Sub-1GHz (860-940 MHz) transceiver development kit based on S2-LP

**Features**

- **S2-LP** narrow band ultra-low power Sub-1GHz transceiver in a standalone RF module tuned for 860-940 MHz frequency bands with external power amplifier
- **STM32 Nucleo-64** development board with **STM32L152RE** MCU
- Suitable for wireless M-Bus systems
- Suitable for SigFox applications
- Associated S2-LP development kit including, documentation, firmware for STM32L and GUI
- Programmable RF output power up to +27 dBm
- Modulation schemes: 2-FSK, 2-GFSK, 4-FSK, 4-GFSK, OOK, and ASK
- Air data rate from 0.3 to 500 kbps
- Excellent performance of receiver sensitivity (up to -130 dBm)
- Low duty cycle RX/TX operation mode
- Automatic acknowledgement, retransmission and timeout protocol engine
- SPI interface for microcontroller
- USB interface
- RoHS compliant

**Description**

The **STEVAL-FKI915V1** evaluation board is based on the S2-LP sub-1GHz ultra-low power low data-rate transceiver suitable for ISM bands and wireless M-Bus.

The **NUCLEO-L152RE** main board with an STM32L low power MCU controls the S2-LP and integrates the ST-LINK/V2-1 debugger and programmer for firmware updating.

The **STEVAL-FKI915V1** includes an external power amplifier from SkyWorks®, which allows the application to reach +27 dBm (500 mW) output power.
Figure 1. STEVAL-FKI915V1 circuit schematic
Revision history

Table 1. Document revision history

<table>
<thead>
<tr>
<th>Date</th>
<th>Version</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>14-Dec-2016</td>
<td>1</td>
<td>Initial release.</td>
</tr>
<tr>
<td>30-Jan-2017</td>
<td>2</td>
<td>Updated board photo on the cover page.</td>
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<tr>
<td>10-Apr-2018</td>
<td>3</td>
<td>Updated title and Section 1 Schematic diagram.</td>
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</tbody>
</table>