



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

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. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

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)

Table of Content

| | | |
|------|--|-----------|
| 1. | Revision Record of Test Report | 4 |
| 2. | Summary of Test Result | 5 |
| 2.1. | Test Result..... | 5 |
| 2.2. | Description of Test Firm | 6 |
| 3. | General Information | 7 |
| 3.1. | Description of Application | 7 |
| 3.2. | Description of the EUT | 8 |
| 3.3. | List of Key Components of EUT | 8 |
| 3.4. | Highest Frequency within EUT..... | 8 |
| 3.5. | Determination of Worse Case Operating Modes..... | 9 |
| 3.6. | Final Test Configuration | 9 |
| 4. | Measurement Arrangement | 10 |
| 4.1. | Equipment and cables arrangement | 10 |
| 4.2. | Method of Exercising EUT | 11 |
| 4.3. | List of Supported Units under Test..... | 12 |
| 4.4. | List of Used Cables under Test..... | 12 |
| 5. | Measurement of Conducted Emissions | 13 |
| 5.1. | List of Test Instruments..... | 13 |
| 5.2. | Test Setup..... | 14 |
| 5.3. | Power-line Conducted Emission Limits | 14 |
| 5.4. | Measurement Procedure | 15 |
| 5.5. | Measurement Result | 16 |
| 6. | Measurement of Radiated Emissions | 18 |
| 6.1. | List of Test Instruments..... | 18 |
| 6.2. | Test Setup..... | 19 |
| 6.3. | Radiation Emission Limits | 20 |
| 6.4. | Measurement Procedure | 21 |
| 6.5. | Measurement Result | 22 |
| 7. | Measurement Uncertainty | |

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 |
| <p>Note :</p> <ol style="list-style-type: none"> 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 | <ul style="list-style-type: none"> • One AC power port • One LAN port • One HDMI port • One Audio output port • One USB3.0 port |
| Accessories | <ul style="list-style-type: none"> • 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.

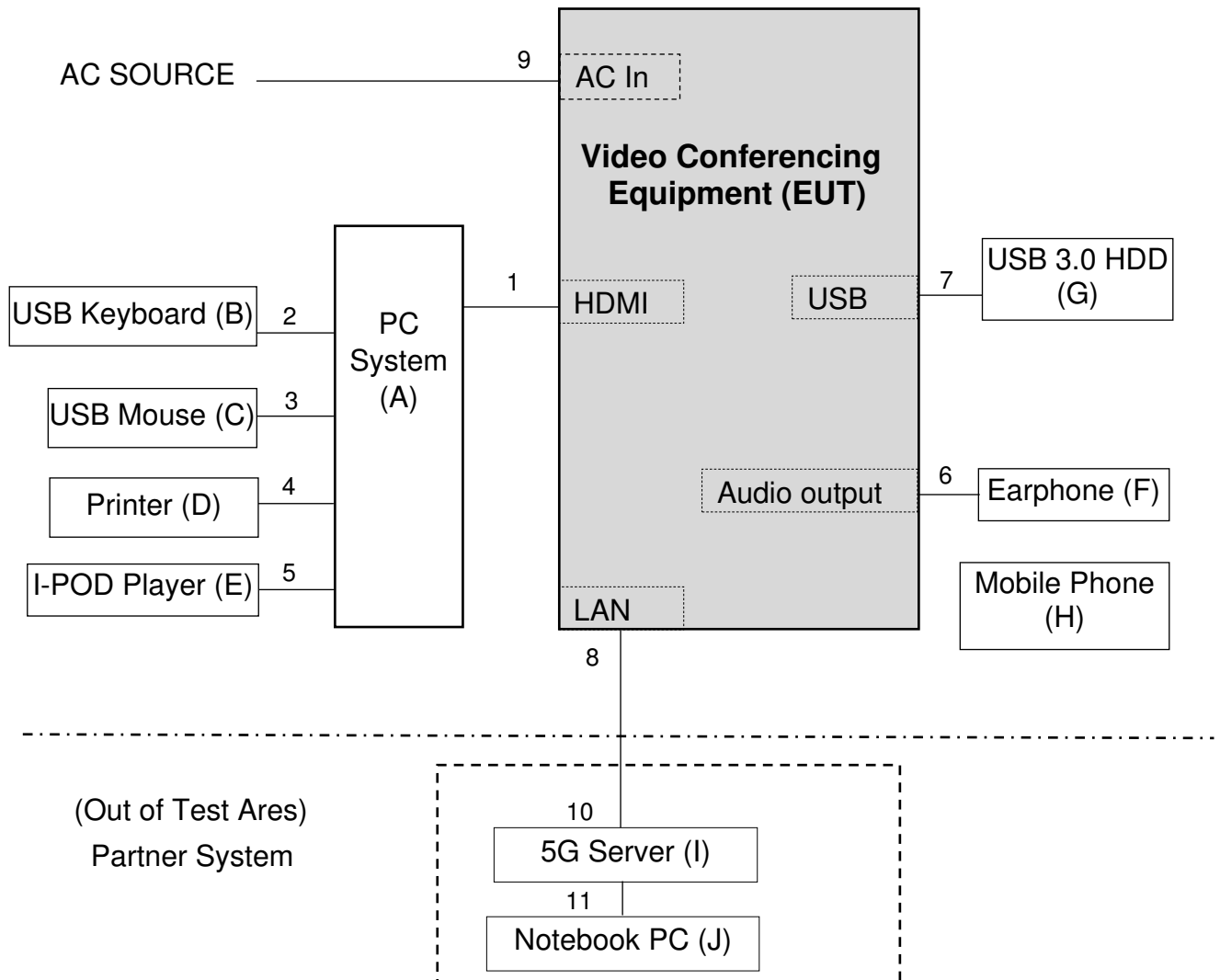
| Test Item | Input Port | Operating Mode |
|----------------------------------|------------|-------------------------|
| Power-line conducted emission | HDMI | Mode 1 (with H Pattern) |
| Radiated emission (30 – 1000MHz) | HDMI | Mode 1 (with H Pattern) |
| Radiated emission (Above 1GHz) | HDMI | Mode 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 | PBFK922 | 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 |

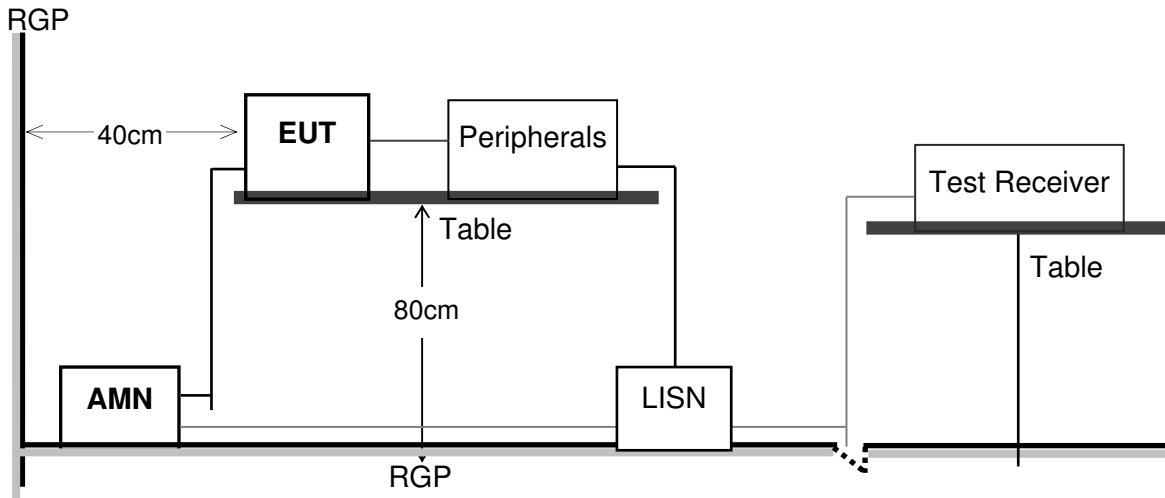
5. Measurement of Conducted Emissions

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 |

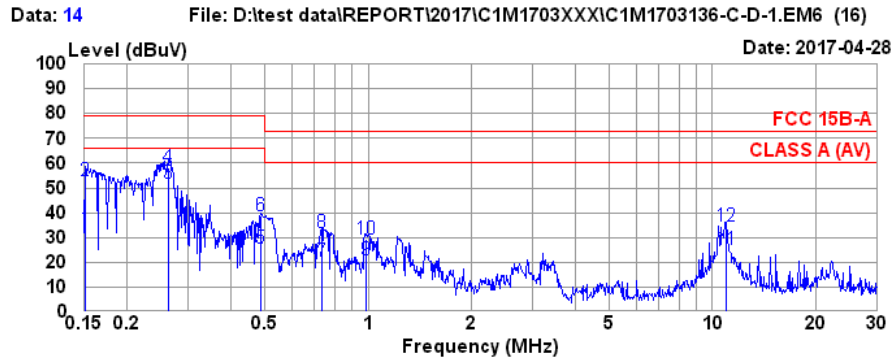
5.4. Measurement Procedure

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 |

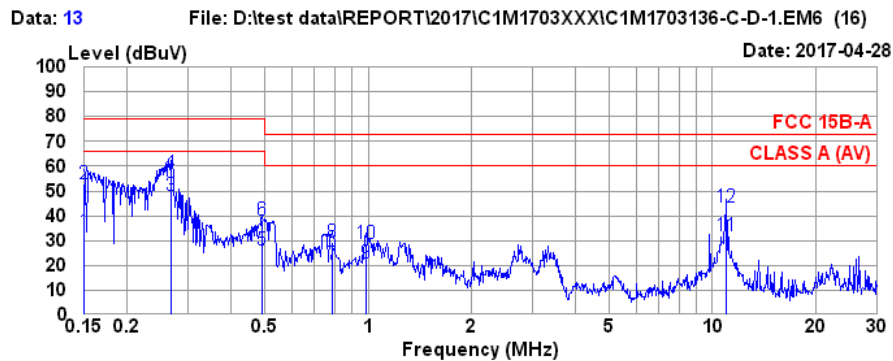


Site no. : No.7 Shielded Room Data no. : 14
 Condition : ESH2-Z5 366(ADAPTER) Phase : NEUTRAL
 Limit : FCC 15B-A
 Env. / Ins. : 26°C / 54% ESCI (1276) Engineer : Nick Du
 EUT : AA70MW
 Power Rating : 120Vac/60Hz
 Test Mode : Mode 1

| | AMN | Cable | Pulse | Emission | | Limits | Margin | Remark | |
|-------------|-------------|-----------|-----------|----------------|--------------|--------|--------|--------|---------|
| Freq. (MHz) | Factor (dB) | Loss (dB) | Att. (dB) | Reading (dBμV) | Level (dBμV) | (dBμV) | (dB) | | |
| 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

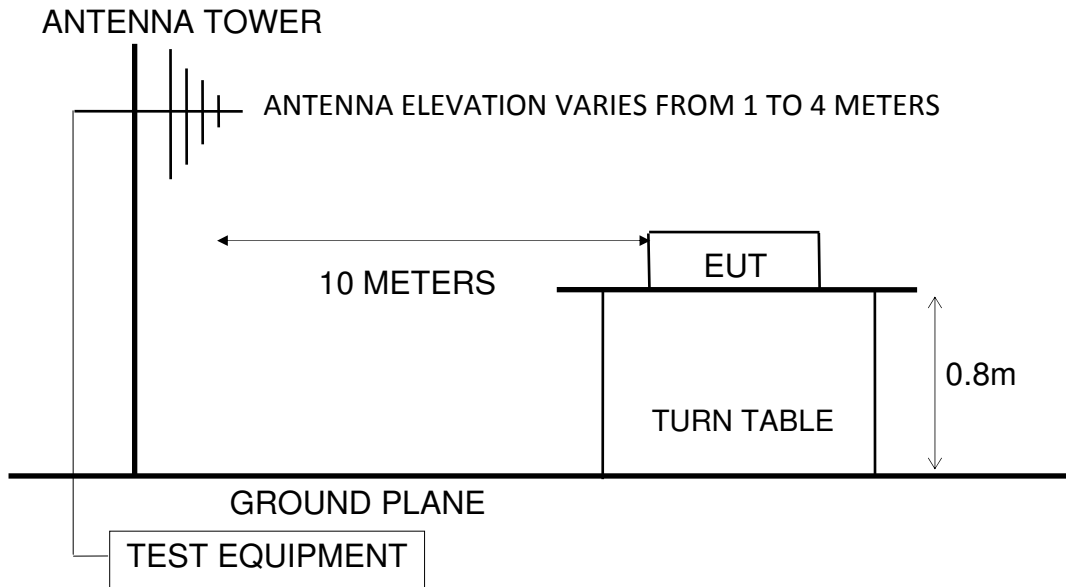
| Item | Equipment | Manufacture | Model No. | Serial No. | Cal. Date | Cal. Interval |
|------|-------------------|--------------|------------|-------------------|--------------|---------------|
| 1. | Spectrum Analyzer | Agilent | N9010A-503 | MY52220119 | 2016. 12. 21 | 1 Year |
| 2. | Spectrum Analyzer | 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

