



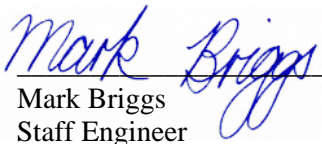
## Test Certificate

A sample of the following product received on June 20, 2011 and tested on June 23, 2011 complied with the requirements of

- EN 300 328 V1.7.1 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive"

given the measurement uncertainties detailed in Elliott report R83763.

### Ubiquiti Networks Model PicoStation M2-HP

  
Mark Briggs  
Staff Engineer

\_\_\_\_\_  
Ubiquiti Networks

\_\_\_\_\_  
Printed Name



Testing Cert #2016.01

Elliott Laboratories is accredited by the A2LA, certificate number 2016.01, to perform the test(s) listed in this report, except where noted otherwise. This report and the information contained herein represent the results of testing test articles identified and selected by the client performed to specifications and/or procedures selected by the client. National Technical Systems (NTS) makes no representations, expressed or implied, that such testing is adequate (or inadequate) to demonstrate efficiency, performance, reliability, or any other characteristic of the articles being tested, or similar products. This report should not be relied upon as an endorsement or certification by NTS of the equipment tested, nor does it represent any statement whatsoever as to its merchantability or fitness of the test article, or similar products, for a particular purpose. This report shall not be reproduced except in full

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*Radio Test Report*

*EN 300 328 V1.7.1*

*ElectroMagnetic Compatibility and Radio spectrum Matters  
(ERM); Wideband Transmission Systems;  
Data transmission equipment operating in the 2,4 GHz ISM  
band and using spread spectrum modulation techniques;*

*Model: PicoStation M2-HP*

COMPANY: Ubiquiti Networks  
91 E. Tasman Drive  
San Jose, CA 95134

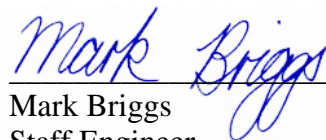
TEST SITE(S): Elliott Laboratories  
41039 Boyce Road.  
Fremont, CA. 94538-2435

REPORT DATE: July 7, 2011

FINAL TEST DATES: June 23, 2011

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**REVISION HISTORY**

Rev#	Date	Comments	Modified By
-	07-07-2011	First release	

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## **SCOPE**

The European Committee for Electrotechnical Standardization (CENELEC) and the European Telecommunications Standards Institute (ETSI) publish standards regarding ElectroMagnetic Compatibility and Radio spectrum Matters for radio-communications devices.

Tests have been performed on the Ubiquiti Networks model PicoStation M2-HP, pursuant to the relevant requirements of the following harmonized EN standard(s) covering essential requirements under article 3.2 of the R&TTE Directive:

- EN 300 328 V1.7.1 “Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques”

## **OBJECTIVE**

The objective of the manufacturer is to comply with the harmonized standards identified in the previous section. In the case of most equipment, this document requires testing to other EN specifications. In order to demonstrate compliance, the manufacturer or a contracted laboratory makes measurements and takes the necessary steps to ensure that the equipment complies with the appropriate technical standards.

## **STATEMENT OF COMPLIANCE**

The tested sample of Ubiquiti Networks model PicoStation M2-HP complied with the requirements of EN 300 328 V1.7.1 as covered under the scope of this test report (refer to results table on page 5).

The test results recorded herein are based on a single type test of Ubiquiti Networks model PicoStation M2-HP and therefore apply only to the tested sample. The sample was selected and prepared by Jennifer Sanchez of Ubiquiti Networks.

Maintenance of compliance is the responsibility of the manufacturer. Any modifications to the product should be assessed to determine their potential impact on the compliance status of the device with respect to the standards detailed in this test report.

**DEVIATIONS FROM THE STANDARDS**

No deviations were made from the published requirements listed in the scope of this report.

The scope of testing was limited to an evaluation of the radiated spurious emissions from the receiver as the purpose of testing was to evaluate a new enclosure. Radiated spurious emissions related to the transmitter were not re-evaluated as preliminary testing against other requirements (such as FCC Part 15.247) indicated that the transmitter spurious had not increased. Antenna port measurements were not repeated as the rf circuitry had not been modified.

