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电子信息产品污染控制管理办法（第 39 号）


产品中有毒有害物质或元素的名称及含量

<table>
<thead>
<tr>
<th>部件名称</th>
<th>铅 (Pb)</th>
<th>汞 (Hg)</th>
<th>锡 (Cd)</th>
<th>六价铬 (Cr(VI))</th>
<th>多溴联苯 (PBB)</th>
<th>多溴二苯醚 (PBDE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>印刷线路板</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>电缆</td>
<td>×</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>连接器</td>
<td>×</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

○：表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 规定的限量要求以下。
×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 规定的限量要求。
## Revision History

<table>
<thead>
<tr>
<th>Date</th>
<th>Revision</th>
<th>Description</th>
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<tr>
<td>Feb. 20, 2018</td>
<td>0.95</td>
<td>First edition</td>
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| Mar. 14, 2017 | 0.96    | 2 Deliverables  
The deliverables were changed.  
Figure 2-1 was modified.  
4 Environment Requirements  
Table 4-1 were modified.  
5.1 Main Specification  
Table 5-1 was modified.  
5.4 Connectors and LED  
Figure 5-2 and Table 5-3 were modified.  
5.5 Label Position  
The Figure 5-4 was added.  
6.1 Confirmation of PCI Express I/O Bracket  
The description was modified. |
| Mar. 29, 2018 | 1.0     | 3. Related Documents  
The document name was modified.  
5.1 Main Specification  
The note was added. |
| Apr. 10, 2018 | 1.1     | 5.1 Main Specification  
The item “Memory” in Table 5-1 was modified. |
| Apr. 27, 2018 | 1.2     | 3. Related Documents  
The related documents were added. |
| Oct. 24, 2018 | 1.3     | 1. Overview  
Table 1-1 was added. |
| Nov. 22, 2019 | 1.3a    | The footer contents were changed. |
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1. Overview

"M820 Hybrid Codec" features the 4K/60p HEVC compatible multi-format CODEC IC “MB86M30” as well as the ARM® core based multi-core processor IC “SC2A11B”. “M820 Hybrid Codec” is an application platform for advanced video processing such as compressed video transcoding, real time extraction of semantical video information (meta data), and its integration with the video data. This application platform is enabled to extract maximum values from video data using the combination of the high-performance processing with the dedicated hardware and the flexible software processing with the general-purpose processor.

This document describes the hardware specification and setup of the M820L Hybrid Codec PCI Express card (hereinafter referred to as M820L). Figure 1-1 shows the appearance of M820L.

![M820L Hybrid Codec PCI Express card (M820L)](image)

Figure 1-1: M820L Hybrid Codec PCI Express card (M820L)

<table>
<thead>
<tr>
<th>Part number</th>
<th>MOQ/SPQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC0FM8A-1AA</td>
<td>5/5</td>
</tr>
<tr>
<td>SC0FM8A-2AA</td>
<td>1/1</td>
</tr>
</tbody>
</table>

Table 1-1: Part number and its MOQ/SPQ
2. Deliverables

The deliverables related to the M820L hardware are as follows:
1) M820L Hybrid Codec PCI Express card (M820L)
2) Standard PCI Express I/O bracket for M820L (for replacement from low profile bracket)
3) Screws for attaching bracket with M820L (two pieces)

![Figure 2-1: Deliverables](image)

Notes:
1. Electrostatic discharge (ESD) may damage M820L. Touch M820L under the ESD-safe environment. To prevent the static electricity from damaging M820L, it is recommended the user wears the antistatic glove/clothes or ESD preventive wrist strap.
2. If too much force is applied to M820L, the devices on this card may be damaged such as the twisting of the device pins. Do not exert too much force on M820L.
3. Related Documents

The documents related to this document are as follows:
- M820 Hybrid Codec Basic Model Application Guide (PCIe Endpoint Device, FFmpeg Edition)
- M820 Hybrid Codec Basic Model Application Guide (Stand-alone, FFmpeg Edition)
- M820 Hybrid Codec Basic Model Application Guide (Stand-alone, GStreamer Edition)

4. Environmental Requirements

Table 4-1 shows the environmental requirements for M820L.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Operating</th>
<th>Non-operating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>+ 0 °C to +35 °C</td>
<td>-40 °C to +70 °C</td>
</tr>
<tr>
<td>Minimum airflow</td>
<td>200 LFM (Inlet temperature: +55 °C)</td>
<td>-</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>5 % to 85 %, Non-condensing</td>
<td>5 % to 95 %, Non-condensing</td>
</tr>
</tbody>
</table>

Note:
High humidity and condensation on M820L causes short circuits. Do not operate M820L outside the environmental requirements. Make sure M820L is completely dry before providing the power.
In addition, when preserving M820L, preserve it in the non-condensing and ESD-safe environments.
5. M820L Hardware Specification

5.1. Main Specification

Table 5-1 shows the M820L main hardware specification.

