.867	37.7	-15.6	252.0	1.0	3.0	10.0	H-Bilog	QP	0.0	32.1	46.0	-13.9
170.969	29.4	-18.1	50.0	1.0	3.0	10.0	V-Bilog	QP	0.0	21.3	43.0	-21.7
960.013	23.6	-3.2	73.0	1.0	3.0	10.0	H-Bilog	QP	0.0	30.4	54.0	-23.6
960.721	23.4	-3.2	309.0	1.2	3.0	10.0	V-Bilog	QP	0.0	30.2	54.0	-23.8
170.961	24.5	-18.1	100.0	2.2	3.0	10.0	H-Bilog	QP	0.0	16.4	43.0	-26.6

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C2	Date:	07/14/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:		Humidity:	41%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Holly Ashkannejhad	Power: 120VAC, 60Hz	Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

Tx 802.11(g) 6Mbit High Channel (2462MHz) and Bluetooth High Channel (2480MHz)

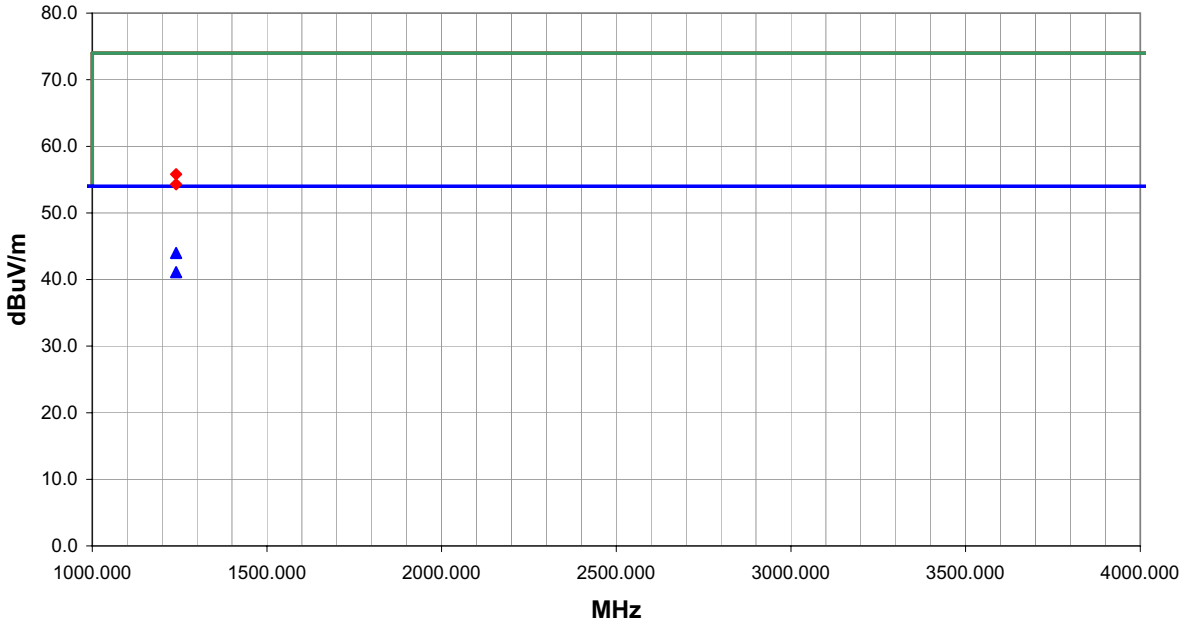
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	15

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
1240.000	30.5	-6.5	360.0	1.4	3.0	20.0	V-Horn	AV	0.0	44.0	54.0	-10.0
1240.000	27.6	-6.5	0.0	1.0	3.0	20.0	H-Horn	AV	0.0	41.1	54.0	-12.9
1240.000	42.3	-6.5	360.0	1.4	3.0	20.0	V-Horn	PK	0.0	55.8	74.0	-18.2
1240.000	40.8	-6.5	0.0	1.0	3.0	20.0	H-Horn	PK	0.0	54.3	74.0	-19.7

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2			Work Order:	INMC0095
Serial Number:	C2			Date:	07/15/03
Customer:	INTERMEC Technologies Corporation			Temperature:	75
Attendees:	Cheryl White			Humidity:	38%
Cust. Ref. No.:				Barometric Pressure	30.01
Tested by:	Greg Kiemel	Power:	120 V	Job Site:	TE01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

Tx 802.11(g) 6 Mbit High Channel (2462 MHz) and Bluetooth High Channel (2480 MHz

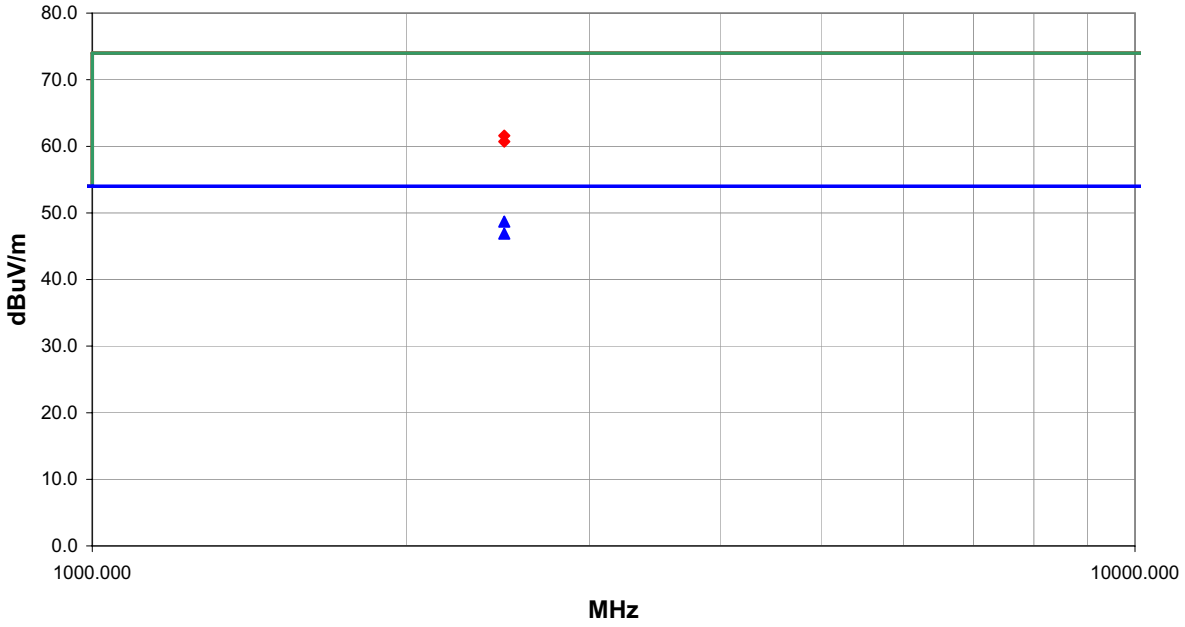
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	2

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
2483.500	28.2	0.5	96.0	1.3	3.0	20.0	H-Horn	AV	0.0	48.7	54.0	-5.3
2483.500	26.4	0.5	156.0	1.2	3.0	20.0	V-Horn	AV	0.0	46.9	54.0	-7.1
2483.500	41.1	0.5	96.0	1.3	3.0	20.0	H-Horn	PK	0.0	61.6	74.0	-12.4
2483.500	40.2	0.5	156.0	1.2	3.0	20.0	V-Horn	PK	0.0	60.7	74.0	-13.3

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C2	Date:	07/14/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:		Humidity:	41%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Holly Ashkannejhad	Power: 120VAC, 60Hz	Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

Tx 802.11(g) 6Mbit High Channel (2462MHz) and Bluetooth Channel 2462MHz

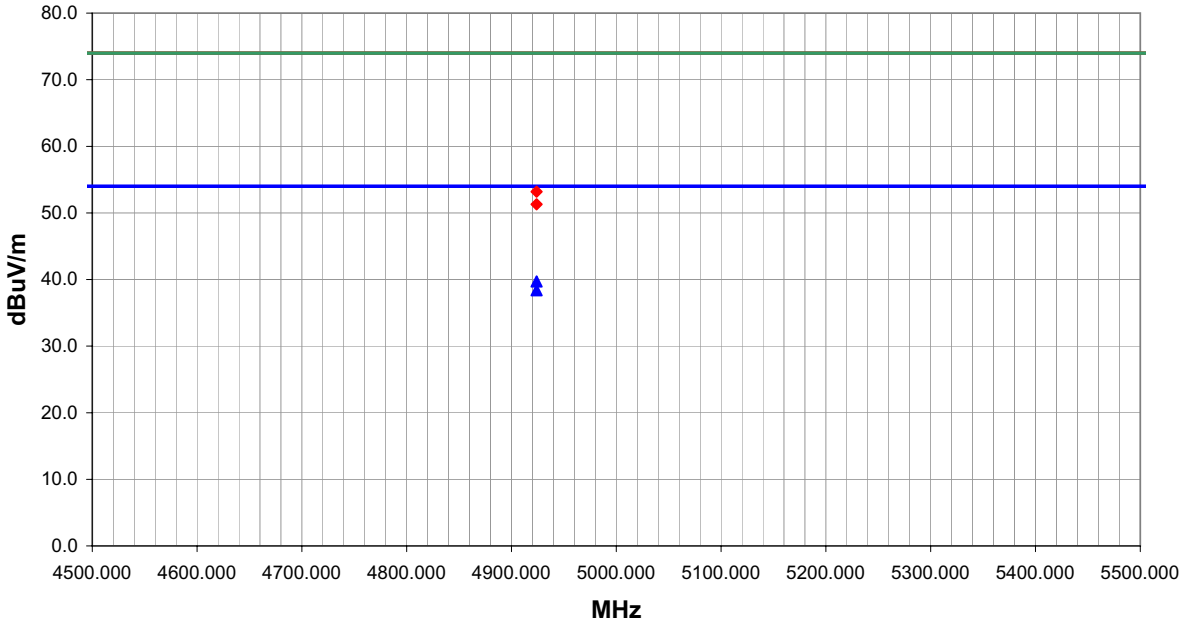
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	23

