

VITA

From Lab Bench To Aircraft Pod
Using VITA Technologies
Rick Ary – VP of Sales

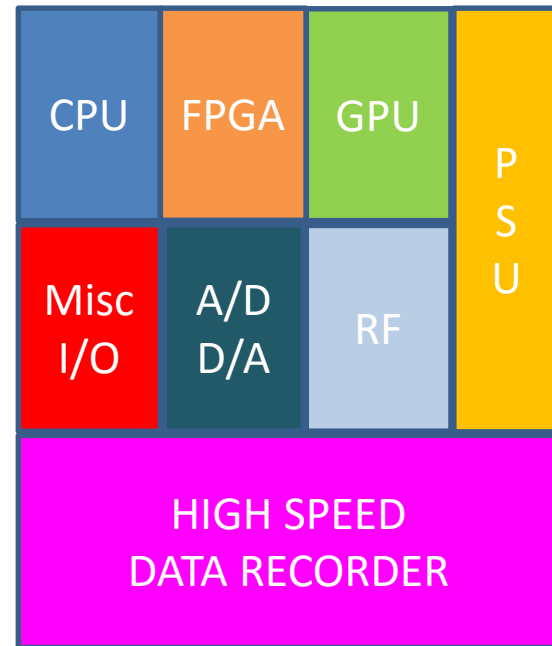


Certified to
AS9100C



Precisely Right.

HOW DO YOU SOLVE THIS PUZZLE?



CUSTOMER CHALLENGES AND RISK MANAGEMENT



No Single Source

- Ability to procure HW from multiple vendors
- Avoid being locked into vendor specific FW and SW

Broad Customer Base

- Product used in multiple projects/programs
- Benefit from upgrades and improvements

