Release Note

SPD1177 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
v1.0.0	2024-01-15	xuqing	已过期	1. 初始版本。
V2.0.0	2026-10-21	Hangsu	已发布	1. 增加 V15.0.8 版本。

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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：SPC1169 MCU 系列
- Keil MDK IDE：v5.23
- IAR Embedded Workbench：EWARM v8.32.4
- GCC 工具链：GCC ARM Embedded v12.2

2 版本 15.0.8 / 2026-10-21

2.1 BUG 修复

模块	条目	描述
HV	spd1177_hv_bitfield.h	PDRVCTL1_LSVGS_8P15V PDRVCTL1_LSVGS_8P5V PDRVCTL1_LSVGS_8P9V PDRVCTL1_LSVGS_9P3V PDRVCTL1_LSVGS_9P6V PDRVCTL1_LSVGS_10P0V PDRVCTL1_LSVGS_10P4V PDRVCTL1_LSVGS_11P4V 变更为 PDRVCTL1_LSVGS_8P6V PDRVCTL1_LSVGS_9P0V PDRVCTL1_LSVGS_9P7V PDRVCTL1_LSVGS_10P1V PDRVCTL1_LSVGS_10P5V PDRVCTL1_LSVGS_11P3V PDRVCTL1_LSVGS_11P6V 修正 LSVGS 挡位错误问题
HV	spd1177_hv_bitfield.h	删除以下宏 PDRVCTL1_VCPLVL_9P7V PDRVCTL1_VCPLVL_10P1V PDRVCTL1_VCPLVL_10P7V PDRVCTL1_VCPLVL_11P4V PDRVCTL1_VCPLVL_12P0V PDRVCTL1_VCPLVL_12P8V PDRVCTL1_VCPLVL_13P5V PDRVCTL1_VCPLVL_14P4V 不再支持 VCPLVL 挡位调整
CAN	CAN_SetMessage() CAN_GetMessage()	修改函数，不再支持远程帧自动响应
	CAN_MessageTypeDef	修改结构体，不再支持远程帧自动响应

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	CAN_EnableMailboxResponseRemoteFrame CAN_DisableMailboxResponseRemoteFrame CAN_IsEnableMailboxResponseRemoteFrame	删除宏，不再支持远程帧自动响应
	spc1169_bitfield.h	删除以下宏 CANMBOXMCTL_RMTEN_Pos CANMBOXMCTL_RMTEN_Msk CANMBOXMCTL_RMTEN_DISABLE CANMBOXMCTL_RMTEN_ENABLE CANMBOXMCTL_RMTEN_(x) 不再支持远程帧自动响应
CAN	CAN_EnableProtocolException CAN_DisableProtocolException CAN_IsEnableProtocolException	删除宏，不再支持当 res 位为填充位并且该位发生填充错误时的错误帧响应
	CAN_MiscIntEnum	修改枚举，不再支持当 res 位为填充位并且该位发生填充错误时的错误帧响应
	spc1169_bitfield.h	删除以下宏 CANCTL_PXEN_Pos CANCTL_PXEN_Msk CANCTL_PXEN_DISABLE CANCTL_PXEN_ENABLE CANCTL_PXEN_(x) CANMIE_PXEVT_Pos CANMIE_PXEVT_Msk CANMIE_PXEVT_DISABLE CANMIE_PXEVT_ENABLE CANMIE_PXEVT_(x) CANMRAWIF_PXEVT_Pos CANMRAWIF_PXEVT_Msk CANMRAWIF_PXEVT_NOT_OCCURED CANMRAWIF_PXEVT_OCCURRED CANMRAWIF_PXEVT_(x) CANMIF_PXEVT_Pos CANMIF_PXEVT_Msk CANMIF_PXEVT_NOT_OCCURED CANMIF_PXEVT_OCCURRED CANMIF_PXEVT_(x) CANMIC_PXEVT_Pos CANMIC_PXEVT_Msk CANMIC_PXEVT_NO_EFFECT CANMIC_PXEVT_CLEAR CANMIC_PXEVT_(x) 不再支持当 res 位为填充位并且该位发生填充错误时的错误帧响应

