FCC CFR47 PART 15 SUBPART E
CLASS II PERMISSIVE CHANGE
TEST REPORT
FOR

Wireless Ethernet Bridge Access Point (Point to Multipoint)

MODEL NUMBER: M5830S-AP-EXT

FCC ID: NCYM5830SAP60

REPORT NUMBER: 06U10148-1, Revision B

ISSUE DATE: MAY 1, 2006

Prepared for
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Revision History

Rev.	Issue Date	Revisions	Revised By
A	04/13/06	Initial Issue	D. Garcia
B	5/1/06	Clarified antenna specifications	MH

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: TRANGO SYSTEMS
15070 AVENUE OF SCIENCE, SUITE 200
SAN DIEGO, CA 92128
U.S.A.

EUT DESCRIPTION: Wireless Ethernet Bridge Access Point (Point to Multipoint)

MODEL: M5830S-AP-EXT

SERIAL NUMBER: 00021935

DATE TESTED: MARCH 15 – APRIL 1, 2006

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 15 SUBPART E	NO NON-COMPLIANCE NOTED

Compliance Certification Services, Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By: Tested By:

MIKE HECKROTTE
ENGINEERING MANAGER
COMPLIANCE CERTIFICATION SERVICES

CAN CHUNG
EMC ENGINEER
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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003, FCC CFR 47 Part 2 and FCC CFR 47 Part 15.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 561F Monterey Road, Morgan Hill, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.4, ANSI C63.7 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://www.ccsemc.com.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radiated Emission, 30 to 200 MHz	+/- 3.3 dB
Radiated Emission, 200 to 1000 MHz	+4.5 / -2.9 dB
Radiated Emission, 1000 to 2000 MHz	+4.5 / -2.9 dB
Power Line Conducted Emission	+/- 2.9 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

Wireless Ethernet Bridge Access Point (Point to Multipoint).

5.2. DESCRIPTION OF CLASS II PERMISSIVE CHANGE

Changed antenna port connectors to reverse SMA type connectors and adding an additional antenna option (see antenna descriptions below).

5.3. DESCRIPTION OF ADDITIONAL ANTENNA

1) 90° 5.25-5.85 GHz Sector Antenna, model: SEC-55D90-16, 16 dBi gain.

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was 1p0a2.

The test utility software used during testing was telnet.

5.5. WORST-CASE CONFIGURATION AND MODE

The worst-case channel is determined as the channel with the highest output power. The highest measured output power was at 5836 MHz.

The worst-case data rate for this channel is determined to be 11 Mb/s.

Thus all emissions tests were made in the 802.11a mode, 5836 MHz, 11 Mb/s.

5.6. DESCRIPTION OF TEST SETUP

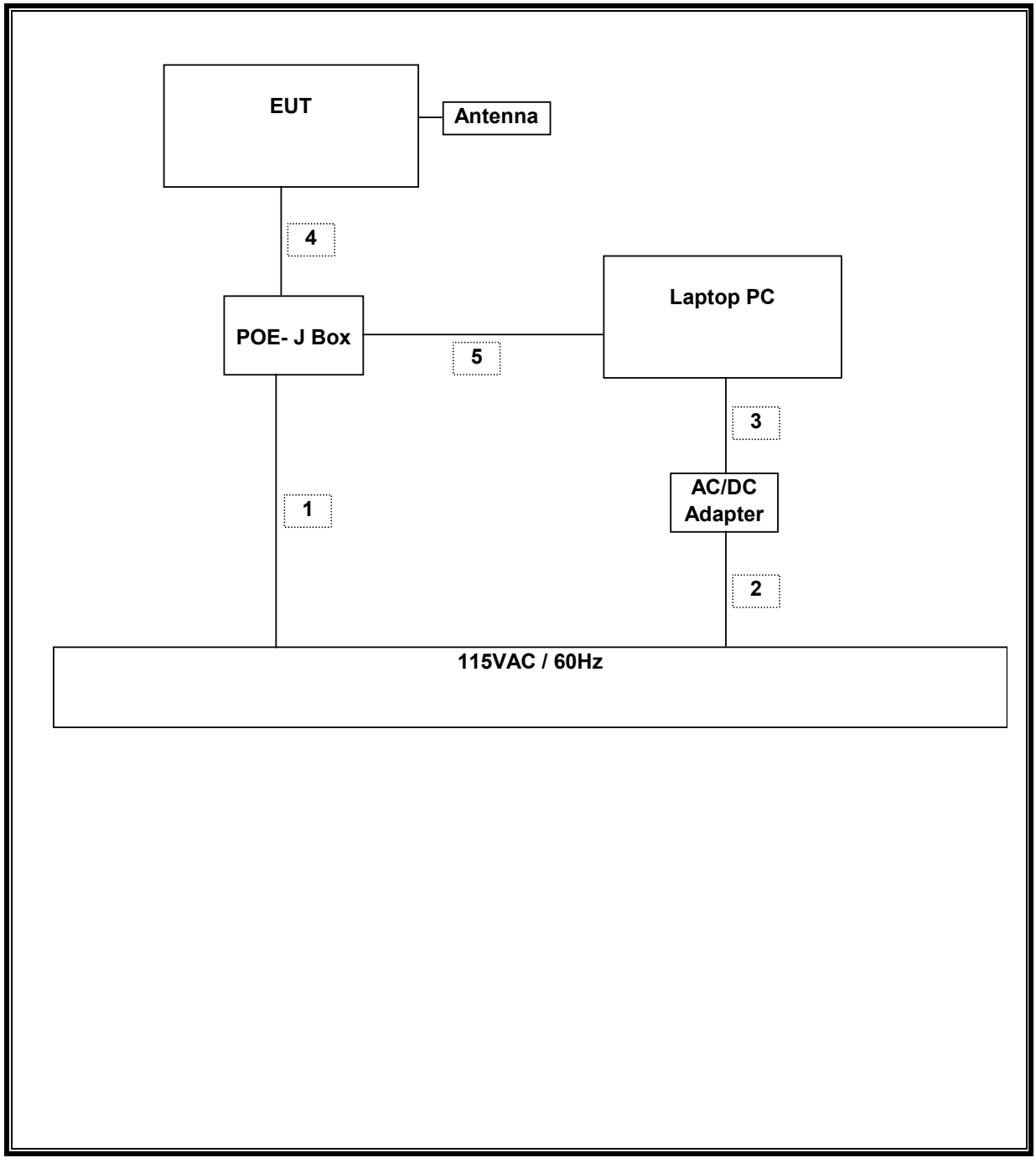
SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Laptop PC	Sony	PCG-R505EL	CS01695	DoC
AC/DC Adapter	Sony	PCGA-AC19V1	0044D0183529	N/A
POE J-Box	Trango	N/A	CS01696	N/A
AC/DC Adapter	HON-KWANG	D24-10P	0505C	N/A

