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40	Speaker CONN	1.0	
41	KB CON & Backlight	1.0	
42	EC(IT8987E)	1.0	
43	BUTTON/FAN/LED/Hall	1.0	
44	TouchPad	1.0	
45	MCP&Finger Print conn	1.0	
46	Blank	1.0	
47	Discharge	1.0	
48	Blank	1.0	
49	Blank	1.0	
50	Blank	1.0	
51	Blank	1.0	
52	Blank	1.0	
53	Blank	1.0	
54	BLANK	1.0	
55	TPM	1.0	
56	POWER DCIN & BATTERY CHARGER	1.0	
57	POWER DELIVERY 3.3V/RTC	1.0	
58	POWER DELIVERY 5V	1.0	
59	POWER DELIVERY 1.8V	1.0	
60	POWER DELIVERY 0P75A_0P75SX	1.0	
61	POWER DELIVERY-1.2V/2.5V	1.0	
62	POWER DELIVERY Load SW	1.0	
63	LED Backlight	1.0	
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65	POWER DELIVERY 1P95V	1.0	
66	POWER_DELIVERY_3.6V_WIFI	1.0	
67	Blank	1.0	
68	Debug Conn	1.0	
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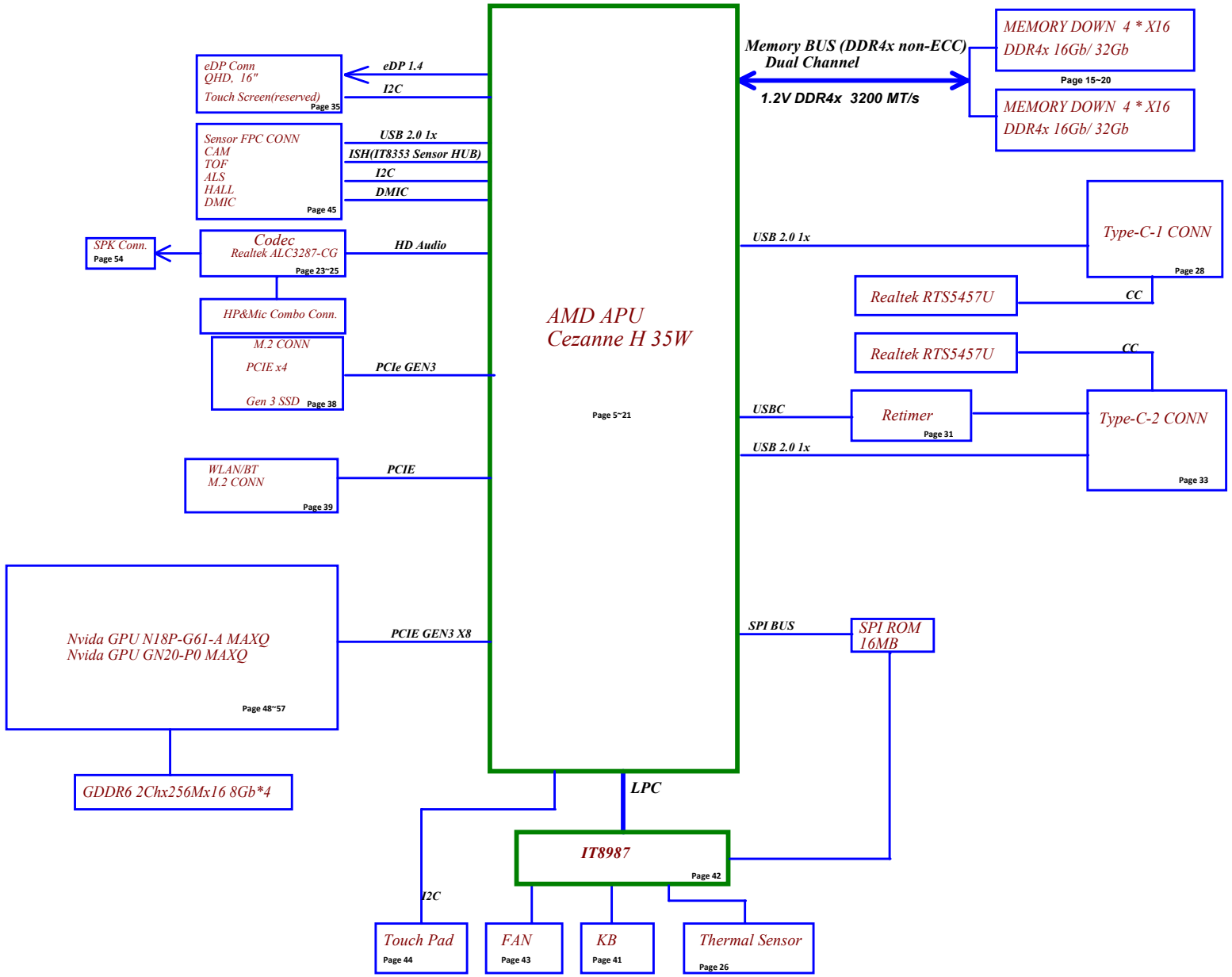

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5 4 3 2 1

D C B A

I2C Allocation Mapping						
EC	**Device1**		**Device2**		**Device3**	
SMCLK0	Type-C1(PD)	0x40	x	x	x	x
SMDAT0						
SMCLK1	Battery	0x16	x	x	x	x
SMDAT1						
SMCLK2	Charger	0xD6	GPU	0x9E	LCD Back Light	0x58
SMDAT2						
SMCLK3	Debug	address:TBD	x	x	x	x
SMDAT3						
SOC	**Device1**		**Device2**		**Device3**	
I2C_CLK0	TOUCHPAD	0x15	X	X	X	X
I2C_DAT0						
I2C_CLK1	TOUCHPAENL	0x10	X	X	X	X
I2C_DAT1						
I2C_CLK2	X	X	X	X	X	X
I2C_DAT2						
I2C_CLK3	X	X	X	X	X	X
I2C_DAT3						
I2C_CLK4	X	X	X	X	X	X
I2C_DAT4						
I2C_CLK4B	X	X	X	X	X	X
I2C_DAT4B						
ISH_I2C_CLK0	X	X	X	X	X	X
ISH_I2C_DAT0						
ISH_I2C_CLK1	X	X	X	X	X	X
ISH_I2C_DAT1						
ISH_I2C_CLK2	X	X	X	X	X	X
ISH_I2C_DAT2						

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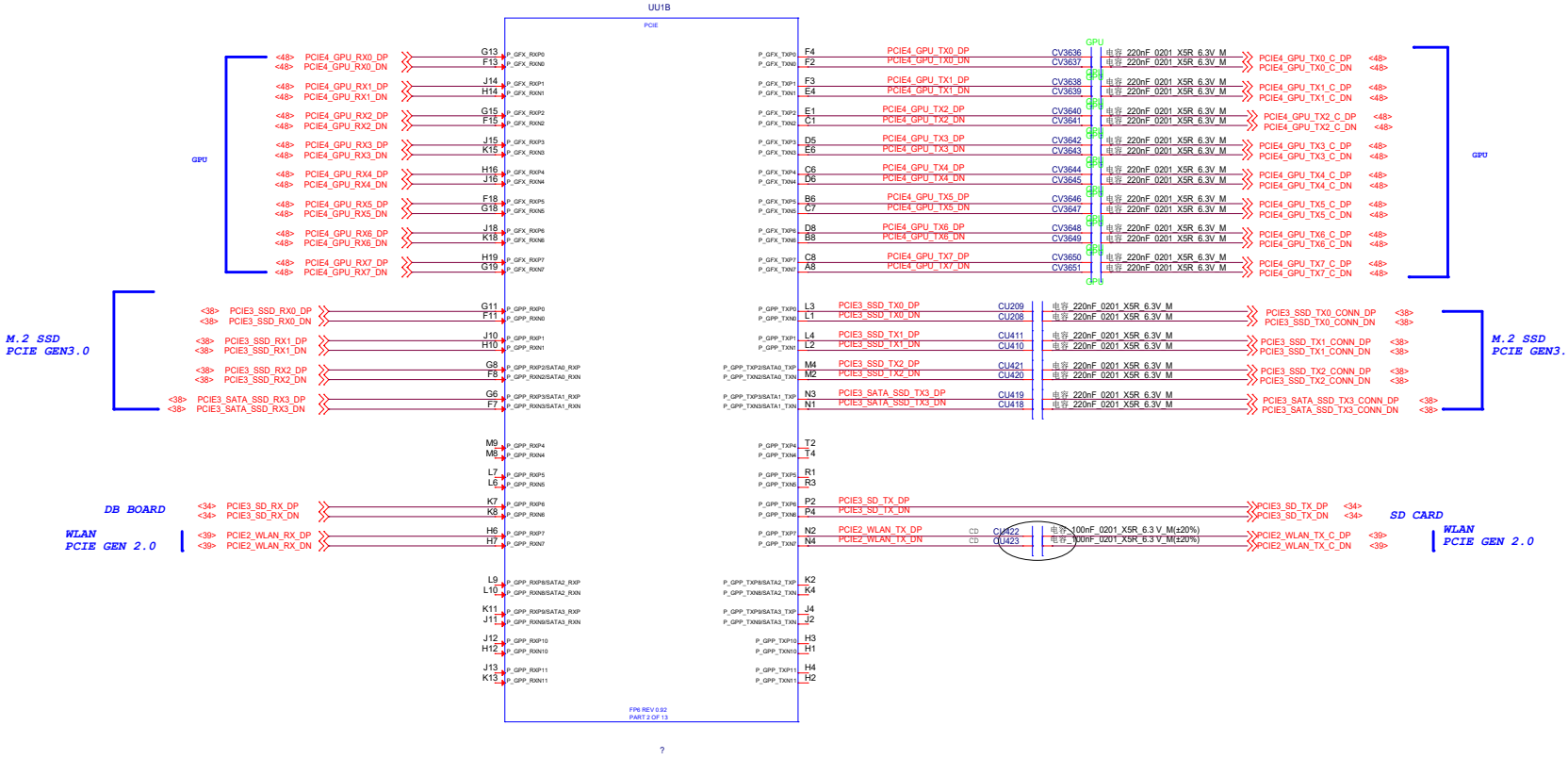

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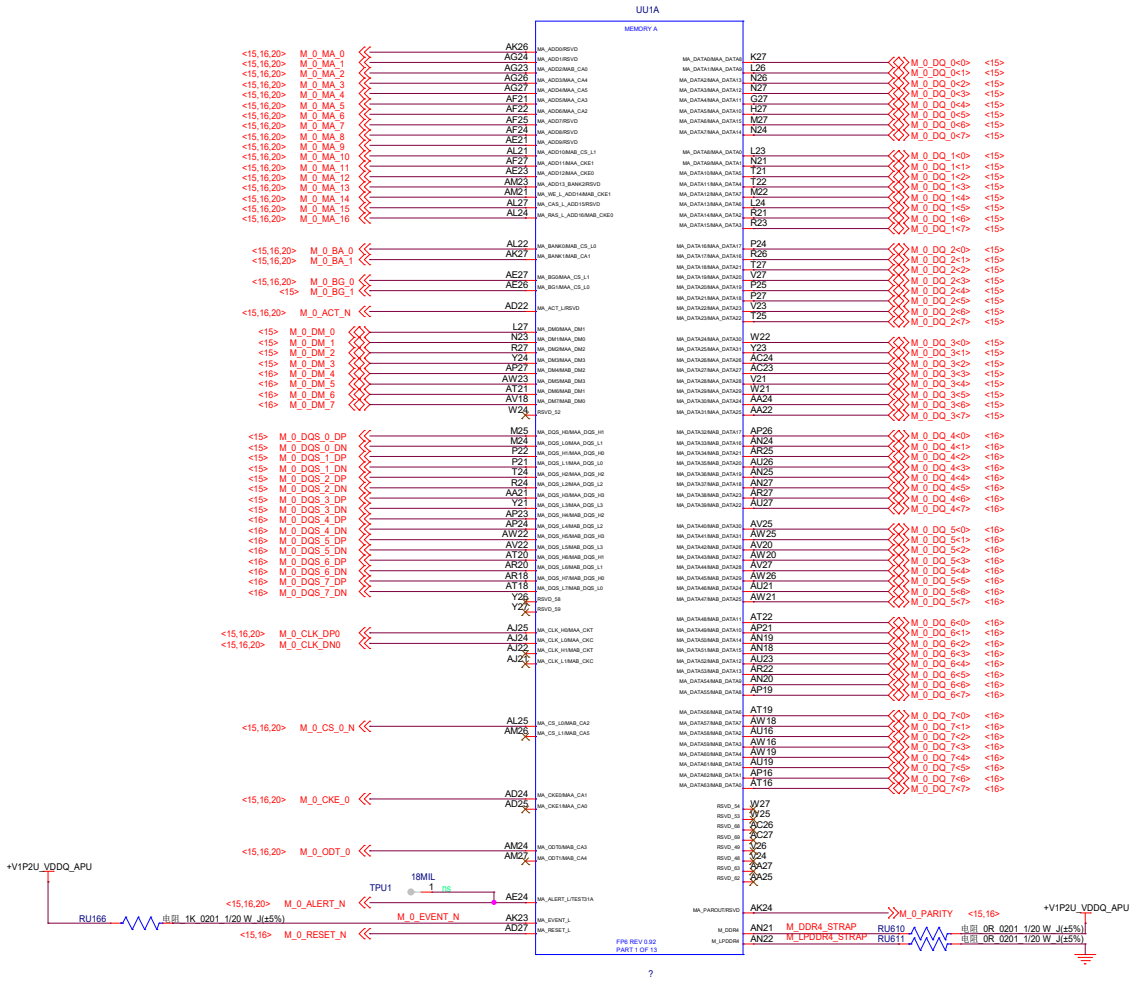

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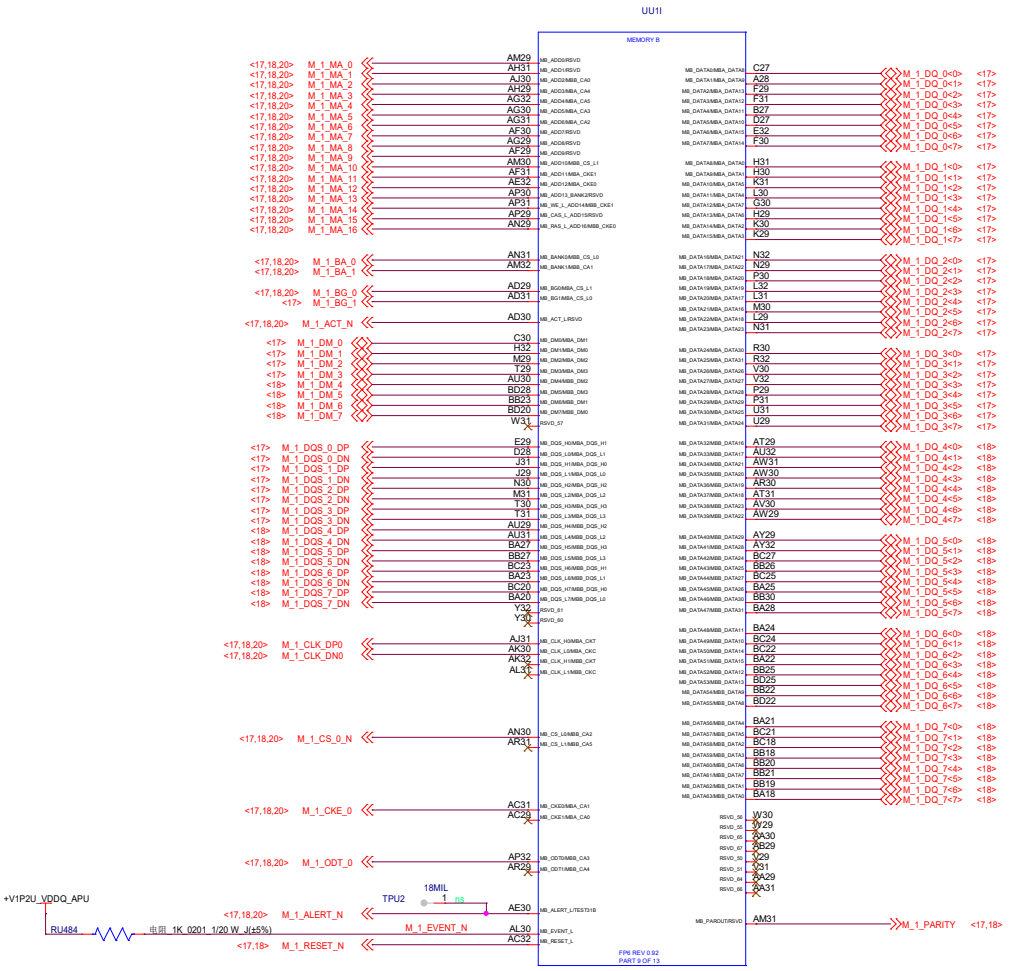

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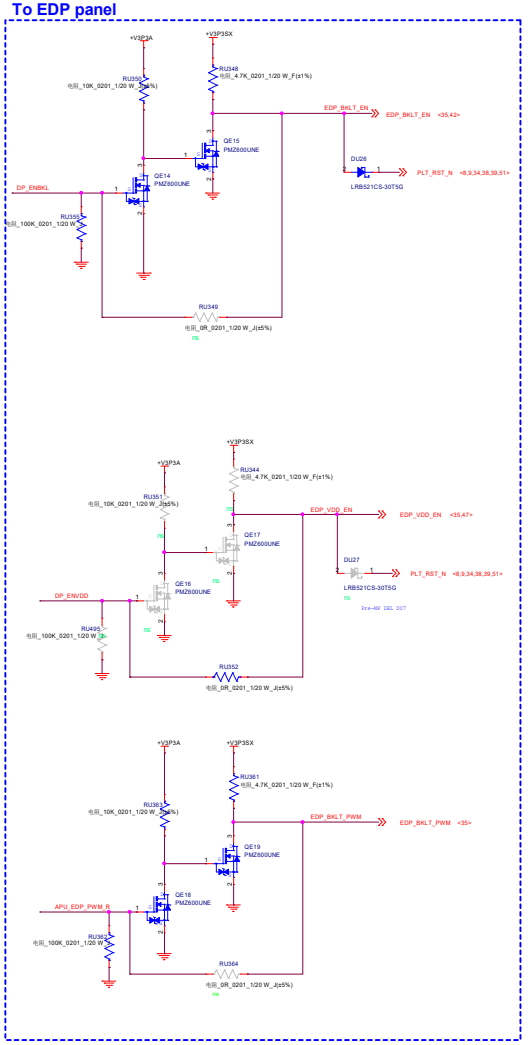
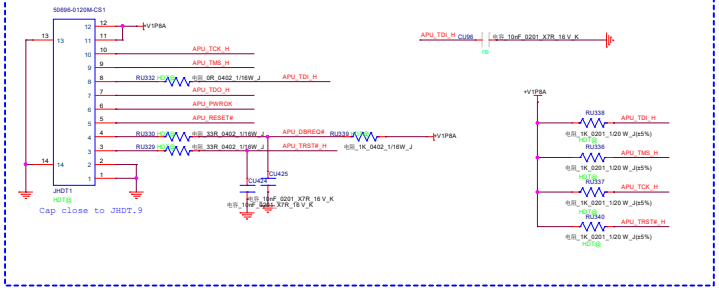
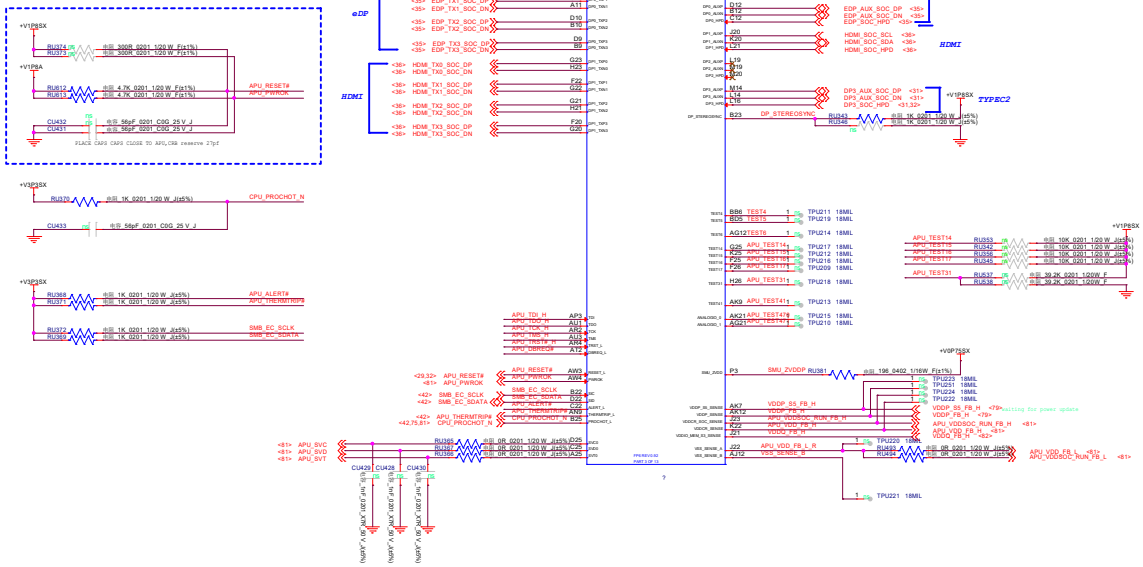
To EDP panel



HDT+ Connector for Debug only

Remove on MP





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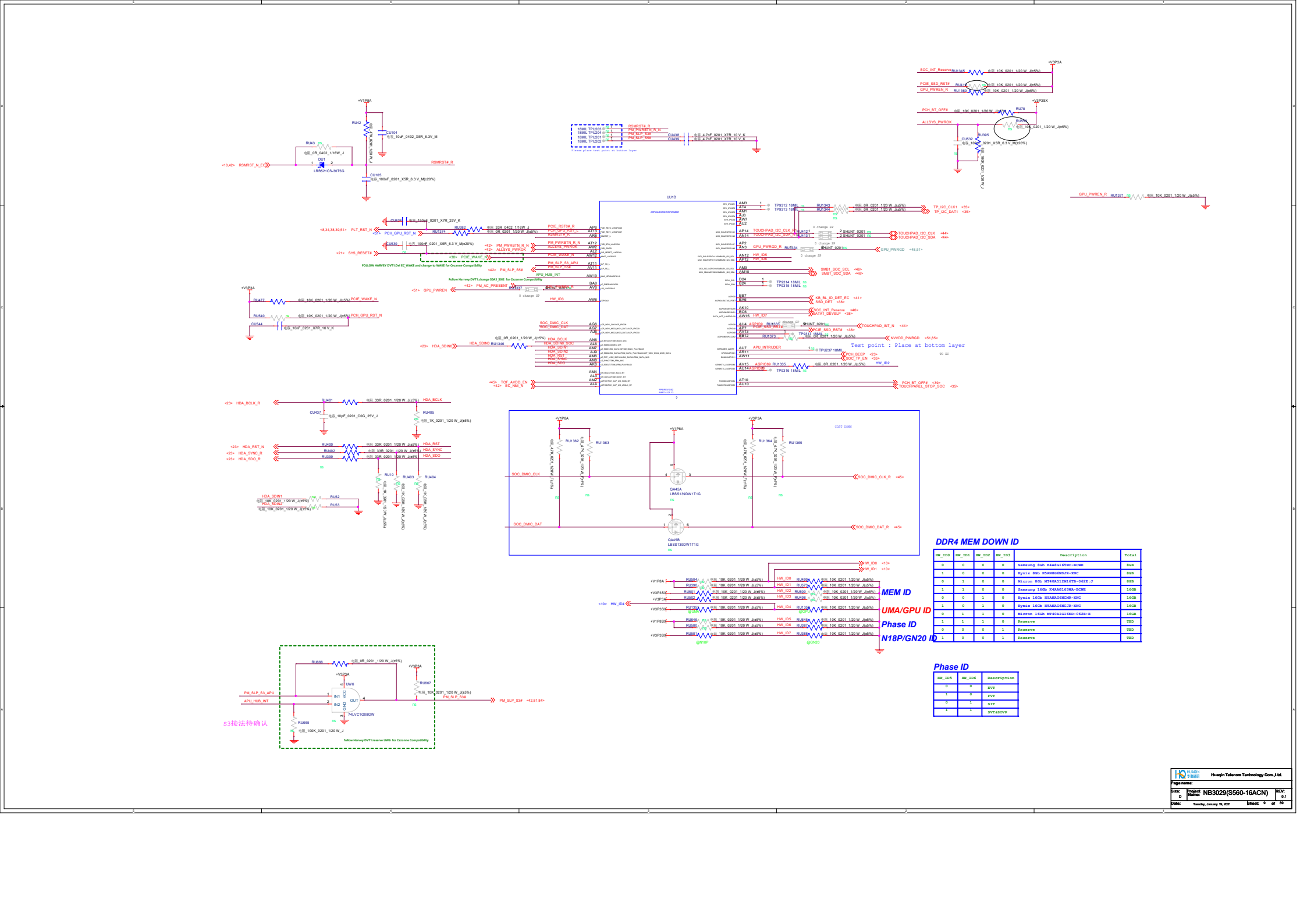

DDR4 MEM DOWN ID

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1	0	0	0	Hynix 8Gb H5AN8G6NDJR-XNC	8GB
0	1	0	0	Micron 8Gb MT40A512M16TB-062E:J	8GB
1	1	0	0	Samsung 16Gb K4AAG165WA-BCWE	16GB
0	0	1	0	Hynix 16Gb H5ANAG6NCMR-XNC	16GB
1	0	1	0	Hynix 16Gb H5ANAG6NCJR-XNC	16GB
0	1	1	0	Micron 16Gb MT40A1G16KD-062E:E	16GB
1	1	1	0	Reserve	TBD
0	0	0	1	Reserve	TBD
1	0	0	1	Reserve	TBD

Phase ID

HW_ID5	HW_ID6	Description
0	0	EVT
1	0	FVT
0	1	SIT
1	1	SVT&SOVP

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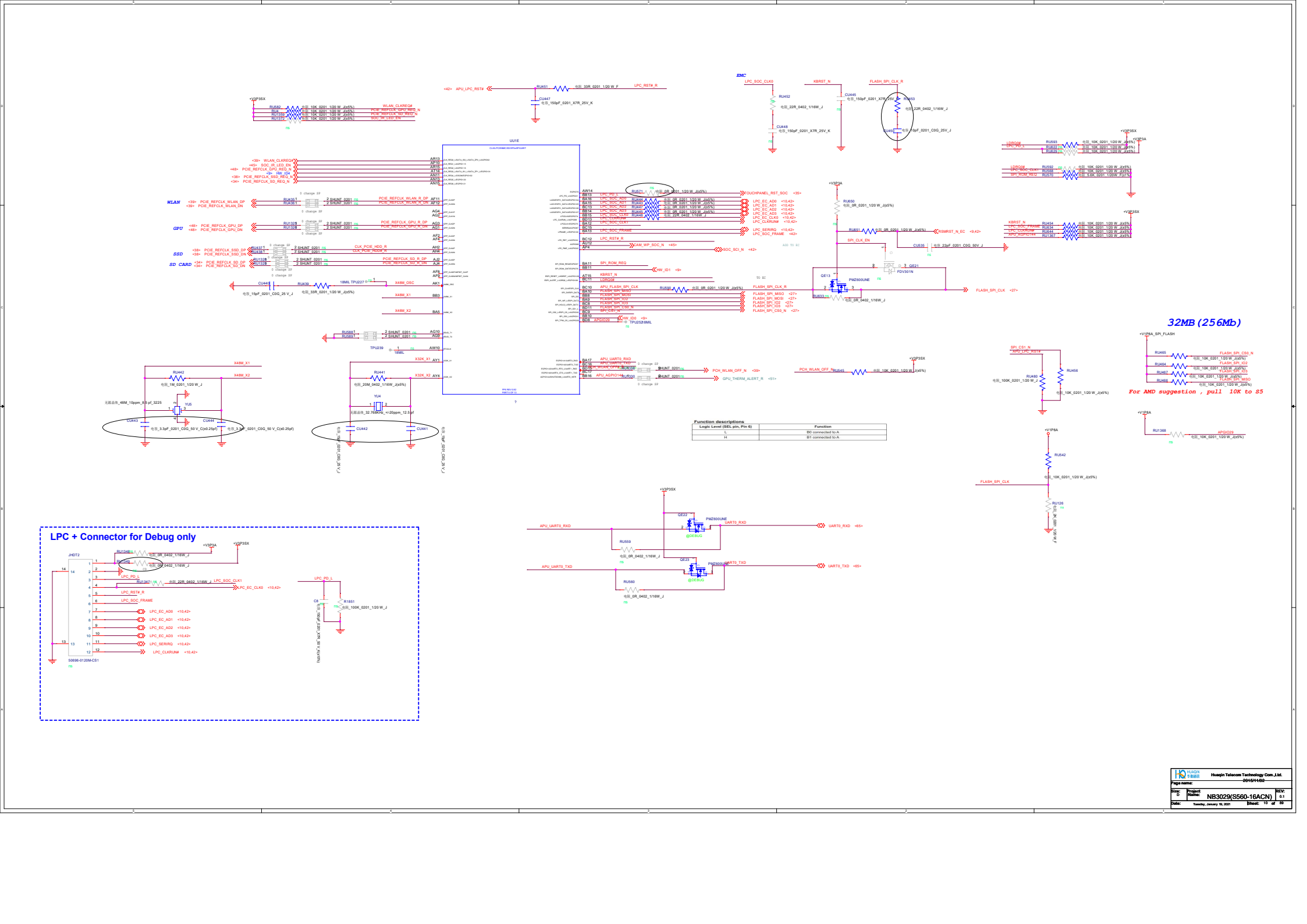
EMC
UU1E
WLAN
GPU
SSD
SD CARD
32MB (256Mb)
For AMD suggestion , pull 10K to S5
LPC + Connector for Debug only
Function descriptions
Logic Level (SEL pin, Pin 6)
Function
L
B0 connected to A
H
B1 connected to A
JHDT2
50696-0120M-CS1
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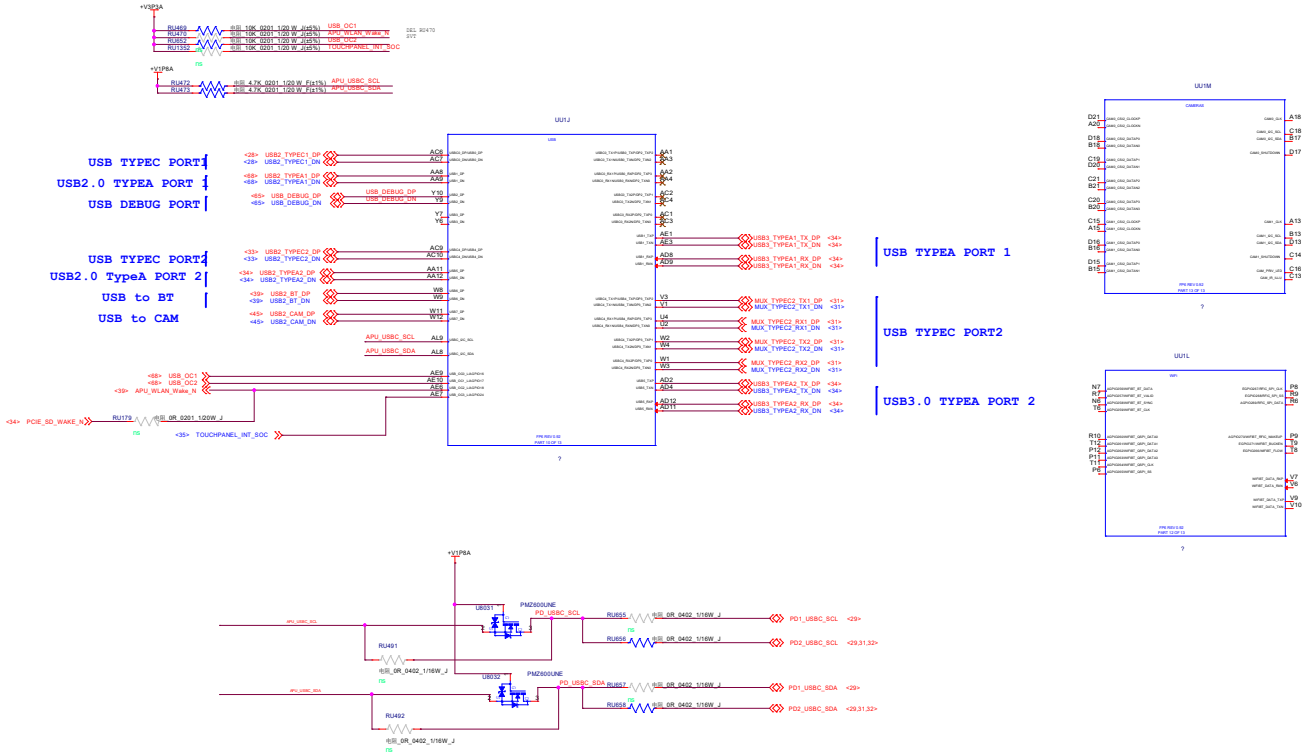

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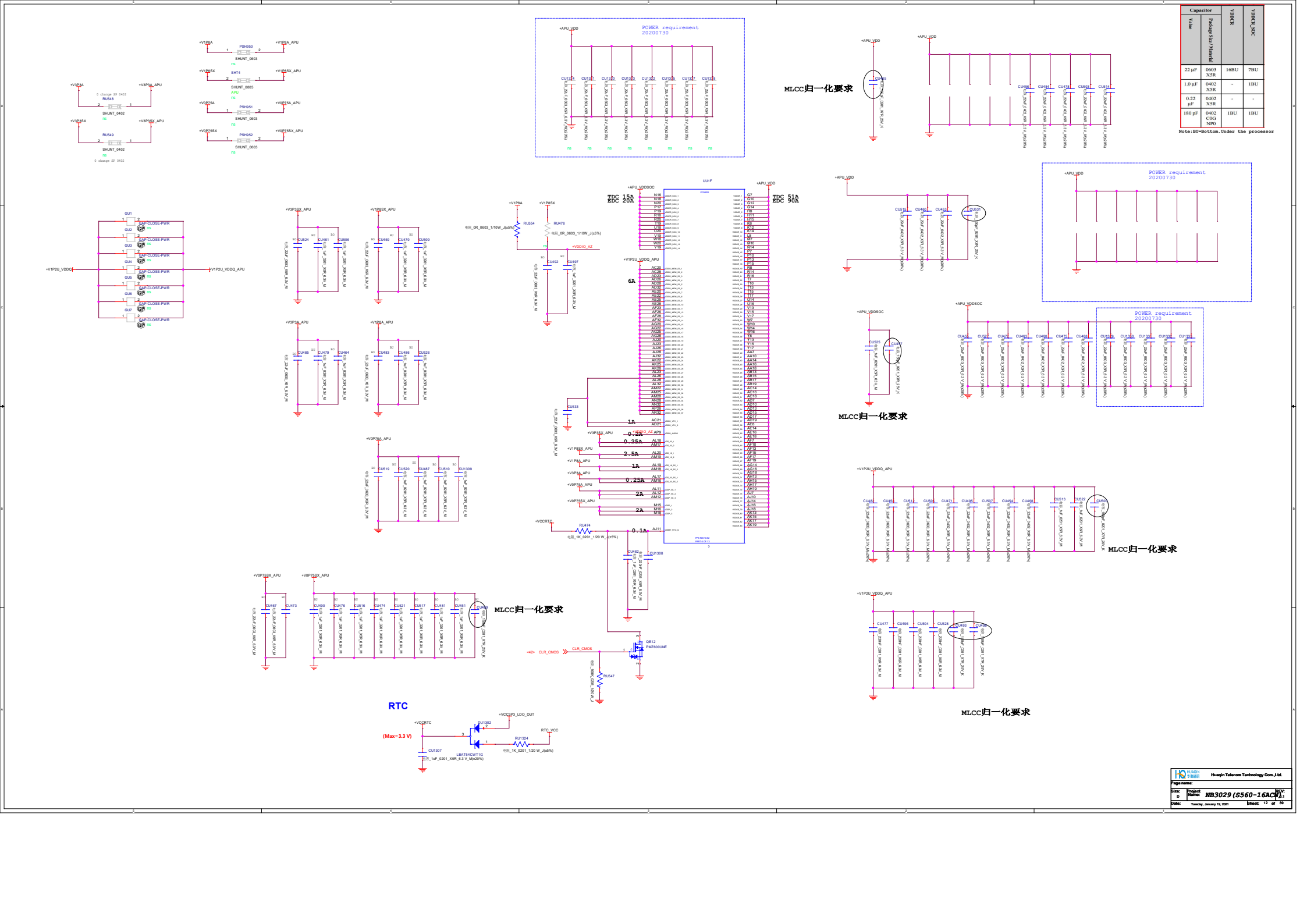
POWER requirement
20200730
MLCC归一化要求
RTC
(Max=3.3 V)
Capacitor
Value
Package Size/Material
VDDCR
VDDCR_SOC
22 μF
0603 X5R
16BU
7BU
1.0 μF
0402 X5R
-
1BU
0.22 μF
0402 X5R
-
-
180 pF
0402 COG NP0
1BU
1BU
Note:BU=Bottom.Under the processor
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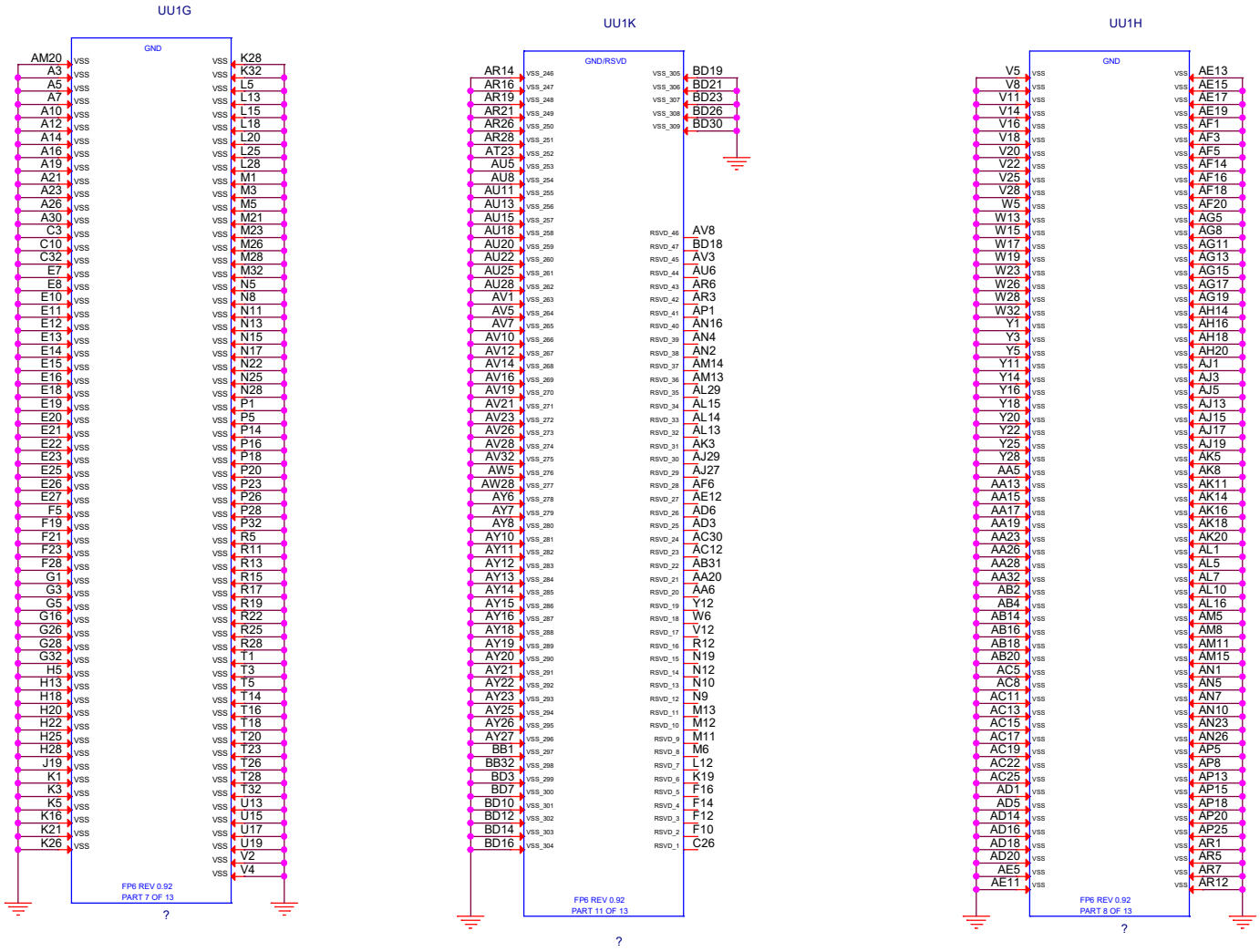