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2.2 API 变更

模块	类型	旧 API	新 API	描述
CAN	修改	CAN_SetMessageData	CAN_SetMessageData	修正 CAN_SetMessageData 填充字节不一定为 0xCC 的问题
UART	修改	UART_Init	UART_Init	增加清 TX RX FIFO 操作

2.3 杂项

条目	类型	描述
lin_lld_uart.c	[SDK LIB]	将中断和 main 共同访问的变量设为 volatile 类型
adc.c can.c clock.c comp.c crc.c ecap.c gpio.c i2c.c pga.c phcomp.c pin.c power.c pwm.c spi.c system.c timer.c uart.c wdt.c	[SDK LIB]	增加 IAR 优先级控制
power.h spc1169_bitfield.h	[SDK LIB]	修改 BOD 挡位
9_6_ECAP_Capture_LIN	[DEMO]	增加通过 LIN 捕获引脚信号
24_1_LIN_Slave_RX	[DEMO]	在通信结束增加清 TX FIFO 或清 RX FIFO 操作 在每次通讯后，重开自动波特率
24_2_LIN_Slave_TX		
8_1_PWM_Single_Output_With_Up_Counting_Mode	[DEMO]	修正 PWM 频率与示例中 PWM_FREQ 不一致问题
8_2_PWM_Single_Output_With_Down_Counting_Mode		
10_1_ADC_Calibration	[DEMO]	显性配置通道的偏移，增益，不再依赖默认值
26_1_CAN_Extended_Frame_RX	[DEMO]	修改注释中采样点位置 不再支持当 res 位为填充位并且该位发生填充错误时的错误帧响应
26_1_CAN_Standard_And_Extended_Frame_TX		
26_1_CAN_Standard_Frame_RX		
26_2_CANFD_Extended_Frame_RX		

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26_2_CANFD_Standard_And_Extended_Frame_TX 26_2_CANFD_Standard_Frame_RX		
26_3_CAN_Int_RX 26_3_CAN_Int_TX	[DEMO]	传输帧数变更为 3，变更前为 4 不再支持当 res 位为填充位并且该位发生填充错误时的错误帧响应
2_2_BOD_UVOV_Reset	[DEMO]	调整 BOD 使用挡位
IAP_Loader IAPLoader.exe	[APP]	增加 CAN 支持 降低 LIN 速率到 20k 增加进度条支持 拒绝擦写 Flash 配置字扇区
Project.ewd	[DEMO] [APP]	确保 IAR debug 状态下从 boot 程序开始运行，而不是 main

3 版本 14.0.7 / 2026-03-27

Main Changes

1. Bug Fix

- power.h
  - Modify POWER_VDD33OVEnum, POWER_VDD33UVEnum, POWER_VDD12OVEnum, POWER_VDD12UVEnum
- spd1177_hv_bitfield.h
  - Modify VBATUV, VDD5UV, VDD5OV, VDD5EXTUV, VDD5EXTOV, VDD3UV, VDD3OV
  - Modify BLANKWIN, FILTERWIN
- spc1169_bitfield.h
  - Modify UVASVTH, UVDEVTH, OVASVTH, OVDEVTH
- SPC1169.svd\.SFR
  - Modify UVASVTH, UVDEVTH, OVASVTH, OVDEVTH

2. Other Change

- Project / 0_Examples
  - Modify 2_1_BOD_UVOV_Int
  - Modify 23_6_Predriver_VBAT_UVOV_Trigger_TZ
  - Modify 23_8_Predriver_VDD5_OV_Trigger_TZ
  - Modify EEPROM_Data_Storage_Upon_VBAT_UV_Event
  - Modify MEEPROM_Data_Storage_Upon_VBAT_UV_Event

4 版本 13.0.6 / 2026-01-19

Main Changes

1. Bug Fix

2. Other Change

- gpio.h
  - Modify GPIO_SetLevel()

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- Modify GPIO_WritePin()

