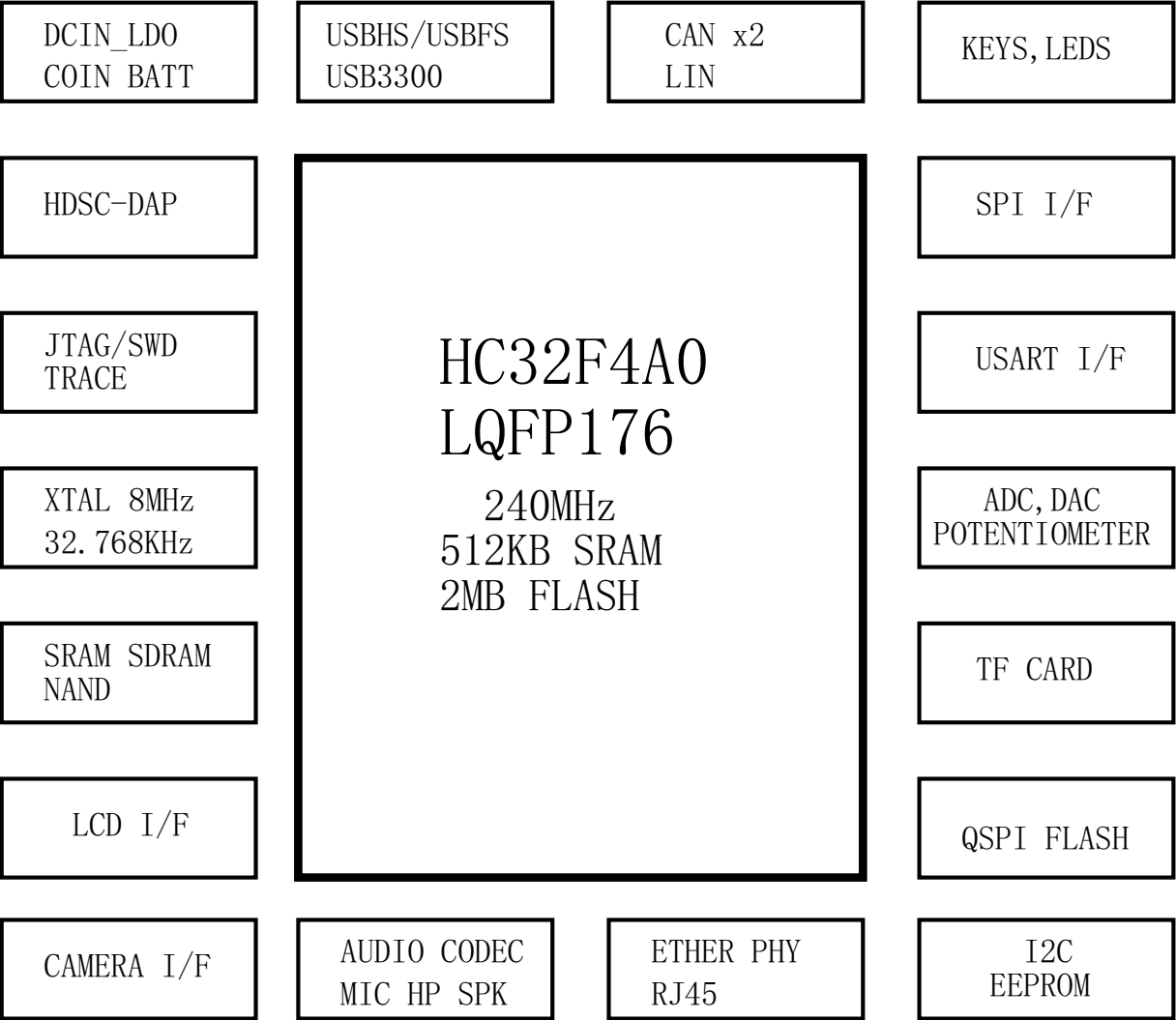


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Revision History

Rev	Date	Description
V01	02/14/2020	- New design.
V02	05/11/2020	- modify IO-expander assignment. - add leds and rocker switch. - add wake up key.