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
4923.938	33.5	6.2	226.0	1.3	3.0	0.0	H-Horn	AV	0.0	39.7	54.0	-14.3
4923.938	32.2	6.2	188.0	1.2	3.0	0.0	V-Horn	AV	0.0	38.4	54.0	-15.6
4923.938	47.0	6.2	228.0	1.1	3.0	0.0	H-Horn	PK	0.0	53.2	74.0	-20.8
4923.938	45.1	6.2	188.0	1.2	3.0	0.0	V-Horn	PK	0.0	51.3	74.0	-22.7

NORTHWEST
EMC

OATS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C2	Date:	07/15/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:		Humidity:	41%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Holly Ashkannejhad	Power: 120VAC, 60Hz	Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installed in CK-30 hand-held scanner

EUT OPERATING MODES

Tx 802.11(g) 6Mbit High Channel (2462MHz) and Bluetooth Channel 2462MHz

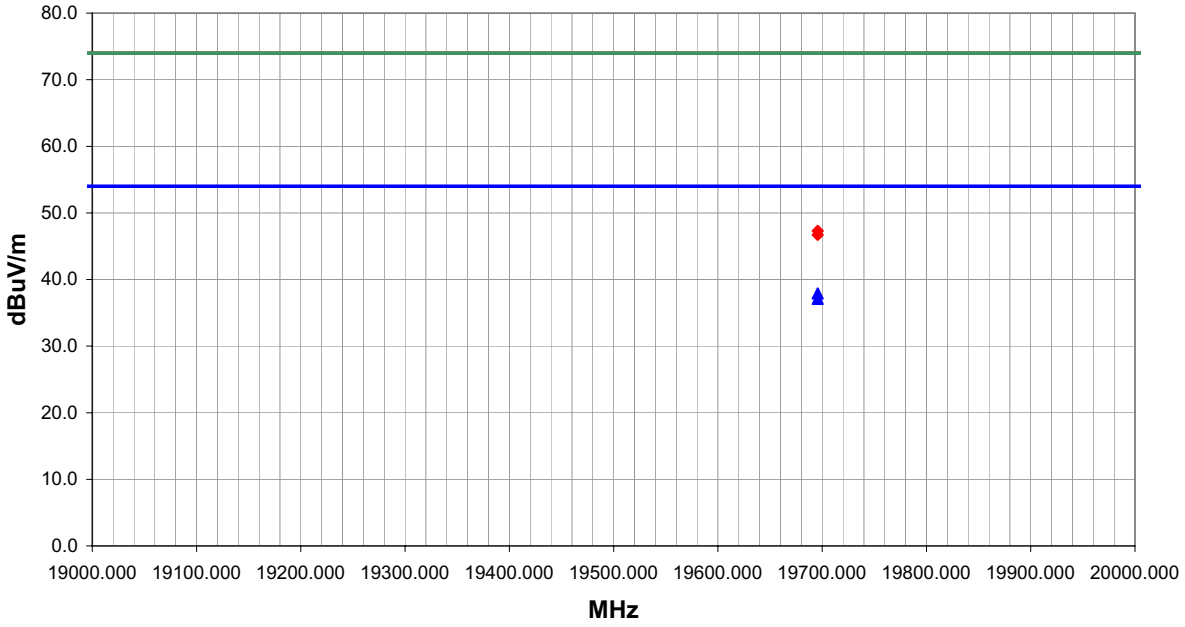
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	33

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
19695.760	29.2	8.7	160.0	1.1	3.0	0.0	H-High Horr	AV	0.0	37.9	54.0	-16.1
19695.760	28.4	8.7	180.0	1.0	3.0	0.0	V-High Horr	AV	0.0	37.1	54.0	-16.9
19695.760	38.6	8.7	180.0	1.0	3.0	0.0	V-High Horr	PK	0.0	47.3	74.0	-26.7
19695.760	38.0	8.7	160.0	1.1	3.0	0.0	H-High Horr	PK	0.0	46.7	74.0	-27.3

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:
802.11(b)
802.11(g)

Data Rates Investigated:
6 Mbits
11 Mbits

Output Power Setting(s) Investigated:
Maximum

Power Input Settings Investigated:
120 VAC, 60 Hz.

Software\Firmware Applied During Test

Exercise software	FccTest.exe	Version	1/1/1601
Description			
The system was tested using special software developed to test all functions of the device during the test. The software allowed the selection of transmit channel and data rate. These were varied to produce the highest level of emissions. The OS of the host device was Ver. 0.00.00.0072			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
Radio (EUT)	Intermec	802MIG2	C2
Hand Held Scanner (Host for Radio)	Intermec	CK30	C2
Docking Station	Intermec	AD1	SAC0D2
Power Adapter	Elpac Power Systems	FW5012	001831

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB	Yes	1.8	No	Docking Station	Unterminated
Serial	Yes	1.8	No	Docking Station	Unterminated
LAN	No	6	No	Docking Station	Unterminated
DC Leads	PA	1.6	Yes	Docking Station	Power Adapter
AC Power	No	1.5	No	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	Hewlett-Packard	8591A	AAG	01/02/2003	12 mo
LISN	Solar	9252-50-R-24-BNC	LIN	12/12/2002	12 mo
High Pass Filter	TTE	H97-100k-50-720B	HFC	01/02/2003	12 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.

Configuration: The EUT will be powered from a host hand-held scanner (Intermec Model CK30) that could be connected to the AC power line through a docking station. Therefore, the measurements were made on the hand-held scanner 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 C63.4-1992.

Completed by:

_____

NORTHWEST EMC

CONDUCTED EMISSIONS DATA SHEET

REV df3.11 06/23/2003

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C2	Date:	06/26/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:	Cheryl White	Humidity:	35%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Dan Haas	Power: 120VAC, 60Hz	Job Site: EV04

TEST SPECIFICATIONS

Specification:	FCC 15.207	Year:	2002
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installled in CK-30, running in docking station. 802.11(b) mode

EUT OPERATING MODES

Transmitting 11MB Low Channel

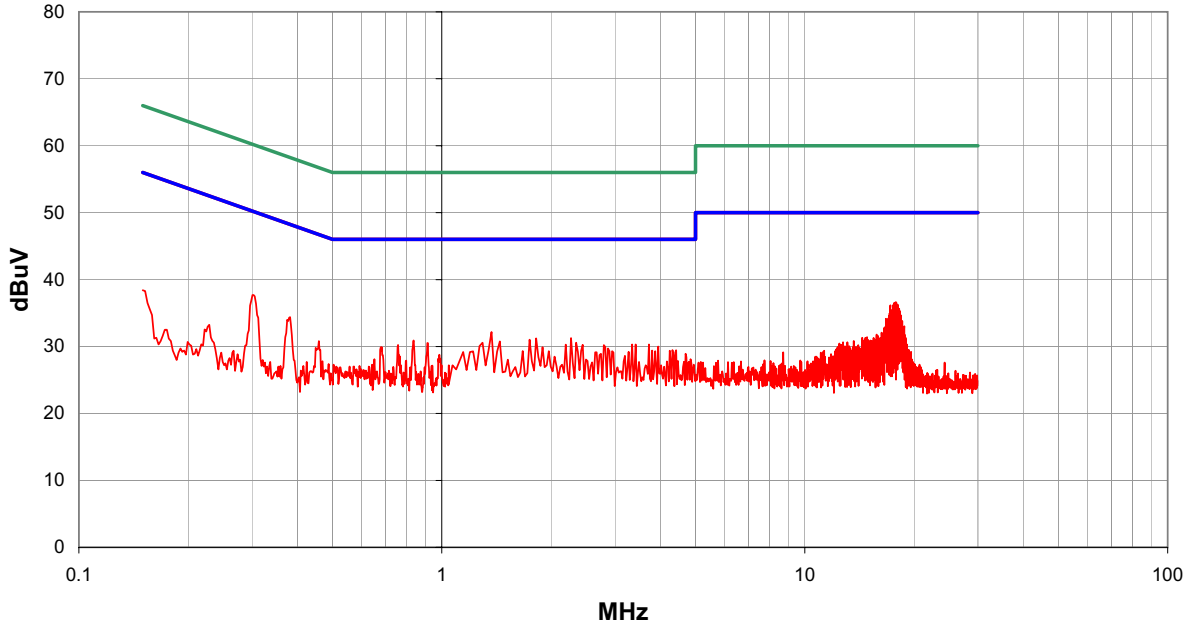
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Line	Run #
Pass	L1	1