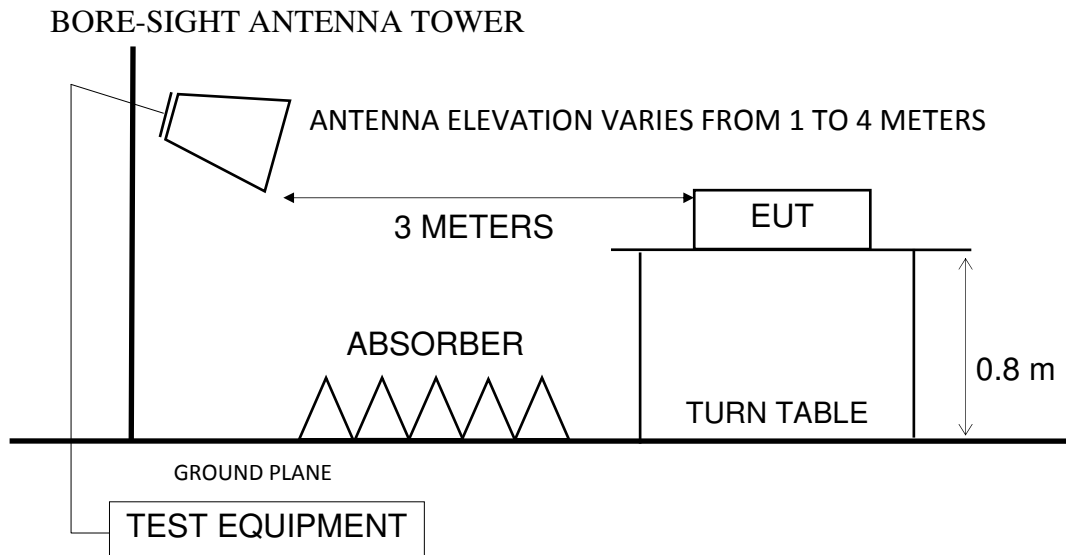
| Item | Type | Manufacturer | Model No. | Serial No. | Cal. Date | Cal. Interval |
|------|-------------------|--------------|--------------|----------------|--------------|---------------|
| 1 | Spectrum Analyzer | Agilent | N9010A-526 | MY51250943 | 2017. 02. 16 | 1 Year |
| 2 | Amplifier | Agilent | 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

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)

$$\text{Emission Level} = \text{Reading (Receiver)} + \text{Cable Loss} + \text{Antenna Factor} - \text{Pre-Amp Gain}$$

(Above 1GHz)

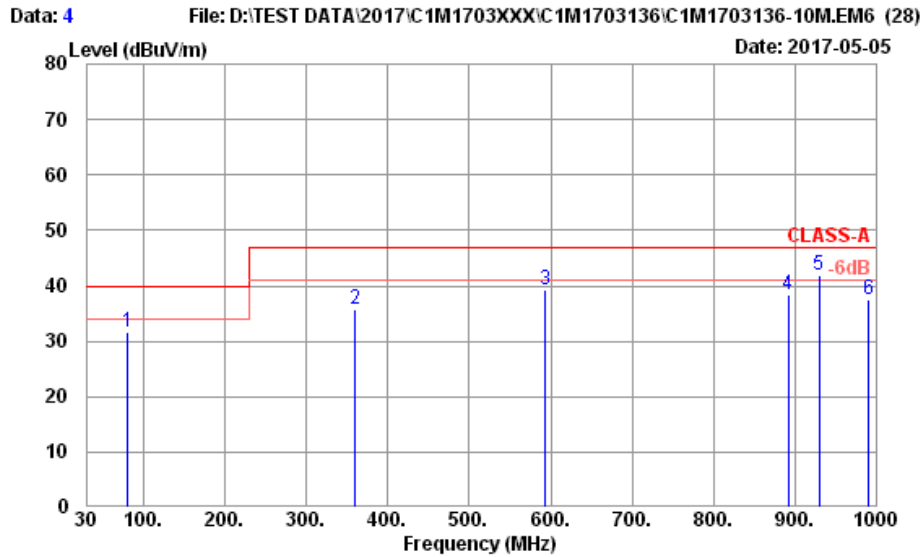
$$\text{Emission Level} = \text{Reading (Spectrum)} + \text{Cable Loss} + \text{Antenna Factor} - \text{Pre-Amp Gain}$$

- 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 |



```

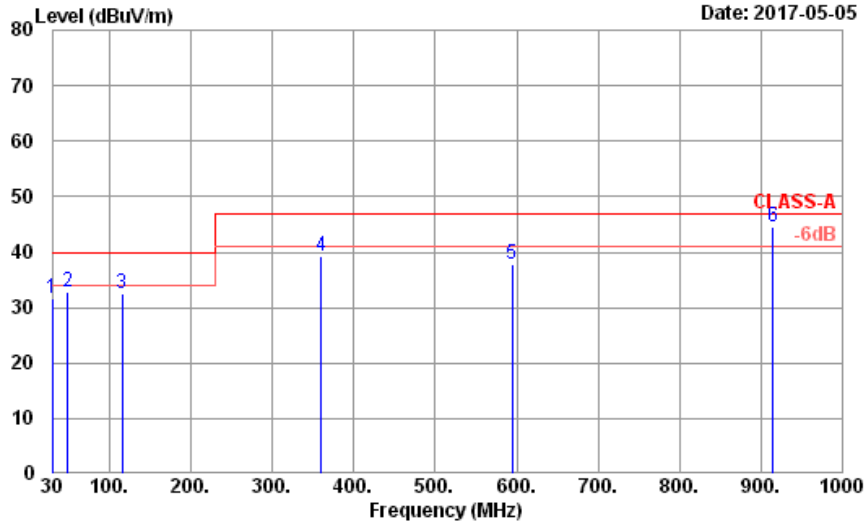
Site no.      : NO.1 10M Chamber           Data no.   : 4
Dis. / Ant.  : 10m VULB 9168 712         Ant. pol.  : HORIZONTAL
Limit        : CLASS-A
Env. / Ins.  : 23*C / 59% ESCI (0557)     Engineer   : GARY-LIN
EUT          : AA70WW
Power Rating : 120Vac/60Hz
Test Mode    : MODE 1
    
```

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Preamp Gain (dB) | Reading (dBμV) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|------------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 80.71 | 14.65 | 1.98 | 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 | 36.66 | 38.49 | 47.00 | 8.51 | QP |
| 5 | 929.32 | 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\C1M1703XXX\C1M1703136\C1M1703136-10MEM6 (28)



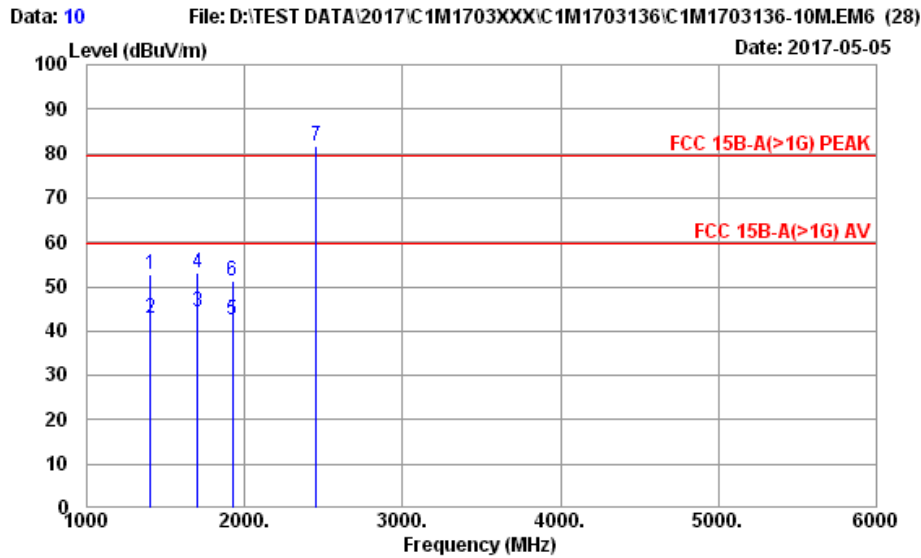
Site no. : NO.1 10M Chamber Data no. : 3
 Dis. / Ant. : 10m VULB 9168 711 Ant. pol. : VERTICAL
 Limit : CLASS-A
 Env. / Ins. : 23°C / 59% ESCI (0557) Engineer : GARY-LIN
 EUT : AA70WW
 Power Rating : 120Vac/60Hz
 Test Mode : MODE 1

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Preamp Gain (dB) | Reading (dB μV) | Emission Level (dB μV/m) | Limits (dB μV/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 | 914.92 | 25.27 | 3.25 | 32.46 | 41.80 | 37.86 | 47.00 | 9.14 | QP |
| 6 | 914.92 | 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 |

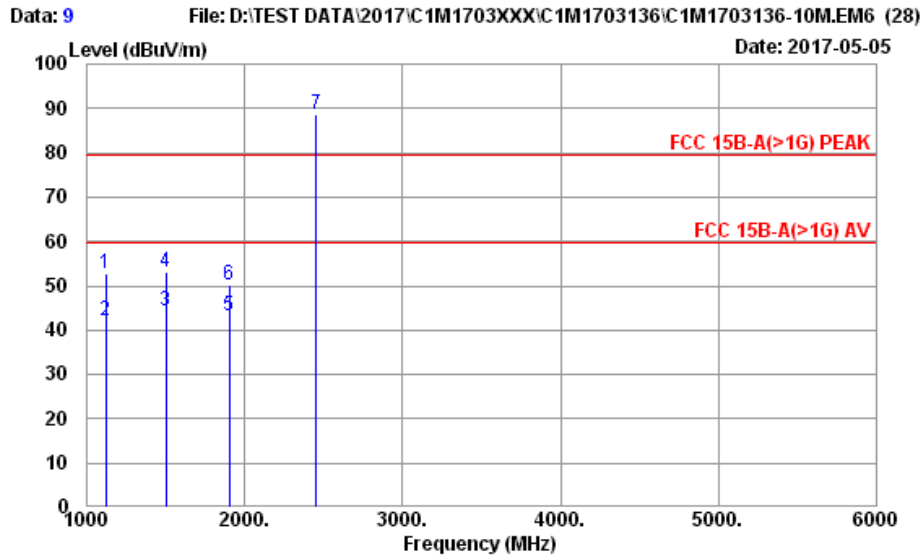


Site no. : NO.1 10M Chamber Data no. : 10
 Dis. / Ant. : 3m 3117 14403 Ant. pol. : HORIZONTAL
 Limit : FCC 15B-A(>1G) PEAK
 Env. / Ins. : 23°C / 59% N9010A (0943) Engineer : GARY-LIN
 EUT : AA70WW
 Power Rating : 120Vac/60Hz
 Test Mode : MODE 1

| | 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 |



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 (dBμV) | Emission Level (dBμV/m) | Limits (dBμV/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 transmit-
 ter/transceiver, it is ignored in this report

