FCC SDoC TEST REPORT
Xiamen RGBlink Science & Technology Co., Ltd

LED video processor

Test Model: mini

Additional Model No.: Please Refer to Page 7

Prepared for: Xiamen RGBlink Science & Technology Co., Ltd
Address: S603, 604 Weiye Building Torch Hi-Tech Industrial Development Zone, Xiamen city, Fujian Province

Prepared by: Shenzhen LCS Compliance Testing Laboratory Ltd.
Address: Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China

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Mail: webmaster@LCS-cert.com

Date of receipt of test sample: September 16, 2020
Number of tested samples: 1
Serial number: Prototype
Date of Test: September 16, 2020 ~ September 21, 2020
Date of Report: September 24, 2020

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FCC TEST REPORT
FCC 47 CFR Part 15 Subpart B, Class B(SDoC), ANSI C63.4 -2014

Report Reference No. ........ : LCS200907137AE
Date Of Issue ............... : September 24, 2020

Testing Laboratory Name ... : Shenzhen LCS Compliance Testing Laboratory Ltd.
Address .......................... : Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao’an District, Shenzhen, Guangdong, China
Testing Location/ Procedure : Full application of Harmonised standards ■
Partial application of Harmonised standards □
Other standard testing method □

Applicant’s Name ............. : Xiamen RGBlink Science & Technology Co., Ltd
Address .......................... : S603, 604 Weiyue Building Torch Hi-Tech Industrial Development Zone, Xiamen city, Fujian Province

Test Specification
Standard .......................... : FCC 47 CFR Part 15 Subpart B, Class B(SDoC), ANSI C63.4 -2014
Test Report Form No. .......... : LCSEMC-1.0
TRF Originator ................. : Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF ........................ : Dated 2011-03

Test Item Description ........ : LED video processor
Test Model ........................ : mini
Trade Mark ....................... : RGBlink
Ratings .......................... : Please Refer To Page 7
Result ............................ : Positive

Compiled by: Mia Huang/ File administrators
Supervised by: Jason Deng /Technique principal
Gavin Liang/ Manager

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FCC -- TEST REPORT

Test Report No.: LCS200907137AE

September 24, 2020

Date of issue

Test Model: mini

EUT: LED video processor

Applicant: Xiamen RGBlink Science & Technology Co., Ltd
Address: S603, 604 Weiye Building Torch Hi-Tech Industrial Development Zone, Xiamen city, Fujian Province
Telephone: /
Fax: /

Manufacturer: Xiamen RGBlink Science & Technology Co., Ltd
Address: S603, 604 Weiye Building Torch Hi-Tech Industrial Development Zone, Xiamen city, Fujian Province
Telephone: /
Fax: /

Factory: Xiamen RGBlink Science & Technology Co., Ltd
Address: S603, 604 Weiye Building Torch Hi-Tech Industrial Development Zone, Xiamen city, Fujian Province
Telephone: /
Fax: /

Test Result according to the standards on page 6: Positive

The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory.
### Revision History

<table>
<thead>
<tr>
<th>Revision</th>
<th>Issue Date</th>
<th>Revisions</th>
<th>Revised By</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>September 24, 2020</td>
<td>Initial Issue</td>
<td>Gavin Liang</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

Test Report Description | Page
---|---
1. SUMMARY OF STANDARDS AND RESULTS | 6
  1.1. Description of Standards and Results | 6
2. GENERAL INFORMATION | 7
  2.1. Description of Device (EUT) | 7
  2.2. Description of Support Device | 7
  2.3. Description of Test Facility | 7
  2.4. Statement of the Measurement Uncertainty | 7
  2.5. Measurement Uncertainty | 8
3. TEST RESULTS | 9
  3.1. POWER LINE CONDUCTED EMISSION MEASUREMENT | 9
  3.2. Radiated emission Measurement | 12
4. PHOTOGRAPH | 15
5. EXTERNAL AND INTERNAL PHOTOS OF THE EUT | 16
1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

