Addendum for Product Change Notice – N548 Module Series

Feb 6, 2015

Dear Customers,

In Product Change Notice #P021 regarding the N548 module series, we stated that the shipment of Rev B began on Feb 5. This shipping date applies to the following three part numbers only:

- N548M8CB-REEL
- N548M8CB-TRAY
- N548M4CB-REEL

We will inform you of the Rev B shipping date of the following two part numbers when it is available:

- N548M4CB-TRAY
- N548M5CB

Sorry for the confusion and thank you for your continued support.

Best Regards,

Thomas Zhao
Sr. Product Manager
thomas.zhao@dynastream.com

Product Change Notice – N548 Module Series

Jan 28, 2015

Dear Customers,

Dynastream Innovations Inc. (Dynastream) appreciates your adoption of ANT as the solution for your product's wireless communication needs. We pledge to support your component ordering efforts and invite your feedback.

As part of our continuous improvement efforts, Dynastream is upgrading the N548 module series from rev A to rev B with new factory pre-loaded software. One significant enhancement of this upgrade is the addition of the ANT-WP (Wireless Programming) bootloader which enables over-the-air firmware upgrades. Other upgrades are the S210 SoftDevice and the ANT Network Processor code. The N5 ANT SoC Module Datasheet rev 1.4 has been released to detail all of the new added functions, as well as important notes thereof.

This product change requires attention in certain use scenarios to ensure code compatibility and proper module operation. Details of the changes are attached.

This change affects the following Dynastream part numbers:

- N548M8CB-REEL

- N548M8CB-TRAY

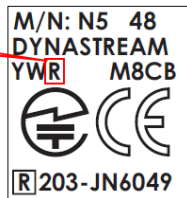- N548M4CB-REEL

- N548M4CB-TRAY

- N548M5CB

This product upgrade is effective immediately with shipment beginning Feb 5. If you have any questions or need additional information, please contact your local distributor or ANT sales support.

Best Regards,

Thomas Zhao
Sr. Product Manager
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ANT PRODUCT CHANGE: #P021

Affected Product: N548 Module Series	Effective Date: January 28, 2015

Reason for Changes:

Product feature enhancement.

Description of Changes

1. Module upgrade from rev A to rev B with new factory loaded software, detailed as the table below.

Module Rev	S210 SoftDevice	ANT-WP Bootloader	ANT Network Processor Code
B	v4.0.1 (AXX4.00B00)	BFD1.00B00	BAW3.00B00
A	v3.0.0 (AXX3.02B00)	None	BAW2.02B00

For S210 SoftDevice upgrade, please refer to the S210 release note in the S210 SoftDevice package.

The ANT-WP (Wireless Programming) bootloader code in Rev B, when activated, provides over-the-air firmware update capability using ANT File Share (ANT-FS) technology.

2. ANT Network processor code assigned a previously unused Pin to the new BOOT function.

N548M8xx LGA Pad	N548M4xx Pin	N548M5xx Molex Connector	nRF51422 Pin Name	ANT Network Processor Pin Assignments			
				Pin Name	Async Mode	Sync Mode	Function
E2	15	14	P011	BOOT	BOOT	BOOT	Bootloader Startup. if not used, tie to ground or unconnected

The intent of the BOOT function is to assist in updating/replacing the default images on the N548 modules using the ANT-WP bootloader without requiring host microcontroller intervention. If BOOT is held high upon power-up or start-up, the operation of the network processor code is bypassed and the ANT-WP bootloader code is activated. The module will remain in bootloader mode until certain conditions are met. Refer to N5 ANT SoC Module Datasheet rev 1.4, Appendix A for details.

3. The ANT network process application changes the serial interface behavior.
   - For synchronous serial interface: the SPI rate has been changed from 4MHz to 500kHz when SPD_SEL (BR3) is low and SPI rate from 500kHz to 4MHz when the pin is high. This change makes the SPI rate setting be compatible with AP2/C7 modules.
   - For asynchronous serial interface: the RTS now toggles at the end of each message received to indicate message processing

4. The laser mark on the product metal shield:

This letter will be B

M/N: N5 48
DYNASTREAM
YWR   M8CB

R 203-JN6049

5. Rev B will also displayed on shipping labels

Consequence of Changes:

For current Rev A module users, who load their own selected SoftDevices and/or application codes

The programming in manufacturing is through the SWD interface. Including the following steps in the process will guarantee a transparent transition to Rev B or even a mixed use of Rev A and Rev B modules.

1. Erase all pre-programmed code and UICR values (e.g. BOOTLOADERADDR). This can be easily done by using the erase-all option if using nrfjprog.exe/nRFgo Studio from Nordic Semiconductor.
2. Program the selected SoftDevice
3. Program application software built for the selected SoftDevice

For current Rev A module users who simply use the default factory pre-loaded software, i.e. the S210 v4.0.1 and the ANT network processor application

Please make sure the changes in serial interface behavior will not impact the operation or some modifications on the micro controller code will have to be made to ensure a smooth transition to use rev B.

For generic use of the module, please be noted of the following

- Application code must be built for the loaded SoftDevice in order to function. For example, application build for the S210 v3.0.0 will not function with S210 v4.0.1, and vice versa.

- The BOOTLOADERADDR field in the UICR configuration register is set to the starting address of the ANT-WP bootloader. If the desired application needs to use code region reserved by the bootloader (0x3B800 – 0x40000), then the BOOTLOADERADDR field in UICR must be set to 0xFFFFFFFF. This can be done by fully erasing the module code using erase-all option in nrfjprog.exe/nRFgo Studio from Nordic Semiconductor and then programming the desired software images.

- When the module is first powered up with the factory pre-loaded software and the BOOT pin is held/driven high, the N548 will transmit active radio beacons for OTA update as the ANT-WP bootloader is activated. The user could program the module over-the-air via the bootloader, or simply ignore the beacon and do on-board programming via SWD interface.