FCC DOC TEST REPORT

Declaration **o**f **C**onformity

According to

47 CFR, Part 2, Part 15, CISPR PUB. 22

and Canada ICES-003

Applicant	:	Aruba Networks, Inc.
Address	:	1322 Crossman Ave. Sunnyvale, CA94089 USA
Equipment	:	Aruba RAP Multi-port Remote Access Point
Model No.	:	RAP-5XX (XX = A~Z)
Trade Name	:	Aruba

Laboratory accreditation

TAF
Testing Laboratory
1332

- The test result refers exclusively to the test presented test model / sample.
- Without written approval of ***Cerpass Technology Corp.*** the test report shall not be reproduced except in full.

Contents

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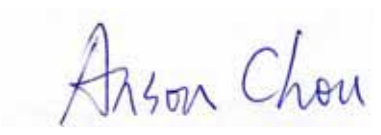
Model No.	:	RAP-5XX (XX = A~Z)

I **HEREBY** CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 – 2003** and the energy emitted by this equipment was ***passed*** **CISPR PUB. 22, FCC Part 15 and Canada ICES-003 in** both radiated and conducted emission class B limits.
Testing was carried out on Dec. 19, 2008 at Cerpass Technology Corp.

Signature



Anson Chou
EMC/RF B.U. Vice General Manager

1. Test Configuration of Equipment under Test

1.1. Feature of Equipment under Test

Mechanical	
Device Dimensions (HxWxD)	177.8mm x 31.75mm x 241.3mm (7" x 1.25" x 9.5")
Device Weight	1 lb. / 453.6 grams
Shipping Dimensions (HxWxD)	92mm x 300mm x 280mm (3.6" x 11.8" x 11")
Temperature	Operating: 0°C to 40°C (32°F to 104°F) Storage: -10°C to 70°C (14°F to 158°F)
Relative Humidity	5% to 95% non-condensing
Mounting	Stand for a flat level surface (i.e. table top)
Antenna	Integrated, non-detachable articulating tri-band antenna
Visual Status Indicators (LEDs)	• POWER: Power / Status • 0: 10/100/1000Base-T Ethernet Port • 1 - 4: 10/100Base-T Ethernet Port • 5 GHz • 2.4 GHz
Electrical	
Ethernet	• 1 x 100/1000Base-T auto-sensing Ethernet RJ-45 Interface, MDI/MDX • 4x 10/100 Base-T auto-sensing Ethernet RJ-45 Interface, MDI/MDX • IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
Wireless LAN	
Network Standards	IEEE 802.11a, IEEE 802.11b, IEEE 802.11g and IEEE 802.11n
Antenna Type	Integral, dual, omni-directional multi-band dipole (supports up to 3x3 MIMO with spatial diversity)
Antenna Gain	3.5 dBi at 2.4 GHz; 5 dBi at 5 GHz
Radio Technology	• Orthogonal Frequency Division Multiplexing (OFDM) • Direct Sequence Spread Spectrum (DSSS)
Radio Modulation Type	• 802.11a - CCK, BPSK, QPSK, 16-QAM, 64-QAM • 802.11b - CCK, BPSK, QPSK • 802.11g - CCK, BPSK, QPSK, OFDM • 802.11n draft 2.0
Media Access Control	CSMA/CA with ACK
Supported Frequency Bands 2.4 GHz	2.400 ~ 2.4835 GHz (Global), channels country specific
Support Frequency Bands 5 GHz	• 5.150 ~ 5.250 GHz (low band), country-specific • 5.250 ~ 5.350 GHz (mid band), country-specific • 5.470 ~ 5.725 GHz (Worldwide), country-specific • 5.725 ~ 5.825 GHz (high band), country-specific
Supported Countries	Complete country list available at http://www.arubanetworks.com/products/aps/certification
Data Rates	• 802.11b - 1, 2, 5.5, 11 Mbps per channel • 802.11g - 6, 9, 12, 18, 24, 36, 48 and 54 Mbps per channel • 802.11a - 6, 9, 12, 18, 24, 36, 48 and 54 Mbps per channel • 802.11n - Data rate MCS0 – MCS15 (from 6.5 Mbps to 300 Mbps)
Output Transmit Power	• 802.11a: 17 dBm at 6 Mbps; 15 dBm at 54 Mbps • 802.11b: 18 dBm • 802.11g: 17 dBm at 6Mbps; 15 dBm at 54 Mbps • 802.11n: 19 dBm at MCS0; 11 dBm at MCS15

1.2. Description of model number

Model	Internal Control Number	Description
RAP-5WN	RAP-5WN	Wireless, 1x 100/1000Base-T & 4x 10/100Base-T
RAP-5	RAP-5	1x 100/1000Base-T & 4x 10/100Base-T
RAP-5WN	RAP-5WN-US	Wireless, 1x 100/1000Base-T & 4x 10/100Base-T (US)
RAP-5	RAP-5-US	1x 100/1000Base-T & 4x 10/100Base-T (US)

1.3. Test Manner

a. During testing, the interface cables and equipment positions were varied according to ANSI C63.4.

b. The complete test system included remote workstation, PC, Monitor, Keyboard, Mouse, Modem, Printer, Flash Memory and EUT for EMI test. The remote workstation includes Notebook and Giga HUB.

c. An executive program, ping.exe under WIN XP, which transmits and receives data to the remote workstation through WAN(1G) and Wireless (300M).

d. The result of conduction and radiation test as follow:
Test Mode: LINK LAN (100M) + WAN (1G) + Wireless (300M)

e. The results of disturbances at telecommunication ports test as follow:
Test Mode 1: LAN (10Mbps)
Test Mode 2: LAN (100Mbps)
Test Mode 3: WAN (10Mbps)
Test Mode 4: WAN (100Mbps)
Test Mode 5: WAN (1Gbps)

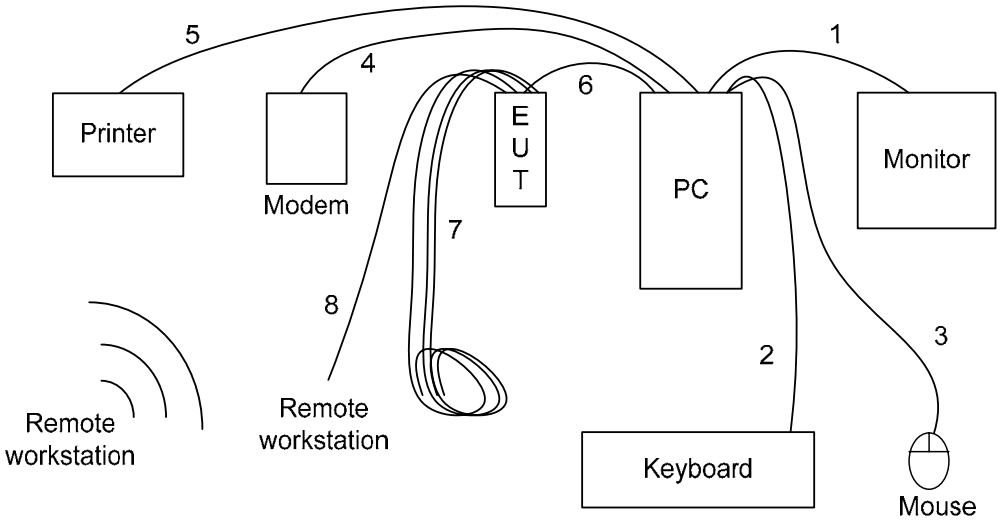
1.4. Description of Test System

Device	Manufacturer	Model No.	Description
PC	IBM	IGV	Power Cable, Unshielding 1.8 m
Monitor	SlimAGE	510A	Power Cable, Adapter Unshielding 1.8 m Data Cable, VGA Shielding 1.35 m
Keyboard	IBM	KB-0225	Data Cable, PS2 Shielding 1.85 m
Mouse	IBM	MO28VO	Data Cable, USB Shielding 1.85 m
Modem	ACEXX	DM-1414	Power Cable, Adapter Unshielding 1.8 m Data Cable, RS232 Shielding 1.35 m
Printer	HP	Desk Jet 400	Power Cable, Adapter Unshielding 1.8 m Data Cable, Print Shielding 1.6 m
Flash Memory	TranScend	JF 150 1GB	N/A
Remote Workstation			
Notebook	TOSHIBA	PSA50T-05M00C	Power Cable, Adapter Unshielding 1.8 m
Notebook	DELL	PP10L	Power Cable, Adapter Unshielding 1.8 m
Giga HUB	NETGEAR	GS724TP	N/A

Use Cable:

Cable	Quantity	Description
RJ45	1	Unshielding, 1.5m
RJ45	3	Unshielding, 3.0m
RJ45	1	Unshielding, 5.0m

1.5. Connection Diagram of Test System



1. The VGA cable is connected from PC to the Monitor.
2. The PS2 cable is connected from PC to the PS2 Keyboard.
3. The USB cable is connected from PC to the USB Mouse.
4. The RS232 cable is connected from PC to the Modem.
5. The Print cable is connected from PC to the Printer.
6. The RJ45 cable is connected from PC to the EUT.
7. These RJ45 cables (*3) are floating.
8. The RJ45 cable is connected from EUT to the Remote workstation.

＊ The EUT keeps to transmit and receive data to remote workstation by Wireless.

1.6. General Information of Test

Test Site :	Cerpass Technology Corp. 4F-2, No. 28, Lane 78, Xing-Ai Rd. Nei-hu, Taipei City 114 Taiwan R.O.C.
Test Site Location (OATS1-SD):	No.68-1, Shihbachongsi, shihding Township, Taipei City 223, Taiwan, R.O.C.
FCC Registration Number :	TW1049
IC Registration Number :	4934B-1
VCCI Registration Number :	T-338 for Telecommunication Test C-2188 for Conducted emission test R-1902 for Radiated emission test
Test Voltage:	AC 120V/ 60Hz
Test in Compliance with:	ANSI C63.4-2003 FCC Part 15 Subpart B
Frequency Range Investigated :	Conducted: from 150kHz to 30 MHz Radiation: from 30 MHz to 2,000 MHz
Test Distance :	The test distance of radiated emission below 1GHz from antenna to EUT is 10 M. The test distance of radiated emission above 1GHz from antenna to EUT is 3 M.

1.7. Measurement Uncertainty

Measurement Item	Measurement Frequency	Polarization	Uncertainty
Conducted Emission	9 kHz ~ 30 MHz	LINE / NEUTRAL	2.71 dB
Radiated Emission	30 MHz ~ 2GHz	Vertical	3.89 dB
		Horizontal	3.59 dB

1.8. History of this test report

■ ORIGINAL.

☐ Additional attachment as following record:

Attachment No.	Issue Date	Description

2. Test of Conducted Emission

2.1. Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz on the 120 VAC power and return leads of the EUT according to the methods defined in ANSI C63.4-2003 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in section 2.2. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

Conducted Emission Limits:

Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

Limits of conducted common mode (asymmetric mode) disturbance at telecommunication ports in the frequency range 0.15 MHz to 30 MHz for class B equipment.

Frequency range (MHz)	Voltage limits dB(μV)		Current limits dB(μA)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 to 0.5	84 to 74	74 to 64	40 to 30	30 to 20
0.5 to 30	74	64	30	20

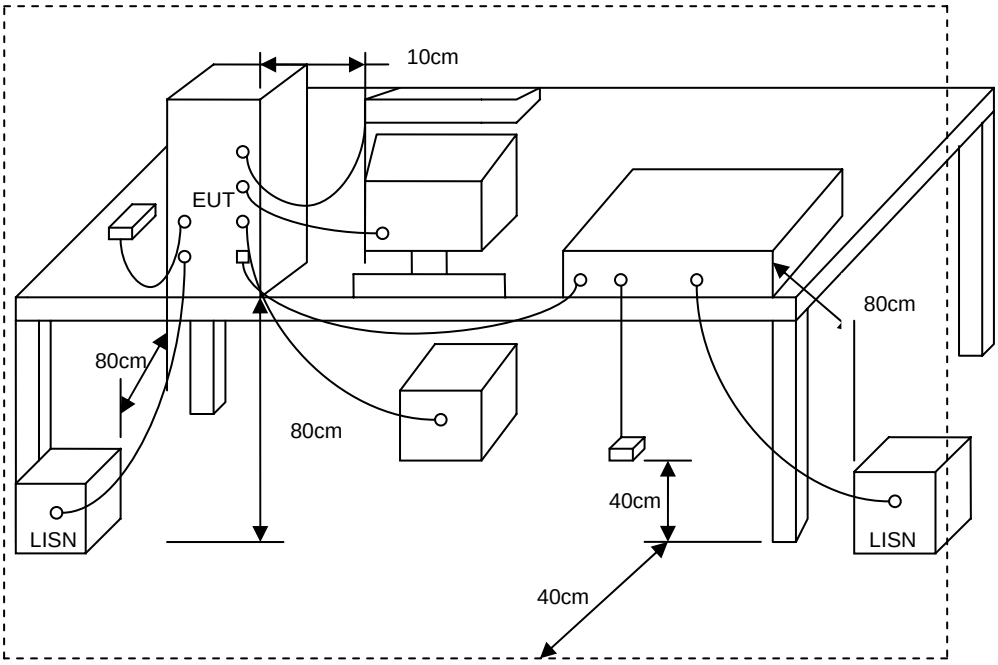
Note 1: The limits decrease linearly with the logarithm of the frequency in the range 0.15 to 0.5 MHz.

Note 2: The current and voltage disturbance limits are derived for use with an impedance stabilization network (ISN) which presents a common mode (asymmetric mode) impedance of 150Ω to the telecommunication under test (conversion factor is 20 log10 150/1 = 44dB).