**TEST RESULTS****EN 300 328 V1.7.1 – Digital Modulation**

Section	Description	Measured	Limit	Result
4.3.1.2	Average Effective Radiated Power (over normal and extreme conditions)	Not evaluated. The device, with a different enclosure, had been fully evaluated against all requirements of EN 300 328. The manufacturer declared that the changes in enclosure design would not significantly affect the previously measured values for signals at the rf antenna port of the system.		
4.3.2	Peak Power Density			
4.3.3	Frequency Range (over normal and extreme conditions)			
4.3.4	Number of hopping channels	-	Not applicable to digital modulation transmitters	-
4.3.4	Channel separation	-		
4.3.4	Maximum time of occupancy	-		
4.3.5	Medium Access Protocol	Not evaluated, no changes to the medium access protocol were made to accommodate the new enclosure.		
4.3.6	Transmit Mode Spurious Emissions (conducted)	Not evaluated. The device, with a different enclosure, had been fully evaluated against all requirements of EN 300 328. The manufacturer declared that the changes in enclosure design would not significantly affect the previously measured values for signals at the rf antenna port of the system or the levels of transmitter spurious emissions.		
4.3.6	Transmit Mode Spurious Emissions (radiated)			
4.3.7	Stand-By/Receive Mode Spurious Emissions (conducted)			
4.3.7	Stand-By/Receive Mode Spurious Emissions (radiated)	-57.3dBm erp @ 780.010 MHz	EN 300 328 v1.4.1 Tables 4 and 5	Complies (-0.3dB)
Note – Although the measurement is below the specification limit, it is below the limit by a margin less than the measurement uncertainty.				

**MEASUREMENT UNCERTAINTIES**

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2) and were calculated in accordance with NAMAS document NIS 81 and M3003.

Measurement Type	Measurement Unit	Frequency Range	Expanded Uncertainty
Radiated emission (substitution method)	dBm	25 to 26500 MHz	± 2.5 dB

**EQUIPMENT UNDER TEST (EUT) DETAILS****GENERAL**

The Ubiquiti Networks model PicoStation M2-HP is an outdoor Wi-Fi access point, powered through PoE, which operates in the 2400-2483.5 MHz DTS band. Since the EUT would normally be pole-mounted during operation, the EUT was mounted to a non-conductive tripod during testing. The electrical rating of the EUT is 100-240 Volts, 50-60 Hz, 0.3 Amps via a PoE adapter.

The sample was received on June 20, 2011 and tested on June 23, 2011. The EUT consisted of the following component(s):

Company	Model	Description	Serial Number
Ubiquiti Networks	PicoStation M2-HP	Outdoor access point	002722121D12
Ubiquiti Networks	UBI-POE-15-8	PoE injector	1101-0014182

**ENCLOSURE**

The EUT enclosure is primarily constructed of plastic. It measures approximately 4 cm wide by 4 cm deep by 15 cm high.

**MODIFICATIONS**

No modifications were made to the EUT during the time the product was at Elliott.

**SUPPORT EQUIPMENT**

No local support equipment was used during testing. The following equipment was used as remote support equipment for emissions testing:

Company	Model	Description	Serial Number	FCC ID
Dell	Vostro	Laptop	30YD5N1	-

**EUT INTERFACE PORTS**

The I/O cabling configuration during testing was as follows:

Port	Connected To	Cable(s)		
		Description	Shielded or Unshielded	Length(m)
Ethernet	PoE injector	Cat 5	Unshielded	1
LAN (PoE injector)	Laptop	Cat 5	Unshielded	10
AC Power (PoE injector)	AC Mains	3 wire	Unshielded	1

**EUT OPERATION**

During emissions testing the EUT was configured in a continuous receive mode at the power specified in the individual tests in this log. The high and low channels were tested.

**EMISSIONS TESTING****GENERAL INFORMATION**

Antenna port measurements were taken at the Elliott Laboratories test site located at 41039 Boyce Road, Fremont, CA 94538-2435.

Final radiated spurious emissions measurements were taken at the Elliott Laboratories Anechoic Chambers and/or Open Area Test Site(s) listed below. The sites conform to the requirements of ANSI C63.4: 2003 *American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz* and CISPR 16-1-4:2007 - *Specification for radio disturbance and immunity measuring apparatus and methods Part 1-4: Radio disturbance and immunity measuring apparatus Ancillary equipment Radiated disturbances*. They are registered with the VCCI and are on file with the FCC and industry Canada.

Site	Registration Numbers		Location
	FCC	Canada	
Chamber 4	211948	2845B-4	41039 Boyce Road Fremont, CA 94538-2435

In the case of Open Area Test Sites, ambient levels are at least 6 dB below the specification limits with the exception of predictable local TV, radio, and mobile communications traffic.

Considerable engineering effort has been expended to ensure that the facilities conform to all pertinent requirements.

**CONDUCTED EMISSIONS CONSIDERATIONS**

Conducted emissions measurements are performed with the EUT's rf input/output connected to the input of a spectrum analyzer. When required an attenuator or dc block is placed between the EUT and the spectrum analyzer.

**RADIATED EMISSIONS CONSIDERATIONS**

CISPR has determined that radiated measurements made in a shielded enclosure are not suitable for determining levels of radiated emissions. Radiated measurements are performed in an Open Area Test Site or anechoic chamber, as defined in CISPR 16-1-4 and Annex A of EN 300 328 / EN 301 893 / EN 300 440-1. The test site is maintained free of conductive objects within the CISPR defined elliptical area.