<table>
<thead>
<tr>
<th>Table 5-1: M820L main hardware specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main processor</strong></td>
</tr>
<tr>
<td>CPU</td>
</tr>
<tr>
<td>Memory</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Interface</strong></td>
</tr>
<tr>
<td>Ethernet</td>
</tr>
<tr>
<td>PCI Express</td>
</tr>
<tr>
<td>USB</td>
</tr>
<tr>
<td><strong>Others</strong></td>
</tr>
<tr>
<td>Power supply</td>
</tr>
<tr>
<td>Size</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Weight</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Power consumption</td>
</tr>
</tbody>
</table>

Note:  
Do not install M820L in the PC/server chassis with the power management by the PCI-PM software compatible mechanisms enabled.

5.2. Block Diagram

Figure 5-1 shows the M820L block diagram.

![M820L block diagram](image-url)
5.3. Main Parts

Table 5-2 shows the M820L main parts.

Table 5-2: M820L main parts

<table>
<thead>
<tr>
<th>Part</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>SC2A11B (Socionext)</td>
</tr>
<tr>
<td>Codec IC</td>
<td>MB86M30 (Socionext)</td>
</tr>
<tr>
<td>GbE-PHY</td>
<td>BCM5482HA2KF8G (Broadcom)</td>
</tr>
<tr>
<td>UART to USB</td>
<td>CP2105-GM (Silicon Labs)</td>
</tr>
</tbody>
</table>

5.4. Connectors and LED

Figure 5-2 shows the M820L connectors and LED.

1. RJ-45 connector
2. Power indicator LED
3. Micro USB connector
4. PCI Express card edge

Table 5-3 shows the status description of LED.

Table 5-3: LED

<table>
<thead>
<tr>
<th>Color</th>
<th>Status description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>Power on</td>
</tr>
</tbody>
</table>
5.5. Label Position

The label position of the MAC address and serial number is as follows.

**Figure 5-3: MAC address**

**Figure 5-4: Serial number**
6. M820L Hardware Setup

This chapter describes the M820L hardware setup method.

6.1. Confirmation of PCI Express I/O Bracket

Firstly, confirm the PCI Express I/O bracket to be used of the PC/server chassis. If the standard bracket is used, it is necessary to replace the bracket with the standard bracket because the low profile bracket is attached to M820L before shipping.

Note:
The screws attached as the deliverables cannot be reused.

6.2. Installing M820L in PC/Server Chassis

After the replacement of the bracket as necessary, install M820L in the PC/server chassis which has the PCI Express card slot as shown below.

![M820L installed in server chassis](image)

Turn on the PC/server chassis after confirming M820L is correctly installed in its PCI Express slot. The M820L power supply is provided from PCI Express card edge power (+12 V).

In case of the M820L removal from PC/server chassis, remove the card after confirming the PC/server chassis in which the card has been installed is turned off. After removing the card, put the card into the ESD-protective case, bag, sheet, etc.

⚠️ Caution:
Depending on the M820L operating conditions, the surface of the devices on M820L may become extremely hot and possibly cause burns. Pay attention not to touch the surface of these devices when removing M820L from the PC/server chassis after the M820L operation is completed.
Notes:

1. Extreme care should be taken to mechanical stress to M820L in order to avoid the unexpected damage. For example, when the PC/server chassis is transported, this card should be removed from the PC/server chassis during transporting.

2. When installing/removing M820L in/from the PC/server chassis, do not exert too much force on this card. If too much force is applied to M820L, the devices on this card may be damaged. In addition, in case of M820L installation/removal, touch M820L under the ESD-safe environment. To prevent the static electricity from damaging M820L, it is recommended the user wears the antistatic glove/clothes or ESD preventive wrist strap.

For details of the M820L software installation and M820L operation, see "M820 Hybrid Codec Basic Model Application Guide".
7. Appendix

7.1. Standard Compliances

M820L is in compliance with the requirements specified by the following certification bodies:

- FCC Class A (USA & Canada)
- CE Mark Class A (Europe)
- BSMI (Taiwan)
- KC (Korea)
- VCCI Class A (Japan)