

## Release Notes for SPD1179 Standard Peripherals Library Drivers

**V10.0.5/ 3- December -2024**

### Main Changes

#### 1. Bug Fix

#### 2. Other Change

- system.c/.h
  - Modify SYSTEM\_SetStopWakeUpByGPIO(), SYSTEM\_SetSleepWakeUpByGPIO()
- pin.c/.h
  - Modify PIN\_ResetAllPin()
  - Modify note of PIN\_OutStrengthEnum, PIN\_SetOutStrength()
- clock.c
  - Modify CLOCK\_Init(), CLOCK\_InitWithXO(), CLOCK\_InitWithRCO()
- spi.c/.h
  - Delete SPI\_Send(), SPI\_Receive(), SPI\_MasterTransceive(), SPI\_MasterB2BTransceive(), SPI\_SlaveTransceive()
  - Add SPI\_FullDuplexTransceive(), SPI\_HalfDuplexTx(), SPI\_HalfDuplexRx()
- gpio.c/.h
  - Add GPIO\_SetOpenDrainOutputHigh(), GPIO\_SetOpenDrainOutputLow()
- pwm.c/.h
  - Modify PWM\_InitComplementaryPairChannel(), PWM\_InitSingleChannel()
  - Modify PWM\_GetClockDiv()
- hwlib.h
  - Modify note of SYSTEM\_Sleep(), SYSTEM\_Stop()
- lin\_stack/src/lin\_ild\_uart.c
  - Modify definition
- Project / 0\_Examples
  - Modify definition
  - Modify 13\_1\_BEMF\_Comparator
  - Modify 8\_1\_PWM\_Single\_Output\_With\_Up\_Counting\_Mode
  - Modify 8\_2\_PWM\_Single\_Output\_With\_Down\_Counting\_Mode
  - Modify 8\_3\_PWM\_Single\_Output\_With\_Up\_Down\_Counting\_Mode
  - Modify 8\_4\_PWM\_Complementary\_Pair\_Channel
  - Modify 8\_5\_PWM\_TriPhase\_Waveform
  - Modify 8\_6\_PWM\_Software\_Global\_SYNC
  - Modify 8\_7\_PWM\_Software\_Group\_SYNC
  - Modify 8\_8\_PWM\_GPIO\_SYNC
  - Modify 8\_9\_PWM\_Timer\_SYNC
  - Modify 8\_10\_PWM\_TBCNT\_0\_SYNC\_and\_Signal\_Observe
  - Modify 8\_11\_PWM\_Trigger\_ADC\_Sample\_and\_Signal\_Observe
  - Modify 8\_12\_PWM\_GPIO\_Trigger\_TZ

- Modify 8\_13\_PWM\_Current\_Protect\_Trigger\_TZ
  - Modify 8\_14\_PWM\_ADC\_PPU\_Trigger\_TZ
  - Modify 9\_1\_ECAP\_Continue\_Absolute
  - Modify 9\_2\_ECAP\_Continue\_Delta
  - Modify 9\_3\_ECAP\_Oneshot\_Absolute
  - Modify 9\_5\_ECAP\_Continue\_Absolute\_Dual\_Pin
  - Delete 17\_1\_SPI\_Master\_B2B\_TxRx\_Polling
  - Delete 17\_1\_SPI\_Slave\_B2B\_TxRx\_Polling
  - Modify 17\_2\_SPI\_Master\_TxRx\_Polling
  - Modify 17\_2\_SPI\_Slave\_TxRx\_Polling
  - Modify 17\_3\_SPI\_Master\_TxRx\_Int
  - Modify 17\_3\_SPI\_Slave\_TxRx\_Int
  - Modify 18\_5\_Flash\_With\_ISR\_In\_RAM
  - Modify 19\_4\_System\_Stop\_Wakeup
  - Modify 23\_1\_Predriver\_Operation
  - Modify 23\_3\_Predriver\_VDS\_Monitor\_Trigger\_TZ
  - Modify 23\_4\_Predriver\_Strength\_Optimize
  - Modify 23\_5\_Predriver\_Propagation\_Delay
  - Modify 23\_6\_Predriver\_VBAT\_UVOV\_Trigger\_TZ
  - Modify 23\_7\_Predriver\_LIN\_TX\_Timeout\_Trigger\_TZ
  - Modify 23\_8\_Predriver\_VDD5\_OV\_Trigger\_TZ
  - Modify 23\_10\_Predriver\_PMUCLKERR\_Trigger\_TZ
  - Modify 23\_11\_Predriver\_PMUOT\_Trigger\_TZ
- Project / 1\_Application
- Modify definition
  - Modify EEPROM\_Data\_Storage\_Upon\_VBAT\_UV\_Event
  - Modify MEEPROM\_Data\_Storage\_Upon\_VBAT\_UV\_Event

**V9.0.4/ 14- November -2024****Main Changes****1. Bug Fix**

- Project / 0\_Examples
  - Modify 24\_2\_LIN\_Slave\_TX
  - Modify 24\_1\_LIN\_Slave\_RX
- Project / 1\_Application
  - Modify IAP\_LIN
  - Modify AT24C02\_EEPROM

**2. Other Change**

- lin\_stack/src/lin\_ild\_uart.c
  - Add definition
- spd1179\_hv.c
  - Modify note
- adc.h
  - Modify definition
- hwlib.h
  - Modify note
- Project / 0\_Examples
  - Modify definition
  - Modify 10\_2\_ADC\_Open\_Detect
  - Modify 10\_3\_ADC\_Short\_Detect
  - Modify 8\_13\_PWM\_Current\_Protect\_Trigger\_TZ
  - Modify 11\_1\_SPGA\_Calibration
  - Modify 16\_1\_UART\_RX\_Int
  - Delete 9\_6\_ECAP\_Continue\_Delta\_LIN
  - Modify 8\_10\_PWM\_TBCNT\_0\_SYNC\_and\_Signal\_Observe
  - Modify 8\_8\_PWM\_GPIO\_SYNC
  - Modify 8\_9\_PWM\_Timer\_SYNC
  - Modify 8\_11\_PWM\_Trigger\_ADC\_Sample\_and\_Signal\_Observe
  - Modify 8\_7\_PWM\_Software\_Group\_SYNC
  - Modify 8\_6\_PWM\_Software\_Global\_SYNC
  - Modify 8\_5\_PWM\_TriPhase\_Waveform
  - Modify 13\_1\_BEMF\_Comparator
  - Modify 23\_10\_Predriver\_PMUCLKERR\_Trigger\_TZ
  - Modify 23\_11\_Predriver\_PMUOT\_Trigger\_TZ
  - Modify 23\_1\_Predriver\_Operation
  - Modify 23\_3\_Predriver\_VDS\_Monitor\_Trigger\_TZ
  - Modify 23\_4\_Predriver\_Strength\_Optimize
  - Modify 23\_5\_Predriver\_Propagation\_Delay
  - Modify 23\_6\_Predriver\_VBAT\_UVOV\_Trigger\_TZ
  - Modify 23\_7\_Predriver\_LIN\_TX\_Timeout\_Trigger\_TZ

- Modify 23\_8\_Predriver\_VDD5\_OV\_Trigger\_TZ
- Project / 1\_Application
  - Modify definition
  - Modify EEPROM\_Data\_Storage\_Upon\_VBAT\_UV\_Event
  - Modify MEEPROM\_Data\_Storage\_Upon\_VBAT\_UV\_Event

**V8.1.3/ 5- September -2024****Main Changes****1. Bug Fix**

- Project / 0\_Examples
  - Modify IAP\_CAN

**2. Other Change**

- Project / 1\_Application
  - Modify IAP\_CAN
  - Modify IAP\_UART
  - Modify IAPLoader.exe

**V8.0.3/ 16- July -2024****Main Changes****1. Bug Fix**

- lin\_stack/src/lin\_lld\_uart.c
  - Modify UART1\_IRQHandler()
  - Modify lin\_lld\_uart\_init()
  - Modify lin\_lld\_uart\_tx\_response()
  - Modify TIMER1\_IRQHandler()
- Project /0\_Examples
  - Modify 24\_1\_LIN\_Slave\_RX
  - Modify 24\_2\_LIN\_Slave\_TX

**2. Other Change**

- system\_spc1169.c
  - Modify SystemInit()
- Project / 1\_Application
  - Modify Math\_Lib
  - Modify LIN\_Slave\_Auto\_Baud

**V7.0.3/ 1- June -2024****Main Changes****1. Bug Fix**

- pin.c
  - Modify PIN\_SetPinAsECAPO()
- system.c
  - Modify SYSTEM\_SetMonitorThreshold ()
- adc.h
  - Modify ADC\_InputSelectEnum

**2. Other Change**

- crc.h
  - Modify CRC\_ModeEnum
  - Delete CRC\_EndianEnum
  - Delete CRC\_DataOperationEnum
  - Delete CRC\_SetInputFormat()
  - Delete CRC\_SetOutputFormat()
  - Delete CRC\_Calculate()
  - Delete CRC\_FeedStream()
  - Add CRC\_DataReverseEnum
  - Add CRC\_OutputDataXorEnum
  - Add CRC\_ReverseData()
  - Add CRC\_XorOutputData()
  - Add CRC\_CalculateWithInitValuelsNotZero()
  - Add CRC\_CalculateWithInitValuelsZero()
- crc.c
  - Modify CRC\_Init()
  - Delete CRC\_Calculate()
  - Delete CRC\_FeedStream()
  - Add CRC\_CalculateWithInitValuelsNotZero()
  - Add CRC\_CalculateWithInitValuelsZero()
- hwlib.h
  - Modify note of FLASHC\_VerifyRead()
  - Modify note of FLASHC\_VerifyErase()
- clock.c
  - Modify CLOCK\_ConfigurePLL()
- ecap.c
  - Modify ECAP\_APWMMModelInit ()
- adc.c
  - Modify ADC\_Init()
- Project /0\_Examples
  - Delete 28\_1\_CRC\_16\_CCITT
  - Add 28\_1\_CRC

- Add 19\_6\_System\_ECC\_Validation
- Modify 18\_6\_Flash\_EEPROM\_Emulation\_Controller
- Add 18\_7\_Flash\_MEEPROM\_Emulation\_Controller
- Modify note of 26\_1\_CAN\_Standard\_And\_Extended\_Frame\_TX
- Modify note of 26\_1\_CAN\_Standard\_Frame\_RX
- Modify note of 26\_1\_CAN\_Extended\_Frame\_RX
- Modify note of 26\_2\_CANFD\_Standard\_And\_Extended\_Frame\_TX
- Modify note of 26\_2\_CANFD\_Standard\_Frame\_RX
- Modify note of 26\_2\_CANFD\_Extended\_Frame\_RX
- Modify 19\_1\_System\_Voltage\_Monitor
- Modify Math\_Lib
- Modify 23\_10\_Predriver\_PMUCLKERR\_Trigger\_TZ
- Modify 26\_1\_CAN\_Standard\_And\_Extended\_Frame\_TX
- Modify 26\_2\_CANFD\_Standard\_And\_Extended\_Frame\_TX
- Project / 1\_Application
  - Modify EEPROM\_Data\_Storage\_Upon\_VBAT\_UV\_Event
  - Add MEEPROM\_Data\_Storage\_Upon\_VBAT\_UV\_Event
  - Delete IAP\_LIN\_Phy2