7. Measurement Uncertainty

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

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

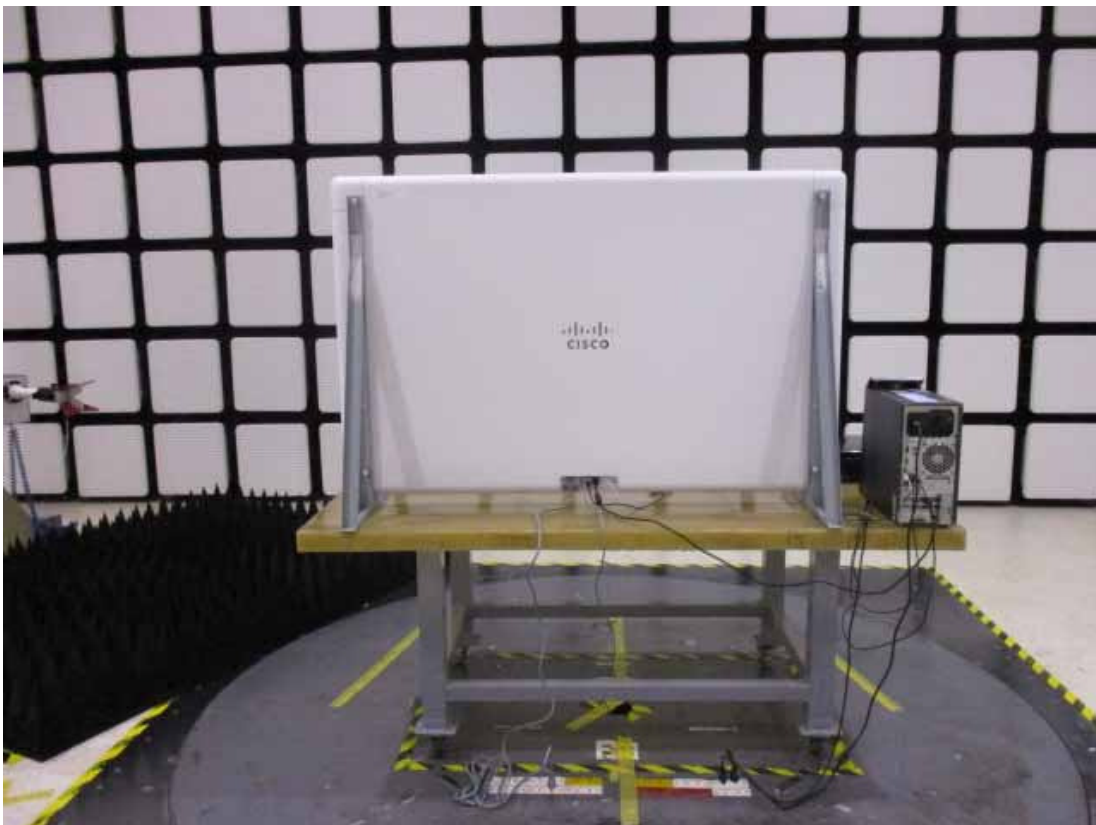


Back View of Radiated Measurement

- 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 Communiqué dated January 2009).*

2016-12-13 through 2017-12-31

Effective Dates



[Handwritten 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)



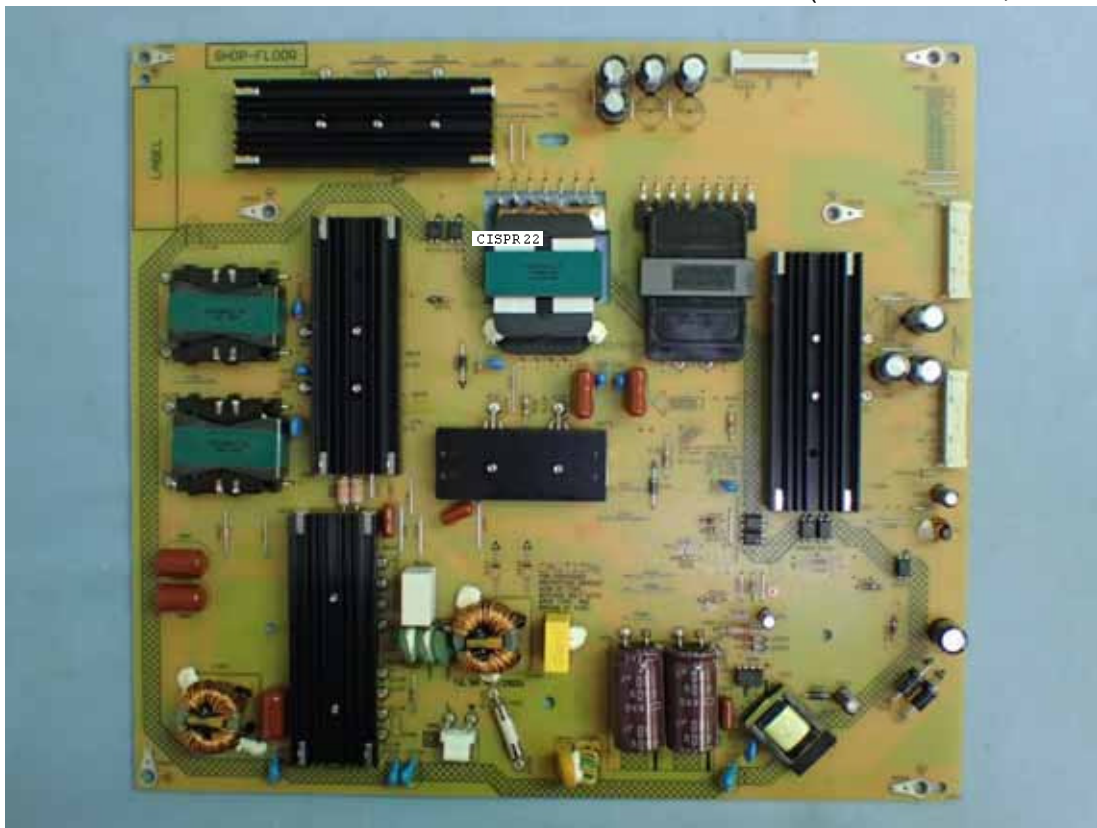
Figure 7
Internal View (Antenna View)



Figure 8
Internal View (Removed Internal Boards)



Figure 9
Internal View (Power Board, Front View)



CISPR 22

Figure 10
Internal View (Power Board, Back View)

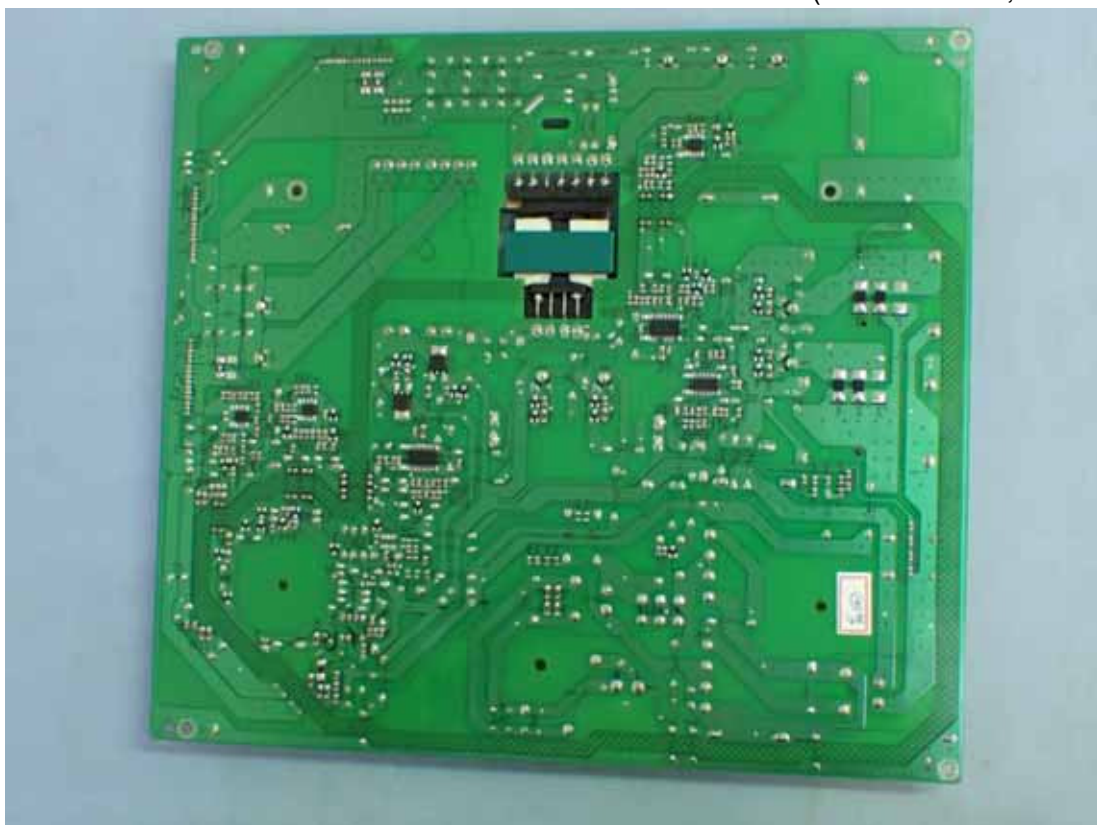


Figure 11

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



CISPR 22

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

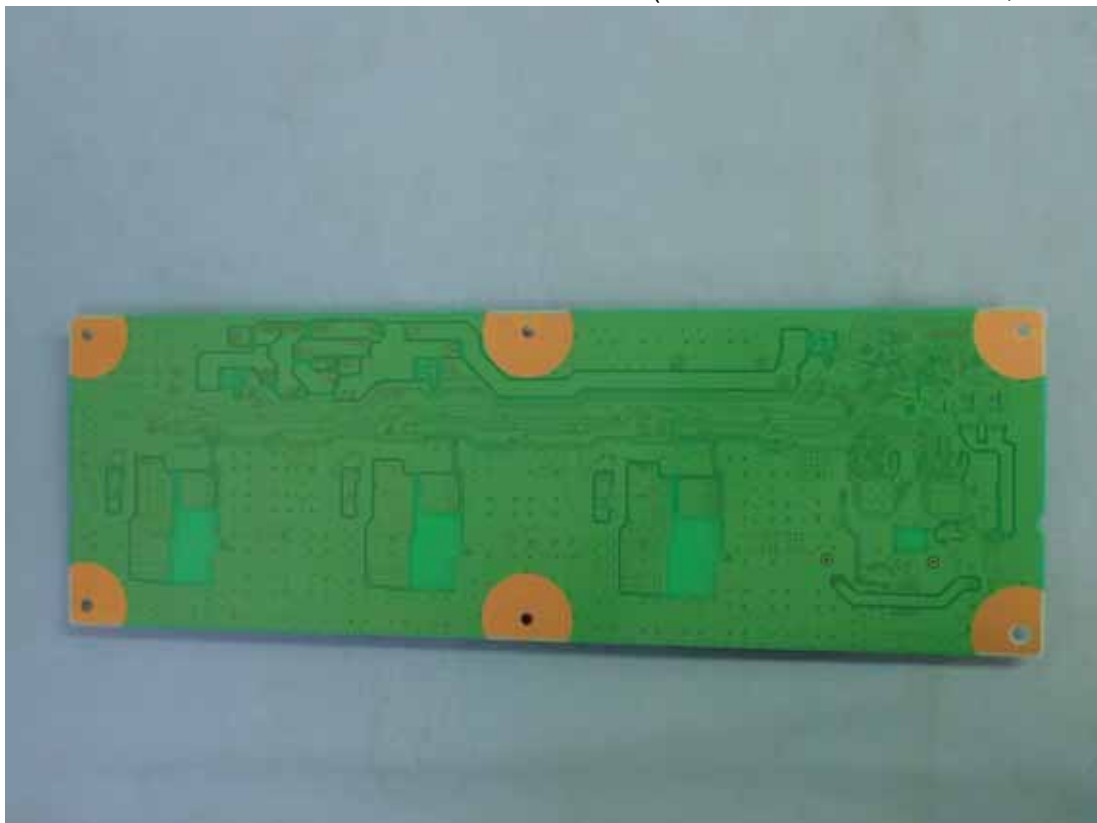


Figure 13

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)

