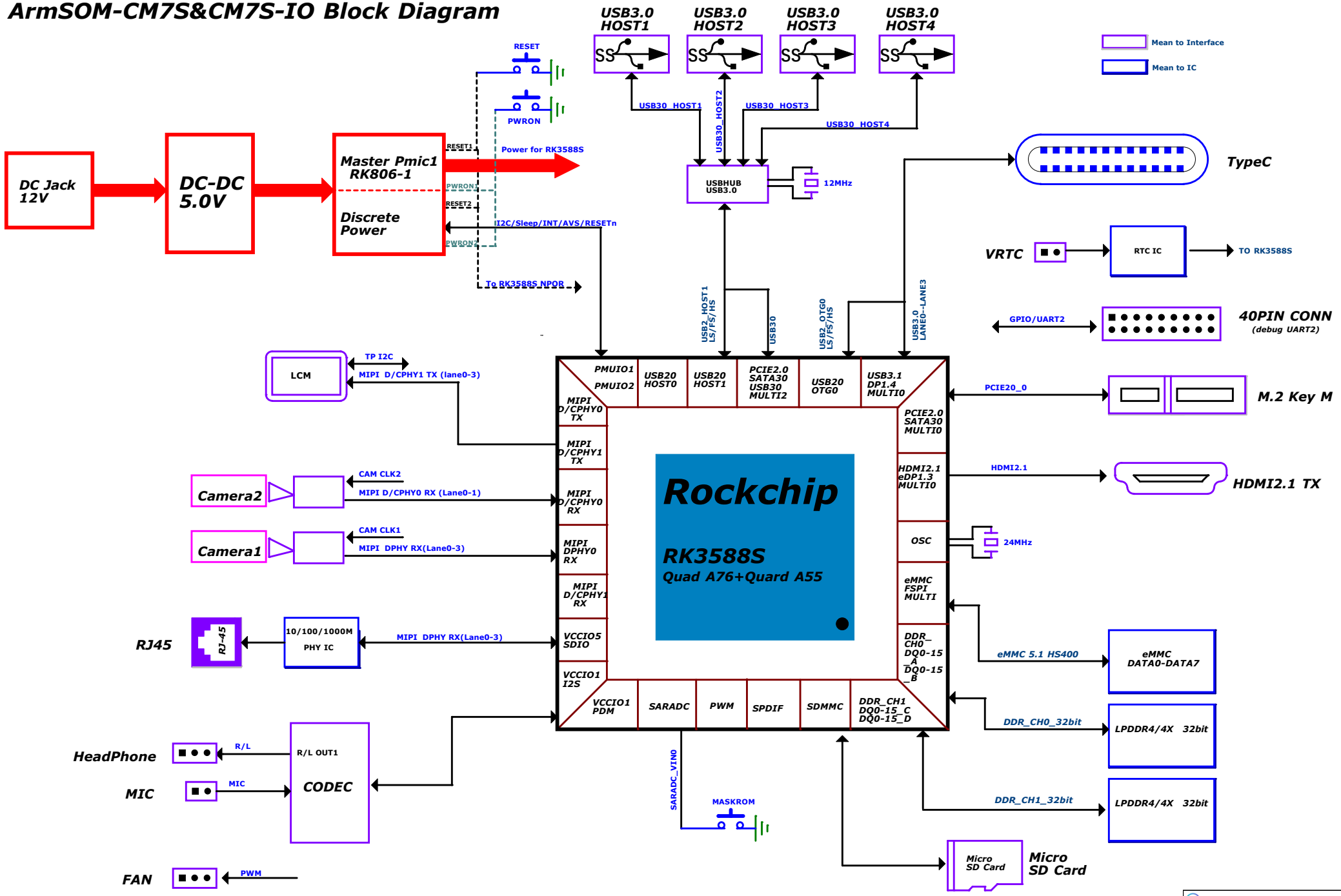
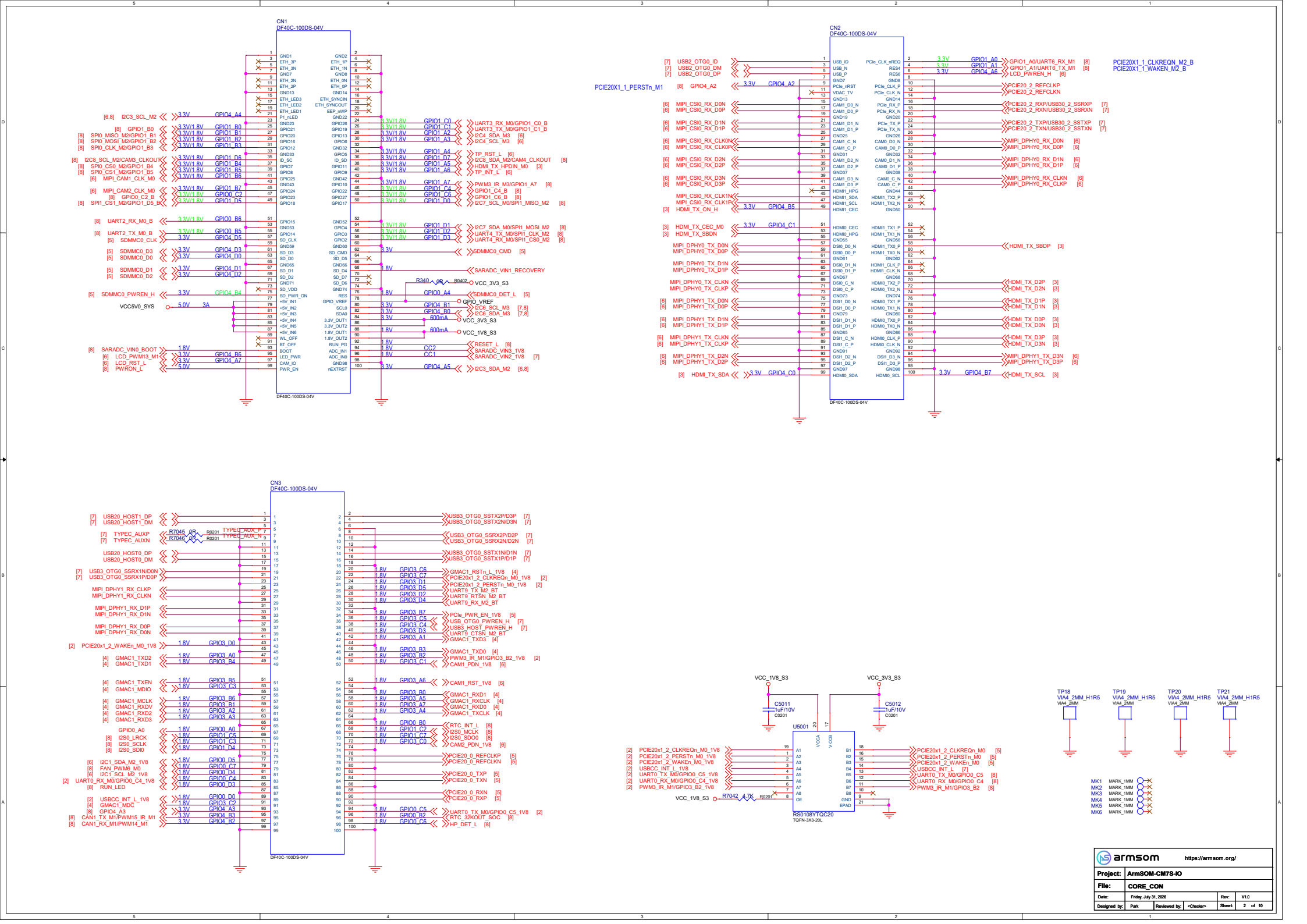
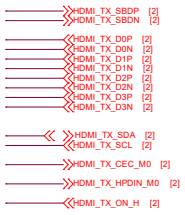
ArmSOM-CM7S&CM7S-IO Block Diagram

