Revision History

<table>
<thead>
<tr>
<th>Revision</th>
<th>Date</th>
<th>Revision Summary</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>07/14/2004</td>
<td>Initial schematic</td>
<td>Hans Magnusson</td>
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<tr>
<td>0.2</td>
<td>07/15/2004</td>
<td>Added power jack w/ regulator and USB connector, replaced 100k ohm RN with discretes, replaced bussed 100k ohm RN with 2x4 element RNs, changed 12MHz crystal to 24MHz, changed 33uF tantal with 10uF ceramic on VDDIO33, added sockets for flash and EEPROM, added series 10k to SD_DET, added 2.2k pull on SM_PWR for spec. 1.20. Still needs a confirmation of I/O connector P/Ns.</td>
<td>C. Johnson</td>
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<tr>
<td>0.3</td>
<td>07/16/2004</td>
<td>Removed socket for EEPROM, updated population notes for Groups 1&amp;2, changed label at LED2 to read &quot;Power&quot;, connected all connector &quot;SHIELD&quot; pins to GND_SHIELD, renumbered the schematic.</td>
<td>C. Johnson</td>
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<tr>
<td>0.4</td>
<td>07/19/2004</td>
<td>Removed LED2 to prevent excess current draw during bus-powered mode, added 33uF cap footprint to VDDIO to allow a large bulk cap if needed.</td>
<td>C. Johnson</td>
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<tr>
<td>0.5</td>
<td>07/20/2004</td>
<td>Changed CF and SD connectors to reverse-pinout/bottom mount versions, changed SD and MS connectors to more available P/Ns, corrected VCC connection to FLASH, updated the option descriptions on page 2, removed unneeded M/D pull-up resistors, added optional timing cap to CF_PWR_FET gate, added bypass caps for XD connector per pin, tied VDD_3.3 to GND, changed input cap for regulator to 1uf, connected +5V_USB to VBUS_DET, changed USB2228 reset cap to 0.1uf and resistor to 10k, added 10pf caps to clock lines, added jumper for ROMEN, pull-up x520 to SM_PWR, pull-up SD_nWP to SD_PWR.</td>
<td>C. Johnson</td>
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<tr>
<td>0.6</td>
<td>08/10/2004</td>
<td>Added 1M ohm bleeder resistors to MS_PWR and SD_PWR.</td>
<td>C. Johnson</td>
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<tr>
<td>0.7</td>
<td>08/20/2004</td>
<td>Made the xD resistors DNP, added a note to explain the change. Changed the doc. number from EV-USB2228 to EVB-USB2228-2L. Replaced Q1 with FDN304P.</td>
<td>C. Johnson</td>
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<tr>
<td>A</td>
<td>09/21/2004</td>
<td>Released</td>
<td>C. Johnson</td>
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<tr>
<td>A1</td>
<td>11/15/2004</td>
<td>Refine DNP options</td>
<td>C. Johnson</td>
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<tr>
<td>B</td>
<td>11/16/2004</td>
<td>Refine bypass requirements.</td>
<td>C. Johnson</td>
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<tr>
<td>B.1</td>
<td>12/10/2004</td>
<td>Corrected the polarity of the WP pin on SD Socket, J8.</td>
<td>C. Johnson</td>
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EVB-USB2228-CRB
Evaluation Board for USB2228, 2 Layers

- USB Style B
- External Power
- External EMMC
- Option: Group 1 EEPROM Config
- Option: Group 2 FLASH Config
- REGULATOR
- +3.3V
- Ground
- D+/D-
- Compact Flash
- Memory Stick
- Smart Media
- Secure Digital
- USB2228
- Option Group 1 EEPROM Config
- Option Group 2 FLASH Config
Embedded card reader with USB2228.
Supports Compact Flash, Smart Media, Memory Stick, Secure Digital and xD Picture cards.

Options:
1) Group 1 and 2 not populated:
   Firmware in Internal ROM
   No unique serial number

2) Group 1 populated:
   Firmware in Internal ROM
   Unique serial number and configuration in EEPROM

3) Group 2 populated:
   Firmware in External FLASH
   Unique serial number and configuration in FLASH

4) Group 3 populated:
   Revision A1 or earlier is used. Do not populate for later revisions.

Notes:
A) Group 4 is not populated.
   These resistors are replaced with internal resistors within the USB2228. These resistors are recommended, but are not required for xD compliance.
B) xD functionality is not available when using the USB2227 device (U1).