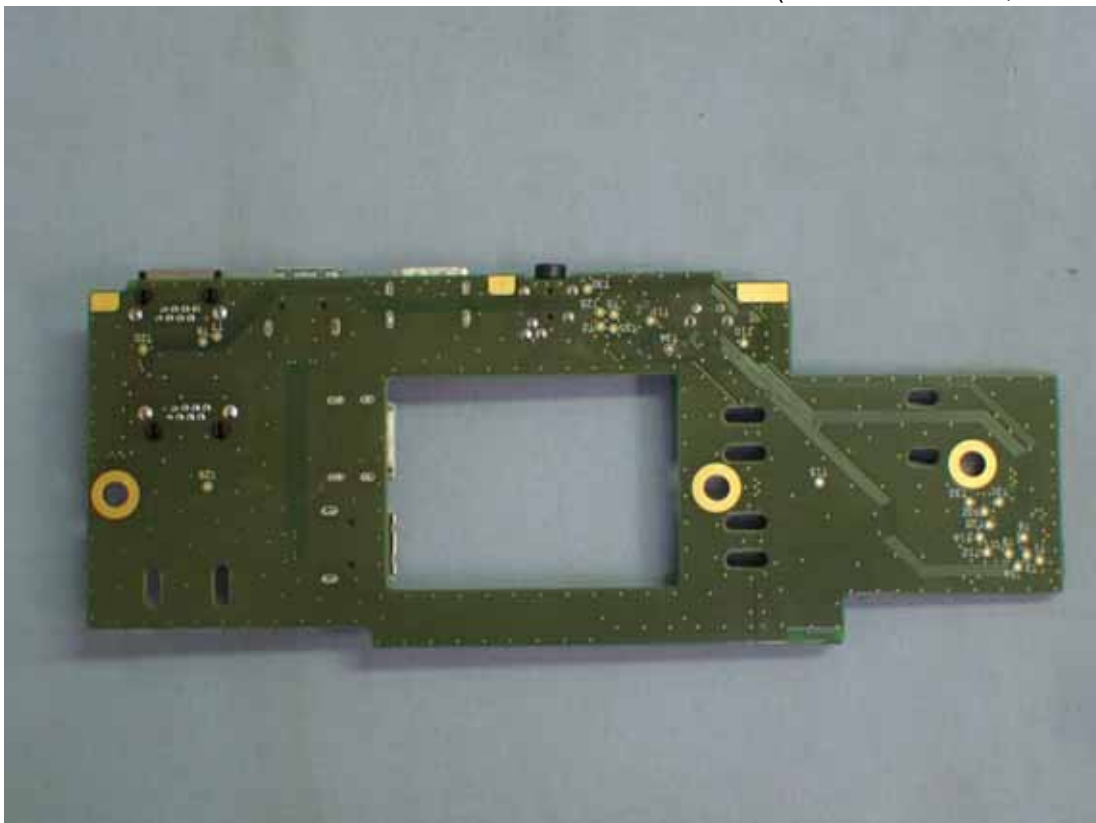


Figure 17
Internal View (Control Board, Front View)



Figure 18
Internal View (Control Board, Back View)

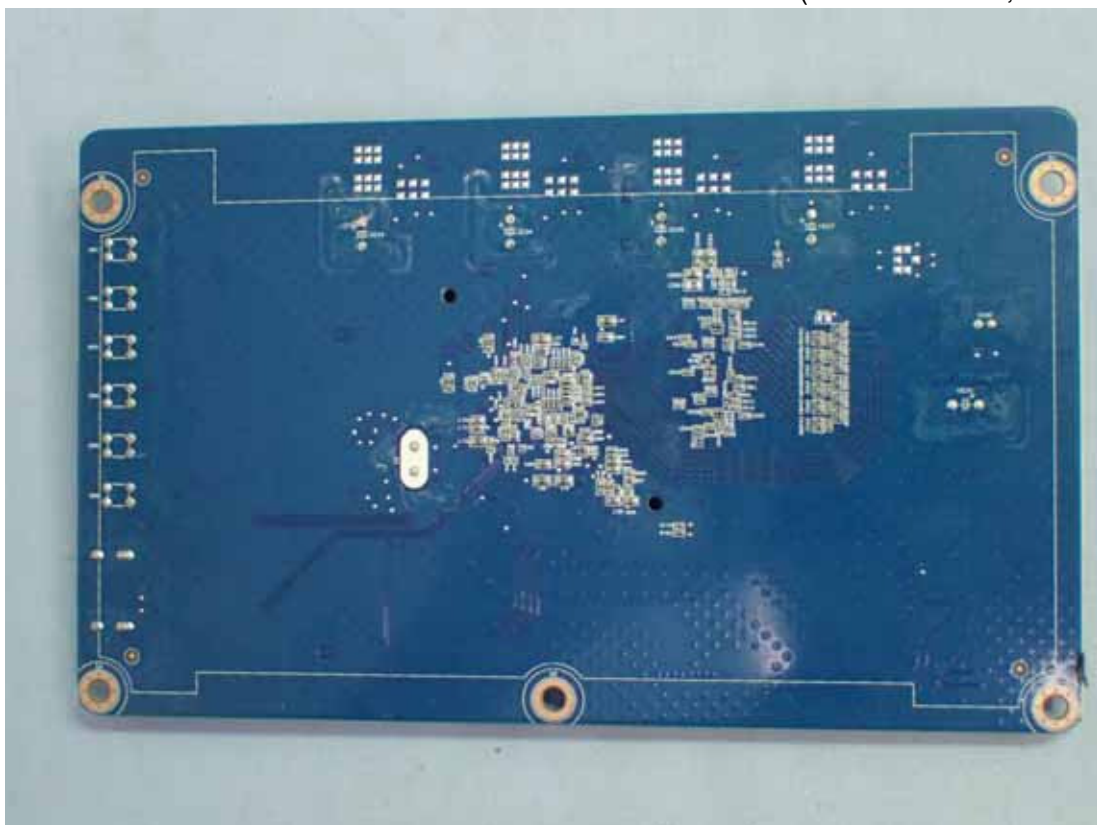


Figure 19

Internal View



Figure 20
Internal View (Control Board, Front View)

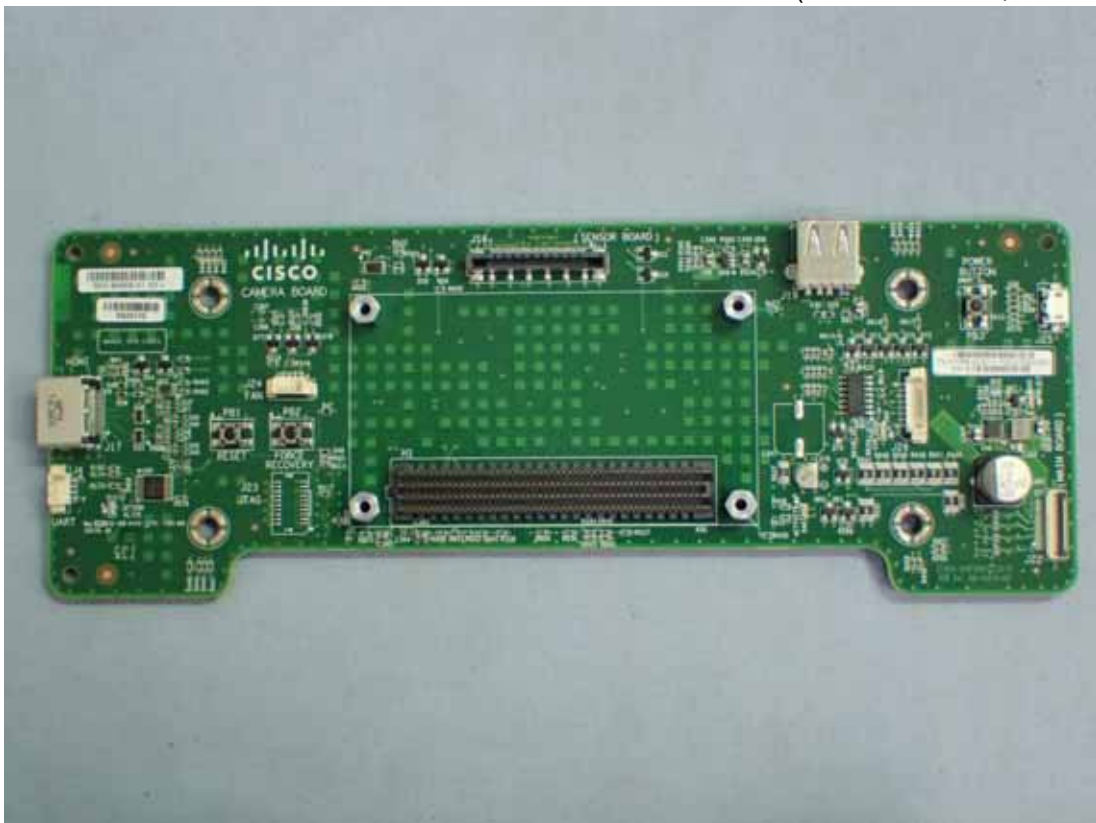


Figure 21
Internal View (Control Board, Back View)

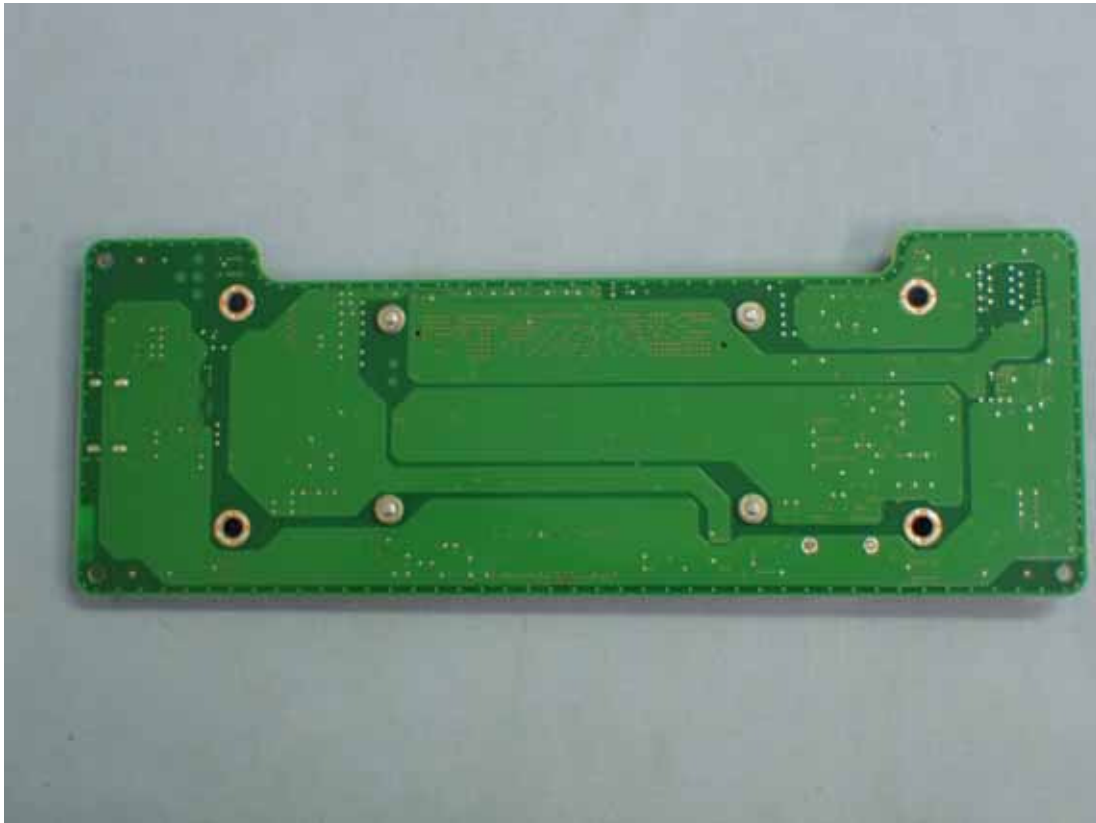


Figure 22
Internal View (Camera Board, Front View)