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.301	17.8			0.0	-0.1	20.0				37.7	50.2	-12.5
17.820	17.3			0.0	-0.7	20.0				36.6	50.0	-13.4
17.670	17.2			0.0	-0.7	20.0				36.5	50.0	-13.5
17.730	17.2			0.0	-0.7	20.0				36.5	50.0	-13.5
17.880	17.2			0.0	-0.7	20.0				36.5	50.0	-13.5
17.580	16.9			0.0	-0.7	20.0				36.2	50.0	-13.8
18.030	16.9			0.0	-0.7	20.0				36.2	50.0	-13.8
1.370	12.3			0.0	-0.1	20.0				32.2	46.0	-13.8
0.382	14.5			0.0	-0.1	20.0				34.4	48.2	-13.8
17.220	16.8			0.0	-0.6	20.0				36.2	50.0	-13.8
17.520	16.8			0.0	-0.7	20.0				36.1	50.0	-13.9
17.970	16.8			0.0	-0.7	20.0				36.1	50.0	-13.9
18.120	16.3			0.0	-0.7	20.0				35.6	50.0	-14.4
18.180	16.3			0.0	-0.7	20.0				35.6	50.0	-14.4
17.370	16.1			0.0	-0.6	20.0				35.5	50.0	-14.5
18.270	16.0			0.0	-0.7	20.0				35.3	50.0	-14.7
2.271	11.5			0.0	-0.2	20.0				31.3	46.0	-14.7
17.280	15.9			0.0	-0.6	20.0				35.3	50.0	-14.7
1.820	11.4			0.0	-0.2	20.0				31.2	46.0	-14.8
1.745	11.2			0.0	-0.2	20.0				31.0	46.0	-15.0

NORTHWEST EMC

CONDUCTED EMISSIONS DATA SHEET

REV df3.11 06/23/2003

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C2	Date:	06/26/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:	Cheryl White	Humidity:	35%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Dan Haas	Power: 120VAC, 60Hz	Job Site: EV04

TEST SPECIFICATIONS

Specification:	FCC 15.207	Year:	2002
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installled in CK-30, running in docking station. 802.11(b) mode

EUT OPERATING MODES

Transmitting 11MB Low Channel

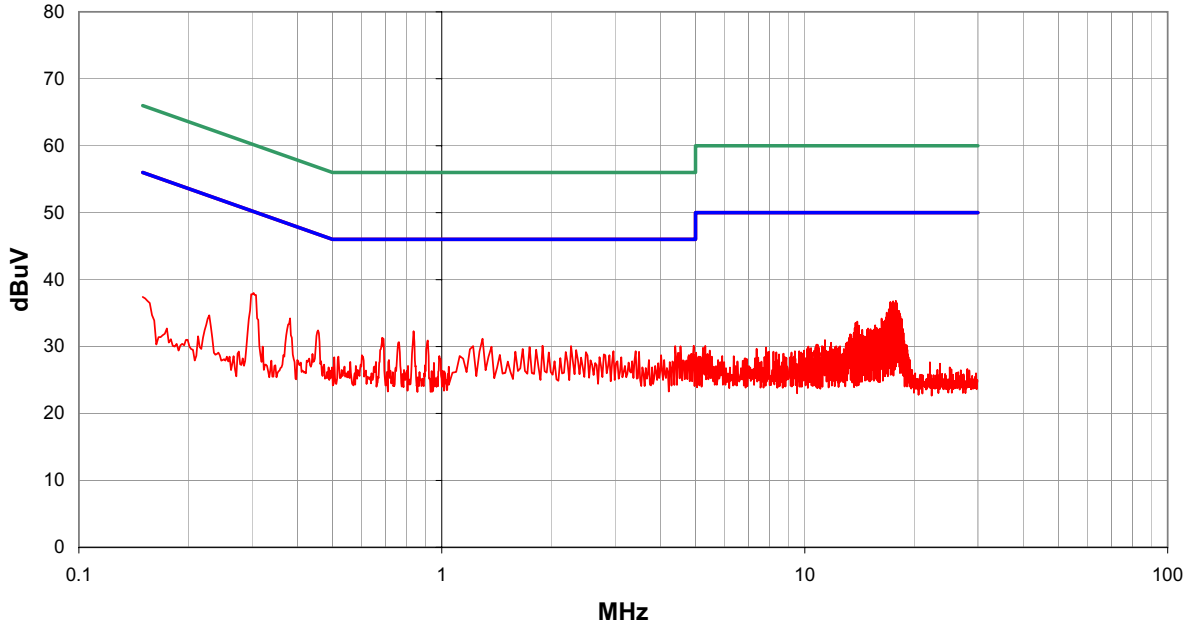
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Line	Run #
Pass	N	2

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.303	18.1			0.0	-0.1	20.0				38.0	50.2	-12.2
17.820	17.5			0.0	-0.7	20.0				36.8	50.0	-13.2
17.520	17.4			0.0	-0.7	20.0				36.7	50.0	-13.3
17.220	17.3			0.0	-0.6	20.0				36.7	50.0	-13.3
17.580	17.2			0.0	-0.7	20.0				36.5	50.0	-13.5
17.880	17.2			0.0	-0.7	20.0				36.5	50.0	-13.5
17.370	17.1			0.0	-0.6	20.0				36.5	50.0	-13.5
17.730	17.1			0.0	-0.7	20.0				36.4	50.0	-13.6
17.970	17.1			0.0	-0.7	20.0				36.4	50.0	-13.6
17.280	17.0			0.0	-0.6	20.0				36.4	50.0	-13.6
0.836	12.5			0.0	-0.2	20.0				32.3	46.0	-13.7
17.430	16.8			0.0	-0.6	20.0				36.2	50.0	-13.8
0.382	14.3			0.0	-0.1	20.0				34.2	48.2	-14.0
0.456	12.5			0.0	-0.1	20.0				32.4	46.8	-14.4
17.040	16.2			0.0	-0.6	20.0				35.6	50.0	-14.4
17.130	16.0			0.0	-0.6	20.0				35.4	50.0	-14.6
18.030	16.0			0.0	-0.7	20.0				35.3	50.0	-14.7
18.180	16.0			0.0	-0.7	20.0				35.3	50.0	-14.7
0.685	11.4			0.0	-0.1	20.0				31.3	46.0	-14.7
18.120	15.9			0.0	-0.7	20.0				35.2	50.0	-14.8

NORTHWEST EMC

CONDUCTED EMISSIONS DATA SHEET

REV df3.11 06/23/2003

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C2	Date:	06/26/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:	Cheryl White	Humidity:	35%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Dan Haas	Power: 120VAC, 60Hz	Job Site: EV04

TEST SPECIFICATIONS

Specification:	FCC 15.207	Year:	2002
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installled in CK-30, running in docking station. 802.11(b) mode

EUT OPERATING MODES

Transmitting 11MB Mid Channel

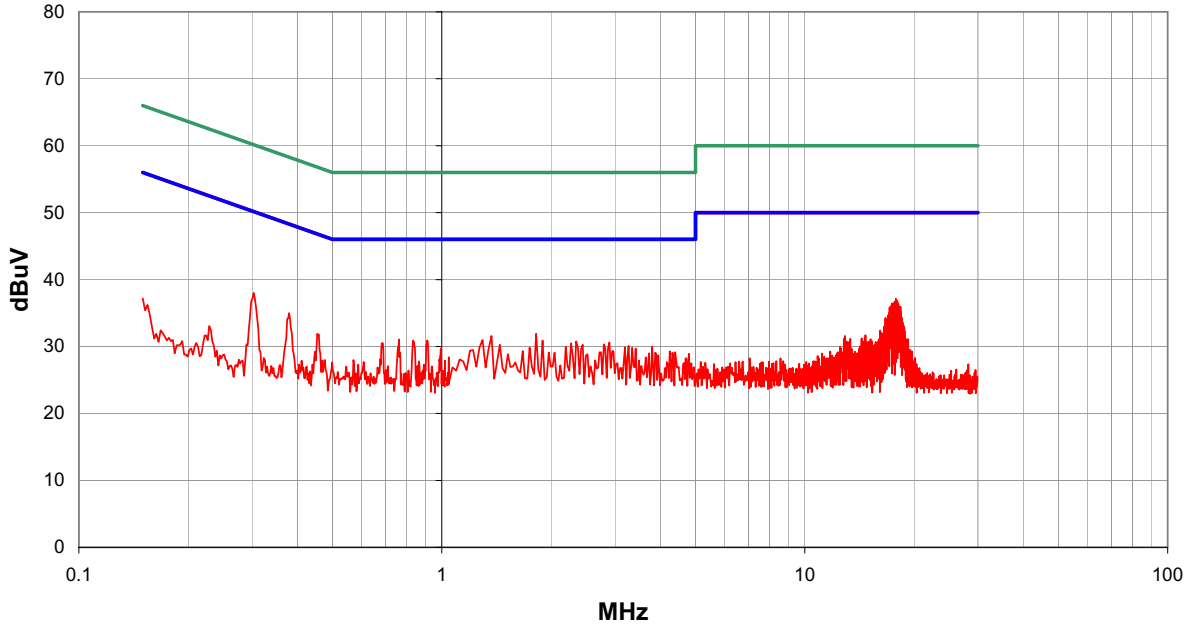
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Line	Run #
Pass	L1	3

