



Release Note

SPC1168 SDK Release Note

版本历史

本节记录发布说明文档自身的修改情况,以保证版本元数据的可审计性与受控性。

版本	日期	作者	状态	变更
V4.0.1	2026-07-30	ruiqing	Released	更新文档格式, 新增章节 1、章节 2、章节 3。

1 全局系统环境与前提条件

以下要求定义了正确重新构建并运行标准外设库所需的、经过验证的开发工具、编译器及硬件目标。

支持的芯片：SPC1168 MCU 系列

Keil MDK IDE：v5.23

IAR Embedded Workbench：EWARM v8.32.4

2 版本 4.0.1/2026-07-30

2.1 BUG 修复

模块	条目	描述
ADC	ADC_Init()	由于设计原因，ADCSOC0 的采样保持器(ADCSOCCTL0.SHEN)配置会影响 ADCSOC9/10/11 的采样结果，在 ADC 初始化接口中增加配置检查，保证 SOC9/10/11 正常采样。
	ADC_EasyInit1()	
	ADC_EasyInit2()	

2.2 API 变更

模块	类型	旧 API	新 API	描述
ADC	修改	void ADC_Init()	ErrorStatus ADC_Init()	修改返回值类型
	修改	void ADC_EasyInit1()	ErrorStatus ADC_EasyInit1()	修改返回值类型
	修改	void ADC_EasyInit2()	ErrorStatus ADC_EasyInit2()	修改返回值类型

2.3 杂项

条目	类型	描述
ADC_Continous_Mode\main.c	[DEMO]	更改 ADC API 接口返回值后，对 DEMO 中的
ADC_Conversion_Priority\main.c	[DEMO]	
ADC_Differential_Trim_Result\main.c	[DEMO]	
ADC_SHA_Open_Detect\main.c	[DEMO]	

ADC_Sequential_Mode\main.c	[DEMO]	调用 API 接口回传参数做对判断
ADC_SHA_PPU\main.c	[DEMO]	
ADC_SHA_Short_Detect\main.c	[DEMO]	
ADC_Simultaneous\main.c	[DEMO]	
ADC_Single_End_Result\main.c	[DEMO]	
ADC_With_PGA\main.c	[DEMO]	
DAC\main.c	[DEMO]	
PGA_Calibration\main.c	[DEMO]	
PWM_Trigger_ADC_Sample\main.c	[DEMO]	
PWM_PPU_Trigger_TZ\main.c	[DEMO]	
High_Voltage_TSensor_Over_Temperature_Measurement\main.c	[DEMO]	
High_Voltage_VBAT_Div_30_Monitored_By_ADC\main.c	[DEMO]	
High_Voltage_Motor_PGA\main.c	[DEMO]	
PWM_TBCNT_CMPD_SYNC\main.c	[DEMO]	修复 PWM 波形同步示例代码。

3 限制

模块	描述

Release Notes for SPD1188 Standard Peripherals Library Drivers

V3.0.1/ 13- Mar -2026

Main Change

1. Bug Fix

- clock.h/.c
 - Add CLOCK_GetSystemClock0Source
 - Add CLOCK_GetSystemClock1Source
 - Add CLOCK_GetWDT0ClockSource
 - Add CLOCK_GetWDT1ClockSource
 - Add CLOCK_UpdateInfo
 - Modify CLOCK_Init
 - Modify CLOCK_InitWithRCO
 - Modify CLOCK_InitWithXO
 - Modify CLOCK_GetModuleClock
- spd1188_hv_bitfield.h
 - Delete BUCKGCTL0_BIT_CROSSPROTEN
 - Delete PDRVOCCTL_BIT_DGWIN
 - Delete PDRVOCCTL_BIT_BLANKWIN
- system_spc2168.h/.c
 - Modify SysInfoStruct
- spd1188_hv.c
 - Modify HV_InitReg

2. Other Change

- adc.c
 - Modify ADC_Init
 - Add Optimization level restrictions
- aes.c
 - Add Optimization level restrictions
- clock.c
 - Modify CLOCK_Init
 - Modify CLOCK_InitWithRCO
 - Modify CLOCK_InitWithXO
 - Modify CLOCK_ConfigurePLL
 - Modify CLOCK_ConfigurePLLWithRCO
 - Add Optimization level restrictions
- comp.c
 - Add Optimization level restrictions
- crc.h/.c
 - Modify CRC_CalculateWithInitValuelsNotZero
 - Add Optimization level restrictions

