

RN1257

Zigbee 3.0 Developing Clusters

Rev. 2.8 — 12 December 2023

Release notes

Document information

Information	Content
Keywords	DK006 K32W148EVK
Abstract	These release notes provide information on the SDK compatibility, memory usage and change history for the JN-AN-1257 Zigbee 3.0 Developing Clusters Application Note.



1 Public v2008 – 07-Nov-2023

Public release for DK006: JN5189 / JN5188 / K32W061 / K32W041/ K32W041A/ K32W041AM/ K32W1480.

1.1 Public v2008: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions. The supplied makefiles are configured to compile for K32W061 chips on the K32W061DK6 SDK which was also used to create the pre-built binaries, K32W148 pre-built binaries are also supplied, there is information on the main Application Note document on how to compile for different chips/SDKs.

Table 1. Versions

Product Type	Part Number	Version	Supported Chips
JN518x Development Kit	JN518x-DK006	-	JN5189 / JN5188
IoT_ZTB Development Kit	IoT_ZTB-DK006	-	K32W061/K32W041/ K32W041A/K32W041AM
K32W148EVK	K32W148EVK	-	K32W1480
MPCXpresso –Toolchain	-	v11.7.1 build 9221	JN5189 / JN5188 K32W061/ K32W041/ K32W041A/K32W041AM K32W1480
Development Kit – SDK	K32W061DK6 K32W041ADK6 K32W041AMDK6	v2.6.13	JN5189 / JN5188 K32W061/ K32W041/ K32W041A/K32W041AM
Development Kit – SDK	K32W1480	v2.12.6 MR3	K32W1480

1.2 Public v2008: New Features

Add build options for K32W1480.

1.3 Public v2008: Known Issues

JIRA MCZB_1848

Install code join not supported.

JIRA MCZB_1649

Wear count performance issue for NVM implementation. Also, the actual NVM buffer size must be estimated by each AN.

2 Public v2007 – 11-Nov-2022

Public release for DK006: JN5189 / JN5188 / K32W061 / K32W041/ K32W041A/ K32W041AM.

2.1 Public v2006: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions. The supplied makefiles are configured to compile for K32W061 chips on the K32W061DK6 SDK which was also used to create the pre-built binaries, there is information on the main Application Note document on how to compile for different chips/SDKs.

Table 2. Versions

Product Type	Part Number	Version	Supported Chips
JN518x Development Kit	JN518x-DK006	-	JN5189 / JN5188
IoT_ZTB Development Kit	IoT_ZTB-DK006	-	K32W061/K32W041/ K32W041A/K32W041AM
MPCXpresso –Toolchain	-	v11.5.0 build 7232	JN5189 / JN5188 K32W061/ K32W041/ K32W041A/K32W041AM
Development Kit – SDK	K32W061DK6 K32W041ADK6 K32W041AMDK6	v2.6.8 MR7	JN5189 / JN5188 K32W061/ K32W041/ K32W041A/K32W041AM

2.2 Public v2007: Memory Usage

The final versions of the applications of this Application Note have the following memory footprints:

```

text data bss dec filename
209196 1808 28320 239324 1-WindowCovering_GpProxy_OM15081
239884 2096 31052 273032 1-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15081
214964 1892 29496 246352 2-WindowCovering_GpProxy_OM15081
245584 2180 32228 279992 2-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15081
216340 1892 29496 247728 3-WindowCovering_GpProxy_OM15082
246896 2180 32252 281328 3-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15082

```

2.3 Public v2007: New Features

JIRA MCZB_1162

Fix address conflict after device reset, allowing not load address map through g_bRestoreAddrMap.

2.4 Public v2007: Bug Fixes

JIRA MCZB_1197

Fix incorrect response for “unicast nwk addr req with invalid ieee addr” certification test case.

JIRA MCZB_1173

Fix APDU leakage in SDK.

JIRA MCZB_1282

Fix NPDU leakage in SDK.

JIRA MCZB_1057

Fix MCPS leakage in SDK.

2.5 Public v2007: Known Issues

JIRA MCZB_710

framework flash driver limitation to K32W041AM variant.

JIRA MCZB_715

Deep Power-Down mode of the embedded MX25R8035F in K32W041AM couldn't be set correctly with framework API.

JIRA MCZB_882

ZPS default confirmation is not implemented for fragmented transmission.

JIRA MCZB_1325

U32Reverse API is not available but it's required for touchlink build.

JIRA MCZB_1337

Queue resources are allocated in framework/MemManager

3 Public v2006 – 20-Mar-2022

Public release for DK006: JN5189 / JN5188 / K32W061 / K32W041/ K32W041A/ K32W041AM.

