

**GigaDevice Semiconductor Inc.**

**GDSCN832R-EVAL**

**用户指南**

1.0 版本

(2024 年 11 月)

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## 1. 简介

GDSCN832R-EVAL 评估板使用 GDSCN832xx 作为主器件。评估板使用 DC-005 连接器提供 5V 电源。提供包括扩展引脚在内的及 EXMC, SPI, OSPI, Digital IO 等接口资源。更多关于开发板的资料可以查看 GDSCN832R-EVAL-V1.0 原理图。

## 2. 功能引脚分配

表 2-1 引脚分配

功能	引脚	描述
SPI	SCK	SPI GPIO 功能引脚
	SCS	
	SIO0	
	SIO1	
OSPI	SCK	OSPI GPIO 功能引脚
	SCS	
	SIO0	
	SIO1	
	SIO2	
	SIO3	
	SIO4	
	SIO5	
	SIO6	
	SIO7	
EXMC	EXMC_NOE	EXMC GPIO 功能引脚
	EXMC_NWE	
	EXMC_NE	
	EXMC_NWAIT	
	EXMC_CLK	
	EXMC_NL/NADV	
	AD0	
	AD1	
	AD2	
	AD3	
	AD4	
	AD5	
	AD6	
	AD7	
	AD8	
	AD9	

		AD10	
		AD11	
		AD12	
		AD13	
		AD14	
		AD15	
Digital IO		LATCH_IN	Digital IO GPIO 功能引脚
		WD_STATE	
		WD_TRIG	
		OE_EXT	
		EOF	
		SOF	
		GPIO0	
		GPIO1	
		GPIO2	
		GPIO3	
		GPIO4	
		GPIO5	
		GPIO6	
		GPIO7	
		GPIO8	
		GPIO9	
		GPIO10	
		GPIO11	
		GPIO12	
		GPIO13	
		GPIO14	
		GPIO15	
IRQ	IRQ	IRQ	IRQ(SPI/OSPI/EXMC)
LATCH0	LATCH0	LATCH0	LATCH0(SPI/OSPI/EXMC)
LATCH1	LATCH1	LATCH1	LATCH1(SPI/OSPI/EXMC)
GDETHC_NRST	RSTN	RSTN	RSTN

### 3. 入门指南

评估板使用 DC-005 连接器提供 5V 电源。通过 JP1 给芯片供电方式。下载程序到 GD32H7xx 系列芯片需要一套 J-Link 或者使用 GD-Link 工具，在选择了正确的启动方式并且上电后，LEDPWR 将被点亮，表明评估板供电正常。

