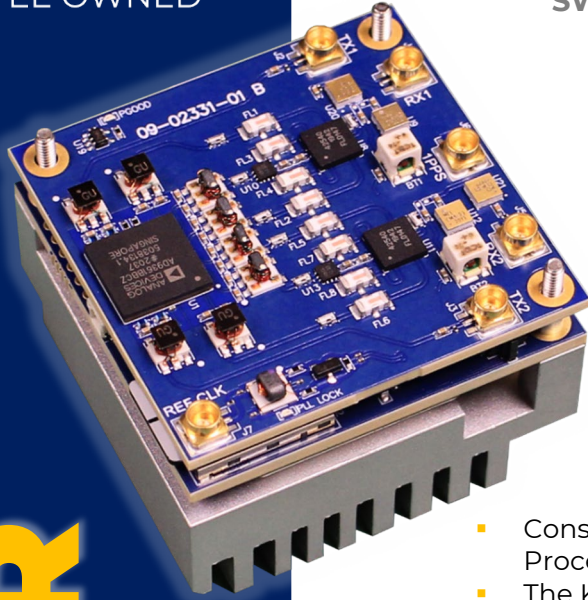


## KESTREL SDR

ZYNQ ULTRASCALE & MPSOC SDR DEVELOPMENT KIT  
COMPACT, 2X2, MIMO-CAPABLE TRANSCEIVER, OPTIMIZED FOR  
SWAP-CONSTRAINED APPLICATIONS



- Smaller package: dimensions are 1.75" x 1.8" x 1.375" with heatsink installed
- Ideal for footprint- and volume-constrained applications
- Low power consumption, 4 W to 5 W idle
- Fractional-N reference PLL
- 2 Rx/2 Tx MIMO solution, covering 70 MHz to 6 GHz
- AMD Zynq UltraScale+ XCZU5EG-2SFVC784I

- Consists of two circuit cards—the Kestrel Processor and the Kestrel Radio
- The Kestrel software-defined radio (SDR) design is based on the Raptor SDR Development Kit and shares the same radio IC, the same family of AMD SoC, and the same embedded-Linux operating system

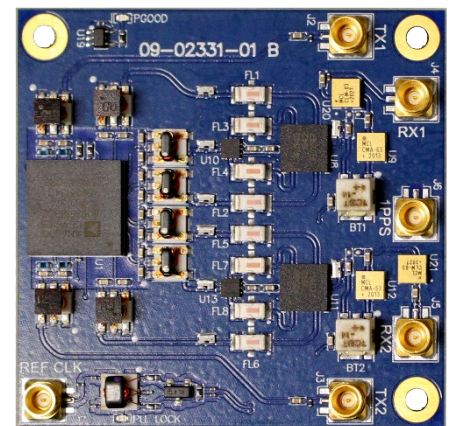
### THE KESTREL'S RF TRANSCEIVER

- Transceiver is MIMO-capable from 70 MHz to 6 GHz
- The configurable transmit path supports 70 MHz to 6 GHz
- Receiver performance is enhanced by a four-band preselector and wideband low-noise amplifier (LNA)

**KESTREL SDR**

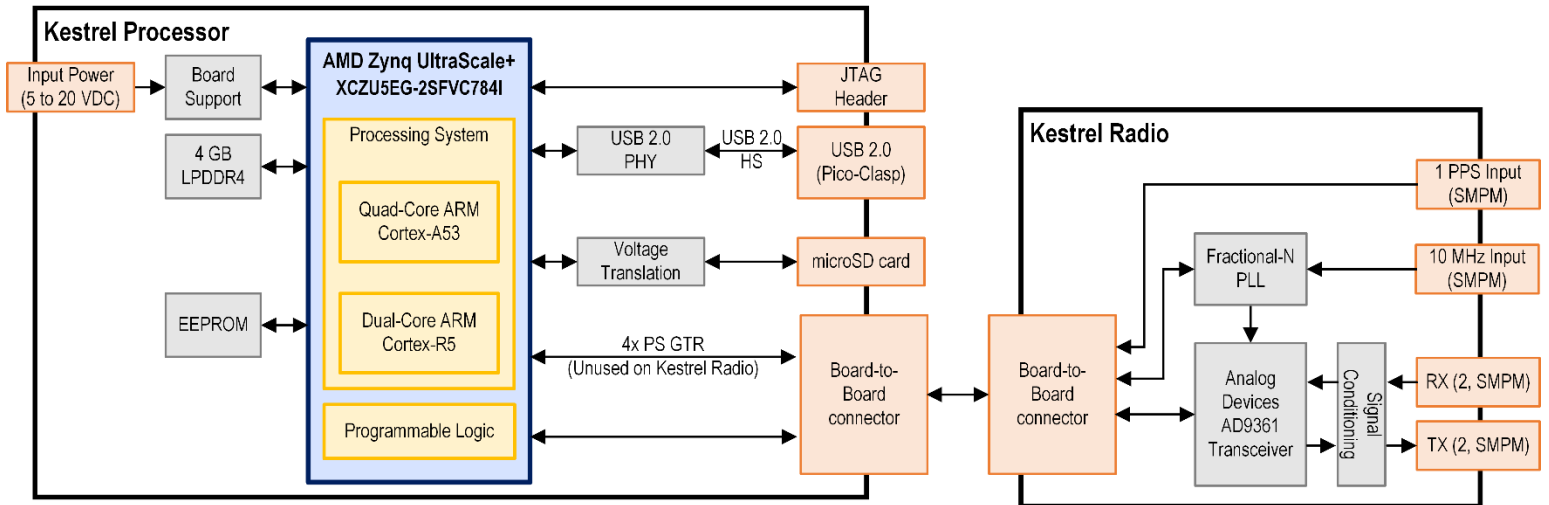


**KESTREL PROCESSOR**



**KESTREL RADIO**

# BLOCK DIAGRAM



## SPECIFICATIONS

### GENERAL

- Transceiver: Analog Devices AD9361
- Tuning range: 70 MHz to 6 GHz
- Bandwidth: Up to 56 MHz, 61.44 MSPS complex, 12-bit resolution
- Receive path: On-board limiter, LNA, and four-band preselector per receiver; preselector is run-time configurable; LNA can be bypassed at hardware build time
- Transmit path: Low-power (>7.5 dBm typ) path per transmitter
- Connectors: All RF connectors are subminiature push on micro (SMPM)
- Timing signal: 1PPS, 10 MHz reference (10 MHz reference port can accept other reference frequencies)
- Development interface: board support package (BSP), drivers, JTAG, and COTS tool support
- Dimensions: 1.75" x 1.8" x 1.375" with heatsink installed
- Mass: 33.2g (1.17 oz) without heatsink; 100g (3.53 oz) with heatsink
- Power: External 5.5–20V supply, ~12W max; reverse-polarity protected

### SoC

- AMD Zynq Ultrascale+ XCZU5EG-2SFVC784I
- FPGA: 256k system logic cells, 1248 DSP slices
- Application processor: Quad-core ARM Cortex-A53 1.3 GHz, 64 bit
- Real-Time processor: Dual-core ARM Cortex-R5 533 MHz
- Memory: 4 GB of LPDDR4 attached to processing system
- USB: 1x USB 2.0 via Molex Pico-Clasp (device mode only)
- Storage: MicroSD
- Runs embedded Linux
- Command and control available over USB



<b>ADDRESS</b>	<b>ORDER LINE</b>	<b>TECH SUPPORT</b>	<b>FAX/WEB</b>
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