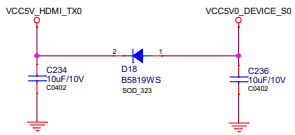


armsom	https://armsom.org/				
Project:	ArmSOM-CM7S-IO				
File:	Block Diagram				
Date:	Friday, July 31, 2026			Rev:	V1.0
Designed by:	Park	Reviewed by:	<Checker>	Sheet:	1 of 10

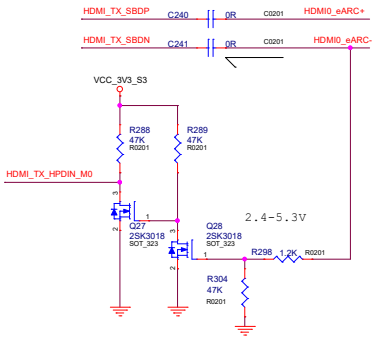

CN1
DF40C-100DS-04V
CN2
DF40C-100DS-04V
CN3
DF40C-100DS-04V
U5001
RS0108YTQC20
TQFN-3X3-20L
C5011
1uF/10V
C0201
C5012
1uF/10V
C0201
VCC_1V8_S3
VCC_3V3_S3
TP18
TP19
TP20
TP21
VIA4_2MM_H1R5
MK1 MARK_1MM
MK2 MARK_1MM
MK3 MARK_1MM
MK4 MARK_1MM
MK5 MARK_1MM
MK6 MARK_1MM
armsom
https://armsom.org/
Project: ArmSOM-CM7S-IO
File: CORE_CON
Date: Friday, July 31, 2026
Rev: V1.0
Designed by: Park
Reviewed by: <Checker>
Sheet: 2 of 10