2.2. Test Procedures

a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.
d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
e. The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
f. Both sides of AC line were checked for maximum conducted interference.
g. The frequency range from 150 kHz to 30 MHz was searched.
h. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

2.3. Typical test Setup



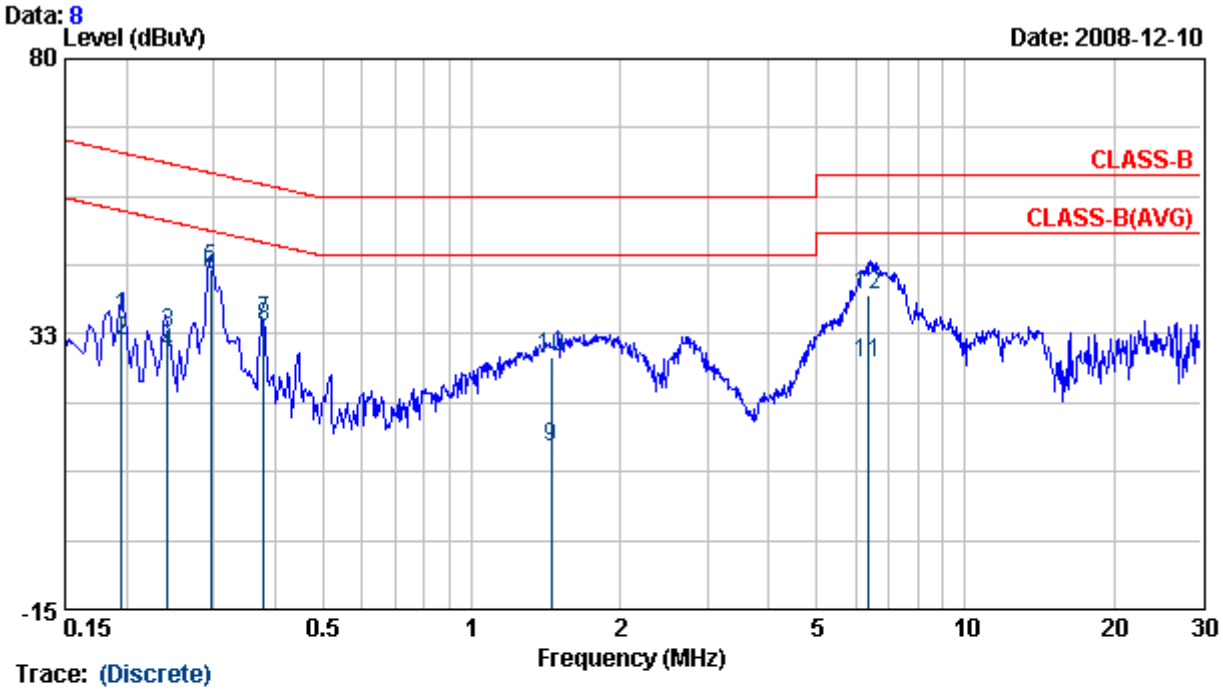
2.4. Measurement Equipment

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
EMI Receiver	R&S	ESCI	100443	2008/09/27	2009/09/26
LISN	MESS TEC	NNB-2/16Z	02/10191	2008/05/14	2009/05/13
LISN	ROLF HEINE	NNB-2/16Z	03/10058	2008/04/19	2009/04/18
ISN	TESEQ GMBH	ISN T8	24315	2008/06/06	2009/06/05
AC Power Converter	APC	AFC-11005	F103120008	N/A	N/A

2.5. Test Result and Data

2.5.1 Conducted Emission for Power Port Test Data

Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode	:	LINK LAN (100M) + WAN (1G) + Wireless (300M)	Temperature	:	22 °C
Memo	:	MU15-C120125-A1	Humidity	:	52 %

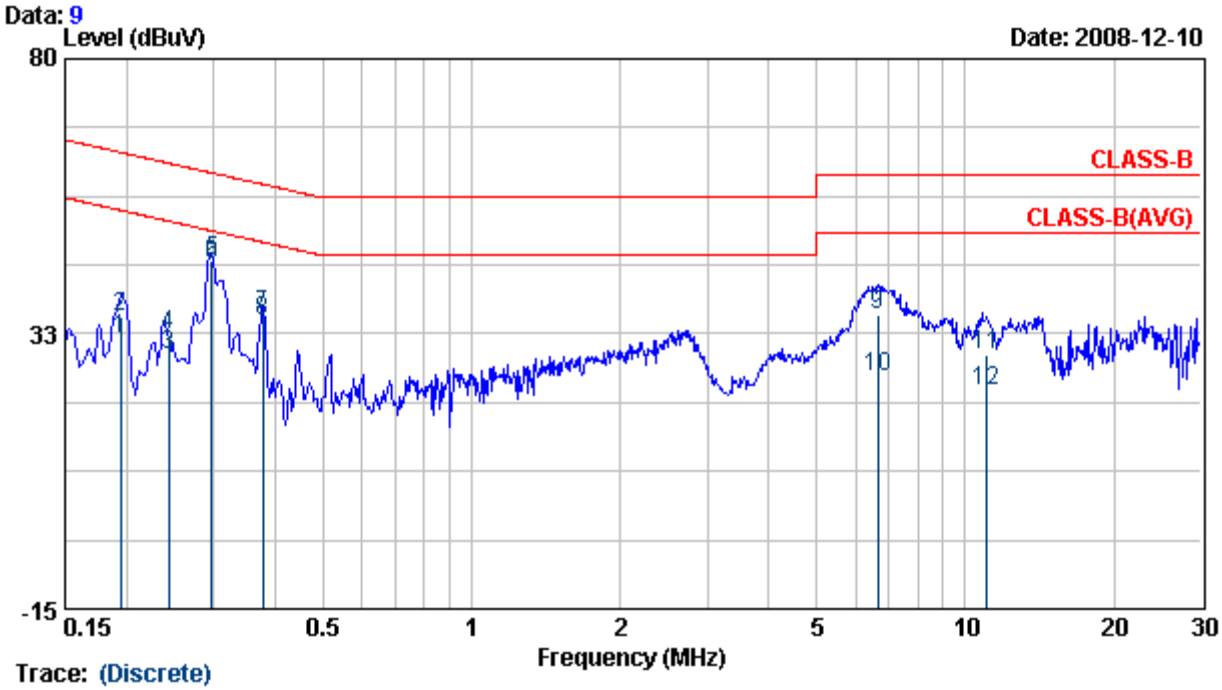


Trace: (Discrete)

Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV	dB	dBuV	dBuV	dBuV	
1	0.20	35.30	0.11	35.41	63.80	-28.39	QP
2	0.20	31.05	0.11	31.16	53.80	-22.64	AVERAGE
3	0.24	32.62	0.12	32.74	62.04	-29.31	QP
4	0.24	29.23	0.12	29.35	52.04	-22.69	AVERAGE
5	0.30	43.64	0.12	43.76	60.35	-16.60	QP
6	0.30	42.46	0.12	42.58	50.35	-7.77	AVERAGE
7	0.38	34.61	0.12	34.74	58.29	-23.55	QP
8	0.38	33.56	0.12	33.68	48.29	-14.61	AVERAGE
9	1.45	12.80	0.20	12.99	46.00	-33.01	AVERAGE
10	1.45	28.46	0.20	28.66	56.00	-27.34	QP
11	6.38	27.09	0.34	27.43	50.00	-22.57	AVERAGE
12	6.38	38.82	0.34	39.16	60.00	-20.84	QP

Remarks: 1. Result = Read Value + Factor
2. Factor = LISN(ISN) Factor + Cable Loss

Power	:	AC 120V	Pol/Phase	:	NEUTRAL
Test Mode	:	LINK LAN (100M) + WAN (1G) + Wireless (300M)	Temperature	:	22 °C
Memo	:	MU15-C120125-A1	Humidity	:	52 %



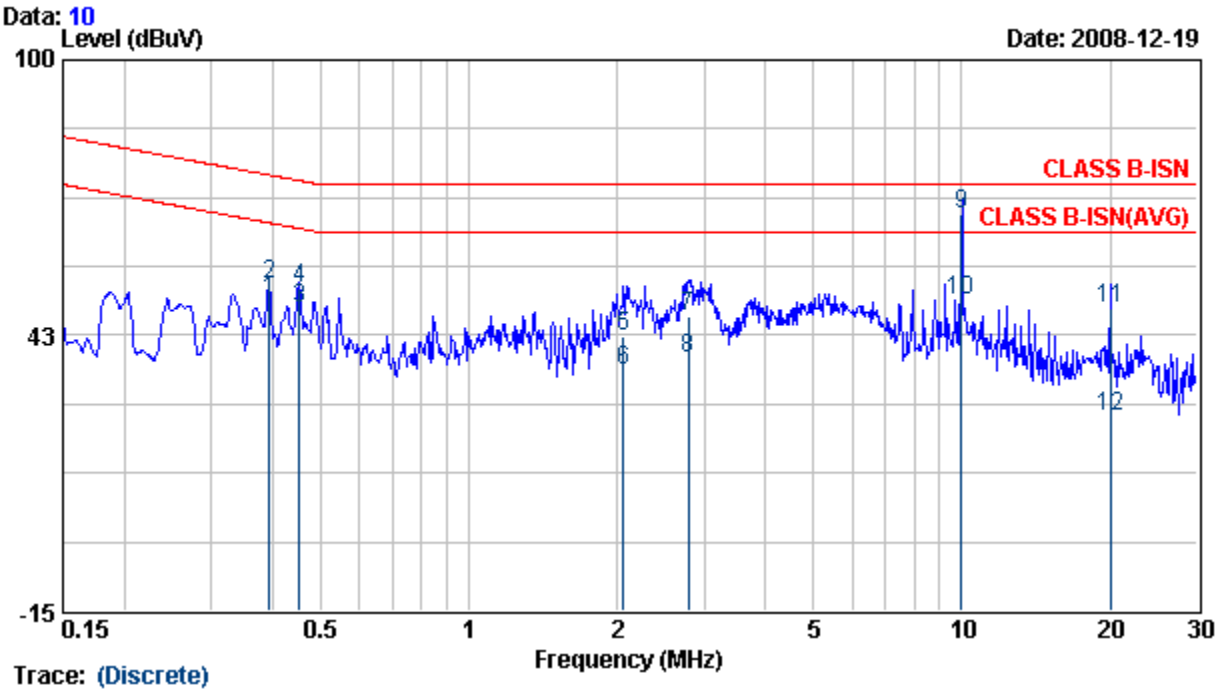
Trace: (Discrete)

Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV	dB	dBuV	dBuV	dBuV	
1	0.19	31.51	0.14	31.65	53.84	-22.19	AVERAGE
2	0.19	35.33	0.14	35.47	63.84	-28.37	QP
3	0.24	28.56	0.14	28.70	51.99	-23.29	AVERAGE
4	0.24	32.33	0.14	32.47	61.99	-29.52	QP
5	0.30	44.95	0.14	45.10	60.32	-15.22	QP
6	0.30	44.13	0.14	44.27	50.32	-6.04	AVERAGE
7	0.38	35.68	0.15	35.83	58.33	-22.49	QP
8	0.38	34.53	0.15	34.67	48.33	-13.65	AVERAGE
9	6.65	35.50	0.36	35.85	60.00	-24.15	QP
10	6.65	24.81	0.36	25.16	50.00	-24.84	AVERAGE
11	11.05	28.56	0.41	28.97	60.00	-31.03	QP
12	11.05	22.24	0.41	22.66	50.00	-27.34	AVERAGE

Remarks: 1. Result = Read Value + Factor
2. Factor = LISN(ISN) Factor + Cable Loss

2.5.2 Conducted Emission for Telecommunication Port Test Data

Power	:	AC 120V	Temperature	:	22 °C
Test Mode 1	:	ISN LAN (10M)	Humidity	:	52 %
Memo	:	MU15-C120125-A1			

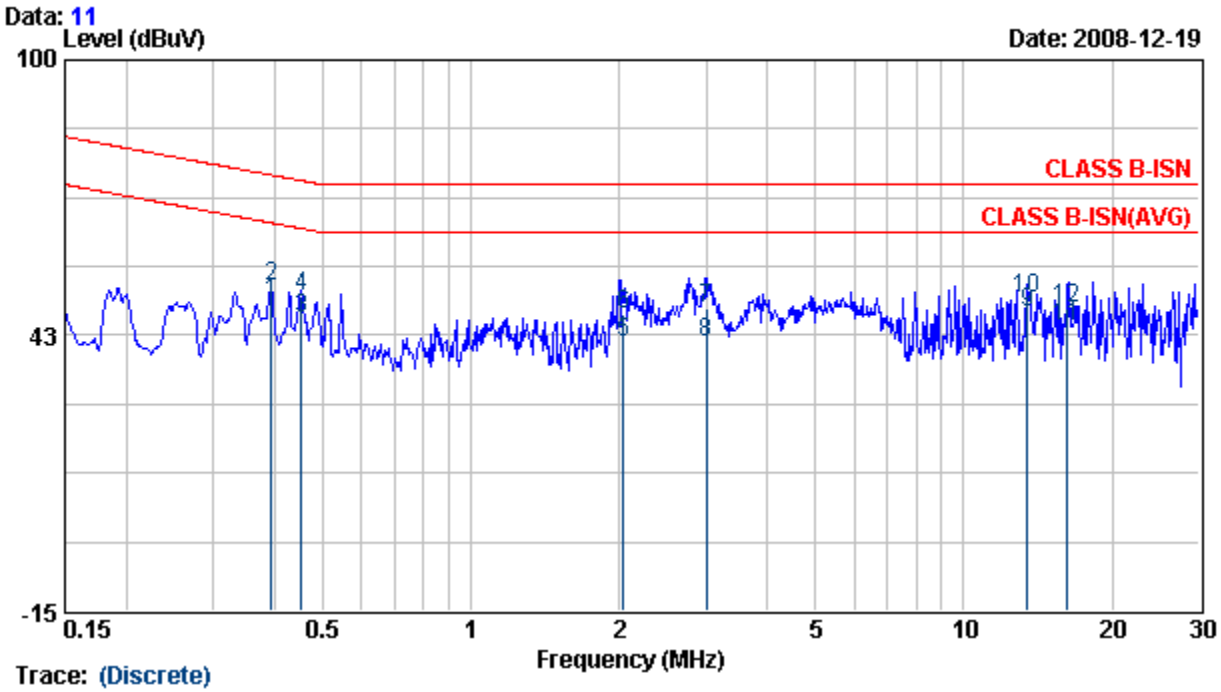


Trace: (Discrete)

Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV	dB	dBuV	dBuV	dBuV	
1	0.39	40.04	9.63	49.67	65.97	-16.31	AVERAGE
2	0.39	43.48	9.63	53.11	75.97	-22.86	QP
3	0.45	38.60	9.60	48.20	64.82	-16.63	AVERAGE
4	0.45	42.84	9.60	52.44	74.82	-22.39	QP
5	2.06	32.83	9.47	42.30	74.00	-31.70	QP
6	2.06	25.82	9.47	35.29	64.00	-28.71	AVERAGE
7	2.79	36.93	9.47	46.40	74.00	-27.60	QP
8	2.79	28.35	9.47	37.82	64.00	-26.18	AVERAGE
9	10.00	58.14	9.51	67.65	74.00	-6.35	QP
10	10.00	40.41	9.51	49.92	64.00	-14.08	AVERAGE
11	20.00	38.22	9.79	48.01	74.00	-25.99	QP
12	20.00	15.61	9.79	25.40	64.00	-38.60	AVERAGE

Remarks: 1. Result = Read Value + Factor
2. Factor = LISN(ISN) Factor + Cable Loss