- `ecap.c`
 - Add Optimization level restrictions
- `epwr.c`
 - Add Optimization level restrictions
- `flash.c`
 - Modify FLASH_Read
 - Modify FLASH_ProgramWord
 - Modify FLASH_Program
 - Modify FLASH_EraseSector
 - Modify FLASH_EraseBlock
 - Modify FLASH_EraseChip
 - Add Optimization level restrictions
- `gpio.h/.c`
 - Add GPIO_SetOpenDrainOutputHigh
 - Add GPIO_SetOpenDrainOutputLow
 - Add Optimization level restrictions
- `i2c.h/.c`
 - Add I2C_SetHighSpeedMasterCode
 - Modify I2C_SlaveWrite
 - Modify I2C_SlaveBulkWrite
 - Add Optimization level restrictions
- `pga.c`
 - Add Optimization level restrictions
- `power.c`
 - Add Optimization level restrictions
- `pwm.c`
 - Modify PWM_ComplementaryPairChannelInit
 - Modify PWM_SingleChannelInit
 - Add Optimization level restrictions
- `spd1188_hv.c`
 - Modify HV_Command
 - Modify HV_Handshake
 - Modify HV_ReadReg
 - Add Optimization level restrictions
- `ssp.c`
 - Modify SSP_Send
 - Modify SSP_MasterTransceive
 - Add Optimization level restrictions
- `system.c`
 - Add Optimization level restrictions
- `timer.c`
 - Modify TIMER_Init
 - Add Optimization level restrictions
- `uart.c`

- Add Optimization level restrictions
- wdt.c
 - Add Optimization level restrictions
- delay.c
 - Add Optimization level restrictions
- Example Code
 - Add I2C_Master_High_Speed_Mode_Polling_TxRx
 - Add I2C_Slave_High_Speed_Mode_Polling_TxRx
 - Add SECURITY_Config/EWARM
 - Modify ADC_Continuous_Mode/main.c
 - Modify ADC_Conversion_Priority/main.c
 - Modify ADC_Differential_Trim_Result/main.c
 - Modify ADC_SHA_Open_Detect/main.c
 - Modify ADC_SHA_PPU/main.c
 - Modify ADC_SHA_Short_Detect/main.c
 - Modify ADC_Sequential_Mode/main.c
 - Modify ADC_Simultaneous/main.c
 - Modify ADC_Single_End_Result/main.c
 - Modify ADC_With_PGA/main.c
 - Modify CRC_Calculate/main.c
 - Modify DAC/main.c
 - Modify ECAP_Continue_Absolute/main.c
 - Modify ECAP_Continue_Delta/main.c
 - Modify ECAP_Oneshot_Absolute/main.c
 - Modify Flash_With_INT/main.c
 - Modify GPIO_Edge_Detect/main.c
 - Modify GTimer_Extren_Gpio_Input_Clk/main.c
 - Modify GTimer_Extren_Gpio_Input_Enable/main.c
 - Modify GTimer_INT/main.c
 - Modify High_Voltage_BOD_VBAT_VDDG/main.c
 - Modify High_Voltage_Buck3_FREQ_Dithering/main.c
 - Modify High_Voltage_Buck3_FREQ_Setting/main.c
 - Modify High_Voltage_Buck3_OT/main.c
 - Modify High_Voltage_BuckG_Cross_Protection/main.c
 - Modify High_Voltage_BuckG_FREQ_Dithering/main.c
 - Modify High_Voltage_BuckG_FREQ_Setting/main.c
 - Modify High_Voltage_BuckG_Self_Shut_Down/main.c
 - Modify High_Voltage_BuckG_UVTH/main.c
 - Modify High_Voltage_Deep_Sleep/main.c
 - Modify High_Voltage_Motor_PGA/main.c
 - Modify High_Voltage_PRE_Driver/main.c
 - Modify High_Voltage_PRE_Driver_Self_Shut_Down/main.c
 - Modify High_Voltage_VBAT_Div_30_Monitored_By_ADC/main.c
 - Modify High_Voltage_VDS_Monitoring/main.c

- Modify I2C_Master_Bulk_Polling_TxRx/main.c
- Modify I2C_Master_Polling_TxRx/main.c
- Modify I2C_Slave_Bulk_Polling_TxRx/main.c
- Modify I2C_Slave_Polling_TxRx/main.c
- Modify PWM_Current_Protect_Trigger_TZ/main.c
- Modify PWM_GPIO_Trigger_Trip_Zone/main.c
- Modify PWM_Global_Timer_SYNC/main.c
- Modify PWM_Independent_Trigger_TZ/main.c
- Modify PWM_PPU_Trigger_TZ/main.c
- Modify PWM_Trigger_ADC_Sample/main.c
- Modify SECURITY_Config/configwords.c
- Modify SSP_Master_TxRx_INT/main.c
- Modify SSP_Slave_TxRx_Polling/main.c
- Modify UART_Auto_Baudrate/main.c
- Modify UART_RX_INT/main.c
- Modify UART_RX_Indefinite_Length/main.c
- Modify WDT1_Feed_DOG/main.c
- Modify WDT1_Rset_SYS/main.c

