1、初版原理图，兼容板卡设计，IO口采用软件配置的方式进行控制_2017.10.16;

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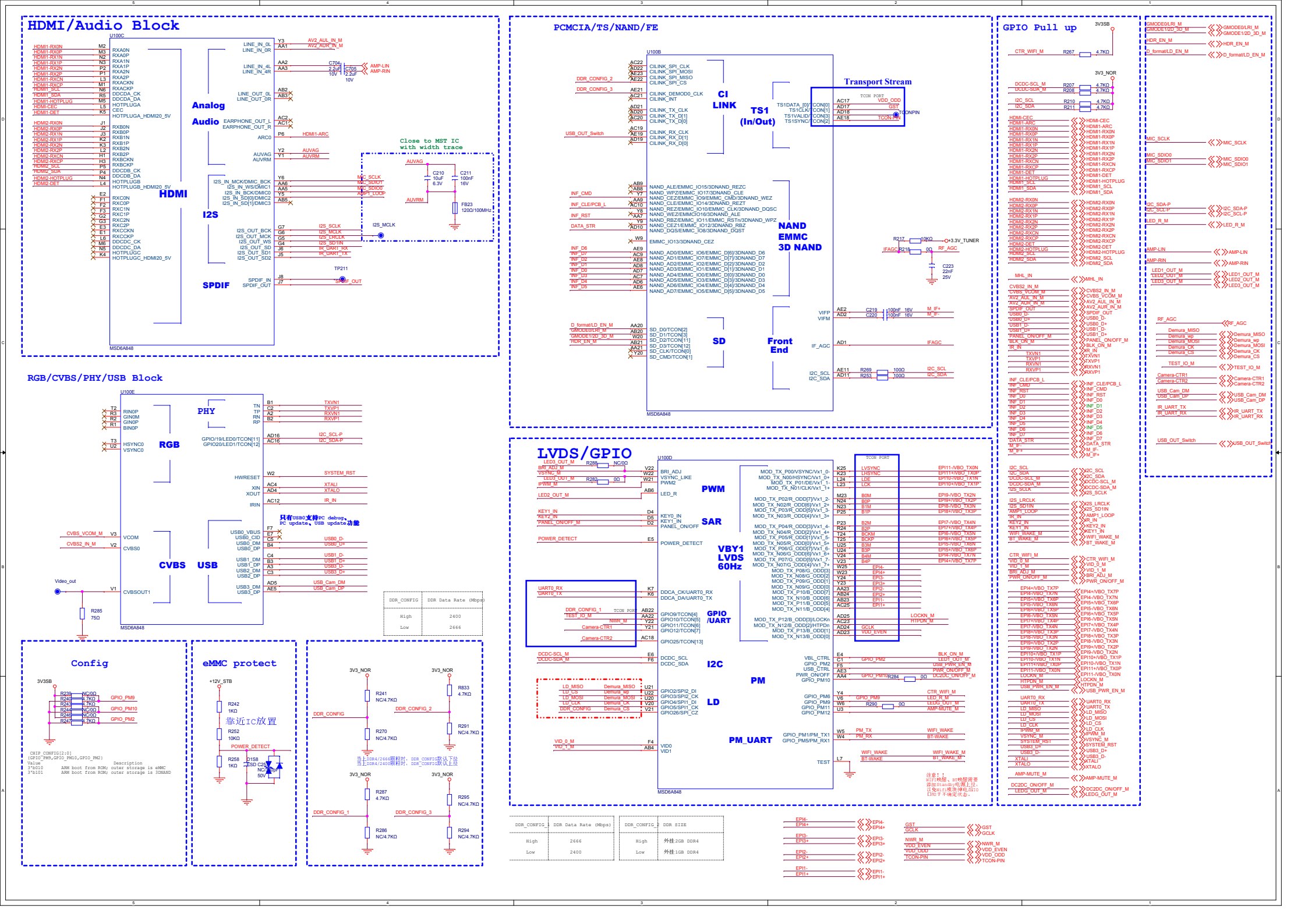
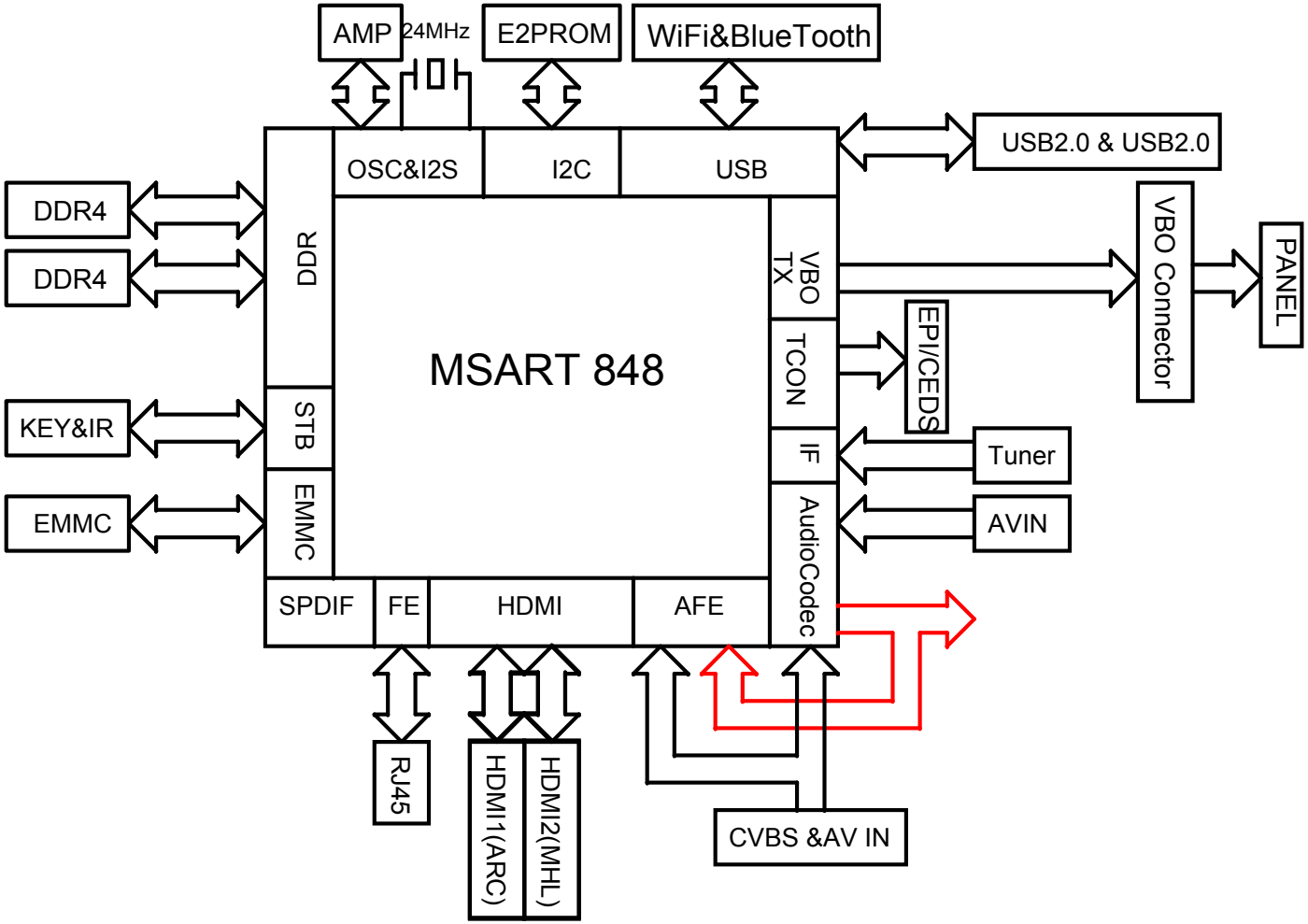
Title	MSD6A848		
Size A	Document Number 00_A_Check_List		Rev 1.0
Date: Friday, March 13, 2020		Sheet 0 of 17	


HDMI/Audio Block
U100C
HDMI1-RX0N
HDMI1-RX0P
HDMI1-RX1N
HDMI1-RX1P
HDMI1-RX2N
HDMI1-RX2P
HDMI1-RXCN
HDMI1-RXCP
HDMI1_SDA
HDMI1_SCL
HDMI1-HOTPLUG
HDMI1-CEC
HDMI1-DET
HOTPLUGA_HDMI20_5V
HDMI2-RX0N
HDMI2-RX0P
HDMI2-RX1N
HDMI2-RX1P
HDMI2-RX2N
HDMI2-RX2P
HDMI2-RXCN
HDMI2-RXCP
HDMI2_SCL
HDMI2_SDA
HDMI2-HOTPLUG
HOTPLUGB_HDMI20_5V
HOTPLUGC_HDMI20_5V
RXA0N
RXA0P
RXA1N
RXA1P
RXA2N
RXA2P
RXACKN
RXACKP
DDCDA_CK
DDCDA_DA
HOTPLUGA
CEC
RXB0N
RXB0P
RXB1N
RXB1P
RXB2N
RXB2P
RXBCKN
RXBCKP
DDCDB_CK
DDCDB_DA
HOTPLUGB
RXC0N
RXC0P
RXC1N
RXC1P
RXC2N
RXC2P
RXCCKN
RXCCKP
DDCDC_CK
DDCDC_DA
HOTPLUGC
HDMI
Analog Audio
LINE_IN_0L
LINE_IN_0R
LINE_IN_4L
LINE_IN_4R
LINE_OUT_0L
LINE_OUT_0R
EARPHONE_OUT_L
EARPHONE_OUT_R
ARC0
AUVAG
AUVRM
I2S
I2S_IN_MCK/DMIC_BCK
I2S_IN_WS/DMIC1
I2S_IN_BCK/DMIC0
I2S_IN_SD[0]/DMIC2
I2S_IN_SD[1]/DMIC3
I2S_OUT_BCK
I2S_OUT_MCK
I2S_OUT_WS
I2S_OUT_SD
I2S_OUT_SD2
SPDIF
SPDIF_IN
SPDIF_OUT
AV2_AUL_IN_M
AV2_AUR_IN_M
AMP-LIN
AMP-RIN
HDMI1-ARC
I2S_SCLK
I2S_MCLK
I2S_LRCLK
I2S_SD1IN
IR_UART_RX
IR_UART_TX
TP211
Close to MST IC with width trace
C210 10uF 6.3V
C211 100nF 16V
FB23 1200/100MHz
I2S_MCLK
MSD6A848
PCMCIA/TS/NAND/FE
U100B
CI LINK
TS1 (In/Out)
Transport Stream
TCON PORT
VDD_ODD
GST
TCONPIN
TS1DATA_[0]/TCON[0]
TS1CLK/TCON[1]
TS1VALID/TCON[3]
TS1SYNC/TCON[2]
CILINK_SPI_CLK
CILINK_SPI_MOSI
CILINK_SPI_MISO
CILINK_SPI_CS
CILINK_DEMOD0_CLK
CILINK_INT
CILINK_TX_CLK
CILINK_TX_D[1]
CILINK_TX_D[0]
CILINK_RX_CLK
CILINK_RX_D[1]
CILINK_RX_D[0]
USB_OUT_Switch
DDR_CONFIG_2
DDR_CONFIG_3
NAND EMMC 3D NAND
NAND_ALE/EMMC_IO15/3DNAND_REZC
NAND_WPZ/EMMC_IO17/3DNAND_CLE
NAND_CEZ/EMMC_IO9/EMMC_CMD/3DNAND_WEZ
NAND_CLE/EMMC_IO14/3DNAND_REZT
NAND_REZ/EMMC_IO10/EMMC_CLK/3DNAND_DQSC
NAND_WEZ/EMMC16/3DNAND_ALE
NAND_RBZ/EMMC_IO11/EMMC_RSTn/3DNAND_WPZ
NAND_CEZ1/EMMC_IO12/3DNAND_RBZ
NAND_DQS/EMMC_IO8/3DNAND_DQST
EMMC_IO13/3DNAND_CEZ
NAND_ADO/EMMC_IO6/EMMC_D[6]/3DNAND_D6
NAND_AD1/EMMC_IO7/EMMC_D[7]/3DNAND_D7
NAND_AD2/EMMC_IO2/EMMC_D[2]/3DNAND_D2
NAND_AD3/EMMC_IO1/EMMC_D[1]/3DNAND_D1
NAND_AD4/EMMC_IO0/EMMC_D[0]/3DNAND_D0
NAND_AD5/EMMC_IO3/EMMC_D[3]/3DNAND_D3
NAND_AD6/EMMC_IO4/EMMC_D[4]/3DNAND_D4
NAND_AD7/EMMC_IO5/EMMC_D[5]/3DNAND_D5
INF_CMD
INF_CLE/PCB_L
INF_RST
DATA_STR
INF_D6
INF_D7
INF_D2
INF_D1
INF_D0
INF_D3
INF_D4
INF_D5
SD
SD_D0/TCON[2]
SD_D1/TCON[3]
SD_D2/TCON[11]
SD_D3/TCON[12]
SD_CLK/TCON[0]
SD_CMD/TCON[1]
D_format/LD_EN_M
GMODE0/LRI_M
GMODE1/2D_3D_M
HDR_EN_M
Front End
VIFP
VIFM
IF_AGC
I2C_SCL
I2C_SDA
IFAGC
RF_AGC
M_IF+
M_IF-
MSD6A848
RGB/CVBS/PHY/USB Block
U100E
PHY
RGB
CVBS
USB
RIN0P
GIN0M
GIN0P
BIN0P
HSYNC0
VSYNC0
VCOM
CVBS0
CVBS_VCOM_M
CVBS2_IN_M
Video_out
CVBSOUT1
R285 75Ω
TXVN1
TXVP1
RXVN1
RXVP1
GPIO/19/LED0/TCON[11]
GPIO20/LED1/TCON[12]
HWRESET
SYSTEM_RST
XIN
XOUT
XTALI
XTALO
IRIN
IR_IN
只有USB2支持PC debug、PC update、USB update功能
USB0_VBUS
USB0_CID
USB0_DM
USB0_DP
USB1_DM
USB1_DP
USB2_DM
USB2_DP
USB3_DM
USB3_DP
USB_Cam_DM
USB_Cam_DP
MSD6A848
DDR_CONFIG | DDR Data Rate (Mbps)
High | 2400
Low | 2666
LVDS/GPIO
U100D
PWM
SAR
VBY1 LVDS 60Hz
GPIO /UART
I2C
PM
LD
PM_UART
BRI_ADJ_M
VSYNC_M
PWM2
LED_R
LED2_OUT_M
KEY1_IN
KEY2_IN
KEY0_IN
PANEL_ON/OFF_M
POWER_DETECT
MOD_TX_P00/VSYNC/Vx1_0-
MOD_TX_N00/HSYNC/Vx1_0+
MOD_TX_P01/DE/Vx1_1-
MOD_TX_N01/CLK/Vx1_1+
MOD_TX_P02/R_ODD[7]/Vx1_2-
MOD_TX_N02/R_ODD[6]/Vx1_2+
MOD_TX_P03/R_ODD[5]/Vx1_3-
MOD_TX_N03/R_ODD[4]/Vx1_3+
MOD_TX_P04/R_ODD[3]/Vx1_4-
MOD_TX_N04/R_ODD[2]/Vx1_4+
MOD_TX_P05/R_ODD[1]/Vx1_5-
MOD_TX_N05/R_ODD[0]/Vx1_5+
MOD_TX_P06/G_ODD[7]/Vx1_6-
MOD_TX_N06/G_ODD[6]/Vx1_6+
MOD_TX_P07/G_ODD[5]/Vx1_7-
MOD_TX_N07/G_ODD[4]/Vx1_7+
MOD_TX_P08/G_ODD[3]
MOD_TX_N08/G_ODD[2]
MOD_TX_P09/G_ODD[1]
MOD_TX_N09/G_ODD[0]
MOD_TX_P10/B_ODD[7]
MOD_TX_N10/B_ODD[6]
MOD_TX_P11/B_ODD[5]
MOD_TX_N11/B_ODD[4]
MOD_TX_P12/B_ODD[3]/LOCKn
MOD_TX_N12/B_ODD[2]/HTPDn
MOD_TX_P13/B_ODD[1]
MOD_TX_N13/B_ODD[0]
TCON PORT
LVSYNC
LHSYNC
LDE
LCK
GCLK
VDD_EVEN
EPI11-/VBO_TX0N
EPI11+/VBO_TX0P
EPI10-/VBO_TX1N
EPI10+/VBO_TX1P
EPI9-/VBO_TX2N
EPI9+/VBO_TX2P
EPI8-/VBO_TX3N
EPI8+/VBO_TX3P
EPI7-/VBO_TX4N
EPI7+/VBO_TX4P
EPI6-/VBO_TX5N
EPI6+/VBO_TX5P
EPI5-/VBO_TX6N
EPI5+/VBO_TX6P
EPI4-/VBO_TX7N
EPI4+/VBO_TX7P
LOCKN_M
HTPDN_M
UART0_RX
UART0_TX
DDCA_CK/UART0_RX
DDCA_DA/UART0_TX
GPIO25/TCON[13]
DDC_SCL
DDC_SDA
DDCDC_SCL_M
DDCDC_SDA_M
GPIO2/SPI2_DI
GPIO3/SPI2_CK
GPIO4/SPI1_DI
GPIO5/SPI1_CK
GPIO26/SPI_CZ
LD_MISO
LD_CS
LD_MOSI
LD_CLK
DDR_CONFIG
Demura_MISO
Demura_wp
Demura_MOSI
Demura_CK
Demura_CS
VID_0_M
VID_1_M
VID0
VID1
VBL_CTRL
GPIO_PM2
USB_CTRL
PWR_ON/OFF
GPIO_PM10
GPIO_PM6
GPIO_PM9
GPIO_PM11
GPIO_PM12
GPIO_PM1/PM_TX1
GPIO_PM5/PM_RX1
PM_TX
PM_RX
WIFI_WAKE
BT-WAKE
TEST
BLK_ON_M
LED1_OUT_M
USB_PWR_EN_M
CTR_WIFI_M
LED_R_M
LED0_OUT_M
WIFI_WAKE_M
BT_WAKE_M
DC2DC_ON/OFF_M
注意！！
wifi唤醒、bt唤醒需要
接到Standby电源上边，
以免wifi模块休眠后gpio
口处于不确定状态。
DDR_CONFIG_1 | DDR Data Rate (Mbps)
High | 2666
Low | 2400
DDR_CONFIG_2 | DDR SIZE
High | 外挂2GB DDR4
Low | 外挂1GB DDR4
GPIO Pull up
3V3SB
3V3_NOR
CTR_WIFI_M
DCDC-SCL_M
DCDC-SDA_M
I2C_SCL
I2C_SDA
MHL_IN
CVBS2_IN_M
CVBS_VCOM_M
AV2_AUL_IN_M
AV2_AUR_IN_M
SPDIF_OUT
USB0_D-
USB0_D+
USB1_D-
USB1_D+
PANEL_ON/OFF_M
BLK_ON_M
IR_IN
TXVN1
TXVP1
RXVN1
RXVP1
INF_CLE/PCB_L
INF_CMD
INF_RST
INF_D0
INF_D1
INF_D2
INF_D3
INF_D4
INF_D5
INF_D6
INF_D7
DATA_STR
M_IF-
M_IF+
I2S_SCLK
I2S_SD1IN
AMP1_LOOP
WIFI_WAKE_M
BT_WAKE_M
VID_0_M
VID_1_M
BRI_ADJ_M
PWR_ON/OFF_M
LOCKN_M
HTPDN_M
USB_PWR_EN_M
UART0_RX
UART0_TX
LD_MISO
LD_MOSI
LD_CS
LD_CLK
IPWM_M
VSYNC_M
SYSTEM_RST
USB3_DF
USB3_D-
USB3_D+
XTALI
XTALO
AMP-MUTE_M
DC2DC_ON/OFF_M
LEDG_OUT_M
GMODE0/LRI_M
GMODE1/2D_3D_M
HDR_EN_M
D_format/LD_EN_M
MIC_SCLK
MIC_SDIO0
MIC_SDIO1
I2C_SDA-P
I2C_SCL-P
LED_R_M
AMP-LIN
AMP-RIN
LED1_OUT_M
LED2_OUT_M
LED3_OUT_M
RF_AGC
Demura_MISO
Demura_wp
Demura_MOSI
Demura_CK
Demura_CS
TEST_IO_M
Camera-CTR1
Camera-CTR2
USB_Cam_DM
USB_Cam_DP
IR_UART_TX
IR_UART_RX
USB_OUT_Switch
Config
3V3SB
R239 NC/0Ω
R245 4.7KΩ
R243 4.7KΩ
R244 NC/0Ω
R246 NC/0Ω
R247 4.7KΩ
GPIO_PM9
GPIO_PM10
GPIO_PM2
CHIP_CONFIG[2:0] (GPIO_PM9,GPIO_PM10,GPIO_PM2)
Value | Description
3'b010 | ARM boot from ROM; outer storage is eMMC
3'b101 | ARM boot from ROM; outer storage is IONAND
eMMC protect
+12V_STB
R242 1KΩ
R252 10KΩ
R258 1KΩ
D1S8
C253 NC/470P 50V
POWER_DETECT
靠近IC放置
3V3_NOR
R241 NC/4.7KΩ
R270 NC/4.7KΩ
R287 4.7KΩ
R286 NC/4.7KΩ
R833 4.7KΩ
R291 NC/4.7KΩ
R295 NC/4.7KΩ
R294 NC/4.7KΩ
DDR_CONFIG
DDR_CONFIG_2
DDR_CONFIG_1
DDR_CONFIG_3
选上DDR4/2666颗料时：DDR_CONFIG默认下拉
选上DDR4/2400颗料时：DDR_CONFIG默认上拉

