

# Handheld Reconfigurable RF Transceiver

Introducing the newest members of the Matchstiq™ S10 Family - the Matchstiq™ S11 and Matchstiq™ S12.

Epiq Solutions' Matchstiq™ S10/S11/S12 defines the state-of-the-art in small form factor software defined radio platforms. Building on the success of the award-winning Matchstiq™ S1 and Z1 platforms, Matchstiq™ S10/S11/S12 provides increased RF flexibility, RF performance, and signal processing capacity, in a smaller and lighter package.

Development kits for Matchstiq™ S10/S11/S12 are also available to enable end-users to rapidly leverage the benefits of the platform for their own customized applications.



## KEY FEATURES



RF transceiver tuning range of 70 MHz to 6 GHz (S10/S11) and <1 MHz to 6 GHz (S12)



Supports RF channel bandwidths up to 50 MHz



Integrated GPS receiver with 1PPS



On board Xilinx Spartan®6 LX45T FPGA for signal processing tasks

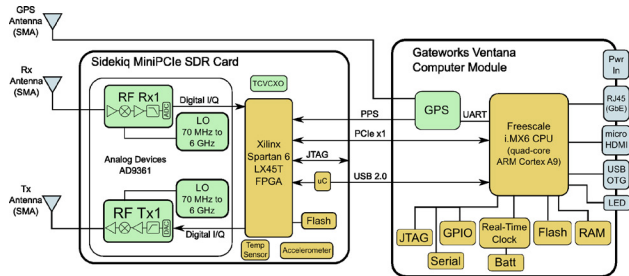


Quad-core ARM Cortex A9 CPU @ 800 MHz (Freescale i.MX6) running Linux

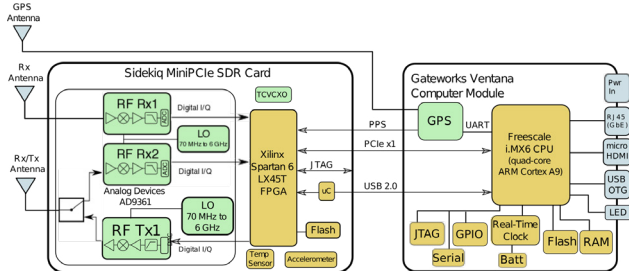


Gigabit ethernet, USB 2.0 OTG, and HDMI ports for external interfacing

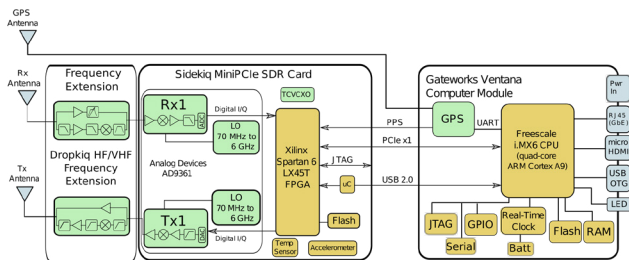
## BLOCK DIAGRAMS



Matchstiq S10



Matchstiq S11



Matchstiq S12

## RF SPECIFICATION

### FLEXIBLE RF FRONT END OPERATING MODES

**S10/S11/S12**      **S11**  
 One RF receiver +      Two phase coherent  
 one RF transmitter      RF receivers

### RF RX PRE-SELECT FILTERING

**S12**  
 Seven banded filters (sub-octave from 400 MHz to 6 GHz)

### RF TUNING RANGE

**S10/S11**      **S12**  
 70 MHz to 6 GHz      < 1 MHz to 6 GHz

### RF CHANNEL BANDWIDTH

Up to 50 MHz

### TYPICAL RX NOISE FIGURE

< 8 dB

### TYPICAL RX IIP3

-10 dBm

### RX SAMPLE RATE RANGE

200 Ksamples/sec to 61.44 Msamples/sec

### TX SAMPLE RATE RANGE

200 Ksamples/sec to 61.44 Msamples/sec

### A/D AND D/A CONVERTER SAMPLE WIDTH

12-bits

### RX GAIN RANGE

0-76 dB, 1 dB steps

### TX GAIN RANGE

0-80 dB, 1 dB steps

### TYPICAL TX OUTPUT POWER

**S10/S11**      **S12**  
 +13 dBm < 2 GHz,      TBD  
 +10 dBm > 2 GHz

### SYSTEM REFERENCE CLOCK ACCURACY

+/- 1PPM

## DIGITAL SPECIFICATION

### CPU

Freescale i.MX6 (quad-core ARM Cortex A9 @ 800 MHz)

### FPGA

Xilinx Spartan 6 LX45T (-3 speed grade)

### RAM

1 GB

### FLASH

2 GB

### ETHERNET INTERFACE

10/100/1000 Base-T (RJ45), supports passive Power-Over-Ethernet

### USB INTERFACE

USB 2.0 OTG (microUSB)

### VIDEO INTERFACE

HDMI (microHDMI)

### GPIO

Available internally, contact Epiq Solutions

### TEMPERATURE SENSOR

-55 deg C to +125 deg C (+/- 2 deg C)

### ACCELEROMETER

3 axis

### REAL-TIME CLOCK

Included with internal battery backup

## PHYSICAL SPECIFICATION

### DIMENSIONS

**S10/S11**      **S12**  
 4.41" x 1.65" x 1.13"      4.41" x 2.00" x 1.43"

### WEIGHT

**S10/S11**      **S12**  
 5.6 oz      7.5 oz

### EPIQ SOLUTIONS TURN-KEY APPLICATIONS FOR MATCHSTIQ PLATFORMS INCLUDE:

#### Skylight

Cell Tower Survey & Location (2G/3G/4G Cellular)

#### Floodlight

Paging Channel Monitoring/Decoding (2G/3G/4G Cellular)

#### Spotlight

Uplink Activity Detection/Decoding (2G/3G/4G Cellular)

#### ERA

RF Spectrum Analysis

Epiq Solutions exports its products strictly in accordance with all US Export Control laws and regulations which shall apply to any purchase or order.

Specifications subject to change without notice