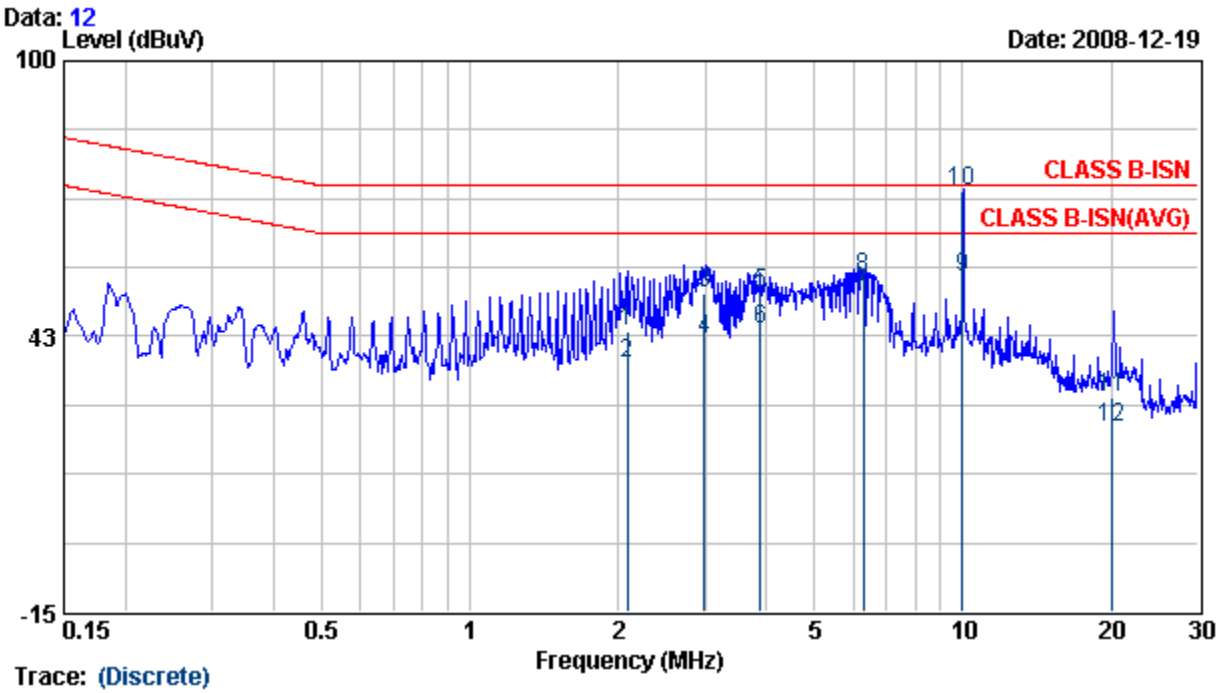
Power	:	AC 120V	Temperature	:	22 °C
Test Mode 2	:	ISN LAN (100M)	Humidity	:	52 %
Memo	:	MU15-C120125-A1			



Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV	dB	dBuV	dBuV	dBuV	
1	0.39	39.86	9.63	49.49	65.98	-16.49	AVERAGE
2	0.39	42.94	9.63	52.56	75.98	-23.42	QP
3	0.45	36.33	9.60	45.93	64.83	-18.90	AVERAGE
4	0.45	41.26	9.60	50.86	74.83	-23.97	QP
5	2.04	31.69	9.47	41.16	64.00	-22.84	AVERAGE
6	2.04	37.61	9.47	47.08	74.00	-26.92	QP
7	3.01	38.48	9.47	47.95	74.00	-26.05	QP
8	3.01	31.62	9.47	41.09	64.00	-22.91	AVERAGE
9	13.48	37.88	9.55	47.43	64.00	-16.57	AVERAGE
10	13.48	40.73	9.55	50.28	74.00	-23.72	QP
11	16.17	34.79	9.63	44.42	64.00	-19.58	AVERAGE
12	16.17	38.34	9.63	47.97	74.00	-26.03	QP

Remarks: 1. Result = Read Value + Factor
2. Factor = LISN(ISN) Factor + Cable Loss

Power	:	AC 120V	Temperature	:	22 °C
Test Mode 3	:	ISN WAN (10M)	Humidity	:	52 %
Memo	:	MU15-C120125-A1			

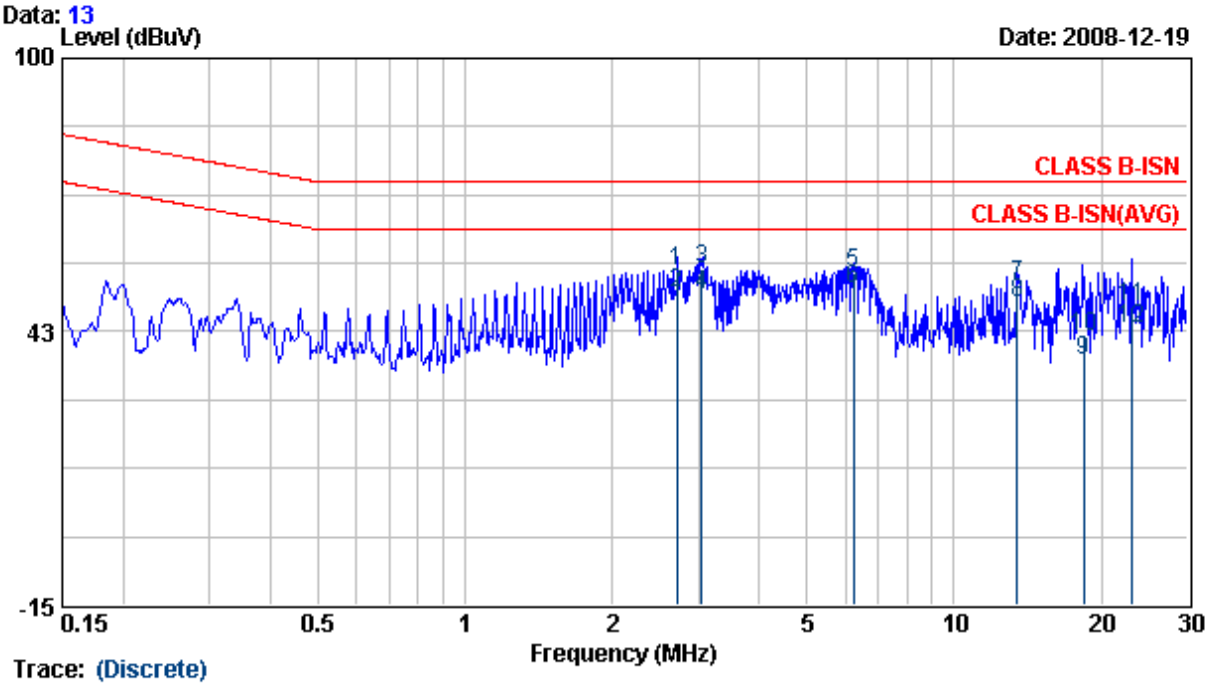


Trace: (Discrete)

Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV	dB	dBuV	dBuV	dBuV	
1	2.09	34.14	9.47	43.61	74.00	-30.39	QP
2	2.09	27.28	9.47	36.75	64.00	-27.25	AVERAGE
3	2.99	42.13	9.47	51.60	74.00	-22.40	QP
4	2.99	32.54	9.47	42.01	64.00	-21.99	AVERAGE
5	3.88	41.88	9.47	51.35	74.00	-22.65	QP
6	3.88	34.51	9.47	43.98	64.00	-20.02	AVERAGE
7	6.28	42.20	9.48	51.69	64.00	-12.31	AVERAGE
8	6.28	45.25	9.48	54.74	74.00	-19.26	QP
9	10.00	45.39	9.51	54.90	64.00	-9.10	AVERAGE
10	10.00	63.10	9.51	72.61	74.00	-1.39	QP
11	20.06	20.02	9.79	29.82	74.00	-44.18	QP
12	20.06	13.63	9.79	23.42	64.00	-40.58	AVERAGE

Remarks: 1. Result = Read Value + Factor
2. Factor = LISN(ISN) Factor + Cable Loss

Power	:	AC 120V	Temperature	:	22 °C
Test Mode 4	:	ISN WAN (100M)	Humidity	:	52 %
Memo	:	MU15-C120125-A1			

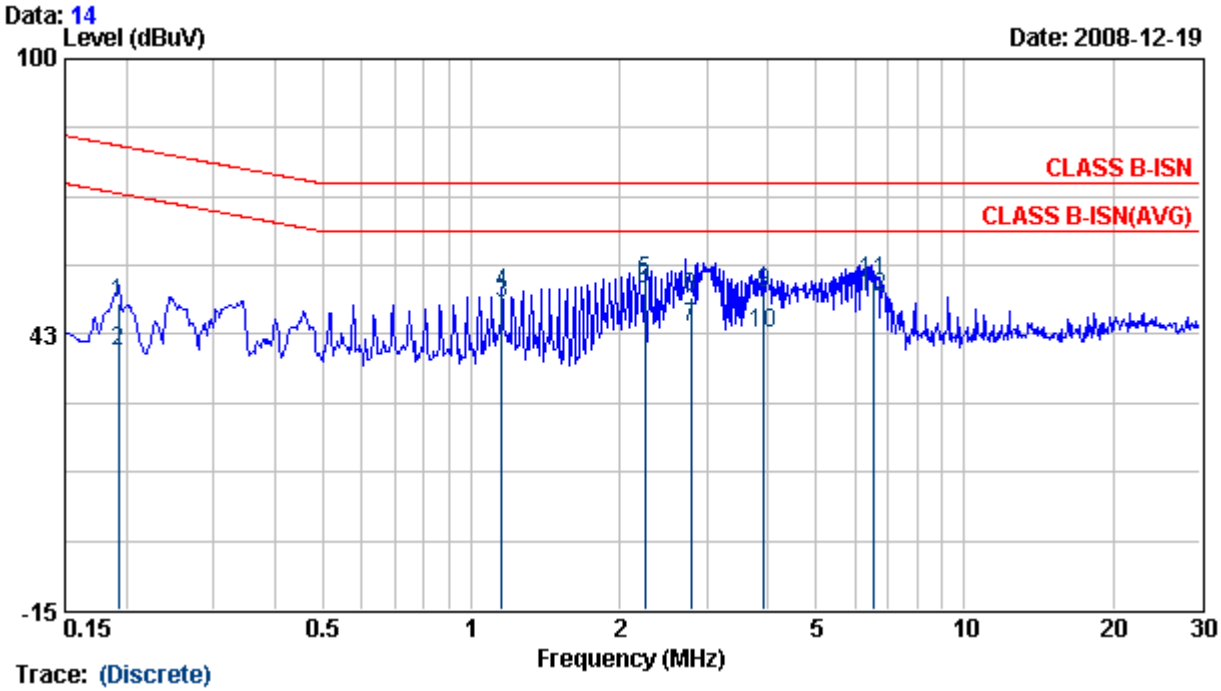


Trace: (Discrete)

Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV	dB	dBuV	dBuV	dBuV	
1	2.71	45.59	9.47	55.06	74.00	-18.94	QP
2	2.71	41.00	9.47	50.47	64.00	-13.53	AVERAGE
3	3.05	46.24	9.47	55.71	74.00	-18.29	QP
4	3.05	40.90	9.47	50.37	64.00	-13.63	AVERAGE
5	6.22	45.15	9.48	54.64	74.00	-19.36	QP
6	6.22	42.15	9.48	51.63	64.00	-12.37	AVERAGE
7	13.48	42.86	9.55	52.41	74.00	-21.59	QP
8	13.48	38.89	9.55	48.44	64.00	-15.56	AVERAGE
9	18.37	26.56	9.72	36.28	64.00	-27.72	AVERAGE
10	18.37	31.53	9.72	41.26	74.00	-32.74	QP
11	23.19	37.63	9.92	47.55	74.00	-26.45	QP
12	23.19	33.17	9.92	43.09	64.00	-20.91	AVERAGE

Remarks: 1. Result = Read Value + Factor
2. Factor = LISN(ISN) Factor + Cable Loss

Power	:	AC 120V	Temperature	:	22 °C
Test Mode 5	:	ISN WAN (1G)	Humidity	:	52 %
Memo	:	MU15-C120125-A1			



Trace: (Discrete)

Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV	dB	dBuV	dBuV	dBuV	
1	0.19	39.00	9.79	48.79	81.93	-33.14	QP
2	0.19	29.01	9.79	38.80	71.93	-33.13	AVERAGE
3	1.15	39.66	9.49	49.16	64.00	-14.84	AVERAGE
4	1.15	41.42	9.49	50.91	74.00	-23.09	QP
5	2.25	44.24	9.47	53.71	74.00	-20.29	QP
6	2.25	42.60	9.47	52.07	64.00	-11.93	AVERAGE
7	2.79	34.44	9.47	43.91	64.00	-20.09	AVERAGE
8	2.79	40.70	9.47	50.17	74.00	-23.83	QP
9	3.93	41.55	9.47	51.02	74.00	-22.98	QP
10	3.93	33.24	9.47	42.71	64.00	-21.29	AVERAGE
11	6.57	44.04	9.49	53.53	74.00	-20.47	QP
12	6.57	40.93	9.49	50.42	64.00	-13.58	AVERAGE

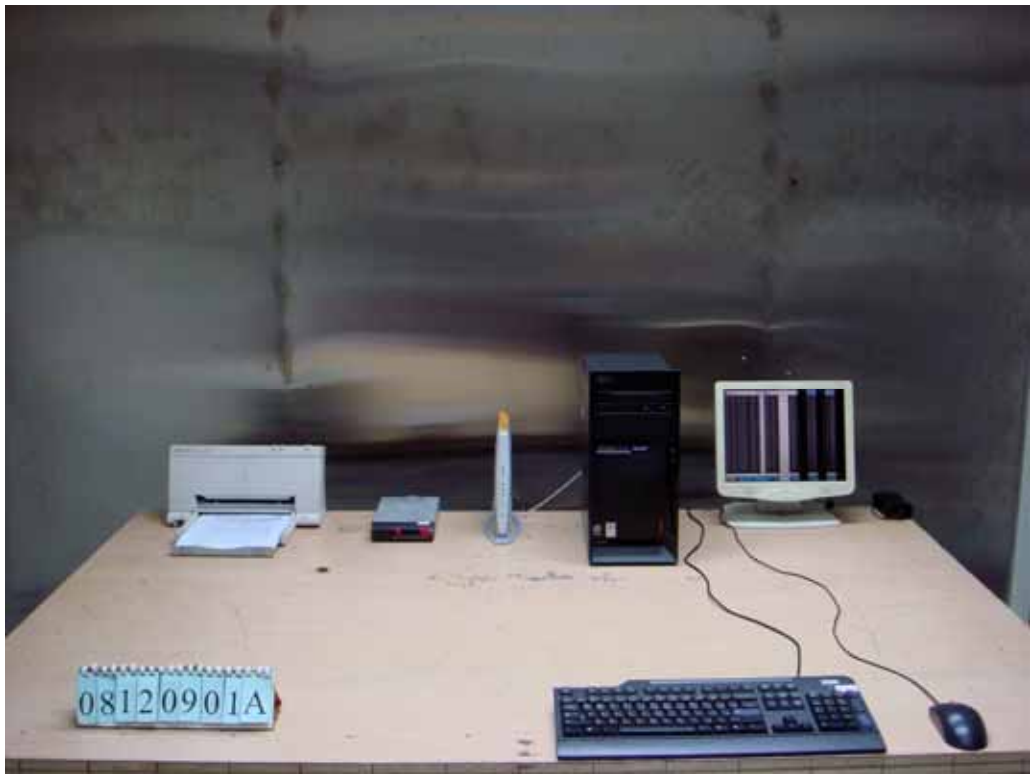
Remarks: 1. Result = Read Value + Factor
2. Factor = LISN(ISN) Factor + Cable Loss