## **EMISSIONS MEASUREMENT INSTRUMENTATION**

### **RECEIVER SYSTEM**

An EMI receiver as specified in CISPR 16-1-1 is used for radiated emissions measurements. The receivers used can measure over the frequency range of 9 kHz up to 7000 MHz. These receivers allow both ease of measurement and high accuracy to be achieved. The receivers have Peak, Average, and CISPR (Quasi-peak) detectors built into their design so no external adapters are necessary.

For measurements above the frequency range of the receivers, a spectrum analyzer is utilized because it provides visibility of the entire spectrum along with the precision and versatility required to support engineering analysis.

Measurement bandwidths for the test instruments are set in accordance with the requirements of the standards referenced in this document.

### **INSTRUMENT CONTROL COMPUTER**

Software control is used to convert the receiver measurements to the field strength at an antenna, which is then compared directly with the appropriate specification limit. This provides faster, more accurate readings by performing the conversions described under Sample Calculations within the Test Procedures section of this report. Results are exported in a graphic and/or tabular format, as appropriate.

The Spectrum Monitor provides a visual display of the signal being measured. In addition, the controller or a personal computer runs automated data collection programs that control the receivers. This provides added accuracy since all site correction factors, such as cable loss and antenna factors are added automatically.

### **FILTERS/ATTENUATORS**

External filters and precision attenuators are often connected between the EUT antenna port or receiving antenna and the test receiver. This eliminates saturation effects and non-linear operation due to high amplitude transient events.

### **ANTENNAS**

A combination of biconical, log periodic or bi-log antennas are used to cover the range from 25 MHz to 1000 MHz. Broadband antennas or tuned dipole antennas are used over the entire 25 to 1000 MHz frequency range as the reference antenna for substitution measurements.

Above 1000 MHz, a dual-ridge guide horn antenna or octave horn antenna are used as reference and measurement antennas.

The antenna calibration factors are included in site factors that are programmed into the test receivers and instrument control software when measuring the radiated field strength.



**ANTENNA MAST AND EQUIPMENT TURNTABLE**

The antennas used to measure the radiated electric field strength are mounted on a non-conductive antenna mast equipped with a motor-drive to vary the antenna height.

The test height above ground for non-body worn devices shall be 150 centimeters. Floor mounted equipment will be placed on the ground plane if the device is normally used on a conductive floor or separated from the ground plane by insulating material from 3 to 12 mm if the device is normally used on a non-conductive floor. During radiated measurements, the EUT is positioned on a motorized turntable in conformance with this requirement.

**RADIO STANDARD TEST PROCEDURES****RADIATED SPURIOUS EMISSIONS**

Radiated emissions measurements are performed in two phases. A preliminary scan of emissions is conducted in either an anechoic chamber or on an OATS during which all significant EUT frequencies are identified with the system in a nominal configuration.

At least two scans are performed across the complete frequency range of interest and at each operating frequency identified in the reference standard. One or more of these is with the antenna polarized vertically while the one or more of these is with the antenna polarized horizontally. Initial scans are made using a peak detector (RBW=VBW) and using scan rates to ensure that the EUT transmits before the sweep moves out of each resolution bandwidth (for transmit mode).

During the preliminary scans, the EUT is rotated through 360°, the antenna height is varied and cable positions are varied to determine the highest emission relative to the limit. The limit is a field strength limit derived from the ERP limit specified in the standard(s).

All signals within 10dB of this calculated limit are re-measured on an OATS or Semi-anechoic chamber. The field strength is recorded and the EUT is then replaced with a substitution antenna of known gain (typically a dipole antenna or a double-ridged horn antenna). The erp of the substitution antenna is measured and used to calculate the erp of the EUT as outlined in section C3 of EN 300 328 and EN 301 893.

**SAMPLE CALCULATIONS****SAMPLE CALCULATIONS - RADIATED SPURIOUS EMISSIONS**

Receiver readings are compared directly to a converted specification limit (decibel form). The conversion uses the effective radiated power limit specified in the standard to calculate the expected field strength in free space using the following formula:

$$E = \frac{\sqrt{30 P G}}{d}$$

where:

- E = Field Strength in V/m
- P = Power in Watts
- G = Gain of antenna in numeric gain<sup>1</sup>
- D = distance in meters

The field strength limit is then converted to decibel form (dBuV/m) and the margin of a given emission peak relative to the limit is calculated as follows:

$$M = R_C - L_S$$

where:

- R<sub>C</sub> = Corrected Receiver Reading in dBuV/m
- L<sub>S</sub> = Calculated specification Limit in dBuV/m
- M = Margin in dB Relative to Spec

When substitution measurements are required (all signals with less than 6dB of margin relative the field strength limit) the margin of the emissions relative to the effective radiated power limit is calculated from:

$$P_S - S = M$$

where:

- P<sub>S</sub> = effective radiated power determined from antenna substitution (dBm)
- S = Specification Limit in dBm
- M = Margin to Specification in +/- dB

---

<sup>1</sup> Although the gain relative to a dipole should be used for limits expressed as an erp, the isotropic gain is used as this produces a more conservative limit.

