Freescale Semiconductor, Inc.
Release Notes

KSDK 1.2.0 Eclipse Update Release Notes

1 Overview

To use the Kinetis SDK with Eclipse and Processor Expert, this updated needs to be installed into Eclipse (e.g. Kinetis Design Studio or Processor Expert for Kinetis).

Otherwise both 'New Project Wizard' and Processor Expert will not know about the devices present and supported in the Kinetis SDK.

Contents

2 Applicable Environments

- Applicable on any Eclipse based IDE with Processor Expert for Kinetis installed.

3 Installation

- Launch Eclipse
- Choose the menu Help > Install New Software…
- Press the Add… button in the dialog
- In the next dialog, chose the 'Archive…' button and browse for the KSDK_1.2.0_Eclipse_Update.zip installation package file
- Then go through the guided update process
- At the end, you are asked to restart Eclipse IDE

4 Product Content

4.1 Supported Processors

- 15 MK02FN128xxx10 - MK02FN128VFM10, MK02FN128VLF10, MK02FN128VLH10
- MK02FN64xxx10 - MK02FN64VFM10, MK02FN64VLF10, MK02FN64VLH10
- MK10DN512xxx10 - MK10DN512VLK10, MK10DN512VLL10, MK10DN512VLQ10, MK10DN512VMC10, MK10DN512VMD10
- MK10DX128xxx10 - MK10DX128VLQ10, MK10DX128VMD10
- MK10DX256xxx10 - MK10DX256VLQ10, MK10DX256VMD10
- MK11DN512Axxx5 - MK11DN512AVLK5, MK11DN512AVMC5
- MK11DX128Axxx5 - MK11DX128AVLK5, MK11DX128AVMC5
- MK11DX256Axxx5 - MK11DX256AVLK5, MK11DX256AVMC5
- MK20DN512xxx10 - MK20DN512VLK10, MK20DN512VLL10, MK20DN512VLQ10, MK20DN512VMC10, MK20DN512VMD10
- MK20DX128xxx10 - MK20DX128VLQ10, MK20DX128VMD10
- MK20DX256xxx10 - MK20DX256VLK10, MK20DX256VLL10, MK20DX256VLQ10, MK20DX256VMC10, MK20DX256VMD10
- MK21DN512Axxx5 - MK21DN512AVLK5, MK21DN512AVMC5
- MK21DX128Axxx5 - MK21DX128AVLK5, MK21DX128AVMC5
- MK21DX256Axxx5 - MK21DX256AVLK5, MK21DX256AVMC5

- MK21FN1M0Axxx12 - MK21FN1M0AVLQ12, MK21FN1M0AVMC12, MK21FN1M0AVMD12
- MK21FX512Axxx12 - MK21FX512AVLQ12, MK21FX512AVMC12, MK21FX512AVMD12
- MK22FN128xxx12 - MK22FN128CAH12
- MK22FN128xxx10 - MK22FN128VDC10, MK22FN128VLH10, MK22FN128VLL10, MK22FN128VMP10
- MK22FN256xxx12 - MK22FN256CAH12, MK22FN256VDC12, MK22FN256VLH12, MK22FN256VLL12, MK22FN256VMP12
- MK22FN512xxx12 - MK22FN512CAP12, MK22FN512VDC12, MK22FN512VLH12, MK22FN512VLL12, MK22FN512VMP12
- MK24FN1M0xxx12 - MK24FN1M0VDC12, MK24FN1M0VLL12, MK24FN1M0VLQ12
- MK24FN256xxx12 - MK24FN256VDC12
- MK26FN2M0xxx18 - MK26FN2M0CAC18, MK26FN2M0VLQ18, MK26FN2M0VMD18, MK26FN2M0VMI18
- MK30DN512xxx10 - MK30DN512VLK10, MK30DN512VLL10, MK30DN512VLQ10, MK30DN512VMC10, MK30DN512VMD10
- MK30DX128xxx10 - MK30DX128VLQ10, MK30DX128VMD10
- MK30DX256xxx10 - MK30DX256VLQ10, MK30DX256VMD10
- MK40DN512xxx10 - MK40DN512VLK10, MK40DN512VLL10, MK40DN512VLQ10, MK40DN512VMC10, MK40DN512VMD10
- MK40DX128xxx10 - MK40DX128VLQ10, MK40DX128VMD10
- MK40DX256xxx10 - MK40DX256VLQ10, MK40DX256VMD10
- MK50DN512xxx10 - MK50DN512CLL10, MK50DN512CLQ10, MK50DN512CMC10, MK50DN512CMD10
- MK50DX256xxx10 - MK50DX256CLK10, MK50DX256CLL10, MK50DX256CMC10, MK50DX256CMD10
- MK51DN256xxx10 - MK51DN256CLQ10, MK51DN256CMD10
- MK51DN512xxx10 - MK51DN512CLL10, MK51DN512CLQ10, MK51DN512CMC10, MK51DN512CMD10
- MK51DX256xxx10 - MK51DX256CLK10, MK51DX256CLL10, MK51DX256CMC10MK52DN512xxx10 - MK52DN512CLQ10, MK52DN512CMD10
- MK53DN512xxx10 - MK53DN512CLQ10, MK53DN512CMD10
- MK53DX256xxx10 - MK53DX256CLQ10, MK53DX256CMD10
- MK60DN256xxx10 - MK60DN256VLL10, MK60DN256VLQ10, MK60DN256VMC10, MK60DN256VMD10
- MK60DN512xxx10 - MK60DN512VLL10, MK60DN512VLQ10, MK60DN512VMC10, MK60DN512VMD10
- MK60DX256xxx10 - MK60DX256VLL10, MK60DX256VLQ10, MK60DX256VMC10, MK60DX256VMD10