3.1 Public v2006: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions. The supplied makefiles are configured to compile for K32W061 chips on the K32W061DK6 SDK which was also used to create the pre-built binaries, there is information on the main Application Note document on how to compile for different chips/SDKs.

Table 3. Versions

Product Type	Part Number	Version	Supported Chips
JN518x Development Kit	JN518x-DK006	-	JN5189 / JN5188
IoT_ZTB Development Kit	IoT_ZTB-DK006	-	K32W061/K32W041/ K32W041A/K32W041AM
MPCXpresso –Toolchain	-	v11.4.1 build 6260	JN5189 / JN5188 K32W061/ K32W041/ K32W041A/K32W041AM
Development Kit – SDK	K32W061DK6 K32W041ADK6 K32W041AMDK6	v2.6.5 MR4	JN5189 / JN5188 K32W061/ K32W041/ K32W041A/K32W041AM

3.2 Public v2006: Memory Usage

The final versions of the applications of this Application Note have the following memory footprints:

```

text data bss dec filename
203708 1772 27744 233224 1-WindowCovering_GpProxy_OM15081
232728 2060 29956 264744 1-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15081
209412 1856 28920 240188 2-WindowCovering_GpProxy_OM15081
238432 2144 31132 271708 2-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15081
210852 1856 28920 241628 3-WindowCovering_GpProxy_OM15082
239744 2144 31156 273044 3-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15082

```

3.3 Public v2006: New Features

JIRA MCZB_1051

Retry polling for association response during join.

JIRA MCZB_1046

Router sleep.

3.4 Public v2006: Bug Fixes

JIRA MCZB_1067

ZPS_u32MacSetTxBuffers doesn't take effect in application.

JIRA MCZB_1037

FSI_CLOCK_SET_LDO_CALLED_INTERNALLY build flag must be defined to support BOD wakeup.

JIRA MCZB_1029

EEPROM_Init goes to panic when using MX25R8035F with zigbee-only application note.

JIRA MCZB_1003

Makefile optimization to force rebuild of zps and pdum gen file to avoid incompatibility issue for the same application with different build options in mcuxpresso.

JIRA MCZB_977

Fix Ntag unstable issue.

JIRA MCZB_996

sStackEvent.uEvent.sApsTcEvent.uTcData.pKeyDesc->au8LinkKey is not available to application

JIRA MCZB_918

RND_u32GetRand crashes in OTA cluster when u8QueryJitter is 0.

3.5 Public v2006: Known Issues

JIRA MCZB_710

framework flash driver limitation to K32W041AM variant.

JIRA MCZB_715

Deep Power-Down mode of the embedded MX25R8035F in K32W041AM couldn't be set correctly with framework API.

JIRA MCZB_882

ZPS default confirmation is not implemented for fragmented transmission.

4 Public v2005 – 06-Sep-2021

Public release for DK006: JN5189 / JN5188 / K32W061 / K32W041/ K32W041A/ K32W041AM.

4.1 Public v2005: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions. The supplied makefiles are configured to compile for K32W061 chips on the K32W061DK6 SDK which was also used to create the pre-built binaries, there is information on the main Application Note document on how to compile for different chips/SDKs.

Table 4. Versions

Product Type	Part Number	Version	Supported Chips
JN518x Development Kit	JN518x-DK006	-	JN5189 / JN5188
IoT_ZTB Development Kit	IoT_ZTB-DK006	-	K32W061/K32W041/ K32W041A/K32W041AM
MPCXpresso –Toolchain	-	v11.3.0 build 5222	JN5189 / JN5188 K32W061/ K32W041/ K32W041A/K32W041AM
Development Kit – SDK	K32W061DK6 K32W041ADK6 K32W041AMDK6	v2.6.4 MR3 QPATCH1	JN5189 / JN5188 K32W061/ K32W041/ K32W041A/K32W041AM

4.2 Public v2005: Memory Usage

The final versions of the applications of this Application Note have the following memory footprints:

```

text data bss dec filename
203200 1760 27752 232712 1-WindowCovering_GpProxy_OM15081
231484 2048 29940 263472 1-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15081
208904 1844 28928 239676 2-WindowCovering_GpProxy_OM15081
237252 2132 31116 270500 2-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15081
210280 1844 28928 241052 3-WindowCovering_GpProxy_OM15082
238500 2132 31140 271772 3-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15082

```

4.3 Public v2005: New Features

4.4 Public v2005: Bug Fixes

JIRA MCB_2674

RNG generates non-random outputs which could cause same network address allocated to different child device during commissioning.

4.5 Public v2005: Known Issues

JIRA MCZB_710

framework flash driver limitation to K32W041AM variant.

