REF_LD20_96 BOARD

		EU	NA	ASIA	CHN			EU	NA	ASIA	CHN
1	001_TOP					28	028_DCDC_STM				
2	002_HV2_POWER					29	029_DCDC_BE1				
3	003_HV2_CORE					30	030_DCDC_BE2				
4	004_HV2_AUDIO					31	031_History				
5	005_HV2_VIDEO					32		O	X	X	O
6	006_LD20_BGA1					33		X	X	X	X
7	007_LD20_BGA2					34		X	X	O	O
8	008_LD20_PWR					35		O	X	X	X
9	009_LD20_DDR#0					36		O	X	O	O
10	010_LD20_DDR#1					37		X	X	X	X
11	011_LD20_DDR#2					38		X	O	O	O
12	012_LD20_DEST					39		O	X	X	X
13	013_INITIAL					40					
14	014_PORT					41		O	X	X	X
15	015_I2CI_DBG_SRL					42		X	X	X	X
16	016_User LEDs					43					
17	017_PWR_CTRL_RST					44					
18	018_USB TO UART					45					
19	019_eMMC					46					
20	020_PERI_USB_WIFI					47					
21	021_00_DCDC_CTRL	O	X	X	X	48					
22	022_PERI_ETHER(RTL8211E-VB)					49					
23	023_PERI_ETHER_COMMON					50					
24	024_PERI_PCI					51					
25	025_AVIN_HDMI0-1					52					
26	026_SPDIF										
27	027_EXCON_TV_Tuner										

CONFIDENTIAL

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HV2 POWER

1.2V System

SUB1.2V

U0101O

FB0001 BLM15PX121SN1D
C0008 10uF/16V/0603
C0002 10uF/16V/0603
C0001 0.1uF/16V
C0003 0.1uF/16V
C0004 0.1uF/16V
C0005 0.1uF/16V
C0006 0.1uF/16V
C0007 0.1uF/16V

H12 H13 J12 J13 K12 K13 L12 L13 M13 N13 T17 U10 U11 U17 — VDD11

D4 E4 F5 J5 M5 P5 R4 — LVVDD11

FB0003 BLM15PX121SN1D
C0013 10uF/16V/0603
C0012 0.1uF/16V

C11 D10 E11 — AVDDTX11

U12 U13 U14 V13 V16 — AVDDHR0111

U6 U7 U8 U9 V8 — AVDDHR2311

FB0006 BLM15PX121SN1D
C0018 10uF/16V/0603
C0019 0.1uF/16V

J16 N17 P18 R18 — VBRVDD11

FB0007 BLM15PX121SN1D
C0020 10uF/16V/0603
C0021 0.1uF/16V

G18 H18 J17 M16 — VBRVDD11A

HV2_BGA_V2_0

3.3V System

SUB3.3V

U0101P

FB0008 BLM15PX121SN1D
C0022 10uF/16V/0603
C0023 0.1uF/16V

M11 M12 N10 N11 N12 T5 U5 — VDD33

H4 K4 M4 P4 — LVVDD33

AVDDTX33

FB0010 BLM15PX121SN1D
C0026 10uF/16V/0603
C0027 0.1uF/16V

D11 D12 — AVDDTX33

U16 V17 — AVDDHR033

T12 V12 — AVDDHR133

T9 V9 — AVDDHR233

V4 V5 — AVDDHR333

FB0013 BLM15PX121SN1D
C0035 10uF/16V/0603
C0034 0.1uF/16V

D9 E9 — AVDDPLL33

FB0014 BLM15PX121SN1D
C0037 10uF/16V/0603
C0036 0.1uF/16V

K16 K17 L16 L18 M17 M18 — VBRVDD33

HV2_BGA_V2_0

Ground

U0101Q

A1 A19 A20 B19 B20 C8 F6 H10 H11 H16 J8 J9 J10 J11 K5 K9 K10 K11 L9 L10 L11 M9 M10 N8 N16 T15 U15 Y1 Y20 — VSS

A2 B1 F4 G4 J4 K6 L5 L8 U3 W1 — LVVSS

G5 H5 L4 N4 N5 — LVDVSS

T13 T14 V11 V14 V15 V18 Y19 — AVSSHR01

T7 T8 V3 V6 V7 V10 Y2 — AVSSHR23

C10 C12 E12 — AVSSTX

H8 H9 — AVSSPLL

H17 J18 K18 L17 N18 P17 — VBRVSS

HV2_BGA_V2_0

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HV2 CORE

RESET

U0101B
NRESET D17
R0203 22
LD20_HV2_XRESET
LD20_HV2_XRESET [4]
HV2_BGA_V2_0

U0101A
Clock
SYSCLK A8
XO B8
HV2_BGA_V2_0
R0202 1M
X0201 27MHz
6.8pF C0201
6.8pF C0202
R0201 100

SUB5V
FB0201 BLM15PX121SN1D
D0201 BAV70,215
5V_HDMI_TX

U0101K
LVDS
L0D0P B5
L0D0N A5
L0D1P B4
L0D1N A4
L0D2P B3
L0D2N A3
L0C0P C1
L0C0N C3
L0D3P C4
L0D3N C2
L0D4P D3
L0D4N D2
L1D0P E1
L1D0N E2
L1D1P F1
L1D1N E3
L2D3P M3
L2D3N M2
L2D4P N3
L2D4N N2
L3D0P P1
L3D0N P2
L3D1P R1
L3D1N P3
L3D2P R3
L3D2N R2
L3C0P T3
L3C0N T2
L3D3P U1
L3D3N U2
L3D4P V1
L3D4N V2
HV2_BGA_V2_0

U0101C
Other
TESTSEL E8
MODE0 E7
MODE1 B7
MODE2 A6
MODE3 D7
MODE4 B6
TEST00 C7
TEST01 A7
TEST02 D8
TEST03 W2
TEST04 U4
TEST05 T6
TEST06 T16
TEST07 W19
TEST08 W20
TEST09 R16
TEST10 R17
TEST11 P16
TEST12 T4
TEST13 N8
TEST14 R5
TEST15 M8
TEST16 C5
TEST17 E6
TEST18 D5
TEST19 E5
TESTIO C6
TESTIO_LV D6
FPEN0 G16
FPEN1 G17
TESTIO_TX E10
TESTIO_RX0 T11
TESTIO_RX2 T10
RX4P5V E13
(TEST PIN)
HV2_BGA_V2_0
R0218 4.7K

U0101I
V-by-One (TX)
L2C0P M1
L2C0N L3
L2D2P L1
L2D2N L2
L2D1P K3
L2D1N K2
L2D0P J3
L2D0N J2
L1D4P J1
L1D4N H3
L1D3P H1
L1D3N H2
L1C0P G3
L1C0N G2
L1D2P F3
L1D2N F2
VBOLOCKN A17
VBOHTPDN A18
HV2_BGA_V2_0
SUB3.3V
R0217 30K
R0216 30K

U0102
PIC24FJ256GB106
PIC_HV2_RESET 1
PIC_/MCLR 7
ICSP_CLK 15
ICSP_DAT 16
PIC_SDA 43
PIC_SCL 44
PIC_NIRQ 46
OSCI 39
OSCO 40
SCL3/PMD6/CN64/RE6 2
SDA3/PMD7/CN65/RE7 3
C1IND/RP21/PMA5/CN8/RG6 4
C1INC/RP26/PMA4/CN9/RG7 5
C2IND/RP19/PMA3/CN10/RG8 6
RP27/PMA2/C2INC/CN11/RG9 8
PGEC3/AN5/C1INA/V BUSON /RP18/CN7/RB5 11
PGED3/AN4/C1INB/USBOEN/RP28/CN6/RB4 12
AN3/C2INA/VPIO/CN5/RB3 13
AN2/C2INB/VMIO/RP13/CN4/RB2 14
GEC2/AN6/RP6/CN24/RB6 17
PGED2/AN7/RP7/RCV/CN25/RB7 18
AN8/RP8/CN26/RB8 21
AN9/RP9/PMA7/CN27/RB9 22
TMS/CV REF /AN10/PMA13/CN28/RB10 23
TDO/AN11/PMA12/CN29/RB11 24
TCK/AN12/PMA11/CTED2/CN30/RB12 27
TDI/AN13/PMA10/CTED1/CN31/RB13 28
AN14/CTPLS/RP14/PMA1/CN32/RB14 29
AN15/RP29/REFO/PMA0/CN12/RB15 30
VDD1 10
VDD2 19
VDD3 26
VDD4 35
VDD5 38
VDD6 57
VSS1 9
VSS2 20
VSS3 25
VSS4 41
VCAP 56
PIC_RXD 50
PIC_TXD 49
SDA2/RP10/PMA9/CN17/RF4 31
SCL2/RP17/PMA8/CN18/RF5 32
RP16/USBID/CN71/RF3 33
V BUS 34
D-/RG3 36
D+/RG2 37
RTCC/DMLN/RP2/CN53/RD8 42
RP12/PMCS1/CN56/RD11 45
SOSCI/C3IND/CN1/RC13 47
SOSCO/T1CK/C3INC/RPI37/ 48
RP22/PMBE/CN52/RD3 51
RP25/PMWR/CN13/RD4 52
RP20/PMRD/CN14/RD5 53
C3INB/CN15/RD6 54
C3INA/CN16/RD7 55
VBUSST /V CMPST 1/CN68/RF0 58
VCMPST 2/CN69/RF1 59
PMD0/CN58/RE0 60
PMD1/CN59/RE1 61
PMD2/CN60/RE2 62
PMD3/CN61/RE3 63
PMD4/CN62/RE4 64
SH
[4] PIC_RESET
R0229 10K
R0221 0
R0219 22/NC
C0203 0.1uF/16V
R0232 4.7K
[4,15] HVCON_SDA1
[4,15] HVCON_SCL1
LD20_HV2_NIRQ
R0223 22
R0220 22
R0224 0
C0211 6.8pF
C0212 6.8pF
X0202 20MHz
R0231 22
SUB3.3V
R0227 10K
R0222 0
LD20_HV2_XRESET
R0230 10K
R0225 10K
NPN-BEC Q0201
BC847AE6327
C0204 0.1uF/16V
C0205 0.1uF/16V
C0206 0.1uF/16V
C0207 0.1uF/16V
C0208 0.1uF/16V
C0209 0.1uF/16V
C0210 10uF/16V/0603
R0233 0

J0200
ICSP_CLK
ICSP_DAT
PIC_/MCLR
SUB3.3V

UART

J0201
SUB3.3V
R0228 10K
R0226 10K
PIC_RXD
PIC_TXD
Pitch1.25mm V-type wafer

U0101E
HDMI-RX0
P0RX2P Y18
P0RX2M W18
P0RX1P Y17
P0RX1M W17
P0RX0P Y16
P0RX0M W16
P0RXCP Y15
P0RXCM W15
RX0SCL C15
RX0SDA D13
RX0P5V C13
HV2_BGA_V2_0
SUB5V
R0209 47K
R0208 47K
R0207 3.3K

U0101F
HDMI-RX1
P1RX2P Y14
P1RX2M W14
P1RX1P Y13
P1RX1M W13
P1RX0P Y12
P1RX0M W12
P1RXCP Y11
P1RXCM W11
RX1SCL E14
RX1SDA C16
RX1P5V D14
HV2_BGA_V2_0
SUB5V
R0206 47K
R0205 47K
R0204 3.3K

U0101G
HDMI-RX2
P2RX2P Y10
P2RX2M W10
P2RX1P Y9
P2RX1M W9
P2RX0P Y8
P2RX0M W8
P2RXCP Y7
P2RXCM W7
RX2SCL B15
RX2SDA A15
RX2P5V A13
HV2_BGA_V2_0
SUB5V
R0212 47K
R0210 47K
R0211 3.3K

U0101H
HDMI-RX3
P3RX0M W4
P3RX0P Y4
P3RX1M W5
P3RX1P Y5
P3RX2M W6
P3RX2P Y6
P3RXCM W3
P3RXCP Y3
RX3SCL A16
RX3SDA B16
RX3P5V B13
HV2_BGA_V2_0
SUB5V
R0215 47K
R0214 47K
R0213 3.3K

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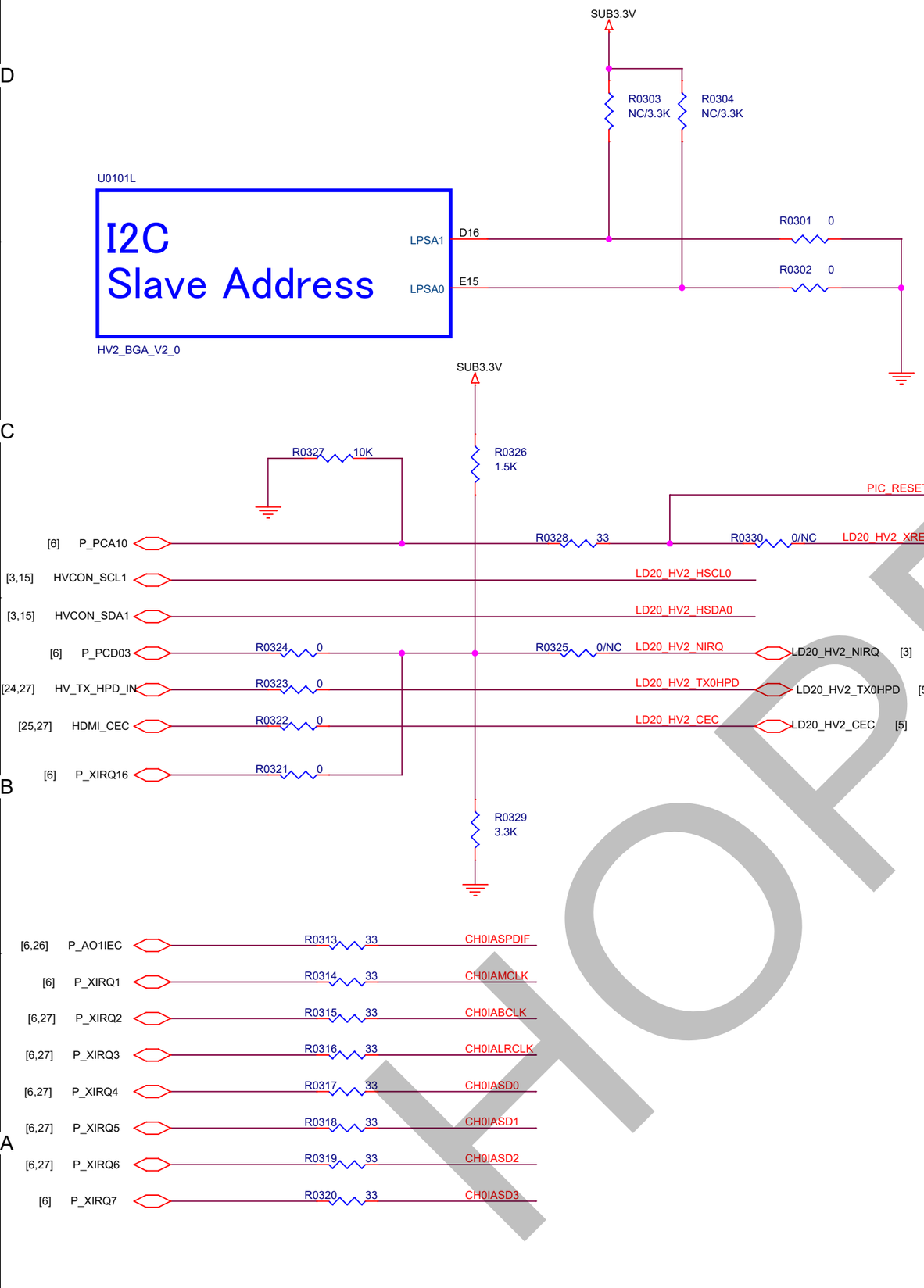
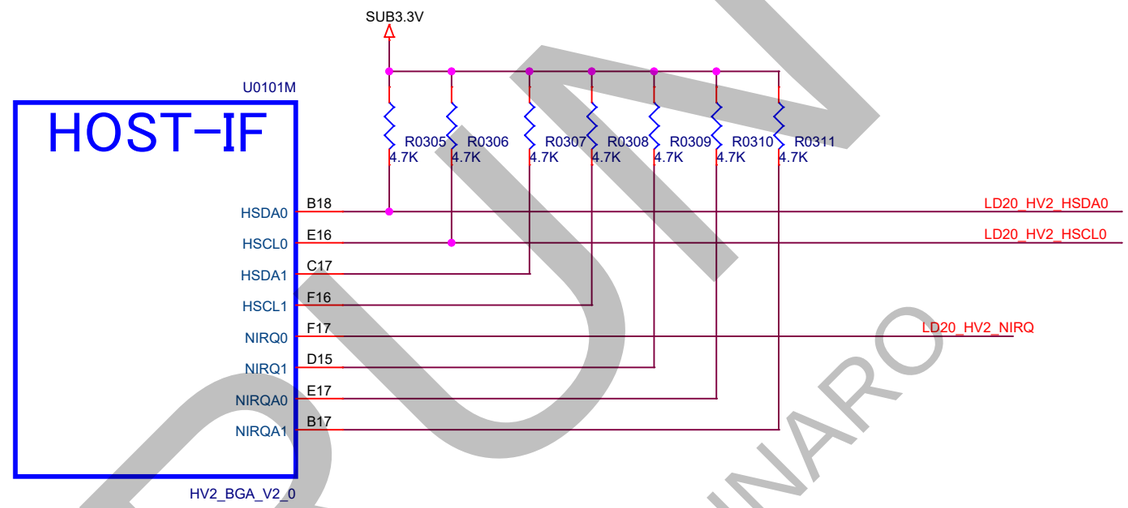
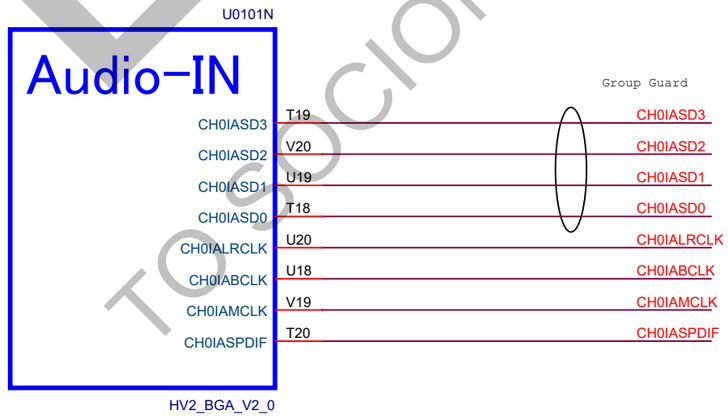
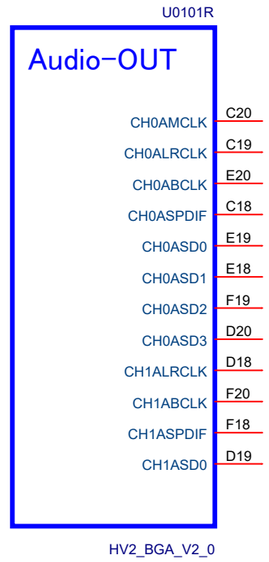
HV2
AUDIO









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HV2
VIDEO

U0101D

HDMI-TX

HV2_BGA_V2_0

FL0401 SDCW1210H-2-900TF

FL0402 SDCW1210H-2-900TF

FL0403 SDCW1210H-2-900TF

FL0404 SDCW1210H-2-900TF

H050FS019G299BR

CN0401

D0400 EZAEGCA50AV

D0401 EZAEGCA50AV

D0402 EZAEG2A50AX

D0403 EZAEG2A50AX

V-by-One Signal
Isometry wiring
Differencial Impedance = 100 Ohm

U0101J

V-by-One (RX)

HV2_BGA_V2_0

VB1 Config

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LD20

U1000A
LD10_pin

CLK
AXI AK2 P_AXI [12]
AXO AK1 P_AXO [12]

RESET
XRSTSTM M5 P_XRSTSTM [17]
XRST M4 P_XRST [17,27]

JTAG
TCK M6
TMS L6
TDI P7
TDO M7
TRST N8

POWER_CONTROL
STMXRON U9

REGULATOR
STMVOUT09 P6 P_STMVOUT09 [8]

STM_IR
STMRMIN W7

STM_PORT
STMTIME0 AE4
STMTIME1 AF3
STMTIME2 AG5
STMTIME3 AG4

STM_PWM
STMTIME4 AJ3
STMTIME5 AF4
STMTIME6 AJ4

STM_SERIAL
STMSBO0 AJ1 P_STMSBO0 [15]
STMSBI0 AJ2 P_STMSBI0 [15]

STM_I2C
STMSDA AH3
STMSCL AH4

STM_HDMI
STMCEC0 AJ6 P_STMCEC0 [25]
STMCECPUL AJ7 P_STMCECPUL [25]

STM_AVLINK
STMCECAVL1A AH7

STM_MHL
STMCDSENSE AK7
STMCBUS AN6

STM_HDMI
STMHPDO0 AJ5 P_STMHPDO0 [25]
STM5VDET0 AK6 P_STM5VDET0 [25]
STMDDCSDA0 AL6 P_STMDDCSDA0 [25]
STMDDCSCL0 AL5 P_STMDDCSCL0 [25]
STMHPDO1 AM9
STM5VDET1 AN8
STMDDCSDA1 AM10 P_STMDDCSDA1 [14]
STMDDCSCL1 AN9 P_STMDDCSCL1 [14]
STMHPDO2 AP9
STM5VDET2 AN10
STMDDCSDA2 AM11 P_STMDDCSDA2 [14]
STMDDCSCL2 AN11 P_STMDDCSCL2 [14]
STMHPDO3 AP11
STM5VDET3 AN12
STMDDCSDA3 AM13 P_STMDDCSDA3 [14]
STMDDCSCL3 AM12 P_STMDDCSCL3 [14]

STM_PC_EDID
STMDDCSDA4 R6
STMDDCSCL4 R7

POWER_CONTROL
MAINPWRON P5 P_MAINPWRON [13,17]
WOLPWRON V6 P_WOLPWRON [23]

