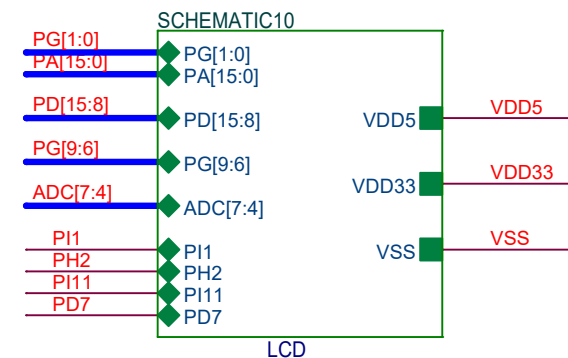
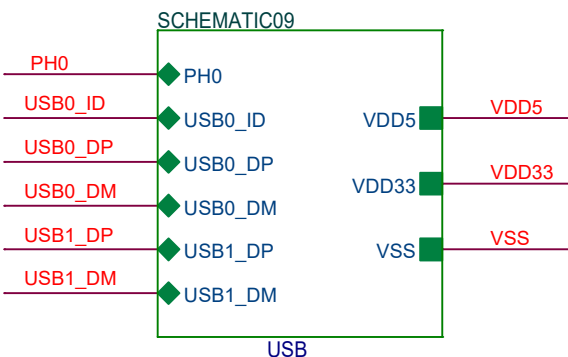
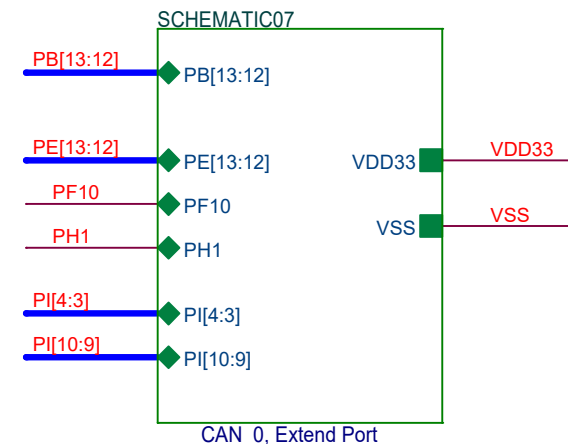
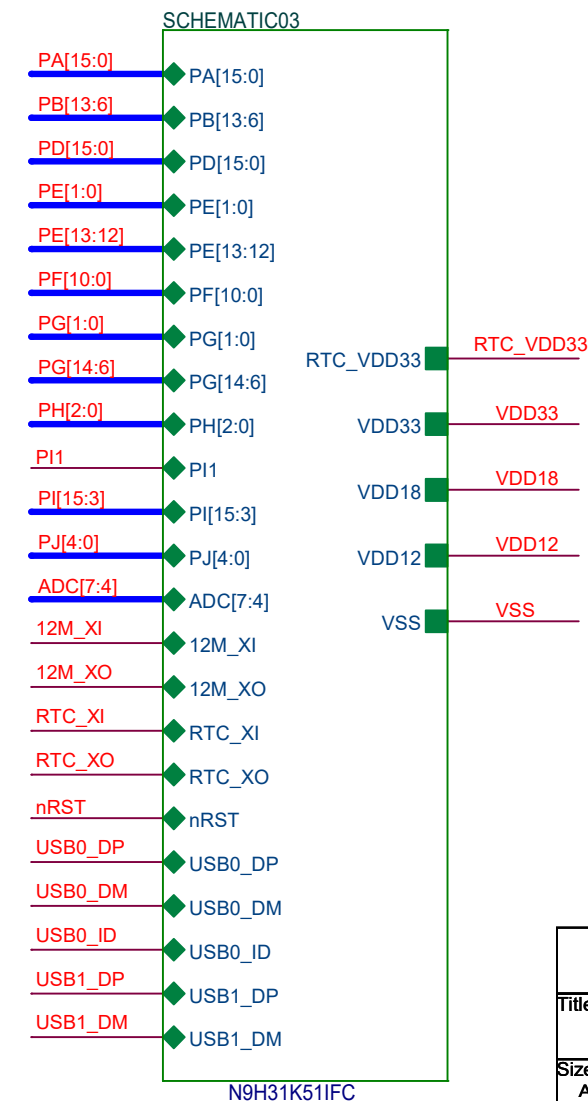
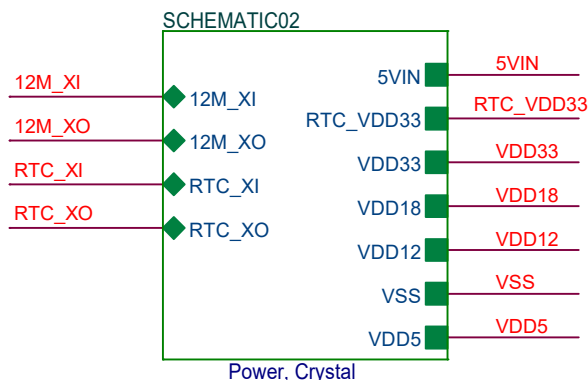
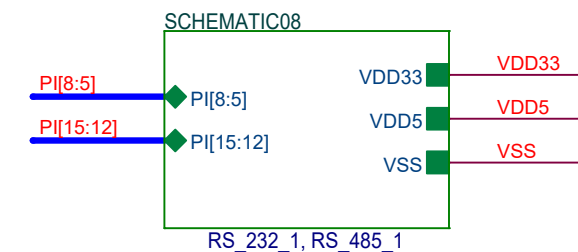
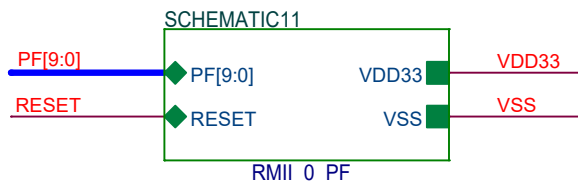
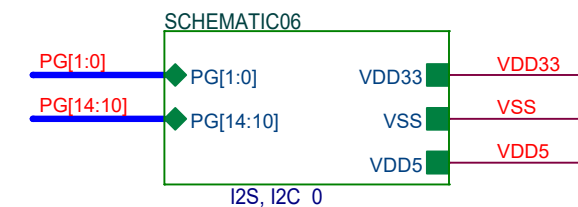
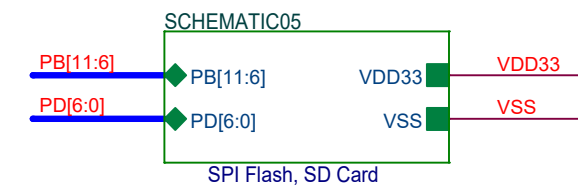
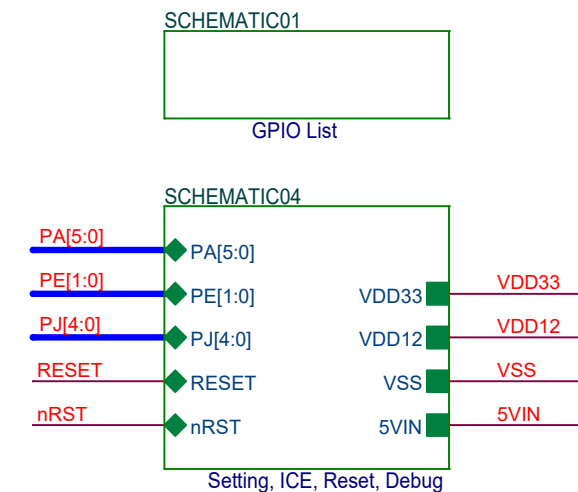