**V6.0.2/ 20- January -2024****Main Changes****1. Bug Fix**

- hwlib.h
  - Reserve MEEPROM\_WriteWord ()
  - Reserve MEEPROM\_ReadWord ()
- Project /0\_Examples
  - Modify 18\_6\_Flash\_EEPROM\_Emulation\_Controller
- Project / 1\_Application
  - Modify EEPROM\_Data\_Storage\_Upon\_VBAT\_UV\_Event

**2. Other Change**

**V5.0.2/ 17- January -2024****Main Changes****1. Bug Fix**

- hwlib.h
  - Reserve MEEPROM\_Init()
  - Reserve MEEPROM\_Format()
- Project /0\_Examples
  - Modify 20\_6\_DMA\_ADC\_to\_Memory
  - Modify 20\_7\_DMA\_SPI\_to\_UART
  - Modify 20\_1\_DMA\_Memory\_to\_Memory
  - Modify 20\_2\_DMA\_Memory\_to\_SPI
  - Modify 20\_4\_DMA\_SPI\_to\_Memory
  - Modify 20\_3\_DMA\_Memory\_to\_UART
  - Modify 20\_5\_DMA\_UART\_to\_Memory
  - Modify 20\_8\_DMA\_UART\_to\_SPI
  - Modify 20\_10\_DMA\_ADC\_to\_UART
  - Modify 20\_9\_DMA\_ADC\_to\_SPI
  - Modify 18\_6\_Flash\_EEPROM\_Emulation\_Controller
- Project / 1\_Application
  - Modify EEPROM\_Data\_Storage\_Upon\_VBAT\_UV\_Event

**2. Other Change**

- epwr.h/.c
  - Delete EPWR\_Stop()
  - Delete EPWR\_Sleep()
- lin\_stack/inc/lin.h
  - Add #define LIN\_N\_AS\_AND\_N\_CR\_TIMEOUT            1000
- lin\_stack/src/lin\_lld\_uart.c
  - Add #ifdef LOAD\_ID\_NAD\_FROM\_FLASH #else #endif for lin\_init\_id\_or\_nad\_from\_flash() and lin\_save\_configuration()
- Project / 1\_Application
  - Modify LIN\_Slave\_node

**V4.0.1/ 24- December -2023****Main Changes****1. Bug Fix**

- adc.c
  - Modify ADC\_Init()
  - Modify ADC\_EasyInit1()
  - Modify ADC\_EasyInit2()
  - Modify ADC\_GetInputPinCode()
- pin.c
  - Modify PIN\_SetPinAsAnalog()
- i2c.c
  - Modify I2C\_MasterBulkRead()
- pwm.h
  - Modify interface of PWM\_EnableSYNCOToGPIO()
  - Modify interface of PWM\_DisableSYNCOToGPIO()
  - Modify interface of PWM\_EnableSOCAToGPIO()
  - Modify interface of PWM\_DisableSOCAToGPIO()
  - Modify interface of PWM\_EnableSOCBToGPIO()
  - Modify interface of PWM\_DisableSOCBToGPIO()
  - Modify interface of PWM\_EnableSOCCToGPIO()
  - Modify interface of PWM\_DisableSOCCToGPIO()
- SPC1169.svd/.SFR
  - Modify GPIO register
- Project /0\_Examples
  - Delete 23\_8\_Predriver\_VDD5\_UVOV\_Trigger\_TZ
  - Add 23\_8\_Predriver\_VDD5\_OV\_Trigger\_TZ

**2. Other Change**

- i2c.c
  - Modify I2C\_InitSpeed()
  - Modify I2C\_MasterWrite()
  - Modify I2C\_MasterRead()
  - Modify I2C\_MasterBulkWrite()
- phcomp.c
  - Modify PHCOMP\_SetFilterWindow()
- pin.h
  - Modify PIN\_EnableInputChannel()
  - Modify PIN\_DisableInputChannel()
- .vscode/arm-none-eabi-gcc.cmake
  - Delete Absolute Path
- SPC1169.svd/.SFR
  - Modify note from SSP to SPI
- SPC1169\_bitfield.h

- Modify note from SSP to SPI
- system.c
  - Modify the note of SYSTEM\_SetSleepWakeUpByGPIO()
- clock.c
  - Modify CLOCK\_InitWithXO()
  - Modify CLOCK\_Init()
  - Modify CLOCK\_InitWithRCO()
  - Modify CLOCK\_ConfigurePLL()
- dma.c
  - Rename SSP to SPI
- epwr.c
  - Modify EPWR\_ReadRegister()
- pwm.h
  - Modify PWM\_LoadTimingEnum
- Libraries
  - Modify lin\_stack
- Project /0\_Examples
  - Delete 17\_3\_SSP\_Master\_TxRx\_Int
  - Delete 20\_8\_DMA\_UART\_to\_SSP
  - Delete 17\_2\_SSP\_Master\_TxRx\_Polling
  - Delete 20\_9\_DMA\_ADC\_to\_SSP
  - Delete 17\_2\_SSP\_Slave\_TxRx\_Polling
  - Delete 17\_1\_SSP\_Master\_B2B\_TxRx\_Polling
  - Delete 20\_7\_DMA\_SSP\_to\_UART
  - Delete 10\_5\_ADC\_Differential\_Abs\_Result
  - Delete 20\_2\_DMA\_Memory\_to\_SSP
  - Delete 20\_4\_DMA\_SSP\_to\_Memory
  - Delete 10\_4\_ADC\_Single\_End\_Abs\_Result
  - Delete 17\_1\_SSP\_Slave\_B2B\_TxRx\_Polling
  - Delete 17\_3\_SSP\_Slave\_TxRx\_Int
  - Modify 18\_5\_Flash\_With\_ISR\_In\_RAM
  - Add 17\_3\_SPI\_Master\_TxRx\_Int
  - Add 20\_8\_DMA\_UART\_to\_SPI
  - Add 17\_2\_SPI\_Master\_TxRx\_Polling
  - Add 20\_9\_DMA\_ADC\_to\_SPI
  - Add 17\_2\_SPI\_Slave\_TxRx\_Polling
  - Add 17\_1\_SPI\_Master\_B2B\_TxRx\_Polling
  - Add 20\_7\_DMA\_SPI\_to\_UART
  - Add 10\_5\_ADC\_Differential\_Result
  - Add 20\_2\_DMA\_Memory\_to\_SPI
  - Add 20\_4\_DMA\_SPI\_to\_Memory
  - Add 10\_4\_ADC\_Single\_Ended\_Result
  - Add 17\_1\_SPI\_Slave\_B2B\_TxRx\_Polling
  - Add 17\_3\_SPI\_Slave\_TxRx\_Int

- Modify 18\_1\_Flash\_Operation
- Modify 18\_2\_Flash\_Sector\_Protect
- Modify 18\_3\_Flash\_Call\_User\_Func
- Modify 18\_5\_Flash\_With\_ISR\_In\_RAM
- Modify 19\_5\_System\_Sleep\_Wakeup
- Modify isr.h/.c
- Modify CMakeLists.txt
- Project / 1\_Application
  - Add IAP\_CAN
  - Modify IAPLoader.exe
  - Modify Math\_Lib
  - Modify LIN\_Slave\_node
  - Modify CMakeLists.txt

## V3.0.0/ 7- December -2023

### Main Changes

#### 1. Bug Fix

- hwlib.h
  - Hide EEPROM\_Init, EEPROM\_WriteWord, EEPROM\_ReadWord, EEPROM\_Format
- Project /0\_Examples
  - Modify 18\_6\_Flash\_EEPROM\_Emulation\_Controller

#### 2. Other Change

- Project / 1\_Application
  - Add EEPROM\_Data\_Storage\_Upon\_VBAT\_UV\_Event

**V2.11.0/ 22- October -2023****Main Changes****1. Bug Fix**

- Project.uvprojx
  - Modify <uGnu>1</uGnu> to <uGnu>0</uGnu>
- Project /0\_Examples
  - Delete 23\_9\_Predriver\_VDD5\_OC\_Trigger\_TZ

**2. Other Change**

- Libraries/drivers/inc/
  - Modify note in adc.h, can.h, clock.h, comp.h, dma.h, ecap.h, engr.h, i2c.h, pwm.h, spi.h, system.h, uart.h
- spi.h/.c
  - Modify SPI\_InitSpeed()
- clock.h/.c
  - Modify CLOCK\_InitWithXO()
- .vscode
  - Delete spintrol.bat
  - Modify launch.json
- Project /0\_Examples
  - Add download.bat in GCC
  - Modify 19\_2\_System\_GPIO\_Trigger\_NMI
  - Modify 4\_1\_GPIO\_Edge\_Detect
  - Modify 4\_2\_GPIO\_Level\_Test
- Project /1\_Application
  - Add Math\_Lib
  - Add RTT\_Printf
- Utilities/delay.c
  - Modify note of Delay\_Us
- IDE\_Support/EWARM/SPC1169.svd
- IDE\_Support/MDK-ARM/SPC1169.SFR
- Libraries/drivers/inc/reg/spc1169\_bitfield.h
- spd1179\_hv.c
  - Modify HV\_InitRegister()

**V2.10.0/ 20- September -2023****Main Changes****1. Bug Fix****2. Other Change**

- Libraries/lin\_stack/inc/lin\_commonctl\_proto.h
  - Modify lin\_tl\_make\_multi\_slaveres\_pdu()
- Libraries/lin\_stack/inc/lin\_commonctl\_proto.c
  - Modify lin\_tl\_make\_multi\_slaveres\_pdu()
  - Modify lin\_tl\_attach\_service()
- Libraries/lin\_stack/src/lin\_lld\_uart.c
  - Add lin\_init\_id\_or\_nad\_from\_flash()
  - Modify lin\_lld\_uart\_init()
  - Modify lin\_lld\_uart()
- 1\_Application/LIN\_Slave\_node/lin\_cfg.h
  - Add #define LOAD\_ID\_NAD\_FROM\_FLASH

**V2.9.0/ 15- September -2023****Main Changes****1. Bug Fix****2. Other Change**

- .vscode
  - Add spintrol.bat
  - Modify launch.json
  - Modify arm-none-eabi-gcc.cmake
- IDE\_Support/MDK-ARM/SPC1169\_128M.FLM
  - Rename to SPC1169\_128K.FLM
- IDE\_Support/MDK-ARM/SPC1169\_64M.FLM
  - Rename to SPC1169\_64K.FLM
- Libraries/CMSIS/device/startup/gcc
  - Modify startup\_spc1169.S
- Libraries/CMSIS/device/startup/iar
  - Modify startup\_spc1169.s
- Libraries/CMSIS/device/system\_spc1169.c
  - Modify SysInfo
- Libraries/lin\_stack/src/ lin\_lld\_uart.c
  - Modify UART1\_IRQHandler()
- ecap.h, i2c.h, spi.h
  - Note code in /\* \*/ instead of //
- Project /0\_Examples
  - Modify CMakeLists.txt
  - Modify project.ld
  - Modify Project.uvprojx
  - Delete file build
  - Modify download.jlink
- Utilities / retarget.c
  - Modify \_write()
  - Delete \_\_io\_putchar()
  - Add void \_close()
  - Add void \_fstat()
  - Add void \_getpid()
  - Add void \_isatty()
  - Add void \_kill()
  - Add void \_lseek()
  - Add void \_read()

