

matchstiq™ S-series

Versatile Software-Defined Radio
(SDR) Platforms



Reconfigurable RF Transceiver Platforms

Welcome to the Matchstiq Family of Small Form Factor Transceivers

Epiq Solutions' Matchstiq S10/S11/S12 defines the state-of-the-art in small form factor software-defined radio (SDR) 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

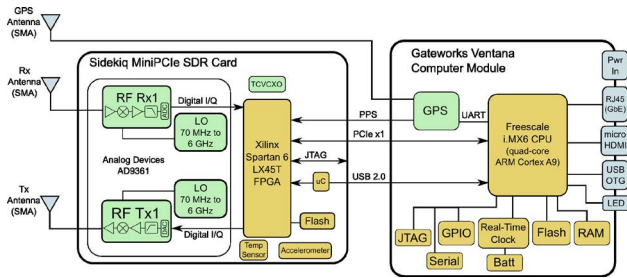


Quad-core ARM Cortex A9 CPU @ 800 MHz (Freescale i.MX6) running Linux

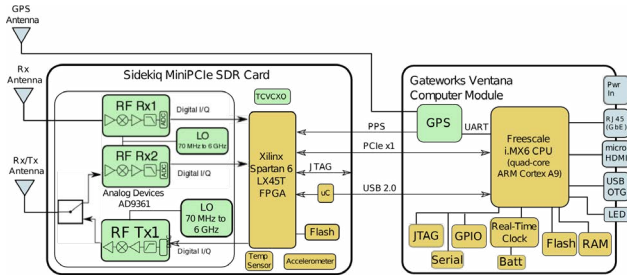


Gigabit ethernet, USB 2.0 OTG, and HDMI ports for external interfacing

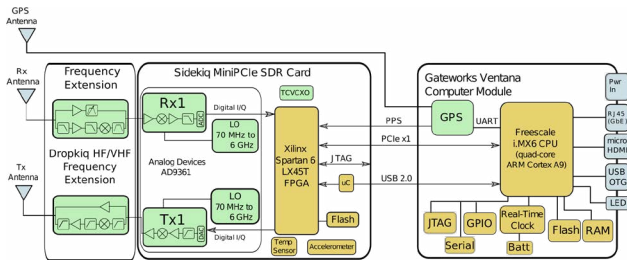
BLOCK DIAGRAMS



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

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

RX SAMPLE RATE RANGE

233 Ksamples/sec to 61.44 Msamples/sec

TX SAMPLE RATE RANGE

233 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


0-89 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

Epiq Solutions is a small business dedicated to advancing RF technology through products designed and manufactured in the U.S.A. 

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

Specifications subject to change without notice.



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