STM_ADIN
STMADIN0 T7
STMADIN1 U7
STMADIN2 T6 P_STMADIN2 [14]
STMADIN3 U6 P_STMADIN3 [27]

STM_PORT
STMGPIO0 AA5
STMGPIO1 AB5 P_STMGPIO1 [24]
STMGPIO2 AC6 P_STMGPIO2 [22]
STMGPIO3 AC7 P_STMGPIO3 [20]
STMGPIO4 AB7 P_STMGPIO4 [20]
STMGPIO5 AB6 P_STMGPIO5 [14]
STMGPIO6 AA6
STMGPIO7 AA7
STMGPIO8 Y7
STMGPIO9 Y6

STM_MHL
STMECBUS AM6

NC1 AR16
NC2 AU9

U1000B
LD10_pin

SYSTEM_BUS
XECS1 AM30
ERXW AT31 P_ERXW [13]
XERWE1 AR30 P_XERWE1 [13]

NAND_I/F
XNFWP AM25
XNFCE0 AP26
NFRYBY0 AN28
XNFRE AM26
XNFWE AN27 P_XNFRE [13]
NFALE AM24 P_XNFWE [13]
NFCLE AN26 P_NFALE [13]
NFD0 AP31 P_NFCLE [13]
NFD1 AN31
NFD2 AN30
NFD3 AP29
NFD4 AN29
NFD5 AM28
NFD6 AM29
NFD7 AM27

2 A2
1 A1
J1000
R1001
1K

eMMC_I/F
XERST J4 P_XERST [19]
MMCCLK H4 P_MMCCLK [19]
MMCCMD H3 P_MMCCMD [19]
MMCDS J3 P_MMCDS [19]
MMCDAT0 K1 P_MMCDAT0 [19]
MMCDAT1 K3 P_MMCDAT1 [19]
MMCDAT2 K4 P_MMCDAT2 [19]
MMCDAT3 J1 P_MMCDAT3 [19]
MMCDAT4 K2 P_MMCDAT4 [19]
MMCDAT5 J2 P_MMCDAT5 [19]
MMCDAT6 L4 P_MMCDAT6 [19]
MMCDAT7 L3 P_MMCDAT7 [19]

ETHER_MAC
MDC C3 P_MDC [23]
MDIO C4 P_MDIO [23]
MDIO_INTL D3 P_MDIO_INT [22]
PHYRSTL D4 P_PHYRSTL [22]
RGMII_RXCLK E5 P_RGMII_RXCLK [22]
RGMII_RXD0 E4 P_RGMII_RXD0 [22]
RGMII_RXD1 E3 P_RGMII_RXD1 [22]
RGMII_RXD2 E2 P_RGMII_RXD2 [22]
RGMII_RXD3 E1 P_RGMII_RXD3 [22]
RGMII_RXCTL F3 P_RGMII_RXCTL [22]
RGMII_TXCLK B2 P_RGMII_TXCLK [23]
RGMII_TXD0 D2 P_RGMII_TXD0 [23]
RGMII_TXD1 C1 P_RGMII_TXD1 [23]
RGMII_TXD2 C2 P_RGMII_TXD2 [23]
RGMII_TXD3 B1 P_RGMII_TXD3 [23]
RGMII_TXCTL D1 P_RGMII_TXCTL [23]

USB
USB0VBUS AR11 P_USB0VBUS [20]
USB0OD AT11 P_USB0OD [20]
USB1VBUS AR12
USB1OD AP12
USB2VBUS AR10
USB2OD AT10 P_USB2VBUS [20]
USB3VBUS AU10 P_USB2OD [13,20]
USB3OD AV10

SERIAL
TXD0 F5 P_TXD0 [15]
RXD0 F6 P_RXD0 [15]
SPISYNC0 AR31 P_SPISYNC0 [27]
SPISCLK0 AP32 P_SPICLK0 [27]
SPITXD0 AR32 P_SPITXD0 [15]
SPIRXD0 AR33 P_SPIRXD0 [15]

DEMOD
AGCI AD1 P_TU_AGCI [27]

I2C
DMDSDA0 AC5 P_DMDSDA0 [15]
DMDSCL0 AC4 P_DMDSCL0 [15]
SDA0 F15 P_SDA0 [15,27]
SCL0 G16 P_SCL0 [15,27]
SDA1 AE2 P_SDA1 [15,27]
SCL1 AE1 P_SCL1 [15,27]

VIDEO_IN
HIN V7
VIN W6

CI_I/F
PCA00 AP30
PCA01 AV29
PCA02 AU29
PCA03 AT29
PCA04 AR29
PCA05 AP28 P_PCA05 [27]
PCA06 AR28 P_PCA06 [27]
PCA07 AP28 P_PCA07 [27]
PCA08 AV25 P_PCA08 [27]
PCA09 AP25
PCA10 AT24 P_PCA10 [4]
PCA11 AV24 P_PCA11 [27]
PCA12 AR27 P_PCA12 [27]
PCA13 AU25 P_PCA13 [27]
PCA14 AT25 P_PCA14 [27]
PC0READY AT26 P_PC0READY [27]
PC0CD1 AM14 P_PC0CD1 [27]
PC0CD2 AN25 P_PC0CD2 [27]
PC0WAIT AM22 P_PC0WAIT [27]
PC0RESET AN22 P_PC0RESET [27]
PC0CE1 AR24 P_PC0CE1 [27]
PC0WE AR25 P_PC0WE [27]
PC0OE AU24 P_PC0OE [27]
PC0IOWR AM17 P_PC0IOWR [27]
PC0IORD AM15 P_PC0IORD [27]
PCD00 AV30 P_PCD00 [27]
PCD01 AU30 P_PCD01 [27]
PCD02 AT30 P_PCD02 [27]
PCD03 AP22 P_PCD03 [4]
PCD04 AR22 P_PCD04 [27]
PCD05 AP23 P_PCD05 [27]
PCD06 AR23 P_PCD06 [27]
PCD07 AT23 P_PCD07 [27]

U1000C
LD10_pin

TS-IN0
HS0BCLKIN AN20
HS0SYNCIN AM23
HS0VALIN AM21
HS0DIN0 AP24
HS0DIN1 AN24
HS0DIN2 AN23
HS0DIN3 AN14
HS0DIN4 AP14
HS0DIN5 AN15
HS0DIN6 AN16
HS0DIN7 AP16

TS-OUT
HS0BCLKOUT AP27
HS0SYNCOUT AN17
HS0VALOUT AR26
HS0DOUT0 AN18
HS0DOUT1 AP19
HS0DOUT2 AN19
HS0DOUT3 AM19
HS0DOUT4 AM18
HS0DOUT5 AM20
HS0DOUT6 AP21
HS0DOUT7 AN21

TS-IN1
HS1BCLKIN AE6 P_HS1BCLKIN [27]
HS1SYNCIN AD5 P_HS1SYNCIN [27]
HS1VALIN AD6 P_HS1VALIN [27]
HS1DIN0 AE7 P_HS1DIN0 [27]
HS1DIN1 AD7
HS1DIN2 AF7 P_HS1DIN2 [27]
HS1DIN3 AF6 P_HS1DIN3 [27]
HS1DIN4 AF5 P_HS1DIN4 [27]
HS1DIN5 AG6 P_HS1DIN5 [27]
HS1DIN6 AH6
HS1DIN7 AG7

AUDIO_OUT
A_MUTE E14
AO1EC E15 P_AO1IEC [4,26]
AO1ARC AM13 P_AO1ARC [27]
AO1DACCK G15
AO1BCK F13
AO1LRCK E13
AO1D0 G14
AO1D1 G13
AO1D2 F12

VBO
HTPDN0 B3 P_HTPDN0 [5]
LOCKN0 A3 P_LOCKN0 [5]
HTPDN1 A10
LOCKN1 B10

PANEL
PWMA K5
LR_GOUT J5

PORT_IRQ
XIRQ0 J6 P_XIRQ0 [27]
XIRQ1 G4 P_XIRQ1 [4]
XIRQ2 H7 P_XIRQ2 [4,27]
XIRQ3 G6 P_XIRQ3 [4,27]
XIRQ4 G5 P_XIRQ4 [4,27]
XIRQ5 F4 P_XIRQ5 [4,27]
XIRQ6 G7 P_XIRQ6 [4,27]
XIRQ7 F7 P_XIRQ7 [4]
XIRQ8 G8
XIRQ9 G9
XIRQ10 E8 P_XIRQ10 [27]
XIRQ11 F8 P_XIRQ11 [16]
XIRQ13 F9 P_XIRQ13 [16]
XIRQ14 E10 P_XIRQ14 [27]
XIRQ16 F10 P_XIRQ16 [4]
XIRQ17 G10 P_XIRQ17 [16]
XIRQ18 G11 P_XIRQ18 [16]
XIRQ19 G12 P_XIRQ19 [27]
XIRQ20 F11 P_XIRQ20 [27]

PORT
PORT00 H6
PORT01 K6
PORT02 K7 P_PORT02 [16]
PORT03 J7 P_PORT03 [16]
PORT04 L7 P_PORT04 [27]

CLOCKOUT
CK27FO AT33 P_CK27FO [27]

VIDEO_OUT
PHSYNCO AU34 P_PHSYNCO [27]
PVSYNCO AV34 P_PVSYNCO [27]

PCIex
XPERST AT21 P_XPERST [24]
XPEWAKE0 AR21 P_XPEWAKE [24]
PECLKP AR19 P_PECLKP [24]
PECLKN AT19 P_PECLKN [24]
PET0P_USB1TXP AV19 P_PET0P_USB1TXP [24]
PET0N_USB1TXN AU19 P_PET0N_USB1TXN [24]
PER0P_USB1RXP AV20 P_PER0P_USB1RXP [24]
PER0N_USB1RXN AU20 P_PER0N_USB1RXN [24]

USB
USB0DP AT15 P_USB0DP [20]
USB0DN AR15 P_USB0DN [20]
USB0TXP AV14 P_USB0TXP [20]
USB0TXN AU14 P_USB0TXN [20]
USB0RXP AV15 P_USB0RXP [20]
USB0RXN AU15 P_USB0RXN [20]
USB1DP AT20
USB1DN AR20
USB2DP AT14 P_USB2DP [20]
USB2DN AR14 P_USB2DN [20]
USB3DP AT13 P_USB3DP [20]
USB3DN AR13 P_USB3DN [20]

U1000L
NC1 A2
NC2 AV1

U1000D
LD10_pin

HDMI_RX
RX0CP AL3 P_RX0CP [25]
RX0CM AK4 P_RX0CM [25]
RX0P0 AM5 P_RX0P0 [25]
RX0M0 AL4 P_RX0M0 [25]
RX0P1 AN5 P_RX0P1 [25]
RX0M1 AM4 P_RX0M1 [25]
RX0P2 AN3 P_RX0P2 [25]
RX0M2 AN4 P_RX0M2 [25]
RX1CP AP2
RX1CM AP1
RX1P0 AR2
RX1M0 AR1
RX1P1 AT2
RX1M1 AT1
RX1P2 AU2
RX1M2 AU1
RX2CP AU3
RX2CM AV2
RX2P0 AU4
RX2M0 AV3
RX2P1 AV5
RX2M1 AV4
RX2P2 AT5
RX2M2 AU5
RX3CP AR6
RX3CM AT6
RX3P0 AR7
RX3M0 AP7
RX3P1 AR8
RX3M1 AP8
RX3P2 AR9
RX3M2 AT8

DEMOD
FEAINP AD3 P_FEAINP [27]
FEAINN AD4 P_FEAINN [27]
DMDADVOUT09 AE5 P_DMDADVOUT09 [8]

VIDEO
V1 Y3
R1 Y1
G1 Y2
B1 W1
R2 W4
G2 V3
B2 V4
R3 U4
G3 U5
B3 T4
VC1_N W2
VC2_N W3
VC3_N V5
VC4_N Y4
VADCVOUT03 AA3 P_VADCVOUT09 [8]
SCIDIN1 T5
FBL1 W6
VOUT1 AA4

AUDIO
LIN1_LP R2
LIN1_RP R1
LIN2_LP R4
LIN2_RP R3
LIN3_LP P1
LIN3_RP P2
LO2_L P3
LO2_R P4
HP1_L N3
HP1_R N4
VREF1V5 R5 P_VREF1V5 [12]

VBO
V0AP A5 P_V0AP [5]
V0AN A4 P_V0AN [5]
V0BP C5 P_V0BP [5]
V0BN B5 P_V0BN [5]
V0CP C6 P_V0CP [5]
V0CN D5 P_V0CN [5]
V0DP E6 P_V0DP [5]
V0DN D6 P_V0DN [5]
V0EP E7 P_V0EP [5]
V0EN D7 P_V0EN [5]
V0FP C8 P_V0FP [5]
V0FN D8 P_V0FN [5]
V0GP C9 P_V0GP [5]
V0GN D9 P_V0GN [5]
V0HP A9 P_V0HP [5]
V0HN B9 P_V0HN [5]
V1AP C11
V1AN C10
V1BP E11
V1BN D11
V1CP E12
V1CN D12
V1DP C13
V1DN D13

SUB1.8V

AFB
AFB AT34 P_AFB [30]
SELAFB0 AK29
SELAFB1 AK28
SELAFB2 AK27

TEST
FPEN M9
TESTSEL T8
TESTIO1 AB9
TESTIO2 AC9

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U1000H
LD10_pin

BE_POWER_0.9V

VDD09	AA17	P_VDD09	[8,30]
VDD09	AA18		
VDD09	AA19		
VDD09	AA20		
VDD09	AA21		
VDD09	AA22		
VDD09	AB17		
VDD09	AB18		
VDD09	AB19		
VDD09	AB20		
VDD09	AB21		
VDD09	AB22		
VDD09	AC17		
VDD09	AC18		
VDD09	AC19		
VDD09	AC20		
VDD09	AC21		
VDD09	AC22		
VDD09	AD16		
VDD09	AD17		
VDD09	AD18		
VDD09	AD20		
VDD09	AD21		
VDD09	AD23		
VDD09	AD24		
VDD09	AE16		
VDD09	AE17		
VDD09	AE18		
VDD09	AE19		
VDD09	AE20		
VDD09	AE21		
VDD09	AE22		
VDD09	AE23		
VDD09	AE24		
VDD09	AF16		
VDD09	AF17		
VDD09	AF18		
VDD09	AF19		
VDD09	AF23		
VDD09	AF24		
VDD09	AF27		
VDD09	AG16		
VDD09	AG17		
VDD09	AG23		
VDD09	AG26		
VDD09	AG27		
VDD09	AH20		
VDD09	AH21		
VDD09	AH24		
VDD09	AH27		
VDD09	P20		
VDD09	R16		
VDD09	R17		
VDD09	R18		
VDD09	R19		
VDD09	T16		
VDD09	T17		
VDD09	T18		
VDD09	T19		
VDD09	T20		
VDD09	T21		
VDD09	U16		
VDD09	U17		
VDD09	U18		
VDD09	U19		
VDD09	U20		
VDD09	U21		
VDD09	V16		
VDD09	V17		
VDD09	V18		
VDD09	V19		
VDD09	V20		
VDD09	V21		
VDD09	W16		
VDD09	W17		
VDD09	W18		
VDD09	W19		
VDD09	W20		
VDD09	W21		
VDD09	W22		
VDD09	Y16		
VDD09	Y17		
VDD09	Y18		
VDD09	Y19		
VDD09	Y20		
VDD09	Y21		
VDD09	Y22		
VDD09			
AVDDVB09_0	P17	P_AVDDVB09_0	[8]
AVDDVB09_0	P18		
AVDDVB09_1	P19	P_AVDDVB09_1	[8]

U1000I
LD10_pin

BE_POWER_1.5V

VDDIO15	AA26	P_VDDIO15	[8,9,10,11,29]
VDDIO15	AB25		
VDDIO15	AC26		
VDDIO15	AD31		
VDDIO15	AG31		
VDDIO15	AK31		
VDDIO15	AL31		
VDDIO15	AM31		
VDDIO15	AN32		
VDDIO15	AN33		
VDDIO15	AP33		
VDDIO15	AP34		
VDDIO15	AR34		
VDDIO15	D34		
VDDIO15	E33		
VDDIO15	E34		
VDDIO15	F31		
VDDIO15	F32		
VDDIO15	F33		
VDDIO15	G31		
VDDIO15	H19		
VDDIO15	H22		
VDDIO15	H24		
VDDIO15	H27		
VDDIO15	H30		
VDDIO15	K31		
VDDIO15	M31		
VDDIO15	N22		
VDDIO15	N24		
VDDIO15	N26		
VDDIO15	P23		
VDDIO15	P24		
VDDIO15	P25		
VDDIO15	R26		
VDDIO15	R32		
VDDIO15	T25		
VDDIO15	U26		
VDDIO15	V25		
VDDIO15	W26		
VDDIO15	Y25		
VDDIO15			

BE_POWER_1.8V

AVDD18	AC8	P_AVDD18	[8]
AVDDAAD18	U8	P_AVDDAAD18	[8]
AVDDADA18	Y8	P_AVDDADA18	[8]
AVDDDMD18	AD8	P_AVDDDMD18	[8]
AVDDHDR18	AF12	P_AVDDHDR18	[8]
AVDDHDR18	AG11		
AVDDHDR18	AG12		
AVDDHDR18	AH11		
AVDDHDR18	AA12	P_AVDDHP18	[8]
AVDDHP18	Y12		
AVDDHP18	H12		
AVDDPLL18_0	AL12	P_AVDDPLL18_0	[8]
AVDDPLL18_1	R11	P_AVDDPLL18_1	[8]
VDDEM18	N11	P_VDDEM18	[6,8,19,23,24,27,29]
AVDDVB18_0	P12	P_AVDDVB18_0	[8]
AVDDVB18_0	M12		
AVDDVB18_1	U11	P_AVDDVB18_1	[8]
VDD18	V11	P_VDD18	[6,8,19,23,24,27,29]
VDD18			

BE_POWER_3.3V

AVDDHDR33	AG14	P_AVDDHDR33	[8]
AVDDHDR33	AG15		
AVDDHDR33	AH14		
AVDDHDR33	AH15		
VDD33	U15	P_VDD33	[2,3,4,5,8,13,14,15,17,18,19,20,21,23,24,26,27,29]
VDD33	V15		
VDD33	W15		
VDD33			

STB_POWER_0.9V

AVDDUSB309	AP17	P_AVDDUSB309	[8]
VDDUSB09	AR18	P_VDDUSB09	[8]

STB_POWER_3.3V

VDDSTM33	P14	P_VDDSTM33	[8,13,16,17,20,23,24,25,28]
VDDWOL33	L5	P_VDDWOL33	[8,22,23]
AVDDUSB233	AR17	P_AVDDUSB233	[8]

STB_POWER_1.8V

VDDSTM18	R8	P_VDDSTM18	[8,23,28]
VDDWOL18	N6	P_VDDWOL18	[8,23]
AVDDUSB218	AV9	P_AVDDUSB218	[6,8,19,23,24,27,29]
AVDDUSB318	AP10	P_AVDDUSB318	[8]

U1000J
LD10_pin

GND

VSS	A1	
VSS	A14	
VSS	A20	
VSS	A24	
VSS	A30	
VSS	A34	
VSS	A35	
VSS	A38	
VSS	AA11	
VSS	AA13	
VSS	AA15	
VSS	AA23	
VSS	AA24	
VSS	AA25	
VSS	AA31	
VSS	AB4	
VSS	AB8	
VSS	AB11	
VSS	AB12	
VSS	AB23	
VSS	AB24	
VSS	AB26	
VSS	AB31	
VSS	AC3	
VSS	AC12	
VSS	AC23	
VSS	AC24	
VSS	AC25	
VSS	AC31	
VSS	AC35	
VSS	AD2	
VSS	AD13	
VSS	AD15	
VSS	AD26	
VSS	AD36	
VSS	AE3	
VSS	AE8	
VSS	AE11	
VSS	AE31	
VSS	AE38	
VSS	AF8	
VSS	AF11	
VSS	AF14	
VSS	AF15	
VSS	AF31	
VSS	AG8	
VSS	AG32	
VSS	AH5	
VSS	AH12	
VSS	AH16	
VSS	AH17	
VSS	AH31	
VSS	AH34	
VSS	AJ8	
VSS	AJ27	
VSS	AJ35	
VSS	AJ38	
VSS	AK3	
VSS	AK5	
VSS	AK34	
VSS	AL9	
VSS	AL11	
VSS	AL13	
VSS	AL17	
VSS	AL21	
VSS	AL22	
VSS	AL23	
VSS	AL27	
VSS	AL29	
VSS	AL30	
VSS	AM16	
VSS	AN35	
VSS	AP3	
VSS	AP4	
VSS	AP36	
VSS	AR5	
VSS	AR35	
VSS	AR38	
VSS	AT37	
VSS	AV35	
VSS	AV38	
VSS	B14	
VSS	B34	
VSS	C14	
VSS	C19	
VSS	C29	
VSS	C34	
VSS	D18	
VSS	D20	
VSS	D24	
VSS	D28	
VSS	D30	
VSS	D35	
VSS	D36	
VSS	E15	
VSS	E16	
VSS	E35	
VSS	E38	
VSS	F16	
VSS	F17	
VSS	F34	
VSS	G17	
VSS	G19	
VSS	G24	
VSS	G25	
VSS	G28	
VSS	H17	
VSS	H18	
VSS	H20	
VSS	H23	
VSS	H25	
VSS	H26	
VSS	H28	
VSS	J8	
VSS	J38	
VSS	K8	
VSS	K36	
VSS	L8	
VSS	L31	
VSS	L34	
VSS	M8	
VSS	M11	
VSS	N5	
VSS	N12	
VSS	N15	
VSS	N18	
VSS	N20	
VSS	N25	
VSS	N31	
VSS	P13	
VSS	P15	
VSS	P22	
VSS	P26	
VSS	P36	
VSS	R12	
VSS		

