

Readme

G32R430 DDL SDK

Rev: V1.0

1 Introduction

The Geehy Semiconductor G32R430 device abstract library software development kit includes a series driver library, a group of example applications that demonstrate key peripheral functionality, and other development files.

Software development kit have a hierarchy as follows:

- SDK directory
 - * Boards
 - * Documents
 - * Examples
 - * Libraries
 - * Middlewares
 - * Package

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2 About SDK

2.1 DDL SDK files

The complete SDK directory:

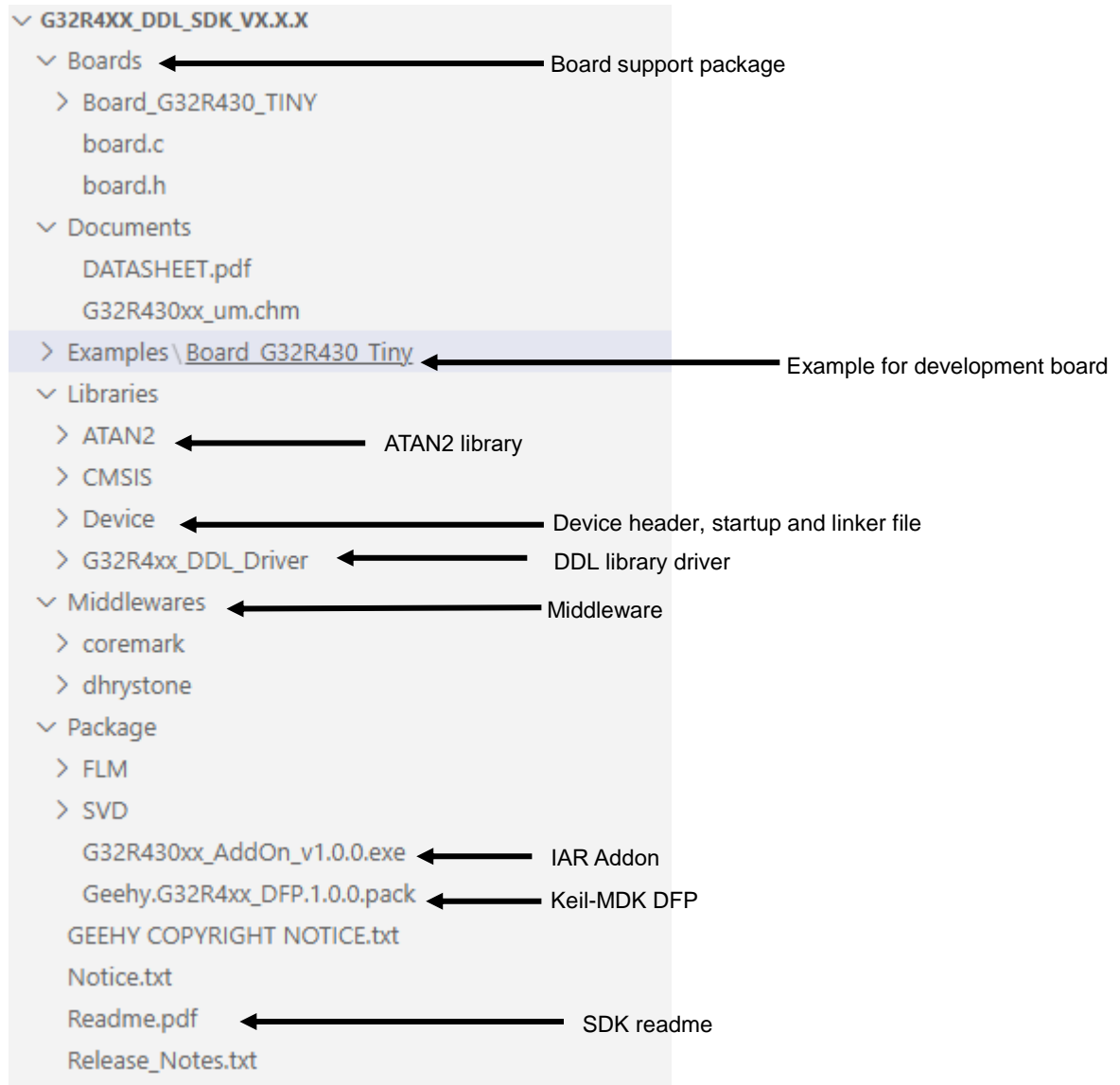


Figure 1 DDL SDK of G32R4xx

DDL SDK are composed of the following set of files:

2.1.1 Boards

Table 1 List of boards

File	Description
board_g32r430_xxx.c	Board support package file of development board. It includes the basic on-board peripheral drivers. Example: board_g32r430_tiny.c
board_g32r430_xxx.h	Header file of the board support package main driver C file. It includes common data, handle and enumeration structures, define statements and macros, as well as the exported generic APIs. Example: board_g32r430_tiny.h

2.1.2 Libraries

Table 2 DDL driver files

File	Description
g32r4xx_ddl_ppp.c	Peripheral or module driver file. It includes the APIs that are common to all G32R4xx devices. Example: g32r4xx_ddl_adc12.c
g32r4xx_ddl_ppp.h	Header file of the peripheral or module driver C file. It includes common data, handle and enumeration structures, define statements and macros, as well as the exported generic APIs. Example: g32r4xx_ddl_adc12.h

2.1.3 Examples

Table 3 Application files

File	Description
g32r4xx_int.c/h	This file contains the exceptions handler and peripherals interrupt service routine.
main.c/h	This file contains the main program, mainly. - Application code.

