The XR22404, XR22414 and XR22417 are USB 2.0, 4-port and 7-port hub controllers. They are the industry’s lowest power and smallest footprint options for USB 2.0, 4- and 7-port hubs.

The XR22404 is a USB 2.0, 4-port hub that can be configured for downstream device charging and is compatible with Battery Charging Specification revision 1.1/1.2. The XR22404 operates from either 3.3V or 5V supply allowing bus- or self-powered operation without an external LDO. It is available in a tiny 4mm x 4mm, 24-pin QFN or a 28-pin SSOP.

The XR22414 is a USB 2.0, 4-port hub using Multiple Transaction Translators (MTT) for highest bandwidth capability. It provides ganged or individual power control as well as global or individual over-current sensing modes. Operating from either a 5V or 3.3V supply allows for bus- or self-powered operation without an external LDO. The XR22414’s 3.3V output may be used for external circuitry if the device is powered by 5V. It is available in a 6mm x 6mm 48-pin QFN or a 9mm x 9mm 48-pin LQFP.

The XR22417 is a USB 2.0, 7-port hub also using Multiple Transaction Translators (MTT) for highest possible bandwidth capability. The XR22417 is available in a 64-pin LQFP as well as a smaller 48-pin version.

The XR22404, XR22414 and XR22417 use native hub device drivers and provide hub and downstream port activity indicators to simplify implementation. All controllers attach to upstream ports as hi-speed (480Mbps) or full-speed (12Mbps) hubs. The downstream PHYs support hi-speed, full-speed and low-speed (1.5Mbps) on each of the downstream ports.
USB 2.0 Hub Controllers

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Data Bus Interface</th>
<th>Downstream Ports</th>
<th>Downstream Port Disable</th>
<th>Transaction Translator</th>
<th>Bus-Powered</th>
<th>Self-Powered</th>
<th>Battery Charging</th>
<th>Over-current Monitoring</th>
<th>Individual Port Power Management</th>
<th>Ganged Port Power Management</th>
<th>Supply Voltage Range Vcc (V)</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>XR22404</td>
<td>USB 2.0</td>
<td>4</td>
<td>✔</td>
<td>STT</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
<td>3.0 to 3.6, 4.4 to 5.25</td>
<td>QFN24, SSOP28</td>
</tr>
<tr>
<td>XR22414</td>
<td>USB 2.0</td>
<td>4</td>
<td>✔</td>
<td>MTT</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<td></td>
<td></td>
<td>3.0 to 3.6, 4.4 to 5.25</td>
<td>QFN48, LQFP48</td>
</tr>
<tr>
<td>XR22417</td>
<td>USB 2.0</td>
<td>7</td>
<td>✔</td>
<td>MTT</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
<td>4.4 to 5.25</td>
<td>LQFP64, LQFP48</td>
</tr>
</tbody>
</table>

Note: Temperature Range 0 to 70 (°C)

Evaluation Boards Available for all Package Options

- XR22404CG28EVB
- XR22404CL24EVB (Pictured)
- XR22414CL48EVB
- XR22414CV48EVB (Pictured)
- XR22417CV48EVB
- XR22417CV64EVB (Pictured)