HDMI TX0

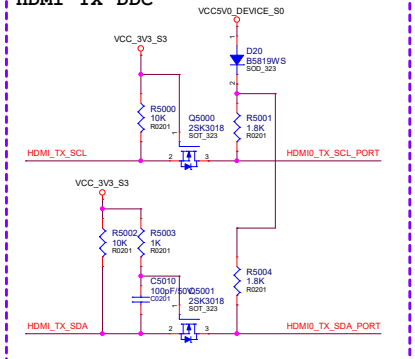




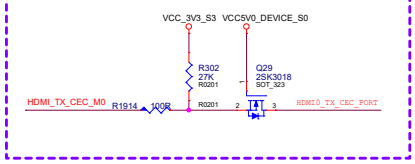
HDMI TX eARC



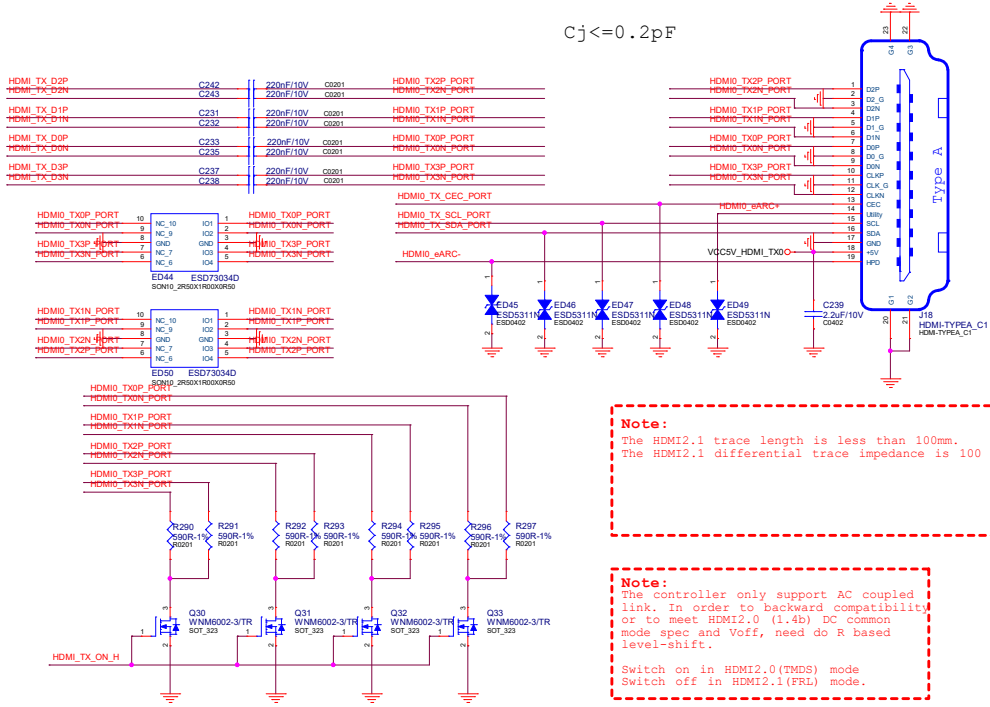
HDMI TX DDC



HDMI TX CEC



Cj<=0.2pF



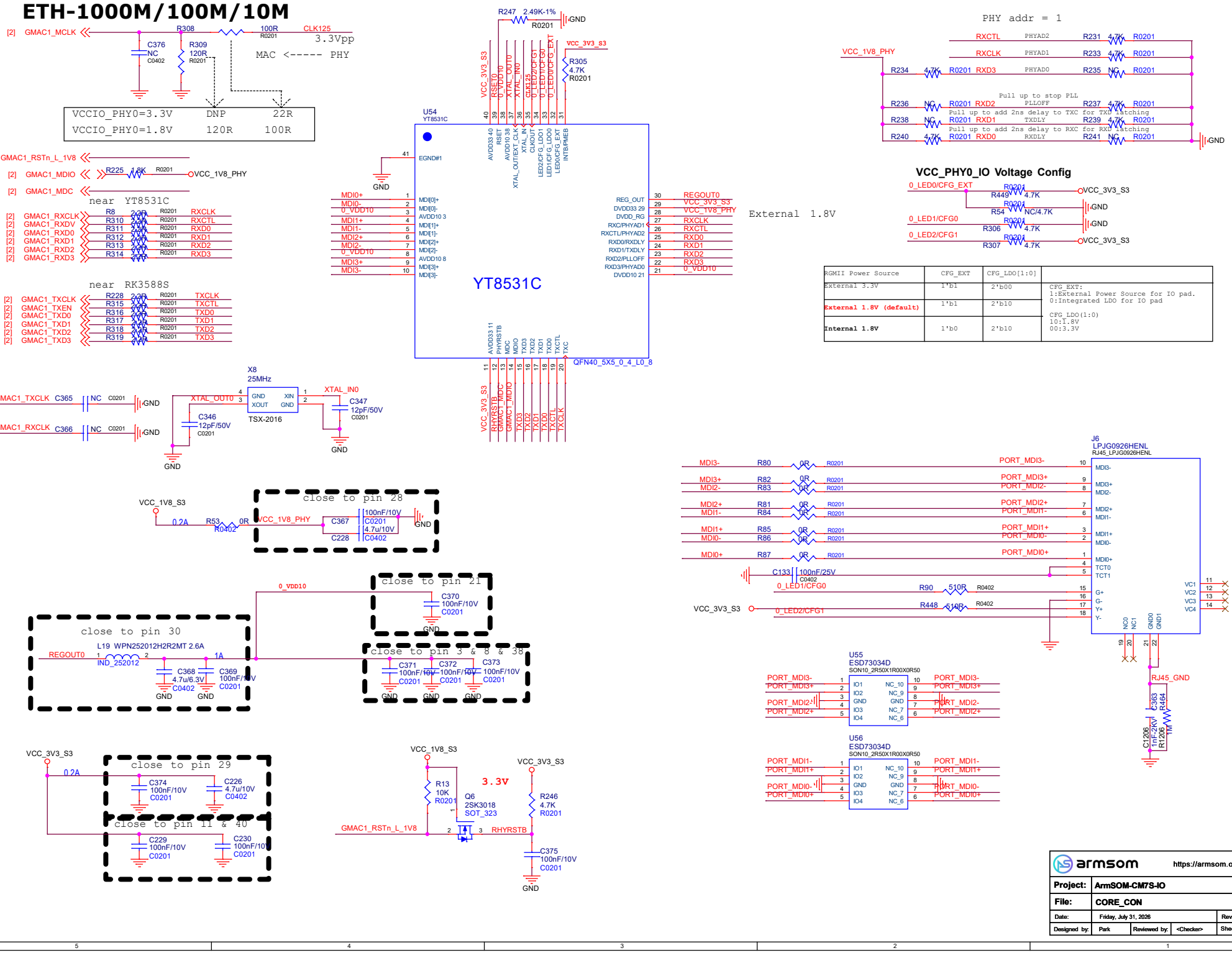
Note:
The HDMI2.1 trace length is less than 100mm.
The HDMI2.1 differential trace impedance is 100 OHM.

Note:
The controller only support AC coupled link. In order to backward compatibility or to meet HDMI2.0 (1.4b) DC common mode spec and Voff, need do R based level-shift.

Switch on in HDMI2.0(TMDS) mode
Switch off in HDMI2.1(FRL) mode.

armsom	https://armsom.org/				
Project:	ArmSOM-CM7S-IO				
File:	HDMI_TX0				
Date:	Friday, July 31, 2026			Rev:	V1.0
Designed by:	Park	Reviewed by:	<Checker>	Sheet:	3 of 10