■ 1_Application

- Add Math_Lib/Project.sct
- Add Math_Lib/iar_cortexM4lf_math.a
- Modify Math_Lib/Project.uvprojx
- Modify Math_Lib/Project.ewp
- Modify Math_Lib/Project.icf
- Modify IAP_Modem/MDK-ARM/Project.sct
- Modify IAP_UART/IAP_Loader/main.c

V2.1.0/ 25- Feb -2024**Main Change****1. Bug Fix****2. Other Change**

- aes.c
 - Modify AES_EncryptData
 - Modify AES_DecryptData
- i2c.c/h
 - Modify I2C_MasterWrite
 - Modify I2C_MasterRead
 - Modify I2C_SlaveWrite
 - Modify I2C_MasterBulkWrite
 - Modify I2C_MasterBulkRead
 - Modify I2C_SlaveBulkWrite
- clock.c/h
 - Modify CLOCK_TrimPLL
 - Modify CLOCK_Init
 - Modify CLOCK_InitWithRCO
 - Modify CLOCK_InitWithXO
 - Modify CLOCK_ConfigurePLL
 - Modify CLOCK_ConfigurePLLWithRCO
- flash.c/h
 - Modify FLASH_Read
 - Modify FLASH_ProgramWord
 - Modify FLASH_Program
 - Modify FLASH_EraseSector
 - Modify FLASH_EraseBlock
 - Modify FLASH_EraseChip
- ssp.c/h
 - Modify SSP_Send
 - Modify SSP_MasterTransceive
 - Modify SSP_MasterB2BTransceive

V2.0.1/ 8- Dec -2023**Main Change****1. Bug fix**

- clock.c
 - Modify CLOCK_ConfigurePLL()
- comp.c
 - Modify COMP_SetFilterWindowTimeNs()
- i2c.c/h
 - Modify I2C_MasterWrite()
 - Modify I2C_MasterRead()
 - Modify I2C_MasterBulkWrite()
 - Modify I2C_MasterBulkRead()
 - Modify I2C_SpeedInit()
- ssp.c/h
 - Delete SSP_EnableRxTimeoutInt()
 - Delete SSP_DisableRxTimeoutInt()
 - Modify SSP_GetRxFIFOLevel()
- spc1168_reg.h
 - Modify SSPCTL1_REG
- spc1168_bitfield.h
 - Delete SSPCTL1.RXTOIE bit related codes
 - Delete SSPCTL1.RXONLY bit related codes
- SPC1168.svd
 - Delete SSPCTL1.RXTOIE bit related codes
 - Delete SSPCTL1.RXONLY bit related codes
- SPC1168.SFR
 - Delete SSPCTL1.RXTOIE bit related codes
 - Delete SSPCTL1.RXONLY bit related codes
- pwm.h
 - Modify PWM_ClearOneShotTripInt()
 - Modify PWM_ClearCBCTripInt()
 - Modify PWM_ClearDCAEVT0TripInt()
 - Modify PWM_ClearDCAEVT1TripInt()
 - Modify PWM_ClearDCBEVT0TripInt()
 - Modify PWM_ClearDCBEVT1TripInt()
 - Modify PWM_ClearTripGlobalInt()
- wtd.h
 - Modify WDT_FeedDog()
- 1_Application
 - Modify AT24C02_EEPROM/at24c02.c
 - Modify AT24C02_EEPROM/at24c02.h
 - Modify AT24C02_EEPROM/main.c
 - Modify AT24C02_EEPROM/isr.h

