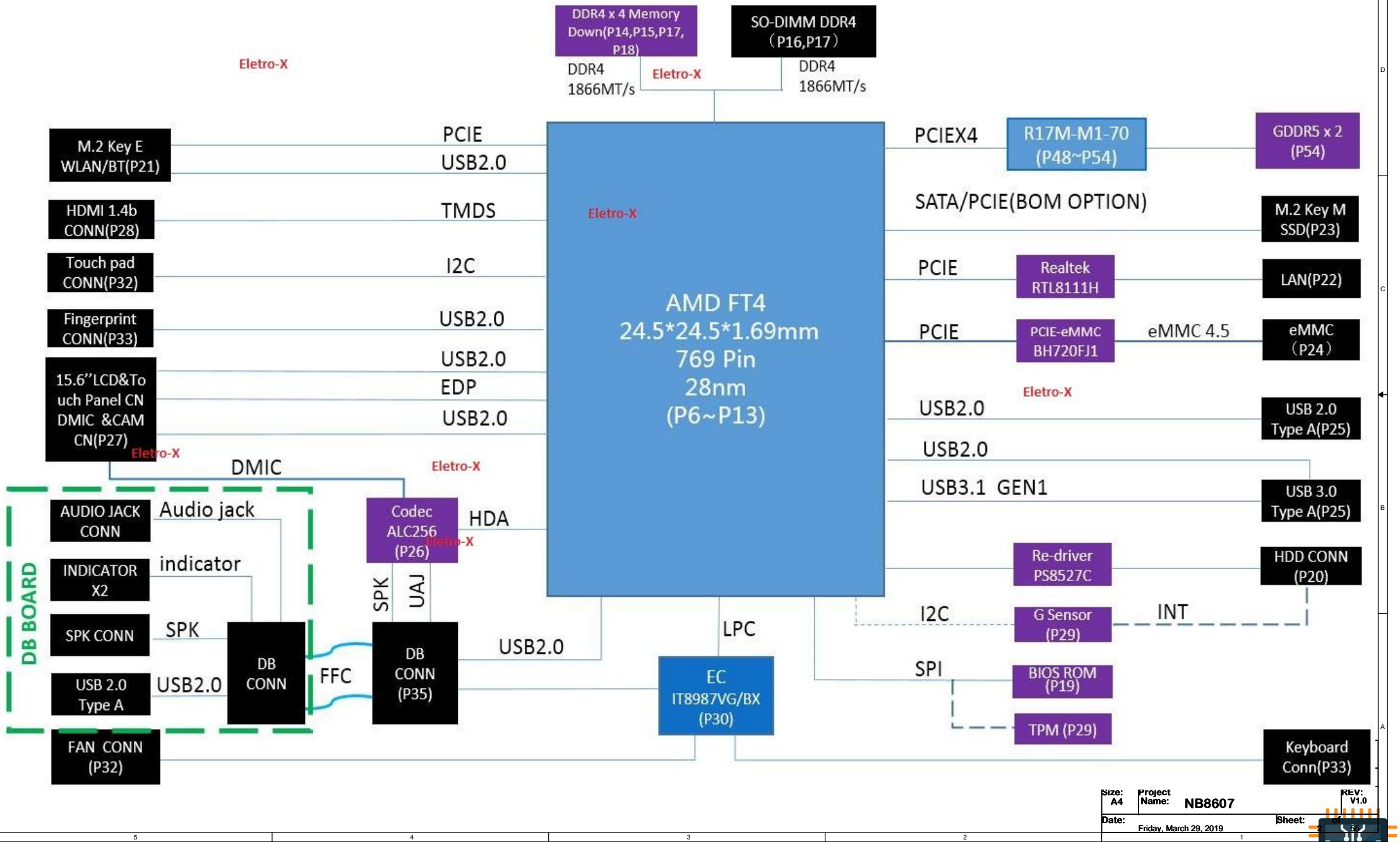
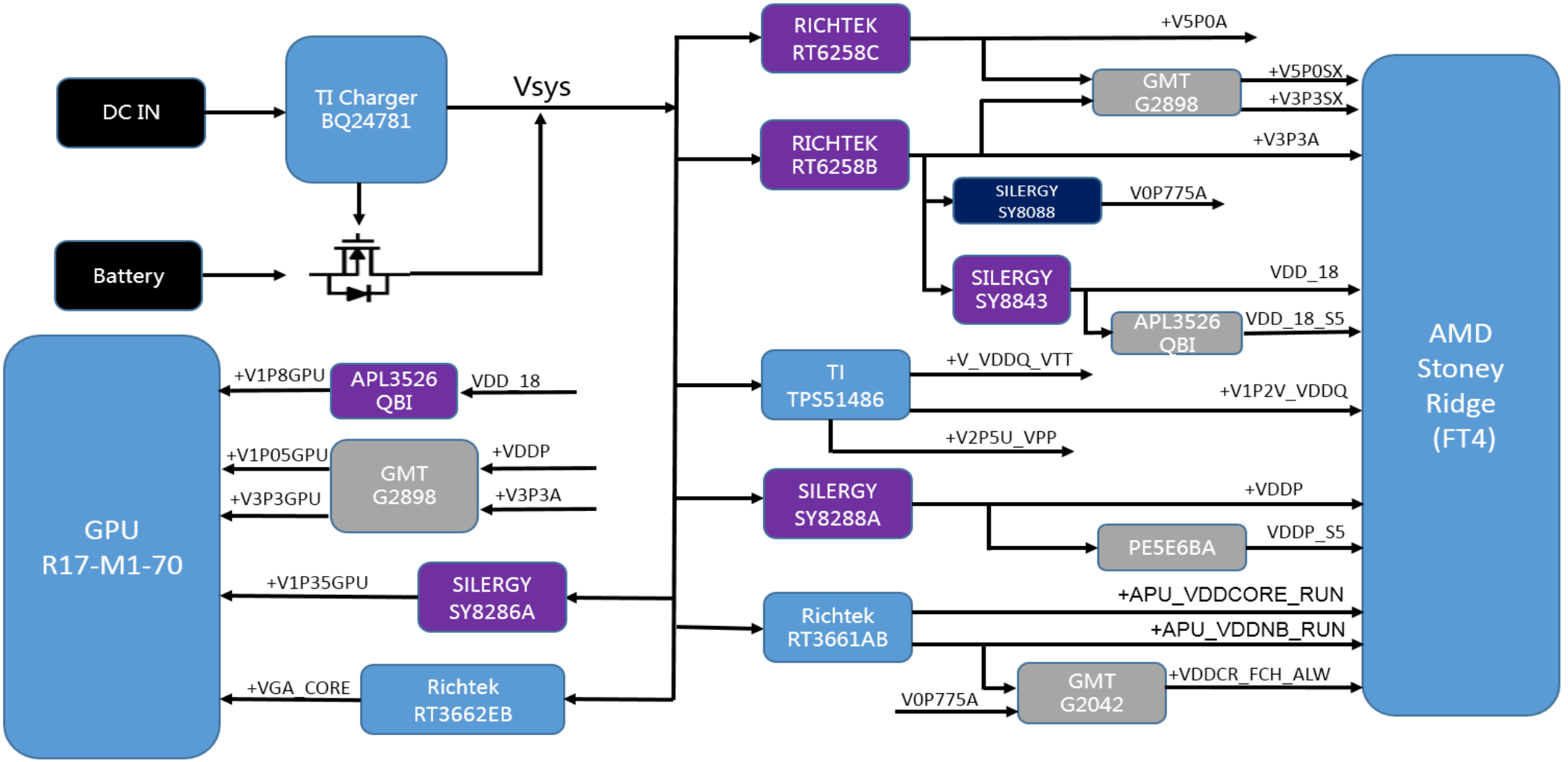
MB Block Diagram



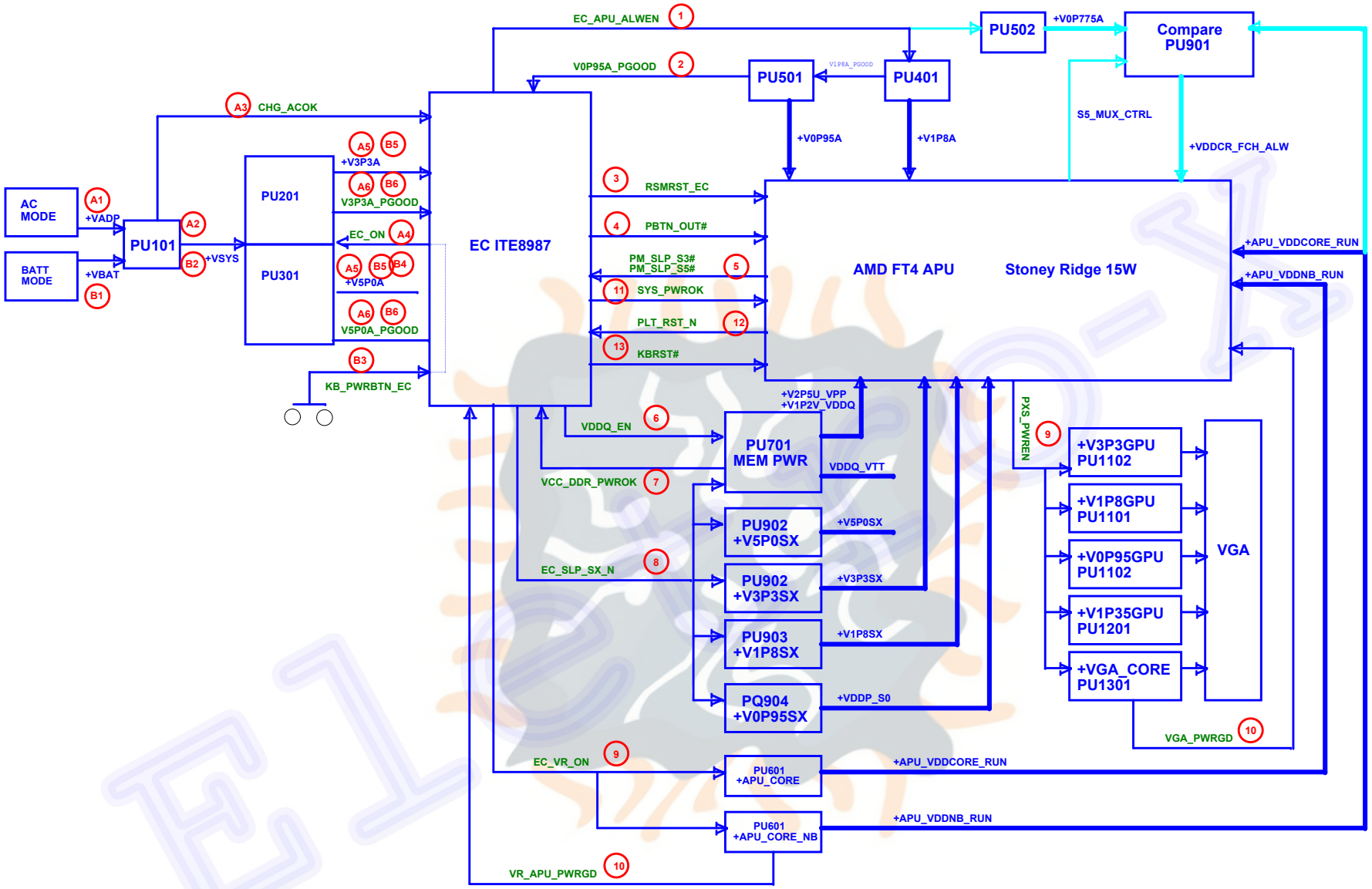
Size: A4	Project Name: NB8607		REV: V1.0
Date: Friday, March 29, 2019	Sheet:	of	

Eletro-X

MB Power Map



Huaqin Telecom Technology Com.,Ltd.		
Page name:	Power Map	
Size: A4	Project Name: NB8607	REV: V1.0
Date: Friday, March 29, 2019	Sheet:	of



Huaqin Telecom Technology Co., Ltd	
Page name:	Power Sequence Block
Size: A4	Project Name: NB8607
Date: Friday, March 29, 2019	Sheet: 5

Power States(Adapter)

Signal	+VCCSP3_LDO_OUT	+V5P0A	+V3P3A	+V1P8A	+V0P95A	+V0P775A	+VDDCR_PCH_ALW	+V1P2V_VDDQ	+V5P0SX	+V3P3SX	+V1P8SX	+VDDP_S0	+V_VDDQ_VTT	+APU_VDDCORE_RUN	+APU_VDDNB_RUN	+V3P3GPU	+V1P8GPU	+V0P95GPU	+V1P35GPU	+VGA_CORE
S0(Full On)	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
S3(STM)	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
S5(SoftOff)	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

Power States(Battery)

Signal	+VCCSP3_LDO_OUT	+V5P0A	+V3P3A	+V1P8A	+V0P95A	+V0P775A	+VDDCR_PCH_ALW	+V1P2V_VDDQ	+V5P0SX	+V3P3SX	+V1P8SX	+VDDP_S0	+V_VDDQ_VTT	+APU_VDDCORE_RUN	+APU_VDDNB_RUN	+V3P3GPU	+V1P8GPU	+V0P95GPU	+V1P35GPU	+VGA_CORE
S0(Full On)	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
S3(STM)	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
S5(SoftOff)	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

BOARD ID

BOARD_ID5 1--RU183 0--RU191	BOARD_ID4 1--RU182 0--RU190	BOARD_ID3 1--RU181 0--RU189	BOARD_ID2 1--RU180 0--RU188	BOARD_ID1 1--RU179 0--RU187	BOARD_ID0 1--RU178 0--RU186
1--DGPU 0--UMA	1--SATA SSD 0--PCIE SSD	RESERVE	MEMORY ID		

SMBUS/I2C Control Table

	SOURCE	GPU	BATT	IT8987E	SODIMM	Touch Pad	Thermal Sensor	APU	Charger	G-SENSOR Sensor
SM_BAT_CLK SM_BAT_DATA	IT8987E +V3P3A_EC	X	V		X	X	X	X	V	X
SM_THRM_SCL SM_THRM_SDA	IT8987E +V3P3SX_EC	V +V3P3GPU	X		X	X	V	V APU_SIC APU_SID +V1P8SX	X	X
APU_SMB_CLK APU_SMB_DATA	APU +V3P3SX	X	X	X	V	X	X		X	X
GSEN_I2C0_SCL GSEN_I2C0_SDA	APU +V1P8_GSENSOR	X	X	X	X	X	X		X	V
TOUCHPAD_I2C_CLK TOUCHPAD_I2C_SDA	APU +V3P3A_CP	X	X	X	X	V	X		X	X

PCIe/GFX Port

PCIE	Device
0	LAN
1	WLAN
2	eMMC
3	SSD
GFX	Device
0-3	DGPU

SATA Port

Port	Device
0	HDD
1	SSD

USB2.0 Port

Port	Device
0	Blue Tooth
1	DB USB2.0
2	Finger print
4	USB 3.0 Port
5	USB2.0
6	Touch Panel
7	Camera

USB3.0 Port

Port	Device
0	USB3.0 Type-A
1	NA

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Page name: I2C Table and Notes

Size: A4 | Project Name: NB8607 | REV: V02

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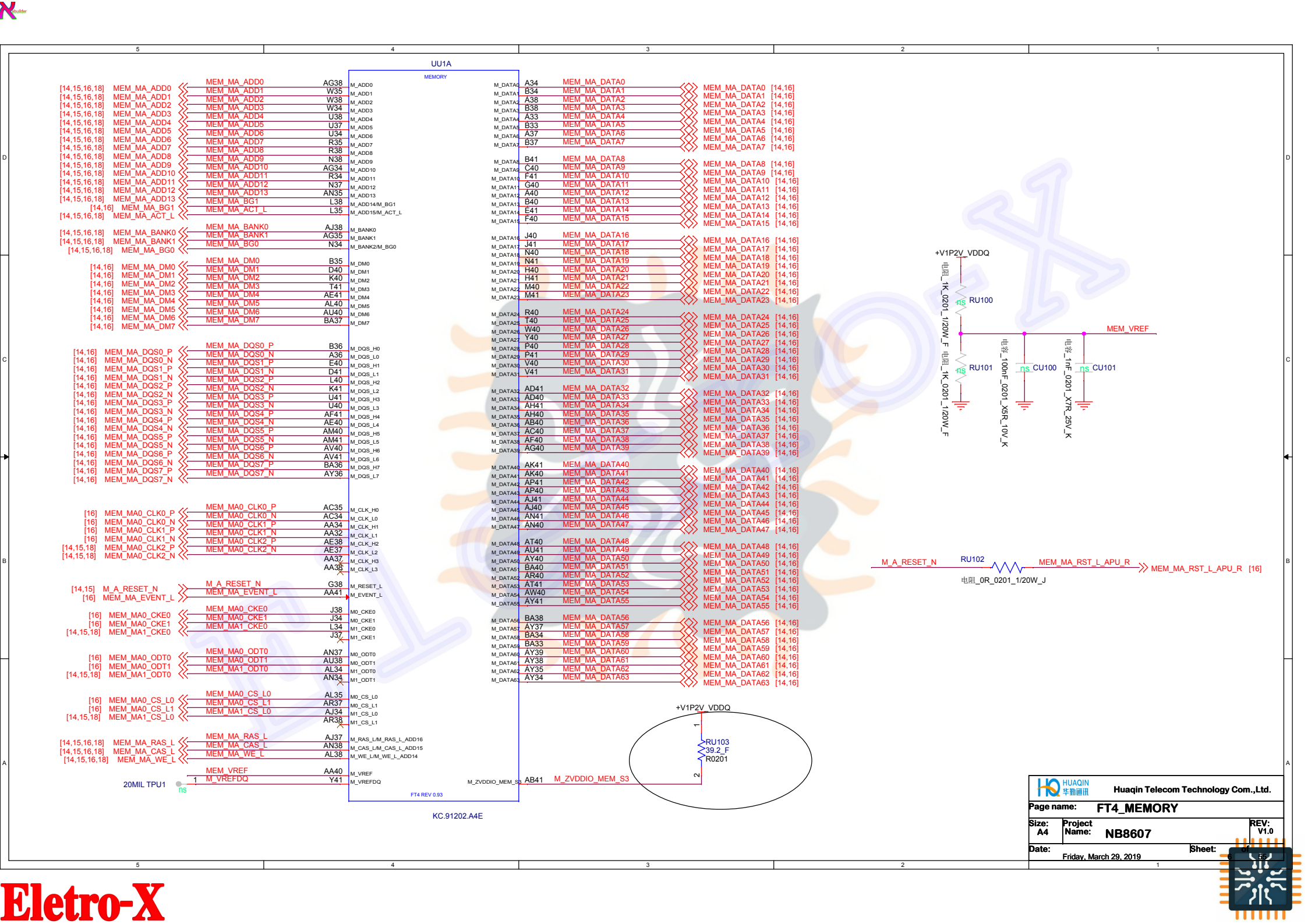

Huaqin Telecom Technology Com.,Ltd.	
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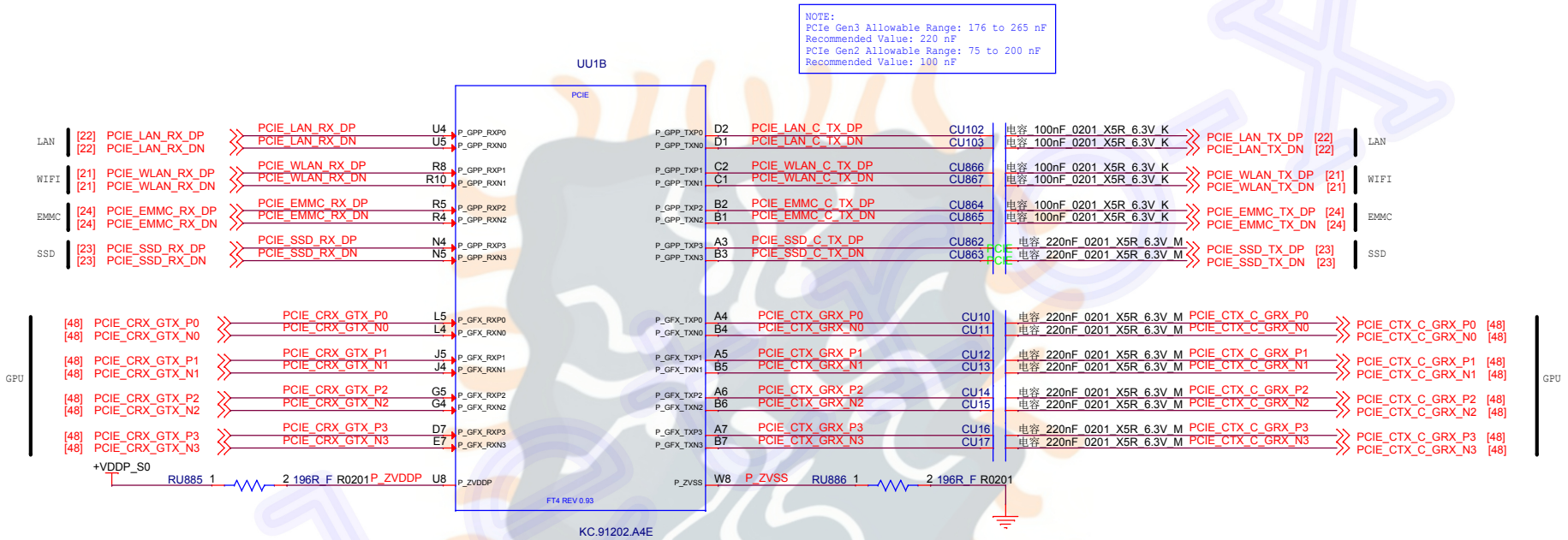
Size: A4	Project Name: NB8607
REV: V1.0	
Date: Friday, March 29, 2019	Sheet: of



HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.		
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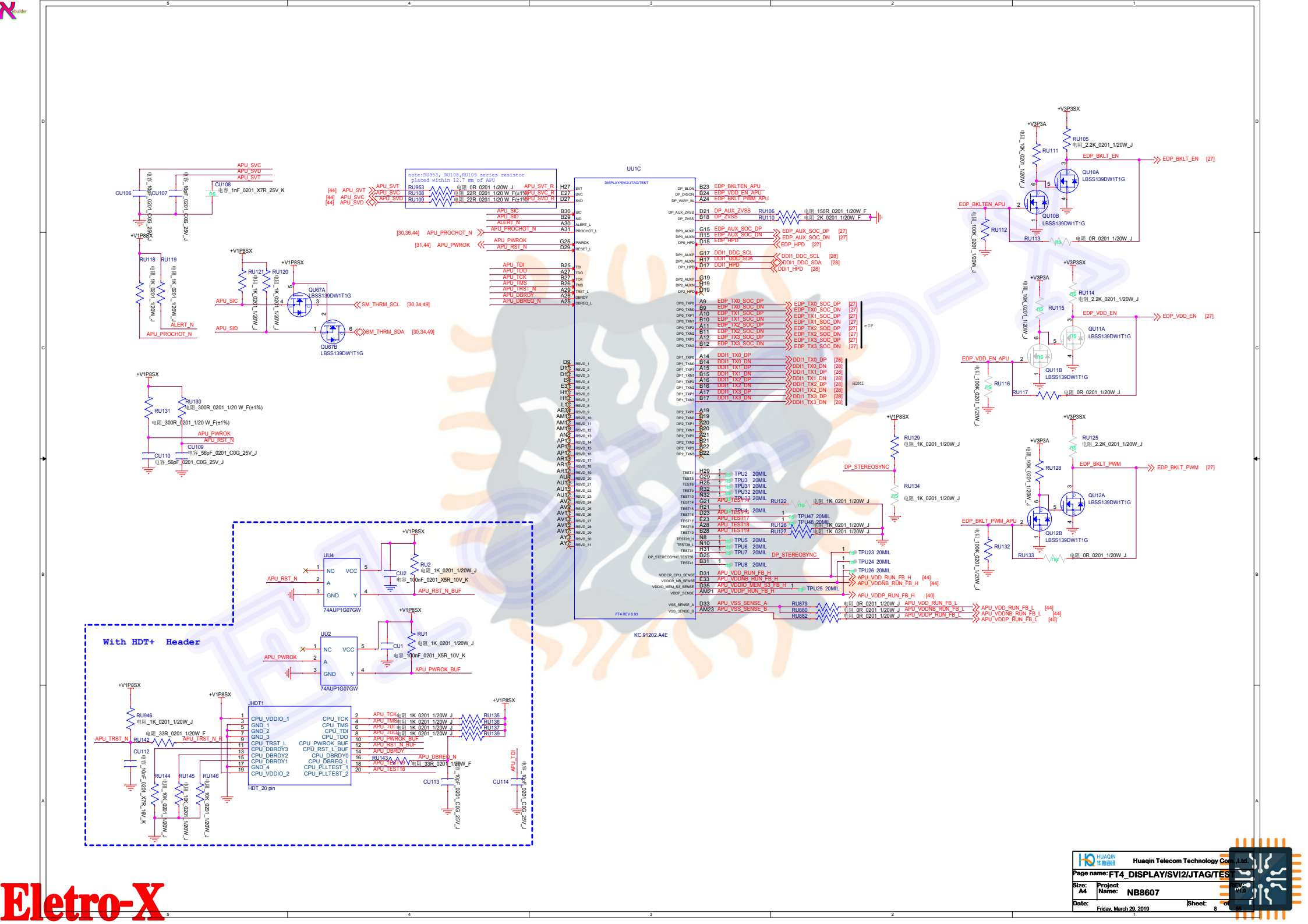
UU1C
DISPLAY/SVI2/JTAG/TEST
note:RU953, RU108,RU109 series resistor placed within 12.7 mm of APU
With HDT+ Header
JHDT1
HDT_20 pin
KC.91202.A4E
Huaqin Telecom Technology Co.,Ltd
Page name: FT4_DISPLAY/SVI2/JTAG/TEST
Size: A4
Project Name: NB8607
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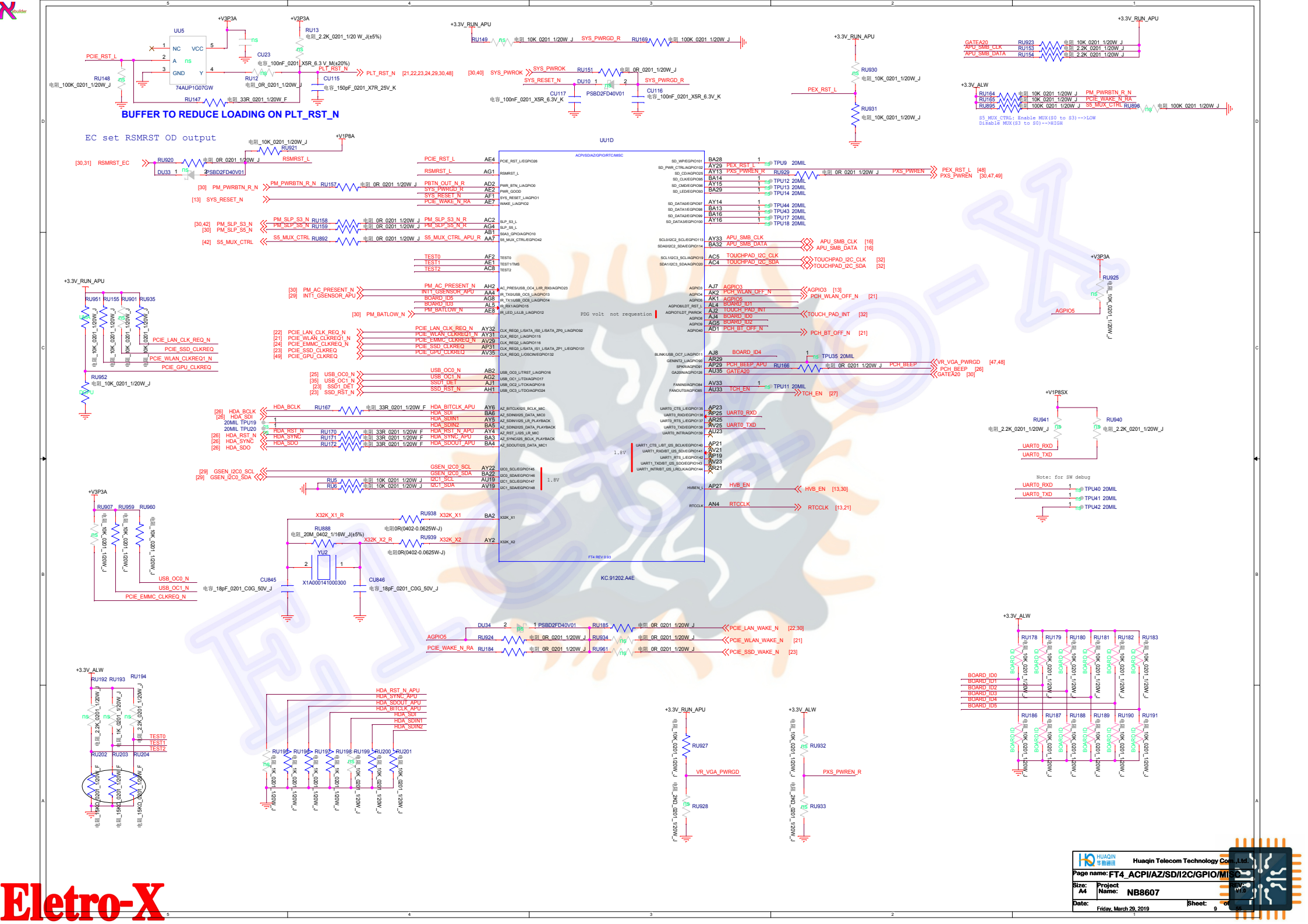
Eletro-X


