Firmware Changes Transitioning To WSN802Gxx Rev F

The WSN802Gxx Rev F is built around the GainSpan GS1011 SoC while previous versions of the WSN802Gxx were built using the GS1010 SoC. The GainSpan-provided module firmware that runs the WiFi® portion of the module was updated for the GS1011 SoC. As a result of this update, RFM was forced to update the RFM application firmware on the module to work with the new GainSpan firmware. This document details the changes that were created by the new GainSpan firmware. Customers who have written software to communicate with the WSN802Gxx module will need to review these changes to see if their software will need to be modified.

While RFM was making the changes necessitated by the new GainSpan firmware, some additional features were added. These are detailed in the WSN802Gxx Integration Guide Rev F but are also mentioned in this document. Users should refer to the Integration Guide for complete details of all of the changes mentioned in this document.

New Features:

- SPI port support – See *Section 2.5*
- Ad Hoc mode support – See *Section 6.2*
- Module configuration through the module's UART or SPI port – See *Section 4*
- Module configuration over the air using UDP packets in addition to SNMP
- The digital I/O pins can now be configured as inputs or outputs – See *Section 4.14*

Changes:

- Wake In pin is active high (Pre-Rev F versions had this pin active low).
- I/O Report, I/O Read, and I/O Serial Read packets now include the sender's MAC Address thus these packets have additional bytes
- The IP address discovery protocol's IP Hunt Opcode is now 0x7100 (it was documented incorrectly before)
- The WEP Auth Modes have been revised with a general Auth Mode for all security settings
- The IP address, Subnet Mask, Gateway IP Address, Primary and Secondary IP Address are no longer valid when DHCP is enabled. You must read the values in the "Curnt" parameters to determine the value currently being used.
- Linkup Trap Interval is now a Octet String
- Config Trap Interval is now Octet String
- MaxActiveScanTime has been removed, the time is fixed and not configurable
- Multicast Filter has been removed, all packets with the module port number will be received by the module
- Bug in DHCP Renewal Interval has been fixed
- Several SNMP OIDs were changed – refer to the table below:

Table of old OIDs versus new OIDs

Parameter	Old OID	New OID
Preferred SSID PSK Key 1	1.3.6.1.4.1.28295.1.1.2.10.0	1.3.6.1.4.1.28295.1.1.4.5.1.12.1
Preferred SSID PSK Key 2	1.3.6.1.4.1.28295.1.1.2.11.0	1.3.6.1.4.1.28295.1.1.4.5.1.12.2
Preferred SSID PSK Key 3	1.3.6.1.4.1.28295.1.1.2.12.0	1.3.6.1.4.1.28295.1.1.4.5.1.12.3
AP WEP Key ID 1	1.3.6.1.4.1.28295.1.1.4.5.1.41	1.3.6.1.4.1.28295.1.1.4.5.1.4.1
AP WEP Key ID 2	1.3.6.1.4.1.28295.1.1.4.5.1.42	1.3.6.1.4.1.28295.1.1.4.5.1.4.2
AP WEP Key ID 3	1.3.6.1.4.1.28295.1.1.4.5.1.43	1.3.6.1.4.1.28295.1.1.4.5.1.4.3
AP WEP Key Length 1	1.3.6.1.4.1.28295.1.1.4.5.1.51	1.3.6.1.4.1.28295.1.1.4.5.1.5.1
AP WEP Key Length 2	1.3.6.1.4.1.28295.1.1.4.5.1.52	1.3.6.1.4.1.28295.1.1.4.5.1.5.2
AP WEP Key Length 3	1.3.6.1.4.1.28295.1.1.4.5.1.53	1.3.6.1.4.1.28295.1.1.4.5.1.5.3
AP WEP Key Value 1	1.3.6.1.4.1.28295.1.1.4.5.1.61	1.3.6.1.4.1.28295.1.1.4.5.1.6.1
AP WEP Key Value 2	1.3.6.1.4.1.28295.1.1.4.5.1.62	1.3.6.1.4.1.28295.1.1.4.5.1.6.2
AP WEP Key Value 3	1.3.6.1.4.1.28295.1.1.4.5.1.63	1.3.6.1.4.1.28295.1.1.4.5.1.6.3
Linkup Trap Interval	1.3.6.1.4.1.28295.1.1.14.8.0	1.3.6.1.4.1.28295.1.1.4.14.0
Config Trap Interval	1.3.6.1.4.1.28295.1.1.7.0	1.3.6.1.4.1.28295.1.1.4.13.0
Battery Warning Level	1.3.6.1.4.1.28295.1.1.1.8.0	1.3.6.1.4.1.28295.1.1.1.12.0