



CERTIFICATE OF CONFORMITY

FCC and ISED Test Report

For the following information

Ref. File No.: C1M1703136

Product	Video Conferencing Equipment
Model Name	AA70WW
Brand Name	CISCO
Applicant	Amtran Technology Co., Ltd.
Manufacturer	Cisco Systems, Inc.
Rules and Standards	47 CFR FCC Part 15 Subpart B:2015 and ICES-003 Issue 6:2016

We hereby certify that the above product has been tested by us and complied with the FCC and ISED official limits. These products might be marketed in US in accordance with FCC Rule based on the standard 47 CFR Part 2 and Part 15 Subpart B Class A equipment regulations under FCC Rules. The test was performed according to the procedures from ANSI C63.4-2014. The test data & results are issued on the test report no. EM-F170295.

Signature



Alex Deng/Deputy Manager
Date: 2017. 05. 12

Test Laboratory:
AUDIX Technology Corporation, EMC Department
NVLAP Lab. Code: 200077-0
TAF Accreditation No.: 1724
FCC OET Designation: TW1004 & TW1090
Web Site: www.audixtech.com



The statement is based on a single evaluation of one sample of the above-mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab logo.

TEST REPORT (FCC and ISED)

Product: Video Conferencing Equipment
Model: AA70WW
Brand: CISCO

Applicant:
Amtran Technology Co., Ltd.
17F., No.268, Liancheng Rd., Jhonghe District,
New Taipei City 23553, Taiwan, R.O.C.

Prepared by:
AUDIX Technology Corporation, EMC Department
No. 53-11, Dingfu, Linkou Dist.,
New Taipei City 244, Taiwan



File No. : C1M1703136
Report No. : EM-F170295
Date of Report : 2017. 05. 12

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Test Report

Applicant : Amtran Technology Co., Ltd.
Manufacturer : Cisco Systems, Inc.
EUT Description
(1) Product : Video Conferencing Equipment
(2) Model : AA70WW
(3) Brand : CISCO
(4) Power Supply : AC 100-240V, 50/60Hz

Rules of Compliance and Applicable Standards:

47 CFR FCC Part 15 Subpart B:2015
ANSI C63.4:2014
ICES-003 Issue 6:2016

The device described above was tested by AUDIX Technology Corporation to determine the maximum emission levels emanating from the device. This test report contains the measurement results, and AUDIX Technology Corporation assumes full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT is technically compliance with the requirements of FCC and ISED official rules and Class A limits.

This report applies to above tested sample only and shall not be reproduced in part without written approval of AUDIX Technology Corporation.

Date of Report: 2017. 05. 12

Reviewed by:



(Tina Huang/Administrator)

Approved by:



(Alex Deng/Deputy Manager)

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APPENDIX I (Lab. Certificates)

APPENDIX II (Photos of EUT)

1. Revision Record of Test Report

Edition No.	Issued Date	Revision Summary	Report Number
0	2017. 05. 12	Original Report.	EM-F170295

2. Summary of Test Result

2.1. Test Result

Test Item	Referred Rules/Standard	Limit	Result
Power-line conducted emission	47 CFR FCC Part 15 Subpart B: 2015 and ICES-003: 2016	Class A	Pass
			Margin 14.19dB at 0.264MHz
Radiated emissions (30 – 1000MHz)	47 CFR FCC Part 15 Subpart B: 2015 and ICES-003: 2016	Class A	Pass
			Margin 2.40dB at 914.32MHz (Vertical, 1.0m/189°)
Radiated emissions (Above 1GHz)	47 CFR FCC Part 15 Subpart B: 2015 and ICES-003: 2016	Class A	Pass
			Margin 15.15dB at 1503.34MHz
Note : 1. N/A is an abbreviation for Not Applicable. 2. Special measures: None 3. Decision and justification not to measure: None			

2.2. Description of Test Firm

Name of Test Firm	Audix Technology Corporation / EMC Department No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan Tel: +886-2-26092133 Fax: +886-2-26099303 Website : www.audixtech.com Contact e-mail: sales@audixtech.com
Accreditations	The laboratory is accredited by following organizations under ISO/IEC 17025:2005 (1) NVLAP(USA) NVLAP Lab Code 200077-0 (2) TAF(Taiwan) No. 1724 (3) FCC OET Designation No. TW1004 & TW1090
Test Facilities	(1) No. 7 Shielding Room (2) No. 1 10m Semi-Anechoic Chamber

3. General Information

3.1. Description of Application

Applicant	Amtran Technology Co., Ltd. 17F., No.268, Liancheng Rd., Jhonghe District, New Taipei City 23553, Taiwan, R.O.C.
Manufacturer	Cisco Systems, Inc. 170 West Tasman Drive, San Jose, CA 95134, USA
Product	Video Conferencing Equipment
Brand	CISCO
Model	AA70WW

3.2. Description of the EUT

Test Model	AA70WW
Serial Number	N/A
Power Rating	AC 100-240V, 50/60Hz
Firmware Version	N/A
Sample Status	Production
Date of Receipt	2017. 03. 30
Data of Test	2017. 04. 28 ~ 05. 05
I/O Ports List	• One AC power port • One LAN port • One HDMI port • One Audio output port • One USB3.0 port
Accessories	• Ethernet LAN Cable • AC Power Cord (3C)

3.3. List of Key Components of EUT

Item	Supplier/Brand	Model	Specification
LCD Panel	SHARP	LQ695R3VA05	1920x1080/60Hz
WLAN 2x2 MIMO 802.11a/b/g/n/ac with Bluetooth card	NVIDIA	P2180	FCC ID: VOB-P2180 IC: 7361A-P2180

3.4. Highest Frequency within EUT

The highest frequency is above 108MHz of EUT.

3.5. Determination of Worse Case Operating Modes

According to the EUT specification, the EUT was estimated to determine the highest emissions by following configurations:

For conducted and radiated emission pre-test were with test voltage of 230Vac/50Hz.

Test Item	Input Port	Mode	Operating Modes
1. Power-line conducted emission 2. Radiated emission (30 – 1000MHz) 3. Radiated emission (Above 1GHz)	HDMI	1.	1920*1080/60Hz, Color Bar (WLAN 2.4G+BT+USB 3.0HDD)
		2.	1920*1080/60Hz, Color Bar (WLAN 5.8G+BT+USB 3.0HDD)
		3.	1920*1080/60Hz, Color Bar (WLAN 5G+BT+USB 3.0HDD)
		4.	1280*720/60Hz, Color Bar (WLAN 2.4G+BT+USB 2.0HDD)
		5.	800*600/60Hz, Color Bar (WLAN 2.4G+BT+USB 2.0HDD)

3.6. Final Test Configuration

For conducted emission and radiated emission evaluation, 120Vac/60Hz has been tested and recorded in the applied test report.

The worst showed as following configuration was tested and recorded in the report.

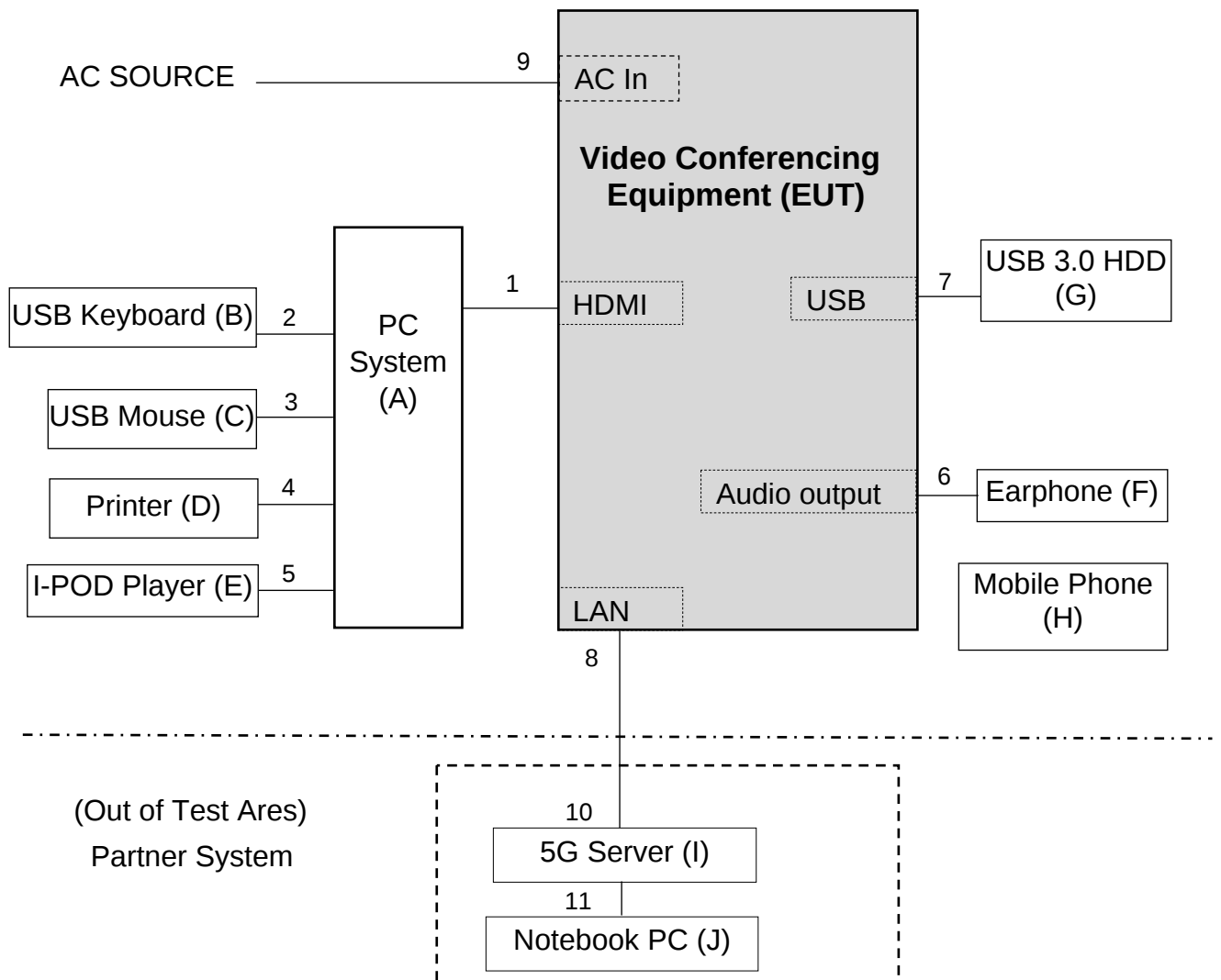
Test Item	Input Port	Operating Mode
Power-line conducted emission	HDMI	Mode 1 (with H Pattern)
Radiated emission (30 – 1000MHz)	HDMI	Mode 1 (with H Pattern)
Radiated emission (Above 1GHz)	HDMI	Mode 1 (with H Pattern)

4. Measurement Arrangement

4.1. Equipment and cables arrangement

- Connection Diagram of EUT and Peripheral Devices

For conducted and radiated, the EUT and peripherals were arranged as the requirement of ANSI C63.4 2014 clause 6.3 and 6.4.



4.2. Method of Exercising EUT

The methods for exercising the EUT during the measurement specified in ANSI C63.4 2014 clause 11.2, 11.3 and figure 16 were used.

PC operating system	Windows 7 of PC system
Test program	"ITU-R BT 1729", "Burn In 7.0",
Video Signal (Display Image)	(1) Standard Color bars with moving picture element (signal according to ITU-R BT 1729) (2) Scrolling H characters (Arial, 10) (3) The screen displays video conference image.
Audio Signal	Play 1kHz audio signal
Wired Network	Transmitting 10/100/1000Base-T Ethernet traffic
Wireless LAN	Data transmitting via WLAN to client.
Bluetooth	Mobile phone use iBeaconDetector App link to EUT
Other	Other peripheral devices were driven and operated in turn

4.3. List of Supported Units under Test

Item	Product	Brand	Model No.	Serial No.	Approval
A	PC System	Lenovo	RK4	PBFBK922	By DoC
B	USB Keyboard	IBM	KU-0225	3630	By DoC
C	USB Mouse	Lenovo	45J4886	N/A	By DoC
D	USB Printer	SAMSUNG	ML-1630	4561B1CP6000 23X	FCC ID: A3LML1630
E	I-POD Player	APPLE	A1204	4H722TH8VTE	By DoC
F	Earphone	APPLE	N/A	N/A	N/A
G	USB 3.0 HDD	SOY	HD-E1	3GDL0T15515 1C14	By DoC
H	Mobile Phone	SAMSUNG	GT-I9300	RF1C86ATMS V	NCC ID: CCAF123G03 70T1
I	AP Server	D-Link	DIR-868L	R3WE1D70023 19	FCC ID: KA2IR868LA1

4.4. List of Used Cables under Test

Item	Type	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remark
1	HDMI Cable	1	1.5	Yes	2	Provided by LAB
2	USB Cable	1	1.8	Yes	0	Provided by LAB
3	USB Cable	1	1.8	Yes	0	Provided by LAB
4	USB Cable	1	1.8	Yes	0	Provided by LAB
5	USB Cable	1	1.0	Yes	0	Provided by LAB
6	Earphone Cable	1	0.9	No	0	Provided by LAB
7	USB Cable	1	0.5	Yes	0	Provided by LAB
8	LAN Cable	1	5.0	No	0	Accessory of EUT
9	AC Power Cord (3C)	1	1.8	No	0	Accessory of EUT
10	LAN Cable	1	10.0	No	0	Provided by LAB
11	LAN Cable	1	1.8	No	0	Provided by LAB
12	AC Power Cord	4	1.8	No	0	Provided by LAB for above supported units

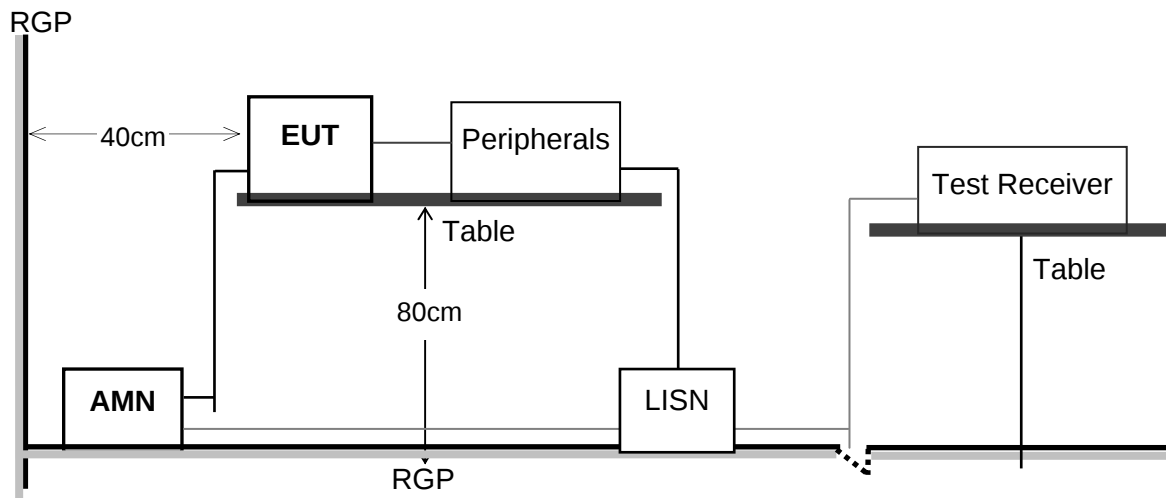
5. Measurement of Conducted Emissions

5.1. List of Test Instruments

Item	Equipment	Manufacture	Model No.	Serial No.	Cal. Date	Cal. Interval
1	Test Receiver	R & S	ESCI	101276	2017. 03. 23	1 Year
2	A.M.N.	R&S	ESH2-Z5	100366	2016. 07. 27	1 Year
3	L.I.S.N.	Kyoritsu	KNW-407	8-1539-3	2017. 01. 21	1 Year
4	Pulse Limiter	R & S	ESH3-Z2	101495	2017. 01. 16	1 Year
5	Signal Cable	Thermax /CDT	RG-142	CE-07	2016. 05. 25	1 Year
6	Test Software	Audix	e3	V.6.120424	N.C.R.	N.C.R.

5.2. Test Setup

The EUT and test equipment were configured in accordance with the requirement of ANSI C63.4 2014 clause 5.2.



5.3. Power-line Conducted Emission Limits

- For FCC §15.107 and ICES-003 §6.1 (Class A)

Frequency Range (MHz)	Quasi Peak dB(μV)	Average dB(μV)
0.15 – 5.0	79	66
5.0 – 30	73	60

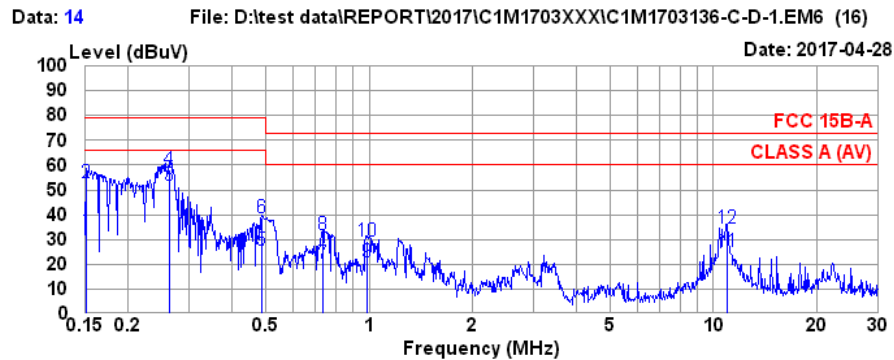
5.4. Measurement Procedure

The power-line conducted emission measurement was performed in accordance with the procedure of ANSI C63.4 2014 clause 7.3.