I/O CABLES

I/O CABLE LIST						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length**	**Remarks**
1	DC	1	DC	Unshielded	1.6m	N/A
2	AC	1	AC	Unshielded	0.5m	N/A
3	DC	1	DC	Unshielded	1.5m	N/A
4	Radio	1	RJ45	Shielded	4m	N/A
5	Ethenet	1	RJ45	Unshielded	30m	N/A

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**Cal Due**
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	6717	04/22/06
Antenna, Horn 18 ~ 26 GHz	ARA	MWH-1826/B	1049	09/12/06
Antenna, Horn 26 ~ 40 GHz	ARA	MWH-2640/B	1029	12/29/05
Preamplifier, 1 ~ 26.5 GHz	Agilent / HP	8449B	3008A00561	10/03/07
Preamplifier, 26 ~ 40 GHz	Miteq	NSP4000-SP2	924343	08/18/06
7.6 GHz HPF	Micro Tronics	HPM13195	1	N/A
Spectrum Analyzer 3 Hz ~ 44 GHz	Agilent / HP	E4446A	US42510266	10/19/06
EMI Test Receiver	R & S	ESHS 20	827129/006	06/03/06
LISN, 10 kHz ~ 30 MHz	FCC	LISN-50/250-25-2	2023	08/30/06
EMI Receiver, 9 kHz ~ 2.9 GHz	Agilent / HP	8542E	3942A00286	02/04/07
RF Filter Section	Agilent / HP	85420E	3705A00256	02/04/07
Antenna, Bilog 30 MHz ~ 2 Ghz	Sunol Sciences	JB1	A121003	09/03/06

7. LIMITS AND RESULTS

7.1. AVERAGE POWER

AVERAGE POWER LIMIT

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

No non-compliance noted:

The cable assembly insertion loss of 12.1 dB (including 10 dB pad and 2.1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	Average Power (dBm)
Low	5260	13.67
Middle	5299	14.23
High	5340	-11.93

7.2. MAXIMUM PERMISSIBLE EXPOSURE

LIMITS

§1.1310 The criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093 of this chapter.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*($900/f^2$)	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*($180/f^2$)	30

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)—Continued

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density
NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.
NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

CALCULATIONS

Given

$E = \sqrt{(30 * P * G)} / d$

and

$S = E ^ 2 / 3770$

where

E = Field Strength in Volts/meter
P = Power in Watts
G = Numeric antenna gain
d = Distance in meters
S = Power Density in milliwatts/square centimeter

Combining equations and rearranging the terms to express the distance as a function of the remaining variables yields:

$d = \sqrt{((30 * P * G) / (3770 * S))}$

Changing to units of Power to mW and Distance to cm, using:

P (mW) = P (W) / 1000 and
d (cm) =100 * d (m)

yields

$d = 100 * \sqrt{((30 * (P / 1000) * G) / (3770 * S))}$
$d = 0.282 * \sqrt{(P * G / S)}$

where

d = distance in cm
P = Power in mW
G = Numeric antenna gain
S = Power Density in mW/cm^2

Substituting the logarithmic form of power and gain using:

P (mW) = 10 ^ (P (dBm) / 10) and
G (numeric) = 10 ^ (G (dBi) / 10)

yields

$d = 0.282 * 10 ^ ((P + G) / 20) / \sqrt{S}$

where

d = MPE distance in cm
P = Power in dBm
G = Antenna Gain in dBi
S = Power Density Limit in mW/cm^2

Rearranging terms to calculate the power density at a specific distance yields

$S = 0.0795 * 10 ^ ((P + G) / 10) / (d^2)$

LIMITS

From §1.1310 Table 1 (B), the maximum value of S = 1.0 mW/cm^2

RESULTS

No non-compliance noted: (MPE distance equals 20 cm)

Mode	MPE Distance (cm)	Output Power (dBm)	Antenna Gain (dBi)	Power Density (mW/cm^2)
802.11a	20.0	14.23	16.00	0.21

NOTE: For mobile or fixed location transmitters, the minimum separation distance is 20 cm, even if calculations indicate that the MPE distance would be less.

7.3. RADIATED EMISSIONS

7.3.1. TRANSMITTER RADIATED SPURIOUS EMISSIONS

LIMITS

§15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
[2] Above 38.6

§15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

§15.209 (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 - 88	100 **	3
88 - 216	150 **	3
216 - 960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

