

Exhibit O: Spurious Radiated Emissions

FCC ID: EJM-X400

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:

Typical

Antennas Investigated:

Dipole, Gemtek EA153

Data Rates Investigated:

Maximum

Output Power Setting(s) Investigated:

Maximum

Power Input Settings Investigated:

120 VAC, 60 Hz.

Frequency Range Investigated

Start Frequency

30

Stop Frequency

25 GHz

Software\Firmware Applied During Test

Exercise software

Standard Production
Software

Version

2.1.0.104-4400

Description

The system was tested using standard operating production software to exercise the functions of the device during the testing. The software resides in Flash on the baseboard of the EUT.

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
Radio Module	Intel Corporation	WL-350F V05	00904B0A83FD
EUT	Intel Corporation	AnyPoint DSL Gateway 4400	0007E9036749
EUT	Intel Corporation	AnyPoint Networking Gateway 1400	0007E90366E7
EUT Power Supply	CUI Stack	TEAD-48-121200UT	0210

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Power	No	1.5	No	EUT Power Supply	EUT
AC Power	No	1.8	No	EUT Power Supply	AC Mains
CAT 5 E-net	No	1.0	No	EUT	Unterminated
CAT 5 E-net	No	1.0	No	EUT	Unterminated
Telecom	No	1.7	No	EUT	600 ohm termination

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	03/19/2002	12 mo
Quasi-Peak Adapter	Hewlett-Packard	85650A	AQF	03/19/2002	12 mo
Antenna, Biconilog	EMCO	3141	AXE	12/31/2001	12 mo
Pre-Amplifier	Amplifier Research	LN1000A	APS	12/03/2001	12 mo
Antenna, Horn	EMCO	3115	AHC	08/24/2001	12 mo
Pre-Amplifier	Miteq	AMF-4D-005180-24-10P	APC	11/26/2001	12 mo
Spectrum Analyzer	Tektronix	2784	AAO	03/08/2001	24 mo
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	01/17/2000	36 mo
Antenna, Horn	EMCO	3160-09	AHG	01/15/2000	36 mo
High Pass Filter	RLC Electronics	F-100-4000-5-R (HPF>	HFF	02/04/2002	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.

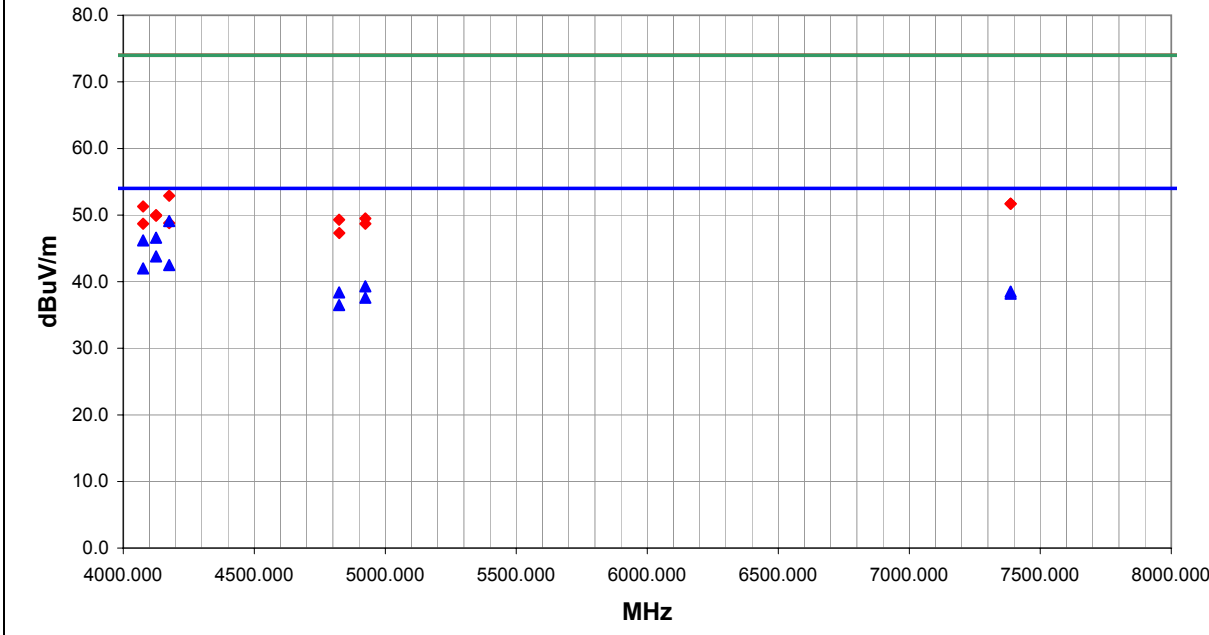
Configuration: The 4400 and 1400 use the same radio module, antennas, power supply, base board layout, and enclosure. The difference is the 4400 has a DSL interface, and the 1400 has an Ethernet interface. Both configurations were tested. Each antenna to be used with the EUT was tested. The EUT was configured 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 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.