2. Other Change

- adc.c/h
 - Add ADC_SH_PositiveInputEnum
 - Add ADC_SH_NegativeInputEnum
 - Modify ADC_CalculateTemperature()
 - Modify ADC_PowerUp()
 - Modify ADC_CalculatePreciseTemperature()
 - Add ADC_Init()
- clock.c/h
 - Add CLOCK_InitWithXO()
 - Modify CLOCK_InitWithRCO()
 - Modify CLOCK_Init()
 - Modify CLOCK_GetModuleClock()
- comp.c
 - Modify COMP_Init()
- epwr.c
 - Modify EPWR_SetFilterWindowTimeNs()
- gpio.h
 - Add GPIO_SetHigh()
 - Add GPIO_SetLow()
- i2c.c/h
 - Add I2C_SpeedModeEnum
 - Modify I2C_MasterInit()
 - Modify I2C_SlaveInit()
- Add License.txt file
- pwm.h
 - Add PWM_TimeBaseEventEnum
 - Add PWM_GetTimeBaseEventFlag()
 - Add PWM_ClearTimeBaseEventFlag()
 - Modify PWM_LoadTimingEnum
 - Delete PWM_SyncEventEnum
 - Add PWM_SyncOutputEventEnum
 - Modify PWM_SetOneShotTripEvent()
- system_spc1168.c/h
 - Delete SystemCoreClock
 - Delete SystemCoreClockUpdate()
 - Modify SystemInit()
 - Initialize SysInfo
- spd1188_hv.c/h
 - Modify HV_InitReg()
- spc1168_bitfield.h
 - Modify TBCTL_BIT_SYNCOSSEL
- SPC1168.svd
 - Modify SYNCI_AND_FRCSYNC to SYNCI_OR_FRCSYNC

- SPC1168.SFR
 - Modify SYNCI_AND_FRCSYNC to SYNCI_OR_FRCSYNC
- spc1168.h
 - Modify WRITE_FIELD()
 - Modify ErrorStatus
- ssp.c/h
 - Modify SSP_Init()
 - Modify SSP_Send()
 - Modify SSP_MasterTransceive()
 - Add SSP_HalfDuplexTx()
 - Add SSP_HalfDuplexRx()
 - Add SSP_FullDuplexTransceive()
- Example Code
 - Modify ADC_Calibration
 - Modify ADC_Continuous_Mode
 - Modify ADC_Conversion_Priority
 - Modify ADC_Differential_Trim_Result
 - Modify ADC_Sequential_Mode
 - Modify ADC_SHA_Open_Detect
 - Modify ADC_SHA_PPU
 - Modify ADC_SHA_Short_Detect
 - Modify ADC_Simultaneous
 - Modify ADC_Single_End_Result
 - Modify ADC_With_PGA
 - Modify AES
 - Modify Comparator
 - Add Compare_Trigger_TZ
 - Modify CRC_Calculate
 - Modify DAC
 - Add ECAP_APWM_Function
 - Modify ECAP_Continue_Absolute
 - Modify ECAP_Continue_Delta
 - Modify ECAP_Oneshot_Absolute
 - Modify Flash_EEPROM_Emulation
 - Modify Flash_Frequency_Reduction
 - Modify Flash_M_Access_User
 - Modify Flash_Operation
 - Modify Flash_Sector_Protect
 - Modify Flash_User_FuncWrap
 - Modify Flash_With_INT
 - Modify GPIO_Edge_Detect
 - Modify GPIO_Level_Test
 - Add GTimer_Extren_Gpio_Input_Clk
 - Add GTimer_Extren_Gpio_Input_Enable

- Modify GTimer_INT
- Modify I2C_Master_Bulk_Polling_TxRx
- Add I2C_Master_INT_TxRx
- Modify I2C_Master_Polling_TxRx
- Modify I2C_Slave_Bulk_Polling_TxRx
- Add I2C_Slave_INT_TxRx
- Modify I2C_Slave_Polling_TxRx
- Modify LIN_Demo
- Modify PGA_Calibration
- Modify PWM_Complementary_Pair_Channel
- Modify PWM_Current_Protect_Trigger_TZ
- Modify PWM_Force_SYNC
- Modify PWM_Global_GPIO_SYNC
- Modify PWM_Global_Software_Force_SYNC
- Modify PWM_Global_Timer_SYNC
- Modify PWM_GPIO_Trigger_Trip_Zone
- Add PWM_Independent_Trigger_TZ
- Add PWM_PPU_Trigger_TZ
- Modify PWM_Single_Output_With_Down_Counting_Mode
- Modify PWM_Single_Output_With_Up_Counting_Mode
- Modify PWM_Single_Output_With_Up_Down_Counting_Mode
- Modify PWM_TBCNT_0_SYNC
- Delete PWM_TBCNT_CMPD_SYNC
- Add PWM_TBCNT_CMPD_SYNC
- Modify PWM_Trigger_ADC_Sample
- Modify PWM_TriPhase_Waveform
- Modify SECURITY_Config
- Modify SSP_Master_B2B_TxRx_Polling
- Modify SSP_Master_TxRx_INT
- Modify SSP_Master_TxRx_Polling
- Modify SSP_Slave_B2B_TxRx_Polling
- Modify SSP_Slave_TxRx_INT
- Modify SSP_Slave_TxRx_Polling
- Modify Template
- Add UART_Auto_Baudrate
- Modify UART_RX_and_SentBack
- Add UART_RX_Indefinite_Length
- Modify UART_RX_INT
- Modify UART_TX_and_CheckRX
- Modify WDT0_INT
- Modify WDT1_Feed_DOG
- Modify WDT1_Rset_SYS
- Delete I2C_Master_INT_Rx
- Delete IAP_Modem

