

9-bit, 1 GSPS

PRELIMINARY PRODUCT BRIEF

Analog to Digital Converter IP block

General Description

The A9B1G is an ultra low-power, high-performance analog to digital converter (ADC) intellectual property (IP) design block. It is a hybrid successive approximation register (SAR) ADC, with 9-bit resolution and a sampling rate of up to 1.2 gigasamples per second (GSPS).

The A9B1G is a unique solution that provides the dual benefit of reaching an extremely high sampling speed without large amounts of energy. It maintains its high-performance while consuming an exceptionally low power of only 2.1 mW, making it an outstanding solution for designs with high efficiency, low power and high-performance requirements.

The IP block has been designed in the STMicroelectronics 28nm CMOS process. Please contact the vendor about porting the IP to other processes.

Key Features

- ◆ 9-bit resolution
- ◆ 1.2 GSPS sampling rate
- ◆ 2.1 mW power
- ◆ 3 GHz Input Bandwidth
- ◆ Dynamic Performance:
 - ◆ SFDR: 58 dBc
 - ◆ ENOB: 7.7
- ◆ Hard IP block
- ◆ STMicroelectronics 28nm process
- ◆ Radiation-tolerant design available: A9B1GRH

Applications

- ◆ Direct RF Down Conversion
- ◆ Power Amplifier Linearization
- ◆ High-Speed Test Instrumentation
 - ◆ USB-powered and Digital Oscilloscopes
- ◆ Communications and Networking
 - ◆ 5G, LTE, WiFi
- ◆ Electronic Warfare
 - ◆ Radar and Signal Intelligence

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*All data are preliminary. This IP block is currently in development and all specifications will be updated after silicon qualification.