JIRA MCZB_715

Deep Power-Down mode of the embedded MX25R8035F in K32W041AM couldn't be set correctly with framework API.

JIRA MCZB_939

New DIO wakeup mask doesn't take effect after sleep/wakeup cycle.

JIRA MCZB_882

ZPS default confirmation is not implemented for fragmented transmission.

JIRA MCZB_996

sStackEvent.uEvent.sApsTcEvent.uTcData.pKeyDesc->au8LinkKey is not available to application.

5 Public v2004 – 20-Mar-2021

Public release for DK006: JN5189 / JN5188 / K32W061 / K32W041/ K32W041A/ K32W041AM.

5.1 Public v2004: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions. The supplied makefiles are configured to compile for K32W061 chips on the K32W061DK6 SDK which was also used to create the pre-built binaries, there is information on the main Application Note document on how to compile for different chips/SDKs.

Table 5. Versions

Product Type	Part Number	Version	Supported Chips
JN518x Development Kit	JN518x-DK006	-	JN5189 / JN5188
IoT_ZTB Development Kit	IoT_ZTB-DK006	-	K32W061/K32W041/ K32W041A/K32W041AM
MPCXpresso –Toolchain	-	v11.3.0 build 5222	JN5189 / JN5188 K32W061/ K32W041/ K32W041A/K32W041AM
Development Kit – SDK	K32W061DK6 K32W041ADK6 K32W041AMDK6	v2.6.3 MR3	JN5189 / JN5188 K32W061/ K32W041/ K32W041A/K32W041AM

5.2 Public v2004: Memory Usage

The final versions of the applications of this Application Note have the following memory footprints:

```

text data bss dec filename
202608 1756 27044 231408 1-WindowCovering_GpProxy_OM15081
230956 2044 29232 262232 1-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15081
208376 1840 28220 238436 2-WindowCovering_GpProxy_OM15081
236660 2128 30408 269196 2-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15081
209688 1840 28220 239748 3-WindowCovering_GpProxy_OM15082
237972 2128 30432 270532 3-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15082

```

5.3 Public v2004: New Features

None.

5.4 Public v2004: Bug Fixes

None.

5.5 Public v2004: Known Issues

JIRA MCZB_710

Framework flash driver limitation to K32W041AM variant.

JIRA MCZB_715

Deep Power-Down mode of the embedded MX25R8035F in K32W041AM couldn't be set correctly with framework API.

6 Public v2003 – 23-Dec-2020

Public release for DK006: JN5189 / JN5188 / K32W061 / K32W041.

6.1 Public v2003: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions. The supplied makefiles are configured to compile for K32W061 chips on the K32W061DK6 SDK which was also used to create the pre-built binaries, there is information on the main Application Note document on how to compile for different chips/SDKs.

Table 6. Versions

Product Type	Part Number	Version	Supported Chips
JN518x Development Kit	JN518x-DK006	-	JN5189 / JN5188
IoT_ZTB Development Kit	IoT_ZTB-DK006	-	K32W061 / K32W041
MPCXpresso –Toolchain		v11.2.1 build 4149	JN5189 / JN5188 K32W061 / K32W041
Development Kit – SDK	K32W061DK6	v2.6.2 MR2	JN5189 / JN5188 K32W061 / K32W041

6.2 Public v2003: Memory Usage

The final versions of the applications of this Application Note have the following memory footprints:

```
text data bss dec filename
201408 1756 27160 230324 1-WindowCovering_GpProxy_OM15081
229820 2044 29868 261732 1-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15081
207176 1840 28336 237352 2-WindowCovering_GpProxy_OM15081
235588 2128 31044 268760 2-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15081
208552 1840 28336 238728 3-WindowCovering_GpProxy_OM15082
236836 2128 31068 270032 3-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15082
```

6.3 Public v2003: New Features

None.

6.4 Public v2003: Bug Fixes

None.

6.5 Public v2003: Known Issues

None.

7 Public v2002 – 21-Aug-2020

Public release for DK006: JN5189 / JN5188 / K32W061 / K32W041.

7.1 Public v2002: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions. The supplied makefiles are configured to compile for K32W061 chips on the K32W061DK6 SDK which was also used to create the pre-built binaries, there is information on the main Application Note document on how to compile for different chips/SDKs.