U1000K
LD10_pin

GND

VSS	R13	
VSS	R14	
VSS	R15	
VSS	R22	
VSS	R23	
VSS	R24	
VSS	R25	
VSS	R31	
VSS	R35	
VSS	R38	
VSS	T3	
VSS	T11	
VSS	T12	
VSS	T13	
VSS	T14	
VSS	T15	
VSS	T22	
VSS	T23	
VSS	T24	
VSS	T26	
VSS	T31	
VSS	U12	
VSS	U13	
VSS	U22	
VSS	U23	
VSS	U24	
VSS	U25	
VSS	U31	
VSS	U34	
VSS	V8	
VSS	V12	
VSS	V13	
VSS	V22	
VSS	V23	
VSS	V24	
VSS	V26	
VSS	W8	
VSS	W11	
VSS	W12	
VSS	W23	
VSS	W24	
VSS	W25	
VSS	W32	
VSS	W38	
VSS	Y5	
VSS	Y11	
VSS	Y13	
VSS	Y15	
VSS	Y23	
VSS	Y24	
VSS	Y26	
VSS		
AVSSADA	AA8	
	AL18	
AVSSUSB3	AP13	
AVSSUSB3	AT9	
AVSSUSB3	AT16	
AVSSUSB3	AT18	
AVSSUSB3		
	B4	
AVSSVB	D10	
AVSSVB	D14	
AVSSVB	H10	
AVSSVB	H14	
AVSSVB		

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LD20
PWR

NEAR

Behind SoC

SUB0.9V

10000mA P_VDD09 [7,30]

C1200 C1201 C1202 C1203 C1204 C1205 C1206 22uF/16V/0805

C1283 0.1uF/16V

R1205 5

C1207 C1208 10uF/16V/0603

C9902 C9901 1uF/16V

C1209 C1210 C1211 C1212 C1213 47nF/16V 33nF/16V 0.1uF/16V 0.22uF/16V

C1216 C1217 C1218 C1219 C1220 C1221 0.22uF/16V 1uF/16V

FB1200 BLM15PX121SN1D

200mA P_AVDDVB09_0 [7]

C1224 10uF/16V/0603

C1225 0.1uF/16V

FB1202 BLM15PX121SN1D

80mA P_AVDDVB09_1 [7]

C1227 10uF/16V/0603

C1228 0.1uF/16V

SUB1.5V

1500mA P_VDDIO15 [7,9,10,11,29]

C1282 C1281 C1231 C1232 C1233 C1234 C1243 10uF/16V/0603

C1244 1000pF/50V

R9306 0.5/1%

C1235 C1236 C1237 C1238 C1239 C1240 0.1uF/16V

C1245 C1246 C1247 C1248 C1249 1000pF/50V 1uF/16V

17/8/10
changed capasitor value

SUB1.8V

250mA P_VDD18 [6,7,19,23,24,27,29]

C1251 10uF/16V/0603

C1253 0.1uF/16V

0.1uFx1

P_VDDEM18 [6,7,19,23,24,27,29]

FB1206 BLM15PX121SN1D

142mA P_AVDD18 [7]

C1256 10uF/16V/0603

C1257 0.1uF/16V

626mA P_AVDDHP18 [7]

FB1207 BLM15PX121SN1D

80mA P_AVDDAAD18 [7]

C1259 0.1uF/16V

FB1209 BLM15PX121SN1D

R1200 510

C1262 10uF/16V/0603

C1263 47uF/10V/0805

4mA P_AVDDADA18 [7]

FB1215 BLM15PX121SN1D

21mA P_AVDDDMD18 [7]

C1266 0.1uF/16V

FB1211 BLM15PX121SN1D

4mA

408mA P_AVDDHDR18 [7]

C1269 10uF/16V/0603

C1270 0.1uF/16V

FB1212 BLM15PX121SN1D

200mA P_AVDDVB18_0 [7]

C1272 10uF/16V/0603

C1273 0.1uF/16V

80mA P_AVDDVB18_1 [7]

C1276 10uF/16V/0603

C1277 0.1uF/16V

R1201 0

40mA P_AVDDPLL18_0 [7]

C1278 0.1uF/16V

R1204 0

37mA P_AVDDPLL18_1 [7]

C1267 0.1uF/16V

NEAR

Behind SoC

SUB3.3V

C1214 10uF/16V/0603

300mA P_VDD33 [2,3,4,5,7,13,14,15,17,18,19,20,21,23,2

C1215 0.1uF/16V

FB1201 BLM15PX121SN1D

480mA P_AVDDHDR33 [7]

C1222 10uF/16V/0603

C1223 0.1uF/16V

STB1.8V

140mA P_VDDSTM18 [7,23,28]

R1203 5/1%

C1255 0.1uF/16V

STB3.3V

120mA P_VDDSTM33 [7,13,16,17,20,23,24,25,28]

C1268 0.1uF/16V

VDDWOL18

50mA P_VDDWOL18 [7,23]

C1258 0.1uF/16V

VDDWOL33

50mA P_VDDWOL33 [7,22,23]

C1271 1uF/16V

SUB0.9V

80mA P_AVDDUSB309 [7]

FB1203 BLM15PX121SN1D

C1242 2.2uF/16V

188mA P_VDDUSB09 [7]

FB1204 BLM15PX121SN1D

C1250 2.2uF/16V

SUB1.8V

200mA P_AVDDUSB218 [6,7,19,23,24,27,29]

C1260 10uF/16V/0603

C1261 0.1uF/16V

100mA P_AVDDUSB318 [7]

FB1210 BLM15PX121SN1D

C1264 10uF/16V/0603

C1265 0.1uF/16V

SUB3.3V

200mA P_AVDDUSB233 [7]

FB1208 BLM15PX121SN1D

C1274 10uF/16V/0603

C1275 0.1uF/16V

P_STMVOUT09 [6]

P_VADCVOUT09 [6]

P_DMDADVOUT09 [6]

R1202 0

C1280 C1279 C1230 1uF/16V

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LD20 DDR3 IF

U1000E
LD10_pin

DDR_CH0

MM0CK	K37	P_MM0CK
MM0XCK	K38	P_MM0XCK
MM0DQ0	V34	P_MM0DQ0
MM0DQ1	R36	P_MM0DQ1
MM0DQ2	R37	P_MM0DQ2
MM0DQ3	U35	P_MM0DQ3
MM0DQ4	K35	P_MM0DQ4
MM0DQ5	L35	P_MM0DQ5
MM0DQ6	M34	P_MM0DQ6
MM0DQ7	L36	P_MM0DQ7
MM0DQ8	N35	P_MM0DQ8
MM0DQ9	N36	P_MM0DQ9
MM0DQ10	P35	P_MM0DQ10
MM0DQ11	N34	P_MM0DQ11
MM0DQ12	W35	P_MM0DQ12
MM0DQ13	V35	P_MM0DQ13
MM0DQ14	V36	P_MM0DQ14
MM0DQ15	W36	P_MM0DQ15
MM0DQ16	C36	P_MM0DQ16
MM0DQ17	B38	P_MM0DQ17
MM0DQ18	B37	P_MM0DQ18
MM0DQ19	C37	P_MM0DQ19
MM0DQ20	H36	P_MM0DQ20
MM0DQ21	J35	P_MM0DQ21
MM0DQ22	J36	P_MM0DQ22
MM0DQ23	H35	P_MM0DQ23
MM0DQ24	G35	P_MM0DQ24
MM0DQ25	E37	P_MM0DQ25
MM0DQ26	E36	P_MM0DQ26
MM0DQ27	H34	P_MM0DQ27
MM0DQ28	A37	P_MM0DQ28
MM0DQ29	C35	P_MM0DQ29
MM0DQ30	B35	P_MM0DQ30
MM0DQ31	A36	P_MM0DQ31
MM0DQS0	T35	P_MM0DQS0
MM0DQS1	P38	P_MM0DQS1
MM0DQS2	D38	P_MM0DQS2
MM0DQS3	F35	P_MM0DQS3
MM0XDQS0	T36	P_MM0XDQS0
MM0XDQS1	P37	P_MM0XDQS1
MM0XDQS2	D37	P_MM0XDQS2
MM0XDQS3	F36	P_MM0XDQS3
MM0DM0	M35	P_MM0DM0
MM0DM1	W37	P_MM0DM1
MM0DM2	J37	P_MM0DM2
MM0DM3	B36	P_MM0DM3
MM0A0	K33	P_MM0A0
MM0A1	U33	P_MM0A1
MM0A2	U32	P_MM0A2
MM0A3	T34	P_MM0A3
MM0A4	G34	P_MM0A4
MM0A5	V32	P_MM0A5
MM0A6	H32	P_MM0A6
MM0A7	W34	P_MM0A7
MM0A8	W33	P_MM0A8
MM0A9	H33	P_MM0A9
MM0A10	R33	P_MM0A10
MM0A11	J32	P_MM0A11
MM0A12	K34	P_MM0A12
MM0A13	V33	P_MM0A13
MM0A14	G33	P_MM0A14
MM0A15	R34	P_MM0A15
MM0BA0	T33	P_MM0BA0
MM0BA1	J33	P_MM0BA1
MM0BA2	T32	P_MM0BA2
MM0XCS0	K32	P_MM0XCS0
MM0XCS1	L33	P_MM0XCS1
MM0XRAS	M33	P_MM0XRAS
MM0XCAS	M32	P_MM0XCAS
MM0XWE	N33	P_MM0XWE
MM0CKE0	N32	P_MM0CKE0
MM0ODT0	P34	P_MM0ODT0
MM0ODT1	P33	P_MM0ODT1
MM0XRESET	G32	P_MM0XRESET
MM0ZQ	N27	P_MM0ZQ
MM0VREF	P27	P_MM0VREF

CH0#0

DDR3 4Gb 1866

U1300

P_MM0CK — R1306 220/1% — C1326 NC/3pF/16V — P_MM0XCK

D_MM0A0	N3	A0
D_MM0A1	P7	A1
D_MM0A2	P3	A2
D_MM0A3	N2	A3
D_MM0A4	P8	A4
D_MM0A5	P2	A5
D_MM0A6	R8	A6
D_MM0A7	R2	A7
D_MM0A8	T8	A8
D_MM0A9	R3	A9
D_MM0A10	L7	A10
D_MM0A11	R7	A11
D_MM0A12	N7	A12
D_MM0A13	T3	A13
D_MM0A14	T7	A14
D_MM0A15	M7	A15
D_MM0BA0	M2	BA0
D_MM0BA1	N8	BA1
D_MM0BA2	M3	BA2
D_MM0CKE0	K9	CKE
D_MM0XCS0	L2	/CS
D_MM0ODT0	K1	ODT
D_MM0XRAS	J3	/RAS
D_MM0XCAS	K3	/CAS
D_MM0XWE	L3	/WE
AD_MM0XRESET	T2	/RESET
P_MM0DQS0	F3	DQSL
P_MM0XDQS0	G3	/DQSL
P_MM0DQS1	C7	DQSU
P_MM0XDQS1	B7	/DQSU
P_MM0DM0	E7	DML
P_MM0DM1	D3	DMU
P_MM0DQ3	E3	DQL0
P_MM0DQ5	F7	DQL1
P_MM0DQ0	F2	DQL2
P_MM0DQ6	F8	DQL3
P_MM0DQ2	H3	DQL4
P_MM0DQ4	H8	DQL5
P_MM0DQ1	G2	DQL6
P_MM0DQ7	H7	DQL7
P_MM0DQ9	D7	DQU0
P_MM0DQ12	C3	DQU1
P_MM0DQ11	C8	DQU2
P_MM0DQ15	C2	DQU3
P_MM0DQ10	A7	DQU4
P_MM0DQ14	A2	DQU5
P_MM0DQ8	B8	DQU6
P_MM0DQ13	A3	DQU7
	J1	NC1
	J9	NC2
	L1	NC3
	L9	NC4

VREFCA	M8	
VREFDQ	H1	
ZQ	L8	
VDD	B2	
VDD	D9	
VDD	G7	
VDD	K2	
VDD	K8	
VDD	N1	
VDD	N9	
VDD	R1	
VDD	R9	
VDDQ	A1	
VDDQ	A8	
VDDQ	C1	
VDDQ	C9	
VDDQ	D2	
VDDQ	E9	
VDDQ	F1	
VDDQ	H2	
VDDQ	H9	
VSS	A9	
VSS	B3	
VSS	E1	
VSS	G8	
VSS	J2	
VSS	J8	
VSS	M1	
VSS	M9	
VSS	P1	
VSS	P9	
VSS	T1	
VSS	T9	
VSSQ	B1	
VSSQ	B9	
VSSQ	D1	
VSSQ	D8	
VSSQ	E2	
VSSQ	E8	
VSSQ	F9	
VSSQ	G1	
VSSQ	G9	

SUB1.5V
R1300 240/1%
R1304 240/1%
R1305 240/1%
C1300 0.1uF/16V
C1301 0.1uF/16V
C1307 1uF/16V
C1302 1uF/16V
C1308 1uF/16V
C1312 0.1uF/16V
C1314 1uF/16V
C1315 0.1uF/16V
C1317 0.1uF/16V
C1319 10uF/16V/0603
C9904 0.1uF/16V
C9905 0.1uF/16V
C9908 0.1uF/16V
17/8/10 ADD capasitor

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CH0#1

DDR3 4Gb 1866

U1301

P_MM0CK — R1307 220/1% — C1327 NC/3pF/16V — P_MM0XCK

D_MM0A0	N3	A0
D_MM0A1	P7	A1
D_MM0A2	P3	A2
D_MM0A3	N2	A3
D_MM0A4	P8	A4
D_MM0A5	P2	A5
D_MM0A6	R8	A6
D_MM0A7	R2	A7
D_MM0A8	T8	A8
D_MM0A9	R3	A9
D_MM0A10	L7	A10
D_MM0A11	R7	A11
D_MM0A12	N7	A12
D_MM0A13	T3	A13
D_MM0A14	T7	A14
D_MM0A15	M7	A15
D_MM0BA0	M2	BA0
D_MM0BA1	N8	BA1
D_MM0BA2	M3	BA2
D_MM0CKE0	K9	CKE
D_MM0XCS1	L2	/CS
D_MM0ODT1	K1	ODT
D_MM0XRAS	J3	/RAS
D_MM0XCAS	K3	/CAS
D_MM0XWE	L3	/WE
AD_MM0XRESET	T2	/RESET
P_MM0DQS3	F3	DQSL
P_MM0XDQS3	G3	/DQSL
P_MM0DQS2	C7	DQSU
P_MM0XDQS2	B7	/DQSU
P_MM0DM3	E7	DML
P_MM0DM2	D3	DMU
P_MM0DQ24	E3	DQL0
P_MM0DQ29	F7	DQL1
P_MM0DQ27	F2	DQL2
P_MM0DQ28	F8	DQL3
P_MM0DQ25	H3	DQL4
P_MM0DQ30	H8	DQL5
P_MM0DQ26	G2	DQL6
P_MM0DQ31	H7	DQL7
P_MM0DQ16	D7	DQU0
P_MM0DQ21	C3	DQU1
P_MM0DQ17	C8	DQU2
P_MM0DQ22	C2	DQU3
P_MM0DQ19	A7	DQU4
P_MM0DQ20	A2	DQU5
P_MM0DQ18	B8	DQU6
P_MM0DQ23	A3	DQU7
	J1	NC1
	J9	NC2
	L1	NC3
	L9	NC4

VREFCA	M8	
VREFDQ	H1	
ZQ	L8	
VDD	B2	
VDD	D9	
VDD	G7	
VDD	K2	
VDD	K8	
VDD	N1	
VDD	N9	
VDD	R1	
VDD	R9	
VDDQ	A1	
VDDQ	A8	
VDDQ	C1	
VDDQ	C9	
VDDQ	D2	
VDDQ	E9	
VDDQ	F1	
VDDQ	H2	
VDDQ	H9	
VSS	A9	
VSS	B3	
VSS	E1	
VSS	G8	
VSS	J2	
VSS	J8	
VSS	M1	
VSS	M9	
VSS	P1	
VSS	P9	
VSS	T1	
VSS	T9	
VSSQ	B1	
VSSQ	B9	
VSSQ	D1	
VSSQ	D8	
VSSQ	E2	
VSSQ	E8	
VSSQ	F9	
VSSQ	G1	
VSSQ	G9	

SUB1.5V
R1301 240/1%
R1302 240/1%
R1303 240/1%
C1303 0.1uF/16V
C1304 0.1uF/16V
C1305 1uF/16V
C1306 1uF/16V
C1309 0.1uF/16V
C1310 0.1uF/16V
C1311 0.1uF/16V
C1313 1uF/16V
C1316 0.1uF/16V
C1318 0.1uF/16V
C1320 10uF/16V/0603
C9903 0.1uF/16V
17/8/10 ADD capasitor

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R1319 220 — P_MM0XRESET — AD_MM0XRESET
R1308 10K — C1328 100pF/50V

P_MM0ZQ — R1309 240/1%

SUB1.5V
R1310 240/1% — R1311 240/1%
P_MM0VREF — C1323 0.1uF/16V

SUB1.5V
C1321 1uF/16V
C1322 0.1uF/16V
C1324 0.1uF/16V
C9906 0.1uF/16V
17/8/10 ADD capasitor

P_MM0A11	RA1300	4	5	D_MM0A11
P_MM0BA1		3	6	D_MM0BA1
P_MM0A12		2	7	D_MM0A12
P_MM0A0		1	8	D_MM0A0
P_MM0A14	RA1301	4	5	D_MM0A14
P_MM0A6		3	6	D_MM0A6
P_MM0A4		2	7	D_MM0A4
P_MM0A9		1	8	D_MM0A9
P_MM0A5	RA1302	4	5	D_MM0A5
P_MM0A13		3	6	D_MM0A13
P_MM0A7		2	7	D_MM0A7
P_MM0A8		1	8	D_MM0A8
P_MM0A15	RA1303	4	5	D_MM0A15
P_MM0A3		3	6	D_MM0A3
P_MM0A1		2	7	D_MM0A1
P_MM0A2		1	8	D_MM0A2
P_MM0XWE	RA1304	4	5	D_MM0XWE
P_MM0BA2		3	6	D_MM0BA2
P_MM0A10		2	7	D_MM0A10
P_MM0BA0		1	8	D_MM0BA0

ARRY/22

P_MM0ODT0	R1312	33	D_MM0ODT0
P_MM0ODT1	R1313	33	D_MM0ODT1
P_MM0XRAS	R1314	22	D_MM0XRAS
P_MM0XCS0	R1315	33	D_MM0XCS0
P_MM0XCS1	R1316	33	D_MM0XCS1
P_MM0XCAS	R1317	22	D_MM0XCAS
P_MM0CKE0	R1318	22	D_MM0CKE0

P_MM0CK — C1325 NC/1pF/16V — P_MM0XCK

Title :	LD20
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HOPERUN Information Technology 潤和軟件

LD20 DDR3
IF
LD20 DDR3
IF

U1000F
LD10_pin

DDR_CH1

MM1CK	B24	P_MM1CK
MM1XCK	C24	P_MM1XCK
MM1DQ0	D31	P_MM1DQ0
MM1DQ1	B29	P_MM1DQ1
MM1DQ2	A29	P_MM1DQ2
MM1DQ3	C31	P_MM1DQ3
MM1DQ4	D25	P_MM1DQ4
MM1DQ5	A25	P_MM1DQ5
MM1DQ6	B25	P_MM1DQ6
MM1DQ7	C25	P_MM1DQ7
MM1DQ8	E27	P_MM1DQ8
MM1DQ9	D26	P_MM1DQ9
MM1DQ10	D27	P_MM1DQ10
MM1DQ11	E26	P_MM1DQ11
MM1DQ12	E31	P_MM1DQ12
MM1DQ13	E32	P_MM1DQ13
MM1DQ14	D33	P_MM1DQ14
MM1DQ15	D32	P_MM1DQ15
MM1DQ16	D16	P_MM1DQ16
MM1DQ17	D17	P_MM1DQ17
MM1DQ18	E17	P_MM1DQ18
MM1DQ19	E18	P_MM1DQ19
MM1DQ20	D23	P_MM1DQ20
MM1DQ21	E21	P_MM1DQ21
MM1DQ22	E22	P_MM1DQ22
MM1DQ23	D22	P_MM1DQ23
MM1DQ24	B19	P_MM1DQ24
MM1DQ25	C21	P_MM1DQ25
MM1DQ26	D21	P_MM1DQ26
MM1DQ27	A19	P_MM1DQ27
MM1DQ28	D15	P_MM1DQ28
MM1DQ29	A15	P_MM1DQ29
MM1DQ30	C15	P_MM1DQ30
MM1DQ31	B15	P_MM1DQ31
MM1DQS0	C30	P_MM1DQS0
MM1DQS1	D29	P_MM1DQS1
MM1DQS2	D19	P_MM1DQS2
MM1DQS3	C20	P_MM1DQS3
MM1XDQS0	B30	P_MM1XDQS0
MM1XDQS1	C28	P_MM1XDQS1
MM1XDQS2	C18	P_MM1XDQS2
MM1XDQS3	B20	P_MM1XDQS3
MM1DM0	C26	P_MM1DM0
MM1DM1	C33	P_MM1DM1
MM1DM2	C23	P_MM1DM2
MM1DM3	C16	P_MM1DM3
MM1A0	G21	P_MM1A0
MM1A1	E28	P_MM1A1
MM1A2	E29	P_MM1A2
MM1A3	F28	P_MM1A3
MM1A4	F19	P_MM1A4
MM1A5	F29	P_MM1A5
MM1A6	G20	P_MM1A6
MM1A7	F30	P_MM1A7
MM1A8	G30	P_MM1A8
MM1A9	E19	P_MM1A9
MM1A10	F27	P_MM1A10
MM1A11	E20	P_MM1A11
MM1A12	F21	P_MM1A12
MM1A13	E30	P_MM1A13
MM1A14	F18	P_MM1A14
MM1A15	G29	P_MM1A15
MM1BA0	G27	P_MM1BA0
MM1BA1	F20	P_MM1BA1
MM1BA2	G26	P_MM1BA2
MM1XCS0	F22	P_MM1XCS0
MM1XCS1	G23	P_MM1XCS1
MM1XRAS	F24	P_MM1XRAS
MM1XCAS	E24	P_MM1XCAS
MM1XWE	E25	P_MM1XWE
MM1CKE0	E23	P_MM1CKE0
MM1ODT0	F26	P_MM1ODT0
MM1ODT1	F25	P_MM1ODT1
MM1XRESET	G18	P_MM1XRESET
MM1ZQ	M24	P_MM1ZQ
MM1VREF	M22	P_MM1VREF