BUFFER TO REDUCE LOADING ON PLT_RST_N
EC set RSMRST OD output
UU1D
ACPI/SD/AZ/GPIO/RTC/MISC
KC.91202.A4E
Note: for SW debug
S5_MUX_CTRL: Enable MUX(S0 to S3)-->LOW
Disable MUX(S3 to S0)-->HIGH
PDG volt not requestion
Huaqin Telecom Technology Co.,Ltd
Page name: FT4_ACPI/AZ/SD/I2C/GPIO/MISC
Size: A4
Project Name: NB8607
Date: Friday, March 29, 2019
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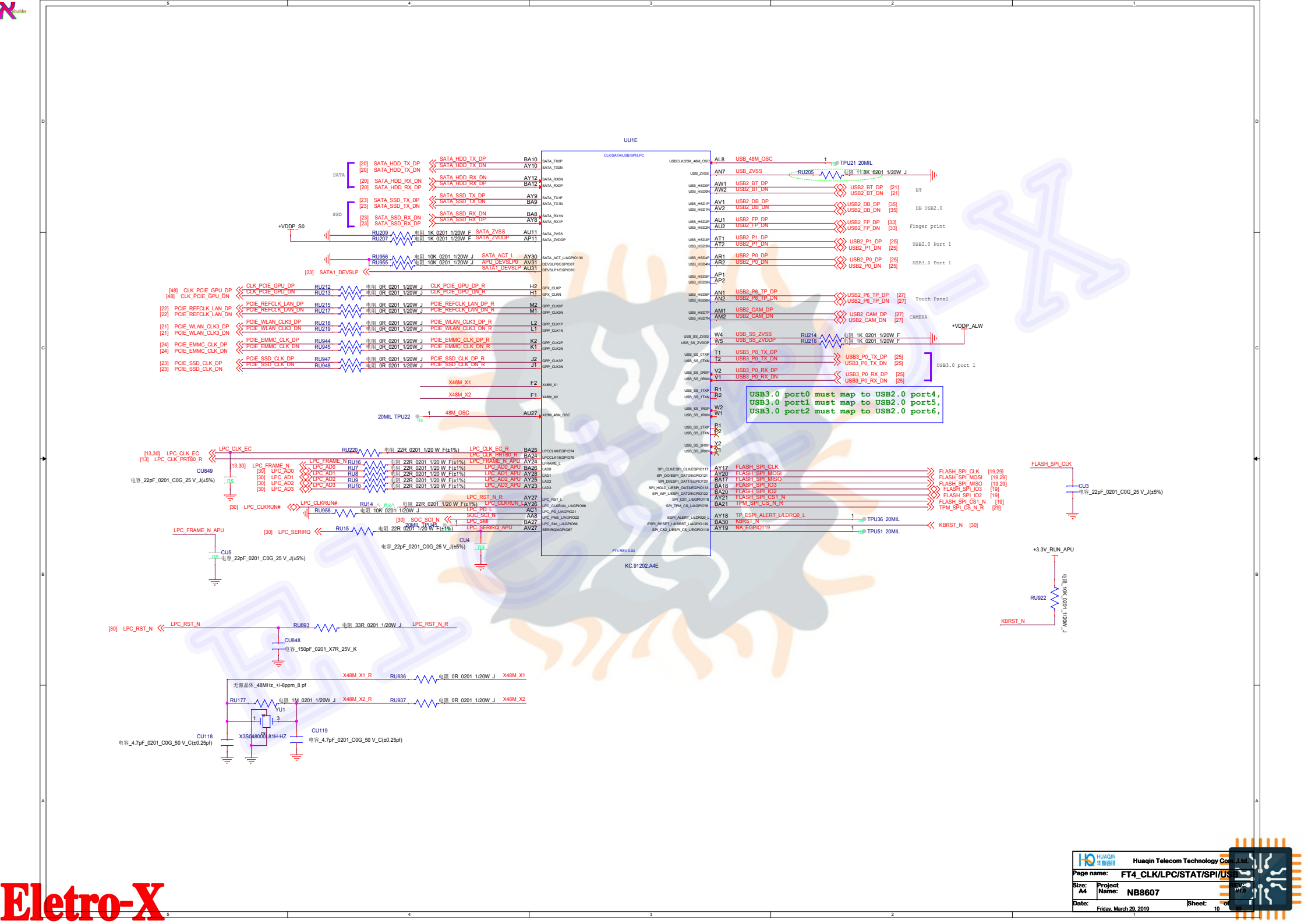
Eletro-X


UU1E
CLK/SATA/USB/SPI/LPC
USB3.0 port0 must map to USB2.0 port4,
USB3.0 port1 must map to USB2.0 port5,
USB3.0 port2 must map to USB2.0 port6,
KC.91202.A4E
FT4 REV:0.93
无源晶体_48MHz_+/-8ppm_8 pf
X3S048000L81H-HZ
Huaqin Telecom Technology Co.,Ltd
Page name: FT4_CLK/LPC/STAT/SPI/USB
Size: A4
Project Name: NB8607
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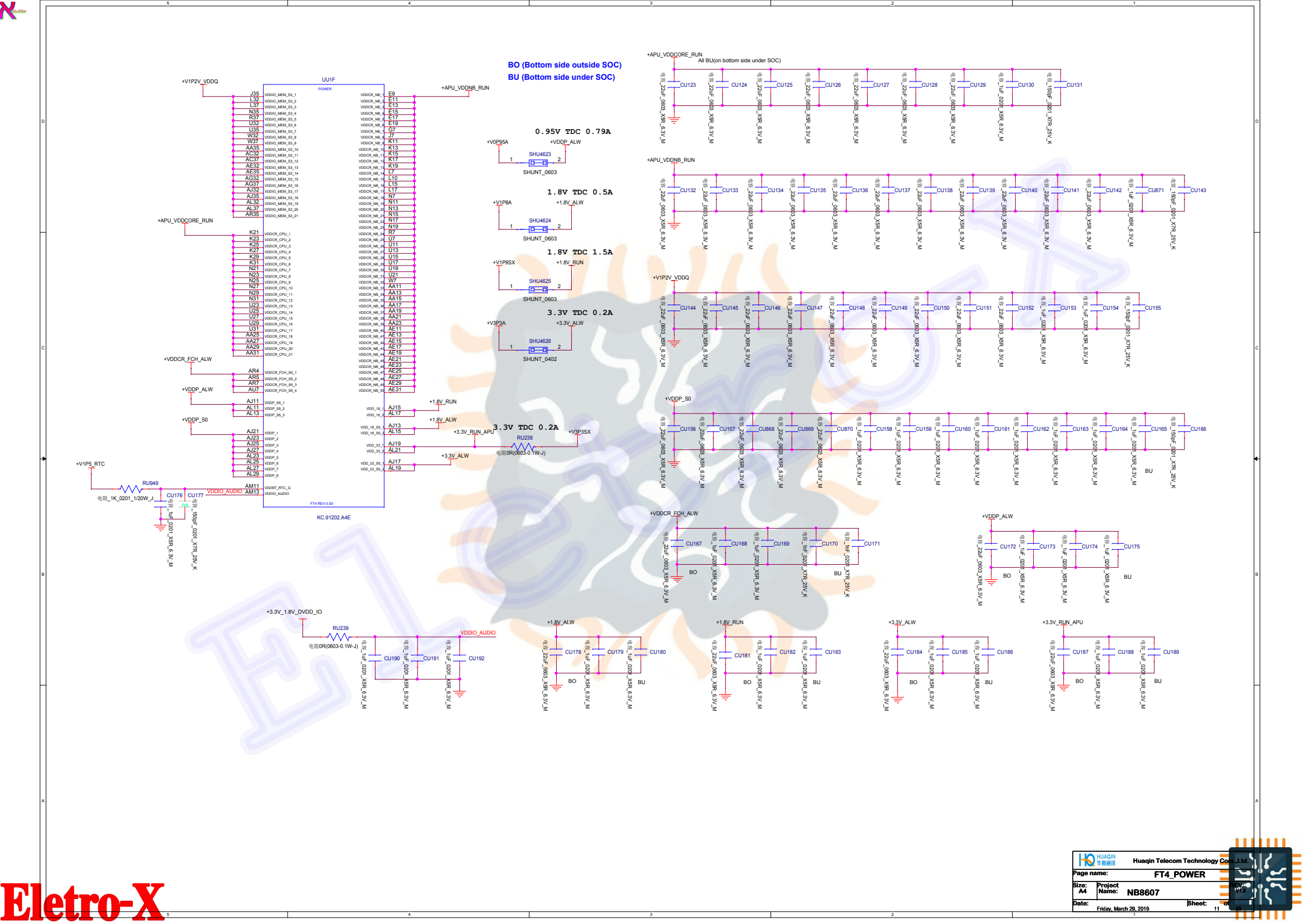
Eletro-X


BO (Bottom side outside SOC)
BU (Bottom side under SOC)
0.95V TDC 0.79A
1.8V TDC 0.5A
1.8V TDC 1.5A
3.3V TDC 0.2A
3.3V TDC 0.2A
UU1F
KC.91202.A4E
+V1P2V_VDDQ
+APU_VDDNB_RUN
+APU_VDDCORE_RUN
+VDDCR_FCH_ALW
+VDDP_ALW
+VDDP_S0
+V1P5_RTC
+3.3V_1.8V_DVDD_IO
+V0P95A
+VDDP_ALW
+V1P8A
+1.8V_ALW
+V1P8SX
+1.8V_RUN
+V3P3A
+3.3V_ALW
+1.8V_RUN
+1.8V_ALW
+3.3V_RUN_APU
+3.3V_ALW
+V3P3SX
VDDIO_AUDIO
RU949
RU238
RU239
SHU4623
SHU4624
SHU4625
SHU4626
SHUNT_0603
SHUNT_0603
SHUNT_0402
All BU(on bottom side under SOC)
BO
BU
Huaqin Telecom Technology Co.,Ltd
Page name: FT4_POWER
Size: A4
Project Name: NB8607
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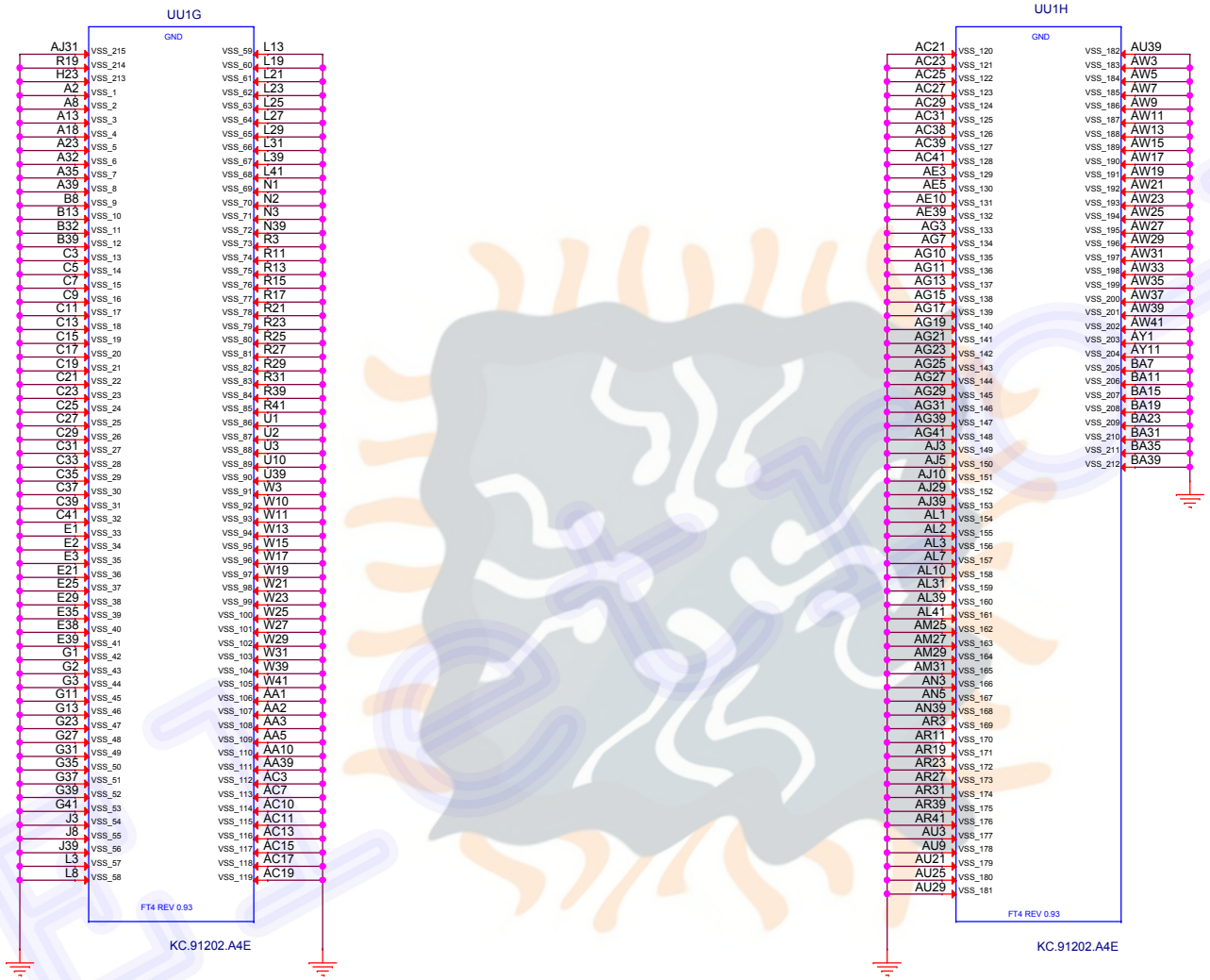

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Page name:	FT4_VSS	
Size: A4	Project Name: NB8607	REV: V1.0
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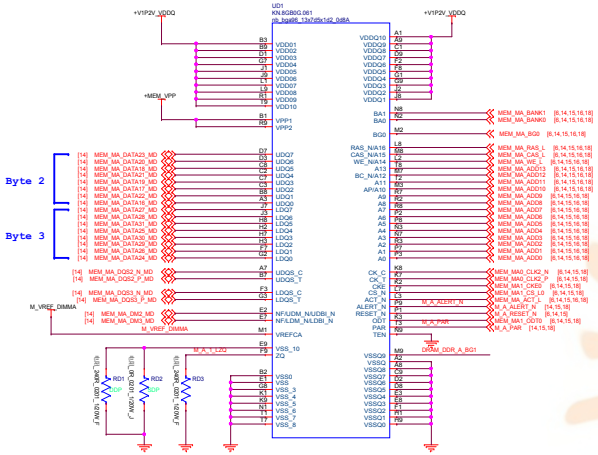
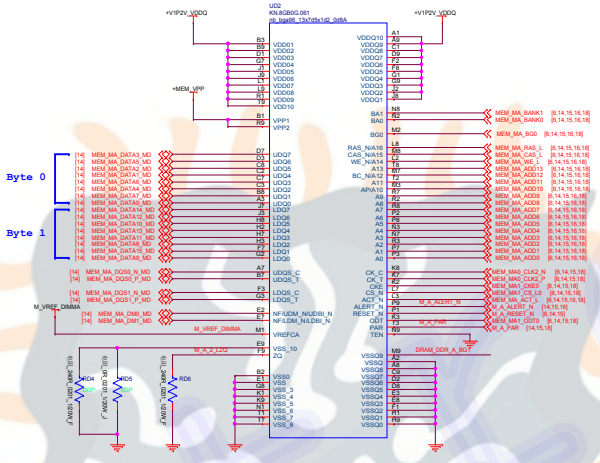
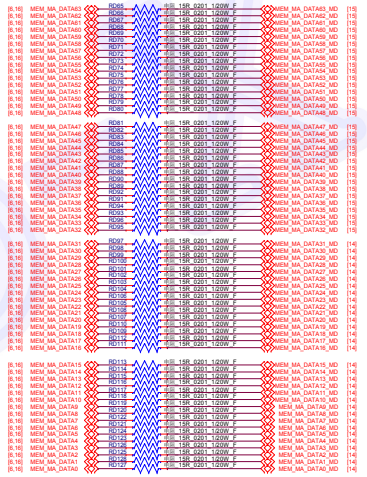
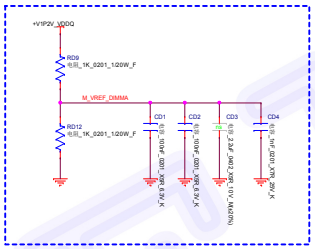
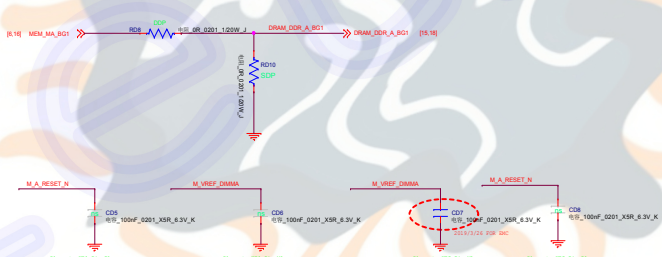


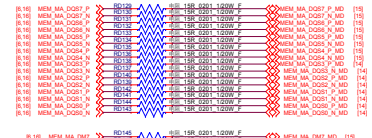


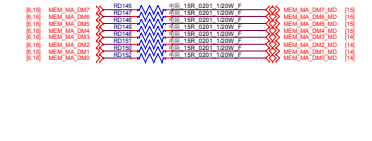


SDRAM REF GENERATION









Huaqin Telecom Technology Com.,Ltd.	
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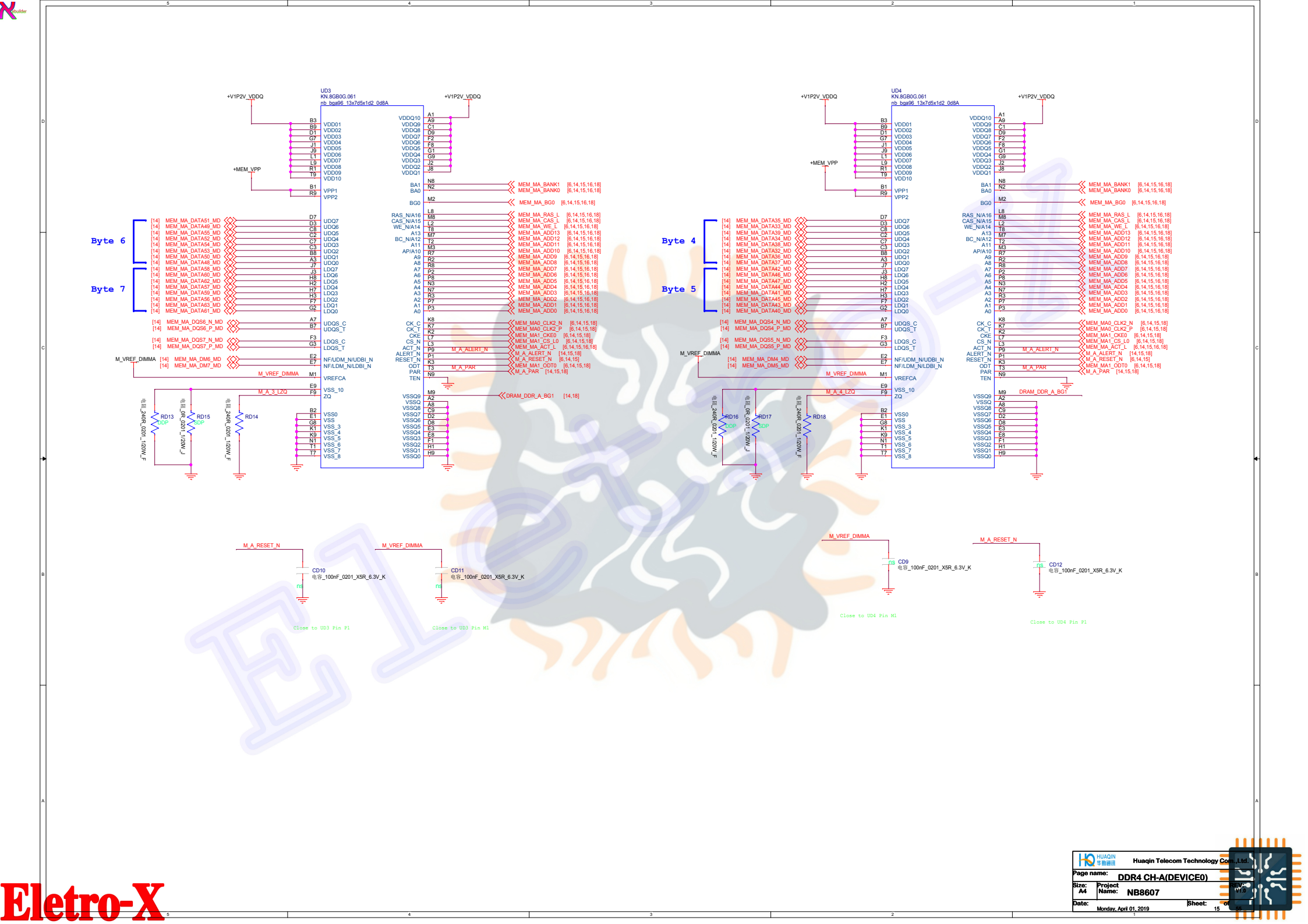
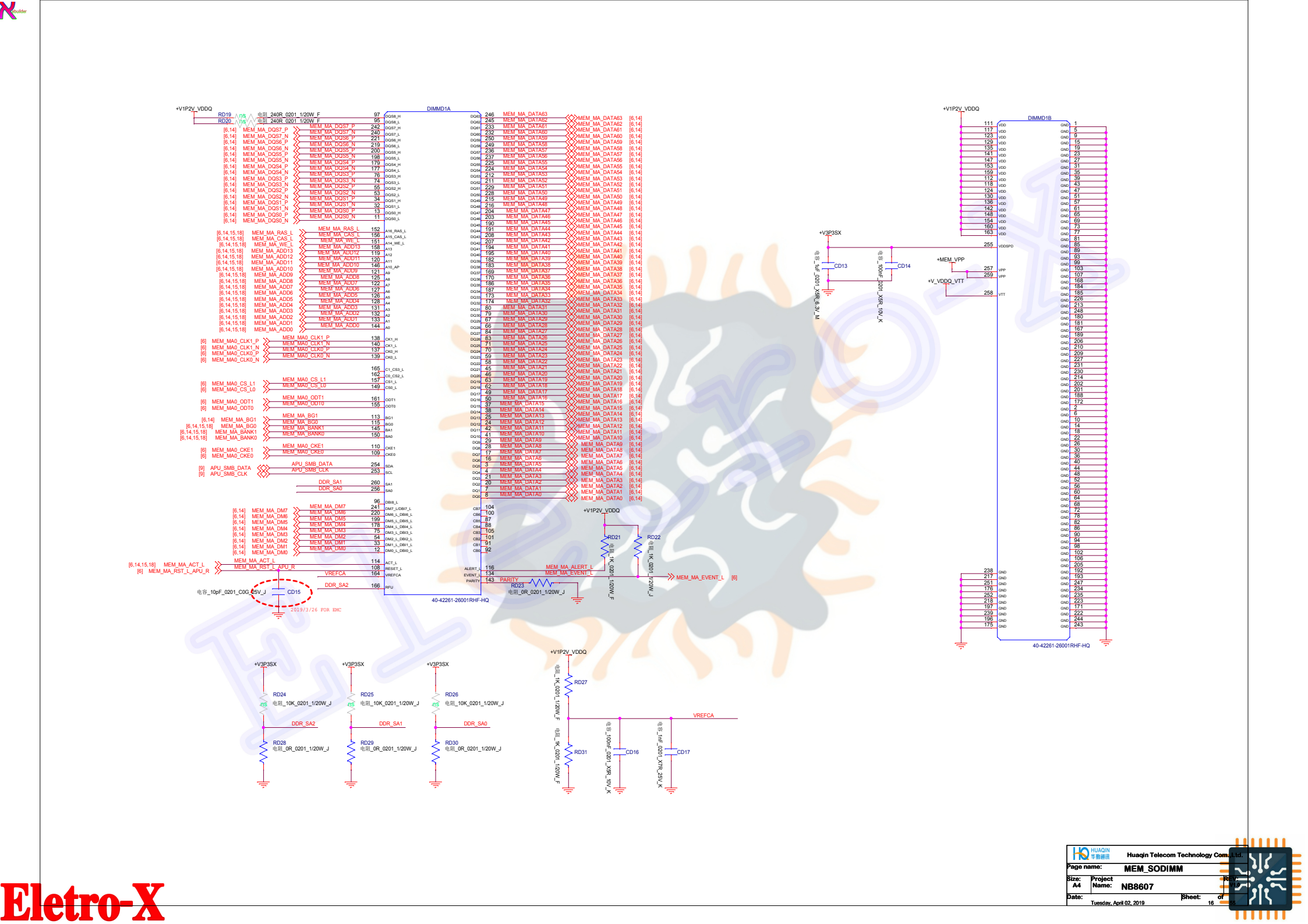
Size: A4	Project Name: NB8607
Date: Tuesday, April 02, 2019	REV: V1.0



