

AV155

Phased-Array Radar Transceiver
EW-ESM/ECM

3U VPX / SOSA

AMD Versal™ RF VR1652 / VR1952

Quad / Octal 14-bit 32 Gsps ADC

Octal 14-bit 16 Gsps DAC

Analog bandwidth up to 18 GHz

Conduction Cooled



Applications

Phased-Array Radar Transmitter / Receiver

Electronic Warfare ESM /ECM

Broadband Communication

Target Radar Simulator/ Generator

Airborne embedded systems

Features



AMD Versal™ RF VR1652 or VR1952

4/8 channels 32 Gsps 14-bit ADC
(VR1652/VR1952)

8 channels 16 Gsps 14-bit DAC

Analog bandwidth up to 18 GHz

Ultra Low jitter clock synthesizer

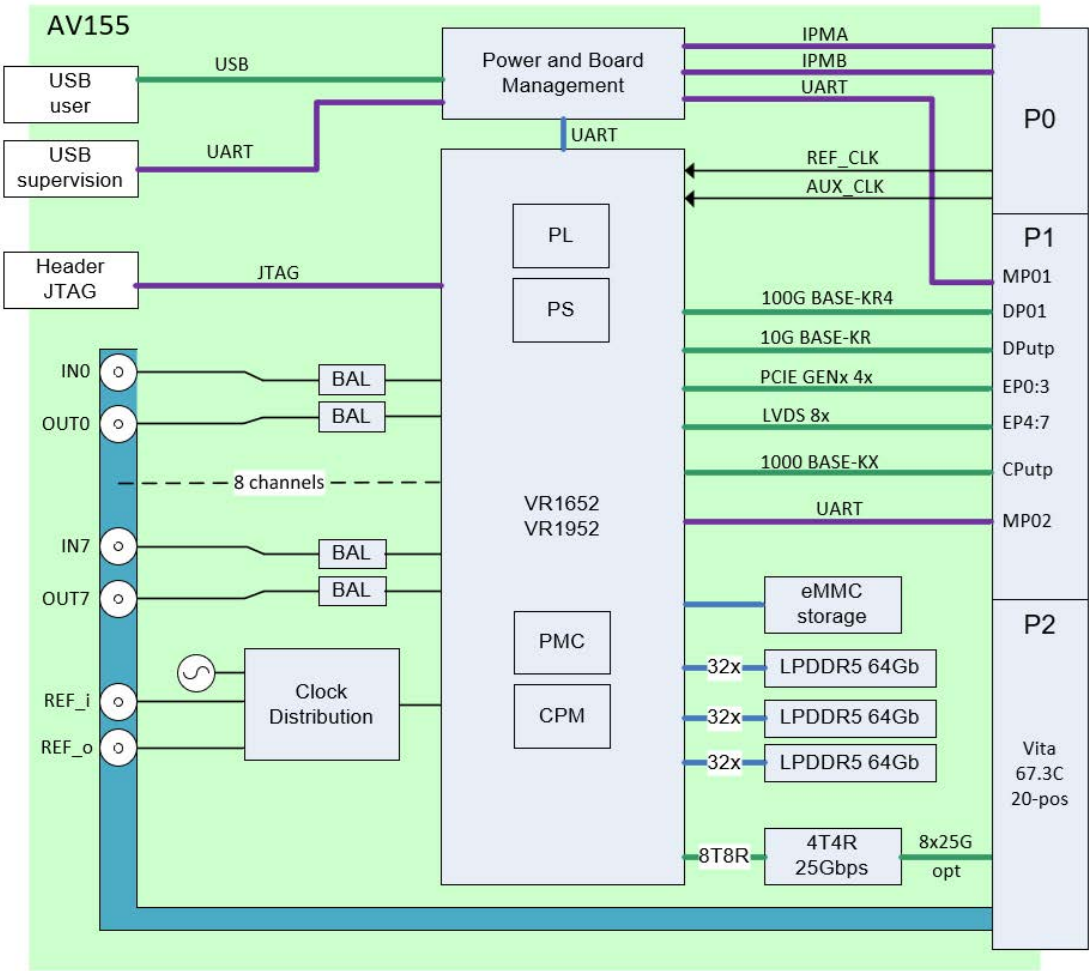
2x 100Gbps optical interfaces

External or internal sampling clock reference

3x 32-bit 64Gb 8533Mbps LPDDR5X

Conduction Cooled

SOSA-aligned



Form Factor

3U VPX Conduction cooled Vita 48.2, pitch 1.0" Two Ultra-low jitter clock synthesizers

VPX Profile

SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11-12

Analog Input/Output

Input coupling: AC
Full power bandwidth: 10MHz to 18 GHz
Output coupling: AC
Full power bandwidth: 10MHz to 18 GHz
Impedance: 50 Ohm
Connectors: Vita 67.3 NanoRF

Analog-Digital Conversion

Four / Eight channels, up to 32Gsps (VR1652/VR1952)
Resolution: 14 bit

Digital-Analog Conversion

Eight channels, up to 16Gsps
Resolution: 14 bits

Clock

External or internal sampling clock reference
Impedance: 50 Ohm
Connectors: Vita 67.3 NanoRF

Memory

Three 32-bit 64Gb 8533Mbps LPDDR5X
One 2 Gbit QSPI FLASH memory
eMMC storage

Operating temperature

ECC3, -40°C to 70°C

Power dissipation

+12V: 14 A max (170W)
+3.3VAUX: 0.6A max (2W)

Weight

630g

VPX interface

P1:
Data plane: one fat pipe DP01 supporting 100GBASE-KR4
Data plane: one ultra-thin pipe DPutp01 supporting 10GBASE-KR
Control plane: one ultra-thin pipe CPutp01 supporting 1000BASE-KX
Expansion plane: one fat-pipe supporting PCIE GEN3 4x
Expansion plane: 8 LVDS differential pairs

P2:
Vita 67.3C Aperture H
NanoRF Contacts-6.4.5.6.10
4x/8xIN, 8xOUT, REFIN, REFOUT
optical: 2x4 GT lanes up to 25 Gbps/lane

Board Support Package

FPGA + HPS example design
SW API and examples, Windows 10 64-bits / Linux 64-bits
User manuals
Quick start guide