- MK63FN1M0xxx12 - MK63FN1M0VLQ12, MK63FN1M0VMD12
- MK64FN1M0xxx12 - MK64FN1M0VDC12, MK64FN1M0VLL12, MK64FN1M0VLQ12, MK64FN1M0VMD12
- MK64FX512xxx12 - MK64FX512VDC12, MK64FX512VLL12, MK64FX512VLQ12, MK64FX512VMD12
- MK65FN2M0xxx18 - MK65FN2M0CAC18, MK65FN2M0VMI18
- MK65FX1M0xxx18 - MK65FX1M0CAC18, MK65FX1M0VMI18
- MK66FN2M0xxx18 - MK66FN2M0VLQ18, MK66FN2M0VMD18
- MK66FX1M0xxx18 - MK66FX1M0VLQ18, MK66FX1M0VMD18
- MKL02Z16xxx4 - MKL02Z16VFG4, MKL02Z16VFK4, MKL02Z16VFM4
- MKL02Z32xxx4 - MKL02Z32CAF4, MKL02Z32VFG4, MKL02Z32VFK4, MKL02Z32VFM4
- MKL02Z8xxx4 - MKL02Z8VFG4
- MKL03Z16xxx4 - MKL03Z16VFG4, MKL03Z16VFK4
- MKL03Z32xxx4 - MKL03Z32CAF4, MKL03Z32VFG4, MKL03Z32VFK4
- MKL03Z8xxx4 - MKL03Z8VFG4, MKL03Z8VFK4
- MKL14Z32xxx4 - MKL14Z32VFM4, MKL14Z32VFT4, MKL14Z32VLH4, MKL14Z32VLK4
- MKL14Z64xxx4 - MKL14Z64VFM4, MKL14Z64VFT4, MKL14Z64VLH4, MKL14Z64VLK4
- MKL15Z128xxx4 - MKL15Z128CAD4, MKL15Z128VFM4, MKL15Z128VFT4, MKL15Z128VLH4, MKL15Z128VLK4
- MKL15Z32xxx4 - MKL15Z32VFM4, MKL15Z32VFT4, MKL15Z32VLH4, MKL15Z32VLK4
- MKL15Z64xxx4 - MKL15Z64VFM4, MKL15Z64VFT4, MKL15Z64VLH4, MKL15Z64VLK4
- MKL16Z128xxx4 - MKL16Z128VFM4, MKL16Z128VFT4, MKL16Z128VLH4
- MKL16Z256xxx4 - MKL16Z256VLH4, MKL16Z256VMP4
- MKL16Z32xxx4 - MKL16Z32VFM4, MKL16Z32VFT4, MKL16Z32VLH4
- MKL16Z64xxx4 - MKL16Z64VFM4, MKL16Z64VFT4, MKL16Z64VLH4
- MKL17Z128xxx4 - MKL17Z128VFM4, MKL17Z128VFT4, MKL17Z128VLH4, MKL17Z128VMP4
- MKL17Z256xxx4 - MKL17Z256VFM4, MKL17Z256VFT4, MKL17Z256VLH4, MKL17Z256VMP4
- MKL17Z32xxx4 - MKL17Z32VDA4, MKL17Z32VFM4, MKL17Z32VFT4, MKL17Z32VLH4, MKL17Z32VMP4
- MKL17Z64xxx4 - MKL17Z64VDA4, MKL17Z64VFM4, MKL17Z64VFT4, MKL17Z64VLH4, MKL17Z64VMP4
- MKL24Z32xxx4 - MKL24Z32VFM4, MKL24Z32VFT4, MKL24Z32VLH4, MKL24Z32VLK4
- MKL24Z64xxx4 - MKL24Z64VFM4, MKL24Z64VFT4, MKL24Z64VLH4, MKL24Z64VLK4
- MKL25Z128xxx4 - MKL25Z128VFM4, MKL25Z128VFT4, MKL25Z128VLH4, MKL25Z128VLK4
- MKL25Z32xxx4 - MKL25Z32VFM4, MKL25Z32VFT4, MKL25Z32VLH4, MKL25Z32VLK4
- MKL25Z64xxx4 - MKL25Z64VFM4, MKL25Z64VFT4, MKL25Z64VLH4, MKL25Z64VLK4