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.303	18.1			0.0	-0.1	20.0				38.0	50.2	-12.2
17.820	17.8			0.0	-0.7	20.0				37.1	50.0	-12.9
17.970	17.5			0.0	-0.7	20.0				36.8	50.0	-13.2
17.880	17.4			0.0	-0.7	20.0				36.7	50.0	-13.3
0.379	15.1			0.0	-0.1	20.0				35.0	48.3	-13.3
17.670	17.3			0.0	-0.7	20.0				36.6	50.0	-13.4
17.730	17.3			0.0	-0.7	20.0				36.6	50.0	-13.4
18.030	17.2			0.0	-0.7	20.0				36.5	50.0	-13.5
17.370	17.1			0.0	-0.6	20.0				36.5	50.0	-13.5
18.120	17.0			0.0	-0.7	20.0				36.3	50.0	-13.7
17.520	16.9			0.0	-0.7	20.0				36.2	50.0	-13.8
17.280	16.7			0.0	-0.6	20.0				36.1	50.0	-13.9
17.460	16.6			0.0	-0.6	20.0				36.0	50.0	-14.0
18.360	16.6			0.0	-0.7	20.0				35.9	50.0	-14.1
1.820	12.1			0.0	-0.2	20.0				31.9	46.0	-14.1
17.130	16.5			0.0	-0.6	20.0				35.9	50.0	-14.1
18.210	16.5			0.0	-0.7	20.0				35.8	50.0	-14.2
1.370	11.7			0.0	-0.1	20.0				31.6	46.0	-14.4
18.270	16.1			0.0	-0.7	20.0				35.4	50.0	-14.6
17.220	16.0			0.0	-0.6	20.0				35.4	50.0	-14.6

NORTHWEST EMC

CONDUCTED EMISSIONS DATA SHEET

REV df3.11 06/23/2003

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C2	Date:	06/26/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:	Cheryl White	Humidity:	35%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Dan Haas	Power: 120VAC, 60Hz	Job Site: EV04

TEST SPECIFICATIONS

Specification:	FCC 15.207	Year:	2002
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installled in CK-30, running in docking station. 802.11(b) mode

EUT OPERATING MODES

Transmitting 11MB Mid Channel

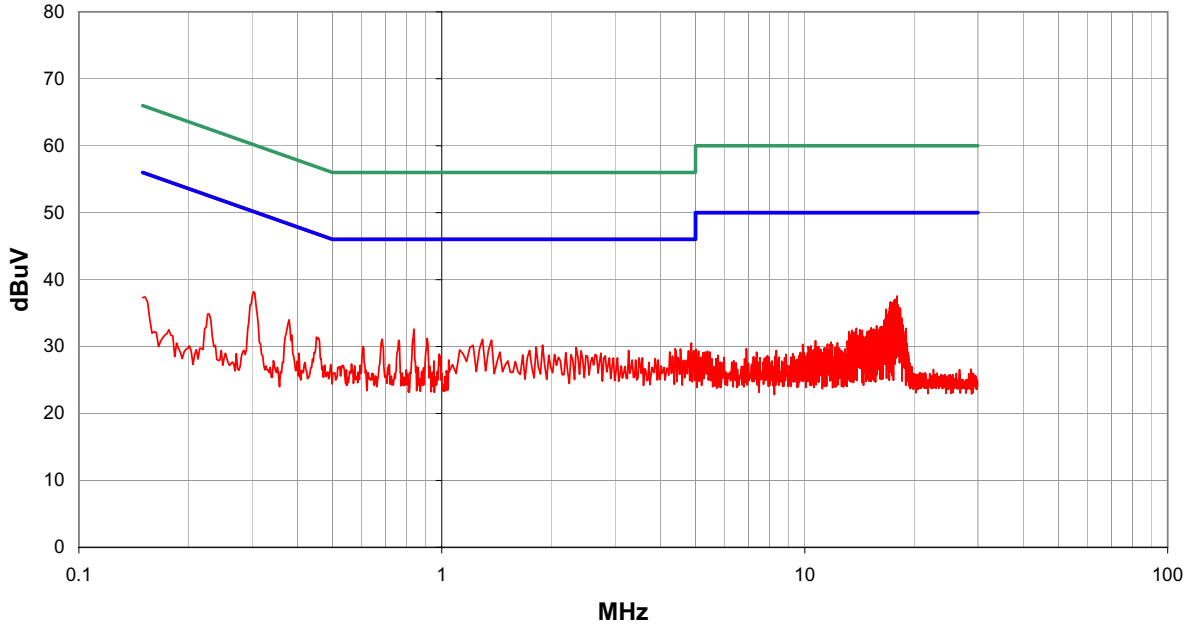
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Line	Run #
Pass	N	4

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.303	18.3			0.0	-0.1	20.0				38.2	50.2	-12.0
17.970	18.2			0.0	-0.7	20.0				37.5	50.0	-12.5
17.730	17.7			0.0	-0.7	20.0				37.0	50.0	-13.0
17.670	17.6			0.0	-0.7	20.0				36.9	50.0	-13.1
17.220	17.3			0.0	-0.6	20.0				36.7	50.0	-13.3
0.839	12.8			0.0	-0.2	20.0				32.6	46.0	-13.4
17.370	17.2			0.0	-0.6	20.0				36.6	50.0	-13.4
17.430	17.2			0.0	-0.6	20.0				36.6	50.0	-13.4
17.580	17.1			0.0	-0.7	20.0				36.4	50.0	-13.6
17.820	17.1			0.0	-0.7	20.0				36.4	50.0	-13.6
17.910	17.0			0.0	-0.7	20.0				36.3	50.0	-13.7
17.280	16.9			0.0	-0.6	20.0				36.3	50.0	-13.7
18.060	16.9			0.0	-0.7	20.0				36.2	50.0	-13.8
17.520	16.8			0.0	-0.7	20.0				36.1	50.0	-13.9
18.120	16.6			0.0	-0.7	20.0				35.9	50.0	-14.1
17.130	16.5			0.0	-0.6	20.0				35.9	50.0	-14.1
18.330	16.4			0.0	-0.7	20.0				35.7	50.0	-14.3
0.379	14.1			0.0	-0.1	20.0				34.0	48.3	-14.3
16.770	16.2			0.0	-0.6	20.0				35.6	50.0	-14.4
18.270	16.0			0.0	-0.7	20.0				35.3	50.0	-14.7

NORTHWEST EMC

CONDUCTED EMISSIONS DATA SHEET

REV df3.11 06/23/2003

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C2	Date:	06/26/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:	Cheryl White	Humidity:	35%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Dan Haas	Power: 120VAC, 60Hz	Job Site: EV04

TEST SPECIFICATIONS

Specification:	FCC 15.207	Year:	2002
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installled in CK-30, running in docking station. 802.11(b) mode

EUT OPERATING MODES

Transmitting 11MB High Channel

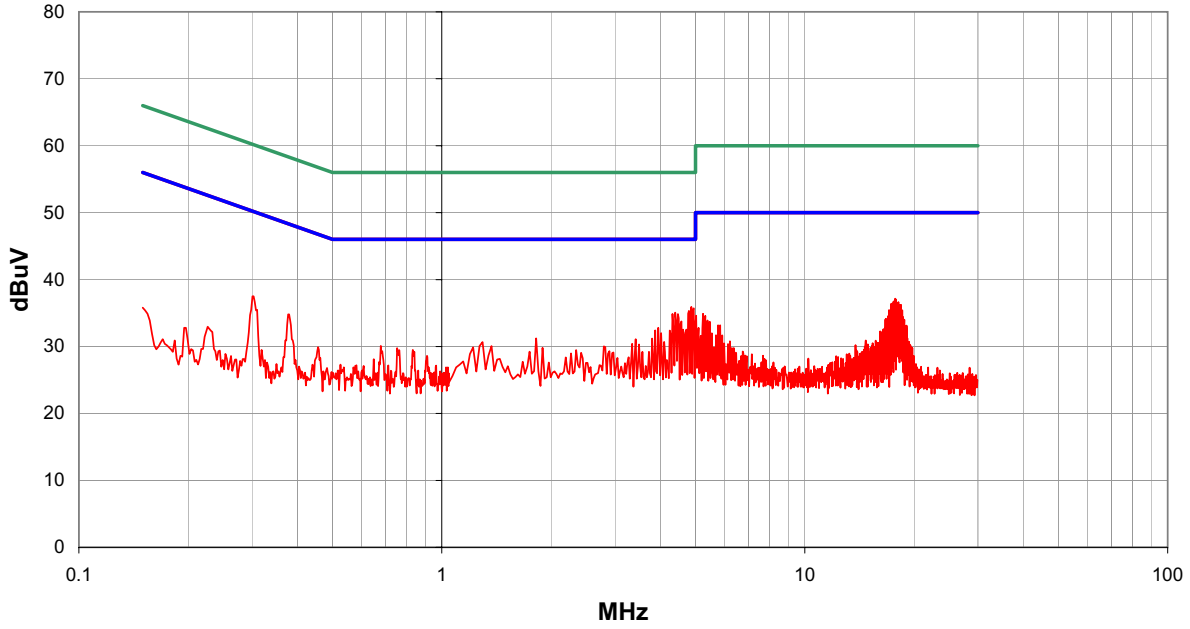
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Line	Run #
Pass	L1	5