Test engineer: Tom

2.6. Test Photographs

2.6.1 Test Photographs of Power Port

Front View



Rear View

2.6.2 Test Photographs of Telecommunication Port

3. Test of Radiated Emission

3.1. Test Limit

Radiated emissions from 30 MHz to 2,000 MHz were measured with a bandwidth of 120 kHz according to the methods defines in ANSI C63.4-2003. The EUT was placed on a nonmetallic stand in the open-field site, 0.8 meter above the ground plane, as shown in section 3.2. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions. For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance Meters	Radiated (μ V / M)	Radiated (dB μ V/ M)
30-88	3	100	40.0
88-216	3	150	43.5
216-960	3	200	46.0
Above 960	3	500	54.0

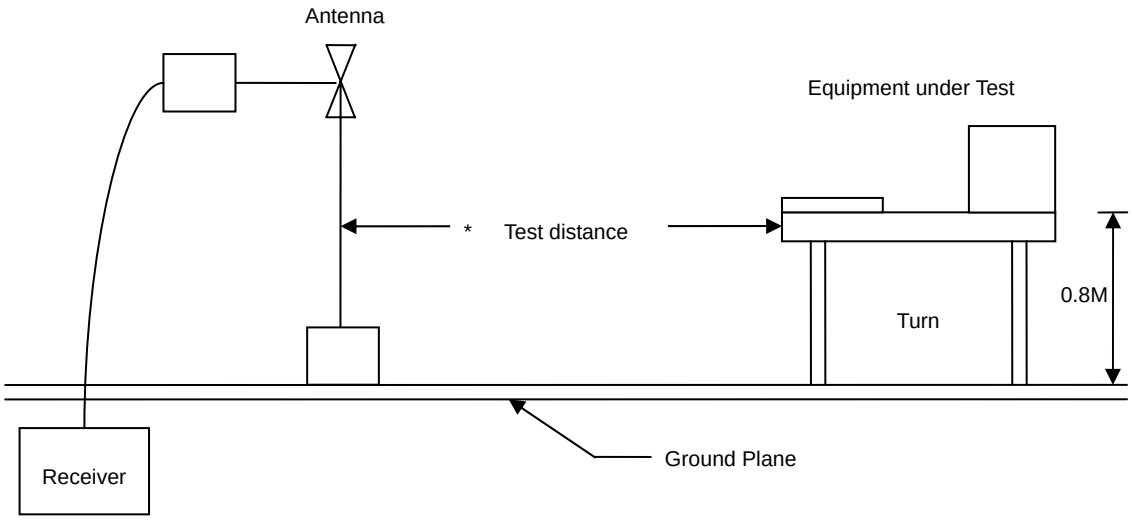
For unintentional device, according to CISPR PUB.22, for Class B digital devices, the general requirement of field strength of radiated emissions from intentional radiators at a distance of 10 meters shall not exceed the below table.

Frequency (MHz)	Distance Meters	Radiated (dB μ V/ M)
30-230	10	30
230-1000	10	37

3.2. Test Procedures

a. The EUT was placed on a Rota table top 0.8 meter above ground.
b. The EUT was set 3/10 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna is a half wave dipole and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
f. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 6 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 6 dB margin will be repeated one by one using the quasi-peak method and reported.

3.3. Typical test Setup

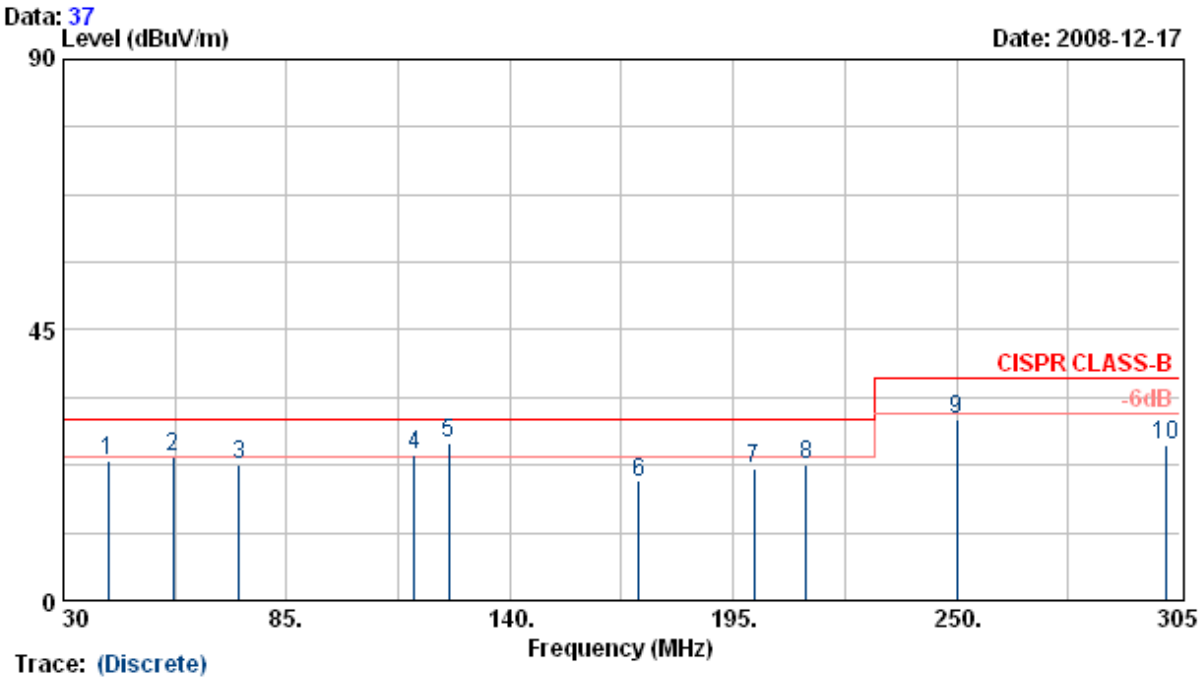


3.4. Measurement Equipment

Instrument	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Bilog Antenna	CBL6112B	Schaffner	2840	2008/05/15	2009/05/14
Signal Generator	8648B	HP	3629U00612	2008/10/08	2009/10/07
Amplifier	8447D	Agilent	2944A10593	2008/05/26	2009/05/25
EMI Receiver	8546A	HP	3807A00454	2008/08/07	2009/08/06
RF Filter Section	85460A	HP	3704A00386	2008/08/07	2009/08/06
AC Power Converter	AFC-11005	APC	F103120008	N/A	N/A

3.5. Test Result and Data

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	LINK LAN (100M) + WAN (1G) + Wireless (300M)	Temperature	:	18 °C
Memo	:	MU15-C120125-A1	Humidity	:	70 %

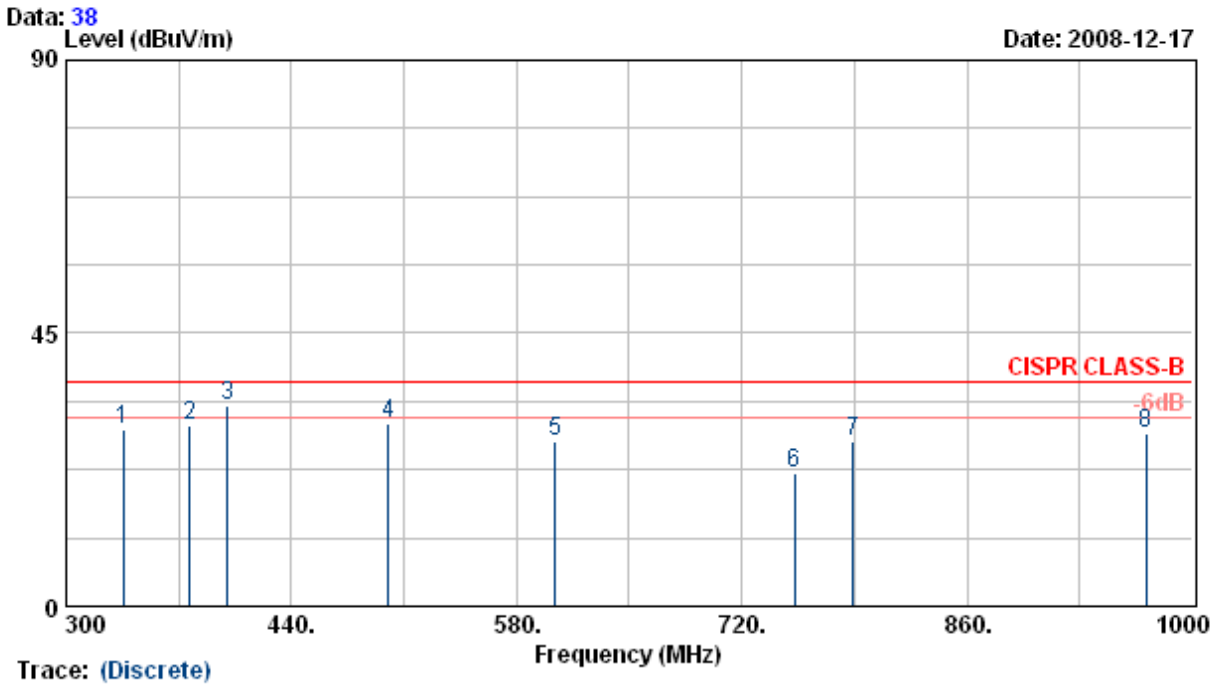


Trace: (Discrete)

Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	41.00	40.71	-17.45	23.26	30.00	-6.74	Peak	300	0
2	56.95	43.83	-20.06	23.77	30.00	-6.23	Peak	300	0
3	73.18	43.63	-21.21	22.42	30.00	-7.58	Peak	300	0
4	116.35	38.66	-14.47	24.19	30.00	-5.81	QP	100	0
5	125.01	41.43	-15.39	26.04	30.00	-3.96	QP	100	0
6	171.63	35.65	-15.91	19.74	30.00	-10.26	Peak	300	0
7	200.01	38.15	-16.12	22.03	30.00	-7.97	Peak	300	0
8	212.88	38.77	-16.15	22.63	30.00	-7.37	Peak	300	0
9	250.02	42.14	-12.14	30.00	37.00	-7.00	Peak	300	0
10	301.43	36.51	-10.50	26.01	37.00	-10.99	Peak	300	0

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna factor + Cable loss - Amplifier factor

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	LINK LAN (100M) + WAN (1G) + Wireless (300M)	Temperature	:	18 °C
Memo	:	MU15-C120125-A1	Humidity	:	70 %

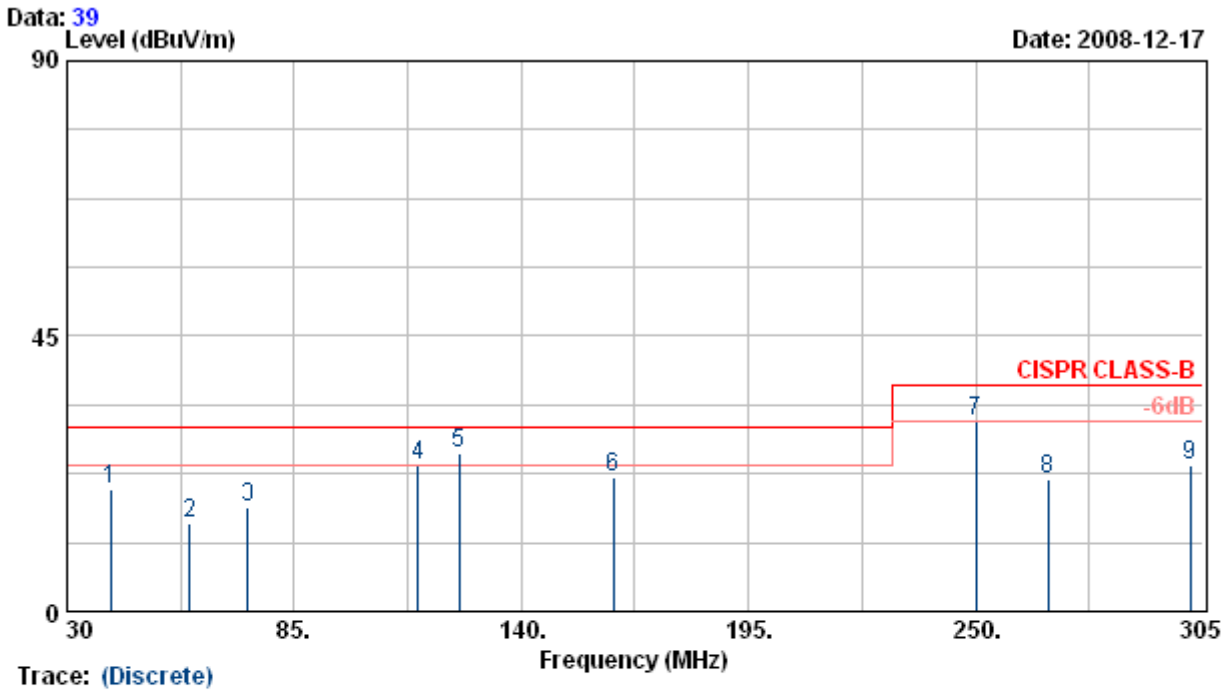


Trace: (Discrete)

Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	335.70	38.32	-9.36	28.97	37.00	-8.03	Peak	100	0
2	377.00	37.86	-7.96	29.90	37.00	-7.10	Peak	100	0
3	400.01	40.34	-7.18	33.15	37.00	-3.85	QP	100	0
4	500.00	36.62	-6.43	30.19	37.00	-6.81	Peak	100	0
5	603.80	34.23	-7.11	27.12	37.00	-9.88	Peak	100	0
6	752.90	27.42	-5.44	21.98	37.00	-15.02	Peak	100	0
7	789.30	32.52	-5.20	27.32	37.00	-9.68	Peak	100	0
8	971.30	30.40	-1.88	28.52	37.00	-8.48	Peak	100	0

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna factor + Cable loss - Amplifier factor

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	LINK LAN (100M) + WAN (1G) + Wireless (300M)	Temperature	:	18 °C
Memo	:	MU15-C120125-A1	Humidity	:	70 %