- MKL26Z128xxx4 - MKL26Z128CAL4, MKL26Z128VFM4, MKL26Z128VFT4, MKL26Z128VLH4, MKL26Z128VLL4, MKL26Z128VMC4
- MKL26Z256xxx4 - MKL26Z256VLH4, MKL26Z256VLL4, MKL26Z256VMC4, MKL26Z256VMP4
- MKL26Z32xxx4 - MKL26Z32VFM4, MKL26Z32VFT4, MKL26Z32VLH4
- MKL26Z64xxx4 - MKL26Z64VFM4, MKL26Z64VFT4, MKL26Z64VLH4
- MKL27Z128xxx4 - MKL27Z128VFM4, MKL27Z128VFT4, MKL27Z128VLH4, MKL27Z128VMP4
- MKL27Z256xxx4 - MKL27Z256VFM4, MKL27Z256VFT4, MKL27Z256VLH4, MKL27Z256VMP4
- MKL27Z32xxx4 - MKL27Z32VDA4, MKL27Z32VFM4, MKL27Z32VFT4, MKL27Z32VLH4, MKL27Z32VMP4
- MKL27Z64xxx4 - MKL27Z64VDA4, MKL27Z64VFM4, MKL27Z64VFT4, MKL27Z64VLH4, MKL27Z64VMP4
- MKL33Z128xxx4 - MKL33Z128VLH4, MKL33Z128VMP4
- MKL33Z256xxx4 - MKL33Z256VLH4, MKL33Z256VMP4
- MKL34Z64xxx4 - MKL34Z64VLH4, MKL34Z64VLL4
- MKL36Z128xxx4 - MKL36Z128VLH4, MKL36Z128VLL4, MKL36Z128VMC4
- MKL36Z256xxx4 - MKL36Z256VLH4, MKL36Z256VLL4, MKL36Z256VMC4, MKL36Z256VMP4
- MKL36Z64xxx4 - MKL36Z64VLH4, MKL36Z64VLL4
- MKL43Z128xxx4 - MKL43Z128VLH4, MKL43Z128VMP4
- MKL43Z256xxx4 - MKL43Z256VLH4, MKL43Z256VMP4
- MKL46Z128xxx4 - MKL46Z128VLH4, MKL46Z128VLL4, MKL46Z128VMC4
- MKL46Z256xxx4 - MKL46Z256VLH4, MKL46Z256VLL4, MKL46Z256VMC4, MKL46Z256VMP4
- MKV10Z16xxx7 - MKV10Z16VFM7, MKV10Z16VLC7, MKV10Z16VLF7
- MKV10Z32xxx7 - MKV10Z32VFM7, MKV10Z32VLC7, MKV10Z32VLF7
- MKV30F128xxx10 - MKV30F128VFM10, MKV30F128VLF10, MKV30F128VLH10
- MKV30F64xxx10 - MKV30F64VFM10, MKV30F64VLF10, MKV30F64VLH10
- MKV31F128xxx10 - MKV31F128VLH10, MKV31F128VLL10
- MKV31F256xxx12 - MKV31F256VLH12, MKV31F256VLL12
- MKV31F512xxx12 - MKV31F512VLH12, MKV31F512VLL12
- MKV40F128xxx15 - MKV40F128VLH15, MKV40F128VLL15
- MKV40F256xxx15 - MKV40F256VLH15, MKV40F256VLL15
- MKV40F64xxx15 - MKV40F64VLH15
- MKV43F128xxx15 - MKV43F128VLH15, MKV43F128VLL15
- MKV43F64xxx15 - MKV43F64VLH15
- MKV44F128xxx15 - MKV44F128VLH15, MKV44F128VLL15
- MKV44F64xxx15 - MKV44F64VLH15

