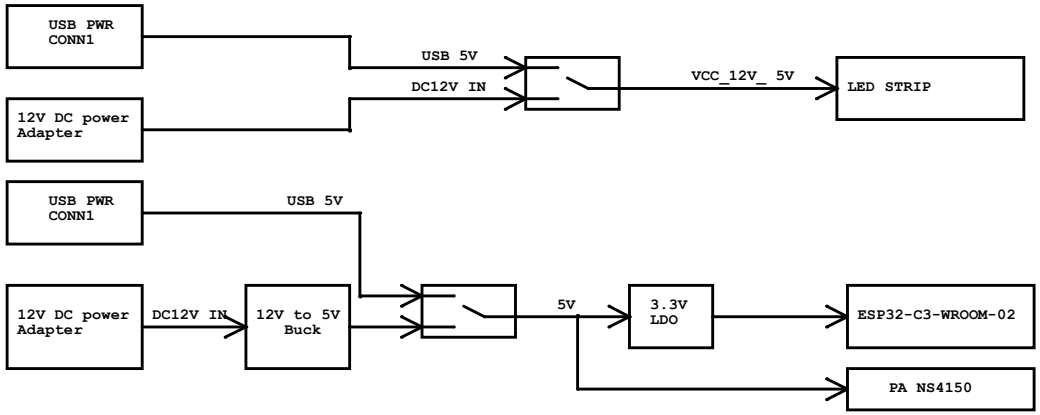
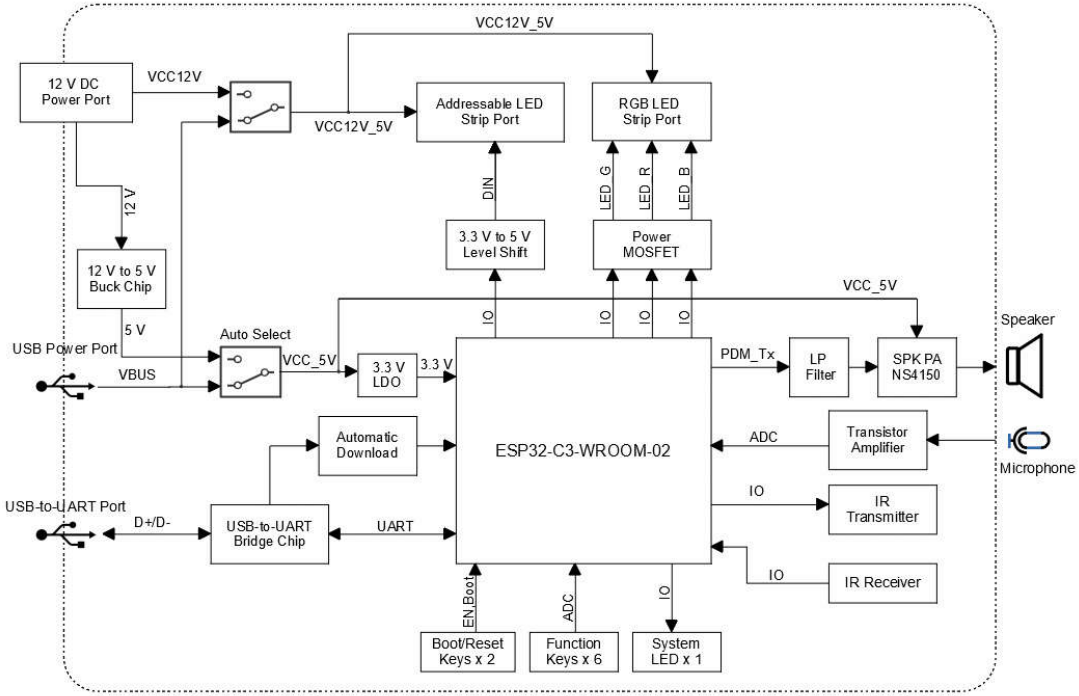
Power Block:



System Block:



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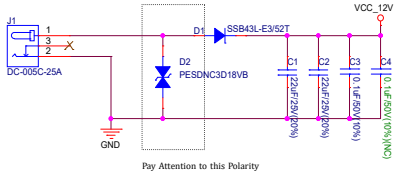
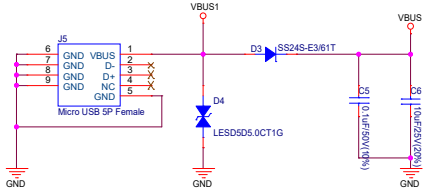
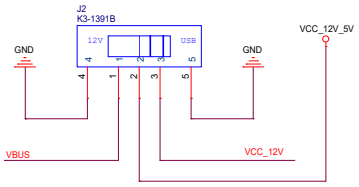
DC 12V Input:



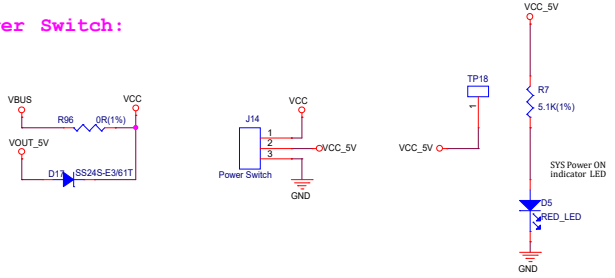
USB-PWR



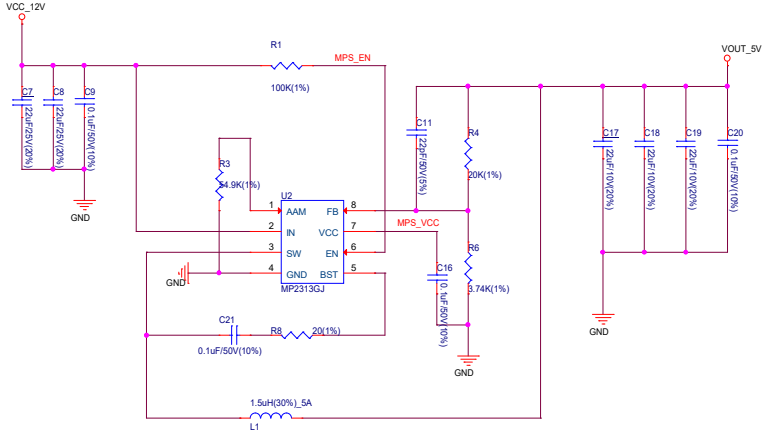
LED Power select Switch:



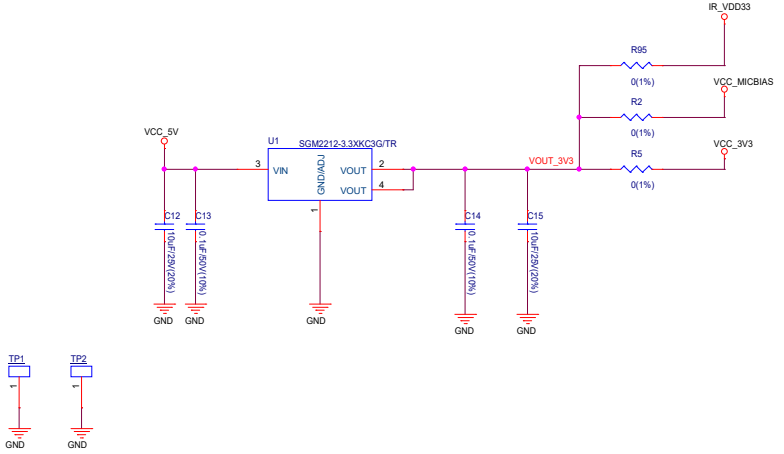
System Power Switch:



12V -> 5V



5V -> 3.3V



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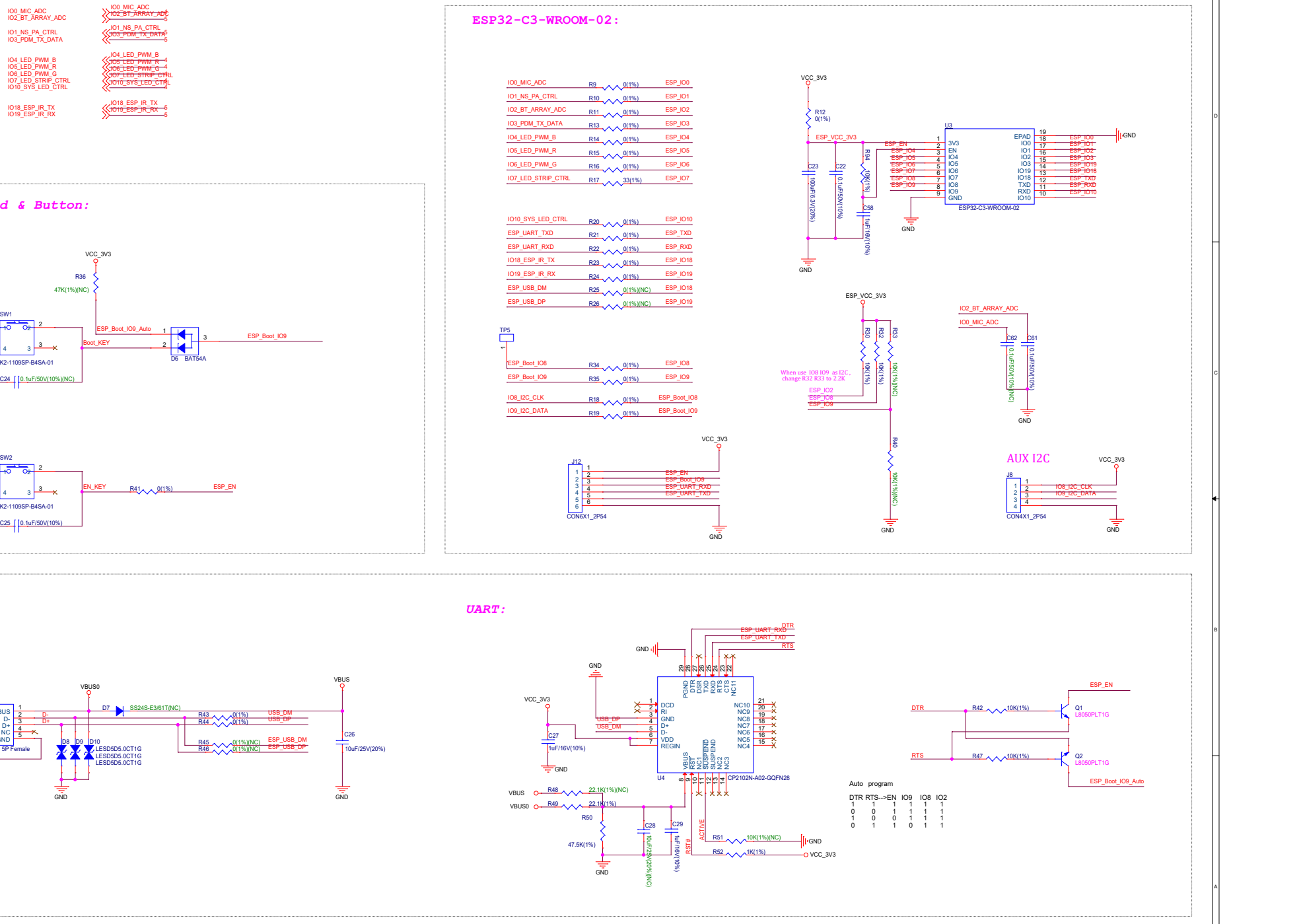
IO0_MIC_ADC
IO2_BT_ARRAY_ADC
IO1_NS_PA_CTRL
IO3_PDM_TX_DATA
IO4_LED_PWM_B
IO5_LED_PWM_R
IO6_LED_PWM_G
IO7_LED_STRIP_CTRL
IO10_SYS_LED_CTRL
IO18_ESP_IR_TX
IO19_ESP_IR_RX
ESP32-C3-WROOM-02:
R9 0(1%) ESP_IO0
R10 0(1%) ESP_IO1
R11 0(1%) ESP_IO2
R13 0(1%) ESP_IO3
R14 0(1%) ESP_IO4
R15 0(1%) ESP_IO5
R16 0(1%) ESP_IO6
R17 33(1%) ESP_IO7
R20 0(1%) ESP_IO10
R21 0(1%) ESP_TXD
R22 0(1%) ESP_RXD
R23 0(1%) ESP_IO18
R24 0(1%) ESP_IO19
R25 0(1%)(NC) ESP_IO18
R26 0(1%)(NC) ESP_IO19
R34 0(1%) ESP_IO8
R35 0(1%) ESP_IO9
R18 0(1%) ESP_Boot_IO8
R19 0(1%) ESP_Boot_IO9