CH1#0

DDR3 4Gb 1866

U1400

D_MM1A0	N3	A0
D_MM1A1	P7	A1
D_MM1A2	P3	A2
D_MM1A3	N2	A3
D_MM1A4	P8	A4
D_MM1A5	P2	A5
D_MM1A6	R8	A6
D_MM1A7	R2	A7
D_MM1A8	T8	A8
D_MM1A9	R3	A9
D_MM1A10	L7	A10
D_MM1A11	R7	A11
D_MM1A12	N7	A12
D_MM1A13	T3	A13
D_MM1A14	T7	A14
D_MM1A15	M7	A15
D_MM1BA0	M2	BA0
D_MM1BA1	N8	BA1
D_MM1BA2	M3	BA2
D_MM1CKE0	K9	CKE
D_MM1XCS0	L2	/CS
D_MM1ODT0	K1	ODT
D_MM1XRAS	J3	/RAS
D_MM1XCAS	K3	/CAS
D_MM1XWE	L3	/WE
AD_MM1XRESET	T2	/RESET
P_MM1DQS0	F3	DQSL
P_MM1XDQS0	G3	/DQSL
P_MM1DQS1	C7	DQSU
P_MM1XDQS1	B7	/DQSU
P_MM1DM0	E7	DML
P_MM1DM1	D3	DMU
P_MM1DQ3	E3	DQL0
P_MM1DQ7	F7	DQL1
P_MM1DQ0	F2	DQL2
P_MM1DQ4	F8	DQL3
P_MM1DQ1	H3	DQL4
P_MM1DQ5	H8	DQL5
P_MM1DQ2	G2	DQL6
P_MM1DQ6	H7	DQL7
P_MM1DQ10	D7	DQU0
P_MM1DQ13	C3	DQU1
P_MM1DQ9	C8	DQU2
P_MM1DQ14	C2	DQU3
P_MM1DQ8	A7	DQU4
P_MM1DQ15	A2	DQU5
P_MM1DQ11	B8	DQU6
P_MM1DQ12	A3	DQU7
	J1	NC1
	J9	NC2
	L1	NC3
	L9	NC4

VREFCA	M8	
VREFDQ	H1	
ZQ	L8	
VDD	B2	
VDD	D9	
VDD	G7	
VDD	K2	
VDD	K8	
VDD	N1	
VDD	N9	
VDD	R1	
VDD	R9	
VDDQ	A1	
VDDQ	A8	
VDDQ	C1	
VDDQ	C9	
VDDQ	D2	
VDDQ	E9	
VDDQ	F1	
VDDQ	H2	
VDDQ	H9	
VSS	A9	
VSS	B3	
VSS	E1	
VSS	G8	
VSS	J2	
VSS	J8	
VSS	M1	
VSS	M9	
VSS	P1	
VSS	P9	
VSS	T1	
VSS	T9	
VSSQ	B1	
VSSQ	B9	
VSSQ	D1	
VSSQ	D8	
VSSQ	E2	
VSSQ	E8	
VSSQ	F9	
VSSQ	G1	
VSSQ	G9	

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SUB1.5V
R1400 240/1%
R1403 240/1%
R1404 240/1%
C1400 0.1uF/16V
C1401 0.1uF/16V
C1404 1uF/16V
C1408 1uF/16V
C1409 1uF/16V
C1410 0.1uF/16V
C1414 0.1uF/16V
C1415 0.1uF/16V
C1417 0.1uF/16V
C1419 10uF/16V/0603
C9914 0.1uF/16V
C9915 0.1uF/16V
C9918 0.1uF/16V
17/8/10 ADD capasitor

P_MM1CK
R1406 220/1%
C1426 NC/3pF/16V
P_MM1XCK

CH1#1

DDR3 4Gb 1866

U1401

D_MM1A0	N3	A0
D_MM1A1	P7	A1
D_MM1A2	P3	A2
D_MM1A3	N2	A3
D_MM1A4	P8	A4
D_MM1A5	P2	A5
D_MM1A6	R8	A6
D_MM1A7	R2	A7
D_MM1A8	T8	A8
D_MM1A9	R3	A9
D_MM1A10	L7	A10
D_MM1A11	R7	A11
D_MM1A12	N7	A12
D_MM1A13	T3	A13
D_MM1A14	T7	A14
D_MM1A15	M7	A15
D_MM1BA0	M2	BA0
D_MM1BA1	N8	BA1
D_MM1BA2	M3	BA2
D_MM1CKE0	K9	CKE
D_MM1XCS1	L2	/CS
D_MM1ODT1	K1	ODT
D_MM1XRAS	J3	/RAS
D_MM1XCAS	K3	/CAS
D_MM1XWE	L3	/WE
AD_MM1XRESET	T2	/RESET
P_MM1DQS3	F3	DQSL
P_MM1XDQS3	G3	/DQSL
P_MM1DQS2	C7	DQSU
P_MM1XDQS2	B7	/DQSU
P_MM1DM3	E7	DML
P_MM1DM2	D3	DMU
P_MM1DQ25	E3	DQL0
P_MM1DQ30	F7	DQL1
P_MM1DQ26	F2	DQL2
P_MM1DQ28	F8	DQL3
P_MM1DQ24	H3	DQL4
P_MM1DQ29	H8	DQL5
P_MM1DQ27	G2	DQL6
P_MM1DQ31	H7	DQL7
P_MM1DQ17	D7	DQU0
P_MM1DQ22	C3	DQU1
P_MM1DQ16	C8	DQU2
P_MM1DQ20	C2	DQU3
P_MM1DQ19	A7	DQU4
P_MM1DQ23	A2	DQU5
P_MM1DQ18	B8	DQU6
P_MM1DQ21	A3	DQU7
	J1	NC1
	J9	NC2
	L1	NC3
	L9	NC4

VREFCA	M8	
VREFDQ	H1	
ZQ	L8	
VDD	B2	
VDD	D9	
VDD	G7	
VDD	K2	
VDD	K8	
VDD	N1	
VDD	N9	
VDD	R1	
VDD	R9	
VDDQ	A1	
VDDQ	A8	
VDDQ	C1	
VDDQ	C9	
VDDQ	D2	
VDDQ	E9	
VDDQ	F1	
VDDQ	H2	
VDDQ	H9	
VSS	A9	
VSS	B3	
VSS	E1	
VSS	G8	
VSS	J2	
VSS	J8	
VSS	M1	
VSS	M9	
VSS	P1	
VSS	P9	
VSS	T1	
VSS	T9	
VSSQ	B1	
VSSQ	B9	
VSSQ	D1	
VSSQ	D8	
VSSQ	E2	
VSSQ	E8	
VSSQ	F9	
VSSQ	G1	
VSSQ	G9	

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SUB1.5V
R1401 240/1%
R1402 240/1%
R1405 240/1%
C1402 0.1uF/16V
C1403 0.1uF/16V
C1405 1uF/16V
C1406 1uF/16V
C1407 0.1uF/16V
C1411 0.1uF/16V
C1412 0.1uF/16V
C1413 1uF/16V
C1416 0.1uF/16V
C1418 0.1uF/16V
C1420 10uF/16V/0603
C9913 0.1uF/16V
17/8/10 ADD capasitor

P_MM1CK
R1407 220/1%
C1427 NC/3pF/16V
P_MM1XCK

R1419 220
P_MM1XRESET
AD_MM1XRESET
R1408 10K
C1428 100pF/50V

P_MM1ZQ
R1409 240/1%

SUB1.5V
R1410 240/1%
R1411 240/1%
P_MM1VREF
C1422 0.1uF/16V

SUB1.5V
C1421 1uF/16V
C1423 0.1uF/16V
C1424 0.1uF/16V
C9916 0.1uF/16V
17/8/10 ADD capasitor

P_MM1A11		4	5	D_MM1A11
P_MM1BA1	RA1400	3	6 ARRY/22	D_MM1BA1
P_MM1A12		2	7	D_MM1A12
P_MM1A0		1	8	D_MM1A0
P_MM1A14		4	5	D_MM1A14
P_MM1A6		3	6	D_MM1A6
P_MM1A4	RA1401	2	7 ARRY/22	D_MM1A4
P_MM1A9		1	8	D_MM1A9
P_MM1A5		4	5	D_MM1A5
P_MM1A13		3	6	D_MM1A13
P_MM1A7	RA1402	2	7 ARRY/22	D_MM1A7
P_MM1A8		1	8	D_MM1A8
P_MM1A15		4	5	D_MM1A15
P_MM1A3		3	6	D_MM1A3
P_MM1A1	RA1403	2	7 ARRY/22	D_MM1A1
P_MM1A2		1	8	D_MM1A2
P_MM1XWE		4	5	D_MM1XWE
P_MM1BA2		3	6	D_MM1BA2
P_MM1A10	RA1404	2	7 ARRY/22	D_MM1A10
P_MM1BA0		1	8	D_MM1BA0

P_MM1ODT0	R1412	33	D_MM1ODT0
P_MM1ODT1	R1413	33	D_MM1ODT1
P_MM1XRAS	R1414	22	D_MM1XRAS
P_MM1XCS0	R1415	33	D_MM1XCS0
P_MM1XCS1	R1416	33	D_MM1XCS1
P_MM1XCAS	R1417	22	D_MM1XCAS
P_MM1CKE0	R1418	22	D_MM1CKE0

P_MM1CK
C1425 NC/1pF/16V
P_MM1XCK

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LD20 DDR3 IF

U1000G
LD10_pin

DDR_CH2

MM2CK	AJ37	P_MM2CK
MM2CXK	AJ36	P_MM2CXK
MM2DQ0	AT36	P_MM2DQ0
MM2DQ1	AP38	P_MM2DQ1
MM2DQ2	AP37	P_MM2DQ2
MM2DQ3	AU37	P_MM2DQ3
MM2DQ4	AK38	P_MM2DQ4
MM2DQ5	AK35	P_MM2DQ5
MM2DQ6	AK36	P_MM2DQ6
MM2DQ7	AK37	P_MM2DQ7
MM2DQ8	AL34	P_MM2DQ8
MM2DQ9	AM35	P_MM2DQ9
MM2DQ10	AM34	P_MM2DQ10
MM2DQ11	AL35	P_MM2DQ11
MM2DQ12	AU36	P_MM2DQ12
MM2DQ13	AV37	P_MM2DQ13
MM2DQ14	AV36	P_MM2DQ14
MM2DQ15	AU38	P_MM2DQ15
MM2DQ16	AA35	P_MM2DQ16
MM2DQ17	AB34	P_MM2DQ17
MM2DQ18	AB35	P_MM2DQ18
MM2DQ19	AA34	P_MM2DQ19
MM2DQ20	AF34	P_MM2DQ20
MM2DQ21	AH35	P_MM2DQ21
MM2DQ22	AG35	P_MM2DQ22
MM2DQ23	AG34	P_MM2DQ23
MM2DQ24	AD38	P_MM2DQ24
MM2DQ25	AF35	P_MM2DQ25
MM2DQ26	AF36	P_MM2DQ26
MM2DQ27	AD37	P_MM2DQ27
MM2DQ28	Y36	P_MM2DQ28
MM2DQ29	Y37	P_MM2DQ29
MM2DQ30	Y38	P_MM2DQ30
MM2DQ31	Y35	P_MM2DQ31
MM2DQS0	AR36	P_MM2DQS0
MM2DQS1	AP35	P_MM2DQS1
MM2DQS2	AD35	P_MM2DQS2
MM2DQS3	AE36	P_MM2DQS3
MM2XDQS0	AR37	P_MM2XDQS0
MM2XDQS1	AN36	P_MM2XDQS1
MM2XDQS2	AC36	P_MM2XDQS2
MM2XDQS3	AE37	P_MM2XDQS3
MM2DM0	AL36	P_MM2DM0
MM2DM1	AT35	P_MM2DM1
MM2DM2	AH36	P_MM2DM2
MM2DM3	AA36	P_MM2DM3
MM2A0	AC33	P_MM2A0
MM2A1	AK32	P_MM2A1
MM2A2	AL32	P_MM2A2
MM2A3	AK33	P_MM2A3
MM2A4	AJ32	P_MM2A4
MM2A5	AL33	P_MM2A5
MM2A6	AA33	P_MM2A6
MM2A7	AN34	P_MM2A7
MM2A8	AM33	P_MM2A8
MM2A9	AB32	P_MM2A9
MM2A10	AH33	P_MM2A10
MM2A11	AB33	P_MM2A11
MM2A12	AD34	P_MM2A12
MM2A13	AM32	P_MM2A13
MM2A14	Y34	P_MM2A14
MM2A15	AJ34	P_MM2A15
MM2BA0	AJ33	P_MM2BA0
MM2BA1	AC34	P_MM2BA1
MM2BA2	AJ32	P_MM2BA2
MM2XCS0	AE32	P_MM2XCS0
MM2XCS1	AC32	P_MM2XCS1
MM2XRAS	AF33	P_MM2XRAS
MM2XCAS	AE34	P_MM2XCAS
MM2XWE	AH32	P_MM2XWE
MM2CKE0	AE35	P_MM2CKE0
MM2ODT0	AF32	P_MM2ODT0
MM2ODT1	AG33	P_MM2ODT1
MM2XRESET	Y33	P_MM2XRESET
MM2ZQ	AA27	P_MM2ZQ
MM2VREF	AB27	P_MM2VREF

CH2#0

DDR3 4Gb 1866

U1500

P_MM2CK
P_MM2CXK
R1506 220/1%
C1526 NC/3pF/16V

D_MM2A0 N3 A0
D_MM2A1 P7 A1
D_MM2A2 P3 A2
D_MM2A3 N2 A3
D_MM2A4 P8 A4
D_MM2A5 P2 A5
D_MM2A6 R8 A6
D_MM2A7 R2 A7
D_MM2A8 T8 A8
D_MM2A9 R3 A9
D_MM2A10 L7 A10
D_MM2A11 R7 A11
D_MM2A12 N7 A12
D_MM2A13 T3 A13
D_MM2A14 T7 A14
D_MM2A15 M7 A15

D_MM2BA0 M2 BA0
D_MM2BA1 N8 BA1
D_MM2BA2 M3 BA2

D_MM2CKE0 K9 CKE
J7 CK
K7 /CK

D_MM2XCS0 L2 /CS
D_MM2ODT0 K1 ODT
D_MM2XRAS J3 /RAS
D_MM2XCAS K3 /CAS
D_MM2XWE L3 /WE

AD_MM2XRESET T2 /RESET

P_MM2DQS0 F3 DQSL
P_MM2XDQS0 G3 /DQSL
P_MM2DQS1 C7 DQSU
P_MM2XDQS1 B7 /DQSU
P_MM2DM0 E7 DML
P_MM2DM1 D3 DMU

P_MM2DQ0 E3 DQL0
P_MM2DQ6 F7 DQL1
P_MM2DQ3 F2 DQL2
P_MM2DQ5 F8 DQL3
P_MM2DQ2 H3 DQL4
P_MM2DQ4 H8 DQL5
P_MM2DQ1 G2 DQL6
P_MM2DQ7 H7 DQL7

P_MM2DQ9 D7 DQU0
P_MM2DQ12 C3 DQU1
P_MM2DQ11 C8 DQU2
P_MM2DQ14 C2 DQU3
P_MM2DQ10 A7 DQU4
P_MM2DQ13 A2 DQU5
P_MM2DQ8 B8 DQU6
P_MM2DQ15 A3 DQU7

J1 NC1
J9 NC2
L1 NC3
L9 NC4

M8 VREFCA
H1 VREFDQ
L8 ZQ

R1500 240/1%
R1502 240/1%
R1504 240/1%
C1500 0.1uF/16V
C1501 0.1uF/16V

SUB1.5V

B2 VDD
D9 VDD
G7 VDD
K2 VDD
K8 VDD
N1 VDD
N9 VDD
R1 VDD
R9 VDD

C1504 1uF/16V
C1508 1uF/16V
C1509 1uF/16V
C1510 0.1uF/16V
C1514 1uF/16V
C1515 0.1uF/16V
C1517 0.1uF/16V

A1 VDDQ
A8 VDDQ
C1 VDDQ
C9 VDDQ
D2 VDDQ
E9 VDDQ
F1 VDDQ
H2 VDDQ
H9 VDDQ

C1519 10uF/16V/0603
C9924 0.1uF/16V
C9925 0.1uF/16V
C9928 0.1uF/16V

17/8/10
ADD capasitor

A9 VSS
B3 VSS
E1 VSS
G8 VSS
J2 VSS
J8 VSS
M1 VSS
M9 VSS
P1 VSS
P9 VSS
T1 VSS
T9 VSS

B1 VSSQ
B9 VSSQ
D1 VSSQ
D8 VSSQ
E2 VSSQ
E8 VSSQ
F9 VSSQ
G1 VSSQ
G9 VSSQ

H5TQ4G63CFR

CH2#1

DDR3 4Gb 1866

U1501

P_MM2CK
P_MM2CXK
R1507 220/1%
C1527 NC/3pF/16V

D_MM2A0 N3 A0
D_MM2A1 P7 A1
D_MM2A2 P3 A2
D_MM2A3 N2 A3
D_MM2A4 P8 A4
D_MM2A5 P2 A5
D_MM2A6 R8 A6
D_MM2A7 R2 A7
D_MM2A8 T8 A8
D_MM2A9 R3 A9
D_MM2A10 L7 A10
D_MM2A11 R7 A11
D_MM2A12 N7 A12
D_MM2A13 T3 A13
D_MM2A14 T7 A14
D_MM2A15 M7 A15

D_MM2BA0 M2 BA0
D_MM2BA1 N8 BA1
D_MM2BA2 M3 BA2

D_MM2CKE0 K9 CKE
J7 CK
K7 /CK

D_MM2XCS1 L2 /CS
D_MM2ODT1 K1 ODT
D_MM2XRAS J3 /RAS
D_MM2XCAS K3 /CAS
D_MM2XWE L3 /WE

AD_MM2XRESET T2 /RESET

P_MM2DQS3 F3 DQSL
P_MM2XDQS3 G3 /DQSL
P_MM2DQS2 C7 DQSU
P_MM2XDQS2 B7 /DQSU
P_MM2DM3 E7 DML
P_MM2DM2 D3 DMU

P_MM2DQ26 E3 DQL0
P_MM2DQ28 F7 DQL1
P_MM2DQ25 F2 DQL2
P_MM2DQ31 F8 DQL3
P_MM2DQ27 H3 DQL4
P_MM2DQ30 H8 DQL5
P_MM2DQ24 G2 DQL6
P_MM2DQ29 H7 DQL7

P_MM2DQ18 D7 DQU0
P_MM2DQ23 C3 DQU1
P_MM2DQ16 C8 DQU2
P_MM2DQ21 C2 DQU3
P_MM2DQ17 A7 DQU4
P_MM2DQ22 A2 DQU5
P_MM2DQ19 B8 DQU6
P_MM2DQ20 A3 DQU7

J1 NC1
J9 NC2
L1 NC3
L9 NC4

M8 VREFCA
H1 VREFDQ
L8 ZQ

R1501 240/1%
R1503 240/1%
R1505 240/1%
C1502 0.1uF/16V
C1503 0.1uF/16V

SUB1.5V

B2 VDD
D9 VDD
G7 VDD
K2 VDD
K8 VDD
N1 VDD
N9 VDD
R1 VDD
R9 VDD

C1505 1uF/16V
C1506 1uF/16V
C1507 0.1uF/16V
C1511 0.1uF/16V
C1512 0.1uF/16V
C1513 1uF/16V
C1516 0.1uF/16V
C1518 0.1uF/16V

A1 VDDQ
A8 VDDQ
C1 VDDQ
C9 VDDQ
D2 VDDQ
E9 VDDQ
F1 VDDQ
H2 VDDQ
H9 VDDQ

C1520 10uF/16V/0603
C9923 0.1uF/16V

17/8/10
ADD capasitor

A9 VSS
B3 VSS
E1 VSS
G8 VSS
J2 VSS
J8 VSS
M1 VSS
M9 VSS
P1 VSS
P9 VSS
T1 VSS
T9 VSS

B1 VSSQ
B9 VSSQ
D1 VSSQ
D8 VSSQ
E2 VSSQ
E8 VSSQ
F9 VSSQ
G1 VSSQ
G9 VSSQ

H5TQ4G63CFR

R1519 220
P_MM2XRESET
AD_MM2XRESET
R1508 10K
C1528 100pF/50V

P_MM2ZQ
R1509 240/1%

SUB1.5V
R1510 240/1%
R1511 240/1%
P_MM2VREF
C1522 0.1uF/16V

SUB1.5V
C1521 1uF/16V
C1523 0.1uF/16V
C1524 0.1uF/16V
C9926 0.1uF/16V

17/8/10
ADD capasitor

P_MM2A11		4	5		D_MM2A11
P_MM2BA1	RA1500	3	6	ARRY/22	D_MM2BA1
P_MM2A12		2	7		D_MM2A12
P_MM2A0		1	8		D_MM2A0
P_MM2A14		4	5		D_MM2A14
P_MM2A6		3	6		D_MM2A6
P_MM2A4	RA1501	2	7	ARRY/22	D_MM2A4
P_MM2A9		1	8		D_MM2A9
P_MM2A5		4	5		D_MM2A5
P_MM2A13		3	6		D_MM2A13
P_MM2A7	RA1502	2	7	ARRY/22	D_MM2A7
P_MM2A8		1	8		D_MM2A8
P_MM2A15		4	5		D_MM2A15
P_MM2A3		3	6		D_MM2A3
P_MM2A1	RA1503	2	7	ARRY/22	D_MM2A1
P_MM2A2		1	8		D_MM2A2
P_MM2XWE		4	5		D_MM2XWE
P_MM2BA2		3	6		D_MM2BA2
P_MM2A10	RA1504	2	7	ARRY/22	D_MM2A10
P_MM2BA0		1	8		D_MM2BA0