3 **About Boards**

The boards folder includes a board support package for G32R4xx board. It can help drive the peripheral circuit or components on the board quickly. The BSP can be found in the ~/Boards directory.

The BSP provided are built for G32R4xx board. For other user development board use, some minor modifications may be required.

Boards have a hierarchy as follows:

- Board_G32R430_TINY folder

4 **About Documents**

The documents folder includes a link file that can be redirected to the technical support center of Geehy semiconductor. The document can be found in the ~/Documents directory.

5 About Examples

The example applications can be found in the ~/Examples directory.

The examples provided are built for G32R4xx xxx board. For other user development board use, some minor modifications may be required.

Example projects have a hierarchy as follows:

- Example folder
 - * Include
 - * Project
 - IAR
 - MDK
 - * Source

All example applications tested with: **G32R4xx DDL V1.0.0**, include the following examples:

Table 4 List of examples supported for evaluation board

IP / Module	Example	G32R403_TINY	NA
ADC12	ADC12_AnalogWindowWatchdog	√	
	ADC12_ContinuousConversion	√	
	ADC12_ContinuousMultiChannelScan	√	
	ADC12_MultiChannelScan	√	
	ADC12_VDDVREFINT	√	
ADC16	ADC16_AnalogWindowWatchdog	√	

IP / Module	Example	G32R403_TINY	NA
	ADC16_ContinuousConversion	√	
	ADC16_ContinuousDualRegulSimulMode	√	
	ADC16_ContinuousMultiChannelScan	√	
	ADC16_DifferentialMode	√	
	ADC16_DualDifferentialMode	√	
	ADC16_DualRegulSimulMode	√	
	ADC16_MultiChannelScan	√	
	ADC16_OversampleMode	√	
	ADC16_SingleRegulTmrTrigger	√	
ATAN2	ATAN2_Math	√	
COMP	COMP_CompareGpioVsDacInt_OutputGpio	√	
	COMP_PWMSignalControl	√	
	COMP_TMR	√	
Coremark	Coremark	√	
DAC	DAC_ADC16	√	
	DAC_SignalsGeneration2	√	
DMA	DMA_FLASHToRAM	√	
EINT	EINT_Config	√	
FLASH	FLASH_OPT	√	
	FLASH_Program	√	
	FLASH_Protection	√	
GPIO	GPIO_Input	√	
	GPIO_Toggle	√	
	GPIO_Wakeup	√	
I2C	I2C_EEPROM	√	
	I2C_TwoBoardsinterrupt	√	
	I2C_TwoBoardsDMA	√	
	I2C_TwoBoardspolling	√	

IP / Module	Example	G32R403_TINY	NA
IAP	Application1	√	
	Application2	√	
	BootLoader	√	
IWDT	IWDT_Reset	√	
LPTMR	LPTMR_Timeout	√	
PMU	PMU_EVS	√	
	PMU_Standby	√	
	PMU_Stop	√	
RCM	RCM_Clock_Out	√	
	RCM_Config	√	
RTC	RTC_Alarm	√	
	RTC_TimeStamp	√	
SPI	SPI_Biss-C Slave	√	
	SPI_TwoBoardsInterrupt	√	
	SPI_TwoBoardsDMA	√	
	SPI_TwoBoardspolling	√	
Template	Template	√	
TMR	TMR_CascadeSynchro	√	
	TMR_DMA	√	
	TMR_DMABurst	√	
	TMR_EncoderInterface	√	
	TMR_ExtTriggerSynchro	√	
	TMR_InputCapture	√	
	TMR_OCAActive	√	
	TMR_OCInactive	√	
	TMR_OCToggle	√	
	TMR_ParallelSynchro	√	
	TMR_PWMInput	√	

IP / Module	Example	G32R403_TINY	NA
	TMR_PWMOutput	√	
	TMR_SinglePulse	√	
	TMR_TimeBase	√	
TS	TS_ReadTemperature	√	
USART	USART_DMA	√	
	USART_Interrupt	√	
	USART_Polling	√	
	USART_RS485	√	
WWDT	WWDT_OverTime	√	

6 About Libraries

The libraries folder includes a series library. It can provide supports for G32R4xx MCU such as device support and device abstract library etc. The libraries can be found in the ~/Libraries directory.

G32R4xx MCU include following library:

- Libraries folder
 - * ATAN2
 - * G32R4xx_DDL_Driver
 - * CMSIS
 - * Device

7 About Middlewares

The middlewares folder includes a series third-party middleware. The middlewares can be found in the ~/middlewares directory.

The middlewares used by G32R4xx include following:

- Middlewares folder
 - * Coremark

8 About Package

The Package folder includes Geehy G32R4xx DFP Package. The Package can be found in the ~/Package directory.

The package used by G32R4xx include following:

- Package folder
 - * FLM
 - * SVD
 - * G32R430xx_AddOn_v1.0.0.exe
 - * Geehy.G32R4xx_DFP.1.0.0.pack

9 Revision History

Table 1 File Revision History

Date	Rev	Description
2025.11.05	1.0	First Release version of G32R4xx DDL SDK.

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8. Scope of Application

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