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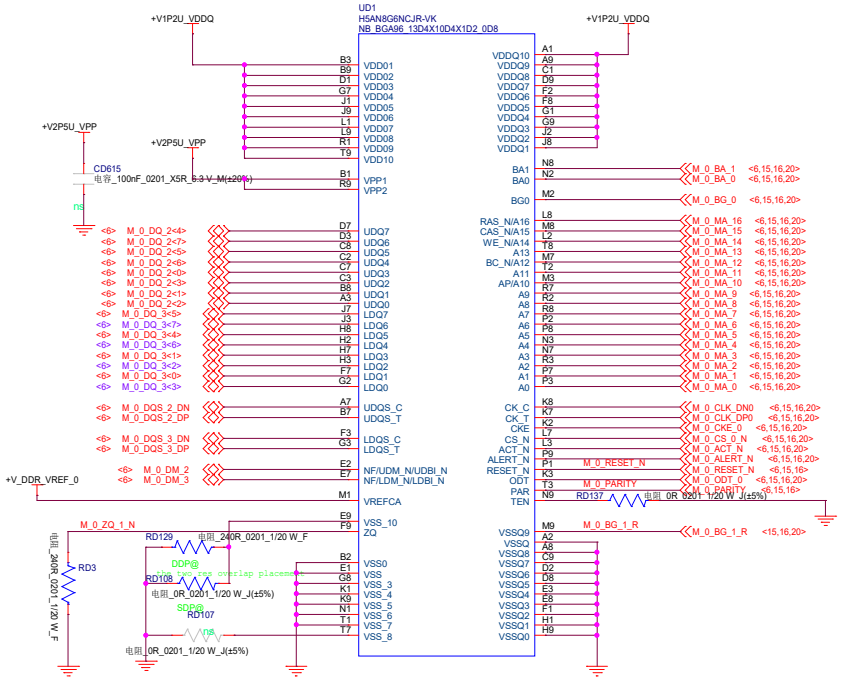
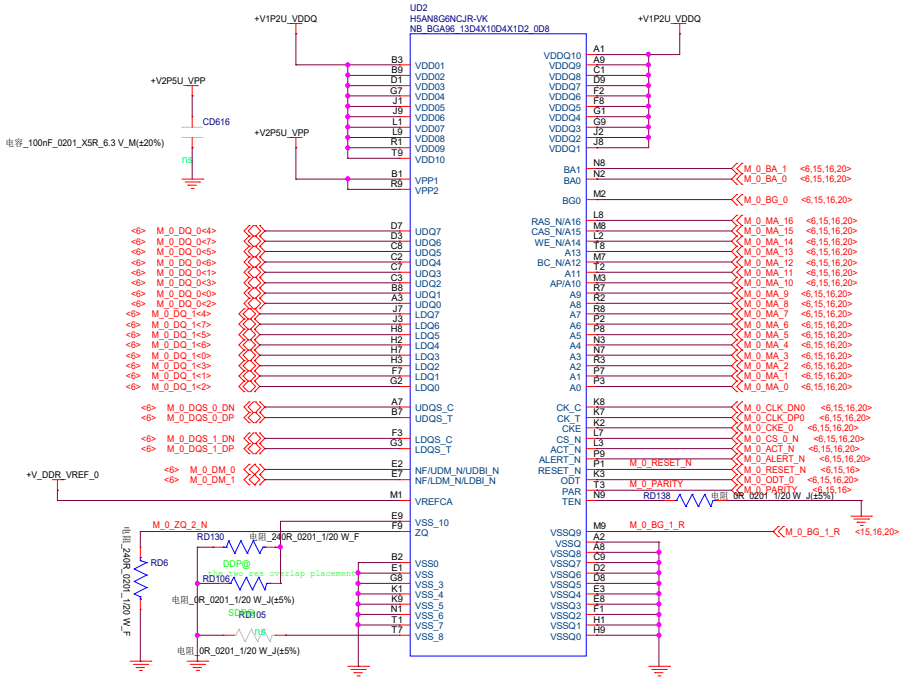
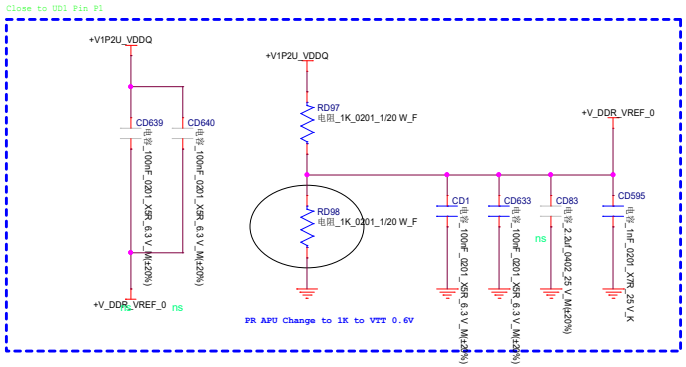
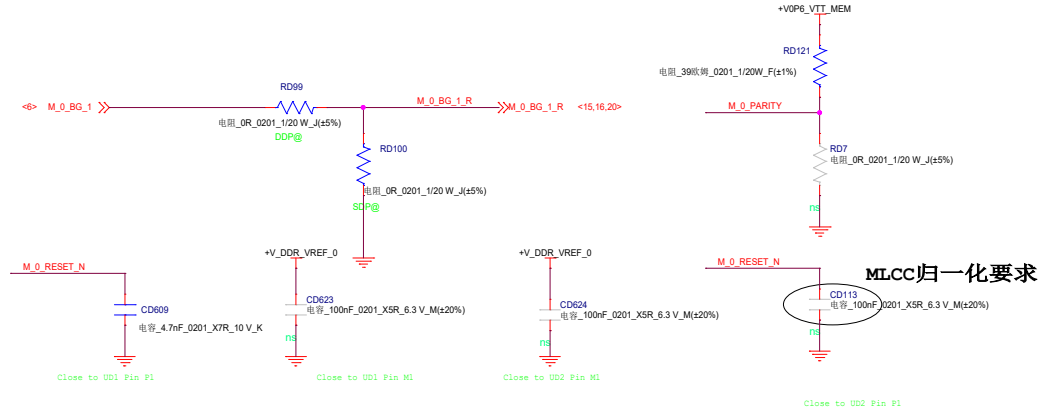




DDR4 CH A REF GENERATION





DDR4 CHA UD1 UD2 NOTE

DDR PINS		SDP				DDP			
E9	UZQ	RD108	RD129	RD106	RD130	RD108	RD129	RD106	RD130
		ON	NC	ON	NC	NC	ON	NC	ON
M9	BG1	RD100		RD99		RD100		RD99	
		ON		NC		NC		ON	

Default: SDP

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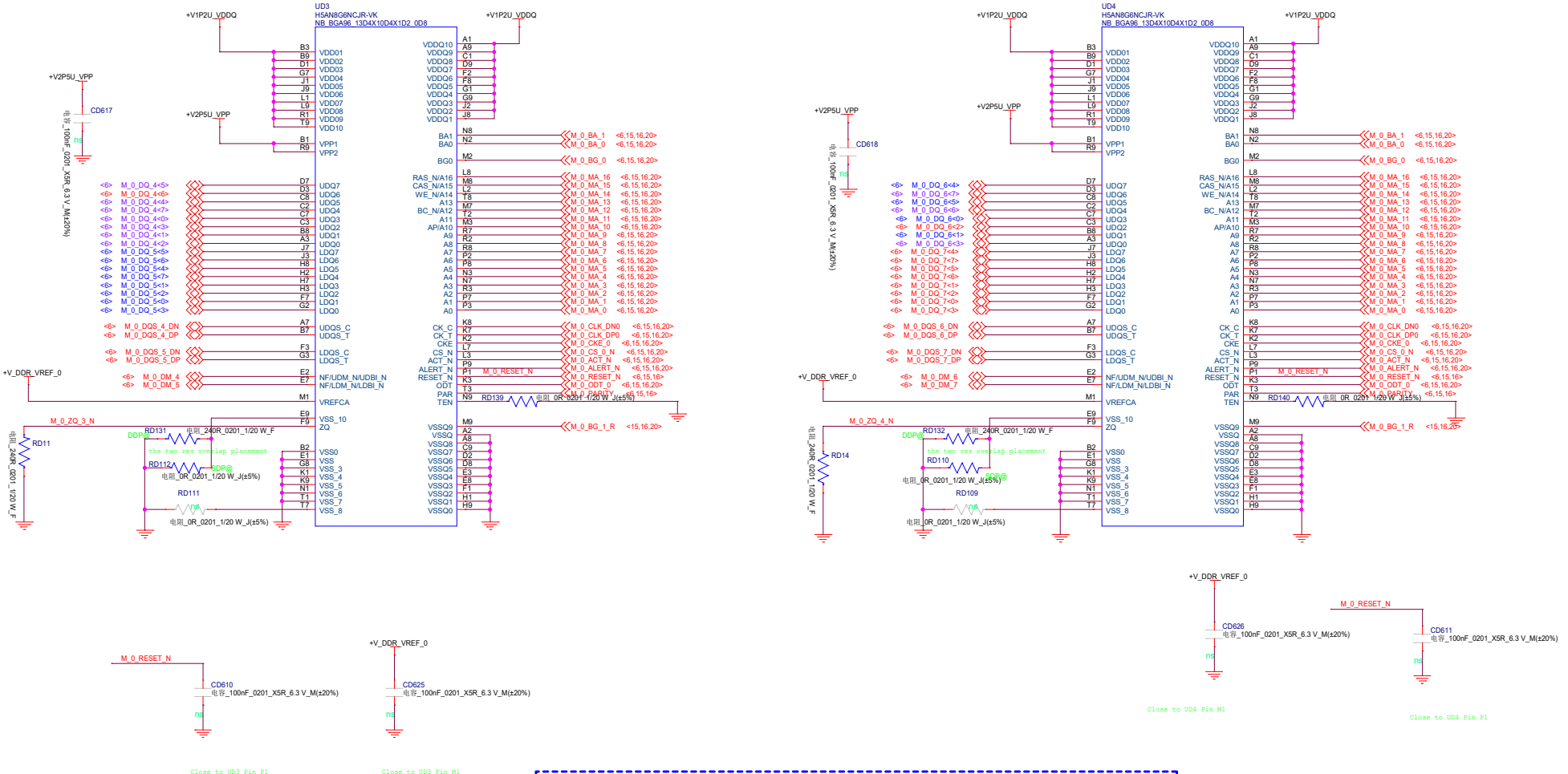

DDR4 CHA UD3 UD4 NOTE

DDR PINS		SDP				DDP			
E9	UZQ	RD112	RD131	RD110	RD132	RD112	RD131	RD110	RD132
		ON	NC	ON	NC	NC	ON	NC	ON
M9	BG1	RD100		RD99		RD100		RD99	
		ON		NC		NC		ON	

Default: SDP

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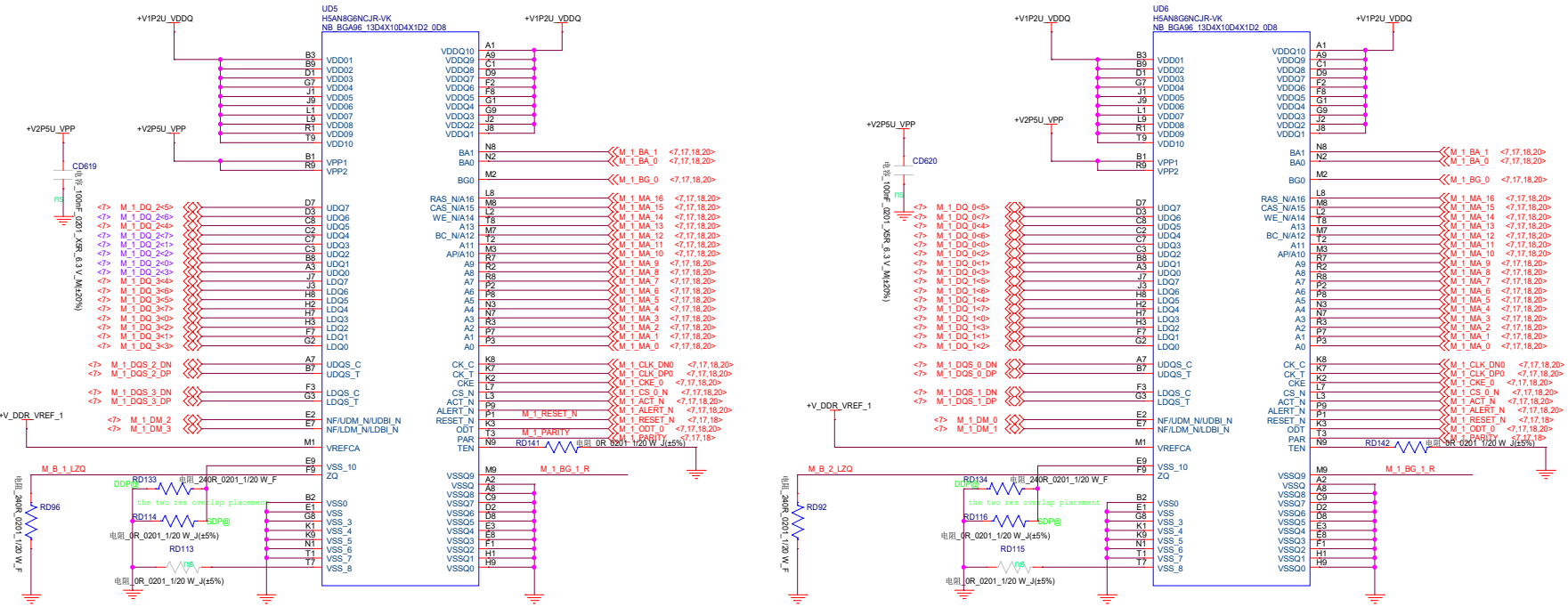

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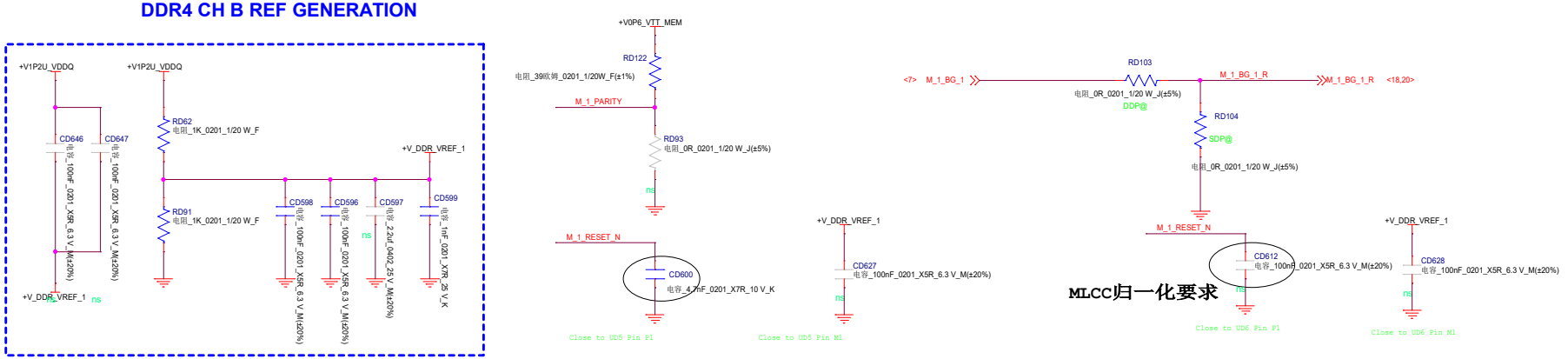

DDR4 CHB UD5 UD6 NOTE

DDR PINS		SDP				DDP			
E9	UZQ	RD114	RD133	RD116	RD134	RD114	RD133	RD110	RD132
		ON	NC	ON	NC	NC	ON	NC	ON
M9	BG1	RD104		RD103		RD104		RD103	
		ON		NC		NC		ON	

Default: SDP

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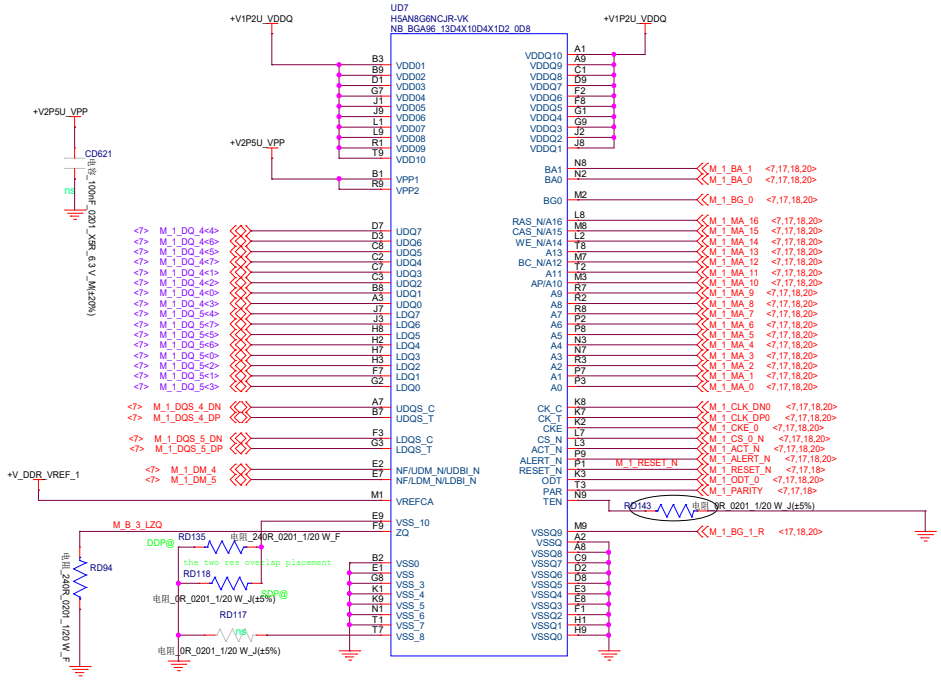

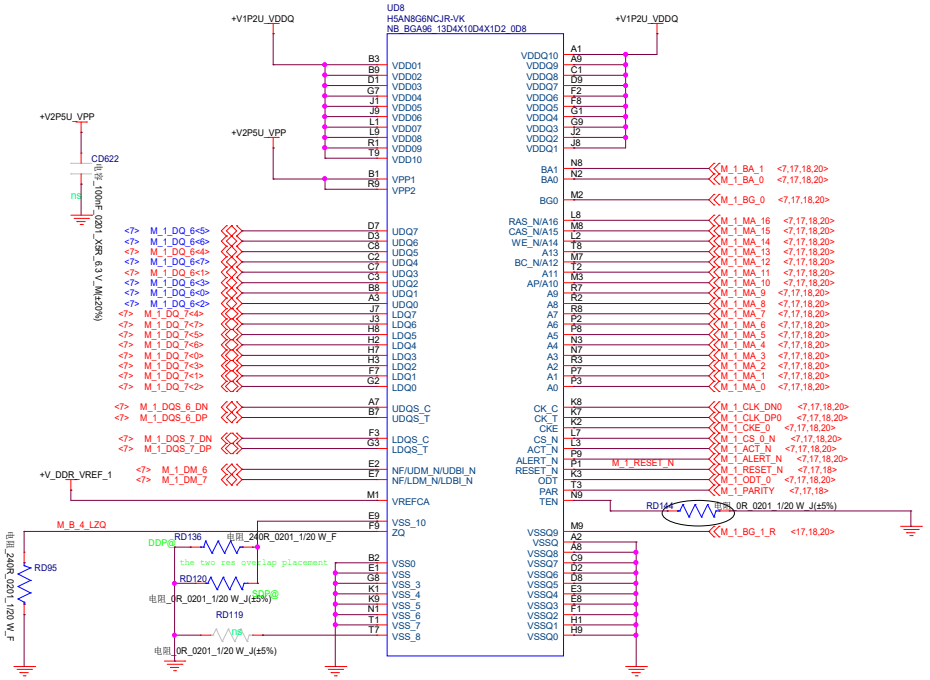

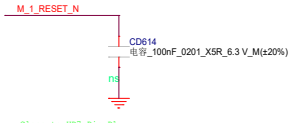

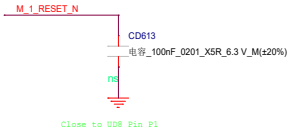

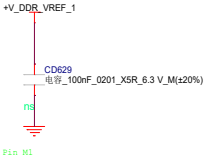

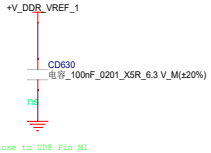

DDR4 CHB UD7 UD8 NOTE

DDR PINS		SDP				DDP			
E9	UZQ	RD118	RD135	RD120	RD136	RD118	RD135	RD120	RD136
		ON	NC	ON	NC	NC	ON	NC	ON
M9	BG1	RD104		RD103		RD104		RD103	
		ON		NC		NC		ON	

Default: SDP

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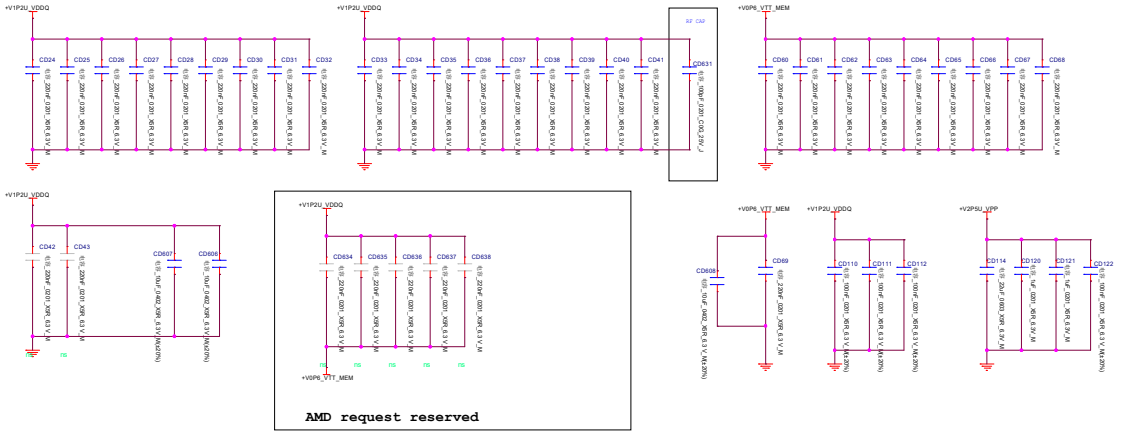
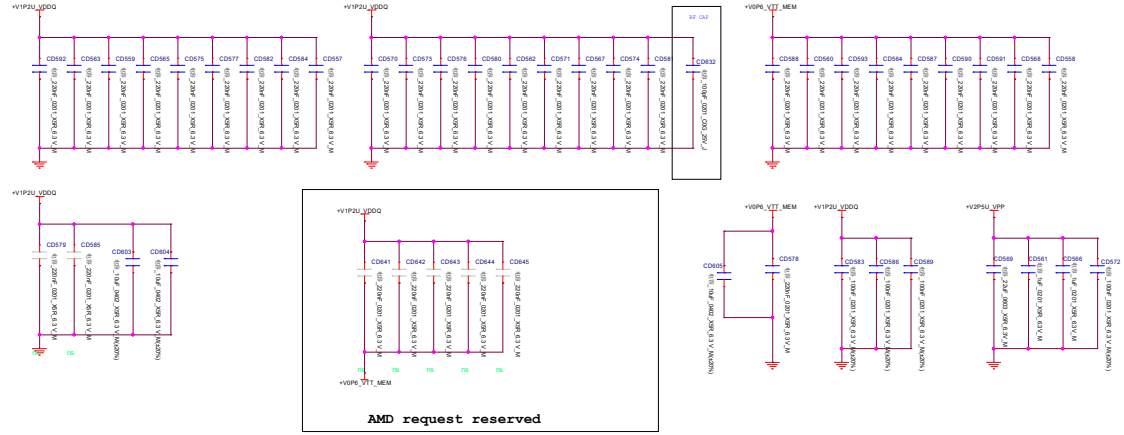
DECOUPLING CAPACITORS FOR DDR CHANNEL A



DECOUPLING CAPACITORS FOR DDR CHANNEL B



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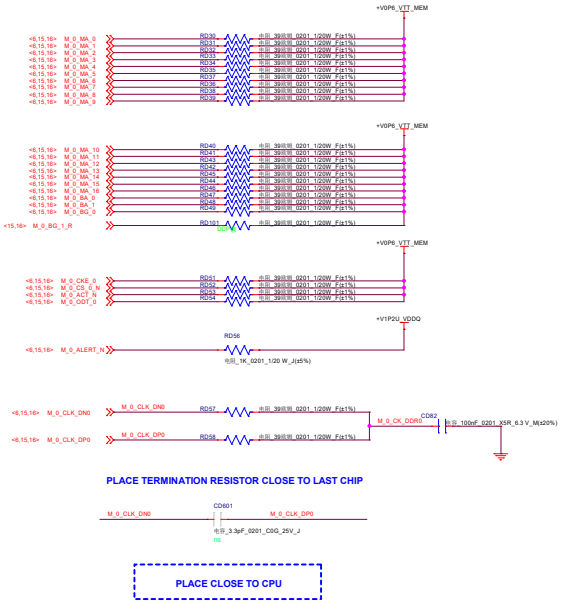
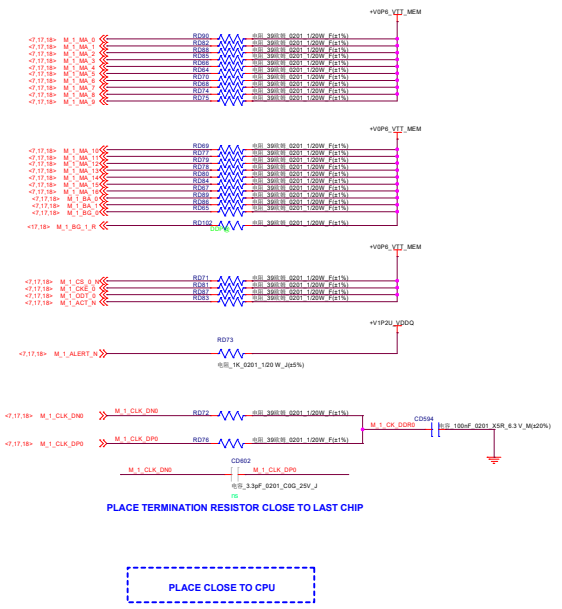
MEMORY TERMINATIONS CHANNEL A



MEMORY TERMINATIONS CHANNEL B



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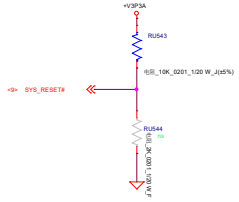
STRAP PINS



STRAP	FUNCTION	DEFINITION
SPI_CLK		1:USE 48MHZ CRYSTAL CLOCK AND GENERATE BOTH INTERNAL AND EXTERNAL CLOCKS(DEFAULT) 0:USE 100MHZ PCIE CLOCK AS REFERENCE CLOCK AND GENERATE INTERNAL CLOCKS ONLY
SYS_RSTB		1:NORMAL RESET MODE(DEFAULT) 0:SHORT RESET MODE

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HUAQIN 华勤讯	Huaqin Telecom Technology Com.,Ltd.	
Page name:	WHL-U42(DECOUPLING2)	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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Off-Page

HP
- PORTD_A_R <25>
- PORTD_B_R <25>
- PORTA_L_CONN <25>
- HPOUT-JD <23,25>
- PORTA_R_CONN <25>

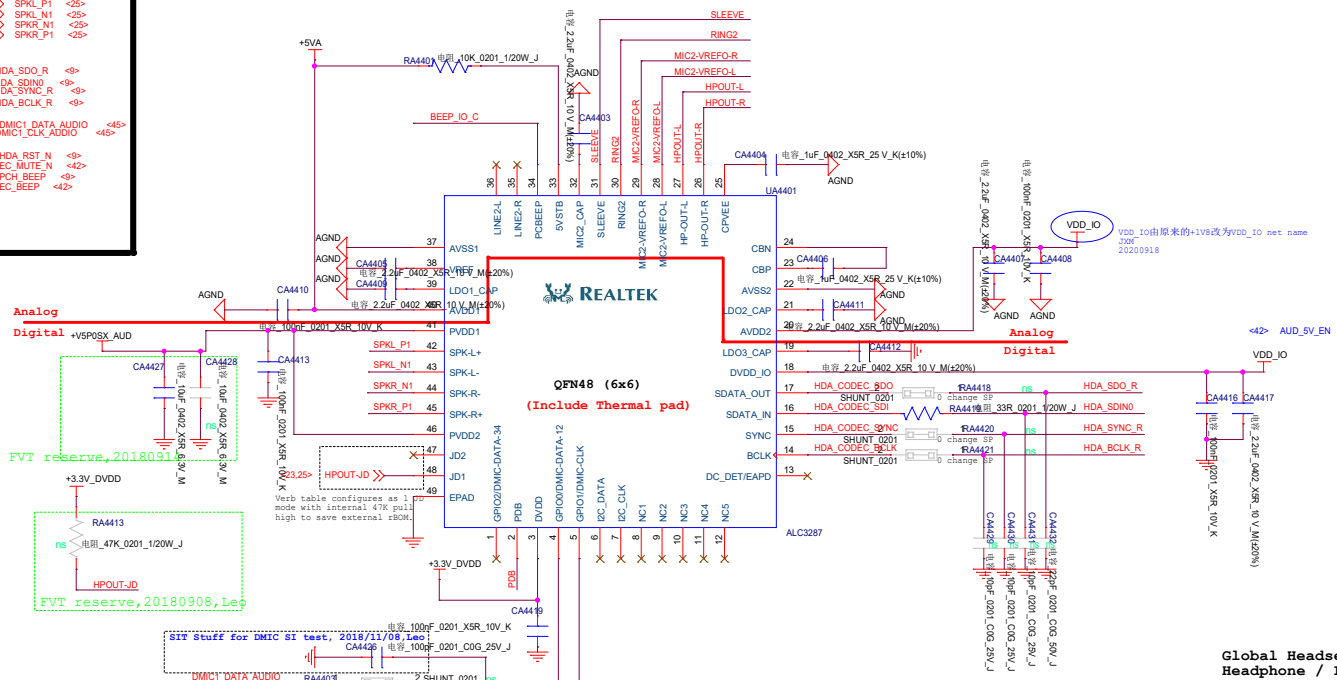
SPEAK
- SPKL_P1 <25>
- SPKL_N1 <25>
- SPKR_N1 <25>
- SPKR_P1 <25>

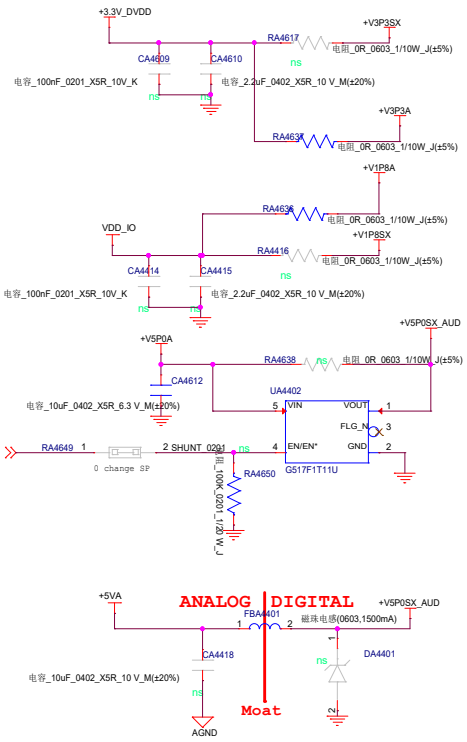
HDA
- HDA_SDO_R <9>
- HDA_SDIN0 <9>
- HDA_SYNC_R <9>
- HDA_BCLK_R <9>

DMIC
- DMIC1_DATA_AUDIO <45>
- DMIC1_CLK_AUDIO <45>

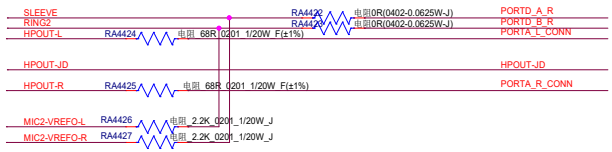
Control
- HDA_RST_N <9>
- EC_MUTE_N <42>
- PCH_BEEP <9>
- EC_BEEP <42>

AMP



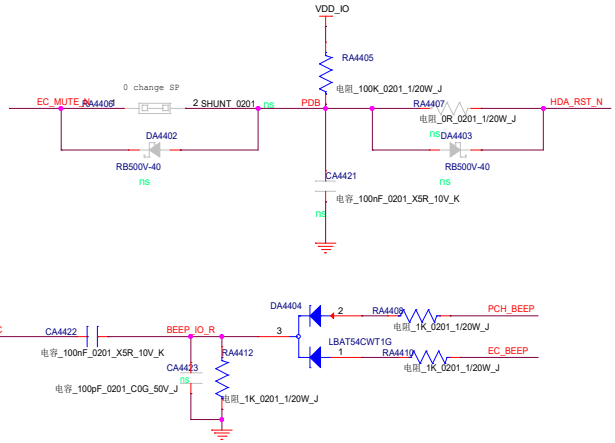


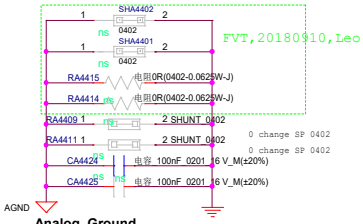
Global Headset Jack with 2Vrms and 120dB SNR.
Headphone / Line Out / CTIA & OMTP



Internal Speaker connector
Placement near Audio Codec

SPK L+ L- R+ R- trace width
Speaker 4 ohm ==> 40 mils
Speaker 8 ohm ==> 20 mils





<CPA1> Place at Codec bottom side.
<CPA2> Place near audio connector. Don't short this pad to USB digital ground, and should be far away from any power traces.

Huaqin Telecom Technology Com.,Ltd.		
Page name:	Codec ALC3306	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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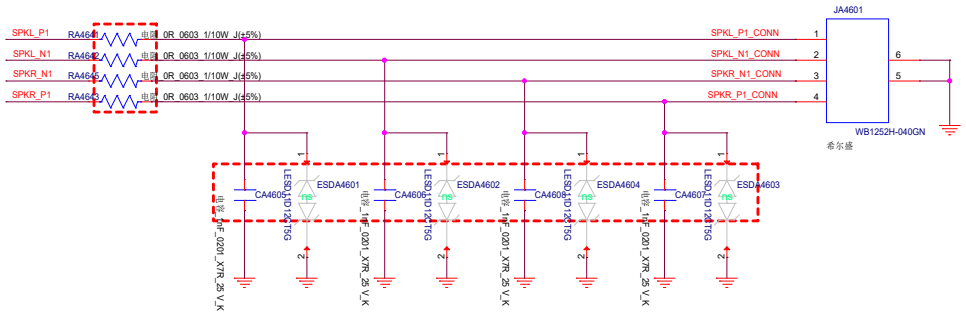
HUAQIN 华勤讯	Huaqin Telecom Technology Com.,Ltd.	
Page name:	M.2 SSD	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
Date: Tuesday, January 19, 2021	Sheet: 24 of 89	

Off-Page

PORTD_A_R <23>
PORTD_B_R <23>
PORTA_L_CONN <23>
HPOUT-JD <23>
PORTA_R_CONN <23>

SPKL_P1 <23>
SPKL_N1 <23>
SPKR_N1 <23>
SPKR_P1 <23>

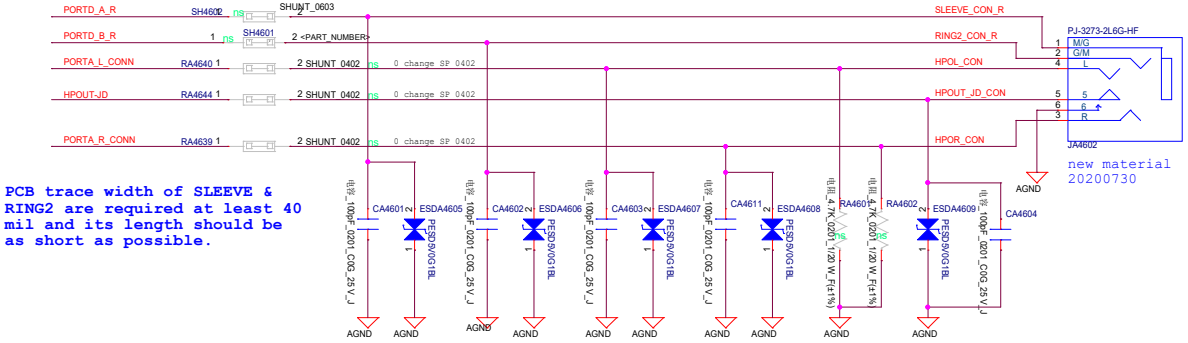
Speaker Conn



FOR product line

SPKL_P1_CONN	1	FTP4608 ns	26MIL
SPKL_N1_CONN	1	FTP4607 ns	26MIL
SPKR_P1_CONN	1	FTP8250 ns	26MIL
SPKR_N1_CONN	1	FTP4609 ns	26MIL

Combo Jack



PCB trace width of SLEEVE & RING2 are required at least 40 mil and its length should be as short as possible.