BLOCK_DIAGRAM



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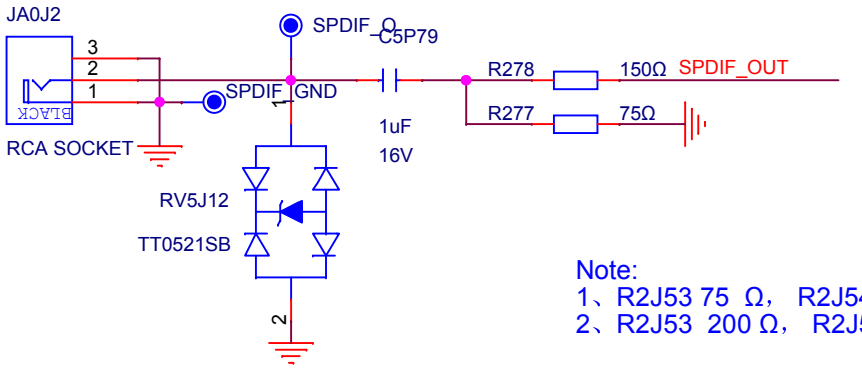
Title	MSD6A848	
Size B	Document Number 00_B_Block	Rev 1.0
Date: Friday, March 13, 2020	Sheet 1 of 17	

卧式同轴：6100-160110-0170



SPDIF_OUT SPDIF_OUT

Note:
1、R2J53 75 Ω， R2J54 10KΩ 光纤输出
2、R2J53 200 Ω， R2J54 75Ω 同轴输出

卧式同轴端子

Title: MSD6A848		
Size: A	Document Number: <Doc>	Rev: <RevCode>
Date: Friday, March 13, 2020	Sheet 1 of 1	

5、+12V_NOR转+5V_NOR

（DC-DC价格0.076USD 规格标称最大3A 580KHZ 输入电压范围4.5V-17V 轻载高效 2017年新增优选）

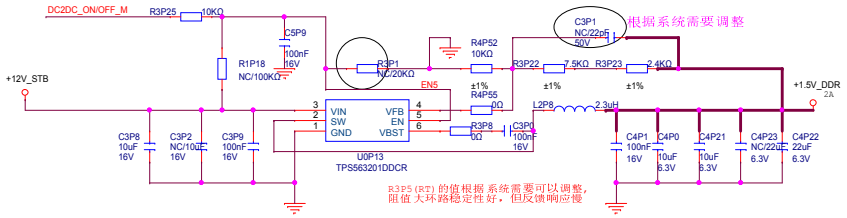
提示：本型号还没有批量使用，请先按照小批量、中批量试产流程试产OK后再批量使用

本电路供设计参考，实际使用需要结合系统环境调整参数

注意EN端电压及电容，根据系统需要调整

电感的选型（感量、温升电流、饱和电流等）根据系统需要选择，实际电流不能超过电感的温升电流

Ven>1.6V:ON
Ven<0.8V:OFF



输入输出电容的耐压值、容值需要根据系统的实际需要（如电压、电流、温度等）进行调整

说明：1、该电路当前的参数是输出+5V_NOR. 如果要输出其他电压，如3.3V;2.5V;1.5V可以 按照表格里的参数调整R1和R2的大小就可以了

2、PCB排版时输入电容和输出电容尽量靠近IC， PCB排版时储能电感要尽量靠近IC

3、通过增大输入和输出电容的容量可以减小纹波的大小，选择小ESR值的电容也可以减小纹波的大小

4、输入输出电容的材质推荐使用X5R或者X7R,不能使用Y5V材质,注意耐压值.

5、成本仅供参考,受元器件价格及汇率影响会有变化

6、EN端的电压根据实际使用的需要可以进行调整

7、如果负载动态变化比较大的话适当加大输出电容

复用小心重复:同一个模块复用时请注意网络的更改，避免重复

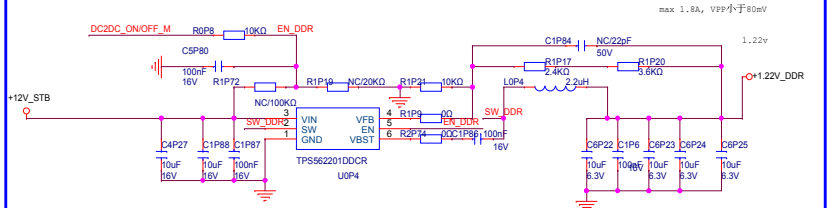
Vout=0.768x(1+(R1/R2))

R1=R3P3+R3P4 R2=R3P2 Rt=R3P5 L=L0P5

R1(推荐编号)	R2(推荐编号)	RT(推荐编号)	Vout	L(推荐编号)	最大负载
4100-CA5130-2200(51KΩ)+4100-CA5120-2200((5.1KΩ)	4100-CA1030-2200(10KΩ)	4100-CA0000-T7(0Ω)	5.08V	4800-S11000-A580(10uH)	2.3A
4100-CA3330-2200(30KΩ)+4100-CA3320-2200(3.3KΩ)	4100-CA1030-2200(10KΩ)	4100-CA0000-T7(0Ω)	5.33V	4800-S11000-A580(10uH)	2.4A
4100-CA2030-2200(20KΩ)+4100-CA3020-2200(3KΩ)	4100-CA1030-2200(10KΩ)	4100-CA0000-T7(0Ω)	2.54V	4800-S11000-A580(10uH)	2.5A
4100-CA1030-2200(10KΩ)+4100-CA3320-2200(3.3KΩ)	4100-CA1030-2200(10KΩ)	4100-CA0000-T7(0Ω)	5.8V	4800-S123A0-D800(2.3uH)	2.6A
4100-CA7520-2200(7.5KΩ)+4100-CA2020-2200((2KΩ)	4100-CA1030-2200(10KΩ)	4100-CA0000-T7(0Ω)	5.5V	4800-S123A0-D800(2.3uH)	2.7A
4100-CA5620-2200(5.6KΩ)+4100-CA0000-2200(0Ω)	4100-CA1030-2200(10KΩ)	4100-CA0000-T7(0Ω)	5.2V	4800-S123A0-D800(2.3uH)	2.8A

OFF_PAGE NET

DC2DC_ON/OFF_M 《》DC2DC_ON/OFF_M

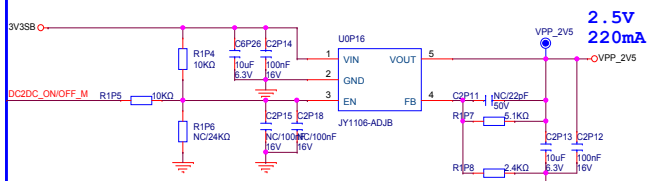


Vout=0.768x(1+(R1/R2))

R1=R1P17+R1P20 R2=R1P21 Rt=R1P9 L=L0P2

R1(推荐编号)	R2(推荐编号)	RT(推荐编号)	Vout	L(推荐编号)	最大负载
4100-CA5130-2200(51KΩ)+4100-CA4720-2200((4.7KΩ)	4100-CA1030-2200(10KΩ)	4100-CA0000-T7(0Ω)	5.046V	4800-S11000-A580(10uH)	1.7A
4100-CA3330-2200(33KΩ)+4100-CA0000-2200(0Ω)	4100-CA1030-2200(10KΩ)	4100-CA0000-T7(0Ω)	3.3024V	4800-S11000-A580(10uH)	1.8A
4100-CA2030-2200(20KΩ)+4100-CA2720-2200(2.7KΩ)	4100-CA1030-2200(10KΩ)	4100-CA0000-T7(0Ω)	2.51V	4800-S11000-A580(10uH)	1.8A
4100-CA1030-2200(10KΩ)+4100-CA3320-2200(3.3KΩ)	4100-CA1030-2200(10KΩ)	4100-CA0000-T7(0Ω)	1.79V	4800-S123A0-D800(2.3uH)	1.9A
4100-CA7520-2200(7.5KΩ)+4100-CA2020-2200((2KΩ)	4100-CA1030-2200(10KΩ)	4100-CA0000-T7(0Ω)	1.4976V	4800-S123A0-D800(2.3uH)	2A
4100-CA5620-2200(5.6KΩ)+4100-CA0000-2200(0Ω)	4100-CA1030-2200(10KΩ)	4100-CA0000-T7(0Ω)	1.198V	4800-S123A0-D800(2.3uH)	2A

3V3SB转DDR2V5



Vout=0.8x[1+(R1/R2)]

