Amphenol ABSI
5U 14 Slot Dual-Dual Star 40Gbps Backplane

Description
ATCA 5U, 14 slot dual-dual star backplane is one of the varieties of Amphenol ABSI’s ATCA standard backplane products. Our ATCA backplane products are compliant to PICMG 3.0 specifications. Amphenol ABSI have an industry leading Backplane Design and Signal Integrity team that offer optimized ATCA backplane solutions for data rates of 10G, 40G and 100G.

ATCA 5U, 14 slot backplanes have the defined Zone 1 power connectors and Zone 2 signal connectors. Zone 1 connectors contain the system management interface and power entry pins. Zone 2 connectors contains Base interface, Fabric interface, Update Channel and Clock interface. Base interface are in dual star topology. Fabric interfaces are in dual-dual star topology.

Features of ATCA 5U, 14 slot, 40G backplane:
• Compliant to PICMG 3.0 Rev 3.0 specification
• 5U backplane height
• 14 standard ATCA slots
• 1.2” Slot pitch
• 4 ATCA switch slots (6, 7, 8 & 9)
• 10 ATCA node slots
• Dual-Dual Star topology (4 TX lanes and 4 RX lanes in each node slot)
• Dual-Dual Star topology Data rate support: 40Gbps (4 x 10Gbps)
• Zone 1 power connector
• Zone 2 signal connector
• System management interface
• Press-fit connectors
• RoHS compliant
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Node Slots
Zone 2 HMZD Connector Pin out

<table>
<thead>
<tr>
<th>Slot</th>
<th>Pin Out</th>
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<tbody>
<tr>
<td>P20</td>
<td>![Pin Out Diagram]</td>
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<tr>
<td>P21</td>
<td>Unused</td>
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<tr>
<td>P22</td>
<td>![Pin Out Diagram]</td>
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<tr>
<td>P23</td>
<td>![Pin Out Diagram]</td>
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<tr>
<td>P24</td>
<td>Unused</td>
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</tbody>
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Zone 2 connectors are 4 pair 10 position HMZD connectors
Node slot Zone 2 connectors pin out:
- Sync clock pin out: 6 pairs each slot
- Updated channel pin out: 10 pairs each slot
- Fabric Interface pin out: 8 pairs between each node slot and each switch slot.
- Base Interface pin out: 4 pairs between each node slot and each switch slot.
- Unused pairs

Switch Slots
7&8 Zone 2 HMZD+ Connector Pin out

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</table>

Zone 2 connectors are 4 pair 10 position HMZD connectors
Switch slot Zone 2 connectors pin out rules:
- Sync clock pin out: 6 pairs each slot
- Updated channel pin out: 10 pairs each slot
- Fabric Interface pin out: 8 pairs between each node slot and each switch slot.
- Base Interface pin out: 4 pairs between each node slot and each switch slot.
- Unused pairs
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Switch Slots
6&9 Zone 2 HMZD+ Connector Pin out

Routing Topology: Dual-Dual Star
The dual-dual star topology contains 4 central switch slots. In a 14 slot dual-dual star topology, the node slots are connected to the 4 central switch slots using point-to-point connections. 4 differential pairs connect the Base Interface between each node and central switch slots 7&8. The Fabric Interface is connected with 8 differential pairs between each node and switch slots.

Customization
Our ATCA range of backplanes are all available for customization. Speak with our Sales & Marketing team for further information.
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**PCB information:**
- PCB size: 445.82mm x 237.46mm x 6.3mm
- PCB Thickness: 6.3mm
- TU862HF material or better SI performance.
- Independent power and ground layers for power distribution
- Differential signal impedance 100Ω +/-10%,
- Sync clock 130Ω +/-10%

**Connector Type:**
TE HMZD+ 4 pairs 10 positions connectors (second source ERNI) are used in the ATCA system interconnect. The HMZD connector is used in backplane zone 2.

**Power entry solution**
ATCA have specified the zone 1 connector for power entry and management bus. 34Pin power connectors are used on the ATCA 5U 14 slot dual-dual star backplane. The connector is available from Positronic, Harting, ERNI, EPT, etc.

**Guide Pin module:**
Standard guide pin modules from TE are used in the ATCA backplane.
Amphenol ABSI

Amphenol ABSI is an industry leader in backplane and system solutions. Amphenol ABSI has been a leading designer and manufacture of backplanes for more than 30 years.

Amphenol ABSI delivers:
• Industry leading interconnect technology
• Advanced printed circuit capabilities and partnerships
• Innovative backplane system design and manufacturing
• Integrated design / applications engineering services
• Flexible, global support and supply chain management
• Most extensively tooled Backplane Supplier in the industry
• Industry leading Mechanical and SI test solutions
• Lowest cost solution on highest performance backplane