**V2.8.0/ 3- September -2023****Main Changes****1. Bug Fix****2. Other Change**

- .vscode
  - Add arm-none-eabi-gcc.cmake
- Libraries/lin\_stack/inc/ lin\_lld\_uart.h
  - Delete gpio\_init()
- Libraries/lin\_stack/src/ lin\_lld\_uart.c
  - Add lin\_save\_configuration()
  - Add lin\_Cr\_or\_As\_timeout()
  - Modify lin\_lld\_uart()
  - Modify TIMER2\_IRQHandler()
  - Modify TIMER1\_IRQHandler()
  - Modify UART1\_IRQHandler()
  - Modify lin\_lld\_uart\_init()
  - Modify timer\_init()
  - Modify lin\_lld\_uart\_set\_low\_power\_mode()
  - Modify lin\_lld\_uart\_tx\_response()
- 1\_Application/LIN\_Slave\_node/main.c
  - Delete gpio\_init()
- Project /0\_Examples
  - Modify gcc configuration files of all demos
  - Delete arm-none-eabi-gcc.cmake
  - Add J-Link download
- Utilities / retarget.c
  - Add \_write()
  - Add \_\_io\_putchar()

**V2.7.0/ 28- August -2023****Main Changes****1. Bug Fix****2. Other Change**

- Clock.h
  - Add CLOCK\_InitWithXO()
- Clock.c
  - Add CLOCK\_InitWithXO()
  - Modify CLOCK\_ConfigurePLL()
- pwm.h
  - Modify PWM\_LoadTimingEnum
- Libraries/CMSIS/device/startup/gcc
  - Add startup\_spc1169.S
- Project /0\_Examples
  - Add gcc configuration files to all demos

**V2.6.0/ 11- August -2023****Main Changes****1. Bug Fix**

- clock.c
  - Modify CLOCK\_ConfigurePLL ()

**2. Other Change**

- can.h
  - Add CAN\_EnableAutoBusOffRecovery()
  - Add CAN\_DisabeAutoBusOffRecovery()
- pwm.h
  - Modify PWM\_LoadTimingEnum
- spd1179\_hv\_bitfield.h
  - Rename ATESTCTL to HV ATESTCTL
- spd1179\_hv.h
  - Rename ATESTCTL to HVATESTCTL
- uart.h
  - Rename UART\_BaudCounterUpdateEnum to UART\_BaudCountUpdateEnum
  - Add LIN\_RxFIFOModeEnum
  - Modify UART\_IntEnum
  - Rename UART\_UpdateBaudCounterByHW() to UART\_UpdateBaudCountByHW()
  - Rename UART\_UpdateBaudCounterBySW() to UART\_UpdateBaudCountBySW()
  - Rename UART\_SetBaudCounterUpdateMethod() to UART\_SetBaudCountUpdateMethod()
  - Rename UART\_GetBaudCounterUpdateMethod() to UART\_GetBaudCountUpdateMethod()
  - Add UART\_EnableErrorReportWhenRxFull()
  - Add UART\_DisableErrorReportWhenRxFull()
  - Add UART\_IsEnableErrorReportWhenRxFull()
  - Add UART\_EnablePinSwap()
  - Add UART\_DisablePinSwap()
  - Add UART\_IsEnablePinSwap()
  - Add LIN\_SetRxFIFOMode()
- uart.c
  - Modify UART\_WaitAutoBaudReady()
- IDE\_Support/EWARM/SPC1169.svd
- IDE\_Support/MDK-ARM/SPC1169.SFR
- Project /0\_Examples
  - Modify 10\_1\_ADC\_Calibration
  - Modify 19\_1\_System\_Voltage\_Monitor
- Project/1\_Application
  - Add LIN\_Master\_Auto\_Baud
  - Add LIN\_Slave\_Auto\_Baud

**V2.5.0/ 28- July -2023****Main Changes****1. Bug Fix**

- clock.c
  - Modify CLOCK\_Init()
  - Modify CLOCK\_InitWithRCO()
  - Modify CLOCK\_ConfigurePLL()

**2. Other Change**

- uart.c
  - Modify LIN\_Init()
- lin\_lld\_uart.c
  - Modify lin\_lld\_uart()
  - Modify UART1\_IRQHandler()
  - Modify lin\_lld\_uart\_set\_low\_power\_mode()
- system.h
  - Delete SYSTEM\_GetFlashOption()
- flashc.h
  - Rename FLASH\_SIZE to FLASH\_CHIP\_SIZE
- pin.h
  - Rename PIN\_GPIO2\_CLKMON to PIN\_GPIO2\_DCLK
- spd1179\_hv.c
  - Modify HV\_InitRegister()
- Project/0\_Examples
  - Modify 23\_6\_Predriver\_VBAT\_UVOV\_Trigger\_TZ
  - Modify 24\_1\_LIN\_Master\_TX
  - Modify 24\_1\_LIN\_Slave\_RX
  - Modify 24\_2\_LIN\_Master\_RX
  - Modify 24\_2\_LIN\_Slave\_TX
  - Modify 24\_3\_LIN\_TX\_Timeout\_Shutdown
  - Modify 19\_1\_System\_Voltage\_Monitor
- Project/1\_Application
  - Modify AT24C02\_EEPROM
  - Modify IAP\_LIN\_Phy2
  - Modify IAP\_UART

**V2.4.1/ 15- June -2023****Main Changes****1. Bug Fix****2. Other Change**

- Project /1\_Application
  - Modify LIN\_Slave\_node

**V2.4.0/ 12- May -2023****Main Changes****1. Bug Fix**

- clock.c
  - Modify CLOCK\_Init ()
  - Modify CLOCK\_InitWithRCO()
- spc1169\_bitfield.h
  - Delete NINJLEN
- Project/0\_Examples
  - Modify 10\_1\_ADC\_Calibration
  - Delete 19\_7\_System\_Sleep\_Wakeup\_by\_Event
  - Add 19\_5\_System\_Sleep\_Wakeup

**2. Other Change**

- Project/0\_Examples
  - Modify 11\_1\_SPGA\_Calibration
  - Modify 11\_2\_DPGA\_Calibration
  - Delete 19\_4\_System\_Stop\_Wakeup\_Cycliclly
  - Delete 19\_5\_System\_Stop\_Wakeup\_by\_Event
  - Delete 19\_6\_System\_Sleep\_Wakeup\_Cycliclly
  - Add 19\_4\_System\_Stop\_Wakeup

**V2.3.0/ 23- Apr -2023****Main Changes****1. Bug Fix****2. Other Change****■ Project**

- Modify the default Flash size to 64k
- Modify the default RAM size to 16k

**V2.2.0/ 16- Mar -2023****Main Changes****1. Bug Fix****2. Other Change****■ Project/0\_Examples**

- Modify 2\_4\_MCU\_Sleep\_Wakeup\_by\_Event
- Modify 7\_3\_WDT\_Rset\_System
- Modify 8\_4\_PWM\_Complementary\_Pair\_Channel
- Modify 8\_5\_PWM\_TriPhase\_Waveform
- Modify 8\_6\_PWM\_Software\_Global\_SYNC
- Modify 8\_7\_PWM\_Software\_Group\_SYNC
- Modify 8\_8\_PWM\_GPIO\_SYNC
- Modify 8\_9\_PWM\_Timer\_SYNC
- Modify 8\_10\_PWM\_TBCNT\_0\_SYNC\_and\_Signal\_Observe
- Modify 8\_12\_PWM\_GPIO\_Trigger\_TZ
- Modify 9\_1\_ECAP\_Continue\_Absolute
- Modify 9\_4\_ECAP\_APWM\_Function
- Modify 9\_5\_ECAP\_Continue\_Absolute\_Dual\_Pin
- Modify 10\_1\_ADC\_Calibration
- Modify 10\_3\_ADC\_Short\_Detect
- Modify 10\_4\_ADC\_Single\_End\_Abs\_Result
- Modify 10\_5\_ADC\_Differential\_Abs\_Result
- Modify 10\_6\_ADC\_Triggered\_by\_Timer
- Modify 10\_7\_ADC\_Continuous\_Mode\_and\_Conversion\_Priority
- Modify 10\_8\_ADC\_PPU
- Modify 10\_9\_ADC\_With\_SPGA
- Modify 10\_10\_ADC\_With\_DPGA
- Modify 14\_1\_DAC\_to\_ADC
- Modify 14\_2\_ADC\_to\_DAC
- Modify 17\_1\_SSP\_Master\_B2B\_TxRx\_Polling
- Modify 17\_1\_SSP\_Slave\_B2B\_TxRx\_Polling
- Modify 17\_2\_SSP\_Master\_TxRx\_Polling
- Modify 17\_2\_SSP\_Slave\_TxRx\_Polling
- Modify 17\_3\_SSP\_Master\_TxRx\_Int
- Modify 17\_3\_SSP\_Slave\_TxRx\_Int
- Modify 18\_5\_Flash\_With\_ISR\_In\_RAM
- Add 18\_6\_Flash\_EEPROM\_Emulation\_Controller
- Modify 26\_1\_CAN\_Extended\_Frame\_RX
- Modify 26\_1\_CAN\_Standard\_And\_Extended\_Frame\_TX
- Modify 26\_1\_CAN\_Standard\_Frame\_RX
- Modify 26\_2\_CANFD\_Extended\_Frame\_RX
- Modify 26\_2\_CANFD\_Standard\_And\_Extended\_Frame\_TX

- Modify 26\_2\_CANFD\_Standard\_Frame\_RX
- Modify 27\_1\_I2C\_Master\_Bulk\_Polling\_TxRx
- Modify 27\_1\_I2C\_Slave\_Bulk\_Polling\_TxRx
- Modify 27\_2\_I2C\_Master\_Polling\_TxRx
- Modify 27\_2\_I2C\_Slave\_Polling\_TxRx
- Modify 27\_3\_I2C\_Master\_INT\_TxRx
- Modify 27\_3\_I2C\_Slave\_INT\_TxRx

**V2.1.0/ 2- Mar -2023****Main Changes****1. Bug Fix**

- can.h
  - Modify CAN\_GetTxPinTestMode ()
  - Modify CAN\_SetTxPinTestMode ()
- clock.c
  - Modify CLOCK\_ConfigurePLL ()
- Phcomp.h
  - Modify PHCOMP\_GetOriginalOutputStatus ()