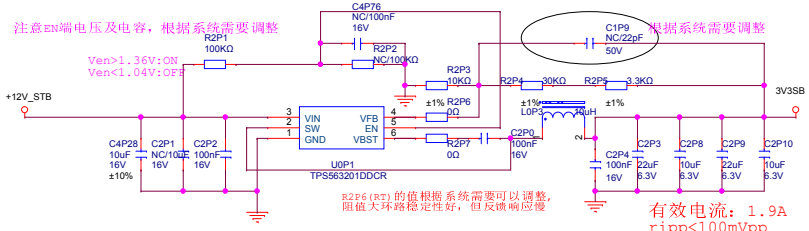
R1=R1P7 R2=R1P8

R1	R2	Vout
4100-CA6220-2200(6.2KΩ)+4100-CA2010-2200(200Ω)	4100-CA2420-2200(2.4kΩ)	3.278V
4100-CA4320-2200(4.3KΩ)+4100-CA0000-2200(0Ω)	4100-CA2420-2200(2.4kΩ)	2.5V
4100-CA2420-2200(2.4KΩ)+4100-CA0000-2200(0Ω)	4100-CA2420-2200(2.4kΩ)	1.768V
4100-CA1520-2200(1.5KΩ)+4100-CA1210-2200(120Ω)	4100-CA2420-2200(2.4kΩ)	1.498V

Title	MSD6A848		
Size C	Document Number <Doc>		Rev <RevCode>
Date: Friday, March 13, 2020		Sheet 1 of 1	

+12V_NOR To +3V3_STB

电感的选型（感量、温升电流、饱和电流等）根据系统需要选择，实际电流不能超过电感的温升电流

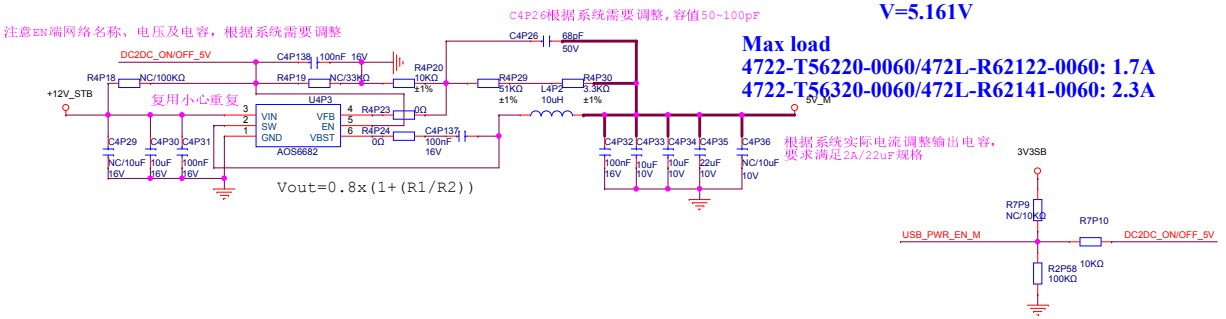


Vout=0.768x(1+(R1/R2))

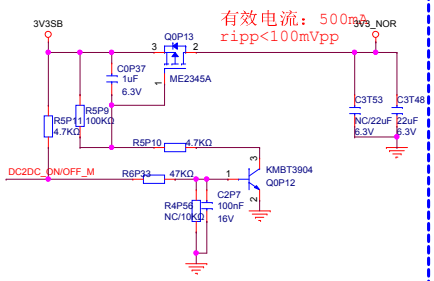
R1=R3P3+R3P4　　R2=R3P2　　Rt=R3P5　　L=L0P5

R1(推荐编号)	R2(推荐编号)	RT(推荐编号)	Vout	L(推荐编号)	最大负载
4100-CA5130-2200(51KΩ)+4100-CA5120-2200((5.1KΩ)	4100-CA1030-2200(10KΩ)	4100-CA0000-P7(0Ω)	5.08V	4800-S11000-AS80(10uH)	2.3A
4100-CA3030-2200(30KΩ)+4100-CA3320-2200(3.3KΩ)	4100-CA1030-2200(10KΩ)	4100-CA0000-P7(0Ω)	3.33V	4800-S11000-AS80(10uH)	2.4A
4100-CA2030-2200(20KΩ)+4100-CA3020-2200(3KΩ)	4100-CA1030-2200(10KΩ)	4100-CA0000-P7(0Ω)	2.54V	4800-S11000-AS80(10uH)	2.5A
4100-CA1030-2200(10KΩ)+4100-CA3320-2200(3.3KΩ)	4100-CA1030-2200(10KΩ)	4100-CA0000-P7(0Ω)	1.8V	4800-S123A0-DS00(2.3uH)	2.6A
4100-CA7520-2200(7.5KΩ)+4100-CA2020-2200((2KΩ)	4100-CA1030-2200(10KΩ)	4100-CA0000-P7(0Ω)	1.5V	4800-S123A0-DS00(2.3uH)	2.7A
4100-CA5620-2200(5.6KΩ)+4100-CA0000-2200(0Ω)	4100-CA1030-2200(10KΩ)	4100-CA0000-P7(0Ω)	1.2V	4800-S123A0-DS00(2.3uH)	2.8A

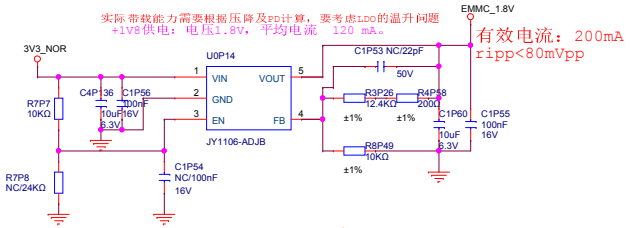
+12V_NOR To +5V_NOR



3V3SB To 3V3_NOR



3V3 To eMMC 1.8V

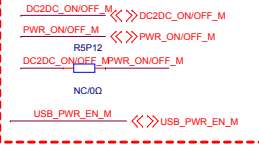


Vout=0.8x[1+(R1/R2)]

R1=R3P26+R4P58　　R2=R3P28

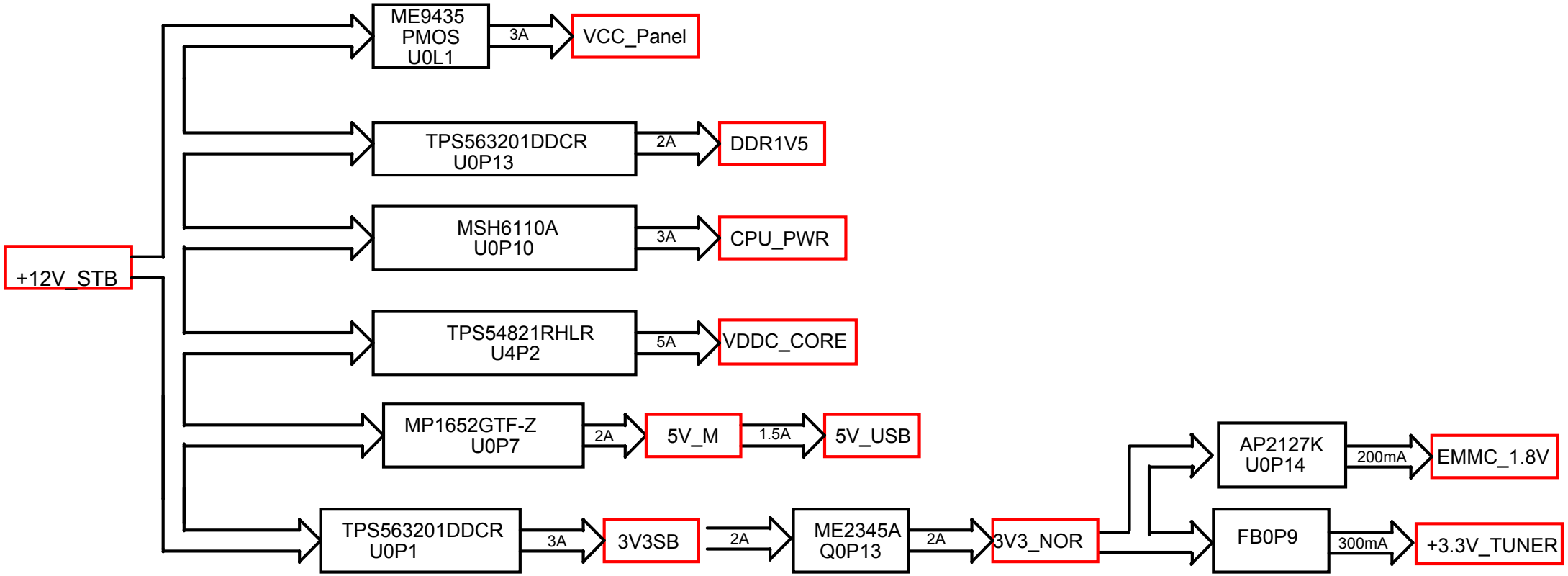
R1	R2	Vout
4100-CA7520-2200(7.5KΩ)+4100-CA0000-2200(0Ω)	4100-CA2420-2200(2.4kΩ)	3.3V
4100-CA5120-2200(5.1KΩ)+4100-CA0000-2200(0Ω)	4100-CA2420-2200(2.4kΩ)	2.5V
4100-CA3020-2200(3KΩ)+4100-CA0000-2200(0Ω)	4100-CA2420-2200(2.4kΩ)	1.8V
4100-CA2120-2200(2.1KΩ)+4100-CA0000-2200(0Ω)	4100-CA2420-2200(2.4kΩ)	1.5V

OFF_PAGE NET



Title	MSD6A848	
Size: Custom<Doc>	Document Number	Rev: <RevCode>
Date: Friday, March 13, 2020	Sheet 1 of 1	

PROWER_TREE



Title		
Size: B	Document Number: 00_C_Power Tree	Rev: 1.0
Date: Friday, March 13, 2020	Sheet 2 of 17	

TPA5805

OFF-PAGE NET

GPIO

AMP-MUTE_M
AMP-LIN
AMP-RIN
I2C_SDA
I2C_SCL
I2S_LRCLK
I2S_SCLK
I2S_SD1IN
AMP1_LOOP

Close to SOC IC

input from spk

gain =Rfb/Rin=24K/180K

UVP threshold
DRV623: 1.25V
SGM8903: 1.15V

DRV623:
Vuvp=(1.25-6uAxR3)x(R1+R2)/R2
Hysteresis=5uAxR3x(R1+R2)/R2
SGM8903:
Vuvp=(1.15-6uAxR3)x(R1+R2)/R2
Hysteresis=4.4uAxR3x(R1+R2)/R2

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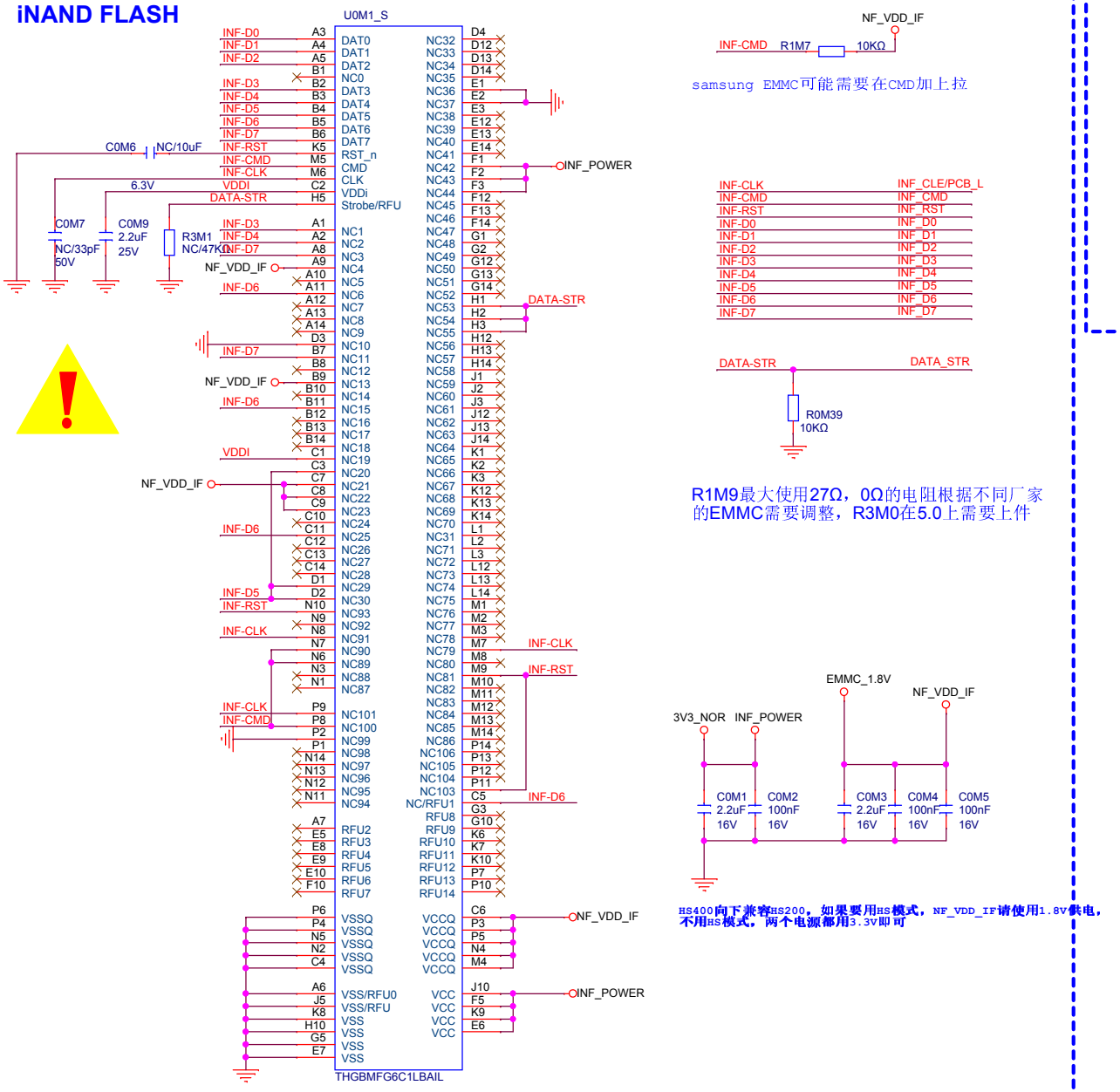
Title	MSD6A848	
Size C	Document Number 02_AMP_TAS5707	Rev 1.0
Date: Friday, March 13, 2020	Sheet 4 of 17	