P_MM2ODT0	R1512	33	D_MM2ODT0
P_MM2ODT1	R1513	33	D_MM2ODT1
P_MM2XRAS	R1514	22	D_MM2XRAS
P_MM2XCS0	R1515	33	D_MM2XCS0
P_MM2XCS1	R1516	33	D_MM2XCS1
P_MM2XCAS	R1517	22	D_MM2XCAS
P_MM2CKE0	R1518	22	D_MM2CKE0

P_MM2CK
P_MM2XCK
C1525 NC/1pF/16V

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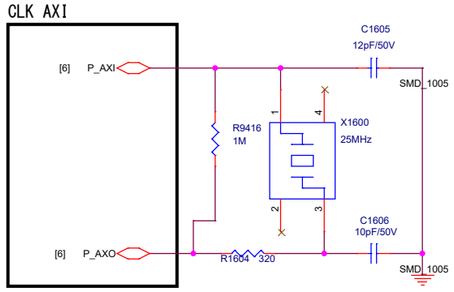
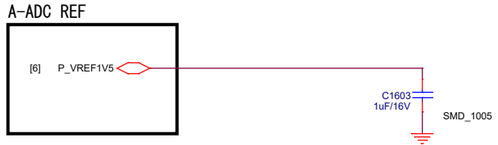
LD20
DEST

CLK AXI



A-ADC REF



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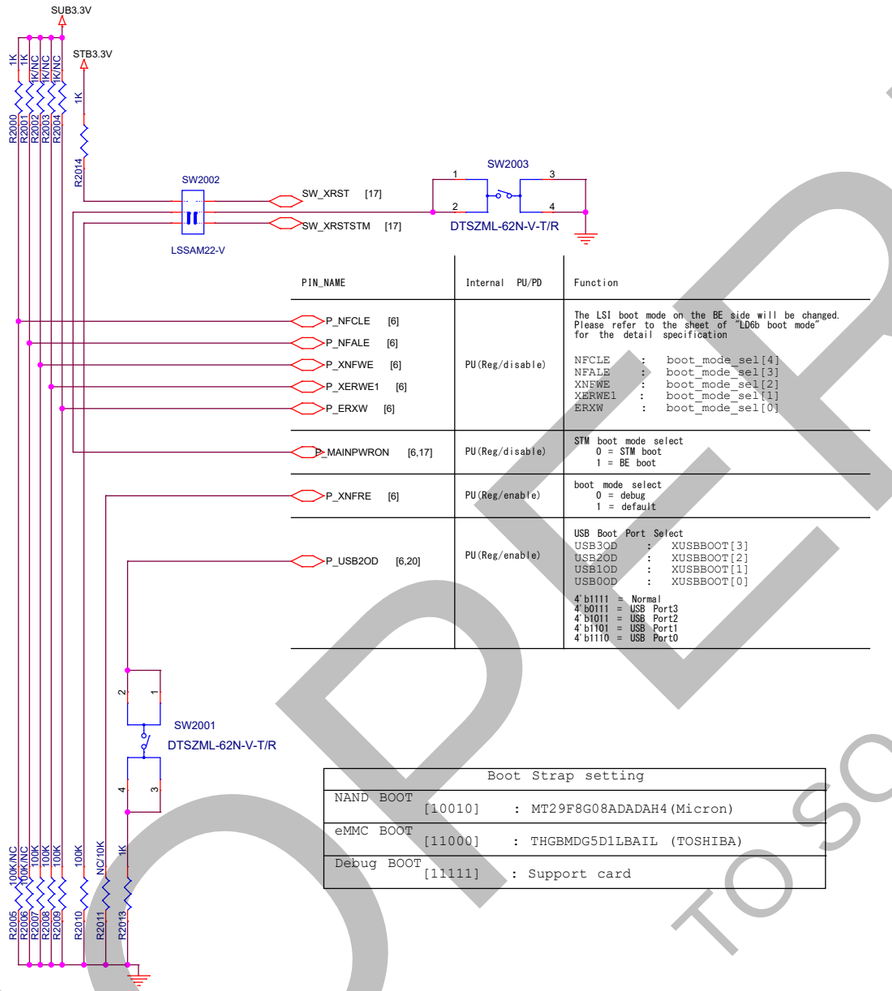
LD20 Initial SETUP



PIN_NAME	Internal PU/PD	Function
P_NFCLE [6] P_NFALE [6] P_XNFWE [6] P_XERWE1 [6] P_ERXW [6]	PU(Reg/disable)	The LSI boot mode on the BE side will be changed. Please refer to the sheet of "LD6b boot mode" for the detail specification NFCLE : boot_mode_sel[4] NFALE : boot_mode_sel[3] XNEWE : boot_mode_sel[2] XERWE1 : boot_mode_sel[1] ERXW : boot_mode_sel[0]
P_MAINPWRON [6,17]	PU(Reg/disable)	STM boot mode select 0 = STM boot 1 = BE boot
P_XNFRE [6]	PU(Reg/enable)	boot mode select 0 = debug 1 = default
P_USB2OD [6,20]	PU(Reg/enable)	USB Boot Port Select USB3OD : XUSBBOOT[3] USB2OD : XUSBBOOT[2] USB1OD : XUSBBOOT[1] USB0OD : XUSBBOOT[0] 4'b1111 = Normal 4'b0111 = USB Port3 4'b1011 = USB Port2 4'b1101 = USB Port1 4'b1110 = USB Port0

Select USB Port2

Boot Strap setting	
NAND BOOT [10010]	: MT29F8G08ADADAH4(Micron)
eMMC BOOT [11000]	: THGBMDG5D1LBAIL (TOSHIBA)
Debug BOOT [11111]	: Support card

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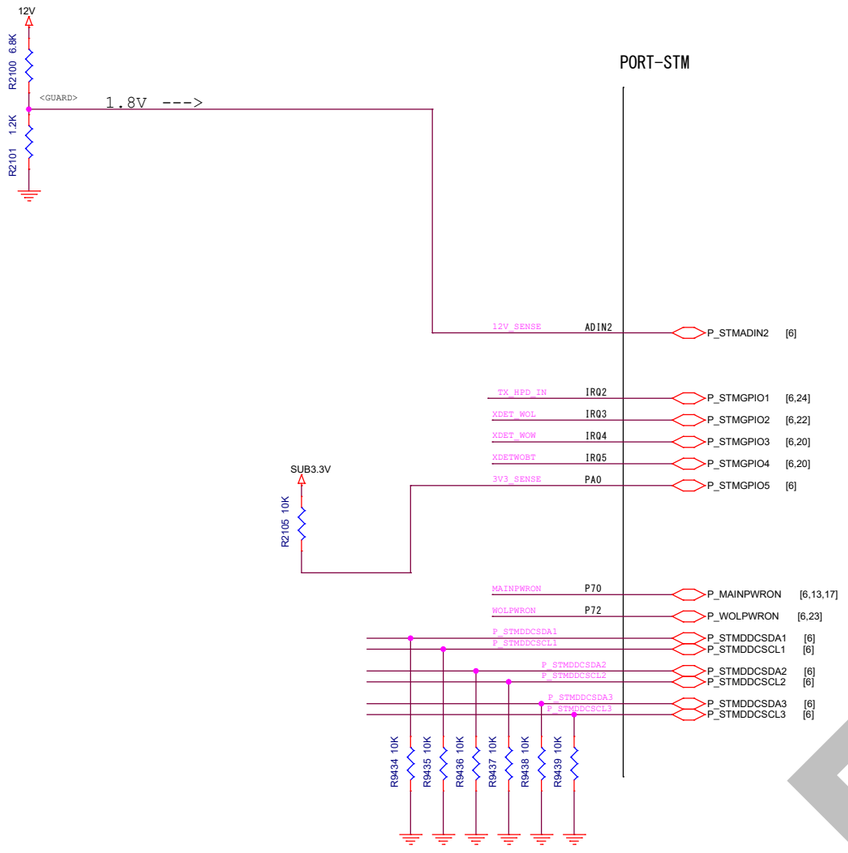
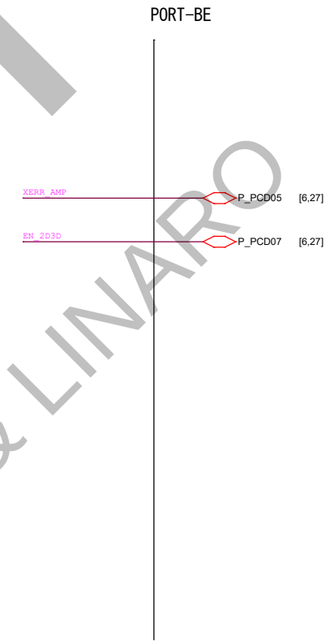
Port





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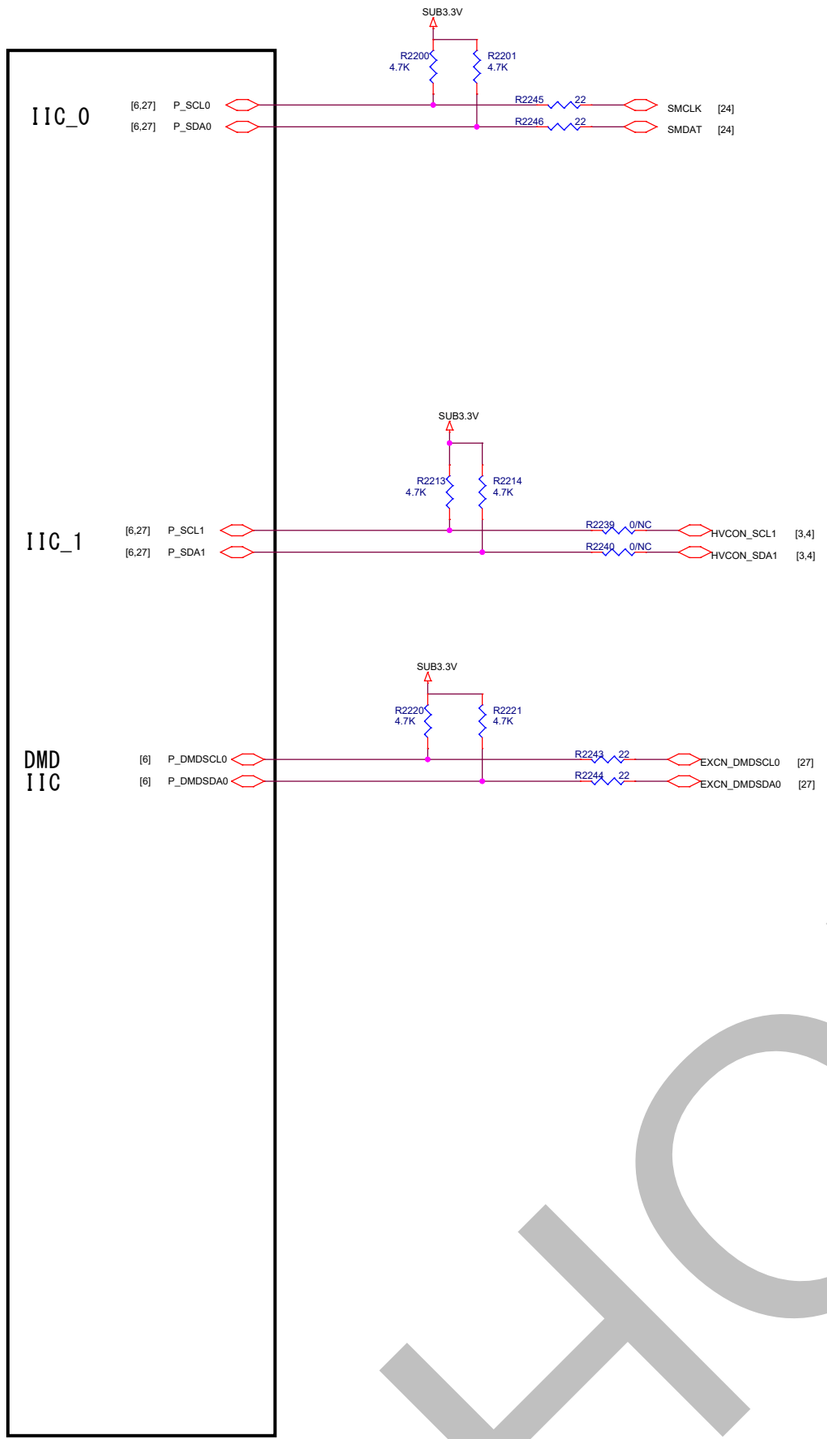
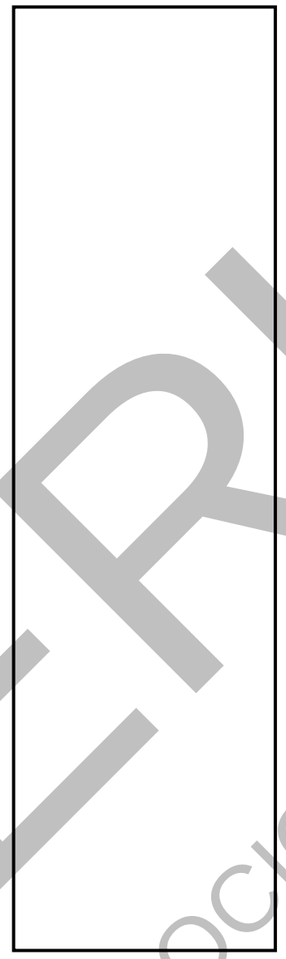
I2C, Debug, Serial

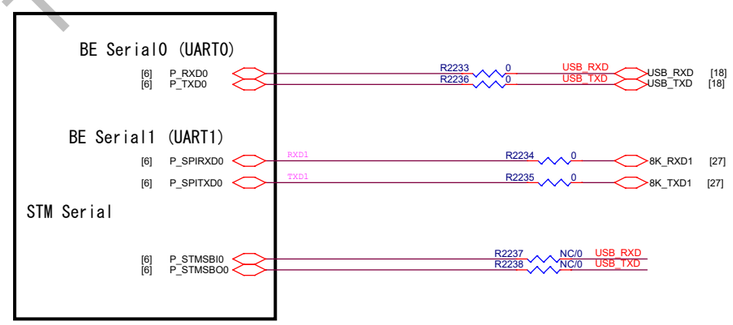
I2C



Debug connector



Serial



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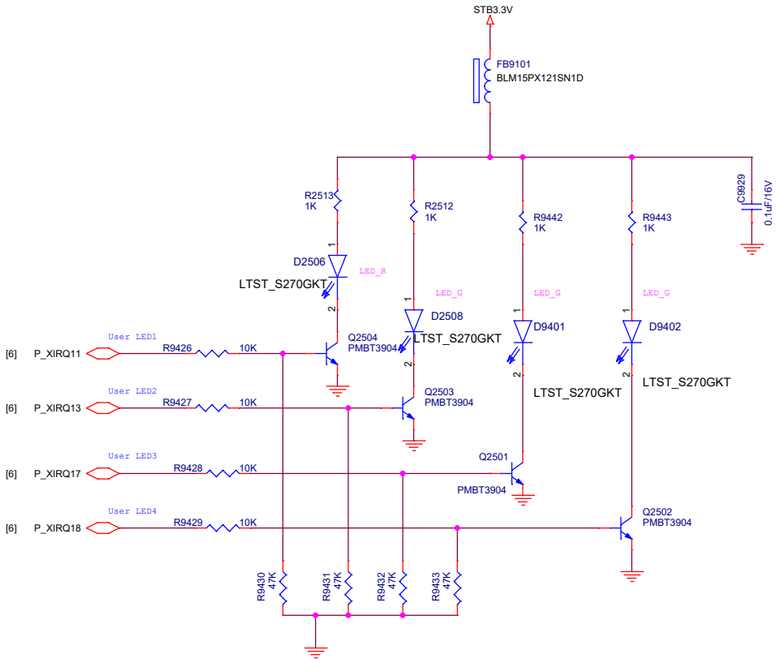
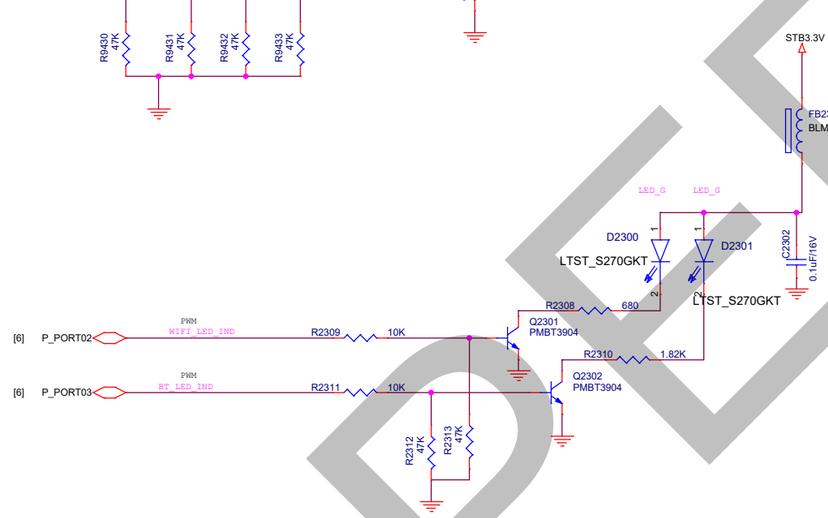
USER LEDS





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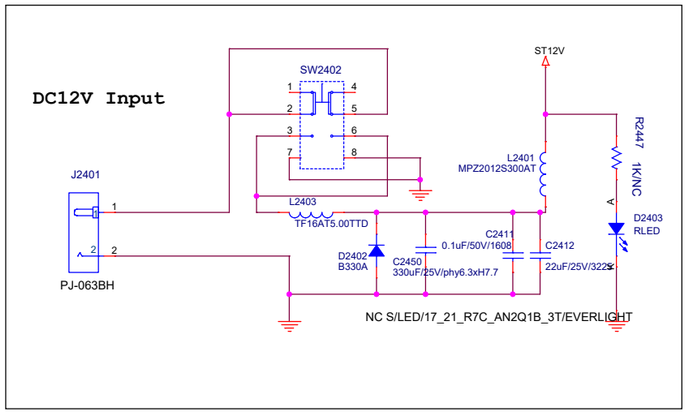
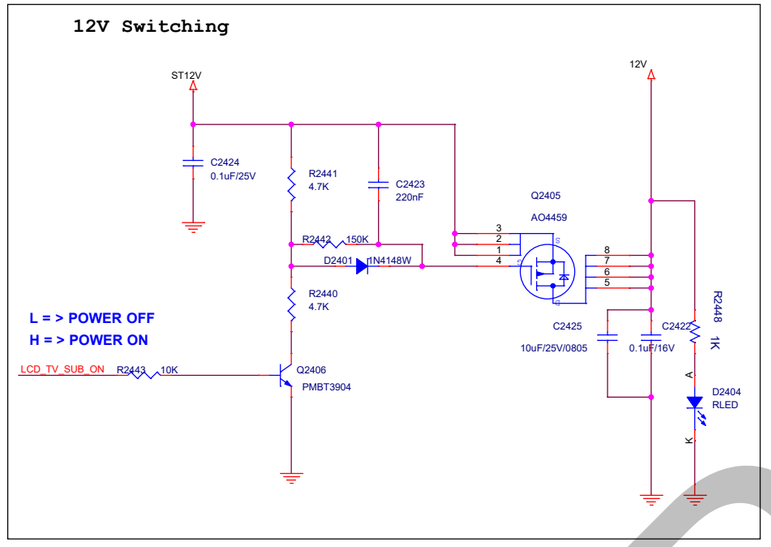
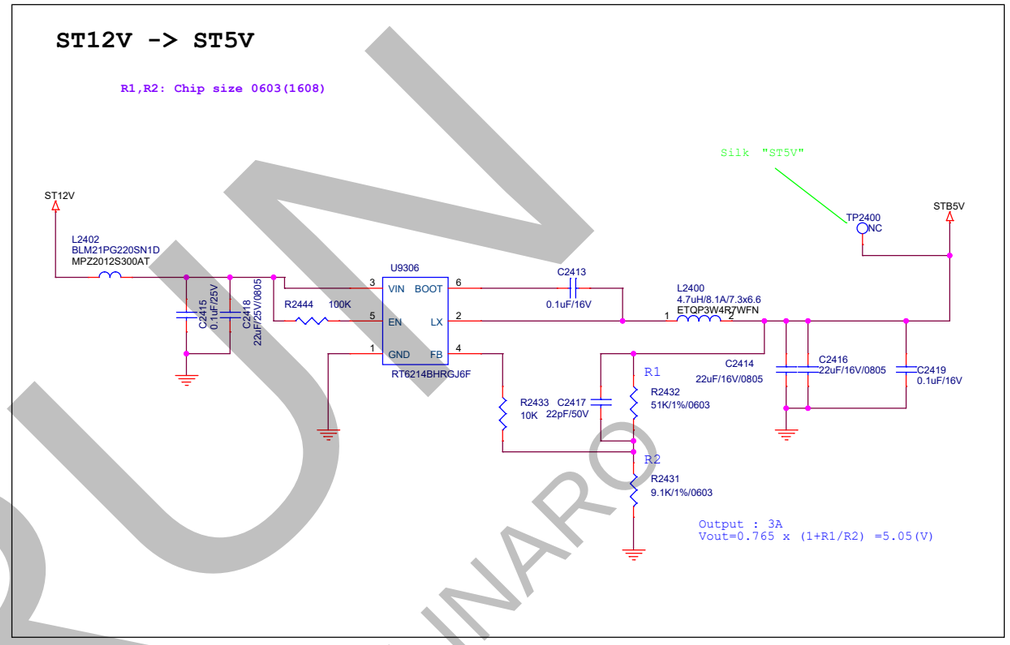
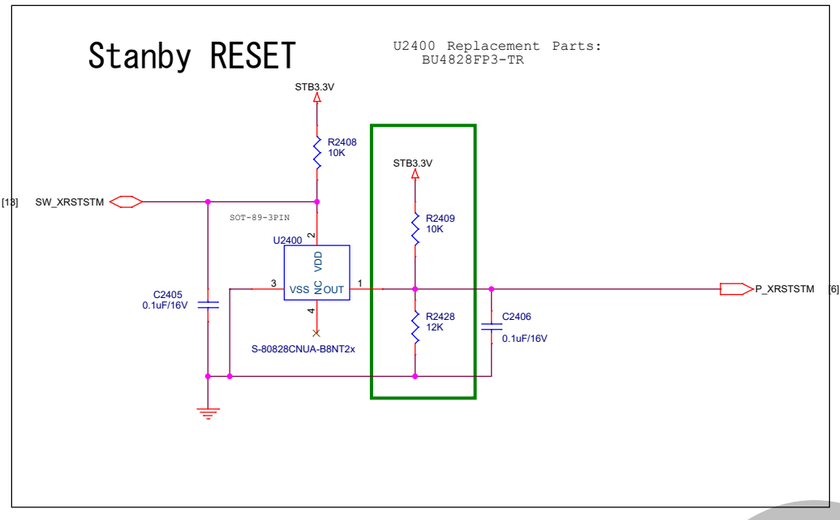
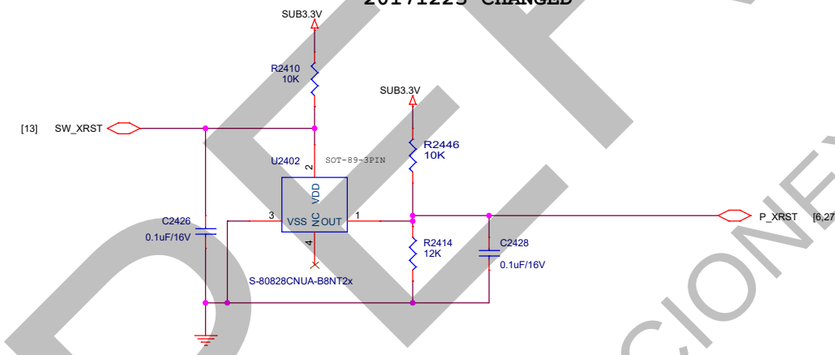
Power Connector, Control signal