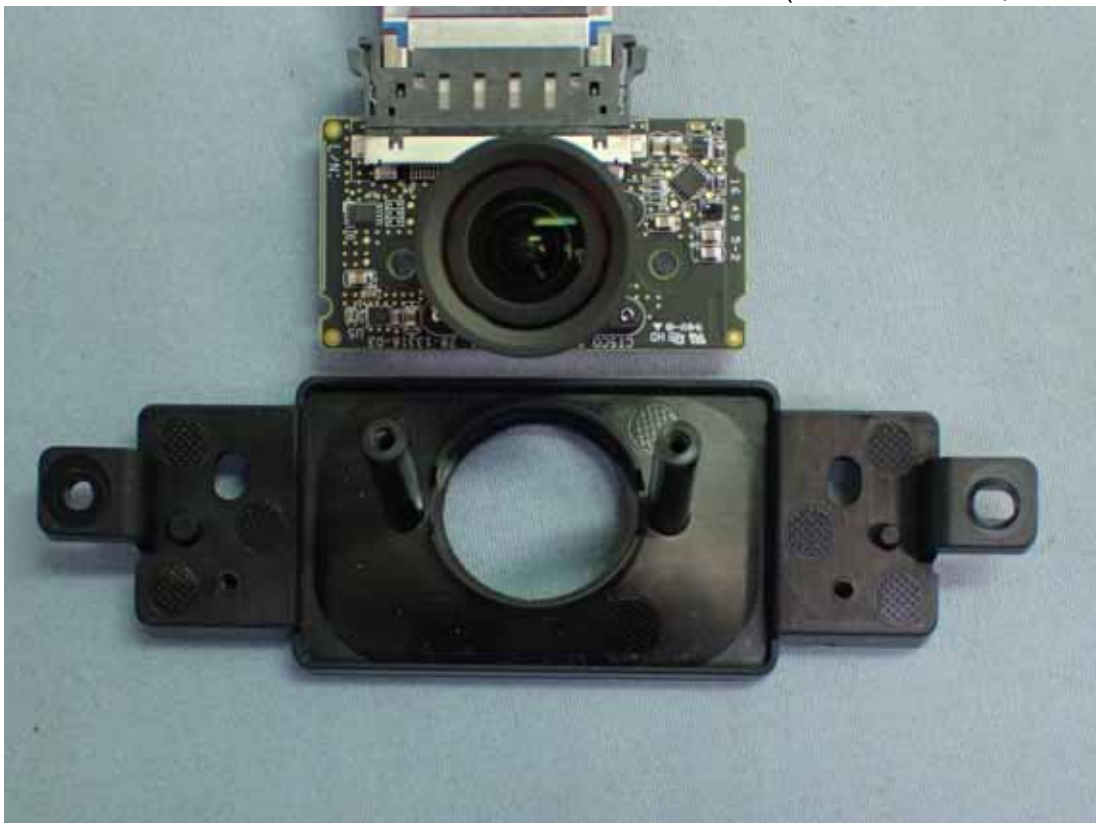


Figure 23
Internal View (Main Board)

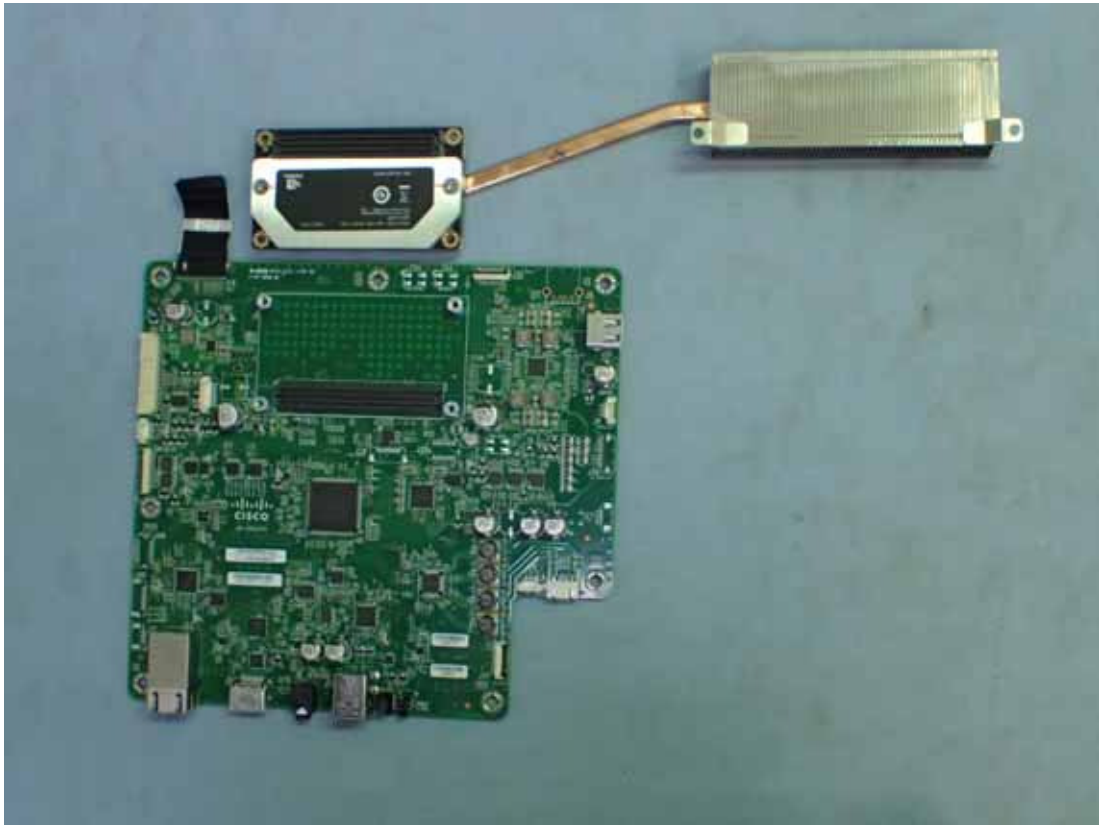


Figure 24
Internal View (Main Board, Front View)



Figure 25
Internal View (Main Board, Back View)

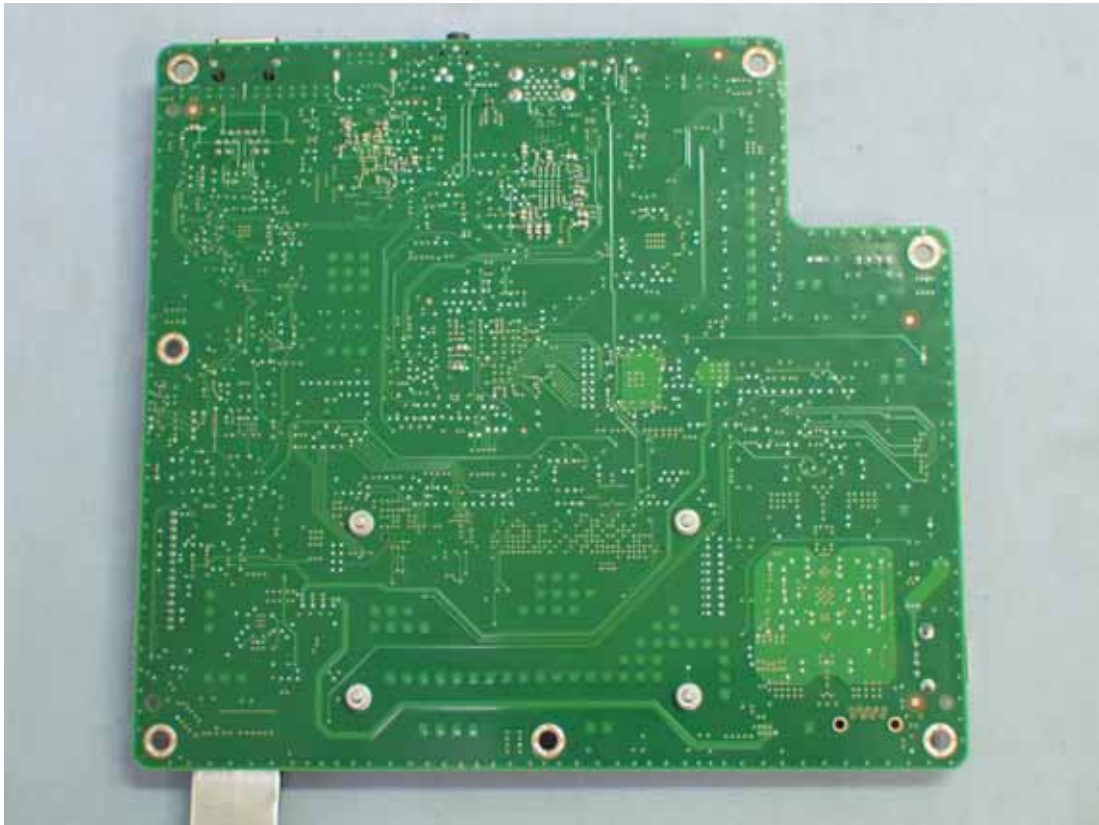


Figure 26
Internal View (RF Module)



Figure 27
Internal View (RF Module, Back View)



Figure 28
Internal View (RF Module, Front View)

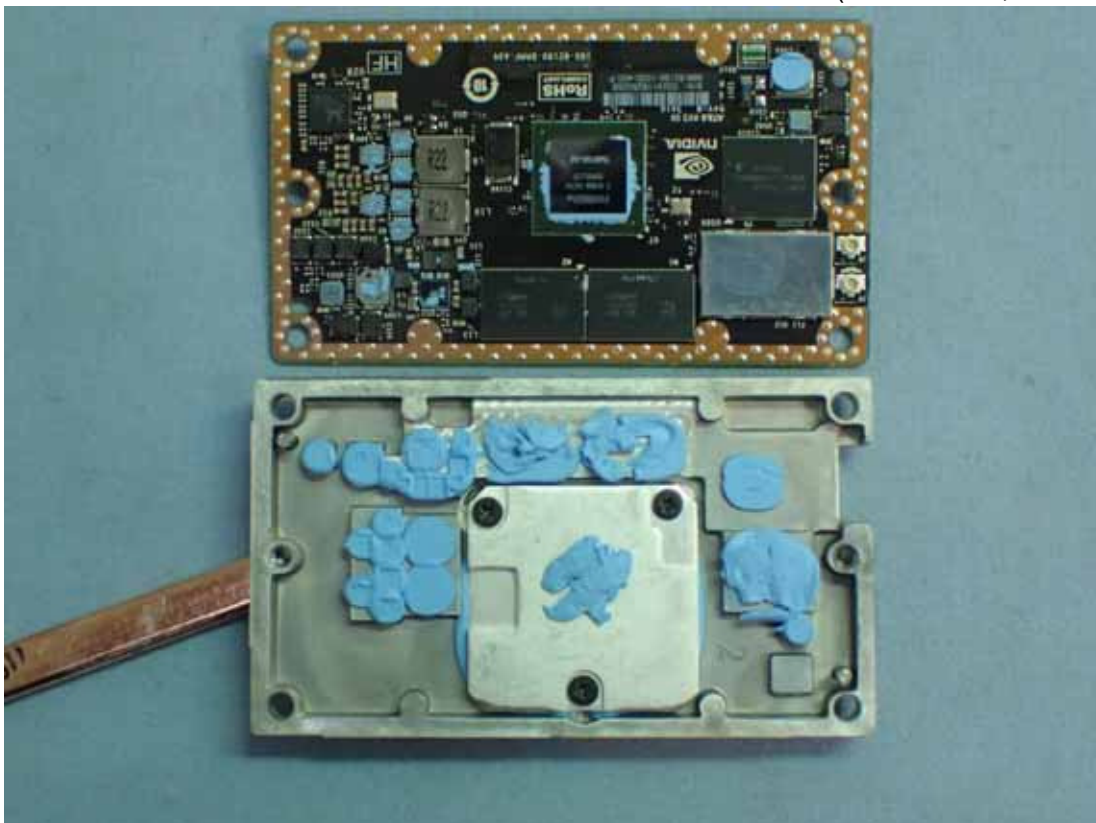


Figure 29
Internal View (Control Board, Front View)