**Appendix A Test Equipment Calibration Data****Radiated Emissions, 1000 - 26,500 MHz, 23-Jun-11**

<b><u>Manufacturer</u></b>	<b><u>Description</u></b>	<b><u>Model</u></b>	<b><u>Asset #</u></b>	<b><u>Cal Due</u></b>
Hewlett Packard	Microwave Preamplifier, 1-6.5GHz	8449B	785	5/18/2012
EMCO	Antenna, Horn, 1-18GHz	3115	868	6/8/2012
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FT (SA40) Blue	8564E (84125C)	1393	7/14/2011
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	2238	10/1/2011
Sunol Sciences	Biconilog, 30-3000 MHz	JB3	1657	5/28/2012
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1756	4/6/2012
EMCO	Antenna, Horn, 1-18 GHz	3115	1242	N/A
Rohde & Schwarz	Power Sensor 100 uW - 2 Watts use with #1994 20dB attenuator	NRV-Z32	1423	7/19/2011
Rohde & Schwarz	Power Meter, Dual Channel	NRVD	1539	9/13/2011
Agilent	MXG Analog Signal Generator	N5181A	2146	1/26/2012

## *Appendix B Test Data*

T83650 Pages 13 - 20



## EMC Test Data

Client:	Ubiquiti Networks	Job Number:	J82981
Model:	PicoStation M2-HP	T-Log Number:	T83650
		Account Manager:	Susan Pelzl
Contact:	Jennifer Sanchez		-
Emissions Standard(s):	FCC 15.247, FCC 15B, RSS-210, EN 300 328	Class:	-
Immunity Standard(s):	EN 301 489-1, -17	Environment:	-

## EMC Test Data

For The

## Ubiquiti Networks

Model

PicoStation M2-HP

Date of Last Test: 6/22/2010

Client:	Ubiquiti Networks	Job Number:	J82981
Model:	PicoStation M2-HP	T-Log Number:	T83650
Contact:	Jennifer Sanchez	Account Manager:	Susan Pelzl
Standard:	FCC 15.247, FCC 15B, RSS-210, EN 300 328	Class:	N/A

## Radiated Spurious Emissions, EN 300 328

### Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 6/23/2011 0:02

Config. Used: 1

Test Engineer: Joseph Cadigal

Config Change: none

Test Location: Fremont Chamber #4

EUT Voltage: POE

### General Test Configuration

The EUT and all local support equipment were located on the turntable for radiated spurious emissions testing. All remote support equipment was located approximately 30 meters from the EUT with all I/O connections running on top of the groundplane or routed in overhead in the GR-1089 test configuration.

The measurement antenna was located 3 meters from the EUT.

### Ambient Conditions:

Temperature: 25 °C

Rel. Humidity: 38 %

### Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
2	Spurious Emissions Receive/Stand-By Mode, 30 - 12750 MHz	EN 300 328	Pass	-57.3dBm erp @ 780.010 MHz (-0.3dB)