FOR product line

SLEEVE_CON_R	1	FTP8254 ns	26MIL
HPOL_CON	1	FTP8253 ns	26MIL
HPOR_CON	1	FTP8249 ns	26MIL
HPOUT_JD_CON	1	FTP8252 ns	26MIL
RING2_CON_R	1	FTP8251 ns	26MIL

Huaqin Telecom Technology Com.,Ltd.		
Page name:	TYPE C Connector	
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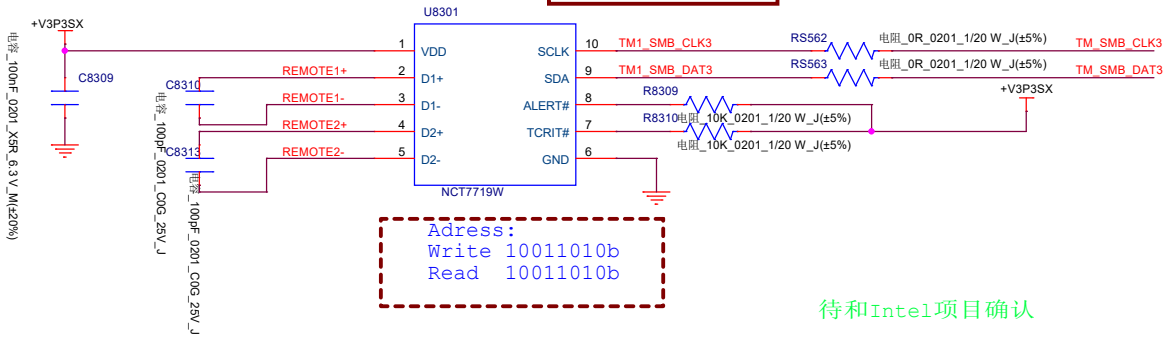
REMOTE1+/-, Trace width/space:10/10 mil,Trace length:<8"
Connect guard traces to GND on either side of the
DXP-DXN traces

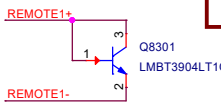
Charger Sensor



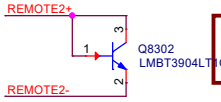
Adress:
Write 10011010b
Read 10011010b

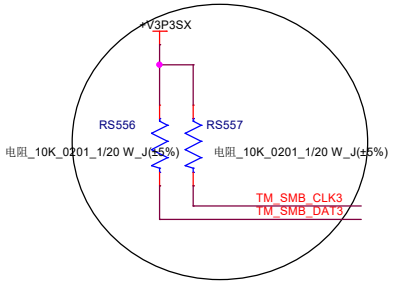
待和Intel项目确认

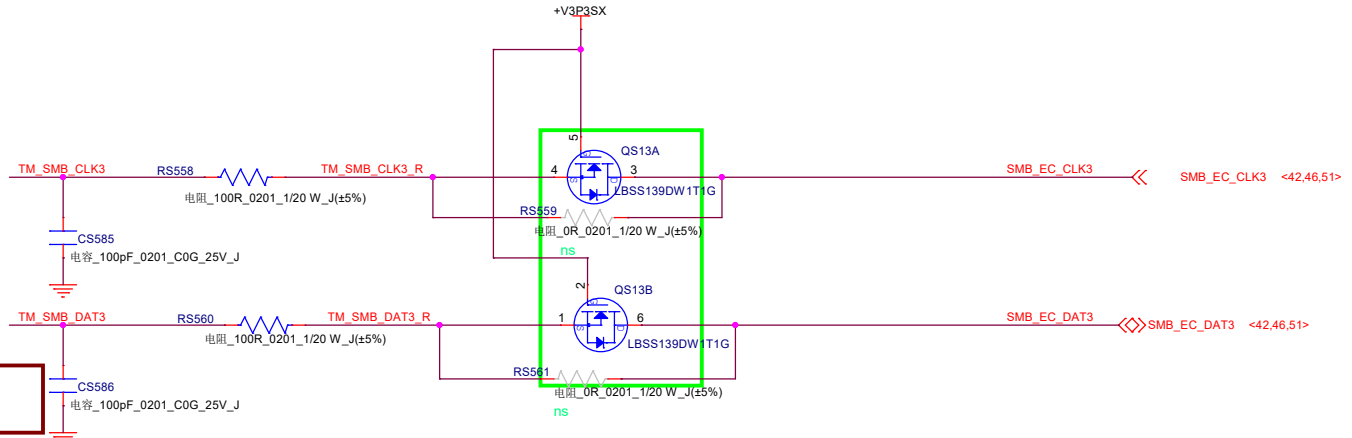
CPU Sensor



GPU Sensor

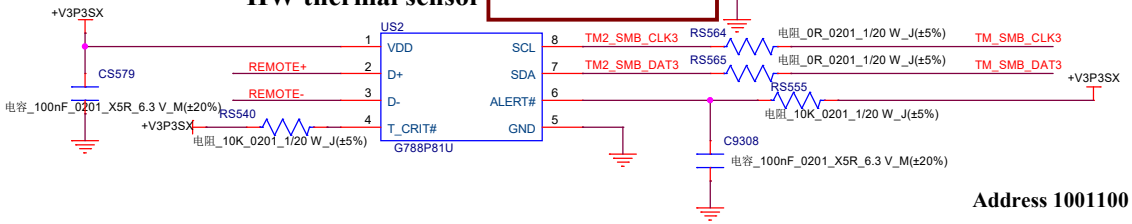




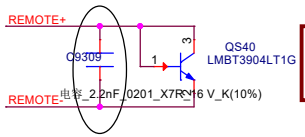


HW thermal sensor

DDR Sensor



Address 1001100



Environ Sensor

Huaqin Telecom Technology Com.,Ltd.		
Page name: Thermal sensor		
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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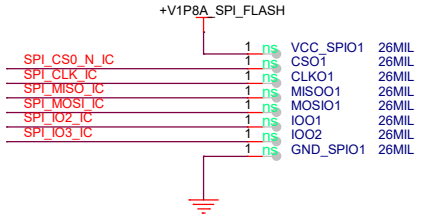
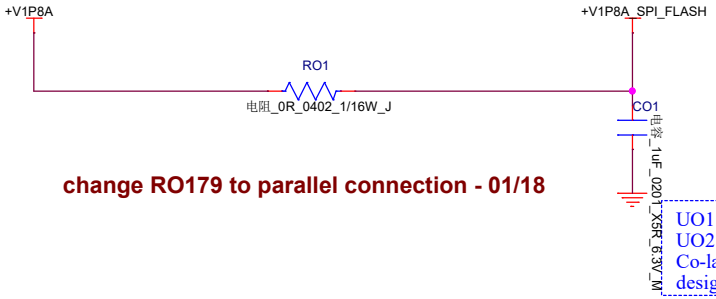
FOR product line

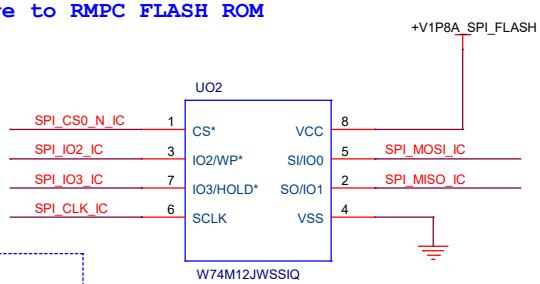


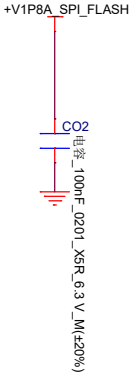
Need change to RMPC FLASH ROM

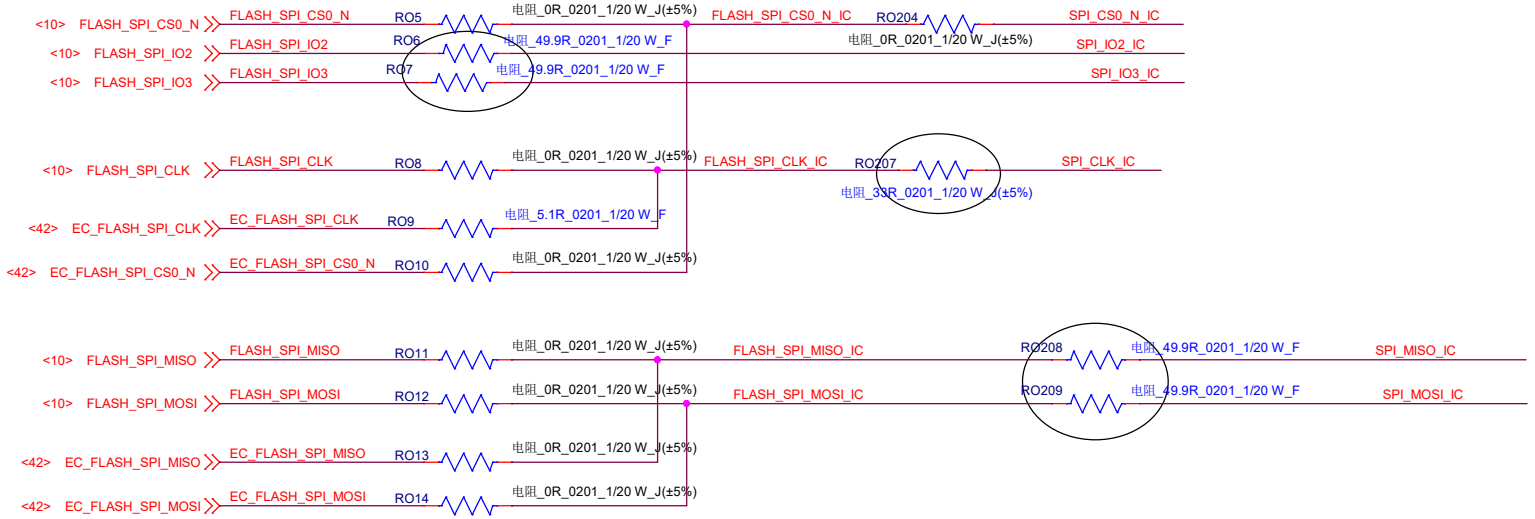


change RO179 to parallel connection - 01/18

UO1 and
UO2
Co-lay
design







HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.	
Page name:	SYSTEM_FLASH	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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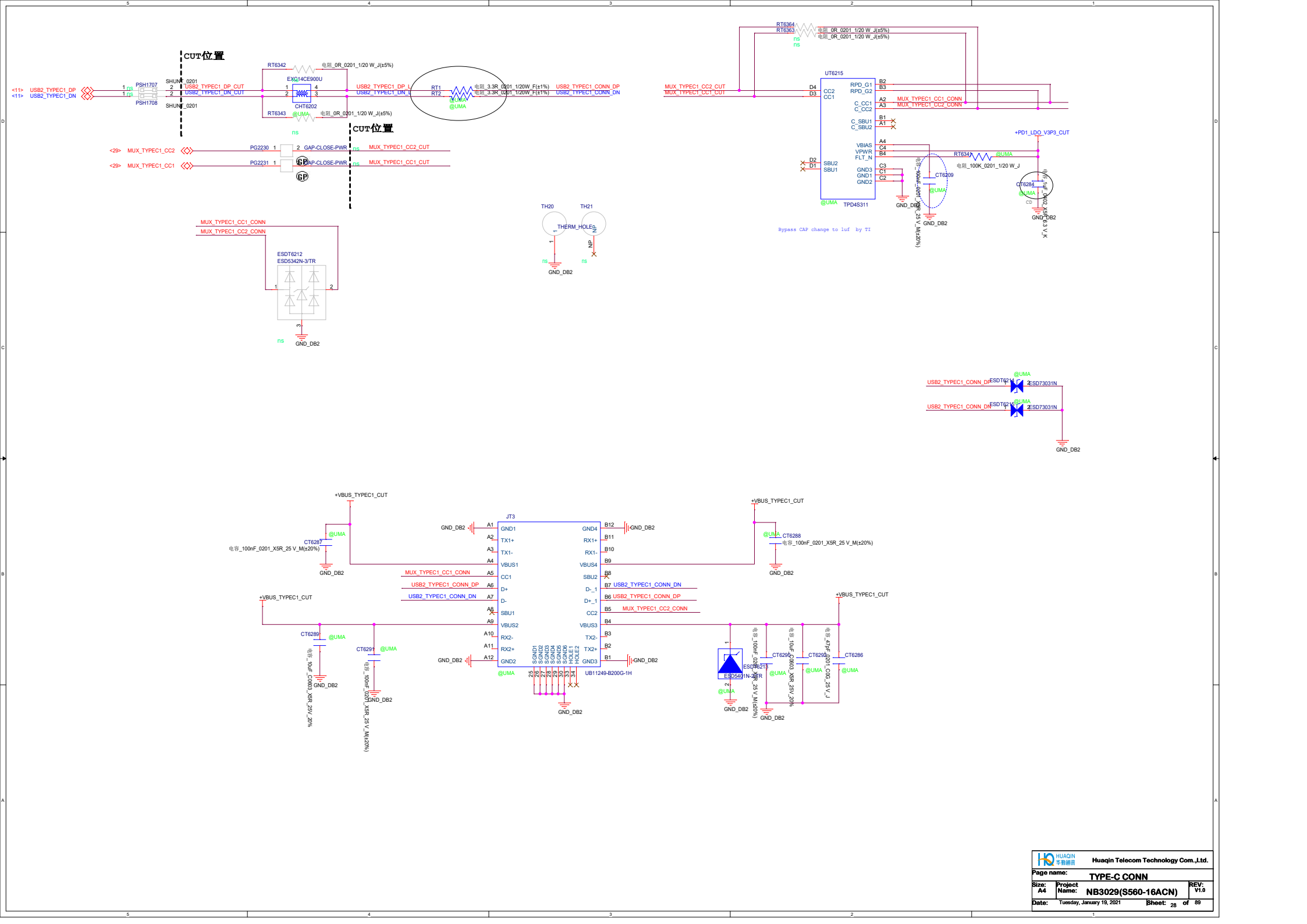

Huaqin Telecom Technology Com.,Ltd.			
Page name:	TYPE-C CONN		
Size: A4	Project Name:	NB3029(S560-16ACN)	REV: V1.0
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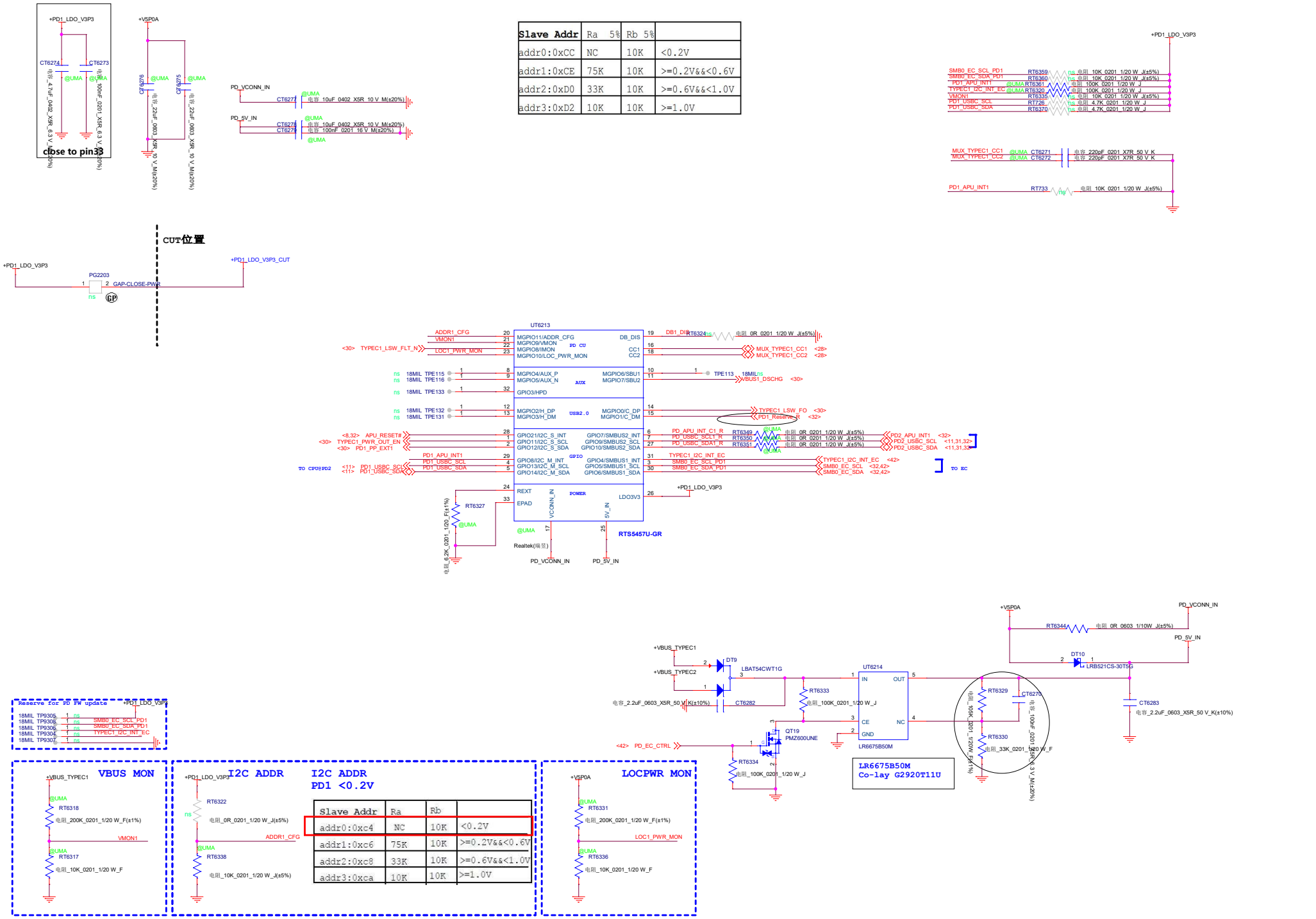

Slave Addr	Ra 5%	Rb 5%	
addr0:0xCC	NC	10K	<0.2V
addr1:0xCE	75K	10K	>=0.2V&&<0.6V
addr2:0xD0	33K	10K	>=0.6V&&<1.0V
addr3:0xD2	10K	10K	>=1.0V

Slave Addr	Ra	Rb	
addr0:0xc4	NC	10K	<0.2V
addr1:0xc6	75K	10K	>=0.2V&&<0.6V
addr2:0xc8	33K	10K	>=0.6V&&<1.0V
addr3:0xca	10K	10K	>=1.0V

Huaqin Telecom Technology Com.,Ltd.		
Page name:	LPDDR3(DECAPS)	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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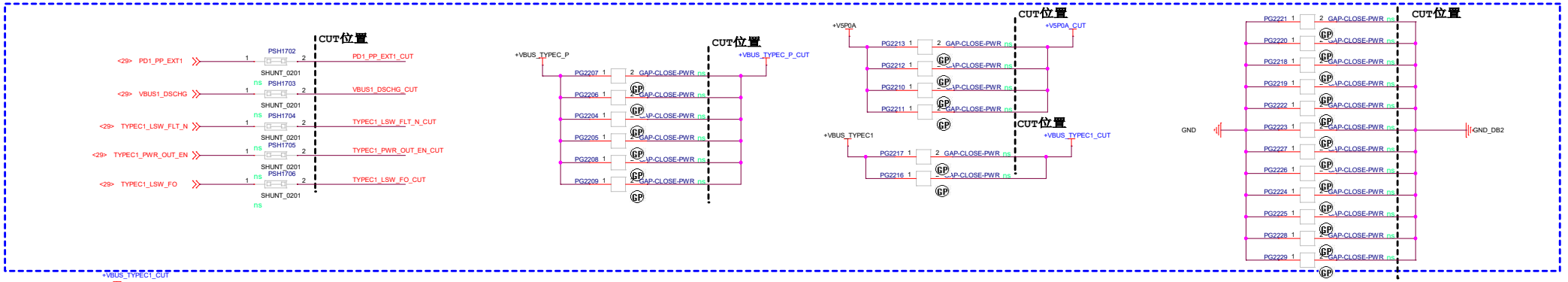
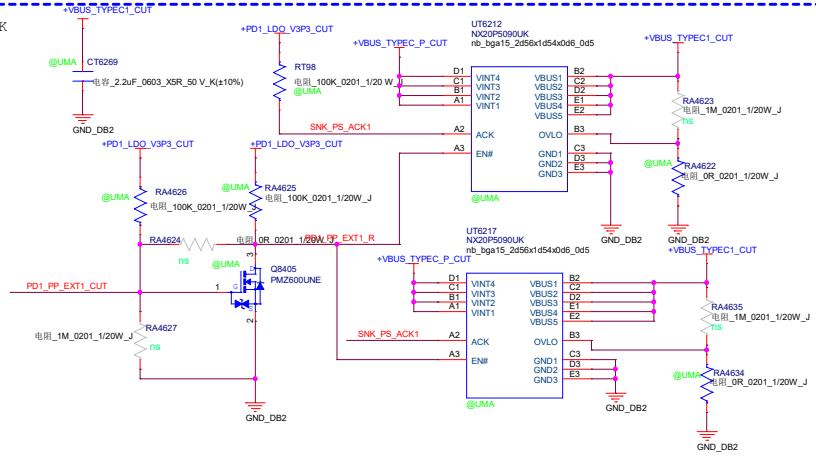
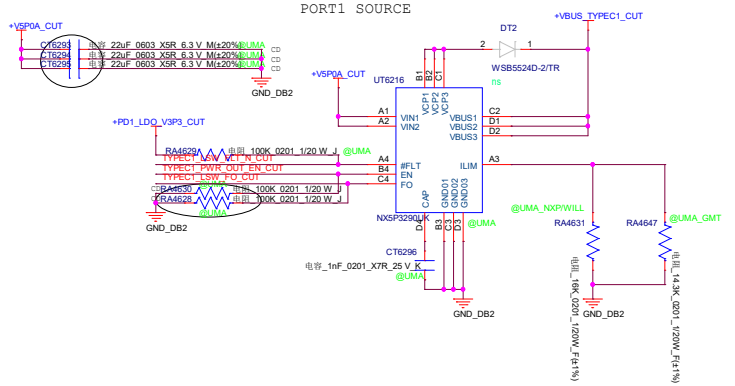


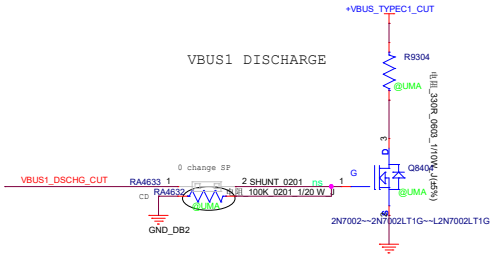
PORT1 SINK



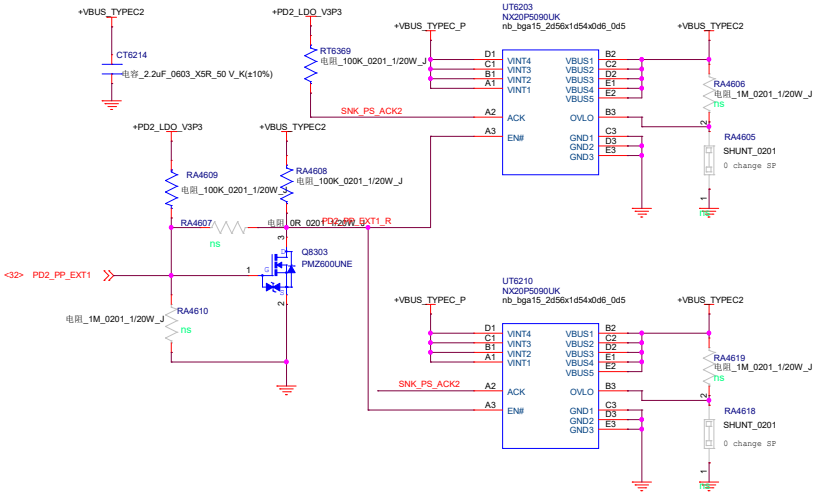
PORT1 SOURCE



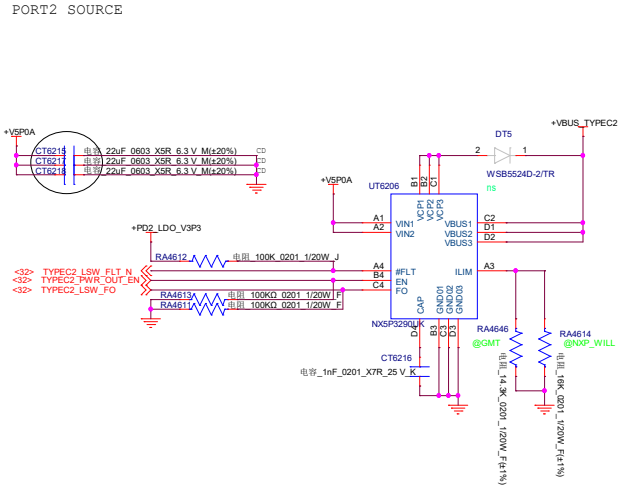
VBUS1 DISCHARGE



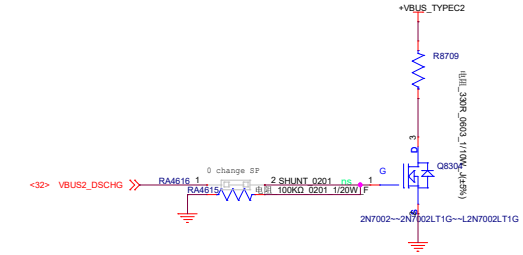
PORT2 SINK



PORT2 SOURCE



VBUS2 DISCHARGE



Huaqin Telecom Technology Com.,Ltd.			
Page name:	TYPEC CONN		
Size: A4	Project Name:	NB3029(S560-16ACN)	REV: V1.0
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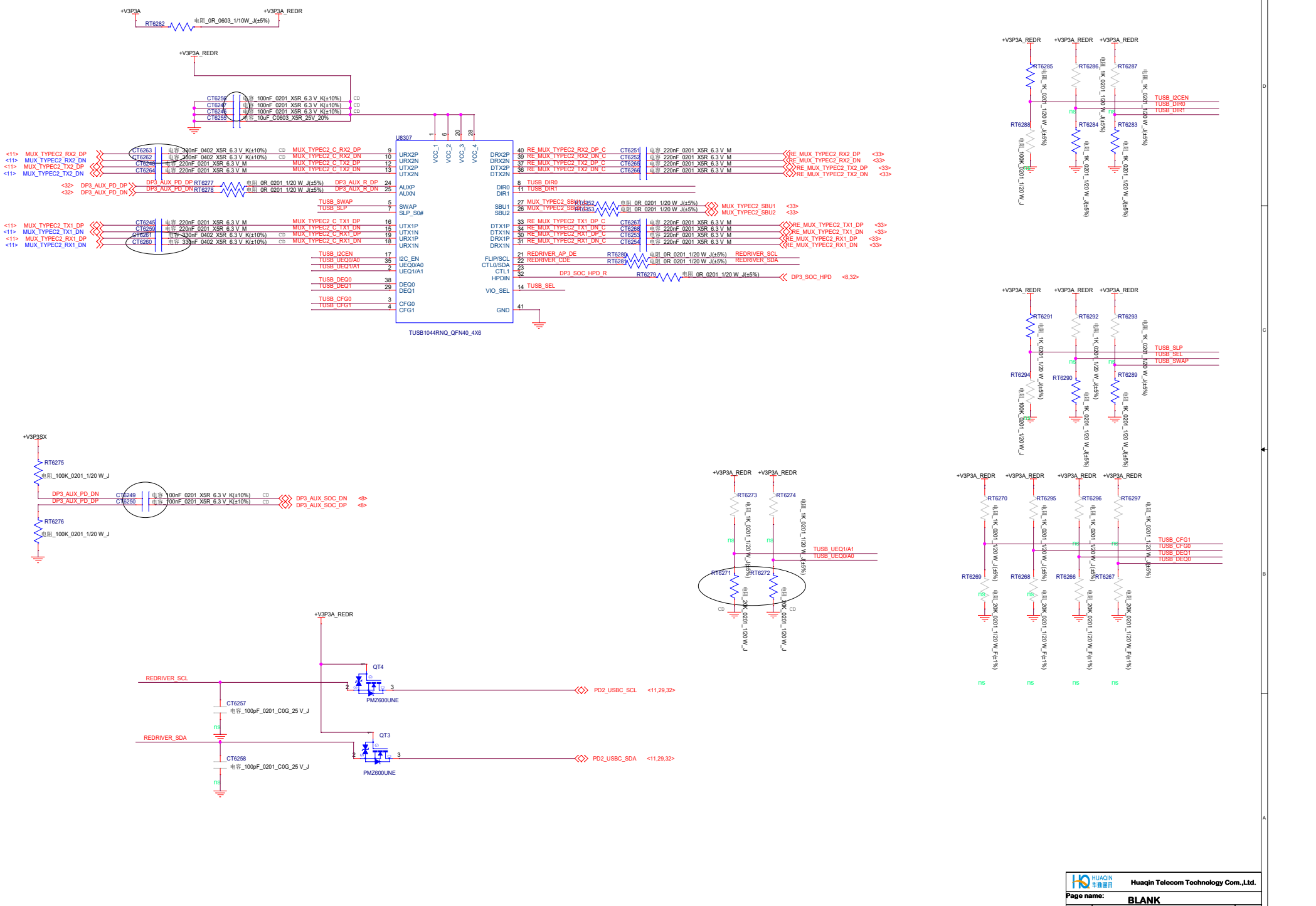
+V3P3A
+V3P3A_REDR
RT6282
电阻_0R_0603_1/10W_J(±5%)
U8307
TUSB1044RNQ_QFN40_4X6
MUX_TYPEC2_RX2_DP
MUX_TYPEC2_RX2_DN
MUX_TYPEC2_TX2_DP
MUX_TYPEC2_TX2_DN
MUX_TYPEC2_TX1_DP
MUX_TYPEC2_TX1_DN
MUX_TYPEC2_RX1_DP
MUX_TYPEC2_RX1_DN
DP3_AUX_PD_DP
DP3_AUX_PD_DN
TUSB_SWAP
TUSB_SLP
TUSB_I2CEN
TUSB_UEQ0/A0
TUSB_UEQ1/A1
TUSB_DEQ0
TUSB_DEQ1
TUSB_CFG0
TUSB_CFG1
RE_MUX_TYPEC2_RX2_DP_C
RE_MUX_TYPEC2_RX2_DN_C
RE_MUX_TYPEC2_TX2_DP_C
RE_MUX_TYPEC2_TX2_DN_C
RE_MUX_TYPEC2_TX1_DP_C
RE_MUX_TYPEC2_TX1_DN_C
RE_MUX_TYPEC2_RX1_DP_C
RE_MUX_TYPEC2_RX1_DN_C
REDRIVER_AP_DE
REDRIVER_CDE
REDRIVER_SCL
REDRIVER_SDA
DP3_SOC_HPD_R
DP3_SOC_HPD
TUSB_SEL
TUSB_DIR0
TUSB_DIR1
MUX_TYPEC2_SBU1
MUX_TYPEC2_SBU2
RT6285
RT6286
RT6287
RT6288
RT6284
RT6283
TUSB_I2CEN
TUSB_DIR0
TUSB_DIR1
RT6291
RT6292
RT6293
RT6294
RT6290
RT6289
TUSB_SLP
TUSB_SEL
TUSB_SWAP
+V3P3SX
RT6275
RT6276
DP3_AUX_SOC_DN
DP3_AUX_SOC_DP
RT6273
RT6274
RT6271
RT6272
TUSB_UEQ1/A1
TUSB_UEQ0/A0
RT6270
RT6295
RT6296
RT6297
RT6269
RT6268
RT6266
RT6267
TUSB_CFG1
TUSB_CFG0
TUSB_DEQ1
TUSB_DEQ0
REDRIVER_SCL
REDRIVER_SDA
QT4
QT3
PMZ600UNE
CT6257
CT6258
电容_100pF_0201_C0G_25 V_J
PD2_USBC_SCL
PD2_USBC_SDA
Huaqin Telecom Technology Com.,Ltd.
Page name:
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Size: A4
Project Name:
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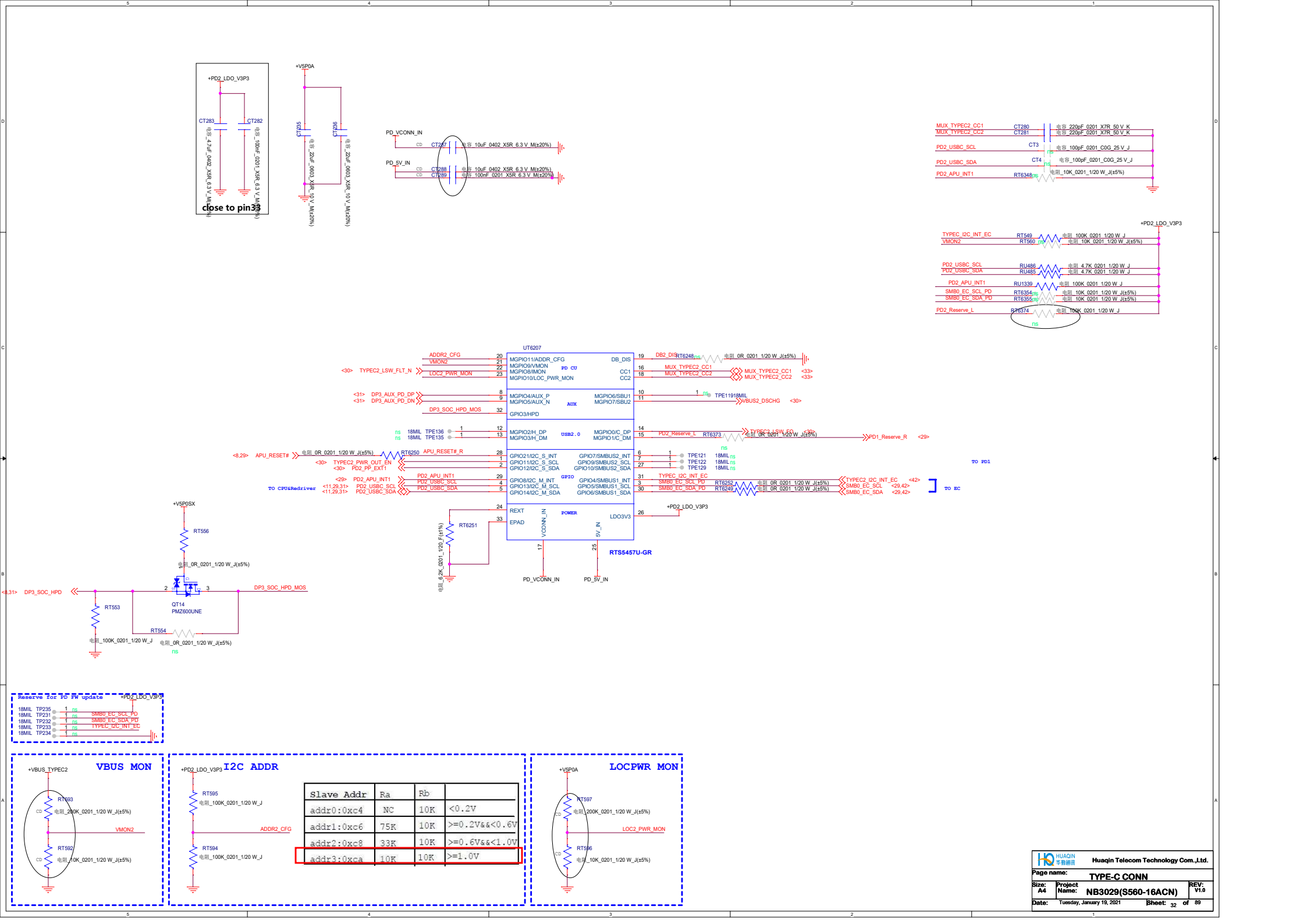
+PD2_LDO_V3P3
CT283
CT282
close to pin33
+V5P0A
CT285
CT286
PD_VCONN_IN
PD_5V_IN
CT287
CT288
CT289
MUX_TYPEC2_CC1
MUX_TYPEC2_CC2
PD2_USBC_SCL
PD2_USBC_SDA
PD2_APU_INT1
CT280
CT281
CT3
CT4
RT6348
TYPEC_I2C_INT_EC
VMON2
RT549
RT560
PD2_USBC_SCL
PD2_USBC_SDA
RU486
RU485
PD2_APU_INT1
RU1339
SMB0_EC_SCL_PD
SMB0_EC_SDA_PD
RT6354
RT6355
PD2_Reserve_L
RT6374
UT6207
ADDR2_CFG
VMON2
TYPEC2_LSW_FLT_N
LOC2_PWR_MON
MGPIO11/ADDR_CFG
MGPIO9/VMON
MGPIO8/IMON
MGPIO10/LOC_PWR_MON
PD CU
DB_DIS
CC1
CC2
DB2_DIS
RT6248
MUX_TYPEC2_CC1
MUX_TYPEC2_CC2
DP3_AUX_PD_DP
DP3_AUX_PD_DN
DP3_SOC_HPD_MOS
MGPIO4/AUX_P
MGPIO5/AUX_N
GPIO3/HPD
AUX
MGPIO6/SBU1
MGPIO7/SBU2
TPE11918MIL
VBUS2_DSCHG
18MIL TPE136
18MIL TPE135
MGPIO2/H_DP
MGPIO3/H_DM
USB2.0
MGPIO0/C_DP
MGPIO1/C_DM
RT6373
TYPEC2_LSW_EC
PD1_Reserve_R
APU_RESET#
RT6250
APU_RESET#_R
TYPEC2_PWR_OUT_EN
PD2_PP_EXT1
GPIO21/I2C_S_INT
GPIO11/I2C_S_SCL
GPIO12/I2C_S_SDA
GPIO7/SMBUS2_INT
GPIO9/SMBUS2_SCL
GPIO10/SMBUS2_SDA
TPE121
TPE122
TPE129
TO PD1
PD2_APU_INT1
PD2_USBC_SCL
PD2_USBC_SDA
TO CPU&Redriver
GPIO8/I2C_M_INT
GPIO13/I2C_M_SCL
GPIO14/I2C_M_SDA
GPIO
GPIO4/SMBUS1_INT
GPIO5/SMBUS1_SCL
GPIO6/SMBUS1_SDA
TYPEC_I2C_INT_EC
SMB0_EC_SCL_PD
SMB0_EC_SDA_PD
RT6252
RT6249
TO EC
REXT
EPAD
POWER
LDO3V3
VCONN_IN
5V_IN
RT6251
RTS5457U-GR
PD_VCONN_IN
PD_5V_IN
+V5P0SX
RT556
QT14
PMZ600UNE
RT553
RT554
Reserve for PD FW update
TP235
TP231
TP232
TP233
TP234
SMB0_EC_SCL_PD
SMB0_EC_SDA_PD
TYPEC_I2C_INT_EC
VBUS MON
+VBUS_TYPEC2
RT593
RT592
I2C ADDR
RT595
RT594
ADDR2_CFG
Slave Addr | Ra | Rb
addr0:0xc4 | NC | 10K | <0.2V
addr1:0xc6 | 75K | 10K | >=0.2V&&<0.6V
addr2:0xc8 | 33K | 10K | >=0.6V&&<1.0V
addr3:0xca | 10K | 10K | >=1.0V
LOCPWR MON
RT597
RT596
LOC2_PWR_MON
Huaqin Telecom Technology Com.,Ltd.
Page name: TYPE-C CONN
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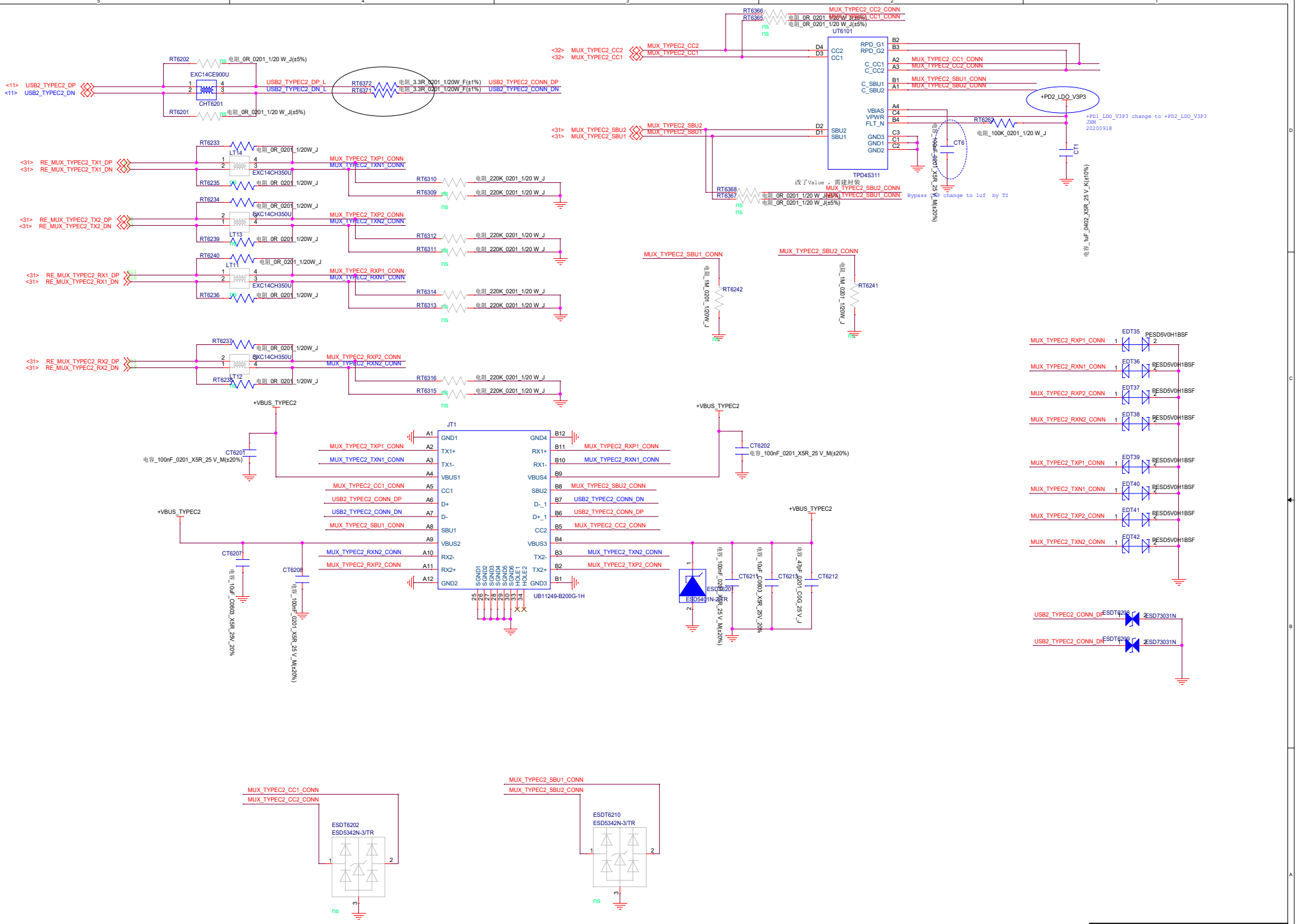

Huaqin Telecom Technology Com.,Ltd.		
Page name:	BLANK	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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USB3.2

USB3_TYPEA1_TX_DP <11>
USB3_TYPEA1_TX_DN <11>
USB3_TYPEA1_RX_DP <11>
USB3_TYPEA1_RX_DN <11>

USB3_TYPEA2_TX_DP <11>
USB3_TYPEA2_TX_DN <11>
USB3_TYPEA2_RX_DP <11>
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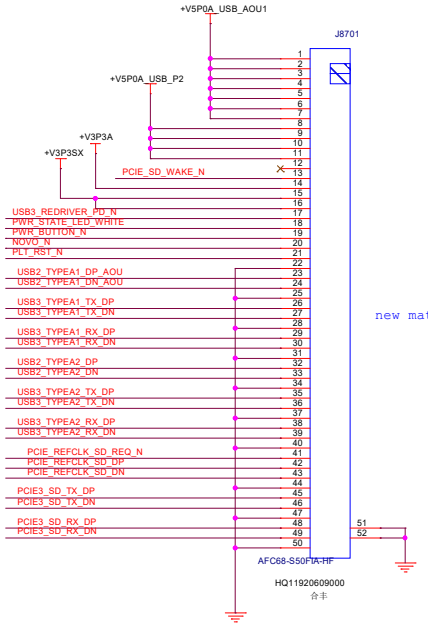
USB2_TYPEA2_DN <11>
USB2_TYPEA1_DP_AOU <68>
USB2_TYPEA1_DN_AOU <68>