iNAND FLASH



samsung EMMC可能需要在CMD加上拉

R1M9最大使用27Ω，0Ω的电阻根据不同厂家的EMMC需要调整，R3M0在5.0上需要上件

HS400向下兼容HS200，如果要用HS模式，NF_VDD_IF请使用1.8V供电，不用HS模式，两个电源都用3.3V即可

特别说明：本线路适用于三星，美光的4.51以及5.0兼容，东芝5.0也可以兼容

OFF_PAGE NET

GPIO

INF_CLE/PCB_L
INF_CMD
INF_RST
INF_D0
INF_D1
INF_D2
INF_D3
INF_D4
INF_D5
INF_D6
INF_D7
DATA_STR

POWER

INF_CLE/PCB_L
INF_CMD
INF_RST
INF_D0
INF_D1
INF_D2
INF_D3
INF_D4
INF_D5
INF_D6
INF_D7
DATA_STR

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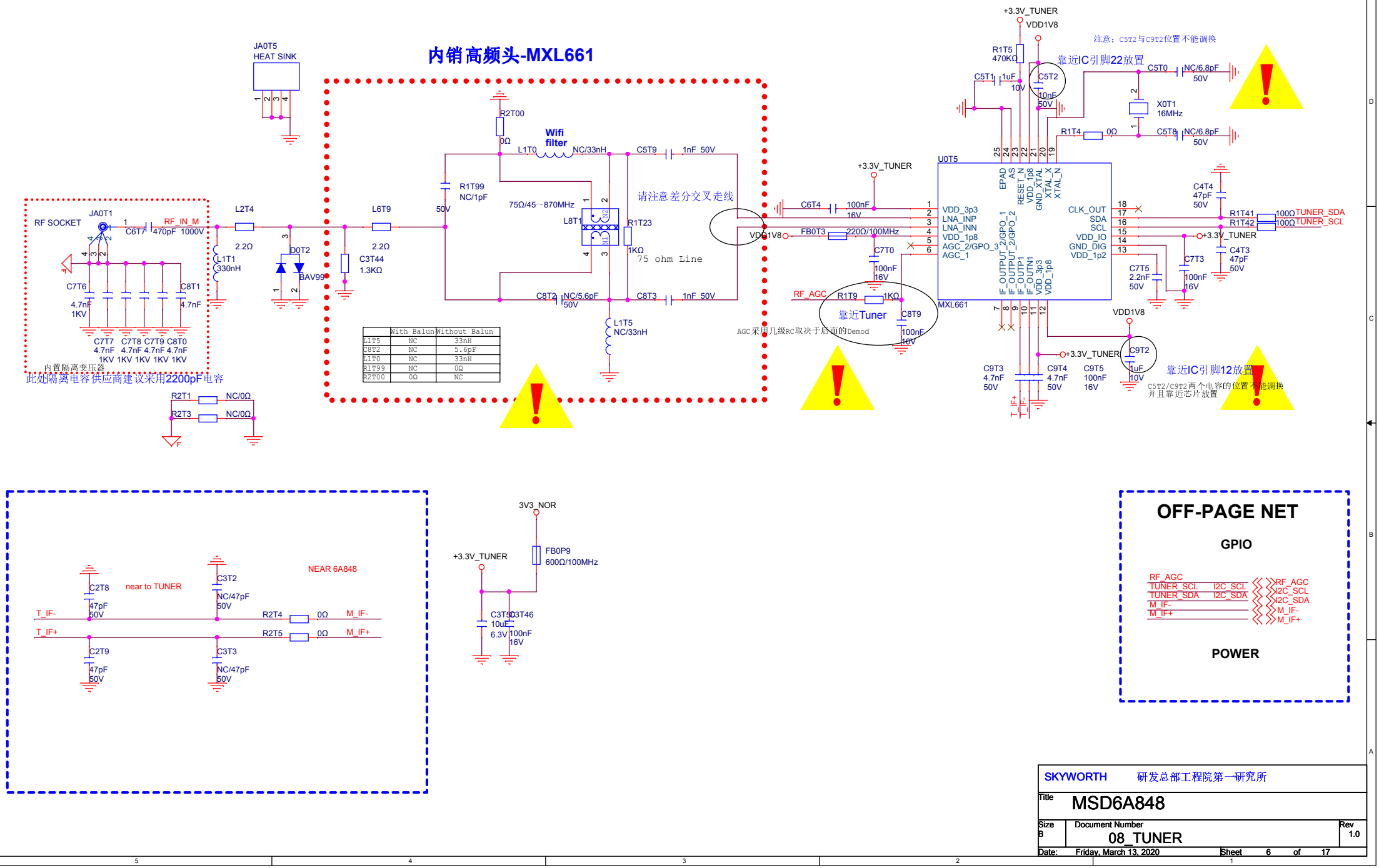
Title: MSD6A848		
Size: B	Document Number: 03_MEMORY	Rev: 1.0
Date: Friday, March 13, 2020	Sheet 5 of 17	


内销高频头-MXL661
JA0T5
HEAT SINK
JA0T1
RF SOCKET
RF_IN_M
C6T7 470pF 1000V
L2T4
2.2Ω
L1T1 330nH
C7T6 4.7nF 1KV
C8T1 4.7nF
C7T7 C7T8 C7T9 C8T0
4.7nF 4.7nF 4.7nF 4.7nF
1KV 1KV 1KV 1KV 1KV
内置隔离变压器
此处隔离电容供应商建议采用2200pF电容
D0T2
BAV99
L6T9
2.2Ω
C3T44 1.3KΩ
R2T00
0Ω
Wifi filter
L1T0 NC/33nH
C5T9 1nF 50V
R1T99 NC/1pF
50V
75Ω/45—870MHz
L8T1
R1T23 1KΩ
75 ohm Line
请注意差分交叉走线
C8T2 NC/5.6pF 50V
C8T3 1nF 50V
L1T5 NC/33nH
With Balun Without Balun
L1T5 NC 33nH
C8T2 NC 5.6pF
L1T0 NC 33nH
R1T99 NC 0Ω
R2T00 0Ω NC
R2T1 NC/0Ω
R2T3 NC/0Ω
+3.3V_TUNER
VDD1V8
R1T5 470KΩ
注意：C5T2与C9T2位置不能调换
靠近IC引脚22放置
C5T1 1uF 10V
C5T2 10nF 50V
C5T0 NC/6.8pF 50V
X0T1 16MHz
R1T4 0Ω
C5T8 NC/6.8pF 50V
U0T5
VDD_3p3
LNA_INP
LNA_INN
VDD_1p8
AGC_2/GPO_3
AGC_1
EPAD
AS
RESET_N
VDD_1p8
GND_XTAL
XTAL_X
XTAL_N
IF_OUTPUT_2/GPO_1
IF_OUTPUT_2/GPO_2
IF_OUTP1
IF_OUTN1
VDD_3p3
VDD_1p8
CLK_OUT
SDA
SCL
VDD_IO
GND_DIG
VDD_1p2
C4T4 47pF 50V
R1T41 100Ω TUNER_SDA
R1T42 100Ω TUNER_SCL
C4T3 47pF 50V
C7T3 100nF 16V
C7T5 2.2nF 50V
C6T4 100nF 16V
FB0T3 220Ω/100MHz
C7T0 100nF 16V
RF_AGC
R1T9 1KΩ
C8T9 100nF 16V
靠近Tuner
AGC采用几级RC取决于后面的Demod
MXL661
C9T3 4.7nF 50V
C9T4 4.7nF 50V
C9T5 100nF 16V
C9T2 1uF 10V
靠近IC引脚12放置
C5T2/C9T2两个电容的位置不能调换
并且靠近芯片放置
T_IF+
T_IF-
C2T8 47pF 50V
near to TUNER
C3T2 NC/47pF 50V
NEAR 6A848
T_IF-
T_IF+
R2T4 0Ω M_IF-
R2T5 0Ω M_IF+
C2T9 47pF 50V
C3T3 NC/47pF 50V
3V3_NOR
FB0P9 600Ω/100MHz
C3T5 10uF 6.3V
C3T46 100nF 16V
OFF-PAGE NET
GPIO
RF_AGC
TUNER_SCL I2C_SCL
TUNER_SDA I2C_SDA
M_IF-
M_IF+
POWER
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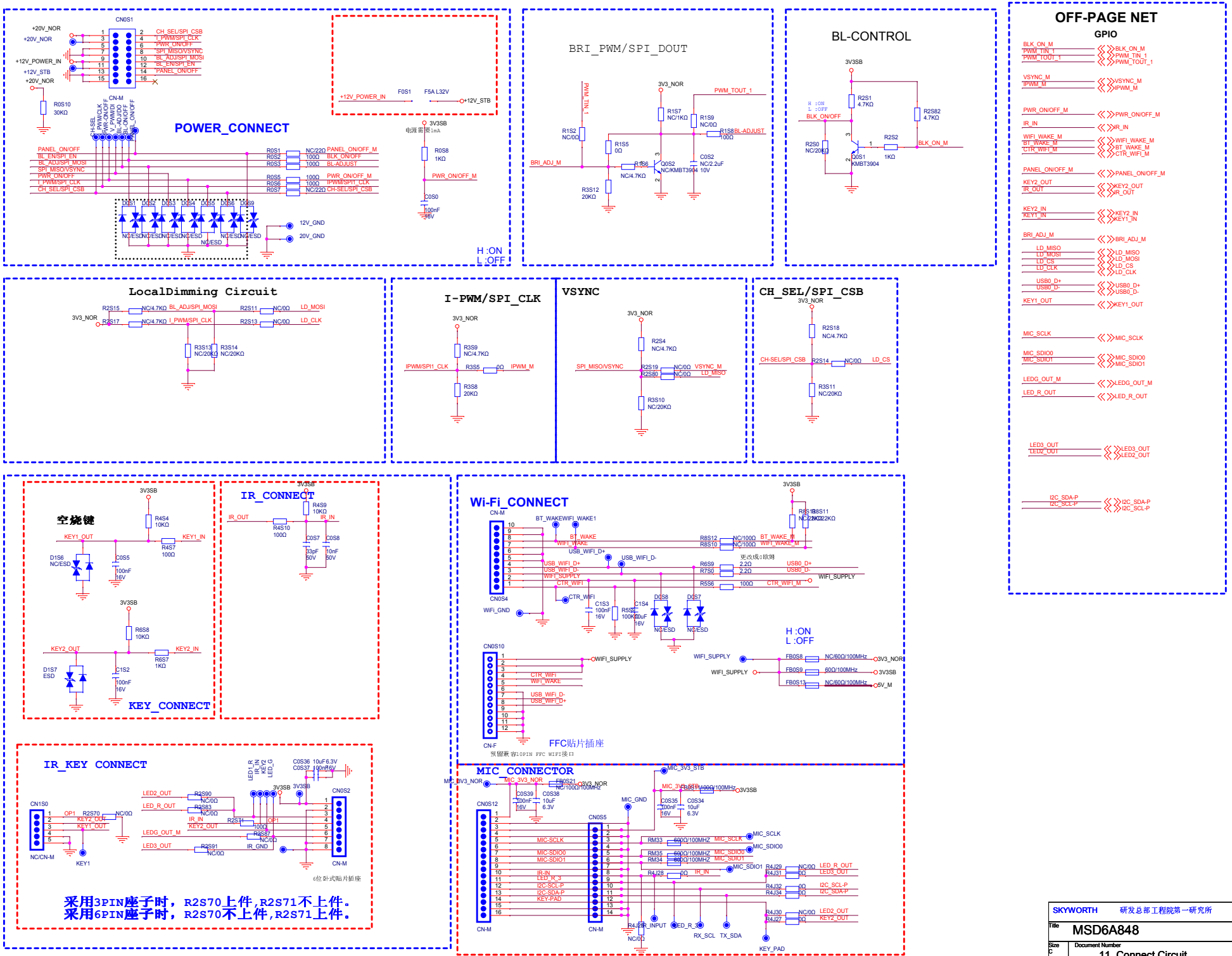
Title MSD6A848
Size B
Document Number 08_TUNER
Rev 1.0
Date: Friday, March 13, 2020
Sheet 6 of 17



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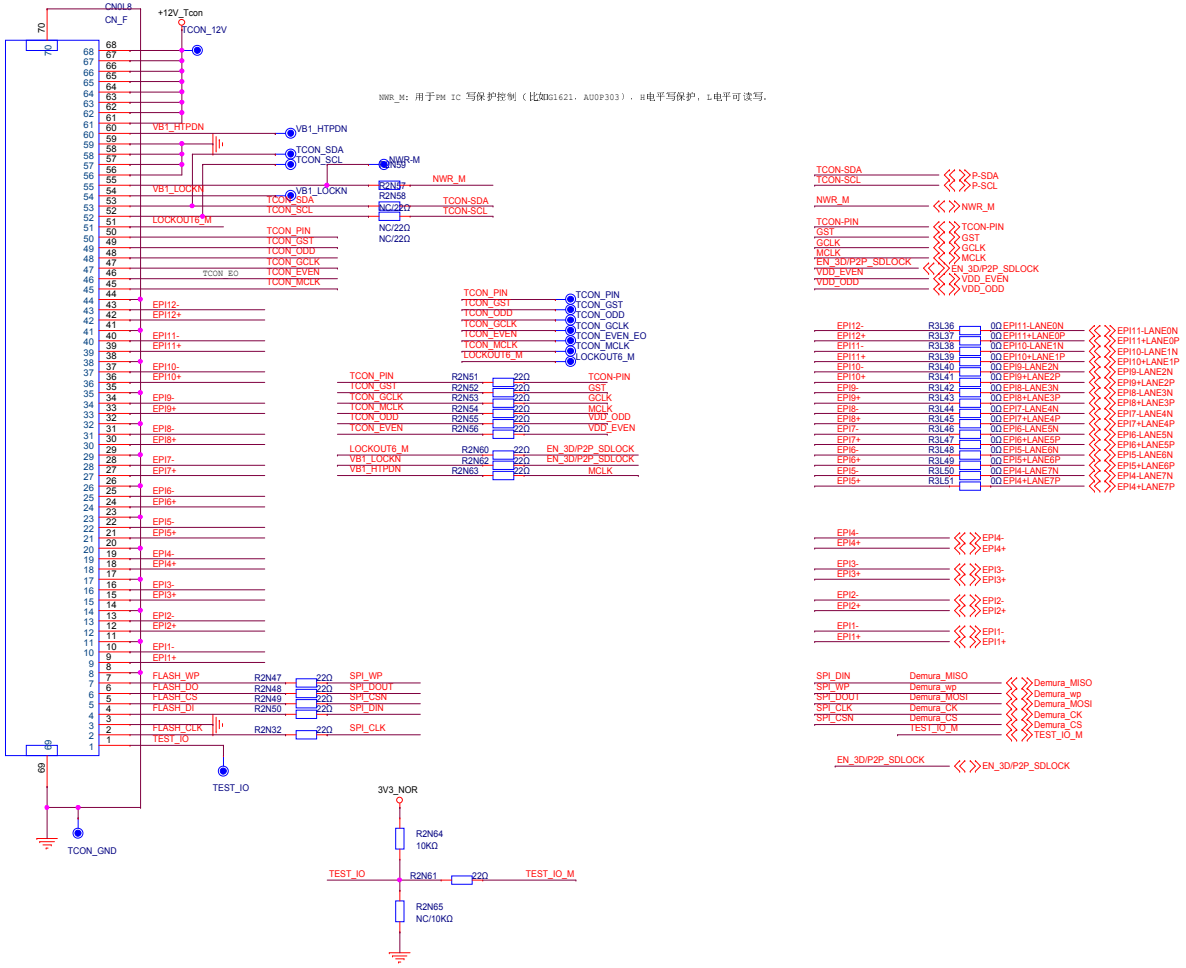
Title	MSD6A848		
Size C	Document Number 11_Connect Circuit		Rev 1.0
Date: Thursday, March 05, 2020	Sheet 9 of 17		