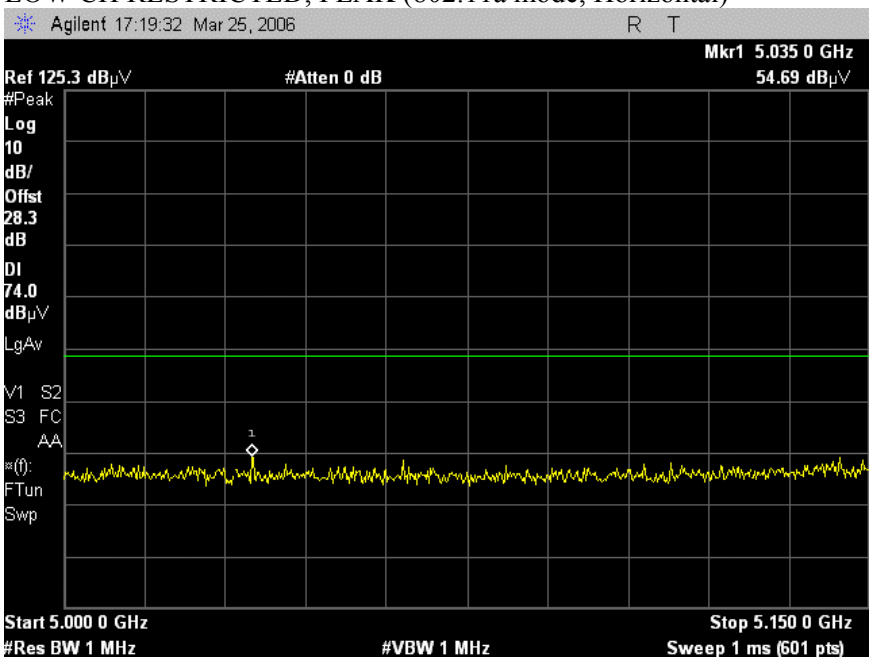
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

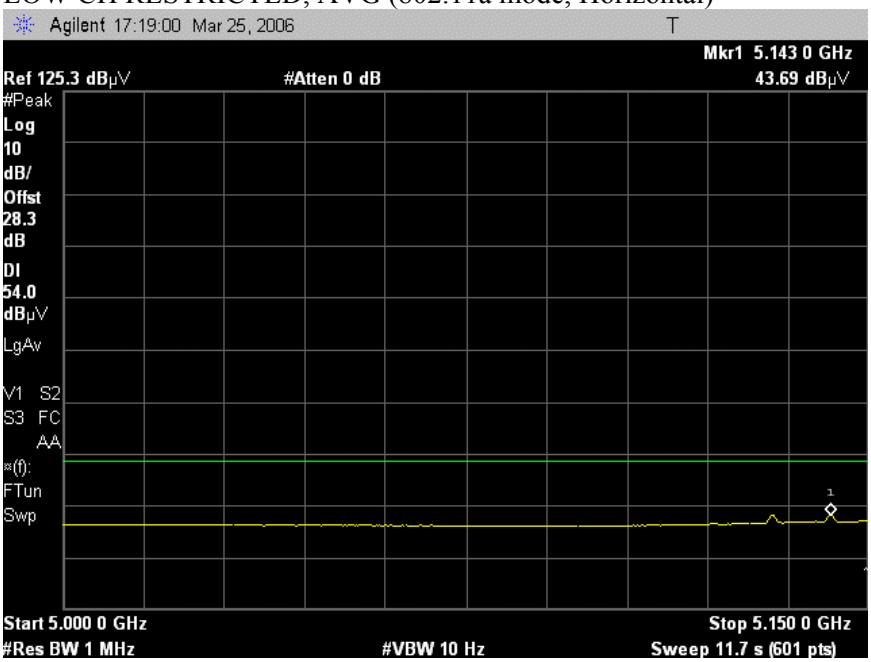
7.3.2. TRANSMITTER ABOVE 1 GHZ FOR 5250 TO 5350 MHz BAND

RESTRICTED BANDEDGE (802.11a MODE, LOW CHANNEL, HORIZONTAL)

LOW CH RESTRICTED, PEAK (802.11a mode, Horizontal)

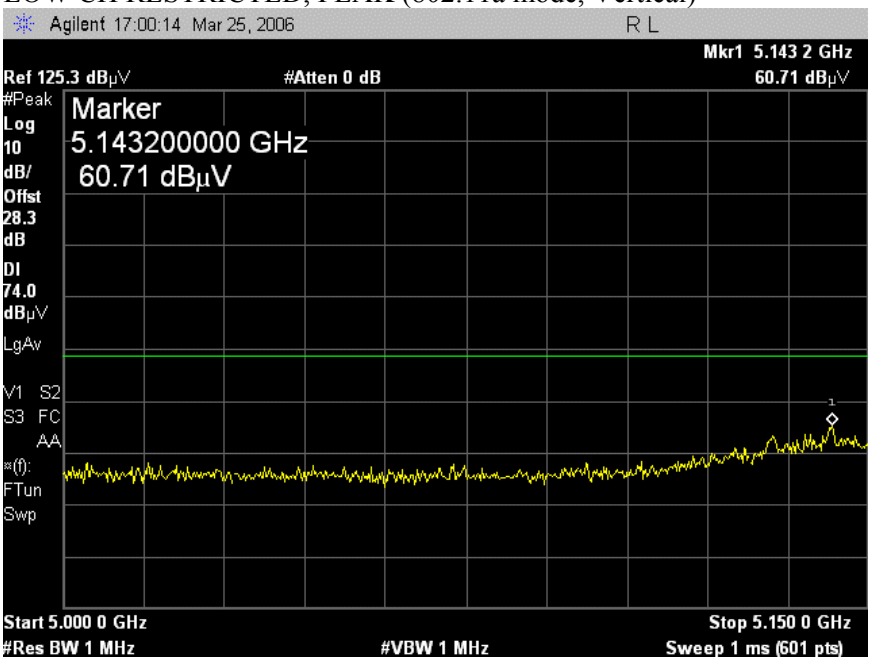


LOW CH RESTRICTED, AVG (802.11a mode, Horizontal)



RESTRICTED BANDEDGE (802.11a MODE, LOW CHANNEL, VERTICAL)