**2. Other Change**

- Project/0\_Examples
  - Modify 8\_1\_PWM\_Single\_Output\_With\_Up\_Counting\_Mode
  - Modify 8\_2\_PWM\_Single\_Output\_With\_Down\_Counting\_Mode
  - Modify 8\_3\_PWM\_Single\_Output\_With\_Up\_Down\_Counting\_Mode
  - Modify 8\_5\_PWM\_TriPhase\_Waveform
  - Modify 8\_6\_PWM\_Software\_Global\_SYNC
  - Modify 8\_7\_PWM\_Software\_Group\_SYNC
  - Modify 8\_8\_PWM\_GPIO\_SYNC
  - Modify 8\_9\_PWM\_Timer\_SYNC
  - Modify 8\_10\_PWM\_TBCNT\_0\_SYNC\_and\_Signal\_Observe
  - Modify 8\_11\_PWM\_Trigger\_ADC\_Sample\_and\_Signal\_Observe
  - Modify 8\_12\_PWM\_GPIO\_Trigger\_TZ
  - Modify 8\_13\_PWM\_Current\_Protect\_Trigger\_TZ
  - Modify 8\_14\_PWM\_ADC\_PPU\_Trigger\_TZ
  - Modify 10\_7\_ADC\_Continuous\_Mode\_and\_Conversion\_Priority
  - Modify 10\_8\_ADC\_PPU
  - Modify 12\_1\_Comparator
  - Delete 15\_1\_LV\_TSsensor
  - Modify 19\_1\_System\_Voltage\_Monitor
  - Modify 19\_7\_System\_Sleep\_Wakeup\_by\_Event
  - Delete 26\_1\_CAN\_TX\_Data
  - Delete 26\_1\_CAN\_RX\_Data1
  - Delete 26\_1\_CAN\_RX\_Data2
  - Add 26\_1\_CAN\_Standard\_And\_Extended\_Frame\_TX
  - Add 26\_1\_CAN\_Standard\_Frame\_RX
  - Add 26\_1\_CAN\_Extended\_Frame\_RX
  - Add 26\_2\_CANFD\_Standard\_And\_Extended\_Frame\_TX
  - Add 26\_2\_CANFD\_Standard\_Frame\_RX
  - Add 26\_2\_CANFD\_Extended\_Frame\_RX
- clock.c
  - Add CLOCK\_UpdateInfo ()

- Delete \_\_XO\_CLOCK variable
- can.c
  - Delete CAN\_SetMessageErrorStateIndicator ()
  - Add CAN\_ForceSendDominantErrorStateIndicator ()
  - Add CAN\_ForceSendRecessiveErrorStateIndicator ()
  - Add CAN\_DisableForceSendErrorStateIndicator ()
  - Add CAN\_IsForceSendErrorStateIndicator ()
  - Add CAN\_GetMessageErrorStateIndicator()
  - Modify CAN\_SetMessage ()
- system\_spc1169.c
  - Modify SystemInit()
  - Modify SysInfoStruct SysInfo
- pwm.h
  - Modify PWM\_SetPRDLoadTiming ()
  - Modify PWM\_SetAQCSFRCLoadTiming ()
  - Modify PWM\_SetDBCTLLoadTiming ()
  - Modify PWM\_SetDBREDLoadTiming ()
  - Modify PWM\_SetDBFEDLoadTiming ()
  - Modify PWM\_LoadTimingEnum
- Clock.h
  - Modify CLOCK\_GetModuleDiv ()
- pga.h
  - Modify PGA\_InputSelEnum
- adc.h
  - Delete ADC\_PPU\_TriggerSourceEnum
- can.h
  - Modify CAN\_GetMessageFrameFormat ()
- spc1169.h
  - Add CEIL\_DIV ()
  - Add FLOOR\_DIV ()
- License.txt
  - Modify license.txt

**V2.0.0/ 11- Feb -2023****Main Changes****1. Bug Fix**

- can.c
  - CAN\_SetMessage ()
- IDE\_Support
  - Modify SPC1169.svd
  - Modify SPC1169.SFR

**2. Other Change**

- Project/0\_Examples
  - Modify 19\_1\_System\_Voltage\_Monitor
  - Add 9\_5\_ECAP\_Continue\_Absolute\_Dual\_Pin
  - Add 9\_6\_ECAP\_Continue\_Delta\_LIN
- Libraries/lin\_stack/src/lin\_lld\_uart.c
  - Modify lin\_lld\_uart()
  - Modify lin\_lld\_uart\_set\_low\_power\_mode()

**V1.9.0/ 10- Jan -2023****Main Changes****1. Bug Fix**

- spd1179\_hv.c
  - Modify HV\_InitRegister()
- IDE\_Support
  - Modify DebugCtrl.mac
  - Modify SPC1169.svd
  - Modify FlashSPC1169.board
  - Modify FlashSPC1169.flash
  - Modify FlashSPC1169.out
  - Modify SPC1169.FLM
  - Modify SPC1169.SFR
- adc.c
  - Modify ADC\_SetSampleAndConvertTime()
  - Modify ADC\_InputSelectEnum
  - Modify ADC\_EasyInit1()
  - Modify ADC\_EasyInit2()
  - Modify ADC\_Init()
  - Modify ADC\_GetInputPinCode()
- system.h
  - Modify SYSTEM\_MonitorItemEnum
  - Modify SYSTEM\_GetADCREFLowThreshold()
  - Modify SYSTEM\_GetADCREFHighThreshold()
  - Modify SYSTEM\_GetADCREFMonitorValue()
- i2c.h
  - Modify I2C\_GetTxAbortSource()
- phcomp.h
  - Modify PHCOMP\_ReferenceEnum
- can.h
  - Modify CAN\_StatusEnum
  - Modify CAN\_GetStatus()
- pga.h
  - Modify D2S\_Enable()
  - Modify D2S\_Disable()
- clock.c
  - Modify CLOCK\_SetModuleDiv()

**2. Other Change**

- adc.h
  - Modify ADC\_Enable()
- comp.h
  - Modify COMP\_SetDACBufferInput()

- pga.c
  - Modify PGA\_InitDPGA()
  - Modify PGA\_InitSPGA()
- spi.c
  - Modify SPI\_InitSpeed()
- ecap.c
  - Modify ECAP\_CaptureModelInit()
  - Modify ECAP\_APWMMModelInit()
- wdt.c
  - Modify WDT\_Init()
- uart.h
  - Add UART\_SetRxTimeoutThreshold()
  - Add UART\_GetRxTimeoutThreshold()
- spi.c
  - Delete SSP\_MasterB2BTransceive ()
- Project/1\_Application
  - Add IAP\_LIN\_Phy
  - Modify IAP\_UART
- Project/0\_Examples
  - Modify 10\_10\_ADC\_With\_DPGA
  - Modify 10\_1\_ADC\_Calibration
  - Modify 10\_2\_ADC\_Open\_Detect
  - Modify 10\_3\_ADC\_Short\_Detect
  - Modify 10\_4\_ADC\_Single\_End\_Abs\_Result
  - Modify 10\_5\_ADC\_Differential\_Abs\_Result
  - Modify 10\_6\_ADC\_Triggered\_by\_Timer
  - Modify 10\_7\_ADC\_Continuous\_Mode\_and\_Conversion\_Priority
  - Modify 10\_8\_ADC\_PPU
  - Modify 10\_9\_ADC\_With\_SPGA
  - Modify 11\_1\_SPGA\_Calibration
  - Modify 11\_2\_DPGA\_Calibration
  - Modify 12\_1\_Comparator
  - Modify 13\_1\_BEMF\_Comparator
  - Modify 14\_1\_DAC\_to\_ADC
  - Modify 14\_2\_ADC\_to\_DAC
  - Modify 15\_1\_LV\_TSsensor
  - Modify 16\_1\_UART\_RX\_Int
  - Modify 16\_2\_UART\_RX\_and\_SentBack
  - Modify 16\_2\_UART\_TX\_and\_CheckRX
  - Modify 17\_1\_SSP\_Master\_B2B\_TxRx\_Polling
  - Modify 17\_1\_SSP\_Slave\_B2B\_TxRx\_Polling
  - Modify 17\_2\_SSP\_Master\_TxRx\_Polling
  - Modify 17\_2\_SSP\_Slave\_TxRx\_Polling
  - Modify 17\_3\_SSP\_Master\_TxRx\_Int

- Modify 17\_3\_SSP\_Slave\_TxRx\_Int
- Modify 18\_1\_Flash\_Operation
- Modify 18\_2\_Flash\_Sector\_Protect
- Modify 18\_3\_Flash\_Call\_User\_Func
- Modify 18\_3\_Flash\_User\_Func
- Modify 18\_4\_Flash\_EEPROM\_Emulation
- Modify 18\_5\_Flash\_With\_ISR\_In\_RAM
- Modify 19\_1\_System\_Voltage\_Monitor
- Modify 19\_2\_System\_GPIO\_Trigger\_NMI
- Modify 19\_3\_System\_Boot\_Log\_and\_ECC\_Error
- Modify 19\_4\_System\_Stop\_Wakeup\_Cycliclly
- Modify 19\_5\_System\_Stop\_Wakeup\_by\_Event
- Modify 19\_6\_System\_Sleep\_Wakeup\_Cycliclly
- Modify 19\_7\_System\_Sleep\_Wakeup\_by\_Event
- Modify 20\_10\_DMA\_ADC\_to\_UART
- Modify 20\_1\_DMA\_Memory\_to\_Memory
- Modify 20\_2\_DMA\_Memory\_to\_SSP
- Modify 20\_3\_DMA\_Memory\_to\_UART
- Modify 20\_4\_DMA\_SSP\_to\_Memory
- Modify 20\_5\_DMA\_UART\_to\_Memory
- Modify 20\_6\_DMA\_ADC\_to\_Memory
- Modify 20\_7\_DMA\_SSP\_to\_UART
- Modify 20\_8\_DMA\_UART\_to\_SSP
- Modify 20\_9\_DMA\_ADC\_to\_SSP
- Modify 23\_10\_Predriver\_PMUCLKERR\_Trigger\_TZ
- Modify 23\_11\_Predriver\_PMUOT\_Trigger\_TZ
- Modify 23\_1\_Predriver\_Operation
- Modify 23\_3\_Predriver\_VDS\_Monitor\_Trigger\_TZ
- Modify 23\_4\_Predriver\_Strength\_Optimize
- Modify 23\_5\_Predriver\_Propagation\_Delay
- Modify 23\_6\_Predriver\_VBAT\_UVOV\_Trigger\_TZ
- Modify 23\_7\_Predriver\_LIN\_TX\_Timeout\_Trigger\_TZ
- Modify 23\_8\_Predriver\_VDD5\_UVOV\_Trigger\_TZ
- Modify 23\_9\_Predriver\_VDD5\_OC\_Trigger\_TZ
- Modify 24\_1\_LIN\_Master\_TX
- Modify 24\_1\_LIN\_Slave\_RX
- Modify 24\_2\_LIN\_Master\_RX
- Modify 24\_2\_LIN\_Slave\_TX
- Modify 24\_3\_LIN\_TX\_Timeout\_Shutdown
- Modify 25\_1\_MON\_Int
- Add 26\_1\_CAN\_RX\_Data1
- Add 26\_1\_CAN\_RX\_Data2
- Add 26\_1\_CAN\_TX\_Data
- Add 27\_1\_I2C\_Master\_Bulk\_Polling\_TxRx