OFF_PAGE NET

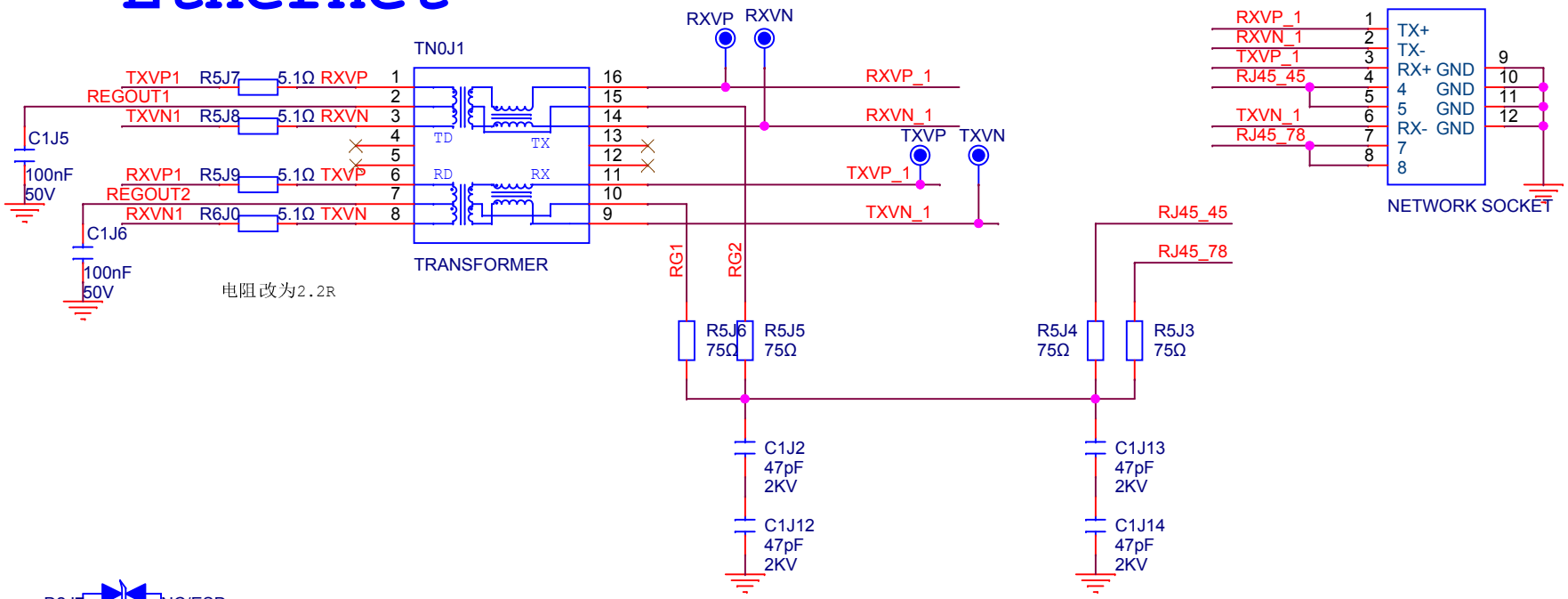
GPIO

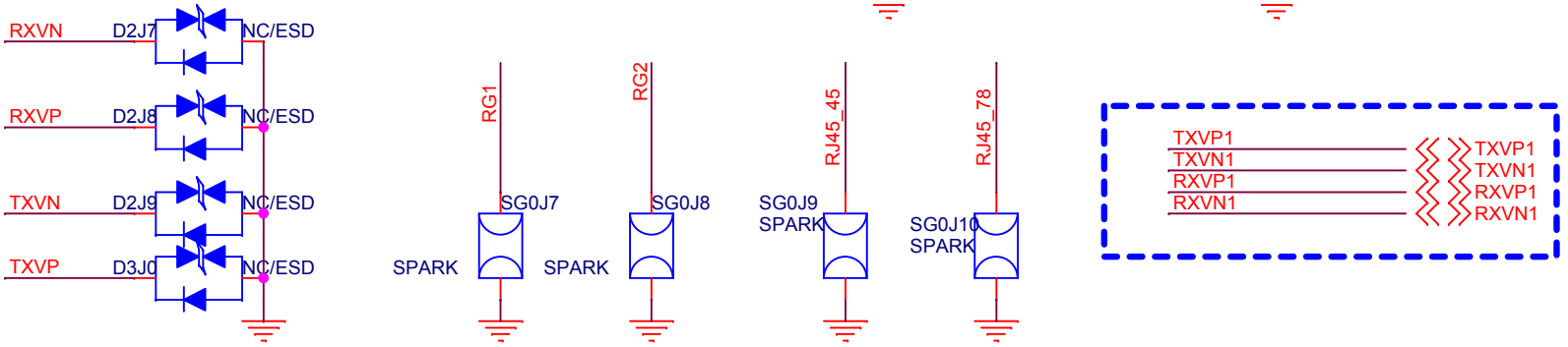


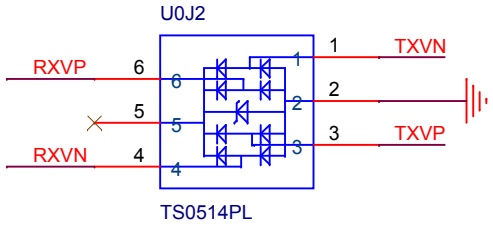
TV产品研究院-硬件平台技术线	
Title	MSD848
Size: C	Document Number: 09_Tcon Interface
Rev	1.0
Date:	Friday, March 13, 2020
Sheet	9 of 19

Ethernet

Place On Top Layer







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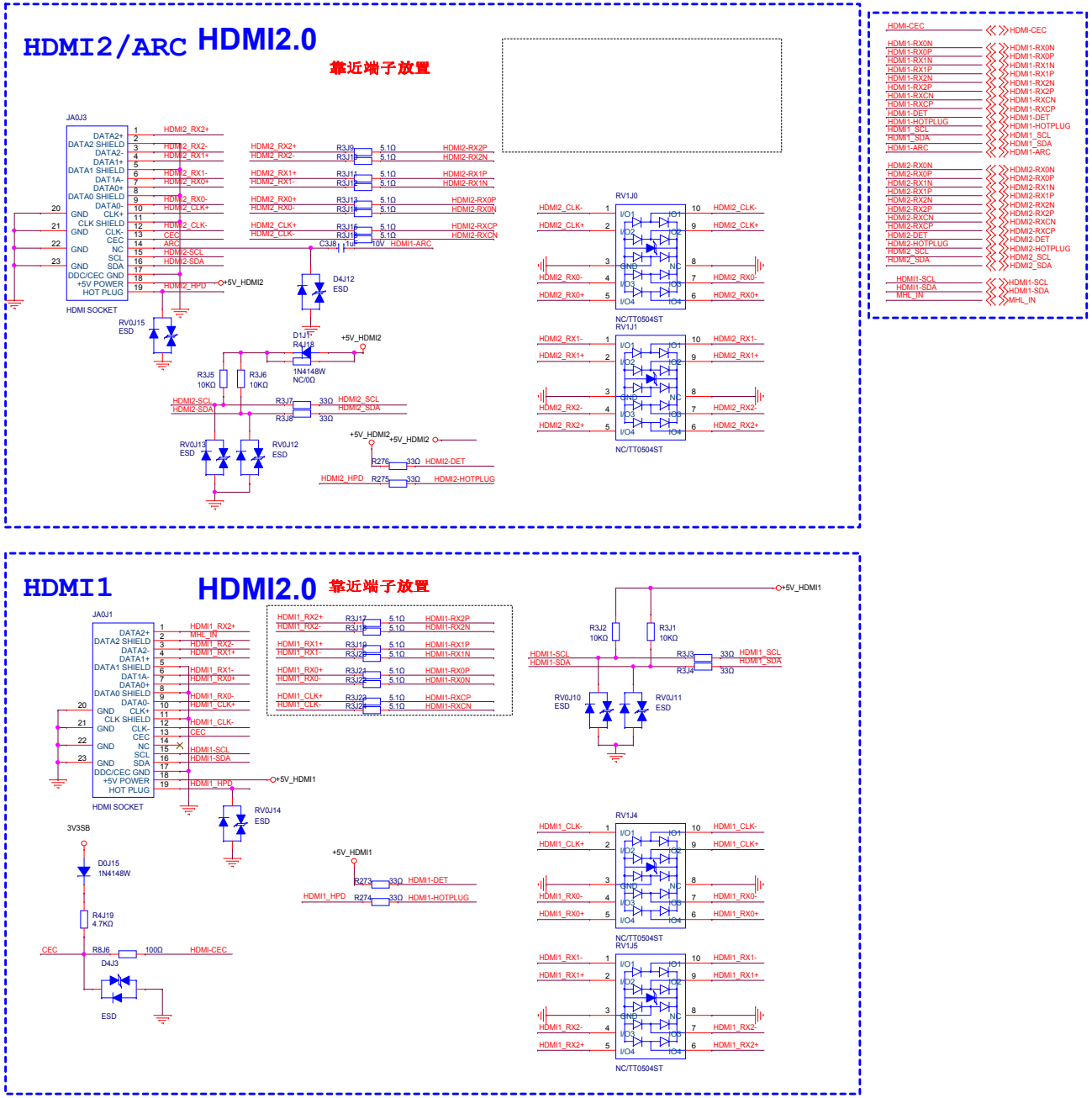
Title	MSD6A848	
Size A	Document Number 12_Ethernet Port	Rev 1.0
Date: Friday, March 13, 2020	Sheet 10 of 17	



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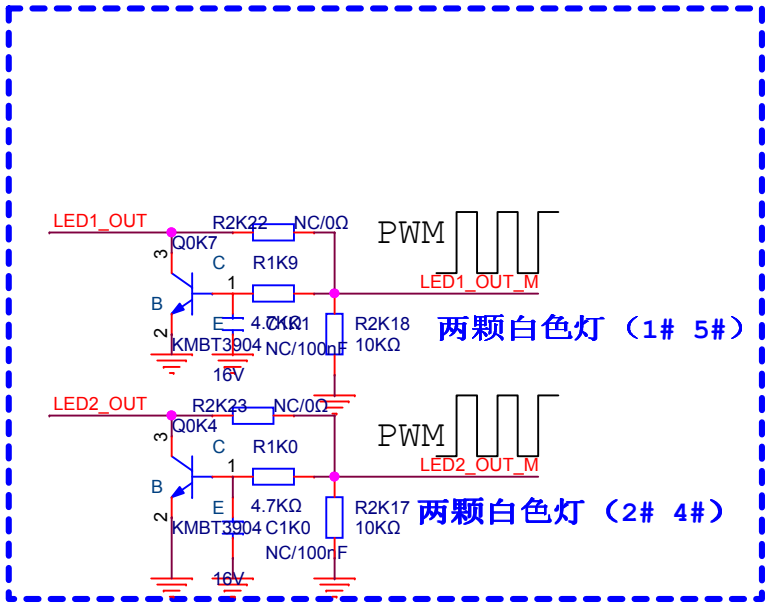
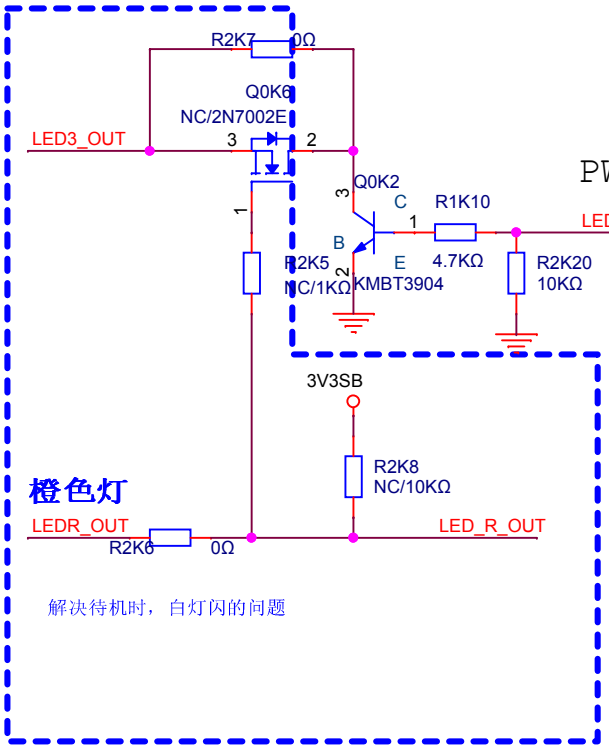
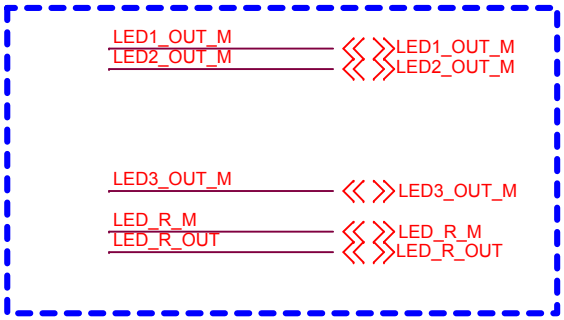
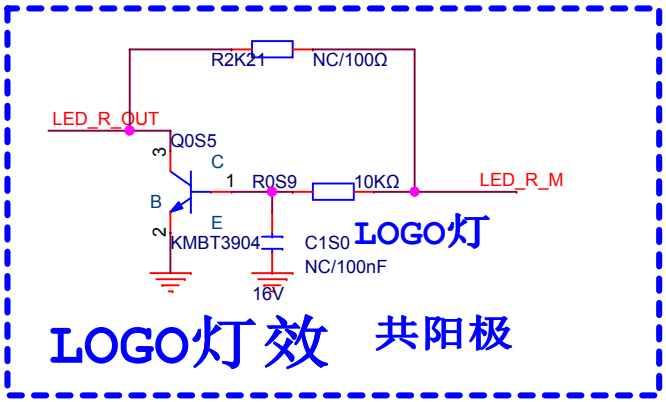
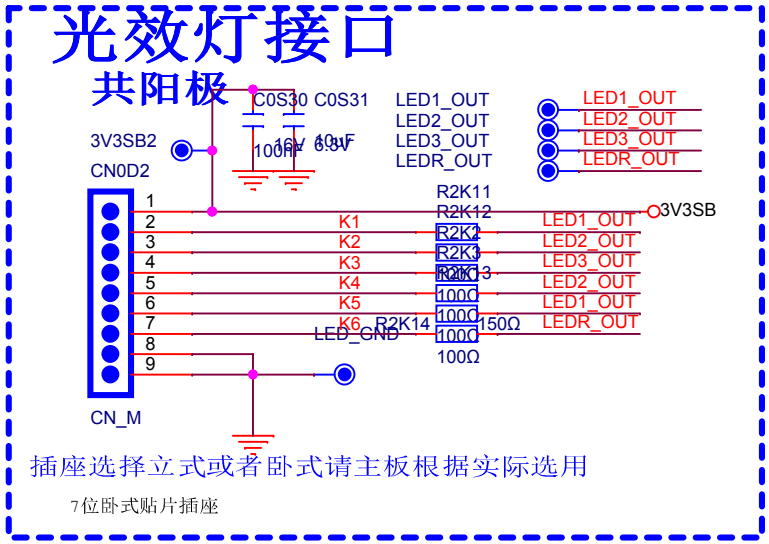
Title	MSD6A848	
Size C	Document Number 12_HDMI Port	Rev 1.0
Date: Friday, March 13, 2020	Sheet 11 of 17	









