

# Readme

**G32R430 DDL SDK**

**Rev: V1.1**

# 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:

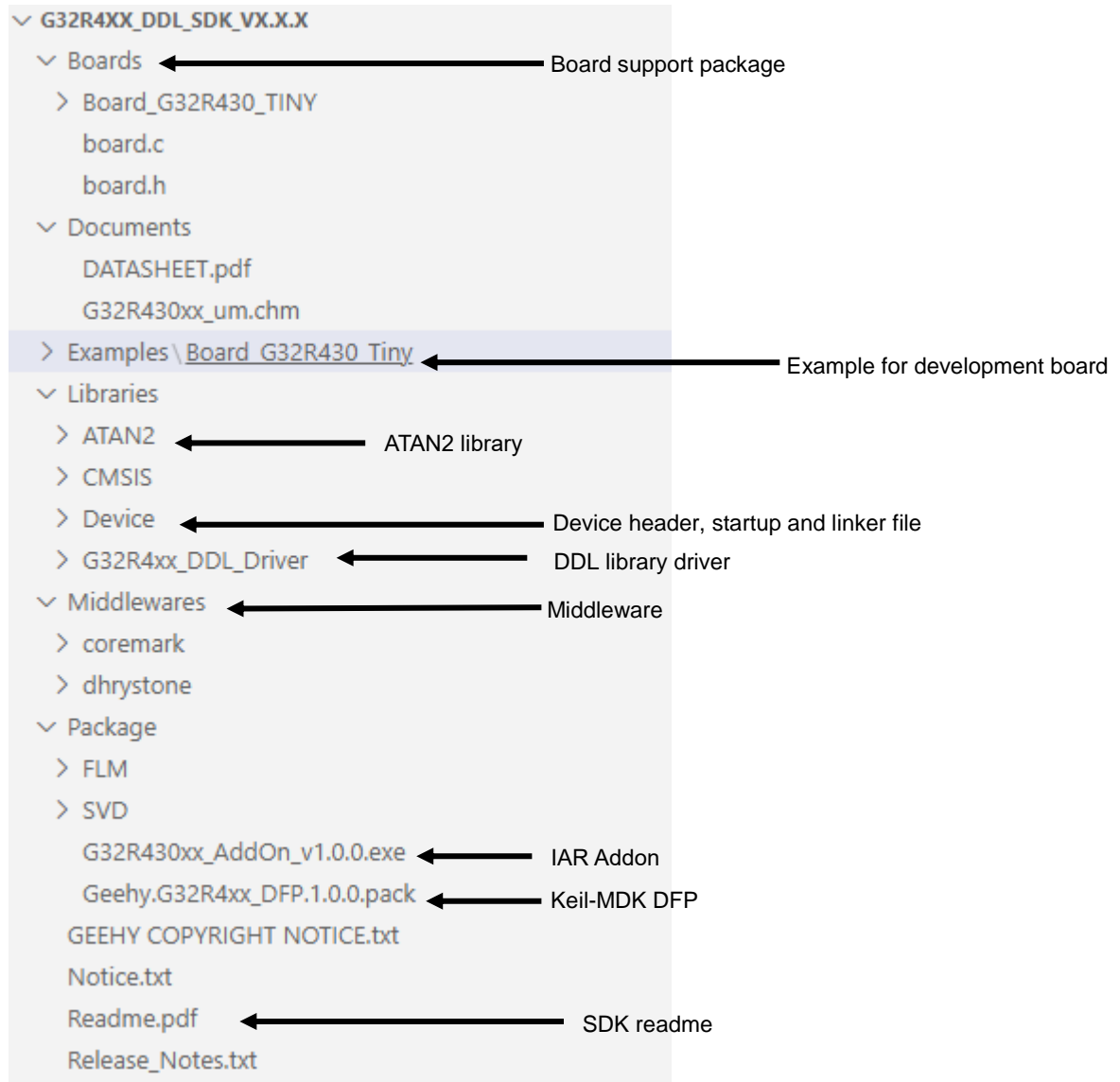


Figure 1 DDL SDK of G32R4xx

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.

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## 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
    - Eclipse
  - \* 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
<b>ADC12</b>	ADC12_AnalogWindowWatchdog	√	
	ADC12_ContinuousConversion	√	
	ADC12_ContinuousMultiChannelScan	√	
	ADC12_MultiChannelScan	√	
	ADC12_VDDVREFINT	√	
<b>ADC16</b>	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	√	
<b>ATAN2</b>	ATAN2_Math	√	
<b>COMP</b>	COMP_CompareGpioVsDacInt_OutputGpio	√	
	COMP_PWMSignalControl	√	
	COMP_TMR	√	
<b>Coremark</b>	Coremark	√	
<b>DAC</b>	DAC_ADC16	√	
	DAC_SignalsGeneration2	√	
<b>DMA</b>	DMA_FLASHToRAM	√	
<b>EINT</b>	EINT_Config	√	
<b>FLASH</b>	FLASH_OPT	√	
	FLASH_Program	√	
	FLASH_Protection	√	
<b>GPIO</b>	GPIO_Input	√	
	GPIO_Toggle	√	
	GPIO_Wakeup	√	
<b>I2C</b>	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	√	
<b>TS</b>	TS_ReadTemperature	√	
<b>USART</b>	USART_DMA	√	
	USART_Interrupt	√	
	USART_Polling	√	
	USART_RS485	√	
<b>WWDT</b>	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

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## 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	1.0	First Release version of G32R4xx DDL SDK.
2026.01	1.1	Added Eclipse (Clang) project configuration support.

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## 8. Scope of Application

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