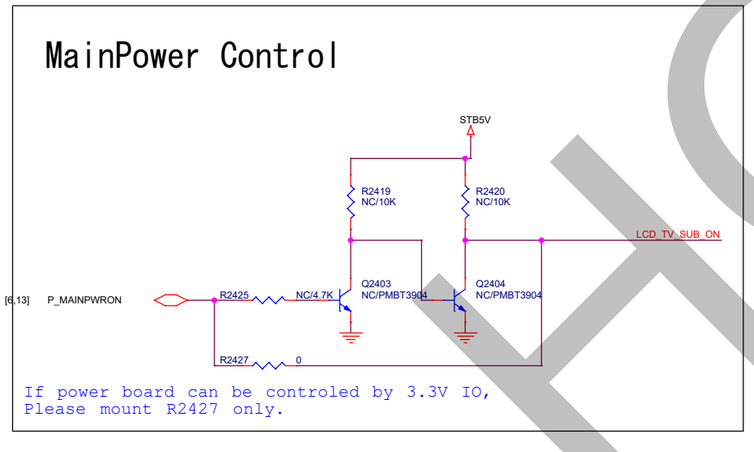


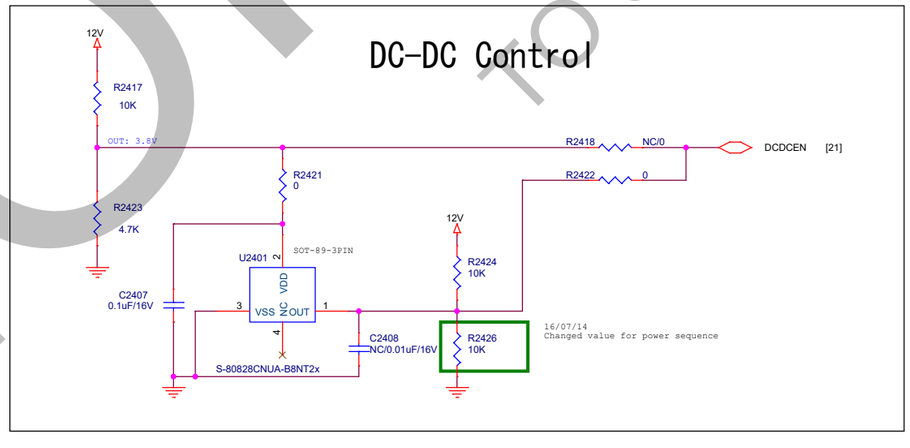












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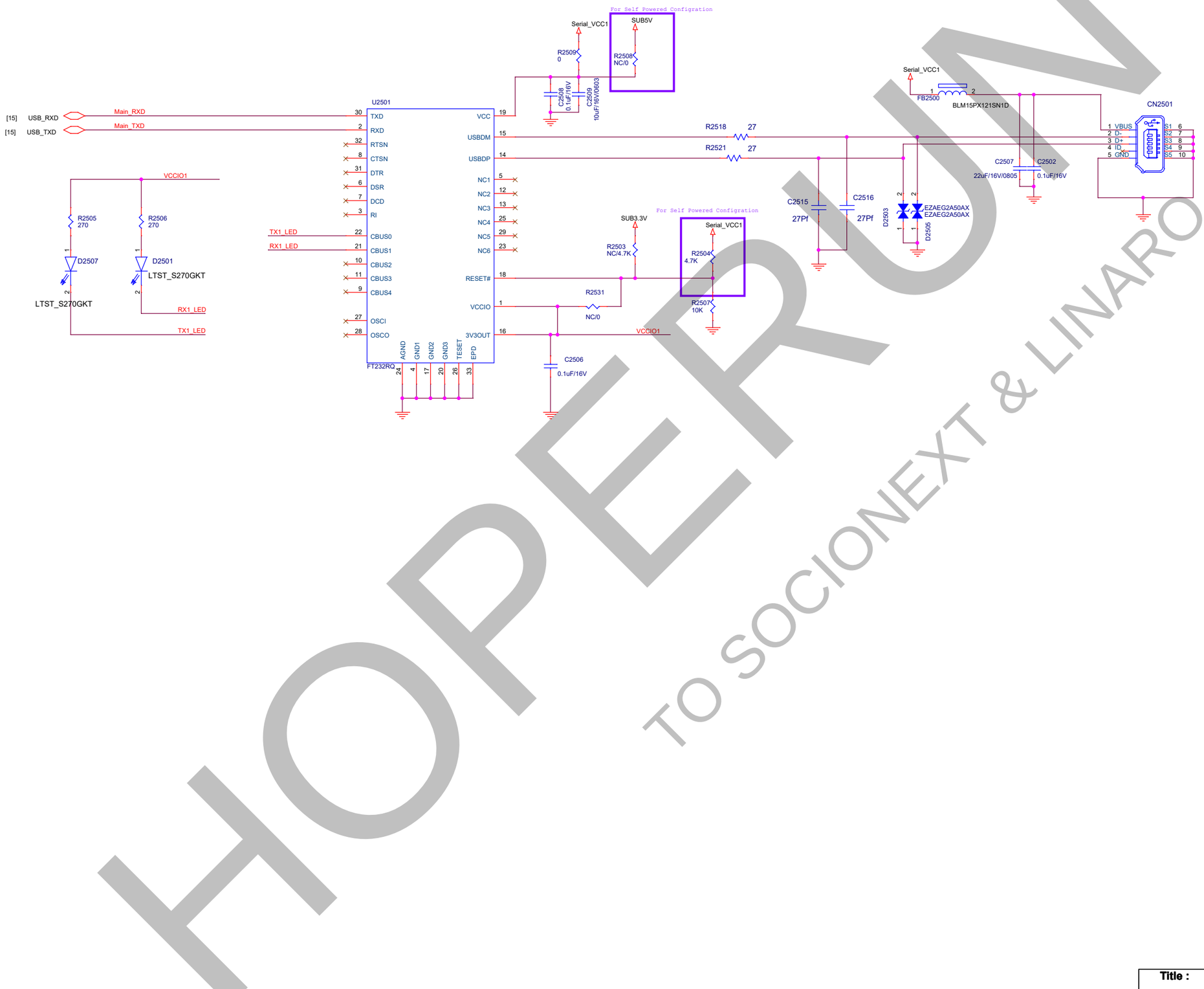

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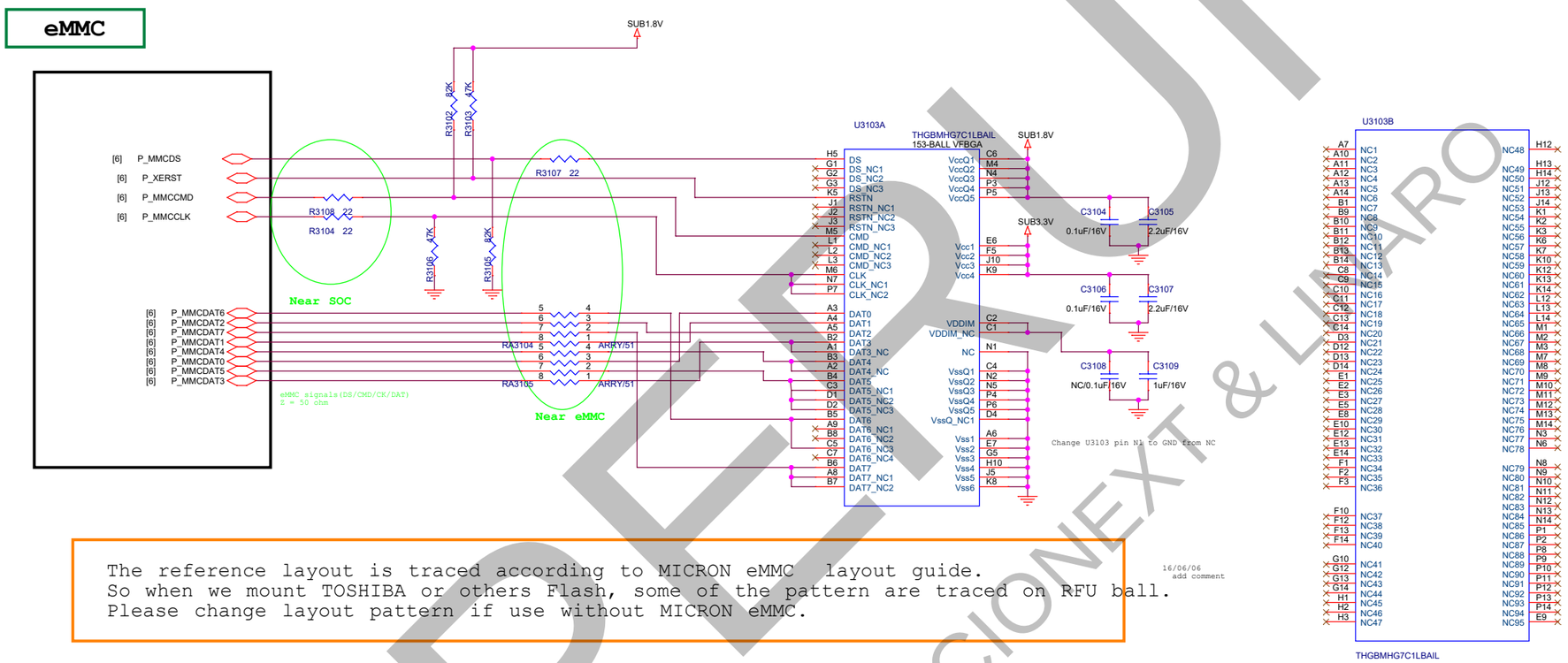
eMMC



The reference layout is traced according to MICRON eMMC layout guide.
So when we mount TOSHIBA or others Flash, some of the pattern are traced on RFU ball.
Please change layout pattern if use without MICRON eMMC.

16/06/06
add comment

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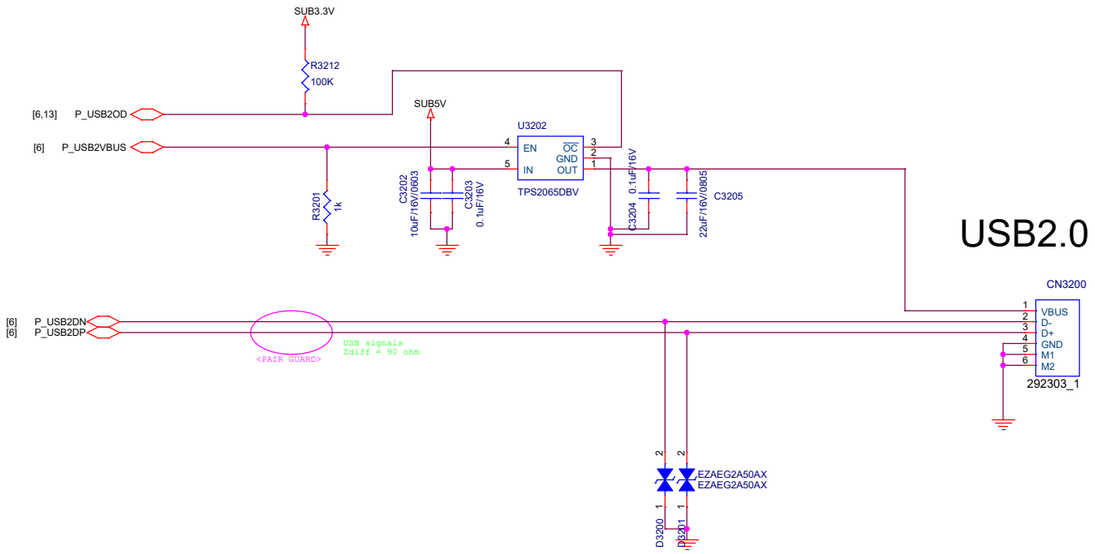
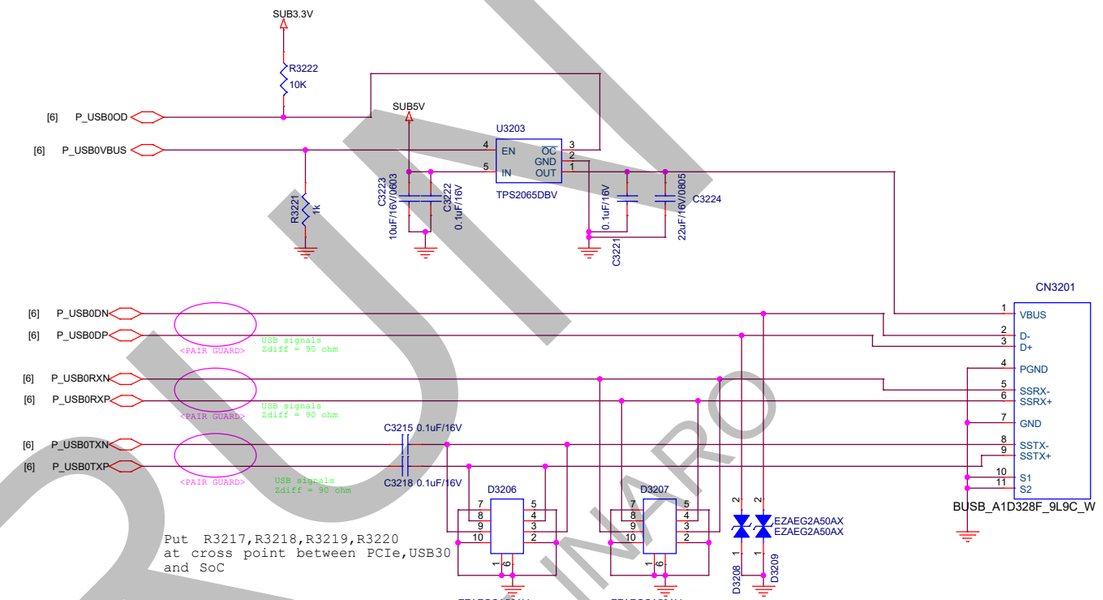
USB

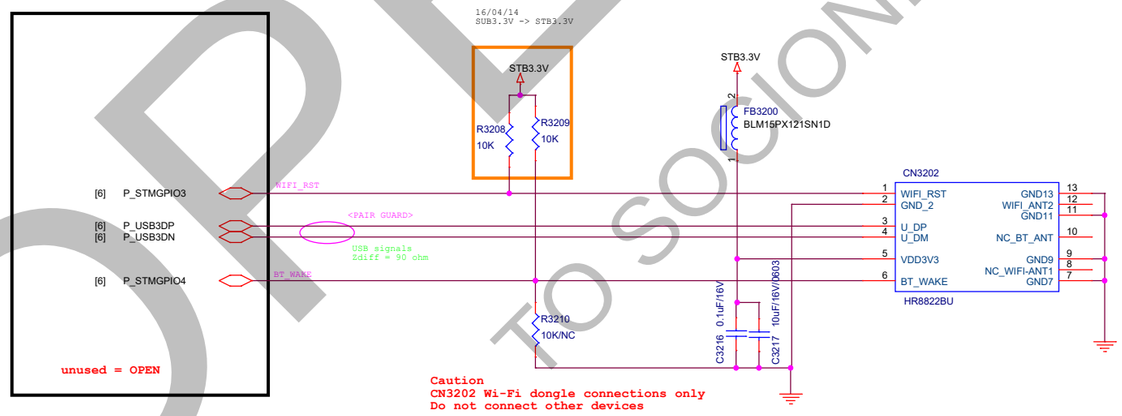
USB 2



USB0



USB3



WIFI Module

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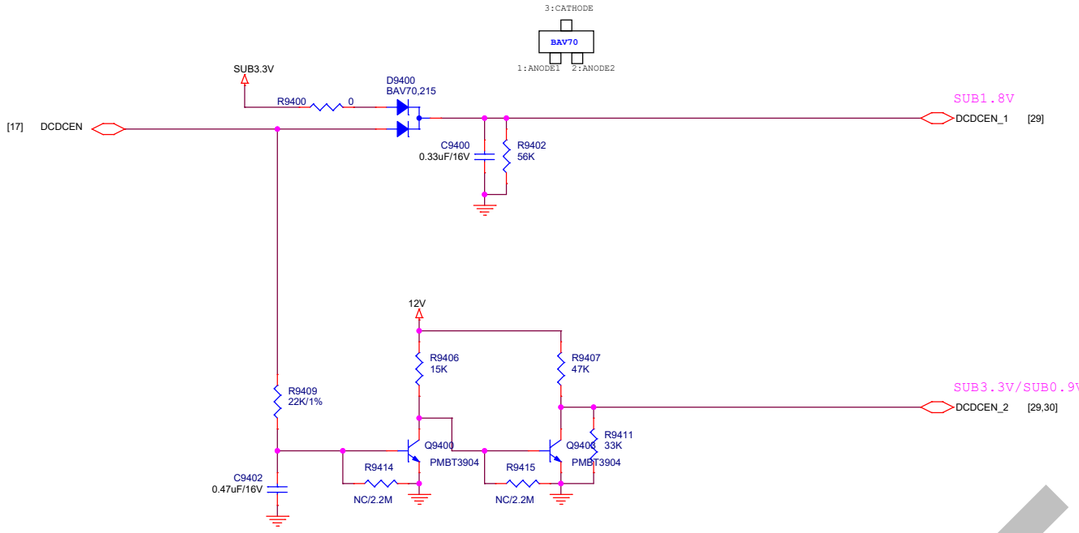
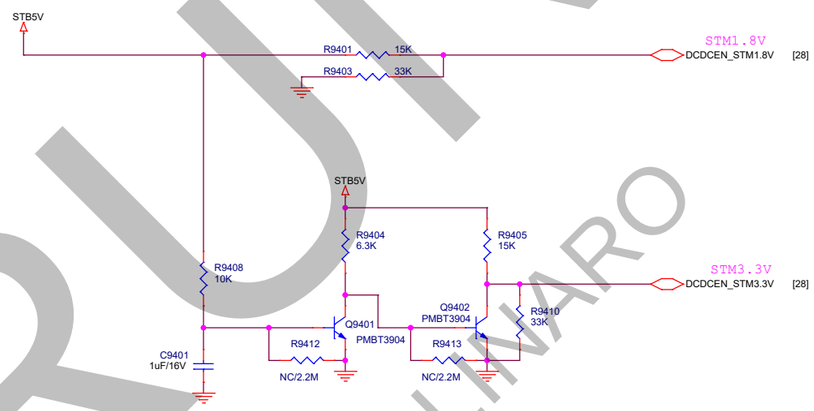
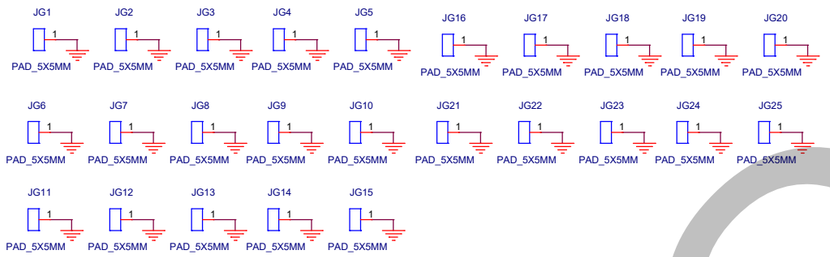
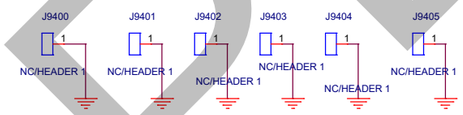
DCDC CTRL

