Evaluation board based on ST1PS01AJR 400 mA nano-quiescent synchronous step-down converter

Features

- 1.8 V to 5.5 V input operating range
- Up to 400 mA output current capability
- Tiny external components: L=2.2 µH typ.
- Selectable output voltages: 1.9 V to 2.8 V
- Output voltage Power Good
- Dynamic output voltage selection (D0, D1)
- Suitable for the following applications:
  - Wearable applications
  - Personal tracking monitors
  - Smart watches, sport bands
  - Energy harvesting, wireless sensors
  - Wearable and fitness accessories
  - Industrial sensors, portable low power devices
  - Single cell Li-Ion battery applications
  - Bluetooth® low energy
  - Zigbee
- WEEE and RoHS compliant (hardware only)

Description

The STEVAL-1PS01AJR evaluation board features the ST1PS01 miniaturized, nano-quiescent, synchronous step-down converter designed for applications where high efficiency, PCB size and thickness are the key factors. The converter can provide up to 400 mA output current with a 1.8 V to 5.5 V input voltage range. The output voltage can be dynamically adjusted from 1.9 V to 2.8 V using two digital control inputs.

Thanks to the enhanced peak current control (PCC), the ST1PS01 can achieve very high efficiency conversion using only a 2.2 µH inductor and two small capacitors. Furthermore, the converter's advanced design circuitry reduces quiescent current to a minimum.
Figure 1. STEVAL-1PS01AJR board schematic
Revision history

Table 1. Document revision history

<table>
<thead>
<tr>
<th>Date</th>
<th>Version</th>
<th>Changes</th>
</tr>
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<tbody>
<tr>
<td>04-Apr-2019</td>
<td>1</td>
<td>Initial release.</td>
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