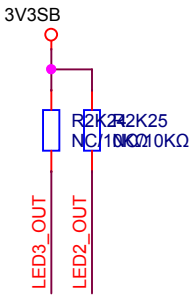


LED_R控制橙色投射灯

LED3控制3#白色灯，要PWM口

LED2控制两个白色灯（2#\4#），要PWM口

LED1控制两个白色灯（1#\5#），要PWM口

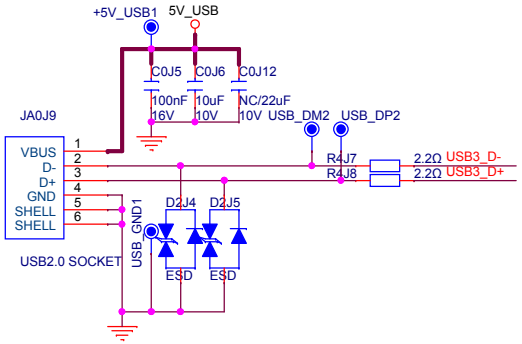


TV产品研究院-硬件平台技术线		
Title: MSD6A848		
Size: Custom	Document Number: 11_LED_Connect Circuit	Rev: <RevCo
Date: Friday, March 13, 2020	Sheet 11 of 19	

USB POWER SWITCH

EN: ON>2V
OFF<0.8V
Current Limit:2.2A

USB2.0-2

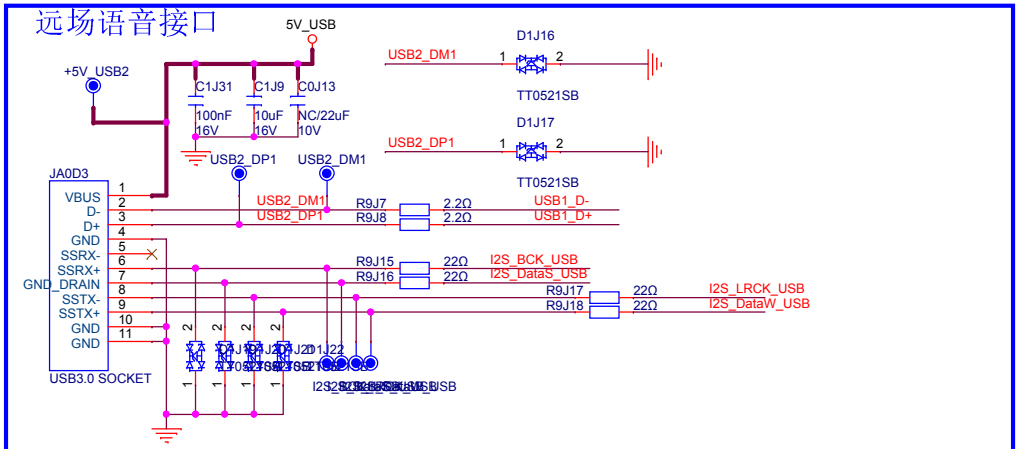


1、卧式USB2.0：6100-089110-0410
2、ESD器件可自己选择，目前原理图所用是：
4100-L18002-T0，18V/2PF，封装0402。
3、C5J6，C5J7是三所在使用。
4、R1J74，R1J78三所使用的是0欧。

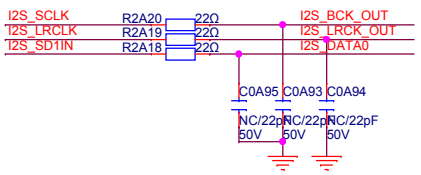
OFF_PAGE NET

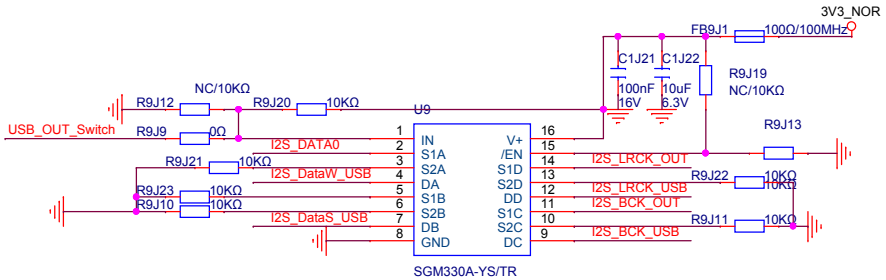
GPIO

远场语音接口



Close to SOC IC





pin6:BCK
pin7:DataS
pin8:L/RCK&AU_R
pin9:Data_W&AU_L

$\overline{EN}$	IN	ON SWITCH
0	0	S_1A, S_1B, S_1C, S_1D
0	1	S_2A, S_2B, S_2C, S_2D
1	X	Disabled

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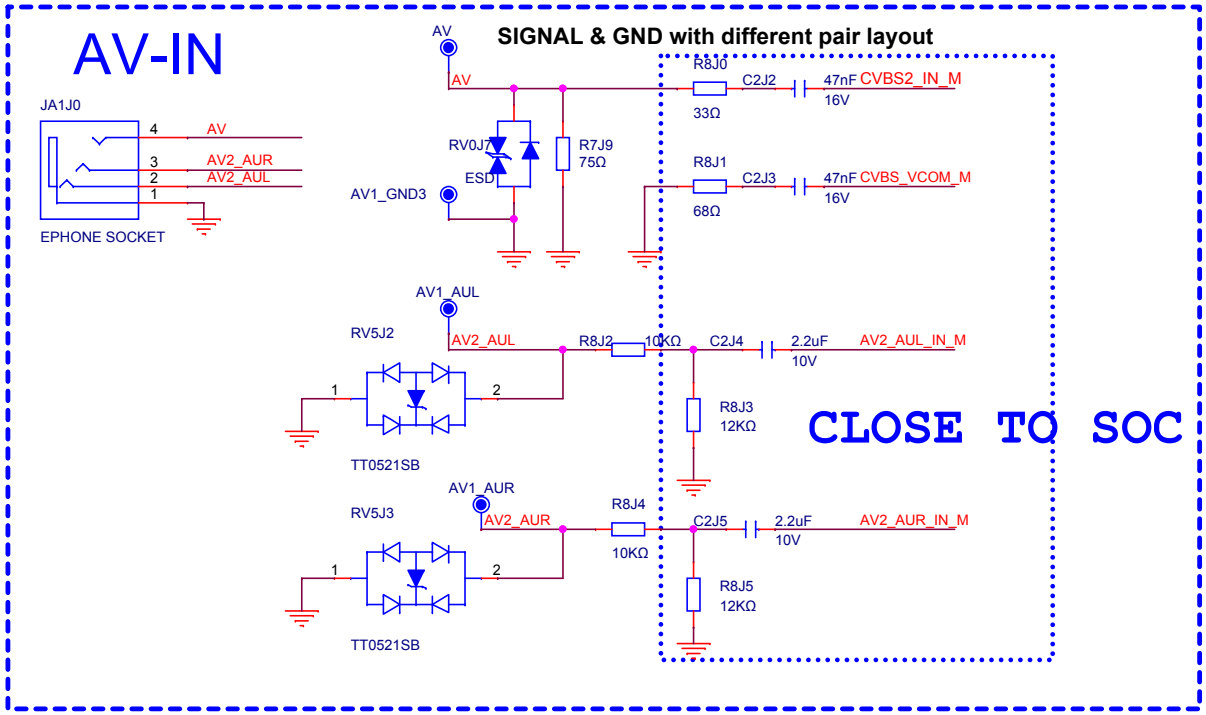
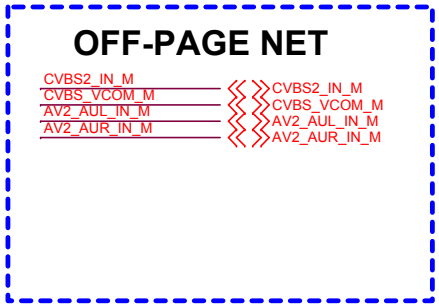
Title: MSD6A848

Size: B | Document Number: 12_USB_PORT | Rev: 1.0

Date: Friday, March 13, 2020 | Sheet 12 of 17





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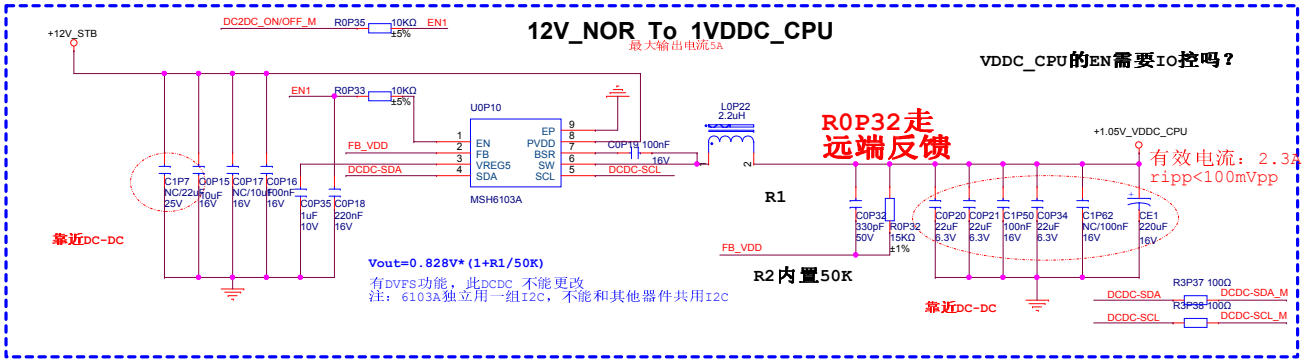
Title	MSD6A848	
Size: Custom	Document Number: 12_AV PORT	Rev: 1.0
Date: Friday, March 13, 2020	Sheet 12 of 17	



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GPIO

- DC2DC_ON/OFF_M ↔ DC2DC_ON/OFF_M
- VID_0_M ↔ VID_0_M, VID_1_M ↔ VID_1_M
- DCDC-SCL_M ↔ DCDC-SCL_M, DCDC-SDA_M ↔ DCDC-SDA_M

17、+12V_NOR转+1.20V_CORE

规格标称最大8A　480KHZ 输入电压范围4.5V-17V 2018年由 优选改为限选

提示：本型号还没有批量使用，请先按照小批量、中批量试产流程试产OK后再批量使用

考虑到DC-DC的温升问题及功率电感的温升问题，，输出为1.2V时，最大负载不能超过5A．输出为5V时，不能超过4.5A

本电路供设计参考，实际使用需要结合系统环境调整参数

说明：1、该电路当前的参数是输出+5V_NOR．如果要输出其他电压，如3.3V;2.5V;1.5V可以按照表格里的参数调整R1和R2的大小就可以了

2、PCB排版时输入电容和输出电容尽量靠近IC　PCB排版时储能电感要尽量靠近IC

3、通过增大输入和输出电容的容量可以减小纹波的大小选择小ESR值的电容也可以减小纹波的大小

4、输入输出电容的材质推荐使用X5R或者X7R，不能使用Y5V材质，注意耐压值．

5、模块成本仅供参考，受元器件价格及汇率影响会有变化

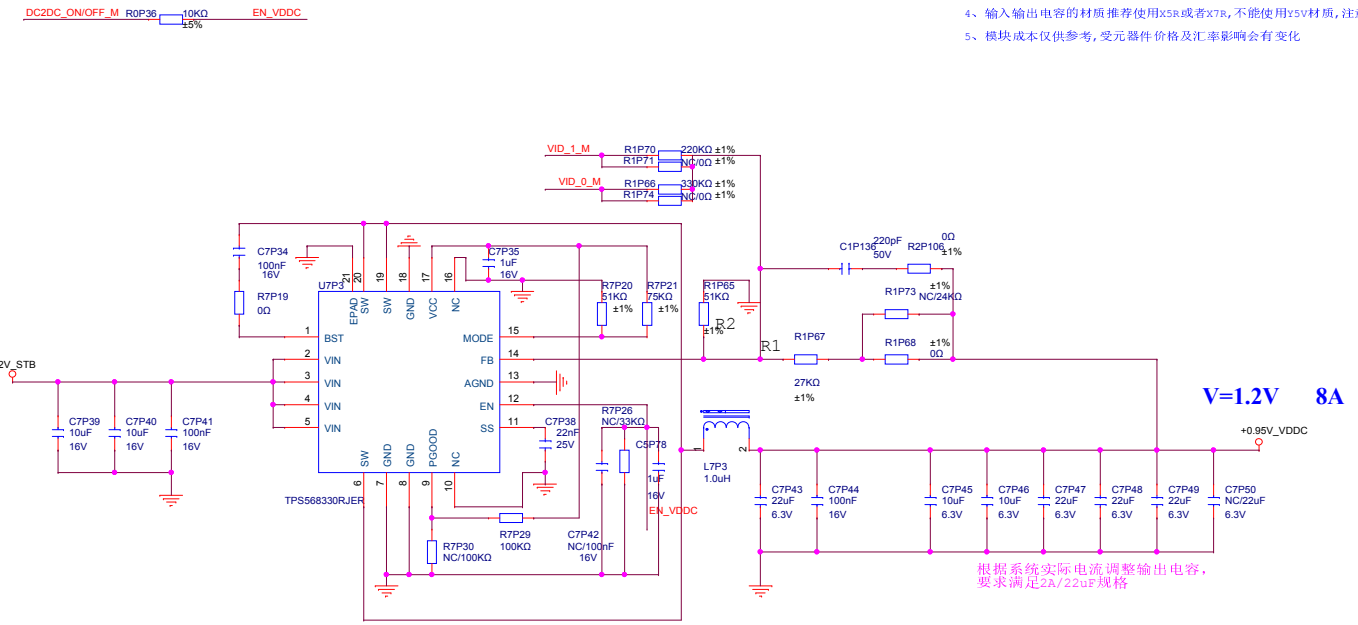
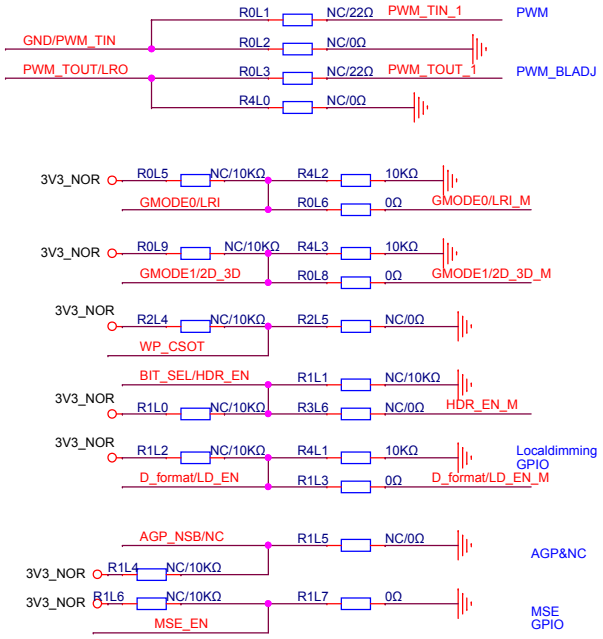
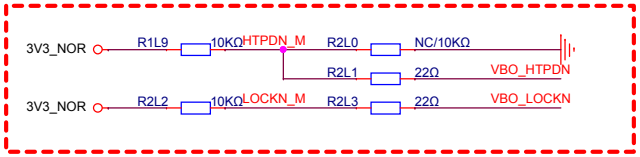