### Modifications Made During Testing

No modifications were made to the EUT during testing

### Deviations From The Standard

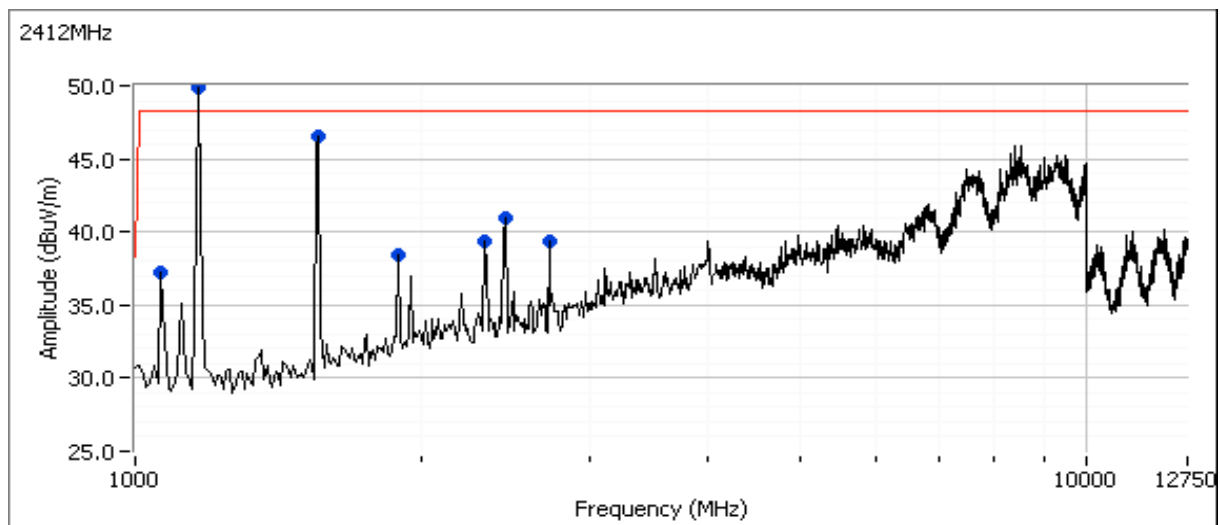
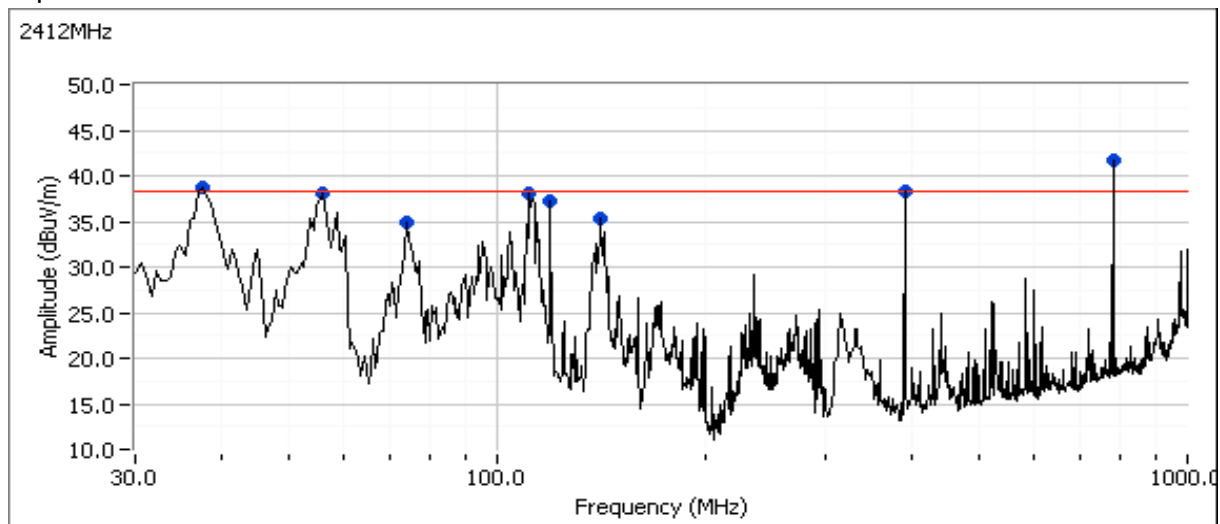
No deviations were made from the requirements of the standard.

Client: Ubiquiti Networks	Job Number: J82981
Model: PicoStation M2-HP	T-Log Number: T83650
Contact: Jennifer Sanchez	Account Manager: Susan Pelzl
Standard: FCC 15.247, FCC 15B, RSS-210, EN 300 328	Class: N/A