Huaqin Telecom Technology Co., Ltd.			
Page name:	DDR4 CH-A(DEVICE0)		
Size: A4	Project Name:	NB8607	REV: V1.0
Date: Monday, April 01, 2019	Sheet:	15	of 85



Eletro-X

Huaqin Telecom Technology Co.,Ltd.			
Page name:	MEM_SODIMM		
Size: A4	Project Name:	NB8607	Rev:
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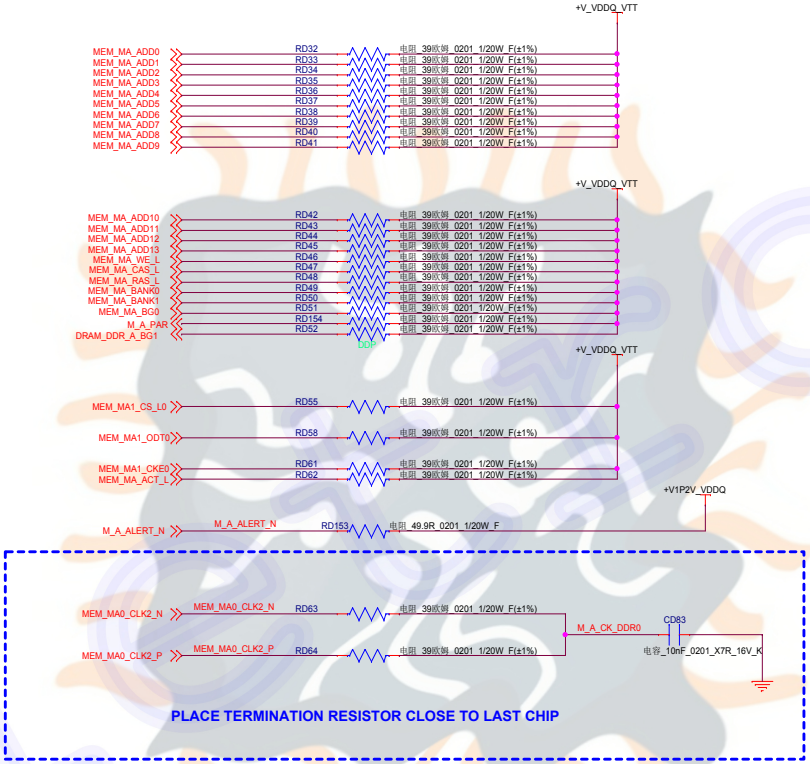
MEMORY TERMINATIONS FOR MEMORY DOWN



Huaqin Telecom Technology Com.,Ltd.		
Page name:	MEM_DECAPS	
Size: A4	Project Name: NB8607	REV: A0
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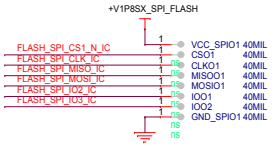
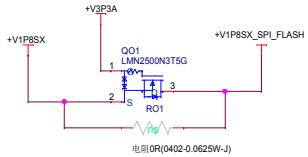
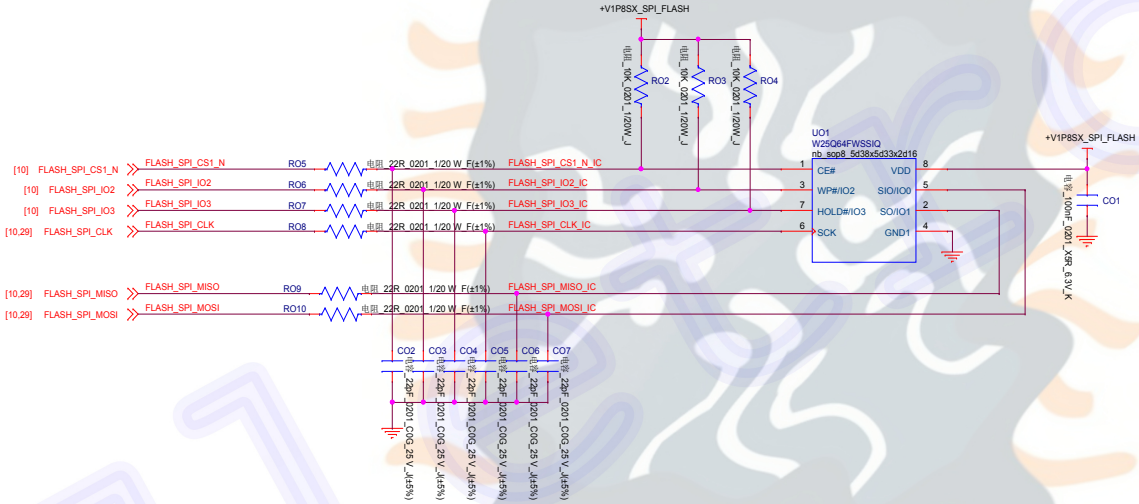
FOR product line







Huaqin Telecom Technology Co., Ltd			
Page name:	SYSTEM_FLASH		
Size: A4	Project Name:	NB8607	REV: V1.0
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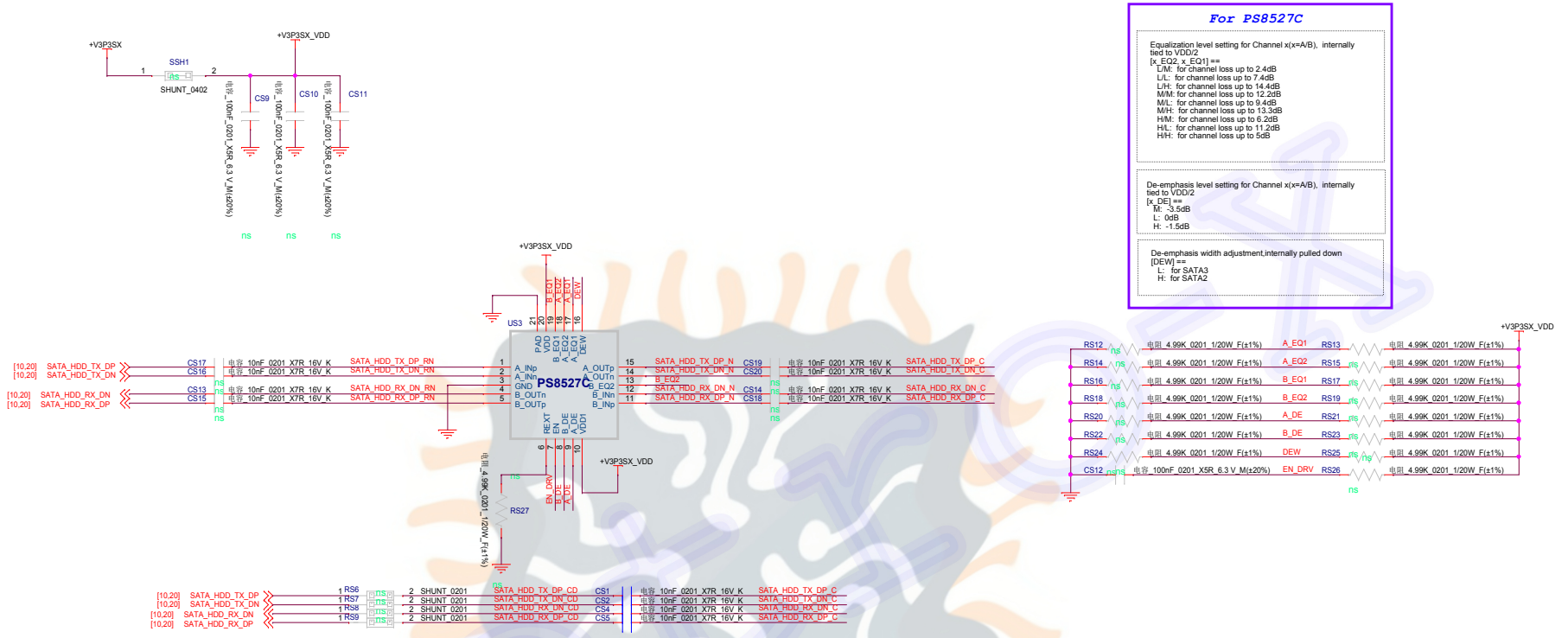
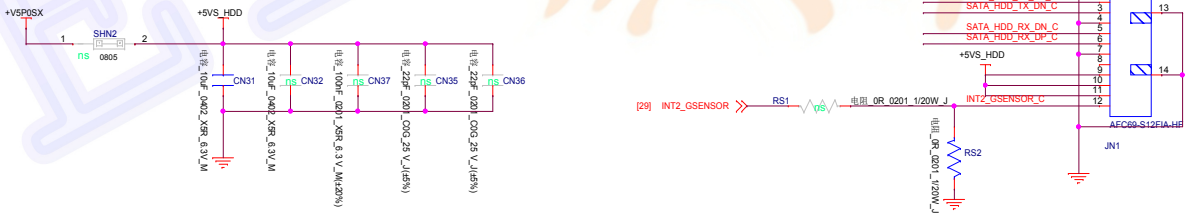
SATA Redriver IC



SATA HDD CONN



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Page name:	HDD	
Size: A4	Project Name: NB8607	REV: V1.0
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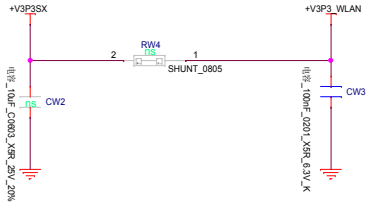
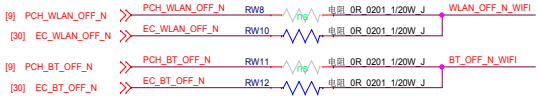
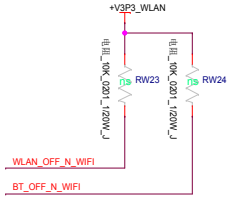
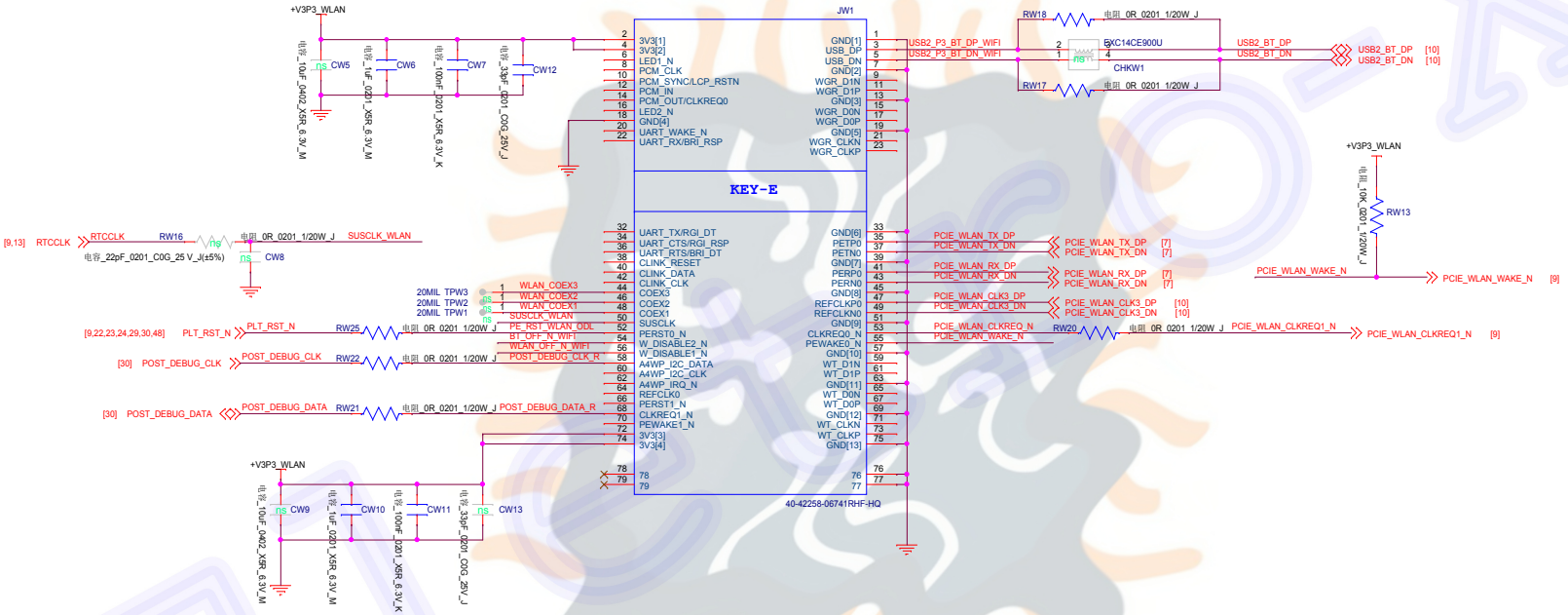
WLAN

WLAN Power









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Page name:	WLAN		
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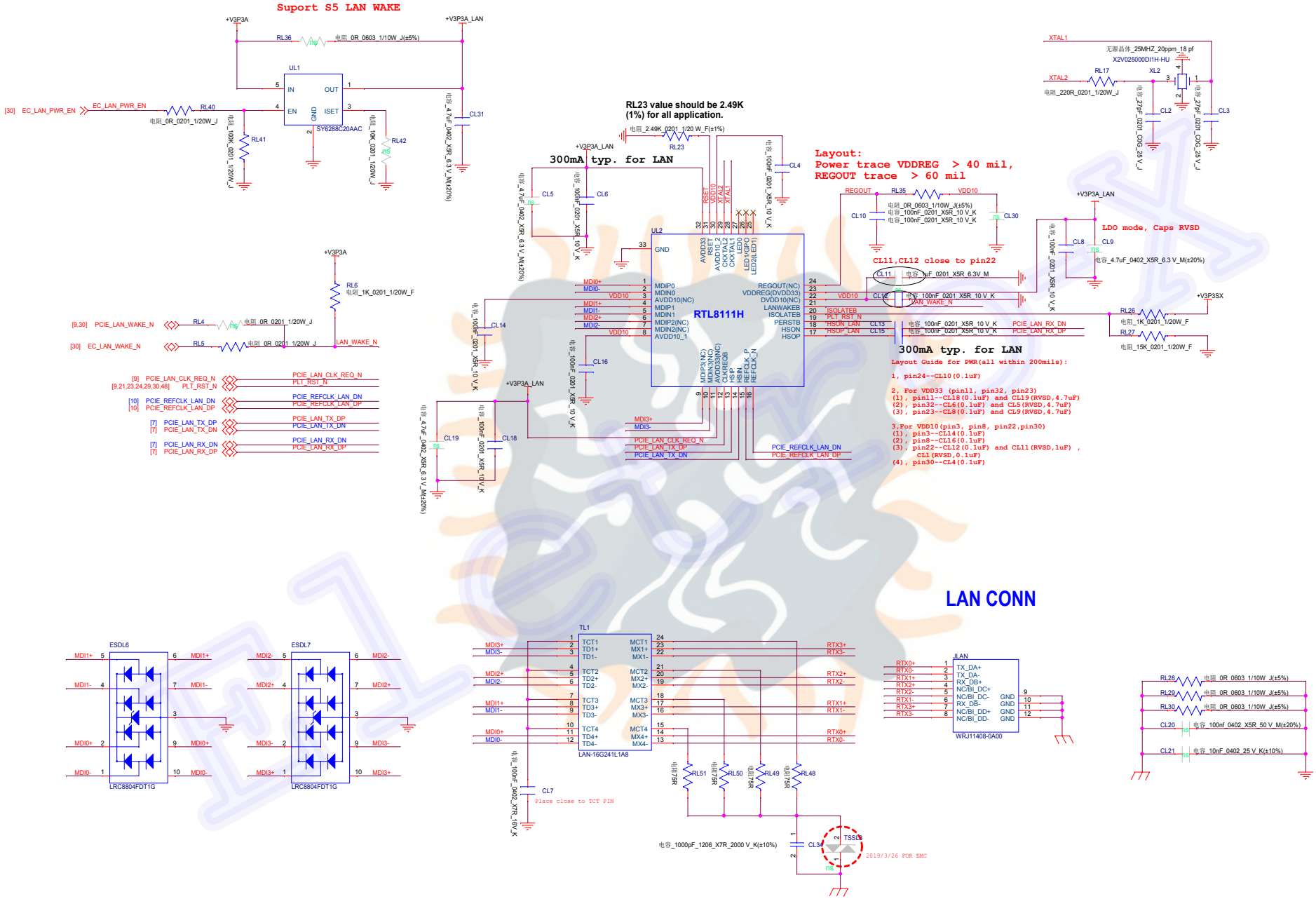
LAN IC RTL8111H



Huaqin Telecom Technology Co.,Ltd			
Page name:	LAN		
Size: A4	Project Name:	NB8607	REV: V1.0
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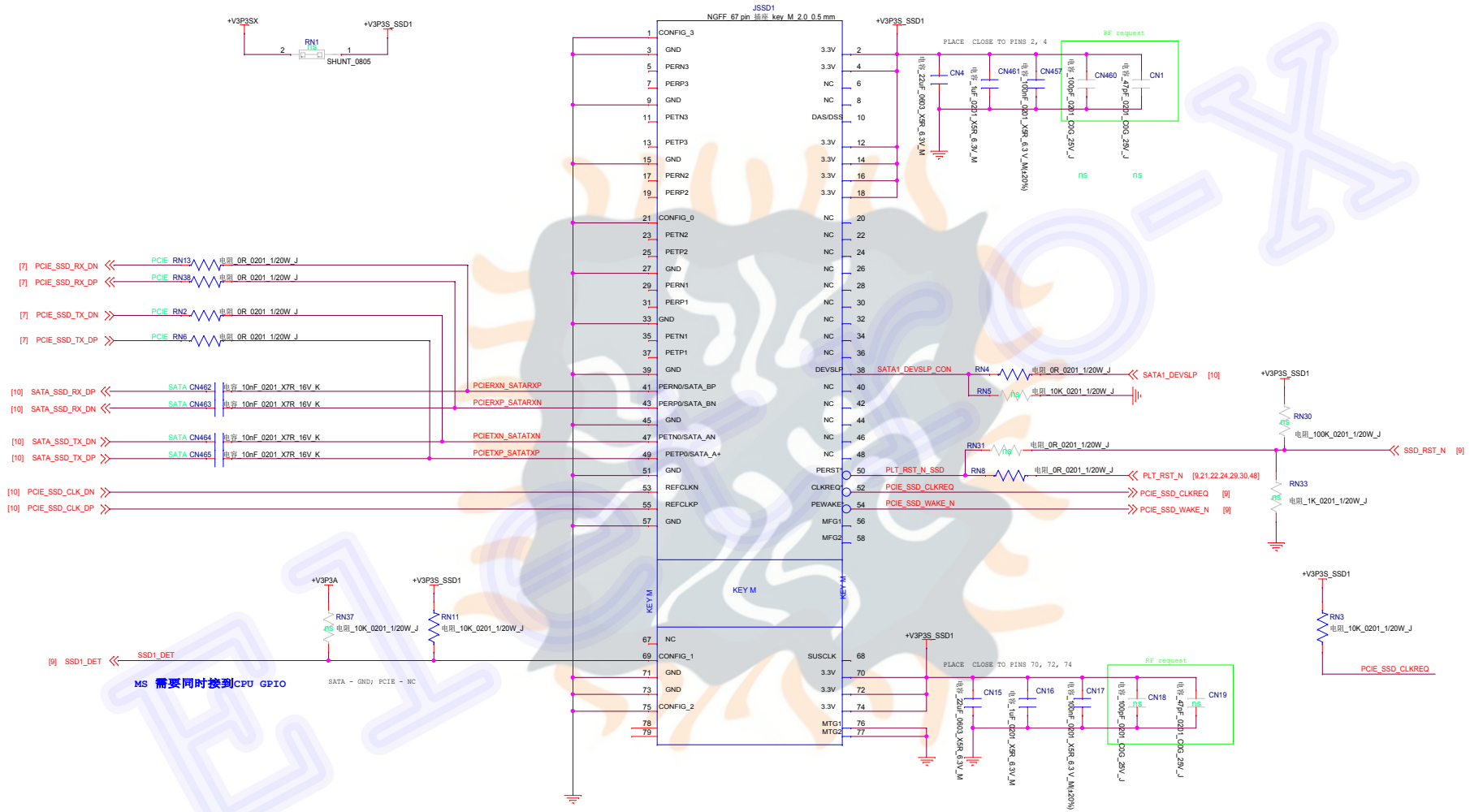
SSD CONN