Ruggedization and reliability

Technology Insertion

- Better performance using state-of-the-art technology
- Minimum upgrade cost

Full Life Cycle Support

- Obsolescence
- Acquisition, Sustainment, Disposal

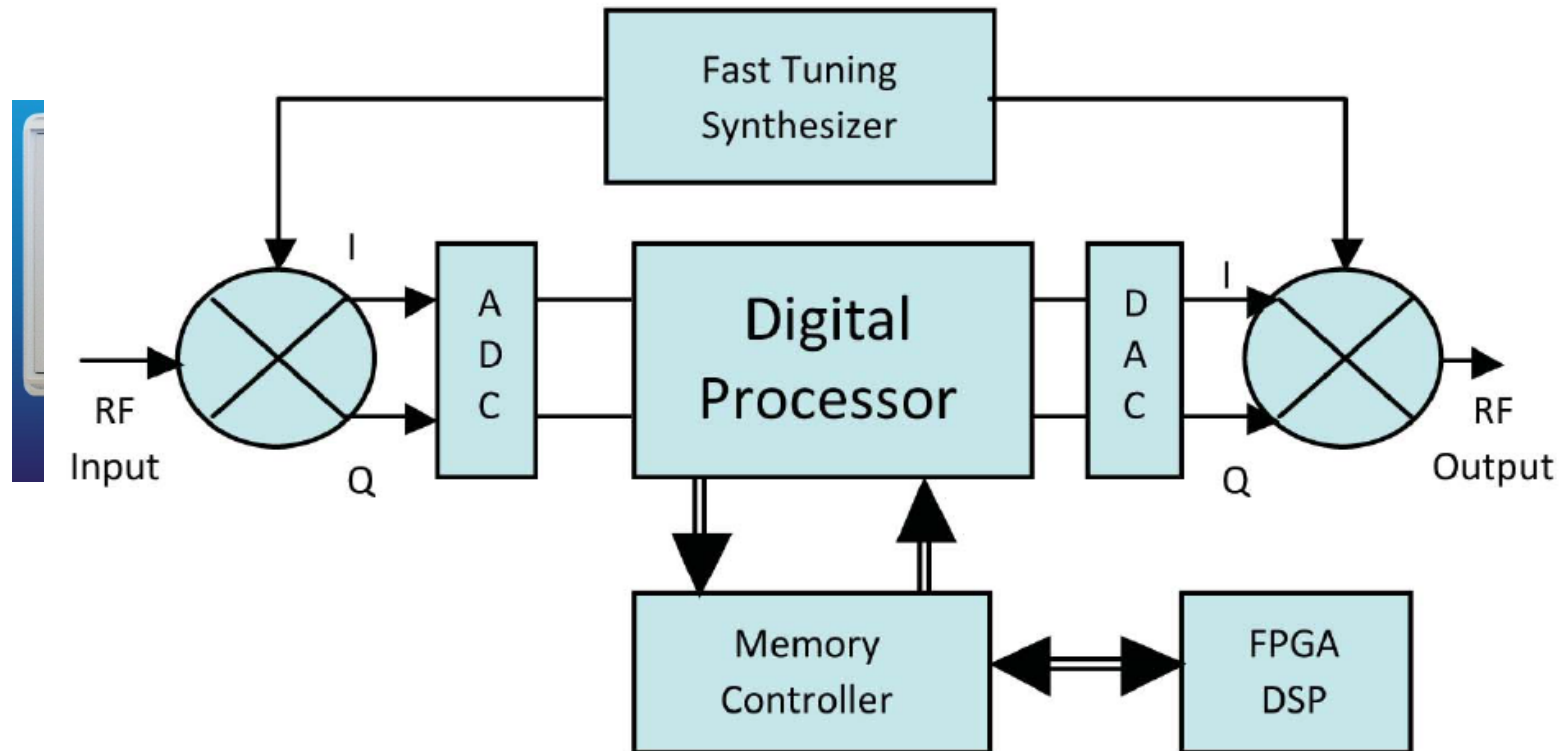
Short Lead Time

- Commercial Off-The-Shelf
- Mission ready

CASE STUDY



Designing a powerful EW platform to fit in an airborne pod



Requirements

4DSP

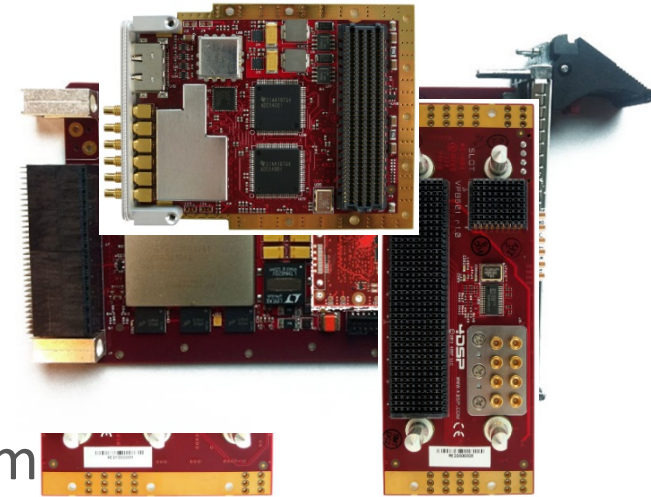
- Multi GigaHertz Wideband Transceiver
- 2.5GHz Instantaneous Analog Bandwidth
- Support for Intel i7, GPU and Virtex-7 technology
- Embedment in AN/ALQ-167 9" aircraft pod
- Environmental constraints
- Increased computational and signal analysis capability



Solution

4DSP

- Leverage VITA Standards!
 - FMC
 - 3U VPX
- Modular backplanes
- Phased approach from prototyping to deployment
- Work with collaborative vendors



FPGA MEZZANINE CARD

4DSP

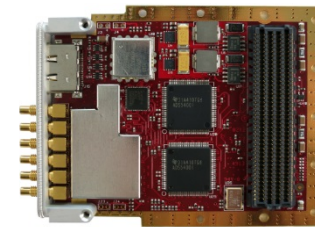
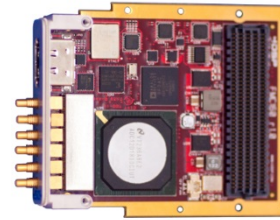
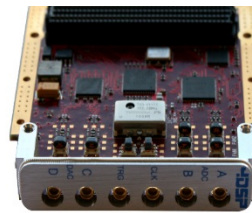
FMC - VITA 57.1

- Small form factor



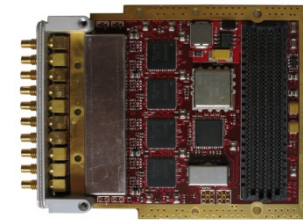
- Conduction Cooled

- FPGA family agnostic



- A/D, D/A, RF, Video, TI DSPs, CLK & 1PPS, Optical Communication

- 100+ FMCs available from 20+ vendors



- Interoperability of FPGA carriers and FMC from different vendors (VITA 57.2)