Run #1: Radiated Spurious Emissions, Receive Mode, 30 - 12750 MHz

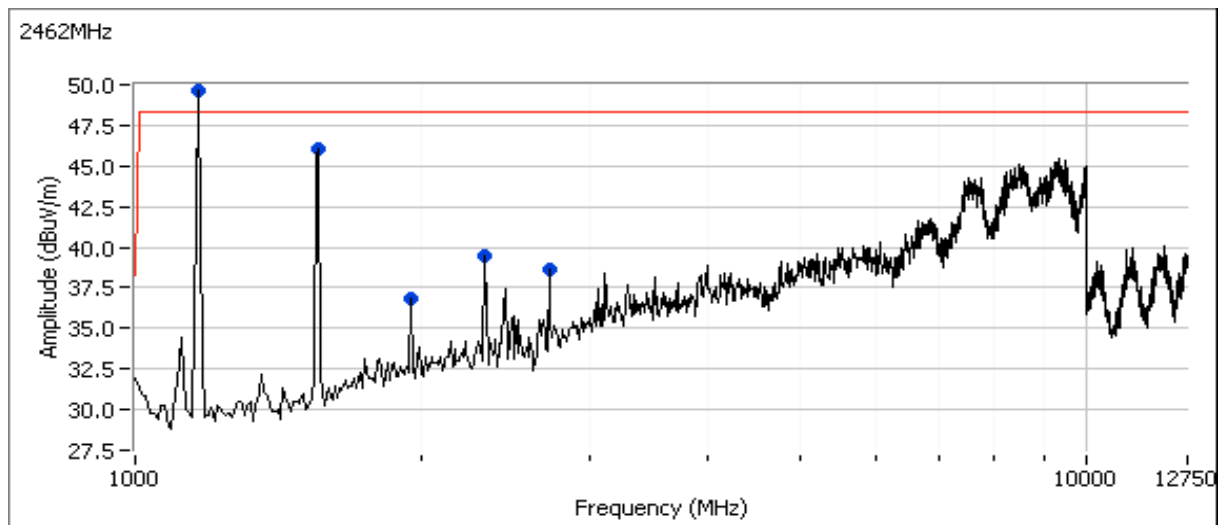
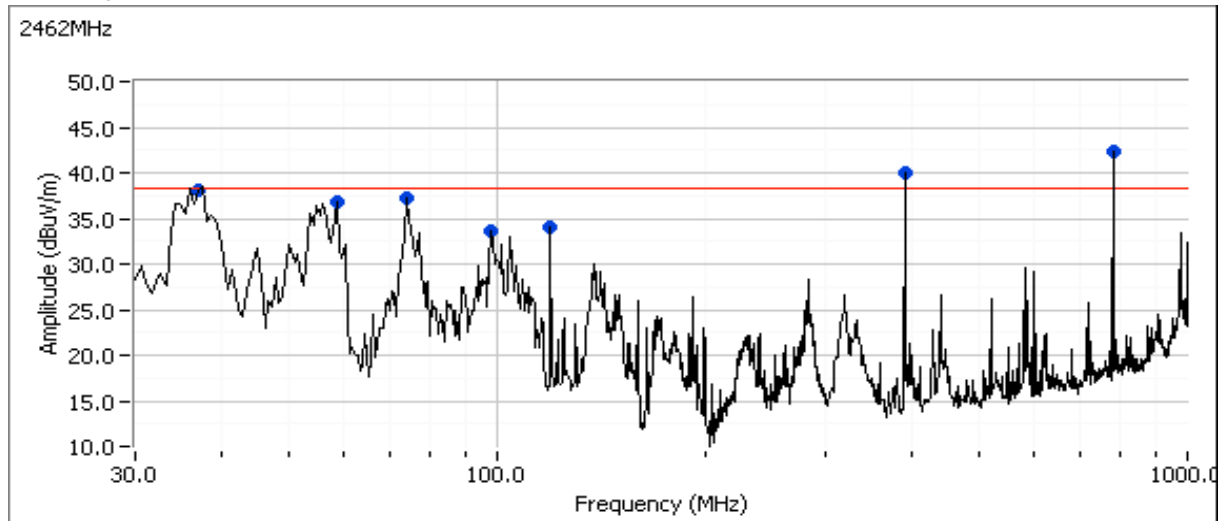
Measurements made at 3m

Graph - low channel at 2412 MHz



Client: Ubiquiti Networks	Job Number: J82981
Model: PicoStation M2-HP	T-Log Number: T83650
Contact: Jennifer Sanchez	Account Manager: Susan Pelzl
Standard: FCC 15.247, FCC 15B, RSS-210, EN 300 328	Class: N/A

Graph - high channel at 2472 MHz





Client:	Ubiquiti Networks	Job Number:	J82981
Model:	PicoStation M2-HP	T-Log Number:	T83650
Contact:	Jennifer Sanchez	Account Manager:	Susan Pelzl
Standard:	FCC 15.247, FCC 15B, RSS-210, EN 300 328	Class:	N/A

Results Table - All channels

Frequency	Level	Pol	EN 300 328 <sup>Note 1</sup>		Detector	Azimuth	Height	Comments	Channel
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		Frequency
55.839	38.0	V	38.3	-0.3	Peak	0	1.0		1
111.646	38.1	V	38.3	-0.2	Peak	68	1.0		1
74.582	35.0	V	38.3	-3.3	Peak	86	1.5		1
37.546	38.7	V	38.3	0.4	Peak	144	1.0		1
390.013	38.2	V	38.3	-0.1	Peak	147	1.0		1
120.007	37.2	V	38.3	-1.1	Peak	284	1.0		1
141.237	35.3	V	38.3	-3.0	Peak	346	3.0		1
780.010	41.7	V	38.3	3.4	Peak	358	1.5		1
2730.220	39.4	H	48.3	-8.9	Peak	4	1.6		1
1880.320	38.4	V	48.3	-9.9	Peak	152	1.0		1
2450.470	40.9	V	48.3	-7.4	Peak	268	1.0		1
2333.200	39.4	V	48.3	-8.9	Peak	343	1.6		1
1170.090	49.9	V	48.3	1.6	Peak	148	1.3		1
1560.050	46.5	V	48.3	-1.8	Peak	181	2.5		1
1069.780	37.3	V	48.3	-11.0	Peak	166	2.5		1
37.546	38.1	V	38.3	-0.2	Peak	6	1.5		13
120.007	34.0	V	38.3	-4.3	Peak	19	3.0		13
74.582	37.2	V	38.3	-1.1	Peak	21	1.5		13
390.007	39.9	V	38.3	1.6	Peak	65	2.0		13
58.795	36.9	V	38.3	-1.4	Peak	171	1.0		13
98.400	33.6	V	38.3	-4.7	Peak	172	1.0		13
780.015	42.3	V	38.3	4.0	Peak	358	1.5		13
1559.960	48.1	V	48.3	-0.2	Peak	158	2.5		13
1170.050	51.3	V	48.3	3.0	Peak	162	1.3		13
1950.320	41.6	V	48.3	-6.7	Peak	176	1.6		13
2334.060	38.7	V	48.3	-9.6	Peak	325	1.0		13
2730.100	42.6	H	48.3	-5.7	Peak	353	1.6		13