PCIE_SD

PCIE3_SD_TX_DP <5>
PCIE3_SD_TX_DN <5>
PCIE3_SD_RX_DP <5>
PCIE3_SD_RX_DN <5>
PCIE_REFCLK_SD_DP <10>
PCIE_REFCLK_SD_DN <10>
PCIE_REFCLK_SD_REQ_N <10>
PCIE_SD_WAKE_N <11>
PLT_RST_N <8,9,38,39,51>

<42> PWR_BUTTON_N
<42> PWR_STATE_LED_WHITE
<42> NOVO_N
<42> USB3_REDRIVER_PD_N



Huaqin Telecom Technology Com.,Ltd.			
Page name:	USB Port		
Size: A4	Project Name:	NB3029(S560-16ACN)	REV: V1.0
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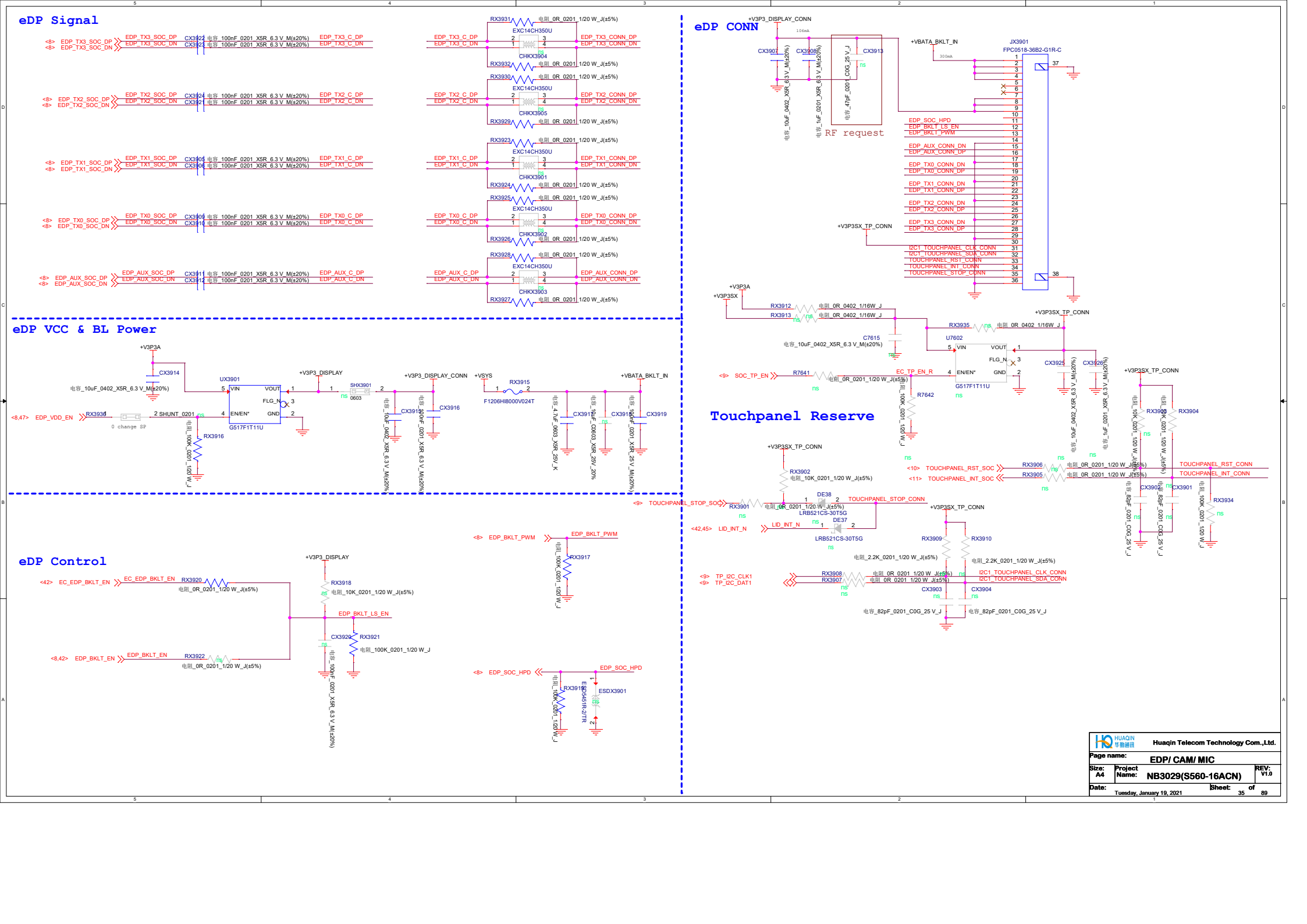
eDP Signal
eDP VCC & BL Power
eDP Control
eDP CONN
Touchpanel Reserve
RF request
Huaqin Telecom Technology Com.,Ltd.
Page name: EDP/ CAM/ MIC
Size: A4
Project Name: NB3029(S560-16ACN)
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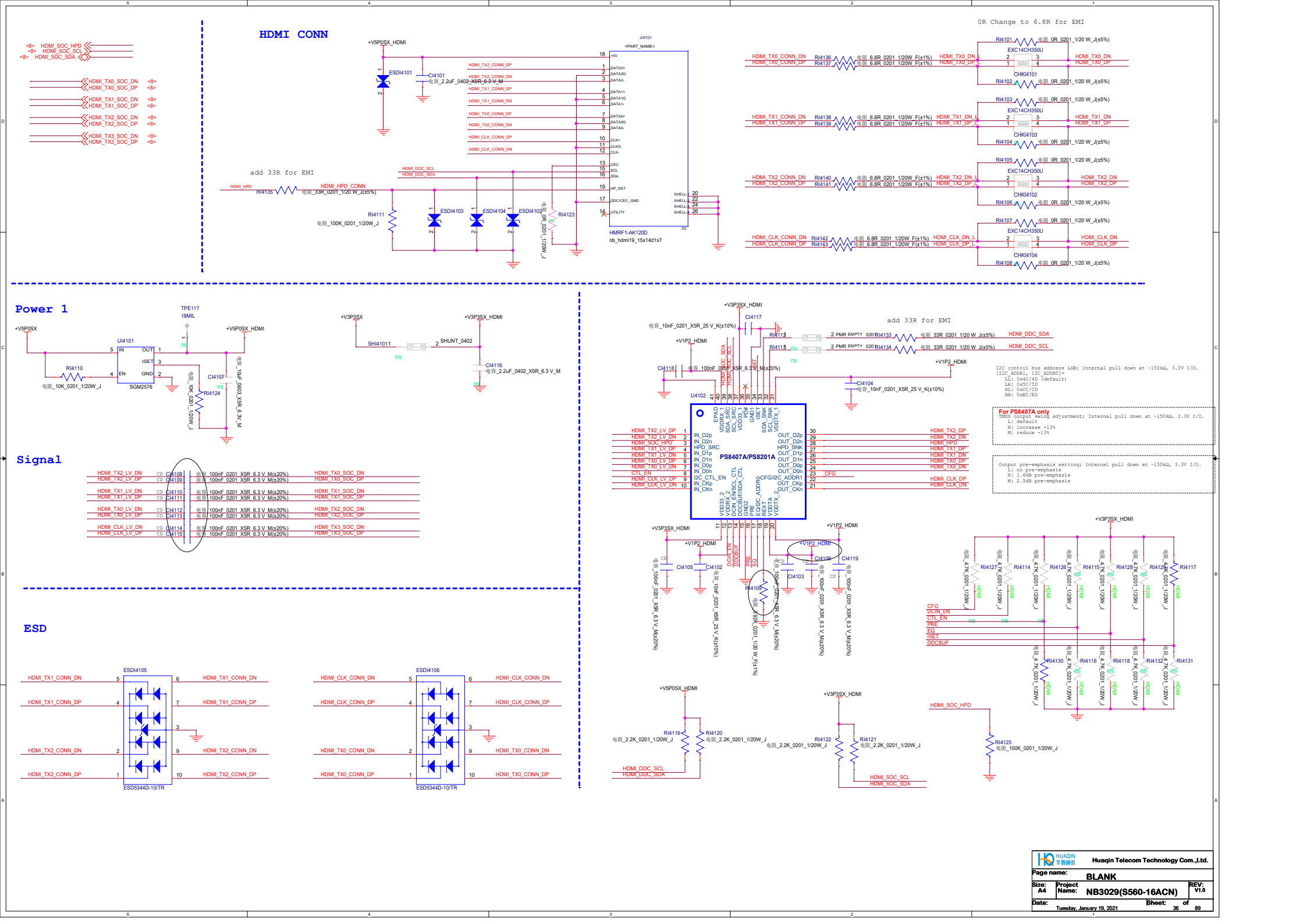
HDMI CONN
0R Change to 6.8R for EMI
add 33R for EMI
HMRF1-AK120D
nb_hdmi19_15x14d1x7
Power 1
TPE117
18MIL
UI4101
SGM2576
SHUNT_0402
Signal
ESD
ESDI4105
ESDI4106
ESD5344D-10/TR
PS8407A/PS8201A
add 33R for EMI
I2C control bus address LSB; Internal pull down at ~150kΩ, 3.3V I/O.
[I2C_ADDR1, I2C_ADDR0]=
LL: 0x4C/4D (default)
LH: 0x5C/5D
HL: 0xCC/CD
HH: 0xEC/ED
For PS8407A only
TMDS output swing adjustment; Internal pull down at ~150kΩ, 3.3V I/O.
L: default
H: increase +13%
M: reduce -13%
Output pre-emphasis setting; Internal pull down at ~150kΩ, 3.3V I/O.
L: no pre-emphasis
H: 1.6dB pre-emphasis
M: 2.5dB pre-emphasis
Huaqin Telecom Technology Com.,Ltd.
Page name:
BLANK
Size: A4
Project Name:
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Page name:	BLANK
Size: A4	Project Name: NB3029(S560-16ACN)
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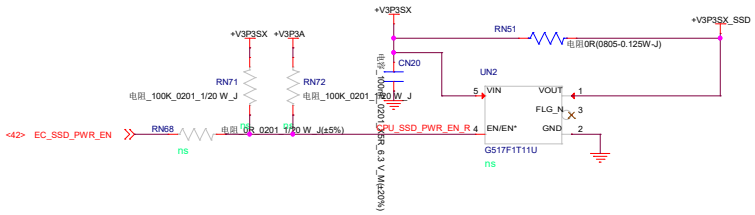
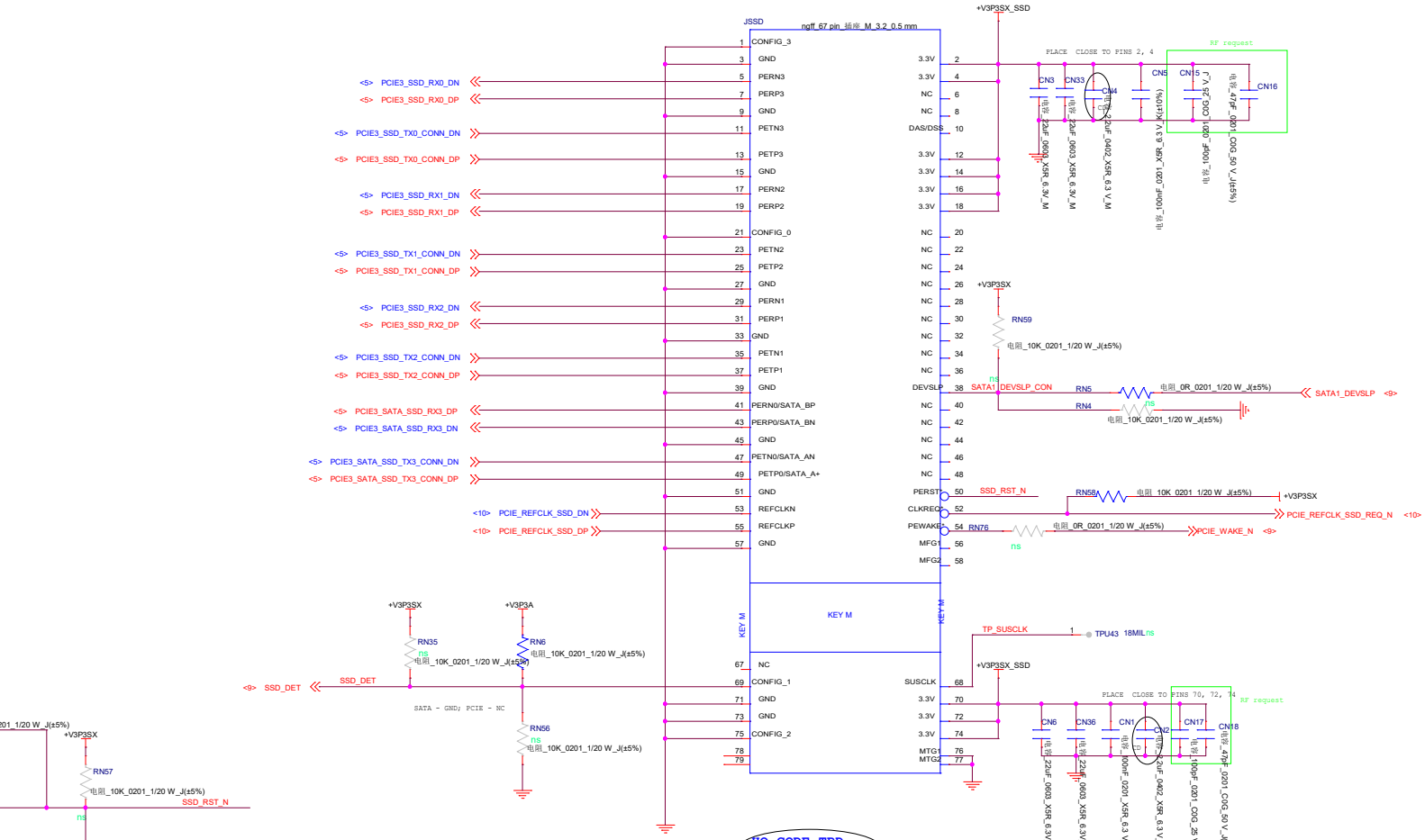
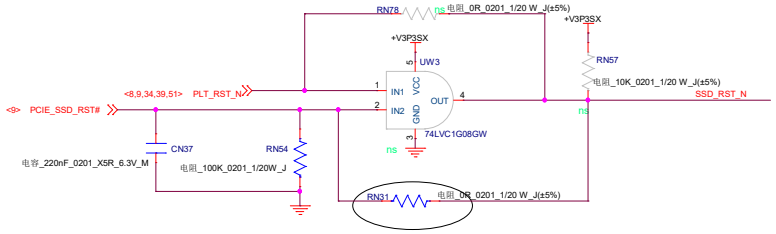


SSD





Huaqin Telecom Technology Com.,Ltd.		
Page name:	M.2 SSD	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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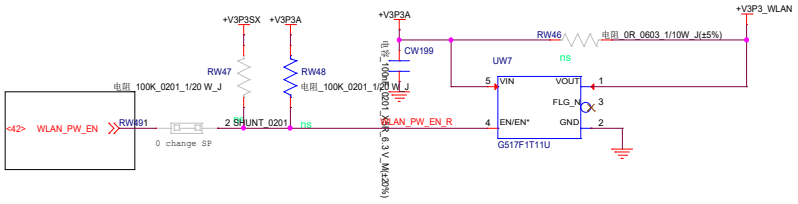

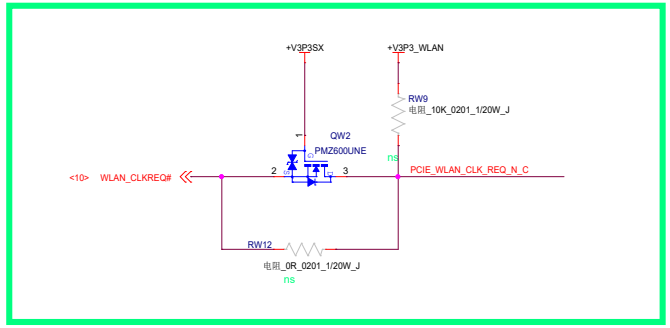

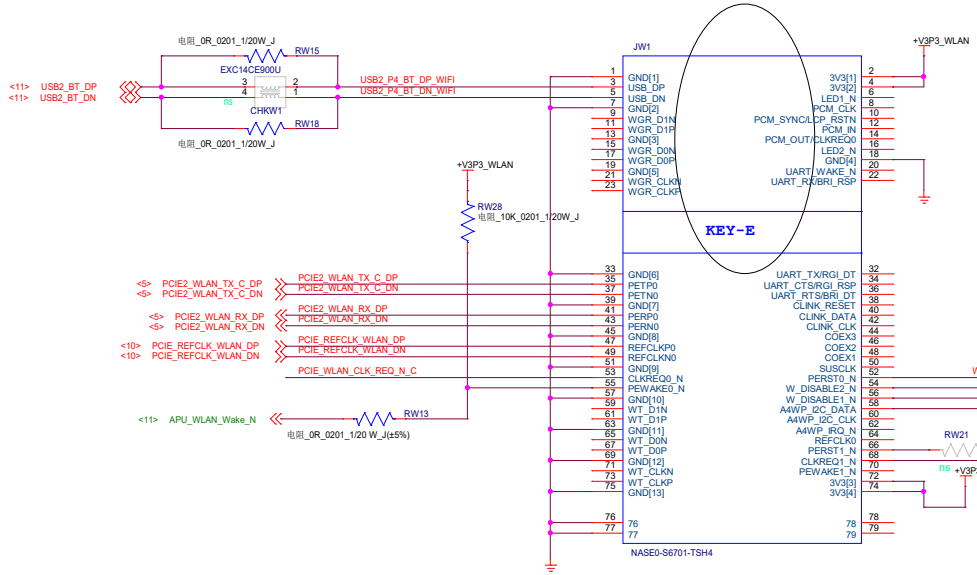

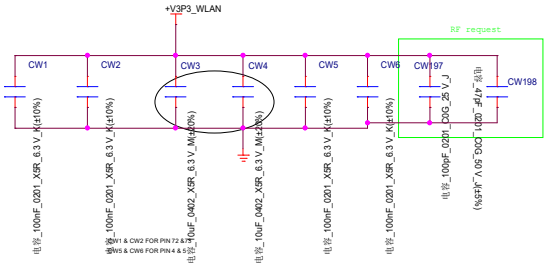

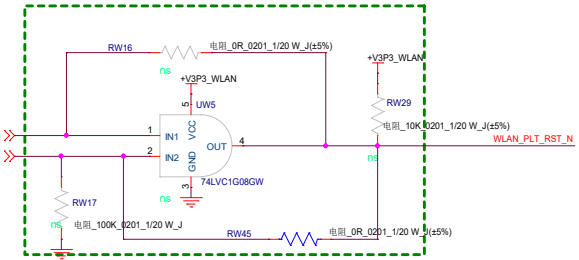

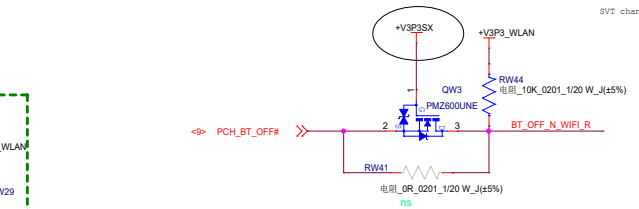

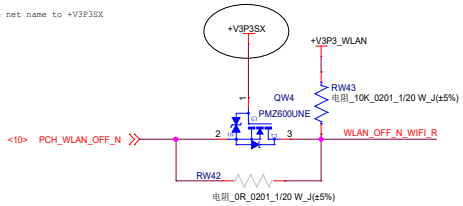

HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.	
Page name:	WLAN BT MODULE	
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Page name:	BLANK	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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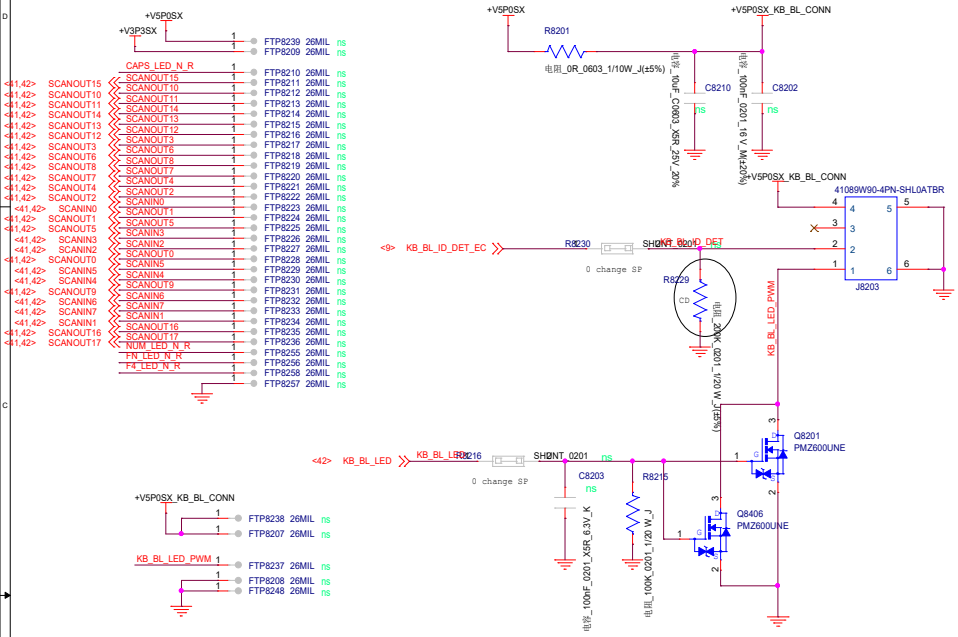
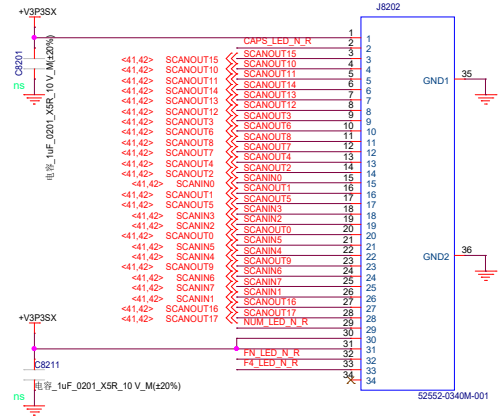
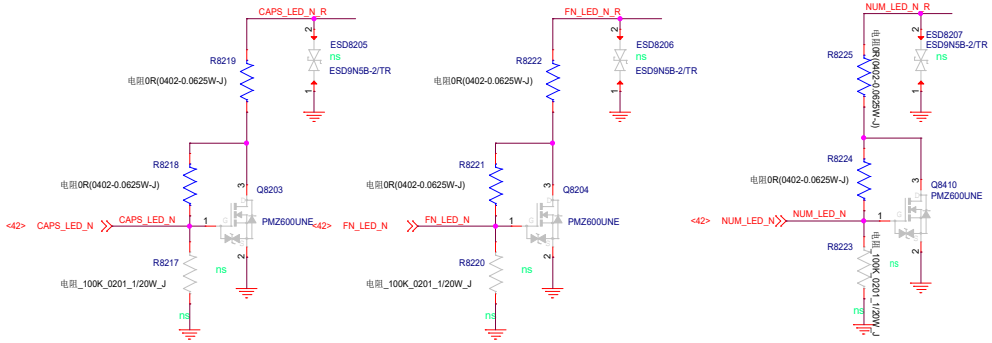
KB Backlight

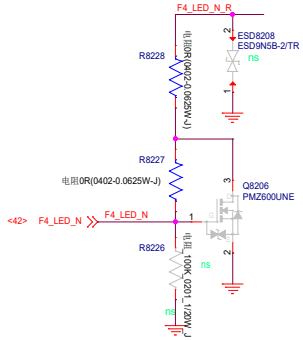


EMC Require Reserved

KB CONN







HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.		
Page name:	KB CON & Backlight		
Size: A4	Project Name:	NB3029(S560-16ACN)	REV: V1.0
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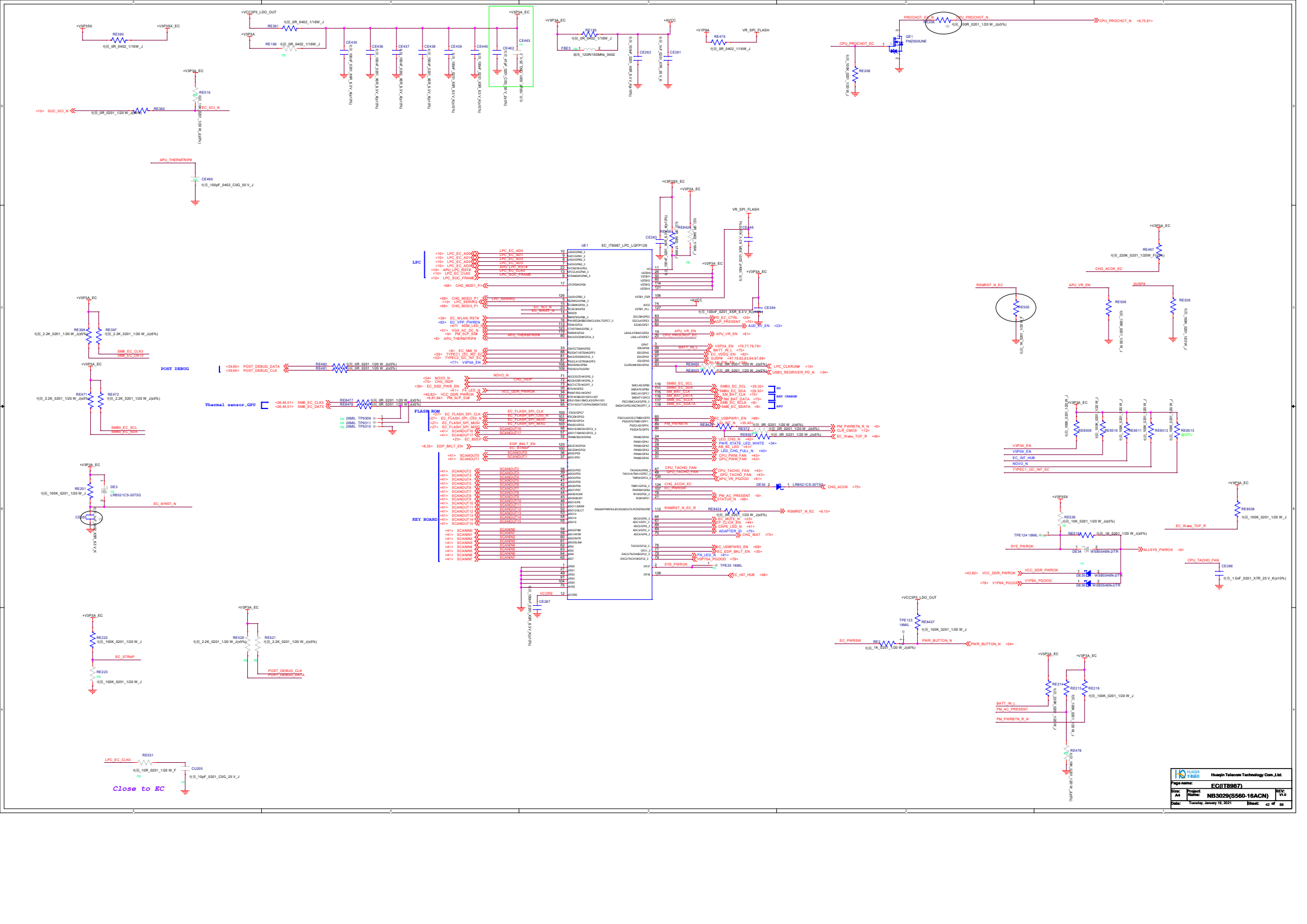
LPC
FLASH ROM
KEY BOARD
POST DEBUG
Thermal sensor,GPU
Close to EC
EC_ITE8987_LPC_LGFP128
Husqin Telecom Technology Com.,Ltd.
Page name: EC(IT8987)
Size: A4
Project Name: NB3029(S560-16ACN)
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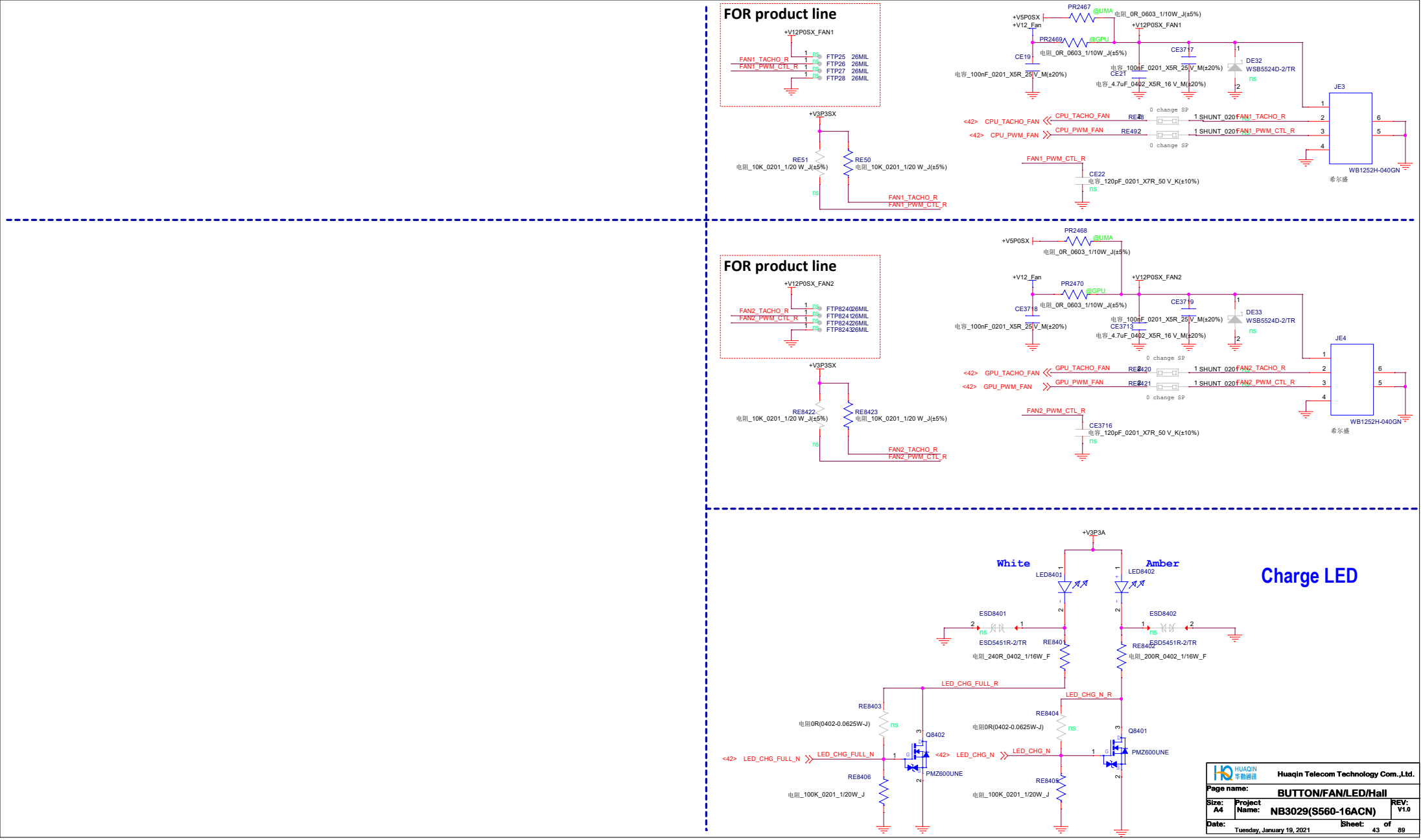
FOR product line
+V12P0SX_FAN1
FAN1_TACHO_R
FAN1_PWM_CTL_R
FTP25 26MIL
FTP26 26MIL
FTP27 26MIL
FTP28 26MIL
+V3P3SX
RE51
电阻_10K_0201_1/20 W_J(±5%)
RE50
电阻_10K_0201_1/20 W_J(±5%)
PR2467
@UMA
电阻_0R_0603_1/10W_J(±5%)
+V5P0SX
+V12_Fan
PR2469
@GPU
+V12P0SX_FAN1
CE19
电容_100nF_0201_X5R_25V_M(±20%)
CE3717
电容_100nF_0201_X5R_25V_M(±20%)
CE21
电容_4.7uF_0402_X5R_16 V_M(±20%)
DE32
WSB5524D-2/TR
JE3
0 change SP
CPU_TACHO_FAN
CPU_PWM_FAN
RE489
RE492
1 SHUNT_020
FAN1_TACHO_R
FAN1_PWM_CTL_R
WB1252H-040GN
希尔盛
CE22
电容_120pF_0201_X7R_50 V_K(±10%)
FOR product line
+V12P0SX_FAN2
FAN2_TACHO_R
FAN2_PWM_CTL_R
FTP824 26MIL
FTP824 26MIL
FTP824 26MIL
FTP824 26MIL
+V3P3SX
RE8422
电阻_10K_0201_1/20 W_J(±5%)
RE8423
电阻_10K_0201_1/20 W_J(±5%)
PR2468
@UMA
电阻_0R_0603_1/10W_J(±5%)
+V5P0SX
+V12_Fan
PR2470
@GPU
+V12P0SX_FAN2
CE3718
电容_100nF_0201_X5R_25V_M(±20%)
CE3719
电容_100nF_0201_X5R_25V_M(±20%)
CE3713
电容_4.7uF_0402_X5R_16 V_M(±20%)
DE33
WSB5524D-2/TR
JE4
0 change SP
GPU_TACHO_FAN
GPU_PWM_FAN
RE2420
RE2421
1 SHUNT_020
FAN2_TACHO_R
FAN2_PWM_CTL_R
WB1252H-040GN
希尔盛
CE3716
电容_120pF_0201_X7R_50 V_K(±10%)
+V3P3A
White
Amber
LED8401
LED8402
ESD8401
ESD8402
ESD5451R-2/TR
RE8401
电阻_240R_0402_1/16W_F
RE8402
电阻_200R_0402_1/16W_F
LED_CHG_FULL_R
LED_CHG_N_R
RE8403
电阻0R(0402-0.0625W-J)
RE8404
电阻0R(0402-0.0625W-J)
Q8402
Q8401
PMZ600UNE
LED_CHG_FULL_N
LED_CHG_N
RE8406
电阻_100K_0201_1/20W_J
RE8405
电阻_100K_0201_1/20W_J
Charge LED
Huaqin Telecom Technology Com.,Ltd.
Page name: BUTTON/FAN/LED/Hall
Size: A4
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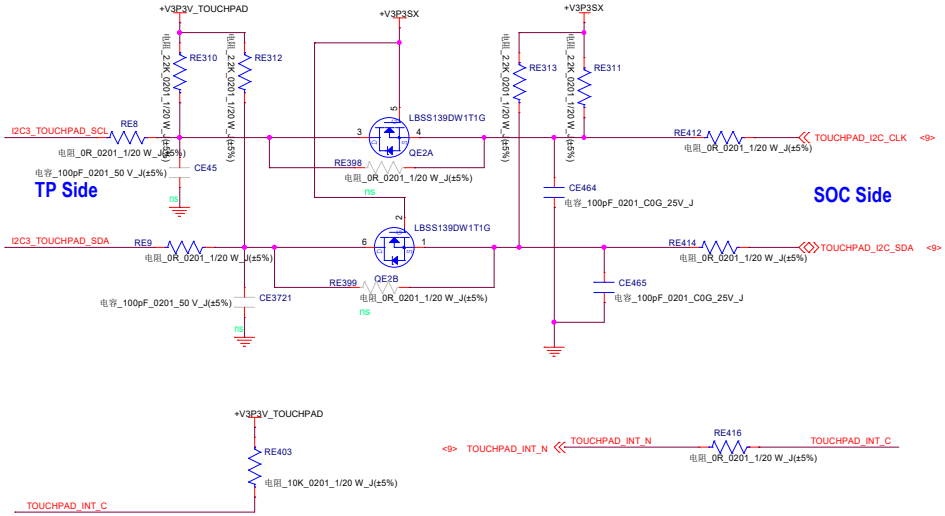
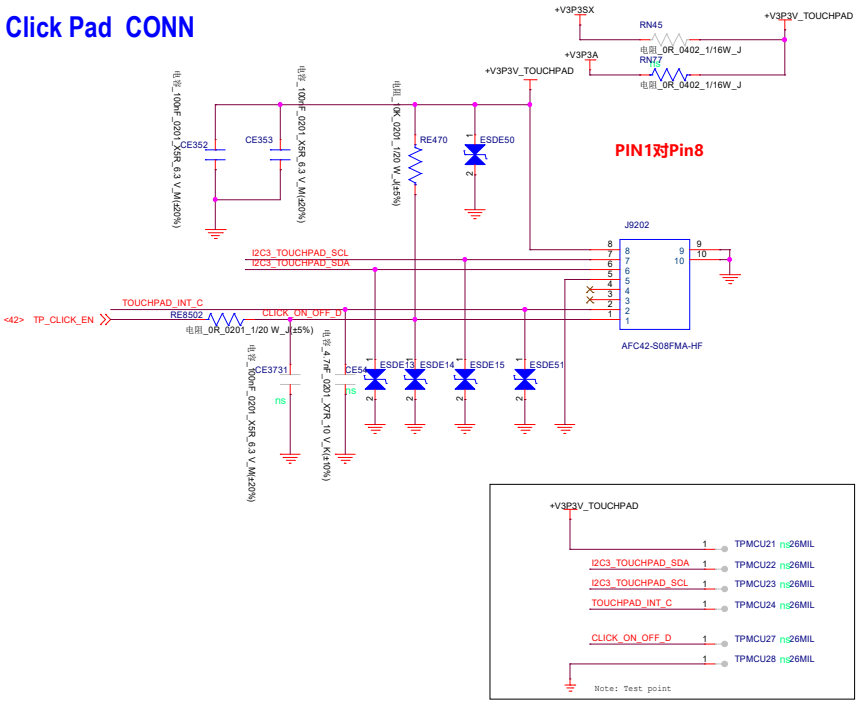
Touch Pad



Click Pad CONN



HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.	
Page name:	TouchPad	
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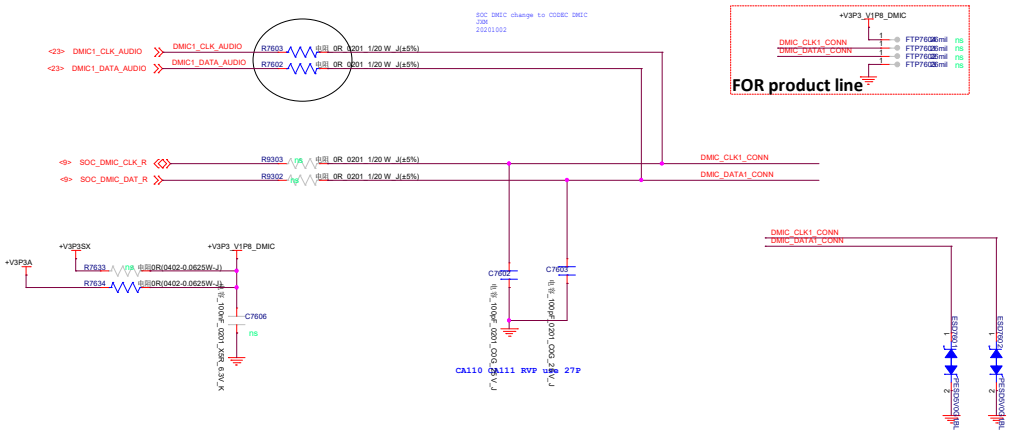
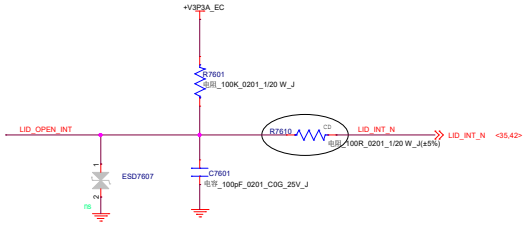
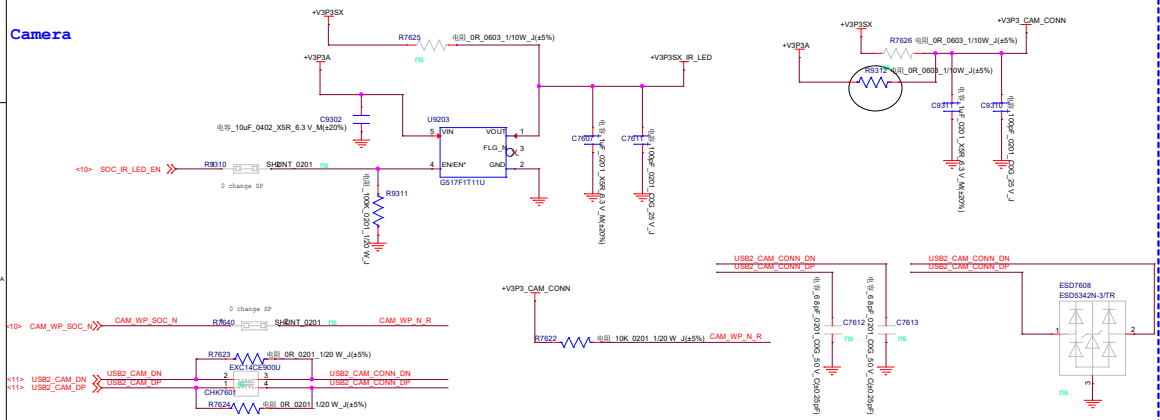
DMIC