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
4.872	16.3			0.0	-0.4	20.0				35.9	46.0	-10.1
4.947	16.1			0.0	-0.4	20.0				35.7	46.0	-10.3
4.797	15.7			0.0	-0.4	20.0				35.3	46.0	-10.7
4.397	15.4			0.0	-0.3	20.0				35.1	46.0	-10.9
4.322	15.2			0.0	-0.3	20.0				34.9	46.0	-11.1
4.472	15.2			0.0	-0.3	20.0				34.9	46.0	-11.1
4.572	14.1			0.0	-0.4	20.0				33.7	46.0	-12.3
0.301	17.6			0.0	-0.1	20.0				37.5	50.2	-12.7
17.730	17.8			0.0	-0.7	20.0				37.1	50.0	-12.9
17.820	17.7			0.0	-0.7	20.0				37.0	50.0	-13.0
3.946	13.1			0.0	-0.3	20.0				32.8	46.0	-13.2
17.580	17.4			0.0	-0.7	20.0				36.7	50.0	-13.3
18.120	17.3			0.0	-0.7	20.0				36.6	50.0	-13.4
17.970	17.2			0.0	-0.7	20.0				36.5	50.0	-13.5
4.622	12.9			0.0	-0.4	20.0				32.5	46.0	-13.5
4.722	12.9			0.0	-0.4	20.0				32.5	46.0	-13.5
0.377	14.9			0.0	-0.1	20.0				34.8	48.3	-13.5
17.430	17.1			0.0	-0.6	20.0				36.5	50.0	-13.5
3.871	12.7			0.0	-0.3	20.0				32.4	46.0	-13.6
4.247	12.7			0.0	-0.3	20.0				32.4	46.0	-13.6

NORTHWEST EMC

CONDUCTED EMISSIONS DATA SHEET

REV df3.11 06/23/2003

EUT:	802MIG2	Work Order:	INMC0071
Serial Number:	C2	Date:	06/26/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:	Cheryl White	Humidity:	35%
Cust. Ref. No.:		Barometric Pressure	30.04
Tested by:	Dan Haas — Power: 120VAC, 60Hz	Job Site:	EV04

TEST SPECIFICATIONS

Specification:	FCC 15.207	Year:	2002
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installled in CK-30, running in docking station. 802.11(b) mode

EUT OPERATING MODES

Transmitting 11MB High Channel

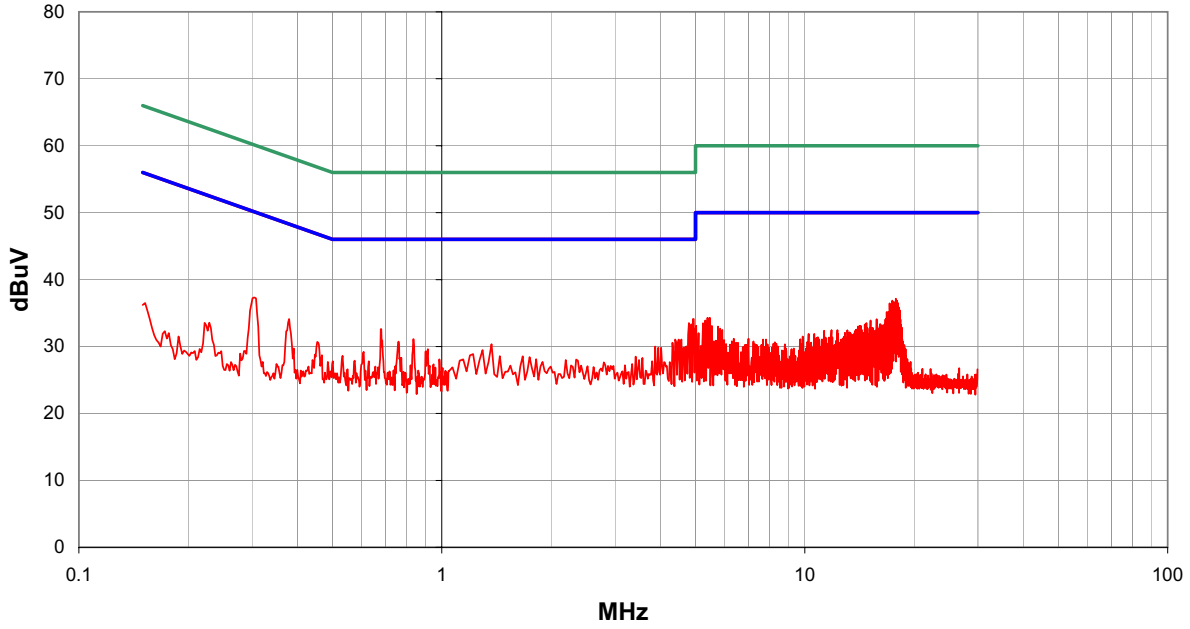
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Line	Run #
Pass	N	6

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
4.922	14.5			0.0	-0.4	20.0				34.1	46.0	-11.9
4.797	13.9			0.0	-0.4	20.0				33.5	46.0	-12.5
4.872	13.7			0.0	-0.4	20.0				33.3	46.0	-12.7
17.820	17.8			0.0	-0.7	20.0				37.1	50.0	-12.9
0.303	17.4			0.0	-0.1	20.0				37.3	50.2	-12.9
17.430	17.5			0.0	-0.6	20.0				36.9	50.0	-13.1
17.970	17.5			0.0	-0.7	20.0				36.8	50.0	-13.2
17.610	17.3			0.0	-0.7	20.0				36.6	50.0	-13.4
17.910	17.3			0.0	-0.7	20.0				36.6	50.0	-13.4
0.679	12.7			0.0	-0.1	20.0				32.6	46.0	-13.4
17.670	17.2			0.0	-0.7	20.0				36.5	50.0	-13.5
17.730	17.2			0.0	-0.7	20.0				36.5	50.0	-13.5
18.030	17.2			0.0	-0.7	20.0				36.5	50.0	-13.5
17.130	17.1			0.0	-0.6	20.0				36.5	50.0	-13.5
17.220	16.9			0.0	-0.6	20.0				36.3	50.0	-13.7
17.280	16.8			0.0	-0.6	20.0				36.2	50.0	-13.8
18.180	16.5			0.0	-0.7	20.0				35.8	50.0	-14.2
0.379	14.2			0.0	-0.1	20.0				34.1	48.3	-14.2
18.120	16.4			0.0	-0.7	20.0				35.7	50.0	-14.3
17.370	16.3			0.0	-0.6	20.0				35.7	50.0	-14.3

NORTHWEST EMC

CONDUCTED EMISSIONS DATA SHEET

REV df3.11 06/23/2003

EUT:	802MIG2	Work Order:	INMC0081
Serial Number:	C2	Date:	06/26/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:		Humidity:	36%
Cust. Ref. No.:		Barometric Pressure	30.21
Tested by:	Dan Haas	Power: 120VAC, 60Hz	Job Site: EV04

TEST SPECIFICATIONS

Specification:	FCC 15.207	Year:	2002
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installled in CK-30, running in docking station. 802.11(g) mode