nuvoTon Technology Corp.

Title

NuMaker-HMI-N9H31

Size A Document Number Rev 1.1

System Block

Date: Tuesday, July 30, 2024 Sheet 1 of 12

PIN	FUNCTION
PA0	LCD_DATA0 PwrOnSet0
PA1	LCD_DATA1 PwrOnSet1
PA2	LCD_DATA2 PwrOnSet2
PA3	LCD_DATA3 PwrOnSet3
PA4	LCD_DATA4 PwrOnSet4
PA5	LCD_DATA5 PwrOnSet5
PA6	LCD_DATA6 PwrOnSet6
PA7	LCD_DATA7 PwrOnSet7
PA8	LCD_DATA8 PwrOnSet8
PA9	LCD_DATA9 PwrOnSet9
PA10	LCD_DATA10
PA11	LCD_DATA11
PA12	LCD_DATA12
PA13	LCD_DATA13
PA14	LCD_DATA14
PA15	LCD_DATA15

PIN	FUNCTION
PB6	SPI0_SS0
PB7	SPI0_CLK
PB8	SPI0_DO (DATA0)
PB9	SPI0_DI (DATA1)
PB10	SPI0_DATA2
PB11	SPI0_DATA3
PB12	RS232_10_TXD
PB13	RS232_10_RXD

PIN	FUNCTION
PH0	USB0_VBUSVLD
PH1	KEY2
PH2	LCD_PWM
PH3	Buzzer

PIN	FUNCTION
PE0	RS232_0_TXD
PE1	RS232_0_RXD
PE12	RS232_3_TXD
PE13	RS232_3_RXD

PIN	FUNCTION
PJ0	JTAG_TCK
PJ1	JTAG_TMS
PJ2	JTAG_TDI
PJ3	JTAG_TDO
PJ4	JTAG_NTRST

PIN	FUNCTION
PG0	I2C0_SCL
PG1	I2C0_SDA
PG6	LCD_CLK
PG7	LCD_HSYNC
PG8	LCD_VSYNC
PG9	LCD_DEN
PG10	I2S_MCLK
PG11	I2S_DO
PG12	I2S_DI
PG13	I2S_BCLK
PG14	I2S_LRCK

