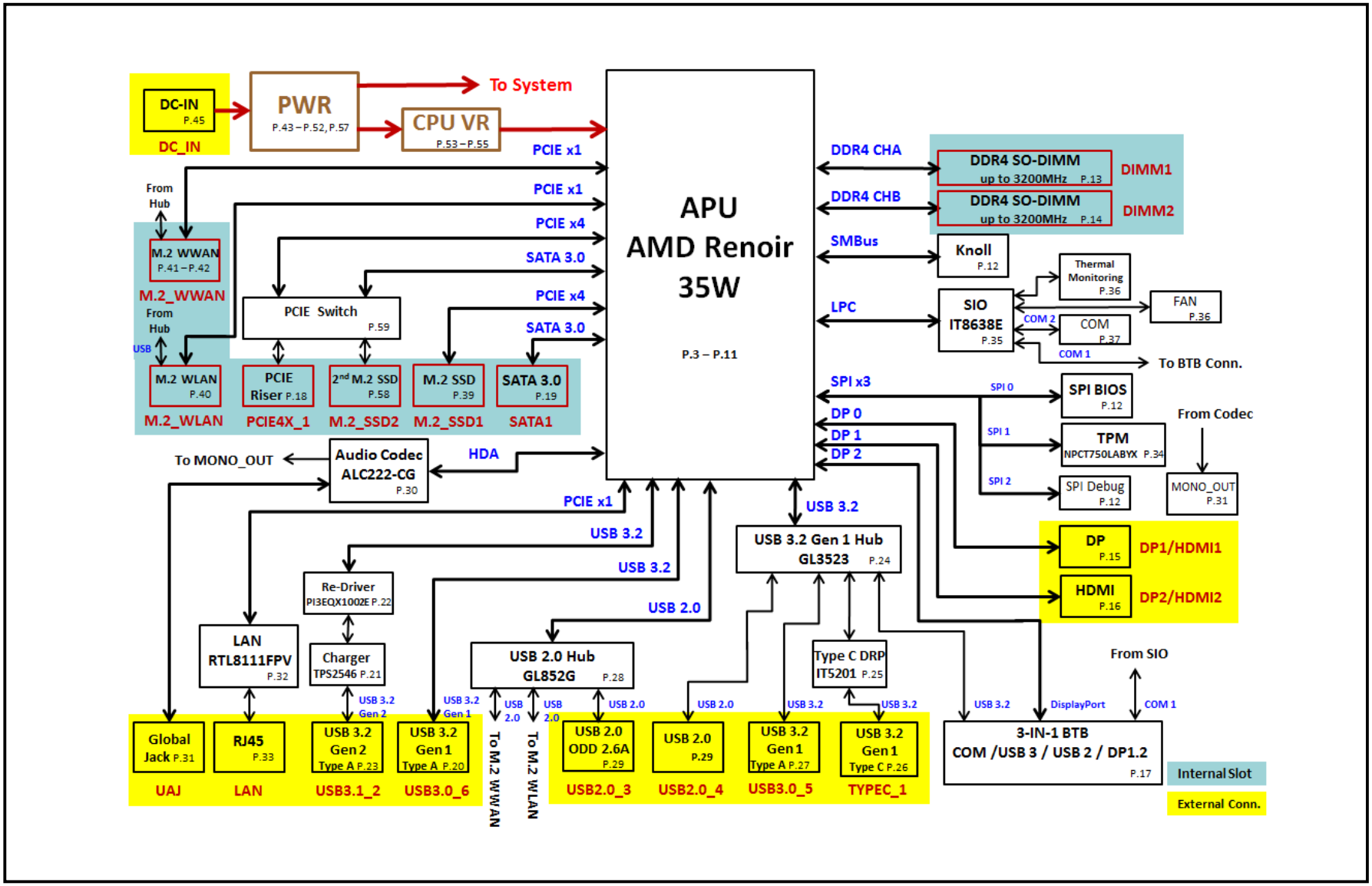
TINY6 M75Q-2 SCHEMATICS Rev:0.3

SHEET# DESCRIPTION

Universal Scientific Industrial Co., Ltd.

TITLE: TINY6 M75Q-2 INDEX		REV: V0.3
Document Number : <Doc>		
Prepared by : Jason		
SIZE : A3	Date: Tuesday, April 28, 2020	PAGE: 1 of 66

