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.

KEY FEATURES

- **RF transceiver tuning range of 70 MHz to 6 GHz (S10/S11) and <1 MHz to 6 GHz (S12)**
- **On board Xilinx Spartan®6 LX45T FPGA for signal processing tasks**
- **Supports RF channel bandwidths up to 50 MHz**
- **Quad-core ARM Cortex A9 CPU @ 800 MHz (Freescale i.MX6) running Linux**
- **Integrated GPS receiver with 1PPS**
- **Gigabit ethernet, USB 2.0 OTG, and HDMI ports for external interfacing**

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.

S10 - 1 RX + 1 TX
S11 - 2 x phase coherent RX or 1 RX + 1 TX
S12 - 1 RX + 1 TX (<1 MHz – 6 GHz)
Epiq Solutions exports its products strictly in accordance with all US Export Control laws and regulations which shall apply to any purchase or order.

**RF SPECIFICATION**

| Flexible RF Front End Operating Modes | S10/S11/S12 | S11
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<tr>
<td>One RF receiver + one RF transmitter</td>
<td>Two phase coherent RF receivers</td>
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**RF RX Pre-Select Filtering**

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

**RF Tuning Range**

<table>
<thead>
<tr>
<th>S10/S11</th>
<th>S12</th>
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<tr>
<td>70 MHz to 6 GHz</td>
<td>&lt; 1 MHz to 6 GHz</td>
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**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 |
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<tr>
<td>+13 dBm &lt; 2 GHz</td>
<td>TBD</td>
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<tr>
<td>+10 dBm &gt; 2 GHz</td>
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**System Reference Clock Accuracy**

+/- 1PPM

**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

**Dimensions**

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<thead>
<tr>
<th>S10/S11</th>
<th>S12</th>
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<tr>
<td>4.41” x 1.65” x 1.13”</td>
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<tr>
<td>4.41” x 2.00” x 1.43”</td>
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**Weight**

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<tr>
<th>S10/S11</th>
<th>S12</th>
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<tr>
<td>5.6 oz</td>
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<td>7.5 oz</td>
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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