Huaqin Telecom Technology Co.,Ltd.	
Page name:	SSD
Size: A4	Project Name: NB8607
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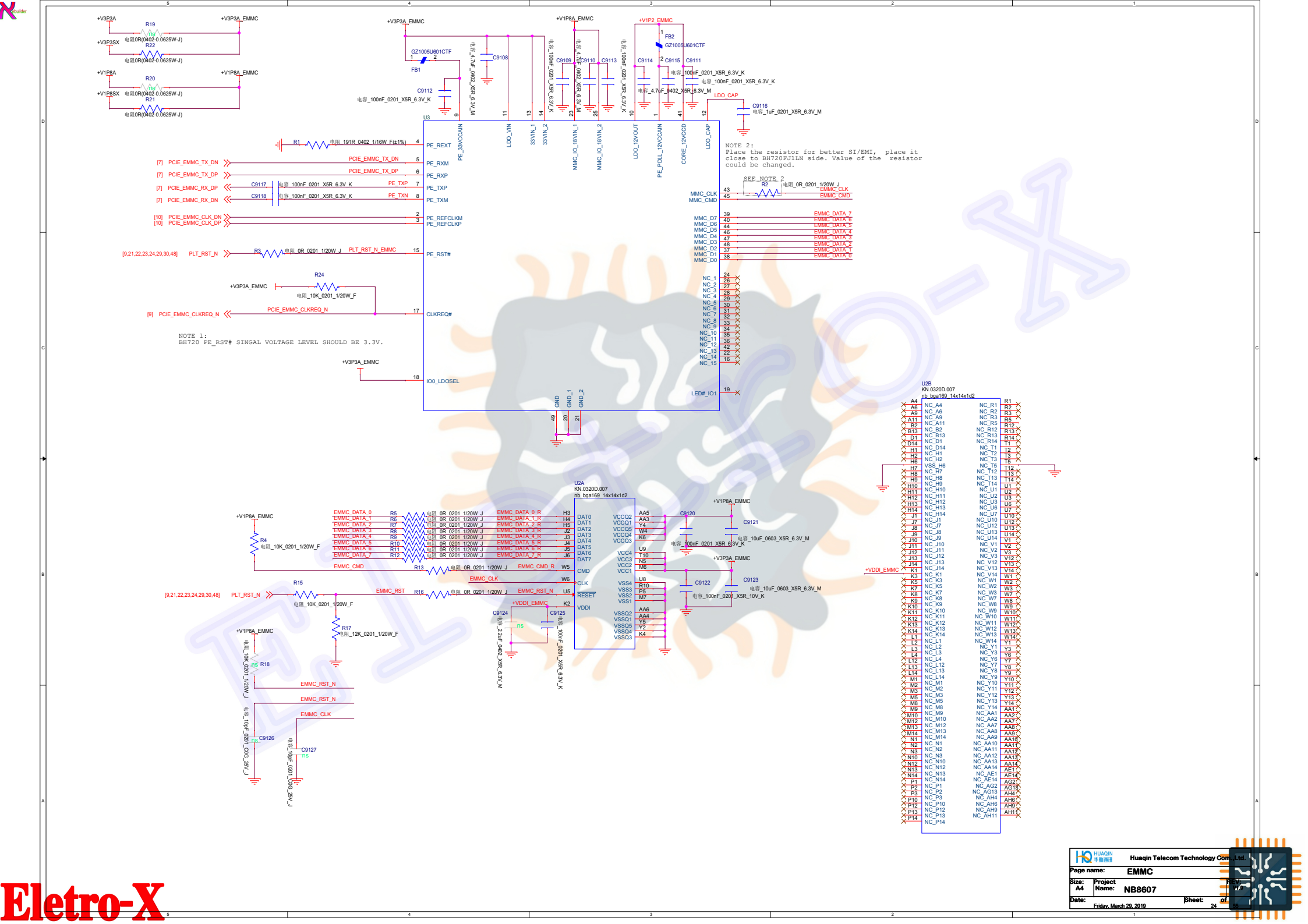
NOTE 2:
Place the resistor for better SI/EMI, place it close to BH720FJ1LN side. Value of the resistor could be changed.
NOTE 1:
BH720 PE_RST# SINGAL VOLTAGE LEVEL SHOULD BE 3.3V.
U3
U2A
KN.0320D.007
nb_bga169_14x14x1d2
U2B
KN.0320D.007
nb_bga169_14x14x1d2
Huaqin Telecom Technology Com.,Ltd.
Page name: EMMC
Size: A4
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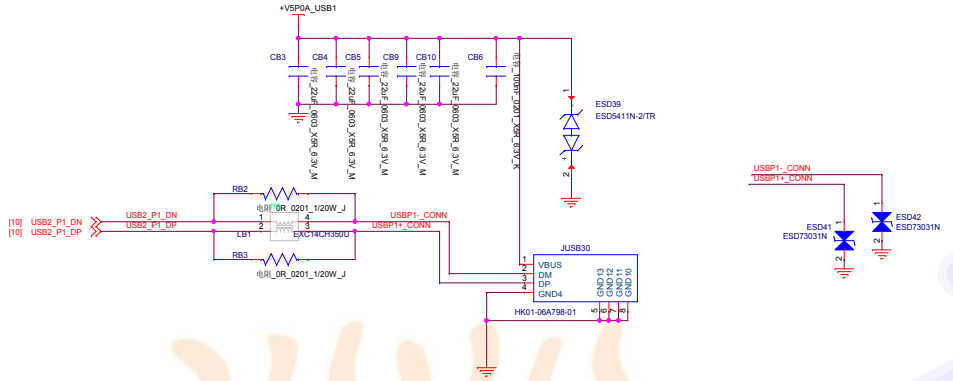
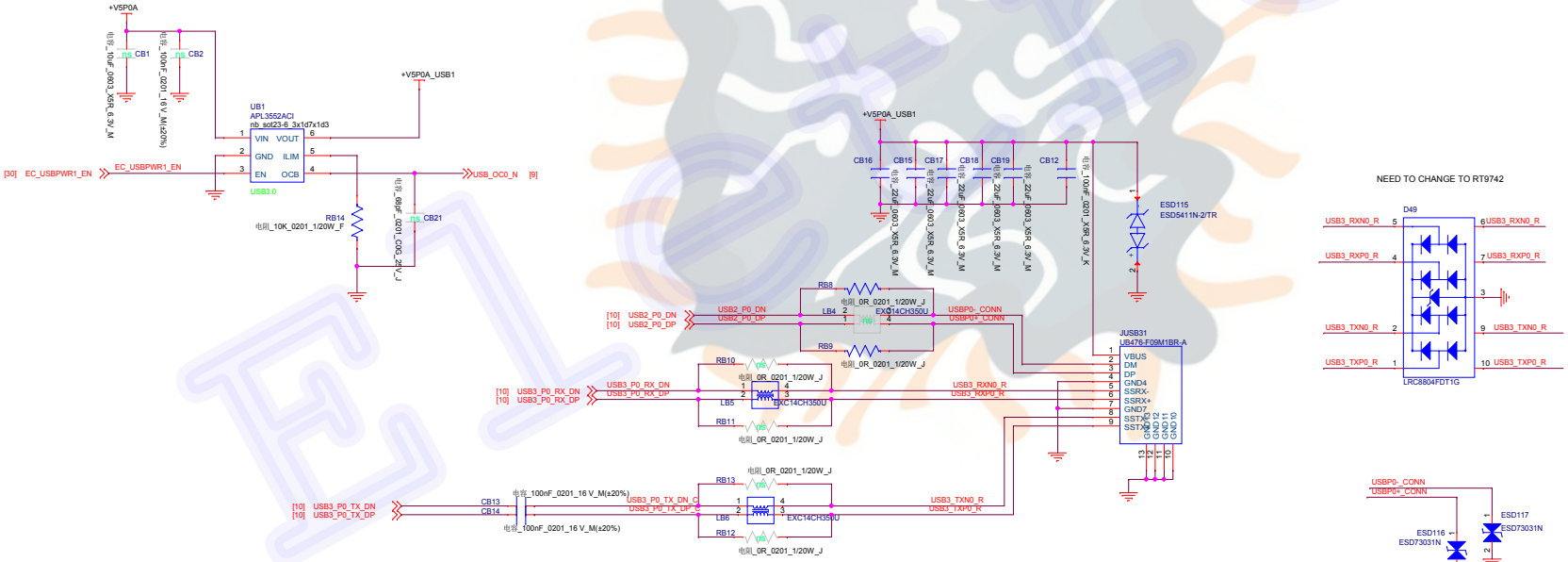
Eletro-X

USB2.0 CONN



USB3.0 CONN



Huaqin Telecom Technology Co.,Ltd.		
Page name:	USB3.0	
Size: A4	Project Name: NB8607	REV:
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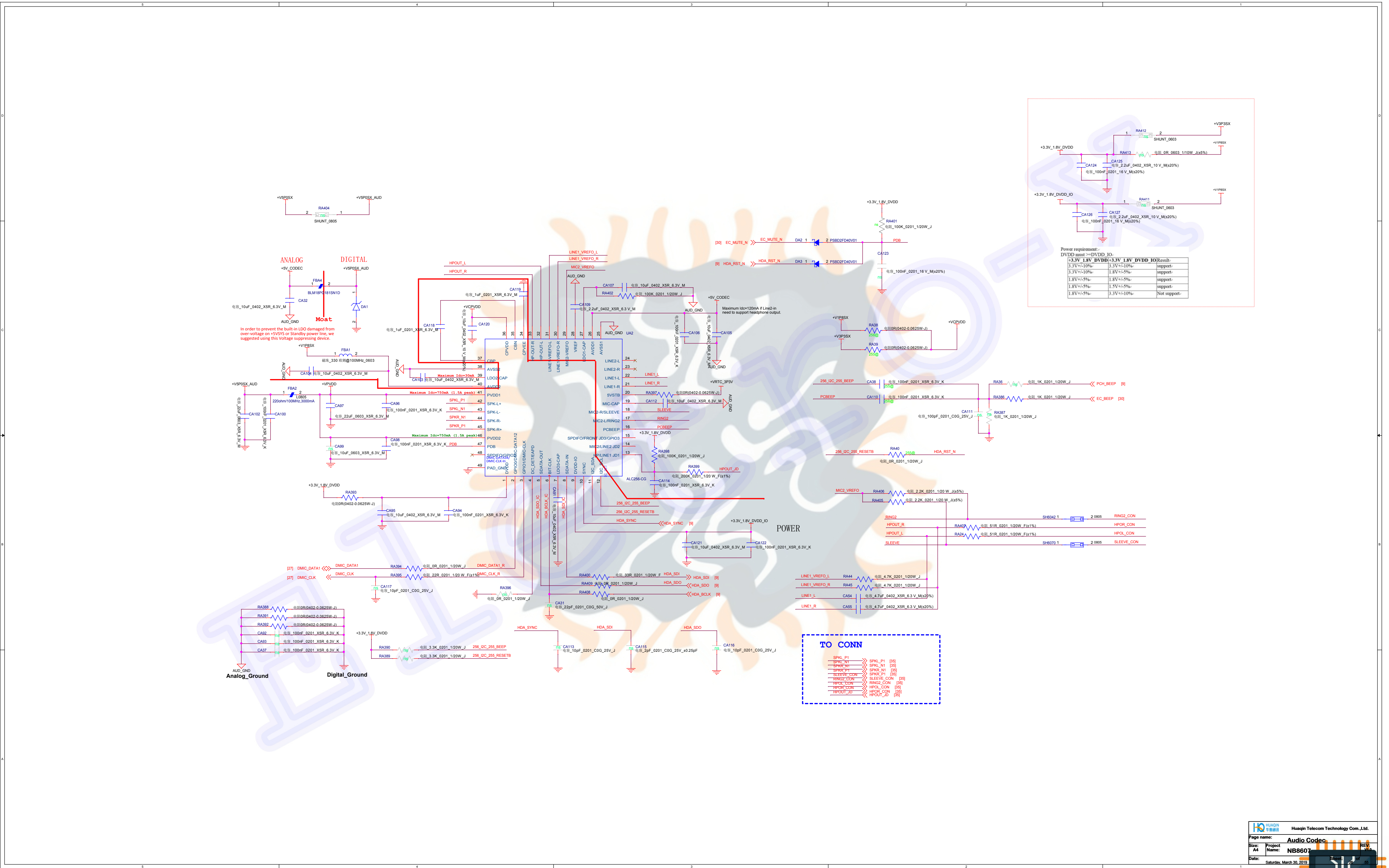
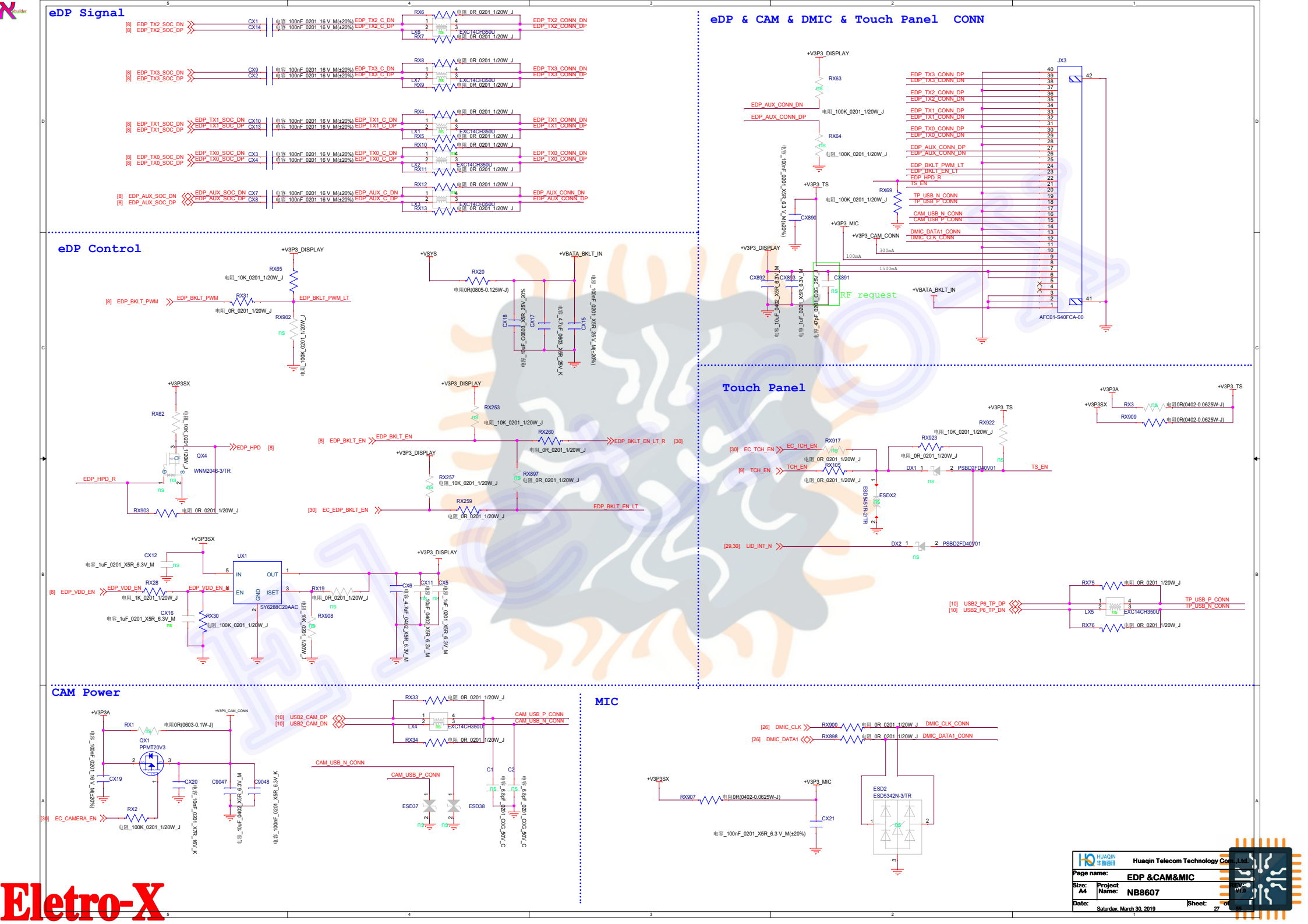


+3.3V_1.8V_DVDD	+3.3V_1.8V_DVDD_IO	Result
3.3V+/-10%	3.3V+/-10%	support
3.3V+/-10%	1.8V+/-5%	support
1.8V+/-5%	1.8V+/-5%	support
1.8V+/-5%	1.5V+/-5%	support
1.8V+/-5%	3.3V+/-10%	Not support


eDP Signal
eDP & CAM & DMIC & Touch Panel CONN
eDP Control
Touch Panel
CAM Power
MIC
EDP_TX2_SOC_DN
EDP_TX2_SOC_DP
EDP_TX3_SOC_DN
EDP_TX3_SOC_DP
EDP_TX1_SOC_DN
EDP_TX1_SOC_DP
EDP_TX0_SOC_DN
EDP_TX0_SOC_DP
EDP_AUX_SOC_DN
EDP_AUX_SOC_DP
EDP_TX2_C_DN
EDP_TX2_C_DP
EDP_TX3_C_DN
EDP_TX3_C_DP
EDP_TX1_C_DN
EDP_TX1_C_DP
EDP_TX0_C_DN
EDP_TX0_C_DP
EDP_AUX_C_DN
EDP_AUX_C_DP
EDP_TX2_CONN_DN
EDP_TX2_CONN_DP
EDP_TX3_CONN_DN
EDP_TX3_CONN_DP
EDP_TX1_CONN_DN
EDP_TX1_CONN_DP
EDP_TX0_CONN_DN
EDP_TX0_CONN_DP
EDP_AUX_CONN_DN
EDP_AUX_CONN_DP
EXC14CH350U
+V3P3_DISPLAY
+V3P3_TS
+V3P3_MIC
+V3P3_CAM_CONN
+VBATA_BKLT_IN
AFC01-S40FCA-00
RF request
EDP_BKLT_PWM
EDP_BKLT_PWM_LT
EDP_BKLT_EN
EDP_BKLT_EN_LT
EDP_HPD
EDP_HPD_R
WNM2046-3/TR
+VSYS
+V3P3SX
EDP_VDD_EN
SY6288C20AAC
EC_EDP_BKLT_EN
EDP_BKLT_EN_LT_R
EC_TCH_EN
TCH_EN
TS_EN
PSBD2FD40V01
ESDX2
ESD5651R2/TR
LID_INT_N
USB2_P6_TP_DP
USB2_P6_TP_DN
TP_USB_P_CONN
TP_USB_N_CONN
USB2_CAM_DP
USB2_CAM_DN
CAM_USB_P_CONN
CAM_USB_N_CONN
EC_CAMERA_EN
+V3P3A
PPMT20V3
ESD37
ESD38
DMIC_CLK
DMIC_DATA1
DMIC_CLK_CONN
DMIC_DATA1_CONN
ESD2
ESD5342N-3/TR
Huaqin Telecom Technology Co.,Ltd
Page name:
EDP &CAM&MIC
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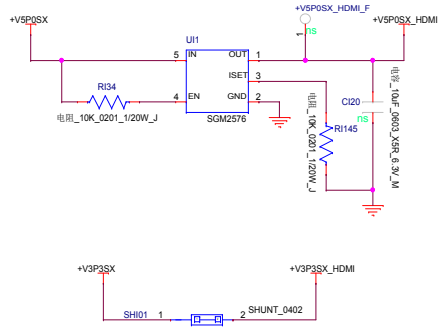
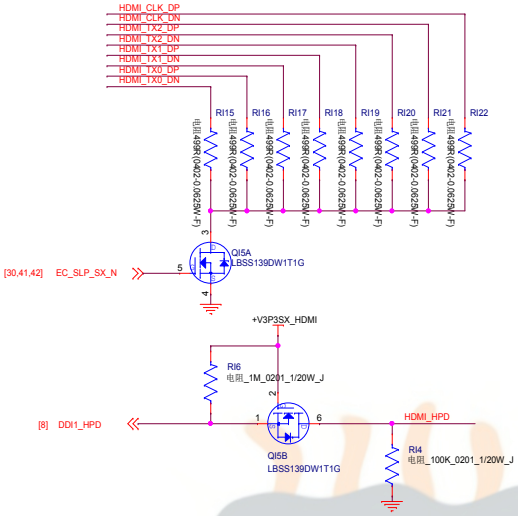
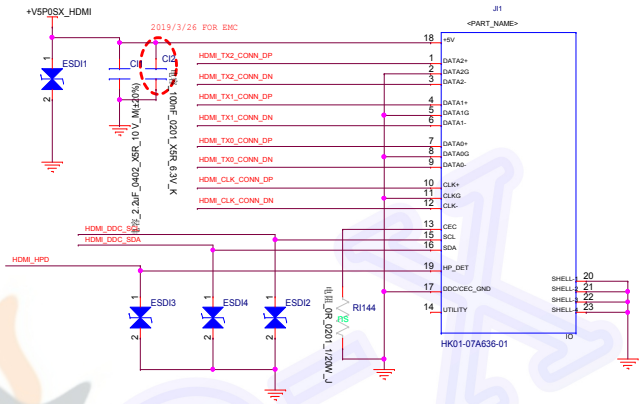
HDMI power

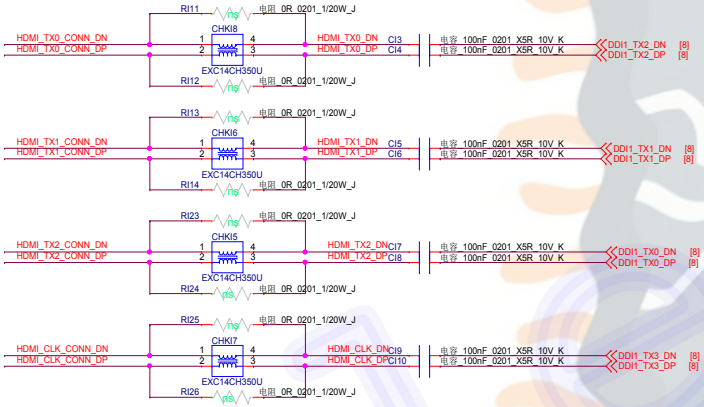




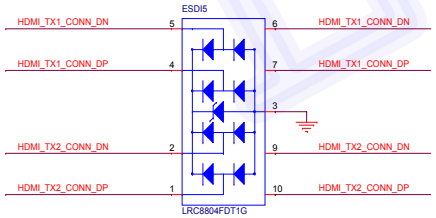
HDMI CONN

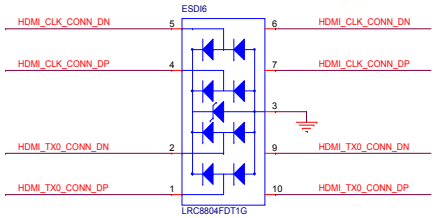


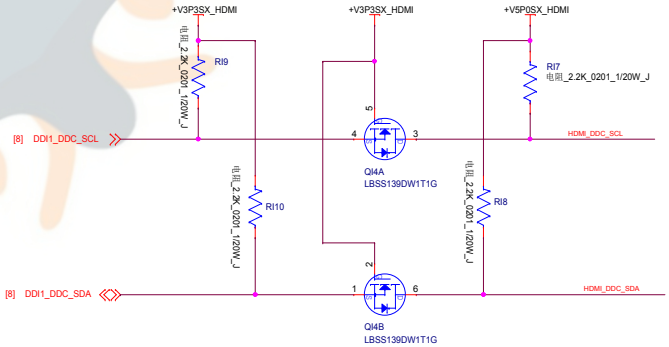
Signal



ESD







Huaqin Telecom Technology Co., Ltd		
Page name:	HDMI CONTROLLER	
Size: A4	Project Name: NB8607	REV: V1.0
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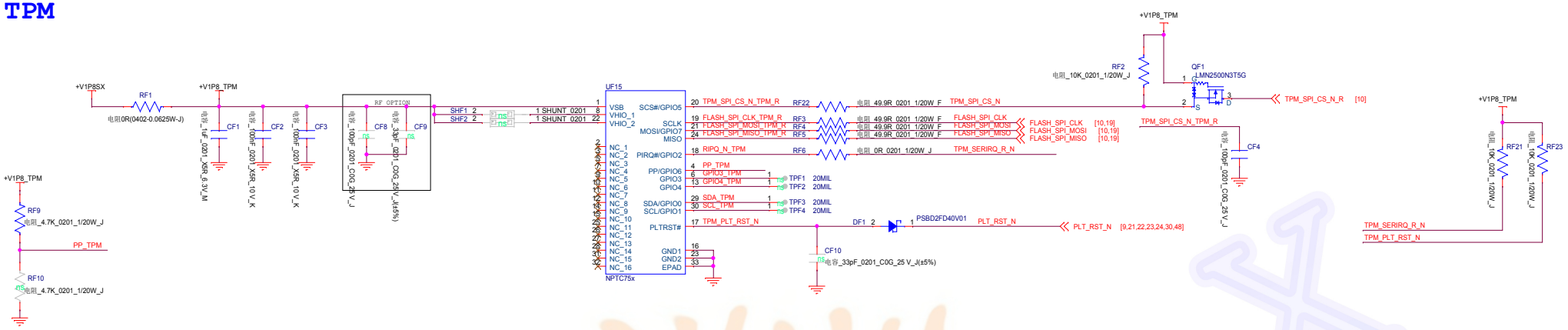
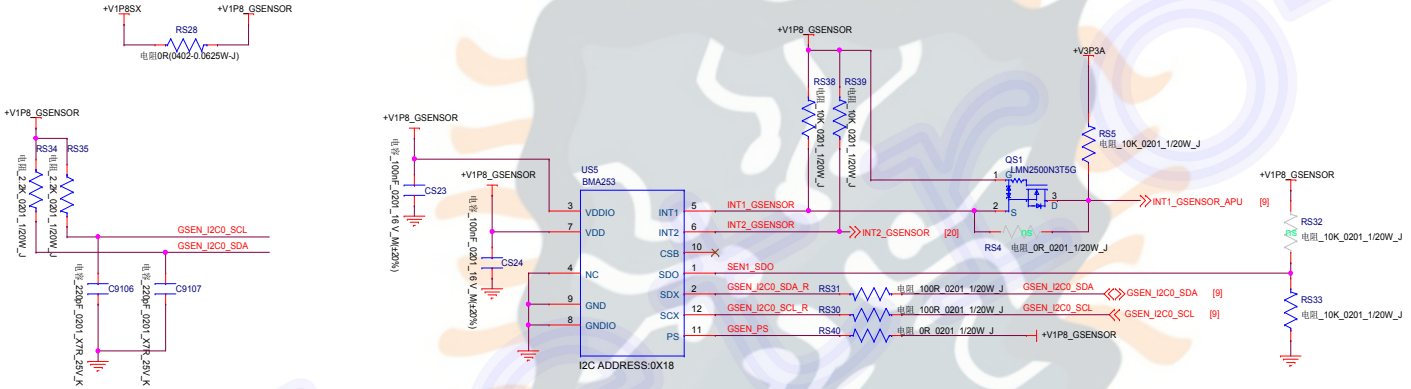
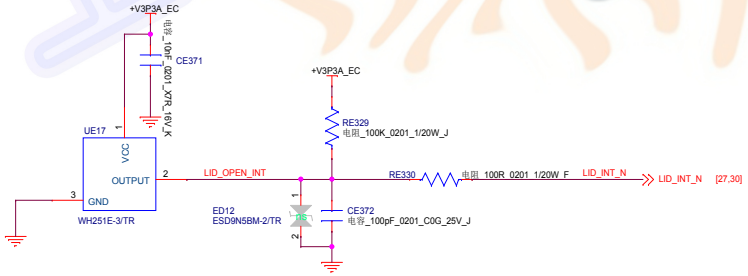
TPM