EUT OPERATING MODES

802.11(g) modulation, transmitting Low Channel at 6MB

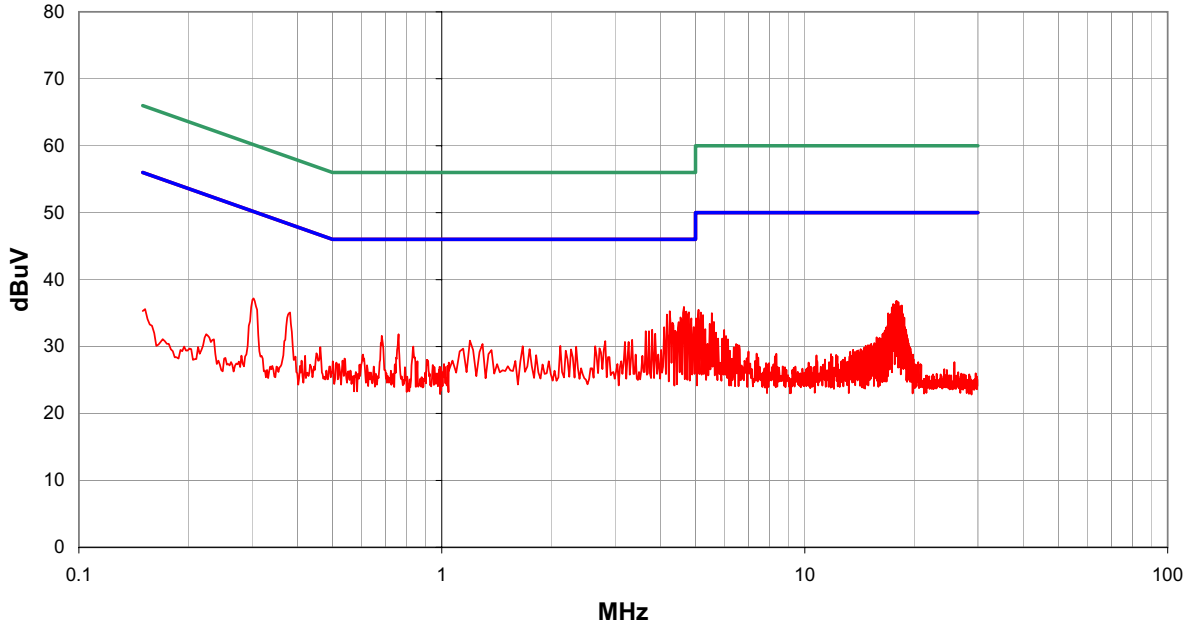
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Line	Run #
Pass	L1	1

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
4.647	16.3			0.0	-0.4	20.0				35.9	46.0	-10.1
4.247	15.6			0.0	-0.3	20.0				35.3	46.0	-10.7
4.722	15.6			0.0	-0.4	20.0				35.2	46.0	-10.8
4.797	15.5			0.0	-0.4	20.0				35.1	46.0	-10.9
4.172	15.1			0.0	-0.3	20.0				34.8	46.0	-11.2
4.547	14.7			0.0	-0.4	20.0				34.3	46.0	-11.7
4.872	14.6			0.0	-0.4	20.0				34.2	46.0	-11.8
4.497	14.0			0.0	-0.3	20.0				33.7	46.0	-12.3
4.322	13.9			0.0	-0.3	20.0				33.6	46.0	-12.4
0.303	17.3			0.0	-0.1	20.0				37.2	50.2	-13.0
4.947	13.3			0.0	-0.4	20.0				32.9	46.0	-13.1
4.097	13.2			0.0	-0.3	20.0				32.9	46.0	-13.1
0.382	15.2			0.0	-0.1	20.0				35.1	48.2	-13.1
17.910	17.5			0.0	-0.7	20.0				36.8	50.0	-13.2
17.820	17.4			0.0	-0.7	20.0				36.7	50.0	-13.3
18.120	17.3			0.0	-0.7	20.0				36.6	50.0	-13.4
17.970	17.2			0.0	-0.7	20.0				36.5	50.0	-13.5
3.796	12.8			0.0	-0.3	20.0				32.5	46.0	-13.5
18.030	17.1			0.0	-0.7	20.0				36.4	50.0	-13.6
4.397	12.7			0.0	-0.3	20.0				32.4	46.0	-13.6

NORTHWEST
EMC

CONDUCTED EMISSIONS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2	Work Order:	INMC0081
Serial Number:	C2	Date:	06/26/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:		Humidity:	36%
Cust. Ref. No.:		Barometric Pressure	30.21
Tested by:	Dan Haas	Power: 120VAC, 60Hz	Job Site: EV04

TEST SPECIFICATIONS

Specification:	FCC 15.207	Year:	2002
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installled in CK-30, running in docking station. 802.11(g) mode

EUT OPERATING MODES

802.11(g) modulation, transmitting Low Channel at 6MB

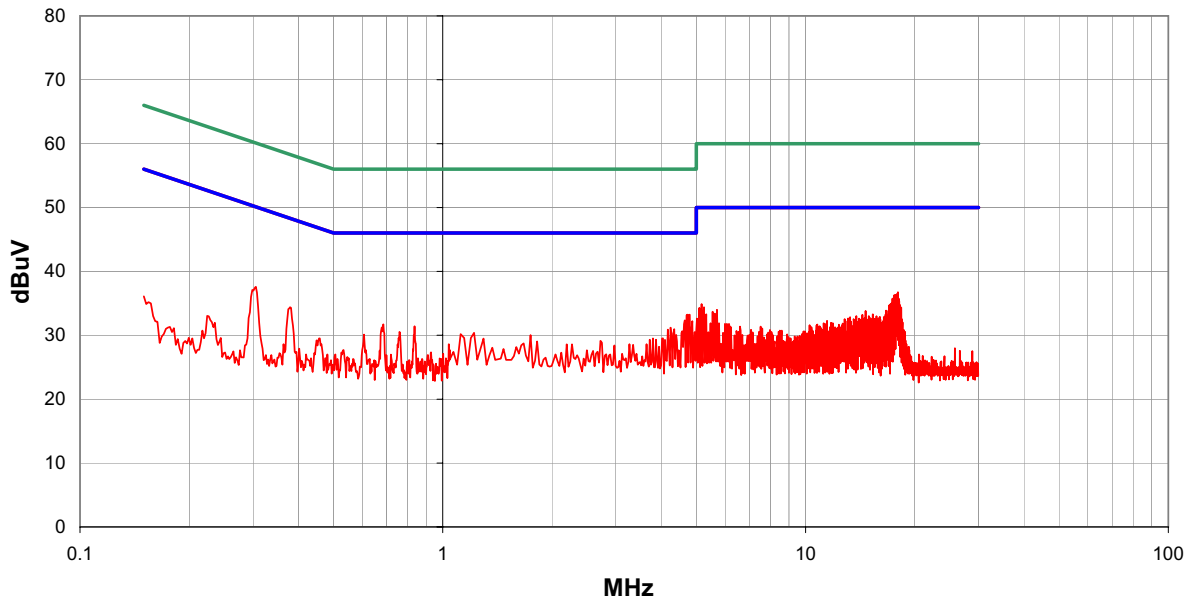
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Line	Run #
Pass	N	2

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.305	17.7			0.0	-0.1	20.0				37.6	50.1	-12.5
4.722	13.6			0.0	-0.4	20.0				33.2	46.0	-12.8
4.772	13.6			0.0	-0.4	20.0				33.2	46.0	-12.8
17.970	17.4			0.0	-0.7	20.0				36.7	50.0	-13.3
17.910	17.2			0.0	-0.7	20.0				36.5	50.0	-13.5
17.670	17.0			0.0	-0.7	20.0				36.3	50.0	-13.7
17.820	17.0			0.0	-0.7	20.0				36.3	50.0	-13.7
4.647	12.7			0.0	-0.4	20.0				32.3	46.0	-13.7
17.520	16.9			0.0	-0.7	20.0				36.2	50.0	-13.8
17.730	16.9			0.0	-0.7	20.0				36.2	50.0	-13.8
4.872	12.6			0.0	-0.4	20.0				32.2	46.0	-13.8
0.379	14.5			0.0	-0.1	20.0				34.4	48.3	-13.9
17.580	16.7			0.0	-0.7	20.0				36.0	50.0	-14.0
17.370	16.4			0.0	-0.6	20.0				35.8	50.0	-14.2
18.060	16.4			0.0	-0.7	20.0				35.7	50.0	-14.3
0.685	11.8			0.0	-0.1	20.0				31.7	46.0	-14.3
17.430	16.1			0.0	-0.6	20.0				35.5	50.0	-14.5
0.836	11.6			0.0	-0.2	20.0				31.4	46.0	-14.6
18.120	16.0			0.0	-0.7	20.0				35.3	50.0	-14.7
4.247	11.5			0.0	-0.3	20.0				31.2	46.0	-14.8

NORTHWEST EMC

CONDUCTED EMISSIONS DATA SHEET

REV df3.11 06/23/2003

EUT:	802MIG2	Work Order:	INMC0081
Serial Number:	C2	Date:	06/26/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:		Humidity:	36%
Cust. Ref. No.:		Barometric Pressure	30.21
Tested by:	Dan Haas	Power: 120VAC, 60Hz	Job Site: EV04

TEST SPECIFICATIONS

Specification:	FCC 15.207	Year:	2002
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installled in CK-30, running in docking station. 802.11(g) mode