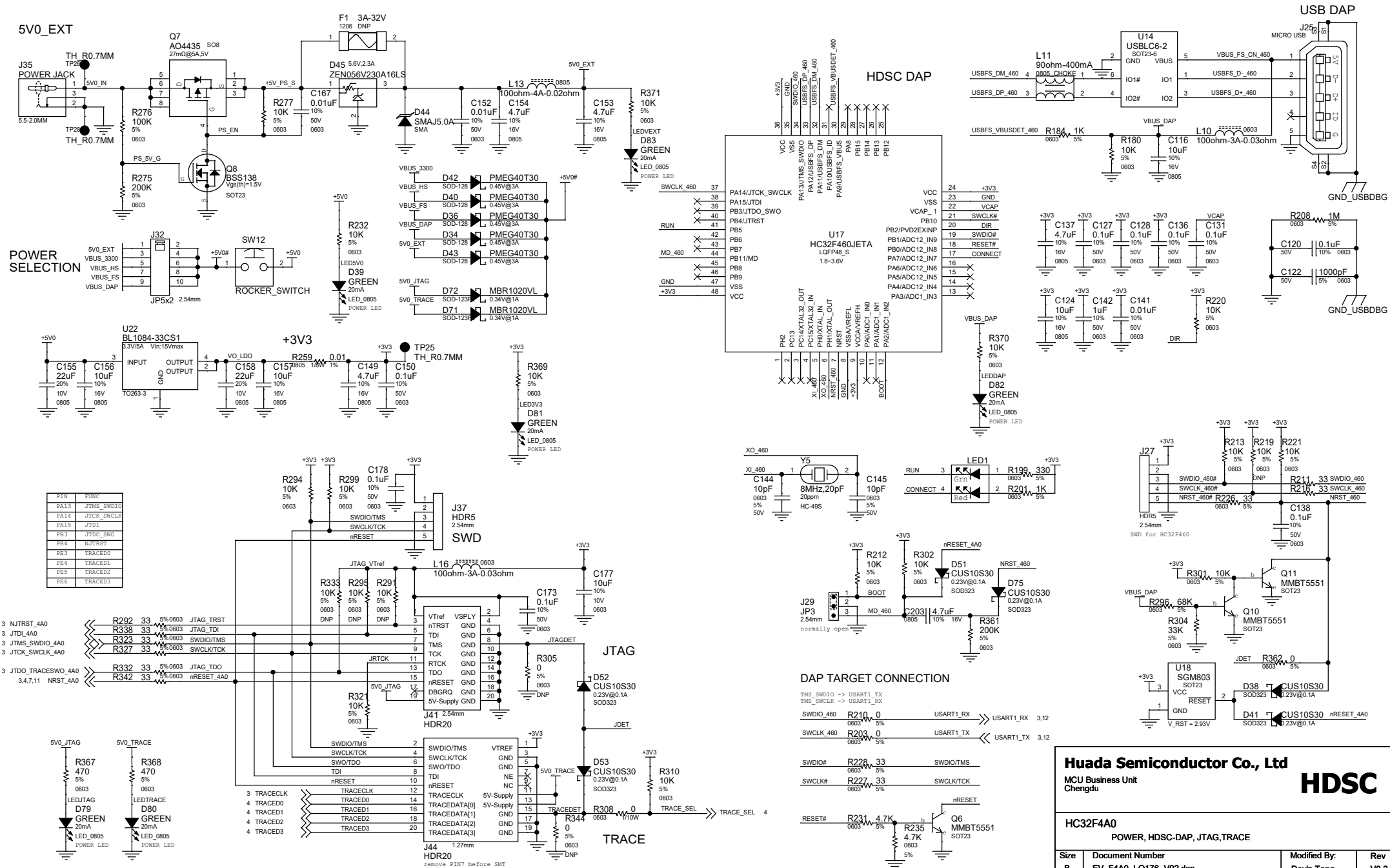
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Chengdu