- Setup the EUT and associated equipment described as section 4.1, and they were located 40cm from the vertical conducting plane.
- Connect the EUT power cord to the main A.M.N and associated equipment to the second A.M.N. All ports of the A.M.N not connecting to the measuring equipment was terminated into 50 ohm resistive load.
- Setup the resolution bandwidth of the test receiver at 9kHz (while testing within 0.15 to 30MHz).
- Operate the EUT system as described in section 4.2.
- Both sides of A.C. line were checked for maximum conducted interference. In order to find the maximum emission, all of the interconnecting cables were manipulated.
- For the exploratory measurement, determine the highest emission amplitude relative to the limit on each of the EUT power cord with the peak detector by each of the EUT operation over the specified frequency range and record it.
- For final measurement, select the EUT operation mode that produced the highest amplitude in the exploratory measurement to determine the highest emissions with each specified detector and record it. All of the current-carrying conductors of each of the EUT power cords, except the ground conductor, must be measured over the specified frequency range.
- The measurement result was calculated by following formula:
Emission Level = Reading (Receiver) + Factor (A.M.N) + Cable Loss + Pulse Limiter
- If the average limit is met when using a Quasi-Peak detector receiver, the EUT is deemed to meet both limits and measurement with the average detector is unnecessary.

5.5. Measurement Result

Test Date	2017. 04. 28	Environment	26 °C, 54%
Input Power	AC 120V, 60Hz	Result	Pass
Test Mode	Mode 1	Tested By	Nick Du

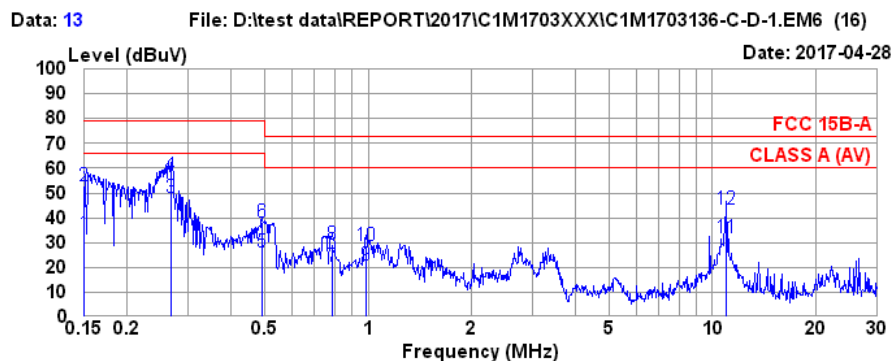


Site no. : No.7 Shielded Room Data no. : 14
 Condition : ESH2-Z5 366(ADAPTER) Phase : NEUTRAL
 Limit : FCC 15B-A
 Env. / Ins. : 26°C / 54% ESCI (1276) Engineer : Nick Du
 EUT : AA70WW
 Power Rating : 120Vac/60Hz
 Test Mode : Mode 1

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.151	0.19	0.03	9.86	23.69	33.77	66.00	32.23	Average
2	0.151	0.19	0.03	9.86	43.03	53.11	79.00	25.89	QP
3	0.264	0.18	0.04	9.86	41.73	51.81	66.00	14.19	Average
4	0.264	0.18	0.04	9.86	47.94	58.02	79.00	20.98	QP
5	0.486	0.20	0.04	9.86	15.73	25.83	66.00	40.17	Average
6	0.486	0.20	0.04	9.86	28.79	38.89	79.00	40.11	QP
7	0.731	0.21	0.05	9.86	10.24	20.36	60.00	39.64	Average
8	0.731	0.21	0.05	9.86	21.62	31.74	73.00	41.26	QP
9	0.984	0.22	0.06	9.86	10.86	21.00	60.00	39.00	Average
10	0.984	0.22	0.06	9.86	19.11	29.25	73.00	43.75	QP
11	10.963	0.59	0.18	9.90	14.23	24.90	60.00	35.10	Average
12	10.963	0.59	0.18	9.90	23.70	34.37	73.00	38.63	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.
 2. If the average limit is met when using a quasi-peak detector,
 the EUT shall be deemed to meet both limits and measurement
 with average detector is unnecessary.

Test Date	2017. 04. 28	Environment	26 °C, 54%
Input Power	AC 120V, 60Hz	Result	Pass
Test Mode	Mode 1	Tested By	Nick Du



Site no. : No.7 Shielded Room Data no. : 13
 Condition : ESH2-Z5 366(ADAPTER) Phase : LINE
 Limit : FCC 15B-A
 Env. / Ins. : 26°C / 54% ESCI (1276) Engineer : Nick Du
 EUT : AA70WW
 Power Rating : 120Vac/60Hz
 Test Mode : Mode 1

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.150	0.18	0.03	9.86	23.62	33.69	66.00	32.31	Average
2	0.150	0.18	0.03	9.86	42.94	53.01	79.00	25.99	QP
3	0.269	0.17	0.04	9.86	38.21	48.28	66.00	17.72	Average
4	0.269	0.17	0.04	9.86	47.27	57.34	79.00	21.66	QP
5	0.491	0.19	0.04	9.86	16.28	26.37	66.00	39.63	Average
6	0.491	0.19	0.04	9.86	28.15	38.24	79.00	40.76	QP
7	0.788	0.20	0.05	9.86	10.52	20.63	60.00	39.37	Average
8	0.788	0.20	0.05	9.86	19.06	29.17	73.00	43.83	QP
9	0.989	0.21	0.06	9.86	10.75	20.88	60.00	39.12	Average
10	0.989	0.21	0.06	9.86	18.53	28.66	73.00	44.34	QP
11	10.953	0.64	0.18	9.90	21.05	31.77	60.00	28.23	Average
12	10.953	0.64	0.18	9.90	32.84	43.56	73.00	29.44	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.
 2. If the average limit is met when using a quasi-peak detector,
 the EUT shall be deemed to meet both limits and measurement
 with average detector is unnecessary.

6. Measurement of Radiated Emissions

6.1. List of Test Instruments

- For measurement of 30 to 1000MHz frequency range

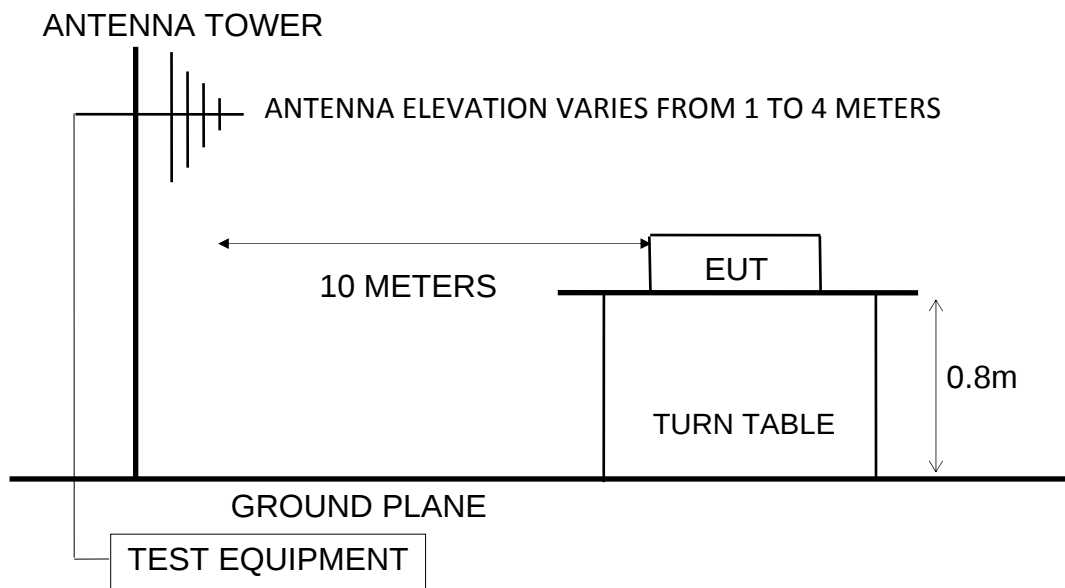
Item	Equipment	Manufacture	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Spectrum Analyzer	Agilent	N9010A-503	MY52220119	2016. 12. 21	1 Year
2.	Spectrum Analyzer	Agilent	N9010A-503	MY51250850	2017. 03. 08	1 Year
3.	Test Receiver	R & S	ESCI7	100922	2017. 05. 04	1 Year
4.	Amplifier	Sonoma	310N	187158	2017. 03. 06	1 Year
5.	Amplifier	Sonoma	310N	187159	2017. 03. 14	1 Year
6.	Bilog Antenna	TESEQ	CBL6112D	33819	2017. 01. 21	1 Year
7.	Bilog Antenna	TESEQ	CBL6112D	33820	2017. 01. 21	1 Year
8.	Signal Cable	HUBER+SUHNER	S07212BD	10m ACC3CL (10mA)	2016. 05. 09	1 Year
9.	Signal Cable	HUBER+SUHNER	S07212BD	10m ACC3CL (10mB)	2016. 05. 09	1 Year
10.	Test Software	Audix	e3	V.6.1206197	N.C.R.	N.C.R.

- For measurement of above 1GHz frequency range

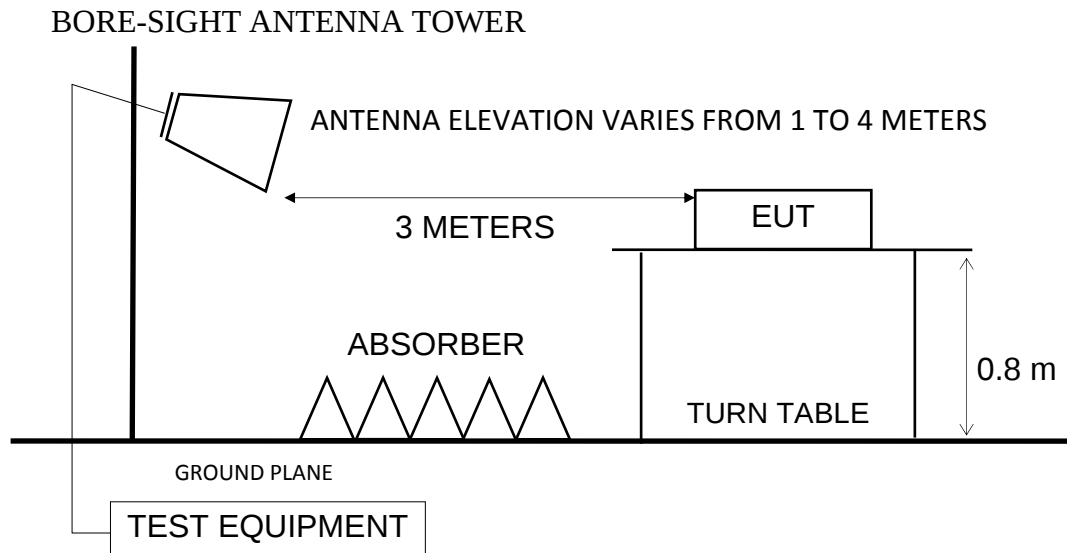
Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1	Spectrum Analyzer	Agilent	N9010A-526	MY51250943	2017. 02. 16	1 Year
2	Amplifier	Agilent	8449B	3008A02681	2017. 03. 14	1 Year
3	Horn Antenna	ETS-Lindgren	3117	00114403	2017. 03. 27	1 Year
4	Signal Cable	HUBER+SUHNER	SUCOFLEX 104	10m ACCL 1-18G	2017. 04. 23	1 Year
5	Test Software	Audix	e3	V.6.1206197	N.C.R.	N.C.R.

6.2. Test Setup

- For frequency range 30 to 1000MHz (at Semi-anechoic chamber)



- For frequency range above 1GHz (at Semi-anechoic chamber)



6.3. Radiation Emission Limits

- For Below 1GHz, FCC §15.109(a)(g)/CISPR 22 and ICES-003 §6.2 (Class A)

Frequency Range (MHz)	Distance (meter)	Quasi-Peak [dB(μV/m)]
30 – 230	10	40
230 – 1000		47
30 – 230	3	50
230 – 1000		57

- For Above 1GHz, FCC §15.109(a)(g)/CISPR 22 and ICES-003 §6.2 (Class A)

Frequency Range (MHz)	Distance (meter)	Peak [dB(μV/m)]	Average [dB(μV/m)]
Above 1000	3	79.54	59.54

- The tighter limit applies at the edge between two frequency bands.
- Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the E.U.T.
- The limits from 30 to 1000MHz are referred to CISPR 22 standard, which are in accordance with the requirement of FCC Part 15.38 (b)(3)、Part 15.109 (a)(g) and ICES-003 section 5(a)(i).
- The limits above 1GHz are referred to FCC Part 15.109(a)

- Required highest frequency for radiated measurement

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower.

6.4. Measurement Procedure

The radiated emission measurement was performed in accordance with the procedure of the ANSI C63.4 2014 clause 8.3.

- The EUT and peripherals were placed on the rotatable non-conduction table, which is 0.8meters above the ground reference plane at the semi-anechoic chamber or OATS as described in section 4.1 and 6.2.
- The measurement distance is set as specified in section 6.3. The specified distance is between the horizontal projection onto the ground plane of the closest periphery of the EUT and the projection onto the ground plane of the center of the axis of the elements of the receiving antenna.
- The resolution bandwidth of the test receiver was at 120kHz (testing from 30 to 1000MHz) or 1MHz (testing above 1000MHz).
- Operate the EUT system as described in section 4.2.
- For the exploratory measurement, determine the highest emission amplitude relative to the limit on each of antenna polarization with the peak detector by each of the EUT operations over the specified frequency range and record it.
- For final measurement, select the EUT operation mode that produced the highest amplitude in the exploratory measurement to determine the highest emissions with each specified detector and record it.
- In order to determine the maximum emission level, must rotate the table in 360 degree and move the receiving antenna between 1~4m height above the ground reference plane.
- In order to find the maximum emission, all of the interconnecting cables were manipulated, except for the bundled cable.
- Both polarizations of receiving antenna were determined.
- The measurement result was calculated by following formulas:

(30 – 1000MHz)

Emission Level = Reading (Receiver) + Cable Loss + Antenna Factor - Pre-Amp Gain

(Above 1GHz)

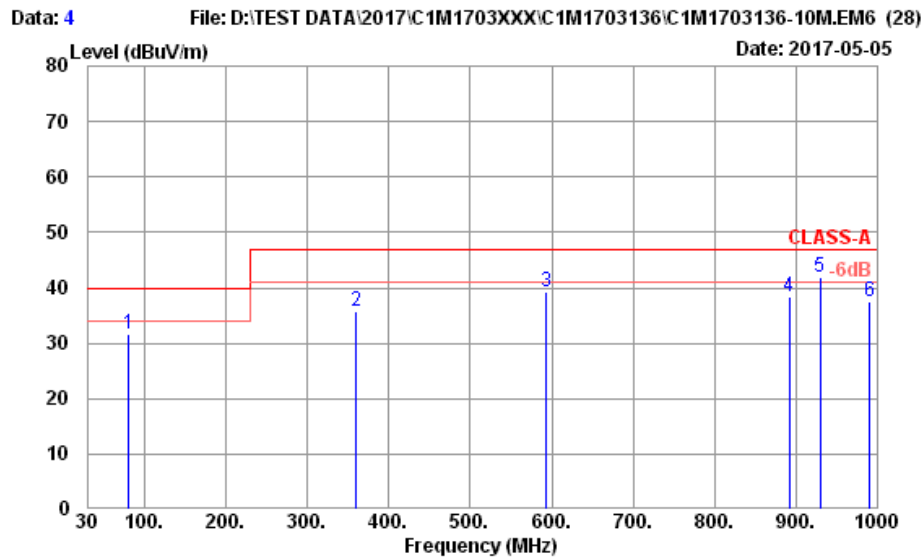
Emission Level = Reading (Spectrum) + Cable Loss + Antenna Factor - Pre-Amp Gain

- The 3dB bandwidth of the horn antenna is minimum 52 degree (or w=2.93m at 3m distance) for 1~6 GHz.