G-SENSOR



Hall-SENSOR



Huaqin Telecom Technology Co., Ltd.		
Page name:	TPM&G_SENSORS&HALL	
Size: A4	Project Name: NB8607	REV: V1.0
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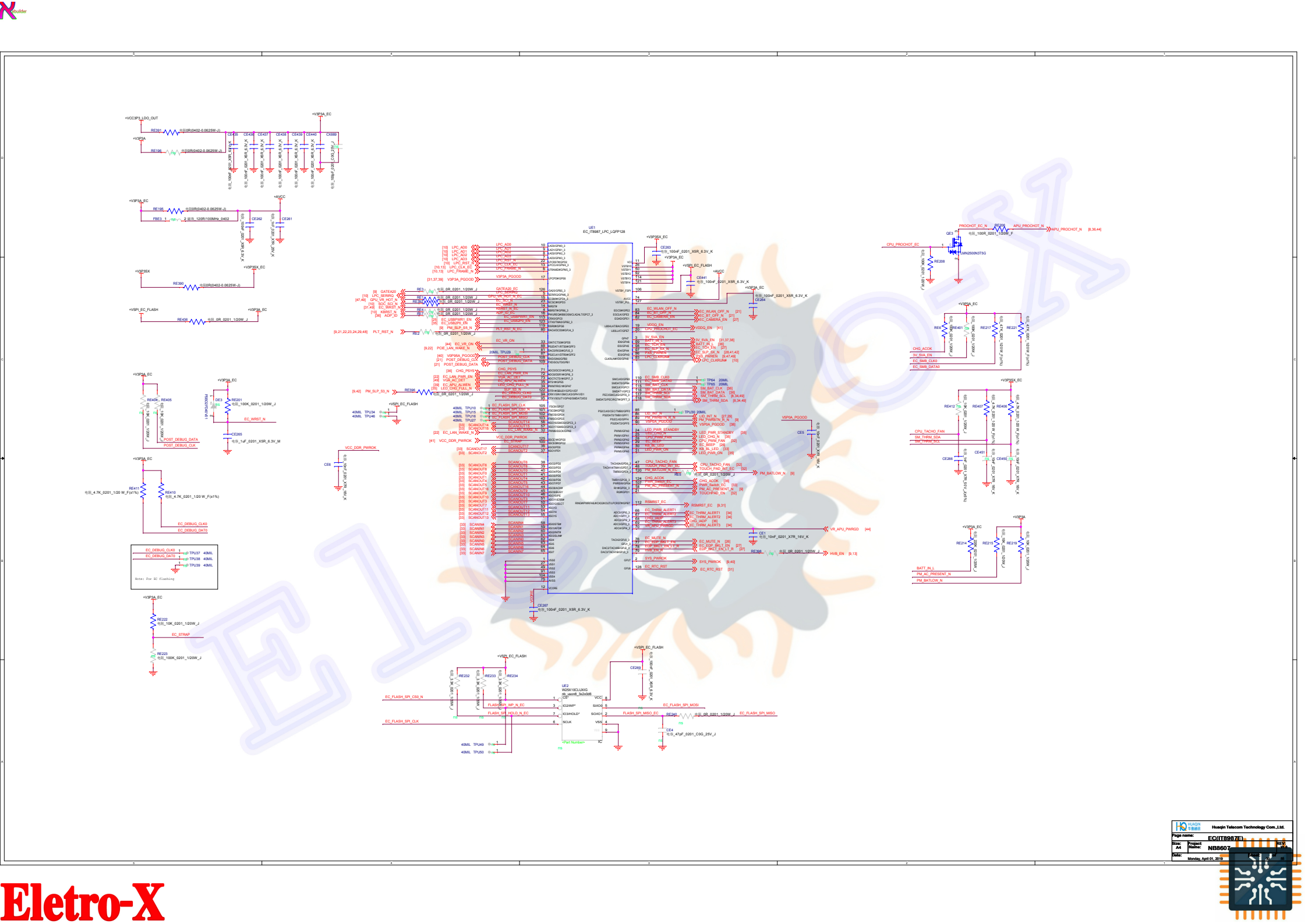
UE1
EC_IT8987_LPC_LQFP128
UE2
W25X10CLUXIG
Husqin Telecom Technology Com.,Ltd.
Page name:
EC(IT8987E)
Size: A4
Project Name:
NB8607
Date:
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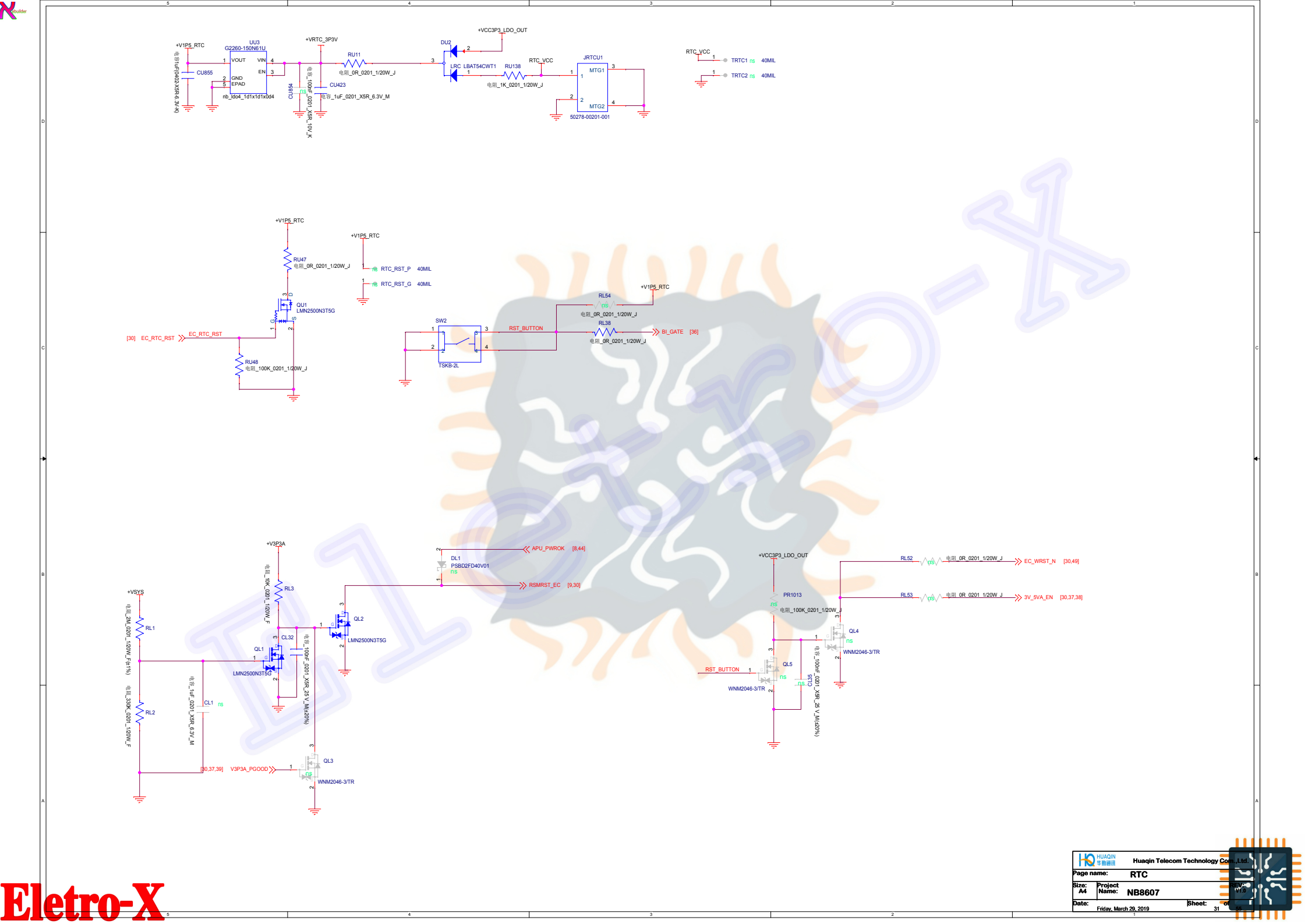
Eletro-X


+V1P5_RTC
UU3
G2260-150N61U
VOUT
VIN
EN
GND
EPAD
nb_ldo4_1d1x1d1x0d4
CU855
+VRTC_3P3V
RU11
电阻_0R_0201_1/20W_J
CU854
CU423
电容_1uF_0201_X5R_6.3V_M
+VCC3P3_LDO_OUT
DU2
LRC LBAT54CWT1
RU138
电阻_1K_0201_1/20W_J
RTC_VCC
JRTCU1
MTG1
MTG2
50278-00201-001
TRTC1 ns 40MIL
TRTC2 ns 40MIL
RU47
RTC_RST_P 40MIL
RTC_RST_G 40MIL
QU1
LMN2500N3T5G
[30] EC_RTC_RST
RU48
电阻_100K_0201_1/20W_J
SW2
RST_BUTTON
TSKB-2L
RL54
RL38
BI_GATE [36]
+V3P3A
+VSYS
RL1
RL2
RL3
CL1
CL32
QL1
QL2
QL3
WNM2046-3/TR
DL1
PSBD2FD40V01
APU_PWROK [8,44]
RSMRST_EC [9,30]
V3P3A_PGOOD
PR1013
QL4
QL5
RL52
RL53
EC_WRST_N [30,49]
3V_5VA_EN [30,37,38]
Huaqin Telecom Technology Co.,Ltd
Page name: RTC
Size: A4
Project Name: NB8607
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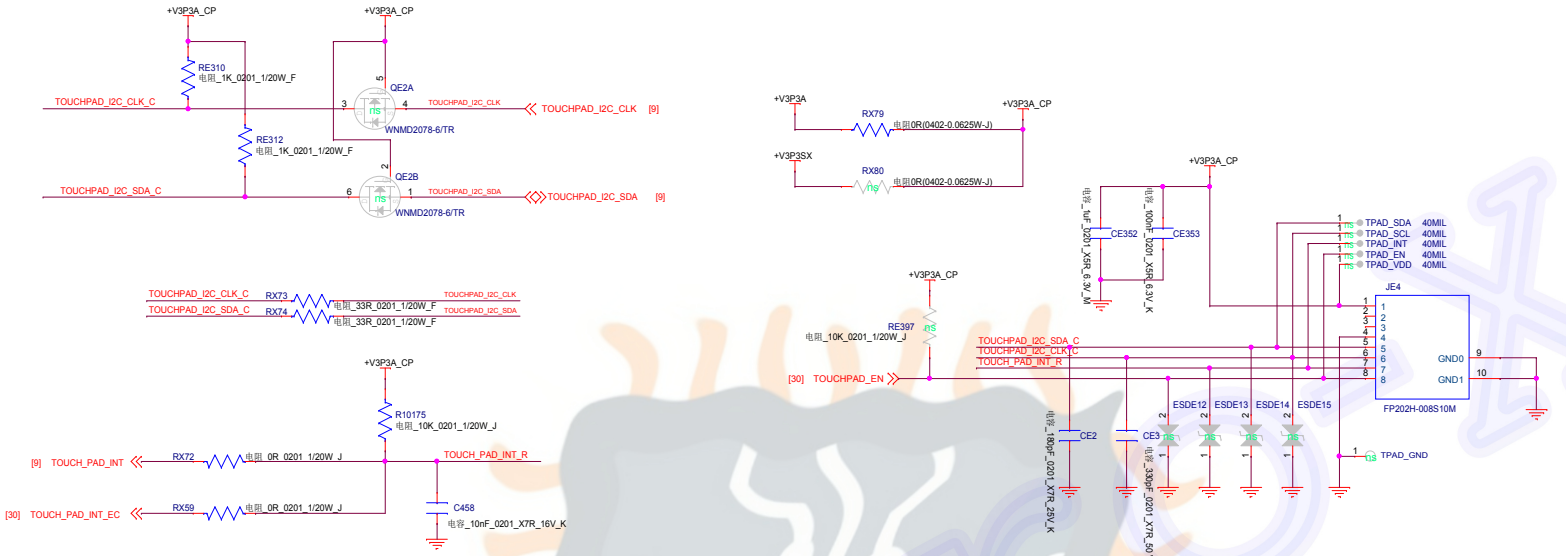
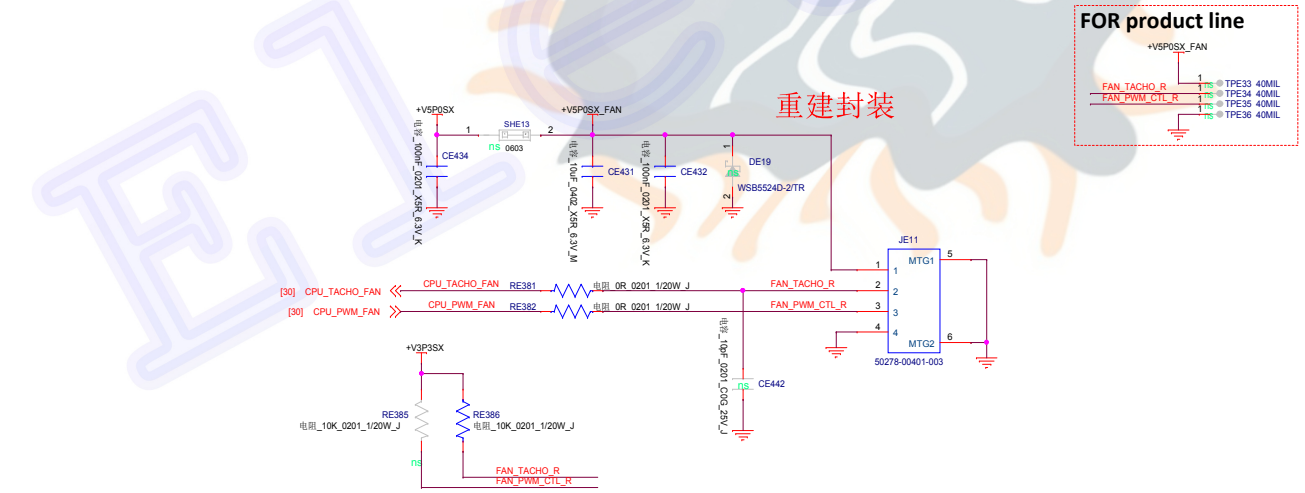
TOUCH PAD



FAN CONN



FOR product line

Huaqin Telecom Technology Co., Ltd			
Page name:	TouchPad&FAN		
Size: A4	Project Name:	NB8607	REV: V1.0
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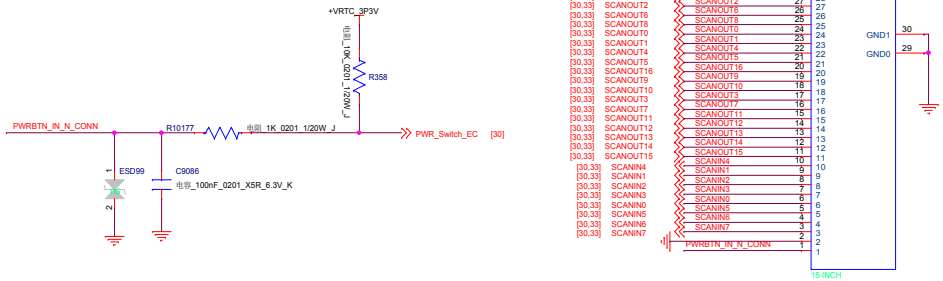
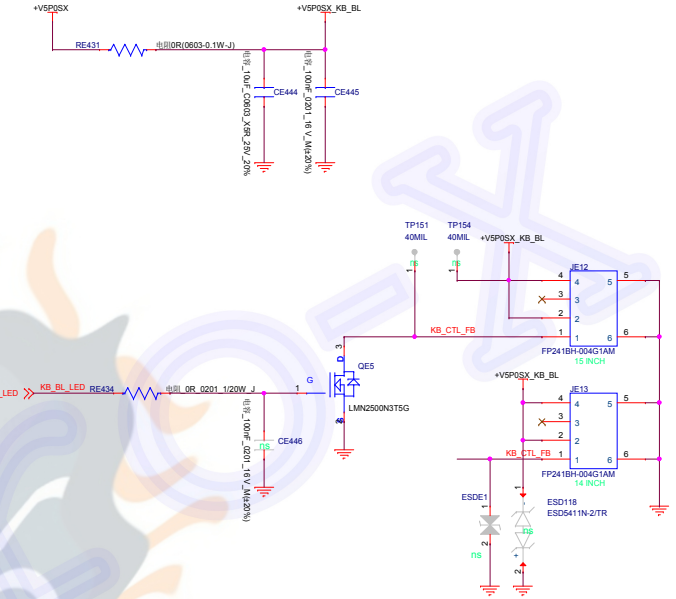
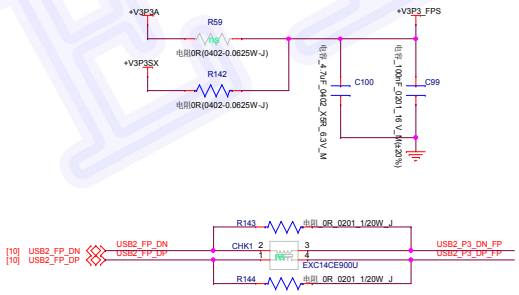
KB CONN



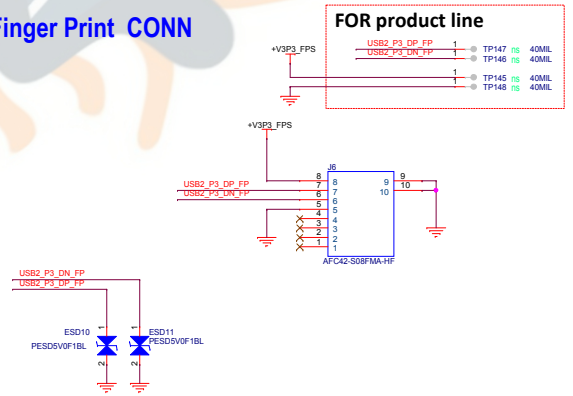
KB Backlight



Finger Print



Finger Print CONN



Huaqin Telecom Technology Co.,Ltd.		
Page name:	KB CON&KB BL&FP	
Size: A4	Project Name: NB8607	REV:
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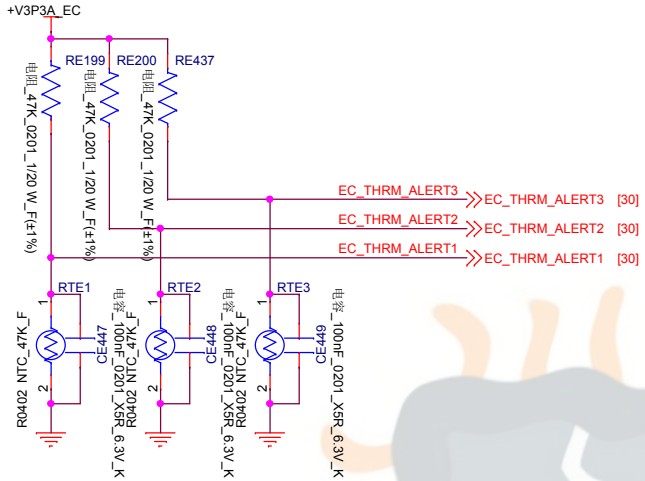
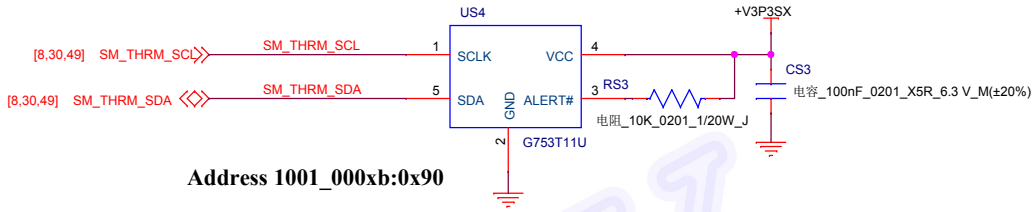
Thermal sensor





Address 1001_000xb:0x90

HUAQIN 华勤通讯	Huaqin Telecom Technology Com.,Ltd.		
Page name:	Thermal sensor		
Size: A4	Project Name: NB8607	REV: V1.0	
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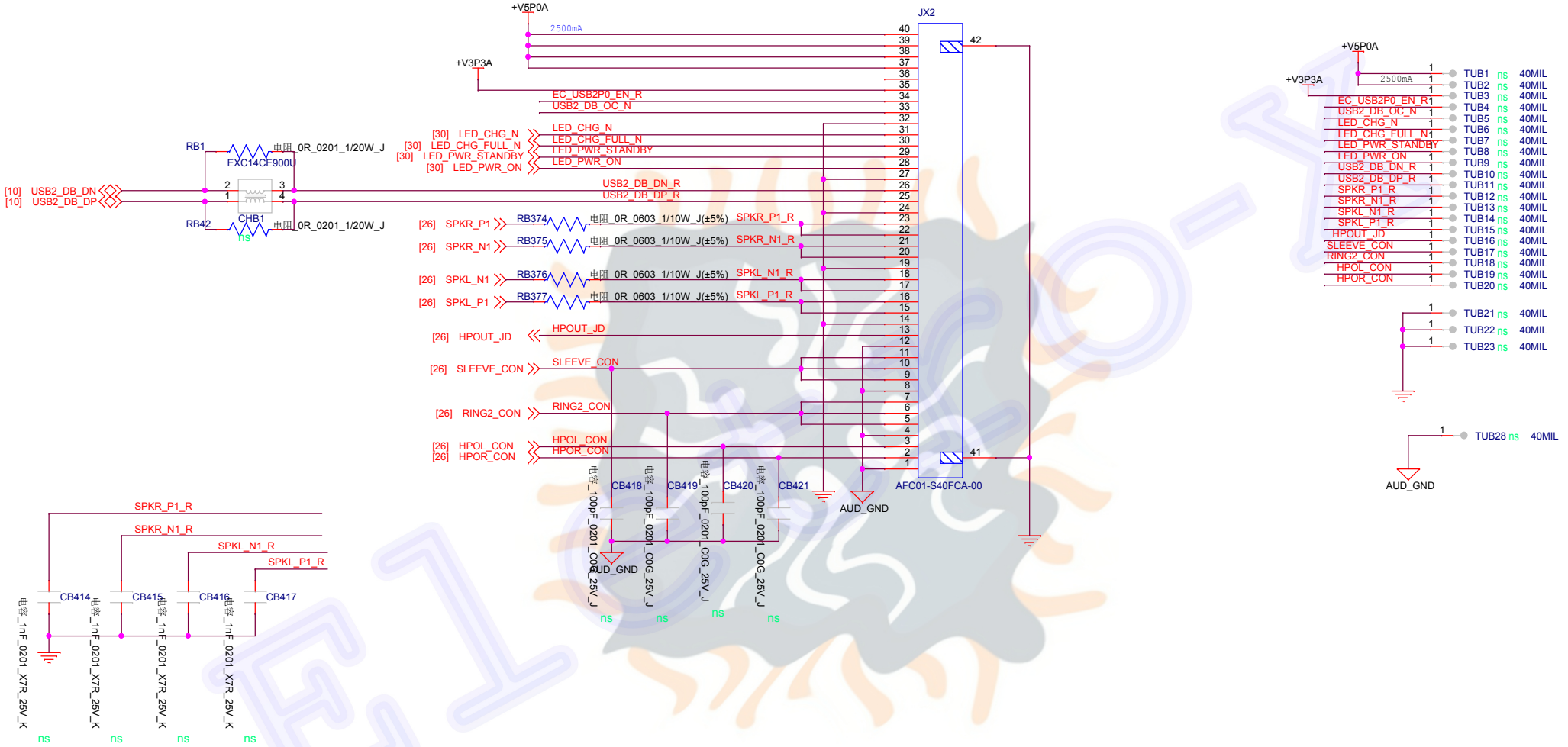
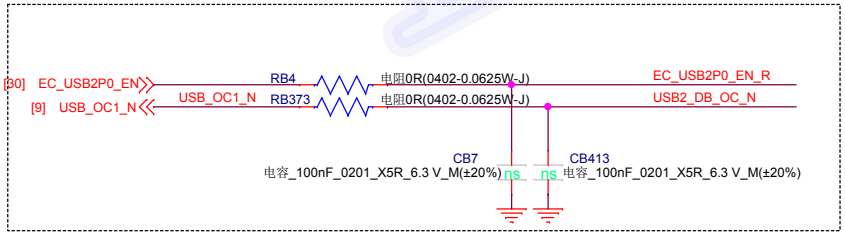
IO Board Conn