Table 2 MODE Pin Resistor Settings

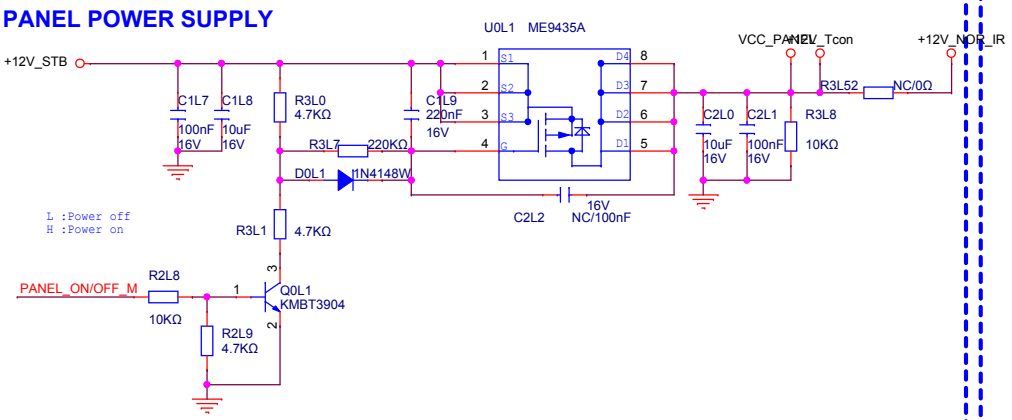
Voltage on MODE	R1(kΩ)	R2(kΩ)	Light Load Operation	Frequency(kHz)
(0~0.03)*VCC	330	5.1	Eco-mode	600
(0.03~0.06)*VCC	330	15	Eco-mode	800
(0.06~0.105)*VCC	330	27	Eco-mode	1000
(0.105~0.15)*VCC	300	43	OOA	600
(0.15~0.21)*VCC	150	33	OOA	800
(0.21~0.285)*VCC	160	51	OOA	1000
(0.285~0.36)*VCC	110	51	FCCM	600
(0.36~0.45)*VCC	75	51	FCCM	800
(0.45~0.54)*VCC	51	51	FCCM	1000

配屏参数设置

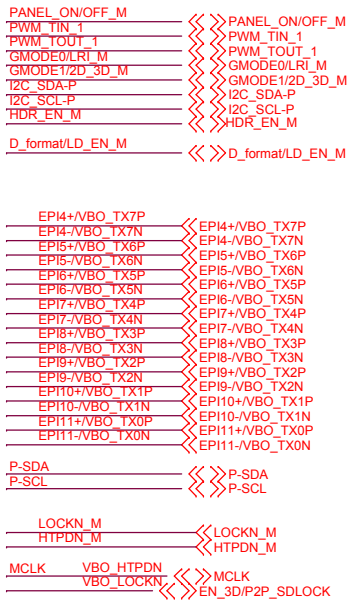




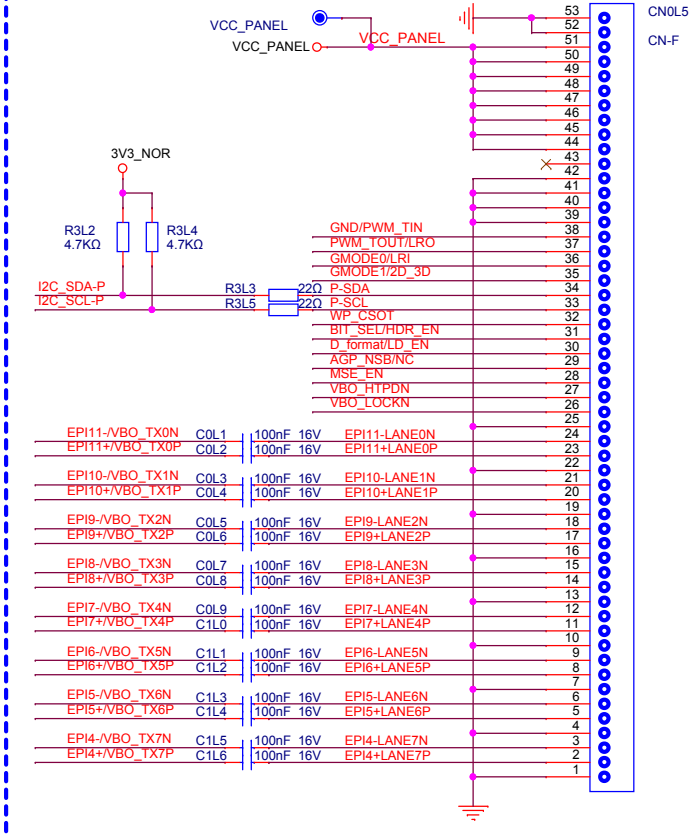
PANEL POWER SUPPLY

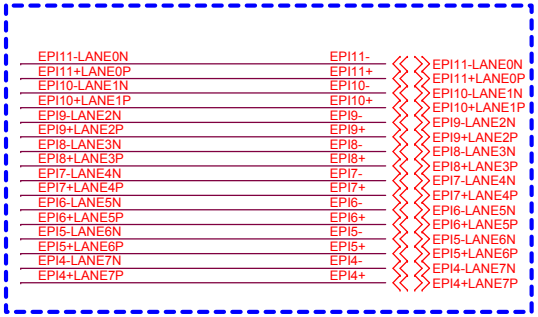


OFF_PAGE NET



POWER





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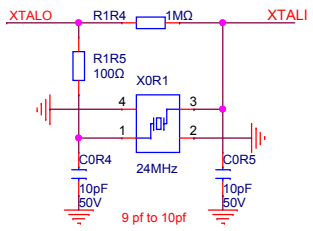
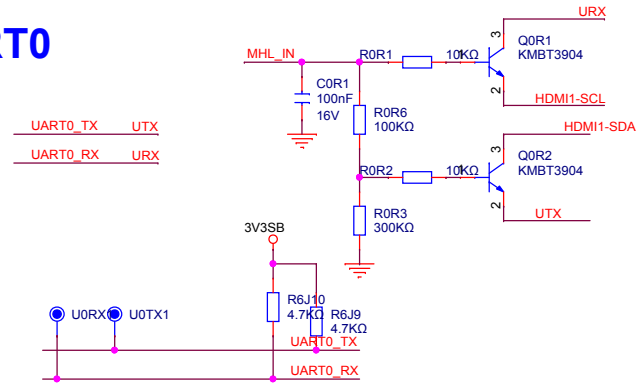
Title	MSD6A848	
Size B	Document Number 14_V-BY-ONE	Rev 1.0
Date: Friday, March 13, 2020	Sheet 13 of 17	

24M CRYSTAL

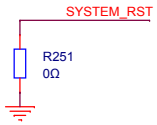


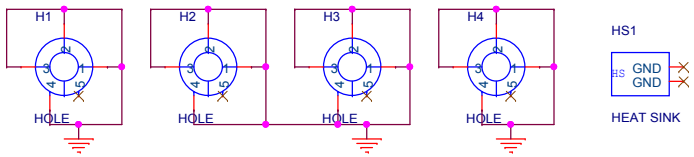
改善ESD效果，让晶振频率准确，是否需要更新

UART0



RESET





OFF_PAGE NET

GPIO

XTALI — XTALI
XTALO — XTALO
IR_OUT — IR_OUT
LEDG_OUT_M — LEDG_OUT_M
HDMI1-SCL — HDMI1-SCL
HDMI1-SDA — HDMI1-SDA
MHL_IN — MHL_IN
SYSTEM_RST — SYSTEM_RST

JTAG

KEY1_OUT — KEY1_OUT

UART

UART0_RX — UART0_RX
UART0_TX — UART0_TX

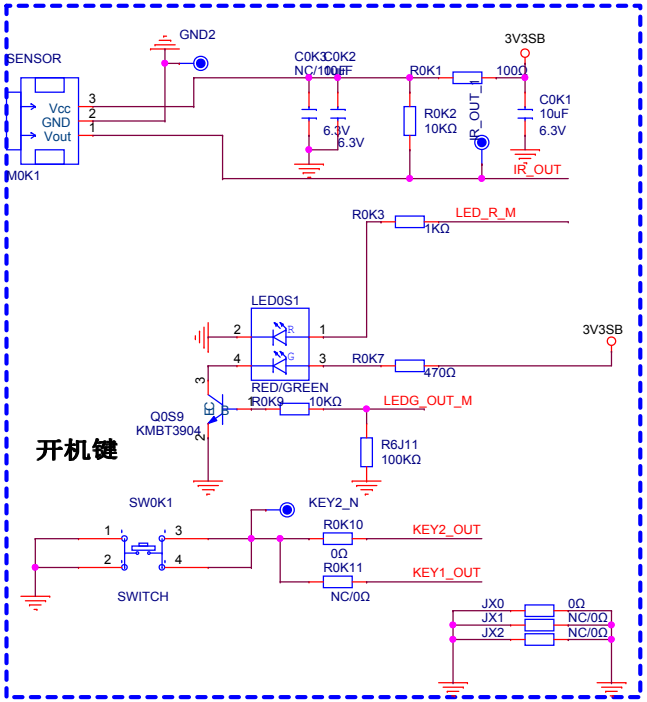
KEY

KEY2_OUT — KEY2_OUT

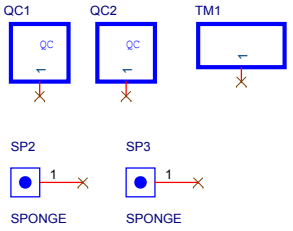
LED

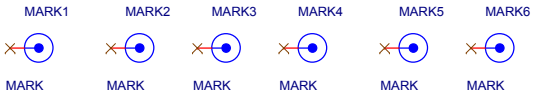
LED_R_M — LED_R_M

开机键



1505-C0100100-01 FOR U0A1 U0A3





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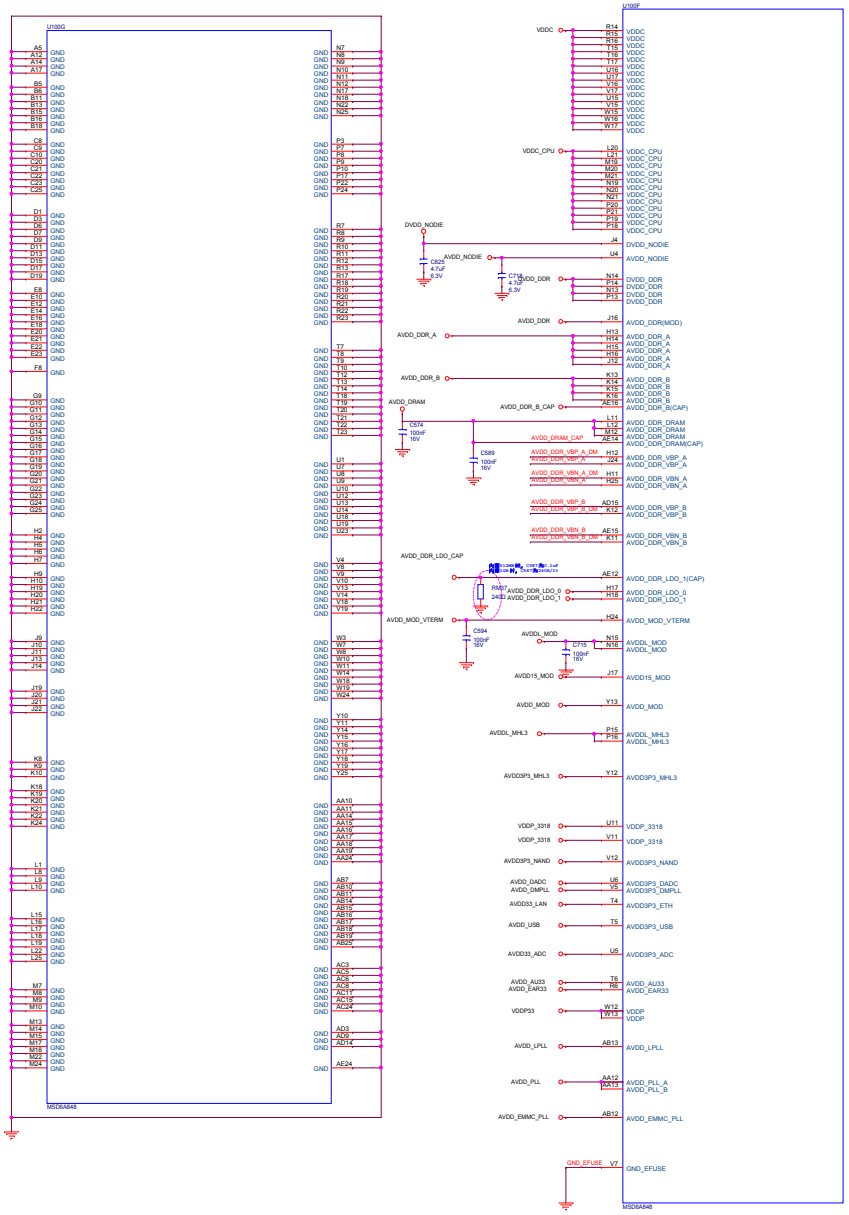
Title	MSD6A848	
Size Custom	Document Number 15_Other_Connect Circuit	Rev 1.0
Date: Friday, March 13, 2020	Sheet 14 of 17	