PIN	FUNCTION
PD0	SD0_CMD
PD1	SD0_CLK
PD2	SD0_DATA0
PD3	SD0_DATA1
PD4	SD0_DATA2
PD5	SD0_DATA3
PD6	SD0_CD
PD7	LCD_CS
PD8	LCD_DATA16
PD9	LCD_DATA17
PD10	LCD_DATA18
PD11	LCD_DATA19
PD12	LCD_DATA20
PD13	LCD_DATA21
PD14	LCD_DATA22
PD15	LCD_DATA23

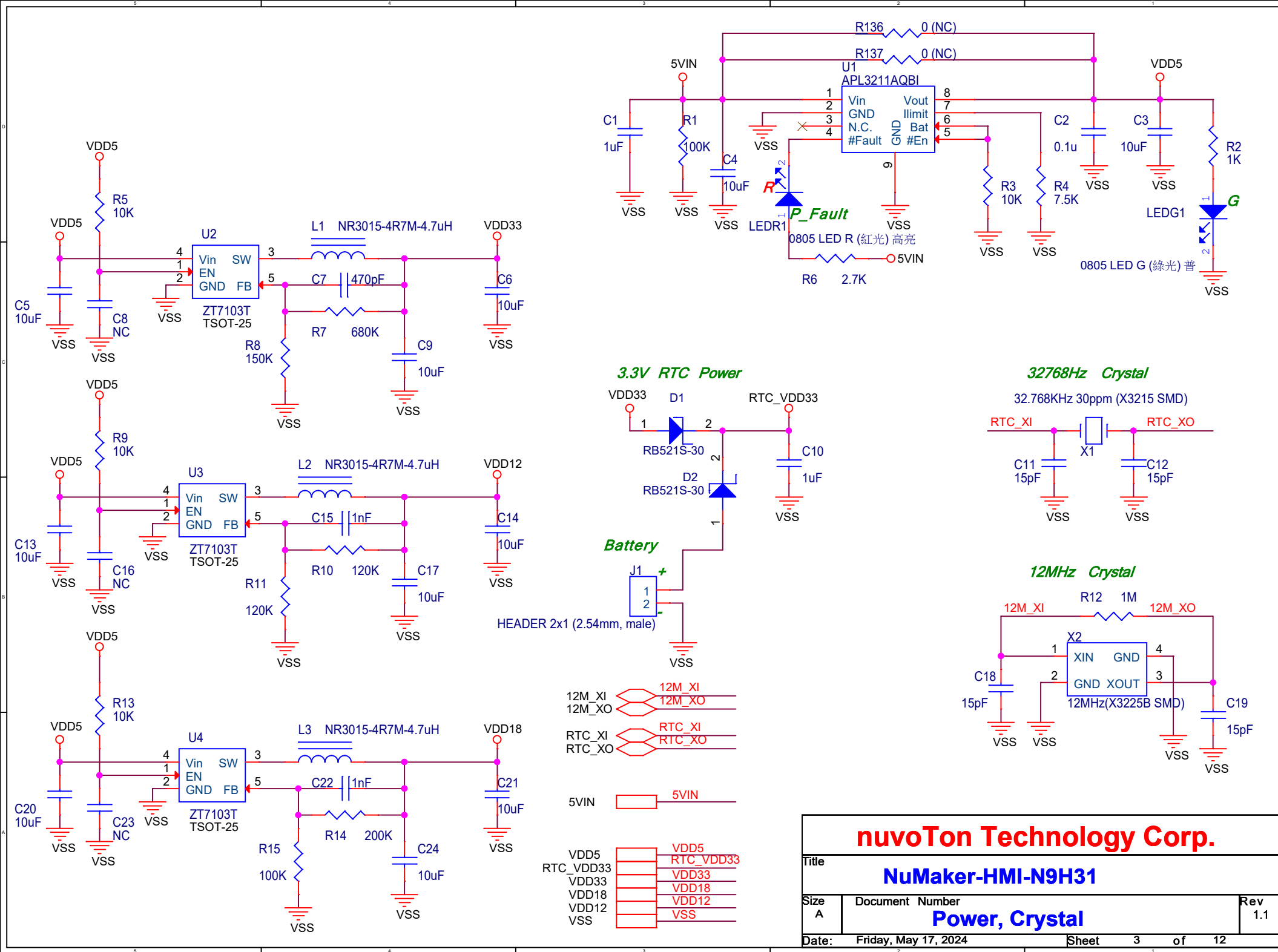
PIN	FUNCTION
PF0	RMII0_MDC
PF1	RMII0_MDIO
PF2	RMII0_TX0
PF3	RMII0_TX1
PF4	RMII0_TXEN
PF5	RMII0_REFCLK
PF6	RMII0_RX0
PF7	RMII0_RX1
PF8	RMII0_CRSDV
PF9	RMII0_RXERR
PF10	LED2