ESP_USB_DM
ESP_USB_DP
ESP_UART_TXD
ESP_UART_RXD
TP5
VCC_3V3
R12 0(1%)
ESP_VCC_3V3
C23 100uF/6.3V(20%)
C22 1uF/16V(10%)
R94 10K(1%)
C58 1uF/16V(10%)
U3
ESP32-C3-WROOM-02
GND
When use IO8 IO9 as I2C, change R32 R33 to 2.2K
R30 10K(1%)
R32 10K(1%)
R33 10K(1%)(NC)
R40 10K(1%)(NC)
C62 0.1uF/50V(10%)(NC)
C61 0.1uF/50V(10%)
IO2_BT_ARRAY_ADC
IO0_MIC_ADC
J12
CON6X1_2P54
ESP_EN
ESP_Boot_IO9
ESP_UART_RXD
ESP_UART_TXD
AUX I2C
J8
CON4X1_2P54
IO8_I2C_CLK
IO9_I2C_DATA
Reset & Download & Button:
SW1
K2-1109SP-B4SA-01
R36 47K(1%)(NC)
ESP_Boot_IO9_Auto
Boot_KEY
D6 BAT54A
C24 0.1uF/50V(10%)(NC)
SW2
EN_KEY
R41 0(1%)
C25 0.1uF/50V(10%)
USB-UART
J9
Micro USB 5P Female
VBUS0