- Add 27\_1\_I2C\_Slave\_Bulk\_Polling\_TxRx
- Add 27\_2\_I2C\_Master\_Polling\_TxRx
- Add 27\_2\_I2C\_Slave\_Polling\_TxRx
- Add 27\_3\_I2C\_Master\_INT\_TxRx
- Add 27\_3\_I2C\_Slave\_INT\_TxRx
- Add 28\_1\_CRC\_16\_CCITT
- Modify 2\_1\_BOD\_UVOV\_Int
- Modify 2\_2\_BOD\_UVOV\_Reset
- Modify 2\_3\_MCU\_Stop\_Wakeup\_by\_Event
- Modify 2\_4\_MCU\_Sleep\_Wakeup\_by\_Event
- Modify 3\_1\_PLL\_unlock\_Int
- Modify 3\_2\_PLL\_unlock\_Reset
- Modify 3\_3\_Clock\_Detect\_Error\_Int
- Modify 3\_4\_Clock\_Detect\_Error\_Reset
- Modify 4\_1\_GPIO\_Edge\_Detect
- Modify 4\_2\_GPIO\_Level\_Test
- Modify 6\_1\_GTimer\_Int
- Modify 7\_1\_WDT\_Int
- Modify 7\_2\_WDT\_Feed\_DOG
- Modify 7\_3\_WDT\_Rset\_System
- Modify 8\_10\_PWM\_TBCNT\_0\_SYNC\_and\_Signal\_Observe
- Modify 8\_11\_PWM\_Trigger\_ADC\_Sample\_and\_Signal\_Observe
- Modify 8\_12\_PWM\_GPIO\_Trigger\_TZ
- Modify 8\_13\_PWM\_Current\_Protect\_Trigger\_TZ
- Modify 8\_14\_PWM\_ADC\_PPU\_Trigger\_TZ
- Modify 8\_1\_PWM\_Single\_Output\_With\_Up\_Counting\_Mode
- Modify 8\_2\_PWM\_Single\_Output\_With\_Down\_Counting\_Mode
- Modify 8\_3\_PWM\_Single\_Output\_With\_Up\_Down\_Counting\_Mode
- Modify 8\_4\_PWM\_Complementary\_Pair\_Channel
- Modify 8\_5\_PWM\_TriPhase\_Waveform
- Modify 8\_6\_PWM\_Software\_Global\_SYNC
- Modify 8\_7\_PWM\_Software\_Group\_SYNC
- Modify 8\_8\_PWM\_GPIO\_SYNC
- Modify 8\_9\_PWM\_Timer\_SYNC
- Modify 9\_1\_ECAP\_Continue\_Absolute
- Modify 9\_2\_ECAP\_Continue\_Delta
- Modify 9\_3\_ECAP\_Oneshot\_Absolute
- Modify 9\_4\_ECAP\_APWM\_Function
- Delete IAP\_LIN\_Phy

**V1.8.0/ 29- Dec -2022****Main Changes****1. Bug Fix**

- spi.h
  - Modify SPI\_SetTestSFRMLock()
- iar
  - Modify startup\_spc1169.s

**2. Other Change**

- adc.h
  - Modify ADC\_SetChannelIntTriggerSOC ()
  - Modify ADC\_SetChannelSOCTriggerSource()
- uart.c
  - Modify LIN\_Init()
- hwlib.h
  - Modify Note
- Project/1\_Application
  - Add LIN\_Slave\_node

**V1.7.0/ 25- Oct -2022****Main Changes****1. Bug Fix**

- Example Code
  - Modify 18\_4\_Flash\_EEPROM\_Emulation

**2. Other Change**

- clock.h
  - Modify CLOCK\_SetPLLInputDiv()
  - Modify CLOCK\_SetPLLFeedbackDiv()
  - Modify CLOCK\_SetWDT0ClockSource()
  - Modify CLOCK\_SetWDT1ClockSource()
- power.c
  - Modify POWER\_SetVDD12UVThreshold()
  - Modify POWER\_SetVDD12OVThreshold()
  - Modify POWER\_SetVDD33UVThreshold()
  - Modify POWER\_SetVDD33OVThreshold()
- adc.h
  - Modify ADC\_SH0\_P\_VBAT\_DIV to ADC\_SH0\_P\_VBATM\_DIV
- delay.h/.c
  - Modify Delay\_Init()
  - Modify Delay\_Us()
- comp.c
  - Modify COMP\_Init()
  - Modify COMP\_SetFilterWindowTimeNs()
- phcomp.c
  - Modify PHCOMP\_SetFilterWindowTimeNs()
- spc1169\_bitfield.h
  - Modify ADCCHCTL0\_SHINSELP\_VBAT\_DIV to ADCCHCTL0\_SHINSELP\_VBATM\_DIV
- spd1179\_hv\_bitfield.h
  - Modify EVTTHCTL0\_PMUOTFATAL\_XXC
  - Modify EVTTHCTL0\_PMUOTWARN\_XXC
  - Modify EVTTHCTL1\_VCPUV\_VBAT\_ADD\_XXdotXX\_V
  - Modify EVTTHCTL1\_VCPOV\_VBAT\_ADD\_XXdotXX\_V
  - Delete PDRVPDEV TEN
- spd1179\_hv.h
  - Delete HV\_REG\_PDRVPDEV TEN
- Example Code
  - Modify 23\_11\_Predriver\_PMUOT\_Trigger\_TZ
  - Delete 23\_2\_Predriver\_VBAT\_UV\_Shutdown
  - Modify 18\_1\_Flash\_Operation
  - Modify 18\_2\_Flash\_Sector\_Protect

- Modify 18\_3\_Flash\_Call\_User\_Func
- Modify 18\_3\_Flash\_User\_Func
- Modify 18\_4\_Flash\_EEPROM\_Emulation
- Modify 18\_5\_Flash\_With\_ISR\_In\_RAM
- Application code
  - Add IAP\_UART
- SPC1169.svd/.SFR
  - Rename PHC to VBATM\_DIV

**V1.6.0/ 26- Aug -2022****Main Changes****1. Bug Fix**

- Example Code
  - Modify 20\_10\_DMA\_ADC\_to\_UART/main.c
  - Modify 20\_9\_DMA\_ADC\_to\_SSP/main.c
  - Modify 20\_6\_DMA\_ADC\_to\_Memory/main.c
  - Modify 23\_5\_Predriver\_Propagation\_Delay/main.c

**2. Other Change**

- hv.h
  - Rename to spd1179\_hv.h
- hv.c
  - Rename to spd1179\_hv.c
- hv\_bitfield.h
  - Rename to spd1179\_hv\_bitfield.h
- spd1179.h
  - Add #define SPD1179
- Example Code
  - Modify 18\_4\_Flash\_EEPROM\_Emulation/data\_manage.c
  - Modify 18\_4\_Flash\_EEPROM\_Emulation/data\_manage.h
  - Modify 18\_4\_Flash\_EEPROM\_Emulation/main.c
  - Modify 19\_1\_System\_Voltage\_Monitor/main.c
  - Modify Template/main.c
  - Modify 20\_6\_DMA\_ADC\_to\_Memory/main.c
  - Modify 20\_10\_DMA\_ADC\_to\_UART/main.c
  - Modify 20\_1\_DMA\_Memory\_to\_Memory/main.c
  - Modify 20\_2\_DMA\_Memory\_to\_SSP/main.c
  - Modify 20\_3\_DMA\_Memory\_to\_UART/main.c
  - Modify 20\_4\_DMA\_SSP\_to\_Memory/main.c
  - Modify 20\_5\_DMA\_UART\_to\_Memory/main.c
  - Modify 20\_7\_DMA\_SSP\_to\_UART/main.c
  - Modify 20\_8\_DMA\_UART\_to\_SSP/main.c
  - Modify 20\_9\_DMA\_ADC\_to\_SSP/main.c
  - Modify 24\_1\_LIN\_Master\_TX/isr.c
  - Modify 24\_1\_LIN\_Master\_TX/main.c
  - Modify 24\_1\_LIN\_Slave\_RX/main.c
  - Modify 24\_2\_LIN\_Master\_RX/main.c
  - Modify 24\_2\_LIN\_Slave\_TX/isr.c
  - Modify 24\_2\_LIN\_Slave\_TX/main.c
  - Modify 9\_1\_ECAP\_Continue\_Absolute/main.c

- `Modify 9_2_ECAP_Continue_Delta/main.c`
- `Modify 9_3_ECAP_Oneshot_Absolute/main.c`

## V1.5.0/ 20- May -2022

### Main Changes

- epwr.c
  - Modify EPWR\_ReadRegister() function

**V1.4.0/ 20- May -2022****Main Changes****1. Bug Fix**

- adc.h
  - Rename ADC\_SH0\_P\_PHC to VBAT\_DIV to ADC\_SH0\_P\_VBAT\_DIV

**2. Other Change**

- epwr.h
  - Add EPWR\_SelectTzEventOutputToGPIO()
- pwm.h
  - Rename PWM\_RISING\_EDGE\_DELAT\_PATH to PWM\_RISING\_EDGE\_DELAY\_PATH

**V1.3.0/ 17- December -2021****Main Changes****1. Bug Fix**

- adc.c
  - Modify the ADC\_SetSampleAndConvertTime()

**2. Other Change**

- pga.c
  - Add D2S\_Enable() and D2S\_Disable()
- hv.c
  - In HV\_ConnectTPMUToAnalogTest(), use (\_\_IO uint32\_t \*) instead of (uint32\_t \*)
- Example Code
  - Modify 13\_1\_BEMF\_Comparator/main.c
  - Modify 23\_1\_Predriver\_Operation/main.c
  - Modify 23\_2\_Predriver\_VBAT\_UV\_Shutdown/main.c
  - Modify 23\_3\_Predriver\_VDS\_Monitor\_Trigger\_TZ/main.c
  - Modify 23\_4\_Predriver\_Strength\_Optimize/main.c
  - Modify 23\_5\_Predriver\_Propagation\_Delay/main.c
  - Modify 23\_6\_Predriver\_VBAT\_UVOV\_Trigger\_TZ/main.c
  - Modify 23\_7\_Predriver\_LIN\_TX\_Timeout\_Trigger\_TZ/main.c
  - Modify 23\_8\_Predriver\_VDD5\_UVOV\_Trigger\_TZ/main.c
  - Modify 23\_9\_Predriver\_VDD5\_OC\_Trigger\_TZ/main.c
  - Modify 23\_10\_Predriver\_PMUCLKERR\_Trigger\_TZ/main.c
  - Modify 23\_11\_Predriver\_PMUOT\_Trigger\_TZ/main.c

**V1.2.0/ 26- September -2021****Main Changes****1. Bug Fix**

- adc.h
  - Add parameter ADCx in ADC\_ForceMultiChannelSOC()
  - Add parameter ADCx in ADC\_DisablePPUInt()
- dma.h
  - Modify DMA\_GetTransferType()
  - Modify DMA\_IsFIFOEmpty()
- epwr.h
  - Modify EPWR\_SetSyncEvent()
- pin.h
  - Modify defination PIN\_EXTPU5V\_Msk and PIN\_EXTPU5V\_Pos
- epwr.c
  - Modify EPWR\_ReadRegister()
- uart.h
  - Modify LIN\_SetSyncBreak()
  - Modify parameter UARTx in UART\_WDIS()
- phcomp.h
  - Modify input parameter of PHCOMP\_SelectReference()
- pwm.h
  - Modify PWM\_EnableTripWhenDebug()