**HDSC**

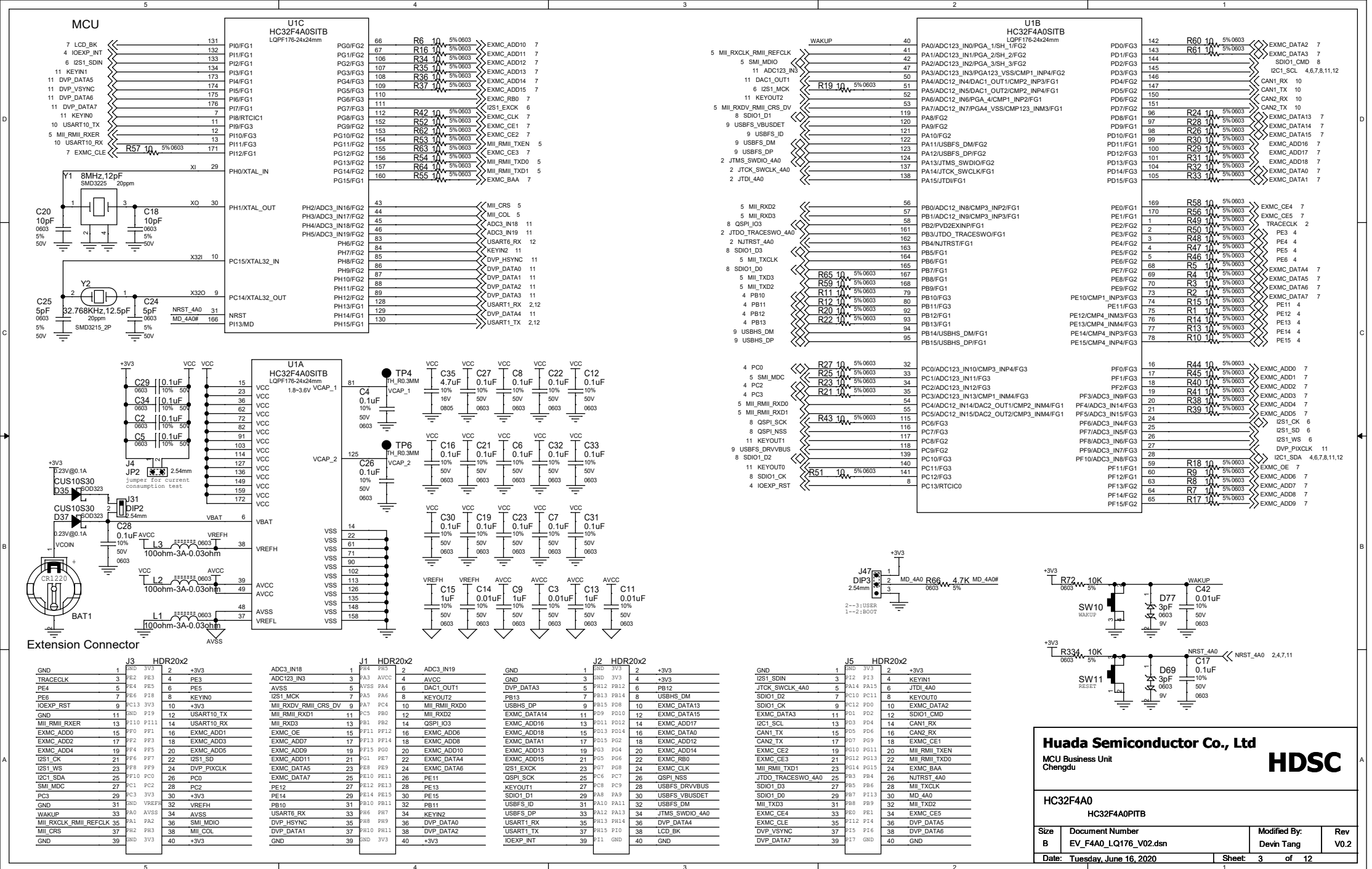
HC32F4A0

TITLE PAGE

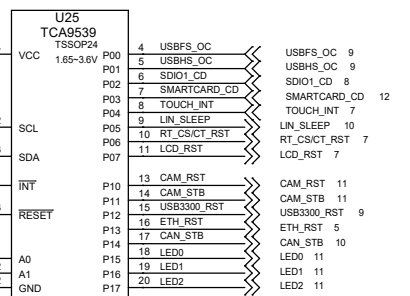
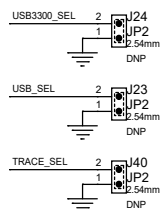
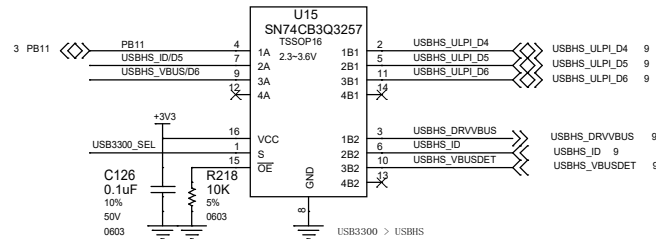
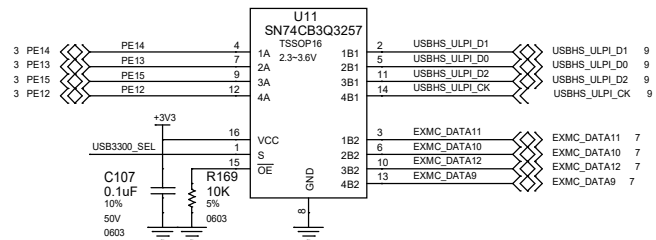
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HC32F4A0 POWER, HDSC-DAP, JTAG, TRACE		
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SPDT  
 $V_{IH} > 2V, V_{IL} < 0.8V$   
 L  $\rightarrow$  A=B1  
 H  $\rightarrow$  A=B2 (default)