<table>
<thead>
<tr>
<th>Description of Test Item</th>
<th>Standard</th>
<th>Limits</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducted disturbance at mains terminals</td>
<td>FCC 47 CFR Part 15 Subpart B, Class B(SDoC), ANSI C63.4 -2014</td>
<td>Class B</td>
<td>PASS</td>
</tr>
<tr>
<td>Radiated disturbance</td>
<td>FCC 47 CFR Part 15 Subpart B, Class B(SDoC), ANSI C63.4 -2014</td>
<td>Class B</td>
<td>PASS</td>
</tr>
</tbody>
</table>

N/A is an abbreviation for Not Applicable.

Test mode:

<table>
<thead>
<tr>
<th>Mode</th>
<th>Mode</th>
<th>Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HDMI mode</td>
<td>Record</td>
</tr>
<tr>
<td>2</td>
<td>LAN mode</td>
<td>Pre-scan</td>
</tr>
<tr>
<td>3</td>
<td>USB mode</td>
<td>Pre-scan</td>
</tr>
</tbody>
</table>

***Note: All test modes were tested, but we only recorded the worst case in this report.
2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT : LED video processor
Trade Mark : RGBlink
Test Model : mini, mini+, livepro, mini pro, mini plus, mini 4k, mini 4k+, mini 4kpro, mini ios, mini 4kplus, mini proios, mini proios
Model Lists : 4ks, mini+ ios, ASK, ASK+, ASK 4k, ASK pro, ASK plus, ASK mini TX, ASK mini RX, ASK TX(4K), ASK mini(set)2K
Model Declaration : PCB board, structure and internal of these model(s) are the same, So no additional models were tested
Power Supply : Input: AC100-240V, 50-60Hz, 25-36VA 0.3A
Output: DC 12.0V → 1.0A

2.2. Description of Support Device

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Description</th>
<th>Model</th>
<th>Serial Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>Lenovo</td>
<td>WB0202140H</td>
<td>WB05067151</td>
</tr>
<tr>
<td>TV</td>
<td>SONY</td>
<td>KDL-32W700B</td>
<td>2011083</td>
</tr>
</tbody>
</table>

2.3. Description of Test Facility

Site Description : NVLAP Accreditation Code is 600167-0.
FCC Designation Number is CN5024.
CAB identifier is CN0071.
CNAS Registration Number is L4595.

2.4. Statement of the Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.
2.5. Measurement Uncertainty

<table>
<thead>
<tr>
<th>Test</th>
<th>Parameters</th>
<th>Expanded Uncertainty (Ulab)</th>
<th>Expanded Uncertainty (Ucispr)</th>
</tr>
</thead>
</table>
| Conducted Emission               | Level accuracy (9kHz to 150kHz) (150kHz to 30MHz) | ± 2.63 dB  
± 2.35 dB  | ± 3.8 dB  
± 3.4 dB  |
| Power Disturbance                | Level accuracy (30MHz to 300MHz) | ± 2.90 dB  | ± 4.5 dB  |
| Electromagnetic Radiated Emission (3-loop) | Level accuracy (9kHz to 30MHz) | ± 3.60 dB  | ± 3.3 dB  |
| Radiated Emission                | Level accuracy (9kHz to 30MHz) | ± 3.68 dB  | N/A  |
| Radiated Emission                | Level accuracy (30MHz to 1000MHz) | ± 3.48 dB  | ± 5.3 dB  |
| Radiated Emission                | Level accuracy (above 1000MHz) | ± 3.90 dB  | ± 5.2 dB  |

(1) Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.