Table 7. Versions

Product Type	Part Number	Version	Supported Chips
JN518x Development Kit	JN518x-DK006	-	JN5189 / JN5188
IoT_ZTB Development Kit	IoT_ZTB-DK006	-	K32W061 / K32W041
MPCXpresso –Toolchain		v11.2.0 build 4120	JN5189 / JN5188 K32W061 / K32W041
Development Kit – SDK	K32W061DK6	v2.6.1 MR1	JN5189 / JN5188 K32W061 / K32W041

7.2 Public v2002: Memory Usage

The final versions of the applications of this Application Note have the following memory footprints:

```
text data bss dec filename
198640 1720 27076 227436 1-WindowCovering_GpProxy_OM15081
226988 2008 29784 258780 1-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15081
204408 1804 28252 234464 2-WindowCovering_GpProxy_OM15081
232756 2092 30960 265808 2-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15081
205720 1804 28252 235776 3-WindowCovering_GpProxy_OM15082
234004 2092 30984 267080 3-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15082
```

7.3 Public v2002: New Features

None.

7.4 Public v2002: Bug Fixes

None.

7.5 Public v2002: Known Issues

None.

8 Public v2001 – 17-Apr-2020

Public release for DK006: JN5189 / JN5188 / K32W061 / K32W041.

8.1 Public v2001: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions. The supplied makefiles are configured to compile for K32W061 chips on the K32W061DK6 SDK which was also used to create the pre-built binaries, there is information on the main Application Note document on how to compile for different chips/SDKs.

Table 8. Versions

Product Type	Part Number	Version	Supported Chips
JN518x Development Kit	JN518x-DK006	-	JN5189 / JN5188
IoT_ZTB Development Kit	IoT_ZTB-DK006	-	K32W061 / K32W041
MPCXpresso –Toolchain		v11.1.1 build 3241	JN5189 / JN5188 K32W061 / K32W041
Development Kit – SDK	K32W061DK6	v2.6.0 RFP RC5	JN5189 / JN5188 K32W061 / K32W041

8.2 Public v2001: Memory Usage

The final versions of the applications of this Application Note have the following memory footprints:

```

text data  bss    dec filename
199332 1720 27064 228116 1-WindowCovering_GpProxy_OM15081
227700 2008 29772 259480 1-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15081
205024 1804 28240 235068 2-WindowCovering_GpProxy_OM15081 233392 2092 30948
266432 2-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15081
206336 1804 28240 236380 3-WindowCovering_GpProxy_OM15082 234640 2092 30972
267704 3-WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15082

```

8.3 Public v2001: New Features

None.

8.4 Public v2001: Bug Fixes

artf734822: OTA end request error due to server power off during OTA process

When server power off then power on, device will restart the OTA, but the flash driver needs to reinit as well.

8.5 Public v2001: Known Issues

None.

9 Public v2000 – 9-Mar-2020

Public release for DK006: JN5189 / JN5188 / K32W061 / K32W041.

9.1 Public v2000: Compatibility

The software provided with this Application Note has been tested with the following evaluation kits and SDK versions. The supplied makefiles are configured to compile for JN5189 chips on the JN5189DK6 SDK which was also used to create the pre-built binaries, there is information on the main Application Note document on how to compile for different chips/SDKs.

Table 9. Versions

Product Type	Part Number	Version	Supported Chips
JN518x Development Kit	JN518x-DK006	-	JN5189 / JN5188
K32W061 Development Kit	K32W061-DK006	-	K32W061 / K32W041
MPCXpresso –Toolchain		v11.1.0 build 3209	JN5189 / JN5188 K32W061 / K32W041
Development Kit – SDK	JN5189DK6	v2.6.0 build 110	JN5189 / JN5188 K32W061 / K32W041

9.2 Public v2000: Memory Usage

The final versions of the applications of this Application Note have the following memory footprints:

text	data	bss	dec	filename
206176	1804	28052	236032	WindowCovering_GpProxy_OM15082
234412	2092	30784	267288	WindowCovering_NtagNwk_NtagOta_GpProxy_Ota_OM15082

9.3 Public v2000: New Features

None.

9.4 Public v2000: Bug Fixes

None.

9.5 Public v2000: Known Issues

None.

10 Note about the source code in the document

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11 Revision History

Table 10. Revision History

Document ID	Release date	Description
RN1257 v.2.0	20200311	New version v2000 built with JN5189 2.6.0 SDK
RN1257 v.2.1	20200417	New release v2001 built with K32W061 RFP RC5
RN1257 v.2.2	20200821	New release v2002 built with K32W061 2.6.1 MR1
RN1257 v.2.3	20201223	New release v2003 built with K32W061 2.6.2 MR2
RN1257 v.2.4	20210420	New release v2004 Update to include K32W041AM for MR3 SDK
RN1257 v.2.5	20210906	New release v2005 built on MR3 QPATCH1 SDK
RN1257 v.2.6	20220320	New release v2006 built on MR4 SDK2.6.5
RN1257 v.2.7	20221111	New release v2007 built on SDK2.6.8 SDK
RN1257 v.2.8	20231107	New release v2008 built on SDK2.6.13 SDK

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