

## **Exhibit M: Occupied Bandwidth**

**FCC ID: HN2MPCI3A-20**

**Justification**

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

**Channels in Specified Band Investigated:**

Low

Mid

High

**Operating Modes Investigated:**

Typical

**Data Rates Investigated:**

Maximum

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

Maximum

**Power Input Settings Investigated:**

DC from E-net

**Software\Firmware Applied During Test**

Exercise software

AP Monitor

Version

V5.97

**Description**

A notebook PC controls the radio through a serial port connection on the WA22 access point. Hyper Terminal running in Windows 98 address the AP monitor commands for setting the transmit channel and data rate.

**Equipment Modifications**

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

## EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
EUT - 802.11(b) radio module installed in WA22 Access Point	Intermec	MPCI3A-20	022-026
Power bridge	Intermec	071579	U01156281006901
Laptop PC	Panasonic	CF-35	7KHS A02247

## Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Serial cable	Yes	1.5	No	Access Point	Laptop
Ethernet cable	No	7.5	No	Power Bridge	Access Point
AC power	No	1.9	No	Power Bridge	AC mains

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

## Measurement Equipment

Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Tektronix	2784	AAO	03/08/2001	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: MPC13A-20			Work Order: INMC0023		
Serial Number: 002-026			Date: 07/23/02		
Customer: Intermec Corporation			Temperature: 26 degrees C		
Attendees: None		Tested by: Greg Kiemel	Humidity: 43% RH		
Customer Ref. No.: N/A		Power: DC from E-net	Job Site: EV06		

**TEST SPECIFICATIONS**

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

Tested in WA22 Access Point

**EUT OPERATING MODES**

Modulated by PRBS at maximum data rate

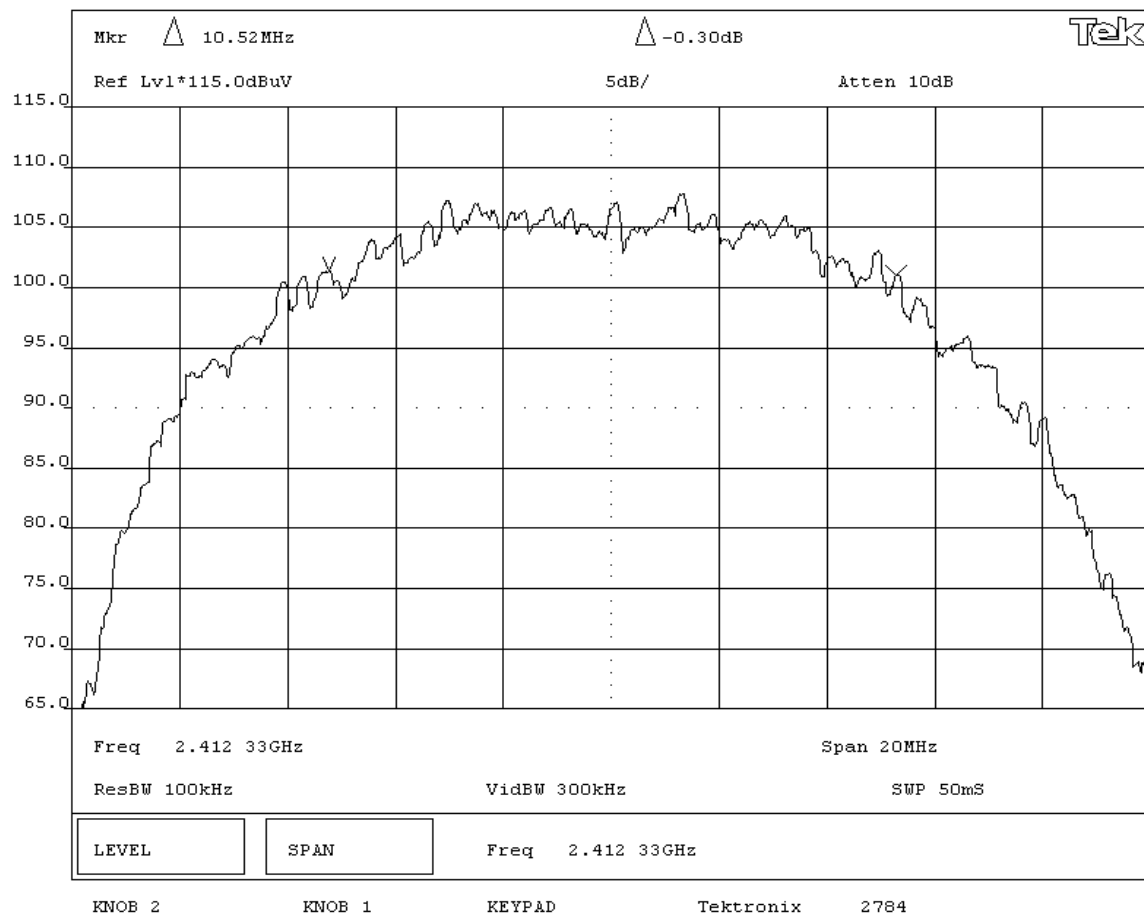
**DEVIATIONS FROM TEST STANDARD**

None

**REQUIREMENTS**

The minimum 6dB bandwidth is 500KHz

<b>RESULTS</b>	<b>BANDWIDTH</b>
Pass	10.52 MHz

**SIGNATURE**Tested By: **DESCRIPTION OF TEST****Occupied Bandwidth - Low Channel**

NORTHWEST  
**EMC****EMISSIONS DATA SHEET**Rev BETA  
01/30/01

EUT: MPC13A-20			Work Order: INMC0023		
Serial Number: 002-026			Date: 07/23/02		
Customer: Intermec Corporation			Temperature: 26 degrees C		
Attendees: None		Tested by: Greg Kiemel	Humidity: 43% RH		
Customer Ref. No.: N/A		Power: DC from E-net	Job Site: EV06		