Note 1: The field strength limit in the tables above was calculated from the erp/eirp limit detailed in the standard using the free space propagation equation:  $E = \sqrt{(30PG)/d}$ . This limit is conservative - it does not consider the presence of the ground plane and, for erp limits, the dipole gain (2.2dBi) has not been included. The erp or eirp for all signals with less than 10dB of margin relative to this field strength limit is determined using substitution measurements.

Client:	Ubiquiti Networks	Job Number:	J82981
Model:	PicoStation M2-HP	T-Log Number:	T83650
Contact:	Jennifer Sanchez	Account Manager:	Susan Pelzl
Standard:	FCC 15.247, FCC 15B, RSS-210, EN 300 328	Class:	N/A

**Run #2: Radiated Spurious Emissions, Receive Mode: Final Field Strength and Substitution Measurements**  
**Measurements made at 3m**

Frequency	Level	Pol	EN 300 328 <sup>Note 1</sup>		Detector	Azimuth	Height	Comments	Channel
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		Frequency
55.839	38.5	V	38.3	0.2	PK	0	1.0		1
111.646	24.0	V	38.3	-14.3	PK	69	1.0		1
74.582	32.3	V	38.3	-6.0	PK	86	1.5		1
37.546	37.1	V	38.3	-1.2	PK	143	1.0		1
390.013	36.7	V	38.3	-1.6	PK	146	1.0		1
120.007	34.2	V	38.3	-4.1	PK	284	1.0		1
141.237	27.4	V	38.3	-10.9	PK	345	3.0		1
780.010	39.9	V	38.3	1.6	PK	357	1.5		1
2729.910	42.1	H	48.3	-6.2	PK	4	1.6		1
1169.960	51.4	V	48.3	3.1	PK	147	1.3		1
1560.050	47.7	V	48.3	-0.6	PK	180	2.5		1
2451.050	41.7	V	48.3	-6.6	PK	267	1.0		1
2332.920	39.4	V	48.3	-8.9	PK	342	1.6		1
37.546	38.3	V	38.3	0.0	PK	6	1.4		13
120.007	33.2	V	38.3	-5.1	PK	19	3.0		13
74.582	33.9	V	38.3	-4.4	PK	20	1.4		13
390.007	36.3	V	38.3	-2.0	PK	64	2.0		13
58.795	32.8	V	38.3	-5.5	PK	170	1.0		13
98.400	35.6	V	38.3	-2.7	PK	171	1.0		13
780.015	40.9	V	38.3	2.6	PK	357	1.5		13
1559.960	48.1	V	48.3	-0.2	PK	158	2.5		13
1170.050	51.3	V	48.3	3.0	PK	162	1.3		13
1950.320	41.6	V	48.3	-6.7	PK	176	1.6		13
2334.060	38.7	V	48.3	-9.6	PK	325	1.0		13
2730.100	42.6	H	48.3	-5.7	PK	353	1.6		13

**Horizontal**

Frequency MHz	Substitution measurements			Site Factor <sup>4</sup>	EUT measurements			eirp Limit dBm	erp Limit dBm	Margin dB
	Pin <sup>1</sup>	Gain <sup>2</sup>	FS <sup>3</sup>		FS <sup>5</sup>	eirp (dBm)	erp (dBm)			
2730.100	-2.2	9.9	104.8	97.1	42.6	-54.5	-56.7		-47.0	-9.7