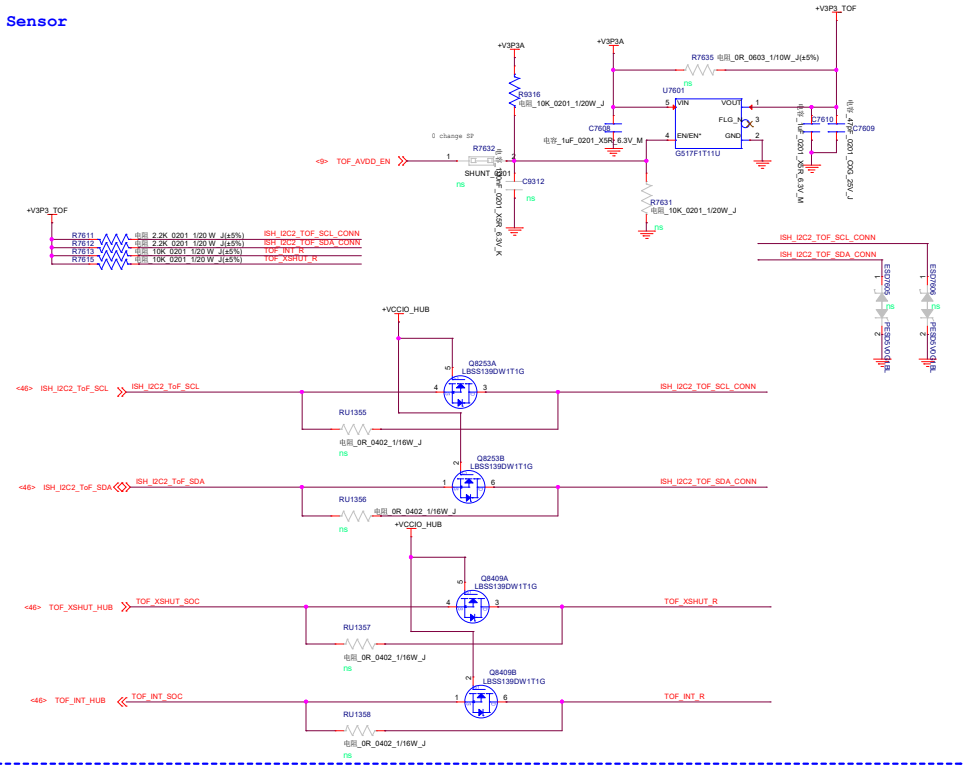
Hall Sensor



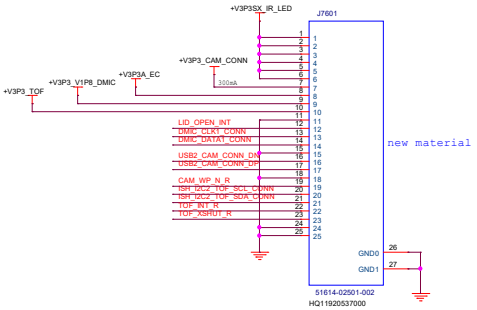
Camera



ToF Sensor



TOF/ IR CAM/ DMIC/ ALS CONN



Note: JX2 nb_con30_19d2x5d2x1d95_0d5 Pin1 right

Page name:	Husqin Telecom Technology Com.,Ltd.	
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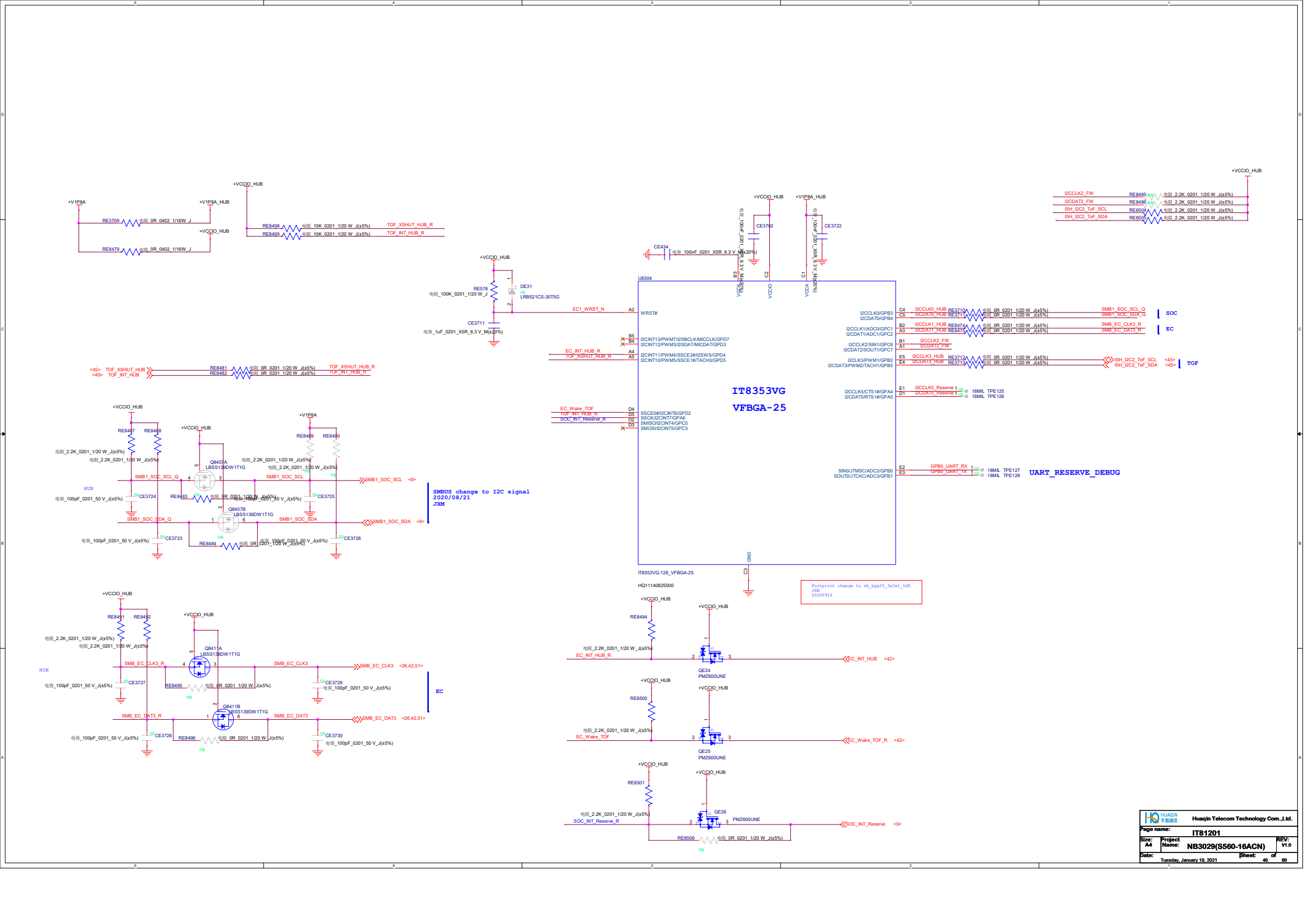
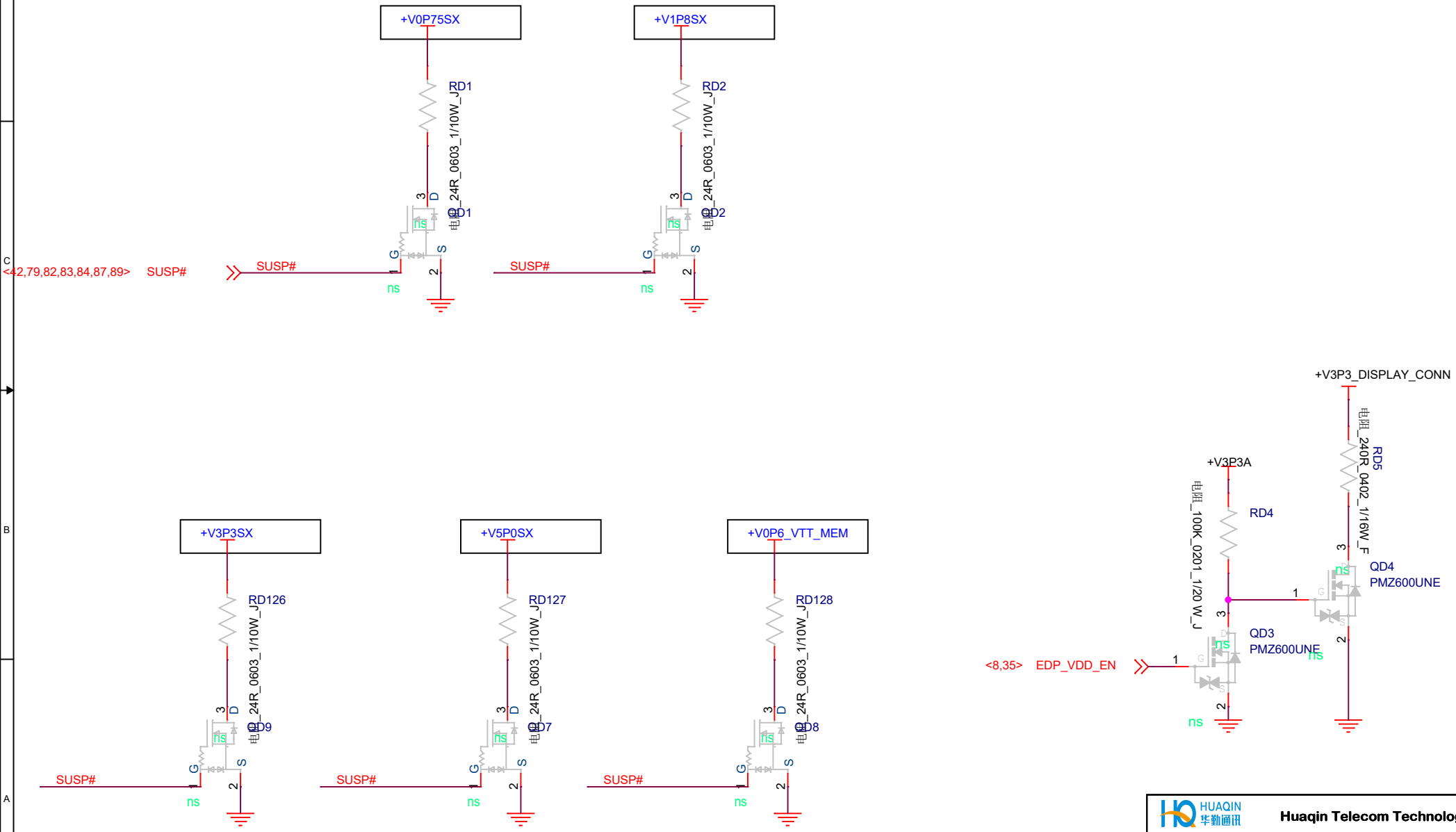
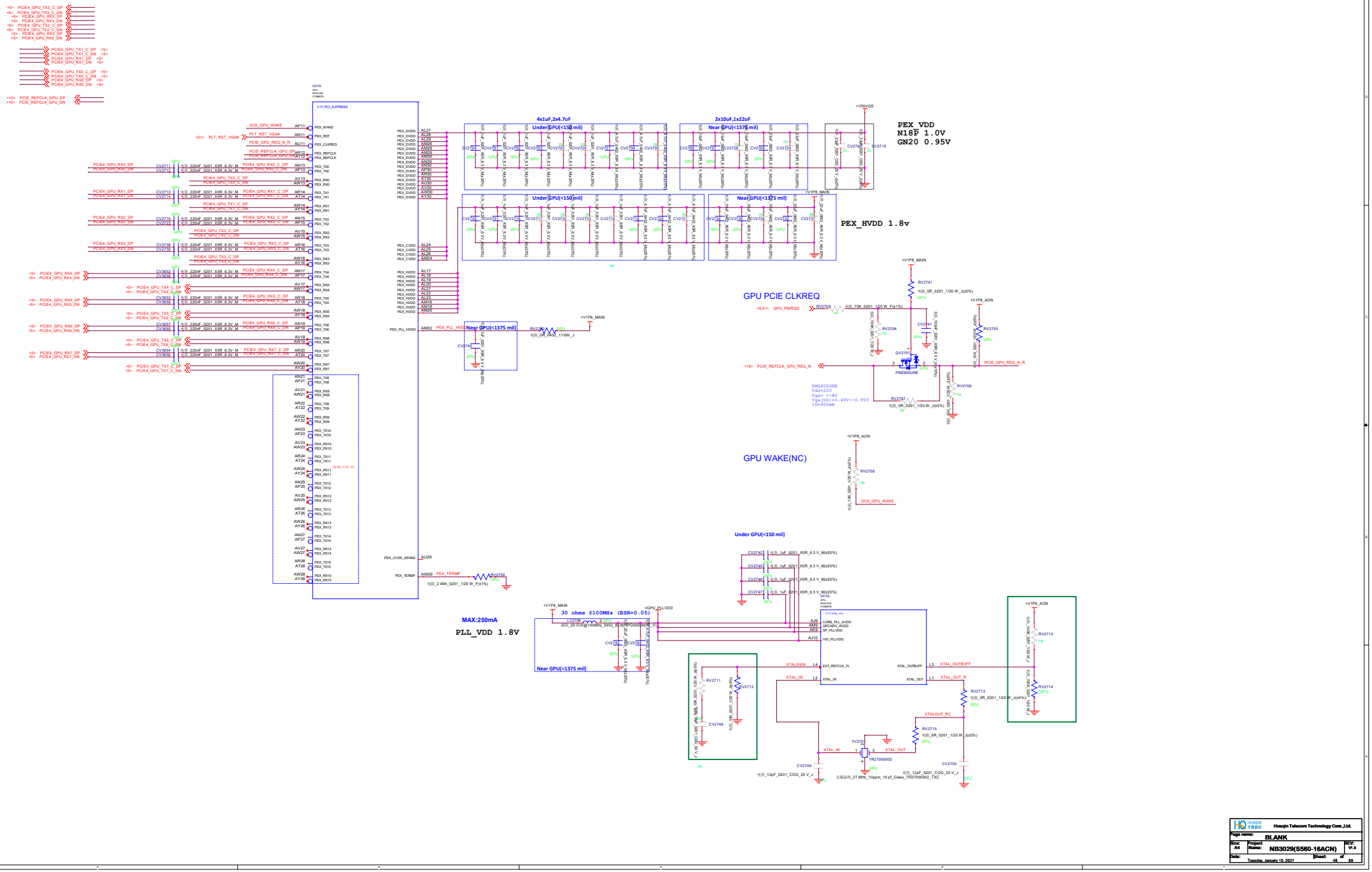
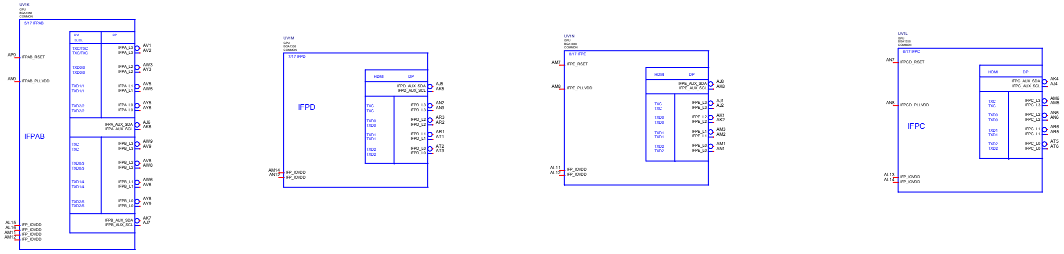

+V1P8A
+V1P8A_HUB
+VCCIO_HUB
RE3709 电阻_0R_0402_1/16W_J
RE8479 电阻_0R_0402_1/16W_J
RE8498 电阻_10K_0201_1/20 W_J(±5%) TOF_XSHUT_HUB_R
RE8499 电阻_10K_0201_1/20 W_J(±5%) TOF_INT_HUB_R
RE576 电阻_100K_0201_1/20 W_J
DE31 LRB521CS-30T5G
CE3711 电容_1uF_0201_X5R_6.3 V_M(±20%)
CE434 电容_100nF_0201_X5R_6.3 V_M(±20%)
CE3702 电容_100nF_0201_X5R_6.3 V_M(±20%)
CE3722 电容_100nF_0201_X5R_6.3 V_M(±20%)
U8304
WRST#
EC1_WRST_N
I2CINT13/PWM7/I2SBCLK/MICCLK/GPD7
I2CINT12/PWM3/I2SDAT/MICDAT/GPD3
I2CINT11/PWM4/SSCE2#/I2SWS/GPD4
I2CINT10/PWM5/SSCE1#/TACH0/GPD5
EC_INT_HUB_R
TOF_XSHUT_HUB_R
SSCE0#/I2CINT6/GPD2
SSCK/I2CINT7/GPA6
SMISO/I2CINT4/GPC5
SMOSI/I2CINT5/GPC3
EC_Wake_TOF
TOF_INT_HUB_R
SOC_INT_Reserve_R
I2CCLK0/GPB3
I2CDAT0/GPB4
I2CCLK1/ADC0/GPC1
I2CDAT1/ADC1/GPC2
I2CCLK2/SIN1/GPC6
I2CDAT2/SOUT1/GPC7
I2CCLK3/PWM1/GPB2
I2CDAT3/PWM2/TACH1/GPB5
I2CCLK5/CTS1#/GPA4
I2CDAT5/RTS1#/GPA5
SIN0/JTMSC/ADC2/GPB0
SOUT0/JTCKC/ADC3/GPB1
IT8353VG
VFBGA-25
IT8353VG-128_VFBGA-25
HQ11140825000
Footprint change to nb_bga25_3x3x1_0d5
JXM
20200916
I2CCLK0_HUB RE3710 电阻_0R_0201_1/20 W_J(±5%) SMB1_SOC_SCL_Q
I2CDAT0_HUB RE3711 电阻_0R_0201_1/20 W_J(±5%) SMB1_SOC_SDA_Q
SOC
I2CCLK1_HUB RE8474 电阻_0R_0201_1/20 W_J(±5%) SMB_EC_CLK3_R
I2CDAT1_HUB RE8475 电阻_0R_0201_1/20 W_J(±5%) SMB_EC_DAT3_R
EC
I2CCLK2_FW
I2CDAT2_FW
I2CCLK3_HUB RE3712 电阻_0R_0201_1/20 W_J(±5%) ISH_I2C2_ToF_SCL
I2CDAT3_HUB RE3713 电阻_0R_0201_1/20 W_J(±5%) ISH_I2C2_ToF_SDA
TOF
I2CCLK5_Reserve 18MIL TPE125
I2CDAT5_Reserve 18MIL TPE126
GPB0_UART_RX 18MIL TPE127
GPB0_UART_TX 18MIL TPE128
UART_RESERVE_DEBUG
I2CCLK2_FW RE8485 电阻_2.2K_0201_1/20 W_J(±5%)
I2CDAT2_FW RE8486 电阻_2.2K_0201_1/20 W_J(±5%)
ISH_I2C2_ToF_SCL RE8504 电阻_2.2K_0201_1/20 W_J(±5%)
ISH_I2C2_ToF_SDA RE8505 电阻_2.2K_0201_1/20 W_J(±5%)
<45> TOF_XSHUT_HUB
<45> TOF_INT_HUB
RE8481 电阻_0R_0201_1/20 W_J(±5%) TOF_XSHUT_HUB_R
RE8482 电阻_0R_0201_1/20 W_J(±5%) TOF_INT_HUB_R
RE8487 RE8488 电阻_2.2K_0201_1/20 W_J(±5%)
RE8489 RE8490 电阻_2.2K_0201_1/20 W_J(±5%)
Q8407A LBSS139DW1T1G
Q8407B LBSS139DW1T1G
SMB1_SOC_SCL_Q
SMB1_SOC_SDA_Q
SMB1_SOC_SCL <9>
SMB1_SOC_SDA <9>
HUB
CE3724 电容_100pF_0201_50 V_J(±5%)
CE3725 电容_100pF_0201_50 V_J(±5%)
CE3723 电容_100pF_0201_50 V_J(±5%)
CE3726 电容_100pF_0201_50 V_J(±5%)
RE8483 电阻_0R_0201_1/20 W_J(±5%)
RE8484 电阻_0R_0201_1/20 W_J(±5%)
SMBUS change to I2C signal
2020/08/21
JXM
RE8491 RE8492 电阻_2.2K_0201_1/20 W_J(±5%)
Q8411A LBSS139DW1T1G
Q8411B LBSS139DW1T1G
SMB_EC_CLK3_R
SMB_EC_DAT3_R
SMB_EC_CLK3 <26,42,51>
SMB_EC_DAT3 <26,42,51>
CE3727 电容_100pF_0201_50 V_J(±5%)
CE3729 电容_100pF_0201_50 V_J(±5%)
CE3728 电容_100pF_0201_50 V_J(±5%)
CE3730 电容_100pF_0201_50 V_J(±5%)
RE8495 电阻_0R_0201_1/20 W_J(±5%)
RE8496 电阻_0R_0201_1/20 W_J(±5%)
EC
RE8494 电阻_2.2K_0201_1/20 W_J(±5%)
EC_INT_HUB_R
QE24 PMZ600UNE
EC_INT_HUB <42>
RE8500 电阻_2.2K_0201_1/20 W_J(±5%)
EC_Wake_TOF
QE25 PMZ600UNE
EC_Wake_TOF_R <42>
RE8501 电阻_2.2K_0201_1/20 W_J(±5%)
SOC_INT_Reserve_R
QE26 PMZ600UNE
SOC_INT_Reserve <9>
RE8509 电阻_0R_0201_1/20 W_J(±5%)
Huaqin Telecom Technology Com.,Ltd.
Page name: IT81201
Size: A4
Project Name: NB3029(S560-16ACN)
REV: V1.0
Date: Tuesday, January 19, 2021
Sheet: 46 of 89



HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.	
Page name:	N17S PCIE/ CLK/ GPIO	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
Date: Tuesday, January 19, 2021	Sheet: 47 of 89	

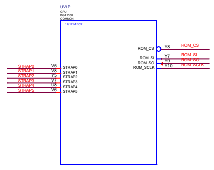


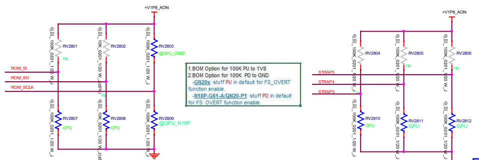
Huagin Telecom Technology Com.,Ltd.			
Page name:	BLANK		
Size: A4	Project Name:	NB3029(S560-16ACN)	REV: V1.0
Date: Tuesday, January 19, 2021		Sheet: 48 of 89	



IFP

SPI&STRAP





ROM_SO	ROM_SI	ROM_SCLK	DUMMY[2:0],FS_OVERT	1:ENABLE 0:DISABLE	
L	L	L	XXX1	FS_OVERT ENABLE	DEFAULT
L	L	M	XXX0	FS_OVERT DISABLE	

1: SMB_ALT_ADDR ENABLE
0: SMB_ALT_ADDR DISABLE

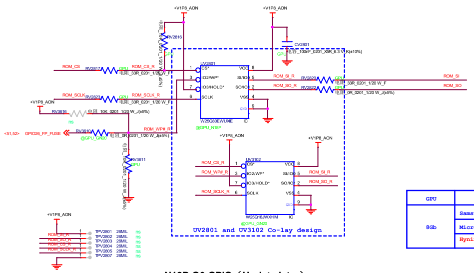
1: DEVID_SEL REBRAND
0: DEVID_SEL ORIGNAL

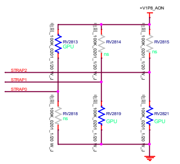
1: PCIE_CFG LOW POWER
0: PCIE_CFG HIGH POWER

1: VGA_DEVICE ENABLE
0: VGA_DEVICE DISABLE
DEFAULT

STRAP5	STRAP4	STRAP3	SMB_ALT_ADDR	DEVID_SEL	PCIE_CFG	VGA_DEVICE
M	H	H	1	1	1	1
M	H	L	1	1	1	0
M	L	H	1	1	0	1
M	L	L	1	1	0	0
L	H	M	1	0	1	1
L	M	H	1	0	1	0
L	M	L	1	0	0	1
L	L	M	1	0	0	0
H	H	H	0	1	1	1
H	H	L	0	1	1	0
H	L	H	0	1	0	1
H	L	L	0	1	0	0
L	H	H	0	0	1	1
L	H	L	0	0	1	0
L	L	H	0	0	0	1
L	L	L	0	0	0	0

DEFAULT





GPU	FB Memory (GDDR56)		RAMCFG	STRAP2	STRAP1	STRAP0
8Gb	Samsung 8Gb	K4Z80325BC-HC14000	0(0x0000)	L	L	L
	Micron 8Gb	MT61K256M32JE-14:A	1(0x0001)	L	L	H
	Hynix 8Gb	H56C8H24AIR-S2C	2(0x0010)	L	H	L

N18P-G0 GPIO（Update later）

GPIO	I/O	ACTIVE	Function Description	I/O Termination
GPIO0	OUT	-	PWM Output to control NVVDD	
GPIO1	OUT	-	FB Enable for GC6 2.1	
GPIO2	IN	-	GPU wake signal for GC6 2.1	
GPIO3	OUT	-	PWM Output to control the SRAM power supply	
GPIO4	OUT	-	GPU power sequencing for GC6 2.1 --- 1V8_MAIN_EN	
GPIO5	IN	N/A	Active low Frame Lock	
GPIO6	OUT	-	Phase Shedding, NVVDD_PSI	
GPIO7	OUT	N/A	Panel Backlight enable	
GPIO8	OUT	-	Memory voltage Control	
GPIO9	I/O	-	Active Low Thermal Alert	
GPIO10	OUT	-	Memory VREF Control (100K pull Down)	
GPIO11	OUT	-	Panel Power enable	
GPIO12	IN	-	AC power detect or power supply overdraw input	(10K pull High)
GPIO13	OUT	N/A	LCD Panel Backlight Enable	
GPIO14	IN	N/A	Hot Plug Detect for IFPA	
GPIO15	IN	N/A	Hot Plug Detect for IFPB	
GPIO16	OUT	-	System side PCIe reset monitor	
GPIO17	IN	N/A	Hot Plug Detect for IFPD	
GPIO18	IN	N/A	Hot Plug Detect for IFPE	
GPIO19	OUT	N/A	3D Vision L/R Signal	
GPIO20		N/A	GC5_MODE	
GPIO21	I/O	N/A	UNUSED	
GPIO22	I/O	N/A	UNUSED	
GPIO23	OUT	-	GPU PCIe self-reset control	
GPIO24	IN	N/A	Hot Plug Detect for IFPF	
GPIO25		N/A	UNUSED	
GPIO26		N/A	UNUSED	
GPIO27	IN	N/A	Hot Plug Detect for IFPC	

STRAP2	STRAP1	STRAP0	RAMCFG[4:0]	
L	L	L	00000	RAMCFG TBD
L	H	L	00010	RAMCFG TBD
L	H	H	00011	RAMCFG TBD
H	H	L	00110	RAMCFG TBD
H	H	H	00111	RAMCFG TBD

H=High :Tied to 1.8V
M=Middle:Tied to 0.9V
L=Low :Tied to 0V

ROM_SO	ROM_SI	ROM_SCLK	DUMMY[2:0],FS_OVERT	1:ENABLE 0:DISABLE	
L	L	L	XXX1	FS_OVERT ENABLE	DEFAULT
L	L	M	XXX0	FS_OVERT DISABLE	

STRAP5	STRAP4	STRAP3	SMB_ALT_ADDR	DEVID_SEL	PCIE_CFG	VGA_DEVICE	
M	H	H	1	1	1	1	
M	H	L	1	1	1	0	
M	L	H	1	1	0	1	
M	L	L	1	1	0	0	
L	H	M	1	0	1	1	
L	M	H	1	0	1	0	
L	M	L	1	0	0	1	
L	L	M	1	0	0	0	
H	H	H	0	1	1	1	
H	H	L	0	1	1	0	
H	L	H	0	1	0	1	
H	L	L	0	1	0	0	
L	H	H	0	0	1	1	
L	H	L	0	0	1	0	
L	L	H	0	0	0	1	Default
L	L	L	0	0	0	0	

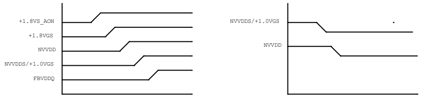
1:SMB_ALT_ADDR ENABLE
0:SMB_ALT_ADDR DISABLE

1:DEVID_SEL REBRAND
0:DEVID_SEL ORIGNAL

1:PCIE_CFG LOW POWER
0:PCIE_CFG HIGH POWER

1:VGA_DEVICE ENABLE
0:VGA_DEVICE DISABLE

N18P-G0 Max-Q Power Sequence（Update later）



1. All power rail ramp up time should be larger than 40us and is recommended to be less than 2ms.

2. T (from 1V8_MAIN_EN to PEX_DVDD/NVVDD_Pgood) must NOT exceed 4ms.

3. All 3.3V devices that connect to the GPU must be powered after 1V8_AON; GPU can NOT have any 3.3V leakage path before 1V8_AON present.

4. The previous power rail must ramp up to 90% before the next power rail can start ramping up.

1. NVVDDS/PEX_DVDD must ramp down before NVVDD, all other power rails can ramp down together with NVVDD.

2. All 3.3V devices that connect to the GPU must be ramp down before 1V8_AON; GPU can NOT have any 3.3V leakage path after 1V8_AON and 1.8V_MAIN power down.

3. The previous power rail must ramp down to 10% before the next power rail can start ramping down.

MAX:250mA

MAX:250mA

+V1P8_MAIN

30 ohms @100MHz (ESR=0.05)

200mA

+FB_PLLAVDD

LV2908

2 GPU

磁珠_30 欧姆@100MHz_0402_BLM15PD300SN1D_村田

Place close to BGA

UV1B

GPU

BGA1356

COMBIN

2/17 FBA

<54,55> FBA_D[0..63]

FBA_D0 N35 FBA_D0 FBA_230

FBA_D1 M38 FBA_D1 FBA_231

FBA_D2 P34 FBA_D2 FBA_224

FBA_D3 N37 FBA_D3 FBA_228

FBA_D4 R32 FBA_D4 FBA_229

FBA_D5 U33 FBA_D5 FBA_225

FBA_D6 U35 FBA_D6 FBA_226

FBA_D7 U37 FBA_D7 FBA_227

FBA_D8 E38 FBA_D8 FBA_58

FBA_D9 J36 FBA_D9 FBA_212

FBA_D10 L35 FBA_D10 FBA_213

FBA_D11 J34 FBA_D11 FBA_210

FBA_D12 F37 FBA_D12 FBA_59

FBA_D13 N33 FBA_D13 FBA_215

FBA_D14 K37 FBA_D14 FBA_213

FBA_D15 E36 FBA_D15 FBA_213

FBA_D16 J40 FBA_D16 FBA_27

FBA_D17 D40 FBA_D17 FBA_23

FBA_D18 E37 FBA_D18 FBA_22

FBA_D19 J38 FBA_D19 FBA_26

FBA_D20 C39 FBA_D20 FBA_50

FBA_D21 C40 FBA_D21 FBA_21

FBA_D22 R40 FBA_D22 FBA_55

FBA_D23 G39 FBA_D23 FBA_24

FBA_D24 U38 FBA_D24 FBA_216

FBA_D25 K39 FBA_D25 FBA_223

FBA_D26 R38 FBA_D26 FBA_219

FBA_D27 T39 FBA_D27 FBA_218

FBA_D28 L38 FBA_D28 FBA_222

FBA_D29 L40 FBA_D29 FBA_221

FBA_D30 M40 FBA_D30 FBA_220

FBA_D31 U40 FBA_D31 FBA_217

FBA_D32 AN12 FBA_D32 FBA_240

FBA_D33 AP35 FBA_D33 FBA_262

FBA_D34 AT36 FBA_D34 FBA_263

FBA_D35 AM34 FBA_D35 FBA_261

FBA_D36 AL33 FBA_D36 FBA_257

FBA_D37 AL33 FBA_D37 FBA_256

FBA_D38 AR34 FBA_D38 FBA_258

FBA_D39 AN36 FBA_D39 FBA_259

FBA_D40 AN34 FBA_D40 FBA_243

FBA_D41 AP33 FBA_D41 FBA_247

FBA_D42 AL35 FBA_D42 FBA_246

FBA_D43 AV33 FBA_D43 FBA_244

FBA_D44 AT33 FBA_D44 FBA_242

FBA_D45 AU32 FBA_D45 FBA_245

FBA_D46 AU32 FBA_D46 FBA_241

FBA_D47 AP35 FBA_D47 FBA_240

FBA_D48 AV36 FBA_D48 FBA_234

FBA_D49 AW33 FBA_D49 FBA_233

FBA_D50 AW37 FBA_D50 FBA_235

FBA_D51 AT35 FBA_D51 FBA_236

FBA_D52 AY35 FBA_D52 FBA_232

FBA_D53 AT35 FBA_D53 FBA_238

FBA_D54 AY40 FBA_D54 FBA_239

FBA_D55 AW40 FBA_D55 FBA_237

FBA_D56 AR40 FBA_D56 FBA_255

FBA_D57 AL39 FBA_D57 FBA_250

FBA_D58 AP39 FBA_D58 FBA_254

FBA_D59 AK40 FBA_D59 FBA_251

FBA_D60 AJ37 FBA_D60 FBA_248

FBA_D61 AJ40 FBA_D61 FBA_249

FBA_D62 AN38 FBA_D62 FBA_253

FBA_D63 AN40 FBA_D63 FBA_252

FB_PLLVDD K28

CV2901 GPU

+FB_PLLAVDD

Under GPU(<150 mil)

FBA_CMD[0..24] <54>

FBA_CMD0 Y36 FBA_CMD0

FBA_CMD1 AA39 FBA_CMD1

FBA_CMD2 AA32 FBA_CMD2

FBA_CMD3 AC34 FBA_CMD3

FBA_CMD4 AA33 FBA_CMD4

FBA_CMD5 Y37 FBA_CMD5

FBA_CMD6 Y35 FBA_CMD6

FBA_CMD7 AA35 FBA_CMD7

FBA_CMD8 V39 FBA_CMD8

FBA_CMD9 V40 FBA_CMD9

FBA_CMD10 Y40 FBA_CMD10

FBA_CMD11 Y38 FBA_CMD11

FBA_CMD12 W37 FBA_CMD12

FBA_CMD13 AA40 FBA_CMD13

FBA_CMD14 AA38 FBA_CMD14

FBA_CMD15 V38 FBA_CMD15

FBA_CMD16 V39 FBA_CMD16

FBA_CMD17 AA37 FBA_CMD17

FBA_CMD18 AC35 FBA_CMD18

FBA_CMD19 AC33 FBA_CMD19

FBA_CMD20 AC36 FBA_CMD20

FBA_CMD21 Y33 FBA_CMD21

FBA_CMD22 Y32 FBA_CMD22

FBA_CMD23 AC32 FBA_CMD23

FBA_CMD24 AC39 FBA_CMD24

FBA_CMD25_NC

FBA_CMD26_NC V36

FBA_CMD27 AC38 FBA_CMD27

FBA_CMD28 AC39 FBA_CMD28

FBA_CMD29 AC38 FBA_CMD29

FBA_CMD30 AC37 FBA_CMD30

FBA_CMD31 AC33 FBA_CMD31

FBA_CMD32 AC32 FBA_CMD32

FBA_CMD33 AC37 FBA_CMD33

FBA_CMD34 AC36 FBA_CMD34

FBA_CMD35 AC34 FBA_CMD35

FBA_CMD36 AC40 FBA_CMD36

FBA_CMD37 AC33 FBA_CMD37

FBA_CMD38 AC35 FBA_CMD38

FBA_CMD39 AC32 FBA_CMD39

FBA_CMD40 AC39 FBA_CMD40

FBA_CMD41 AC38 FBA_CMD41

FBA_CMD42 AC37 FBA_CMD42

FBA_CMD43 AC36 FBA_CMD43

FBA_CMD44 AC34 FBA_CMD44

FBA_CMD45 AC38 FBA_CMD45

FBA_CMD46 AF33 FBA_CMD46

FBA_CMD47 AF36 FBA_CMD47

FBA_CMD48 AF32 FBA_CMD48

FBA_CMD49 AG32 FBA_CMD49

FBA_CMD50 AJ40 FBA_CMD50

FBA_CMD51 AG36 FBA_CMD51

FBA_CMD52 AJ39 FBA_CMD52

FBA_CMD53_NC AT55

FBA_CMD54_NC AG34

FBA_CMD55_NC AH33

TPV3 18MIL ns

FBA_CMD[28..52] <55>

FBA_DBI0# AT39 FBA_DBI0# <54>

FBA_DBI1# L33 FBA_DBI1# <54>

FBA_DBI2# F35 FBA_DBI2# <54>

FBA_DBI3# F40 FBA_DBI3# <54>

FBA_DBI4# AL35 FBA_DBI4# <55>

FBA_DBI5# AU34 FBA_DBI5# <55>

FBA_DBI6# AV38 FBA_DBI6# <55>

FBA_DBI7# AL39 FBA_DBI7# <55>

FBA_DBI0# R36 FBA_DQM0

FBA_DBI1# L33 FBA_DQM1

FBA_DBI2# F35 FBA_DQM2

FBA_DBI3# F40 FBA_DQM3

FBA_DBI4# AL35 FBA_DQM4

FBA_DBI5# AU34 FBA_DQM5

FBA_DBI6# AV38 FBA_DQM6

FBA_DBI7# AL39 FBA_DQM7

FBA_EDC0 R37 FBA_DQS_WP0

FBA_EDC1 H35 FBA_DQS_WP1

FBA_EDC2 F40 FBA_DQS_WP2

FBA_EDC3 R40 FBA_DQS_WP3

FBA_EDC4 AL37 FBA_DQS_WP4

FBA_EDC5 AY35 FBA_DQS_WP5

FBA_EDC6 AY38 FBA_DQS_WP6

FBA_EDC7 AK38 FBA_DQS_WP7

FBA_CLK0 L37 FBA_CLK0

FBA_CLK0# M37 FBA_CLK0# <54>

FBA_CLK1 AR38 FBA_CLK1 <55>

FBA_CLK1# AR37 FBA_CLK1# <55>

FBA_WCK01 P38 FBA_WCK01 <54>

FBA_WCK01_N P39 FBA_WCK01_N <54>

FBA_WCK23 E39 FBA_WCK23 <54>

FBA_WCK23_N E40 FBA_WCK23_N <54>

FBA_WCK45 AN36 FBA_WCK45 <55>

FBA_WCK45_N AN37 FBA_WCK45_N <55>

FBA_WCK67 AW39 FBA_WCK67 <55>

FBA_WCK67_N AY39 FBA_WCK67_N <55>

FBA_WCKB01 H37 FBA_WCKB01

FBA_WCKB01_N H36 FBA_WCKB01_N <54>

FBA_WCKB23 N40 FBA_WCKB23 <54>

FBA_WCKB23_N N39 FBA_WCKB23_N <54>

FBA_WCKB45 AY36 FBA_WCKB45 <55>

FBA_WCKB45_N AM40 FBA_WCKB45_N <55>

FBA_WCKB67 AM39 FBA_WCKB67 <55>

FBA_WCKB67_N AM38 FBA_WCKB67_N <55>

FB_PLLVDD R31

+FB_PLLAVDD

CV2904 GPU

CV2905 GPU

CV2906 GPU

CV2907 GPU

Under GPU(<150 mil)

