Release Notes: JN-AN-1220

ZigBee 3.0 Sensors

These release notes provide information on the SDK compatibility, memory usage and change history for the JN-AN-1220 ZigBee 3.0 Sensors Application Note.

1 Public v1003 (27-Mar-2017)

NFC commissioning uses ZigBee Installation Codes.

1.1 Public v1003: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions.

Product Type	Part Number	Version	Supported Chips
JN516x Evaluation Kits	JN516x-EK004 JN516x-EK001	- -	JN516x JN516x
Beyond Studio for NXP –Toolchain	JN-SW-4141	v1308	JN516x
JN516x ZigBee 3.0 – SDK	JN-SW-4170	v1518	JN516x
JN517x Development Kit	JN517x-DK005	-	JN517x
LPCXpresso –Toolchain		v7.9.2 build 493	JN517x
JN517x ZigBee 3.0 - SDK	JN-SW-4270	v1520	JN517x

1.2 Public v1003: Memory Usage

The applications of this Application Note have the following memory footprints on the JN5169 device, when using the JN5169 ZigBee 3.0 SDK [JN-SW-4170].

Application	Text Size (Bytes)	Data Size (Bytes)	BSS Size (Bytes)
LightSensor_NtagIcode_JN5169_DR1175.bin	142798	1500	23009
LightTemperatureOccupancySensor_NtagIcode_JN5169_DR1175.bin	143870	1596	23521
OccupancySensor_NtagIcode_JN5169_DR1199.bin	141526	1524	22993

The applications of this Application Note have the following memory footprints on the JN5179 device, when using the JN5179 ZigBee 3.0 SDK [JN-SW-4270].

Application	Text Size (Bytes)	Data Size (Bytes)	BSS Size (Bytes)
LightSensor_NtagIcode_JN5179_DR1175.bin	139328	1896	23025
LightTemperatureOccupancySensor_NtagIcode_JN5179_DR1175.bin	140316	1992	23529
OccupancySensor_NtagIcode_JN5179_DR1199.bin	138160	1900	23005

1.3 Public v1003: New Features

NTAG documentation/code issues (lpsw8087)

Uses DIO0 for NTAG_FD on JN516x, documentation and images updated.

Implement ICODE NFC commissioning as alternative to AES (lpsw8101)

NFC NTAG support for commissioning using ZigBee installation codes can be enabled by setting APP_NTAG_ICODE=1 and APP_NTAG_AES=0 in the makefile or on the command line.

The original NFC NTAG support for commissioning using AES encryption can be enabled by setting APP_NTAG_ICODE=0 and APP_NTAG_AES=1 in the makefile or on the command line.

Provide mechanism in makefile to build for single channel (lpsw8118)

Setting the SINGLE_CHANNEL makefile variable on the command line or in the makefile will build binaries that only operate on the specified channel.

Rationalise binary file names and Eclipse build configurations (lpsw8129)

Binary filenames and Eclipse build configurations have been rationalised across all ZigBee 3.0 Application Notes formed from the following components: Device Type, Software Features, Hardware Platform

1.4 Public v1003: Bug Fixes

None

1.5 Public v1003: Known Issues

None

2 Public v1002 (29-Nov-2016)

Updated for new JN-SW-4170 and JN-SW-4270 SDK releases.

2.1 Public v1002: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions.

Product Type	Part Number	Version	Supported Chips
JN516x Evaluation Kits	JN516x-EK004 JN516x-EK001	- -	JN516x JN516x
Beyond Studio for NXP -Toolchain	JN-SW-4141	v1308	JN516x
JN516x ZigBee 3.0 - SDK	JN-SW-4170	v1518	JN516x
JN517x Development Kit	JN517x-DK005	-	JN517x
LPCXpresso -Toolchain		v7.9.2 build 493	JN517x
JN517x ZigBee 3.0 - SDK	JN-SW-4270	v1520	JN517x

2.2 Public v1002: Memory Usage

The applications of this Application Note have the following memory footprints on the JN5169 device, when using the JN5169 ZigBee 3.0 SDK [JN-SW-4170].

Application	Text Size (Bytes)	Data Size (Bytes)	BSS Size (Bytes)
APP_LightSensor_JN5169_DR1175.bin	128218	1416	23113
APP_OccupancySensor_JN5169_DR1199.bin	126922	1416	23097
APP_LightTemperatureOccupancySensor_JN5169_DR1175.bin	129382	1448	23641

The applications of this Application Note have the following memory footprints on the JN5179 device, when using the JN5179 ZigBee 3.0 SDK [JN-SW-4270].