**2. Other Change**

- adc.h
  - Add definition ADC\_MAX\_SAMPLE\_TIME and ADC\_MAX\_CONVERSION\_TIME
  - Delete definition \_\_ADC\_RESOLUTION\_BITS
- clock.h
  - Rename CLOCK\_IsXOEnabled() to CLOCK\_IsEnableXO()
- phcomp.h
  - Add enum PHCOMP\_IntEnum
  - Add enum PHCOMP\_ModeEnum
  - Delete PHCOMP\_SetNormalComparatorMode()
  - Delete PHCOMP\_SetPhaseComparatorMode()
  - Add PHCOMP\_SetMode()
  - Delete PHCOMP\_EnableIntU(), PHCOMP\_EnableIntV(), PHCOMP\_EnableIntW()
  - Delete PHCOMP\_DisableIntU(), PHCOMP\_DisableIntV(), PHCOMP\_DisableIntW()
  - Delete PHCOMP\_ClearIntU(), PHCOMP\_ClearIntV(), PHCOMP\_ClearIntW()
  - Delete PHCOMP\_GetIntRawFlagU(), PHCOMP\_GetIntRawFlagV(), PHCOMP\_GetIntRawFlagW()
  - Delete PHCOMP\_GetIntFlagU(), PHCOMP\_GetIntFlagV(), PHCOMP\_GetIntFlagW()
  - Delete PHCOMP\_GetGlobalIntFlag(), PHCOMP\_GetAllIntFlag()
  - Modify input parameter of PHCOMP\_EnableInt()
  - Modify input parameter of PHCOMP\_DisableInt()

- Modify input parameter of PHCOMP\_GetIntRawFlag()
- Modify input parameter of PHCOMP\_GetIntFlag()
- Modify input parameter of PHCOMP\_ClearInt()
- Delete PHCOMP\_ClearGlobalInt() and PHCOMP\_GetAllIntRawFlag()

#### ■ pwm.h

- Rename enum PWM\_EdgeEnum to PWM\_DeadBandOutputSourceEnum
- Rename enum PWM\_TripIntEventEnum to PWM\_TripIntEnum
- Add TRIP\_INT\_GLOBAL and TRIP\_INT\_ALL in PWM\_TripIntEnum
- Rename PWM\_SetCHAContinuesForceOutputAction() to PWM\_SetCHAContinuousForceOutputAction()
- Rename PWM\_SetCHBContinuesForceOutputAction() to PWM\_SetCHBContinuousForceOutputAction()
- Rename PWM\_GetCHAContinuesForceOutputAction() to PWM\_GetCHAContinuousForceOutputAction()
- Rename PWM\_GetShadowCHAContinuesForceOutputAction() to PWM\_GetShadowCHAContinuousForceOutputAction()
- Rename PWM\_GetCHBContinuesForceOutputAction() to PWM\_GetCHBContinuousForceOutputAction()
- Rename PWM\_GetShadowCHBContinuesForceOutputAction() to PWM\_GetShadowCHBContinuousForceOutputAction()
- Rename PWM\_EnableDBDelayDualEdge() to PWM\_EnableDBDualEdgeDelayMode()
- Rename PWM\_DisableDBDelayDualEdge() to PWM\_DisableDBDualEdgeDelayMode()
- Rename PWM\_SetDBOutputChannelASource() to PWM\_SetDBOutputASource()
- Rename PWM\_SetDBOutputChannelBSource() to PWM\_SetDBOutputBSource()
- Modify input parameter of PWM\_SetCHAOneShotForceOutputAction()
- Modify input parameter of PWM\_SetCHBOneShotForceOutputAction()
- Modify input parameter of PWM\_GetCHAOneShotForceOutputAction()
- Modify input parameter of PWM\_GetCHBOneShotForceOutputAction()
- Delete PWM\_EnableOneShotTripInt()
- Delete PWM\_DisableOneShotTripInt()
- Delete PWM\_EnableCBCTripInt()
- Delete PWM\_DisableCBCTripInt()
- Delete PWM\_EnableDCAEVT0TripInt()
- Delete PWM\_DisableDCAEVT0TripInt()
- Delete PWM\_EnableDCAEVT1TripInt()
- Delete PWM\_DisableDCAEVT1TripInt()
- Delete PWM\_EnableDCBEVT0TripInt()
- Delete PWM\_DisableDCBEVT0TripInt()
- Delete PWM\_EnableDCBEVT1TripInt()
- Delete PWM\_DisableDCBEVT1TripInt()
- Delete PWM\_GetOneShotTripIntRawFlag()
- Delete PWM\_GetCBCTripIntRawFlag()
- Delete PWM\_GetDCAEVT0TripIntRawFlag()
- Delete PWM\_GetDCAEVT1TripIntRawFlag()

- Delete PWM\_GetDCBEVT0TripIntRawFlag()
- Delete PWM\_GetDCBEVT1TripIntRawFlag()
- Delete PWM\_GetOneShotTripIntFlag()
- Delete PWM\_GetCBCTripIntFlag()
- Delete PWM\_GetDCAEVT0TripIntFlag()
- Delete PWM\_GetDCAEVT1TripIntFlag()
- Delete PWM\_GetDCBEVT0TripIntFlag()
- Delete PWM\_GetDCBEVT1TripIntFlag()
- Delete PWM\_GetGlobalTripIntFlag()
- Delete PWM\_ClearOneShotTripInt()
- Delete PWM\_ClearCBCTripInt()
- Delete PWM\_ClearDCAEVT0TripInt()
- Delete PWM\_ClearDCAEVT1TripInt()
- Delete PWM\_ClearDCBEVT0TripInt()
- Delete PWM\_ClearDCBEVT1TripInt()
- Delete PWM\_ClearGlobalTripInt()

#### ■ comp.h

- Delete COMP\_ClearAllFilterOutputFlag()
- Delete COMP\_SetDAC0RampReloadValue()
- Delete COMP\_SetDAC1RampReloadValue()
- Delete COMP\_GetDAC0RampReloadValue()
- Delete COMP\_GetDAC1RampReloadValue()
- Delete COMP\_SetDAC0RampDelay()
- Delete COMP\_SetDAC1RampDelay()
- Delete COMP\_GetDAC0RampDelay()
- Delete COMP\_GetDAC1RampDelay()
- Delete COMP\_GetDAC0RampDecrement()
- Delete COMP\_GetDAC1RampDecrement()

#### ■ dma.h

- Rename DMA\_GetChannelInt() to DMA\_IsEnableChannelInt() and the return value form (0 or 1) to (0 or not 0)
- Rename DMA\_GetSuspend() to DMA\_IsEnableSuspend() and the return value form (0 or 1) to (0 or not 0)
- Rename DMA\_GetTransferCompleteInt() to DMA\_IsEnableTransferCompleteInt()
- Rename DMA\_GetTransferErrorInt() to DMA\_IsEnableTransferErrorInt()
- Rename DMA\_IsEnabled() to DMA\_IsEnable()
- Rename DMA\_GetChannelTransfer() to DMA\_IsEnableChannelTransfer()
- Use the defination DMATCIE\_CHOWE\_Pos, DMAERRIE\_CHOWE\_Pos, DMACHEN\_CHOWE\_Pos to replace NUM\_OF\_DMA\_CHANNEL

#### ■ ecap.h

- Rename ECAP\_APWMSetActiveHigh() to ECAP\_SetAPWMOutputActiveHigh()
- Rename ECAP\_APWMSetActiveLow() to ECAP\_SetAPWMOutputActiveLow()

#### ■ ssp.h

- Modify PSP\_SlotEnum

- Rename SSP\_IsSetPSPNetFrameTxActiveSlot() to SSP\_IsEnablePSPNetFrameTxActiveSlot()
- Rename SSP\_IsSetPSPNetFrameRxActiveSlot() to SSP\_IsEnablePSPNetFrameRxActiveSlot()
- Rename SSP\_EnableLockSFRMOutput() to SSP\_EnableSFRMLock()
- Rename SSP\_DisableLockSFRMOutput() to SSP\_DisableSFRMLock()
- Rename SSP\_IsEnableLockSFRMOutput() to SSP\_IsEnableSFRMLock()
- Delete enum SSP\_TrailingBytesHandlerEnum
- Delete SSP\_SetTrailingBytesHandler()
- Delete SSP\_GetTrailingBytesHandler()
- timer.h
  - Add TIMER\_WALLOW() and TIMER\_WDIS()
- uart.h
  - Rename enum UART\_BusWidthEnum to UART\_FIFOAccessWidthEnum
  - Modify UART\_WriteByte(), LIN\_WriteByte(), UART\_ReadByte(), LIN\_ReadByte()
  - Rename UART\_GetRx() to UART\_IsEnableRx()
  - Rename UART\_GetTx() to UART\_IsEnableTx()
  - Rename UART\_GetRxDMA() to UART\_IsEnableRxDMA()
  - Rename UART\_GetTxDMA() to UART\_IsEnableTxDMA()
  - Delete UART\_GetBreak()
  - Delete UART\_GetAutoBaud()
  - Rename UART\_IsAutoBaudEnabled() to UART\_IsEnableAutoBaud()
  - Rename UART\_SetBusWidth() to UART\_SetFIFOAccessWidth()
  - Rename UART\_GetBusWidth() to UART\_GetFIFOAccessWidth()
  - Rename LIN\_Get() to LIN\_IsEnable()
  - Rename UART\_GetRxSIR() to UART\_IsEnableRxSIR()
  - Rename UART\_GetTxSIR() to UART\_IsEnableTxSIR()
  - Rename UART\_GetInt() to UART\_IsEnableInt()
- system.h
  - Add enum MemoryEnum
  - Rename SSYSTEM\_GetGPIONMIInputSourcePolarity() to SYSTEM\_GetGPIONMIInputSourcePolarity()
  - Rename SYSTEM\_GetNonMaskableInt() to SYSTEM\_IsEnableNonMaskableInt()
  - Rename SYSTEM\_GetResetEvent() to SYSTEM\_IsEnableResetEvent()
  - Delete SYSTEM\_GetROMErrorAddress()
  - Delete SYSTEM\_GetFlashErrorAddress()
  - Delete SYSTEM\_GetIRAMErrorAddress()
  - Delete SYSTEM\_GetDRAMErrorAddress()
  - Add SYSTEM\_GetMemoryErrorAddress()
- epwr.h
  - Modify EPWR\_GetFilteredTripEventStatus() the return value form (0 or 1) to (0 or not 0)
  - Modify EPWR\_GetTripEventFlag() the return value form (0 or 1) to (0 or not 0)
- Example Code
  - Modify 12\_1\_Comparator/main.c
  - Modify 13\_1\_BEMF\_Comparator/main.c
  - Modify 20\_10\_DMA\_ADC\_to\_UART/main.c