(2) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.
3. TEST RESULTS

3.1. POWER LINE CONDUCTED EMISSION MEASUREMENT

3.1.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

<table>
<thead>
<tr>
<th>Item</th>
<th>Equipment</th>
<th>Manufacturer</th>
<th>Model No.</th>
<th>Serial No.</th>
<th>Cal Date</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EMI Test Software</td>
<td>EZ</td>
<td>EZ-EMC</td>
<td>/</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2</td>
<td>EMI Test Receiver</td>
<td>R&amp;S</td>
<td>ESPI</td>
<td>101840</td>
<td>2020-06-22</td>
<td>2021-06-21</td>
</tr>
<tr>
<td>3</td>
<td>Artificial Mains</td>
<td>R&amp;S</td>
<td>ENV216</td>
<td>101288</td>
<td>2020-06-22</td>
<td>2021-06-21</td>
</tr>
<tr>
<td>4</td>
<td>10dB Attenuator</td>
<td>SCHWARZEB</td>
<td>MTS-IMP-136</td>
<td>261115-001-0032</td>
<td>2020-06-22</td>
<td>2021-06-21</td>
</tr>
<tr>
<td>5</td>
<td>Impedance stabilization Network</td>
<td>TESEQ</td>
<td>ISN T800</td>
<td>45130</td>
<td>2019-10-21</td>
<td>2020-10-20</td>
</tr>
</tbody>
</table>

3.1.2. Block Diagram of Test Setup

![Block Diagram of Test Setup](image)

3.1.3. Test Standard

Power Line Conducted Emission Limits (Class B)

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>Quasi-peak Level</th>
<th>Standard Level</th>
<th>Average Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.15 ~ 0.50</td>
<td>66.0 ~ 56.0 *</td>
<td>56.0 ~ 46.0 *</td>
<td></td>
</tr>
<tr>
<td>0.50 ~ 3.00</td>
<td>56.0</td>
<td>46.0</td>
<td></td>
</tr>
<tr>
<td>3.00 ~ 30.00</td>
<td>60.0</td>
<td>50.0</td>
<td></td>
</tr>
</tbody>
</table>

NOTE1-The lower limit shall apply at the transition frequencies.
NOTE2-The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

3.1.4. EUT Configuration on Test

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.
3.1.5. Operating Condition of EUT

3.1.5.1. Setup the EUT as shown on Section 3.1.2

3.1.5.2. Turn on the power of all equipments.

3.1.5.3. Let the EUT work in measuring Mode 1 and measure it.

3.1.6. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC/ANSI C63.4-2014 on Conducted Emission Measurement.

The bandwidth of the test receiver is set at 9kHz.

The frequency range from 150kHz to 30MHz is investigated

3.1.7. Test Results

PASS.