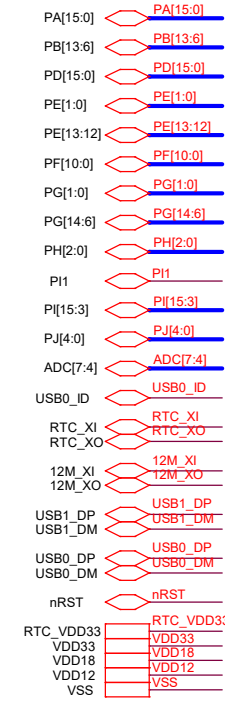
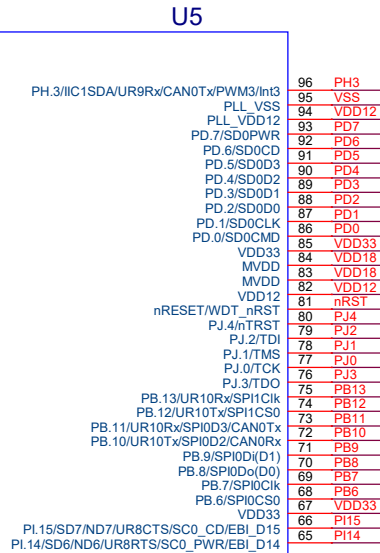
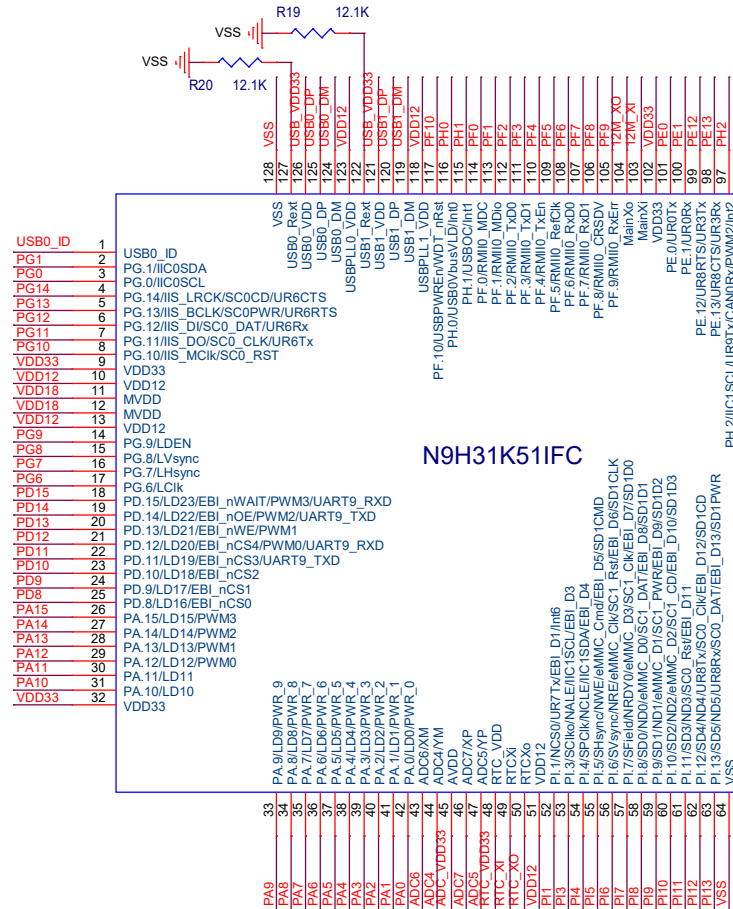
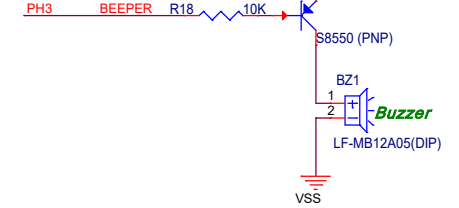
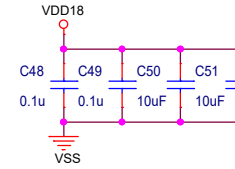
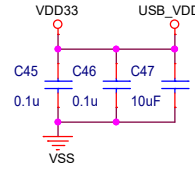
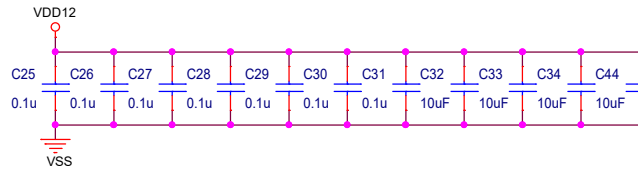
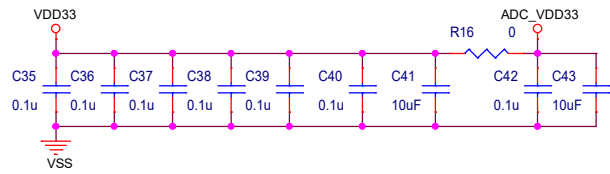
PIN	FUNCTION
ADC4	TP_YM
ADC5	TP_YP
ADC6	TP_XM
ADC7	TP_XP