Near GPU(<1375 mil)

GPU_FB_VREF

FB_VREF F35

CV2903 GPU

RV2913 @GPU_N1P

LRV3813 @GPU_GND0

电阻_3.9pF_0201_COG_50 V_C(±0.25pF)

VSAM1

CSA Byte1[0..1]	CSB Byte1[2..3]
CMD0	CA3_A
CMD1	NC
CMD2	A27
CMD3	CA0_A
CMD4	CA1_A
CMD5	CA2_A
CMD6	CA3_A
CMD7	CKE_A
CMD8	CA0_A
CMD9	CA1_A
CMD10	NC
CMD11	CA2_A
CMD12	CA3_A
CMD13	NC
CMD14	CA3_B
CMD15	CA2_B
CMD16	CA1_B
CMD17	CA0_B

VRAM2

CSA Byte1[0..1]	CSB Byte1[2..3]
CMD0	CA3_A
CMD1	NC
CMD2	A27
CMD3	CA0_A
CMD4	CA1_A
CMD5	CA2_A
CMD6	CA3_A
CMD7	CKE_A
CMD8	CA0_A
CMD9	CA1_A
CMD10	NC
CMD11	CA2_A
CMD12	CA3_A
CMD13	NC
CMD14	CA3_B
CMD15	CA2_B
CMD16	CA1_B
CMD17	CA0_B

+FB/VDDQ

RV2905 电阻_10K_0201_1/20 W_J(±5%) GPU

CKE_A

RV2906 电阻_10K_0201_1/20 W_J(±5%) GPU

FBA_CMD14

FBA_CMD14

RV3605 电阻_10K_0201_1/20 W_J(±5%) GPU

CKE_B

RV3606 电阻_10K_0201_1/20 W_J(±5%) GPU

FBA_CMD17

FBA_CMD41

FBA_CMD3

FBA_CMD31

RV2911 电阻_10K_0201_1/20 W_J(±5%) GPU

RESET

RV2912 电阻_10K_0201_1/20 W_J(±5%) GPU

UV1C

GPU

BGA1356

COMBIN

3/17 FBB

<56,57> FBB_D[0..63]

FBB_D0 G2 FBB_D0

FBB_D1 H12 FBB_D1

FBB_D2 J5 FBB_D2

FBB_D3 E11 FBB_D3

FBB_D4 F7 FBB_D4

FBB_D5 H10 FBB_D5

FBB_D6 E8 FBB_D6

FBB_D7 F8 FBB_D7

FBB_D8 J4 FBB_D8

FBB_D9 J3 FBB_D9

FBB_D10 G3 FBB_D10

FBB_D11 G1 FBB_D11

FBB_D12 H7 FBB_D12

FBB_D13 J2 FBB_D13

FBB_D14 J6 FBB_D14

FBB_D15 H1 FBB_D15

FBB_D16 D1 FBB_D16

FBB_D17 C3 FBB_D17

FBB_D18 D2 FBB_D18

FBB_D19 F2 FBB_D19

FBB_D20 C5 FBB_D20

FBB_D21 F1 FBB_D21

FBB_D22 B4 FBB_D22

FBB_D23 A3 FBB_D23

FBB_D24 A6 FBB_D24

FBB_D25 A12 FBB_D25

FBB_D26 C8 FBB_D26

FBB_D27 A11 FBB_D27

FBB_D28 B7 FBB_D28

FBB_D29 B12 FBB_D29

FBB_D30 D12 FBB_D30

FBB_D31 A8 FBB_D31

FBB_D32 D28 FBB_D32

FBB_D33 F28 FBB_D33

FBB_D34 D24 FBB_D34

FBB_D35 J26 FBB_D35

FBB_D36 G27 FBB_D36

FBB_D37 H24 FBB_D37

FBB_D38 F24 FBB_D38

FBB_D39 C29 FBB_D39

FBB_D40 D35 FBB_D40

FBB_D41 E32 FBB_D41

FBB_D42 F30 FBB_D42

FBB_D43 G32 FBB_D43

FBB_D44 H28 FBB_D44

FBB_D45 C36 FBB_D45

FBB_D46 D37 FBB_D46

FBB_D47 D31 FBB_D47

FBB_D48 A33 FBB_D48

FBB_D49 B32 FBB_D49

FBB_D50 B37 FBB_D50

FBB_D51 B34 FBB_D51

FBB_D52 A36 FBB_D52

FBB_D53 A32 FBB_D53

FBB_D54 B38 FBB_D54

FBB_D55 C32 FBB_D55

FBB_D56 B25 FBB_D56

FBB_D57 C26 FBB_D57

FBB_D58 A30 FBB_D58

FBB_D59 C24 FBB_D59

FBB_D60 A24 FBB_D60

FBB_D61 C30 FBB_D61

FBB_D62 A29 FBB_D62

FBB_D63 B31 FBB_D63

FBB_CMD0 D14 FBB_CMD0

FBB_CMD1 A17 FBB_CMD1

FBB_CMD2 J16 FBB_CMD2

FBB_CMD3 E17 FBB_CMD3

FBB_CMD4 H15 FBB_CMD4

FBB_CMD5 D17 FBB_CMD5

FBB_CMD6 E14 FBB_CMD6

FBB_CMD7 G15 FBB_CMD7

FBB_CMD8 A15 FBB_CMD8

FBB_CMD9 B14 FBB_CMD9

FBB_CMD10 B15 FBB_CMD10

FBB_CMD11 A14 FBB_CMD11

FBB_CMD12 F17 FBB_CMD12

FBB_CMD13 B17 FBB_CMD13

FBB_CMD14 D15 FBB_CMD14

FBB_CMD15 C15 FBB_CMD15

FBB_CMD16 C14 FBB_CMD16

FBB_CMD17 E15 FBB_CMD17

FBB_CMD18 C17 FBB_CMD18

FBB_CMD19 J17 FBB_CMD19

FBB_CMD20 D18 FBB_CMD20

FBB_CMD21 J14 FBB_CMD21

FBB_CMD22 H14 FBB_CMD22

FBB_CMD23 R17 FBB_CMD23

FBB_CMD24 A18 FBB_CMD24

FBB_CMD25_NC F13

FBB_CMD26_NC G14

FBB_CMD27 H13

FBB_CMD28 E18

FBB_CMD29 A23

FBB_CMD30 J18

FBB_CMD31 F20

FBB_CMD32 H18

FBB_CMD33 B20

FBB_CMD34 G18

FBB_CMD35 G22

FBB_CMD36 A20

FBB_CMD37 E21

FBB_CMD38 F21

FBB_CMD39 A21

FBB_CMD40 D21

FBB_CMD41 B23

FBB_CMD42 C21

FBB_CMD43 C20

FBB_CMD44 C23

FBB_CMD45 C18

FBB_CMD46 B18

FBB_CMD47 H20

FBB_CMD48 J20

FBB_CMD49 J21

FBB_CMD50 B21

FBB_CMD51 R21

FBB_CMD52 D20

FBB_CMD53_NC G23

FBB_CMD54_NC E23

FBB_CMD55 J23

TPV21 18MIL ns

TPV22 18MIL ns

FBB_CMD[0..24] <56>

FBB_CMD[28..52] <57>

1.2V

FBB_DBI0# F10 FBB_DQM0

FBB_DBI1# G4 FBB_DQM1

FBB_DBI2# C3 FBB_DQM2

FBB_DBI3# B10 FBB_DQM3

FBB_DBI4# F25 FBB_DQM4

FBB_DBI5# H30 FBB_DQM5

FBB_DBI6# A35 FBB_DQM6

FBB_DBI7# A27 FBB_DQM7

FBB_EDC0 D10 FBB_DQS_WP0

FBB_EDC1 F5 FBB_DQS_WP1

FBB_EDC2 C11 FBB_DQS_WP2

FBB_EDC3 D26 FBB_DQS_WP3

FBB_EDC4 F33 FBB_DQS_WP4

FBB_EDC5 A38 FBB_DQS_WP5

FBB_EDC6 A26 FBB_DQS_WP6

FBB_EDC7 A26 FBB_DQS_WP7

FBB_CLK0 D6 FBB_CLK0

FBB_CLK0# C6 FBB_CLK0# <56>

FBB_CLK1 D29 FBB_CLK1 <57>

FBB_CLK1# D30 FBB_CLK1# <57>

FBB_WCK01 E8 FBB_WCK01 <56>

FBB_WCK01_N B6 FBB_WCK01_N <56>

FBB_WCK23 B2 FBB_WCK23 <56>

FBB_WCK23_N B1 FBB_WCK23_N <56>

FBB_WCK45 C27 FBB_WCK45 <57>

FBB_WCK45_N B27 FBB_WCK45_N <57>

FBB_WCK67 B26 FBB_WCK67 <57>

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FBB_WCKB01 F3 FBB_WCKB01

FBB_WCKB01_N E3 FBB_WCKB01_N <56>

FBB_WCKB23 A9 FBB_WCKB23

FBB_WCKB23_N B9 FBB_WCKB23_N <56>

FBB_WCKB45 D33 FBB_WCKB45

FBB_WCKB45_N E33 FBB_WCKB45_N <57>

FBB_WCKB67 A28 FBB_WCKB67 <57>

FBB_WCKB67_N B28 FBB_WCKB67_N <57>

FB_PLLVDD K13

+FB_PLLAVDD

CV2910 GPU

Under GPU(<150 mil)

+FB/VDDQ

RV2909 电阻_10K_0201_1/20 W_J(±5%) GPU

CKE_A

RV2908 电阻_10K_0201_1/20 W_J(±5%) GPU

FBB_CMD14

FBB_CMD14

RV3609 电阻_10K_0201_1/20 W_J(±5%) GPU

CKE_B

RV3608 电阻_10K_0201_1/20 W_J(±5%) GPU

FBB_CMD17

FBB_CMD41

FBB_CMD3

FBB_CMD31

RV2910 电阻_10K_0201_1/20 W_J(±5%) GPU

RESET

RV2907 电阻_10K_0201_1/20 W_J(±5%) GPU

Huaqin Telecom Technology Com.,Ltd.		
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Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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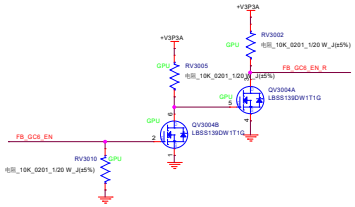
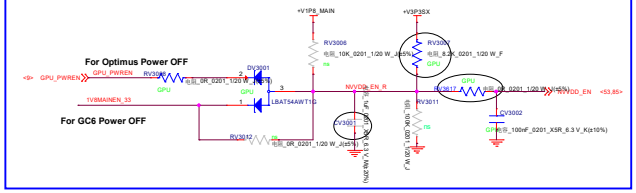
GC6 2.1 LS



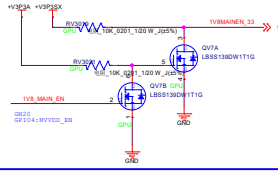
GPU EVENT#

PMZ600UNE
Vds=20V
Vgs= +-8V
Vgs(th)=0.45V~-0.95V
ID=600mA

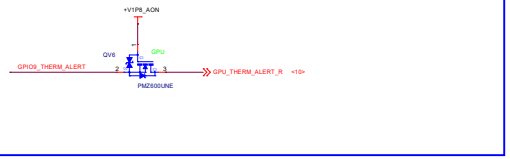
NVVDD ENABLE



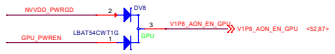
1V8_MAIN_EN



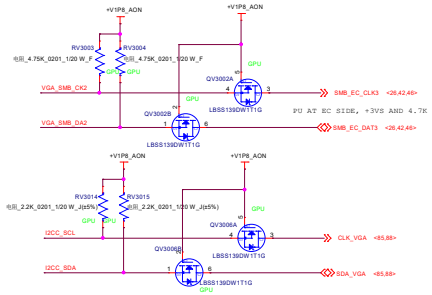
ALERT

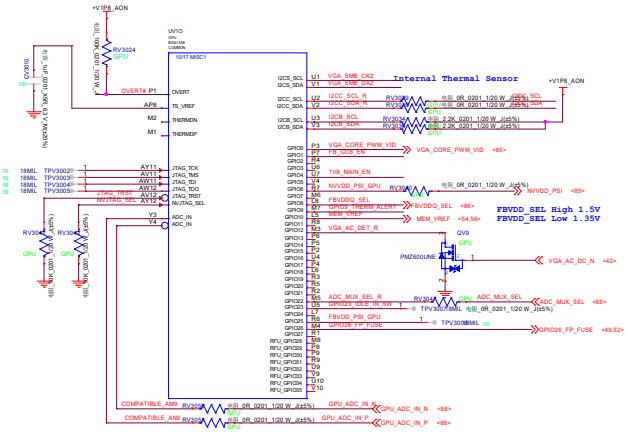


POWER DOWN

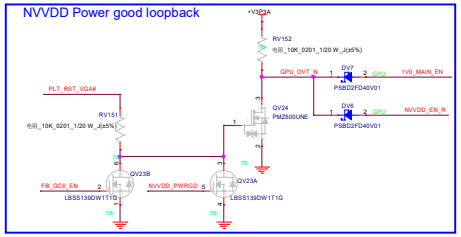


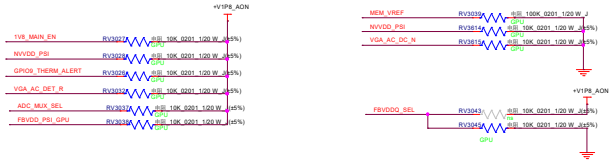
SMBUS



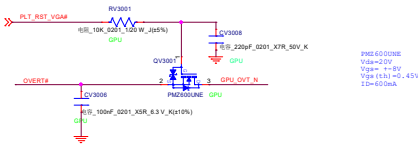


NVVDD Power good loopback

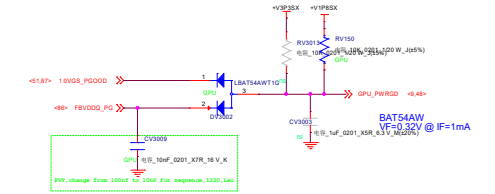




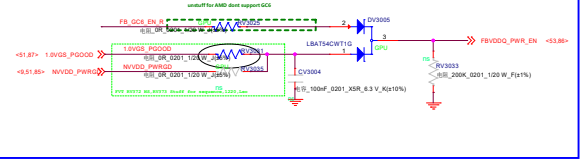
GPU OVERT#



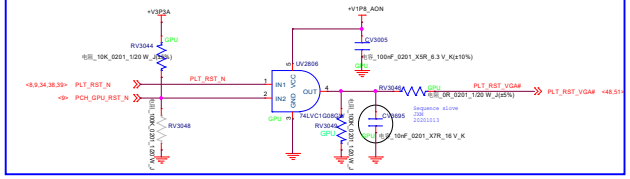
GPU ALL PGOOD



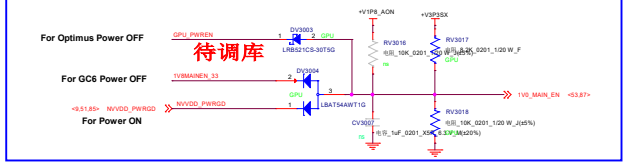
FBVDDQ ENABLE / GC6 2.1



PEX_RST# LOGIC



1.0V ENABLE LOGIC



Husqin Telecom Technology Com.,Ltd.			
Page name:	SPI MOSFET		
Size: A4	Project Name:	NB3029(S560-16ACN)	REV: V1.0
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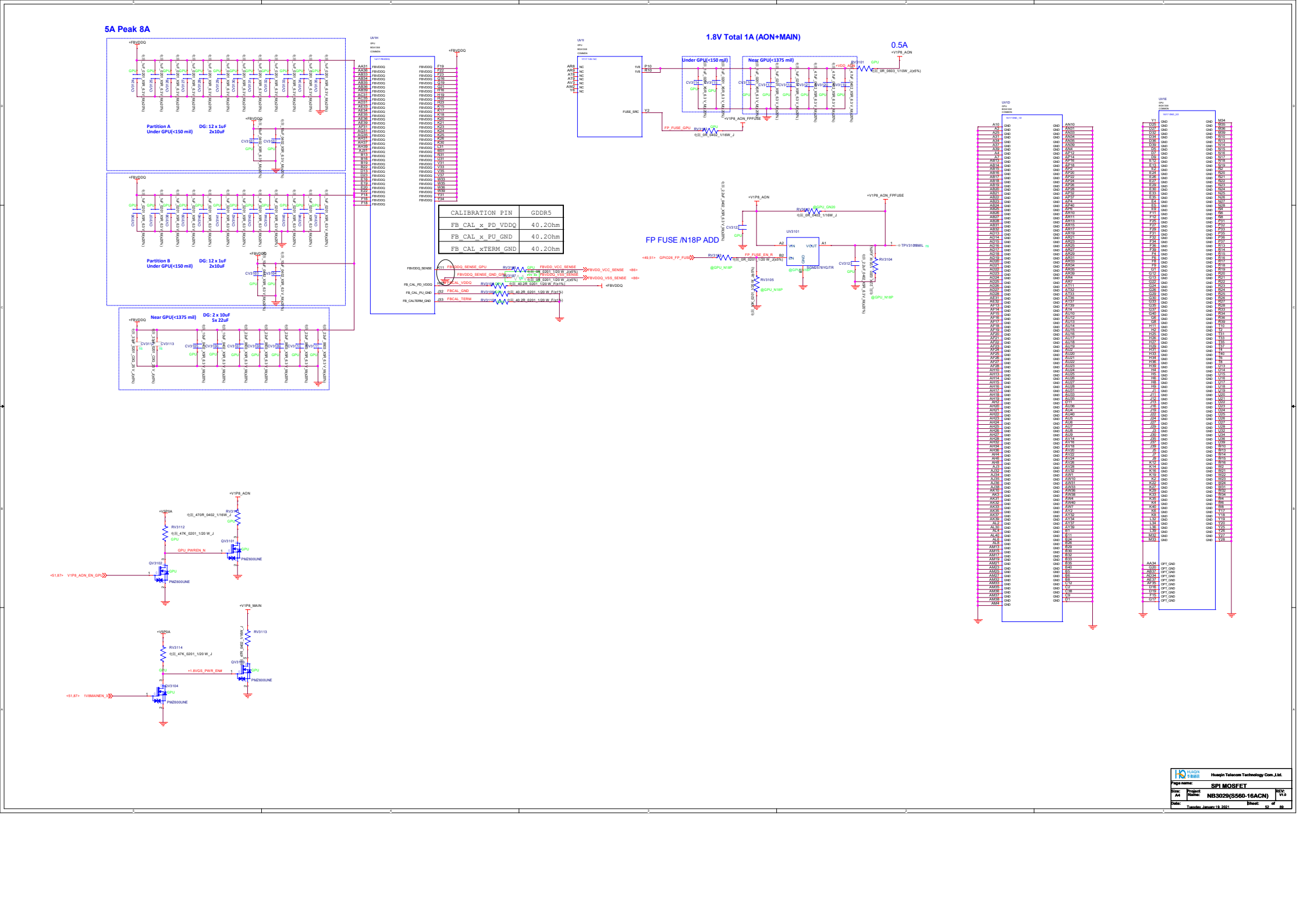
5A Peak 8A
1.8V Total 1A (AON+MAIN)
0.5A
Partition A
Under GPU(<150 mil)
DG: 12 x 1uF
2x10uF
Partition B
Under GPU(<150 mil)
DG: 12 x 1uF
2x10uF
Near GPU(<1375 mil)
DG: 2 x 10uF
5x 22uF
Under GPU(<150 mil)
Near GPU(<1375 mil)
FP FUSE /N18P ADD
CALIBRATION PIN
GDDR5
FB_CAL_x_PD_VDDQ
40.2Ohm
FB_CAL_x_PU_GND
40.2Ohm
FB_CAL_xTERM_GND
40.2Ohm
Husqin Telecom Technology Com.,Ltd.
Page name:
SPI MOSFET
Size: A4
Project Name:
NB3029(S560-16ACN)
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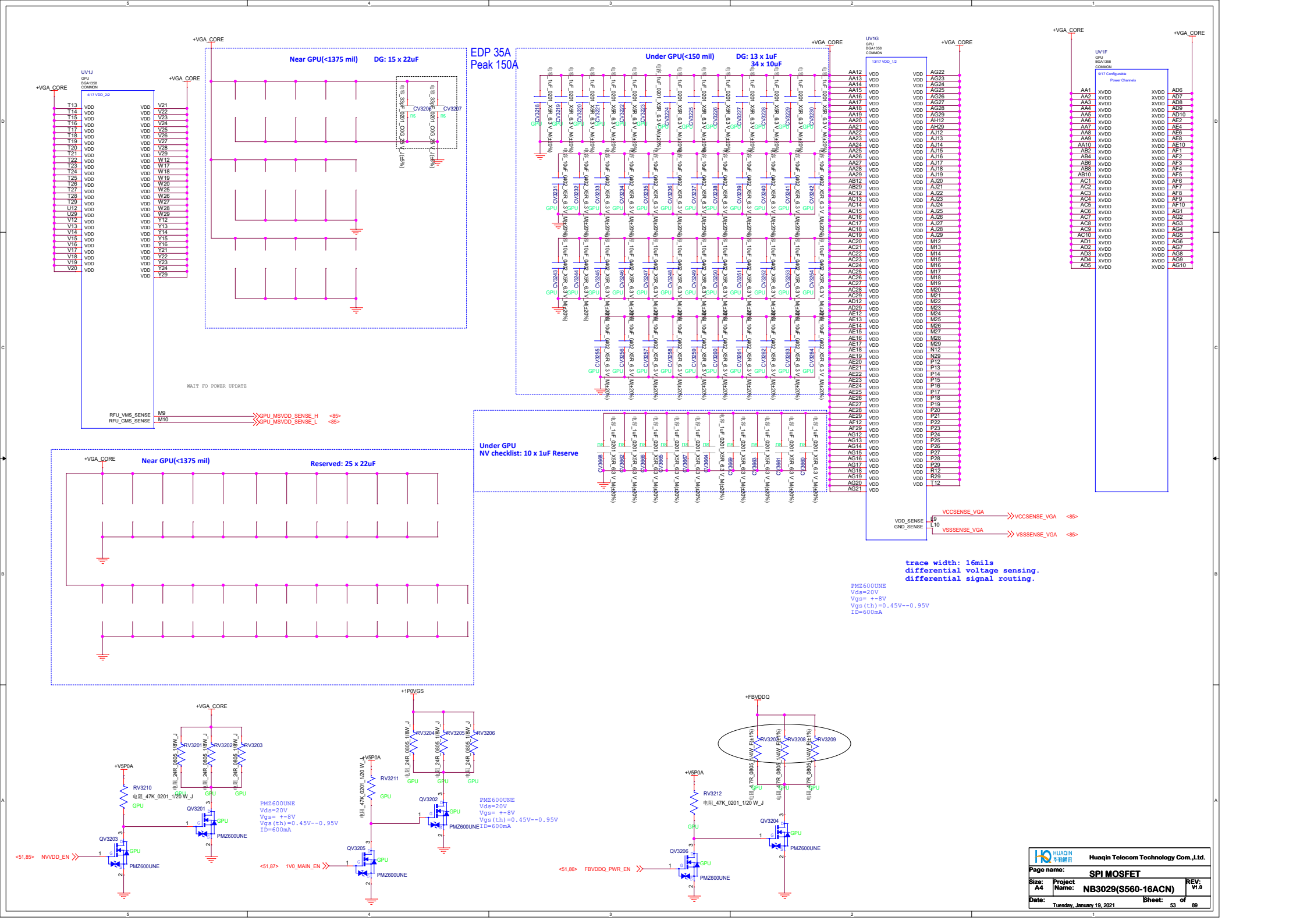
EDP 35A
Peak 150A
Near GPU(<1375 mil)
DG: 15 x 22uF
Under GPU(<150 mil)
DG: 13 x 1uF
34 x 10uF
WAIT FO POWER UPDATE
Under GPU
NV checklist: 10 x 1uF Reserve
Near GPU(<1375 mil)
Reserved: 25 x 22uF
trace width: 16mils
differential voltage sensing.
differential signal routing.
PMZ600UNE
Vds=20V
Vgs= +-8V
Vgs(th)=0.45V--0.95V
ID=600mA
Huaqin Telecom Technology Com.,Ltd.
Page name:
SPI MOSFET
Size: A4
Project Name:
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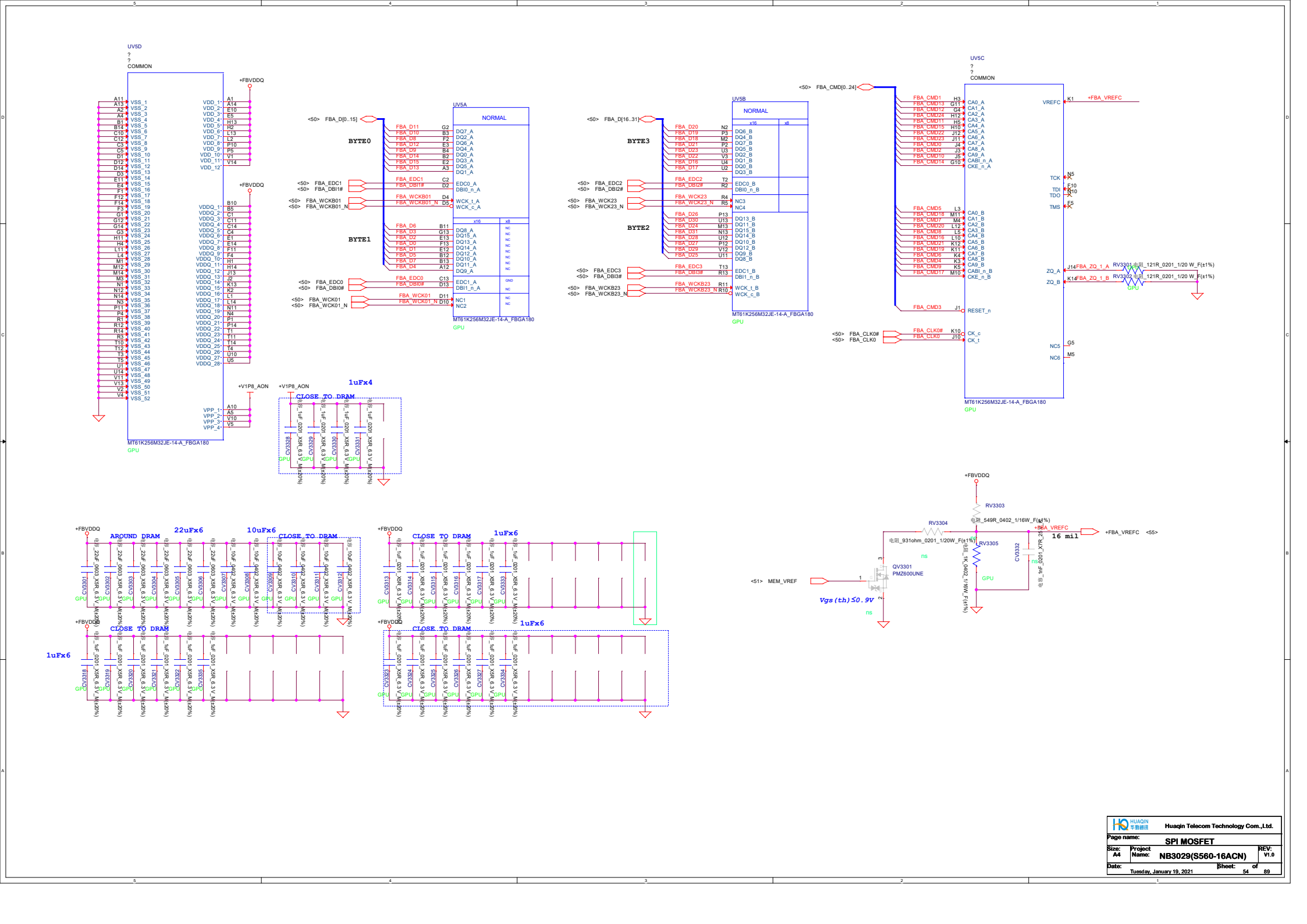
UV5D
COMMON
MT61K256M32JE-14-A_FBGA180
GPU
UV5A
NORMAL
BYTE0
BYTE1
UV5B
BYTE3
BYTE2
UV5C
CLOSE TO DRAM
1uFx4
AROUND DRAM
22uFx6
10uFx6
1uFx6
Vgs(th)≤0.9V
QV3301
PMZ600UNE
+FBVDDQ
+V1P8_AON
+FBA_VREFC
16 mil
Huaqin Telecom Technology Com.,Ltd.
Page name:
SPI MOSFET
Size: A4
Project Name: NB3029(S560-16ACN)
REV: V1.0
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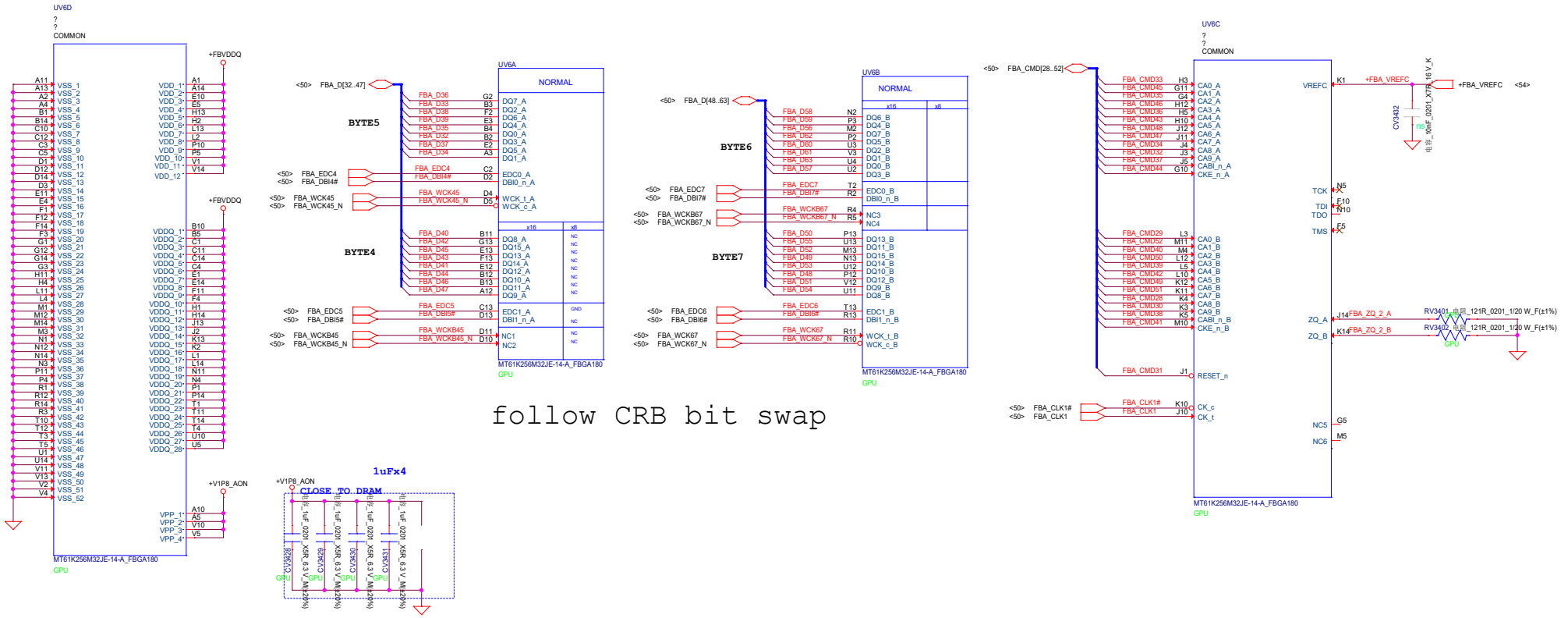

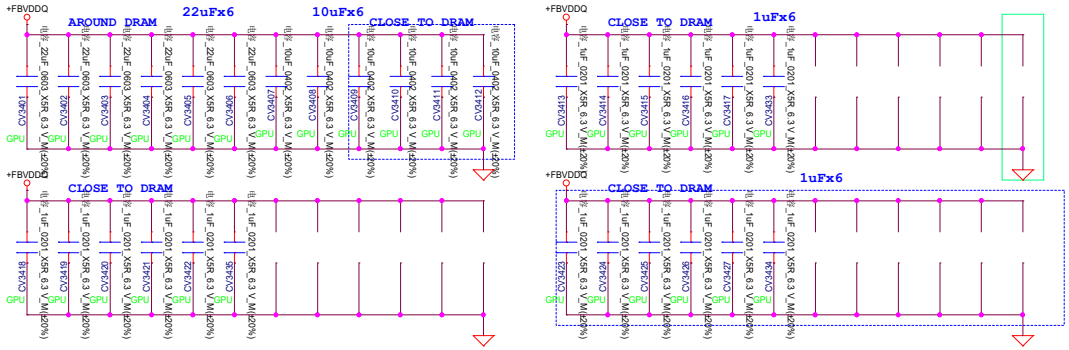

Huaqin Telecom Technology Com.,Ltd.		
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Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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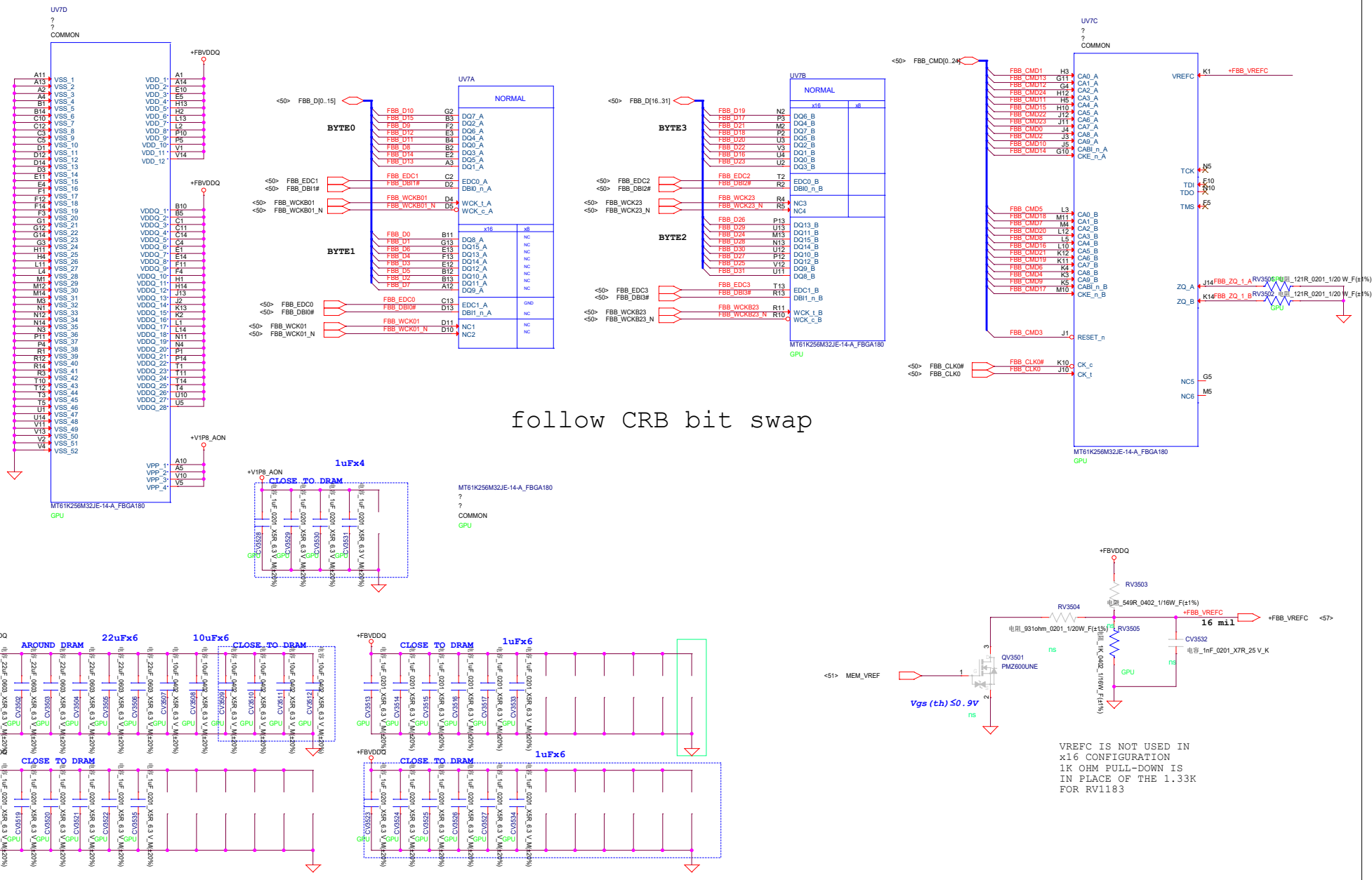

Huaqin Telecom Technology Com.,Ltd.			
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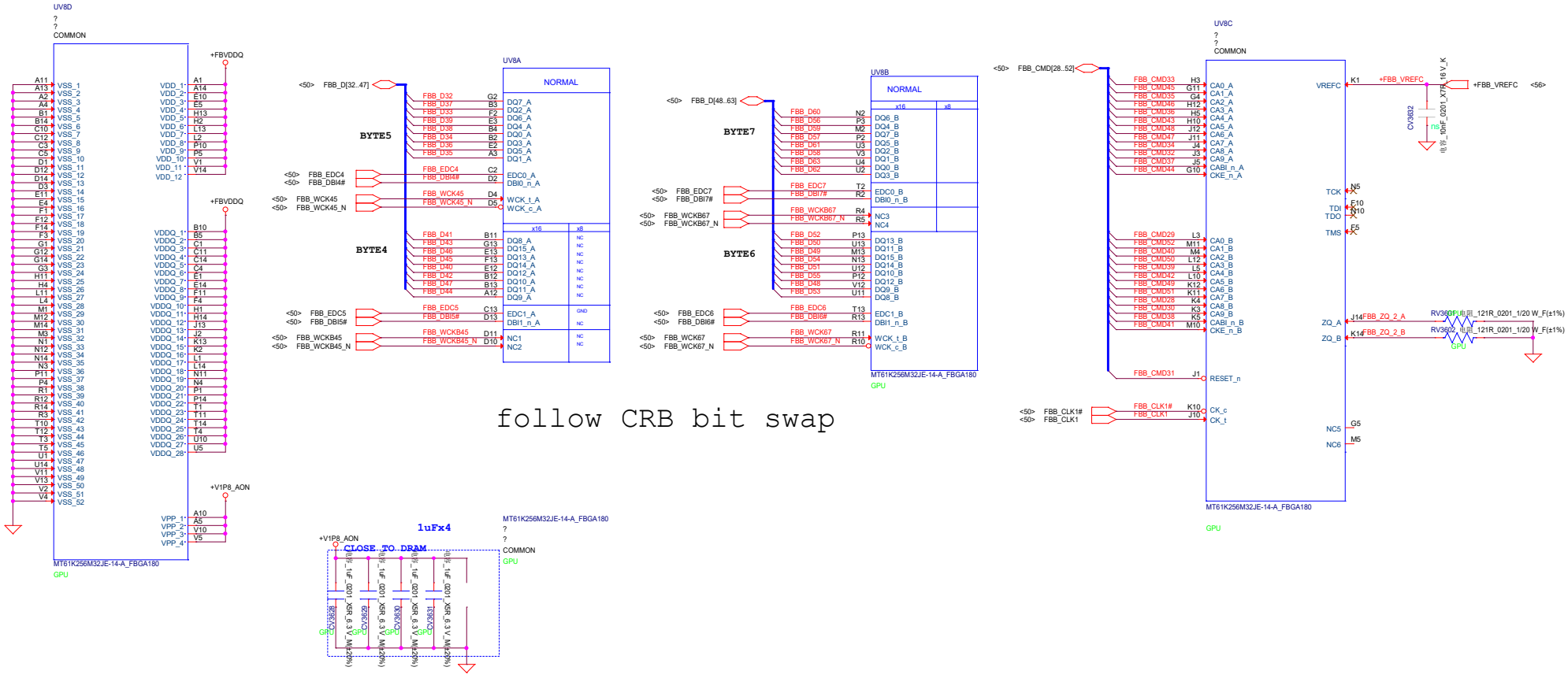
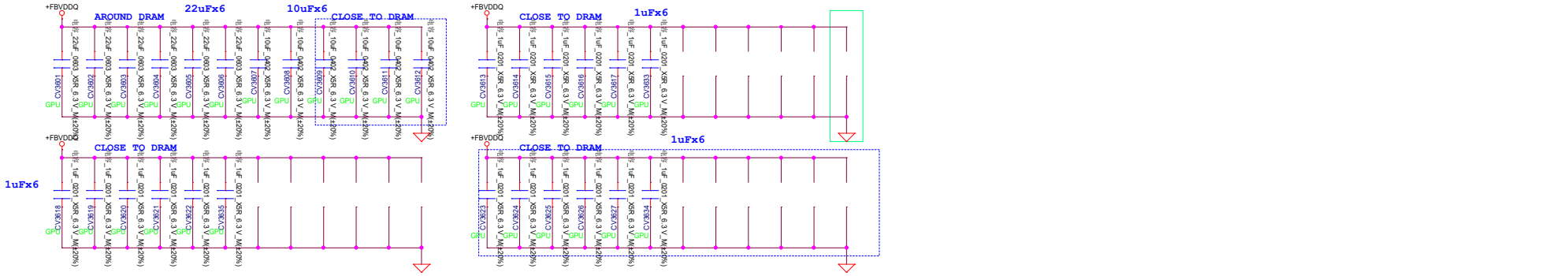
Size: A4	Project Name: NB3029(S560-16ACN)		REV: V1.0
Date: Tuesday, January 19, 2021	Sheet: 56	of 89	





Huaqin Telecom Technology Com.,Ltd.	
Page name: POWER DELIVERY LOAD SW	
Size: A4	Project Name: NB3029(S560-16ACN) REV: V1.0
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Huaqin Telecom Technology Com.,Ltd.