The test result please refer to the next page.
### Test Model

**mini**

### Test Mode

**Mode 1**

### Environmental Conditions

23.3℃, 53.7% RH

### Test Engineer

Daiwei Dai

### Pol

Line

### Test Voltage

AC 120V/60Hz

### Test Result Table

<table>
<thead>
<tr>
<th>No.</th>
<th>Frequency (MHz)</th>
<th>Reading (dBuV)</th>
<th>Correct (dB)</th>
<th>Result (dBuV)</th>
<th>Limit (dBuV)</th>
<th>Margin</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.3048</td>
<td>32.62</td>
<td>19.18</td>
<td>51.80</td>
<td>63.45</td>
<td>-11.65</td>
<td>QP</td>
</tr>
<tr>
<td>2</td>
<td>0.2096</td>
<td>15.41</td>
<td>19.19</td>
<td>34.08</td>
<td>53.23</td>
<td>-18.03</td>
<td>AVG</td>
</tr>
<tr>
<td>3</td>
<td>0.2676</td>
<td>31.20</td>
<td>19.24</td>
<td>49.44</td>
<td>61.21</td>
<td>-10.77</td>
<td>QP</td>
</tr>
<tr>
<td>4</td>
<td>0.2738</td>
<td>12.86</td>
<td>19.25</td>
<td>32.11</td>
<td>51.03</td>
<td>-18.92</td>
<td>AVG</td>
</tr>
<tr>
<td>5</td>
<td>1.0900</td>
<td>29.45</td>
<td>19.27</td>
<td>48.72</td>
<td>56.00</td>
<td>-7.28</td>
<td>QP</td>
</tr>
<tr>
<td>6</td>
<td>1.1174</td>
<td>11.68</td>
<td>19.28</td>
<td>38.99</td>
<td>40.00</td>
<td>-13.04</td>
<td>QP</td>
</tr>
<tr>
<td>7</td>
<td>1.4500</td>
<td>29.78</td>
<td>19.33</td>
<td>48.11</td>
<td>56.00</td>
<td>-6.89</td>
<td>QP</td>
</tr>
<tr>
<td>8</td>
<td>1.4055</td>
<td>11.71</td>
<td>19.34</td>
<td>31.05</td>
<td>40.00</td>
<td>-14.85</td>
<td>AVG</td>
</tr>
<tr>
<td>9</td>
<td>3.9885</td>
<td>30.60</td>
<td>19.47</td>
<td>59.07</td>
<td>56.00</td>
<td>-5.53</td>
<td>QP</td>
</tr>
<tr>
<td>10</td>
<td>4.1591</td>
<td>11.54</td>
<td>19.47</td>
<td>31.11</td>
<td>40.00</td>
<td>-14.89</td>
<td>AVG</td>
</tr>
<tr>
<td>11</td>
<td>14.6370</td>
<td>34.56</td>
<td>20.02</td>
<td>54.58</td>
<td>60.00</td>
<td>-5.42</td>
<td>QP</td>
</tr>
<tr>
<td>12</td>
<td>14.6310</td>
<td>13.87</td>
<td>20.10</td>
<td>33.97</td>
<td>50.00</td>
<td>-16.03</td>
<td>AVG</td>
</tr>
</tbody>
</table>

### Note:

Pre-Scan all mode, Thus record worse case mode result in this report.
3.2. Radiated emission Measurement

3.2.1. Test Equipment

The following test equipments are used during the radiated emission measurement:

<table>
<thead>
<tr>
<th>Item</th>
<th>Equipment</th>
<th>Manufacturer</th>
<th>Model No.</th>
<th>Serial No.</th>
<th>Cal Date</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EMI Test Software</td>
<td>AUDIX</td>
<td>E3</td>
<td>/</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2</td>
<td>3m Semi Anechoic Chamber</td>
<td>SIDT FRANKONIA</td>
<td>SAC-3M</td>
<td>03CH03-HY</td>
<td>2020-06-22</td>
<td>2021-06-21</td>
</tr>
<tr>
<td>3</td>
<td>Positioning Controller</td>
<td>MF</td>
<td>MF-7082</td>
<td>/</td>
<td>2020-06-22</td>
<td>2021-06-21</td>
</tr>
<tr>
<td>4</td>
<td>By-log Antenna</td>
<td>SCHWARZBECK</td>
<td>VULB9163</td>
<td>9163-470</td>
<td>2018-07-26</td>
<td>2021-07-25</td>
</tr>
<tr>
<td>5</td>
<td>Horn Antenna</td>
<td>SCHWARZBECK</td>
<td>BBHA 9120D</td>
<td>9120D-1925</td>
<td>2018-07-02</td>
<td>2021-07-01</td>
</tr>
<tr>
<td>6</td>
<td>EMI Test Receiver</td>
<td>R&amp;S</td>
<td>ESR 7</td>
<td>101181</td>
<td>2020-06-22</td>
<td>2021-06-21</td>
</tr>
<tr>
<td>7</td>
<td>RS SPECTRUM ANALYZER</td>
<td>R&amp;S</td>
<td>FSP40</td>
<td>100503</td>
<td>2019-11-22</td>
<td>2020-11-21</td>
</tr>
<tr>
<td>8</td>
<td>Broadband Preamplifier</td>
<td>/</td>
<td>BP-01M18G</td>
<td>P190501</td>
<td>2020-06-22</td>
<td>2021-06-21</td>
</tr>
<tr>
<td>9</td>
<td>RF Cable-R03m</td>
<td>Jye Bao</td>
<td>RG142</td>
<td>CB021</td>
<td>2020-06-22</td>
<td>2021-06-21</td>
</tr>
<tr>
<td>10</td>
<td>RF Cable-HIGH</td>
<td>SUHNER</td>
<td>SUCOFLEX 106</td>
<td>03CH03-HY</td>
<td>2020-06-22</td>
<td>2021-06-21</td>
</tr>
</tbody>
</table>