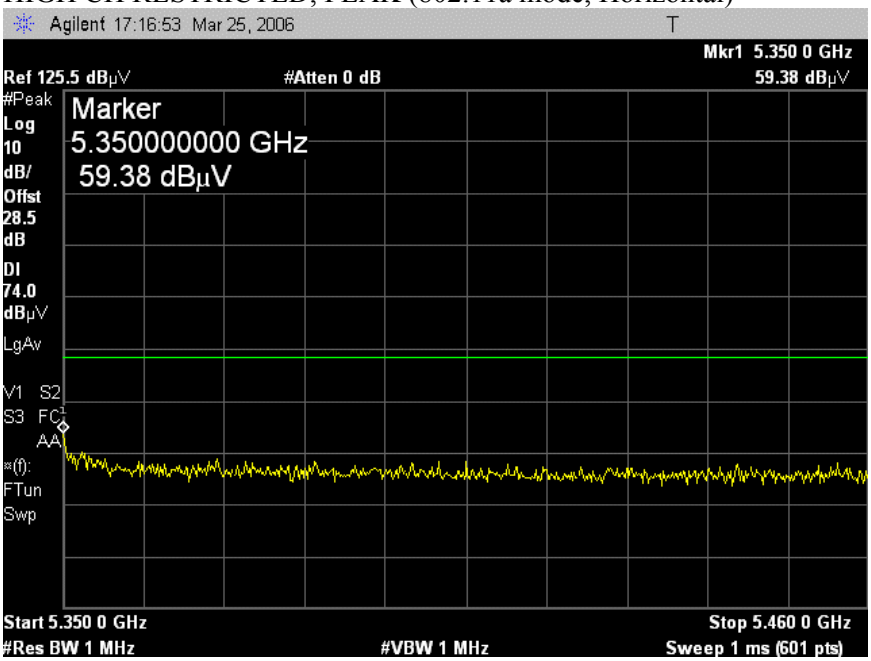
LOW CH RESTRICTED, PEAK (802.11a mode, Vertical)



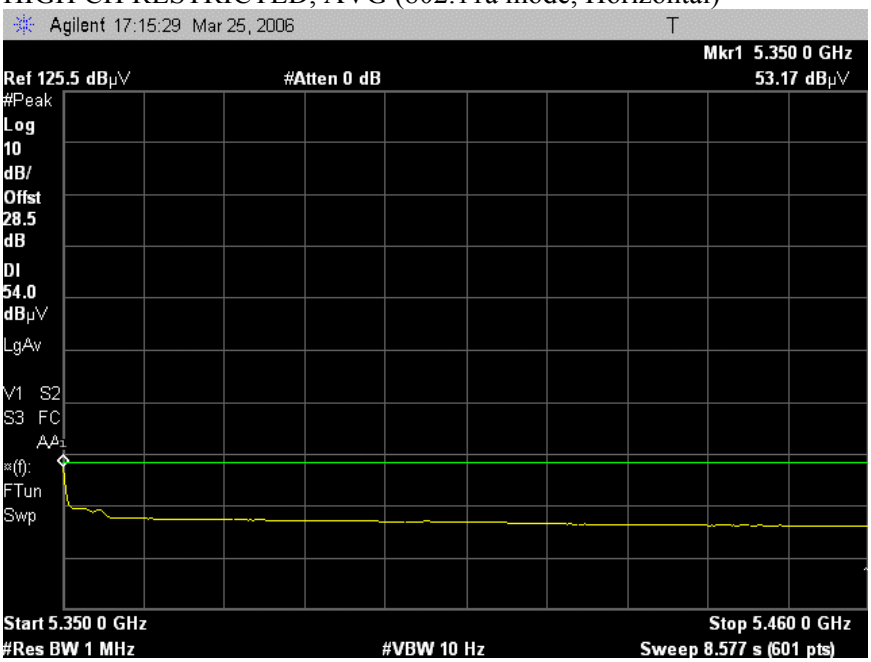
LOW CH RESTRICTED, AVG (802.11a mode, Vertical)

RESTRICTED BANDEDGE (802.11a MODE, HIGH CHANNEL, HORIZONTAL)

HIGH CH RESTRICTED, PEAK (802.11a mode, Horizontal)

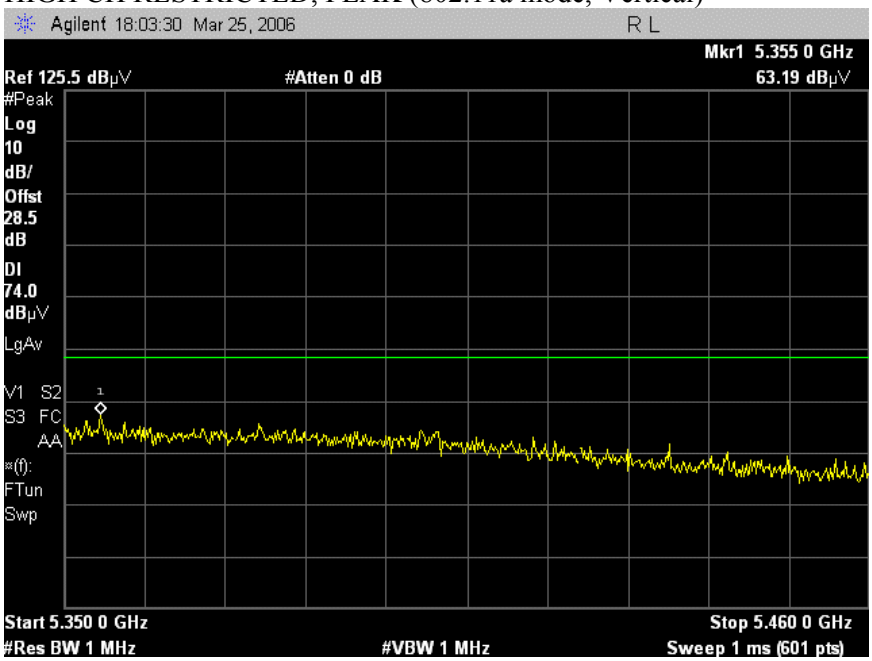


HIGH CH RESTRICTED, AVG (802.11a mode, Horizontal)