- 1_Application
 - Add IAP_Modem
 - Modify IAP_UART
 - Add Math_Lib
 - Add RTT_Printf

V1.9.0/ 26- Aug -2022**Main Changes****1. Bug Fix****2. Other Change**

- hv.h/.c
 - Rename to spd1188_hv.h/.c
 - Modify HV_InitReg()
- hv_bitfield.h
 - Rename to spd1188_hv_bitfield.h
- system_spc1168.h
 - Add #include "stdint.h"
- spc1168_reg.h/spc1168_bitfield.h/SPC1168.svd/SPC1168.SFR
 - Modify the note of GPIO34_BIT_MUXSEL
- Example Code
 - Modify ECAP_Continue_Absolute/main.c
 - Modify ECAP_Continue_Delta/main.c
 - Modify ECAP_OneShot_Absolute/main.c
 - Modify Flash_EEPROM_Emulation

V1.8.0/ 31- Dec -2021**Main Changes****1. Bug Fix**

- gpio.c
 - Modify GPIO_ResetAllPin()
- comp.h/.c
 - Modify COMP_Init(), add code to enable bandgap
 - Modify COMP_EnableDAC(), add code to enable bandgap
 - Modify COMP_DACBufferInit(), add code to enable bandgap
- adc.c
 - Modify ADC_SetSampleAndConvertTime()
 - Modify ADC_PowerUp(), add code to enable bandgap
- pga.c
 - Modify PGA_DifferentialInit(), add code to enable bandgap
- clock.c
 - Modify CLOCK_ConfigurePLL()
- timer.h
 - Delete TIMER_EnableCounterHold() and TIMER_DisableCounterHold()
- uart.h
 - Modify UART_ClearRxFIFO() and UART_ClearTxFIFO()
- spc1168_reg.h/spc1168_bitfield.h
 - Reserve TMRCTL.HOLD register bit-field
 - Modify the width of UARTFOR.BYTECNT register bit-field

2. Other Change

- pga.c
 - Add PGA_EnableSensorMode() and PGA_DisableSensorMode()
- flash.h/.c
 - Add FLASH_EraseBlock()
 - Modify FLASH_ProgramWord()
 - Add macro definition *FLASH_CMD_ERASE_BLOCK*
- clock.c
 - Add note for CLOCK_TrimPLL()
 - Modify CLOCK_Init()
- adc.h/.c
 - Modify ADC_CalculatePreciseTemperature() and ADC_CalculateTemperature()
 - Add ADC_EnableBandgap() and ADC_DisableBandgap()
- spc1168_reg.h/spc1168_bitfield.h
 - Reserve XOCTL.FREQSEL register bit-field
 - Rename XOCTL.FEEDXOUT register bit-field to XOCTL.FEEDXIO
- crc.h
 - Modify CRC_ModeEnum

- gpio.h
 - Modify the post-fix of const number
- Update SPC1168.svd, SPC1168.SFR, SPC1168.FLM and SPC1168_NVR.FLM files
- iar/startup_spc1168.s
 - Add code comment
- hv.h/.c
 - Add macro definition *HV_TIMEOUT_MAX*
 - Modify HV_Command()
 - Modify HV_InitReg()
- Example Code
 - Modify Flash_M_Access_User
 - Modify Flash_User_FuncWrap
 - Modify AES/main.c