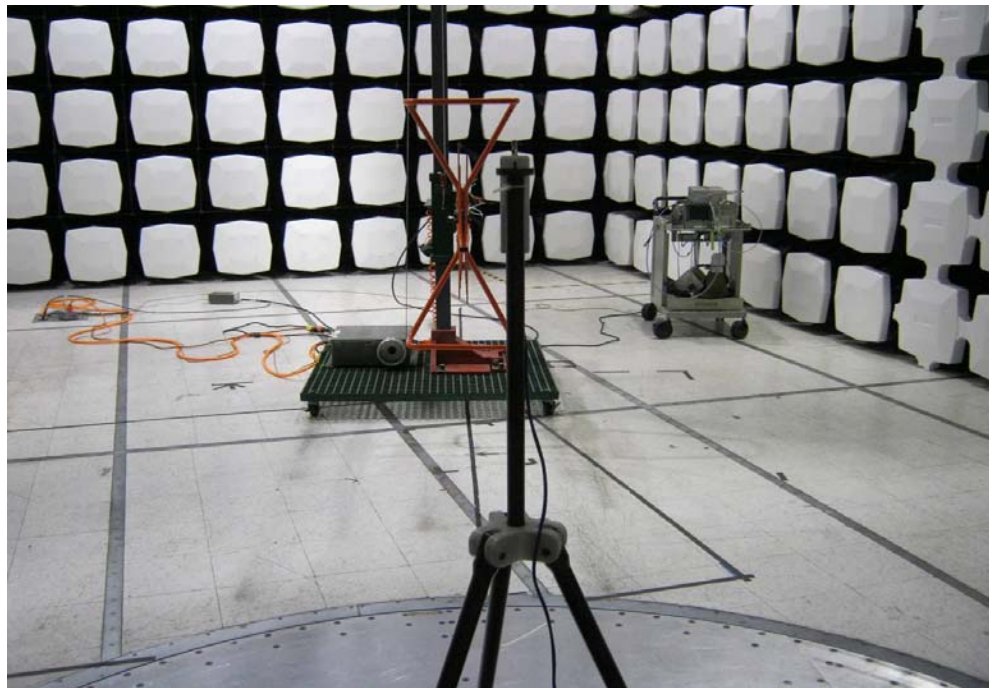
Client:	Ubiquiti Networks	Job Number:	J82981
Model:	PicoStation M2-HP	T-Log Number:	T83650
Contact:	Jennifer Sanchez	Account Manager:	Susan Pelzl
Standard:	FCC 15.247, FCC 15B, RSS-210, EN 300 328	Class:	N/A

## Vertical

Frequency MHz	Substitution measurements			Site Factor <sup>4</sup>	EUT measurements			eirp Limit dBm	erp Limit dBm	Margin dB
	Pin <sup>1</sup>	Gain <sup>2</sup>	FS <sup>3</sup>		FS <sup>5</sup>	eirp (dBm)	erp (dBm)			
55.839	-0.3	-2	91.8	94.1	38.5	-55.6	-57.8		-57.0	-0.8
111.646	-0.4	-1.8	92.8	95.0	24.0	-71.0	-73.2		-57.0	-16.2
74.582	-0.3	-0.6	93.4	94.3	33.9	-60.4	-62.6		-57.0	-5.6
37.546	-0.7	-14.4	82.1	97.2	38.3	-58.9	-61.1		-57.0	-4.1
390.013	-0.4	6.9	101.3	94.8	36.7	-58.1	-60.3		-57.0	-3.3
120.007	-0.4	-1.8	90.1	92.3	34.2	-58.1	-60.3		-57.0	-3.3
141.237	-0.4	0.3	92.0	92.1	27.4	-64.7	-66.9		-57.0	-9.9
780.010	-0.9	7.1	102.2	96.0	40.9	-55.1	-57.3		-57.0	-0.3
58.795	-0.3	-1.7	92.2	94.2	32.8	-61.4	-63.6		-57.0	-6.6
98.400	-0.4	0.4	94.5	94.5	35.6	-58.9	-61.1		-57.0	-4.1
1169.960	-1.6	6.5	102.6	97.7	51.4	-46.3	-48.5		-47.0	-1.5
2451.050	-6.2	8.9	104.0	101.3	41.7	-59.6	-61.8		-47.0	-14.8
1559.960	-1.7	8.6	104.5	97.6	48.1	-49.5	-51.7		-47.0	-4.7
1950.320	-2.0	8.1	99.1	93.0	41.6	-51.4	-53.6		-47.0	-6.6
2334.060	-2.3	8.9	104.7	98.1	38.7	-59.4	-61.6		-47.0	-14.6

Note 1:	Pin is the input power (dBm) to the substitution antenna
Note 2:	Gain is the gain (dBi) for the substitution antenna. A dipole has a nominal gain of 2.2dBi, however the dipole balun loss may reduce the gain of the substitution dipole used.
Note 3:	FS is the field strength (dBuV/m) measured from the substitution antenna, maximized for receive antenna height and transmit antenna azimuth.
Note 4:	Site Factor - this is the site factor to convert from a field strength in dBuV/m to an eirp in dBm.
Note 5:	EUT field strength as measured during initial run.

Client:	Ubiquiti Networks	Job Number:	J82981
Model:	PicoStation M2-HP	T-Log Number:	T83650
Contact:	Jennifer Sanchez	Account Manager:	Susan Pelzl
Standard:	FCC 15.247, FCC 15B, RSS-210, EN 300 328	Class:	N/A



*End of Report*

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