



RELEASE NOTES

JN516x IEEE802.15.4 SDK

JN-SW-4163

Build 1416

NXP Semiconductors

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RELEASE SUMMARY (Build 1416)

1. Software Components

The supplied software (JN-SW-4163) comprises the JN516x IEEE802.15.4 SDK (Libraries) which provides support for IEEE802.15.4 application development on the NXP JN5169, JN5168, JN5164 and JN5161 wireless microcontrollers. This SDK must be installed on top of JN-SW-4141 (BeyondStudio for NXP), which is available from the NXP [Wireless Connectivity TechZone](#).

This SDK release is version 1416 and provides:

- 802.15.4 Stack API
- AES API
- Debug library
- Full MAC layer (802.15.4-2003 / 2006) plus MicroMAC
- JN516x Integrated Peripherals API
- Persistent Data Manager (PDM) Library
- Production Test API
- Chip and board support for JN5169, JN5168, JN5164 and JN5161 devices
- Recalibration library
- Jennic packet sniffer binary images for use with Ubiqua packet analyser

2. Supported Hardware Products

This software release supports the following hardware products:

Chips	Modules	Evaluation Kits
JN5169-001	-	-
JN5168-001	JN5168-001-M00 JN5168-001-M03 JN5168-001-M05 JN5168-001-M06	JN516x-EK001
JN5164-001	-	-
JN5161-001	-	-

3. File Integrity

The following table indicates the MD5 checksum of files included in the release.

File	MD5
JN-SW-4163 IEEE802.15.4 SDK v1416.exe	13d3358fb3f6ff5ee1dff0dfe662f490

4. Installation

The IEEE802.15.4 SDK is installed directly from the supplied installer (JN-SW-4163). It must be installed on top of JN-SW-4141 (Beyond Studio for NXP), available from the NXP [Wireless Connectivity TechZone](#). Therefore, before installing the SDK, you must install Beyond Studio for NXP, as described in the *BeyondStudio for NXP Installation and User Guide (JN-UG-3098)*. The installation directory of this SDK is set by the location of Beyond Studio for NXP.

JN-SW-4141 (BeyondStudio for NXP) must be version 1308 or later.

5. Release Details

5.1 New Features and Changes

The following are changes from the previous release of JN-SW-4163 (version 1307):

- For JN5169, added support for customer high-power modules
- For JN5169, modified settings to enable use of an additional 32MHz crystal
- Micro MAC (MMAC) has an additional function to provide the current transmit power level

5.2 Bug Fixes

None.

5.3 Modifications Required

None. To configure a JN5169 to operate correctly on a high power module there is a new function, `vAppApiSetComplianceLimits`. This function should be used in addition to the existing `vAppApiSetHighPowerMode`.

5.4 Known Issues

None.

6. Related Documentation

The following user documentation supports this software release:

- JN-UG-3024: IEEE 802.15.4 Stack User Guide
- JN-UG-3075: JenOS User Guide (for PDM library)
- JN-UG-3087: JN516x Integrated Peripherals API User Guide
- JN-UG-3098: BeyondStudio for NXP Installation and User Guide
- JN-AN-1202: BeyondStudio Migration Guidelines
- JN-AN-1180: 802.15.4 Home Sensor Demonstration for JN516x
- JN-AN-1174: IEEE 802.15.4 Application Template for JN516x

RELEASE HISTORY

7. Release Details (Build 1307)

7.1 New Features and Changes

The following are changes from the previous release of JN-SW-4163 (version 1281):

- Added PDM library for data storage in EEPROM

7.2 Bug Fixes

None

7.3 Modifications Required

To use the PDM library without JenOS it is necessary to define PDM_NO_RTOS in the build process. This can be done by adding the following line to application makefiles:

```
CFLAGS += -DPDM_NO_RTOS
```

If you are moving from the earlier Eclipse-based SDK (JN-SW-4063), for the migration process to BeyondStudio for NXP, please refer to the Application Note *BeyondStudio Migration Guidelines (JN-AN-1202)*.

7.4 Known Issues

None

8. Release Details (Build 1281)

8.1 New Features and Changes

The following are changes from the previous release of JN-SW-4163 (version 1168):

- Added support for JN5169 device
- Added Jennic sniffer binary images for use with Ubiqua and other packet analysis tools
- Added MAC security mode to provide backwards compatibility with JN5148 legacy security mode

8.2 Bug Fixes

JN5168-001-M06 transmit power level has been corrected

8.3 Modifications Required

If you are moving from the earlier Eclipse-based SDK (JN-SW-4063), for the migration process to BeyondStudio for NXP, please refer to the Application Note *BeyondStudio Migration Guidelines (JN-AN-1202)*.

8.4 Known Issues

None

9. Release Details (Build 1168)

9.1 New Features and Changes

This is an update to the first release of the IEEE802.15.4 SDK for use with BeyondStudio for NXP, a new IDE for the JN516x series of wireless microcontrollers from NXP. The following items are changed from the previous IEEE802.15.4 SDK (JN-SW-4063):

- SDK structure changed to allow installation of multiple SDKs simultaneously
- Compiler flags optimised for new toolchain
- All base libraries recompiled with the new toolchain
- LTO (Link Time Optimisation), a feature of the new toolchain, is switched on by default for release builds
- Chip
 - Path to compiler updated
 - Compiler flags updated
- Components
 - Recompiled with new toolchain
 - DBG library updated to support GDB/Lauterbach debuggers
 - DBG library updated to allow reading input from terminal
- Platform
 - Recompiled with new toolchain
 - DK4 platform source included
- Stack
 - Recompiled with new toolchain

The following are changes from the first release of JN-SW-4163:

- MicroMAC library and header file have been updated with additional functions

9.2 Bug Fixes

None

9.3 Modifications Required

Please refer to Application Note *BeyondStudio Migration Guidelines (JN-AN-1202)* for details of the migration process to BeyondStudio for NXP.

9.4 Known Issues

None