RINCON RESEARCH
EMPLOYEE OWNED

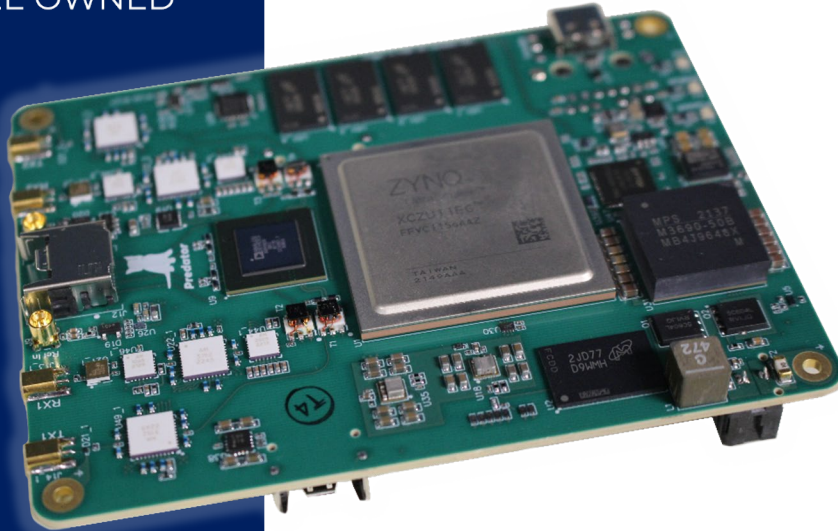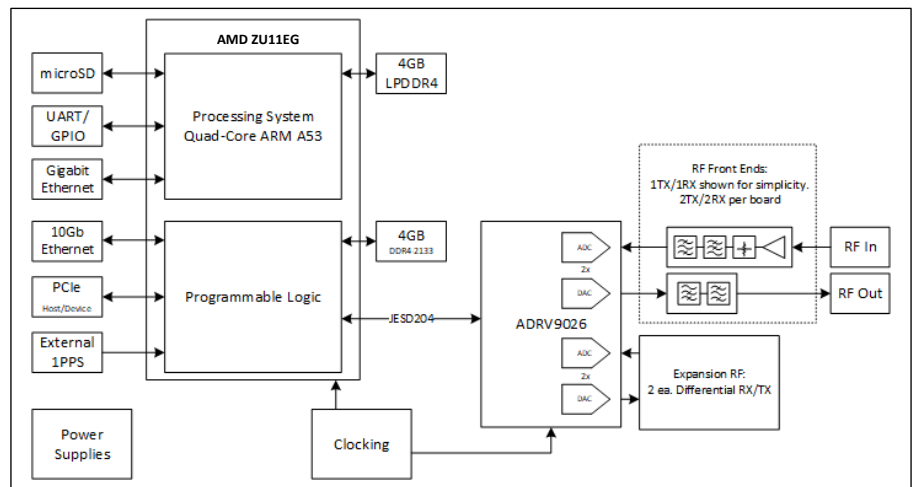# PREDATOR SDR
LOW-SWAP, HIGH-PERFORMANCE, ALL-IN-ONE RADIO

- Leverages the latest in Analog Devices' RF technology and AMD field-programmable gate array (FPGA) processing capabilities

- The ADRV9026 paired with an XCZU11EG provide ample onboard processing capabilities while the many digital inputs/outputs (I/Os) allow offloading data for host-side processing

BLOCK DIAGRAM

PREDATOR SDR

SPECIFICATIONS

- FPGA XCZU11EG-1FFVC1156E
  - 4-GB RAM FPGA processor (PS)
  - 4-GB RAM FPGA programmable logic (PL)
- RF Transceiver ADRV9026
  - 75 MHz to 6 GHz RX and TX
  - 245.76-Msps maximum sample rate
  - Up to 200 MHz instantaneous bandwidth
  - Two independent tuners
  - 4 RX channels
    - 2 SMPM RX with preselect filter, gain, attenuation
    - 2 RX channels over differential cable via ARF
    - 4 TX channels
      - 2 SMPM TX with preselect filters
      - 2 TX channels over differential cable via ARF
    - JESD204c Digital Interface
- Command and control: 1 GbE RJ45
- 10 GbE
  - Cabled to external 4x SFP interface
  - Samtec ARF6-RA Slim Socket for ARC6
- PCIe Gen3x4
  - Samtec Razor Beam™ LSHM high-speed terminal/socket strip
  - Either host or endpoint configurable
- Expansion connector
  - 20-pin Pico-Clasp header
  - 8 GPIO (differential pair capable pins)
  - Dedicated I2C bus for external board control
  - SFP management controls for 10 GbE
  - Logic-level UART connection for GPS-NMEA messages
- Fractional-N reference clock
  - Configurable external reference frequency
  - Internal reference operation
  - SMPM 50 Ω connector
- 1PPS: SMPM 50 Ω connector
- FPGA JTAG, processor UART console: USB 2.0, Type-C connector
- SWaP
  - Dimensions: 106 mm x 80 mm (4.2" x 3.15")
  - Weight: 3 oz. (est)
  - Power: 70 Watts peak
- Power supply: 9–16VDC
  - 50 A core supply

PREDATOR

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