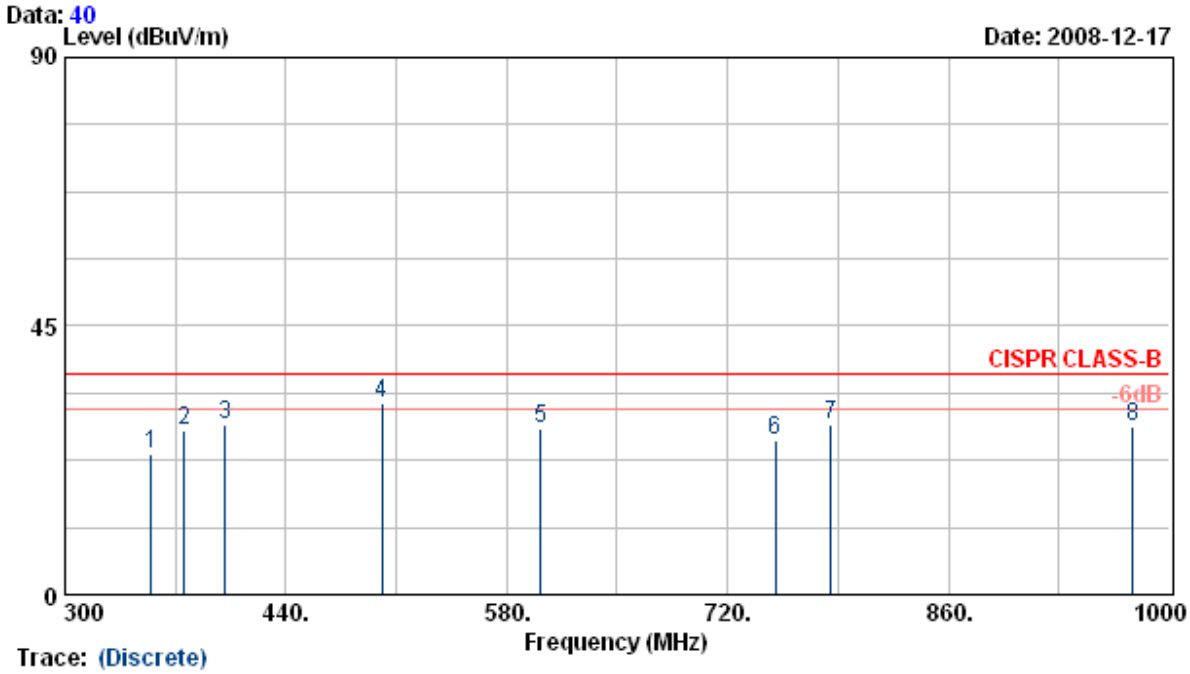


Trace: (Discrete)

Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	40.45	34.93	-14.98	19.95	30.00	-10.05	Peak	400	360
2	59.70	36.15	-21.63	14.51	30.00	-15.49	Peak	400	360
3	73.73	36.37	-19.48	16.89	30.00	-13.11	Peak	400	360
4	114.98	36.74	-12.92	23.82	30.00	-6.18	Peak	400	360
5	125.02	38.73	-13.02	25.70	30.00	-4.30	QP	400	360
6	162.28	38.62	-16.56	22.06	30.00	-7.94	Peak	400	360
7	250.02	43.34	-12.23	31.11	37.00	-5.89	QP	400	360
8	267.60	33.03	-11.43	21.60	37.00	-15.40	Peak	400	360
9	301.98	34.52	-10.65	23.87	37.00	-13.13	Peak	400	360

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna factor + Cable loss - Amplifier factor

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	LINK LAN (100M) + WAN (1G) + Wireless (300M)	Temperature	:	18 °C
Memo	:	MU15-C120125-A1	Humidity	:	70 %

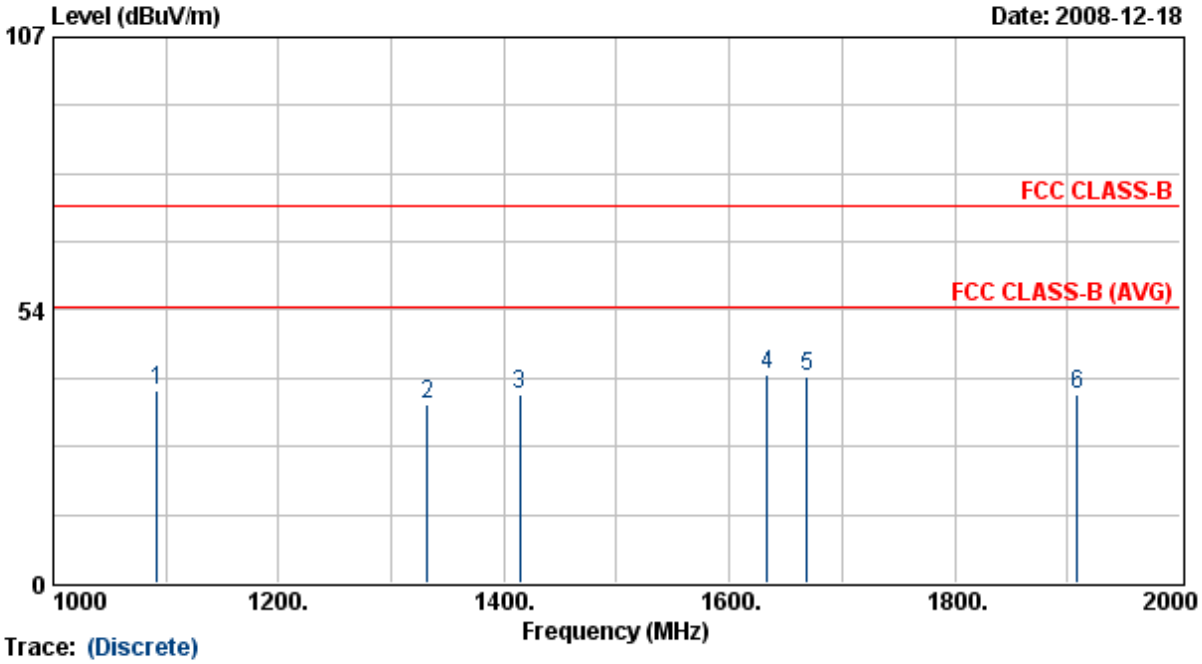


Trace: (Discrete)

Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	354.60	32.94	-9.48	23.46	37.00	-13.54	Peak	100	360
2	375.60	36.58	-9.00	27.58	37.00	-9.42	Peak	100	360
3	401.50	36.78	-8.43	28.36	37.00	-8.64	Peak	100	360
4	500.90	39.26	-7.34	31.92	37.00	-5.08	QP	100	360
5	601.70	34.16	-6.27	27.89	37.00	-9.11	Peak	100	360
6	750.10	31.37	-5.66	25.71	37.00	-11.29	Peak	100	360
7	785.80	33.89	-5.53	28.36	37.00	-8.64	Peak	100	360
8	976.90	29.70	-1.61	28.09	37.00	-8.91	Peak	100	360

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna factor + Cable loss - Amplifier factor

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	LINK LAN (100M) + WAN (1G) + Wireless (300M)	Temperature	:	22 °C
Memo	:	MU15-C120125-A1	Humidity	:	70 %

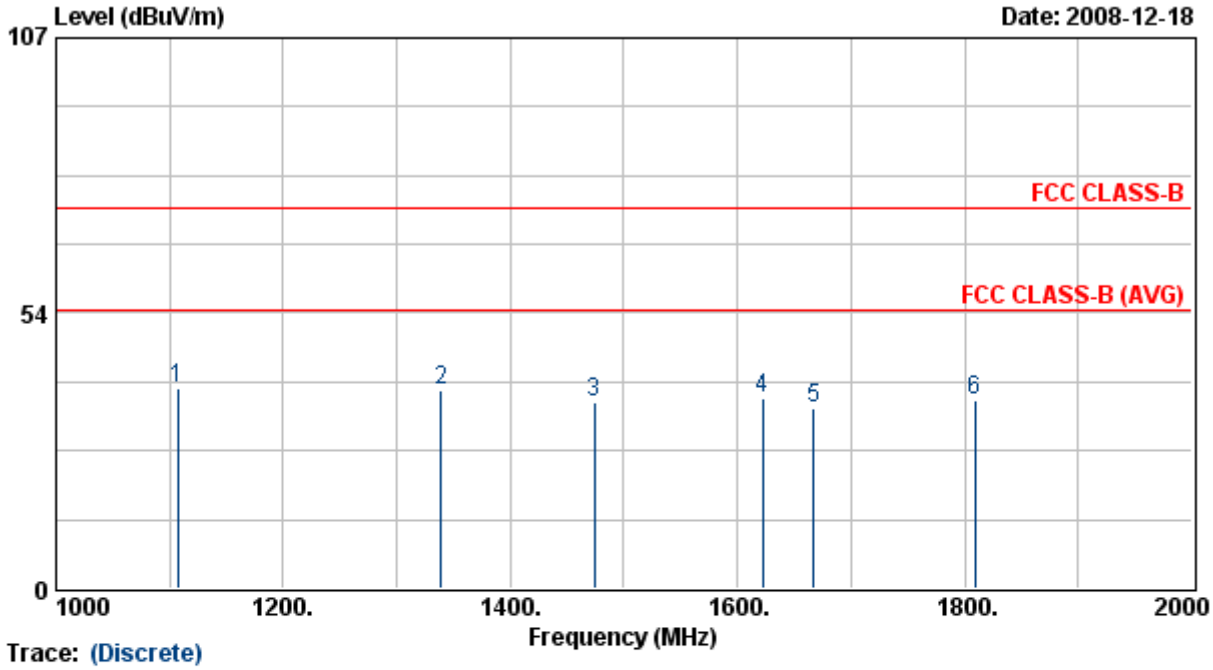


Trace: (Discrete)

Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	1092.00	47.69	-9.88	37.80	74.00	-36.20	Peak	100	360
2	1332.00	43.44	-8.54	34.90	74.00	-39.10	Peak	100	360
3	1414.00	45.19	-8.08	37.11	74.00	-36.89	Peak	100	360
4	1634.00	47.56	-6.88	40.69	74.00	-33.31	Peak	100	360
5	1669.00	47.24	-6.69	40.55	74.00	-33.45	Peak	100	360
6	1909.00	42.19	-5.39	36.80	74.00	-37.20	Peak	100	360

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna factor + Cable loss - Amplifier factor

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	LINK LAN (100M) + WAN (1G) + Wireless (300M)	Temperature	:	22 °C
Memo	:	MU15-C120125-A1	Humidity	:	70 %



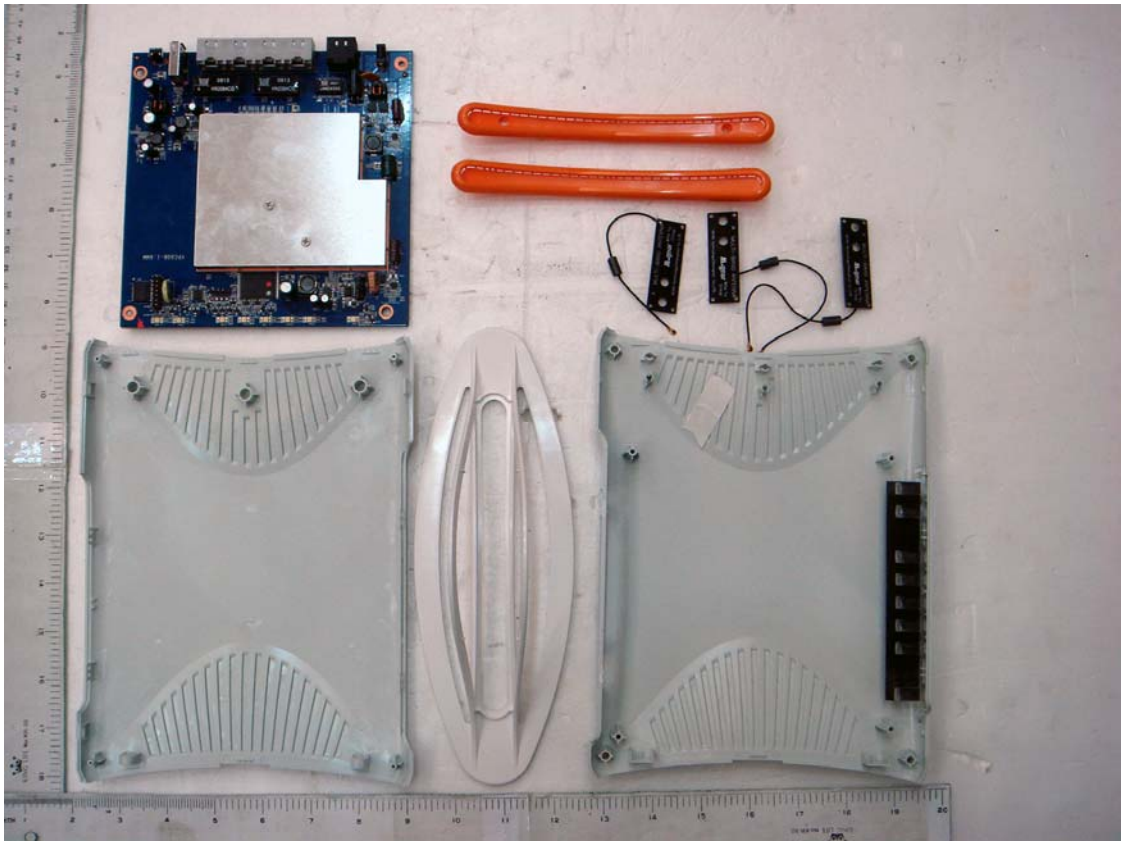
Trace: (Discrete)