PIN	FUNCTION
PI1	LCD_INT
PI3	CAN0_RXD
PI4	CAN0_TXD
PI5	RS232_1_TXD RS485_1_TXD
PI6	RS232_1_RXD RS485_1_RXD
PI7	RS232_1_RTS RS485_1_/RE
PI8	RS232_1_CTS
PI9	KEY1
PI10	LED1
PI11	LCD_RST
PI12	RS232_8_TXD
PI13	RS232_8_RXD
PI14	RS232_8_RTS
PI15	RS232_8_CTS

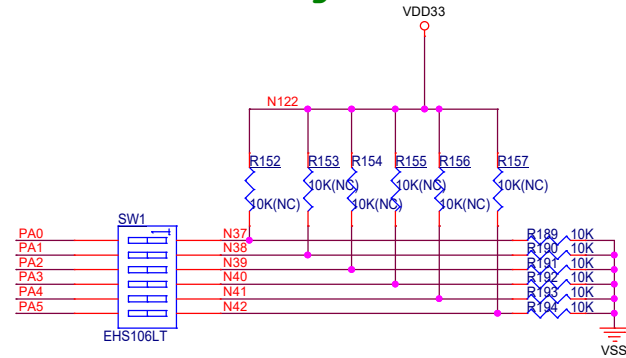
nuvoTon Technology Corp.

Title		
NuMaker-HMI-N9H31		
Size A	Document Number GPIO List	Rev 1.1
Date:	Friday, May 17, 2024	Sheet 2 of 12





Power On Setting



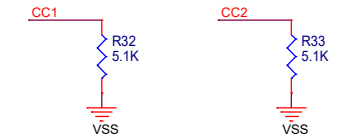
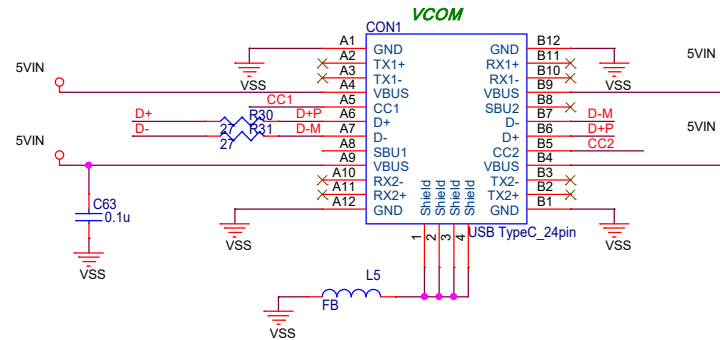
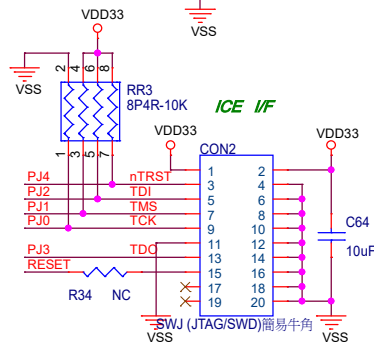
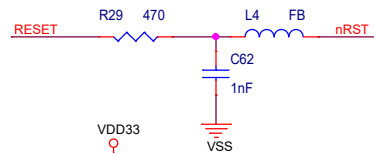
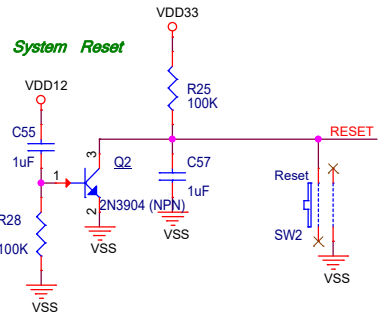
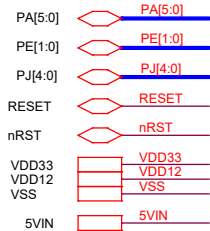
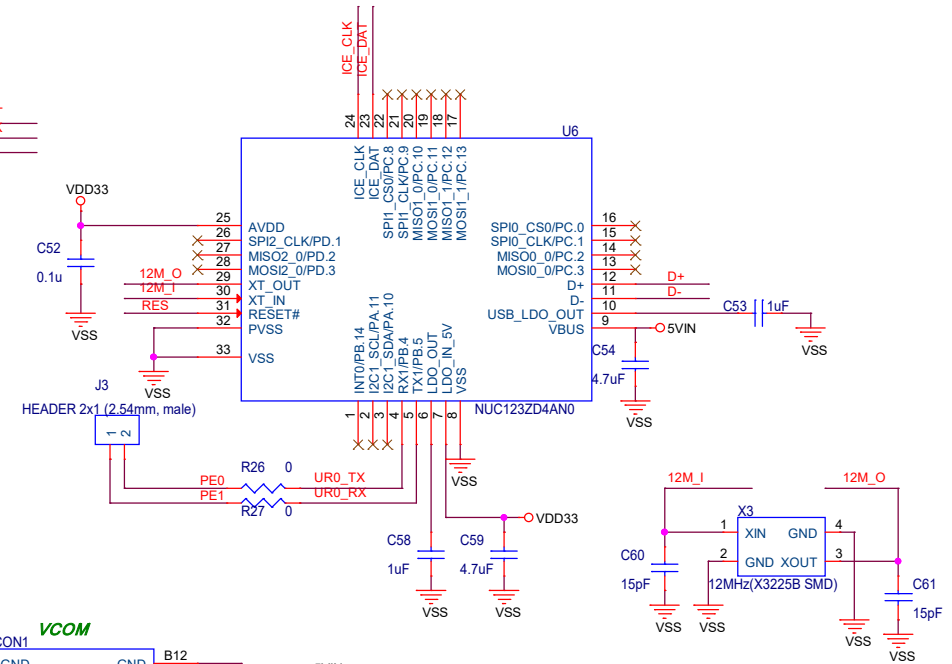
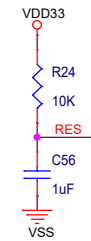
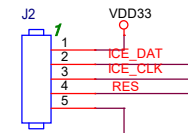
A1	A0	Booting from
ON	ON	USB.
ON	OFF	eMMC Flash.
OFF	ON	NAND Flash.
OFF	OFF	SPI Flash.

