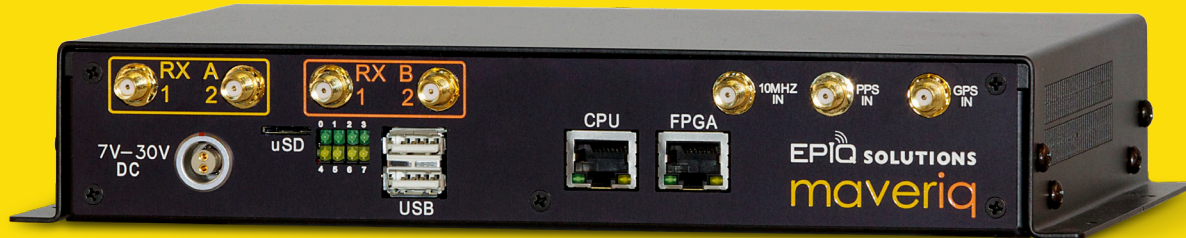




Multichannel Reconfigurable RF Transceiver



SCAN

A solution for scanning and decoding cellular radio signals from both base stations as well as mobile phones.

Software applications for
GSM, UMTS, LTE & WiMAX

RECORD

A solution for wideband RF recording to the internal hard drive (SSD). Also supports RF playback.

Software applications for
GSM, UMTS, LTE & raw I/Q

MIMO

A solution for implementing 2x2 MIMO waveforms.

Ideal for
LTE, WiMAX & 802.11n



Epiq Solutions' Maveriq™ SDR is an advanced software defined radio platform combining multiple RF transceivers, internal solid state drive for data recording, and a gigabit ethernet interface for high speed data access. Maveriq™ introduces a paradigm shift in signal processing capabilities packaged in a portable, low power platform, where previous solutions required large and bulky hardware configurations. Combined with a library of ready-to-run specialty software applications, Maveriq™ can immediately be used to solve challenging signal processing requirements on day one.

KEY FEATURES

- » Supports 2x2 MIMO or 4 channel receiver configurations
- » RF tuning range from 70 MHz to 6 GHz
- » Quad-core x86 CPU running Linux + FPGA for signal processing tasks
- » Gigabit Ethernet for interfacing to external systems
- » Internal solid state hard drive (SSD) supports data recording up to 100 MB/sec sustained
- » Integrated GPS receiver with 1PPS
- » 9.1" x 6.6" x 1.7", < 2 lbs (fits in 1U rack)
- » Run time loadable/executable software applications
- » SDK available for custom application development

RF SPECIFICATION

- » SMA (50 Ω) inputs
- » Tuning range of 70 MHz to 6 GHz
- » Tuning time of <2 mS
- » Step-size of 1 kHz
- » Zero-IF (direct conversion) architecture
- » 12 bit A/D converter sample width
- » 47 kHz to 27 MHz baseband configurable LPF
(RF channel bandwidths from 233 kHz to 61.44 MHz)

DIGITAL SPECIFICATION

- » Intel® Atom™/Celeron (Quad-Core x86) @ 1.9 GHz
- » Xilinx Spartan® 6 LX150T (-3 speed grade)
- » 8GB NandDrive (root file system, user storage)
- » Ubuntu 16.04 OS
- » 8GB DDR3 @ 1333 MHz RAM for CPU
- » Up to 1 TB internal storage (contact for options)
- » 2x USB 2.0 High speed host, RJ45 for 10/100/1000 Base-T Ethernet to CPU
- » Typical power consumption of 8 - 14 W (dependent on FPGA and I/O usage)

GPS SPECIFICATION

- » SMA input
- » 50 Channels
- » Sensitivity of -162 dBm (navigation), -148 dBm (cold start)
- » Accuracy of <2.5 meters
- » Start time of 1 second (hot start) or 26 seconds (cold start)
- » Supports 3 V bias active antennas by default
- » NMEA sentences over UART (9600 baud, N81) 1 PPS signal

POWER INPUT SPECIFICATION

- » Lemo EGG.1B.302.CLL (locking) connector
- » Voltage range of 7 V to 30 V DC

RECEIVER SPECIFICATION

- » Six internal pre-select filter paths
- » Typical noise figure of 5 dB
- » Typical IIP3 of -10 dBm
- » Gain control range of 0 to 85 dB
- » Up to 61.44 MHz A/D converter sample rate
- » Stand-alone power consumption of 400 mW
- » ESD protection at RF input of 20 kV (human body model)
- » Max safe RF level of 20 dBm (at max gain)

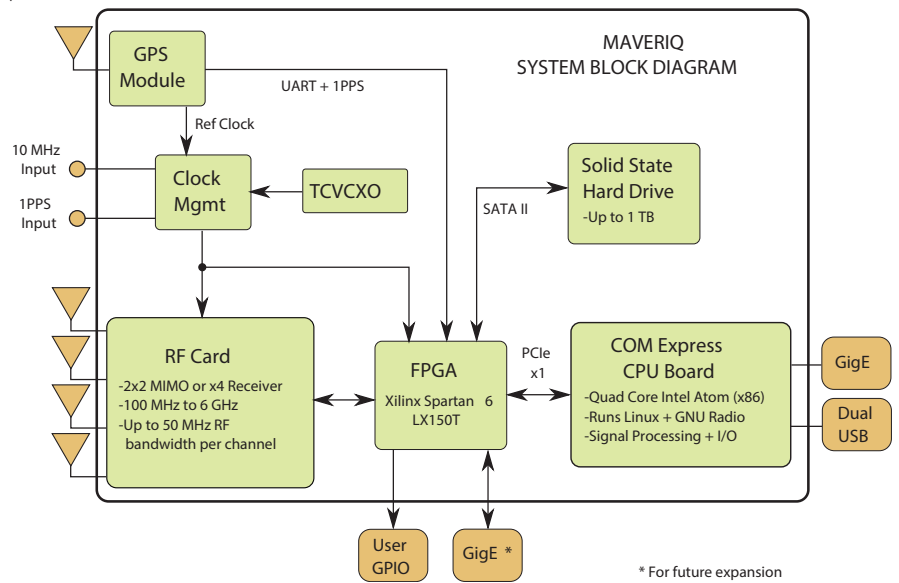
TRANSMITTER SPECIFICATION

- » Gain control range of 0 to 90 dB
- » Max TX output power of +5 dBm
- » Up to 50 MHz D/A converter sample rate
- » Stand-alone power consumption of 500 mW

SYSTEM REFERENCE CLOCK SPEC

- » Temp Compensated, Voltage Controlled Crystal Oscillator (TCVCXO)
- » Frequency of 40 MHz with +/- 1 ppm (-30 to +85 deg C) accuracy
- » Frequency warping of +/- 5 ppm
- » External ref clock input of 10 MHz (for phase locking)
- » External synchronization of 1PPS

BLOCK DIAGRAM



* Specifications subject to change without notice