EUT OPERATING MODES

802.11(g) modulation, transmitting Mid Channel at 6MB

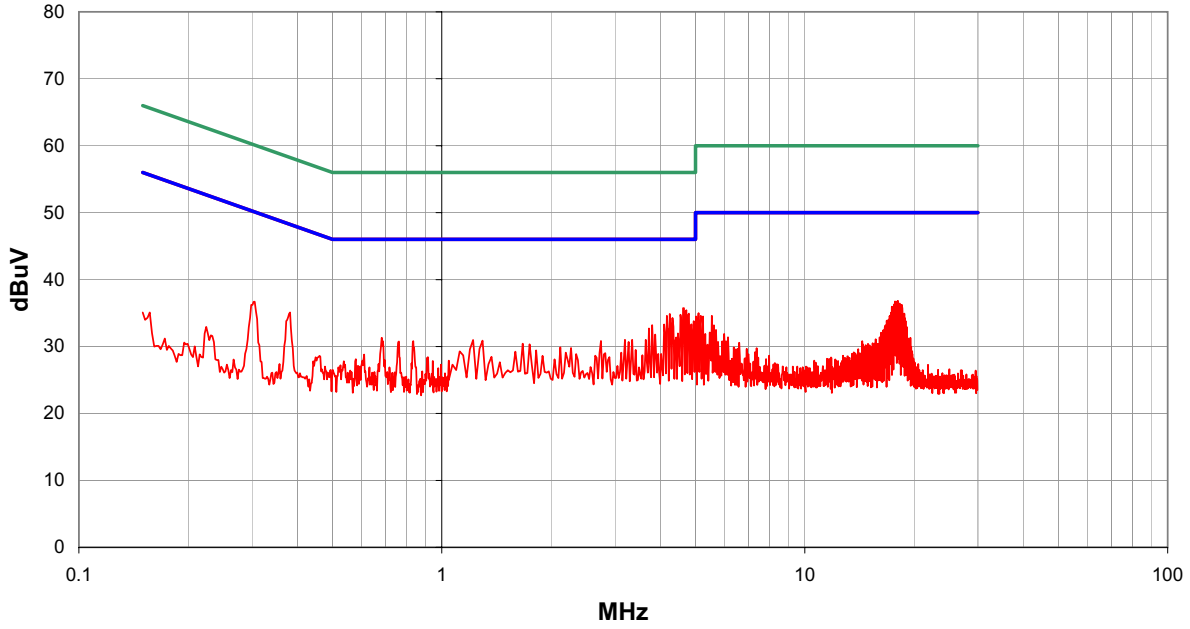
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Line	Run #
Pass	L1	3

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
4.622	16.1			0.0	-0.4	20.0				35.7	46.0	-10.3
4.722	15.8			0.0	-0.4	20.0				35.4	46.0	-10.6
4.797	15.3			0.0	-0.4	20.0				34.9	46.0	-11.1
4.247	15.2			0.0	-0.3	20.0				34.9	46.0	-11.1
4.547	15.1			0.0	-0.4	20.0				34.7	46.0	-11.3
4.172	14.9			0.0	-0.3	20.0				34.6	46.0	-11.4
4.322	14.6			0.0	-0.3	20.0				34.3	46.0	-11.7
4.947	14.2			0.0	-0.4	20.0				33.8	46.0	-12.2
4.872	13.7			0.0	-0.4	20.0				33.3	46.0	-12.7
4.097	13.6			0.0	-0.3	20.0				33.3	46.0	-12.7
3.796	13.5			0.0	-0.3	20.0				33.2	46.0	-12.8
0.382	15.2			0.0	-0.1	20.0				35.1	48.2	-13.1
18.060	17.5			0.0	-0.7	20.0				36.8	50.0	-13.2
17.730	17.4			0.0	-0.7	20.0				36.7	50.0	-13.3
17.970	17.4			0.0	-0.7	20.0				36.7	50.0	-13.3
3.721	13.0			0.0	-0.3	20.0				32.7	46.0	-13.3
17.820	17.2			0.0	-0.7	20.0				36.5	50.0	-13.5
0.303	16.8			0.0	-0.1	20.0				36.7	50.2	-13.5
17.880	17.1			0.0	-0.7	20.0				36.4	50.0	-13.6
18.270	17.1			0.0	-0.7	20.0				36.4	50.0	-13.6

NORTHWEST EMC

CONDUCTED EMISSIONS DATA SHEET

REV df3.11 06/23/2003

EUT:	802MIG2	Work Order:	INMC0081
Serial Number:	C2	Date:	06/26/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:		Humidity:	36%
Cust. Ref. No.:		Barometric Pressure	30.21
Tested by:	Dan Haas	Power: 120VAC, 60Hz	Job Site: EV04

TEST SPECIFICATIONS

Specification:	FCC 15.207	Year:	2002
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installled in CK-30, running in docking station. 802.11(g) mode

EUT OPERATING MODES

802.11(g) modulation, transmitting Mid Channel at 6MB

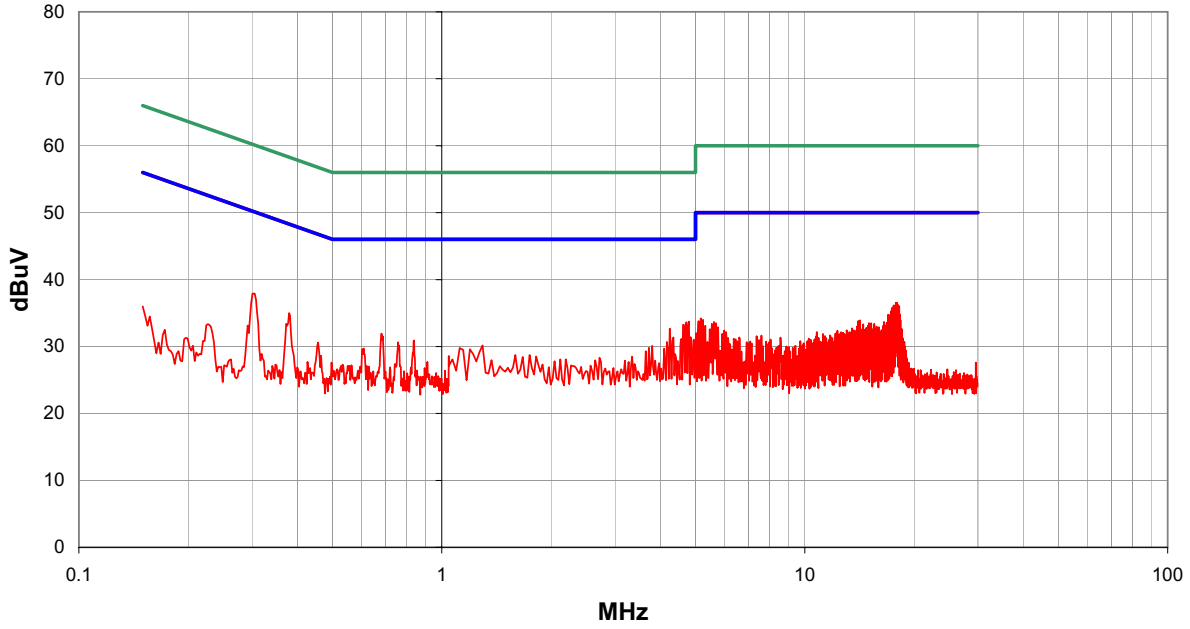
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Line	Run #
Pass	N	4

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
4.797	14.1			0.0	-0.4	20.0				33.7	46.0	-12.3
0.301	18.0			0.0	-0.1	20.0				37.9	50.2	-12.3
4.722	14.0			0.0	-0.4	20.0				33.6	46.0	-12.4
4.622	13.6			0.0	-0.4	20.0				33.2	46.0	-12.8
0.379	15.1			0.0	-0.1	20.0				35.0	48.3	-13.3
4.247	13.0			0.0	-0.3	20.0				32.7	46.0	-13.3
17.820	17.2			0.0	-0.7	20.0				36.5	50.0	-13.5
17.970	17.2			0.0	-0.7	20.0				36.5	50.0	-13.5
17.880	17.0			0.0	-0.7	20.0				36.3	50.0	-13.7
18.060	16.9			0.0	-0.7	20.0				36.2	50.0	-13.8
17.580	16.8			0.0	-0.7	20.0				36.1	50.0	-13.9
17.730	16.8			0.0	-0.7	20.0				36.1	50.0	-13.9
18.210	16.7			0.0	-0.7	20.0				36.0	50.0	-14.0
0.681	12.0			0.0	-0.1	20.0				31.9	46.0	-14.1
17.670	16.5			0.0	-0.7	20.0				35.8	50.0	-14.2
17.370	16.4			0.0	-0.6	20.0				35.8	50.0	-14.2
17.430	16.3			0.0	-0.6	20.0				35.7	50.0	-14.3
17.520	16.3			0.0	-0.7	20.0				35.6	50.0	-14.4
18.120	16.1			0.0	-0.7	20.0				35.4	50.0	-14.6
4.847	11.8			0.0	-0.4	20.0				31.4	46.0	-14.6

NORTHWEST
EMC

CONDUCTED EMISSIONS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2	Work Order:	INMC0081
Serial Number:	C2	Date:	06/26/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:		Humidity:	36%
Cust. Ref. No.:		Barometric Pressure	30.21
Tested by:	Dan Haas	Power: 120VAC, 60Hz	Job Site: EV04

TEST SPECIFICATIONS

Specification:	FCC 15.207	Year:	2002
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installled in CK-30, running in docking station. 802.11(g) mode