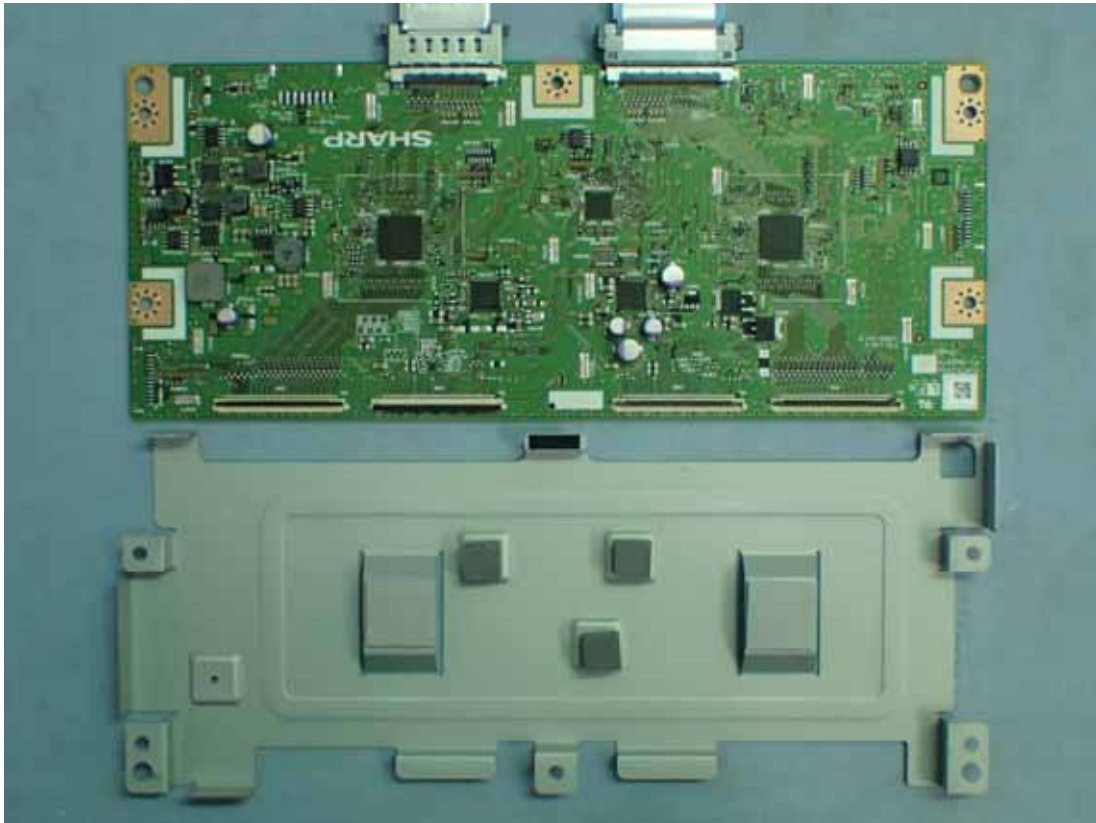


Figure 30
Internal View (Control Board, Back View)

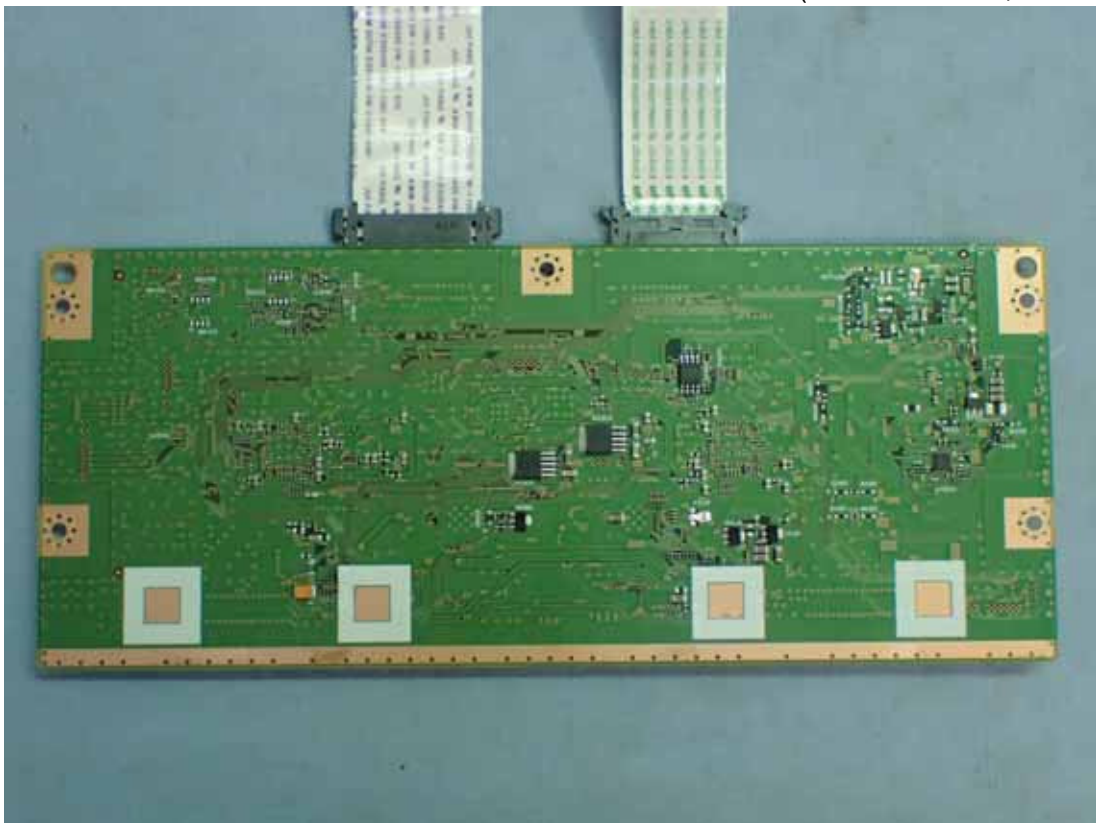


Figure 31
Internal View (Control Board, Back View)

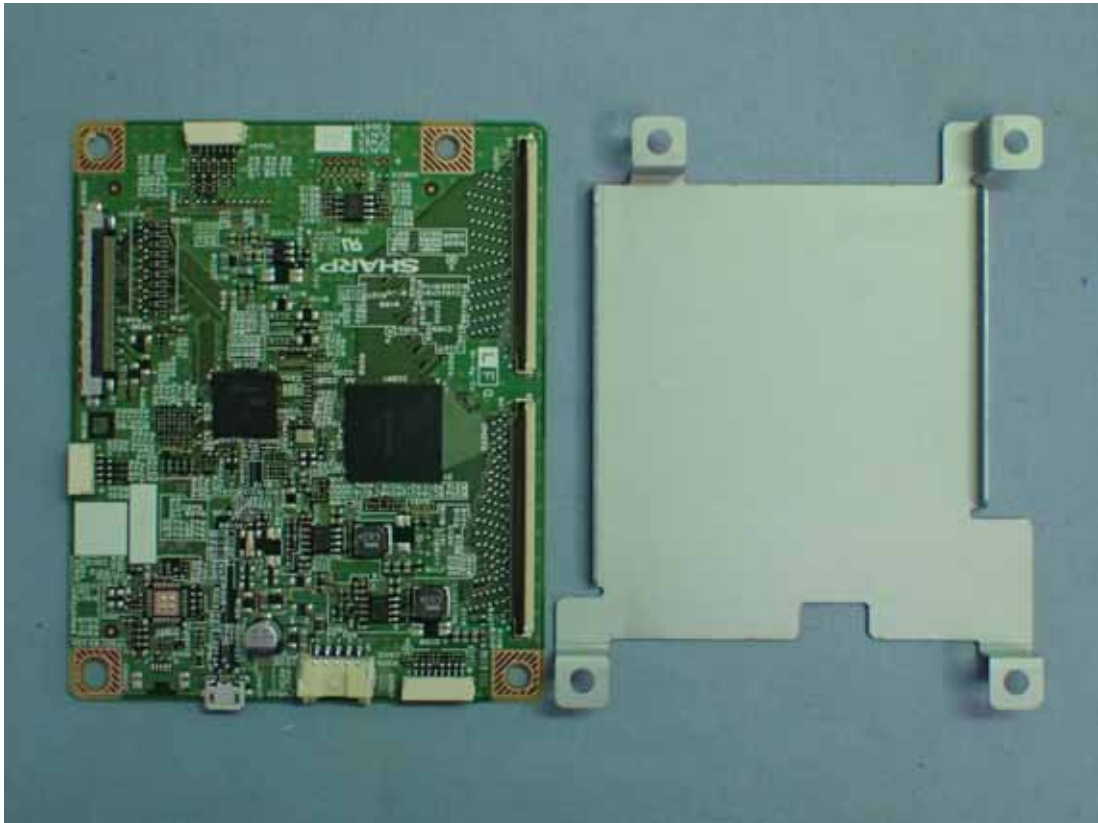


Figure 32
Internal View (Control Board, Back View)

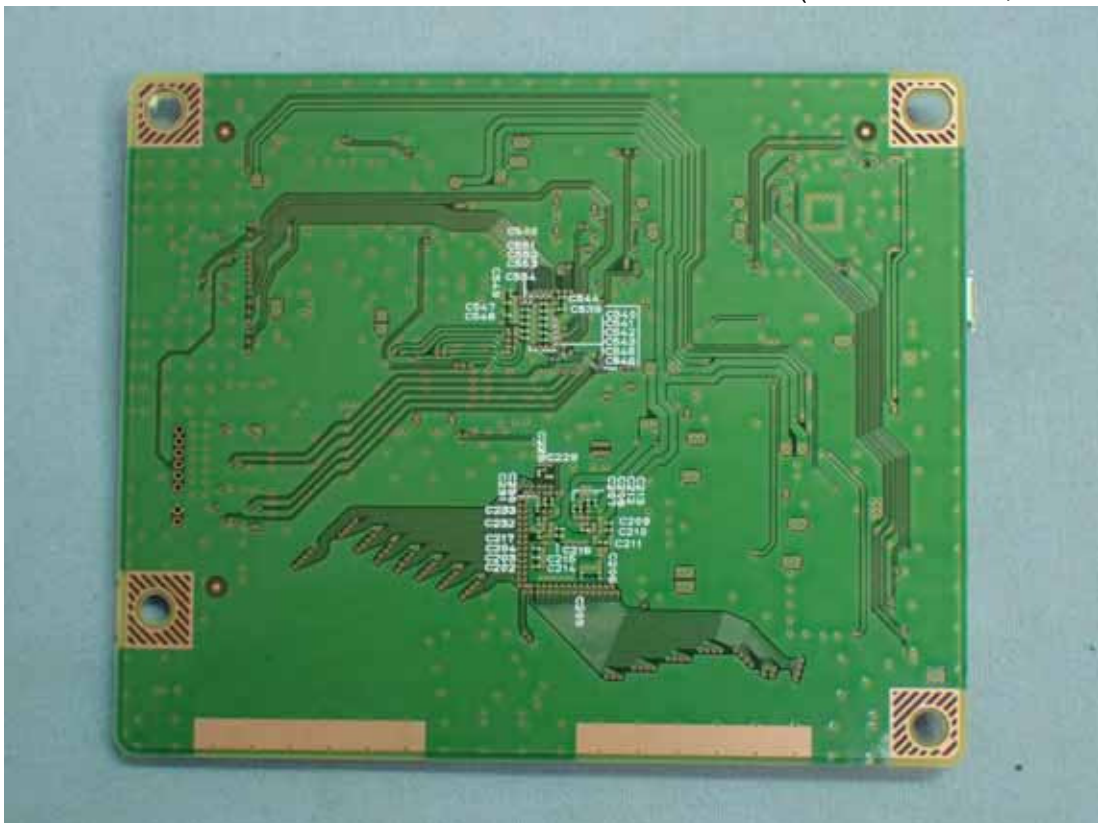


Figure 33
Internal View (MIC Center/Left/Right Boards)