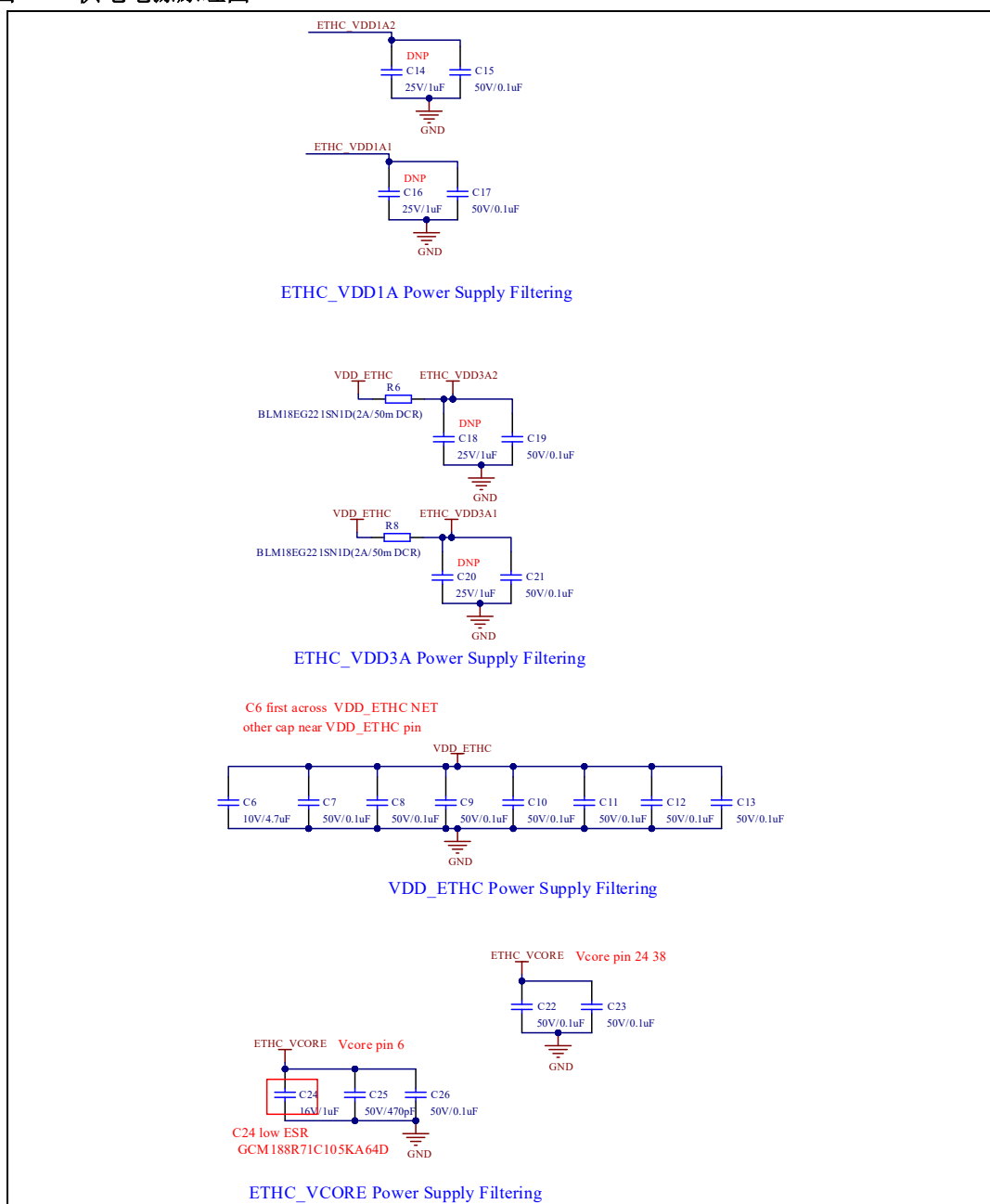
所有例程提供了 Keil 版本，其中 Keil 版的工程是基于 Keil MDK-ARM 5.28 uVision5 创建的。在使用过程中有如下几点需要注意：