V1.7.0/ 26-May-2021**Main Changes**

- spc1168.h
 - Add macro function READ_BITS().
 - Add macro function WRITE_FIELD(), READ_FIELD() and CLEAR_FIELD().
 - Add macro function POSITION_VAL().
 - Add macro function UNUSED().
- spc1168_bitfield.h
 - Update TZBCTL.DCBEVT1D bit-field macro definitions.
- flash.c
 - Update function FLASH_SetTiming().
- i2c.c
 - Update function I2C_MasterWrite(), I2C_MasterRead(), I2C_MasterBulkWrite() and I2C_MasterBulkRead().
 - Update function I2C_SlaveBulkWrite().
- clock.c
 - Update CLOCK_Init(), CLOCK_InitWithRCO(), CLOCK_ConfigurePLL() and CLOCK_ConfigurePLLWithRCO().
 - Update CLOCK_HCLKSelEnum, CLOCK_RefSelEnum definitions.
- comp.c
 - Update function COMP_Init() and COMP_SetFilterWindowTimeNs().
- delay.h/delay.c
 - Update Delay method control macros.
- ssp.c
 - Update function SSP_MasterB2BTransceive() and SSP_SlaveTransceive().
- ecap.c
 - Update function ECAP_CaptureModelInit().
 - Rename function ECAP_SetInputPin() to ECAP_SetInput().
 - Update function ECAP_SetInput().
- pwm.c
 - Update function PWM_ComplementaryPairChannelInit() and PWM_SingleChannelInit().
- hv.h/hv.c
 - Add function HV_ConnectTSensorToAnalogTest().
 - Modify macro definition of pin map between HV and MCU.
 - Remove function HV_WriteRegBits() and add function HV_WriteRegField().
 - Add function HV_SetChargePumpClockDiv() and HV_GetChargePumpClockDiv().
- Demo code
 - Update ECAP_Continue_Absolute\main.c
 - Update ECAP_Continue_Delta\main.c
 - Update ECAP_Oneshot_Absolute\main.c
 - Update UART_TX_and_CheckRX\main.c
 - Update UART_RX_and_SentBack\main.c
 - Update SSP_Master_B2B_TxRx_Polling\main.c

- Update SSP_Master_TxRx_INT\main.c
- Update SSP_Master_TxRx_Polling\main.c
- Update SSP_Slave_B2B_TxRx_Polling\main.c
- Update SSP_Slave_TxRx_INT\main.c
- Update SSP_Slave_TxRx_Polling\main.c
- Update PWM_Trigger_ADC_Sample\main.c
- Update PWM_Current_Protect_Trigger_TZ\main.c
- Update PGA_Calibration\main.c
- Update I2C_Master_Polling_TxRx\main.c
- Update I2C_Master_Bulk_Polling_TxRx\main.c
- Update I2C_Master_INT_Rx\main.c
- Update GPIO_Edge_Detect\main.c
- Update Flash_EEPROM_Emulation\EWARM\spc1168.icf
- Update Flash_Frequency_Reduction\EWARM\spc1168.icf
- Update Flash_M_Access_User\EWARM\spc1168.icf
- Update Flash_Operation\EWARM\spc1168.icf
- Update Flash_Sector_Protect\EWARM\spc1168.icf
- Update Flash_User_FuncWrap\EWARM\spc1168.icf
- Update Flash_With_INT\EWARM\spc1168.icf
- Update DAC\main.c

V1.6.0/ 30-April-2020

Main Changes

- **adc.h**
 - Update comments on ADC_GetResult(), ADC_GetTrimResult1() and ADC_GetTrimResult2().
- **clock.h/clock.c**
 - Add macro definition `__RCO0_CLOCK` and `__RCO1_CLOCK` for RCO clocks.
 - Remove macro definition `__RCO_CLOCK` and `__XO_CLOCK`.
 - Update 3 functions `CLOCK_Init()`, `CLOCK_InitWithRCO()` and `CLOCK_GetModuleClock()` for configuring WDT clock.
- **comp.h**
 - Rename function `COMP_EnableOutputInvert()` to `COMP_SetOutputActiveLow()`.
 - Rename function `COMP_DisableOutputInvert()` to `COMP_SetOutputActiveHigh()`.
- **pwm.h**
 - Rename macro function `PWM_SetTimeEventTiming()` to `PWM_SetTimeEventIntTiming()`.
 - Rename macro function `PWM_SetTimeEventPeriod()` to `PWM_SetTimeEventIntPeriod()`.
 - Add member value `ON_SYNC_PERIOD` to definition `PWM_LoadTimingEnum`.
- **system_spc1168.c**
 - Remove macro definition `__SYSTEM_CLOCK`.
- **timer.h**
 - Add macro function `TIMER_SetCounterValue()`.
- **wdt.c**
 - Update function `WDT_Init()` for enabling watchdog halted-run and lockup-run mode.
- **epwr.h**
 - Rename macro function `EPWR_DisableTripEventInputInvert()` to `EPWR_SetTripEventInputActiveHigh()`.
 - Rename macro function `EPWR_EnableTripEventInputInvert()` to `EPWR_SetTripEventInputActiveLow()`.
 - Rename macro function `EPWR_DisableTripEventOutputInvert()` to `EPWR_SetTripEventOutputActiveHigh()`.
 - Rename macro function `EPWR_EnableTripEventOutputInvert()` to `EPWR_SetTripEventOutputActiveLow()`.
- **hv.c**
 - Update function `HV_InitReg()`.