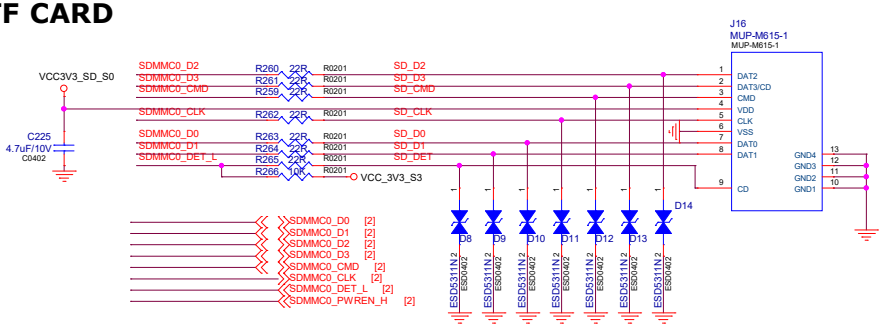
ETH-1000M/100M/10M

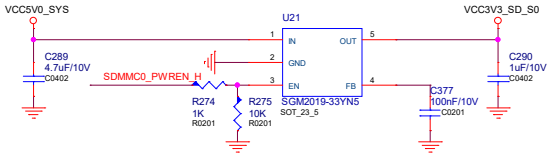


armsom https://armsom.org/

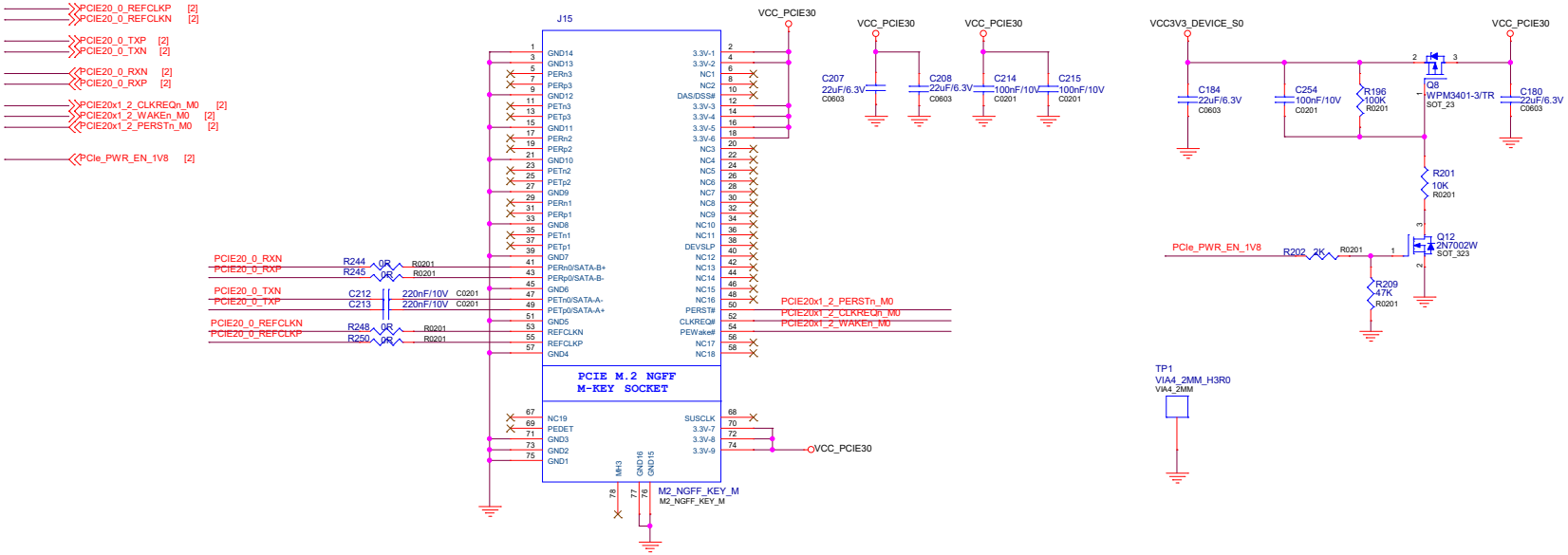
Project:	ArmSOM-CM7S-IO				
File:	CORE_CON				
Date:	Friday, July 31, 2026			Rev:	V1.0
Designed by:	Park	Reviewed by:	<Checker>	Sheet:	4 of 10

TF CARD



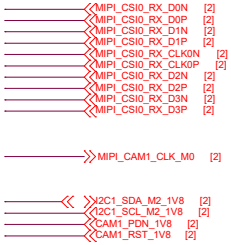


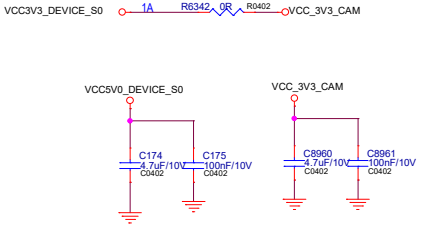
M.2_PCIE

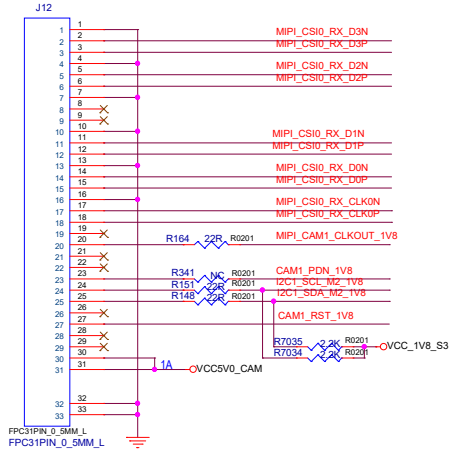


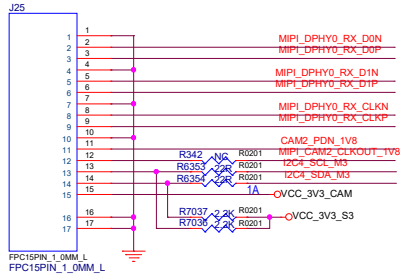
armsom	https://armsom.org/			
Project:	ArmSOM-CM7S-IO			
File:	M2_TF			
Date:	Friday, July 31, 2026		Rev:	V1.0
Designed by:	Park	Reviewed by: <Checker>	Sheet:	5 of 10