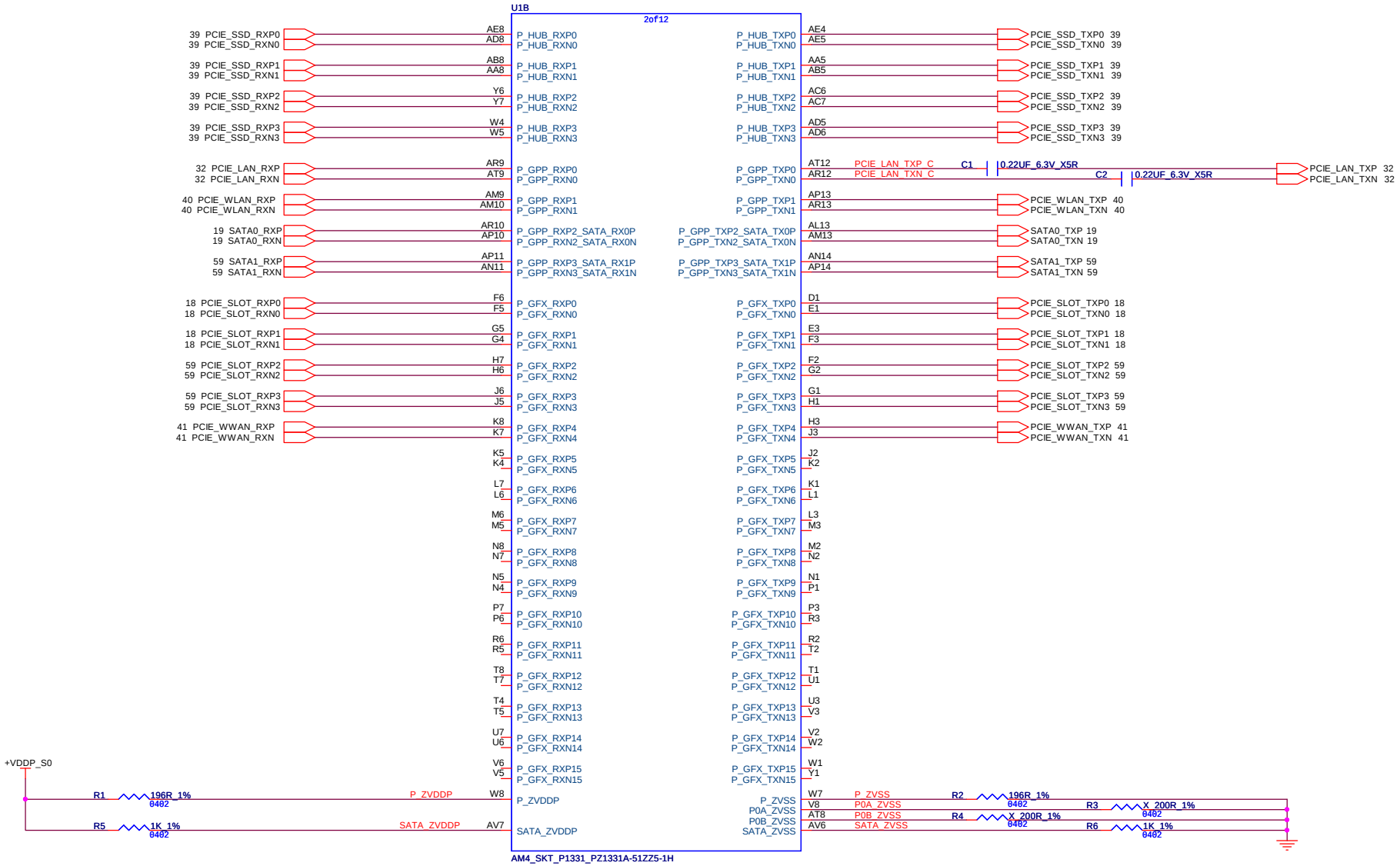
BLOCK DIAGRAM



Universal Scientific Industrial Co., Ltd.