- 1、如果使用 Keil uVision5 打开工程，安装 GigaDevice.GD32H7xx\_DFP.1.2.0.pack，以加载相关文件。

## 4. 硬件设计概述

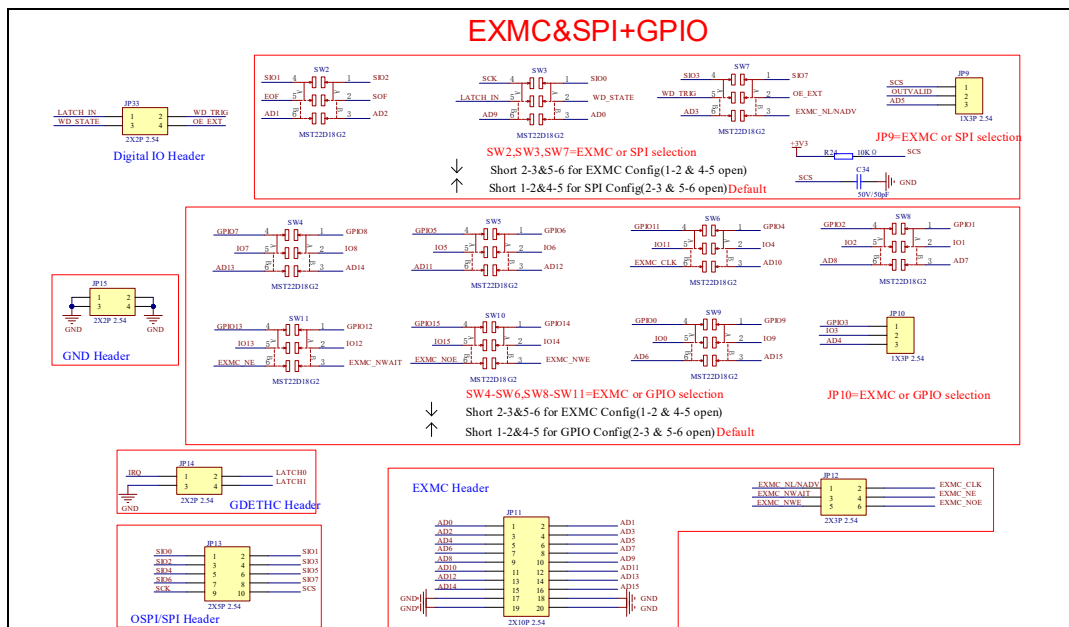
### 4.1. 供电电源

图 4-1 供电电源原理图



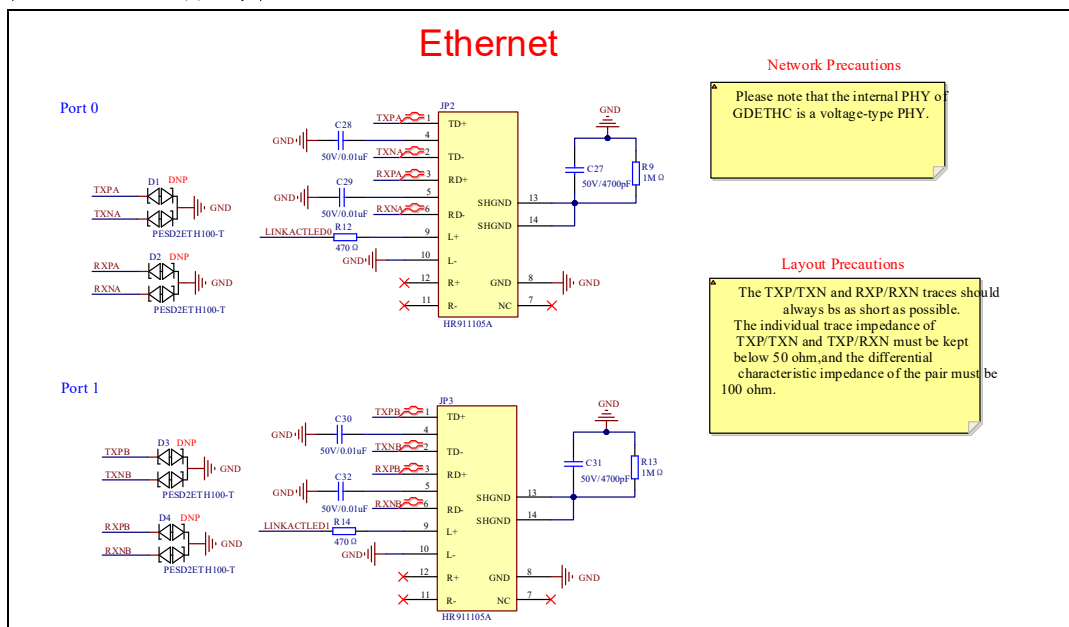
## 4.2. EXMC&SPI+GPIO

图 4-2 EXMC&SPI+GPIO原理图



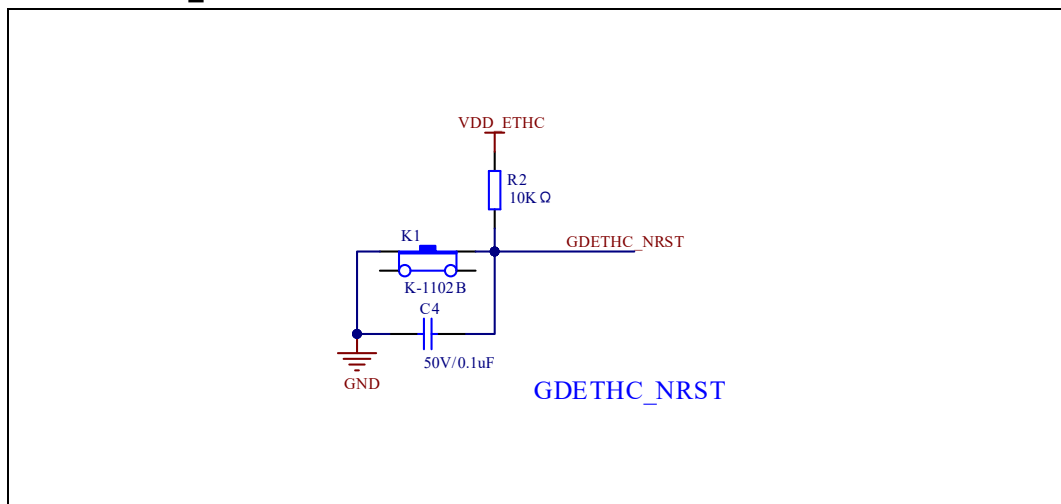