CSI0_MIPI

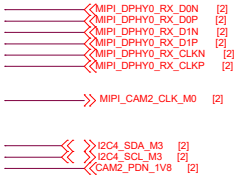


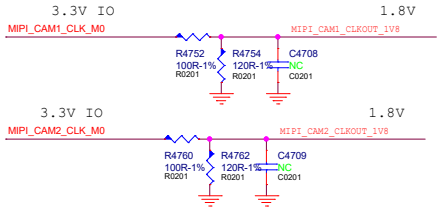


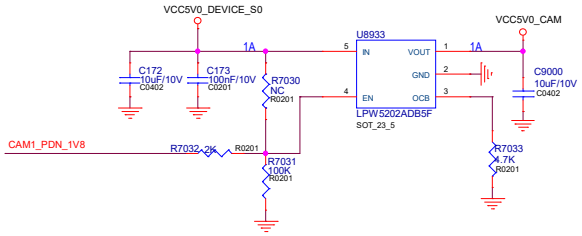




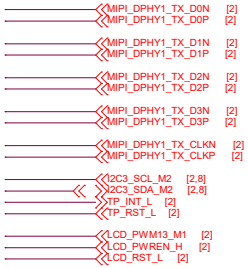
CS1_MIPI

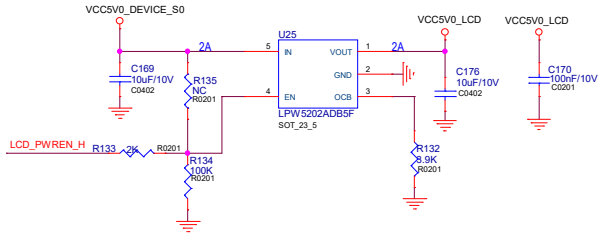


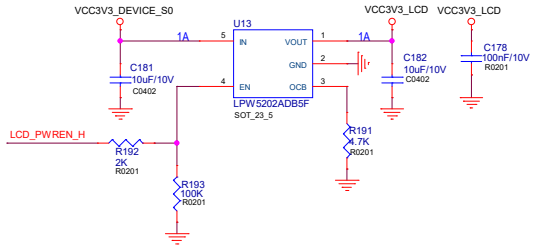


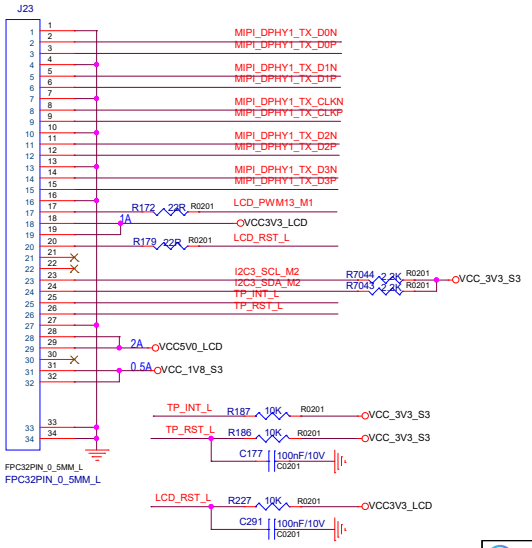


DSI_MIPI

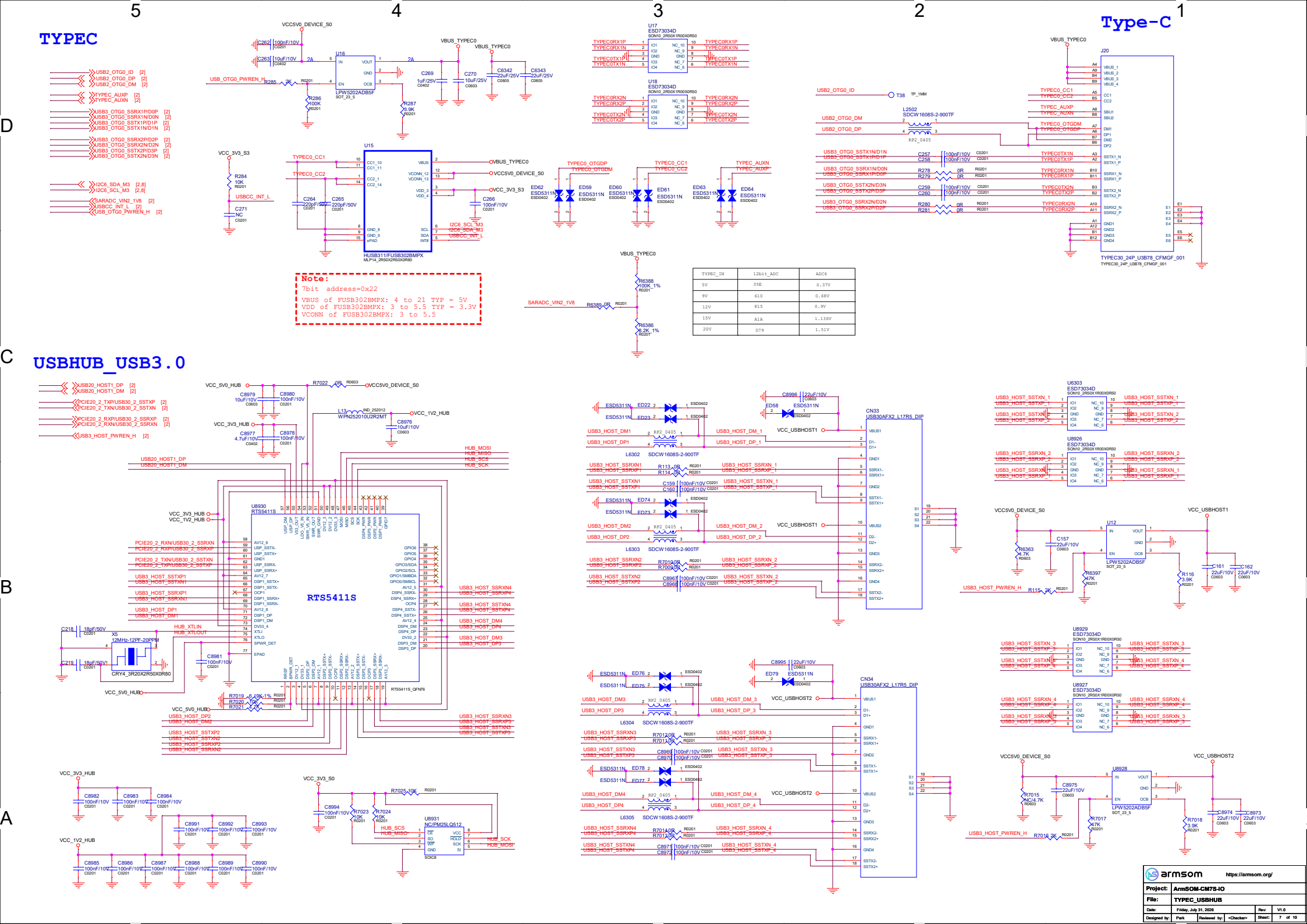






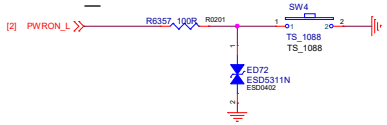


armsom	https://armsom.org/				
Project:	ArmSOM-CM7S-IO				
File:	MIPI_RX_CSI/MIPI_DSI				
Date:	Friday, July 31, 2026			Rev:	V1.0
Designed by:	Park	Reviewed by:	<Checker>	Sheet:	6 of 10