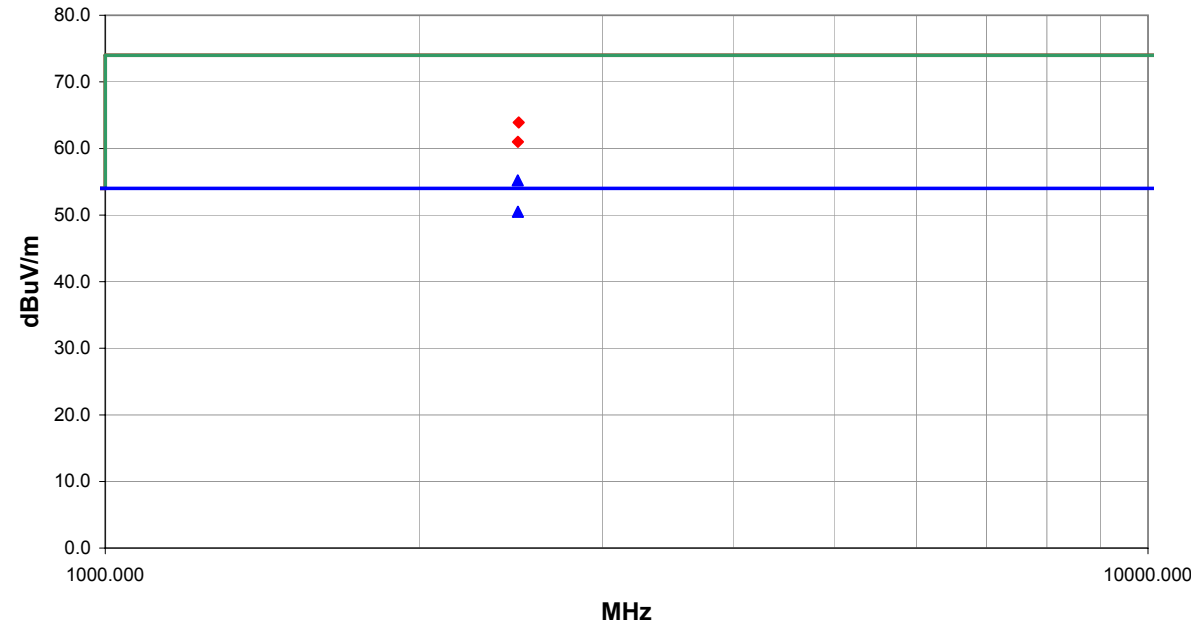
Bandwidths Used for Measurements

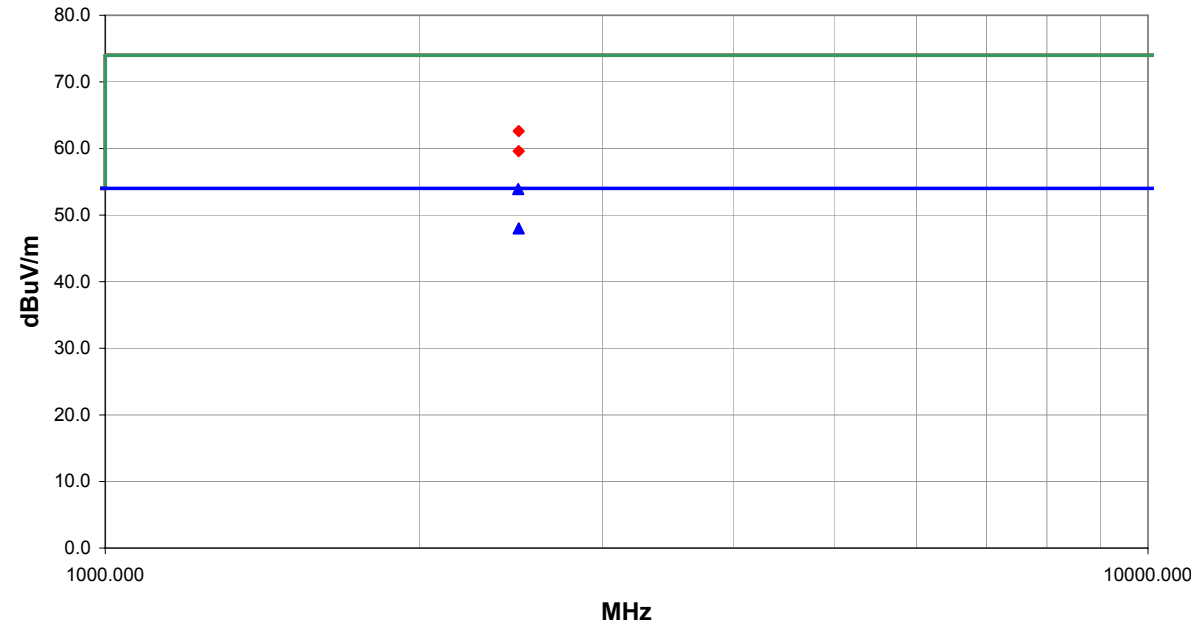
Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 – 0.15	1.0	0.2	0.2
0.15 – 30.0	10.0	9.0	9.0