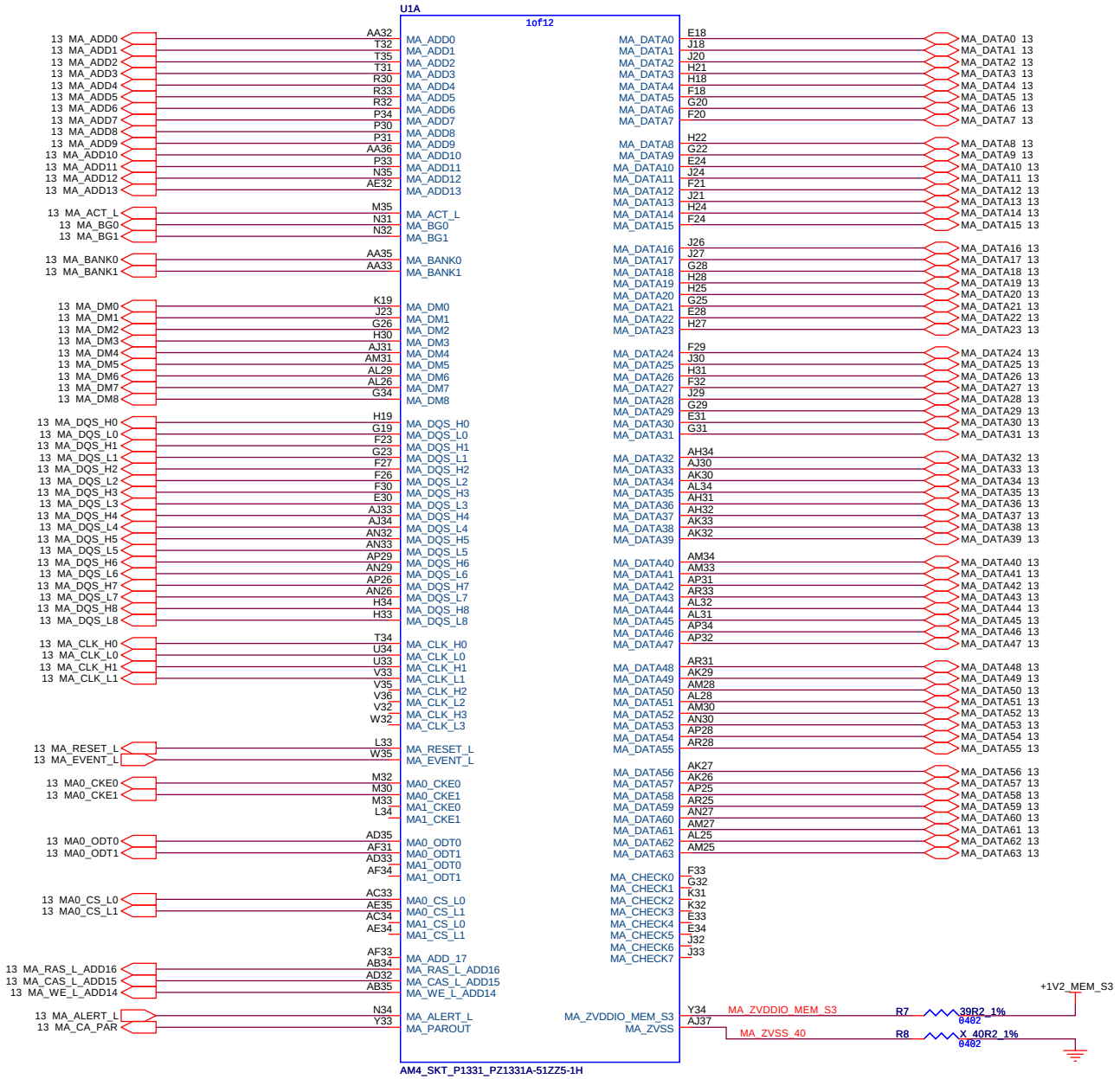
TITLE: TINY6 M75Q-2 BLOCK DIAGRAM		REV: V0.3
Document Number : <Doc>		
Prepared by : Jason		
SIZE : A3	Date: Tuesday, April 28, 2020	PAGE: 2 of 66

AM4 PCIE I/F



Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 AM4 PCIE I/F			REV: V0.3
Document Number : <Doc>			
Prepared by : Jason			
SIZE : A3	Date: Tuesday, April 28, 2020		PAGE: 3 of 66