3.2.2. Block Diagram of Test Setup

Below 1GHz

Above 1GHz
3.2.3. Radiated Emission Limit (Class B)

Limits for Radiated Disturbance Below 1GHz

<table>
<thead>
<tr>
<th>FREQUENCY MHz</th>
<th>DISTANCE Meters</th>
<th>FIELD STRENGTHS LIMIT μV/m</th>
<th>dB(μV)/m</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 ~ 88</td>
<td>3</td>
<td>100</td>
<td>40</td>
</tr>
<tr>
<td>88 ~ 216</td>
<td>3</td>
<td>150</td>
<td>43.5</td>
</tr>
<tr>
<td>216 ~ 960</td>
<td>3</td>
<td>200</td>
<td>46</td>
</tr>
<tr>
<td>960 ~ 1000</td>
<td>3</td>
<td>500</td>
<td>54</td>
</tr>
</tbody>
</table>

Remark: (1) Emission level (dB)\(\mu V = 20 \log \) Emission level \(\mu V/m\)
(2) The smaller limit shall apply at the cross point between two frequency bands.
(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

Limits for Radiated Emission Above 1GHz

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>Distance (Meters)</th>
<th>Peak Limit (dBμV/m)</th>
<th>Average Limit (dBμV/m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above 1000</td>
<td>3</td>
<td>74</td>
<td>54</td>
</tr>
</tbody>
</table>

***Note: The lower limit applies at the transition frequency.

3.2.4. EUT Configuration on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

3.2.5. Operating Condition of EUT

3.2.5.1. Setup the EUT as shown in Section 3.2.2.
3.2.5.2. Let the EUT work in test Mode 1 and measure it.

3.2.6. Test Procedure

EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated by-log antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2014 on radiated emission measurement.

The bandwidth of the EMI test receiver is set at 120kHz, 300kHz.

The frequency range from 30MHz to 1000MHz is checked.

3.2.7. Radiated Emission Noise Measurement Result

PASS.

The scanning waveforms please refer to the next page.
Test Model | mini | Test Mode | Mode 1
---|---|---|---
Environmental Conditions | 22.1°C, 53.2% RH | Detector Function | Quasi-peak
Pol | Vertical | Distance | 3m
Test Engineer | Daiwei Dai | Test Voltage | AC 120V/60Hz

Note:
1. All readings are Quasi-peak values.
2. Measured = Reading + Antenna Factor + Cable Loss
3. The emission that are 20dB below the official limit are not reported.

---

Test Model | mini | Test Mode | Mode 1
---|---|---|---
Environmental Conditions | 22.1°C, 53.2% RH | Detector Function | Quasi-peak
Pol | Horizontal | Distance | 3m
Test Engineer | Daiwei Dai | Test Voltage | AC 120V/60Hz

Note:
1. All readings are Quasi-peak values.
2. Measured = Reading + Antenna Factor + Cable Loss
3. The emission that are 20dB below the official limit are not reported.

*Note: Pre-Scan all mode, Thus record worse case mode result in this report.*
4. PHOTOGRAPH

Photo of Power Line Conducted Measurement

Photo of Radiated Emission Measurement
5. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

Fig. 1

Fig. 2
Fig. 3

Fig. 4
Fig. 5

Fig. 6
Fig. 13

-------------------THE END OF TEST REPORT-------------------