V1.5.0/ 18-November-2019**Main Changes**

- **ecap.h**
 - Rename definition *ECAP_EvtEnum* to *ECAP_EventEnum*.
 - Update function *ECAP_APWMSetDuty()*.
- **flash.c**
 - Update function *FLASH_WriteProtect()*.
- **pwm.h**
 - Update macro function *PWM_SetOneShotTripEvent()*.
 - Update macro function *PWM_SetCBCTripEvent()*.
 - Update member values of definition *PWM_TripActionEnum*.
- **system.h**
 - Rename definition *SYSTEM_ResetEvtEnum* to *SYSTEM_ResetEventEnum*.
- **wdt.h**
 - Rename macro function *WDT_GetRawIntFlag()* to *WDT_GetIntRawFlag()*.
- **spc1168_bitfield.h**
 - Update *UARTISR.XMITIR* bit-field macro definitions.
- Remove *predriver.h/.c* and *predriver_bitfield.h* files.
- Add *hv.h/.c* and *hv_bitfield.h* files.

V1.4.0/ 18-July-2019**Main Changes**

- aes.h
 - Rename function AES_EnableInputFIFOFullInt() to AES_EnableInputFullInt().
 - Rename function AES_DisableInputFIFOFullInt() to AES_DisableInputFullInt().
 - Rename function AES_EnableOutputFIFOEmptyInt() to AES_EnableOutputEmptyInt().
 - Rename function AES_DisableOutputFIFOEmptyInt() to AES_DisableOutputEmptyInt().
 - Rename function AES_ClearInputFIFOFullInt() to AES_ClearInputFullInt().
 - Rename function AES_ClearOutputFIFOEmptyInt() to AES_ClearOutputEmptyInt().
 - Rename function AES_GetInputFIFOFullIntFlag() to AES_GetInputFullIntFlag().
 - Rename function AES_GetOutputFIFOEmptyIntFlag() to AES_GetOutputEmptyIntFlag().
 - Rename function AES_GetInputFIFOFullIntRawFlag() to AES_GetInputFullIntRawFlag().
 - Rename function AES_GetOutputFIFOEmptyIntRawFlag() to AES_GetOutputEmptyIntRawFlag().
 - Rename function AES_IsInputFIFOFull() to AES_IsInputFull().
 - Rename function AES_IsOutputFIFOReady() to AES_IsOutputReady().
 - Rename function AES_IsOutputFIFOEmpty() to AES_IsOutputEmpty().
- comp.h
 - Rename function COMP_SetFilterClkDiv() to COMP_SetFilterClockDiv().
- i2c.h
 - Rename function I2C_EnableRxFullInt() to I2C_EnableRxDataAvailableInt().
 - Rename function I2C_DisableRxFullInt() to I2C_DisableRxDataAvailableInt().
 - Rename function I2C_EnableTxEmptyInt() to I2C_EnableTxDataRequestInt().
 - Rename function I2C_DisableTxEmptyInt() to I2C_DisableTxDataRequestInt().
 - Rename function I2C_GetRxFullIntFlag() to I2C_GetRxDataAvailableIntFlag().
 - Rename function I2C_GetTxEmptyIntFlag() to I2C_GetTxDataRequestIntFlag().
 - Rename function I2C_GetRxFullIntRawFlag() to I2C_GetRxDataAvailableIntRawFlag().
 - Rename function I2C_GetTxEmptyIntRawFlag() to I2C_GetTxDataRequestIntRawFlag().
 - Rename function I2C_IsTxFIFONotFull() to I2C_IsTxNotFull().
 - Rename function I2C_IsTxFIFOEmpty() to I2C_IsTxEmpty().
 - Rename function I2C_IsRxFIFONotEmpty() to I2C_IsRxNotEmpty().
 - Rename function I2C_IsRxFIFOFull() to I2C_IsRxFull().
- ssp.h
 - Rename function SSP_EnableRxFIFOOverflowInt() to SSP_EnableRxOverflowInt().
 - Rename function SSP_DisableRxFIFOOverflowInt() to SSP_DisableRxOverflowInt().
 - Rename function SSP_EnableTxFIFOUnderflowInt() to SSP_EnableTxUnderflowInt().
 - Rename function SSP_DisableTxFIFOUnderflowInt() to SSP_DisableTxUnderflowInt().
 - Rename function SSP_EnableTxFIFOEmptyInt() to SSP_EnableTxDataRequestInt().
 - Rename function SSP_DisableTxFIFOEmptyInt() to SSP_DisableTxDataRequestInt().
 - Rename function SSP_EnableRxFIFOFullInt() to SSP_EnableRxDataAvailableInt().
 - Rename function SSP_DisableRxFIFOFullInt() to SSP_DisableRxDataAvailableInt().
 - Rename function SSP_SetRxFIFOTriggerLevel() to SSP_SetRxFIFOTriggerThreshold().
 - Rename function SSP_SetTxFIFOTriggerLevel() to SSP_SetTxFIFOTriggerThreshold().
 - Rename function SSP_IsTxFIFONotFull() to SSP_IsTxNotFull().