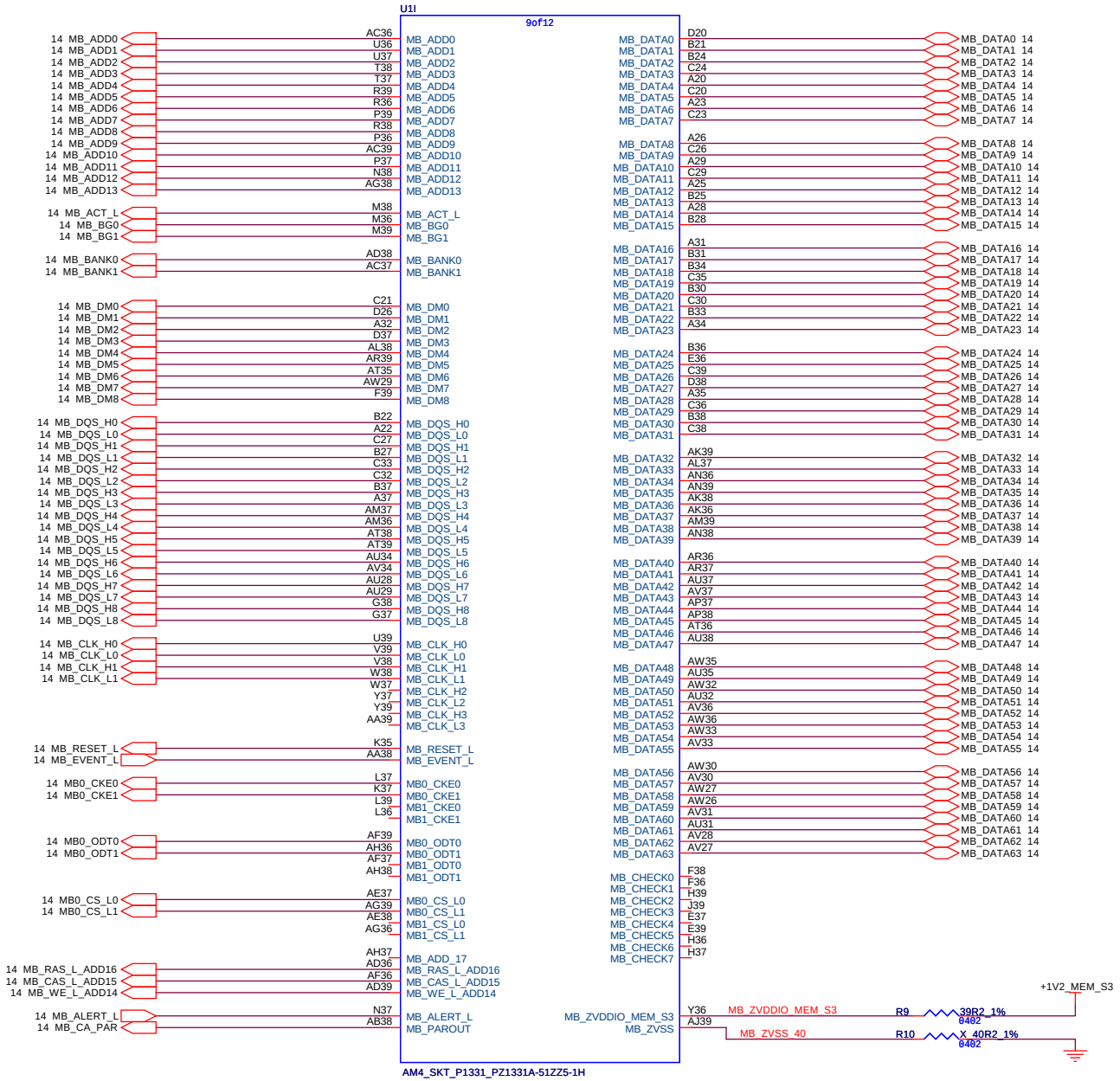
AM4 MEM DDR4 CHA



Universal Scientific Industrial Co., Ltd.

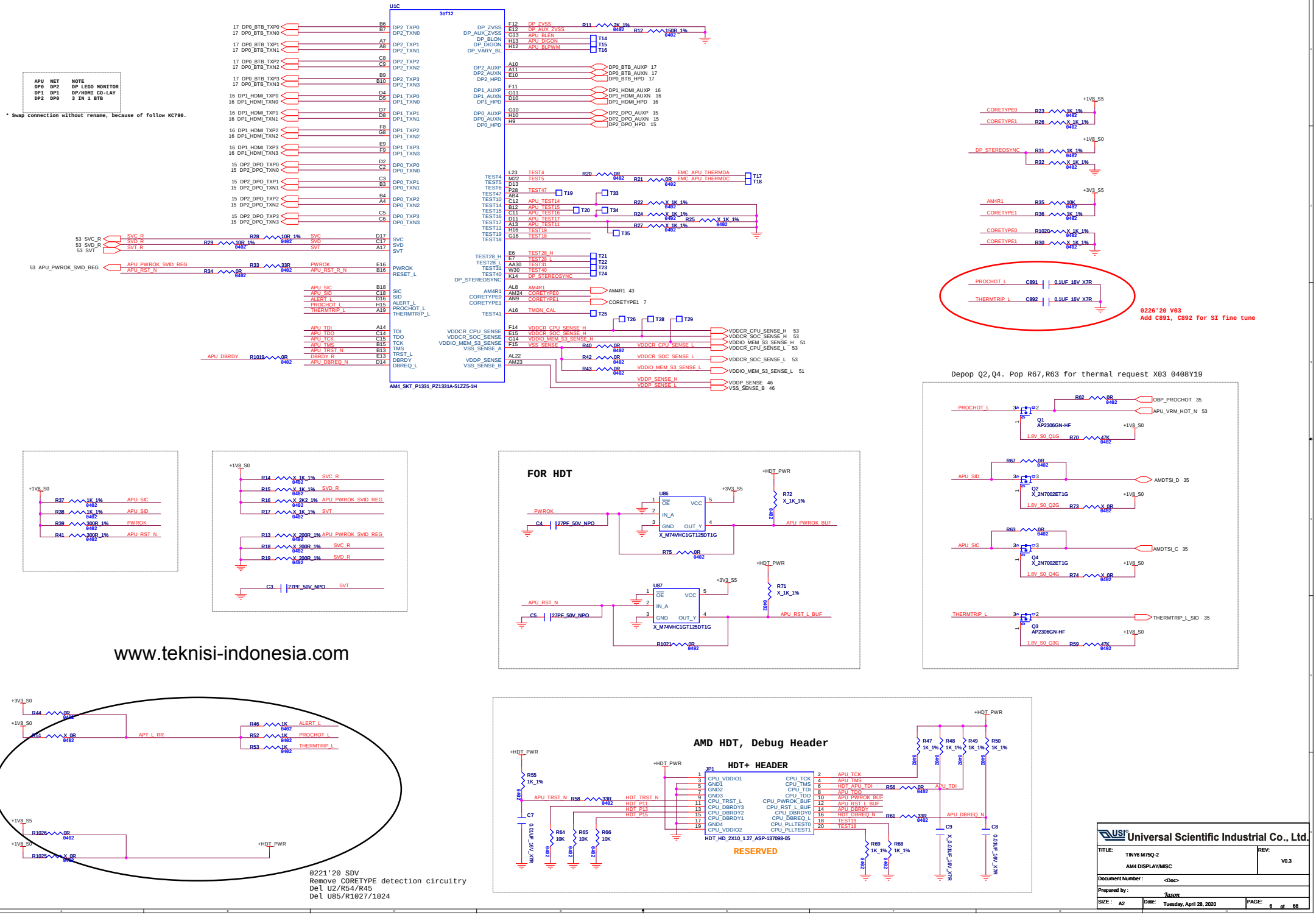
TITLE: TINY6 M75Q-2 AM4 MEM DDR4 CHA		REV: V0.3
Document Number : <Doc>		
Prepared by : Jason		
SIZE : A3	Date: Tuesday, April 28, 2020	PAGE: 4 of 66

