FMC250

FMC Dual ADC 12-bit 2.6 GSPS,

Key Features

- Dual AD9625 ADC 12-bit at 2.6/2.5/2.0 GSPS
- 8 JESD204B lanes from each ADC is routed to the FMC+ connector
- Single DAC AD9164/AD9162 16-bit 12 GSPS
- FPGA Mezzanine Card (FMC+) per VITA 57.4
- Excellent dynamic performance
- Front panel interface includes CLK In, Trig In and Trig Out

Benefits

- Ideal for Broadband communications systems, Wireless infrastructure, LTE, ATE, RADAR / Jamming
- Compatible with a broad range of Xilinx and Altera based FMC carriers from VadaTech and others
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company
**FMC250**

The FMC250 is an FPGA Mezzanine Card (FMC+) per VITA 57.4 specification. The board has dual ADC and single DAC.

The FMC250 utilizes dual AD9625 ADCs providing 12-bit conversion rates of up to 2.6 GSPS and a single DAC (AD9162 or AD9164) providing 16-bit conversion rates of up to 12 GSPS.

The analog input, digital output, clock and trigger interfaces of the FMC250 are routed via SSMC connectors. The internal clock frequency is programmable and the clock is capable of locking to an external reference.

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**Block Diagram**

![Block Diagram of FMC250](image)

**Front Panel**

![Front Panel of FMC250](image)
# Specifications

<table>
<thead>
<tr>
<th>Architecture</th>
<th>Dimensions</th>
<th>Type</th>
<th>Standards</th>
<th>Configuration</th>
<th>Power</th>
<th>Environmental Temperature</th>
<th>Front Panel Interface Connectors</th>
<th>Software Support</th>
<th>Conformal Coating</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>Width: 2.71&quot; (69 mm)</td>
<td>FMC</td>
<td>VITA-57 ANSI/VITA 57.4</td>
<td>FMC250 ~10 W</td>
<td></td>
<td>Operating temperature: -5° to 45°C (55°C for limited time, performance restrictions may apply), industrial and extended versions also available (See environmental spec sheet)</td>
<td>7x SSMC: Analog Out, dual Analog In, Trig In, Trig Out, Clk In and Clk Ext</td>
<td>Operating System</td>
<td>Humiseal 1A33 Polyurethane (Optional)</td>
<td>MIL Hand book 217-F@ TBD hrs</td>
</tr>
<tr>
<td></td>
<td>Depth: 3.70&quot; (94 mm)</td>
<td>Dual port ADC with single DAC</td>
<td>VITA-57</td>
<td></td>
<td>Storage Temperature: -40° to +90°C</td>
<td></td>
<td></td>
<td>LEDs Status and user defined (total 5)</td>
<td>Humiseal 1B31 Acrylic (Optional)</td>
<td>Designed to meet FCC, CE and UL certifications, where applicable</td>
</tr>
<tr>
<td>Type</td>
<td>FMC</td>
<td>Dual port ADC with single DAC</td>
<td>VITA-57</td>
<td></td>
<td>Vibration 1G, 5 to 500 Hz on each axis</td>
<td></td>
<td></td>
<td>Shock 30Gs on each axis</td>
<td></td>
<td>VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards</td>
</tr>
<tr>
<td>Standards</td>
<td>FMC</td>
<td>Dual port ADC with single DAC</td>
<td>VITA-57</td>
<td></td>
<td>Relative Humidity 5 to 95 per cent, non-condensing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Two (2) years</td>
</tr>
<tr>
<td>Configuration</td>
<td>FMC250</td>
<td>Dual port ADC with single DAC</td>
<td>VITA-57</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

## INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of ATCA and μTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTM), Power Modules, and more. The company also offers integration services as well as pre-configured Application-Ready Platforms. Please contact VadaTech Sales for more information.

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## Ordering Options

**FMC250 – ABC-000-G0J**

<table>
<thead>
<tr>
<th>A = RF Sampling Clock</th>
<th>G = FMC Board Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = Direct RF Sampling at fixed 2.0 GSPS</td>
<td>0 = 10 mm (per VITA-57 specification)</td>
</tr>
<tr>
<td>1 = Direct RF Sampling</td>
<td>1 = 17.5 mm *</td>
</tr>
<tr>
<td>2 = Via on Board PLL</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B = ADC Sampling</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = 2.0 GSPS</td>
</tr>
<tr>
<td>1 = 2.5 GSPS</td>
</tr>
<tr>
<td>2 = 2.6 GSPS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C = DAC</th>
<th>J = Temperature Range and Coating**</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = AD9164</td>
<td>0 = Commercial (−5° to +55° C), No coating</td>
</tr>
<tr>
<td>1 = AD9162</td>
<td>1 = Commercial (−5° to +55° C), Humiseal 1A33 Polyurethane</td>
</tr>
<tr>
<td></td>
<td>2 = Commercial (−5° to +55° C), Humiseal 1B31 Acrylic</td>
</tr>
<tr>
<td></td>
<td>3 = Industrial (−20° to +70° C), No coating</td>
</tr>
<tr>
<td></td>
<td>4 = Industrial (−20° to +70° C), Humiseal 1A33 Polyurethane</td>
</tr>
<tr>
<td></td>
<td>5 = Industrial (−20° to +70° C), Humiseal 1B31 Acrylic</td>
</tr>
<tr>
<td></td>
<td>6 = Extended (−40° to +85° C), Humiseal 1A33 Polyurethane</td>
</tr>
<tr>
<td></td>
<td>7 = Extended (−40° to +85° C), Humiseal 1B31 Acrylic</td>
</tr>
</tbody>
</table>

* For use with carriers that require higher mating clearance, such as VadaTech AMC595. Requires full size AMC

** Edge of module for conduction cooled boards, consult factory for availability

### Related Products

- Xilinx Ultra Scale XCVU440 w/ QorIQ PPC2040
- 8 GB of DDR-4 (single bank of 64-bits)
- FMC support (with special connector)

- Quad DAC 16-Bit @ 2.8 GSPS With Quadrature Modulator
- Single DAC39J84
- On board dual Wideband Quadrature Modulator

- Analog Devices AD9234 dual 1 GSPS ADC
- The Analog inputs for the ADC are DC coupled
- Analog Devices AD9162/9164 6 GSPS RF DAC Supported by DAQ Series™ data acquisition software
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