- hwlib.h
  - Reserve SYSTEM_Stop()
  - Reserve MCU_Sleep()
  - Reserve MCU_Stop()
- spc1169.h
  - Add WRITE_U8()
  - Add WRITE_U16()
  - Add WRITE_U32()
  - Add WRITE_U64()
- adc.c/.h
  - Delete ADC_PowerUp()
  - Modify ADC_Enable()
  - Modify ADC_Init()
  - Modify ADC_EasyInit1()
  - Modify ADC_EasyInit2()
  - Add Optimization level restrictions
- system.c/.h
  - Delete SYSTEM_Sleep()
  - Add Optimization level restrictions
- uart.c/.h
  - Modify UART_ Init()
  - Modify LIN_Init()
  - Modify UART_WriteText()
  - Modify UART_Write()
  - Modify UART_Read()
  - Add Optimization level restrictions
- can.c
  - Modify CAN_Reset()
  - Add Optimization level restrictions
- clock.c
  - Modify CLOCK_Init()
  - Modify CLOCK_InitWithXO()
  - Modify CLOCK_InitWithRCO()
  - Modify CLOCK_ConfigurePLL()
  - Modify CLOCK_ConfigurePLLWithRCO()
  - Modify CLOCK_DetectionInitWithRCO()
  - Add Optimization level restrictions
- comp.c
  - Modify COMP_Init()
  - Add Optimization level restrictions
- crc.c
  - Modify CRC_Init()
  - Modify CRC_CalculateWithInitValueIsNotZero()
  - Modify CRC_CalculateWithInitValueIsZero()
  - Add Optimization level restrictions
- ecap.c
  - Modify ECAP_CaptureModeInit()
  - Modify ECAP_APWMModeInit()
  - Add Optimization level restrictions
- i2c.c
  - Modify I2C_MasterInit()
  - Modify I2C_SlaveInit()
  - Modify I2C_Enable()
  - Modify I2C_Disable()

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- Modify I2C_MasterRead()
- Add Optimization level restrictions

- pga.c
  - Modify PGA_InitDPGA()
  - Modify PGA_InitSPGA()
  - Add Optimization level restrictions
- pwm.c
  - Modify PWM_InitComplementaryPairChannel()
  - Modify PWM_InitSingleChannel()
  - Add Optimization level restrictions
- spi.c
  - Modify SPI_Init()
  - Modify SPI_ExitNetMode()
  - Modify SPI_FullDuplexTransceive()
  - Modify SPI_HalfDuplexTx()
  - Modify SPI_HalfDuplexRx()
  - Add Optimization level restrictions
- timer.c
  - Modify TIMER_Init()
  - Add Optimization level restrictions
- wdt.c
  - Modify WDT_Init()
  - Add Optimization level restrictions
- gpio.c/ phcomp.c/ pin.c/ power.c
  - Add Optimization level restrictions
- lin_stack/src/lin_lld_uart.c
  - Modify lin_lld_uart_init()
  - Modify timer_init()
- delay.c
  - Add Optimization level restrictions
- retarget.c
  - Modify fputc()
- epwr.c
  - Modify EPWR_GetID()
  - Modify EPWR_WriteRegister()
  - Modify EPWR_ReadRegister()
  - Modify EPWR_ResetRegister()
  - Modify EPWR_FeedWatchdog()
  - Add Optimization level restrictions
- Project / 0_Examples
  - Enable NVIC before enable IP interrupt
  - Add IP enable operation
  - Modify 19_4_System_Stop_Wakeup
  - Modify 19_5_System_Sleep_Wakeup
- Project / 1_Application
  - Enable NVIC before enable IP interrupt
  - Add IP enable operation

5 版本 12.1.5 / 2025-09-16

Main Changes

1. Bug Fix

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2. Other Change

- hwlib.h
  - Reserve ErrorStatus(*SYSTEM_Sleep)()
- system.c/.h
  - Add SYSTEM_Sleep()
- lin_stack/src/lin_lld_uart.c
  - Modify lin_lld_uart_set_low_power_mode()
- Project / 0_Examples
  - Modify 2_2_BOD_UVOV_Reset
  - Modify 19_5_System_Sleep_Wakeup
- Project / 1_Application
  - Delete IAP_UART
  - Delete IAP_LIN
  - Delete IAP_CAN
  - Add IAP
  - Modify Tool/IAPLoader.exe