PC0	DEFAULT	USBS1300 DETECTED	USBSMS DETECTED
PC1	EXMC_WB	USBSH_ULPI_SFP	
PC2	EXMC_CEO	USBSH_ULPI_DIR	
PC3	EXMC_ALE	USBSH_ULPI_NXT	
PE11	EXMC_DATA78	USBSH_ULPI_D7	
FE12	EXMC_DATA9	USBSH_ULPI_CK	
PE13	EXMC_DATA10	USBSH_ULPI_D0	
FE14	EXMC_DATA11	USBSH_ULPI_D1	
FE15	EXMC_DATA12	USBSH_ULPI_D2	
FE18	QSFI_I02	USBSH_ULPI_D3	
FE19	USBSMS_DRVVBUS	USBSH_ULPI_D4	
FE12	QSFI_I01	USBSH_ULPI_D5	USBSMS_ID
FE13	QSFI_I00	USBSH_ULPI_D6	USBSMS_VBUS

PIN	DEFAULT	TRACE DETECTED
PE3(FG2)	USART6_CK	TRACED0
PE4(FG2)	USART6_CTS	TRACED1
PE5(FG2)	USART6_RTS	TRACED2
PE6(FG2)	USART6_TX	TRACED3

## HDSC

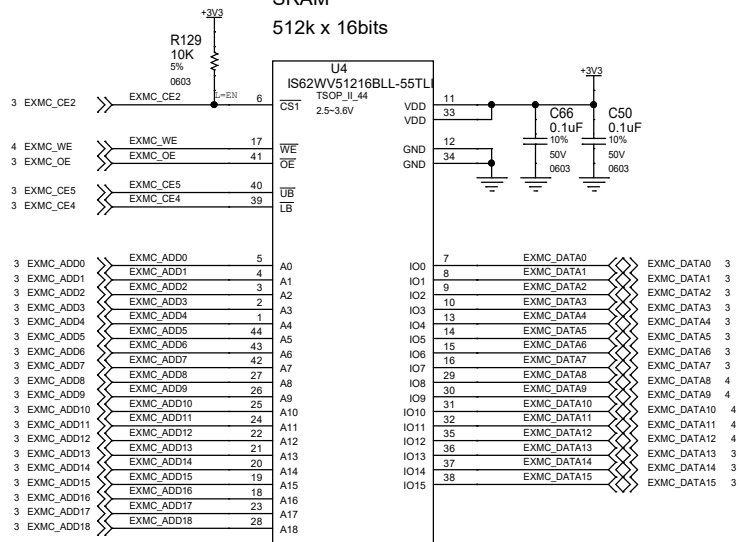
## PIN MUX, IO EXPANDER

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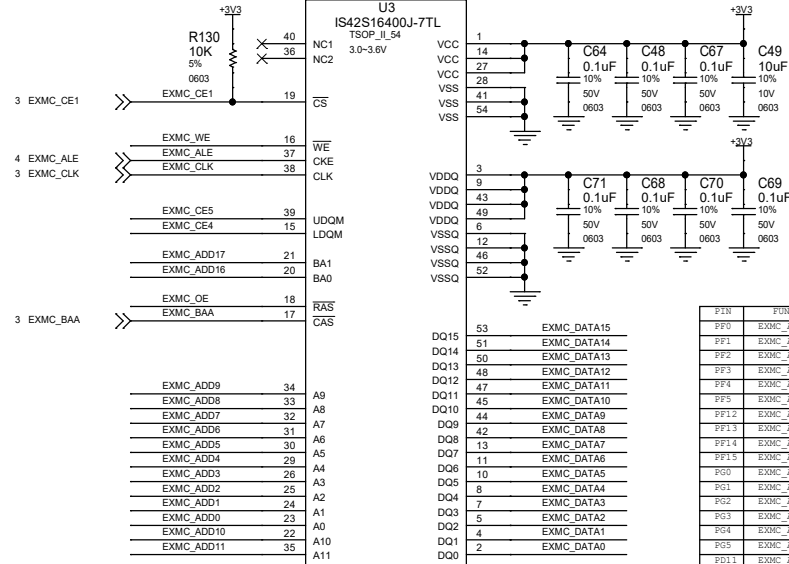