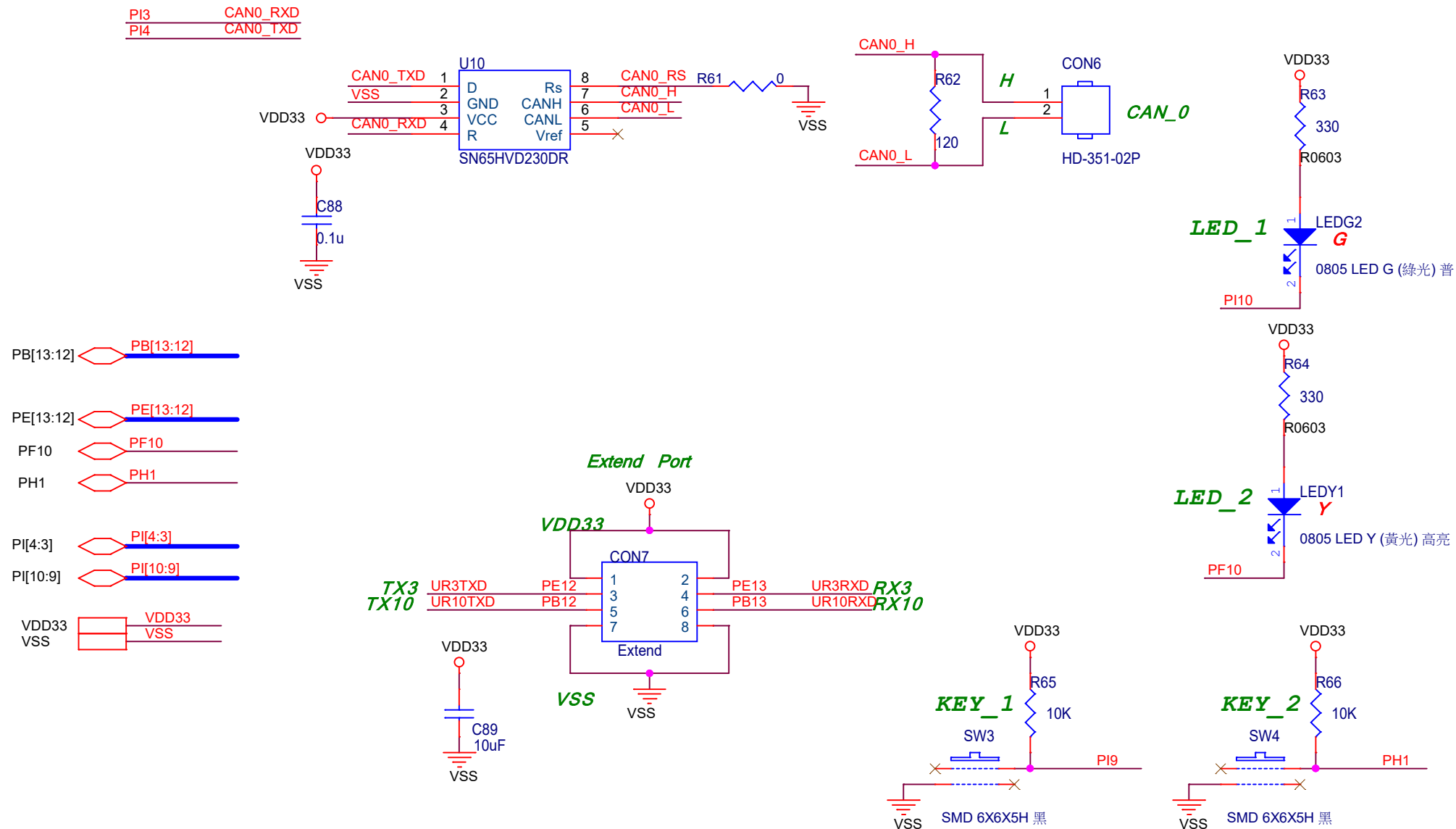
S2(A2)	System Clock from
	12MHz crystal.
OFF	WPLL output.