- Roadmap for adding more bandwidth to the FMC connector (VITA 57.4)

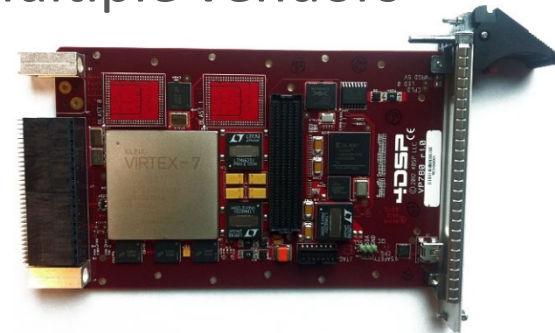
VPX

4DSP

VPX – VITA 46 – VITA 48 – VITA 6x

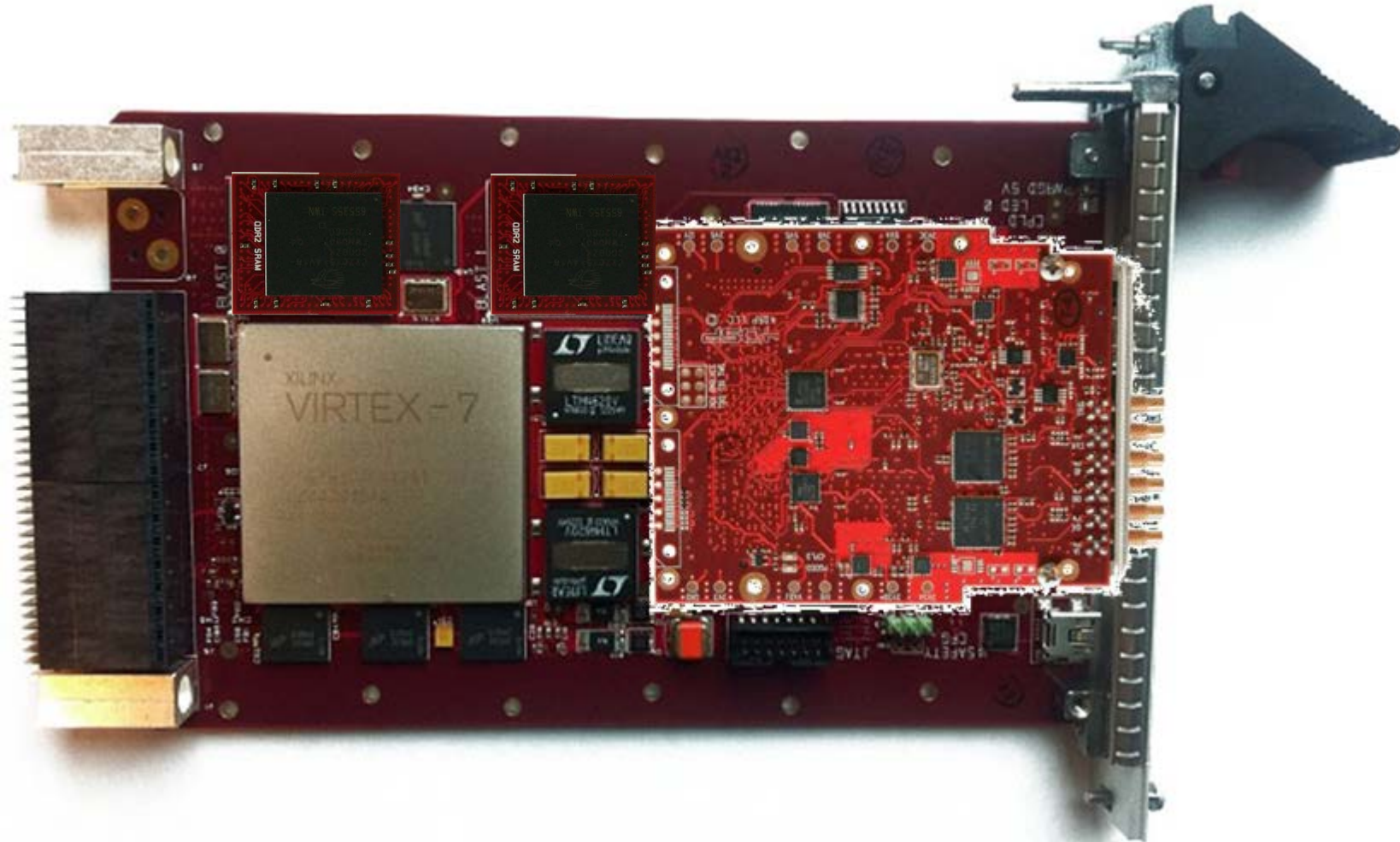
- Conduction Cooled & Ruggedized
- Standardized Control and Data Flow Architecture
- Unsurpassed bandwidth in 3U and 6U form factors
- Digital, Analog, Optical connection to backplane
- Interoperability guaranteed between multiple vendors
- Widely adopted and understood