6 版本 12.0.5 / 2025-06-05

Main Changes

1. Bug Fix

- Project / 0_Examples
  - Modify 19_4_System_Stop_Wakeup

2. Other Change

7 版本 12.0.4 / 2025-02-17

Main Changes

3. Bug Fix

4. Other Change

- spd1177_hv.c
  - Modify HV_Reset()
- lin_stack/src/lin_lld_uart.c
  - Add HV_Reset() in lin_lld_uart_init()
- Project / 0_Examples
  - Add HV_Reset() in all HV examples

8 版本 12.0.3 / 2025-02-14

Main Changes

1. Bug Fix

- epwr.h
  - Add definition EPWR_COMMUNICATION_MAX_RETRY_CNT
- epwr.c

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- Modify EPWR_ComSpeedInit()
- Modify EPWR_GetID()
- Modify EPWR_WriteRegister()
- Modify EPWR_WriteRegisterField()
- Modify EPWR_ReadRegister()
- Modify EPWR_ResetRegister()
- Modify EPWR_FeedWatchdog()

■ spd1177_hv.h
- Modify definition EPWR_COM_SPEED
- Add HV_Reset()

■ spd1177_hv.c
- Add HV_GetTrimInfo()
- Modify HV_Init()
- Modify HV_InitRegister()
- Add HV_Reset()

2. Other Change

9 版本 11.0.2 / 2025-01-24

Main Changes

1. Bug Fix

2. Other Change

■ i2c.c
- Modify all interface

■ i2c.h
- Modify note of I2C_SetSDAHoldCount() and I2C_GetSDAHoldCount()

■ spd1177_hv.c
- Modify HV_Init ()
- Modify HV_InitRegister()

■ IDE_Support
- Add SPC1169_RDN.FLM

■ Project / 0_Examples
- Delete 27_1_I2C_Slave_Bulk_Polling_TxRx
- Delete 27_1_I2C_Master_Bulk_Polling_TxRx
- Modify 27_3_I2C_Slave_INT_TxRx
- Modify 27_3_I2C_Master_INT_TxRx
- Modify 27_2_I2C_Slave_Polling_TxRx
- Modify 27_2_I2C_Master_Polling_TxRx
- 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 24_1_LIN_Slave_RX
- Modify 24_2_LIN_Slave_TX
- Add 26_3_CAN_Int_TX
- Add 26_3_CAN_Int_RX

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- Project / 1_Application
  - Modify IAP_UART
  - Modify IAP_LIN
  - Modify AT24C02_EEPROM

10 版本 10.0.1 / 2024-12-03

Main Changes

1. Bug Fix

- spd1177_hv.c
  - Modify HV_InitRegister()
- Project / 0_Examples
  - Modify 19_4_System_Stop_Wakeup
  - Modify 19_5_System_Sleep_Wakeup

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()
- spd1177.h
  - Modify definition
- lin_stack/src/lin_lld_uart.c
  - Modify definition
- spd1177_hv.h
  - Modify IS_HV_REG()
- Project / 0_Examples
  - Modify definition
  - 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

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- 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
- Modify 13_1_BEMF_Comparator
- 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 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
- Add 23_9_Predriver_VBATCP_UVOV_Trigger_TZ
- Modify 23_10_Predriver_PMUCLKERR_Trigger_TZ
- Modify 23_11_Predriver_PMUOT_Trigger_TZ

■ Project / 1_Application
- Modify definition
- Add IAP_CAN
- Modify EEPROM_Data_Storage_Upon_VBAT_UV_Event
- Modify MEEPROM_Data_Storage_Upon_VBAT_UV_Event

11 版本 9.0.0 / 2024-11-14

Main Changes

■ Created，V9 was based on core SPC1169

12 限制

模块	描述

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