S3(A3)	Watch Dog Setting
ON	OFF after power on.
OFF	ON after power on.

S4(A4)	Setting PJ[4:0]
ON	As GPIO pin.
OFF	As JTAG interface.

S5(A5)	UART Debug Message
ON	Output turn ON.
OFF	Output turn OFF.





nuvoTon Technology Corp.

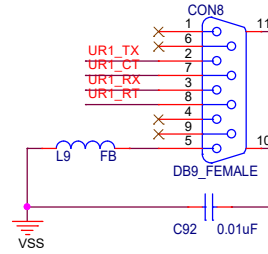
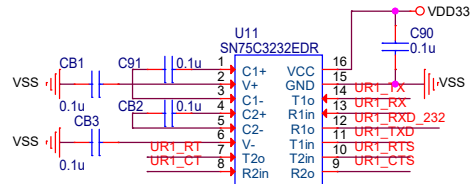
Title
NuMaker-HMI-N9H31

Size A	Document Number CAN_0, Extend Port	Rev 1.1
-----------	--	------------

Date: Friday, May 17, 2024 Sheet 8 of 12

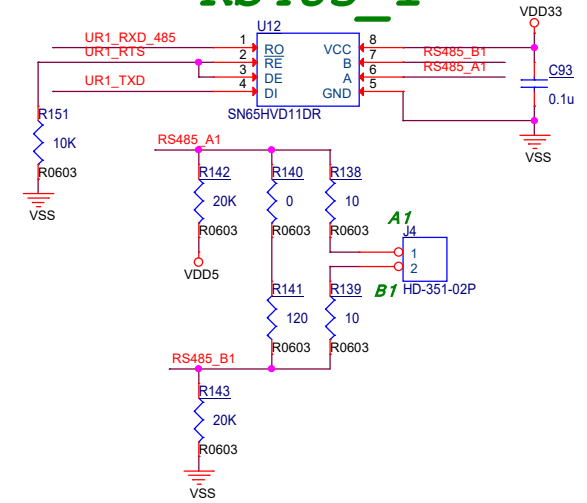
RS232_1

PI5 UR1_TXD
PI6 UR1_RXD
PI7 UR1_RTS
PI8 UR1_CTS



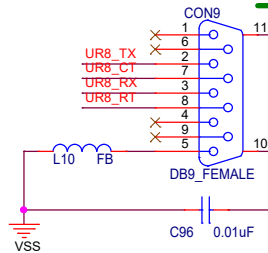
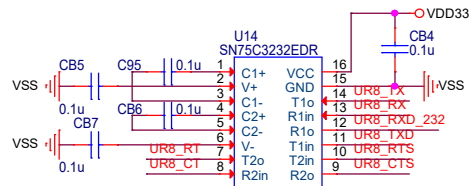
1-2: RS232_1
2-3: RS485_1
J5 1 UR1_RXD_232
2 UR1_RXD
3 UR1_RXD_485
HEADER3x1_2.54mm

RS485_1



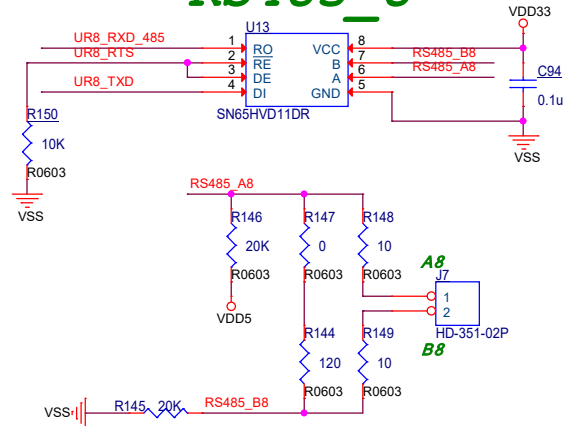
RS232_8

PI12 UR8_TXD
PI13 UR8_RXD
PI14 UR8_RTS
PI15 UR8_CTS



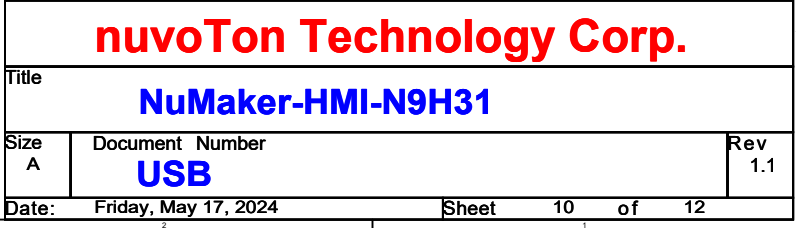
J6 1 UR8_RXD_232
2 UR8_RXD
3 UR8_RXD_485
HEADER3x1_2.54mm
1-2: RS232_8
2-3: RS485_8