RESTRICTED BANDEDGE (802.11a MODE, HIGH CHANNEL, VERTICAL)

HIGH CH RESTRICTED, PEAK (802.11a mode, Vertical)



HIGH CH RESTRICTED, AVG (802.11a mode, Vertical)

HARMONICS AND SPURIOUS EMISSIONS (802.11a MODE)

02/02/06 **High Frequency Measurement**
Compliance Certification Services, Morgan Hill Open Field Site

Test Engineer: Can Ming Chung
Project #: 06U10148
Company: Trango System
EUT Descriptio Wireless Ethernet Bridge Access Point (Point to Multipoint), with 90 degree Sector Antenna
EUT M/N: M5830S-AP-EXT
EUT S/N: 21935
Test Target: FCC 15.205
Mode Of Operation: Continous Tx

Test Equipment:

Horn 1-18GHz	Pre-amplifer 1-26GHz	Pre-amplifer 26-40GHz	Horn > 18GHz	Limit
T60; S/N: 2238 @3m	T144 Miteq 3008A00931		T89; ARA 18-26GHz; S/N:1049	FCC 15.205

Hi Frequency Cables

2 foot cable	3 foot cable	12 foot cable	HPF	Reject Filter
Can 187207004		Can 187209002	HPF_7.6GHz	

Peak Measurements RBW=VBW=1MHz
Average Measurements RBW=1MHz ; VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Low Ch(5.260)															
15.780	3.0	46.0	33.4	38.8	6.7	-34.6	0.0	0.7	57.5	45.0	74	54	-16.5	-9.0	V
21.040	3.0	45.9	33.0	33.4	8.5	-35.2	0.0	0.0	52.5	39.6	74	54	-21.5	-14.4	V
15.780	3.0	45.1	32.6	38.8	6.7	-34.6	0.0	0.7	56.7	44.1	74	54	-17.3	-9.9	H
21.040	3.0	46.1	32.8	33.4	8.5	-35.2	0.0	0.0	52.7	39.4	74	54	-21.3	-14.6	H
Mid Ch(5.299)															
15.897	3.0	45.8	33.1	38.7	6.7	-34.6	0.0	0.7	57.4	44.7	74	54	-16.6	-9.3	V
21.196	3.0	46.1	32.7	33.4	8.5	-35.1	0.0	0.0	52.9	39.5	74	54	-21.1	-14.5	V
15.897	3.0	45.7	32.6	38.7	6.7	-34.6	0.0	0.7	57.3	44.2	74	54	-16.7	-9.8	H
21.196	3.0	45.8	32.9	33.4	8.5	-35.1	0.0	0.0	52.5	39.6	74	54	-21.5	-14.4	H
High Ch (5.340)															
10.680	3.0	46.1	34.2	38.2	5.6	-36.5	0.0	0.8	54.1	42.2	74	54	-19.9	-11.8	V
16.020	3.0	45.1	33.2	38.8	6.7	-34.5	0.0	0.7	56.9	45.0	74	54	-17.1	-9.0	V
21.360	3.0	44.9	33.1	33.4	8.6	-35.1	0.0	0.0	51.8	40.0	74	54	-22.2	-14.0	V
10.680	3.0	45.5	33.1	38.2	5.6	-36.5	0.0	0.8	53.6	41.1	74	54	-20.4	-12.9	H
16.020	3.0	45.2	32.9	38.8	6.7	-34.5	0.0	0.7	56.9	44.6	74	54	-17.1	-9.4	H
21.360	3.0	45.5	33.6	33.4	8.6	-35.1	0.0	0.0	52.4	40.6	74	54	-21.6	-13.4	H

f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

Note: No other emission detected above the noise floor

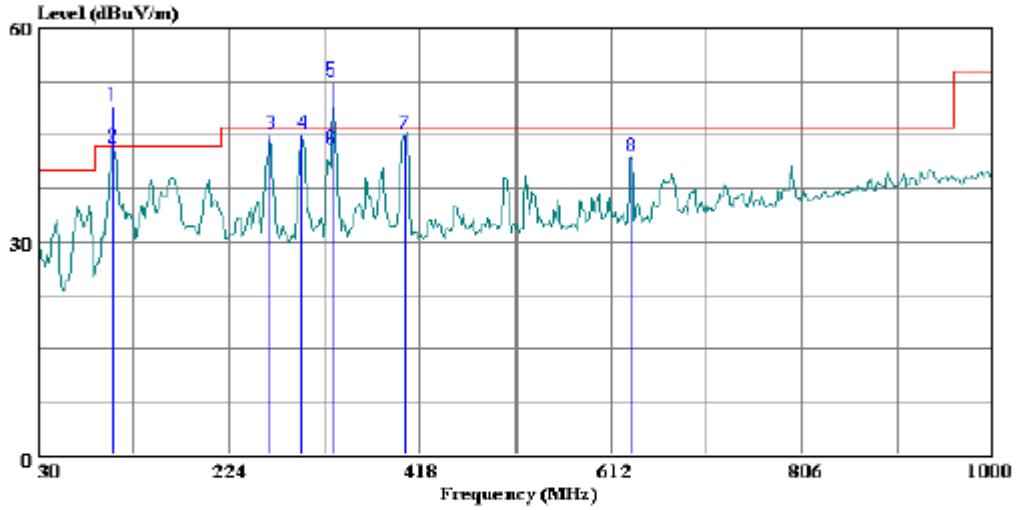
7.3.3. WORST-CASE RADIATED EMISSIONS BELOW 1 GHz

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

HORIZONTAL PLOT

561F Monterey Road
Morgan Hill, CA 95037
Tel: (408) 463-0888
Fax: (408) 463-0885

Data#: 5 File#: rad0325.EMI Date: 03-25-2006 Time: 14:05:51



(Audix ATC)

Trace: 1 Ref Trace:

Condition: FCC CLASS-B HORIZONTAL
Test Operator : Frank Ibrahim
Project # : 06U10148
Company : Trango
EUT : Wireless Ethernet Bridge Access Point
: (Point to Multipoint)
Model No : M5830S-AP-EXT
Configuration : EUT,Antenna,POE,Laptop
Mode of operation: TX ON at Mid Channel (5776 MHz)
Target of Test : FCC 15.209

HORIZONTAL DATA

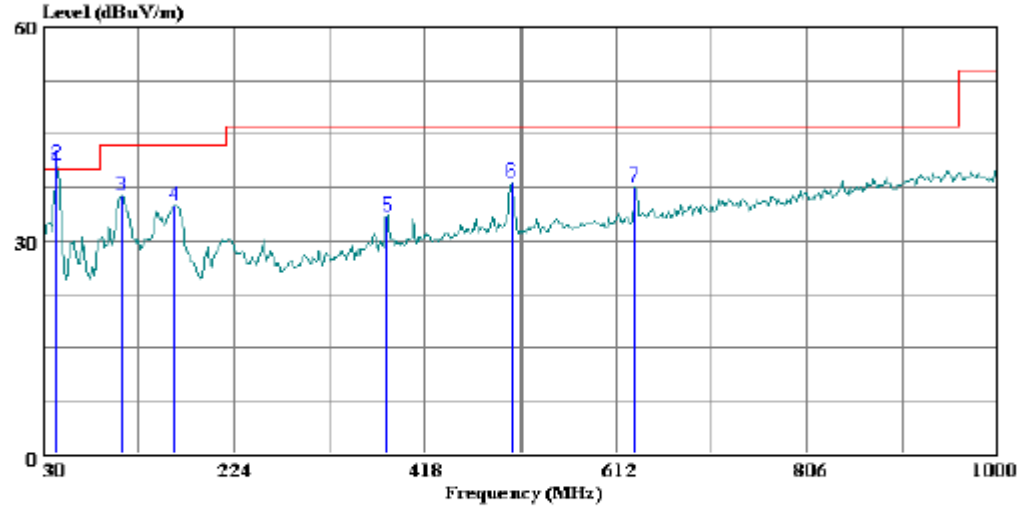
		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	*	106.630	36.05	12.87	48.92	43.50	5.42	Peak
2		106.630	30.40	12.87	43.27	43.50	-0.23	QP
3		266.680	30.70	14.45	45.15	46.00	-0.85	Peak
4		298.690	29.43	15.63	45.06	46.00	-0.94	Peak
5	*	329.730	36.03	16.44	52.47	46.00	6.47	Peak
6		329.730	26.60	16.44	43.04	46.00	-2.96	QP
7		403.450	26.92	18.12	45.04	46.00	-0.96	Peak
8		632.370	19.89	22.03	41.92	46.00	-4.08	Peak

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL PLOT

561F Monterey Road
Morgan Hill, CA 95037
Tel: (408) 463-0888
Fax: (408) 463-0885

Data#: 11 File#: rad0325.EMI Date: 03-25-2006 Time: 14:49:54



(Audix ATC)

Trace: 8 Ref Trace:

Condition: FCC CLASS-B VERTICAL
Test Operator : Frank Ibrahim
Project # : 06U10148
Company : Trango
EUT : Wireless Ethernet Bridge Access Point
: (Point to Multipoint)
Model No : M5830S-AP-EXT
Configuration : EUT,Antenna,POE,Laptop
Mode of operation: TX ON at Mid Channel (5776 MHz)
Target of Test : FCC 15.209

VERTICAL DATA

		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1		43.580	26.20	13.58	39.78	40.00	-0.22	QP
2	*	43.580	27.68	13.02	40.70	40.00	0.70	Peak
3		109.540	22.89	13.44	36.33	43.50	-7.17	Peak
4		163.860	21.17	13.66	34.83	43.50	-8.67	Peak
5		380.170	15.92	17.59	33.50	46.00	-12.50	Peak
6		507.240	17.95	20.31	38.26	46.00	-7.74	Peak
7		630.430	15.57	22.00	37.57	46.00	-8.43	Peak

7.4. POWERLINE CONDUCTED EMISSIONS

LIMIT

§15.207 (a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal.

The lower limit applies at the boundary between the frequency ranges.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

The resolution bandwidth is set to 9 kHz for both peak detection and quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

Line conducted data is recorded for both NEUTRAL and HOT lines.