6.5. Measurement Result

- For frequency range 30 – 1000MHz

Test Date	2017. 05. 05	Environment	23 °C, 59%
Input Power	AC 120V, 60Hz	Result	Pass
Test Mode	Mode 1	Tested By	Gray Lin



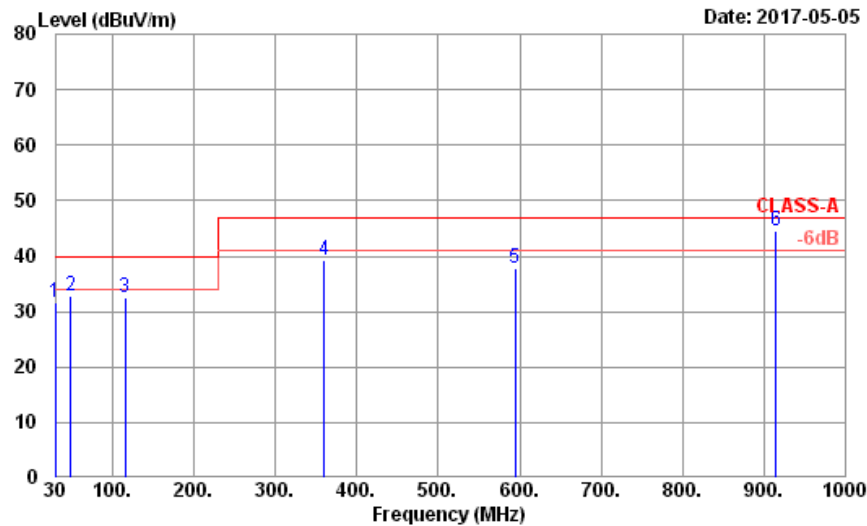
Site no. : NO.1 10M Chamber Data no. : 4
 Dis. / Ant. : 10m VULB 9168 712 Ant. pol. : HORIZONTAL
 Limit : CLASS-A
 Env. / Ins. : 23°C / 59% ESCI (0557) Engineer : GARY-LIN
 EUT : AA70WW
 Power Rating : 120Vac/60Hz
 Test Mode : MODE 1

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Reading (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Remark
1	80.71	14.65	1.38	33.16	48.65	31.52	40.00	8.48	QP
2	359.64	20.32	3.14	32.99	45.40	35.87	47.00	11.13	QP
3	593.20	25.38	4.19	33.02	42.70	39.25	47.00	7.75	QP
4	891.51	28.74	5.37	32.28	38.66	38.49	47.00	8.51	QP
5	929.92	29.46	5.51	31.99	38.88	41.86	47.00	5.14	QP
6	990.11	29.75	5.73	31.39	33.47	37.56	47.00	9.44	QP

Remarks: 1.Emission Level= Antenna Factor + Cable Loss + Reading - Preamp.
 2.The emission levels that are 20dB below the official limit are not

Test Date	2017. 05. 05	Environment	23 °C, 59%
Input Power	AC 120V, 60Hz	Result	Pass
Test Mode	Mode 1	Tested By	Gray Lin

Data: 3 File: D:\TEST DATA\2017\1M1703XXX\1M1703136\1M1703136-10MEM6 (28)



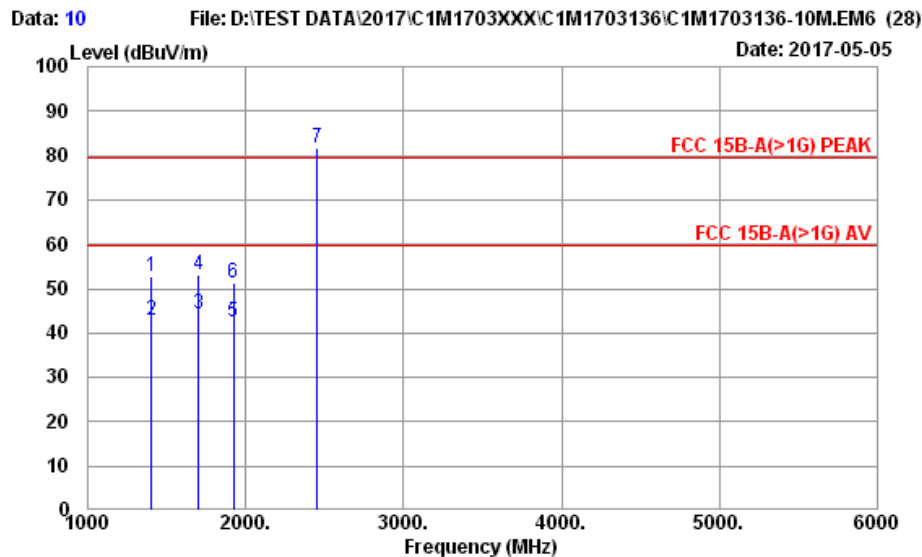
Site no. : NO.1 10M Chamber Data no. : 3
 Dis. / Ant. : 10m VULB 9168 711 Ant. pol. : VERTICAL
 Limit : CLASS-A
 Env. / Ins. : 23°C / 59% ESCI (0557) Engineer : GARY-LIN
 EUT : AA70WW
 Power Rating : 120Vac/60Hz
 Test Mode : MODE 1

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Reading (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Remark
1	30.25	18.10	0.67	32.69	45.60	31.68	40.00	8.32	QP
2	48.53	19.60	0.84	32.66	44.95	32.73	40.00	7.27	QP
3	116.19	16.65	1.33	32.60	47.17	32.55	40.00	7.45	QP
4	359.65	20.29	2.43	32.45	49.11	39.38	47.00	7.62	QP
5	593.92	25.27	3.25	32.46	41.80	37.86	47.00	9.14	QP
6	914.32	29.34	4.14	31.73	42.85	44.60	47.00	2.40	QP

Remarks: 1.Emission Level= Antenna Factor + Cable Loss + Reading - Preamp.
 2.The emission levels that are 20dB below the official limit are not

- For frequency range 1 – 6 GHz

Test Date	2017. 05. 05	Environment	23 °C, 59%
Input Power	AC 120V, 60Hz	Result	Pass
Test Mode	Mode 1	Tested By	Gray Lin



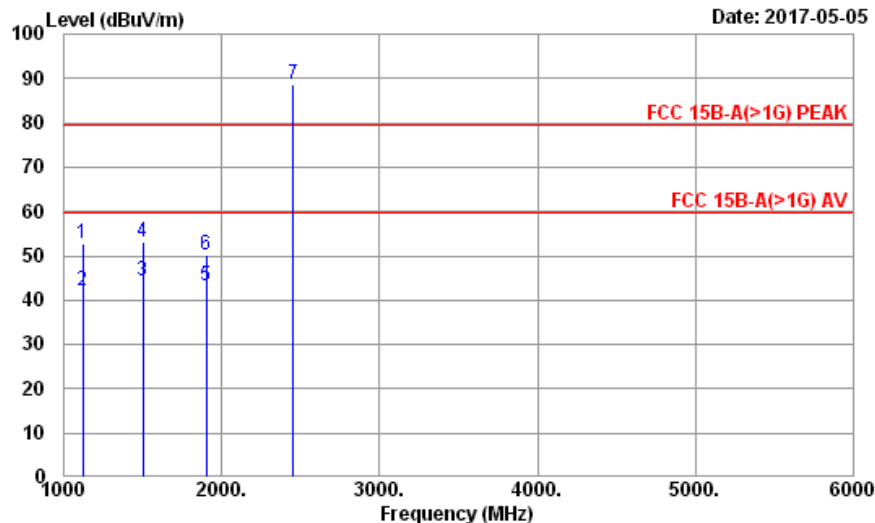
Site no. : NO.1 10W Chamber Data no. : 10
 Dis. / Ant. : 3m 3117 14403 Ant. pol. : HORIZONTAL
 Limit : FCC 15B-A(>1G) PEAK
 Env. / Ins. : 23°C / 59% N9010A (0943) Engineer : GARY-LIN
 EUT : AA70WW
 Power Rating : 120Vac/60Hz
 Test Mode : MODE 1

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	1407.50	27.75	1.99	35.79	58.70	52.65	79.54	26.89	Peak
2	1407.69	27.75	1.99	35.79	48.75	42.70	59.54	16.84	Average
3	1706.34	29.47	2.33	35.58	48.01	44.23	59.54	15.31	Average
4	1706.42	29.47	2.33	35.58	56.93	53.15	79.54	26.39	Peak
5	1923.30	30.98	2.45	35.48	44.52	42.47	59.54	17.07	Average
6	1923.46	30.98	2.45	35.48	53.50	51.45	79.54	28.09	Peak
* 7	2455.47	32.24	2.73	35.61	82.41	81.77			

Remarks: 1.Emission Level= Antenna Factor + Cable Loss + Reading - Preamp.
 2.The emission levels that are 20dB below the official limit are not
 3."*" means the radiated emission from the transmit-
 ter/transceiver, it is ignored in this report

Test Date	2017. 05. 05	Environment	23 °C, 59%
Input Power	AC 120V, 60Hz	Result	Pass
Test Mode	Mode 1	Tested By	Gray Lin

Data: 9 File: D:\TEST DATA\2017\1M1703XXX\1M1703136\1M1703136-10MEM6 (28)



Site no. : NO.1 10M Chamber Data no. : 9
Dis. / Ant. : 3m 3117 14403 Ant. pol. : VERTICAL
Limit : FCC 15B-A(>1G) PEAK
Env. / Ins. : 23°C / 59% N9010A (0943) Engineer : GARY-LIN
EUT : AA70WW
Power Rating : 120Vac/60Hz
Test Mode : MODE 1

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Reading (dB μ V)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Remark
1	1125.05	27.59	1.85	36.13	59.50	52.81	79.54	26.73	Peak
2	1125.21	27.59	1.85	36.13	48.76	42.07	59.54	17.47	Average
3	1503.34	27.84	2.05	35.69	50.19	44.39	59.54	15.15	Average
4	1503.69	27.84	2.05	35.69	58.97	53.17	79.54	26.37	Peak
5	1902.17	30.83	2.44	35.49	45.35	43.13	59.54	16.41	Average
6	1902.85	30.87	2.44	35.49	52.40	50.22	79.54	29.32	Peak
* 7	2456.18	32.24	2.73	35.61	89.14	88.50			

Remarks: 1.Emission Level= Antenna Factor + Cable Loss + Reading - Preamp.
2.The emission levels that are 20dB below the official limit are not
3."*" means the radiated emission from the transmitter/transceiver, it is ignored in this report

7. Measurement Uncertainty List

The measurement uncertainty was estimated for test on the EUT according to CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage of K=2.

The uncertainties value is not used in determining the PASS/FAIL results.

Test Items/Facilities	Frequency/Equipment/Unit	Uncertainty
Conducted emissions at AC mains power port	9kHz-150kHz	±3.7dB
	150kHz-30MHz	±3.5dB
Conducted emissions at wired network port	150kHz-30MHz	±3.5dB
Conducted emissions at broadcast receiver tuner port	150kHz-30MHz	±3.5dB
Conducted emissions Power Clamp	30MHz-300MHz	±4.4dB
Radiated electromagnetic	9kHz-30MHz	±0.5dB
Radiated emissions (10m Chamber)	30MHz-200MHz, 3m, Horizontal	±4.3dB
	200MHz-1000MHz, 3m, Horizontal	±4.3dB
	30MHz-200MHz, 3m, Vertical	±4.4dB
	200MHz-1000MHz, 3m, Vertical	±3.9dB
	30MHz-200MHz, 10m, Horizontal	±4.3dB
	200MHz-1000MHz, 10m, Horizontal	±4.1dB
	30MHz-200MHz, 10m, Vertical	±4.3dB
	200MHz-1000MHz, 10m, Vertical	±3.8dB
	1GHz-6GHz, 3m	±5.1dB
	6GHz-18GHz, 3m	±5.5dB
Radiated emissions (No.1 3m Chamber)	30MHz-200MHz, 3m, Horizontal	±3.9dB
	200MHz-1000MHz, 3m, Horizontal	±4.3dB
	30MHz-200MHz, 3m, Vertical	±4.5dB
	200MHz-1000MHz, 3m, Vertical	±4.1dB
	1GHz-6GHz, 3m	±5.1dB
	6GHz-18GHz, 3m	±5.5dB
Radiated emissions (No.2 3m Chamber)	30MHz-200MHz, 3m, Horizontal	±4.3dB
	200MHz-1000MHz, 3m, Horizontal	±4.3dB
	30MHz-200MHz, 3m, Vertical	±4.4dB
	200MHz-1000MHz, 3m, Vertical	±3.9dB
	1GHz-6GHz, 3m	±5.2dB
	6GHz-18GHz, 3m	±5.2dB
Radiated emissions (No.3 3m Chamber)	30MHz-200MHz, 3m, Horizontal	±4.7dB
	200MHz-1000MHz, 3m, Horizontal	±4.5dB
	30MHz-200MHz, 3m, Vertical	±4.3dB
	200MHz-1000MHz, 3m, Vertical	±4.1dB

Test Items/Facilities	Frequency/Equipment/Unit	Uncertainty
Radiated emissions (No.3 OATS)	30MHz-200MHz, 3m, Horizontal	$\pm 4.5\text{dB}$
	200MHz-1000MHz, 3m, Horizontal	$\pm 4.4\text{dB}$
	30MHz-200MHz, 3m, Vertical	$\pm 4.4\text{dB}$
	200MHz-1000MHz, 3m, Vertical	$\pm 4.0\text{dB}$
	30MHz-200MHz, 10m, Horizontal	$\pm 4.5\text{dB}$
	200MHz-1000MHz, 10m, Horizontal	$\pm 4.2\text{dB}$
	30MHz-200MHz, 10m, Vertical	$\pm 4.3\text{dB}$
	200MHz-1000MHz, 10m, Vertical	$\pm 4.0\text{dB}$
Radiated emissions (No.5 OATS)	30MHz-200MHz, 3m, Horizontal	$\pm 4.2\text{dB}$
	200MHz-1000MHz, 3m, Horizontal	$\pm 4.7\text{dB}$
	30MHz-200MHz, 3m, Vertical	$\pm 4.4\text{dB}$
	200MHz-1000MHz, 3m, Vertical	$\pm 4.4\text{dB}$
	30MHz-200MHz, 10m, Horizontal	$\pm 4.2\text{dB}$
	200MHz-1000MHz, 10m, Horizontal	$\pm 4.6\text{dB}$
	30MHz-200MHz, 10m, Vertical	$\pm 4.4\text{dB}$
	200MHz-1000MHz, 10m, Vertical	$\pm 4.4\text{dB}$
Radiated emissions (No.6 OATS)	30MHz-200MHz, 3m, Horizontal	$\pm 4.3\text{dB}$
	200MHz-1000MHz, 3m, Horizontal	$\pm 4.4\text{dB}$
	30MHz-200MHz, 3m, Vertical	$\pm 4.5\text{dB}$
	200MHz-1000MHz, 3m, Vertical	$\pm 4.1\text{dB}$
	30MHz-200MHz, 10m, Horizontal	$\pm 4.3\text{dB}$
	200MHz-1000MHz, 10m, Horizontal	$\pm 4.2\text{dB}$
	30MHz-200MHz, 10m, Vertical	$\pm 4.4\text{dB}$
	200MHz-1000MHz, 10m, Vertical	$\pm 4.1\text{dB}$
Radiated emissions (No.7 OATS)	30MHz-200MHz, 3m, Horizontal	$\pm 3.9\text{dB}$
	200MHz-1000MHz, 3m, Horizontal	$\pm 4.5\text{dB}$
	30MHz-200MHz, 3m, Vertical	$\pm 4.6\text{dB}$
	200MHz-1000MHz, 3m, Vertical	$\pm 4.5\text{dB}$
	30MHz-200MHz, 10m, Horizontal	$\pm 3.9\text{dB}$
	200MHz-1000MHz, 10m, Horizontal	$\pm 4.3\text{dB}$
	30MHz-200MHz, 10m, Vertical	$\pm 4.6\text{dB}$
	200MHz-1000MHz, 10m, Vertical	$\pm 4.5\text{dB}$
Radiated emissions (No.8 OATS)	30MHz-200MHz, 3m, Horizontal	$\pm 4.5\text{dB}$
	200MHz-1000MHz, 3m, Horizontal	$\pm 4.3\text{dB}$
	30MHz-200MHz, 3m, Vertical	$\pm 4.6\text{dB}$
	200MHz-1000MHz, 3m, Vertical	$\pm 4.1\text{dB}$
	30MHz-200MHz, 10m, Horizontal	$\pm 4.7\text{dB}$
	200MHz-1000MHz, 10m, Horizontal	$\pm 4.2\text{dB}$
	30MHz-200MHz, 10m, Vertical	$\pm 4.6\text{dB}$
	200MHz-1000MHz, 10m, Vertical	$\pm 4.0\text{dB}$

