ADHOC TEKNOLOJİ A.Ş.

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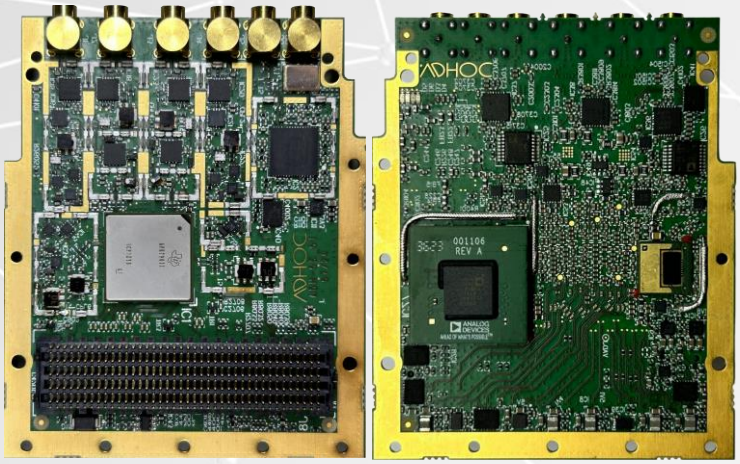
Wideband AFE FPGA Mezzanine Card (FMC)



Highlighted Features

- 2x2 MIMO 2Tx-2Rx or 2Tx/Rx Architecture
- 5 MHz - 2.5 GHz Operating RF Frequency
- Direct RF-Sampling ADCs and DACs
- Digitally Tunable Filters(DTF)
- High Gain LNAs with 1.1 dB NF
- Tx Output Power 20dBm (P_{1dB} : 30 dBm)

Features

RF Transceiver Unit	• AFE7903 • Industrial Oper. Temp. -40 to 85°C) • Dual 14-bit DAC at 12 Gsps • Dual 14-bit ADC at 3 Gsps • Up to 400MHz IBW per Rx/Tx Channel • 40 dB, 0.125dB steps Internal DSA on Tx • 25dB, 0.5dB steps Internal DSA on Rx
Filters	• 30-90 MHz / 90-225 MHz/ 225-520MHz/ Bypass on Rx1 Channel • 520-1300 MHz / 1250-2600 MHz / Bypass on Rx2 Channel • Ceramic 2.5GHz Low Pass Filters at Rx and Tx channels
Low Noise Amplifiers	• GaAs MMIC LNA typ. 1.1 dB NF and 19.5 dB typ. gain • Two selectable stage on Rx channels
Integrated Power Amplifiers	• GaAs MMIC PA 25 dB typ. gain • Output P_{1dB} : 30 dBm
Analog Monitoring	• RSSI at RX connector and RFIC stage on each RX channels • TSSI on each Tx channel
Dynamic Port Switching	• Constant Impedance SP2T RF Switch on Rx and Tx channels • Supports different antenna topologies
Clock	• Internal VCXO (tj typ. 83fs @12KHz-20MHz) • Synchronization with External Clock serves multiple AFE boards

Interfaces

RF Connectors	• SMP RF Connectors
	  • Rx1
	  • Tx1/Rx1
	  • Rx2
	  • Tx2/Rx2
	  • EXT_CLK_IN
	  • EXT_CLK_OUT

VITA 57.1 FMC HPC	• 8 Lane JESD204B/C up to 29.5 Gbps, • VADJ-3V3 Level Translated I/O 48 LA port Control I/O • VADJ-3V3 Level Translated I/O 4 HA port Control I/O • 2K EEPROM and Temperature Sensor • JTAG 3V3 Compatible
Power	• 3A at 3.3V and 1A at 12V supplied from Carrier Board as defined by ANSI/VITA 57.1

Mechanical

Size	• 69 mm x 84 mm (2.72” x 3.31”)
Mounting	• Ruggedized
Cooling	• Conduction Cooled

Address

Üniversiteler Mah. 1605. Cadde, Bina No:3/1, E Blok No: 101

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Contacts

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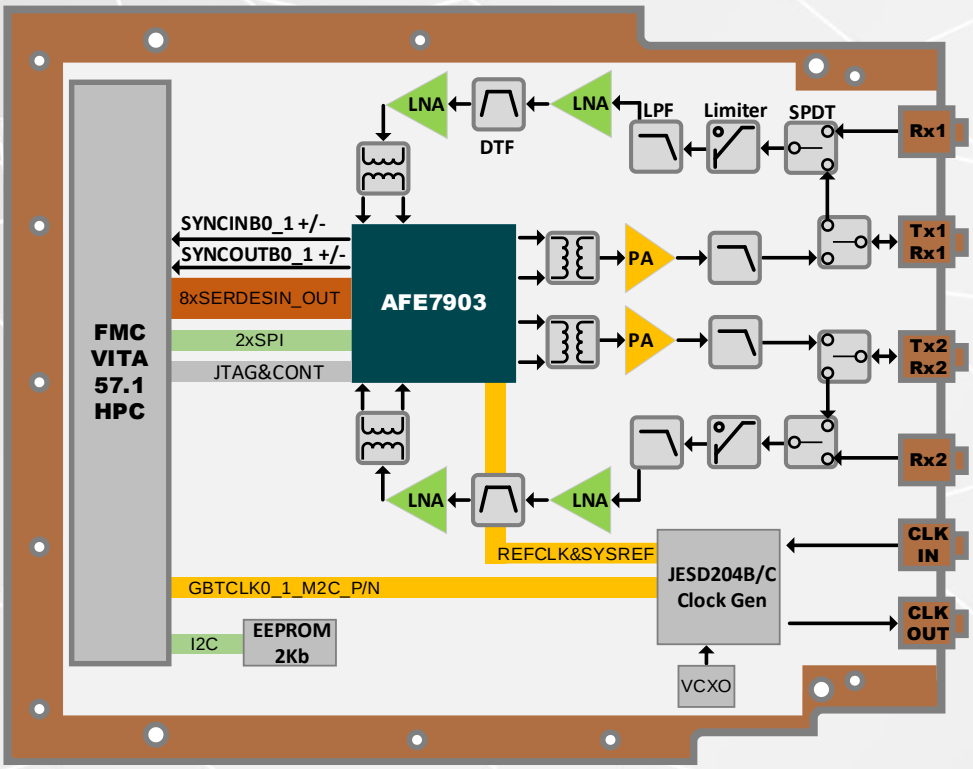

Target Applications

- Flexible Architecture for Wide Range of Applications
- Optimal Software-Defined-Radio Front-End for Multiple Waveforms
- Multi-functional Radio Equipment like Cognitive Radio
- Reliable Communication (Diversity)
- Prototyping for Mass Production Solutions
- Satellite Communication with BUC and LNB
- Microwave Backhaul Systems
- Wireless Signal Processing and Analysis

Support Services

- Highly motivated and skilled engineering team for custom development
- Contact us for IP solutions

Customization

- Optimized custom design according to the desired operating frequency range
- Optimized custom design according to specific mechanics
- Fully compatible with the ADHOC Teknoloji VIMK Board as the carrier FPGA board

Adhoc Teknoloji A.Ş. is a startup engineering company located in Ankara, Türkiye. The company specializes in high-performance communication solutions, driven by its highly motivated engineering team.

In addition to design services, Adhoc Teknoloji A.Ş. is currently focusing on its High Frequency Trading Solutions, which include FPGA-based Tick-to-Trade systems, Accelerators, Market Data Simulators, Pre-Trade Risk Checks and Precision Network Measurement & Analysis tools.

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