- Modify 20\_2\_DMA\_Memory\_to\_SSP/main.c
- Modify 20\_3\_DMA\_Memory\_to\_UART/main.c
- Modify 20\_4\_DMA\_SSP\_to\_Memory/main.c
- Modify 20\_5\_DMA\_UART\_to\_Memory/main.c
- Modify 20\_6\_DMA\_ADC\_to\_Memory/main.c
- Modify 20\_7\_DMA\_SSP\_to\_UART/main.c
- Modify 20\_8\_DMA\_UART\_to\_SSP/main.c
- Modify 20\_9\_DMA\_ADC\_to\_SSP/main.c
- Modify 23\_10\_Predriver\_PMUCLKERR\_Trigger\_TZ/main.c
- Modify 23\_11\_Predriver\_PMUOT\_Trigger\_TZ/main.c
- Modify 23\_3\_Predriver\_VDS\_Monitor\_Trigger\_TZ/main.c
- Modify 23\_6\_Predriver\_VBAT\_UVOV\_Trigger\_TZ/main.c
- Modify 23\_8\_Predriver\_VDD5\_UVOV\_Trigger\_TZ/main.c
- Modify 23\_9\_Predriver\_VDD5\_OC\_Trigger\_TZ/main.c
- Modify 8\_12\_PWM\_GPIO\_Trigger\_TZ/main.c
- Modify 8\_13\_PWM\_Current\_Protect\_Trigger\_TZ/main.c
- Modify 8\_14\_PWM\_ADC\_PPU\_Trigger\_TZ/main.c

**V1.1.0/ 23-June-2021****Main Changes**

- spc1169\_bitfield.h
  - Rename TXDREQ/RXDAV to TXREQ/RXRED in UARTRAWIF/IF/IE registers
  - Update TXREQ/RXRED description in SSPRAWIF/IF/IE registers
  - Rename TXDREQ/RXDAV to TXREQ/RXRED in I2CRAWIF/IF/IE/IC registers
- ecap.c
  - Update ECAP\_CaptureModelInit()
- ecap.h
  - Delete ECAP\_SetRunMode().
  - Rename ECAP\_SetCounterModeOnCPUHaltCMP() to ECAP\_SetCounterModeOnCPUHalt()
  - Delete ECAP\_GetCEVT0IntRawFlag(ECAPx)
  - Delete ECAP\_GetCEVT1IntRawFlag(ECAPx)
  - Delete ECAP\_GetCEVT2IntRawFlag(ECAPx)
  - Delete ECAP\_GetCEVT3IntRawFlag(ECAPx)
  - Delete ECAP\_GetCounterOverflowIntRawFlag(ECAPx)
  - Delete ECAP\_GetCounterEqualPRDIntRawFlag(ECAPx)
  - Delete ECAP\_GetCounterEqualCMPIntRawFlag(ECAPx)
  - Delete ECAP\_GetAllIntRawFlag(ECAPx)
  - Delete ECAP\_GetCEVT0IntFlag(ECAPx)
  - Delete ECAP\_GetCEVT1IntFlag(ECAPx)
  - Delete ECAP\_GetCEVT2IntFlag(ECAPx)
  - Delete ECAP\_GetCEVT3IntFlag(ECAPx)
  - Delete ECAP\_GetCounterOverflowIntFlag(ECAPx)
  - Delete ECAP\_GetCounterEqualPRDIntFlag(ECAPx)
  - Delete ECAP\_GetCounterEqualCMPIntFlag(ECAPx)
  - Delete ECAP\_GetGlobalIntFlag(ECAPx)
  - Delete ECAP\_IsGlobalIntPending(ECAPx)
  - Delete ECAP\_GetAllIntFlag(ECAPx)
  - Delete ECAP\_EnableCEVT0Int(ECAPx)
  - Delete ECAP\_DisableCEVT0Int(ECAPx)
  - Delete ECAP\_EnableCEVT1Int(ECAPx)
  - Delete ECAP\_DisableCEVT1Int(ECAPx)
  - Delete ECAP\_EnableCEVT2Int(ECAPx)
  - Delete ECAP\_DisableCEVT2Int(ECAPx)
  - Delete ECAP\_EnableCEVT3Int(ECAPx)
  - Delete ECAP\_DisableCEVT3Int(ECAPx)
  - Delete ECAP\_EnableCounterOverflowInt(ECAPx)
  - Delete ECAP\_DisableCounterOverflowInt(ECAPx)
  - Delete ECAP\_EnableCounterEqualPRDInt(ECAPx)
  - Delete ECAP\_DisableCounterEqualPRDInt(ECAPx)
  - Delete ECAP\_EnableCounterEqualCMPInt(ECAPx)
  - Delete ECAP\_DisableCounterEqualCMPInt(ECAPx)

- Delete ECAP\_EnableAllInt(ECAPx)
- Delete ECAP\_DisableAllInt(ECAPx)
- Delete ECAP\_ForceCEVT0Int(ECAPx)
- Delete ECAP\_ForceCEVT1Int(ECAPx)
- Delete ECAP\_ForceCEVT2Int(ECAPx)
- Delete ECAP\_ForceCEVT3Int(ECAPx)
- Delete ECAP\_ForceCounterOverflowInt(ECAPx)
- Delete ECAP\_ForceCounterEqualPRDInt(ECAPx)
- Delete ECAP\_ForceCounterEqualCMPInt(ECAPx)
- Delete ECAP\_ClearCEVT0Int(ECAPx)
- Delete ECAP\_ClearCEVT1Int(ECAPx)
- Delete ECAP\_ClearCEVT2Int(ECAPx)
- Delete ECAP\_ClearCEVT3Int(ECAPx)
- Delete ECAP\_ClearCounterOverflowInt(ECAPx)
- Delete ECAP\_ClearCounterEqualPRDInt(ECAPx)
- Delete ECAP\_ClearCounterEqualCMPInt(ECAPx)
- Delete ECAP\_ClearGlobalInt(ECAPx)
- Delete ECAP\_ClearAllInt(ECAPx)

**■ comp.c**

- Update COMP\_Init().
- Update COMP\_SetFilterWindowTimeNs()

**■ comp.h**

- Delete COMP\_SetOutputActiveHigh().
- Delete COMP\_SetOutputActiveLow().
- Delete COMP\_SetOutputActiveHighForPWM().
- Delete COMP\_SetOutputActiveLowForPWM().
- Delete COMP\_SetOutputActiveHighForGPIO().
- Delete COMP\_SetOutputActiveLowForGPIO().
- Add COMP\_SetOutputPolarity().
- Add COMP\_SetOutputPolarityForPWM().
- Add COMP\_SetOutputPolarityForGPIO()

**■ power.h**

- Delete POWER\_DeepSleepMode()
- Delete POWER\_StopMode()

**■ ssp.h**

- Delete SSP\_IsTxNotFull(SSPx)
- Delete SSP\_IsTxEmpty(SSPx)
- Delete SSP\_IsRxFull(SSPx)
- Delete SSP\_IsRxNotEmpty(SSPx)
- Delete SSP\_IsBusy(SSPx)
- Delete SSP\_IsBusySyncSlaveClock(SSPx)
- Delete SSP\_IsSlaveNotReady(SSPx)
- Delete SSP\_IsTxHasEvenSample(SSPx)
- Delete SSP\_IsRxHasEvenSample(SSPx)

- Delete SSP\_IsNetworkBusy(SSPx)
- Delete SSP\_IsSFRMLocked(SSPx)
- Delete SSP\_GetRxUnderflowIntRawFlag(SSPx)
- Delete SSP\_GetRxOverflowIntRawFlag(SSPx)
- Delete SSP\_GetRxServiceRequestIntRawFlag(SSPx)
- Delete SSP\_GetRxTimeoutIntRawFlag(SSPx)
- Delete SSP\_GetTxUnderflowIntRawFlag(SSPx)
- Delete SSP\_GetTxOverflowIntRawFlag(SSPx)
- Delete SSP\_GetTxServiceRequestIntRawFlag(SSPx)
- Delete SSP\_GetBitCountErrorIntRawFlag(SSPx)
- Delete SSP\_GetTrailByteIntRawFlag(SSPx)
- Delete SSP\_GetDMAEndOfChainIntRawFlag(SSPx)
- Delete SSP\_GetRxUnderflowIntFlag(SSPx)
- Delete SSP\_GetRxOverflowIntFlag(SSPx)
- Delete SSP\_GetRxServiceRequestIntFlag(SSPx)
- Delete SSP\_GetRxTimeoutIntFlag(SSPx)
- Delete SSP\_GetTxUnderflowIntFlag(SSPx)
- Delete SSP\_GetTxOverflowIntFlag(SSPx)
- Delete SSP\_GetTxServiceRequestIntFlag(SSPx)
- Delete SSP\_GetBitCountErrorIntFlag(SSPx)
- Delete SSP\_GetTrailByteIntFlag(SSPx)
- Delete SSP\_GetDMAEndOfChainIntFlag(SSPx)
- Delete SSP\_GetGlobalIntFlag(SSPx)
- Delete SSP\_EnableRxUnderflowInt(SSPx)
- Delete SSP\_DisableRxUnderflowInt(SSPx)
- Delete SSP\_EnableRxOverflowInt(SSPx)
- Delete SSP\_DisableRxOverflowInt(SSPx)
- Delete SSP\_EnableRxServiceRequestInt(SSPx)
- Delete SSP\_DisableRxServiceRequestInt(SSPx)
- Delete SSP\_EnableRxTimeoutInt(SSPx)
- Delete SSP\_DisableRxTimeoutInt(SSPx)
- Delete SSP\_EnableTxUnderflowInt(SSPx)
- Delete SSP\_DisableTxUnderflowInt(SSPx)
- Delete SSP\_EnableTxOverflowInt(SSPx)
- Delete SSP\_DisableTxOverflowInt(SSPx)
- Delete SSP\_EnableTxServiceRequestInt(SSPx)
- Delete SSP\_DisableTxServiceRequestInt(SSPx)
- Delete SSP\_EnableBitCountErrorInt(SSPx)
- Delete SSP\_DisableBitCountErrorInt(SSPx)
- Delete SSP\_EnableTrailByteInt(SSPx)
- Delete SSP\_DisableTrailByteInt(SSPx)
- Delete SSP\_EnableDMAEndOfChainInt(SSPx)
- Delete SSP\_DisableDMAEndOfChainInt(SSPx)
- Delete SSP\_ClearRxUnderflowInt(SSPx)

- Delete SSP\_ClearRxOverflowInt(SSPx)
- Delete SSP\_ClearRxTimeoutInt(SSPx)
- Delete SSP\_ClearTxUnderflowInt(SSPx)
- Delete SSP\_ClearTxOverflowInt(SSPx)
- Delete SSP\_ClearBitCountErrorInt(SSPx)
- Delete SSP\_ClearTrailByteInt(SSPx)
- Delete SSP\_ClearDMAEndOfChainInt(SSPx)
- Delete SSP\_ClearGlobalInt(SSPx)