30.0 – 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0
<i>Measurements were made using the bandwidths and detectors specified. No video filter was used.</i>			

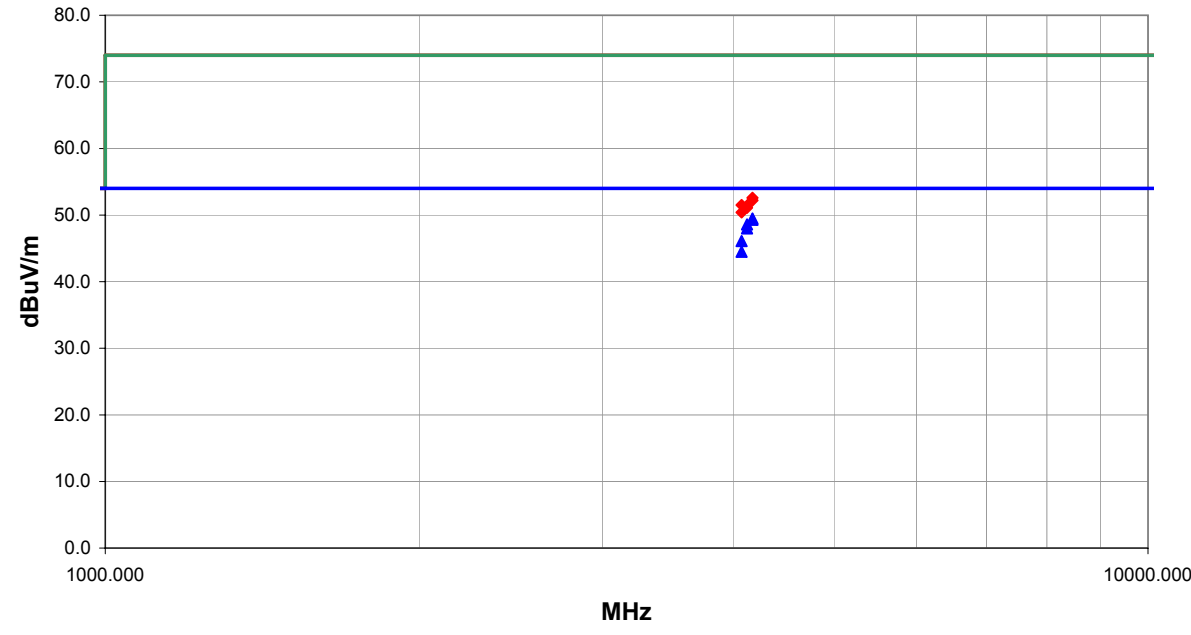
Completed by:



NORTHWEST EMC										OATS DATA SHEET				REV d12.02 05/20/2002	
EUT: AnyPoint DSL Gateway 4400										Work Order: INTE4561					
Serial Number: 0007E9036749										Date: 5/30/02 14:07					
Customer: Intel Corporation										Temperature: 72					
Attendees: Mike Espig										Humidity: 45%					
Cust. Ref. No.:										Barometric Pressure: 30.12					
Tested by: Rod Peloquin					Power: 120 V, 60 Hz					Job Site: EV01					
TEST SPECIFICATIONS															
Specification: FCC Part 15.247 Class B										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															
Modulated by stream of "1010101" data at maximum data rate, maximum output power. WL-350F installed in EUT.															
EUT OPERATING MODES															
DEVIATIONS FROM TEST STANDARD															
No deviations.															
RESULTS										Test Distance (m)			Run #		
Pass										3			1		
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)			
4175.440	44.3	4.8	188.0	1.1	3.0	0.0	H-Horn	AV	0.0	49.1	54.0	-4.9			
4125.488	41.8	4.8	189.0	1.3	3.0	0.0	H-Horn	AV	0.0	46.6	54.0	-7.4			
4075.486	41.5	4.7	200.0	1.2	3.0	0.0	H-Horn	AV	0.0	46.2	54.0	-7.8			
4125.458	39.0	4.8	206.0	1.0	3.0	0.0	V-Horn	AV	0.0	43.8	54.0	-10.2			
4175.506	37.7	4.8	338.0	1.2	3.0	0.0	V-Horn	AV	0.0	42.5	54.0	-11.5			
4075.450	37.3	4.7	20.0	1.1	3.0	0.0	V-Horn	AV	0.0	42.0	54.0	-12.0			
4923.915	32.7	6.6	356.0	1.2	3.0	0.0	V-Horn	AV	0.0	39.3	54.0	-14.7			
7387.040	28.2	10.3	163.0	1.3	3.0	0.0	V-Horn	AV	0.0	38.5	54.0	-15.5			
4824.037	32.4	6.0	165.0	1.0	3.0	0.0	V-Horn	AV	0.0	38.4	54.0	-15.6			
7387.040	27.9	10.3	274.0	1.2	3.0	0.0	H-Horn	AV	0.0	38.2	54.0	-15.8			
4923.915	31.0	6.6	356.0	1.3	3.0	0.0	H-Horn	AV	0.0	37.6	54.0	-16.4			
4824.073	30.5	6.0	250.0	1.2	3.0	0.0	H-Horn	AV	0.0	36.5	54.0	-17.5			
4175.440	48.1	4.8	188.0	1.1	3.0	0.0	H-Horn	PK	0.0	52.9	74.0	-21.1			
7387.040	41.4	10.3	274.0	1.2	3.0	0.0	H-Horn	PK	0.0	51.7	74.0	-22.3			
7387.040	41.4	10.3	163.0	1.3	3.0	0.0	V-Horn	PK	0.0	51.7	74.0	-22.3			
4075.486	46.6	4.7	200.0	1.2	3.0	0.0	H-Horn	PK	0.0	51.3	74.0	-22.7			
4125.488	45.2	4.8	189.0	1.3	3.0	0.0	H-Horn	PK	0.0	50.0	74.0	-24.0			
4125.458	45.1	4.8	206.0	1.0	3.0	0.0	V-Horn	PK	0.0	49.9	74.0	-24.1			
4923.915	42.9	6.6	356.0	1.2	3.0	0.0	V-Horn	PK	0.0	49.5	74.0	-24.5			
4824.037	43.3	6.0	165.0	1.0	3.0	0.0	V-Horn	PK	0.0	49.3	74.0	-24.7			
4175.506	44.0	4.8	338.0	1.2	3.0	0.0	V-Horn	PK	0.0	48.8	74.0	-25.2			