## 4.3. Ethernet

图 4-3 Ethernet原理图



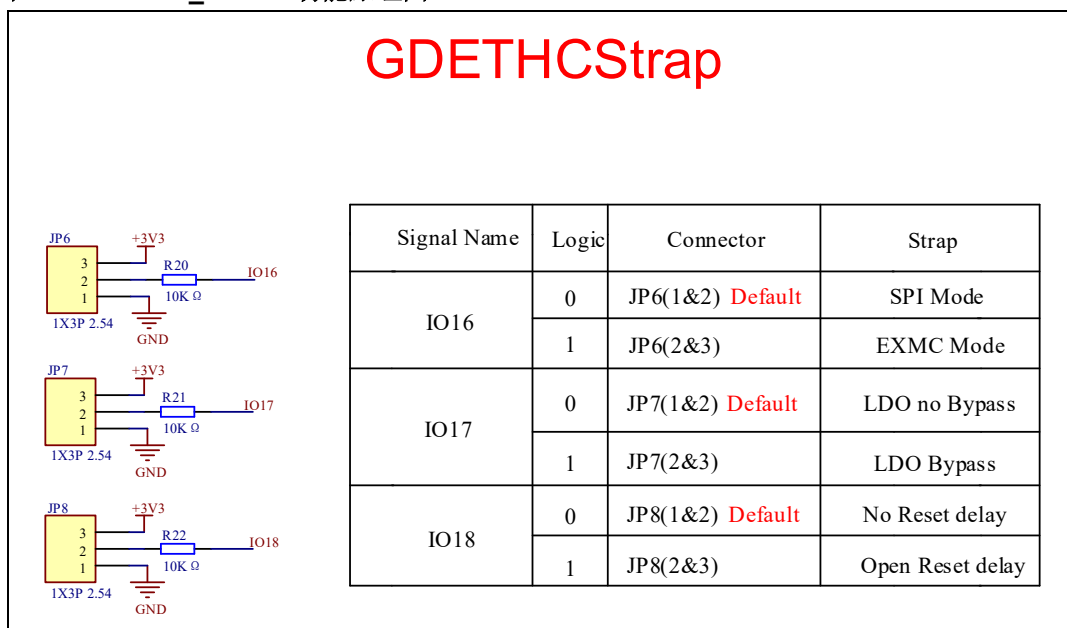
## 4.4. GDETHC\_NRST

图 4-4 GDETHC\_NRST原理图



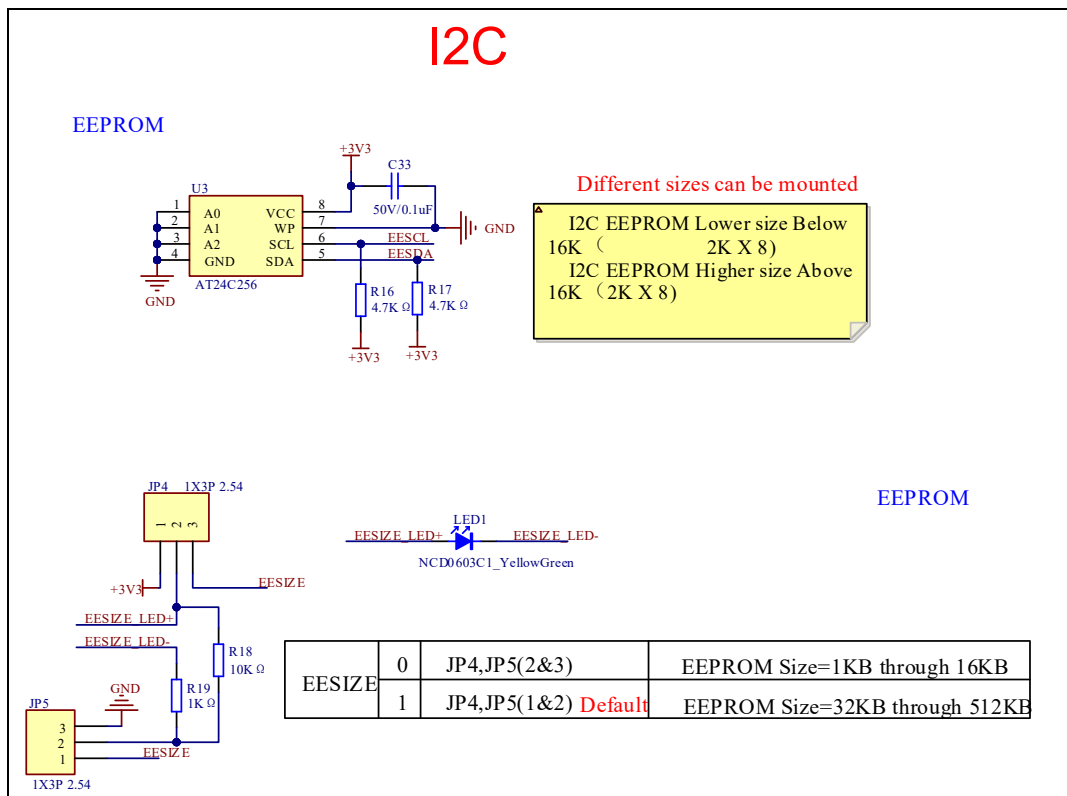
## 4.5. GDETHC\_STRAP

图 4-5 GDETHC\_STRAP功能原理图



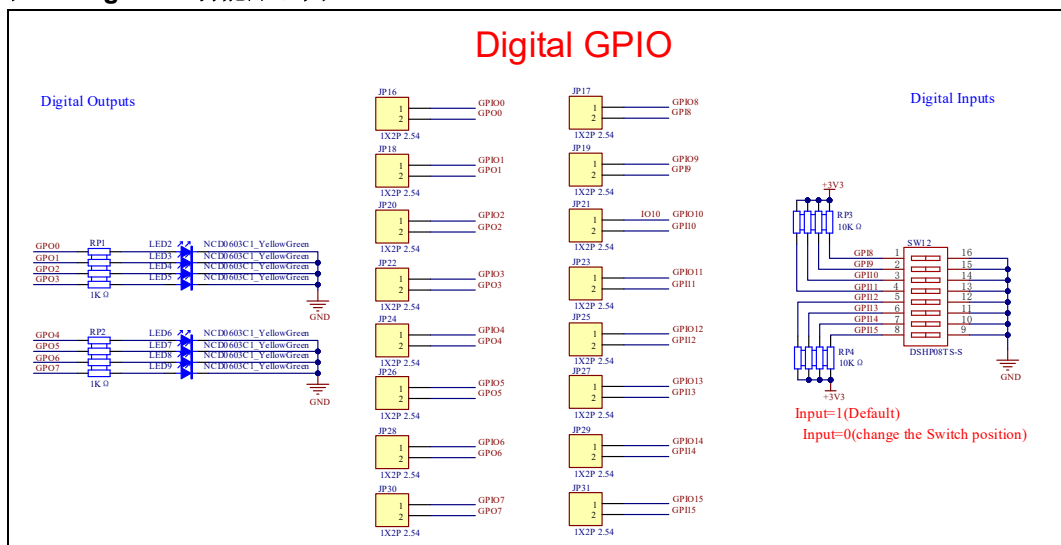
## 4.6. I2C EEPROM

图 4-6 I2C EEPROM 功能原理图