Huaqin Telecom Technology Com.,Ltd.		
Page name: IO Board Conn		
Size: A4	Project Name: NB8607	REV: V1.0
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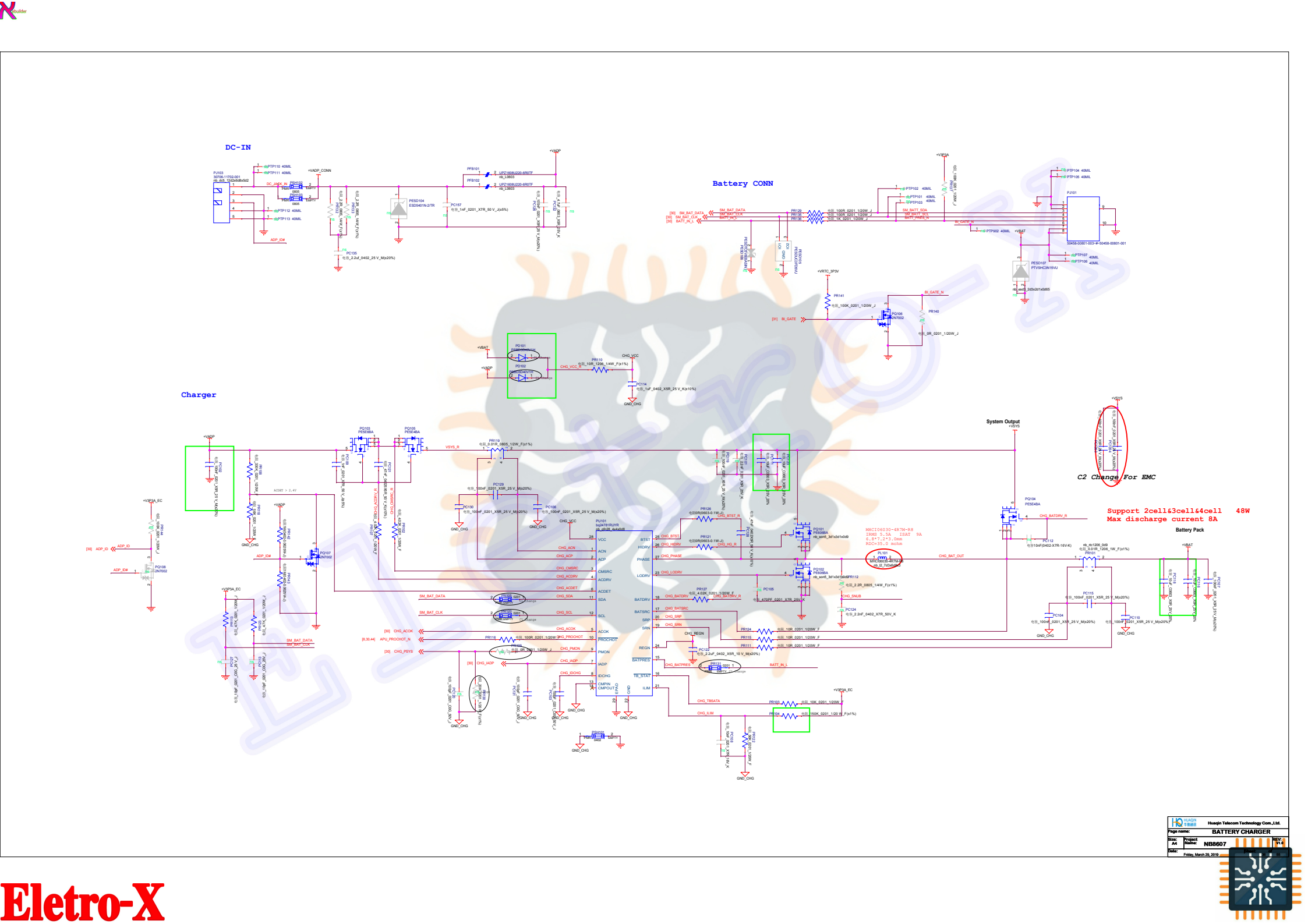
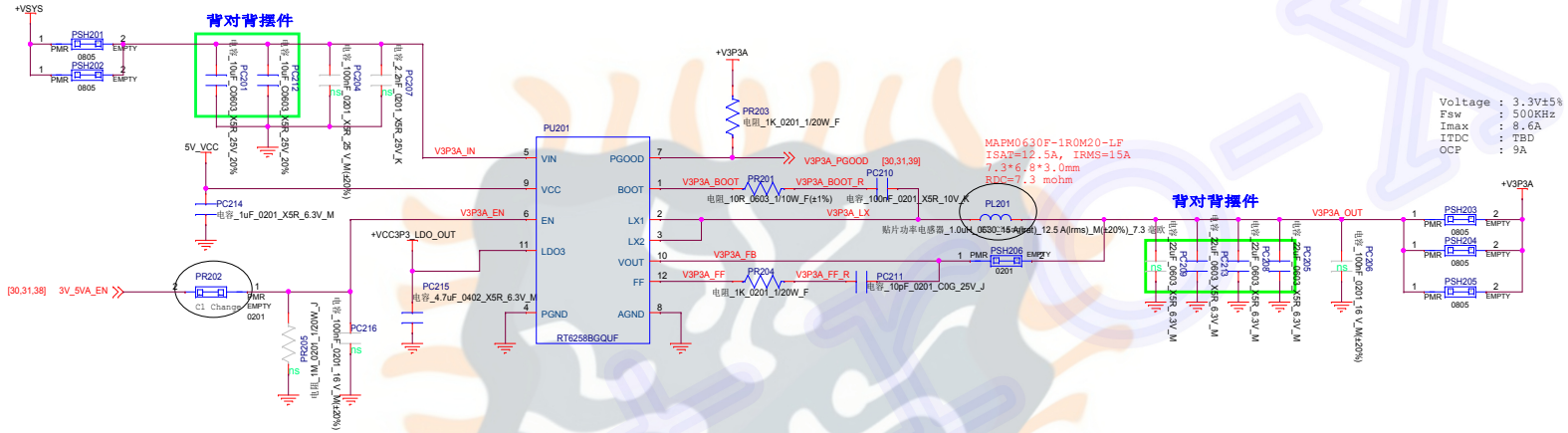
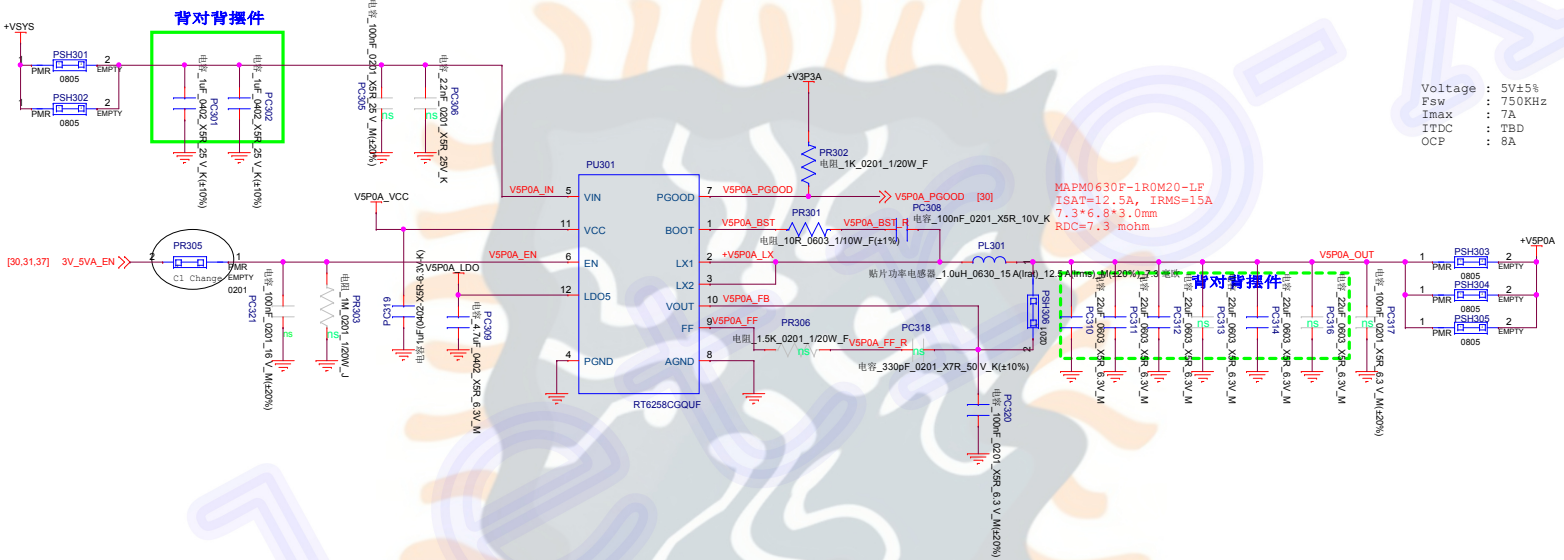

DC-IN
Battery CONN
Charger
System Output
Battery Pack
C2 Change For EMC
Support 2cell&3cell&4cell 48W
Max discharge current 8A
Huaqin Telecom Technology Com.,Ltd.
Page name: BATTERY CHARGER
Size: A4
Project Name: NB8607
REV: V1.0
Date: Friday, March 29, 2019
Eletro-X

+V3P3A



Huaqin Telecom Technology Coms.,Ltd			
Page name:	POWER DELIVERY 3.3V		
Size: A4	Project Name:	NB8607	REV: V1.0
Date: Friday, March 29, 2019	Sheet:	37	of



Huaqin Telecom Technology Com.,Ltd.			
Page name:	POWER DELIVERY 5V		
Size: A4	Project Name: NB8607		REV: V1.0
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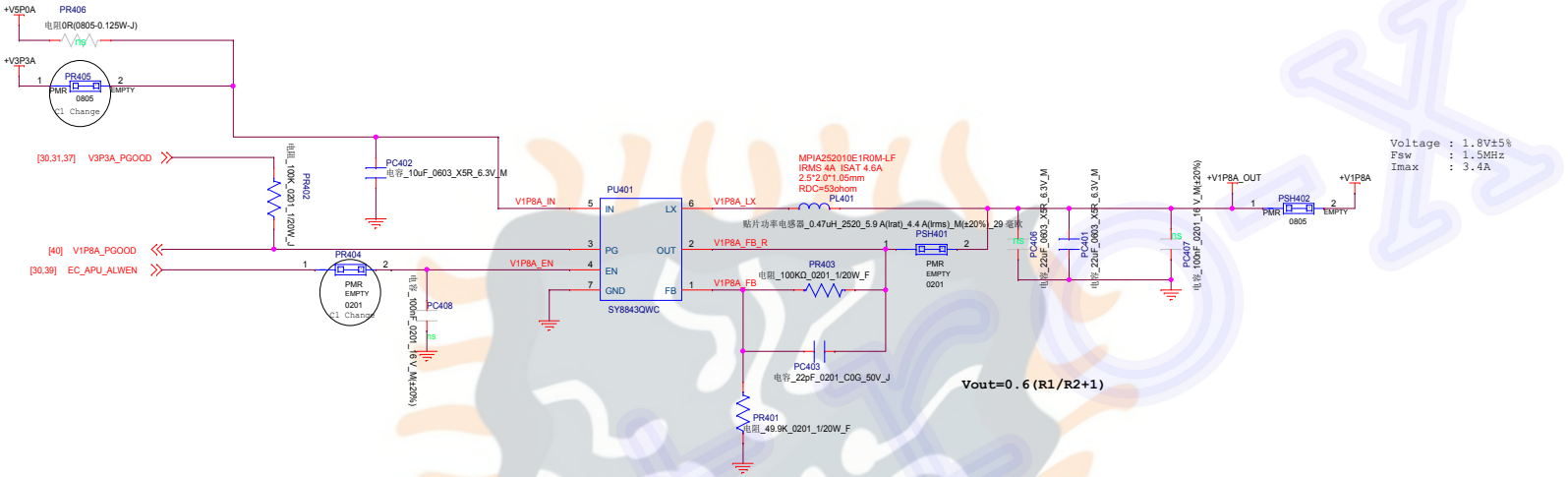
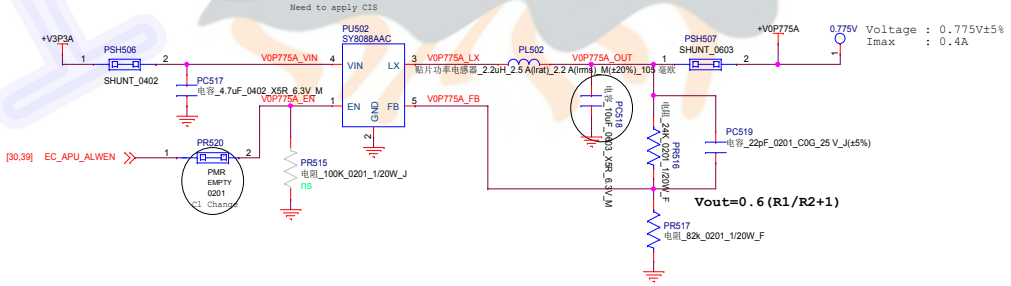
+V1P8A



+V0P775A



Huaqin Telecom Technology Co.,Ltd		
Page name:	POWER DELIVERY 1.8V/0.775A	
Size: A4	Project Name: NB8607	REV: V1.0
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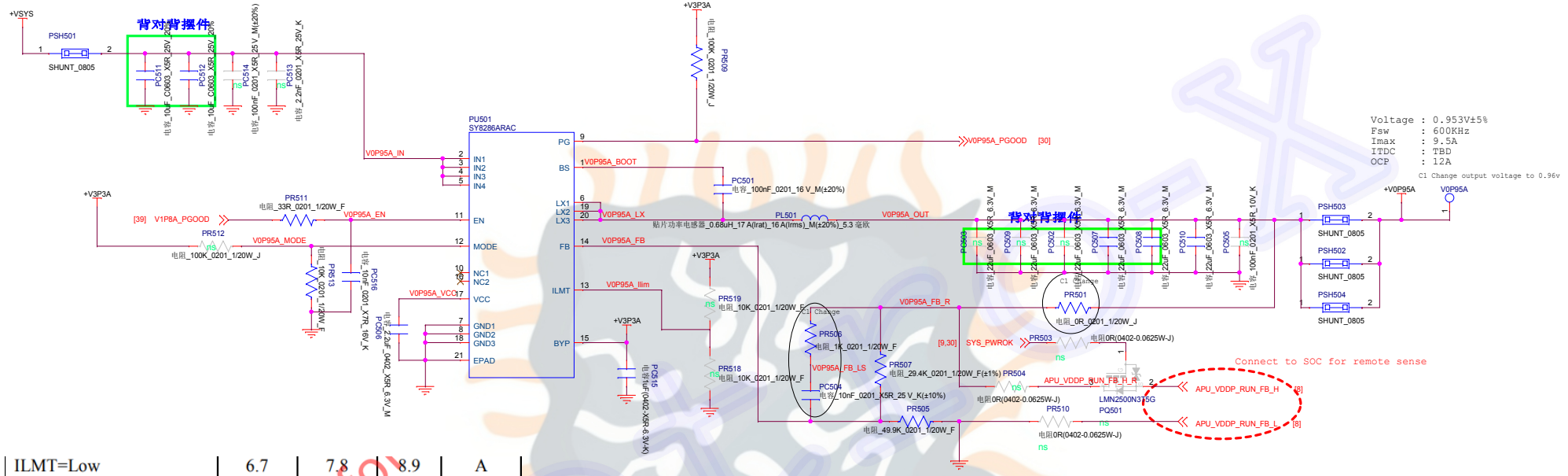
+V0P95A



ILMT=Low	6.7	7.8	8.9	A
ILMT=Floating	9.3	10.6	11.9	A
ILMT=High	12	13.3	14.8	A

Huaqin Telecom Technology Com.,Ltd.		
Page name: POWER DELIVERY 0.95V		
Size: A4	Project Name: NB8607	REV: V1.0
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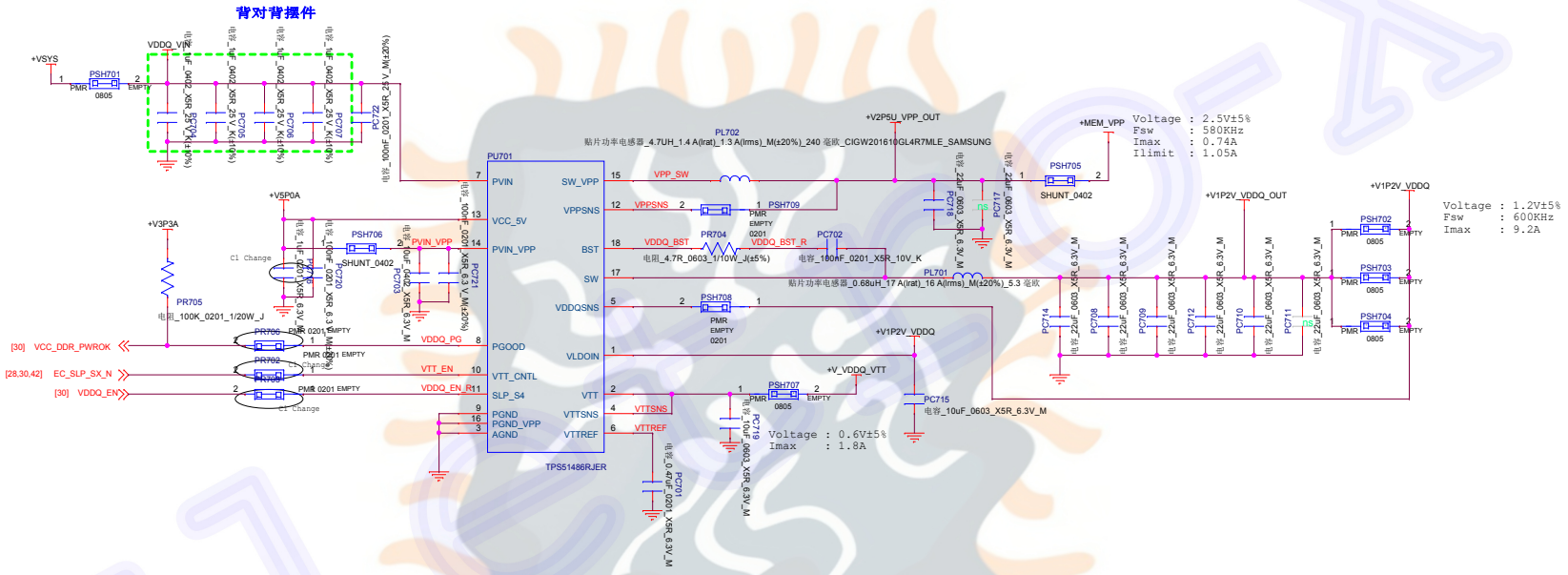

Huaqin Telecom Technology Com.,Ltd.		
Page name: POWER DELIVERY 1.2V & 2.5V		
Size: A4	Project Name: NB8607	REV: V1.0
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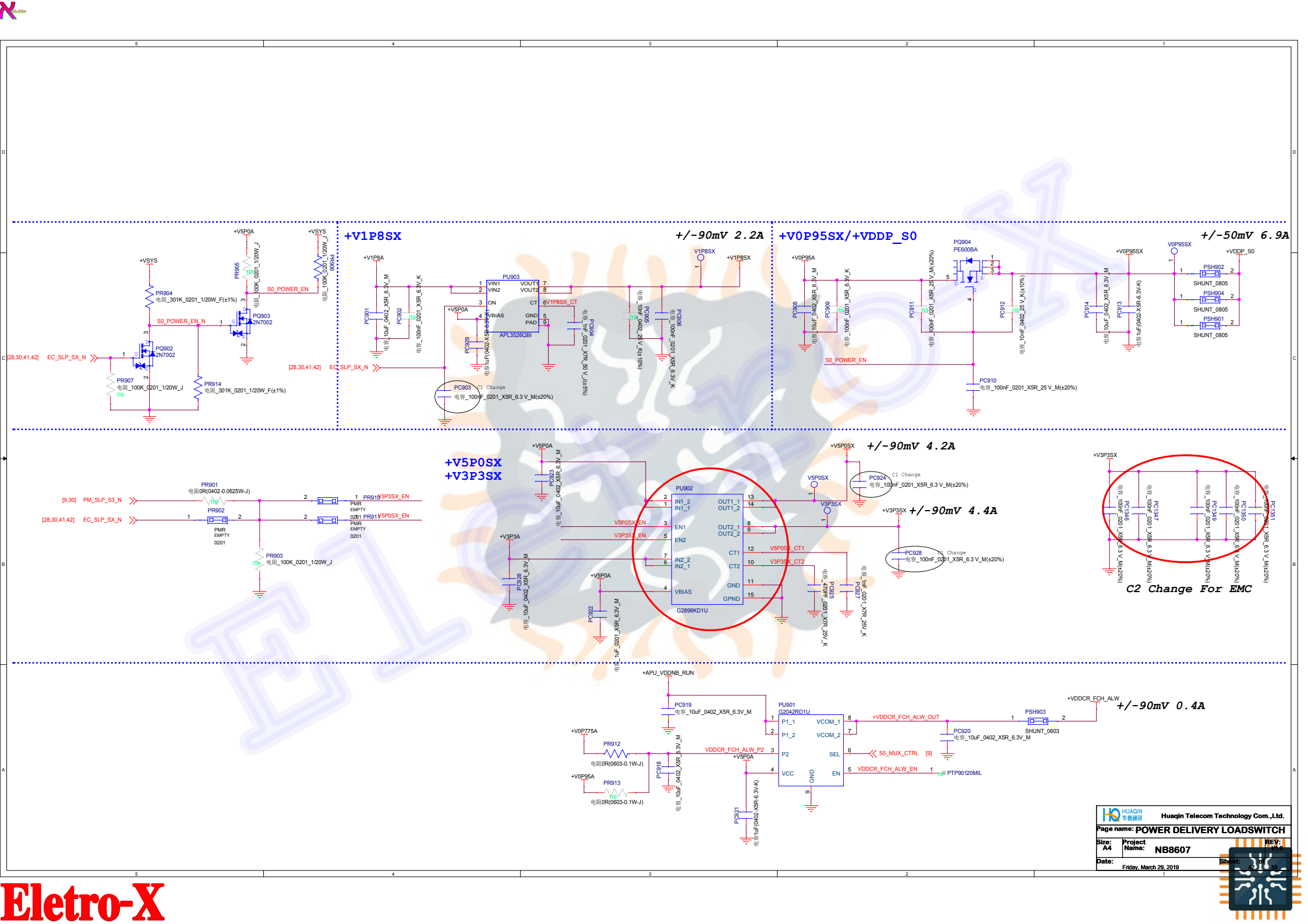
+V1P8SX
+/-90mV 2.2A
+V0P95SX/+VDDP_S0
+/-50mV 6.9A
+V5P0SX
+V3P3SX
+/-90mV 4.2A
+/-90mV 4.4A
C2 Change For EMC
+/-90mV 0.4A
S0_POWER_EN
EC_SLP_SX_N
PM_SLP_S3_N
APL3526QBI
G2898KD1U
G2042RD1U
Huaqin Telecom Technology Com.,Ltd.
Page name: POWER DELIVERY LOADSWITCH
Project Name: NB8607
Size: A4
REV: V1.0
Date: Friday, March 29, 2019
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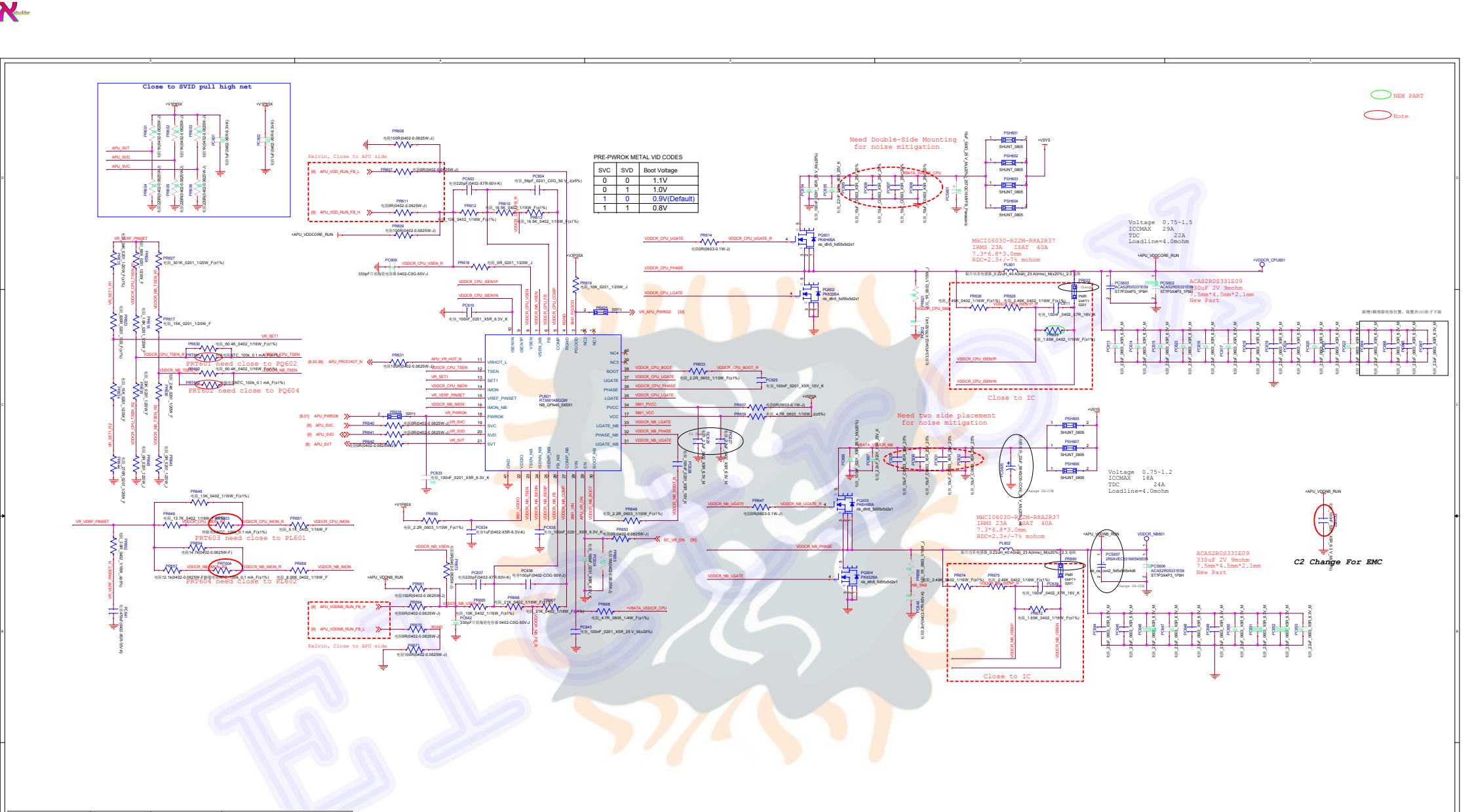