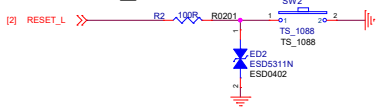

5
4
3
2
1
TYPEC
Type-C
USBHUB_USB3.0
D
C
B
A
USB2_OTG0_ID [2]
USB2_OTG0_DP [2]
USB2_OTG0_DM [2]
TYPEC_AUXP [2]
TYPEC_AUXN [2]
USB3_OTG0_SSRX1P/D0P [2]
USB3_OTG0_SSRX1N/D0N [2]
USB3_OTG0_SSTX1P/D1P [2]
USB3_OTG0_SSTX1N/D1N [2]
USB3_OTG0_SSRX2P/D2P [2]
USB3_OTG0_SSRX2N/D2N [2]
USB3_OTG0_SSTX2P/D3P [2]
USB3_OTG0_SSTX2N/D3N [2]
I2C6_SDA_M3 [2,8]
I2C6_SCL_M3 [2,8]
SARADC_VIN2_1V8 [2]
USBCC_INT_L [2]
USB_OTG0_PWREN_H [2]
VCC5V0_DEVICE_S0
VBUS_TYPEC0
USB_OTG0_PWREN_H
U16
LPW5202ADB5F
SOT_23_5
U15
HUSB311/FUSB302BMPX
MLP14_2R50X2R50X0R80
VCC_3V3_S3
USBCC_INT_L
U17
U18
ESD73034D
SON10_2R50X1R00X0R50
TYPEC0RX1P
TYPEC0RX1N
TYPEC0TX1P
TYPEC0TX1N
TYPEC0RX2P
TYPEC0RX2N
TYPEC0TX2P
TYPEC0TX2N
ESD62
ESD59
ESD60
ESD61
ESD63
ESD64
ESD5311N
ESD0402
TYPEC0_OTGDP
TYPEC0_OTGDM
TYPEC0_CC1
TYPEC0_CC2
TYPEC_AUXP
TYPEC_AUXN
J20
TYPEC30_24P_U3B78_CFMGF_001
USB2_OTG0_ID
USB2_OTG0_DM
USB2_OTG0_DP
T38
TP_1MM
L2502
SDCW 1608S-2-900TF
RP2_0405
USB3_OTG0_SSTX1N/D1N
USB3_OTG0_SSTX1P/D1P
USB3_OTG0_SSRX1N/D0N
USB3_OTG0_SSRX1P/D0P
USB3_OTG0_SSTX2P/D3P
USB3_OTG0_SSTX2N/D3N
USB3_OTG0_SSRX2N/D2N
USB3_OTG0_SSRX2P/D2P
TYPEC0_OTGDM
TYPEC0_OTGDP
TYPEC0TX1N
TYPEC0TX1P
TYPEC0RX1N
TYPEC0RX1P
TYPEC0TX2N
TYPEC0RX2N
Note:
7bit address=0x22
VBUS of FUSB302BMPX: 4 to 21 TYP = 5V
VDD of FUSB302BMPX: 3 to 5.5 TYP = 3.3V
VCONN of FUSB302BMPX: 3 to 5.5
SARADC_VIN2_1V8
R6388 100K_1%
R6389 0R
R6386 8.2K_1%
TYPEC_IN | 12bit_ADC | ADC6
5V | 35E | 0.37V
9V | 610 | 0.68V
12V | 815 | 0.9V
15V | A1A | 1.136V
20V | D79 | 1.51V
USB20_HOST1_DP
USB20_HOST1_DM
PCIE20_2_TXP/USB30_2_SSTXP
PCIE20_2_TXN/USB30_2_SSTXN
PCIE20_2_RXP/USB30_2_SSRXP
PCIE20_2_RXN/USB30_2_SSRXN
USB3_HOST_PWREN_H
VCC_5V0_HUB
VCC_3V3_HUB
VCC_1V2_HUB
R7022 0R
L13 WPN252010U2R2MT
HUB_MOSI
HUB_MISO
HUB_SCS
HUB_SCK
U8930
RTS5411S
RTS5411S_QFN76
HUB_XTLIN
HUB_XTLOUT
X5
12MHz-12PF-20PPM
CRY4_3R20X2R50X0R80
USB3_HOST_SSTXP1
USB3_HOST_SSTXN1
USB3_HOST_SSRXP1
USB3_HOST_SSRXN1
USB3_HOST_DP1
USB3_HOST_DM1
USB3_HOST_SSRXP4
USB3_HOST_SSRXN4
USB3_HOST_SSTXP4
USB3_HOST_SSTXN4
USB3_HOST_DP4
USB3_HOST_DM4
USB3_HOST_DP3
USB3_HOST_DM3
USB3_HOST_SSRXP3
USB3_HOST_SSRXN3
USB3_HOST_SSTXP3
USB3_HOST_SSTXN3
USB3_HOST_DP2
USB3_HOST_DM2
USB3_HOST_SSRXP2
USB3_HOST_SSRXN2
USB3_HOST_SSTXP2
USB3_HOST_SSTXN2
R7019 6.19K_1%
R7020 10K
R7021 10K
U8931
NC/PM25LQ512
SOIC8
R7025 10K
R7023 10K
R7024 10K
CN33
CN34
USB30AFX2_L17R5_DIP
VCC_USBHOST1
VCC_USBHOST2
ED22
ED23
ED74
ED73
ED76
ED75
ED78
ED77
ED58
ED79
L6302
L6303
L6304
L6305
R7010 0R
R7009 0R
R7011 0R
R7012 0R
U6303
U8926
U8929
U8927
U8928
USB3_HOST_SSTXN_1
USB3_HOST_SSTXP_1
USB3_HOST_SSTXN_2
USB3_HOST_SSTXP_2
USB3_HOST_SSRXN_2
USB3_HOST_SSRXP_2
USB3_HOST_SSRXN_1
USB3_HOST_SSRXP_1
USB3_HOST_SSTXN_3
USB3_HOST_SSTXP_3
USB3_HOST_SSTXN_4
USB3_HOST_SSTXP_4
USB3_HOST_SSRXN_4
USB3_HOST_SSRXP_4
USB3_HOST_SSRXN_3
USB3_HOST_SSRXP_3
U12
LPW5202ADB5F
R6363 4.7K
R6397 47K
R116 3.9K
R115 2K
R7015 NC/4.7K
R7017 47K
R7018 3.9K
R7016 2K
C157 22uF/10V
C161 22uF/10V
C162 22uF/10V
C8974 22uF/10V
C8973 22uF/10V
C8975 22uF/10V
armsom
https://armsom.org/
Project: ArmSOM-CM7S-IO
File: TYPEC_USBHUB
Date: Friday, July 31, 2026
Rev: V1.0
Designed by: Park
Reviewed by: <Checker>
Sheet: 7 of 10