8. Photographs

8.1. Power-line Conducted Emission Measurement



Front View of Conducted Measurement



Back View of Conducted Measurement

8.2. Radiated Emissions Measurement

- For Frequency Range 30 – 1000MHz



Front View of Radiated Measurement

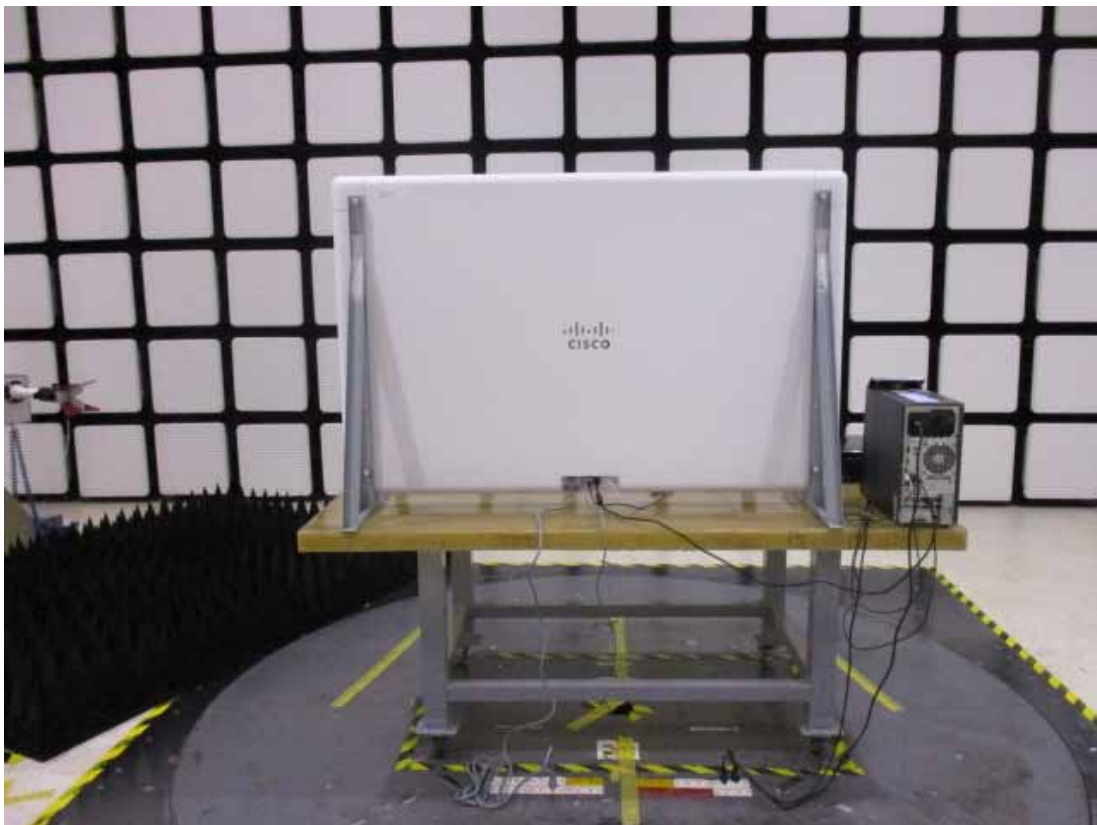


Back View of Radiated Measurement

- For Frequency Rang Above 1GHz



Front View of Radiated Measurement



Back View of Radiated Measurement

Partner System: 5G AP Server



APPENDIX I

(Lab. Certificate)

(Total Pages: 2 Pages)



Certificate No. : L1724-160516

財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

This is to certify that

Audix Technology Corporation
EMC Department

No.53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan (R.O.C.)

is accredited in respect of laboratory

Accreditation Criteria	: ISO/IEC 17025: 2005
Accreditation Number	: 1724
Originally Accredited	: November 27, 2006
Effective Period	: November 27, 2015 to November 26, 2018
Accredited Scope	: Testing Field, see described in the Appendix
Specific Accreditation Program	: Accreditation Program for Designated Testing Laboratory for Commodities Inspection Accreditation Program for Telecommunication Equipment Testing Laboratory Accreditation Program for BSMI Mutual Recognition Arrangement with Foreign Authorities

Jay-San Chen
President, Taiwan Accreditation Foundation
Date : May 16, 2016

P1, total 26 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200077-0

Audix Technology Corporation EMC Department

New Taipei City
Taiwan

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

Electromagnetic Compatibility & Telecommunications

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2016-12-13 through 2017-12-31

Effective Dates



[Signature]

For the National Voluntary Laboratory Accreditation Program

APPENDIX II

(Photos of EUT)

(Total Pages: 21 Pages)

Figure 1
General Appearance (Front View)



Figure 2
General Appearance (Back View)



Figure 3
General Appearance (I/O Ports View)



Figure 4
Internal View (Removed Back Cover)



Figure 5

Internal View (Removed Internal Boards)



Figure 6
Internal View (Antenna View)



Figure 7
Internal View (Antenna View)



Figure 8
Internal View (Removed Internal Boards)

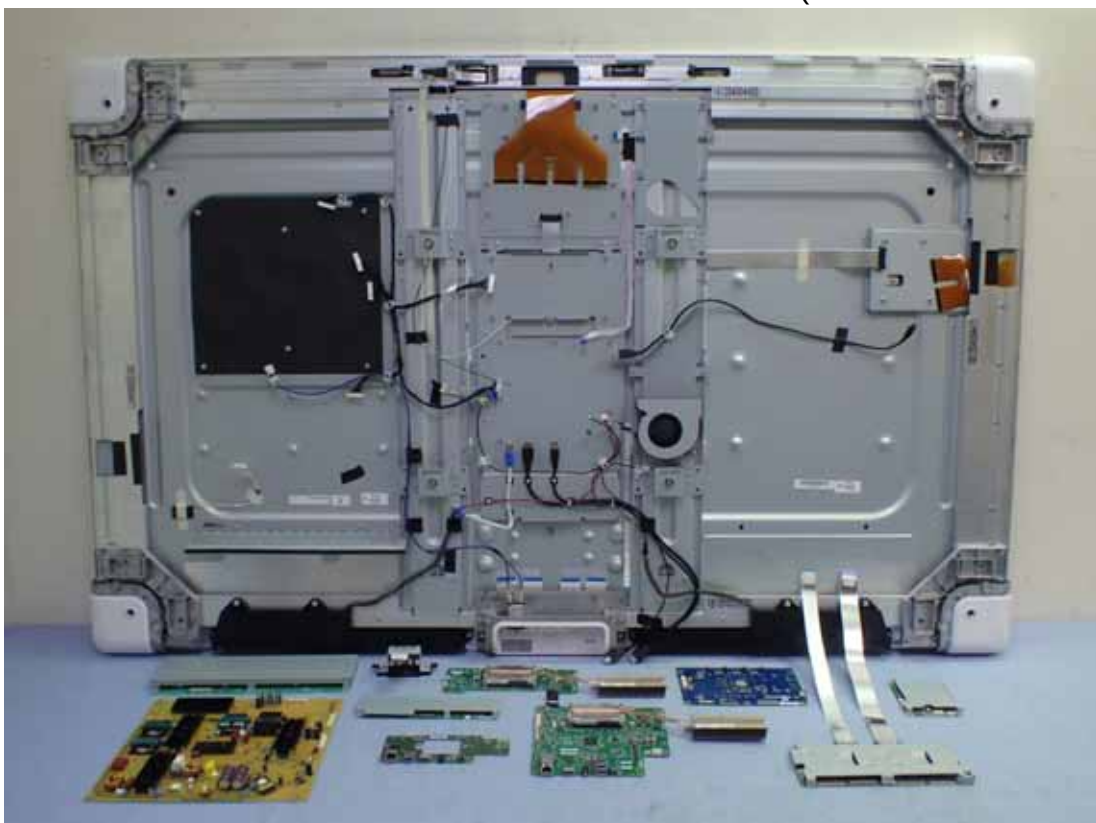


Figure 9
Internal View (Power Board, Front View)

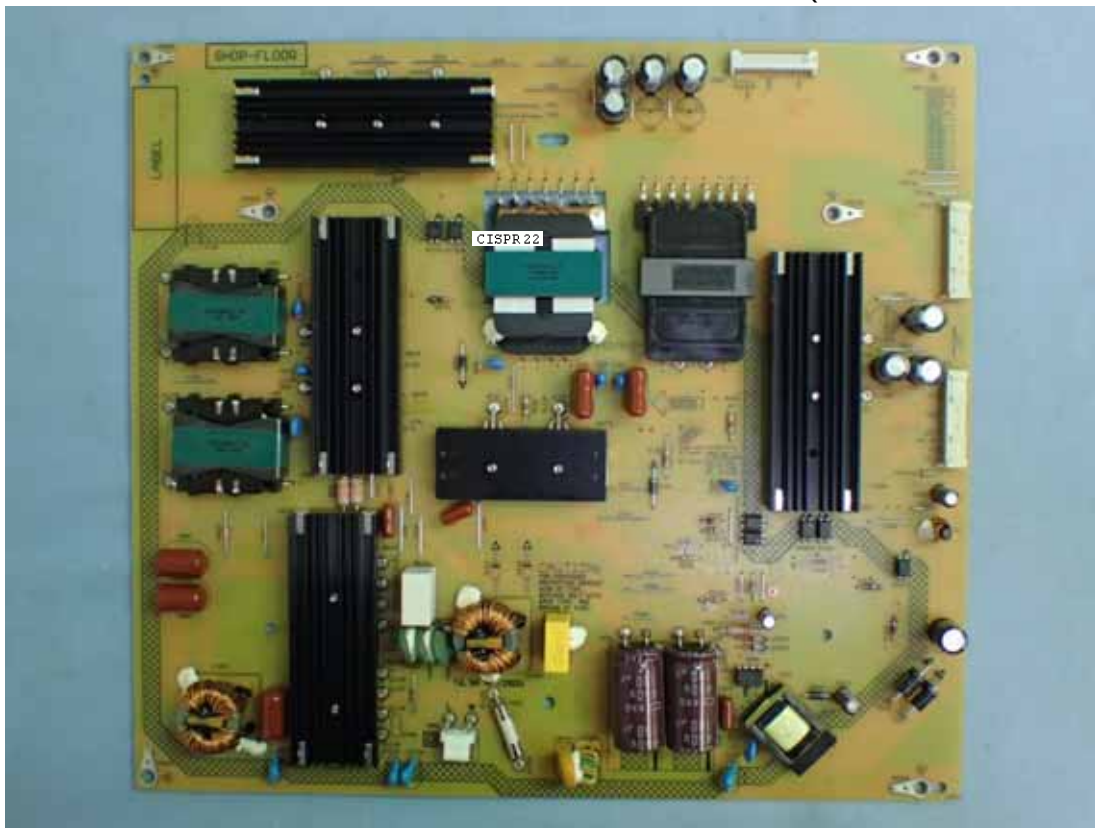


Figure 10
Internal View (Power Board, Back View)

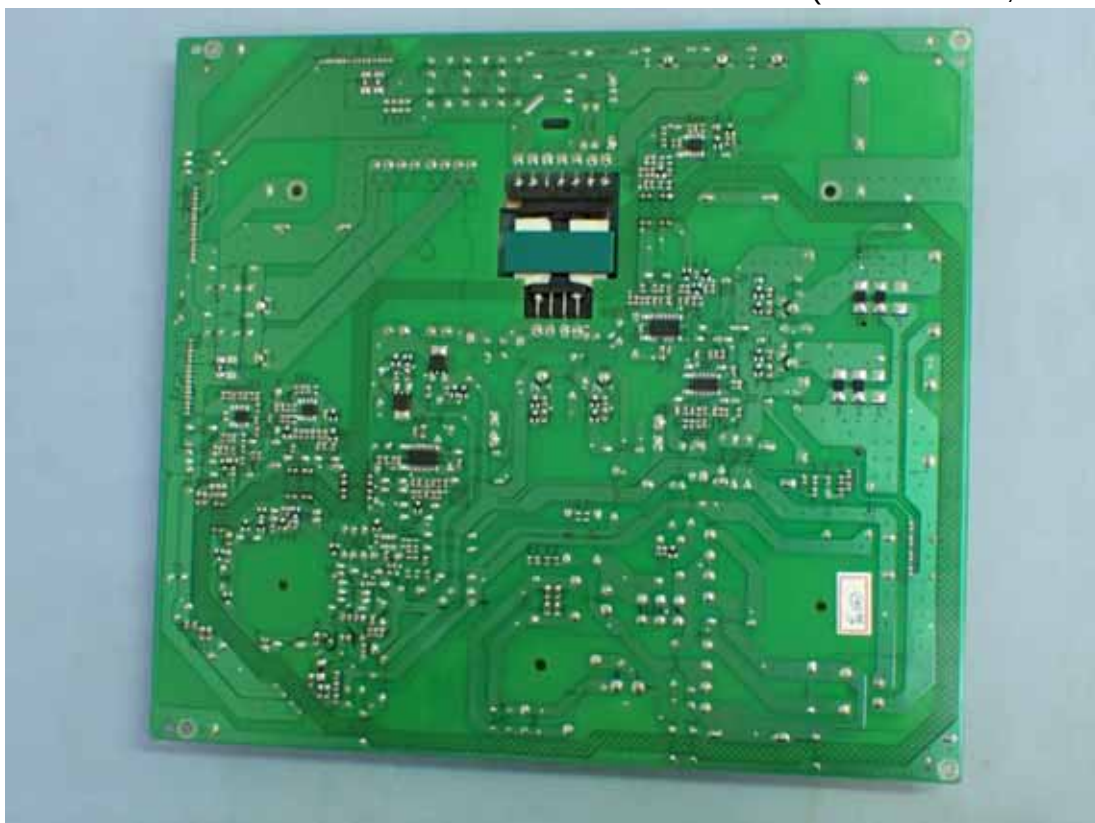


Figure 11

Internal View (DC/DC Converter Board, Front View)



CISPR 22

Figure 12
Internal View (DC/DC Converter Board, Back View)

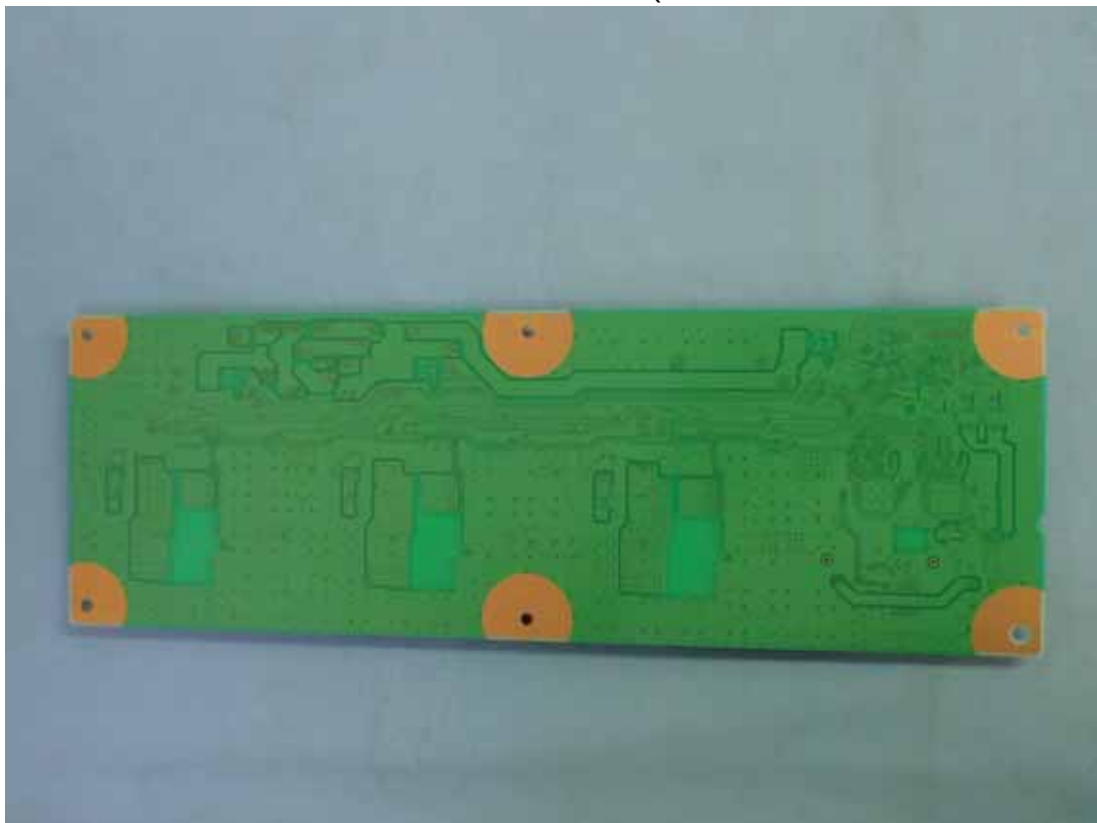


Figure 13

Internal View (Control Board, Front View)



Figure 14
Internal View (Control Board, Back View)