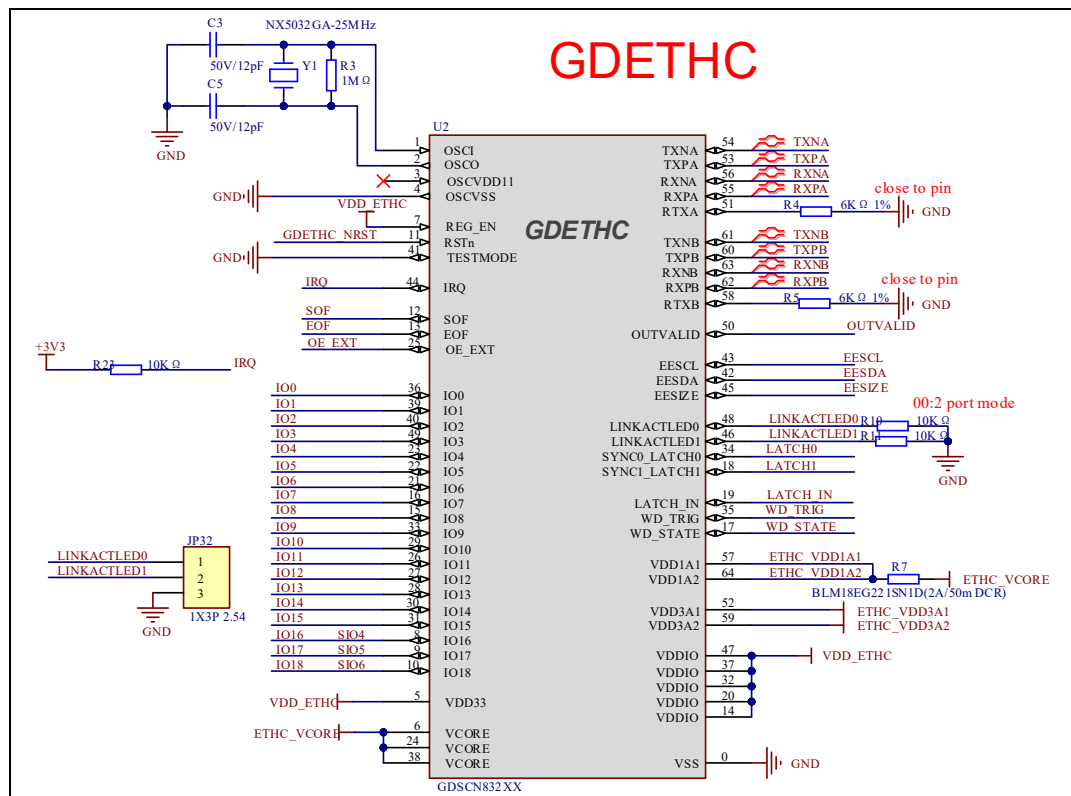
## 4.7. Digital IO

图 4-7 Digital IO功能原理图



## 4.8. GDETHC

图 4-8 GDETHC 功能原理图



## 5. 例程使用指南

## 5.1. EtherCAT\_IO\_SPI

### 5.1.1. DEMO 目的

这个例程包括了 GDSCN832R 的以下功能:

- ## ■ 学习使用 PDI 接口中 SPI 用于 ESC 通信使用

### 5.1.2. DEMO 执行结果

使用跳线帽 JP9, JP10 跳线到 SCS 和 GPIO3, 确认 EVAL 板上跳线帽 JP4, JP5 跳线至 1 一侧, JP6, JP7, JP8 跳线至 H 侧。下载程序<01\_EtherCAT\_IO\_SPI>到 GD32H7xx 系列芯片上, 连接网线到 EVAL 板 Port0 上, 使用主站 TwinCAT 软件扫描从站, 观察 EVAL 板的 LED1 变成常亮, 表明 EtherCAT 的状态机切换到 OP 状态, 正常工作。

## 6. 版本历史

表 6-1 版本历史

版本号.	说明	日期
1.0	初稿发布	2024 年 11 月 29 日

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