1 Introduction

BRKT-STBC-AGM01 is a breakout board for the Freescale FXAS21002C 3-axis gyroscope and the FXOS8700CQC integrated e-compass that includes both an accelerometer and a magnetometer. This breakout board enables 9-axis sensing and is supported by Freescale's Sensor Toolbox software as well as the Intelligent Sensing Framework ISF 2.1.

The BRKT-STBC-AGM01 board is, by default, configured for I²C communication, but can be reconfigured as a SPI bus interface. See Figure 1.
Configuring the BRKT-STBC-AGM01 board for SPI Bus interface

2 Configuring the BRKT-STBC-AGM01 board for SPI Bus interface

As shown in Figures 2 and 3, for SPI configuration, the BRKT-STBC-AGM01 board has to be reconfigured by populating and unpopulating the pull-up/pull-down resistors as follows:

1. Remove resistors R2, R5, R7, R8, and R9.
2. Cut the trace between the SH5 pads.

Figure 1. SPI bus interface configuration
Configuring the BRKT-STBC-AGM01 board for SPI Bus interface

Figure 2. Schematic for SPI communication when the SPI_MISO lines are separate

Figure 3. Configuration for SPI communication when the SPI_MISO lines are separate
3 References

<table>
<thead>
<tr>
<th>FXOS8700CQ Data Sheet</th>
<th>FXOS8700CQ, 6-Axis Sensor with Integrated Linear Accelerometer and Magnetometer</th>
</tr>
</thead>
<tbody>
<tr>
<td>freescale.com/ FRDM-STBC-AGM01</td>
<td>9-Axis Inertial Measurement Sensor Board</td>
</tr>
</tbody>
</table>

4 Revision History

<table>
<thead>
<tr>
<th>Rev. No.</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>8/2015</td>
<td>Public Release</td>
</tr>
</tbody>
</table>