AM4 MEM DDR4 CHB

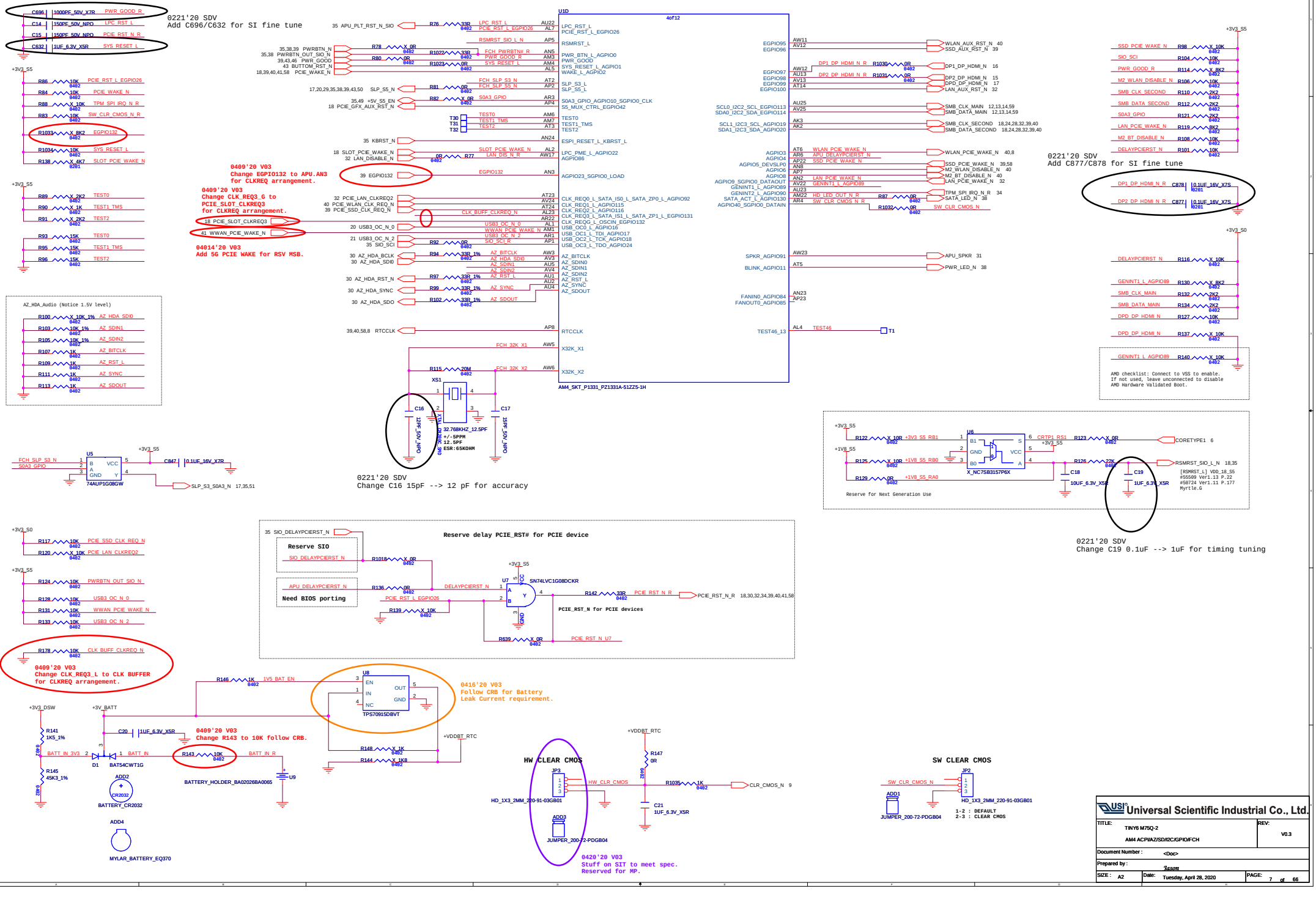


Universal Scientific Industrial Co., Ltd.	
TITLE: TINY6 M75Q-2 AM4 MEM DDR4 CHB	REV: V0.3
Document Number : <Doc>	
Prepared by : Jason	
SIZE : A3 / Date: Tuesday, April 28, 2020	PAGE: 5 of 66