NORTHWEST EMC										OATS DATA SHEET				REV d12.02 05/20/2002	
EUT: AnyPoint DSL Gateway 4400										Work Order: INTE4561					
Serial Number: 0007E9036749										Date: 5/31/02 13:05					
Customer: Intel Corporation										Temperature: 72					
Attendees: Mike Espig, Rich Rice										Humidity: 45%					
Cust. Ref. No.:										Barometric Pressure: 30.12					
Tested by: Rod Peloquin					Power: 120 V/60 Hz					Job Site: EV01					
TEST SPECIFICATIONS															
Specification: FCC Part 15.247 Class B										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															
High Channel, Modulated by stream of ""4010101"" data at maximum data rate, maximum output power. WL-350F installed in EUT.															
EUT OPERATING MODES															
DEVIATIONS FROM TEST STANDARD															
No deviations.															
RESULTS										Test Distance (m)		Run #			
Pass										3		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)			
2462.750	85.5	-1.0	58.0	1.8	3.0	20.0	V-Horn	AV	0.0	104.5	54.0	50.5			
2462.850	84.9	-1.0	66.0	1.7	3.0	20.0	V-Horn	AV	0.0	103.9	54.0	49.9			
2462.750	80.9	-1.0	353.0	1.7	3.0	20.0	H-Horn	AV	0.0	99.9	54.0	45.9			
2486.730	36.1	-0.9	58.0	1.8	3.0	20.0	V-Horn	AV	0.0	55.2	54.0	1.2			
2487.764	31.4	-0.9	66.0	1.7	3.0	20.0	V-Horn	AV	0.0	50.5	54.0	-3.5			
2462.750	89.8	-1.0	58.0	1.8	3.0	20.0	V-Horn	PK	0.0	108.8	74.0	34.8			
2462.850	89.3	-1.0	66.0	1.7	3.0	20.0	V-Horn	PK	0.0	108.3	74.0	34.3			
2462.750	85.0	-1.0	353.0	1.7	3.0	20.0	H-Horn	PK	0.0	104.0	74.0	30.0			
2491.750	44.8	-0.9	58.0	1.8	3.0	20.0	V-Horn	PK	0.0	63.9	74.0	-10.1			
2487.764	41.9	-0.9	66.0	1.7	3.0	20.0	V-Horn	PK	0.0	61.0	74.0	-13.0			