## SRAM 512k x 16bits

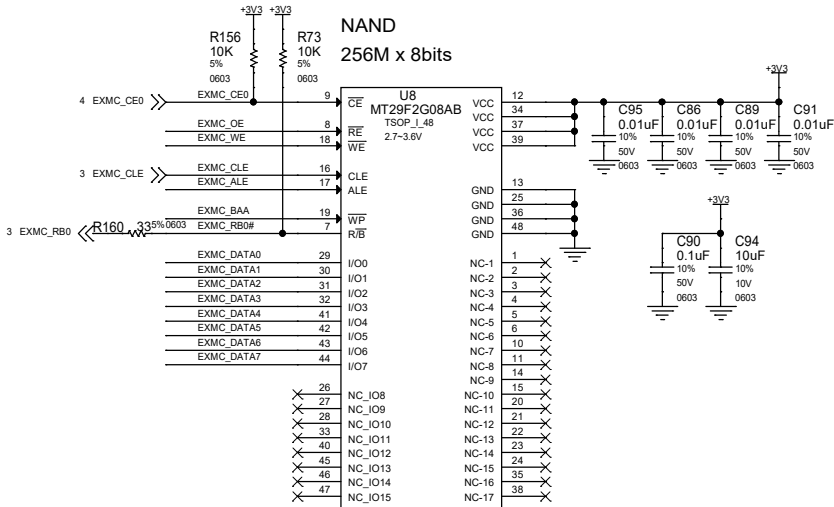


## SDRAM 1M x 16bits x 4Banks

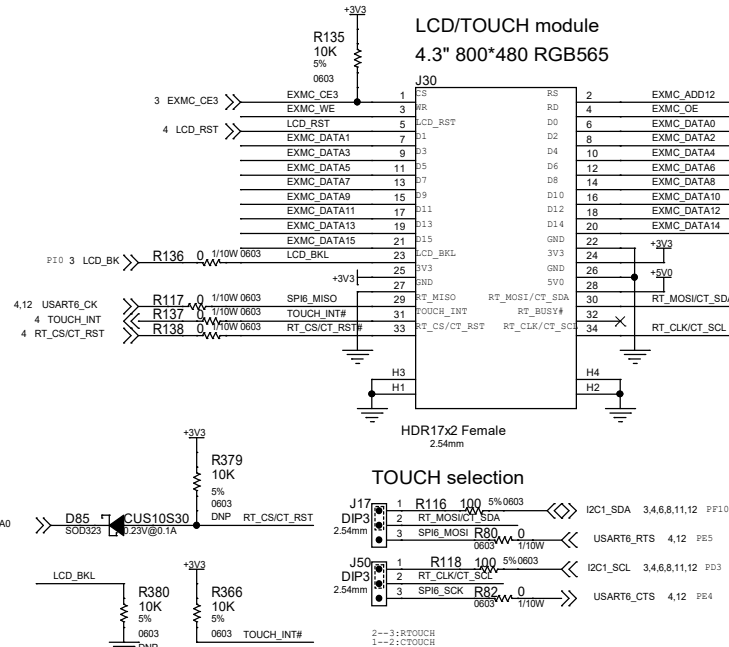


PIN	FUNC	PIN	FUNC	PIN	FUNC
PF0	EXMC_ADD0	PD14	EXMC_DATA0	PC2	EXMC_CEO
PF1	EXMC_ADD1	PD15	EXMC_DATA1	PG9	EXMC_CEO
PF2	EXMC_ADD2	PD0	EXMC_DATA2	PG10	EXMC_CEO
PF3	EXMC_ADD3	PD1	EXMC_DATA3	PG12	EXMC_CEO
PF4	EXMC_ADD4	PE7	EXMC_DATA4	PE0	EXMC_CEO
PF5	EXMC_ADD5	PE8	EXMC_DATA5	PE1	EXMC_CEO
PF12	EXMC_ADD6	PE9	EXMC_DATA6	PC0	EXMC_WE
PF13	EXMC_ADD7	PE10	EXMC_DATA7	PF11	EXMC_OE
PF14	EXMC_ADD8	PE11	EXMC_DATA8	PC3	EXMC_ALE
PF15	EXMC_ADD9	PE12	EXMC_DATA9	PF12	EXMC_CLE
PG0	EXMC_ADD10	PE13	EXMC_DATA10	PG15	EXMC_BAA
PG1	EXMC_ADD11	PE14	EXMC_DATA11	PG6	EXMC_RBO
PG2	EXMC_ADD12	PE15	EXMC_DATA12	PG8	EXMC_CLK
PG3	EXMC_ADD13	PD8	EXMC_DATA13		
PG4	EXMC_ADD14	PD9	EXMC_DATA14		
PG5	EXMC_ADD15	PD10	EXMC_DATA15		
PD11	EXMC_ADD16				
PD12	EXMC_ADD17				
PD13	EXMC_ADD18				

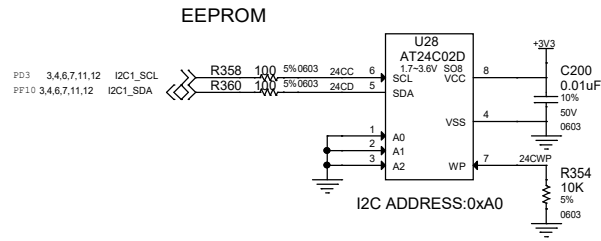
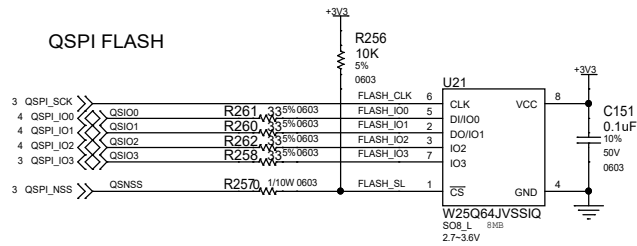
## NAND 256M x 8bits