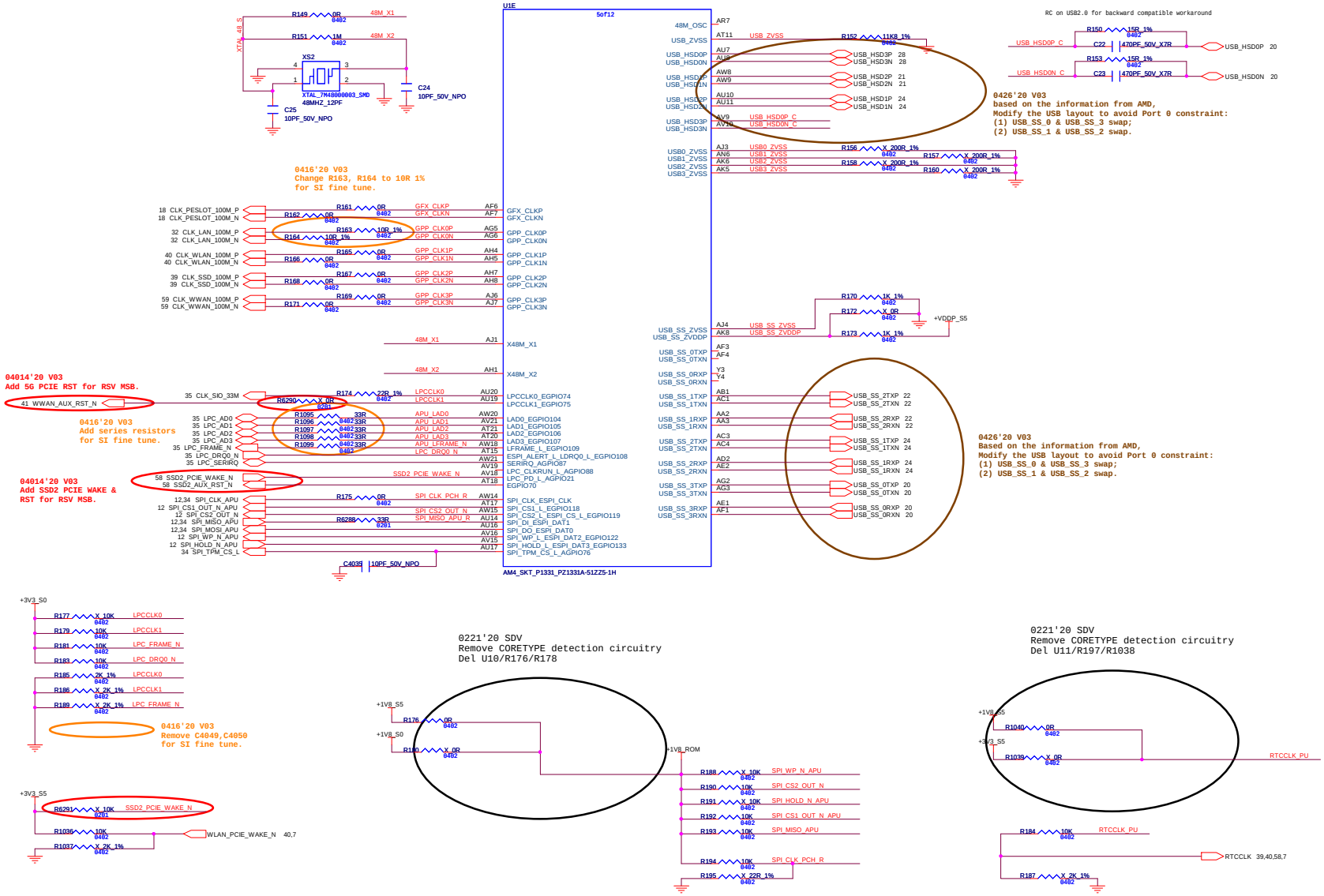
AM4 DISPLAY/MISC



AM4 ACPI/AZ/SD/I2C/GPIO/FCH



AM4 CLK/LPC/SPI/USB/STRAP

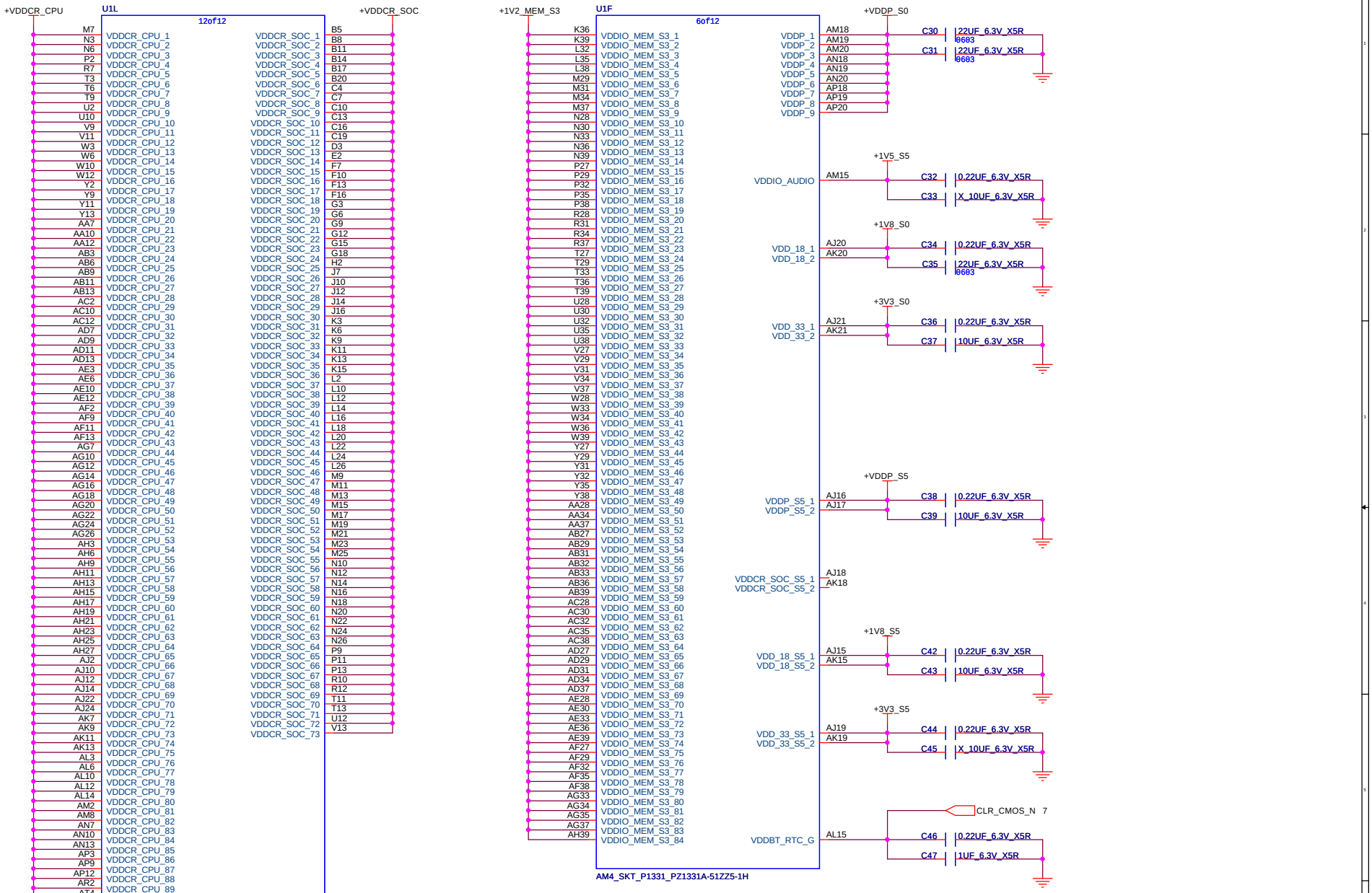


Renoir Strap Table (AM4 TYPE 5)

	SPI CLK	LFRAME_L	SYS_RST#
PULL HIGH	Internal clock mode (DEFAULT)	SPI ROM (DEFAULT)	Normal reset mode (DEFAULT)
PULL LOW	Ext clock mode	LPC ROM	Short reset mode

Universal Scientific Industrial Co., Ltd.	
TITLE: TINY6 M75Q-2 AM4 CLK/LPC/SPI/USB/STRAP	REV: V0.3
Document Number : <Doc>	
Prepared by : Jason	
SIZE : A2	Date: Tuesday, April 28, 2020 PAGE: 8 of 66

AM4 POWER



Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 AM4 POWER			REV: V0.3
Document Number : <Doc>			
Prepared by : Jason			
SIZE : A3	Date: Tuesday, April 28, 2020		PAGE: 9 of 66