Page name: POWER DELIVERY APU POWER

Size: A4	Project Name: NB3029(5560-16ACN)	REV: V1.0
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HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.	
Page name:	BATTERY CHARGER	
Size: A4	Project Name: S560-FP6	REV: V1.0
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HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.
Page name:	POWER DELIVERY 3.3V
Size: A4	Project Name: NB3029(S560-16ACN) REV: V1.0
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HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.	
Page name:	POWER DELIVERY 5V	
Size: A4	Project Name: S560-FP6	REV: V1.0
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HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.
Page name:	POWER DELIVERY 1.8V
Size: A4	Project Name: NB3029(S560-16ACN)
REV: V1.0	
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Huaqin Telecom Technology Com.,Ltd.		
Page name:	POWER DELIVERY 0.75V	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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HUAQIN 华勤讯	Huaqin Telecom Technology Com.,Ltd.	
Page name:	LED BACKLIGHT	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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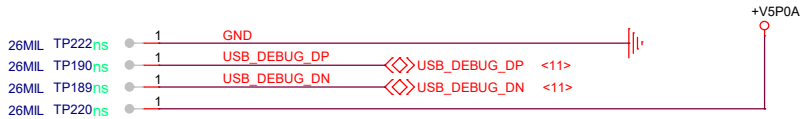
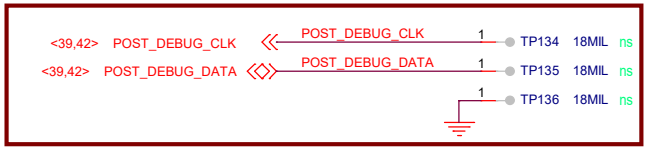
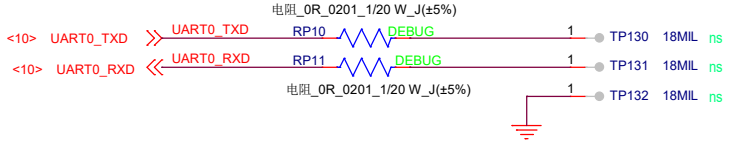
For product test







HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.	
Page name:	Debug Conn	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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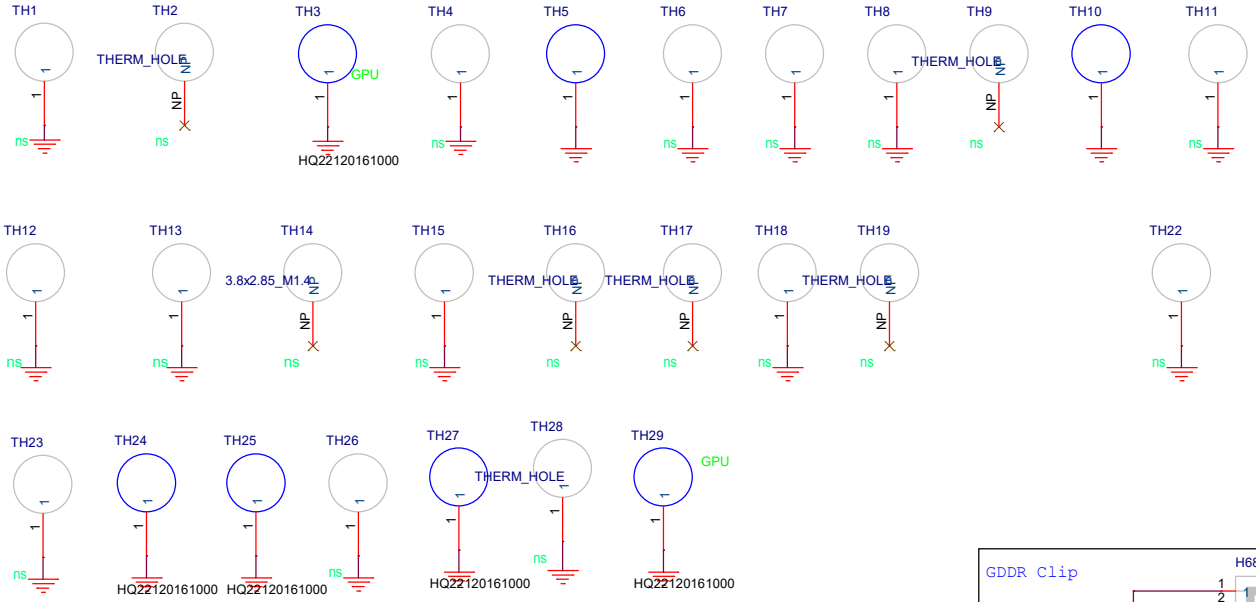

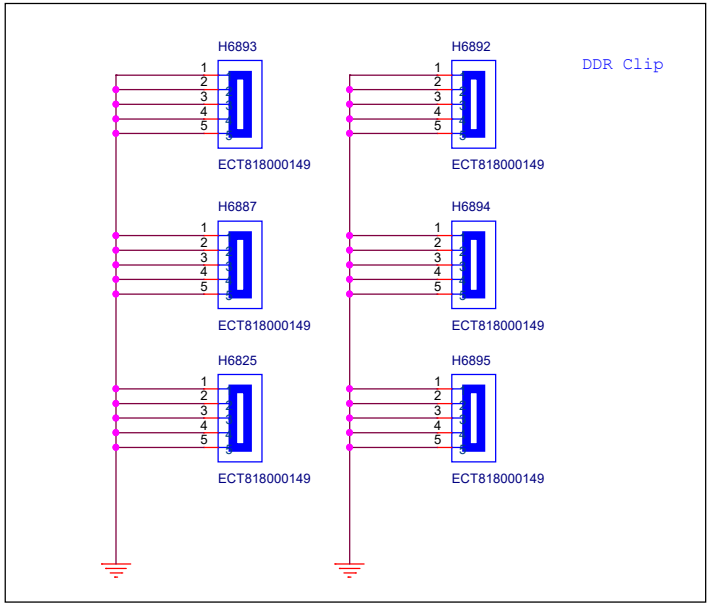

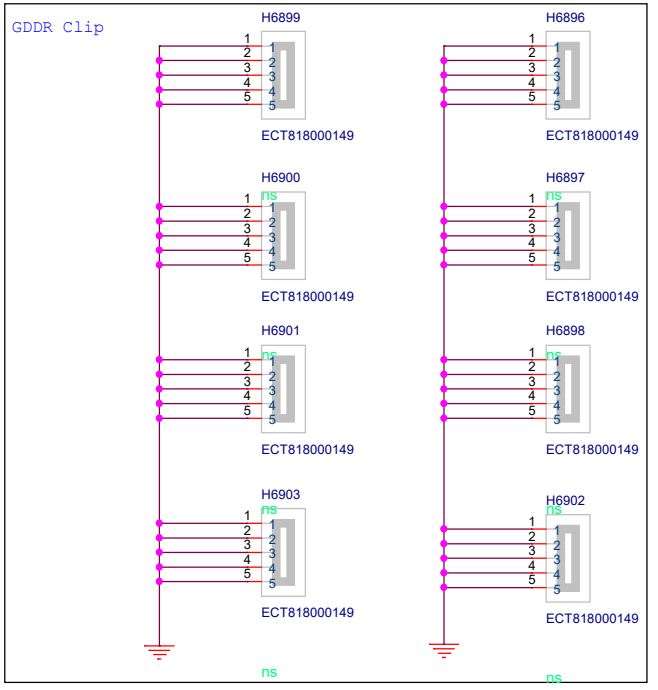

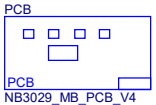

HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.	
Page name:	Hole & Mark	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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Huaqin Telecom Technology Com.,Ltd.	
Page name:	Changelist
Size: A4	Project Name: NB3029(S560-16ACN)
REV: V1.0	
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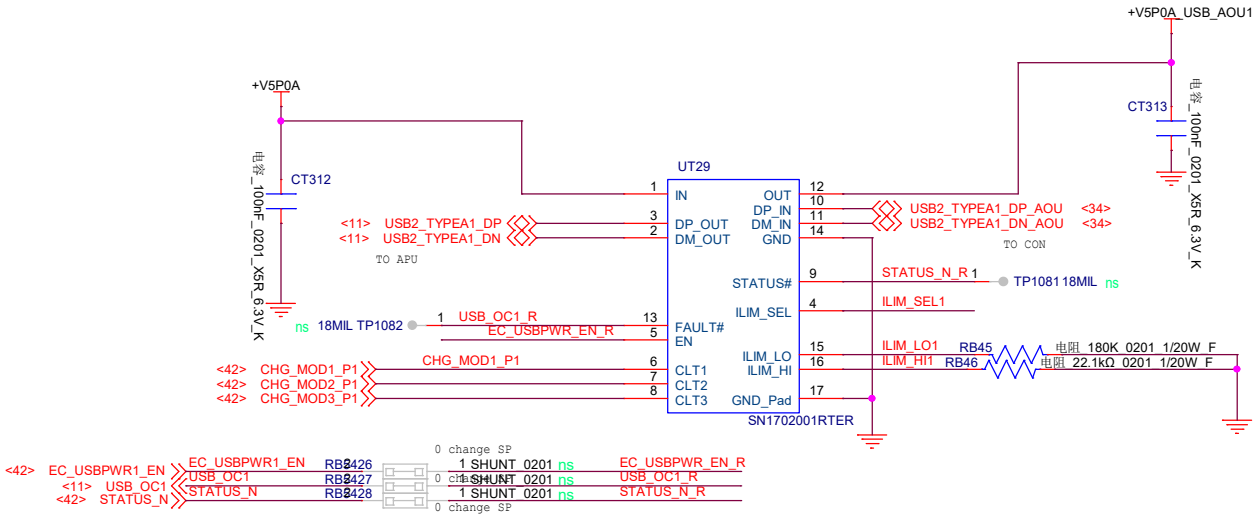
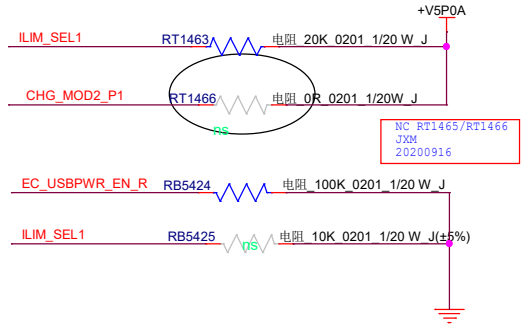
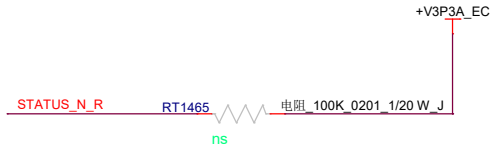
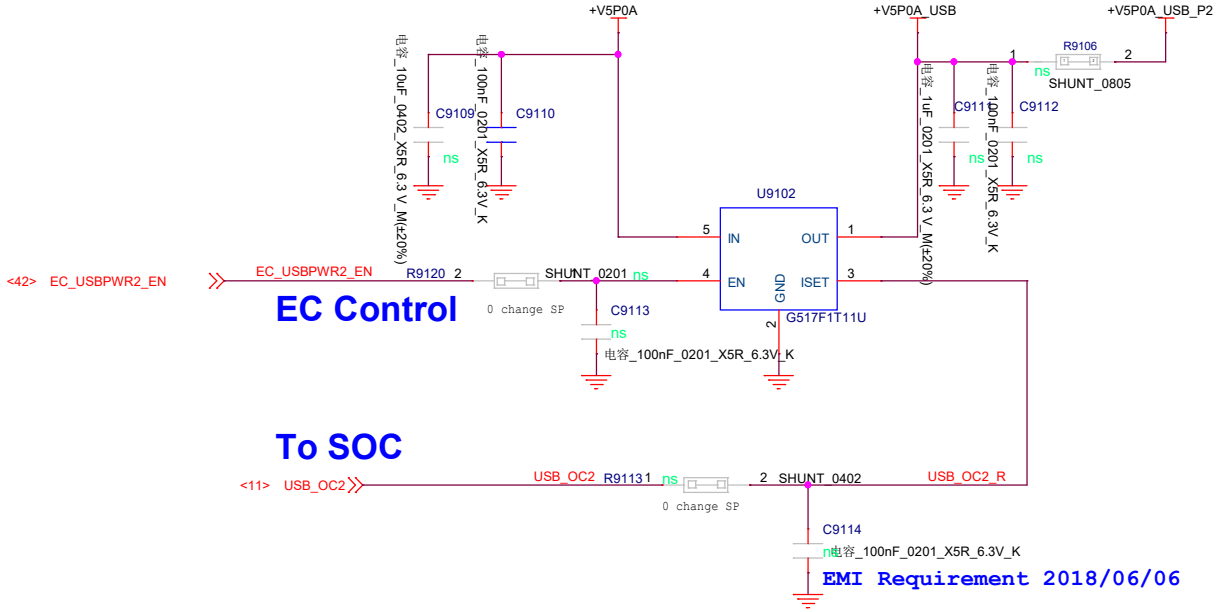
USB Charging Port Power Switch&Controller







Power for TypeA Conn：5V



HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.	
Page name:	SPI MOSFET	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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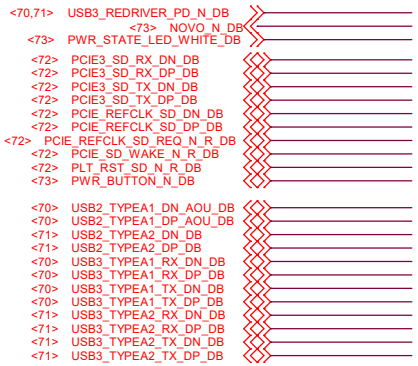
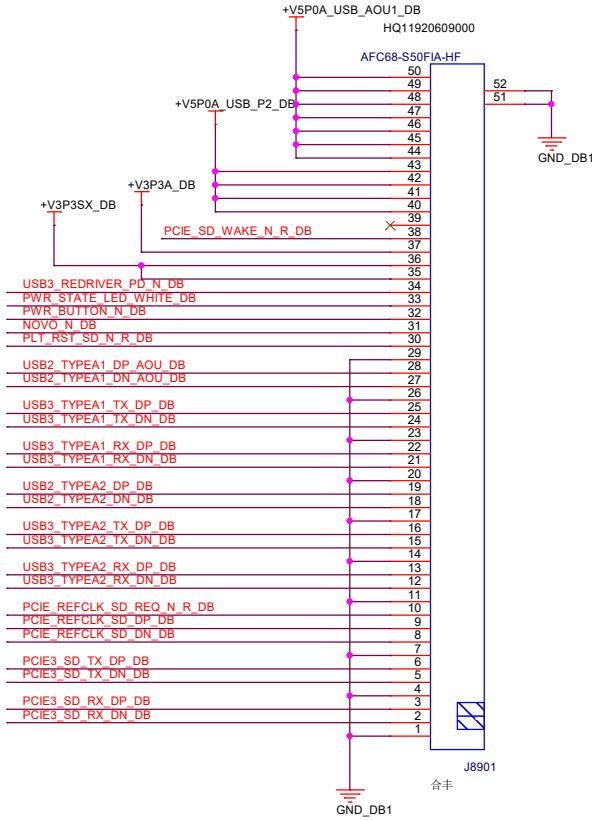


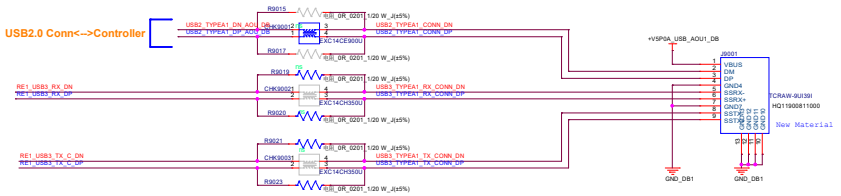


HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.		
Page name:	TO MB CONNECTOR		
Size: A4	Project Name: NB3029(S560-16ACN)		REV: V1.0
Date: Tuesday, January 19, 2021	Sheet: 69 of 89		

USB3.1 Conn

USB2.0 Conn<-->Controller

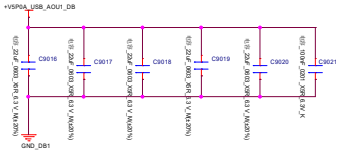
USB3.1 Conn<-->Redriver



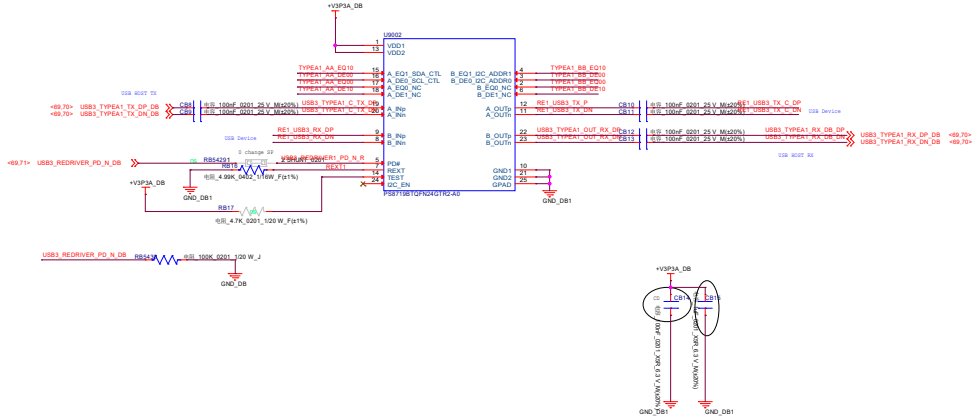
BYPASS CAPS

Close Conn@Layout

5V@2.2A

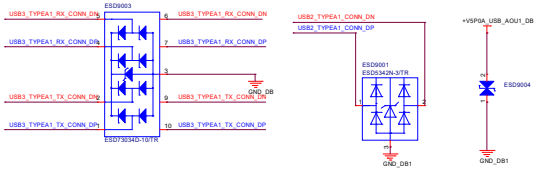


Type-A USB3.1 Gen1_Redriver



USB3.1 ESD

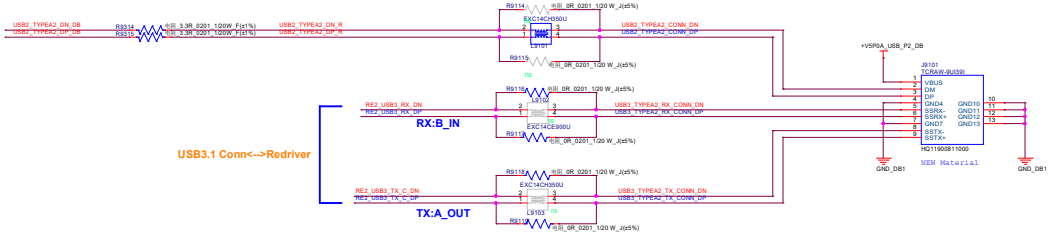
Close Conn@Layout



Huaqin Telecom Technology Com.,Ltd.			
Page name:	TYPE C Retimer_3		
Size: A4	Project Name:	NB3029(S560-16ACN)	REV: V1.0
Date: Tuesday, January 19, 2021		Sheet: 70 of 89	

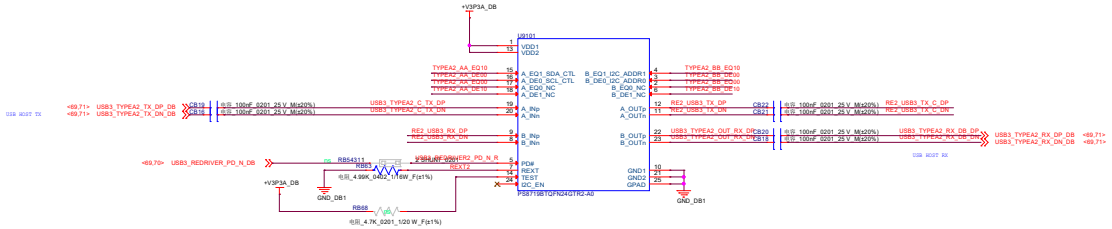
USB3.1 +USB2.0 Signal

CMC/R



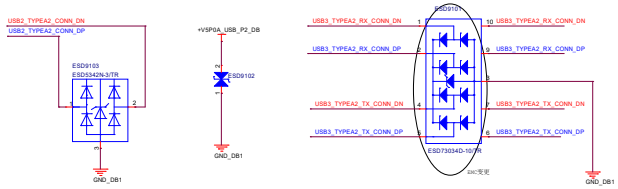
Redriver

Type-A USB3.1 Gen1_Redriver

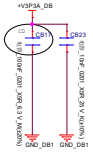


USB3.1 ESD For Gen1

Close to Conn



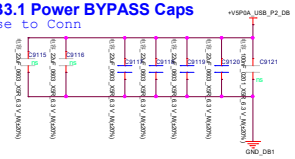
FOR product line



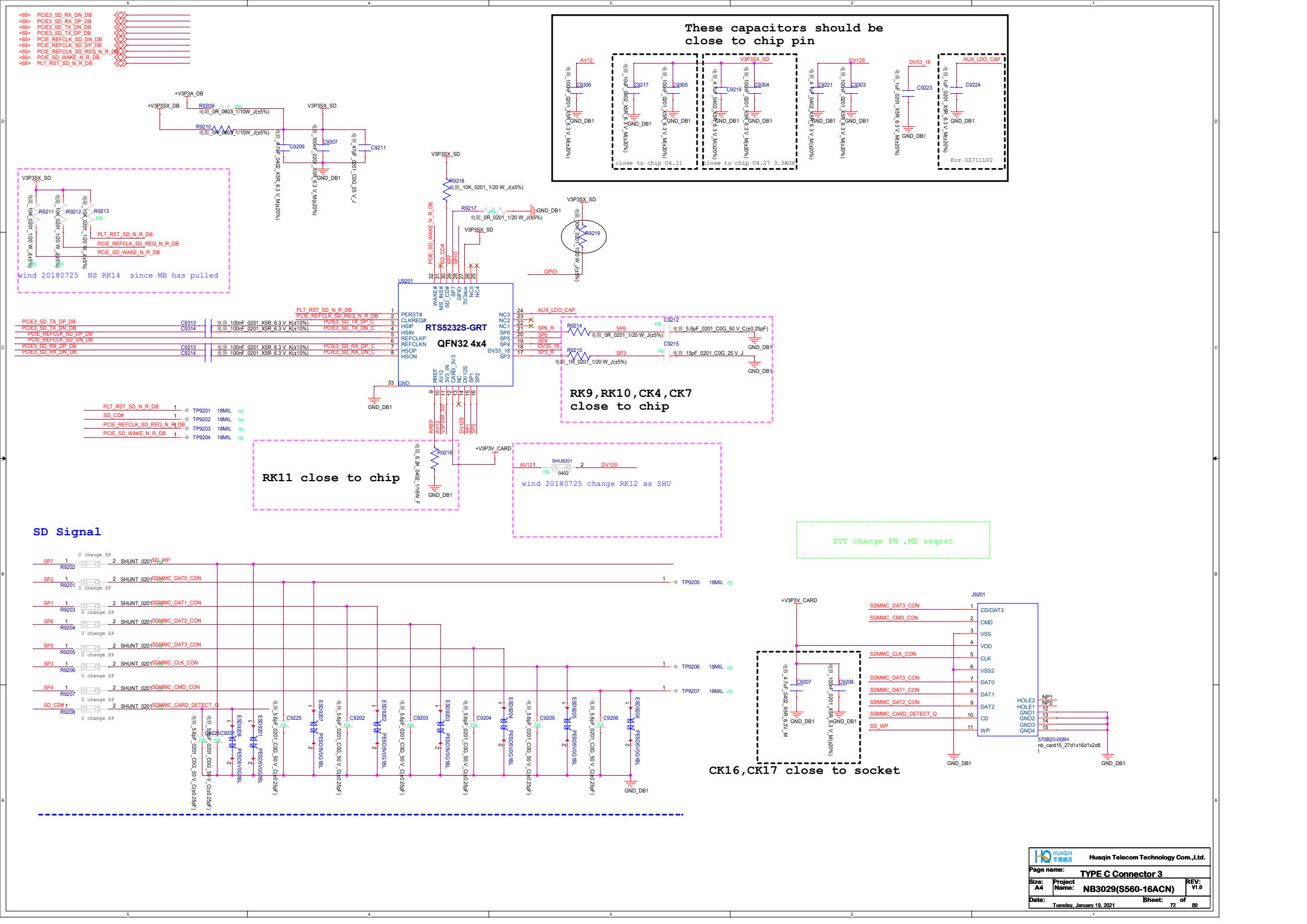
USB3.1 CONN For Gen1

USB3.1 Power BYPASS Caps

Close to Conn



Husqin Telecom Technology Com.,Ltd.		
Page name:	TYPE C Retimer_3	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
Date: Tuesday, January 19, 2021	Sheet: 71 of 89	


These capacitors should be close to chip pin
close to chip U4.11
close to chip U4.27 3.3AUX
For OZ711LV2
wind 20180725 NS RK14 since MB has pulled
RTS5232S-GRT
QFN32 4x4
RK9,RK10,CK4,CK7 close to chip
RK11 close to chip
wind 20180725 change RK12 as SHU
SVT change PN ,ME reqest
SD Signal
CK16,CK17 close to socket
Huaqin Telecom Technology Com.,Ltd.
Page name: TYPE C Connector 3
Size: A4
Project Name: NB3029(S560-16ACN)
REV: V1.0
Date: Tuesday, January 19, 2021
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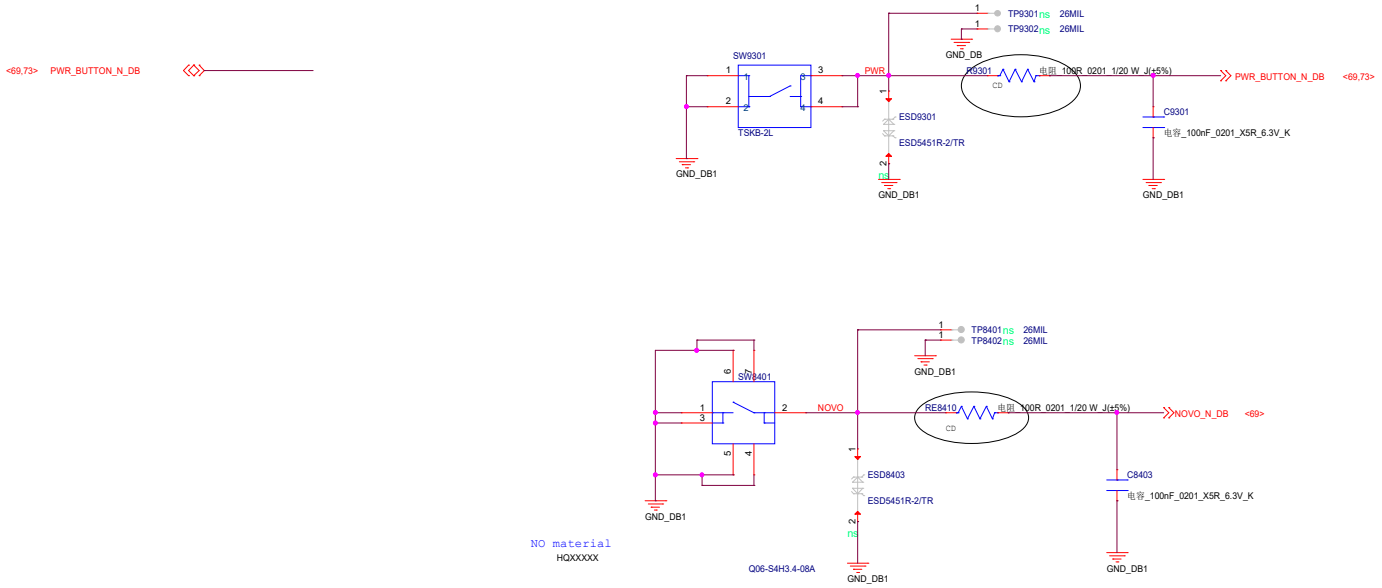
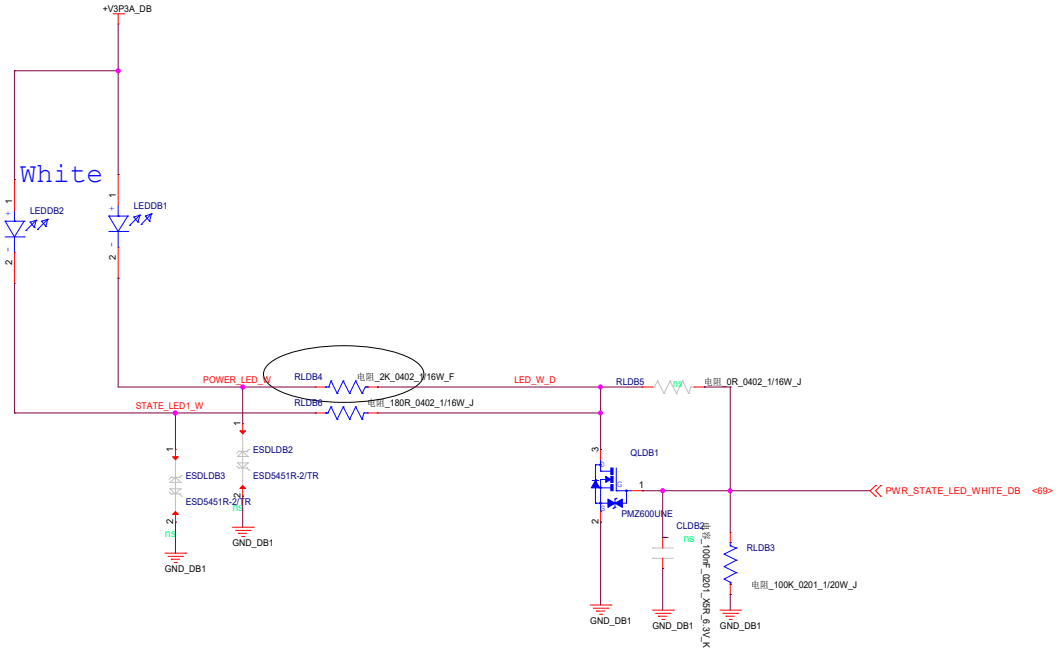
Power BUTTON

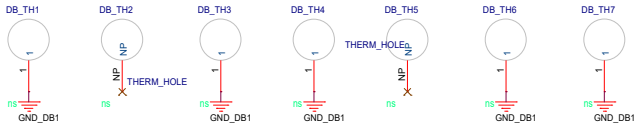


Power LED

POWER LED : LEDDB2



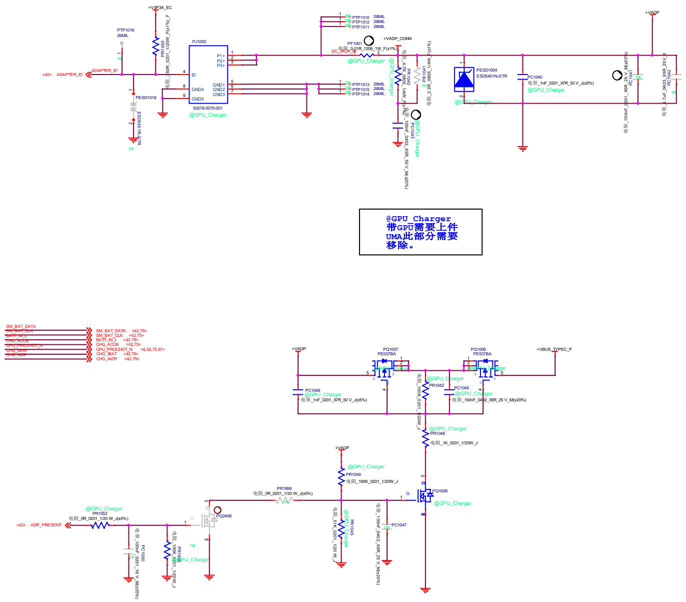
Huaqin Telecom Technology Com.,Ltd.			
Page name:	BUTTON & LED		
Size: A4	Project Name:	NB3029(S560-16ACN)	REV: V1.0
Date: Tuesday, January 19, 2021	Sheet: 73 of 89		



Huaqin Telecom Technology Com.,Ltd.			
Page name:	FPC_SENSOR		
Size: A4	Project Name:	NB3029(S560-16ACN)	REV: V1.0
Date: Tuesday, January 19, 2021		Sheet: 74 of 89	

change0818

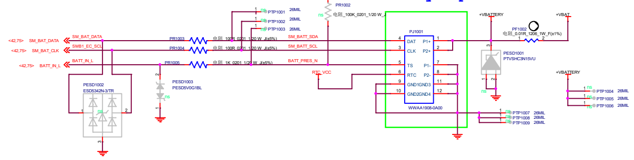
ID PIN Configure						
适配器功耗		135W Adapter	90W Adapter	65W Adapter	45W Adapter	
ID PIN Voltage	ID>3.1V	3V>=ID>1.663V	1.618V>=ID>1.172V	1.134V>=ID>0.693V	0.663V>=ID>0.234V	0.2V>=ID>0V
方孔状态	OUT	IN	IN	IN	IN	OUT
INPUT CURRENT SETTING(93%)	0A	6.27A	4.18A	3.02A	2.09A	0A



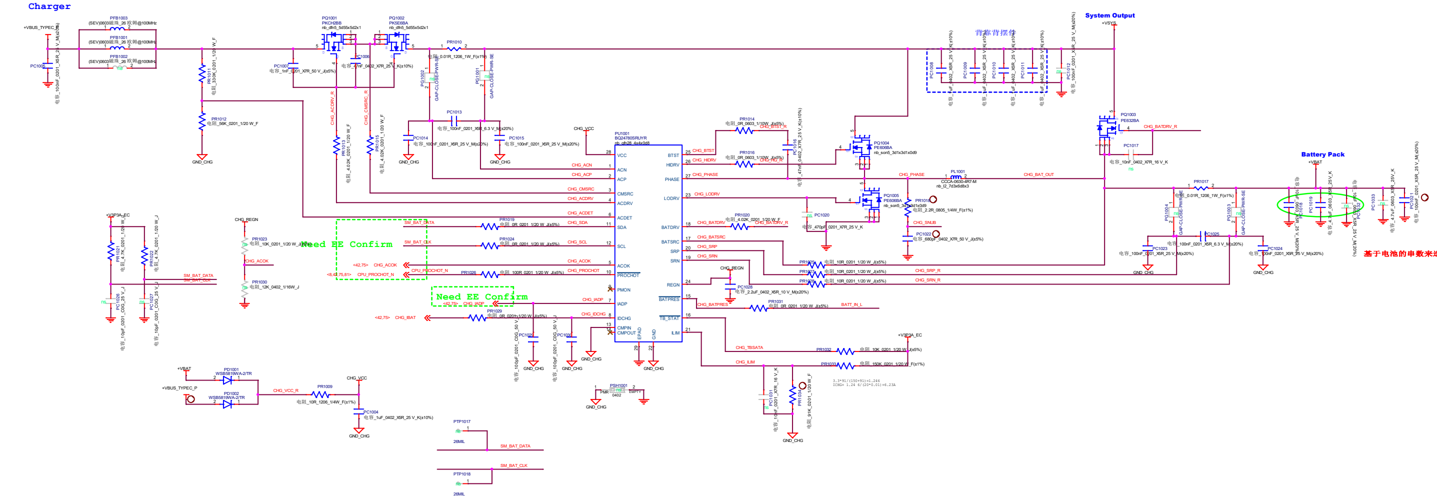
@GPU_Charger
带GPU需要上件
UMA此部分需要移除。

Charger

Battery Input



Charger



Need EE Confirm

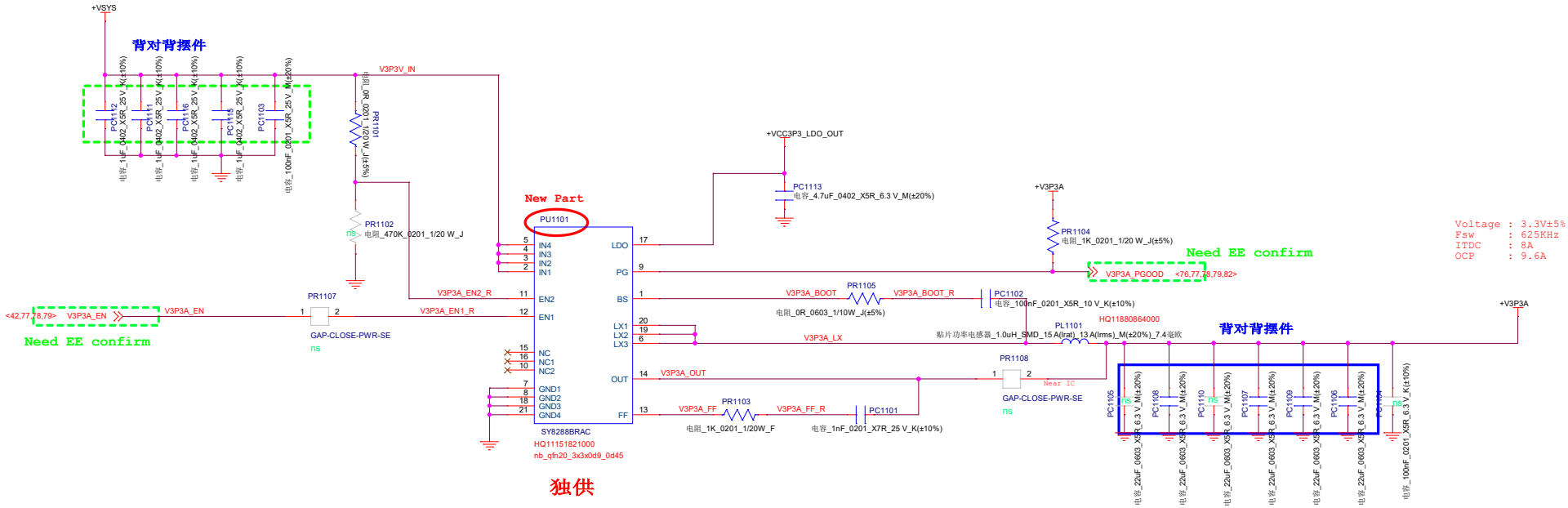
基于电池的串数来选择电容的耐压

Huaqin Telecom Technology Com.,Ltd.	
Page name:	BATTERY CHARGER
Size: A4	Project Name: NB3029(S560-16ACN) — REV: V1.0
Date: Tuesday, January 19, 2021	Sheet: 95 of 89