CORE Power

Standby Power 3.3V

CPU Power

Normal Power 3.3V

DDR

eMMC/Nand Power

如果不用点CML mode panel，
将AVDD_MOD_VTERM电压绑到VDDC电压，
若使用CML mode panel则需要使用1.2V稳定电源

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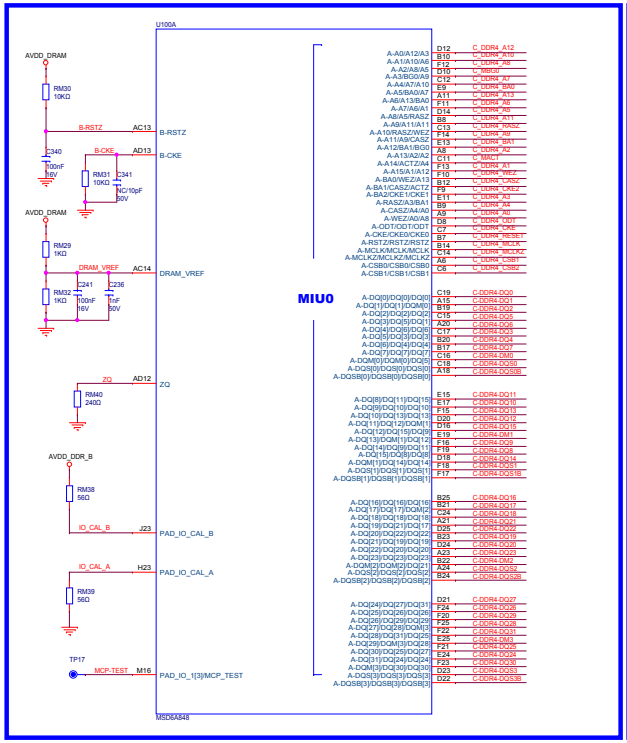
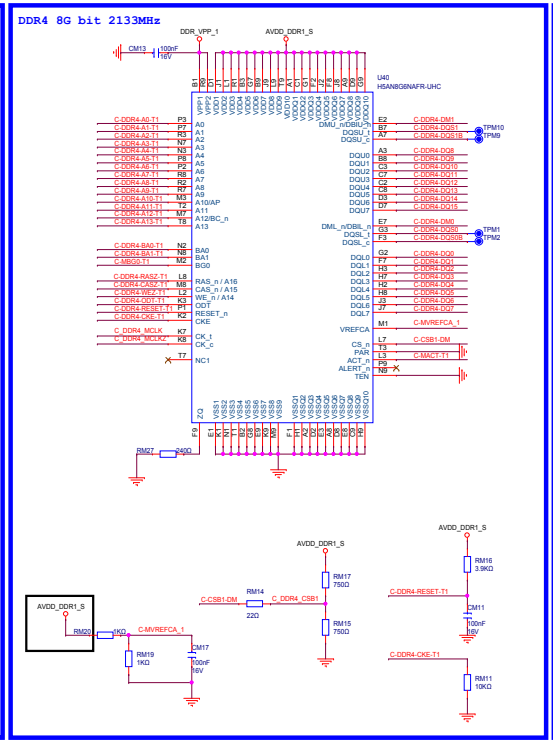
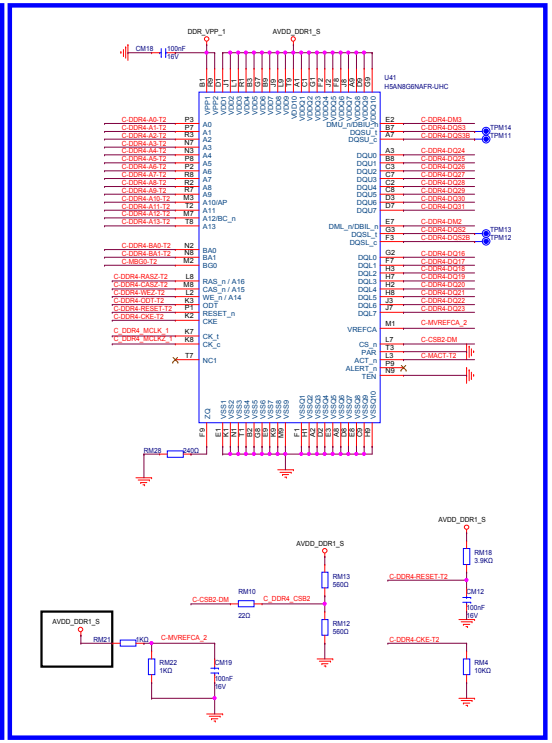
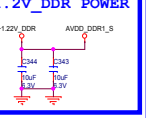
File: MSD6A848		
Size: Custom	Document Number: 18_6A848_Power&Gnd	Rev: 1.0
Date: Friday, March 13, 2020	Sheet 18 of 19	



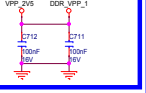




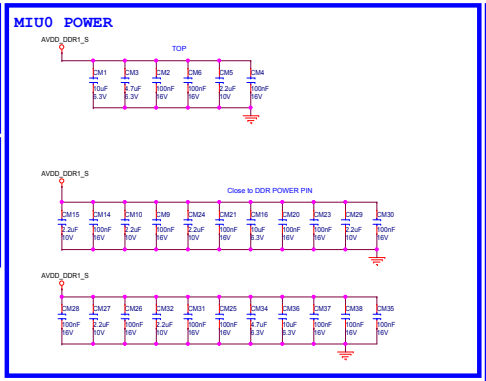
+1.2V_DDR POWER



+2.5V_DDR POWER



MIU0 POWER



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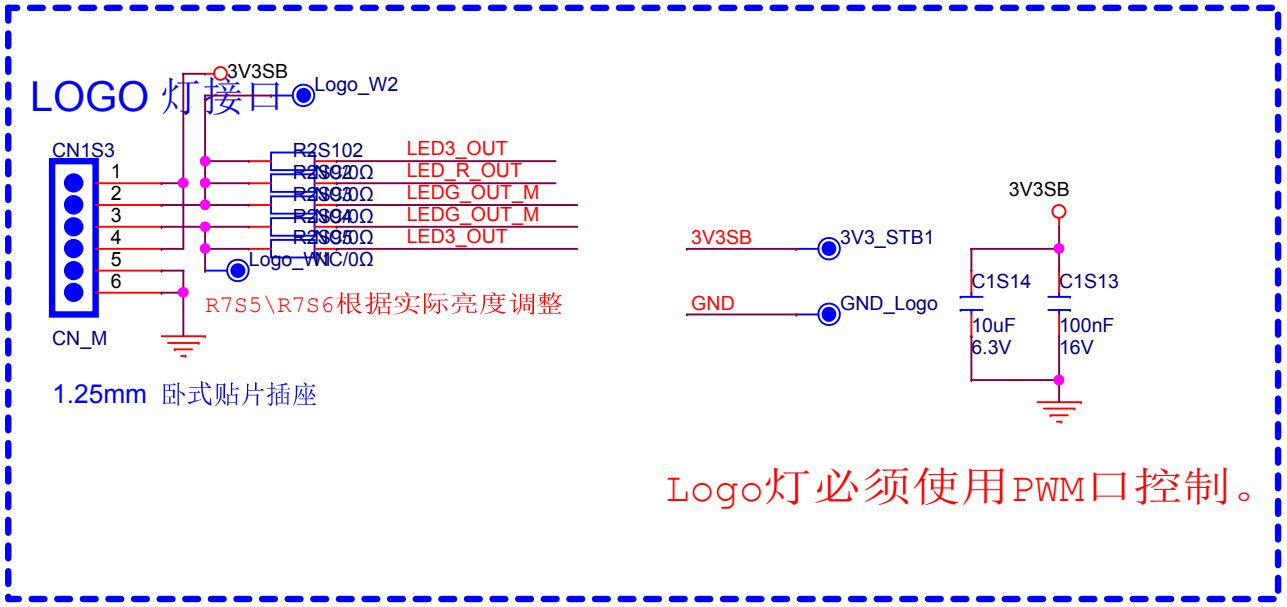
Title	MSD6A848
Size: Custom	Document Number: 19_DDR Circuit
Rev: 1.0	
Date: Friday, March 13, 2020	Sheet 19 of 19



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LED_R_OUT — LED_R_OUT

LEDG_OUT_M — LEDG_OUT_M

LED3_OUT — LED3_OUT

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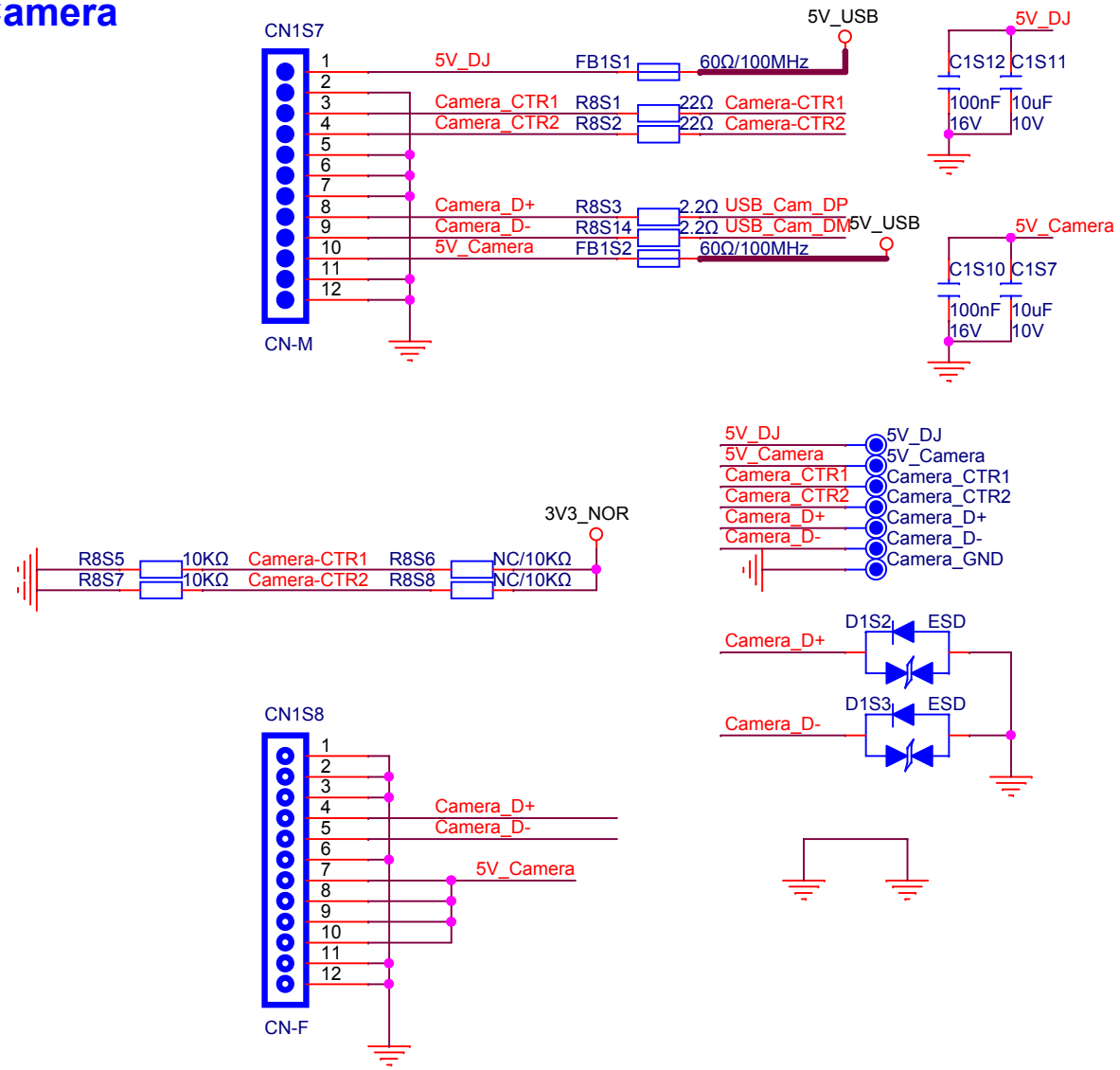
Title	接口标准电路		
Size A	Document Number 11_Connect Circuit_光效模块		Rev 0.1
Date: Friday, March 13, 2020	Sheet 33 of 46		

Camera USB2.0 2M\4M摄像头可使用USB2.0

Camera



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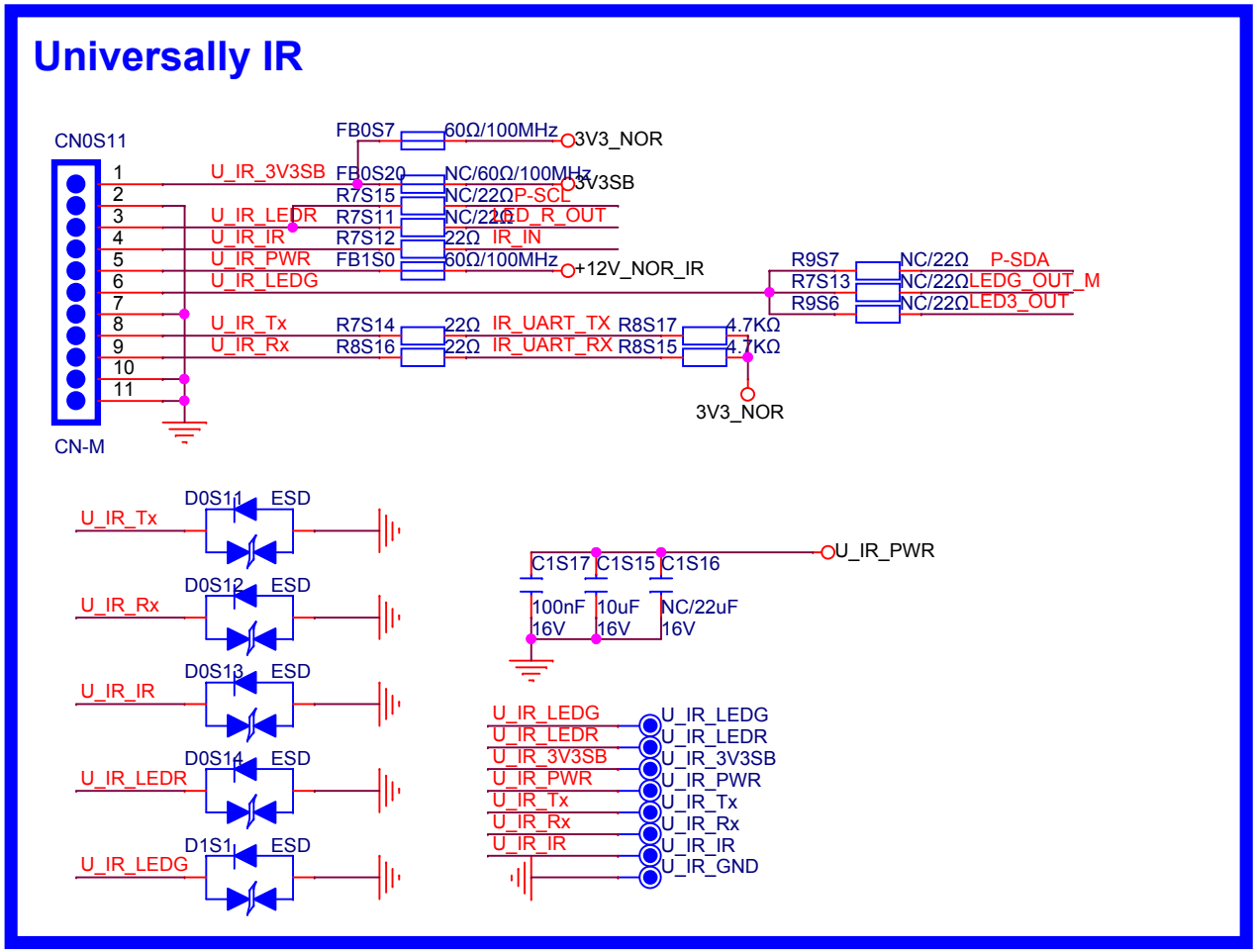
Title 接口标准电路

Size	Document Number	Rev
A	11_Connect Circuit_摄像头接口	0.1

Date: Friday, March 13, 2020 Sheet 35 of 46



OFF-PAGE NET

IR_OUT — IR_OUT

LED_R_OUT — LED_R_OUT

LEDG_OUT_M — LEDG_OUT_M

IR_IN — IR_IN

IR_UART_TX — IR_UART_TX

IR_UART_RX — IR_UART_RX

P-SDA — P-SDA

P-SCL — P-SCL

LED3_OUT — LED3_OUT

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Title: 接口标准电路

Size: A | Document Number: 11_Connect Circuit_万能红外接口 | Rev: 0.1

Date: Friday, March 13, 2020 | Sheet 36 of 46