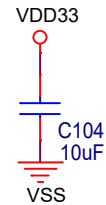
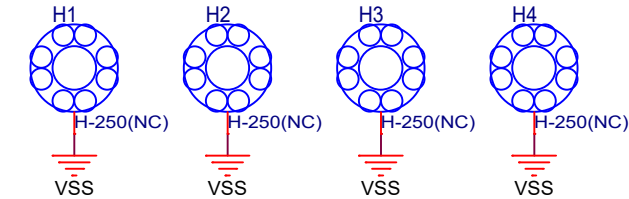
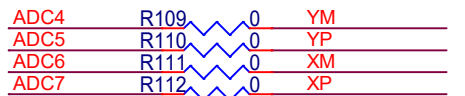
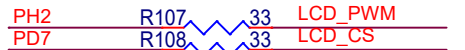
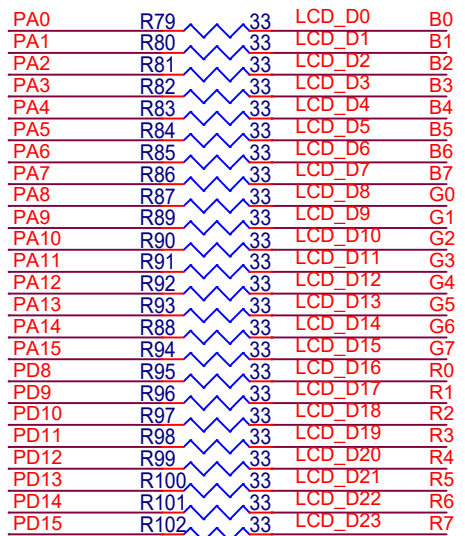
RS485_8



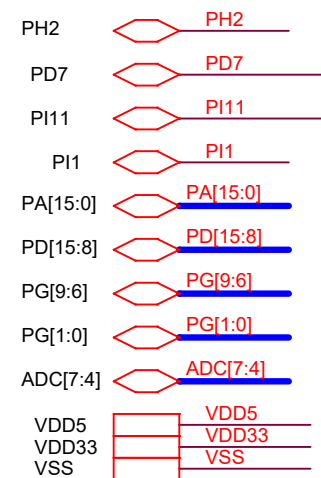
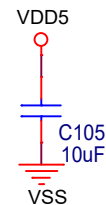
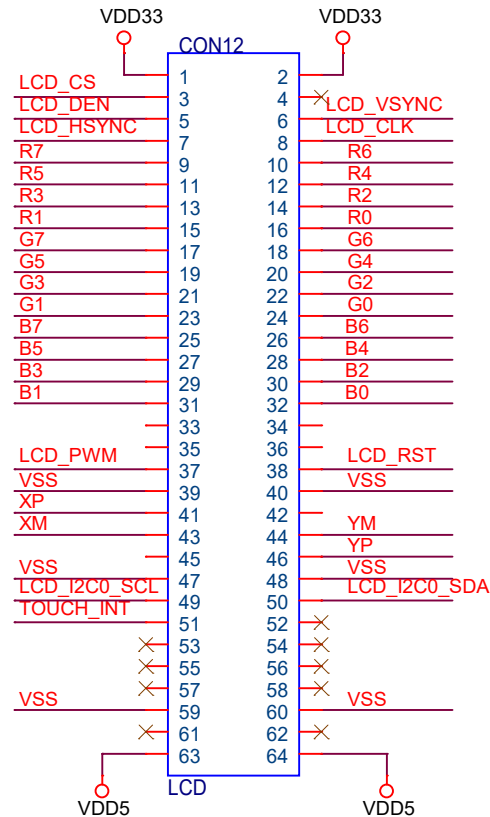
nuvoTon Technology Corp.

Title		
NuMaker-HMI-N9H31		
Size B	Document Number	Rev
	RS_232_1, RS_485_1	1.1
Date:	Friday, May 17, 2024	Sheet 9 of 12





24Bit LCD Interface RGB 888



nuvoTon Technology Corp.

Title
NuMaker-HMI-N9H31

Size A Document Number LCD Rev 1.1

Date: Friday, May 17, 2024 Sheet 11 of 12