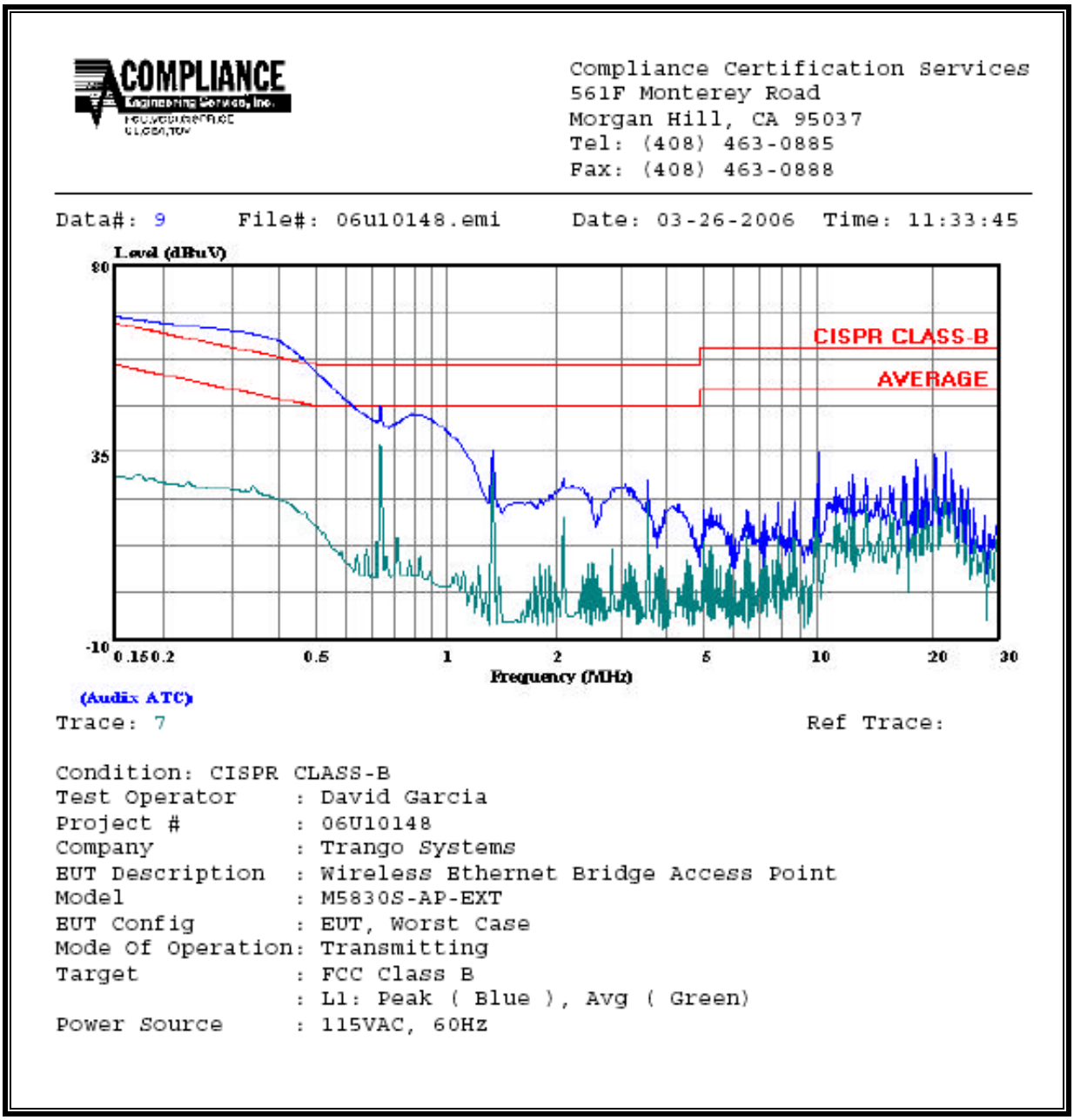
RESULTS

No non-compliance noted:

6 WORST EMISSIONS

CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq.	Reading			Closs	Limit	FCC_B	Margin		Remark
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1 / L2
0.15	67.42	60.20	29.13	0.00	66.00	56.00	-5.80	-26.87	L1
0.30	64.20	57.00	26.75	0.00	60.27	50.27	-3.27	-23.52	L1
0.37	62.93	55.80	24.73	0.00	58.61	48.61	-2.81	-23.88	L1
0.15	66.60	59.90	28.23	0.00	65.89	55.89	-5.99	-27.66	L2
0.27	63.12	57.30	25.22	0.00	61.15	51.15	-3.85	-25.93	L2
0.33	61.38	55.60	25.14	0.00	59.35	49.35	-3.75	-24.21	L2
6 Worst Data									

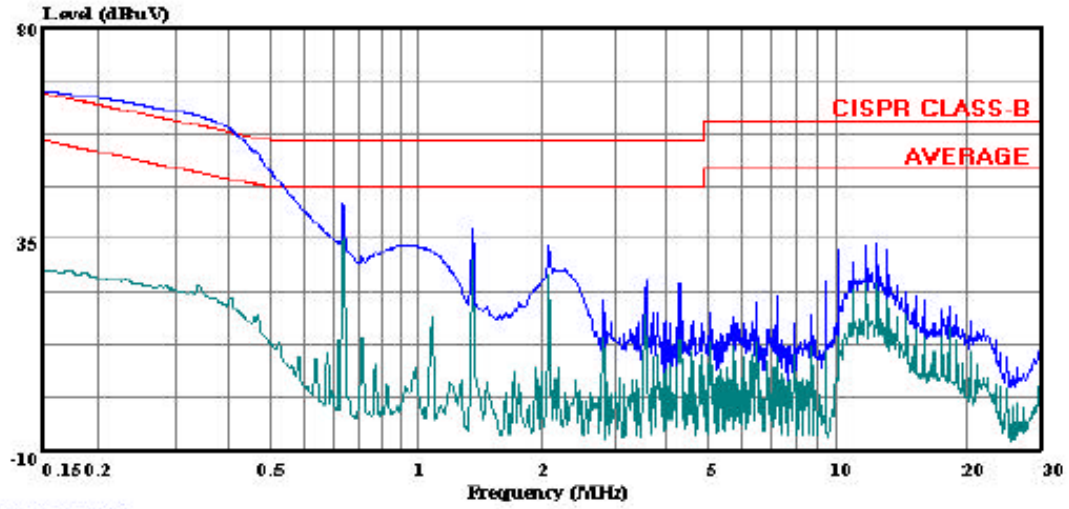
LINE 1 RESULTS



LINE 2 RESULTS

Compliance Certification Services
561F Monterey Road
Morgan Hill, CA 95037
Tel: (408) 463-0885
Fax: (408) 463-0888

