



Release Notes: JN-AN-1217

ZigBee 3.0 Base Device Template

These release notes provide information on the SDK compatibility, memory usage and change history for the JN-AN-1217 Base Device Template Application Note.

1 Public v1005 (5-Sep-2018)

NFC commissioning uses ZigBee Installation Codes.

1.1 Public v1005: 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	V1840	JN516x
JN517x Development Kit	JN517x-DK005	-	JN517x
LPCXpresso -Toolchain		v7.9.2 build 493	JN517x
JN517x ZigBee 3.0 – SDK	JN-SW-4270	V1841	JN517x

1.2 Public v1005: 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)
Coordinator_JN5169_DR1199.bin	153409	2784	24749
Coordinator_JN5169_DONGLE.bin	153341	2784	24765
Router_Ntaglcode_JN5169_DR1175.bin	153390	1388	23001
EndDevice_Ntaglcode_JN5169_DR1199.bin	146610	1592	22797

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)
Coordinator_JN5179_DR1199.bin	161420	3232	24837
Coordinator_JN5179_DONGLE.bin	161240	3232	24837
Router_Ntaglcode_JN5179_DR1175.bin	162256	1840	23081
EndDevice_Ntaglcode_JN5179_DR1199.bin	142796	1984	22801

1.3 Public v1005: New Features

None

1.4 Public v1005: Bug Fixes

artf607385: New ZCL behavior WRT to reporting value of 0xffff

1.5 Public v1005: Known Issues

None

2 Public v1004 (19-Feb-2018)

NFC commissioning uses ZigBee Installation Codes.

2.1 Public v1004: 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	V1745	JN516x
JN517x Development Kit	JN517x-DK005	-	JN517x
LPCXpresso -Toolchain		v7.9.2 build 493	JN517x
JN517x ZigBee 3.0 - SDK	JN-SW-4270	V1746	JN517x

2.2 Public v1004: 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)
Coordinator_JN5169_DR1199.bin	152485	2784	24717
Coordinator_JN5169_DONGLE.bin	152393	2784	24717
Router_Ntaglcode_JN5169_DR1175.bin	152422	1340	22985
EndDevice_Ntaglcode_JN5169_DR1199.bin	146202	1588	22793

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)
Coordinator_JN5179_DR1199.bin	160556	3232	24805
Coordinator_JN5179_DONGLE.bin	160376	3232	24805
Router_Ntaglcode_JN5179_DR1175.bin	161252	1836	23053
EndDevice_Ntaglcode_JN5179_DR1199.bin	142332	1976	22785

2.3 Public v1004: New Features

None

2.4 Public v1004: Bug Fixes

None

2.5 Public v1004: Known Issues

None

3 Public v1003 (27-Mar-2017)

NFC commissioning uses ZigBee Installation Codes.

3.1 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

3.2 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)
Coordinator_JN5169_DR1199.bin	143065	2672	24321
Coordinator_JN5169_DONGLE.bin	142949	2672	24337
Router_Ntaglcode_JN5169_DR1175.bin	143246	1232	22473
EndDevice_Ntaglcode_JN5169_DR1199.bin	136878	1476	22529

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)
Coordinator_JN5179_DR1199.bin	149692	3128	24429
Coordinator_JN5179_DONGLE.bin	149512	3128	24429
Router_Ntaglcode_JN5179_DR1175.bin	150572	1728	22569
EndDevice_Ntaglcode_JN5179_DR1199.bin	133856	1868	22529

3.3 Public v1003: New Features

NTAG documentation issues (Ipsw8086)

Documentation and images updated

Implement ICODE NFC commissioning as alternative to AES (Ipsw8098)

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.

In the Coordinator support for NFC NCI (reader) commissioning using ZigBee installation codes can be enabled by setting APP_NCI_ICODE=1 and APP_NCI_AES=0 in the makefile or on the command line.

In the Coordinator support for NFC NCI (reader) commissioning using AES encryption can be enabled by setting APP_NCI_ICODE=0 and APP_NCI_AES=1 in the makefile or on the command line.

Provide mechanism in makefile to build for single channel (Ipsw8115)

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 (Ipsw8126)

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

3.4 Public v1003: Bug Fixes

None

3.5 Public v1003: Known Issues

None

4 Public v1002 (30-Nov-2016)

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

4.1 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

4.2 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)
Coordinator_JN516x_DR1199.bin	143117	2672	24321
Coordinator_JN516x_DONGLE.bin	143001	2672	24337
Router_JN516x_DR1175.bin	139714	1232	22697
Enddevice_JN516x_DR1199.bin	122706	1416	22633

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)
Coordinator_JN517x_DR1199.bin	138120	3088	24197
Coordinator_JN517x_DONGLE.bin	138024	3104	24213
Router_JN517x_DR1175.bin	148560	1728	22809
Enddevice_JN517x_DR1199.bin	119715	1832	22585

4.3 Public v1002: New Features

None

4.4 Public v1002: Bug Fixes

None

4.5 Public v1002: Known Issues

None

5 Public v1001 (5-Oct-2016)

Updated to add JN517x devices.

5.1 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

5.2 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)
Coordinator_JN516x_DR1199.bin	141405	2672	24209
Coordinator_JN516x_DONGLE.bin	141273	2672	24225
Router_JN516x_DR1175.bin	137286	1224	22809
Enddevice_JN516x_DR1199.bin	121038	1416	22537

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)
Coordinator_JN517x_DR1199.bin	137520	3088	24197
Coordinator_JN517x_DONGLE.bin	137346	3088	24197
Router_JN517x_DR1175.bin	148364	1728	22809
Enddevice_JN517x_DR1199.bin	119343	1832	22585

5.3 Public v1001: New Features

Integrate NTAG commissioning (lpsw7226)

Network commissioning using NFC NTAG added. This is enabled by default (set APP_NTAG=0 in the makefile to disable).

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 is not yet available for JN516x.

5.4 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.

5.5 Public v1001: Known Issues

None

6 Public v1000 (14-Apr-2016)

First JN516x public release.

6.1 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
	JN516x-EK001	-	JN516x
Beyond Studio for NXP -Toolchain	JN-SW-4141	v1308	JN516x
JN516x ZigBee 3.0 - SDK	JN-SW-4170	v1396	JN516x

6.2 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)
Coordinator_JN516x_DR1199.bin	141469	2640	24513
Coordinator_JN516x_DONGLE.bin	141453	2640	24501
Router_JN516x_DR1175.bin	21745	1188	21689
Enddevice_JN516x_DR1199.bin	114035	1400	21745

6.3 Public v1000: New Features

None (first release)

6.4 Public v1000: Bug Fixes

None (first release)

6.5 Public v1000: Known Issues

None (first release)

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