- MKV45F128xxx15 - MKV45F128VLH15, MKV45F128VLL15
- MKV45F256xxx15 - MKV45F256VLH15, MKV45F256VLL15
- MKV46F128xxx15 - MKV46F128VLH15, MKV46F128VLL15
- MKV46F256xxx15 - MKV46F256VLH15, MKV46F256VLL15
- MKW01Z128xxx4 - MKW01Z128CHN4
- MKW21D256xxx5 - MKW21D256VHA5
- MKW21D512xxx5 - MKW21D512VHA5
- MKW22D512xxx5 - MKW22D512VHA5
- MKW24D512xxx5 - MKW24D512VHA5

4.2 Boards

- FRDM-K22F
- FRDM-K64F
- FRDM-KL02Z
- FRDM-KL03Z
- FRDM-KL25Z
- FRDM-KL26Z
- FRDM-KL27Z
- FRDM-KL43Z
- FRDM-KL46Z
- FRDM-KW24
- MRB-KW019030JA
- MRB-KW019032EU
- MRB-KW019032NA
- TWR-K21D50M
- TWR-K21F120M
- TWR-K22F120M
- TWR-K24F120M
- TWR-K60D100M
- TWR-K64F120M
- TWR-K65F180M
- TWR-KL43Z48M
- TWR-KV10Z32
- TWR-KV31F120M

- TWR-KV46F150M
- TWR-KW24D512
- USB-KW24D512

4.3 Peripheral Initialization Components

- Init_ADC_VAR0
- Init_ADC_VAR2
- Init_AIPS0_VAR0
- Init_AIPS1_VAR0
- Init_AOI_VAR0
- Init_AXBS_VAR0
- Init_CAN_VAR0
- Init_CMT_VAR0
- Init_COP_KINETIS
- Init_CRC_VAR0
- Init_DAC_VAR0
- Init_DMAMUX_VAR0
- Init_DMA_VAR0
- Init_ENC_VAR0
- Init_ENET_VAR0
- Init_EWM_VAR0
- Init_FB_VAR0
- Init_FMC_VAR1
- Init_FTFL_VAR0
- Init_FTM_VAR0
- Init_FlEXIO_VAR0
- Init_GPIO_VAR0
- Init_HSCMP_VAR0
- Init_I2C_VAR0
- Init_I2S_VAR1
- Init_LLWU_VAR0
- Init_LPTMR_VAR0
- Init_MCM_VAR2

- Init_MCM_VAR3
- Init_MPU_VAR0
- Init_NVIC_VAR0
- Init_NVIC_VAR1
- Init_PDB_VAR0
- Init_PIT_VAR0
- Init_PMC_VAR0
- Init_PORT_VAR0
- Init_RCM_VAR0
- Init_RNG_VAR1
- Init_SCB_VAR0
- Init_SDHC_VAR0
- Init_SDRAM_VAR0
- Init_SIM_VAR2
- Init_SIM_VAR3
- Init_SIM_VAR5
- Init_SLCD_VAR0
- Init_SMC_VAR0
- Init_SPI_VAR0
- Init_SPI_VAR1
- Init_SRTC_VAR0
- Init_SysTick_VAR0
- Init_TPM_VAR0
- Init_TSI_VAR2
- Init_TSI_VAR3
- Init_UART_VAR0
- Init_USBDCD_VAR0
- Init_USB_OTG_HS_VAR0
- Init_USB_OTG_VAR0
- Init_USB_UTMI_PHY_VAR0
- Init_VREF_VAR0
- Init_WDOG_VAR0
- Init_XBAR_VAR2
- Init_eDMA_VAR0