NORTHWEST EMC										OATS DATA SHEET				REV d12.02 05/20/2002	
EUT: AnyPoint Networking Gateway 1400										Work Order: INTE4561					
Serial Number: 0007E90366E7										Date: 5/31/02 13:43					
Customer: Intel Corporation										Temperature: 72					
Attendees: Rich Rice										Humidity: 45%					
Cust. Ref. No.:										Barometric Pressure: 30.12					
Tested by: Rod Peloquin					Power: 120 V/60 Hz					Job Site: EV01					
TEST SPECIFICATIONS															
Specification: FCC Part 15.247 Class B										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															
High Channel, Modulated by stream of ""FFFF"" data at maximum data rate, maximum output power. WL-350F installed in EUT.															
EUT OPERATING MODES															
DEVIATIONS FROM TEST STANDARD															
No deviations.															
RESULTS										Test Distance (m)			Run #		
Pass										3			5		
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)			
2463.350	84.6	-1.0	12.0	1.1	3.0	20.0	V-Horn	AV	0.0	103.6	54.0	49.6			
2464.190	79.9	-1.0	185.0	2.1	3.0	20.0	H-Horn	AV	0.0	98.9	54.0	44.9			
2488.875	34.8	-0.9	12.0	1.1	3.0	20.0	V-Horn	AV	0.0	53.9	54.0	-0.1			
2491.750	28.9	-0.9	185.0	2.1	3.0	20.0	H-Horn	AV	0.0	48.0	54.0	-6.0			
2463.350	88.9	-1.0	12.0	1.1	3.0	20.0	V-Horn	PK	0.0	107.9	74.0	33.9			
2464.190	84.3	-1.0	185.0	2.1	3.0	20.0	H-Horn	PK	0.0	103.3	74.0	29.3			
2491.750	43.5	-0.9	12.0	1.1	3.0	20.0	V-Horn	PK	0.0	62.6	74.0	-11.4			
2491.750	40.5	-0.9	185.0	2.1	3.0	20.0	H-Horn	PK	0.0	59.6	74.0	-14.4			

NORTHWEST EMC										OATS DATA SHEET				REV d12.02 05/20/2002	
EUT: AnyPoint Networking Gateway 1400										Work Order: INTE4561					
Serial Number: 0007E90366E7										Date: 5/31/02 16:15					
Customer: Intel Corporation										Temperature: 72					
Attendees: Rich Rice										Humidity: 45%					
Cust. Ref. No.:										Barometric Pressure: 30.12					
Tested by: Rod Peloquin						Power: 120 V/60 Hz		Job Site: EV01							
TEST SPECIFICATIONS															
Specification: FCC Part 15.247 Class B										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															
Modulated by stream of ""1010101"" data at maximum data rate, maximum output power. WL-350F installed in EUT.															
EUT OPERATING MODES															
DEVIATIONS FROM TEST STANDARD															
No deviations.															
RESULTS										Test Distance (m)		Run #			
Pass										3		7			
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)			
4175.450	44.7	4.8	268.0	1.2	3.0	0.0	V-Horn	AV	0.0	49.5	54.0	-4.5			
4175.450	44.5	4.8	299.0	1.5	3.0	0.0	H-Horn	AV	0.0	49.3	54.0	-4.7			
4125.458	43.8	4.8	262.0	2.0	3.0	0.0	V-Horn	AV	0.0	48.6	54.0	-5.4			
4125.458	43.2	4.8	288.0	1.5	3.0	0.0	H-Horn	AV	0.0	48.0	54.0	-6.0			
4075.486	41.4	4.7	265.0	1.1	3.0	0.0	V-Horn	AV	0.0	46.1	54.0	-7.9			
4075.486	39.8	4.7	6.0	2.5	3.0	0.0	H-Horn	AV	0.0	44.5	54.0	-9.5			
4175.450	47.8	4.8	299.0	1.5	3.0	0.0	H-Horn	PK	0.0	52.6	74.0	-21.4			
4175.450	47.4	4.8	268.0	1.2	3.0	0.0	V-Horn	PK	0.0	52.2	74.0	-21.8			
4075.486	46.8	4.7	265.0	1.1	3.0	0.0	V-Horn	PK	0.0	51.5	74.0	-22.5			
4125.458	46.6	4.8	262.0	2.0	3.0	0.0	V-Horn	PK	0.0	51.4	74.0	-22.6			
4125.458	46.3	4.8	288.0	1.5	3.0	0.0	H-Horn	PK	0.0	51.1	74.0	-22.9			
4075.486	45.7	4.7	6.0	2.5	3.0	0.0	H-Horn	PK	0.0	50.4	74.0	-23.6			