**TEST SPECIFICATIONS**

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

Tested in WA22 Access Point

**EUT OPERATING MODES**

Modulated by PRBS at maximum data rate

**DEVIATIONS FROM TEST STANDARD**

None

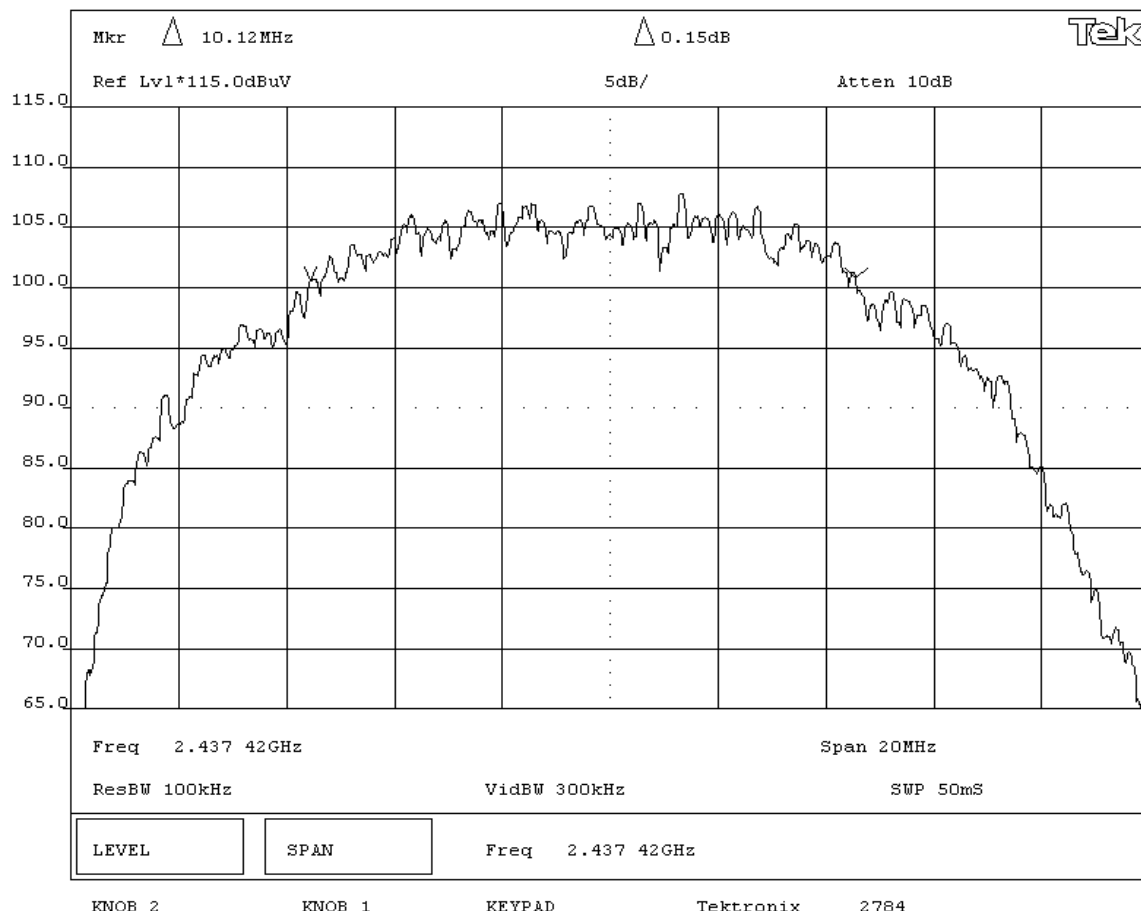
**REQUIREMENTS**

The minimum 6dB bandwidth is 500KHz

**RESULTS****BANDWIDTH**

Pass

10.12 MHz

**SIGNATURE**Tested By: **DESCRIPTION OF TEST****Occupied Bandwidth - Mid Channel**

NORTHWEST  
EMC

## EMISSIONS DATA SHEET

Rev BETA  
01/30/01

EUT: MPC13A-20			Work Order: INMC0023		
Serial Number: 002-026			Date: 07/23/02		
Customer: Intermec Corporation			Temperature: 26 degrees C		
Attendees: None		Tested by: Greg Kiemel	Humidity: 43% RH		
Customer Ref. No.: N/A		Power: DC from E-net	Job Site: EV06		

## TEST SPECIFICATIONS

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

## COMMENTS

Tested in WA22 Access Point

## EUT OPERATING MODES

Modulated by PRBS at maximum data rate

## DEVIATIONS FROM TEST STANDARD

None

## REQUIREMENTS

The minimum 6dB bandwidth is 500KHz

## RESULTS

## BANDWIDTH

Pass

9.6 MHz

## SIGNATURE

Tested By: 

## DESCRIPTION OF TEST

## Occupied Bandwidth - High Channel