Data#: 18 File#: 06u10148.emi Date: 03-26-2006 Time: 12:29:53



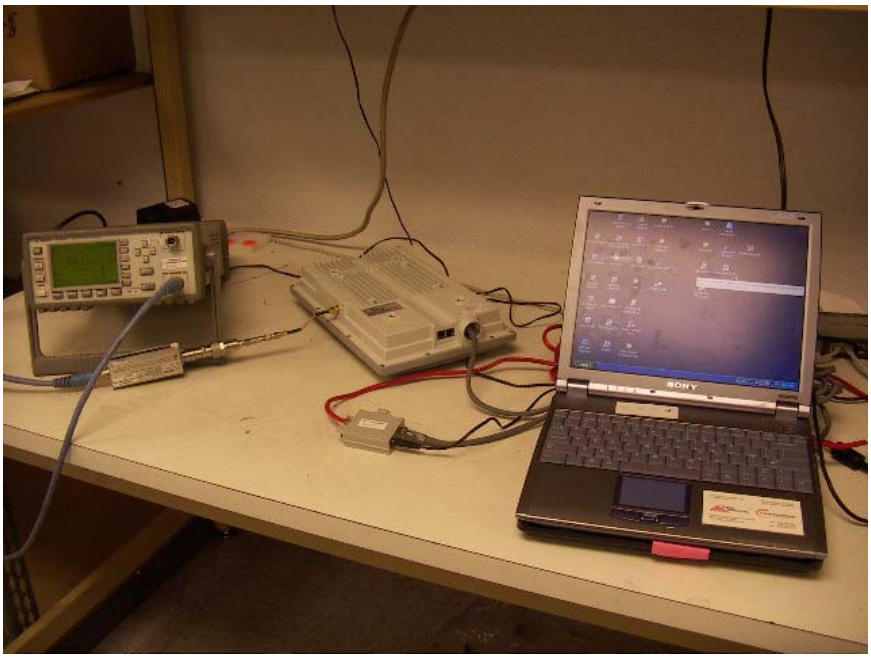
Trace: 16 Ref Trace:

Condition: CISPR CLASS-B
Test Operator : David Garcia
Project # : 06U10148
Company : Trango Systems
EUT Description : Wireless Ethernet Bridge Access Point
Model : M5830S-AP-EXT
EUT Config : EUT, Worst Case
Mode Of Operation: Transmitting
Target : FCC Class B
: L2: Peak (Blue), Avg (Green)
Power Source : 115VAC, 60Hz

8. SETUP PHOTOS

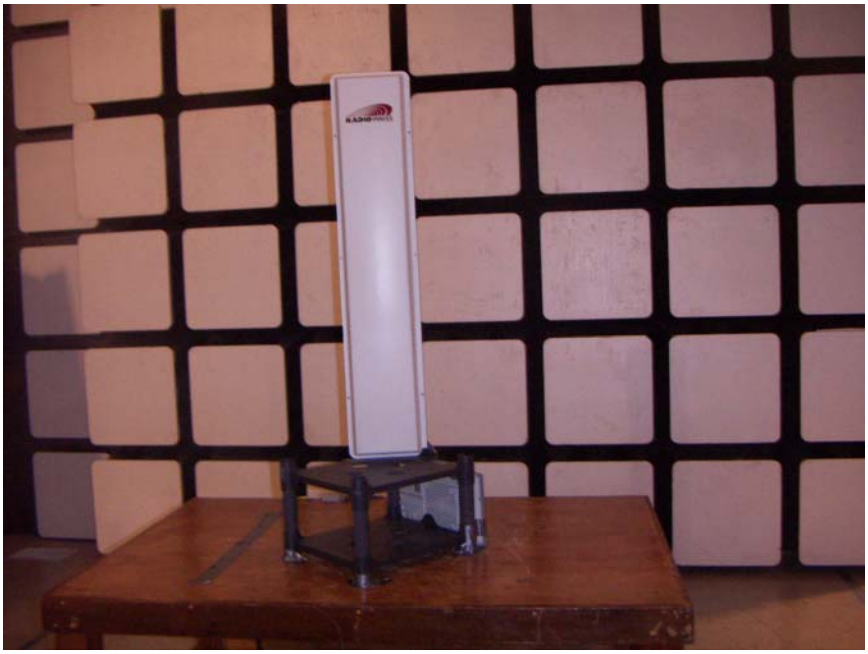
ANTENNA PORT CONDUCTED RF MEASUREMENT SETUP

ANTENNA PORT CONDUCTED PHOTO

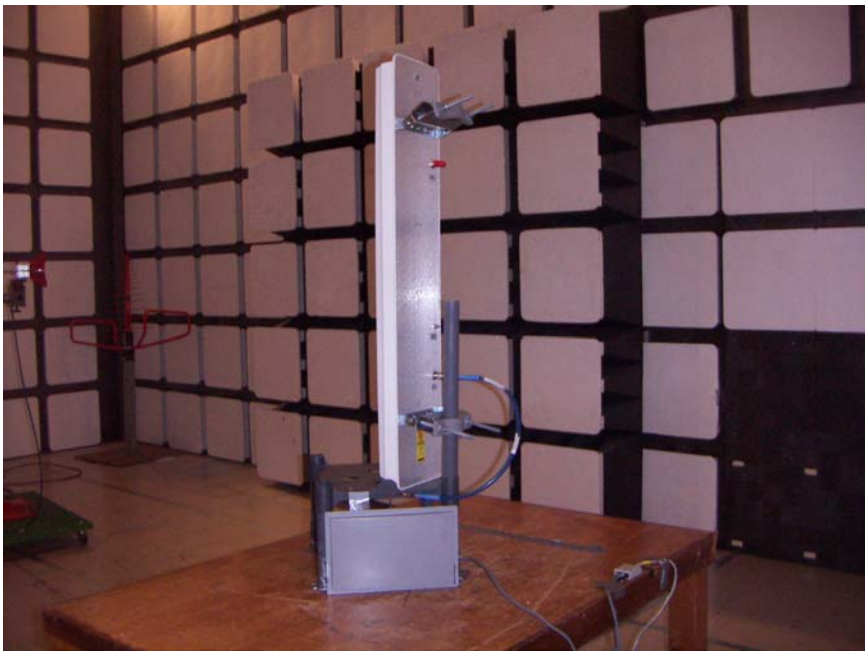


RADIATED RF MEASUREMENT SETUP

RADIATED FRONT PHOTO



RADIATED BACK PHOTO



POWERLINE CONDUCTED EMISSIONS MEASUREMENT SETUP

LINE CONDUCTED FRONT PHOTO

LINE CONDUCTED BACK PHOTO

END OF REPORT