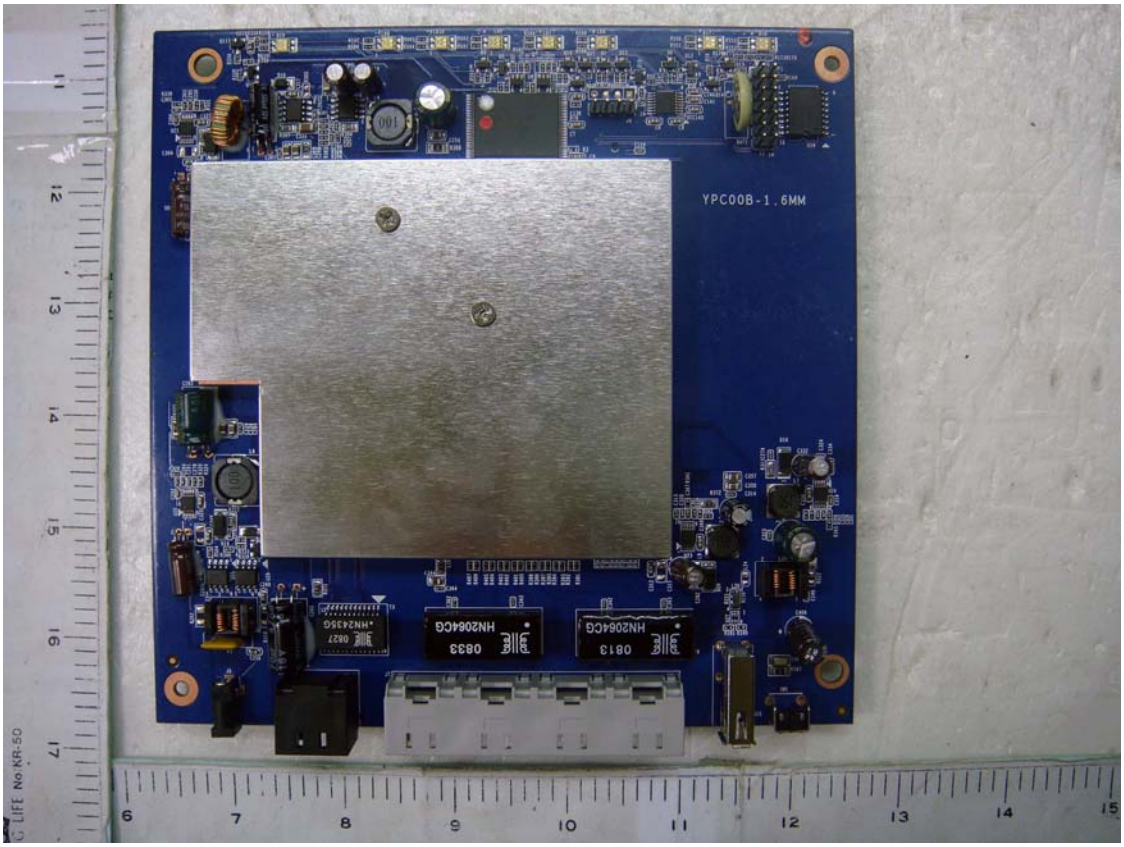
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	1107.00	48.75	-9.80	38.95	74.00	-35.05	Peak	100	360
2	1339.00	46.94	-8.50	38.44	74.00	-35.56	Peak	100	360
3	1474.00	43.92	-7.75	36.17	74.00	-37.83	Peak	100	360
4	1622.00	43.88	-6.94	36.94	74.00	-37.06	Peak	100	360
5	1667.00	41.84	-6.70	35.14	74.00	-38.86	Peak	100	360
6	1809.00	42.39	-5.93	36.46	74.00	-37.54	Peak	100	360

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna factor + Cable loss - Amplifier factor

Test engineer: Ray

Appendix A. Photographs of EUT

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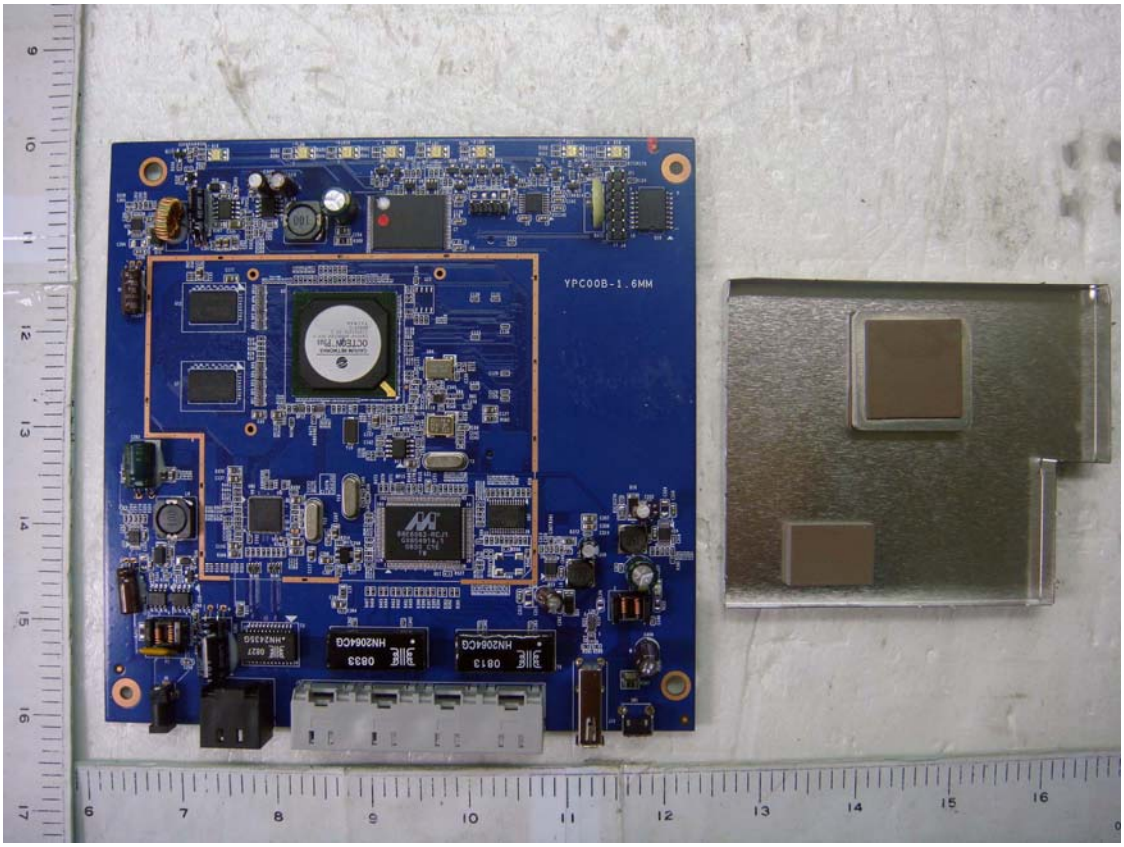
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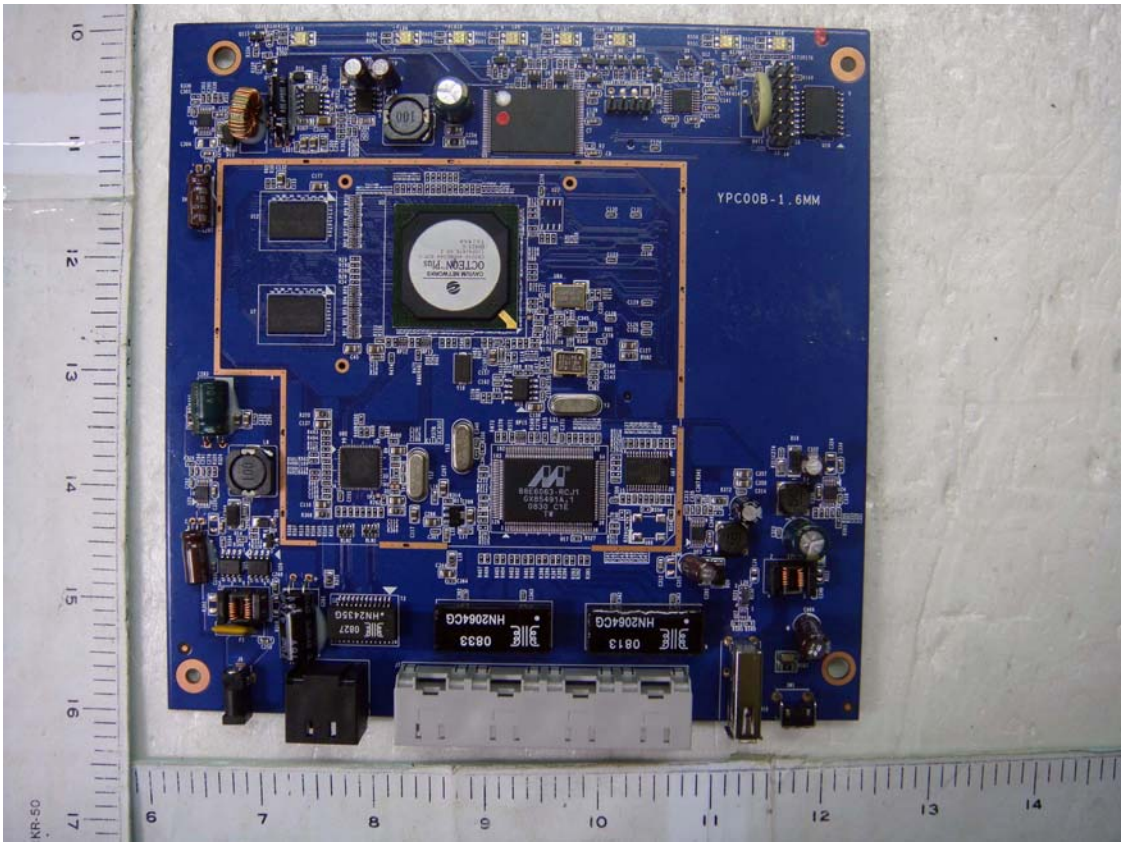
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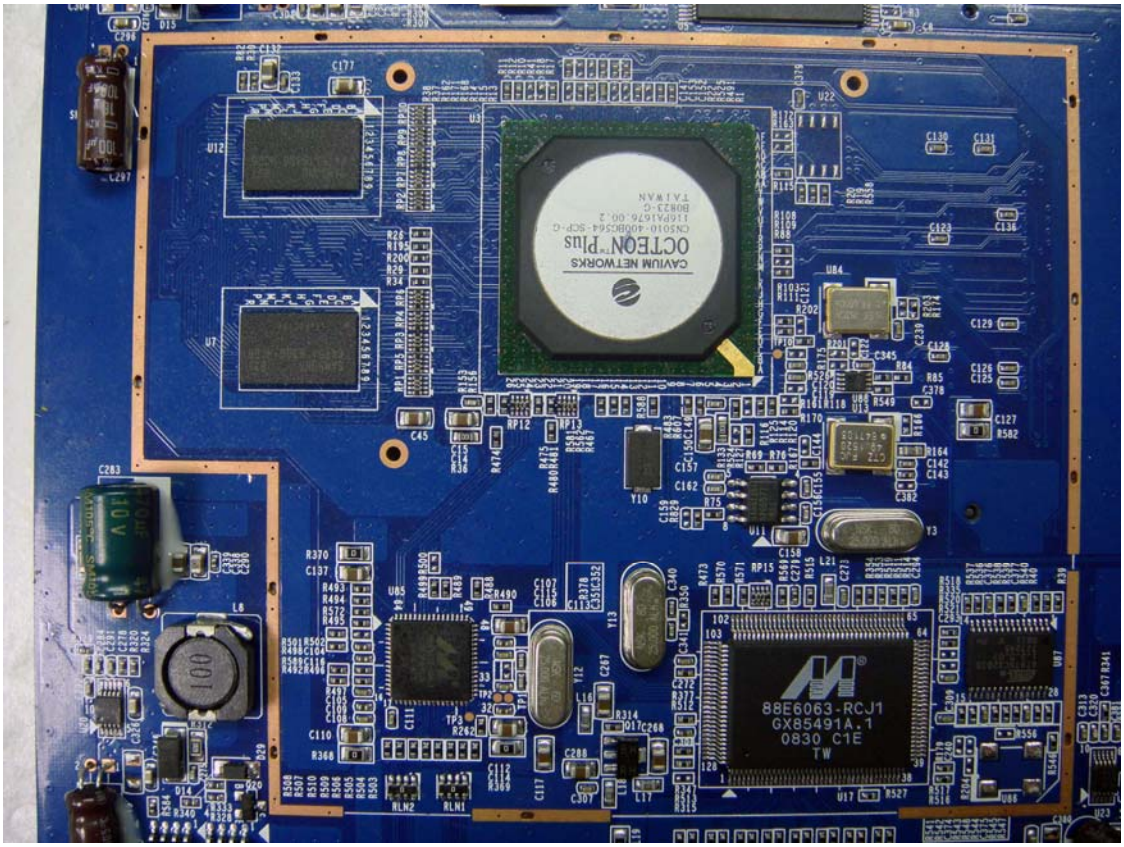
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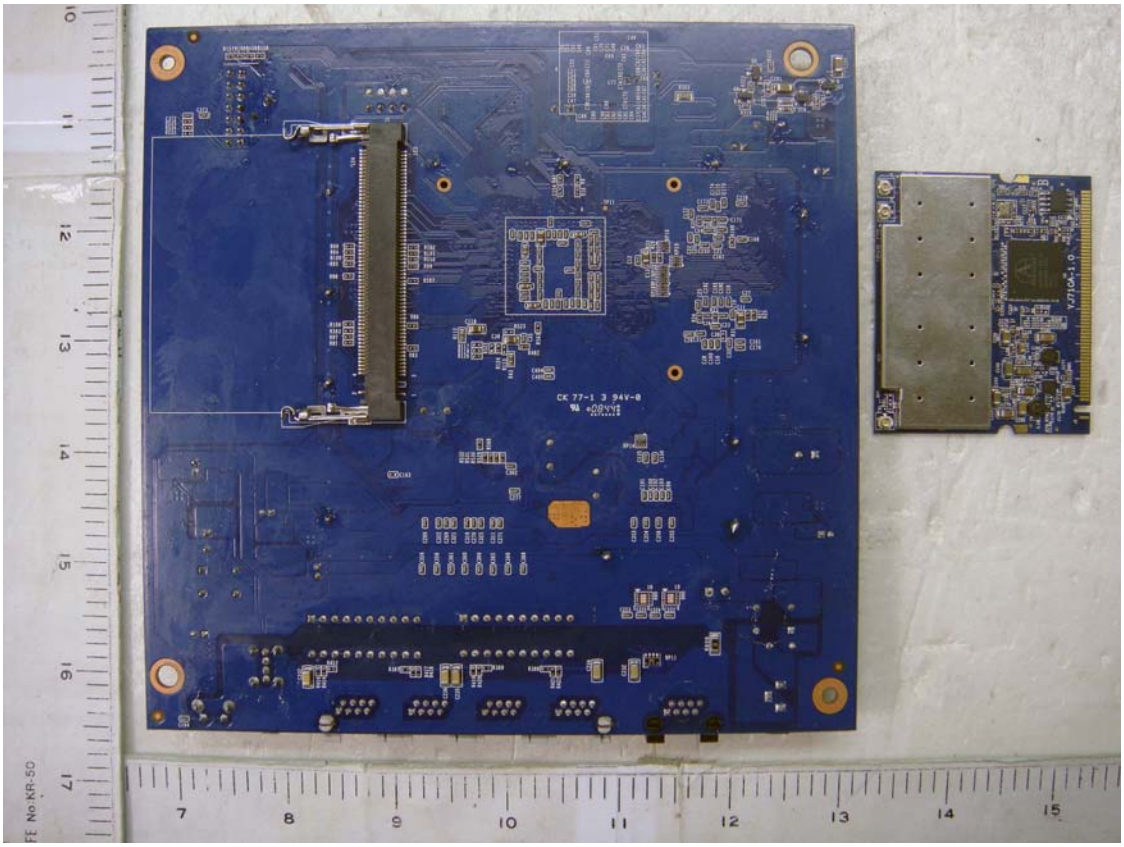
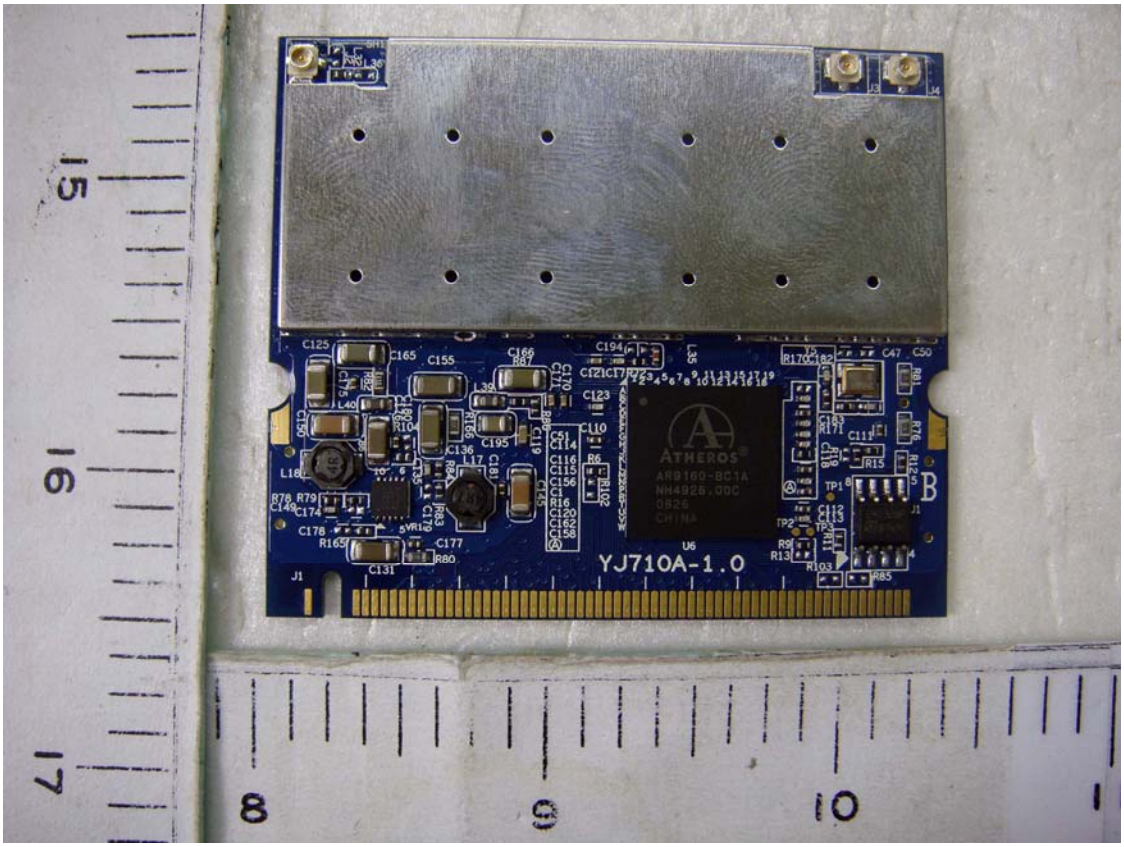
CAVIUM NETWORKS
88E6063-RCJ1
GX85491A.1
0830 C1E
TW