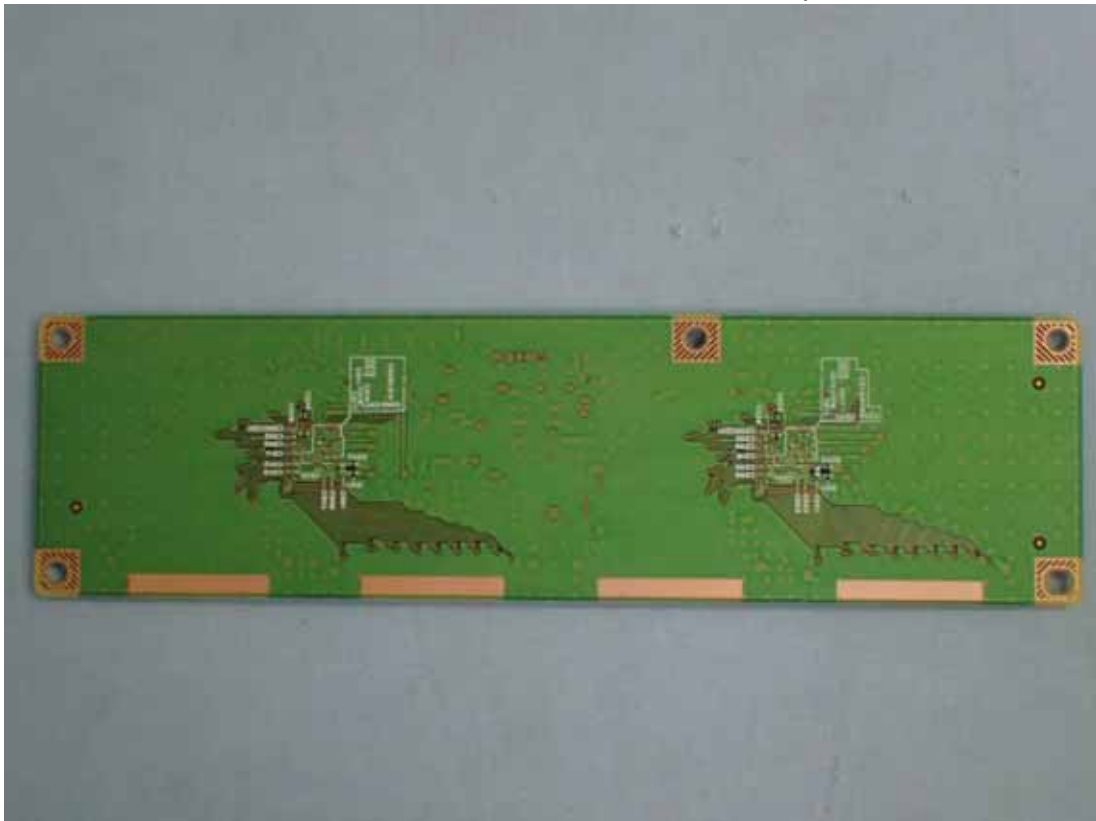


Figure 15
Internal View (I/O Ports Board, Front View)



Figure 16
Internal View (I/O Ports Board, Back View)

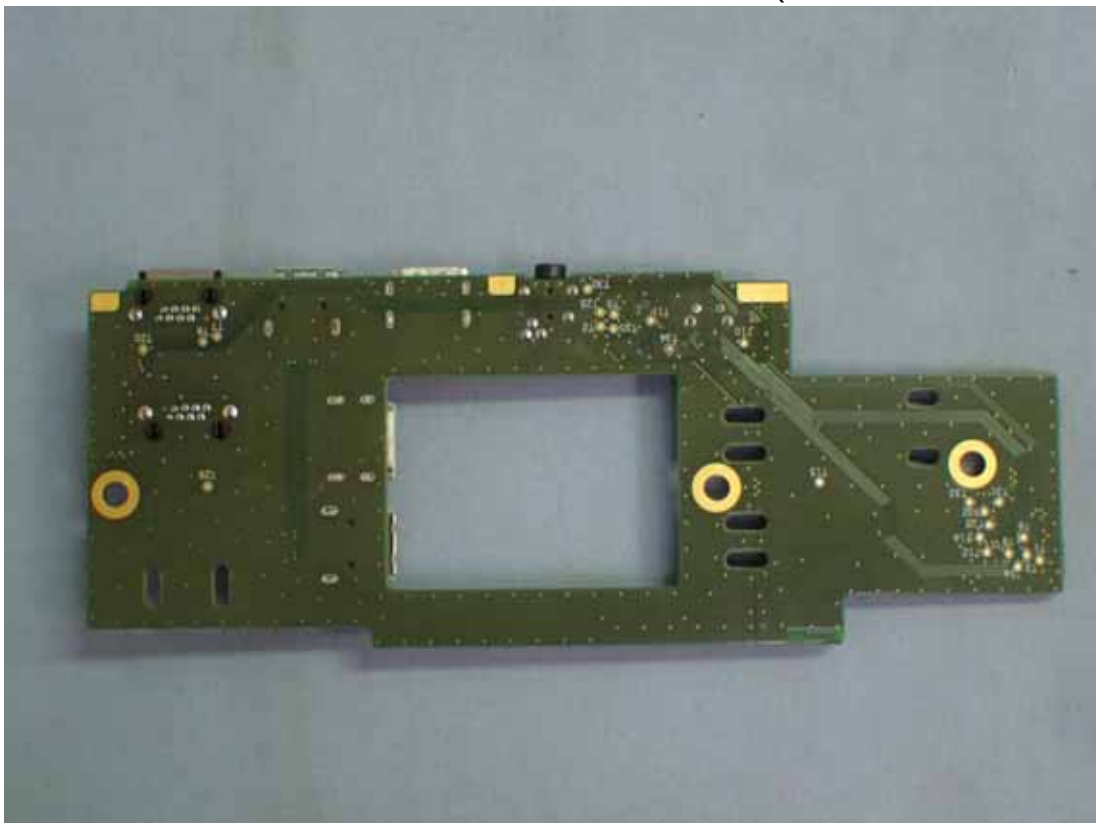


Figure 17
Internal View (Control Board, Front View)



Figure 18
Internal View (Control Board, Back View)

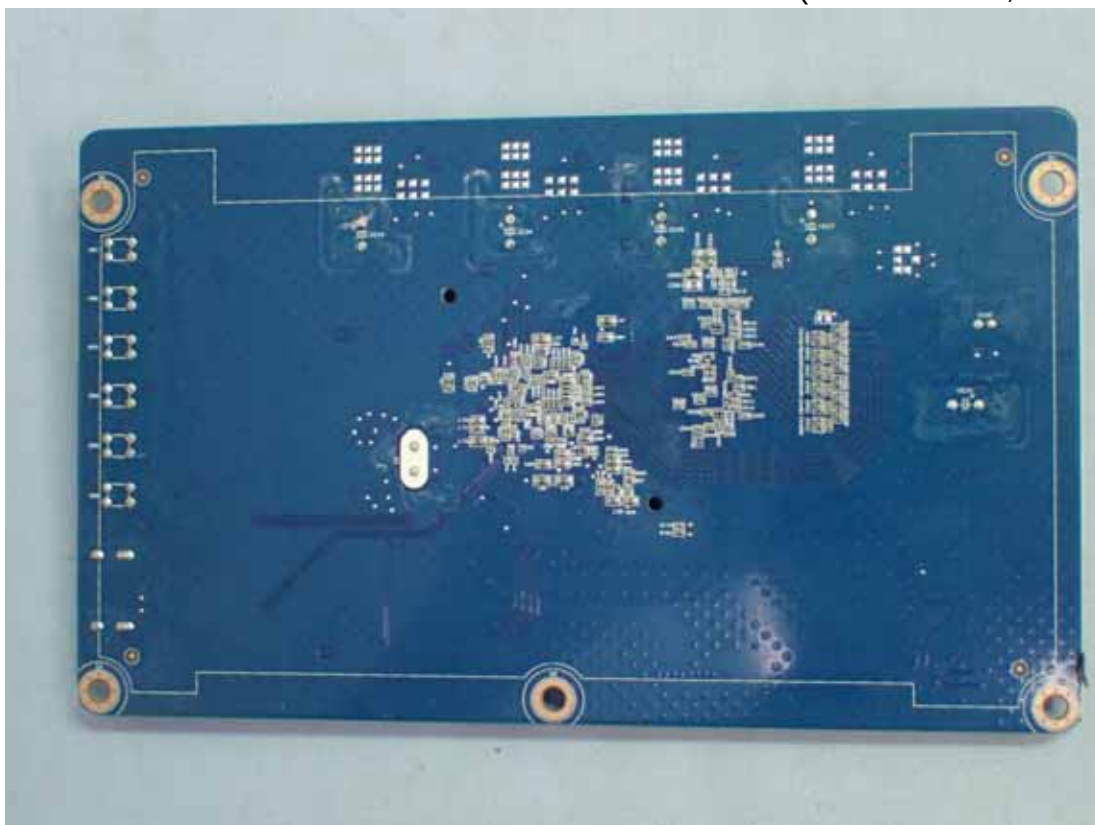


Figure 19

Internal View

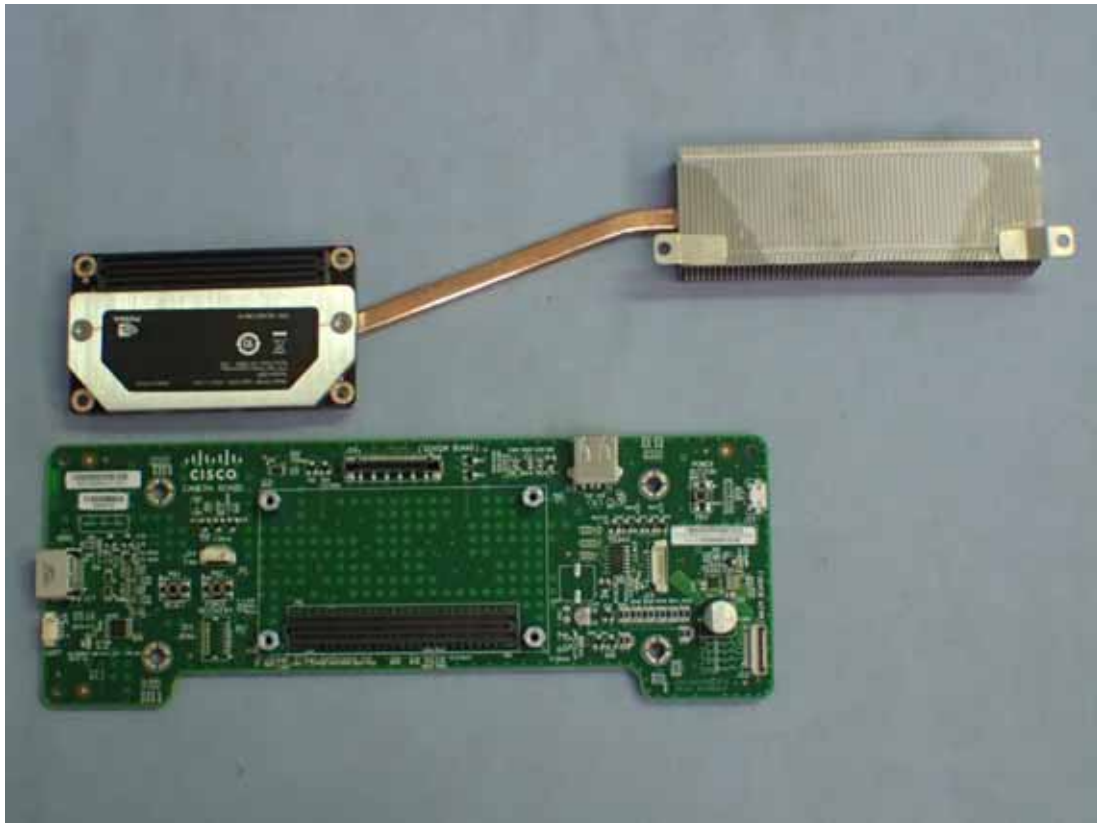


Figure 20
Internal View (Control Board, Front View)

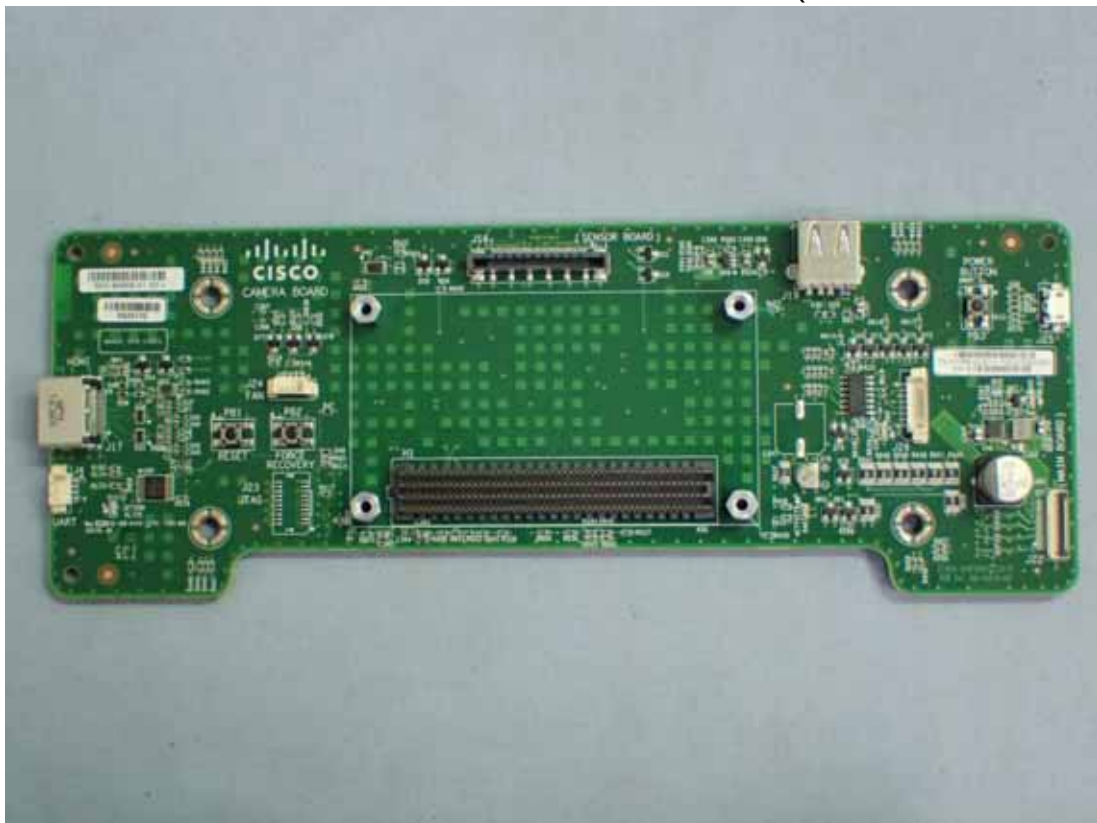


Figure 21
Internal View (Control Board, Back View)

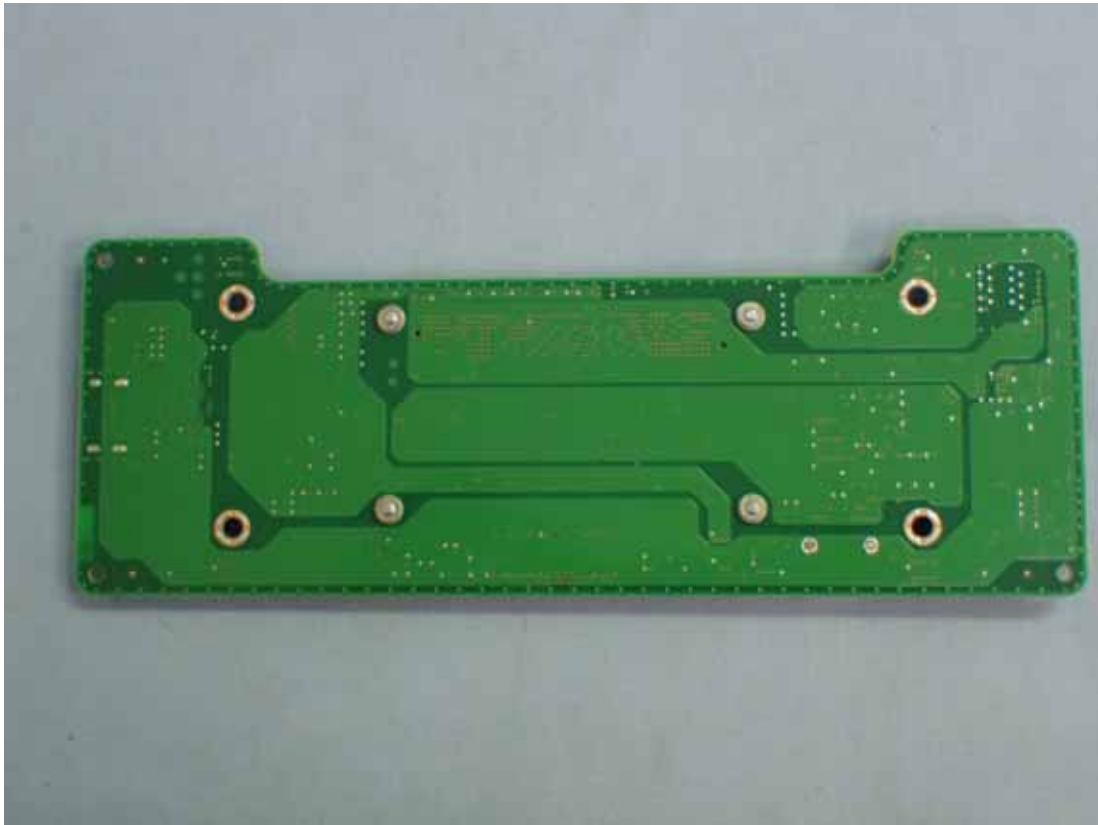


Figure 22
Internal View (Camera Board, Front View)