D7 SS24S-E3/61T(NC)
R43 0(1%) USB_DM
R44 0(1%) USB_DP
D8 D9 D10
LESD5D5.0CT1G
R45 0(1%)(NC) ESP_USB_DM
R46 0(1%)(NC) ESP_USB_DP
C26 10uF/25V(20%)
UART:
U4
CP2102N-A02-QGFN28
C27 1uF/16V(10%)
R48 22.1K(1%)(NC)
R49 22.1K(1%)
R50 47.5K(1%)
C28 50pF/25V(20%)(NC)
C29 1uF/16V(10%)
R51 10K(1%)(NC)
R52 1K(1%)
Q1 L8050PLT1G
Q2 L8050PLT1G
R42 10K(1%)
R47 10K(1%)
Auto program
DTR RTS-->EN IO9 IO8 IO2
1 1 1 1 1 1
0 0 1 1 1 1
1 0 0 1 1 1
0 1 1 0 1 1
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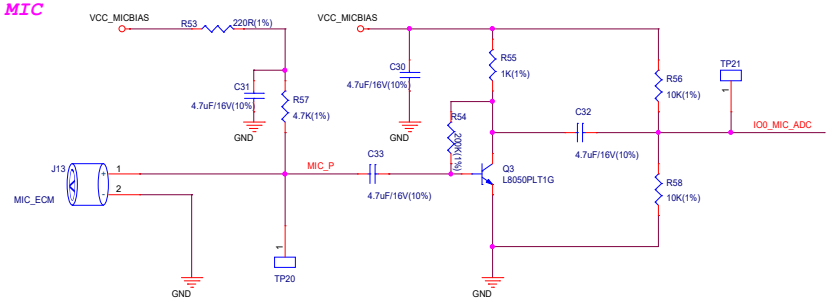
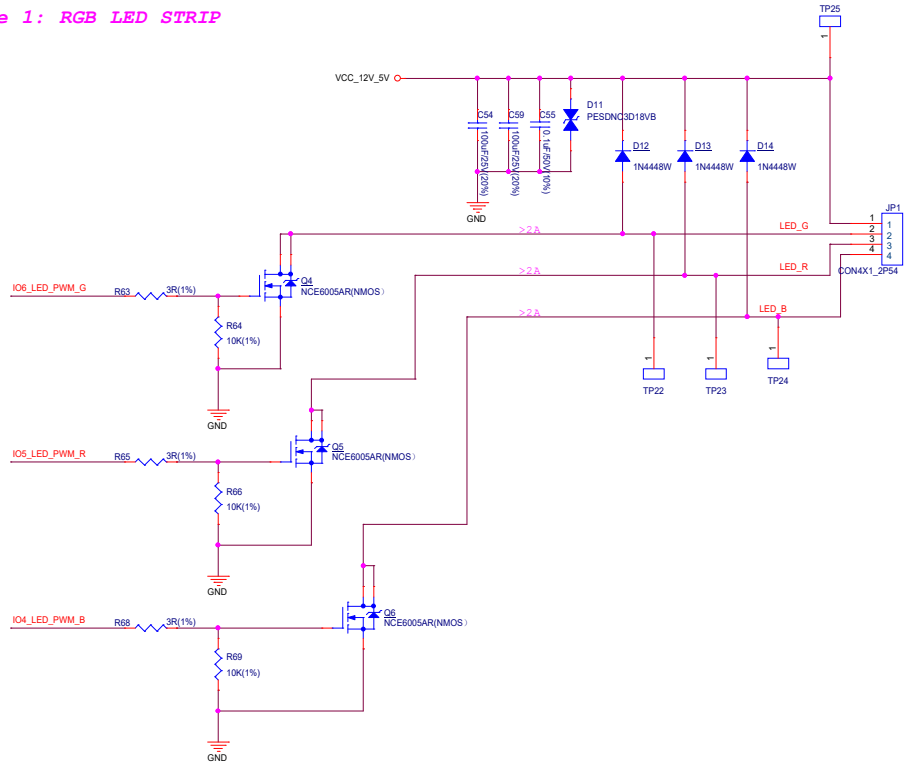
IO0_MIC_ADC
IO4_LED_PWM_B
IO5_LED_PWM_R
IO6_LED_PWM_G
IO7_LED_STRIP_CTRL
IO10_SYS_LED_CTRL