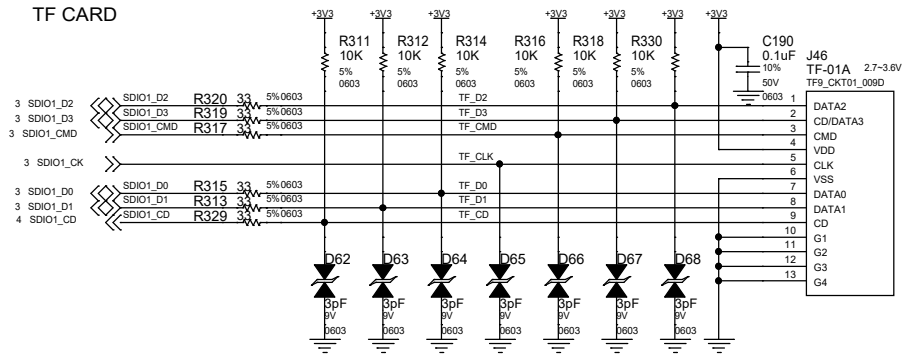
## LCD/TOUCH module 4.3" 800\*480 RGB565



PIN	FUNC
PB13	QSPI_FIO0
PB12	QSPI_FIO1
PB10	QSPI_FIO2
PB2	QSPI_FIO3
PC6	QSPI_SCK
PC7	QSPI_NSS



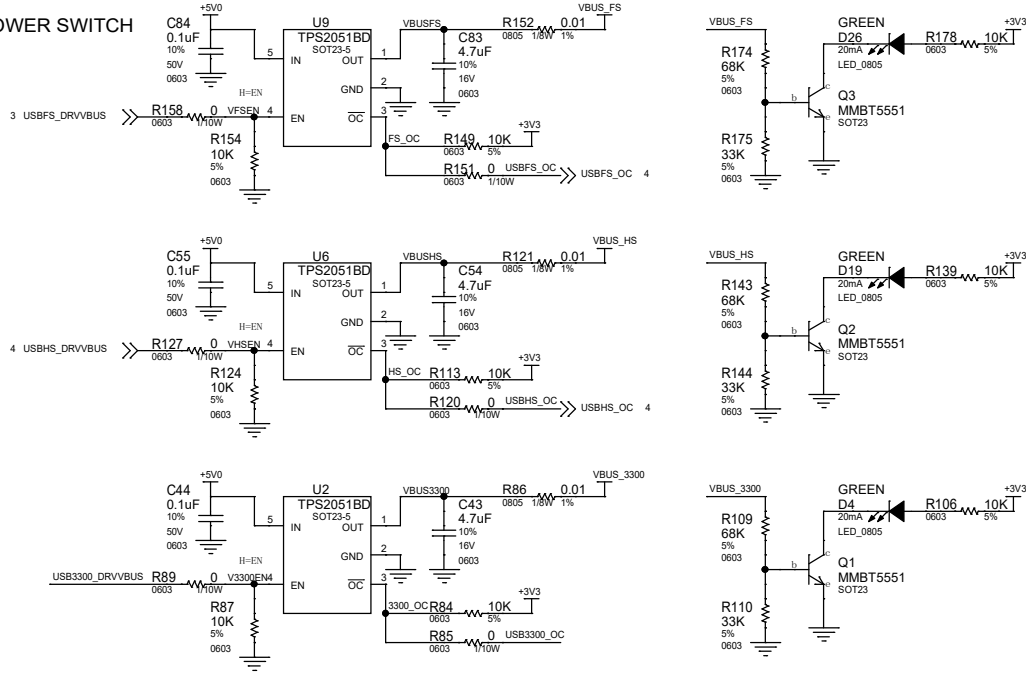
PIN	FUNC
PA7	SDIO1_D0
PA8	SDIO1_D1
PC10	SDIO1_D2
PB5	SDIO1_D3
PD2	SDIO1_CMD
PC12	SDIO1_CK