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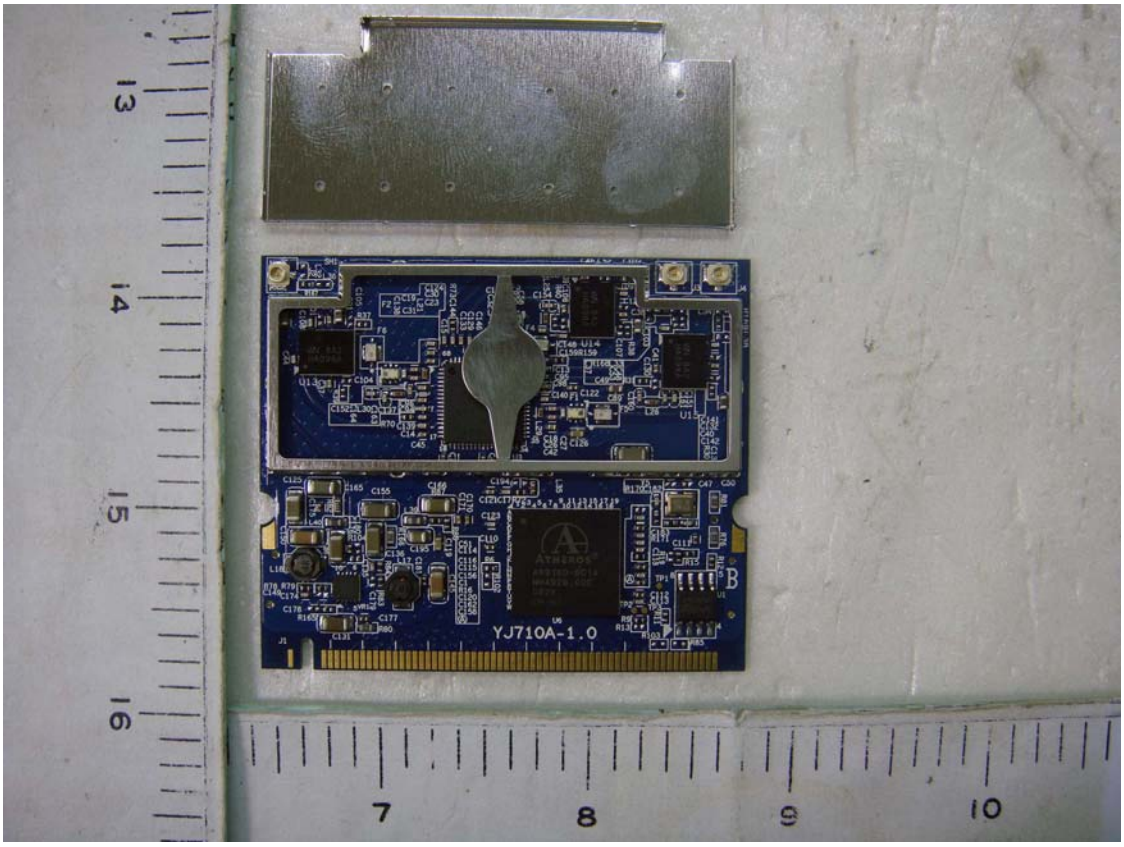
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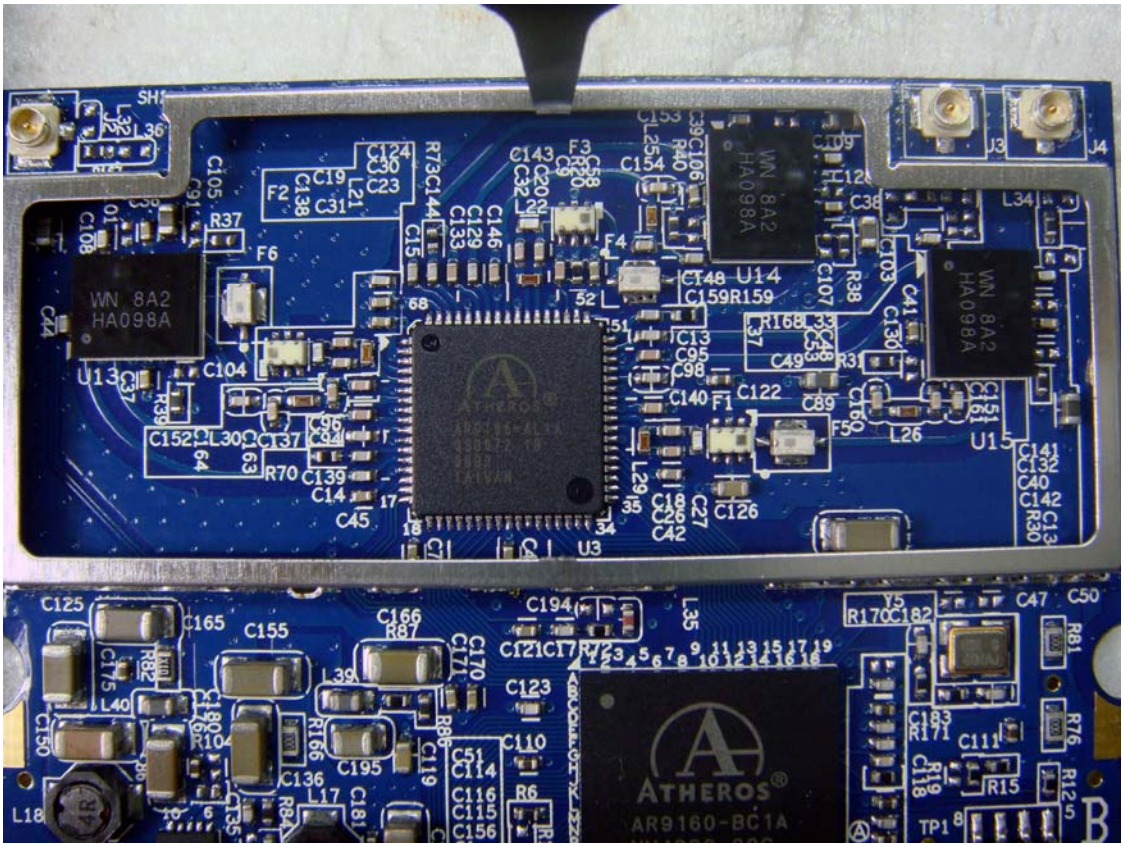
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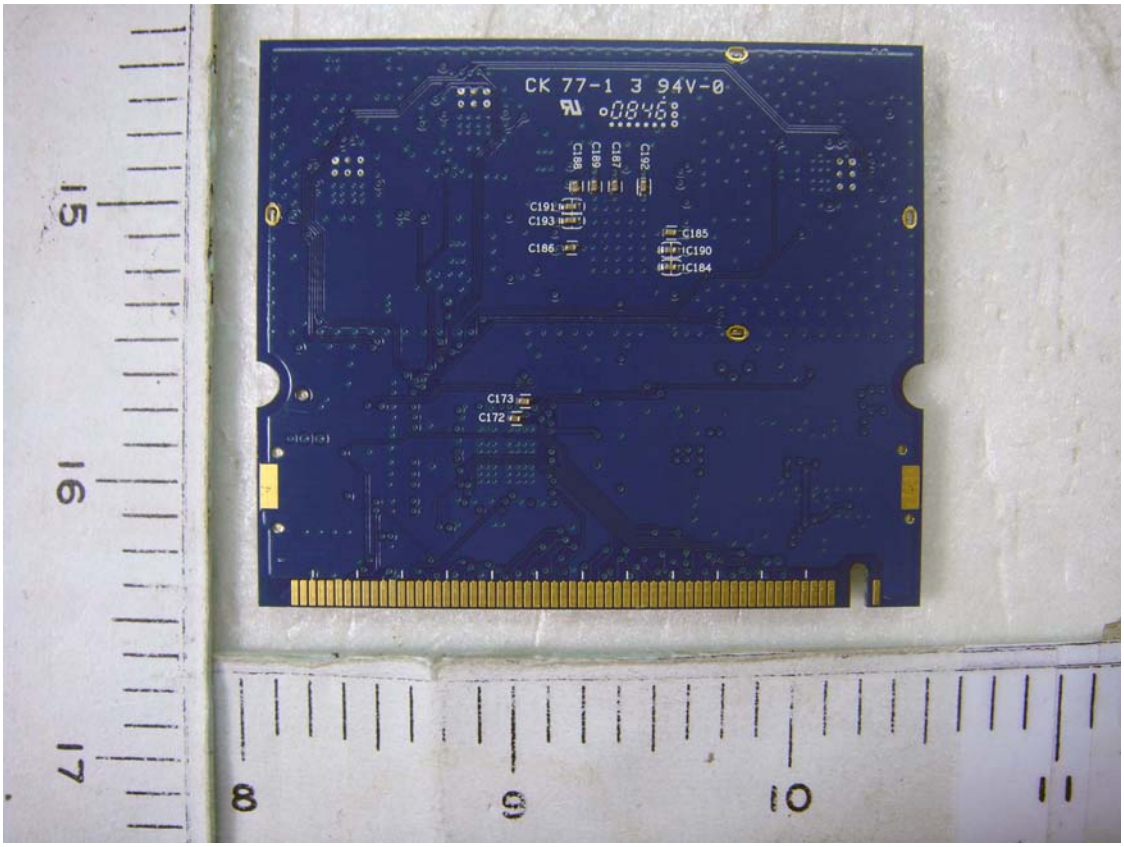
WN 8A2
HA098A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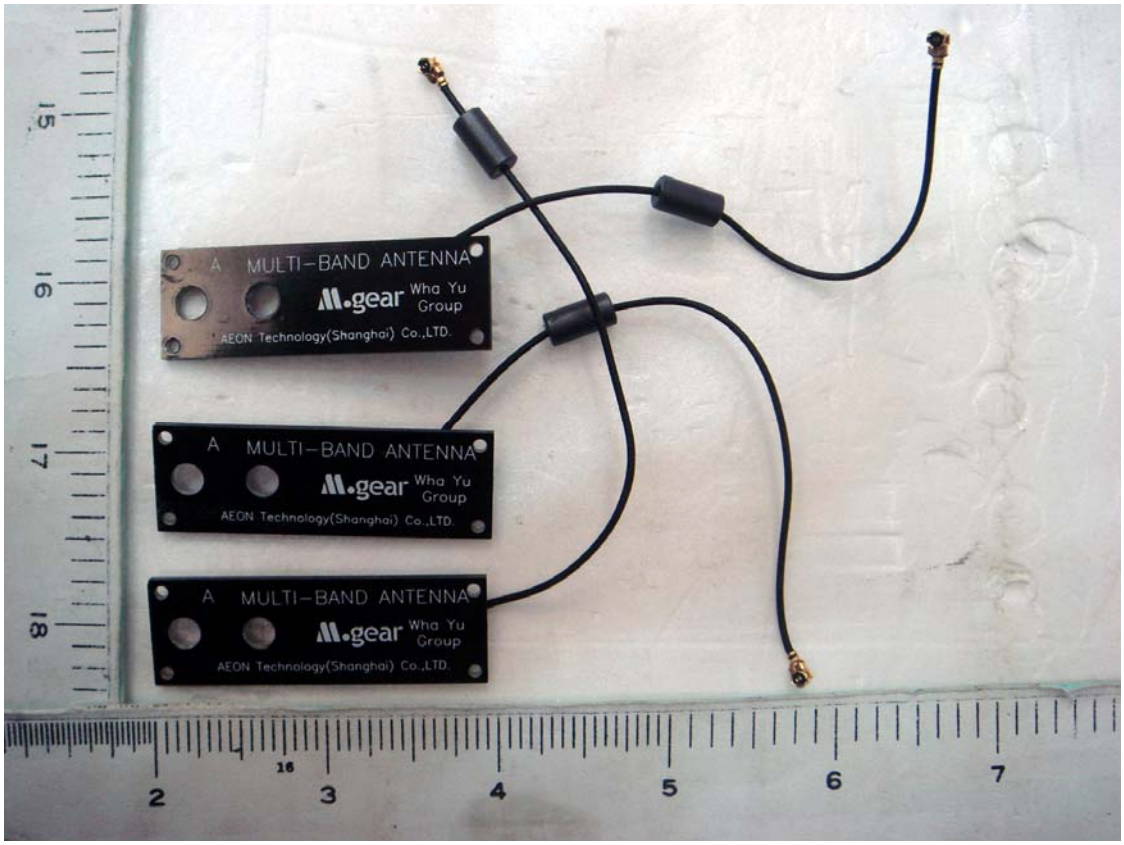
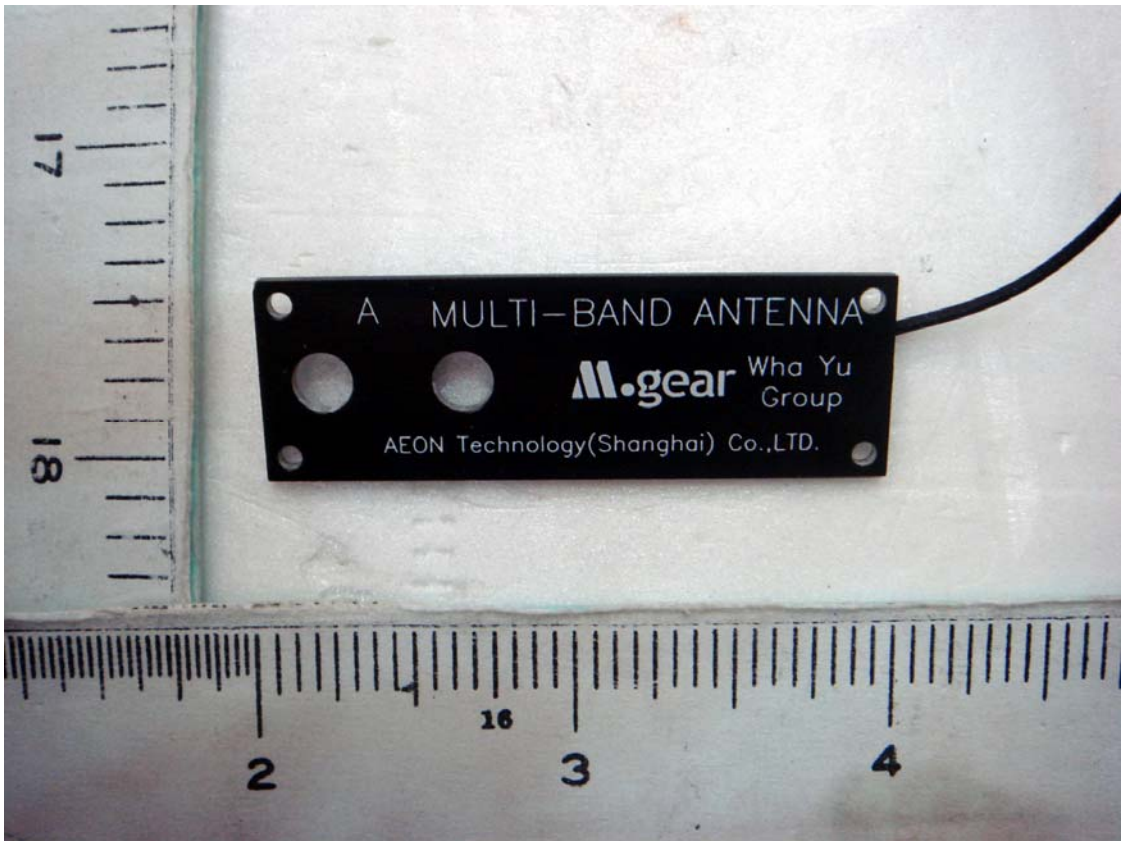