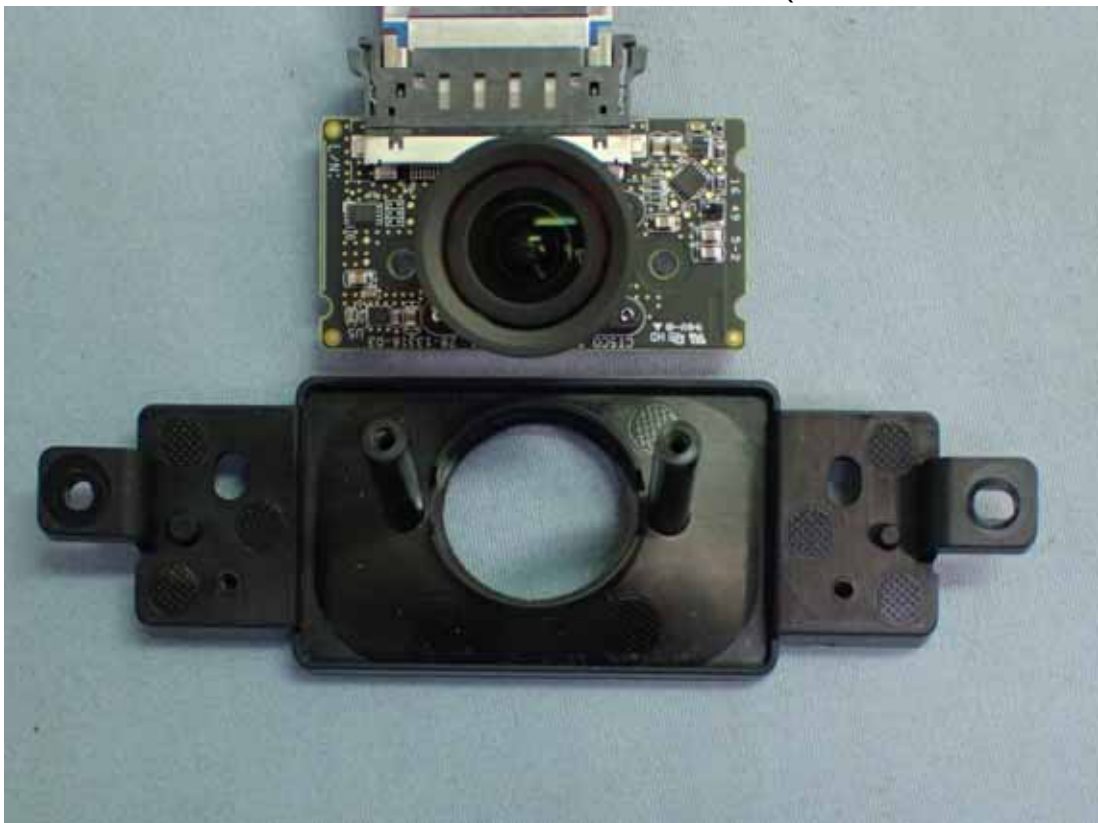


Figure 23
Internal View (Main Board)

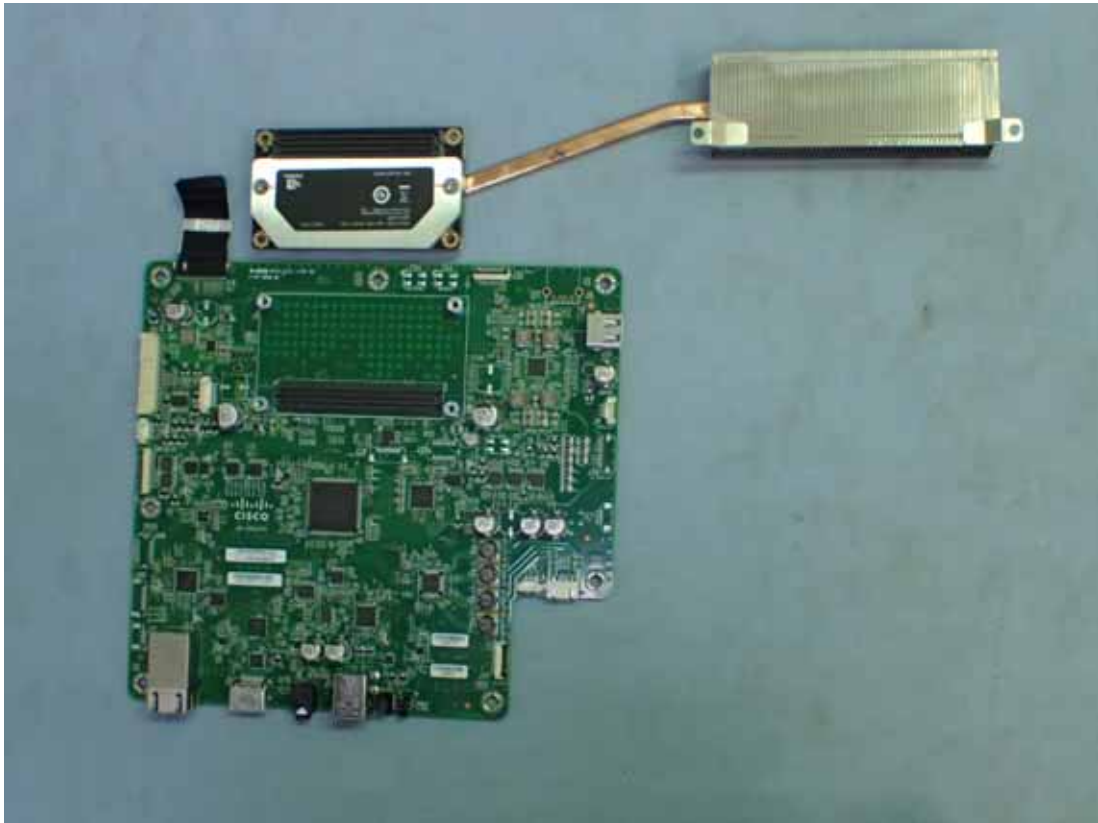


Figure 24
Internal View (Main Board, Front View)



Figure 25
Internal View (Main Board, Back View)

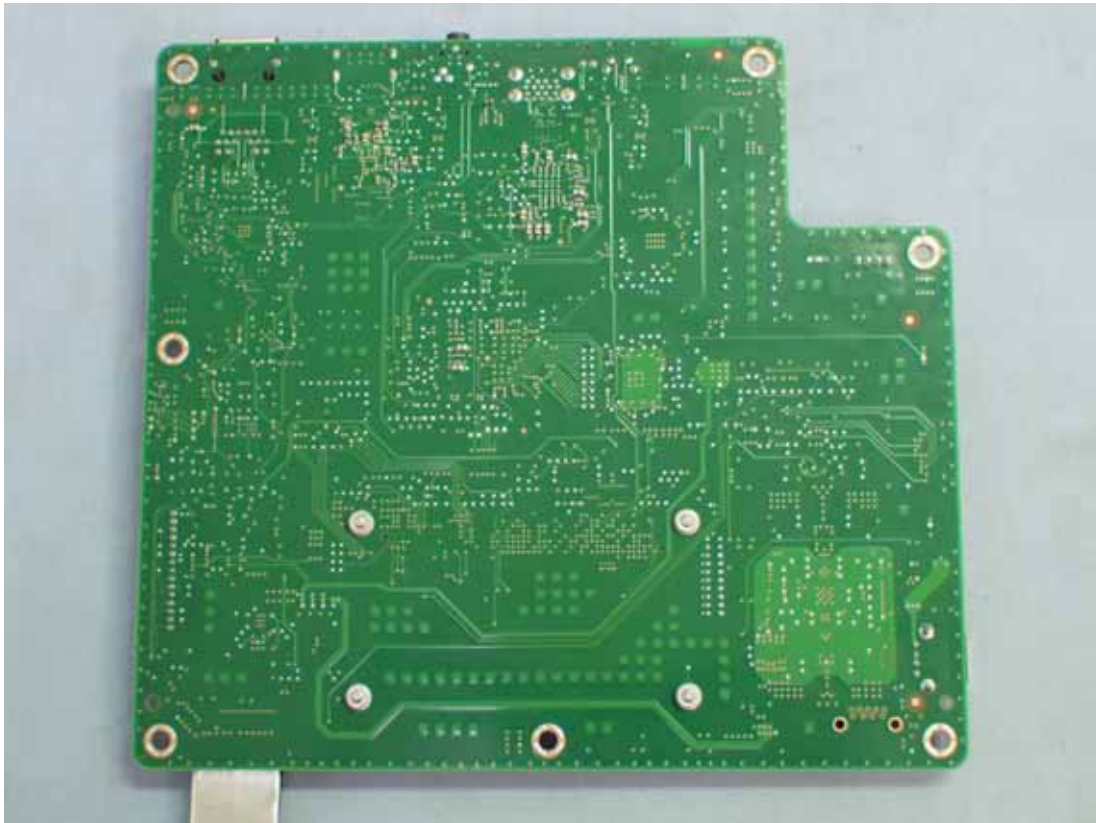


Figure 26
Internal View (RF Module)



Figure 27
Internal View (RF Module, Back View)



Figure 28
Internal View (RF Module, Front View)

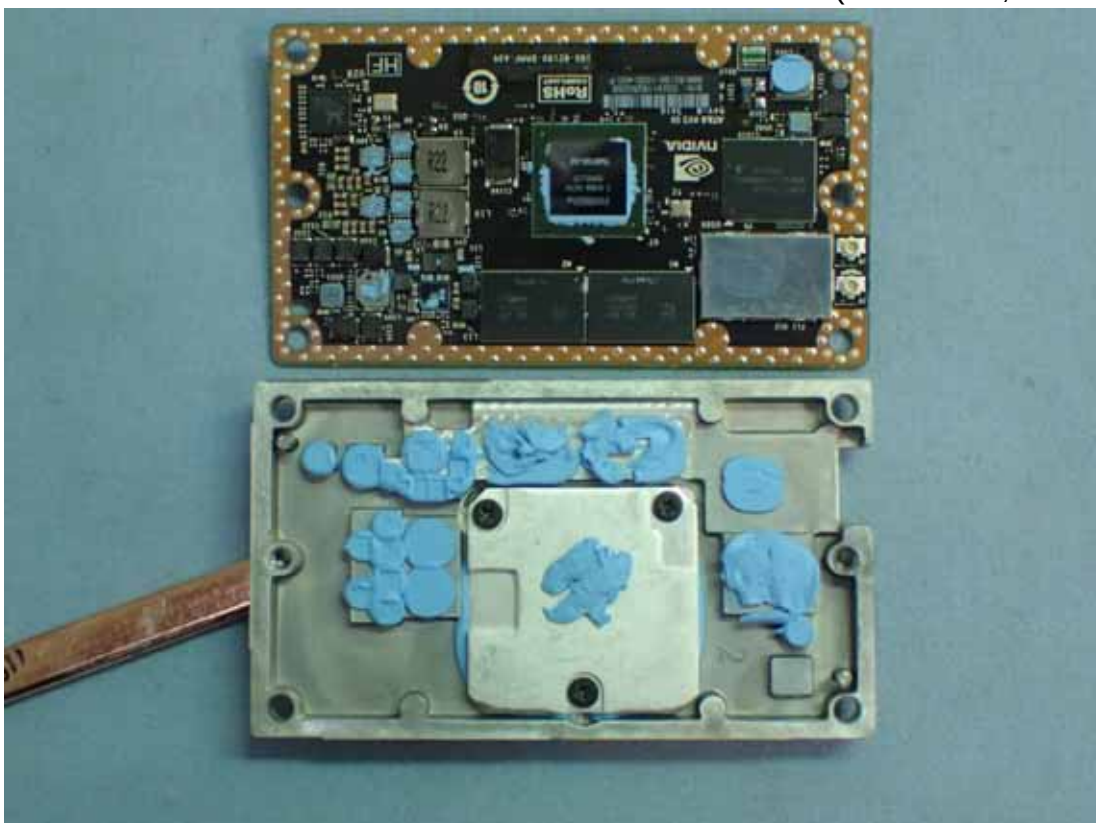


Figure 29
Internal View (Control Board, Front View)

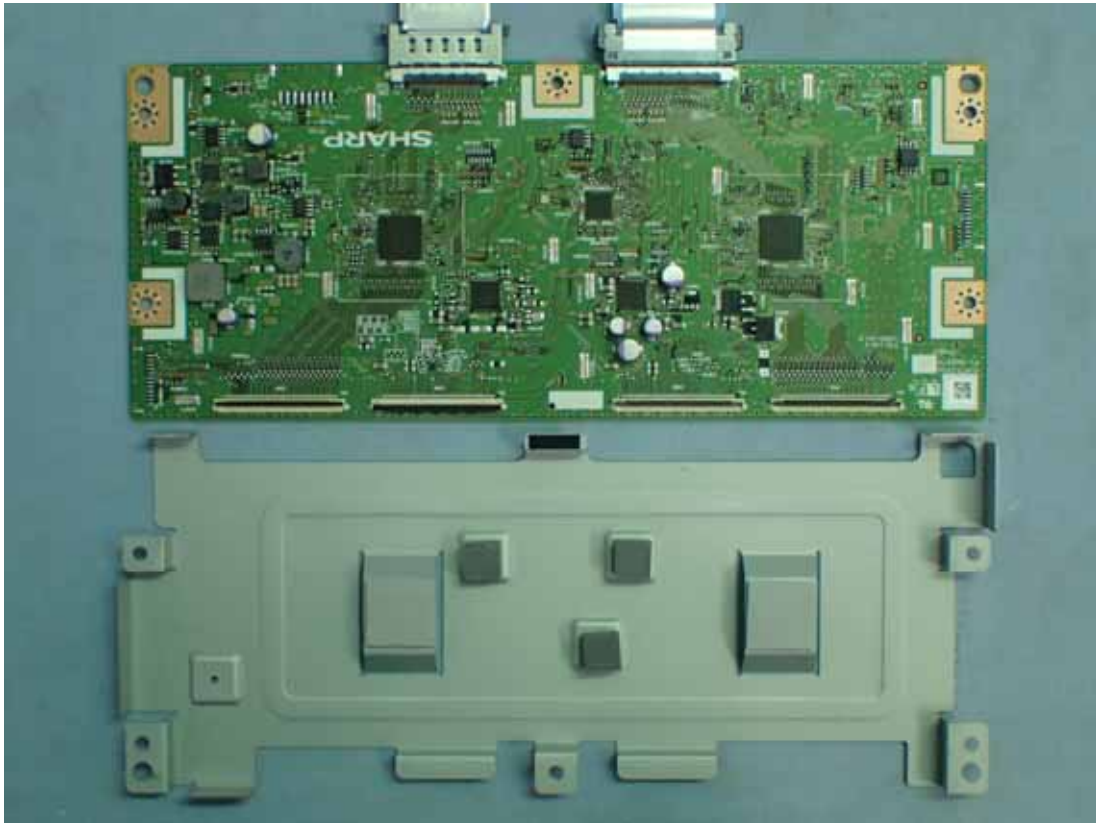


Figure 30
Internal View (Control Board, Back View)

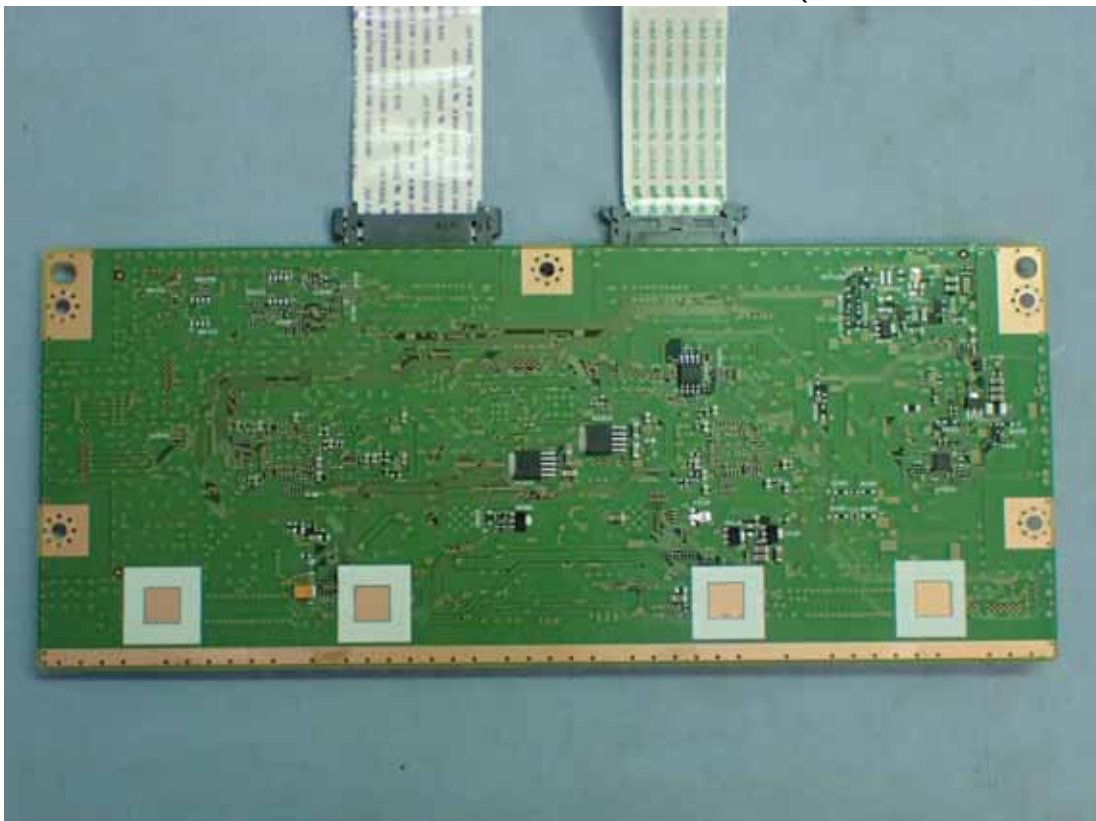


Figure 31
Internal View (Control Board, Back View)