Application	Text Size (Bytes)	Data Size (Bytes)	BSS Size (Bytes)
APP_LightSensor_JN5179_DR1175.bin	137228	1896	23257
APP_OccupancySensor_JN5179_DR1199.bin	123475	1832	23049
APP_LightTemperatureOccupancySensor_JN5179_DR1175.bin	125303	1864	23545

2.3 Public v1002: New Features

None

2.4 Public v1002: Bug Fixes

Wrap-up of v1002 changes (lpsw7971)

Updated to get application to build with JN516x ZigBee 3.0 SDK (JN-SW-4170)

Corrected debug messages

Corrected initialisation of LED at power-up

Fixed incorrect DIO assignment for Field Detect pin on JN516x

Fixed interrupts for button scanning in Occupancy Sensor on JN516x

2.5 Public v1002: Known Issues

None

3 Public v1001 (6-Oct-2016)

Updated to add JN517x devices.

3.1 Public v1001: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions.

Product Type	Part Number	Version	Supported Chips
JN516x Evaluation Kits	JN516x-EK004 JN516x-EK001	- -	JN516x JN516x
Beyond Studio for NXP -Toolchain	JN-SW-4141	v1308	JN516x
JN516x ZigBee 3.0 - SDK	JN-SW-4170	v1396	JN516x
JN517x Development Kit	JN517x-DK005	-	JN517x
LPCXpresso -Toolchain		v7.9.2 build 493	JN517x
JN517x ZigBee 3.0 - SDK	JN-SW-4270	v1483	JN517x

3.2 Public v1001: Memory Usage

The applications of this Application Note have the following memory footprints on the JN5169 device, when using the JN5169 ZigBee 3.0 SDK [JN-SW-4170].

Application	Text Size (Bytes)	Data Size (Bytes)	BSS Size (Bytes)
APP_LightSensor_JN5169_DR1175.bin	119342	1396	22193
APP_OccupancySensor_JN5169_DR1199.bin	118161	1396	22181
APP_LightTemperatureOccupancySensor_JN5169_DR1175.bin	120454	1432	22705

The applications of this Application Note have the following memory footprints on the JN5179 device, when using the JN5179 ZigBee 3.0 SDK [JN-SW-4270].

Application	Text Size (Bytes)	Data Size (Bytes)	BSS Size (Bytes)
APP_LightSensor_JN5179_DR1175.bin	137172	1896	23257
APP_OccupancySensor_JN5179_DR1199.bin	123266	1848	23049
APP_LightTemperatureOccupancySensor_JN5179_DR1175.bin	125063	1864	23545

3.3 Public v1001: New Features

JN517x module configuration function (lpsw7806)

A new function vAHI_ModuleConfigure() has been added to the JN517x Integrated Peripherals API to allow the JN517x device to be configured for particular JN517x module types. This feature in not yet available for JN516x.

3.4 Public v1001: Bug Fixes

Allow timers that do not block sleeping (lpsw7170)

End Device applications use some timers that should block sleeping and some that allow sleeping, and this must be handled in the application code. A flag has been introduced into the function ZTIMER_eOpen() to indicate whether the relevant timer should allow sleeping while running.

There should be no warnings during compilation (lpsw7471)

All warnings have been resolved

Simple Descriptor response does not match the ZCL supported (lpsw7700)

Fixed

Occupancy Sensor does not transmit Leave indication (lpsw7492)

On leaving the network, the Occupancy Sensor deleted its network context data and did not send out a leave indication, which prevented the device from later rejoining the network since the Trust Centre was not aware of the leave. The device now sends the leave indication.

3.5 Public v1001: Known Issues

None

4 Public v1000 (14-Apr-2016)

First JN516x public release.

4.1 Public v1000: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions.

Product Type	Part Number	Version	Supported Chips
JN516x Evaluation Kits	JN516x-EK004 JN516x-EK001	- -	JN516x JN516x
Beyond Studio for NXP -Toolchain	JN-SW-4141	v1308	JN516x
JN516x ZigBee 3.0 - SDK	JN-SW-4170	v1396	JN516x

4.2 Public v1000: Memory Usage

The applications of this Application Note have the following memory footprints on the JN5169 device, when using the JN516x ZigBee 3.0 SDK [JN-SW-4170].

Application	Text Size (Bytes)	Data Size (Bytes)	BSS Size (Bytes)
APP_LightSensor_JN5169_DR1175.bin	117635	1396	22201
APP_OccupancySensor_JN5169_DR1199.bin	122810	1400	22153
APP_LightTemperatureOccupancySensor_JN5169_DR1175.bin	119465	1424	22705

4.3 Public v1000: New Features

None (first release)

4.4 Public v1000: Bug Fixes

None (first release)

4.5 Public v1000: Known Issues

None (first release)

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