mITX-KBL-H-CM238

EMBEDDED mITX MOBILE MOTHERBOARD WITH
7th GEN Intel® 14NM QUAD CORE™ i3/i5/i7, XEON® E3

- long term available embedded mITX mobile class motherboard
- Intel® HD graphics with 3 independent ports
- SO-DIMM socket DDR4-2133 memory (up to 32 GByte)
- TPM2.0 and hardware security device to protect applications and licensing
- up to 4 GBE RJ45 Ethernet LAN ports
mITX-KBL-S-C236

Typical Applications
- POS/POI: Higher Graphics and CPU core performance, Low power, multi display support
- Medical/Connectivity: Higher Graphics and CPU core performance, longevity
- Industrial Automation: Wide range of I/Os, compact size, longevity
- Digital signage: Multi display support, low power, wide range of I/Os
- Future-oriented Devices: Display Port and LVDS, low power, compact size

The mITX-KBL-H-CM238 is part of the Security Solution Product Line the motherboard is prepared for Application Protection, License Creation, Delivery, Management and Tracking, Implementation of license models as well as the assignment of privileges and access levels.
## TECHNICAL INFORMATION

<table>
<thead>
<tr>
<th>PROCESSOR</th>
<th>Intel® Xeon® E3, Core™ i7/i5/i3</th>
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</thead>
<tbody>
<tr>
<td>MEMORY</td>
<td>2x DDR4 SODIMM 2133 MHz (up to 32 GByte)</td>
</tr>
<tr>
<td>GRAPHICS INTERFACE</td>
<td>3x Independent Displays (3x DP)</td>
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<tr>
<td>SPECIAL</td>
<td>TPM2.0, hardware security device, M.2 (2280, Socket 3, M-Key), SPI Fast Interface, SIM</td>
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<tr>
<td>SATA PORTS</td>
<td>4x SATA Gen 3.0</td>
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<tr>
<td>MPCIe / MSATA SLOT</td>
<td>1x Mini-PCIe with USB2.0/PCI/SATA and external to SIM</td>
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<tr>
<td>SERIAL PORTS</td>
<td>1xRS232, 1xRS485 Half duplex / 2 pairs RS422</td>
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<tr>
<td>LAN PORTS</td>
<td>4x Ethernet on front IO Gigabit-LAN (10/100/1000MBit), 2x optional</td>
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<tr>
<td>USB PORTS</td>
<td>2x USB 3.0 (internal) + 1x USB3.0 (Client) + 2x USB 3.0 (Rear) + 2x USB 2.0 (Rear) + 2x USB 2.0 (Front) + 1x USB 2.0 (mPCIe)</td>
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<tr>
<td>AUDIO</td>
<td>HD Analog audio interface (Line-In, Line-Out, Mic-In, SPDIF)</td>
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<tr>
<td>PCIE SLOTS</td>
<td>1x PCIe x16 (Gen 3)</td>
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<tr>
<td>TPM</td>
<td>TPM2.0, Hardware Security Device</td>
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<tr>
<td>POWER SUPPLY</td>
<td>Single supply 12-24 V DC</td>
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<td>MTBF</td>
<td>TBD</td>
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<tr>
<td>SAFETY</td>
<td>IEC 60950-1: 2005, 2nd Edition UL 60950-1, CSA C22.2 No. 60950-1</td>
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<tr>
<td>COOLING SOLUTIONS</td>
<td>Passive and active cooling solutions</td>
</tr>
<tr>
<td>OPERATING TEMPERATURE</td>
<td>-25 °C to +70 °C</td>
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<tr>
<td>REGULATORY</td>
<td>Comply with Emission: EN55022</td>
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<td>ROHS COMPLIANCE (CE)</td>
<td>ROHS II Compliant (Directive 2011/65/EU)</td>
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<tr>
<td>DIMENSIONS</td>
<td>Mini-ITX, 170 x 170 mm</td>
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<tr>
<td>OPERATING SYSTEMS</td>
<td>Win10, Linux</td>
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<tr>
<td>BIOS</td>
<td>AMI Aptio V UEFI</td>
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## GLOBAL HEADQUARTERS

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