

This anomaly sheet describes the known bugs, anomalies, and workarounds for the [ADF7023](#) transceiver and relates to Silicon Revision 2.2, which has corresponding silicon revision readback codes of 0x70, 0x23, 0x02, 0x02. See the [ADF7023](#) data sheet for details on how to read the silicon revision codes.

Analog Devices, Inc., is committed, through future silicon revisions, to continuously improve silicon functionality. Analog Devices tries to ensure that these future silicon revisions remain compatible with your present software/systems by implementing the recommended workarounds outlined here.

### ADF7023 FUNCTIONALITY ISSUES

| Silicon Revision Readback                                                                                                  | Chip Marking | Silicon Status | Anomaly Sheet | No. of Reported Anomalies |
|----------------------------------------------------------------------------------------------------------------------------|--------------|----------------|---------------|---------------------------|
| Product Code MSB = 0x70<br>Product Code LSB = 0x23<br>Silicon Revision Code MSB = 0x02<br>Silicon Revision Code LSB = 0x02 | ADF7023BCPZ  | Release        | Rev. B        | 1                         |

**Table 1. Crystal Oscillator Low Frequency Spurs [er006]**

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Background Issue</b> | Under certain conditions, low frequency spurs can be induced in the crystal oscillator of the <a href="#">ADF7023</a> .<br>The crystal oscillator circuit of the <a href="#">ADF7023</a> can exhibit spurs under certain conditions. These spurs are evident at RF at an offset frequency of approximately 7 kHz to 8 kHz.<br>The spurs are more likely to occur with <ul style="list-style-type: none"> <li>• Reduced <math>C_{LOAD}</math></li> <li>• Reduced temperature</li> <li>• Increased XOSC_CAP_DAC value</li> </ul> These spurs do not occur in the condition where the crystal input, XOSC26N, is driven by an external source.<br>See the <a href="#">ADF7023</a> data sheet for details on configuring for crystal oscillator operation. |
| <b>Workaround</b>       | Introducing a series 150 $\Omega$ resistor on Pin 13 XOSC26P ( $R_S$ in Figure 1), together with limiting the XOSC_CAP_DAC setting to a maximum value of 4, will eliminate these spurs over the temperature range of the device.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Related Issues</b>   | None.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

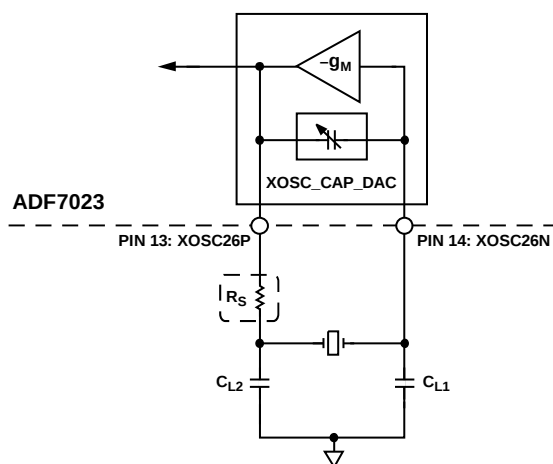


Figure 1. Recommended Crystal Oscillator Configuration

#### Rev. B

#### Document Feedback

Information furnished by Analog Devices is believed to be accurate and reliable. However, no responsibility is assumed by Analog Devices for its use, nor for any infringements of patents or other rights of third parties that may result from its use. Specifications subject to change without notice. No license is granted by implication or otherwise under any patent or patent rights of Analog Devices. Trademarks and registered trademarks are the property of their respective owners.

## FUNCTIONALITY ISSUES

Table 2. ADF7023 Functionality Issues

| Reference Number | Description                                                       | Status                                                                     |
|------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------|
| er001            | RC Oscillator Accuracy                                            | Fixed                                                                      |
| er002            | External PA and LNA Enable on ADCIN_ATB3 and ATB4                 | Fixed                                                                      |
| er003            | External PA and LNA Enable on XOSC32KP_GP5_ATB1 and XOSC32KN_ATB2 | Fixed                                                                      |
| er004            | Optimum Uncalibrated Image Attenuation                            | Feature. Refer to the <a href="#">ADF7023</a> data sheet (Rev. B or later) |
| er005            | Receiver Sensitivity at 910 MHz                                   | Feature. Refer to the <a href="#">ADF7023</a> data sheet (Rev. B or later) |
| er006            | Crystal Oscillator Low Frequency Spurs                            | Open                                                                       |