*Open*VPX™



VPX and FMC : A Potent Combination

4DSP



Lab System

4DSP

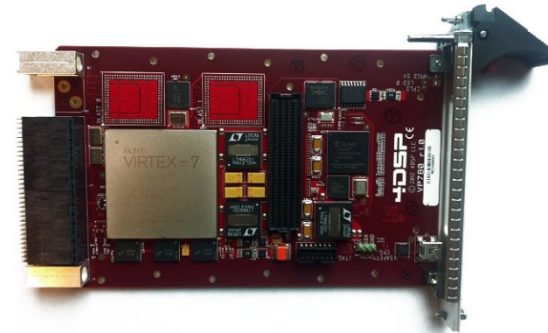
VPX360

- 6-slot 3U VPX system
- Off-The-Shelf
- OpenVPX compatible



VP780

- 3U VPX Virtex-7
- 10GB DDR3 SDRAM
- FMC site



FMC170

- 5Gbps A/D and D/A



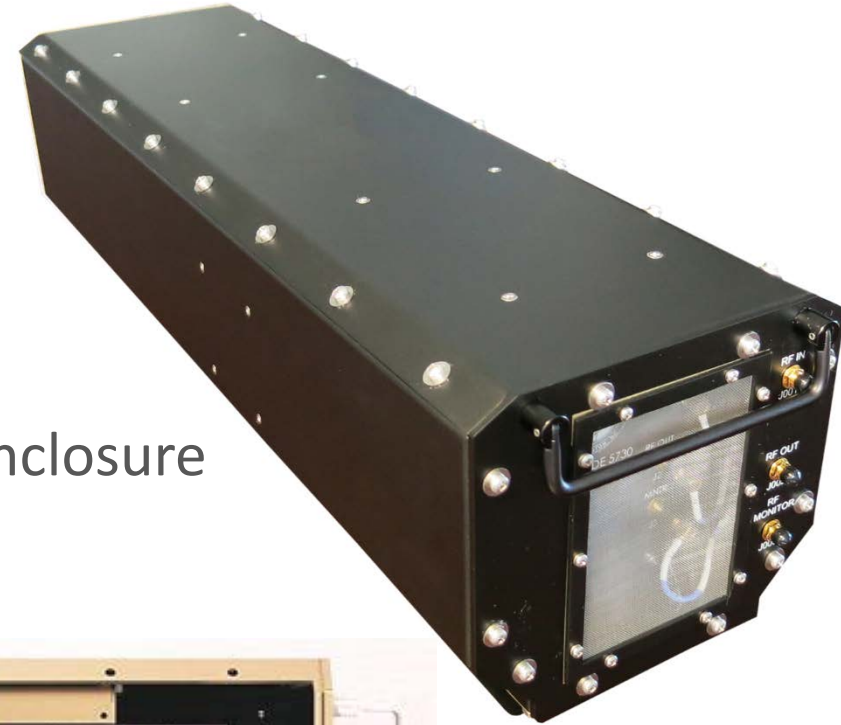
Miscellaneous 3rd party cards

Deployment System

4DSP

VPX167

- 6-slot 3U VPX system
- Backplanes back to back
- SBC with Quad Core i7 CPU
- FPGA cards and FMCs
- Integrated LRUs
- Ruggedized, conduction cooled enclosure
- 40 lbs maximum – 500W PSU



The Future is Modular

4DSP



THANK YOU!

The logo for 4DSP, featuring the text "4DSP" in a bold, blue, sans-serif font. The "4" is stylized with a horizontal bar through it. The logo is enclosed in a rounded rectangular border with a slight glow effect.

RICK ARY – VP OF SALES



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