#### ■ system.h

- Delete SYSTEM\_EnableSingleMonitorItem(eltem)
- Delete SYSTEM\_EnableSingleNonMaskableInt(eNMIEvt)
- Delete SYSTEM\_EnableAllNonMaskableInt()
- Delete SYSTEM\_DisableAllNonMaskableInt()
- Delete SYSTEM\_ClearNonMaskableGlobalInt()
- Delete SYSTEM\_GetAllNonMaskableIntRawFlag()
- Delete SYSTEM\_GetNonMaskableGlobalIntFlag()
- Delete SYSTEM\_GetAllNonMaskableIntFlag()
- Delete SYSTEM\_EnableSingleResetEvent(eRSTEvt)
- Delete SYSTEM\_EnableAllResetEvent()
- Delete SYSTEM\_DisableAllResetEvent()
- Delete SYSTEM\_GetAllResetEventFlag()

#### ■ uart.h

- Delete UART\_IsRxNotEmpty(UARTx)
- Delete UART\_IsRxFull(UARTx)
- Delete UART\_IsTxEmpty(UARTx)
- Delete UART\_IsTxNotFull(UARTx)
- Delete UART\_IsRxParityError(UARTx)
- Delete UART\_IsRxFrameError(UARTx)
- Delete UART\_IsRxBreak(UARTx)
- Delete UART\_IsRxError(UARTx)
- Delete UART\_IsRxBusy(UARTx)
- Delete UART\_IsTxBusy(UARTx)
- Delete UART\_GetRxOverflowIntRawFlag(UARTx)
- Delete UART\_GetRxUnderflowIntRawFlag(UARTx)
- Delete UART\_GetRxDataAvailableIntRawFlag(UARTx)
- Delete UART\_GetRxParityErrorIntRawFlag(UARTx)
- Delete UART\_GetRxFrameErrorIntRawFlag(UARTx)
- Delete UART\_GetRxBreakIntRawFlag(UARTx)
- Delete UART\_GetRxTimeoutIntRawFlag(UARTx)
- Delete UART\_GetTxOverflowIntRawFlag(UARTx)
- Delete UART\_GetTxDataRequestIntRawFlag(UARTx)
- Delete UART\_GetAutoBaudLockedIntRawFlag(UARTx)
- Delete UART\_GetLINRxIDMatchIntRawFlag(UARTx)
- Delete UART\_GetLINBitErrorIntRawFlag(UARTx)

- Delete UART\_GetLINChecksumErrorIntRawFlag(UARTx)
- Delete UART\_GetDMAEndOfChainIntRawFlag(UARTx)
- Delete UART\_GetRxOverflowIntFlag(UARTx)
- Delete UART\_GetRxUnderflowIntFlag(UARTx)
- Delete UART\_GetRxDataAvailableIntFlag(UARTx)
- Delete UART\_GetRxParityErrorIntFlag(UARTx)
- Delete UART\_GetRxFrameErrorIntFlag(UARTx)
- Delete UART\_GetRxBreakIntFlag(UARTx)
- Delete UART\_GetRxTimeoutIntFlag(UARTx)
- Delete UART\_GetTxOverflowIntFlag(UARTx)
- Delete UART\_GetTxDataRequestIntFlag(UARTx)
- Delete UART\_GetAutoBaudLockedIntFlag(UARTx)
- Delete UART\_GetLINRxIDMatchIntFlag(UARTx)
- Delete UART\_GetLINBitErrorIntFlag(UARTx)
- Delete UART\_GetLINChecksumErrorIntFlag(UARTx)
- Delete UART\_GetDMAEndOfChainIntFlag(UARTx)
- Delete UART\_GetGlobalIntFlag(UARTx)
- Delete UART\_ClearRxOverflowInt(UARTx)
- Delete UART\_ClearRxUnderflowInt(UARTx)
- Delete UART\_ClearRxParityErrorInt(UARTx)
- Delete UART\_ClearRxFrameErrorInt(UARTx)
- Delete UART\_ClearRxBreakInt(UARTx)
- Delete UART\_ClearRxTimeoutInt(UARTx)
- Delete UART\_ClearTxOverflowInt(UARTx)
- Delete UART\_ClearAutoBaudLockedInt(UARTx)
- Delete UART\_ClearLINRxIDMatchInt(UARTx)
- Delete UART\_ClearLINBitErrorInt(UARTx)
- Delete UART\_ClearLINChecksumErrorInt(UARTx)
- Delete UART\_ClearDMAEndOfChainInt(UARTx)
- Delete UART\_ClearGlobalInt(UARTx)
- Delete UART\_EnableRxOverflowInt(UARTx)
- Delete UART\_DisableRxOverflowInt(UARTx)
- Delete UART\_EnableRxUnderflowInt(UARTx)
- Delete UART\_DisableRxUnderflowInt(UARTx)
- Delete UART\_EnableRxAvailableInt(UARTx)
- Delete UART\_DisableRxAvailableInt(UARTx)
- Delete UART\_EnableRxParityErrorInt(UARTx)
- Delete UART\_DisableRxParityErrorInt(UARTx)
- Delete UART\_EnableRxFrameErrorInt(UARTx)
- Delete UART\_DisableRxFrameErrorInt(UARTx)
- Delete UART\_EnableRxBreakInt(UARTx)
- Delete UART\_DisableRxBreakInt(UARTx)
- Delete UART\_EnableRxTimeoutInt(UARTx)
- Delete UART\_DisableRxTimeoutInt(UARTx)

- Delete UART\_EnableTxOverflowInt(UARTx)
- Delete UART\_DisableTxOverflowInt(UARTx)
- Delete UART\_EnableTxDataRequestInt(UARTx)
- Delete UART\_DisableTxDataRequestInt(UARTx)
- Delete UART\_EnableAutoBaudLockedInt(UARTx)
- Delete UART\_DisableAutoBaudLockedInt(UARTx)
- Delete UART\_EnableLINRxIDMatchInt(UARTx)
- Delete UART\_DisableLINRxIDMatchInt(UARTx)
- Delete UART\_EnableLINBitErrorInt(UARTx)
- Delete UART\_DisableLINBitErrorInt(UARTx)
- Delete UART\_EnableLINChecksumErrorInt(UARTx)
- Delete UART\_DisableLINChecksumErrorInt(UARTx)
- Delete UART\_EnableDMAEndOfChainInt(UARTx)
- Delete UART\_DisableDMAEndOfChainInt(UARTx)

■ Example Code

- Modify 10\_10\_ADC\_With\_DPGA/main.c
- Modify 10\_4\_ADC\_Single\_End\_Abs\_Result/main.c
- Modify 10\_5\_ADC\_Differential\_Abs\_Result/main.c
- Modify 10\_6\_ADC\_Triggered\_by\_Timer/main.c
- Modify 10\_7\_ADC\_Continuous\_Mode and Conversion\_Priority/main.c
- Modify 10\_9\_ADC\_With\_SPGA/main.c
- Modify 14\_1\_DAC\_to\_ADC/main.c
- Modify 14\_2\_ADC\_to\_DAC/main.c
- Modify 15\_1\_LV\_TSensor/main.c
- Modify 16\_1\_UART\_RX\_Int/main.c
- Modify 16\_1\_UART\_RX\_Int/main.c
- Modify 16\_2\_UART\_RX\_and\_SentBack/main.c
- Modify 17\_1\_SSP\_Master\_B2B\_TxRx\_Polling/main.c
- Modify 17\_1\_SSP\_Slave\_B2B\_TxRx\_Polling/main.c
- Modify 17\_2\_SSP\_Master\_TxRx\_Polling/main.c
- Modify 17\_2\_SSP\_Slave\_TxRx\_Polling/main.c
- Modify 17\_3\_SSP\_Master\_TxRx\_Int/main.c
- Modify 17\_3\_SSP\_Slave\_TxRx\_Int/main.c
- Modify 18\_1\_Flash\_Operation/main.c
- Modify 18\_2\_Flash\_Sector\_Protect/main.c
- Modify 18\_3\_Flash\_User\_Func/main.c
- Modify 18\_3\_Flash\_Call\_User\_Func/main.c
- Modify 19\_2\_System\_GPIO\_Trigger\_NMI/main.c
- Modify 20\_10\_DMA\_ADC\_to\_UART/main.c
- Modify 20\_1\_DMA\_Memory\_to\_Memory/main.c
- Modify 20\_2\_DMA\_Memory\_to\_SSP/main.c
- Modify 20\_3\_DMA\_Memory\_to\_UART/main.c
- Modify 20\_4\_DMA\_SSP\_to\_Memory/main.c
- Modify 20\_5\_DMA\_UART\_to\_Memory/main.c

- Modify 20\_6\_DMA\_ADC\_to\_Memory/main.c
- Modify 20\_7\_DMA\_SSP\_to\_UART/main.c
- Modify 20\_8\_DMA\_UART\_to\_SSP/main.c
- Modify 20\_9\_DMA\_ADC\_to\_SSP/main.c
- Modify 23\_10\_Predriver\_PMUCLKERR\_Trigger\_TZ/main.c
- Modify 23\_11\_Predriver\_PMUOT\_Trigger\_TZ/main.c
- Modify 23\_3\_Predriver\_VDS\_Monitor\_Trigger\_TZ/main.c
- Modify 23\_7\_Predriver\_LIN\_TX\_Timeout\_Trigger\_TZ/main.c
- Modify 23\_8\_Predriver\_VDD5\_UVOV\_Trigger\_TZ/main.c
- Modify 23\_9\_Predriver\_VDD5\_OC\_Trigger\_TZ/main.c
- Modify 24\_1\_LIN\_Master\_TX/main.c
- Modify 24\_1\_LIN\_Slave\_RX/main.c
- Modify 24\_2\_LIN\_Master\_RX/main.c
- Modify 24\_2\_LIN\_Slave\_TX/main.c
- Modify 24\_3\_LIN\_TX\_Timeout\_Shutdown/main.c
- Modify 25\_1\_MON\_Int/main.c
- Modify 3\_1\_PLL\_unlock\_Int/main.c
- Modify 3\_2\_PLL\_unlock\_Reset/main.c
- Modify 3\_3\_Clock\_Detect\_Error\_Int/main.c
- Modify 3\_4\_Clock\_Detect\_Error\_Reset/main.c
- Modify 4\_1\_GPIO\_Edge\_Detect/main.c
- Modify 4\_2\_GPIO\_Level\_Test/main.c
- Modify 6\_1\_GTimer\_Int/main.c
- Modify 7\_1\_WDT\_Int/main.c
- Modify 7\_2\_WDT\_Feed\_DOG/main.c
- Modify 8\_10\_PWM\_TBCNT\_0\_SYNC\_and\_Signal\_Observe/main.c
- Modify 8\_12\_PWM\_GPIO\_Trigger\_TZ/main.c
- Modify 8\_13\_PWM\_Current\_Protect\_Trigger\_TZ/main.c
- Modify 8\_14\_PWM\_ADC\_PPU\_Trigger\_TZ/main.c
- Modify 9\_1\_ECAP\_Continue\_Absolute/main.c
- Modify 9\_2\_ECAP\_Continue\_Delta/main.c
- Modify 9\_3\_ECAP\_Oneshot\_Absolute/main.c

**V1.0.0/ 19-January-2021**

**Main Changes**

- Created