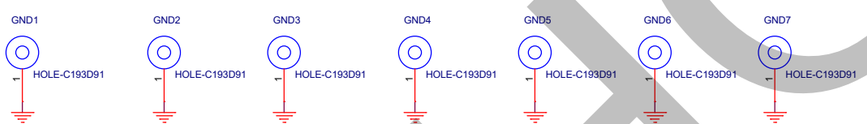


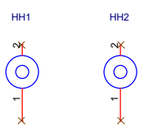






SCREW HOLES





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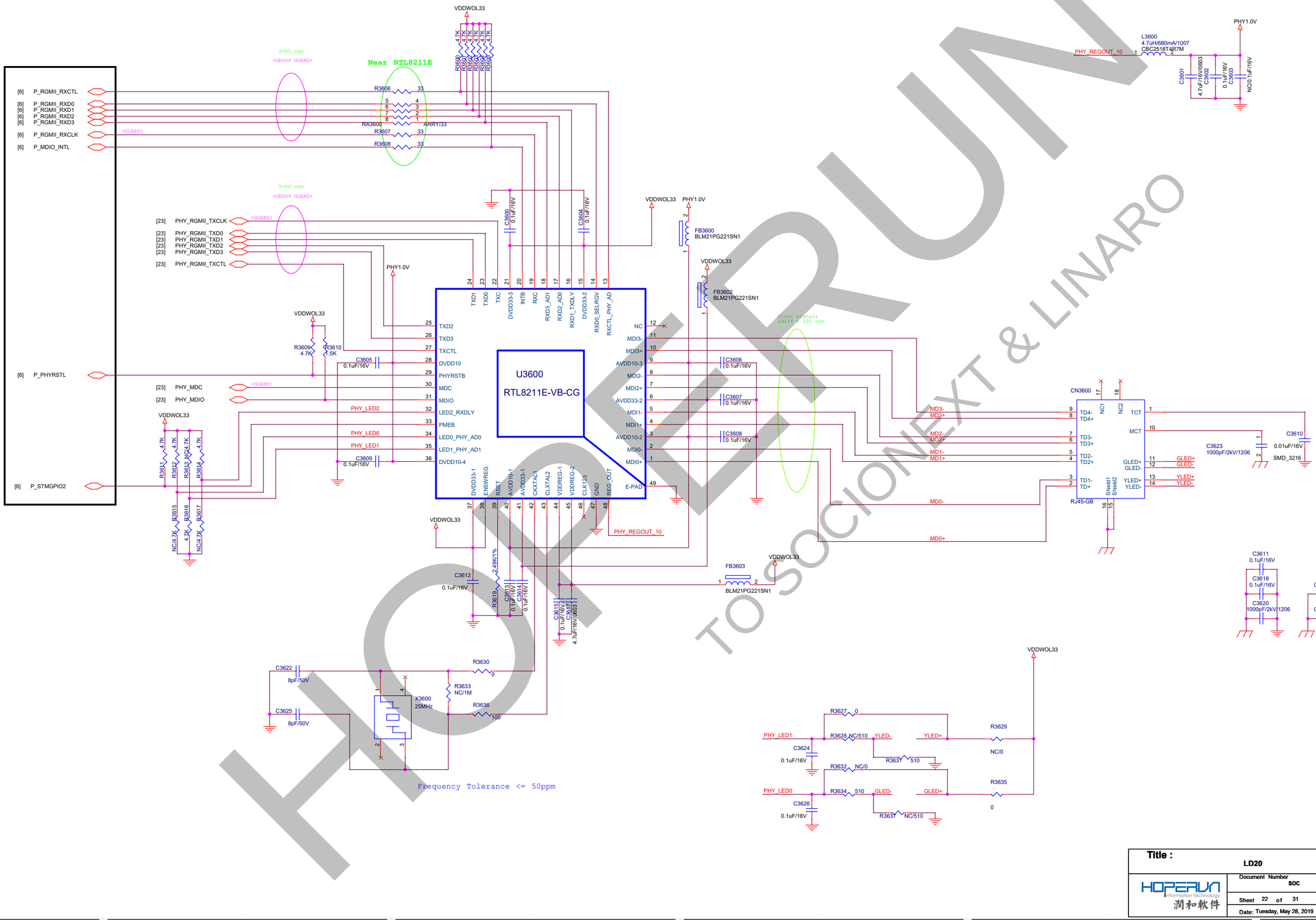
Ether-PHY(RTL8211E-VB)



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EtherPHY
Common

Ether PHY

16/05/16
changed resistor value
16/05/20
changed resistor value
16/06/06
changed resistor value

Near SOC

SoC

[6] P_RGMII_TXCLK
[6] P_RGMII_TXD0
[6] P_RGMII_TXD1
[6] P_RGMII_TXD2
[6] P_RGMII_TXD3
[6] P_RGMII_TXCTL
[6] P_MDC
[6] P_MDIO
[6] P_WOLPWRON

<GUARD> R3700 33 PHY_RGMII_TXCLK [22]
RA3700 ARRY/15
5 4
6 3
7 2
8 1
PHY_RGMII_TXD0 [22]
PHY_RGMII_TXD1 [22]
PHY_RGMII_TXD2 [22]
PHY_RGMII_TXD3 [22]
R3701 15 PHY_RGMII_TXCTL [22]
<GUARD> R3702 33 PHY_MDC [22]
R3703 33 PHY_MDIO [22]

STB1.8V
FB3700 220ohm/2A
SUB1.8V
D3700 BAV70,215
R3705 0
C3700 0.33uF/16V
R3707 56K
C3701 1uF/16V
U3700 FPF1006
ON GND2 VIN1 VOUT2 VIN2 VOUT1 GND
WOL1.8V
C3702 0.1uF/16V
SUB1.8V WOL1.8V VDDWOL18
R3706 0/0603
R3708 NC/0/0603

STB5V
R3709 6.3K
R3710 15K
R3712 10K
Q3700 PMBT3904
R3716 2.2M
R3717 NC/2.2M
R3714 33K
C3705 1uF/16V
SUB3.3V
D3701 BAV70,215
R3711 0
R9417 10K
STB3.3V
FB3701 220ohm/2A
C3703 1uF/16V
U3701 FPF1006
WOL3.3V
C3704 0.1uF/16V
SUB3.3V WOL3.3V VDDWOL33
R3713 0/0603
R3715 NC/0/0603

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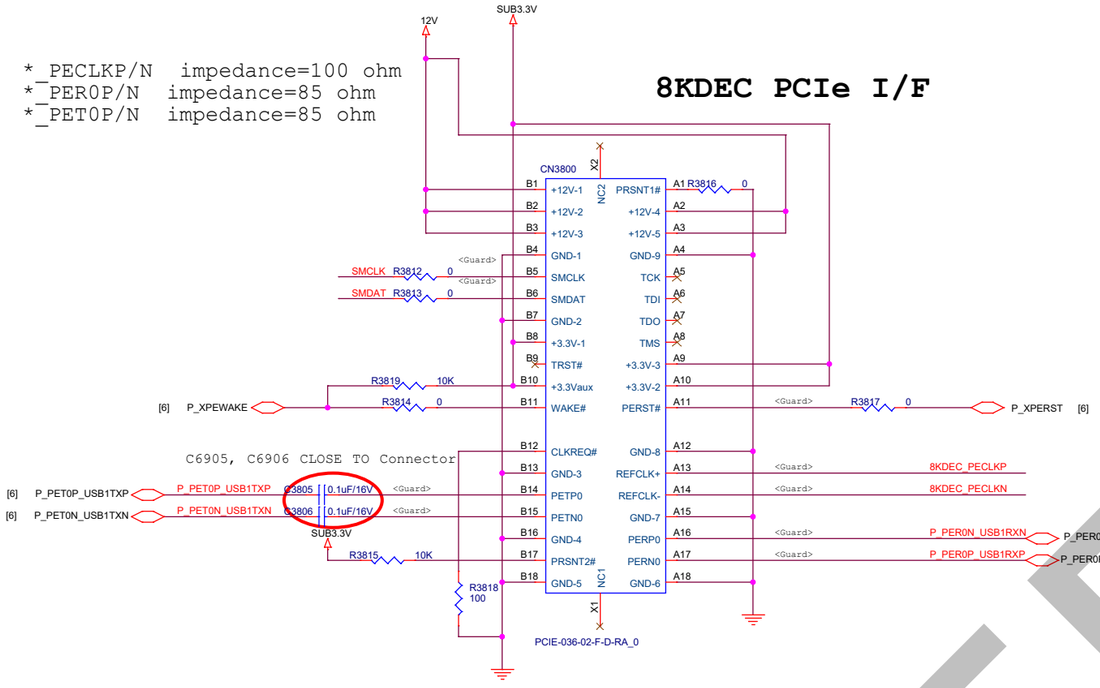
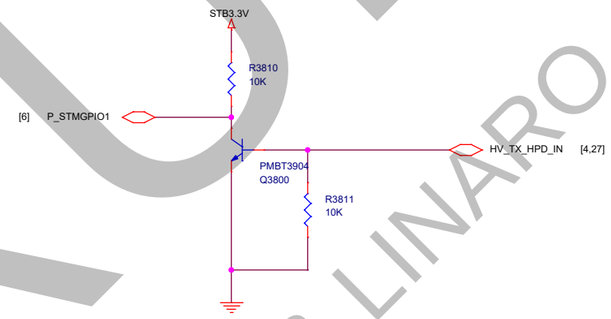
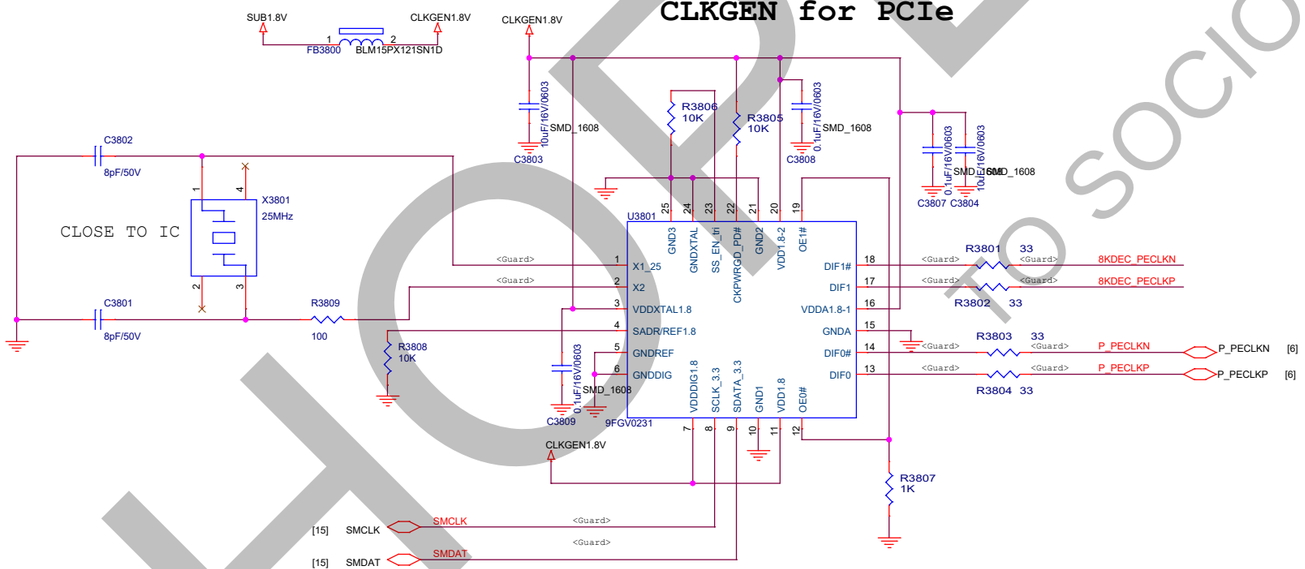
8KDEC PCIe I/F

*_PECLKP/N impedance=100 ohm
*_PER0P/N impedance=85 ohm
*_PET0P/N impedance=85 ohm





CLKGEN for PCIe



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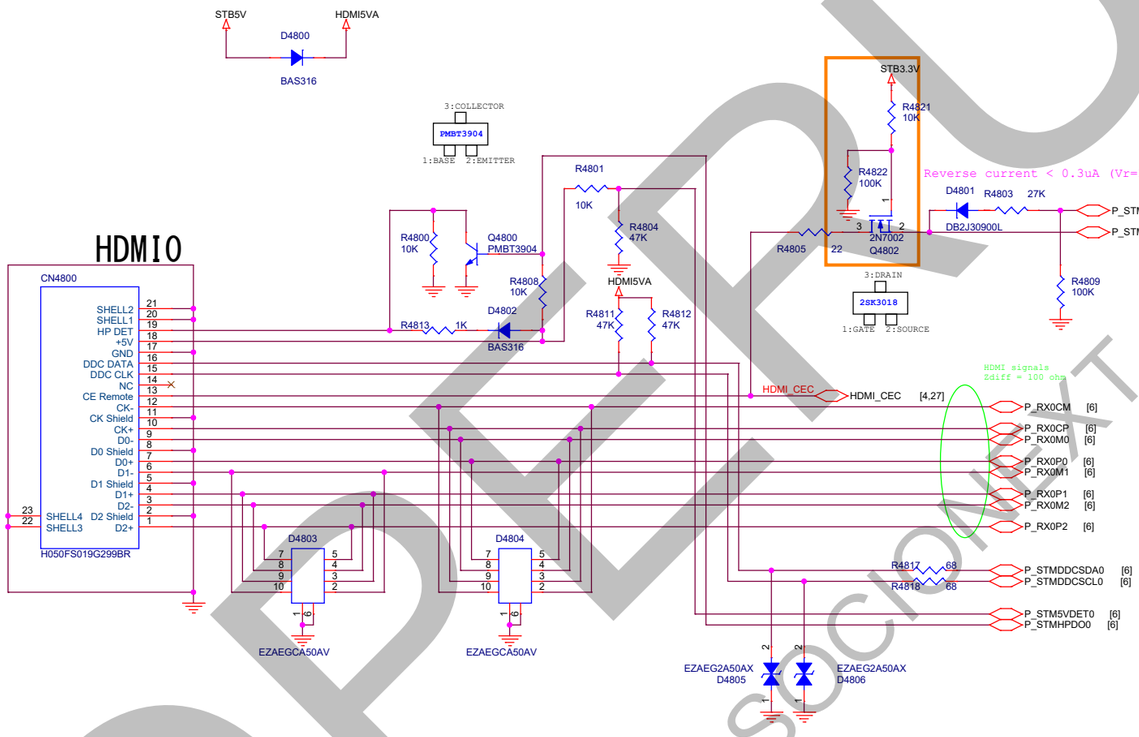
HDMI0



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SPDIF Out

SPDIF out

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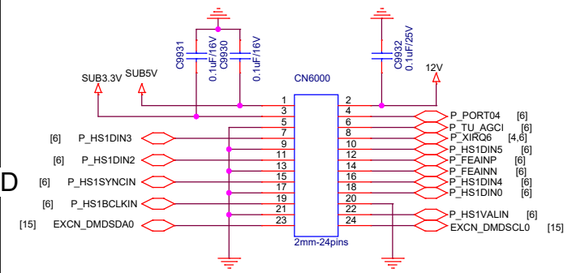
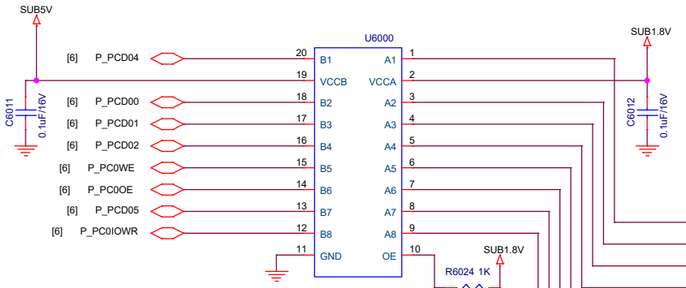
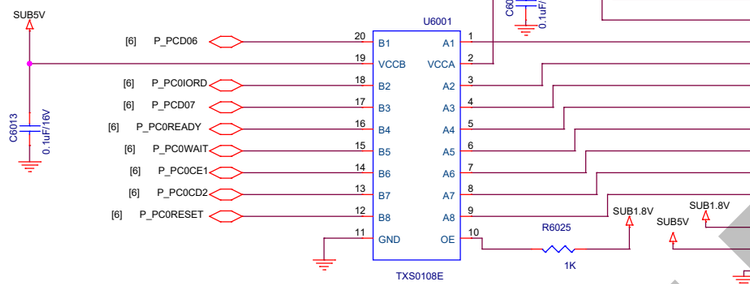
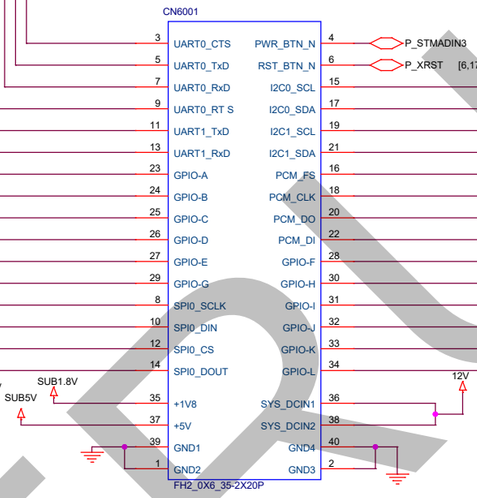
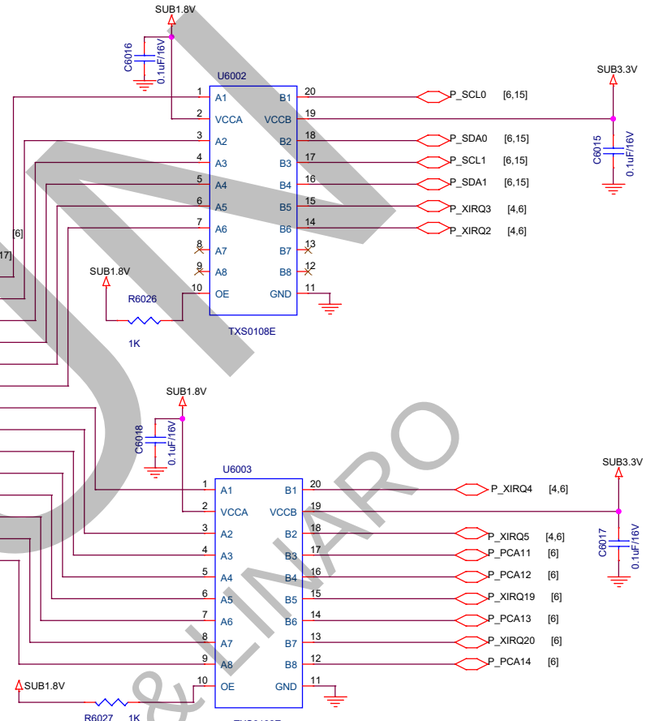


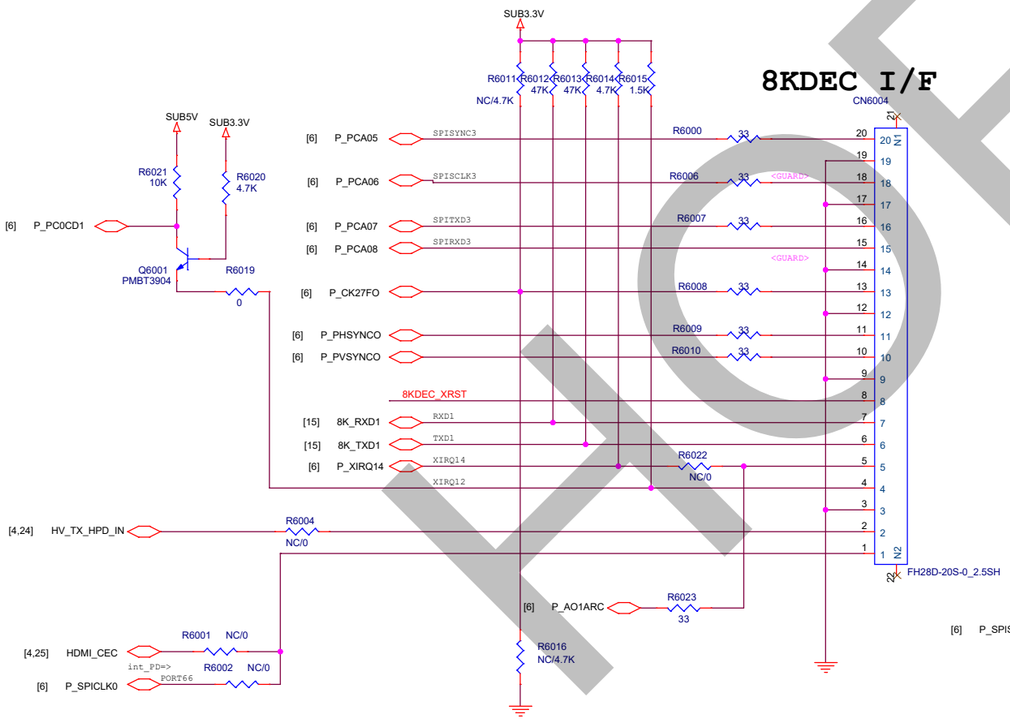
Signal	Description	PI/OU T	Signal	Description	PI/OUT
1	+5V	O	2	+12V	O
3	+3V3	O	4	GPIO0(Demod or Tuner)/EEP)	IO
5	GND	O	6	AGC	O
7	TSI1_SYNC/TSI_D1	IO	8	RESET	O
9	GND	IO	10	TSI1_D0	IO
11	TSI1_CLK	IO	12	FEAINP(Tuner pos)	IO
13	GND	IO	14	FEAINN(Tuner neg)	IO
15	TSI0_SYNC/TSI0_D1	IO	16	TSI1_VALID	IO
17	GND	O	18	TSI0_D0	IO
19	TSI0_CLK	IO	20	GND	O
21	GND	IO	22	TSI0_VALID	IO
23	SDA (Demod+Tuner)	IO	24	SCL (Demod+Tuner)	IO

