Nodemcu v3-CH340 sch

esp8266

VDD3V3

R3 12k GPIO0
R4 12k GPIO2
R5 12k EN
R8 12k nRST
R10 12k GPIO15

C1 100nF

GND
GND

VDD3V3

MTMS
MTDI
MTCK

C2
100uF TAJB107M006RNJ

GND
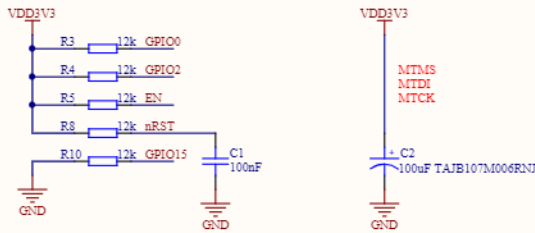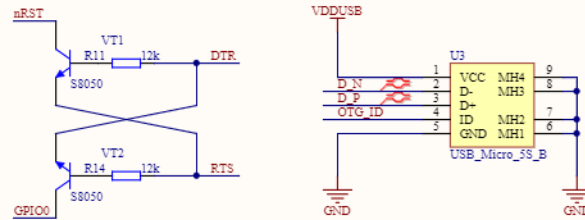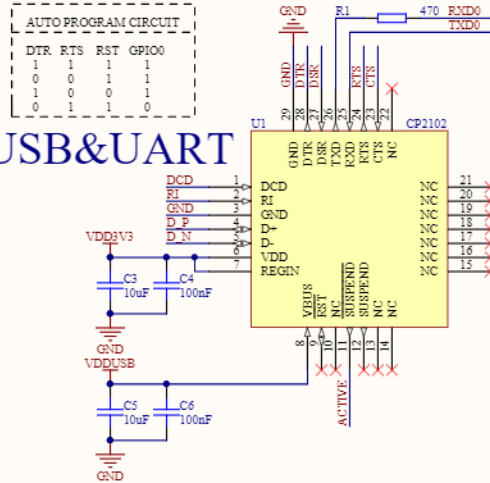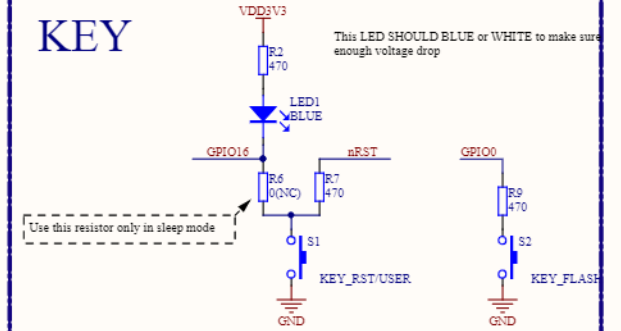
MATTERS NEEDING ATTENTION
On every boot/reset/wakeup,
GPIO15 MUST keep LOW, GPIO2 MUST keep HIGH.
GPIO0 HIGH ->RUN MODE, LOW -> FLASH MODE.
When you need to use the sleep mode,GPIO16 and RST should be connected,
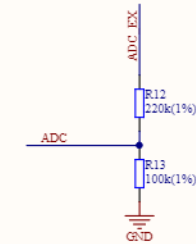and GPIO16 will output LOW to reset the system at the time of wakeup.