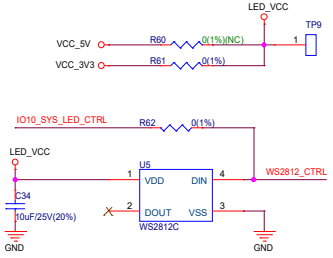
MIC



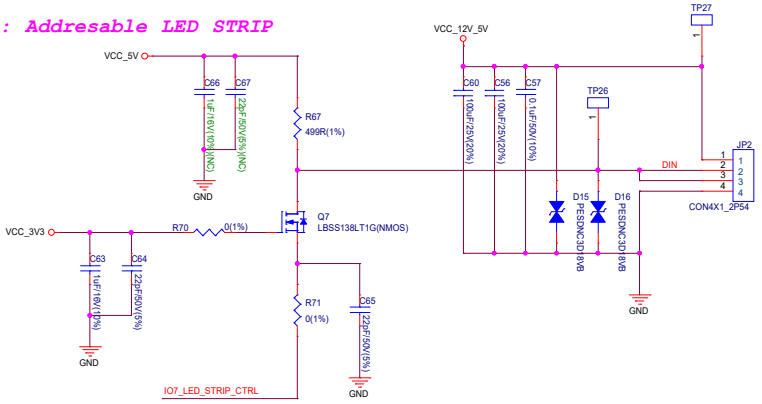
Mode 1: RGB LED STRIP



SYS RGB LED



Mode 2: Addresable LED STRIP



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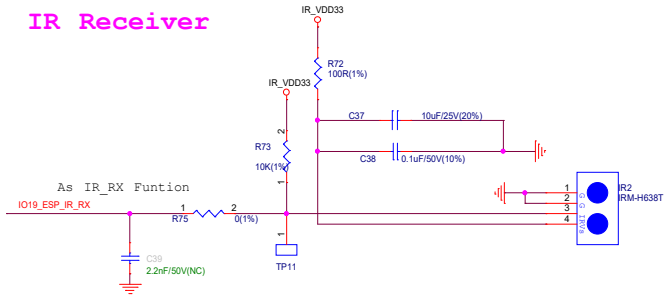
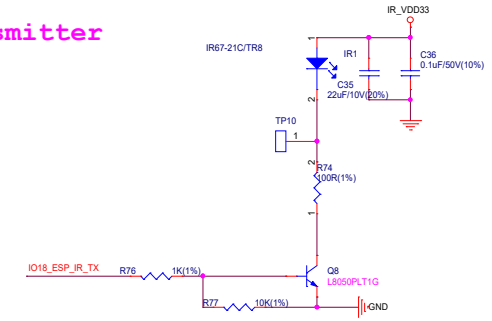
IO2_BT_ARRAY_ADC
IO1_NS_PA_CTRL
IO3_PDM_TX_DATA
IO18_ESP_IR_TX
IO19_ESP_IR_RX

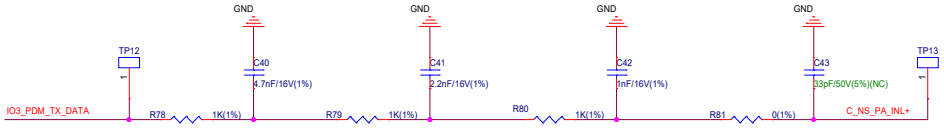
IR Receiver



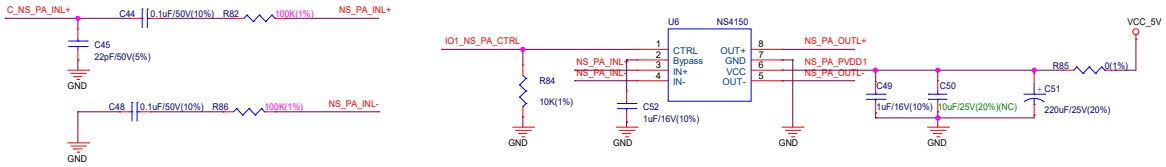
IR Transmitter

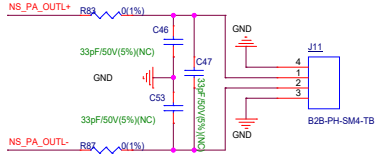


PA: NS4150

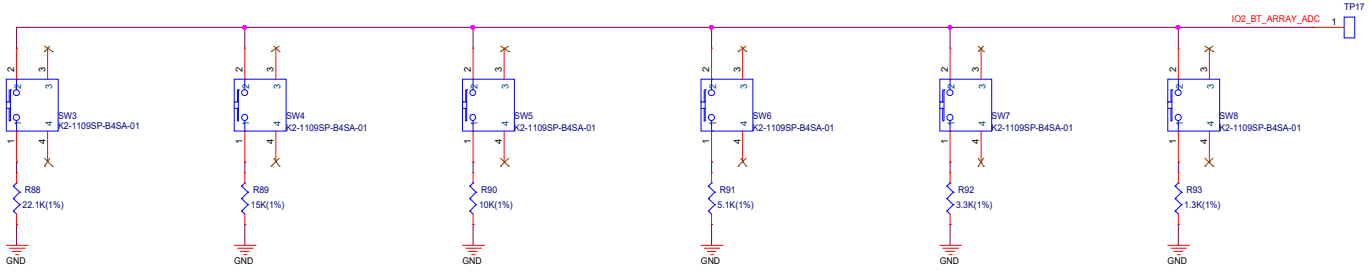


PA: NS4150





Button Array:



2.27v	1.98v	1.65v	1.11v	0.82v	0.38v
MODE	COLOR	PLAY/PAUSE	SET	VOL-/LM-	VOL+/LM+

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