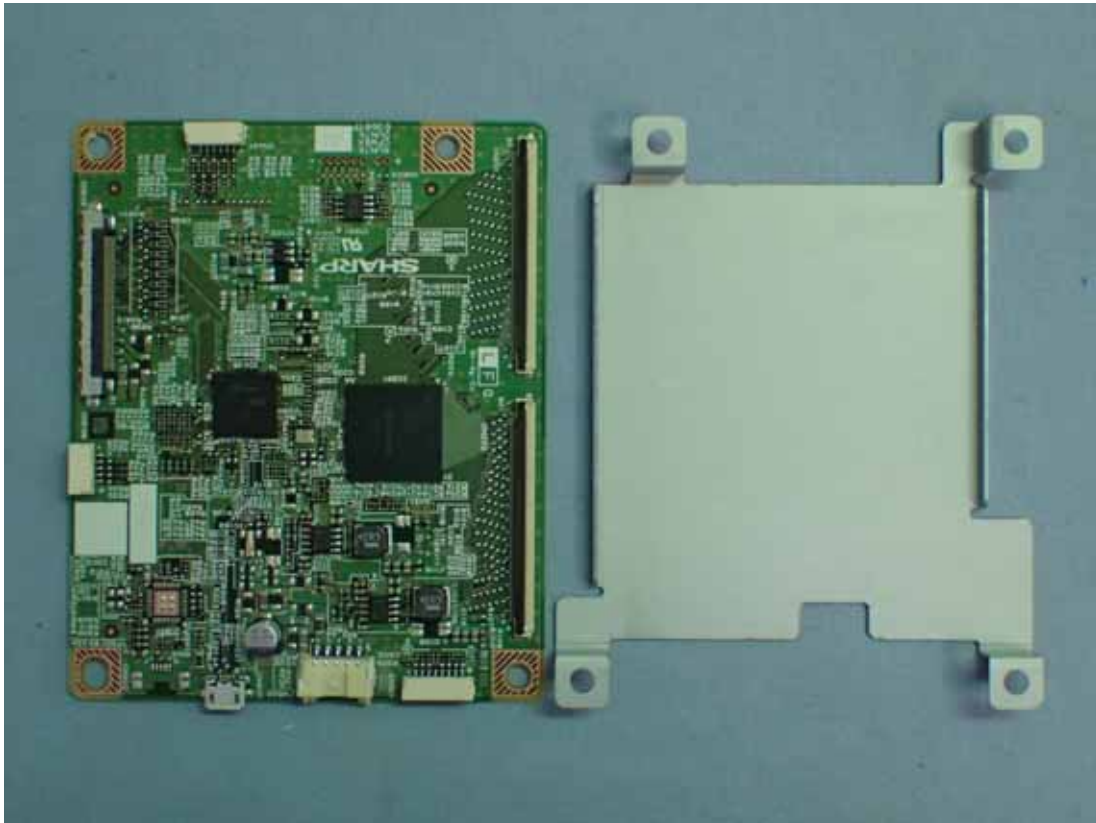


Figure 32
Internal View (Control Board, Back View)

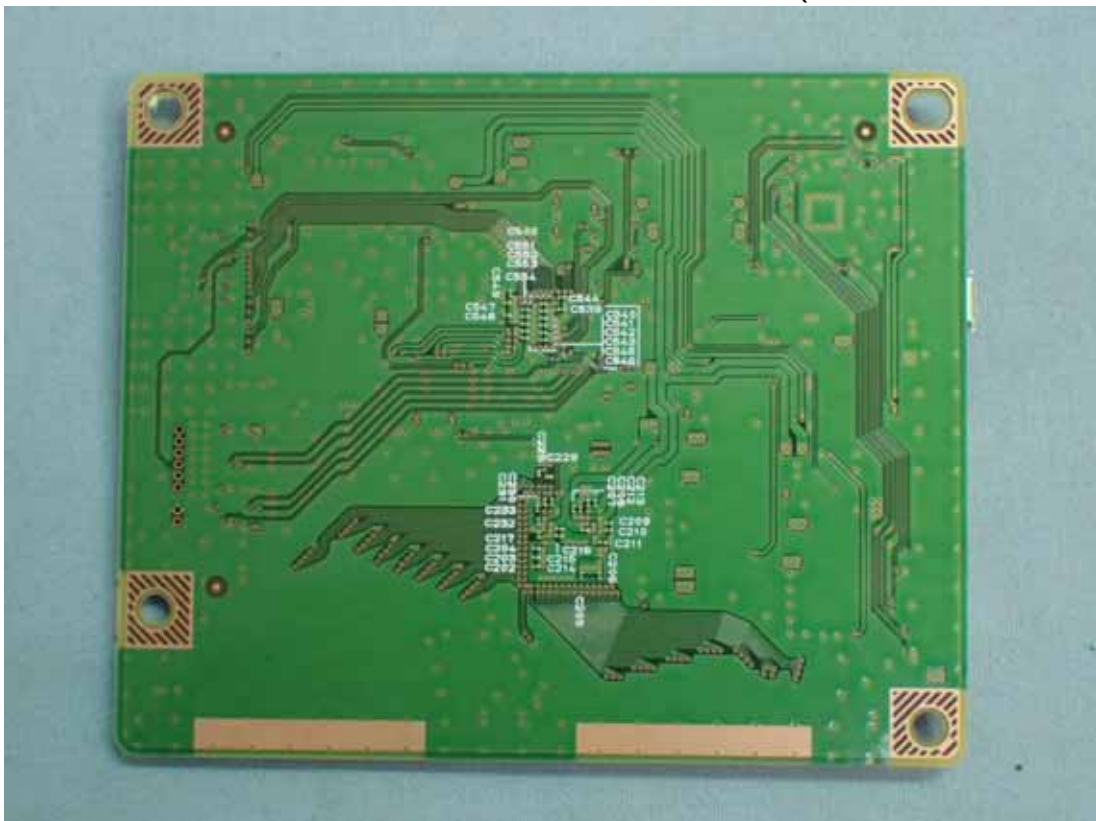


Figure 33
Internal View (MIC Center/Left/Right Boards)

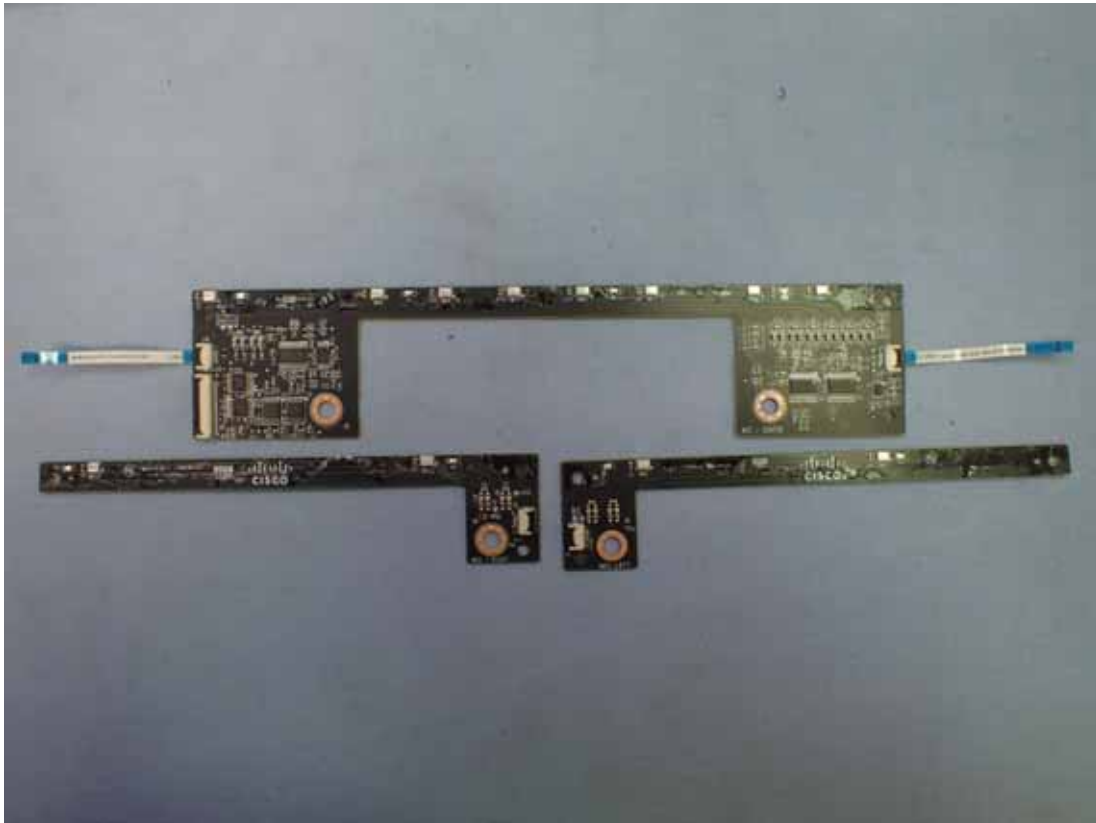


Figure 34
Internal View (MIC Center, Front View)

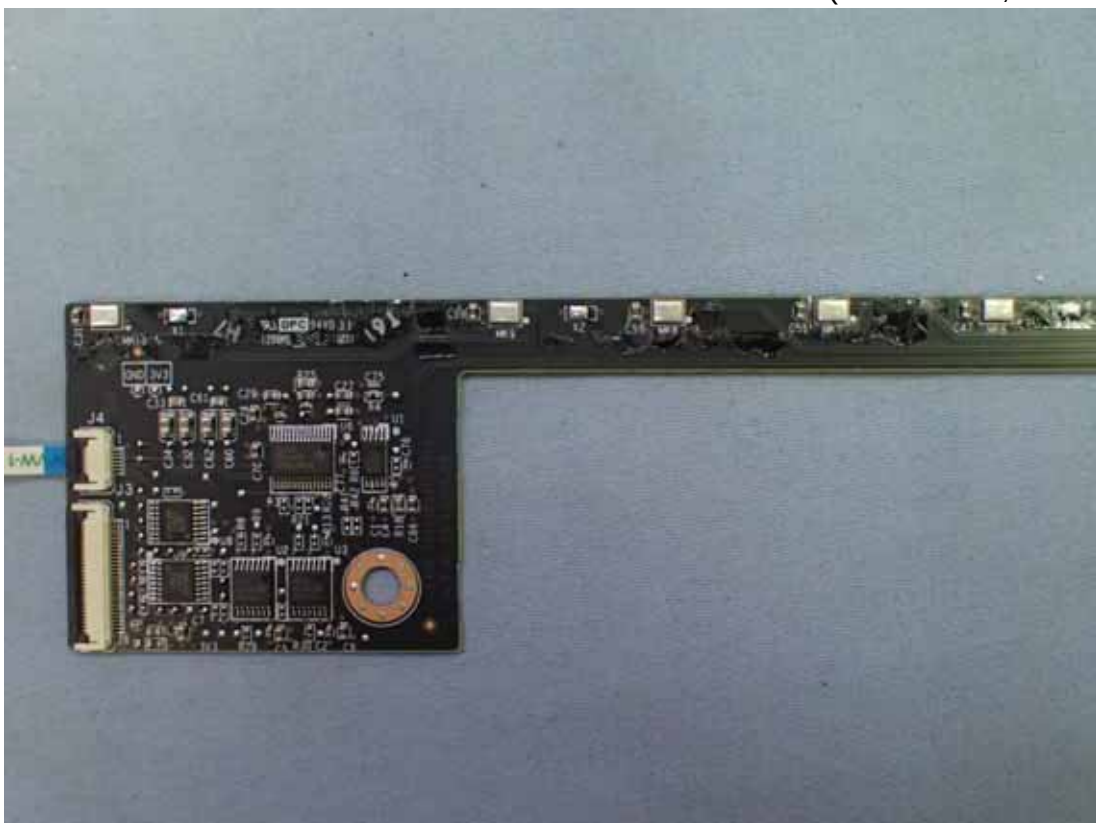


Figure 35
Internal View (MIC Center, Front View)

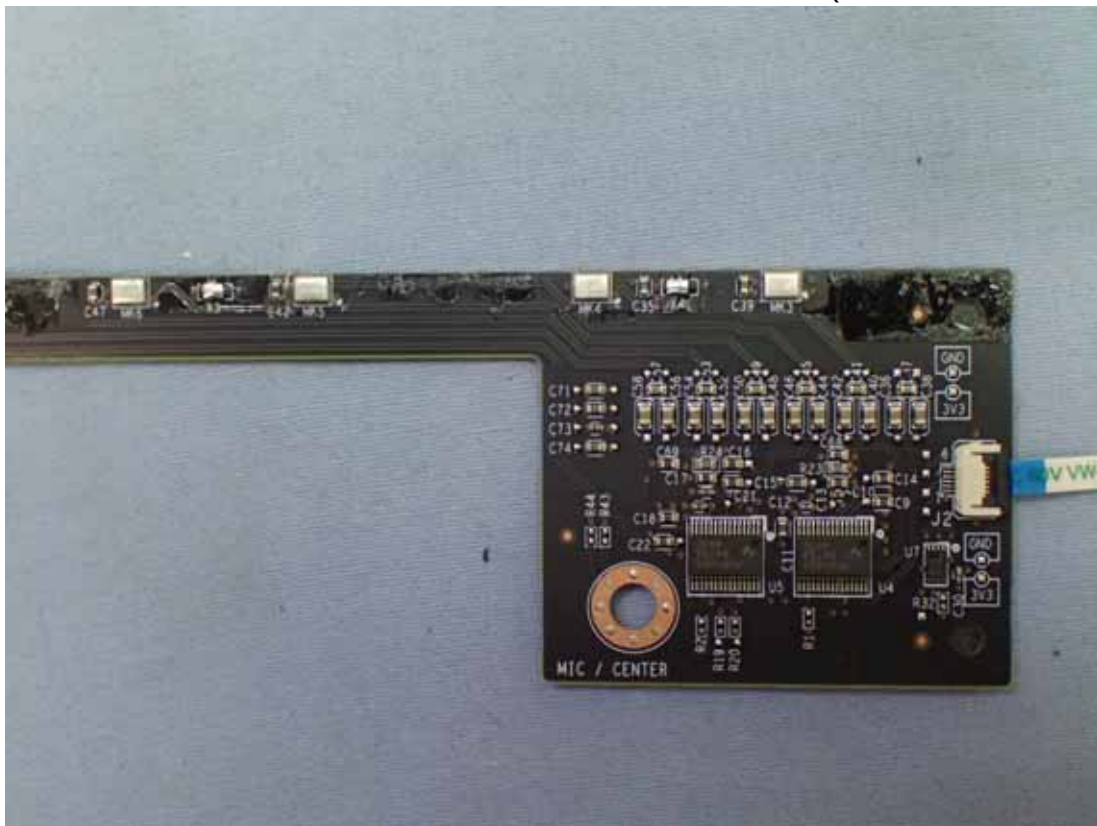


Figure 36
Internal View (MIC Center, Back View)