EUT OPERATING MODES

802.11(g) modulation, transmitting High Channel at 6MB

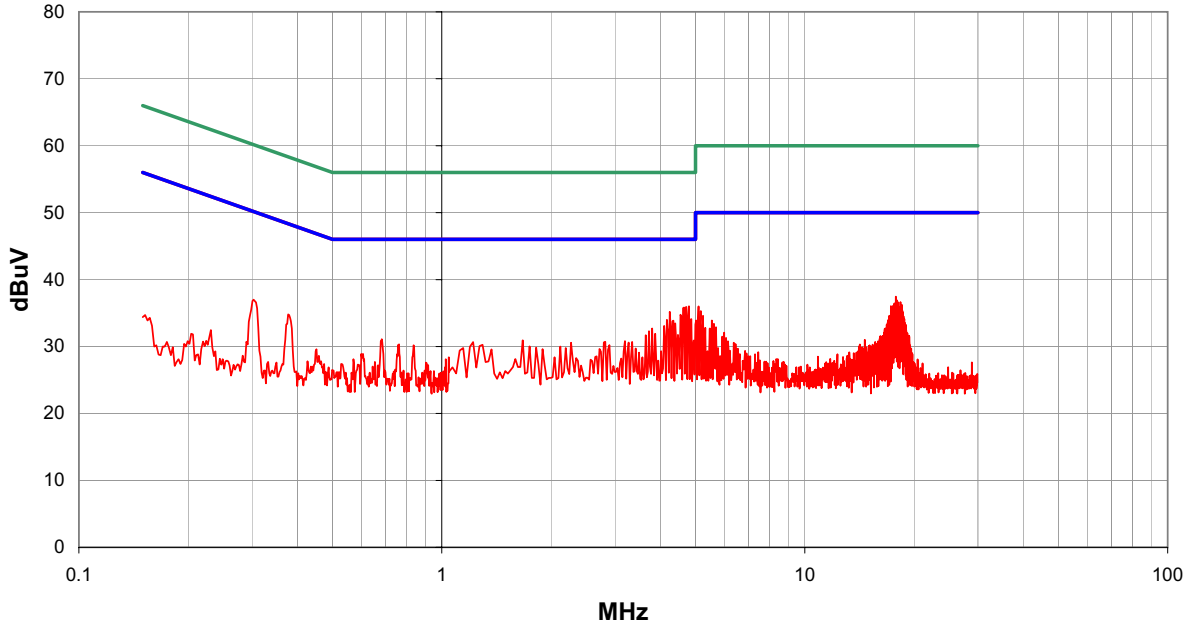
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Line	Run #
Pass	L1	5

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
4.797	16.4			0.0	-0.4	20.0				36.0	46.0	-10.0
4.722	16.3			0.0	-0.4	20.0				35.9	46.0	-10.1
4.647	16.2			0.0	-0.4	20.0				35.8	46.0	-10.2
4.247	15.5			0.0	-0.3	20.0				35.2	46.0	-10.8
4.547	15.1			0.0	-0.4	20.0				34.7	46.0	-11.3
4.872	14.5			0.0	-0.4	20.0				34.1	46.0	-11.9
4.172	14.3			0.0	-0.3	20.0				34.0	46.0	-12.0
4.347	14.2			0.0	-0.3	20.0				33.9	46.0	-12.1
4.397	13.8			0.0	-0.3	20.0				33.5	46.0	-12.5
17.820	18.1			0.0	-0.7	20.0				37.4	50.0	-12.6
4.097	13.4			0.0	-0.3	20.0				33.1	46.0	-12.9
17.910	17.6			0.0	-0.7	20.0				36.9	50.0	-13.1
17.970	17.5			0.0	-0.7	20.0				36.8	50.0	-13.2
0.303	17.1			0.0	-0.1	20.0				37.0	50.2	-13.2
3.796	13.0			0.0	-0.3	20.0				32.7	46.0	-13.3
18.060	17.3			0.0	-0.7	20.0				36.6	50.0	-13.4
18.360	17.3			0.0	-0.7	20.0				36.6	50.0	-13.4
0.377	14.9			0.0	-0.1	20.0				34.8	48.3	-13.5
17.670	17.1			0.0	-0.7	20.0				36.4	50.0	-13.6
3.721	12.6			0.0	-0.3	20.0				32.3	46.0	-13.7

NORTHWEST
EMC

CONDUCTED EMISSIONS DATA SHEET

REV
df3.11
06/23/2003

EUT:	802MIG2	Work Order:	INMC0081
Serial Number:	C2	Date:	06/26/03
Customer:	INTERMEC Technologies Corporation	Temperature:	75
Attendees:		Humidity:	36%
Cust. Ref. No.:		Barometric Pressure	30.21
Tested by:	Dan Haas	Power: 120VAC, 60Hz	Job Site: EV04

TEST SPECIFICATIONS

Specification:	FCC 15.207	Year:	2002
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

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

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

COMMENTS

Radio installled in CK-30, running in docking station. 802.11(g) mode

EUT OPERATING MODES

802.11(g) modulation, transmitting High Channel at 6MB

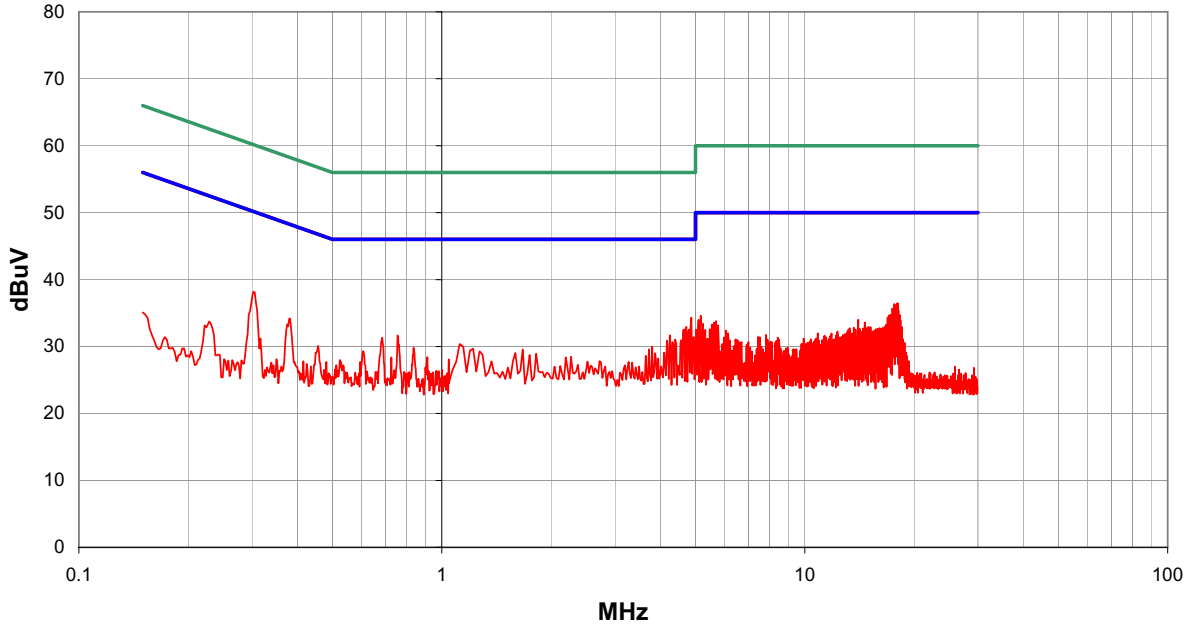
DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Line	Run #
Pass	N	6

Other

Tested By:



Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
4.872	14.7			0.0	-0.4	20.0				34.3	46.0	-11.7
0.303	18.3			0.0	-0.1	20.0				38.2	50.2	-12.0
4.722	13.3			0.0	-0.4	20.0				32.9	46.0	-13.1
4.647	12.9			0.0	-0.4	20.0				32.5	46.0	-13.5
4.797	12.9			0.0	-0.4	20.0				32.5	46.0	-13.5
17.970	17.1			0.0	-0.7	20.0				36.4	50.0	-13.6
18.060	17.1			0.0	-0.7	20.0				36.4	50.0	-13.6
17.670	17.0			0.0	-0.7	20.0				36.3	50.0	-13.7
17.820	16.8			0.0	-0.7	20.0				36.1	50.0	-13.9
0.382	14.3			0.0	-0.1	20.0				34.2	48.2	-14.0
17.910	16.4			0.0	-0.7	20.0				35.7	50.0	-14.3
4.247	12.0			0.0	-0.3	20.0				31.7	46.0	-14.3
17.430	16.3			0.0	-0.6	20.0				35.7	50.0	-14.3
17.580	16.3			0.0	-0.7	20.0				35.6	50.0	-14.4
0.755	11.8			0.0	-0.2	20.0				31.6	46.0	-14.4
17.730	16.2			0.0	-0.7	20.0				35.5	50.0	-14.5
18.120	16.1			0.0	-0.7	20.0				35.4	50.0	-14.6
4.947	11.8			0.0	-0.4	20.0				31.4	46.0	-14.6
0.685	11.4			0.0	-0.1	20.0				31.3	46.0	-14.7
4.397	11.4			0.0	-0.3	20.0				31.1	46.0	-14.9