Key Features

- FPGA Mezzanine Card (FMC) per VITA 57
- Dual DAC 14-bit @ 2.5 GSPS (AD9739)
- 2 Vpp differential analog output swing
- Programmable DSP clock
- Dynamic performance
  - 8 QAM carriers @ 400 MHz IF –71 dBc
  - 16 QAM carriers @ 400 MHz IF –68 dBc
  - 32 QAM carriers @ 400 MHz IF –65 dBc
  - 72 QAM carriers @ 600 MHz IF –61 dBc
- Single tone NSD @ 2.4 GSPS
  - 166 dBm/Hz @ 100 MHz IF
  - 162 dBm/Hz @ 1 GHz IF
- Trig In/Out

Benefits

- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company
FMC222

The FMC222 is an FPGA Mezzanine Module per VITA 57 specification. The FMC222 has dual DAC 14-bit at 2.5 GSPS. The DAC converter utilizes the Analog Devices AD9739.

The unit is designed for synthesizing of broadband signals, with enhanced linearity and band flatness performances. The two DAC are capable of synchronization with incoming data between the two.

The analog output can be programmed for +/- 1V.

Figure 1: FMC222
Block Diagram

Figure 2: FMC222 Functional Block Diagram

Front Panel

Figure 3: FMC222 Front Panel
Specifications

| Architecture | Dimensions | Single module  
|--------------|------------|---------------|
| Physical     | Width: 2.71" (69 mm)  
|              | Depth 3.01" (76.5 mm)  
| Type         | FMC        | Dual DAC  
|              |            | Single FMC slot  

| Standards | FMC Type | ANSI/VITA 57.1 - 2008  

| Configuration | Power | FMC222 ~6W  
|              | Environment | Temperature | See Ordering Options  
|              | Storage Temperature: −40° to +85°C  
|              | Vibration | Operating 9.8 m/s² (1G), 5 to 500 Hz on each axis  
|              | Shock | Operating 30Gs each axis  
|              | Relative Humidity | 5 to 95% non-condensing  

| Front Panel | Interface Connectors | 6x MMCX  
|            | LEDs | Status  

| Other | MTBF | MIL Hand book 217-F@ TBD hrs  
|       | Certifications | Designed to meet FCC, CE and UL certifications, where applicable  
|       | Standards | VadaTech is certified to both the ISO9001:2015 and AS9100D standards  
|       | Warranty | Two (2) years, see VadaTech Terms and Conditions  

INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of ATCA and MTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTMs), 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.
Ordering Options

FMC222 – AB0-D00-GHJ

<table>
<thead>
<tr>
<th>A = RF PLL Synthesizer*</th>
<th>D = Input Impedance</th>
<th>G = FMC Board Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = 1.8 GHz for sampling at 1.8 GSPS</td>
<td>0 = 75Ω Input Impedance</td>
<td>0 = 10 mm (per VITA-57 specification)</td>
</tr>
<tr>
<td>1 = 2.5 GHz for sampling at 2.5 GSPS</td>
<td>1 = 50Ω Input Impedance</td>
<td>1 = 17.5 mm**</td>
</tr>
<tr>
<td>2 = 1.28 GHz for sampling at 1.28 GSPS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 = 2.0 GHz for sampling at 2.0 GSPS</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>B = Input Clock</th>
<th>H = Operating Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = 10 MHz</td>
<td>0 = Commercial</td>
</tr>
<tr>
<td>1 = 100 MHz</td>
<td>1 = Industrial</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>J = Conformal Coating</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = No coating</td>
</tr>
<tr>
<td>1 = Humiseal 1A33 Polyurethane</td>
</tr>
<tr>
<td>2 = Humiseal 1B31 Acrylic</td>
</tr>
</tbody>
</table>

Notes:
*Contact VadaTech for more information on other PLL synthesizer frequencies and input clocks.
**For use with carriers that require higher mating clearance, such as VadaTech AMC595. Requires full size AMC.

Related Products

AMC515
- AMC FPGA carrier for FPGA Mezzanine Card (FMC) per VITA 57
- AMC Ports 4-11 are routed to FPGA (protocols such as PCIe, SRIO, XAUI, etc. are FPGA programmable)
- Xilinx Virtex-7 XC7V2000T in 1925 package

AMC530
- Altera Stratix IV Device EP4S100Gx in 1517 pin count (40mm x 40mm)
- Onboard PLL for buffering/multiplying and jitter cleaner
- AMC Ports 2-3 and 4-11 are routed to FPGA (protocols such as PCIe, SRIO, XAUI, etc. are FPGA programmable)

FMC210
- FPGA Mezzanine Card (FMC) per VITA 57
- Single ADC EV10AS150B @ 2.6 GSPS
- 5 GHz Full Power Input Bandwidth (–3dB)
Contact

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