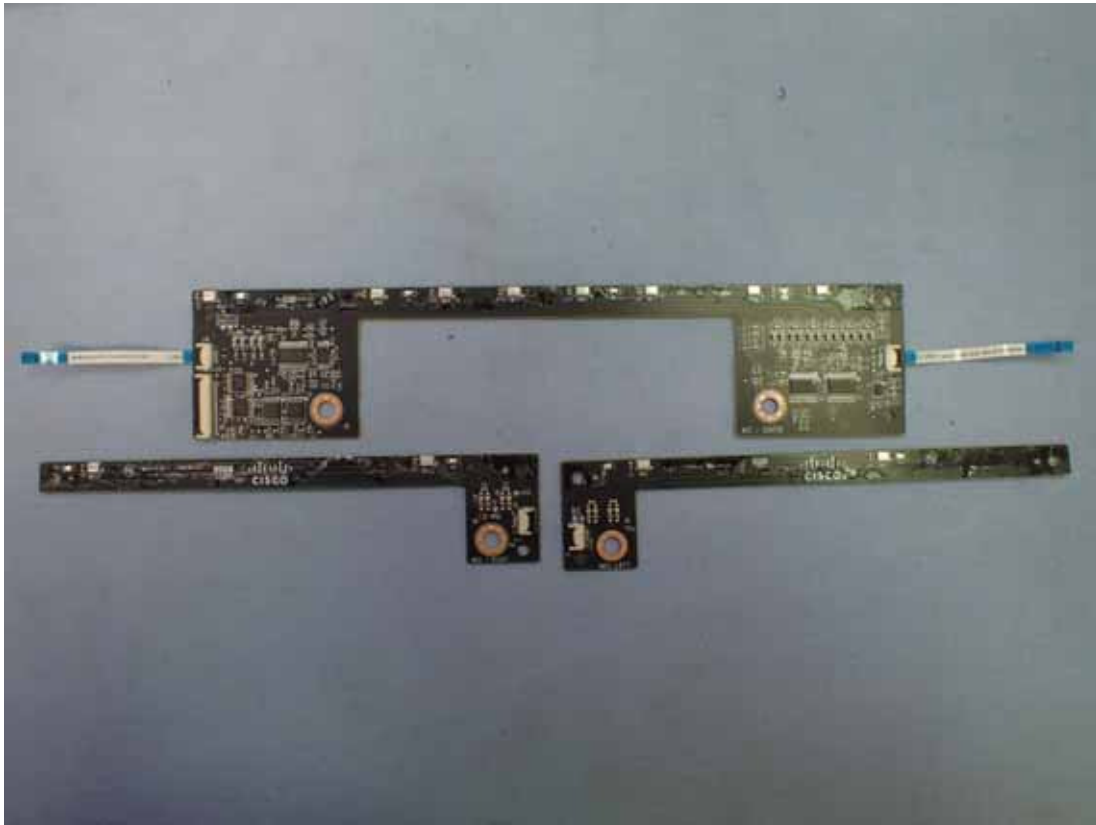


Figure 34
Internal View (MIC Center, Front View)

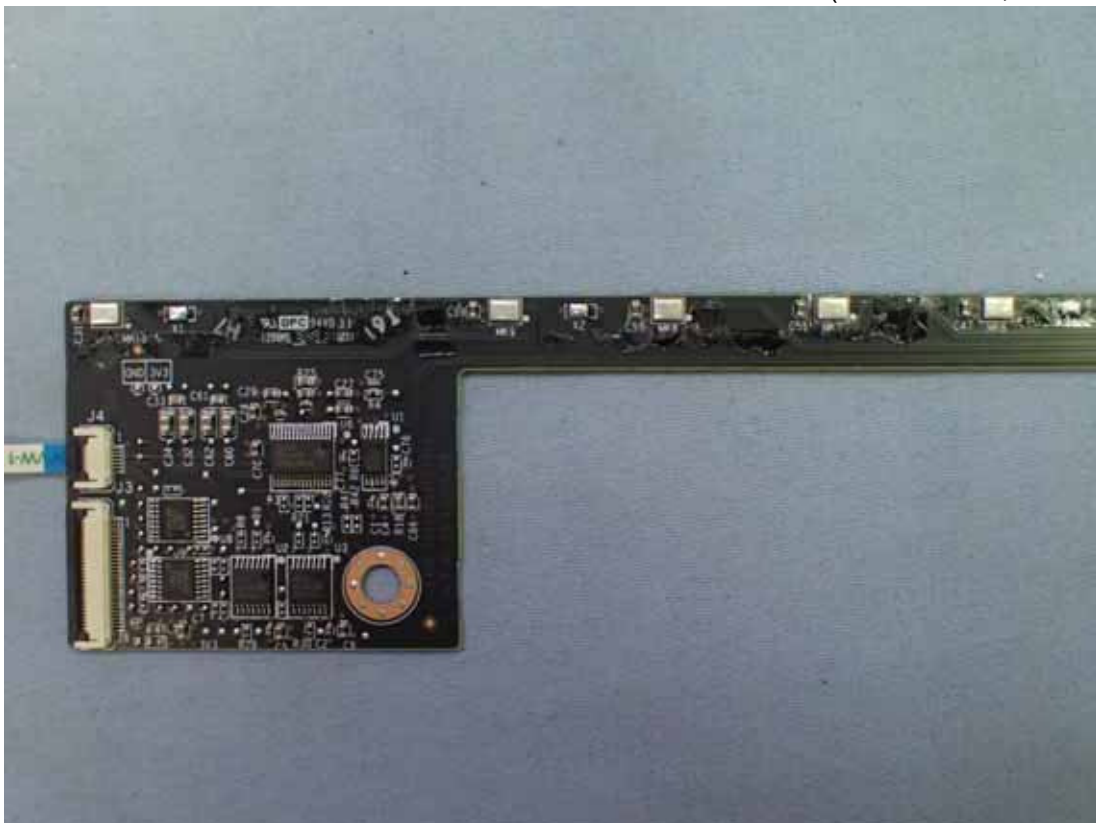


Figure 35
Internal View (MIC Center, Front View)

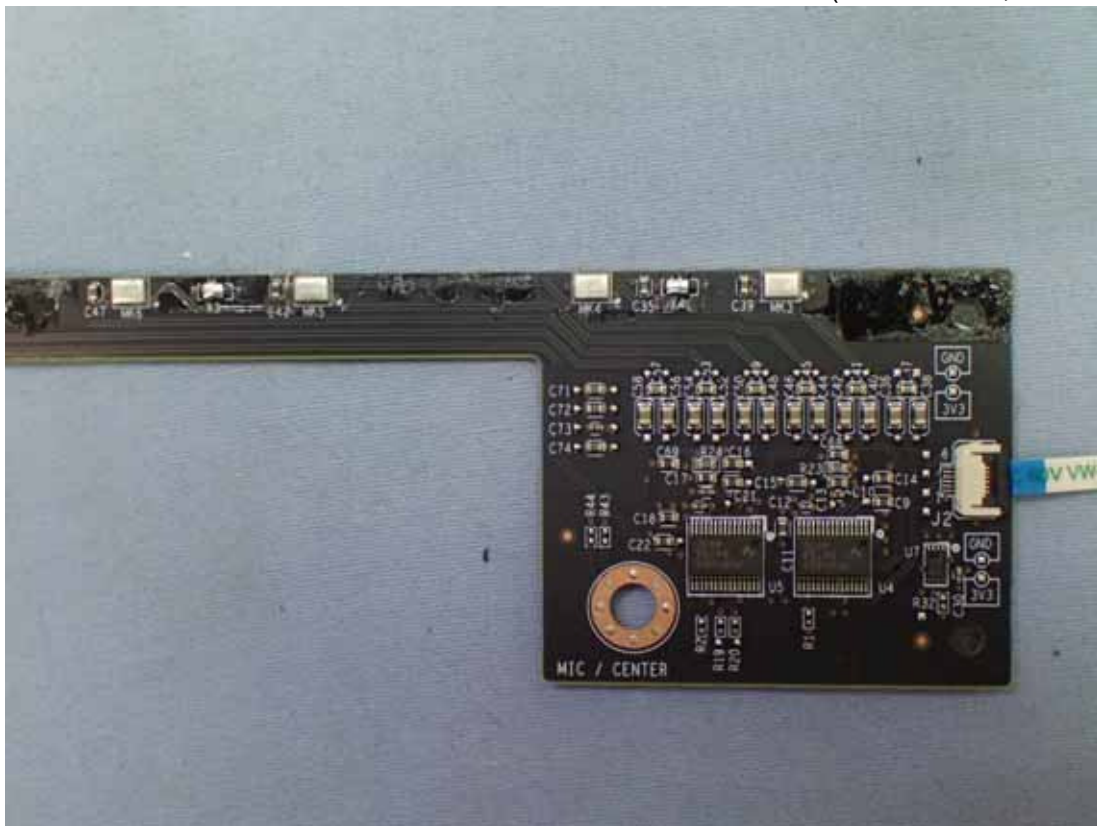


Figure 36
Internal View (MIC Center, Back View)

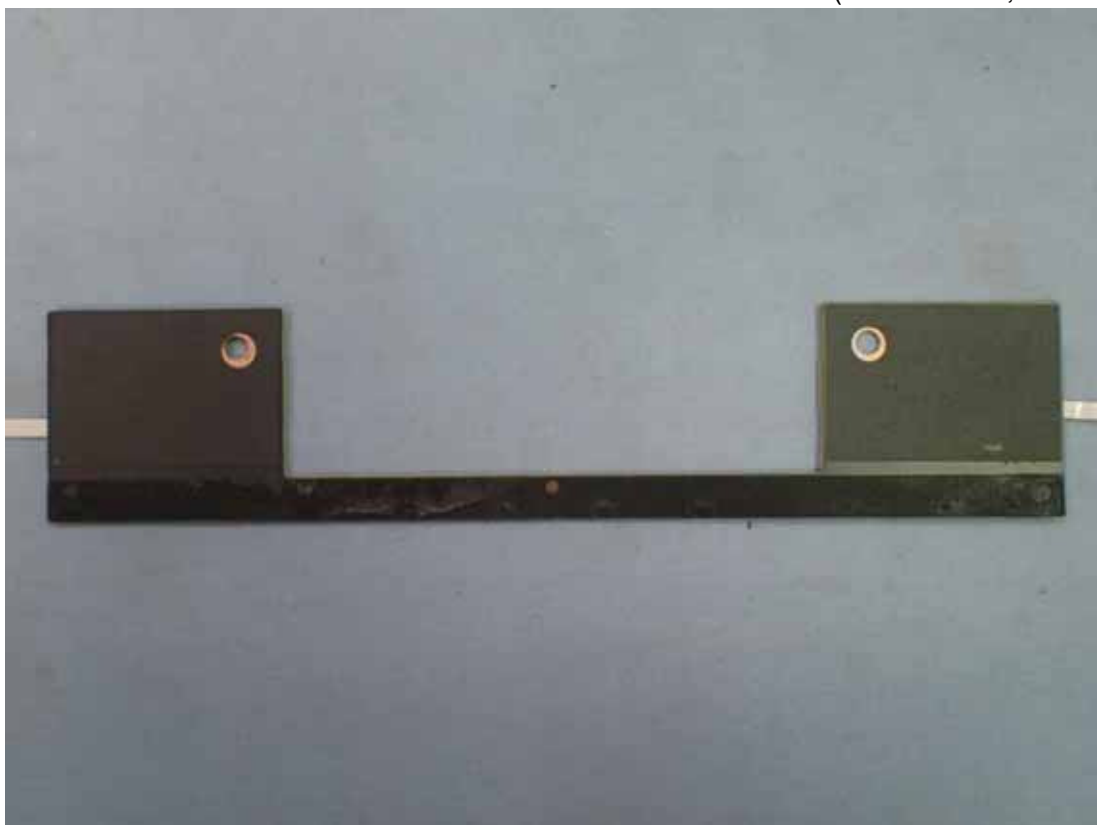


Figure 37
Internal View (MIC Right Board, Front View)