- Init_eFlexPWM_VAR0
- PinSettings

4.4 Kinetis SDK Peripheral Driver Components

- fsl_adc16
- fsl_aoi
- fsl_cmp
- fsl_cop
- fsl_crc
- fsl_cadc
- fsl_dac
- fsl_dma
- fsl_dspi
- fsl_edma
- fsl_enc
- fsl_enet
- fsl_ewm
- fsl_flexbus
- fsl_flexcan
- fsl_flexio
- fsl_ftm
- fsl_gpio
- fsl_i2c
- fsl_lmem_cache
- fsl_lpsci
- fsl_lptmr
- fsl_lpuart
- fsl_mpu
- fsl_pdb
- fsl_pit
- fsl_pwm
- fsl_rnga
- fsl_rtc
- fsl_sai

- fsl_sdhc
- fsl_spi
- fsl_tpm
- fsl_tsi
- fsl_uart
- fsl_vref
- fsl_wdog
- fsl_xbar
- fsl_power_manager
- fsl_clock_manager
- fsl_hwtimer
- fsl_interrupt_manager
- fsl_os_abstraction

4.5 Kinetis SDK HAL Components

- fsl_adc16_hal
- fsl_aoi_hal
- fsl_cmp_hal
- fsl_cop_hal
- fsl_crc_hal
- fsl_cadc_hal
- fsl_dac_hal
- fsl_dma_hal
- fsl_dmamux_hal
- fsl_dspi_hal
- fsl_edma_hal
- fsl_enc_hal
- fsl_enet_hal
- fsl_ewm_hal
- fsl_flexbus_hal
- fsl_flexcan_hal
- fsl_flexio_hal
- fsl_ftm_hal
- fsl_gpio_hal

- fsl_i2c_hal
- fsl_llwu_hal
- fsl_lmem_cache_hal
- fsl_lpsci_hal
- fsl_lptmr_hal
- fsl_lpuart_hal
- fsl_mcg_hal
- fsl_mcglite_hal
- fsl_mmdvsq_hal
- fsl_mpu_hal
- fsl_osc_hal
- fsl_pdb_hal
- fsl_pit_hal
- fsl_pmc_hal
- fsl_port_hal
- fsl_pwm_hal
- fsl_rcm_hal
- fsl_rnga_hal
- fsl_rtc_hal
- fsl_sai_hal
- fsl_sdhc_hal
- fsl_sim_hal
- fsl_smc_hal
- fsl_spi_hal
- fsl_tpm_hal
- fsl_tsi_hal
- fsl_uart_hal
- fsl_vref_hal
- fsl_wdog_hal
- fsl_xbar_hal

4.6 Other Components

- fsl_flash

- fsl_sdcard
- fsl_usb_descriptors
- fsl_usb_device_hid_class
- fsl_usb_device_msd_class
- fsl_usb_framework
- fsl_usb_khci_hal
- fsl_debug_console

4.7 Operating system

- OS_Task
- FreeRTOS
- MQX_KSDK
- ucOSII
- ucOSIII

5 Known Problems and Limitations

- PinSettings is required for SDK projects
- ClockManager is required for SDK projects
- USB stack integration

  fsl_usb_khci_hal cannot work in standalone mode

  fsl_usb_framework does not support OTG mode

  only HID and MSD Class components are supported now
- PEXMCU-1579 - Problem with ISR sharing between SDK components. Some components eg. fsl_wdog and fsl_ewm shares one IRQ. When both components are added into project, error occurs because both components allocates same ISR name in Events tab. User shall disable code generation of ISR in other components and generate ISR only by one component. Eg. disable code generation in Events tab in fsl_ewm and generate ISR only by fsl_wdog. Another problem occurs between fsl_flexio and fsl_uart because flexio and UART2 shares one ISR. fsl_uart cannot allocate ISR properly and generates ISR into module file. fsl_flexio allocates ISR and generates it as event into Events file. In this case no error are shown but some error should be shown because ISR is generated into two files.
- PEXMCU-1616 - When is no user requirement on pin in PinSettings and also in component - no routing code is generated

  Workaround: Select pin either in component or in PinSettings (Automatic value cannot be on both places)
- PEXMCU-1806 - Clock manager does not allow to specify user name of clock configuration structures.
- PEXMCU-2337 - Settings of a components in "Shared components" group don't propagate correctly when switched from older versions of KSDK to KSDK 1.2. As workaround is necessary to correct the values manually.

Package ID: PE 10.5.01

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