A MULTI-BAND ANTENNA
.gear Wha Yu Group
AEON Technology(Shanghai) Co.,LTD.
A MULTI-BAND ANTENNA
.gear Wha Yu Group
AEON Technology(Shanghai) Co.,LTD.
A MULTI-BAND ANTENNA
.gear Wha Yu Group
AEON Technology(Shanghai) Co.,LTD.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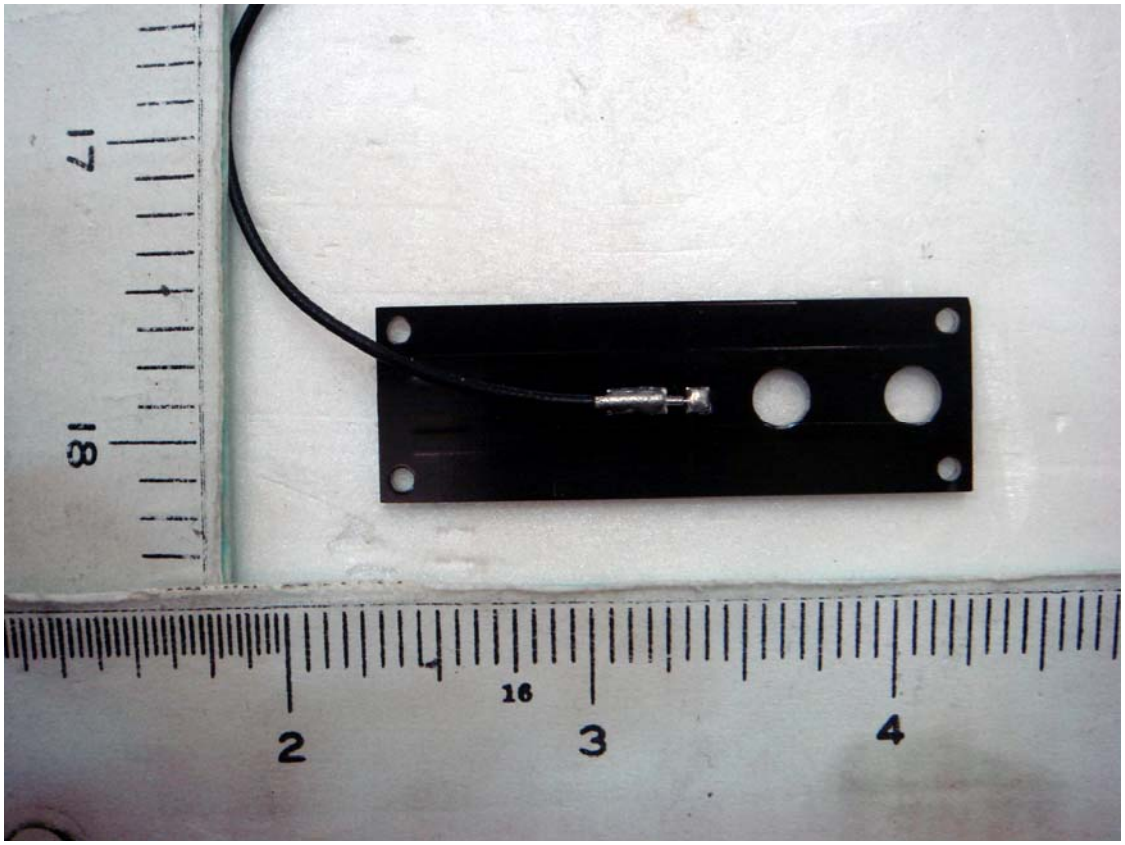
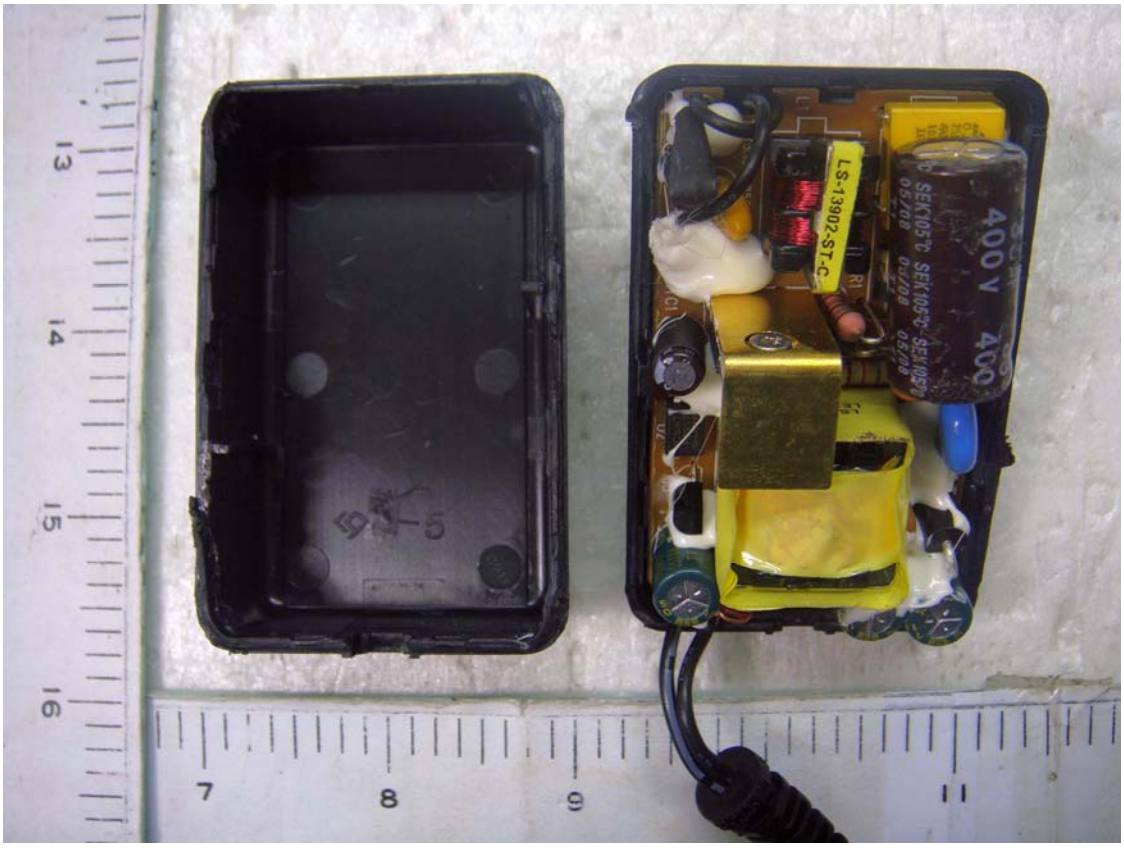
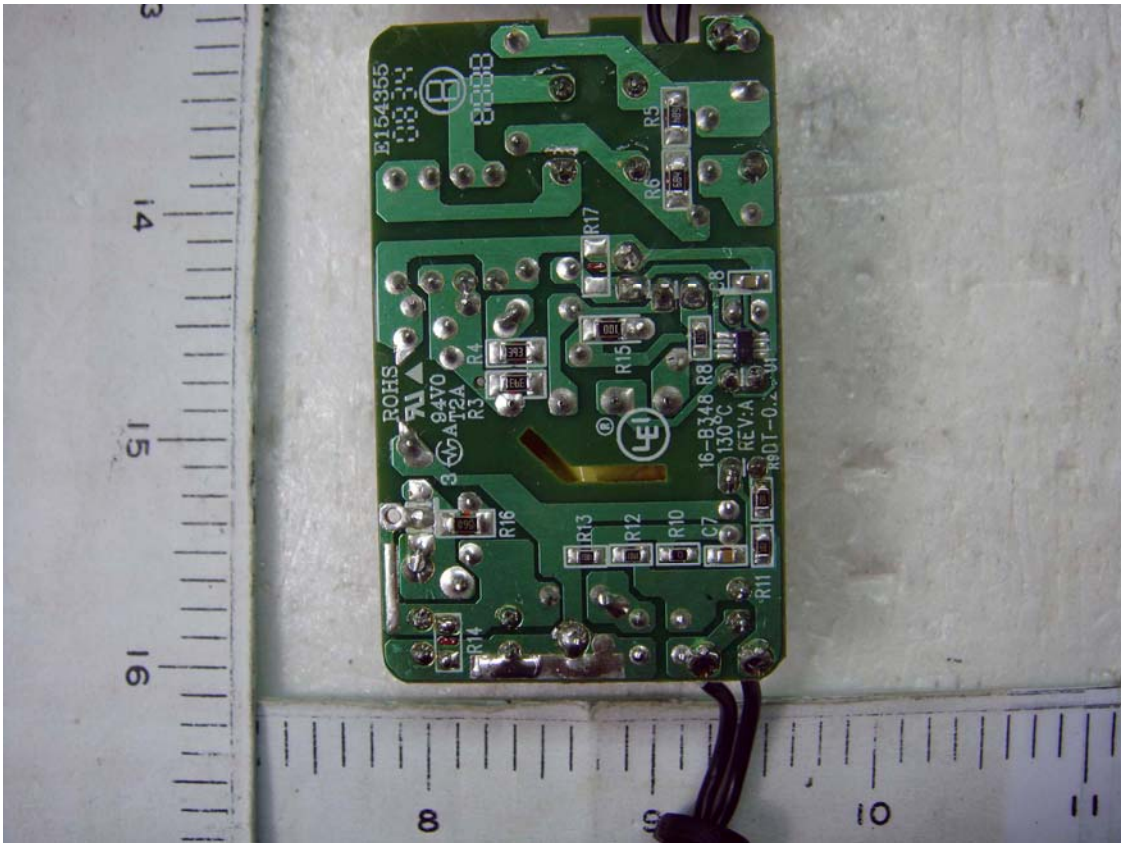
AEON Technology(Shanghai) Co.,LTD.




LEADER ELECTRONICS INC.
I.T.E. POWER SUPPLY
DESIGN NO.:MU15-C1120-AB5S
MODEL NO.:MU15-C120125-A1
INPUT:100-240V~ 50/60Hz 0.5A
OUTPUT:12.0V⎓ 1.25A
Efficiency Level: IV
c UL us LISTED
3G74
E138754
LEI F6
RoHS
MADE IN CHINA EL


LS-13902-ST-C
400 V
400


LS-13902-ST-C
400 V
SEK105°C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R6
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R3
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R10
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R8
130°C
REV:A