Evaluation Board for **ADXRS290**, Ultralow Noise, Dual-Axis MEMS Gyroscope

**GENERAL DESCRIPTION**

The EVAL-ADXRS290Z is a simple evaluation board that allows quick evaluation of the performance of the ADXRS290 dual-axis angular rate sensor (gyroscope). The EVAL-ADXRS290Z has two sets of 0.1 inch spaced vias for population of 5-pin headers and for access to all power and signal lines. The vias or headers are used to attach the evaluation board to the prototyping board (breadboard). Four holes are provided for mechanical attachment of the EVAL-ADXRS290Z to the application. An external host processor is required for communication with the device.

The dimensions of the EVAL-ADXRS290Z are 20 mm × 20 mm with mounting holes set at 15 mm × 15 mm at the corners of the printed circuit board (PCB).

**CIRCUIT DESCRIPTION**

The schematic of the EVAL-ADXRS290Z is shown in Figure 1. See the ADXRS290 data sheet for configuration of the accelerometer after it is connected to the application host processor.

Figure 2 shows the PCB layout of the EVAL-ADXRS290Z. The EVAL-ADXRS290Z has five factory installed capacitors. The primary communications port is the 4-wire serial peripheral interface (SPI). For this device, external pull-up/pull-down resistors are not required for the SPI interface, and these pins can connect directly to the system microcontroller.

**HANDLING CONSIDERATIONS**

The EVAL-ADXRS290Z is not reverse polarity protected. Damage to the ADXRS290 can result if the Vs or VDDIO supply and GND pins are reversed.

Do not drop the EVAL-ADXRS290Z on a hard surface because it can generate several thousand g of acceleration, which may exceed the data sheet absolute maximum limits.

Full details about the part is available in the ADXRS290 data sheet, which should be consulted when using the EVAL-ADXRS290Z.

**REVISION HISTORY**

1/15—Revision 0: Initial Version
ESD Caution

ESD (electrostatic discharge) sensitive device. Charged devices and circuit boards can discharge without detection. Although this product features patented or proprietary protection circuitry, damage may occur on devices subjected to high energy ESD. Therefore, proper ESD precautions should be taken to avoid performance degradation or loss of functionality.