
ZL70251 WSN Evaluation Kit Release Notes



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Release 1.0.0 (2015-06-01)

Known Bugs and Issues in 1.0.0

- ▶ KB2015030501: Due to a bug in XMEGA's SPI peripheral interface, the XMEGA system clock must be set to 12 MHz or higher, and while the ZL70251 is transferring TX data from the XMEGA via its SPI interface, there must not be any interrupts and the CPU must remain in the *idle* sleep mode. Otherwise, the TX data might be corrupted, and as a result, the transmitted RF packet is rejected by the receiving side when the CRC check is performed. The kit meets these requirements as shipped, but if it is customized, these requirements must be taken into account.

The XMEGA bug behind this issue is as follows: when the XMEGA SPI is transmitting data in slave mode, it does not double-buffer the TX data, so as each byte finishes, there is very little time to write the next byte into the XMEGA SPI TX register before the ZL70251 starts clocking it out. This time is one-half of one SPI bit period (approximately 2.68 μ s for an 186,181-Hz SPI clock). If the XMEGA system clock is set to 12 MHz, the XMEGA DMA can meet this time requirement as long as the XMEGA CPU remains in the *idle* sleep mode. However, if an interrupt wakes the CPU at any time during the SPI transfer, it might delay the DMA too long, corrupting the data being transferred. Also, if the XMEGA system clock is set to 2 MHz, the DMA cannot meet this time requirement, even if the CPU remains in the *idle* sleep mode. Thus, the XMEGA system clock must be set to 12 MHz or higher.

- ▶ If this is not the latest release, see also the *Bugs Fixed* in later releases, and the *Known Bugs and Issues* for the latest release, because those bugs and issues might also apply to this release.

Boards Included in 1.0.0

The boards included in release 1.0.0 are shown below:

- Hub Board: Model HUB100, Rev A
- Hub Extender Board: Model HUBEXTNDR100, Rev B
- Node Board: Model NODE100, Rev A
- Node Extender Board: Model NODEXTNDR100, Rev B
- Accelerometer Board: Model ACCEL100, Rev A

All HUB100 and NODE100 boards had the following firmware version:

ZL70251 WSN 1.0.0 (Build 0100.0000.0000)

Appendix A: Compatibility between Software Components

Each release number contains a major, minor, and patch version ([major].[minor].[patch]).

If a release includes only small changes and bug fixes that do not affect compatibility with previous releases, the patch version is incremented. Different patch versions of the firmware, API (DLL), and GUI are fully compatible. For example, the 1.0.2 firmware is fully compatible with the 1.0.1 API, etc.

If a release includes new functionality and interfaces, but is backwards compatible with all previous interfaces, the minor version is incremented. In this case, newer versions of the firmware on the boards are compatible with previous versions of the API, and newer versions of the API are compatible with previous versions of the GUI, but not the other way around. For example, the 1.2.X firmware is compatible with the 1.1.X API, and the 1.1.X API is compatible with the 1.0.X GUI, but not vice-versa.

If a release includes significant changes that make it incompatible with previous releases, the major version is incremented. In this case, different versions of the firmware, API, and GUI are not compatible.

Note that multiple versions of the software can be installed on a PC without conflict, so when you install a newer version, you do not have to remove previous versions (though you may if you no longer need them).

Appendix B: Change Identification Code Format

Where an identification code is assigned to a change, its format is CCYYYYMMDDNN, where CC identifies the change category (e.g., BF for Bug Fix), YYYYMMDD is the date the change was entered (year, month, and day), and NN is the number of the change entered in that category on that date (e.g., 01 for the first change in that category on that date, 02 for the second change, etc.).

Appendix C: List of Changes in Document

The following table lists substantive changes that were made in the ZL70251 WSN Evaluation Kit Release Notes.

Revision	Change	Page
Revision 1 (June 2015)	Initial release for ZL70251 WSN Evaluation Kit version 1.0.0.	—

Appendix D: Product Support

Microsemi CMPG backs its products with various support services, including customer service, a website, electronic mail, and worldwide sales offices. This appendix contains information about contacting Microsemi CMPG and using these support services.

Customer Service

Contact Customer Service for nontechnical product support, such as product pricing, product upgrades, update information, order status, and authorization.

From North America, call 800.432.4009

From the rest of the world, call 512.228.5400

Via e-mail, write to sales.support@microsemi.com

Website

For more information, please visit www.microsemi.com, where you can browse a variety of technical and nontechnical information. Many answers available on the searchable web resource include diagrams, illustrations, and links to other resources on the website.



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