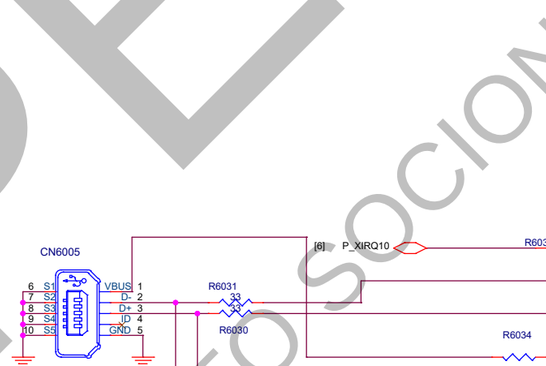


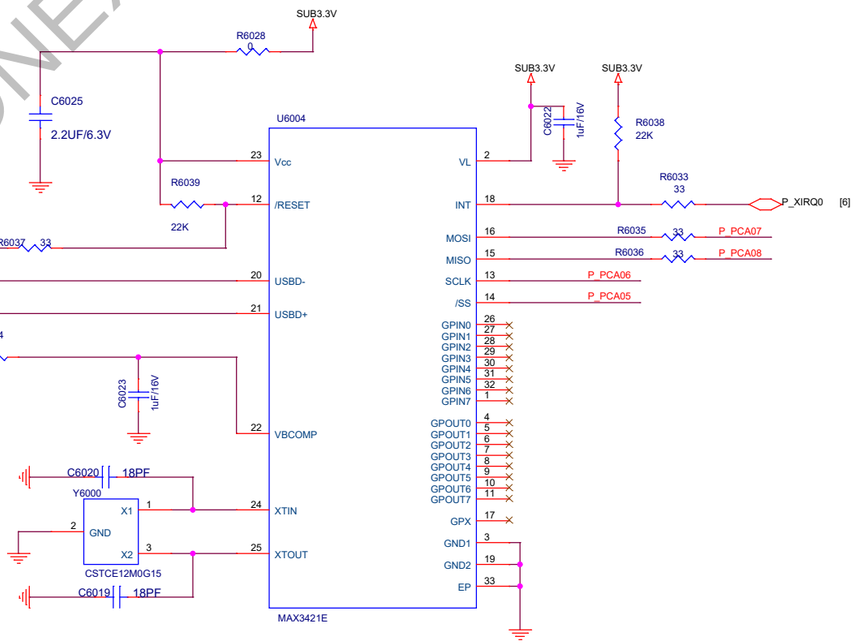


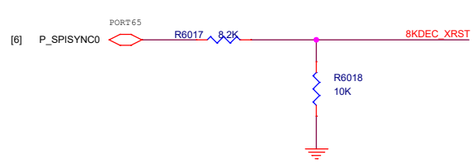


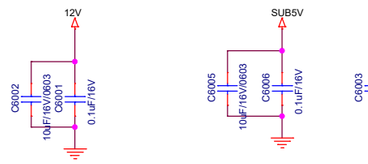












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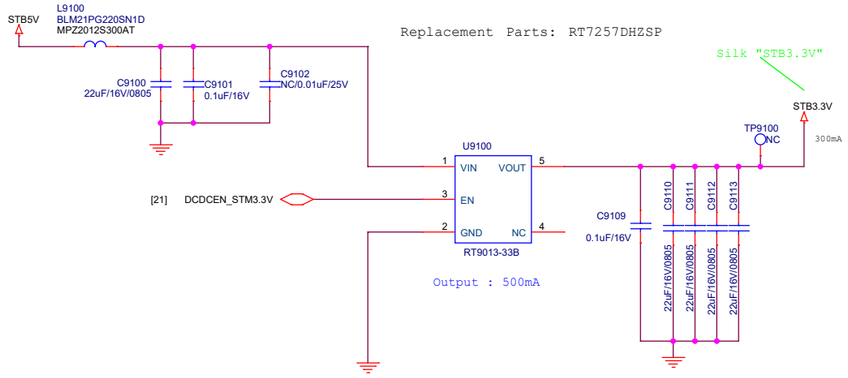
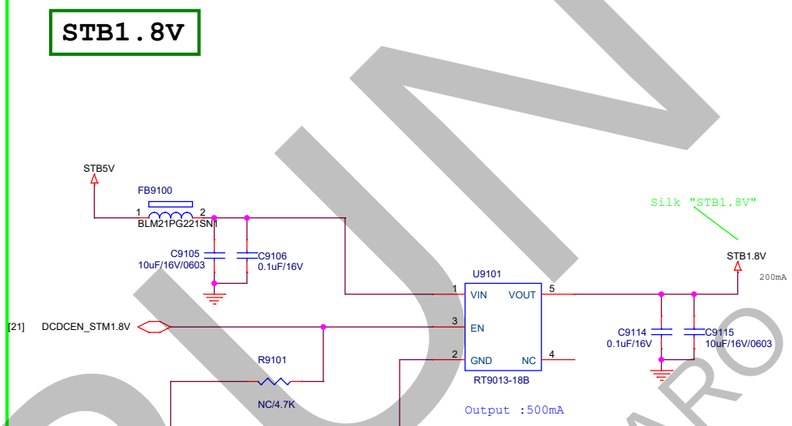
STB3.3V



STB1.8V



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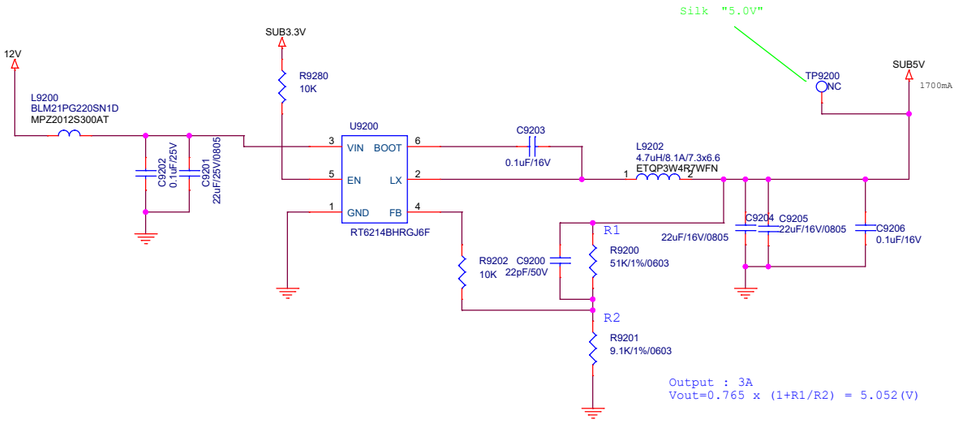
DCDC(BE1)

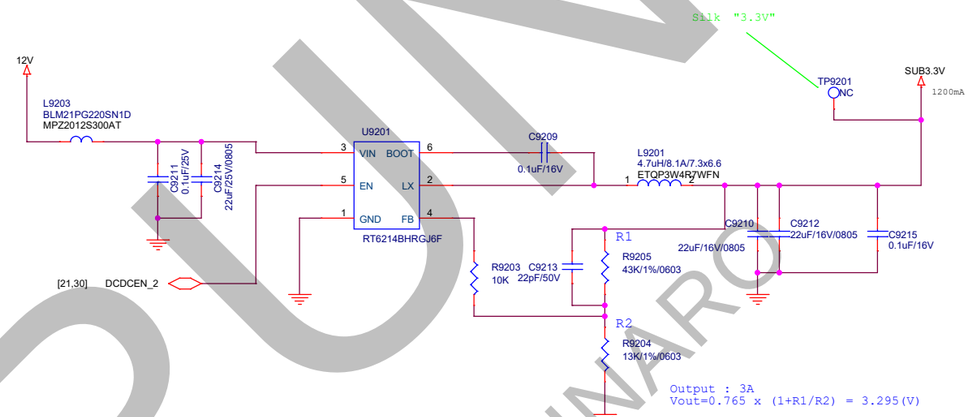
5.0V

R1,R2: Chip size 0603(1608)



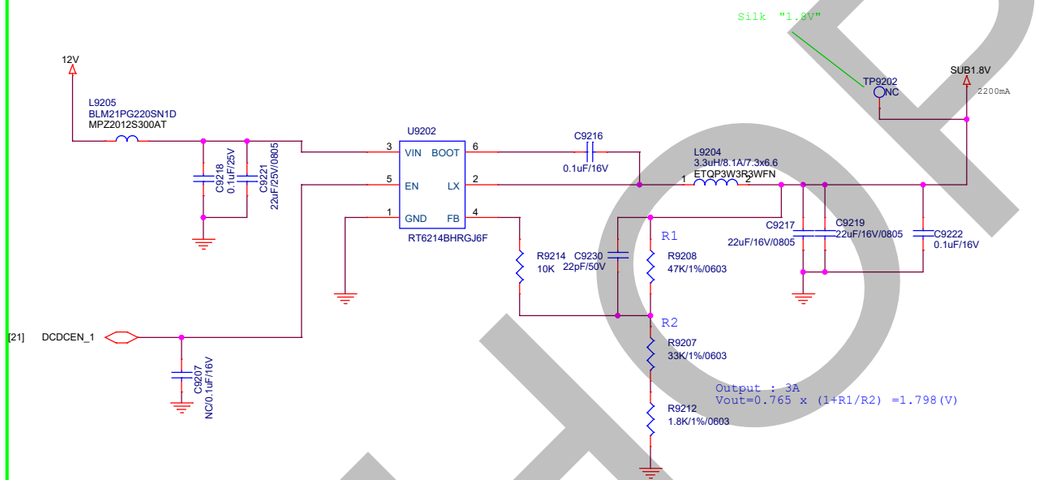
3.3V

R1,R2: Chip size 0603(1608)



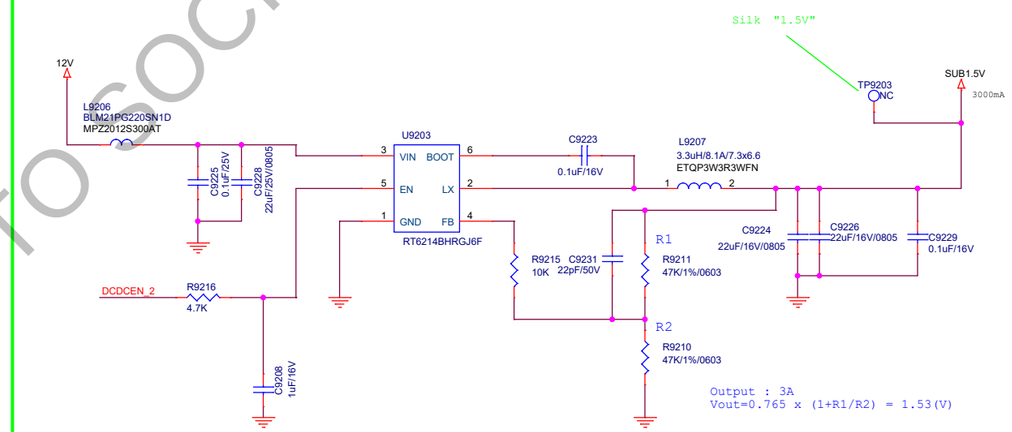
1.8V

R1,R2: Chip size 0603(1608)



1.5V

R1,R2: Chip size 0603(1608)



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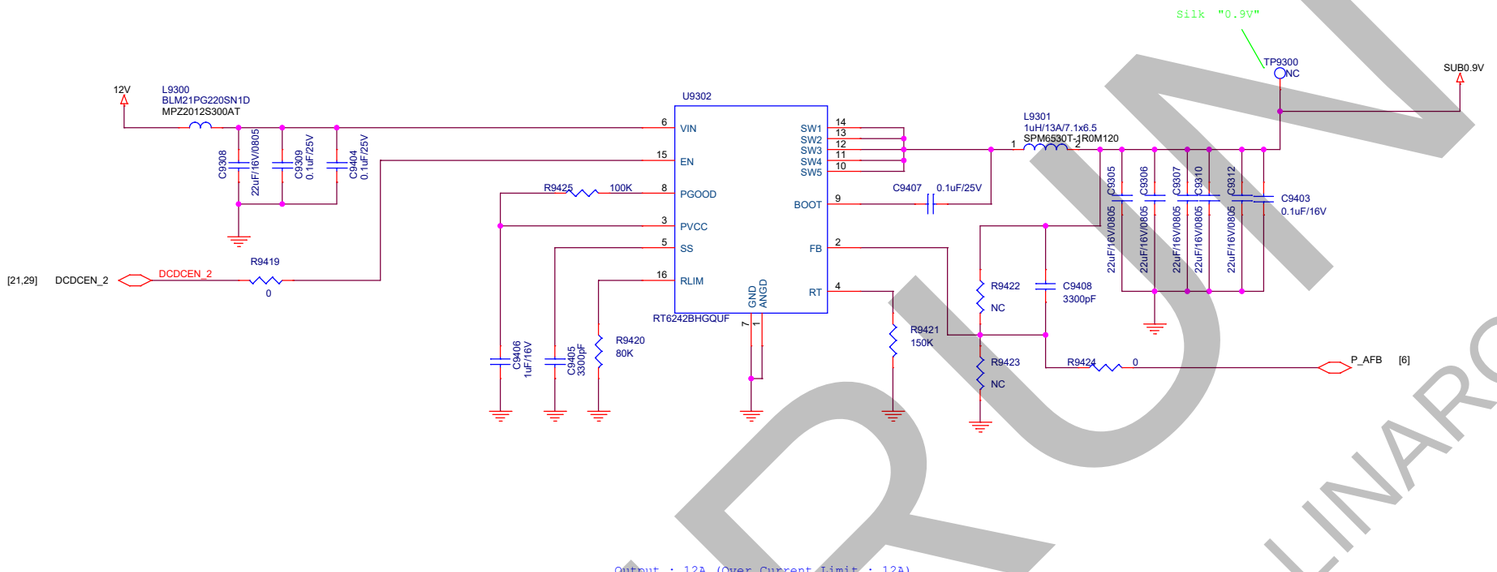
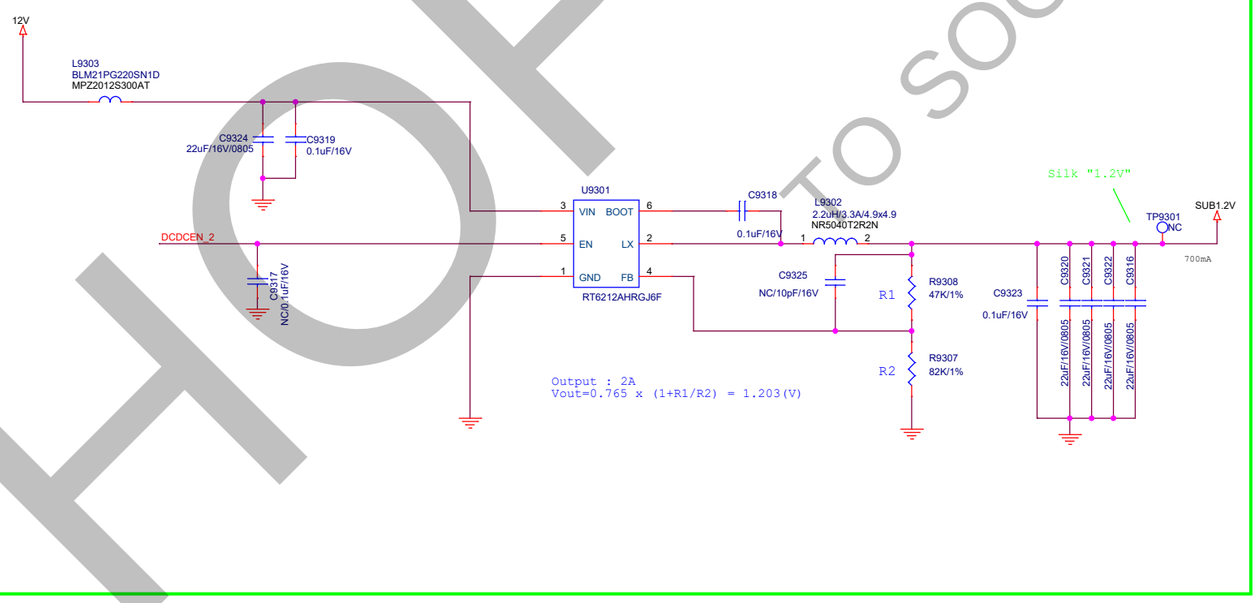
DCDC (BE2)

0.9V



1.2v



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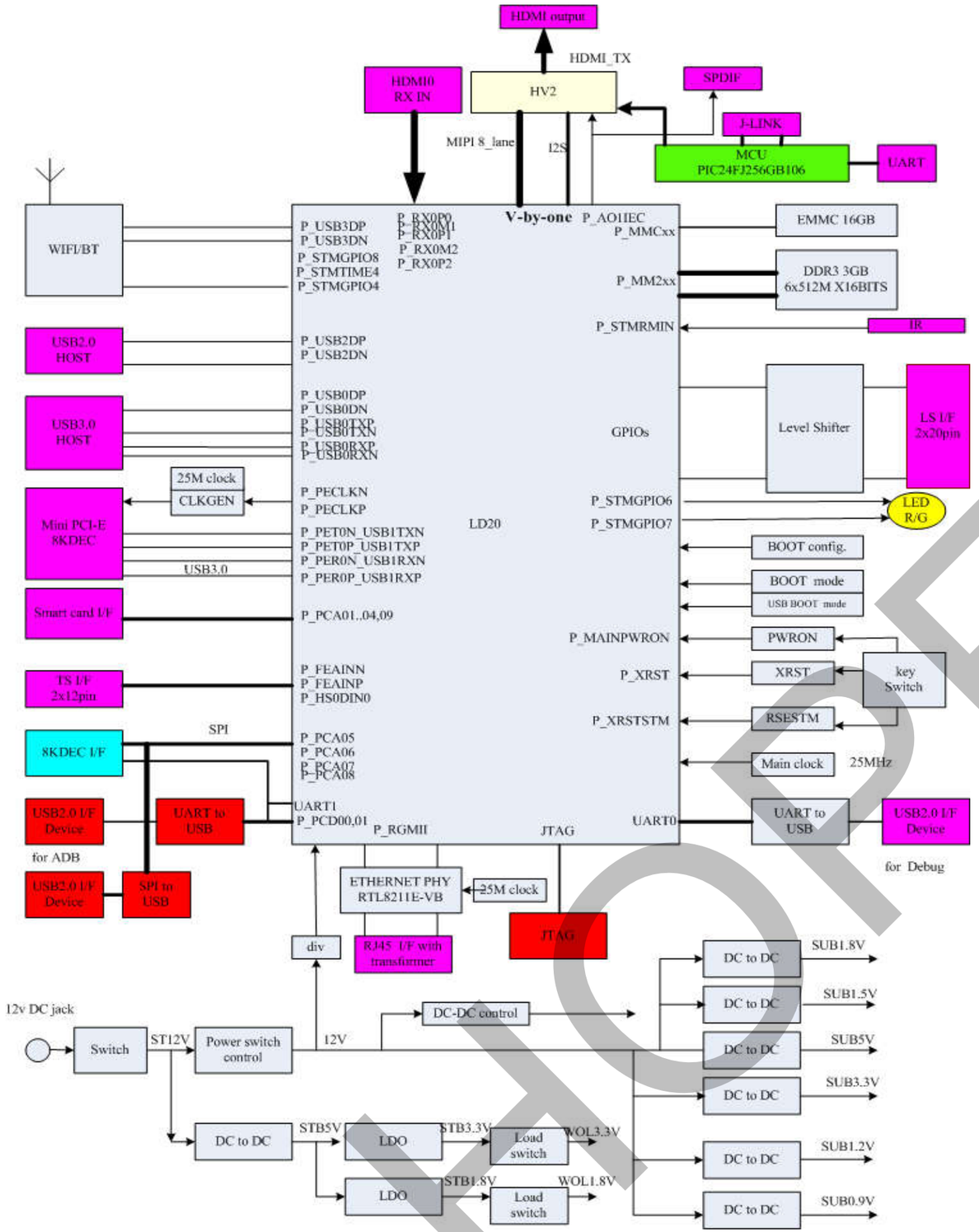

LD20~
'18/4/14
P.6 Add P_XIRQ19 and P_XIRQ20 to correspond nets of P.25 。」
P.17 Add R2447 ,R2448 ,D2403 and D2404 for power supply LED indicator.
P.18 Add U2502 (FT230XQ),CN2502 micro USB circuits for USB ADB.
P.25 Change CN5400 SPDIF output pin with current part number。」
P.26 Change CN6002 1X12Pin connector package with FH2.0X4.6R-1X12P。」
P.26 Add SPI to USB circuits with MAX3421E.

LD20~
'18/5/15
P.18 Change UART to USB circuits with flow control for USB ADB 。」

LD20~
'18/6/16
P.3 Add MCU -PIC24FJ256GB106 curcuits to control HV2

LD20~
'19/5/14
P.25 Remove CN2502 all related circuits
P.16 Add 4 User LEDs and related circuits
P.16 Add LEDs for WiFi and BT, be controlled by PWMs of SoC.
P.18 Remove IR related circuits, Page 23 becomes page 18.
P.27 Remove smartcard related circuits
P.27 The tuner Interface be changed to follow up 96Boards TV spec 2.0
P.27 Change WiFi-BT module related circuits
P.22 Mounting "BLM21PG221SN1" in FB3600,and change R3700 to 33ohm
P.13 SW2001 and SW2003 change to the bigger components
P.27 Modified Lever shift circuit U6000~U6003 OE Pins connection
P.29 Modified the CAPs C9201/C9214/C9221/C9228 Voltage value from 16V to 25V.
P.27 Modified U6002 Pin-B5 connection from net P_XIRQ1 to P_XIRQ3

LD20~
'19/5/17
P.27 Removed the U6005 related parts and mount R6028 = 0ohm
P.27 Removed D9401.
P.03 Exchanged the Nets PIC_TXD and PIC_RXD on the pin of J0201
P.14 Add 10K pull-down resistances to the following nets
STMDDCSDA1/STMDDCSDA2/STMDDCSDA3
STMDDCSCL1/STMDDCSCL2/STMDDCSCL3

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