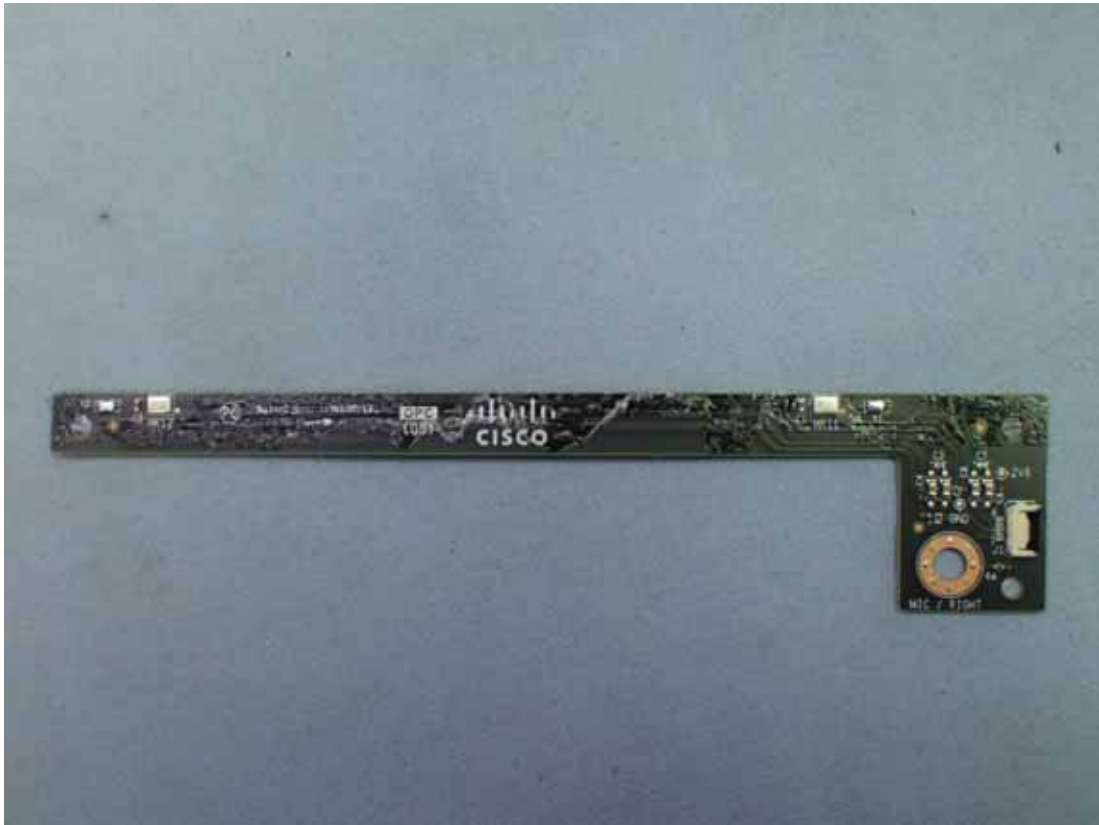


Figure 38
Internal View (MIC Right Board, Back Board)

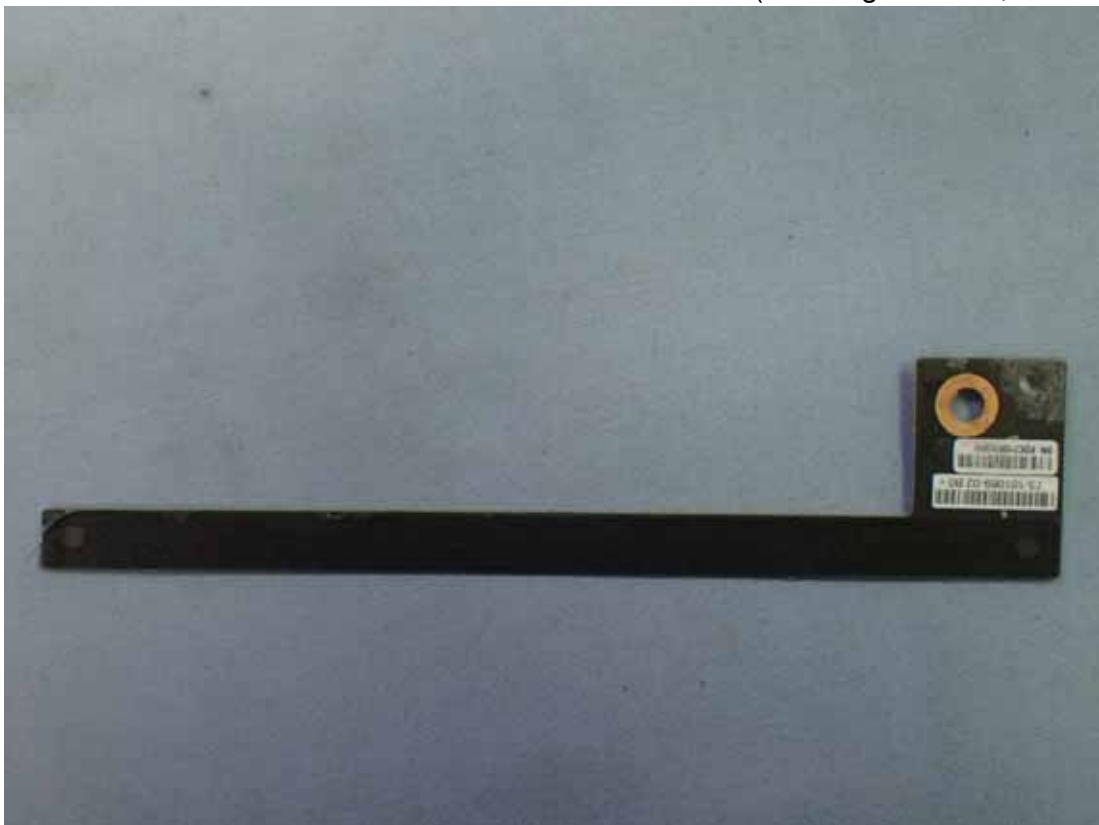


Figure 39
Internal View (MIC Left Board, Front View)

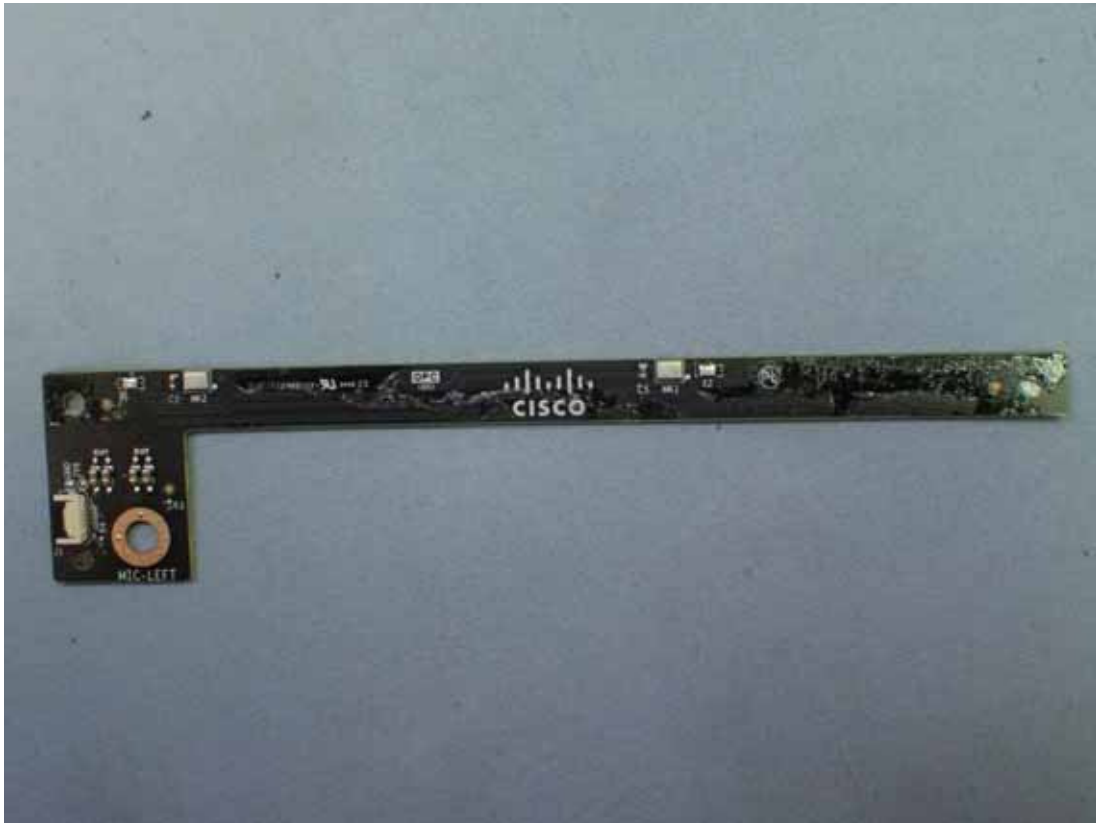


Figure 40
Internal View (MIC Left Board, Back View)

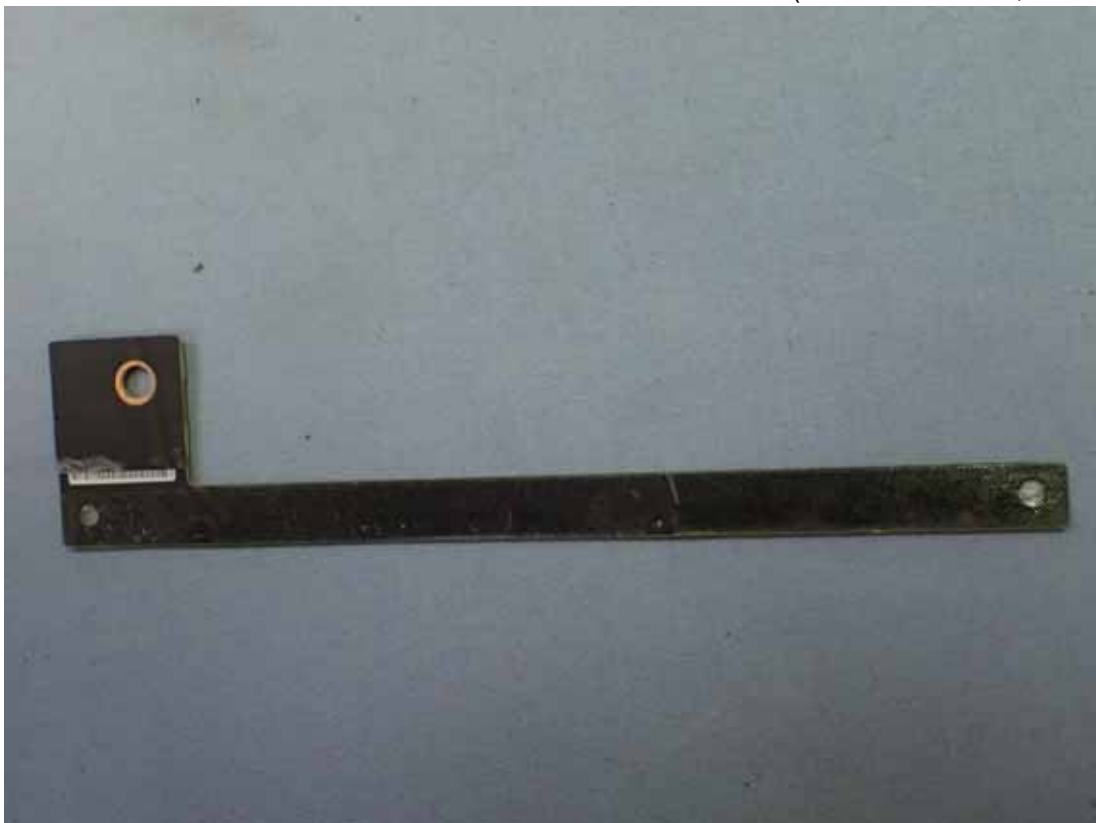


Figure 41
LAN Cable



Figure 42
Power Cord