- Rename function `SSP_IsRxFIFONotEmpty()` to `SSP_IsRxNotEmpty()`.
- Rename function `SSP_IsTxFIFOServiceRequest()` to `SSP_IsTxServiceRequest()`.
- Rename function `SSP_IsRxFIFOServiceRequest()` to `SSP_IsRxServiceRequest()`.
- Rename function `SSP_IsRxFIFOOverflow()` to `SSP_IsRxOverflow()`.
- Rename function `SSP_IsTxFIFOUnderflow()` to `SSP_IsTxUnderflow()`.
- Rename function `SSP_IsTxFIFOHasOddSample()` to `SSP_IsTxHasOddSample()`.
- Rename function `SSP_IsRxFIFOHasOddSample()` to `SSP_IsRxHasOddSample()`.
- Rename function `SSP_ClearRxFIFOOverflowInt()` to `SSP_ClearRxOverflowInt()`.
- Rename function `SSP_ClearTxFIFOUnderflowInt()` to `SSP_ClearTxUnderflowInt()`.

■ `uart.h/.c`

- Rename definition `UART_TxTriggerLevelEnum` to `UART_TxThresholdEnum`.
- Rename definition `UART_RxTriggerLevelEnum` to `UART_RxThresholdEnum`.
- Rename function `UART_ResetRxFIFO()` to `UART_ClearRxFIFO()`.
- Rename function `UART_ResetTxFIFO()` to `UART_ClearTxFIFO()`.
- Rename function `UART_IsTxFIFOEmpty()` to `UART_IsTxDone()`.
- Rename function `UART_IsBreakReceived()` to `UART_IsRxBreak()`.
- Rename function `UART_IsFrameError()` to `UART_IsRxFrameError()`.
- Rename function `UART_IsParityError()` to `UART_IsRxParityError()`.
- Rename function `UART_IsRxDataLost()` to `UART_IsRxOverflow()`.
- Rename function `UART_IsRxDataReady()` to `UART_IsRxNotEmpty()`.
- Rename function `UART_SetFIFOTriggerLevel()` to `UART_SetFIFOTriggerThreshold()`.

■ `spc1168.h`

- Add 9 new functions
 - 2 new functions to set register bits: `SET_BIT()` and `SET_BITS()`.
 - 2 new functions to clear register bits: `CLEAR_BIT()` and `CLEAR_BITS()`.
 - 1 new function to read register bit value: `READ_BIT()`.
 - 1 new function to clear register: `CLEAR_REG()`.
 - 1 new function to write value to register: `WRITE_REG()`.
 - 1 new function to read register value: `READ_REG()`.
 - 1 new function to modify register value: `MODIFY_REG()`.

■ `spc1168_reg.h/spc1168_bitfield.h`

- Rename bit definition `NRZE` to `NRZME` in `UARTIER` register.
- Rename bit definition `RSTRF` to `CLRRF` in `UARTFCR` register.
- Rename bit definition `RSTTF` to `CLRTF` in `UARTFCR` register.
- Rename bit definition `ITL` to `RXTH` in `UARTFCR` register.
- Rename bit definition `TIL` to `TXTH` in `UARTFCR` register.
- Rename bit definition `BUS` to `BUS32` in `UARTFCR` register.
- Rename bit definition `TXEMPTY` to `TXDONE` in `UARTLSR` register.
- Rename bit definition `RXFULL` to `RXDAV` in `I2CIF/I2CRAWIF/I2CIE` register.
- Rename bit definition `TXEMPTY` to `TXDREQ` in `I2CIF/I2CRAWIF/I2CIE` register.

V1.3.0/ 02-July-2019

Main Changes

- Initial release.