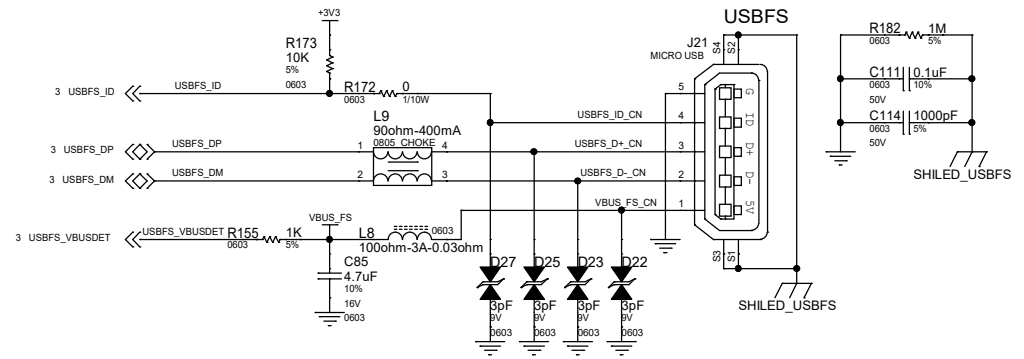
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MCU Business Unit Chengdu			
<b>HDSC</b>			
<b>HC32F4A0</b>			
QSPI FLASH, EEPROM, TF CARD			
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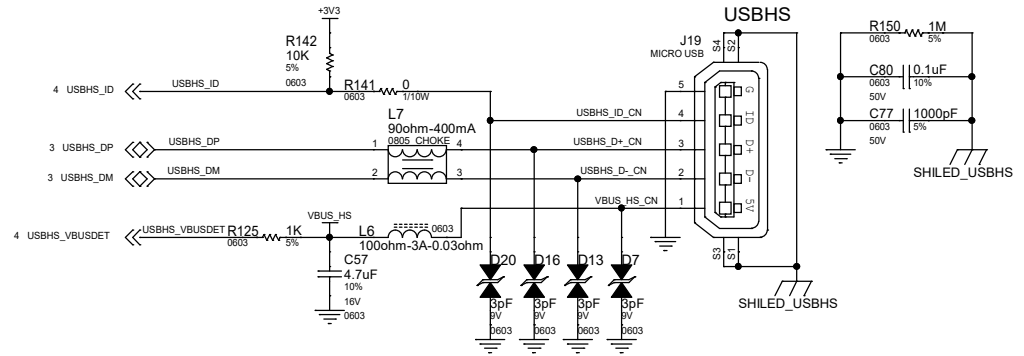
# POWER SWITCH



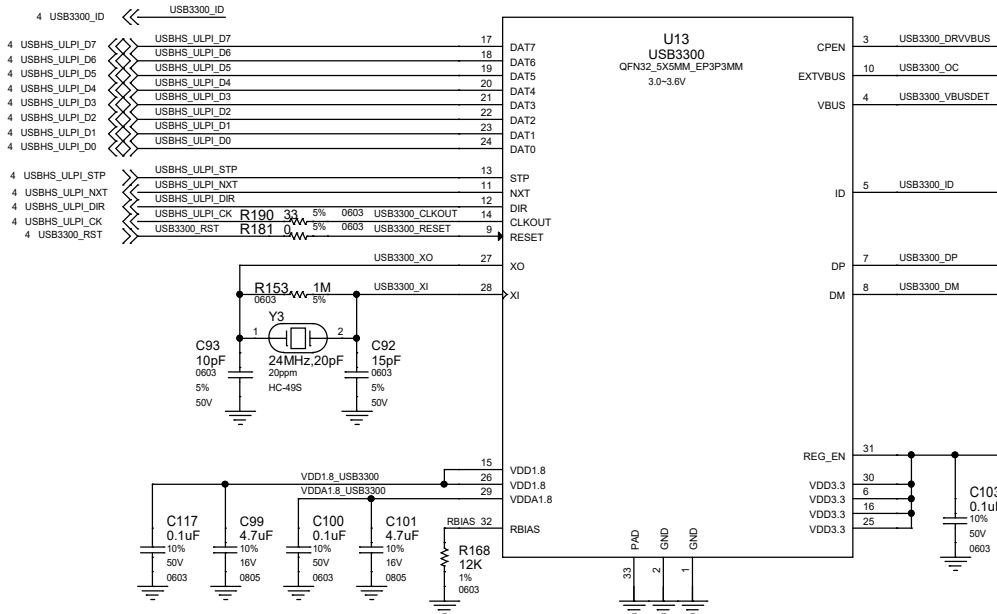
# USBFS



# USBHS



# USBHS PHY



PIN	FUNC	PIN	FUNC
PC0	USBHS_ULPI_STP	PA11	USBFS_DM
PC2	USBHS_ULPI_DIR	PA12	USBFS_DP
PC3	USBHS_ULPI_NXT	PC9	USBFS_DRVVBUS
PE12	USBHS_ULPI_CK	PA9	USBFS_VBUSDET
PE13	USBHS_ULPI_D0	PA10	USBFS_ID
PE14	USBHS_ULPI_D1	PA14	USBHS_CM
PE15	USBHS_ULPI_D2	PA15	USBHS_CP
PA10	USBHS_ULPI_D3	PA11	USBHS_DRVVBUS
PA11	USBHS_ULPI_D4	PA12	USBHS_ID
PA12	USBHS_ULPI_D5	PA13	USBHS_VBUSDET
PA13	USBHS_ULPI_D6		
PA11	USBHS_ULPI_D7		