Supply [1]	Nominal Voltage (V) [2]	Condition	SYSTEM_CONFIGURATION 10 (25W)	9 (15W)	11 (10W)	12 (6W)
VDDCR_CPU	Variable (0.75–1.5) [13]	TDC [3]	24	22	18	11
		EDC	32	29	24	15
		Max Loadstep [4]	21	20	18	11
VDDCR_NB	Variable (0.75–1.2) [13]	TDC [3]	22	18	15	11
		EDC	29	24	20	15
		Max Loadstep [4]	19	16	13	10
VDDCR_FCH_S5	0.775 [11]	TDC	0.1			
	Variable [12]	TDC	0.4			

Husqin Telecom Technology Com.,Ltd.	
Page name:	CORE & NB
Size: A4	Project Name: NB8607
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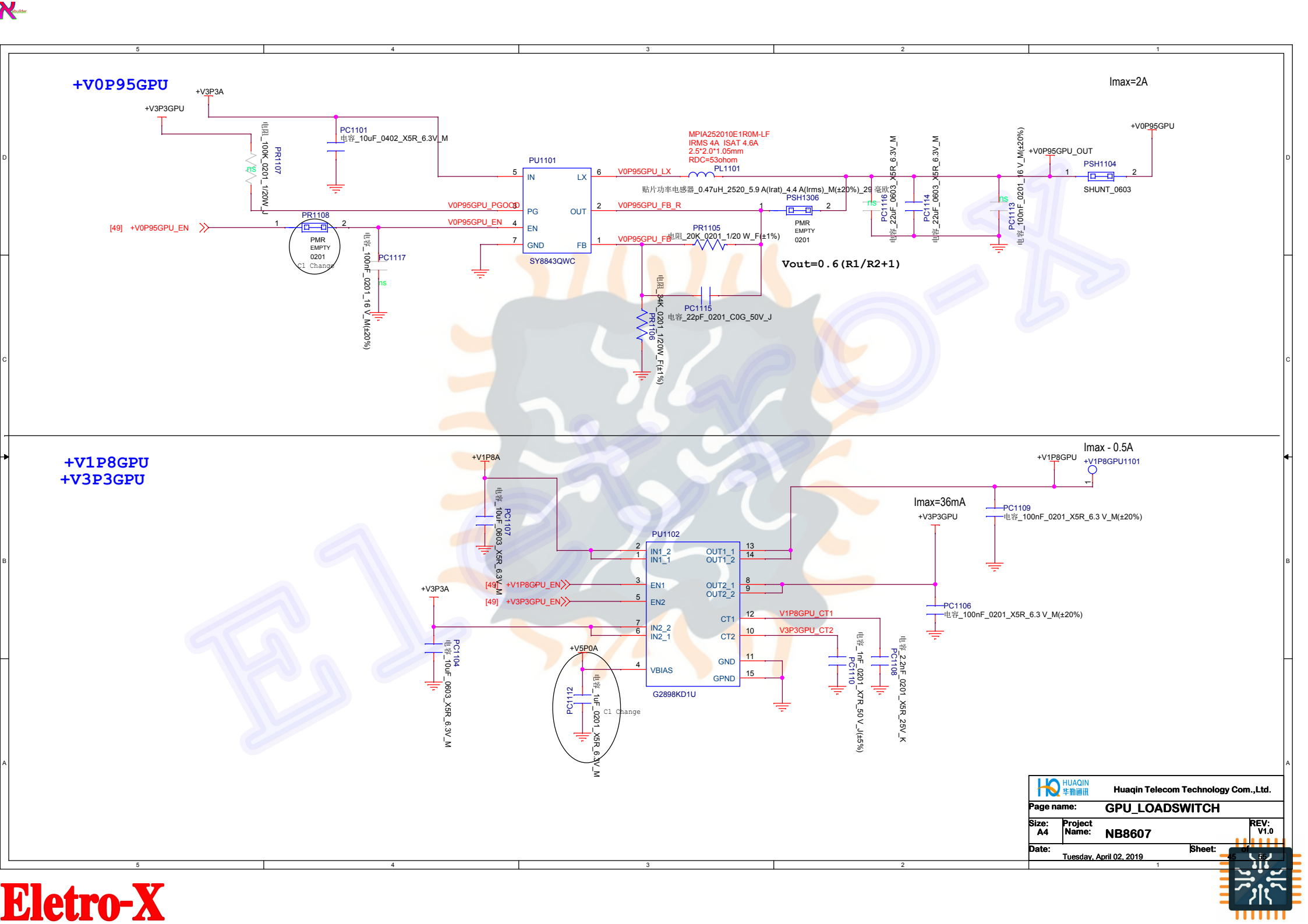
+V0P95GPU
Imax=2A
+V3P3A
+V3P3GPU
PC1101
电容_10uF_0402_X5R_6.3V_M
电阻_100K_0201_1/20W_J
PR1107
PU1101
IN
LX
PG
OUT
EN
GND
FB
SY8843QWC
MPIA252010E1R0M-LF
IRMS 4A ISAT 4.6A
2.5*2.0*1.05mm
RDC=53ohom
PL1101
V0P95GPU_LX
V0P95GPU_PGOOD
V0P95GPU_FB_R
V0P95GPU_EN
V0P95GPU_FB
[49] +V0P95GPU_EN
PR1108
PMR
EMPTY
0201
C1 Change
PC1117
电容_100nF_0201_16 V_M(±20%)
PR1105
电阻_20K_0201_1/20 W_F(±1%)
PSH1306
PMR
EMPTY
0201
PC1116
电容_22uF_0603_X5R_6.3V_M
PC1114
电容_22uF_0603_X5R_6.3V_M
PC1113
电容_100nF_0201_16 V_M(±20%)
+V0P95GPU_OUT
PSH1104
SHUNT_0603
+V0P95GPU
Vout=0.6(R1/R2+1)
PC1115
电容_22pF_0201_C0G_50V_J
PR1106
电阻_34K_0201_1/20W_F(±1%)
+V1P8GPU
+V3P3GPU
Imax - 0.5A
+V1P8A
+V1P8GPU1101
PC1107
电容_10uF_0603_X5R_6.3V_M
PU1102
IN1_2
IN1_1
EN1
EN2
IN2_2
IN2_1
VBIAS
OUT1_1
OUT1_2
OUT2_1
OUT2_2
CT1
CT2
GND
GPND
G2898KD1U
[49] +V1P8GPU_EN
[49] +V3P3GPU_EN
V1P8GPU_CT1
V3P3GPU_CT2
Imax=36mA
PC1109
电容_100nF_0201_X5R_6.3 V_M(±20%)
PC1106
电容_100nF_0201_X5R_6.3 V_M(±20%)
+V3P3A
PC1104
电容_10uF_0603_X5R_6.3V_M
+V5P0A
PC1112
电容_1uF_0201_X5R_6.3V_M
C1 Change
PC1110
电容_1nF_0201_X7R_50 V_J(±5%)
PC1108
电容_2.2nF_0201_X5R_25V_K
Huaqin Telecom Technology Com.,Ltd.
Page name: GPU_LOADSWITCH
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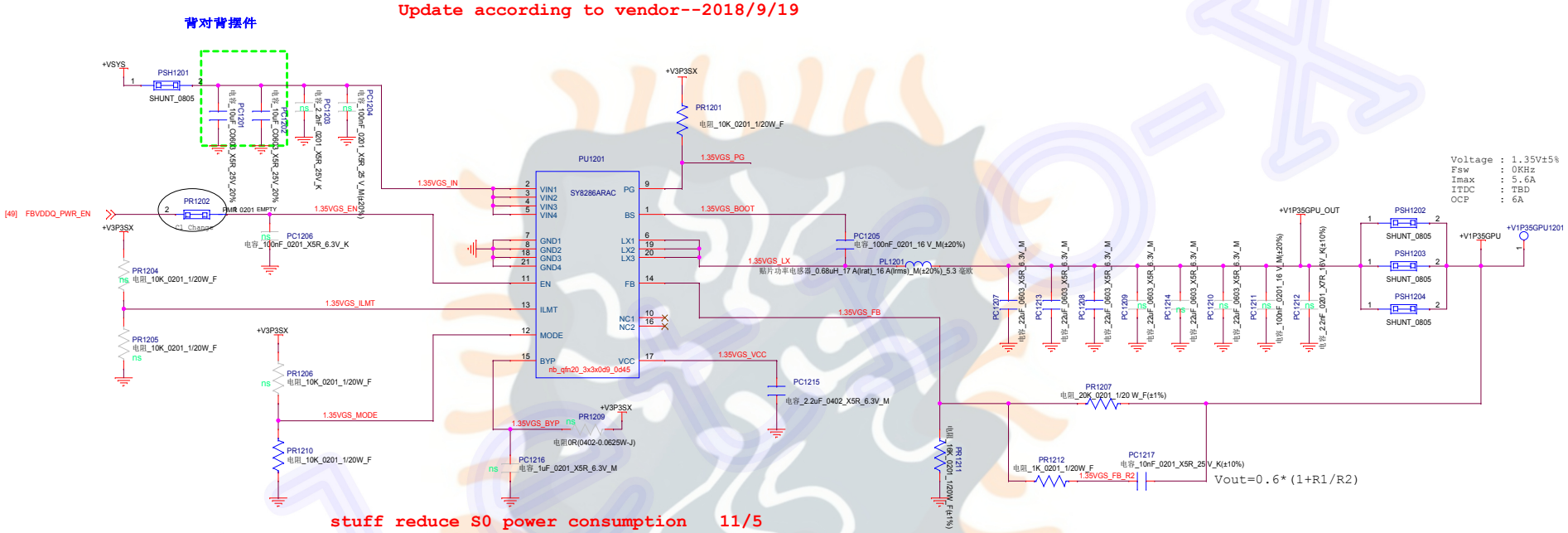
ILMT=Low	6.7	7.8	8.9	A
ILMT=Floating	9.3	10.6	11.9	A
ILMT=High	12	13.3	14.8	A

Update according to vendor--2018/9/19



stuff reduce S0 power consumption 11/5

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Page name:	V1P35GPU		
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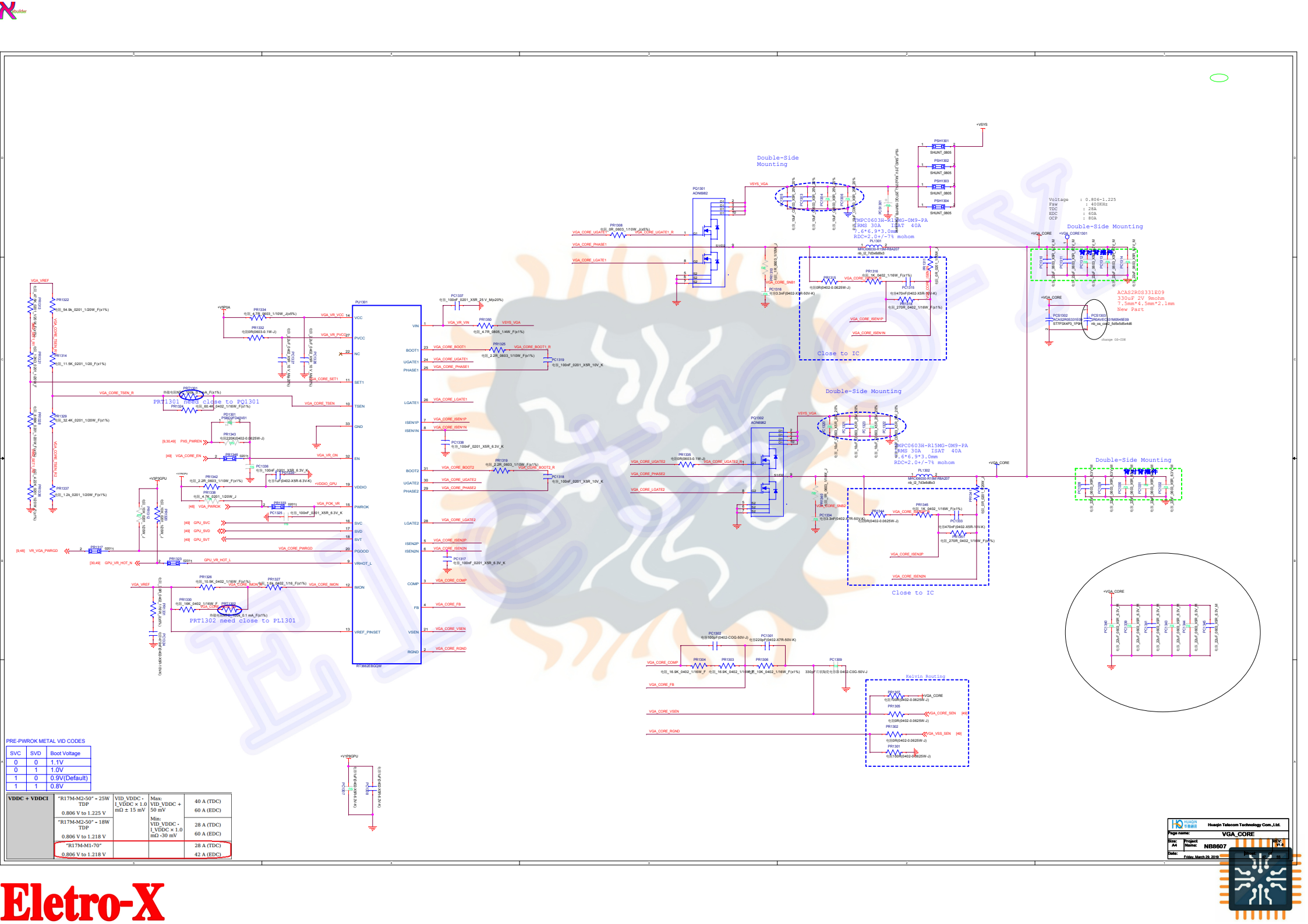
Double-Side Mounting
Close to IC
PRT1301 need close to PQ1301
PRT1302 need close to PL1301
Kelvin Routing
Voltage : 0.806-1.225
Fsw : 400KHz
TDC : 28A
EDC : 60A
OCP : 80A
PRE-PWROK METAL VID CODES
SVC SVD Boot Voltage
0 0 1.1V
0 1 1.0V
1 0 0.9V(Default)
1 1 0.8V
VDDC + VDDCI
"R17M-M2-50" - 25W TDP 0.806 V to 1.225 V
"R17M-M2-50" - 18W TDP 0.806 V to 1.218 V
"R17M-M1-70" 0.806 V to 1.218 V
VID_VDDC - I_VDDC × 1.0 mΩ ± 15 mV
Max: VID_VDDC + 50 mV
Min: VID_VDDC - I_VDDC × 1.0 mΩ -30 mV
40 A (TDC) 60 A (EDC)
28 A (TDC) 60 A (EDC)
28 A (TDC) 42 A (EDC)
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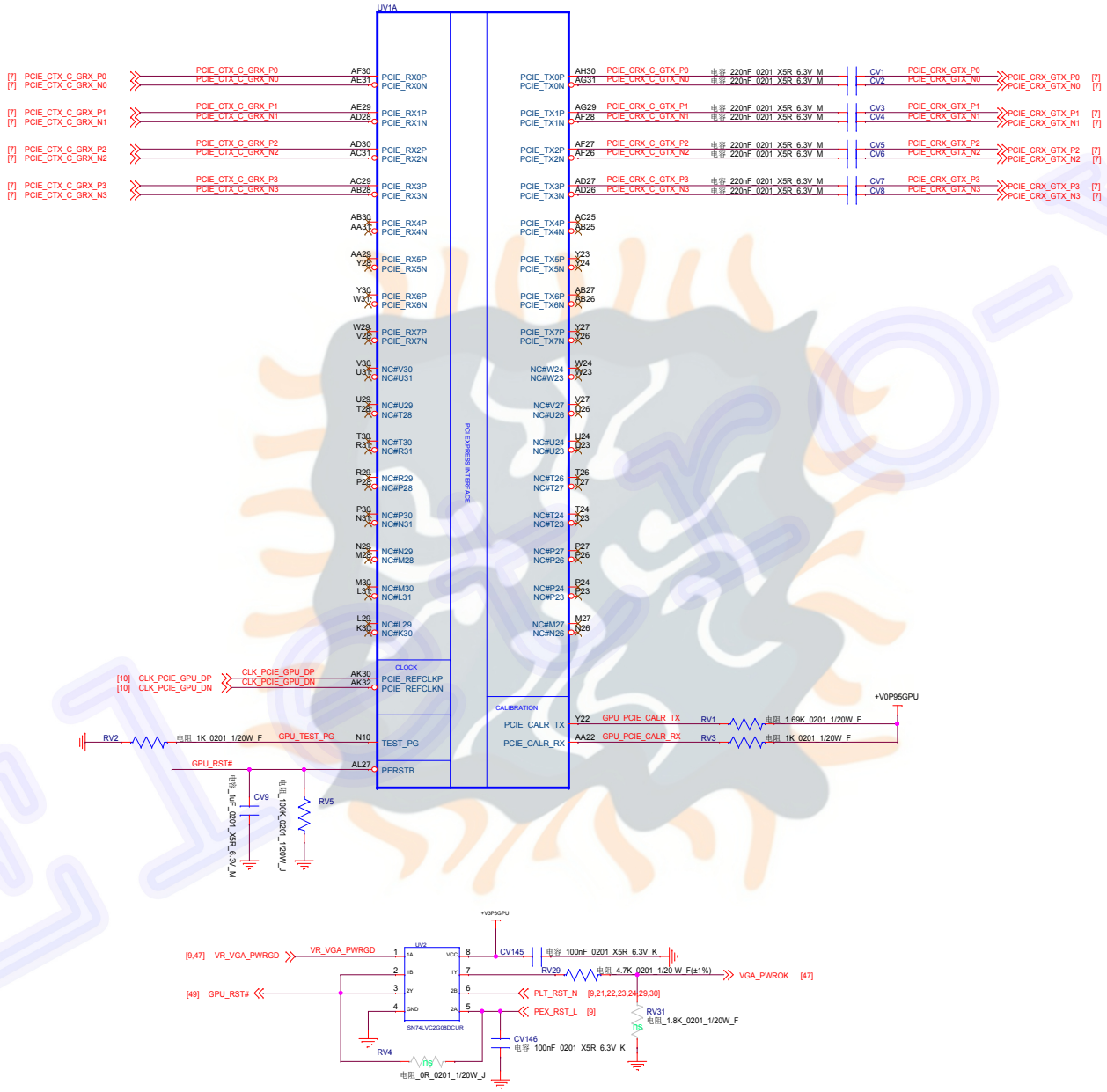

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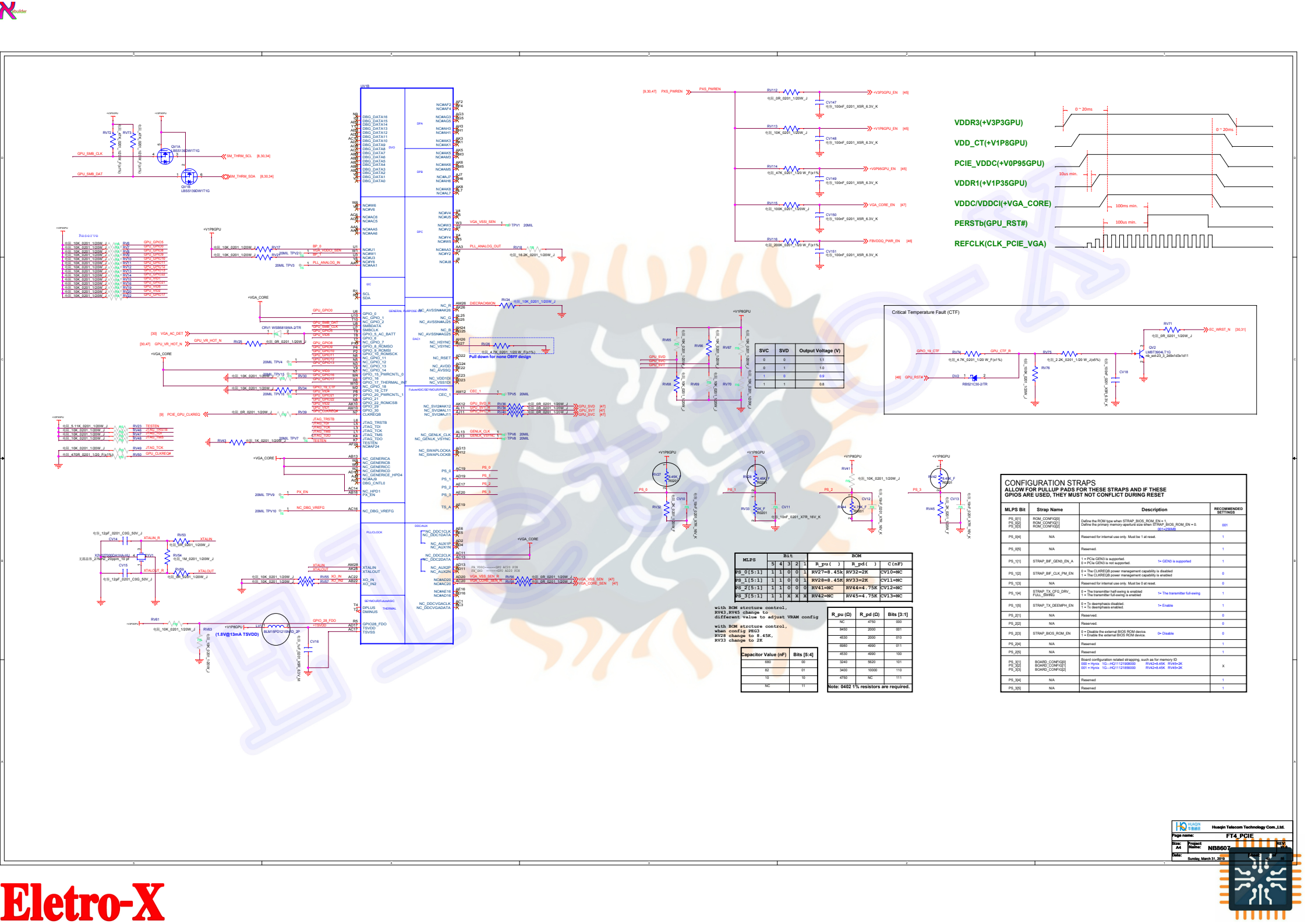
VDDR3(+V3P3GPU)
VDD_CT(+V1P8GPU)
PCIE_VDDC(+V0P95GPU)
VDDR1(+V1P35GPU)
VDDC/VDDCI(+VGA_CORE)
PERSTb(GPU_RST#)
REFCLK(CLK_PCIE_VGA)
0 ~ 20ms
10us min.
100ms min.
100us min.
Critical Temperature Fault (CTF)
SVC
SVD
Output Voltage (V)
CONFIGURATION STRAPS
ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOS ARE USED, THEY MUST NOT CONFLICT DURING RESET
MLPS Bit
Strap Name
Description
RECOMMENDED SETTINGS
MLPS
Bit
BOM
R_pu ( )
R_pd ( )
C(nF)
R_pu (Ω)
R_pd (Ω)
Bits [3:1]
Capacitor Value (nF)
Bits [5:4]
with BOM structure control, RV43,RV45 change to different value to adjust VRAM config
with BOM structure control, when config PEG3 RV28 change to 8.45K, RV33 change to 2K
Note: 0402 1% resistors are required.
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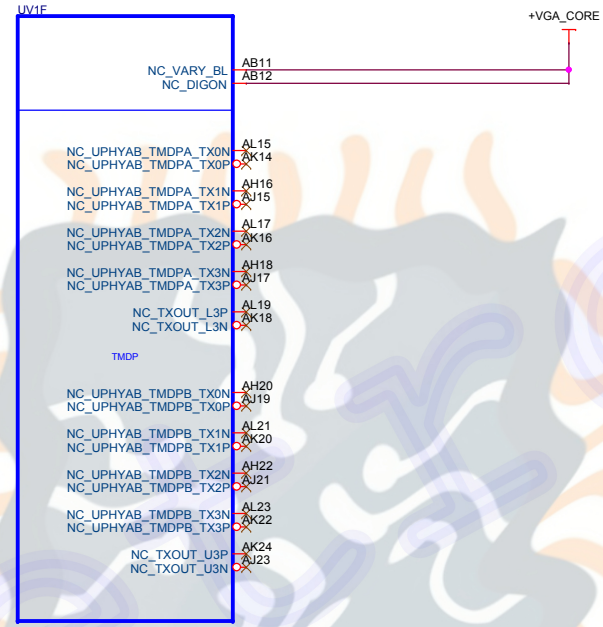