KEY

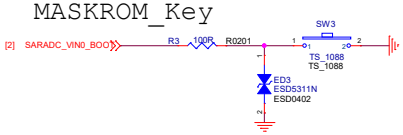
PWR_KEY



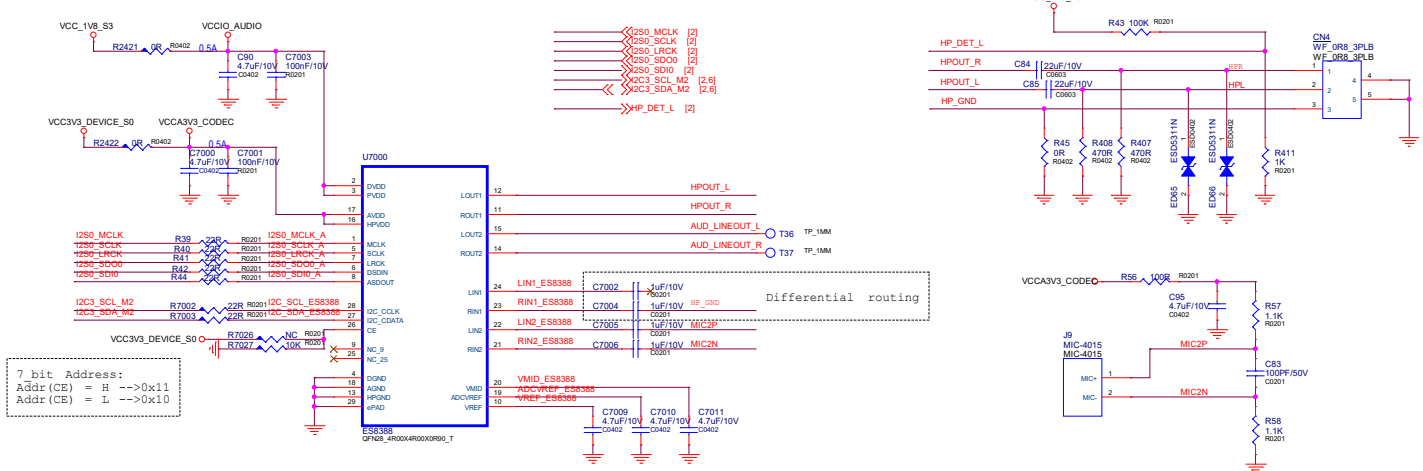
RESET_Key



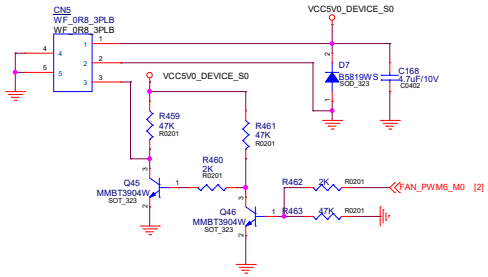
MASKROM_Key



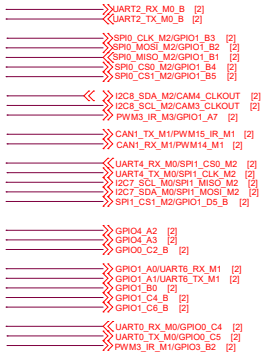
AUDIO CODEC

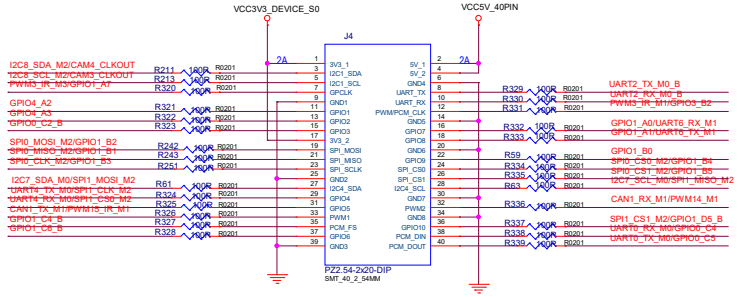


FAN

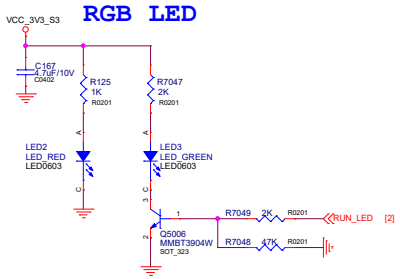


40PIN_GPIO

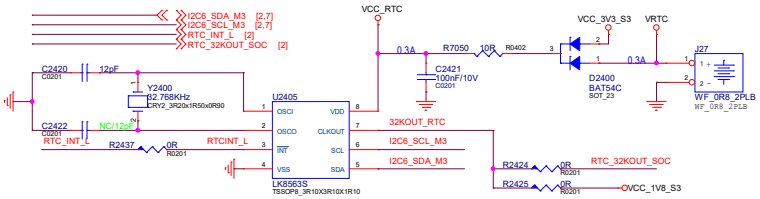


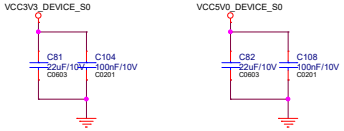


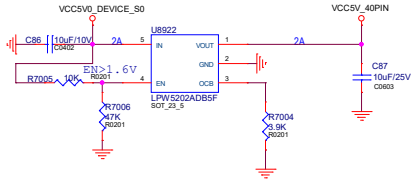
RGB LED



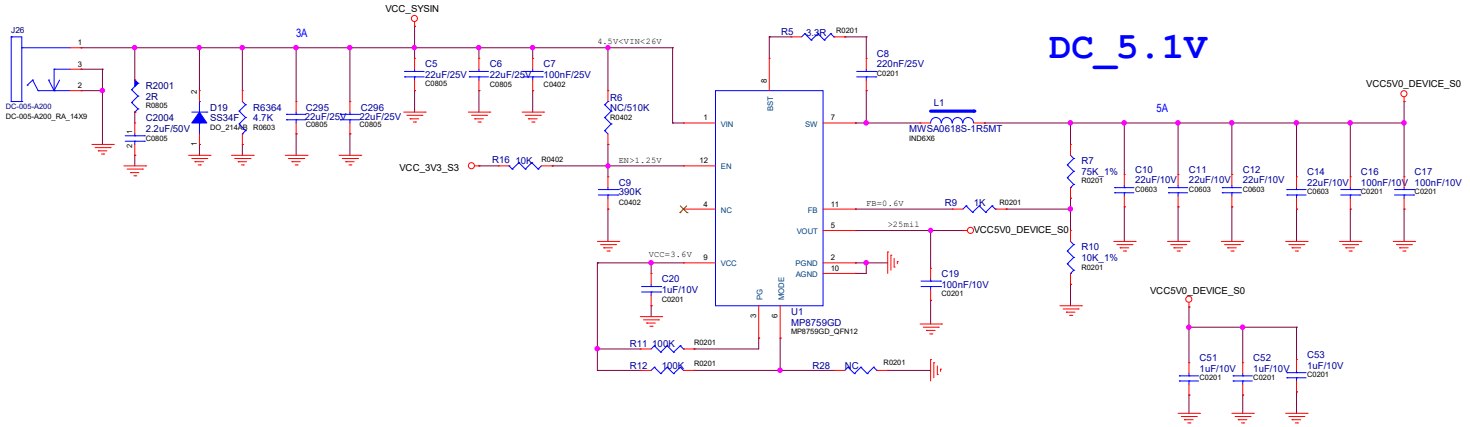
RTC

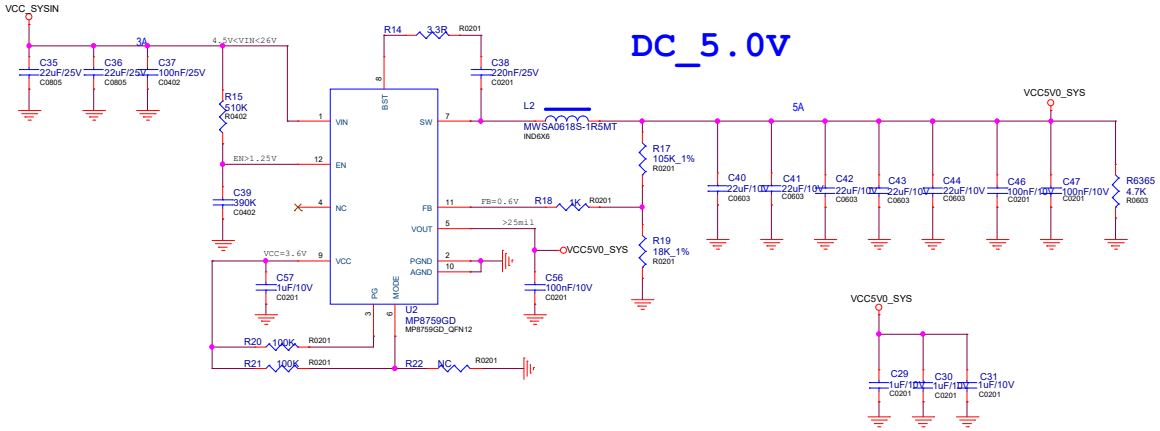


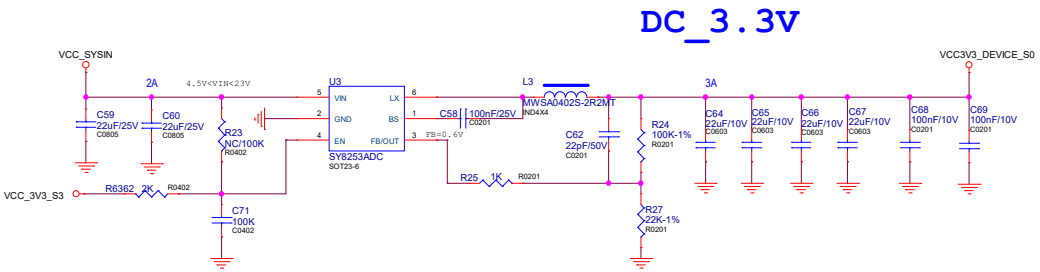


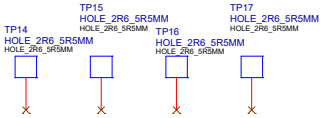


armsom	https://armsom.org/		
Project:	ArmSOM-CM7S-IO		
File:	Audio_40PIN		
Date:	Friday, July 31, 2026	Rev:	V1.0
Designed by:	Park	Reviewed by: <Checker>	Sheet: 8 of 10









armsom	https://armsom.org/				
Project:	ArmSOM-CM7S-IO				
File:	Power				
Date:	Friday, July 31, 2026			Rev:	V1.0
Designed by:	Park	Reviewed by:	<Checker>	Sheet:	9 of 10

Revision History

Version	Date	By	Change Dsecription	Approved
V1.0	2026-07-14	SL Chen	First release;	

armsom	https://armsom.org/				
Project:	ArmSOM-CM7S-IO				
File:	History				
Date:	Friday, July 31, 2026			Rev:	V1.0
Designed by:	Park	Reviewed by:	<Checker>	Sheet:	10 of 10