VDD3V3

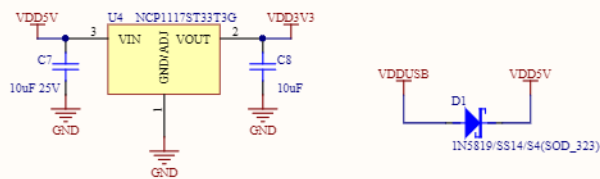U2

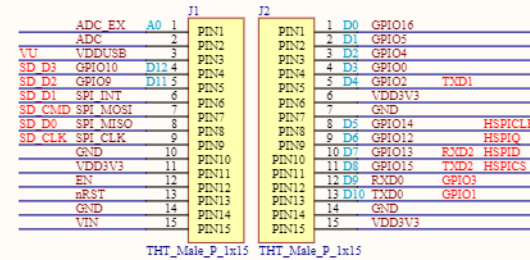| nRST | 1 | RST | | GPIO1/SPICS1/TXD0 | 22 | TXD0 |
ADC	2	ADC/TOUT		GPIO3/RXD0	21	RXD0
EN	3	EN		GPIO5	20	GPIO5
GPIO16	4	GPIO16/WAKE		GPIO4	19	GPIO4
GPIO14	5	GPIO14/HSPICLK		GPIO0/SPICS2	18	GPIO0
GPIO12	6	GPIO12/HSPIQ		GPIO2/TXD1	17	GPIO2
GPIO13	7	GPIO13/HSPID/CTS0/RXD2		GPIO15/HSPICS/RTS0/TXD2	16	GPIO10 MTDO
SPI_MOSI	9	SPI_MOSI/SD_CMD		SPI_CLK/SD_CLK	14	SPI_CLK
SPI_MISO	10	SPI_MISO/SD_D0		SPI_INT/SD_D1	13	SPI_INT
GPIO9	11	GPIO9/SD_D2		GPIO10/SPI_CS/SD_D3	12	GPIO10

VDD (8) GND (15)

ESP_12_E

GND

USB&UART

AUTO PROGRAM CIRCUIT

DTR RTS RST GPIO0
1 1 1 1
0 0 1 1
1 0 0 1
0 1 1 0

GND R1 470 RXD0
TXD0

U1 CP2102

GND DTR DSR TXD RXD RTS CTS NC
29 28 27 26 25 24 23 22

DCD	1	DCD		NC	21
RI	2	RI		NC	20
GND	3	GND		NC	19
D P	4	D+		NC	18
D N	5	D-		NC	17
	6	VDD		NC	16
	7	REGIN		NC	15

VDD3V3

C3 10uF   C4 100nF

GND

VDDUSB

C5 10uF   C6 100nF

GND

VBUS RST NC SUSPEND SUSPEND NC NC
8 9 10 11 12 13 14

ACTIVE

nRST

VT1
R11 12k DTR
S8050

VT2
R14 12k RTS
S8050

GPIO0

VDDUSB

U3 USB_Micro_5S_B

D N	1	VCC	MH4	9
D P	2	D-	MH3	8
	3	D+	MH2	7
OTG_ID	4	ID	MH1	6
	5	GND		

GND

GND

KEY

VDD3V3

This LED SHOULD BLUE or WHITE to make sure
enough voltage drop

R2 470

LED1 BLUE

GPIO16   nRST

R6 0(NC)   R7 470

GPIO0

R9 470

Use this resistor only in sleep mode

S1   S2

KEY_RST/USER   KEY_FLASH

GND   GND

ADC

ADC_EX

R12 220k(1%)

ADC

R13 100k(1%)

GND

Use 1% resistor here.

POWER

VDD5V   U4 NCP1117ST33T3G   VDD3V3

| VIN | 3 | | VOUT | 2 |

C7 10uF 25V   GND/ADJ (1)   C8 10uF

GND   GND

GND

VDDUSB   VDD5V

D1

1N5819/SS14/S4(SOD_323)

IO-PIN

J1 THT_Male_P_1x15

ADC_EX	A0	1	PIN1
ADC		2	PIN2
VU	VDDUSB	3	PIN3
SD_D3	GPIO10 D12	4	PIN4
SD_D2	GPIO9 D11	5	PIN5
SD_D1	SPI_INT	6	PIN6
SD_CMD	SPI_MOSI	7	PIN7
SD_D0	SPI_MISO	8	PIN8
SD_CLK	SPI_CLK	9	PIN9
GND		10	PIN10
VDD3V3		11	PIN11
EN		12	PIN12
nRST		13	PIN13
GND		14	PIN14
VIN		15	PIN15

J2 THT_Male_P_1x15

PIN1	1	D0	GPIO16	
PIN2	2	D1	GPIO5	
PIN3	3	D2	GPIO4	
PIN4	4	D3	GPIO0	
PIN5	5	D4	GPIO2	TXD1
PIN6	6		VDD3V3	
PIN7	7		GND	
PIN8	8	D5	GPIO14	HSPICLK
PIN9	9	D6	GPIO12	HSPIQ
PIN10	10	D7	GPIO13	RXD2 HSPID
PIN11	11	D8	GPIO15	TXD2 HSPICS
PIN12	12	D9	RXD0	GPIO3
PIN13	13	D10	TXD0	GPIO1
PIN14	14		GND	
PIN15	15		VDD3V3	