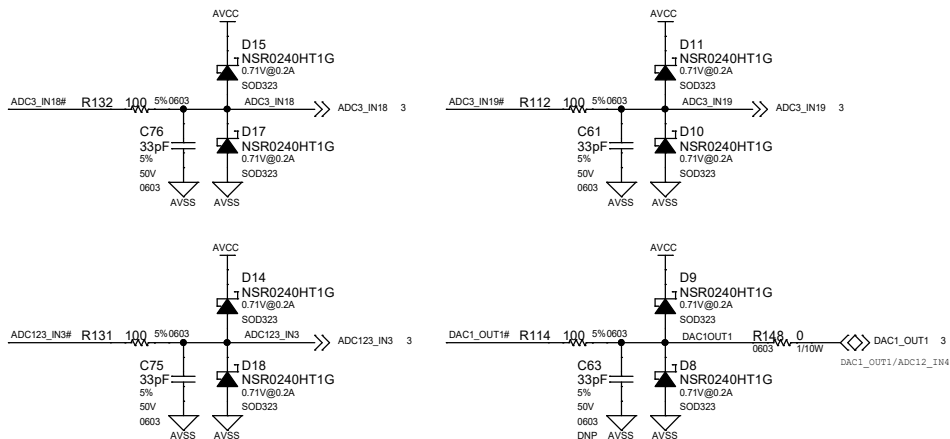
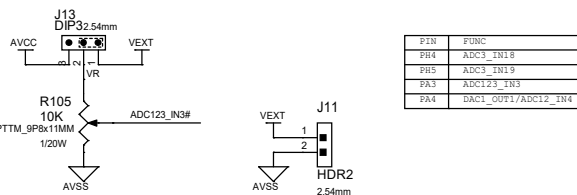
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Chengdu

**HDSC**

**HC32F4A0**  
USBFS, USBHS, USB3300

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The schematic diagram illustrates the internal wiring of an 8-channel digital input module. It features eight switches, labeled SW1 through SW8, arranged in a 3x3 grid (with the bottom-right position empty). Each switch has four terminals: 1, 2, 3, and 4. Terminal 1 is connected to a common output line. Terminal 2 is connected to a common ground. Terminal 3 is connected to a common output line. Terminal 4 is connected to a common ground. Each switch is also connected to a common output line. The output lines are labeled KEYOUT0 through KEYOUT7. Each output line is connected to a 33pF capacitor (C10-C17) and a 5V supply. The switches are also connected to a common output line that branches into KEYOUT0-KEYOUT7. Each output is connected to a 33pF capacitor (D54-D57) and a 5V supply. The switches are labeled SW1 through SW9, and the outputs are labeled KEYOUT0 through KEYOUT2.

PIN	FUNC
PI6	KEYIN0
PI3	KEYIN1
PH7	KEYIN2
PC11	KEYOUT0
PC8	KEYOUT1
PA6	KEYOUT2

[illegible]

PIN	FUNCTION
PF9	DVP_P10
PI5	DVP_VSY
PH8	DVP_HSY
PH9	DVP_DATA
PH10	DVP_DATA
PH11	DVP_DATA
PH12	DVP_DATA
PH14	DVP_DATA
PI4	DVP_DATA
PI6	DVP_DATA
PI7	DVP_DATA
PD3	I2C1_SCL
PF10	I2C1_SDA

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## HDSC

HC32F4A0  
ADC, KEYS, LEDS,CAMERA

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## USART/SPI

PIN	USART6	SMART CARD	SPI6	TRACE
PE3(FG2)	CK	CLK	SCK	TRACED0
PE4(FG2)	CTS	RESET	MOSI	TRACED1
PE5(FG2)	RTS	PWR_EN	MISO	TRACED2
PE6(FG2)	TX	TX	NSS0	TRACED3
PH6(FG2)	RX	RX		

## SMART CARD

## I2C1

## 3V3/5V0 OUT

## USART1

## TP/FID/FAB HOLES

<h1 style="margin: 0;">Huada Semiconductor Co., Ltd</h1>		<h1 style="margin: 0;">HDSC</h1>
MCU Business Unit Chengdu		
<div style="border: 1px solid black; padding: 5px; margin: 5px 0;">           HC32F4A0            USART,SPI,I2C,SMART CARD         </div>		
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