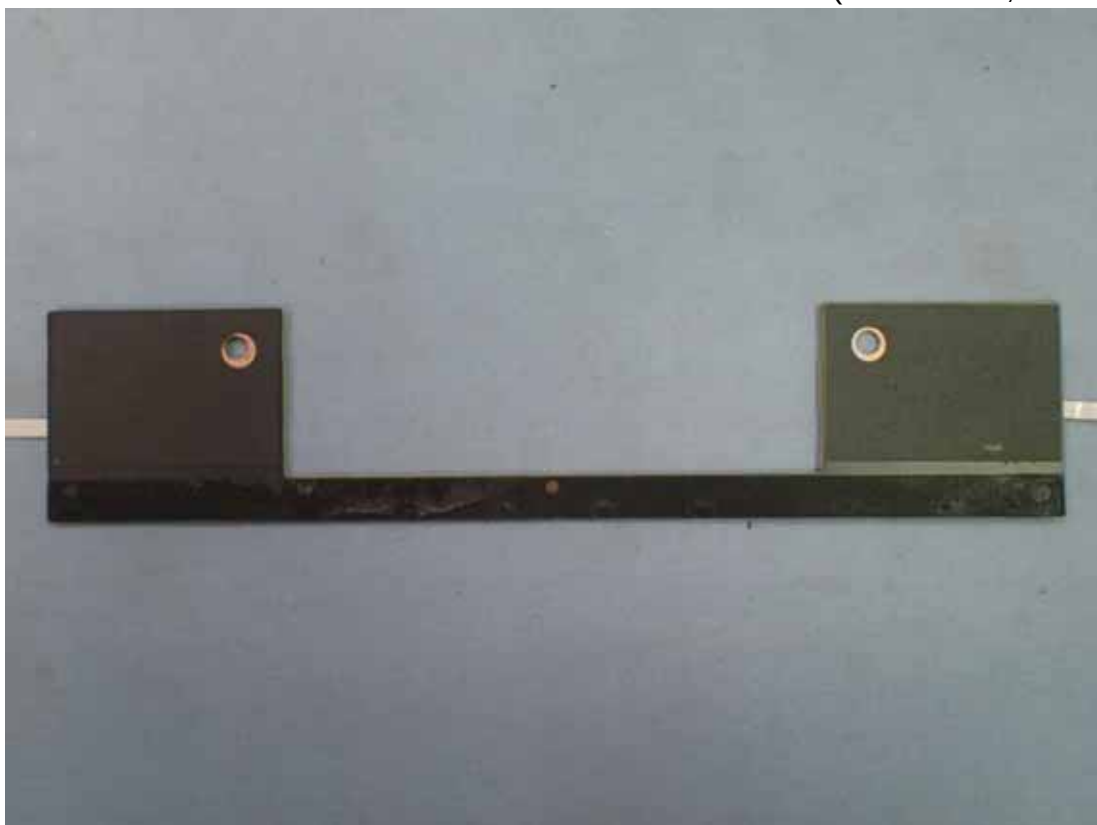


Figure 37
Internal View (MIC Right Board, Front View)

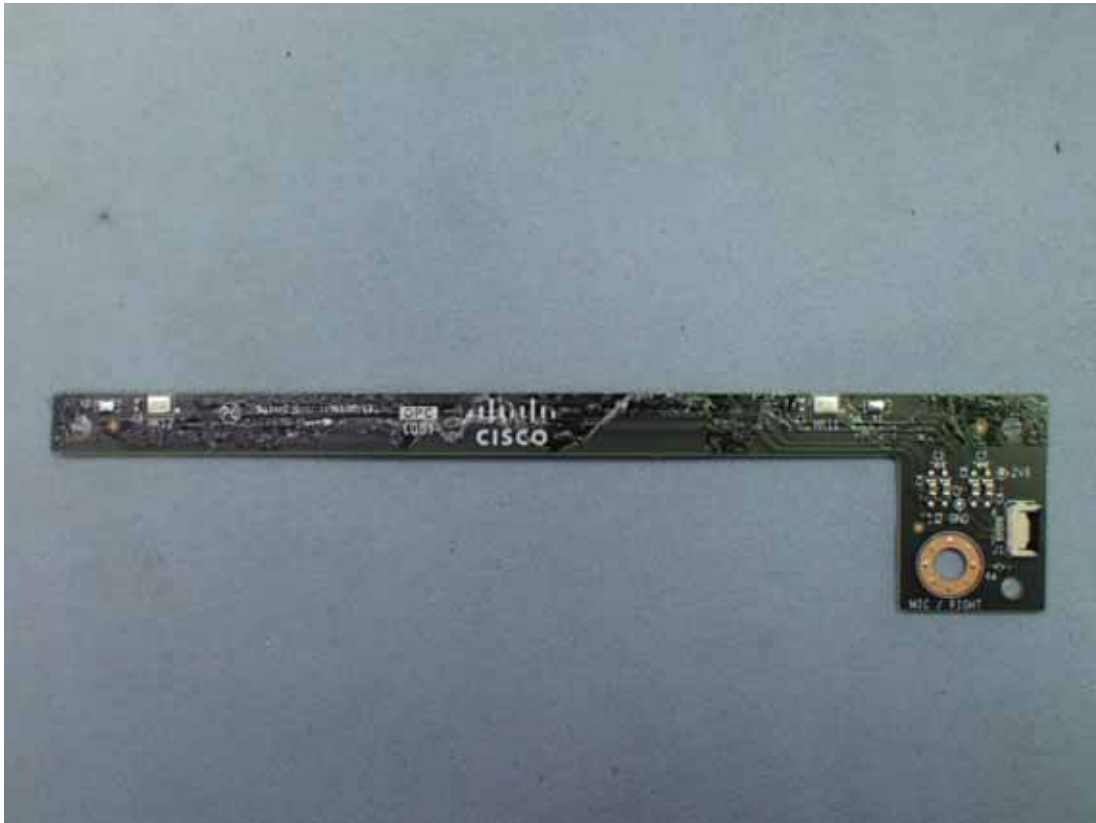


Figure 38
Internal View (MIC Right Board, Back Board)

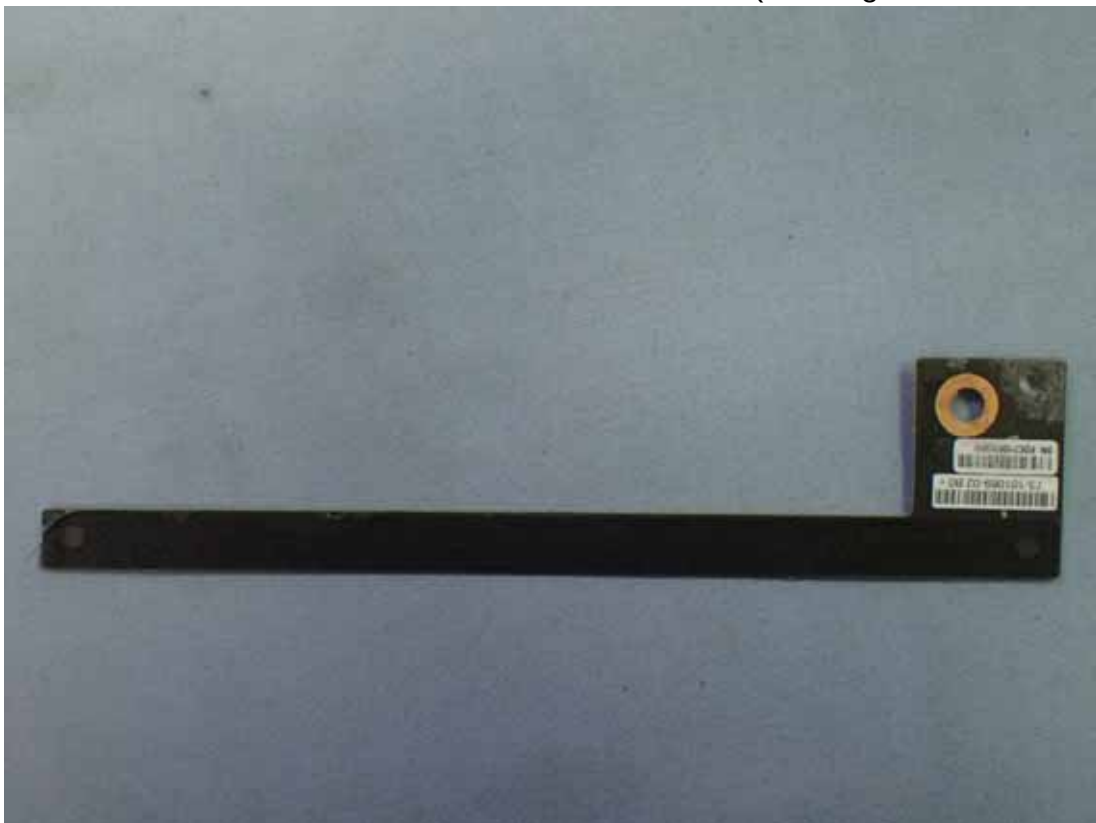


Figure 39
Internal View (MIC Left Board, Front View)

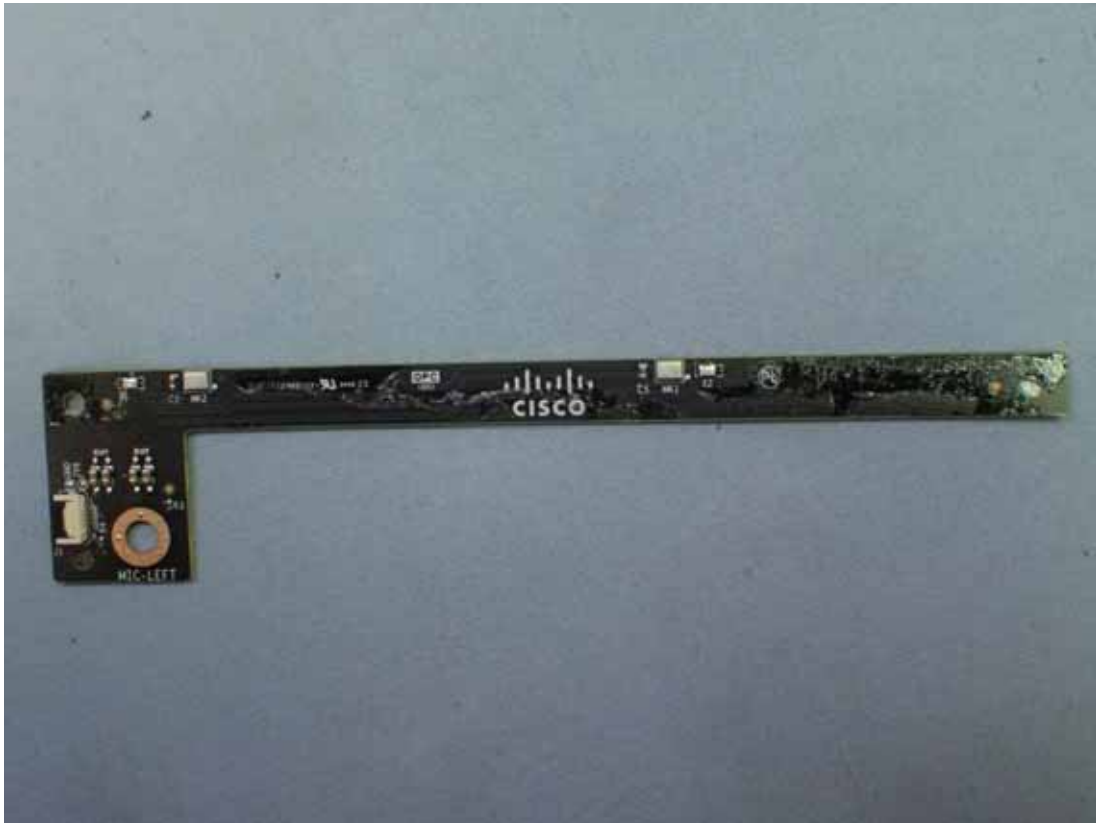


Figure 40
Internal View (MIC Left Board, Back View)

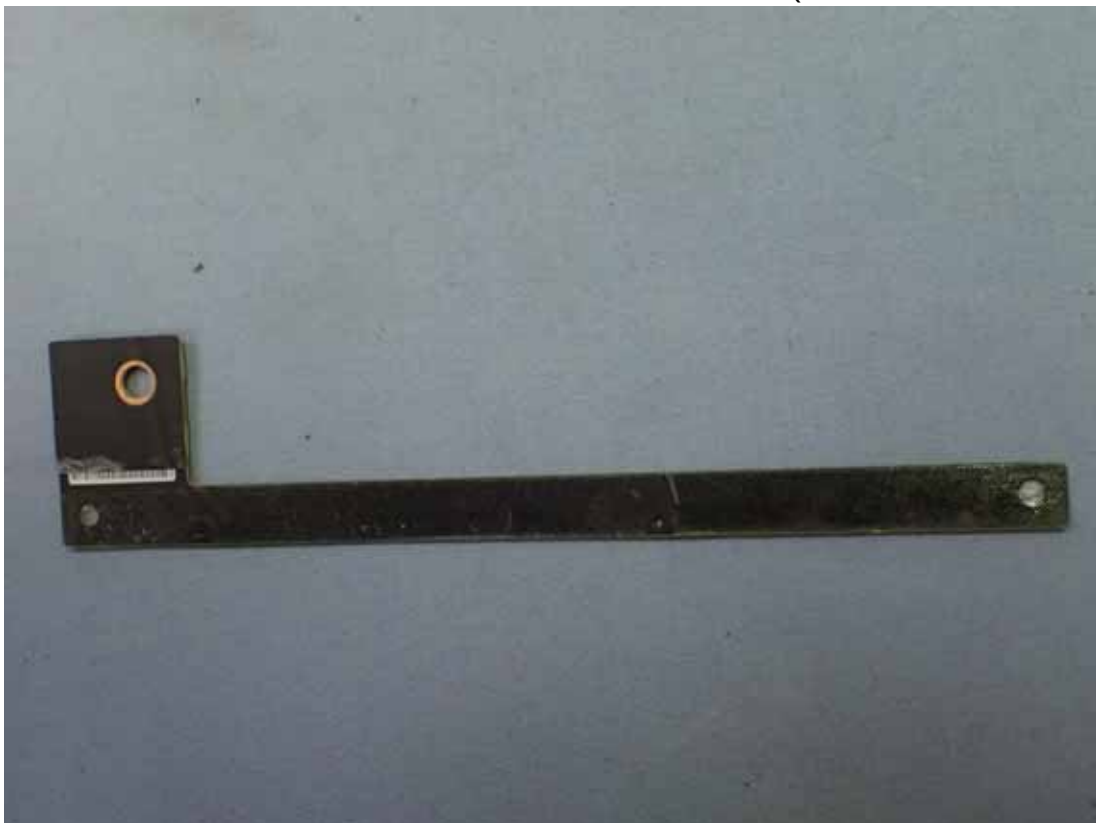


Figure 41
LAN Cable

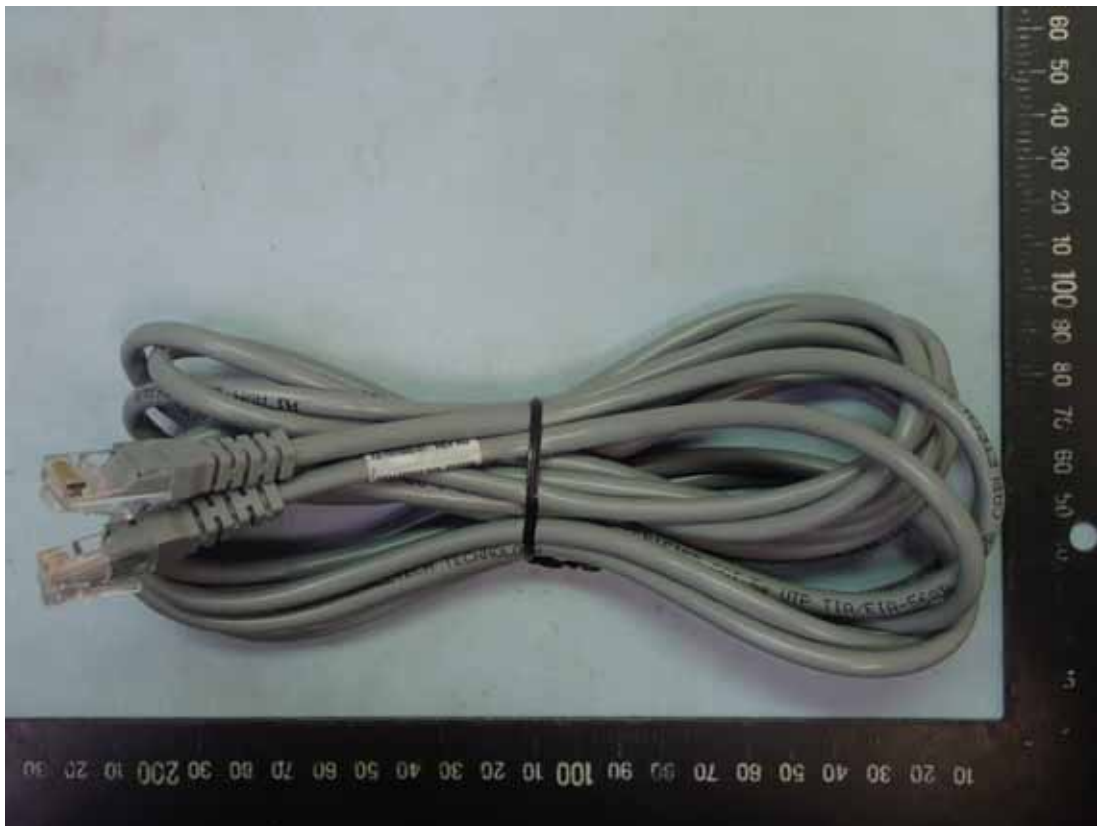


Figure 42
Power Cord

