



Matchstiq™ Z3u

Next Generation Low SWaP Fully Integrated Software – Defined Radio (SDR) Platform

RADICALLY SMALL, INDUSTRIAL – GRADE RF SIGNAL PROCESSING PLATFORM

REDUCE RISK AND ACCELERATE DEVELOPMENT OF MISSION CRITICAL RF TRANSCEIVER SOLUTIONS

The Matchstiq Z3u is a field-ready, complete software-defined radio (SDR) platform designed to deliver a fully integrated RF transceiver plus signal processing solution in the smallest possible form factor. Measuring just 3.64" x 2.74" x 0.75" and weighing 5.6 ounces, the Matchstiq Z3u is ideal for on-the-go signal processing applications. An integrated magnetic mount allows the platform to attach to a cell phone or other portable device, deriving power and providing communications through a single USB-C port. As a completely stand-alone platform, Matchstiq Z3u can execute signal processing applications locally on the AMD® Zynq® Ultrascale+ System on Chip (SoC), or interface to a host platform over USB 3.0 to execute applications on the host.

KEY HIGHLIGHTS

Supports 2-Channel Phase Coherent Rx Mode, or 1Tx + 1Rx Independent Mode

10 MHz + PPS inputs

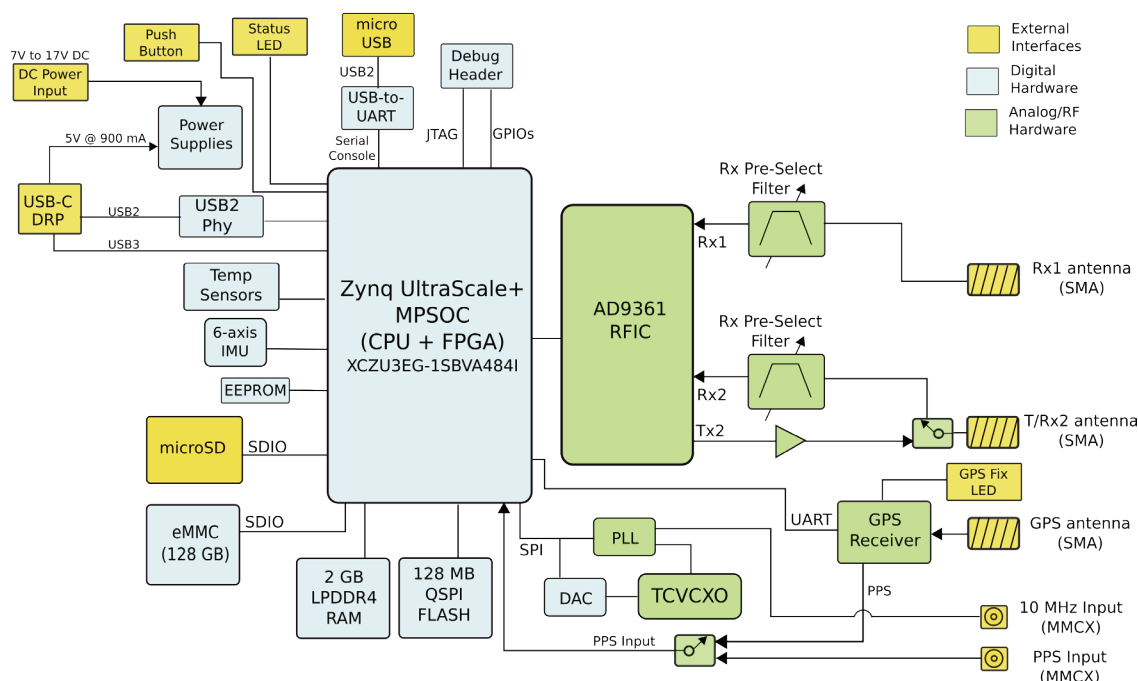
GPS Disciplined Oscillator

AMD® Zynq® Ultrascale+ SoC (XCZU3EG)

128 GB eMMC + microSD Card Slot

USB 3.0 OTG Interface

BLOCK DIAGRAM



PHYSICAL SPECIFICATION

DIMENSIONS

- 3.64" x 2.74" x 0.75"

WEIGHT

- 5.6 oz

POWER

- < 4.5W
- Power via USB-C connector or DC barrel jack (7-17V)

DIGITAL SPECIFICATION

SYSTEM-ON-CHIP (SOC)

- AMD® Zynq® Ultrascale+ XCZU3EG
- Quad-core ARM Cortex A53 CPU (64-bit)
- 154K logic cells
- 7.6 Mbits block RAM
- 360 DSP slices

RAM

- 2GB LPDDR4 SDRAM

NON-VOLATILE STORAGE

- 128 GB eMMC + microSD card slot

OPERATING SYSTEM

- Linux (Ubuntu 18.04)

USB INTERFACE

- USB 3.0 OTG via USB-C

GPIO

- Access via I/O header

SERIAL CONSOLE ACCESS

- Console available via microUSB

ACCELEROMETER

- 6-axis IMU

JTAG

- Access via I/O header

GPS RECEIVER SPECIFICATION

GPS MODULE

- Origin Spider ORG4033

NUMBER OF CHANNELS

- 99 search channels, 33 simultaneous tracking channels

COLD START

- < 31 seconds

SENSITIVITY WHILE TRACKING

- -165 dBm

TYPICAL PPS ACCURACY

- 30 nS

RF SPECIFICATION

FLEXIBLE RF FRONT END SUPPORTS VARIABLE OPERATING MODES

- 2-channel phase coherent Rx, or 1Tx + 1Rx

RF TUNING RANGE

- 70 MHz to 6 GHz

RF CHANNEL BANDWIDTH

- 200 KHz up to 56 MHz

TYPICAL RX NOISE FIGURE

- < 8 dB

TYPICAL RX IIP3

- > -10 dBm

RX PRE-SELECT FILTERS

- Flexible bandpass filter from 50 MHz to 6 GHz on both Rx channels

TX AND RX SAMPLE RATE RANGE

- 233 Ksamples/sec – 61.44 Msamples/sec

A/D AND D/A CONVERTER SAMPLE WIDTH

- 12-bits

RX GAIN RANGE

- 0-76 dB

TX GAIN RANGE

- 0-89 dB

TYPICAL TX OUTPUT POWER

- +13dBm below 2GHz and +10dBm above 2GHz



Specifications subject to change without notice.

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