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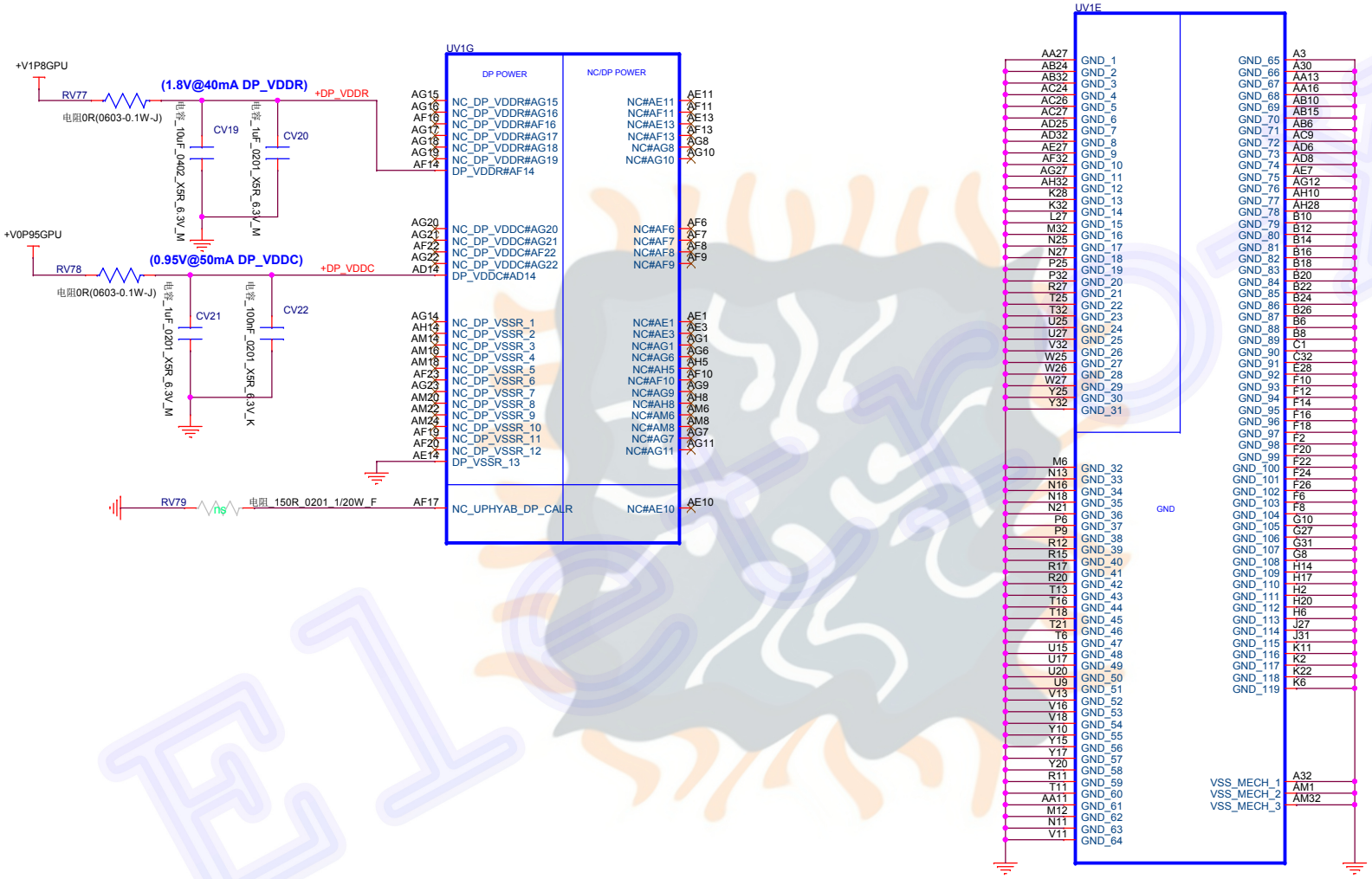

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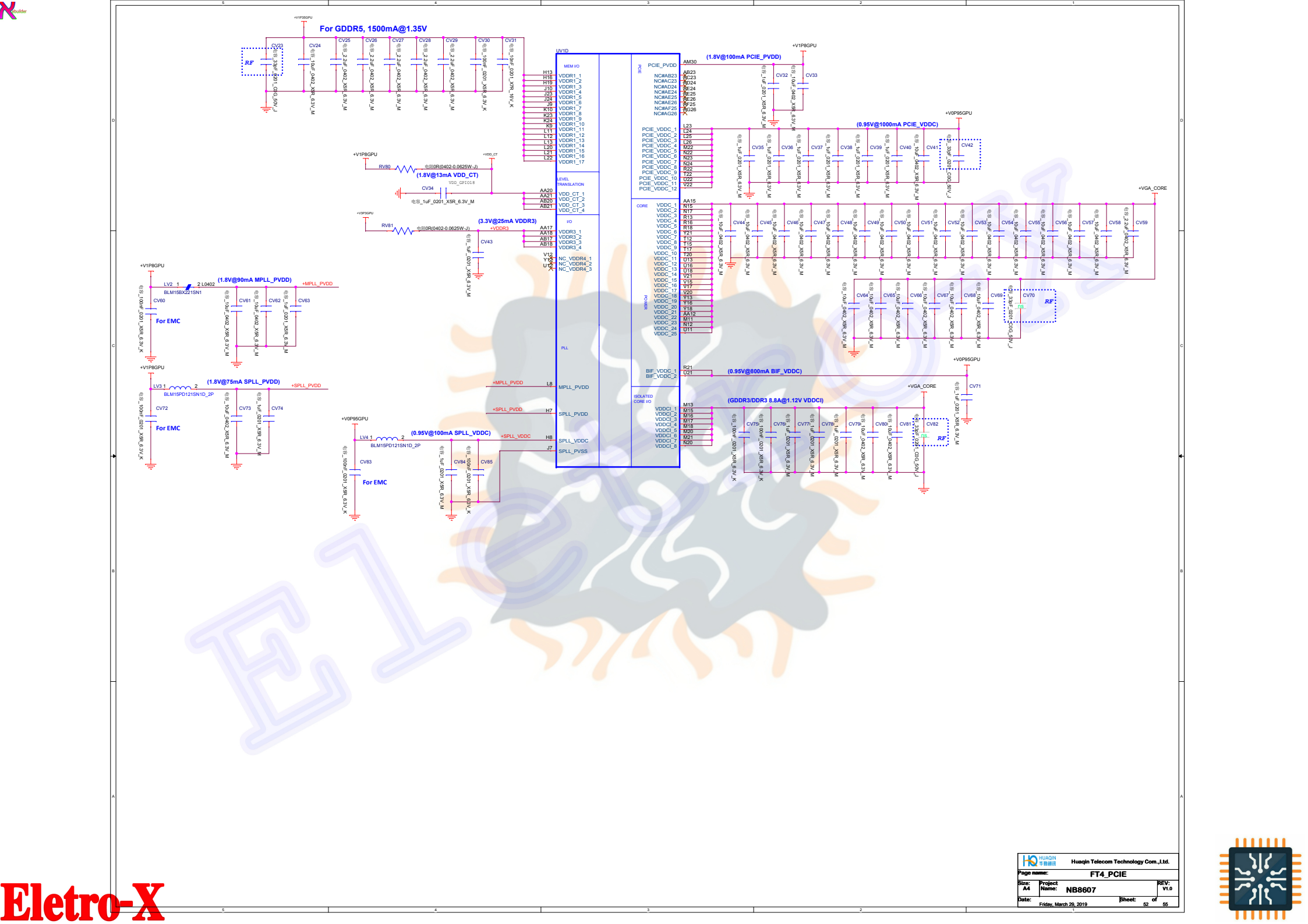
For GDDR5, 1500mA@1.35V
(1.8V@13mA VDD_CT)
(3.3V@25mA VDDR3)
(1.8V@90mA MPLL_PVDD)
(1.8V@75mA SPLL_PVDD)
(0.95V@100mA SPLL_VDDC)
(1.8V@100mA PCIE_PVDD)
(0.95V@1000mA PCIE_VDDC)
(0.95V@800mA BIF_VDDC)
(GDDR3/DDR3 8.8A@1.12V VDDCI)
For EMC
UV1D
MEM I/O
LEVEL TRANSLATION
I/O
PLL
PCIE
CORE
PCIE MEM
ISOLATED CORE I/O
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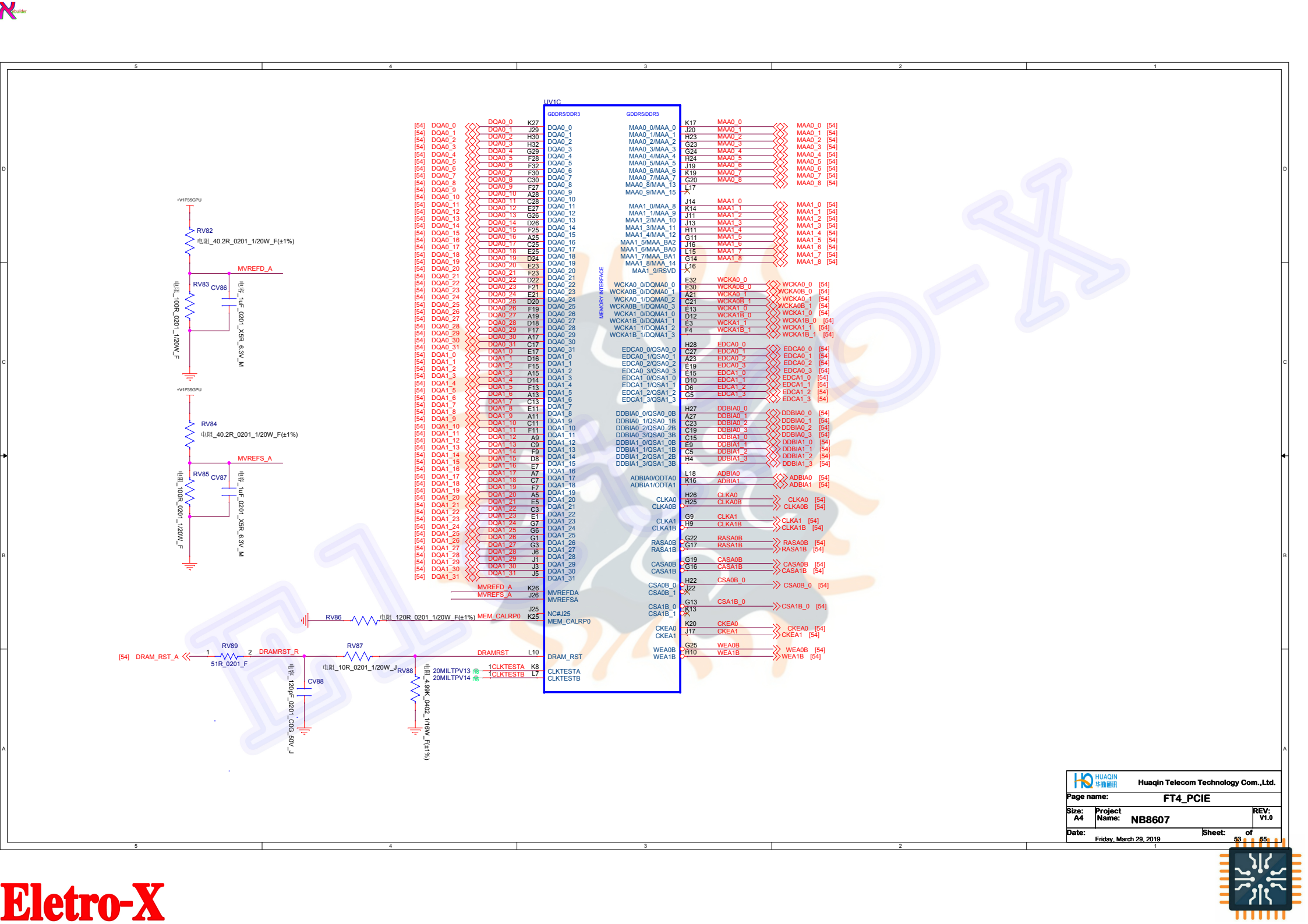
UV1C
GDDR5/DDR3
GDDR5/DDR3
MEMORY INTERFACE
RV82
电阻_40.2R_0201_1/20W_F(±1%)
MVREFD_A
RV83
CV86
电阻_100R_0201_1/20W_F
电容_1uF_0201_X5R_6.3V_M
RV84
电阻_40.2R_0201_1/20W_F(±1%)
MVREFS_A
RV85
CV87
电阻_100R_0201_1/20W_F
电容_1uF_0201_X5R_6.3V_M
RV86
电阻_120R_0201_1/20W_F(±1%)
MEM_CALRP0
RV89
51R_0201_F
DRAM_RST_A
DRAMRST_R
RV87
电阻_10R_0201_1/20W_J
RV88
CV88
电容_120pF_0201_C0G_50V_J
电阻_4.99K_0402_1/16W_F(±1%)
20MILTPV13 悬
20MILTPV14 悬
DRAMRST
CLKTESTA
CLKTESTB
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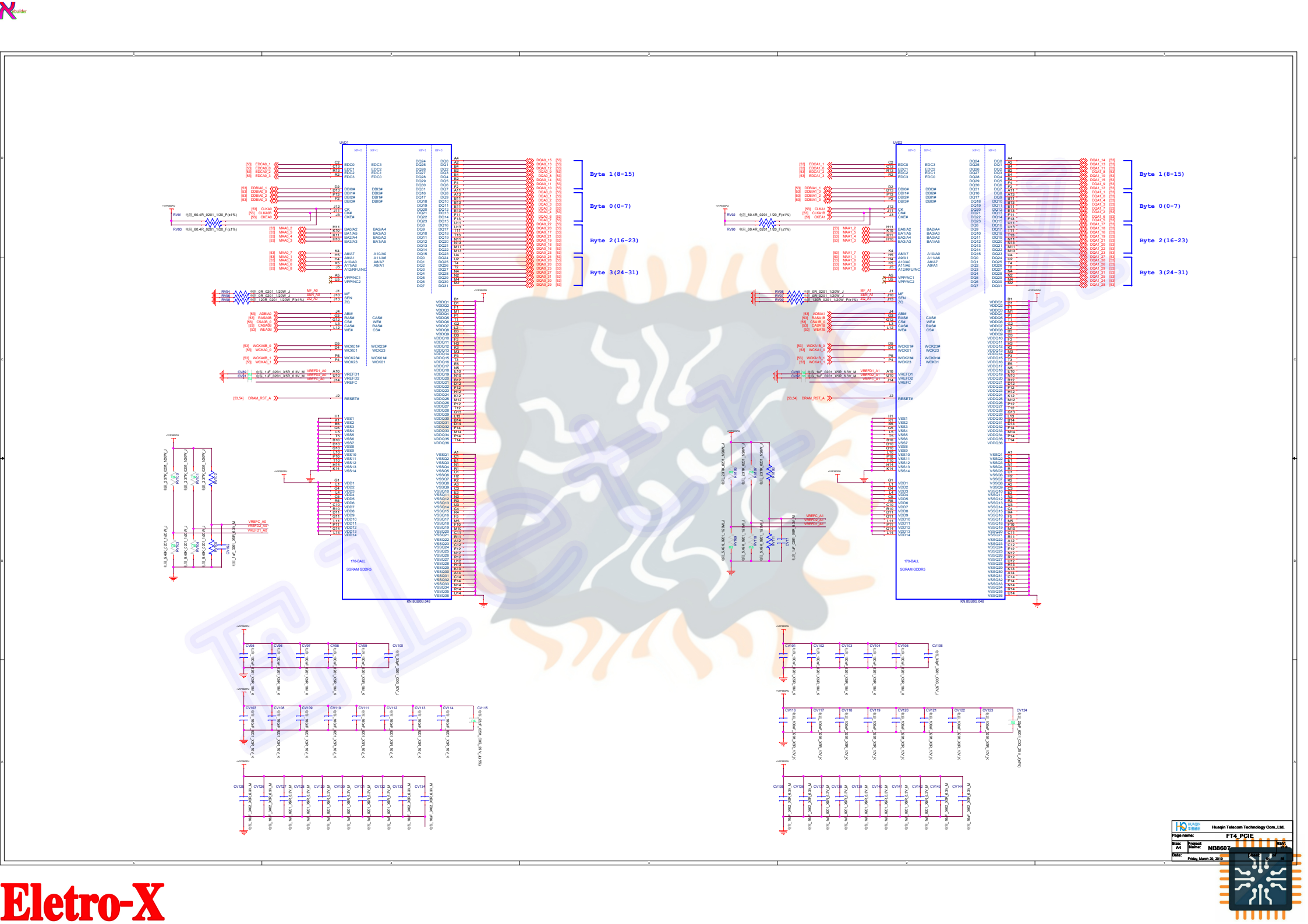

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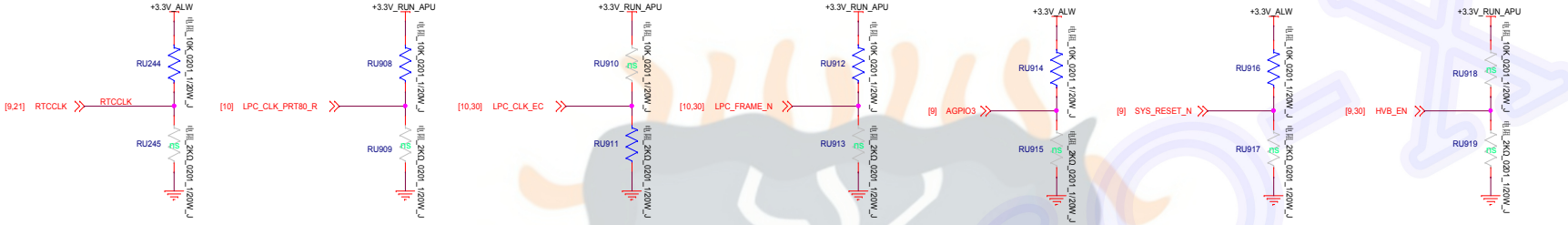

	LPC_CLK0 (LPC_CLK_EC)	LPC_CLK1 (LPC_CLK_PRT80_R)	LFRAME_L	AGPIO3 Int pull-up	RTC_CLK Int pull-up	SYS_RST# Int pull-up	HVB_EN
PULL HIGH	BOOT FAIL TIMER ENABLED	Use 48Mhz crystal clock and generate both internal and external clocks (DEFAULT)	SPI ROM (DEFAULT)	Enhanced reset (for quicker S5 (DEFAULT)	Coin battery is on board. (DEFAULT)	normal reset mode (DEFAULT)	floating Disable HVB
PULL LOW	BOOT FAIL TIMER DISABLED (DEFAULT)	Use 100Mhz PCIE clock as reference clock and generate internal clocks only	LPC ROM	Default to traditional reset logic	Coin battery is not on board.	short reset mode	connected to VSS Enable HVB

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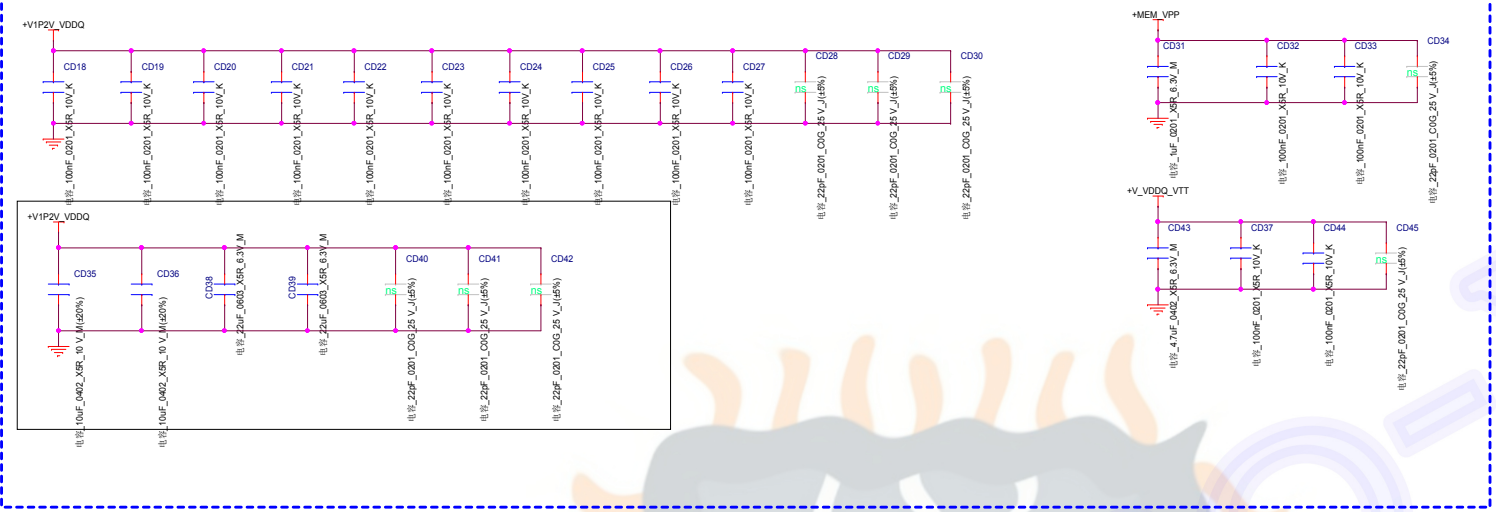
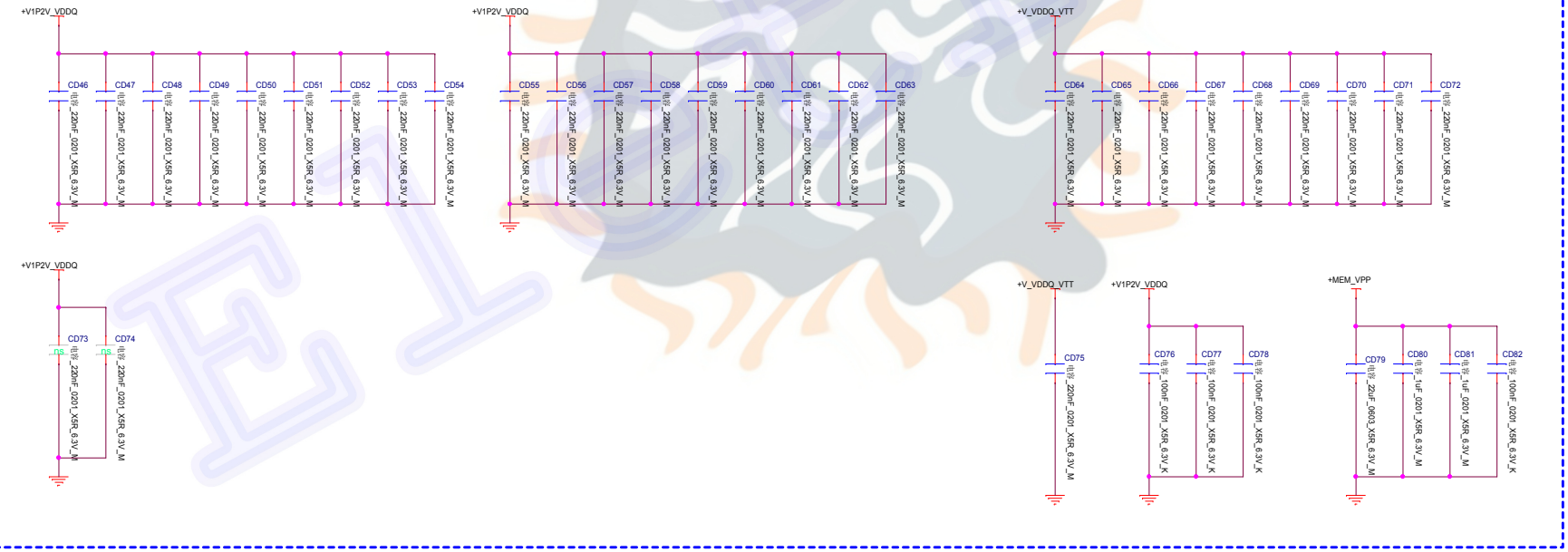
Layout Note: Place near SODIMM



DECOUPLING CAPACITORS FOR MEMORY DOWN



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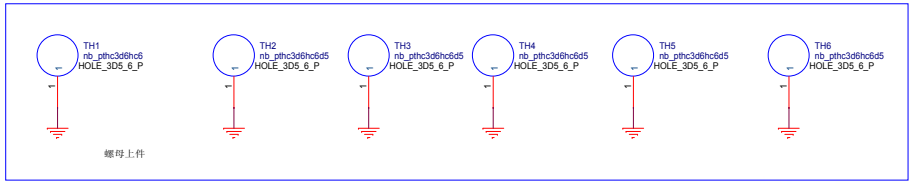

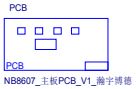

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03	Power Map	1.0		37	POWER DELIVERY 3.3V	1.0	
04	System List	1.0		38	POWER DELIVERY 5V	1.0	
05	Power Sequence Block	1.0		39	POWER DELIVERY 1.8V 0.775V	1.0	
06	FT4 MEMORY	1.0		40	POWER DELIVERY 0.95V	1.0	
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08	FT4 DISPLAY/SVI2/JTAG/TEST	1.0		42	POWER DELIVERY LOADSWITCH	1.0	
09	FT4 ACPI/AZ/SD/I2C/GPIO/MISC	1.0		43	POWER DELIVERY Backlight	1.0	
10	FT4 CLK/LPC/STAT/SPI/USB	1.0		44	POWER DELIVERY CORE & NB	1.0	
11	FT4 POWER	1.0		45	V1P8GPU/V3P3GPU/V0P95GPU	1.0	
12	FT4 VSS	1.0		46	POWER DELIVERY V1P35GPU	1.0	
13	STRAP	1.0		47	POWER DELIVERY VGA CORE	1.0	
14	MEM MD 0 1	1.0		48	GPU Weston Pro PCIE	1.0	
15	MEM MD 2 3	1.0		49	GPU Weston Pro Main MSIC	1.0	
16	MEM SODIMM	1.0		50	GPU Weston Pro TMDP	1.0	
17	MEM DECAPS	1.0		51	GPU Weston Pro DP Power	1.0	
18	DDR4 MD TERMINATIONS	1.0		52	GPU Weston Pro Power	1.0	
19	SYSTEM FLASH	1.0		53	GPU Weston Pro MEMORY	1.0	
20	HDD	1.0		54	GPU Weston Pro VRAM x2	1.0	
21	WLAN	1.0		55	Hole & Mark	1.0	
22	LAN	1.0					
23	SSD	1.0					
24	EMMC	1.0					
25	USB	1.0					
26	Audio Codec	1.0					
27	EDP &CAM&MIC	1.0					
28	HDMI CONTROLLER	1.0					
29	TPM&G SENSORS&HALL	1.0					
30	EC(IT8987E)	1.0					
31	RTC	1.0					
32	TouchPad&FAN	1.0					
33	KB CON&KB BLt&FP	1.0					
34	Thermal sensor	1.0					

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