Evaluation board for the ADC120 8-channel, 50ksps to 1Msps, 12-bit analog to digital converter

Features
- 12-bit ADC implementing SAR technology
- 50 ksps to 1 Msps conversion rate
- 8-to-1-channel input MUX
- 3.3 V operating supply
- SPI, serial digital output
- Very low power consumption
- RoHS compliant

Description
The STEVAL-AKI001V1 evaluation board allows the user to evaluate the conversion performance of the ADC120 8-channel analog-to-digital converter designed for 50 ksps to 1 Msps conversion.

The board has several on-board sources like temperature sensor and strain gauge signals, and can accept external signals to allow measurement and evaluation of the ADC120 conversion performance based on its successive approximation register (SAR) with internal track-and-hold cell.

The board is supplied ready-to-use in standalone mode, or it can be plugged onto a NUCLEO-L476RG board with SMT32 microcontroller, which enables further signal processing and PC communication.

Product summary

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<td>evaluation board for ADC120 8-Channel, 50ksps to 1Msps, 12-bit ADC</td>
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<tr>
<td>low-power, eight-channel pure CMOS 12-bit ADC from 50ksps to 1Msps</td>
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**Figure 3. STEVAL-AKI001V1 schematic diagram - reference voltage**

```
+5V input to 0-3V ADC
```

```
-5V input to 0-3V ADC
```
ADC inputs: strain gauge, 4, 5, 6, 7

Resistor divider is used to provide acceptable voltage to ADC input
The gain can be changed by customer

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Figure 5. STEVAL-AKI001V1 schematic diagram - Instrumentation amplifier for strain gauge

Strain gauge - R=120 ohms
Figure 6. STEVAL-AKI001V1 schematic diagram - temperature measurement

Temperature measurement - STLM20

Temperature measurement - PT100
## Revision history

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