V3P3A_PGOOD <76,77,78,79,82>

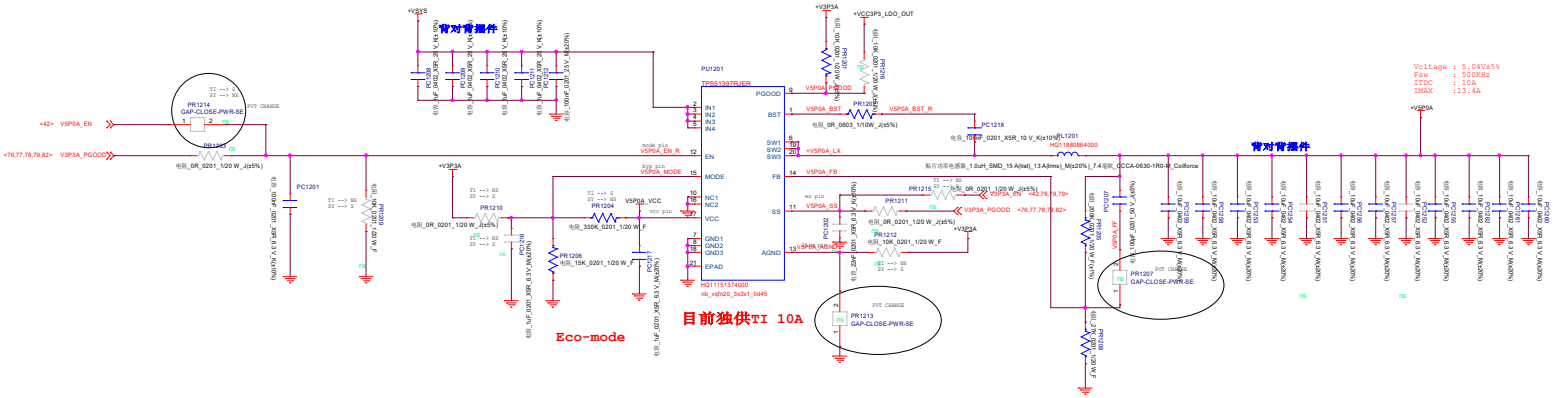
change0818

+V3P3A



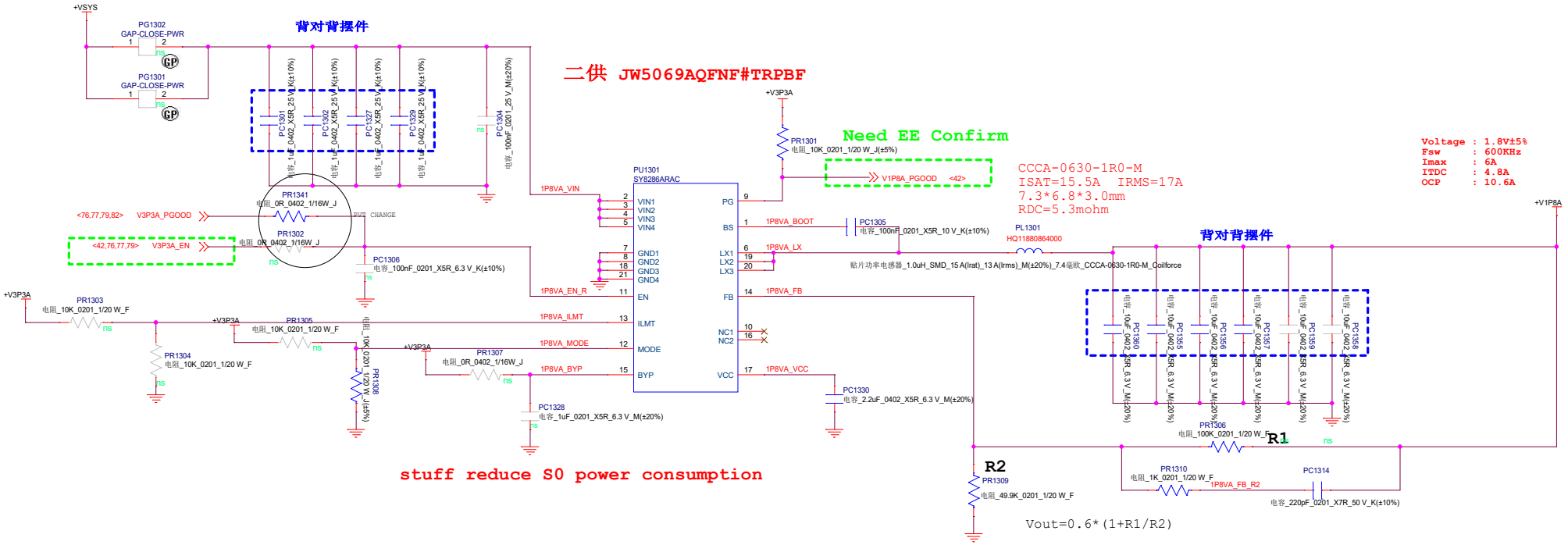
Huaqin Telecom Technology Com.,Ltd.		
Page name: POWER DELIVERY 3.3V		
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
Date: Tuesday, January 19, 2021	Sheet: 96 of 89	

change0818

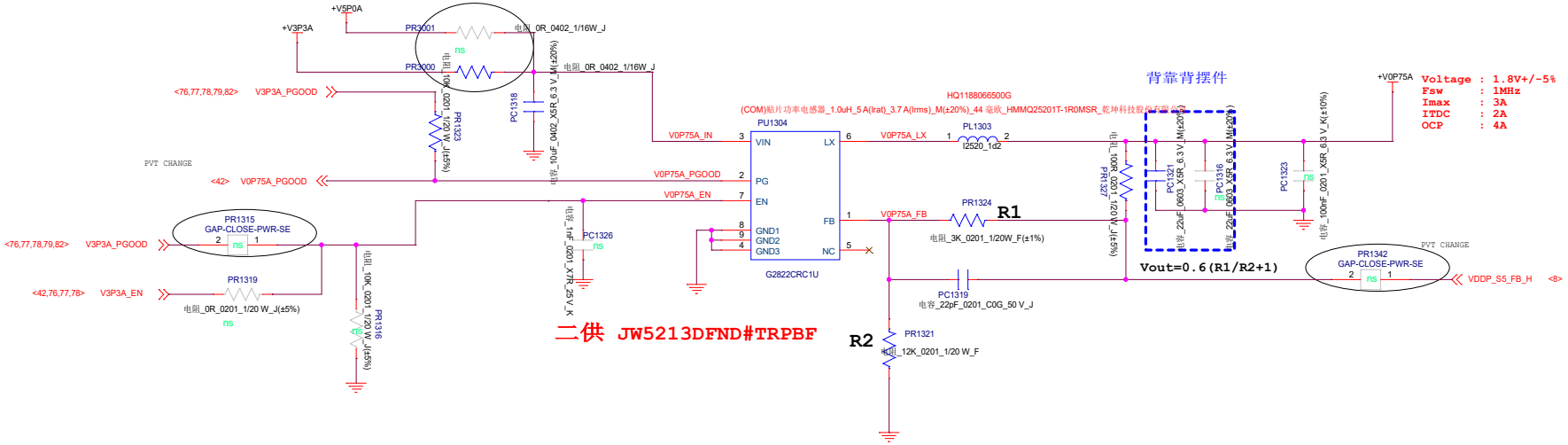


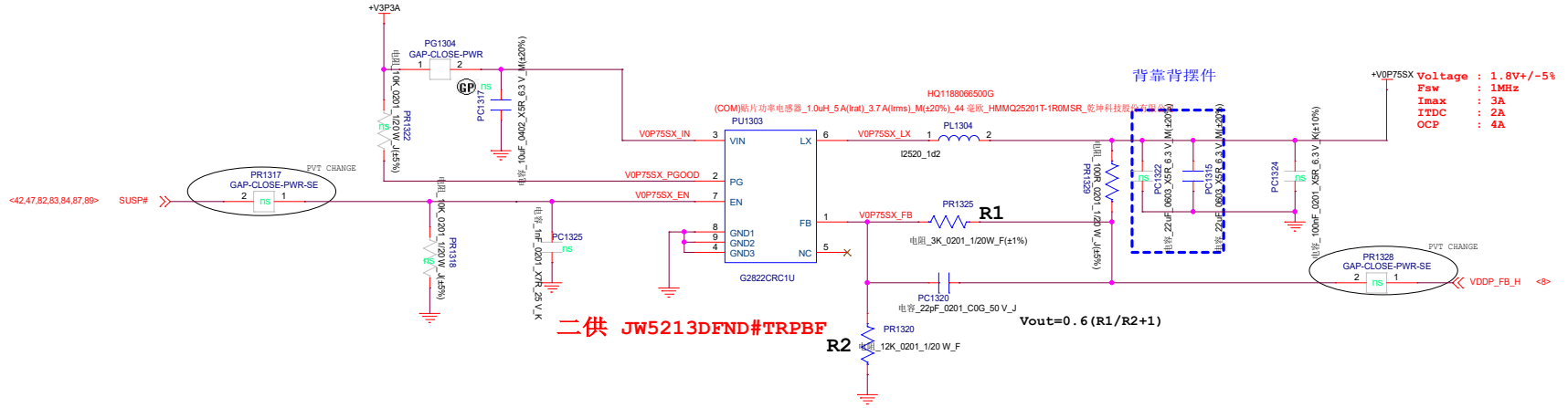
Huaqin Telecom Technology Com.,Ltd.			
Page name: POWER DELIVERY 5V			
Size: A4	Project Name: NB3029(S560-16ACN)		REV: V1.0
Date: Tuesday, January 19, 2021		Sheet: 57 of 89	

change0818



Huaqin Telecom Technology Com.,Ltd.			
Page name:	POWER DELIVERY 1.8V		
Size: A4	Project Name: NB3029(S560-16ACN)		REV: V1.0
Date: Tuesday, January 19, 2021		Sheet: 98 of 89	



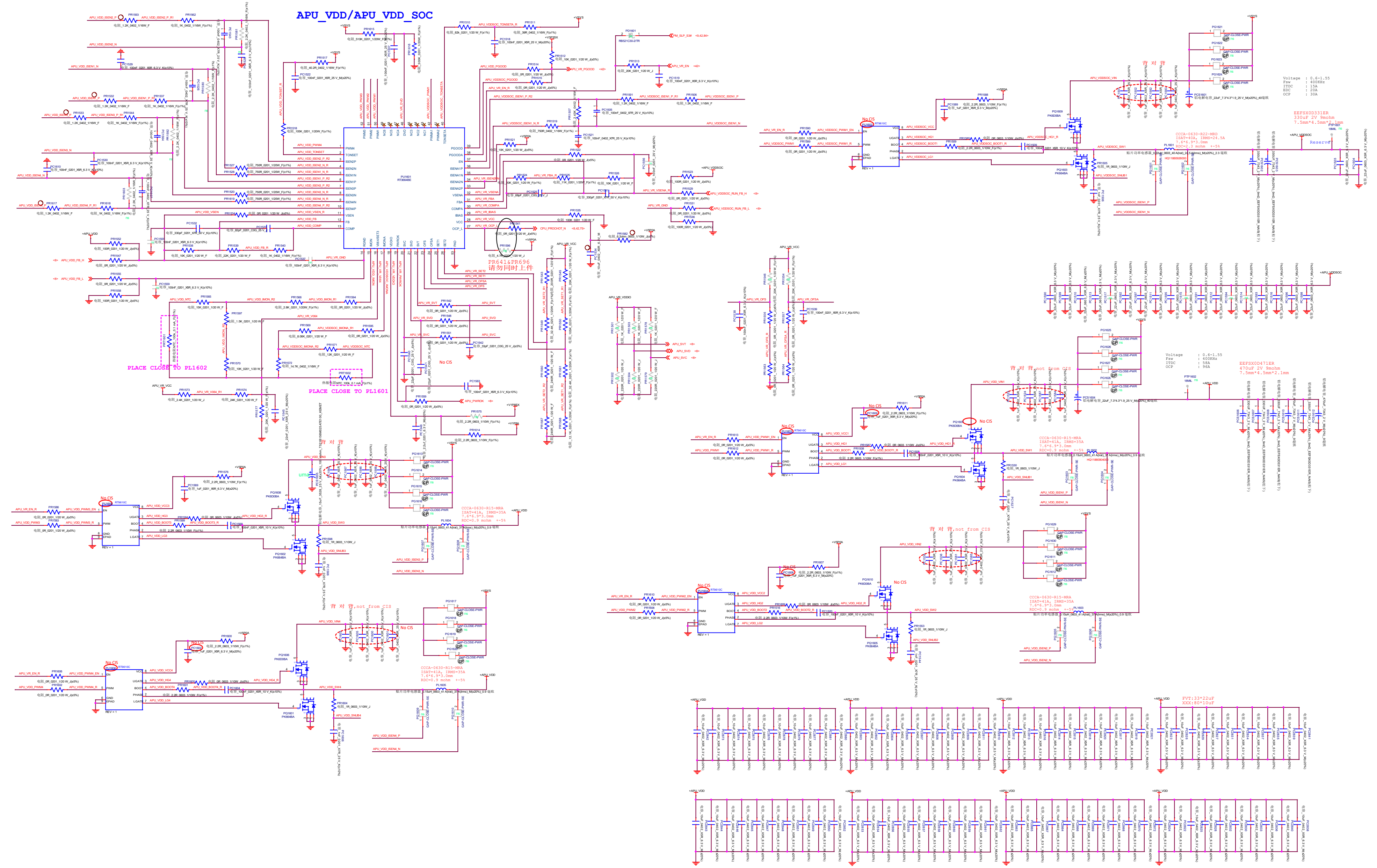


change0818

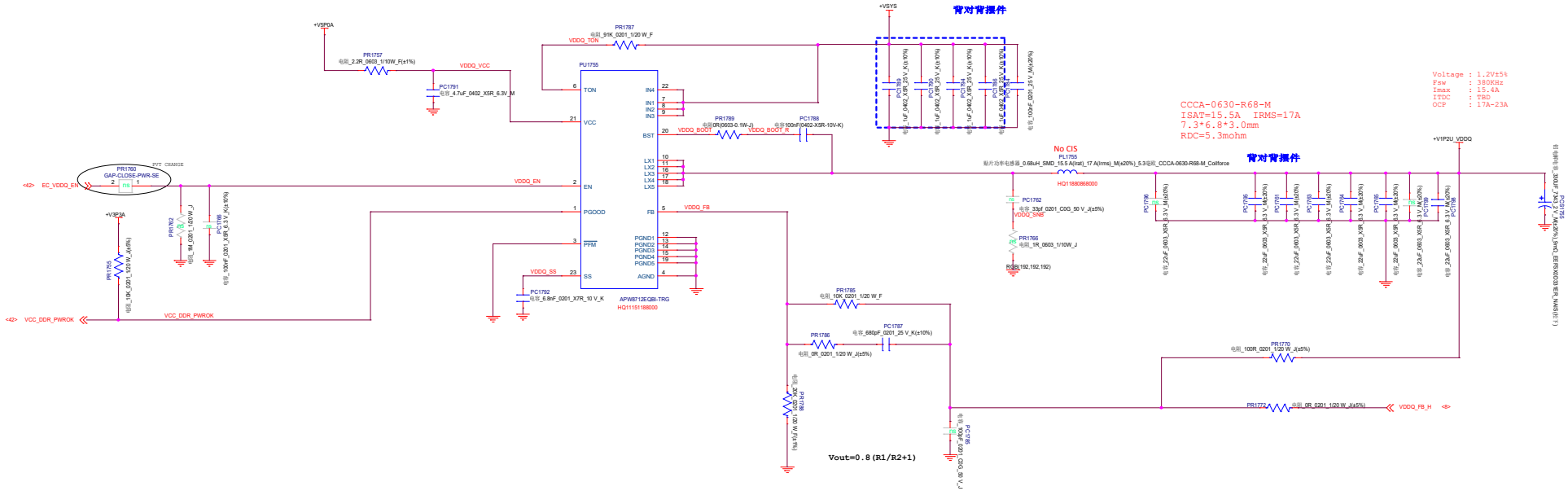
HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.	
Page name:	POWER DELIVERY 0.75V	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
Date: Tuesday, January 19, 2021	Sheet: 99 of 89	

Huaqin Telecom Technology Com.,Ltd.	
Page name:	BLANK
Size: A4	Project Name: NB3029(S560-16ACN)
REV: V1.0	
Date: Tuesday, January 19, 2021	Sheet: 80 of 89

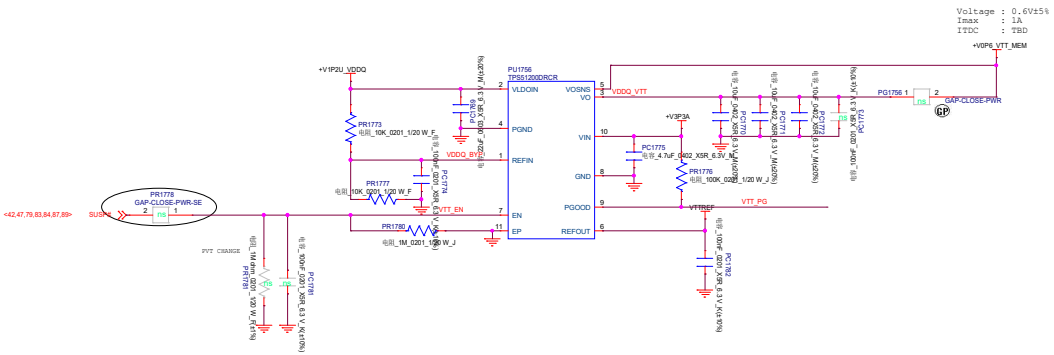
change0818



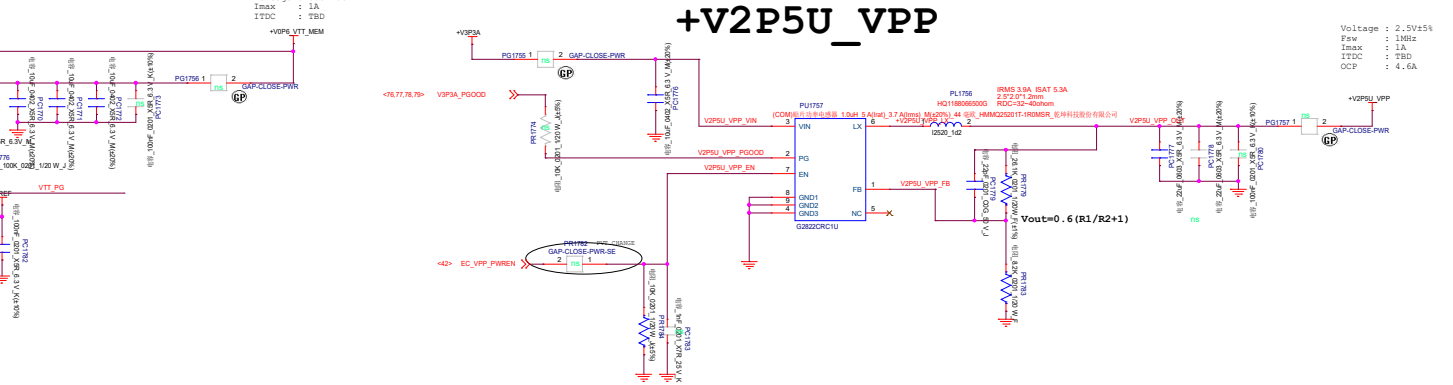
Huaqin Telecom Technology Com.,Ltd.			
Page name:	POWER DELIVERY APU POWER		
Size: A4	Project Name:	NB3029(S560-16ACN)	REV: V1.0
Date:	Tuesday, January 19, 2021	Sheet: 101	of 89



VTT

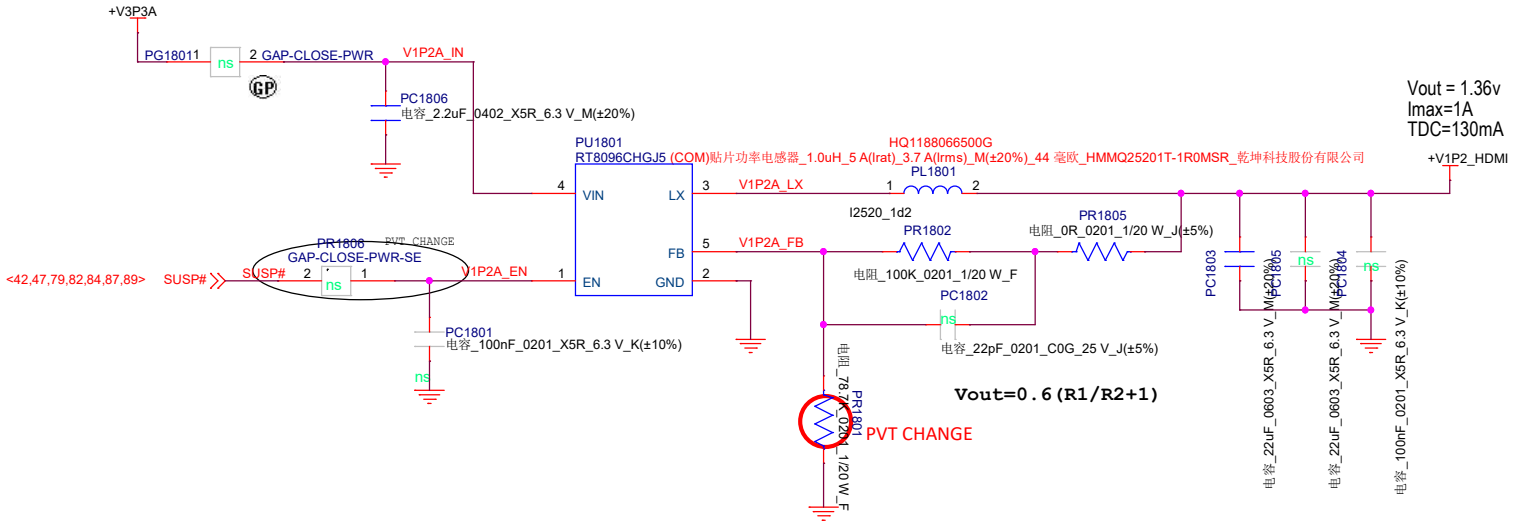


+V2P5U_VPP



Huaqin Telecom Technology Com.,Ltd.			
Page name: POWER DELIVERY 1.2V/2.5V			
Size: A4	Project Name: NB3029(S560-16ACN)		REV: V1.0
Date: Tuesday, January 19, 2021		Sheet: 102 of 89	

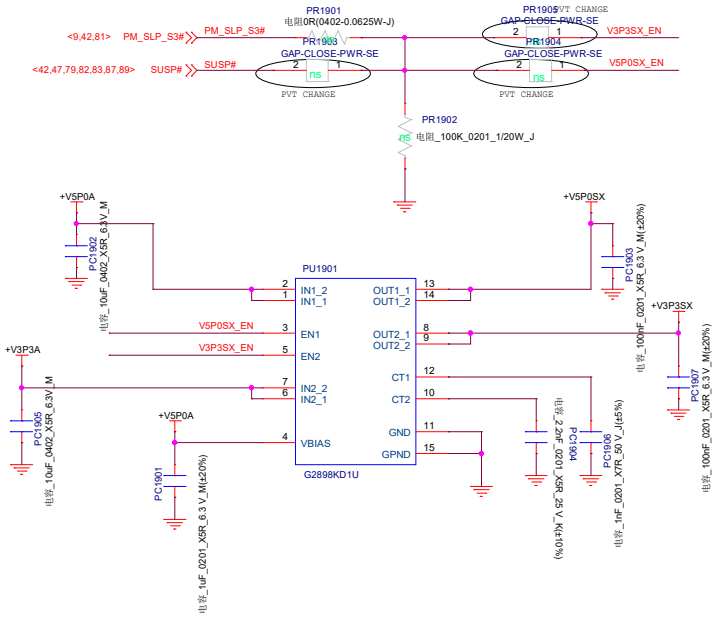
change1002



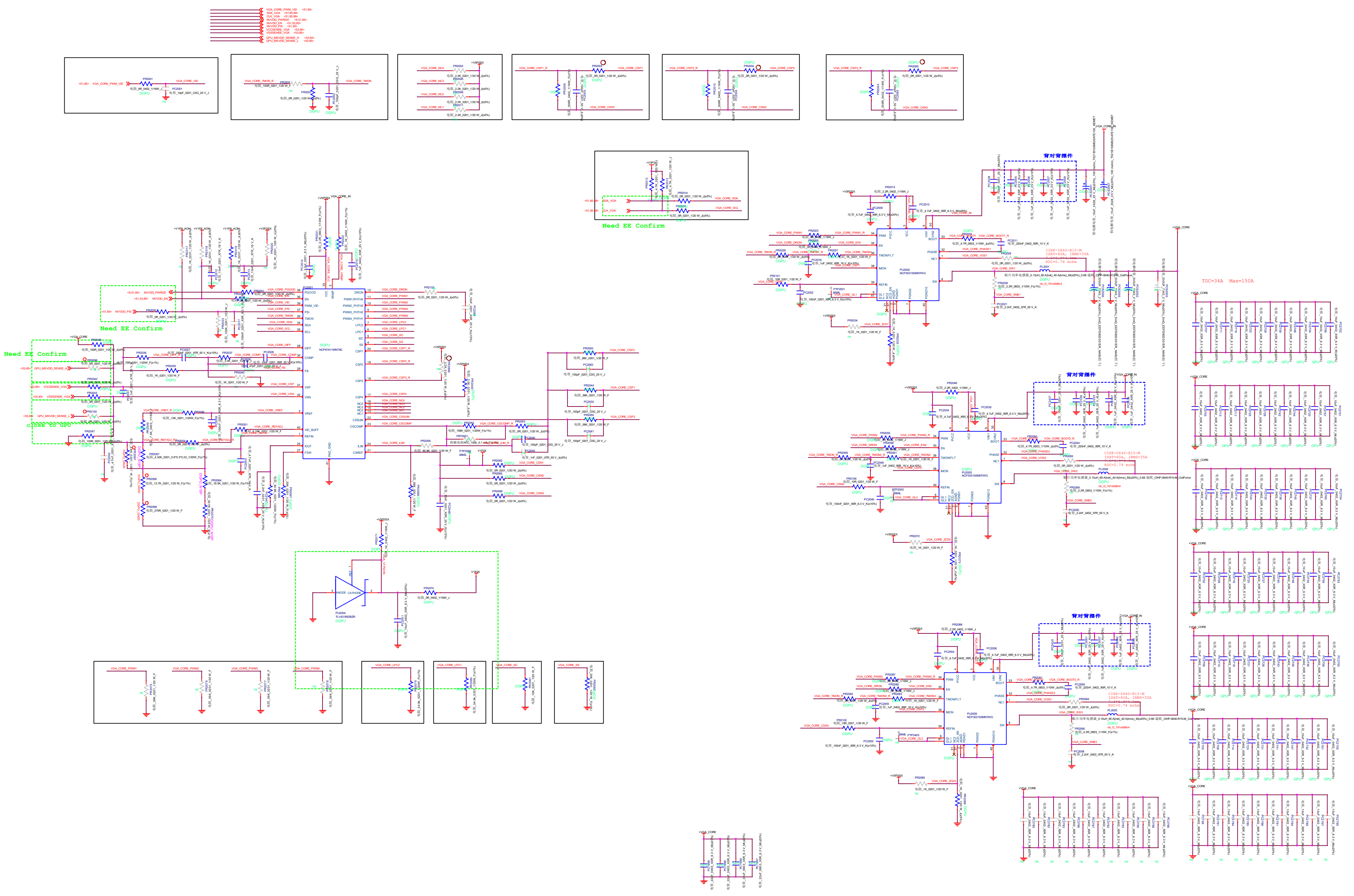
HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.		
Page name:	POWER DELIVERY 0.75V		
Size: A4	Project Name:	NB3029(S560-16ACN)	REV: V1.0
Date: Tuesday, January 19, 2021	Sheet: 83	of 89	

change0818

+V3P3SX,+V5P0SX G2898



Huaqin Telecom Technology Com.,Ltd.			
Page name: POWER DELIVERY LOAD SW			
Size: A4	Project Name: NB3029(S560-16ACN)		REV: V1.0
Date: Tuesday, January 19, 2021		Sheet: 104 of 89	



Huaqin Telecom Technology Com.,Ltd.

Page name: POWER DELIVERY LOAD SW		
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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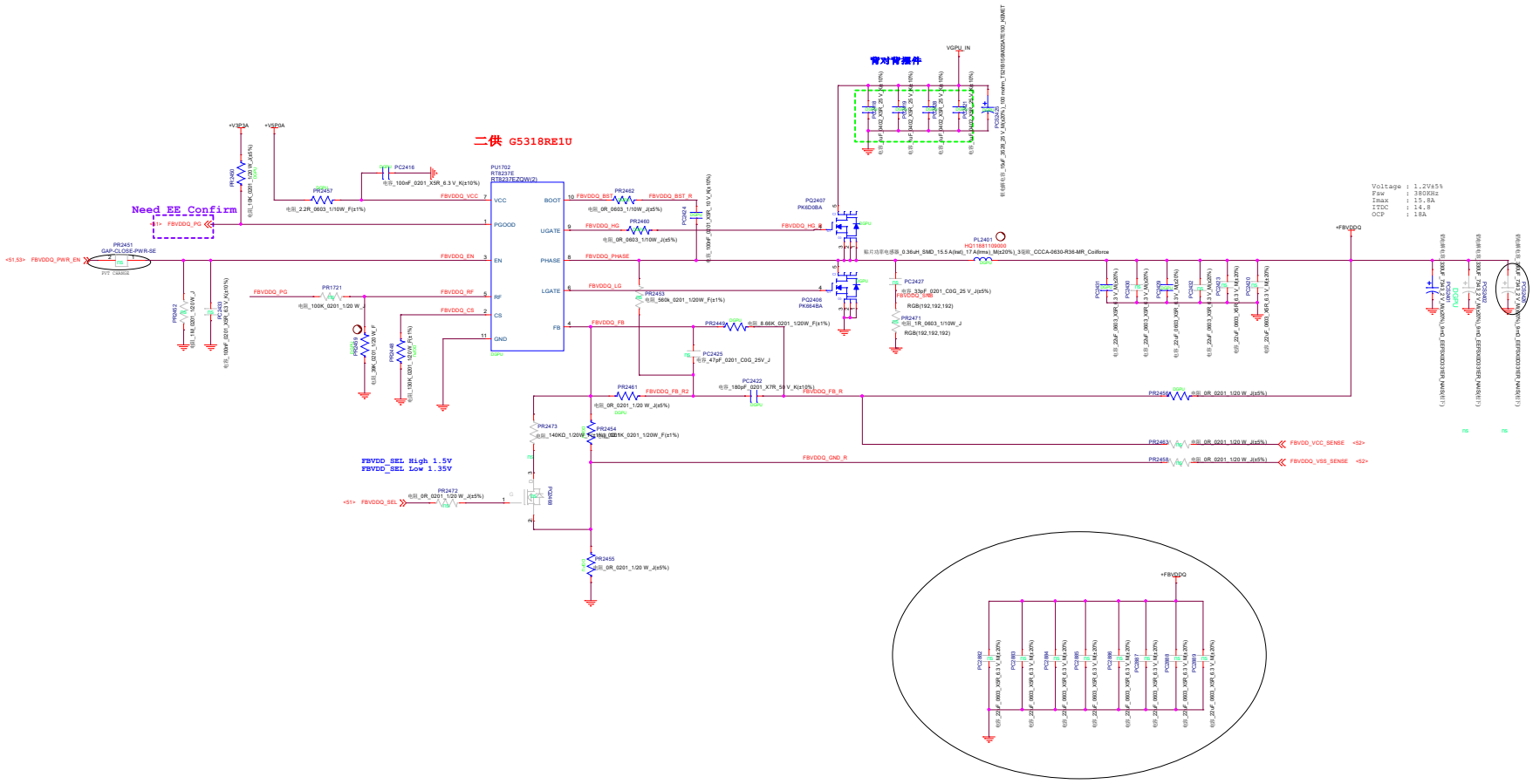
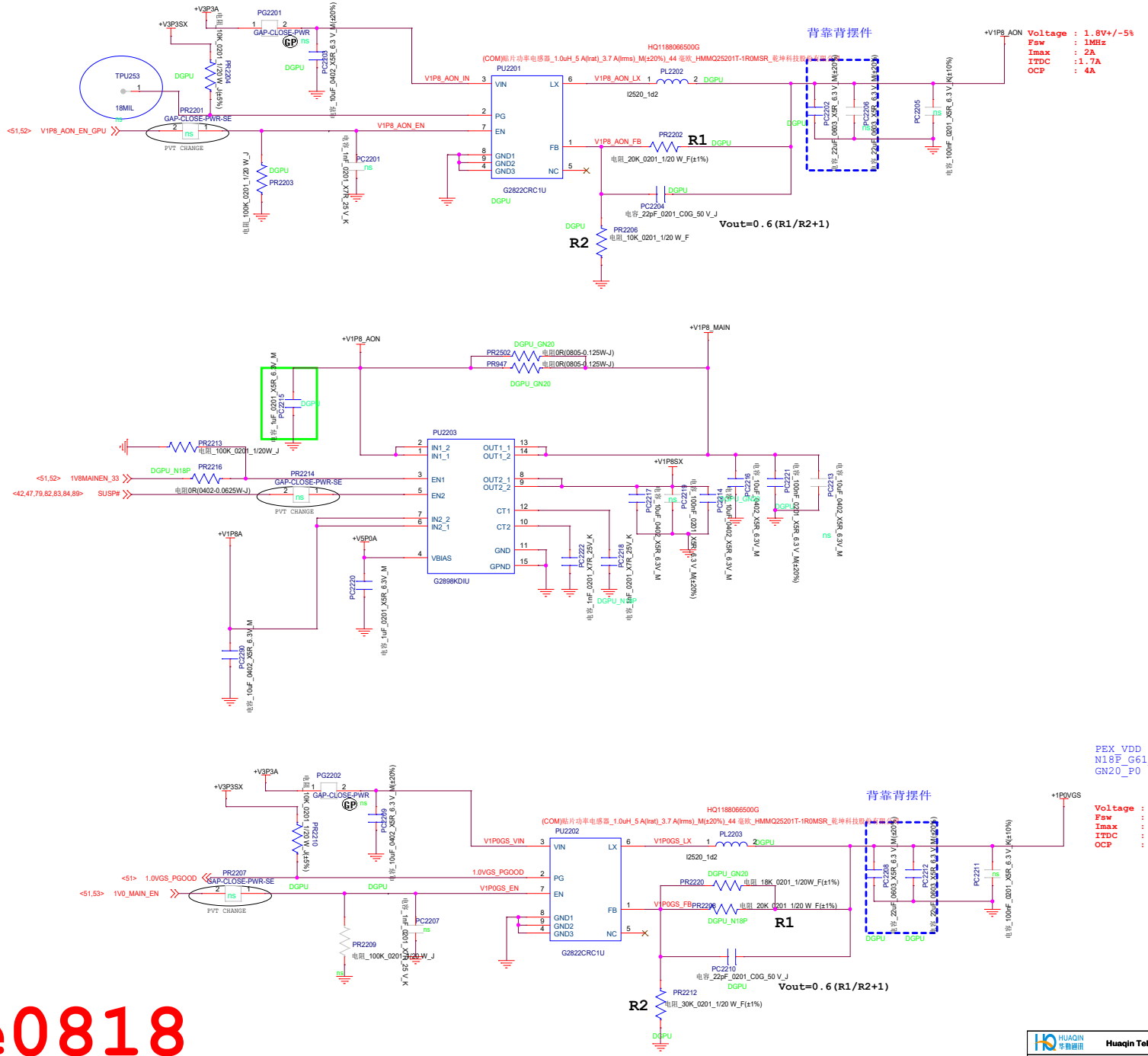
change0818


二供 G5318RE1U
有对有器件
Need EE Confirm
FBVDDQ_SEL High 1.5V
FBVDDQ_SEL Low 1.35V
Voltage : 1.2V±5%
Fsw : 380KHz
Imax : 15.8A
ITDC : 14.8
OCP : 18A
Huaqin Telecom Technology Com.,Ltd.
POWER DELIVERY 0.75V
NB3029(S560-16ACN)
Tuesday, January 19, 2021



change0818

Huaqin Telecom Technology Com.,Ltd.		
Page name:	POWER DELIVERY 0.75V	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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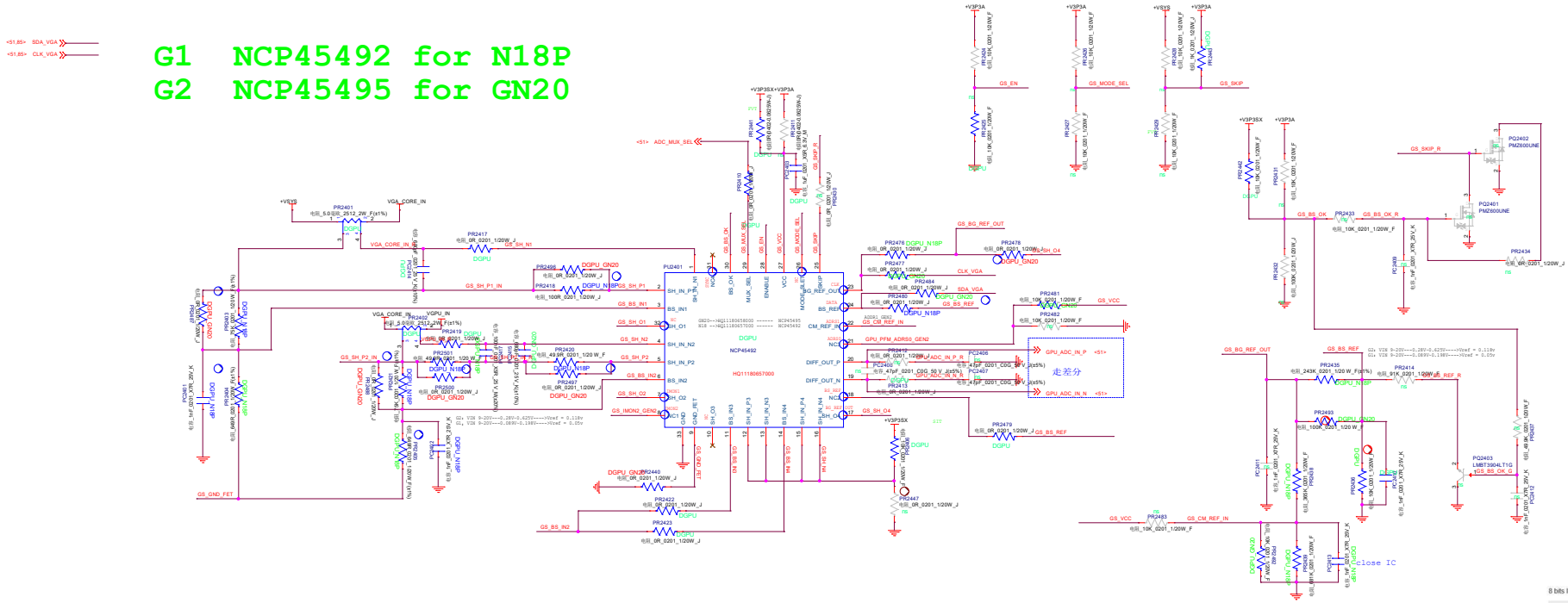
change0818

G1 NCP45492 for N18P
G2 NCP45495 for GN20



8 bits I2C address listed below.

ADDR1	ADDR0	Device Address
0	0	0x68
0	1	0x6A
1	0	0x6C
1	1	0x6E

Huaqin Telecom Technology Com.,Ltd.		
Page name:	POWER DELIVERY 0.75V	
Size: A4	Project Name: NB3029(S560-16ACN)	REV: V1.0
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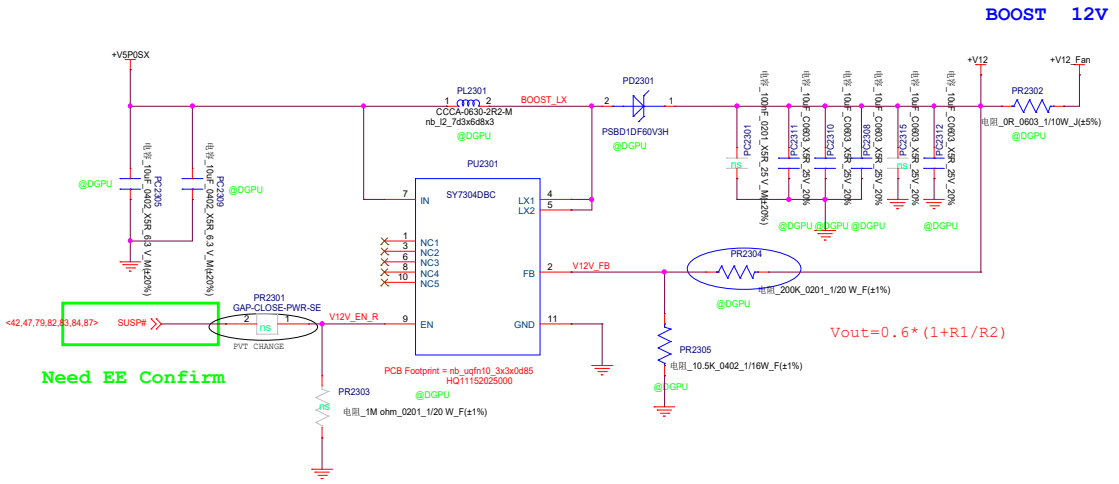
change0818



Huaqin Telecom Technology Com.,Ltd.			
Page name:	POWER DELIVERY 0.75V		
Size: A4	Project Name:	NB3029(S560-16ACN)	REV: V1.0
Date: Tuesday, January 19, 2021	Sheet: 89	of 89	