AM4 DECOUPLING

TOP CAVITY

+1V2_MEM_S3

C48	22UF_6.3V_X5R
C54	22UF_6.3V_X5R
C60	22UF_6.3V_X5R
C66	22UF_6.3V_X5R

CAP_0603_30X35X15_BODY39

+VDDCR_SOC

C87	22UF_6.3V_X5R
C99	22UF_6.3V_X5R
C93	22UF_6.3V_X5R
C105	22UF_6.3V_X5R
C111	22UF_6.3V_X5R
C123	22UF_6.3V_X5R
C117	22UF_6.3V_X5R
C129	22UF_6.3V_X5R

CAP_0603_30X35X15_BODY39

+VDDCR_CPU

C141	22UF_6.3V_X5R
C149	22UF_6.3V_X5R
C145	22UF_6.3V_X5R
C152	22UF_6.3V_X5R
C155	22UF_6.3V_X5R
C161	22UF_6.3V_X5R
C158	22UF_6.3V_X5R
C164	22UF_6.3V_X5R
C170	22UF_6.3V_X5R
C178	22UF_6.3V_X5R
C174	22UF_6.3V_X5R
C182	22UF_6.3V_X5R

CAP_0603_30X35X15_BODY39

+1V2_MEM_S3

C499	12PF_50V_NPO
C631	2.2PF_50V_COG

For RF modification

0420'20 V03
Down size by USI CM suggested.

BOTTOM SIDE DECOUPLING

+VDDCR_CPU

C49	4.7UF_10V_X5R
C55	X_4.7UF_10V_X5R
C61	4.7UF_10V_X5R
C67	X_4.7UF_10V_X5R
C72	4.7UF_10V_X5R
C77	X_4.7UF_10V_X5R
C82	X_4.7UF_10V_X5R
C88	X_4.7UF_10V_X5R
C94	4.7UF_10V_X5R
C100	4.7UF_10V_X5R
C106	X_4.7UF_10V_X5R
C112	4.7UF_10V_X5R
C118	X_4.7UF_10V_X5R
C124	4.7UF_10V_X5R
C130	X_4.7UF_10V_X5R
C133	4.7UF_10V_X5R
C135	4.7UF_10V_X5R
C138	4.7UF_10V_X5R
C142	X_4.7UF_10V_X5R
C146	X_4.7UF_10V_X5R

CAP_0402_16.4X16.4X12_BODY22

+VDDCR_CPU

C50	22UF_6.3V_X5R
C56	22UF_6.3V_X5R
C62	22UF_6.3V_X5R
C68	22UF_6.3V_X5R
C73	22UF_6.3V_X5R
C78	22UF_6.3V_X5R
C83	22UF_6.3V_X5R
C89	22UF_6.3V_X5R
C95	22UF_6.3V_X5R
C101	22UF_6.3V_X5R
C107	22UF_6.3V_X5R
C113	22UF_6.3V_X5R
C119	22UF_6.3V_X5R
C125	22UF_6.3V_X5R
C131	22UF_6.3V_X5R

CAP_0603_30X35X15_BODY39

+VDDCR_CPU

C51	X_180PF_50V_NPO
C57	180PF_50V_NPO
C63	0.22UF_6.3V_X5R
C69	0.22UF_6.3V_X5R
C74	X_0.22UF_6.3V_X5R
C79	X_0.22UF_6.3V_X5R
C84	0.22UF_6.3V_X5R
C90	0.22UF_6.3V_X5R
C96	0.22UF_6.3V_X5R
C102	X_0.22UF_6.3V_X5R
C108	0.22UF_6.3V_X5R
C114	X_0.22UF_6.3V_X5R
C120	X_0.22UF_6.3V_X5R
C126	X_0.22UF_6.3V_X5R

CAP_0402_16.4X16.4X12_BODY22

+VDDCR_SOC

C52	4.7UF_10V_X5R
C58	4.7UF_10V_X5R
C64	4.7UF_10V_X5R
C70	4.7UF_10V_X5R
C75	4.7UF_10V_X5R
C80	4.7UF_10V_X5R
C85	4.7UF_10V_X5R
C91	X_4.7UF_10V_X5R
C103	4.7UF_10V_X5R
C109	X_4.7UF_10V_X5R
C97	4.7UF_10V_X5R
C115	X_4.7UF_10V_X5R
C121	4.7UF_10V_X5R
C127	4.7UF_10V_X5R
C132	X_4.7UF_10V_X5R
C134	4.7UF_10V_X5R
C136	4.7UF_10V_X5R
C139	4.7UF_10V_X5R
C143	4.7UF_10V_X5R
C147	4.7UF_10V_X5R
C150	4.7UF_10V_X5R
C153	4.7UF_10V_X5R
C156	4.7UF_10V_X5R
C159	4.7UF_10V_X5R
C162	4.7UF_10V_X5R
C168	4.7UF_10V_X5R

CAP_0402_16.4X16.4X12_BODY22

+VDDCR_SOC

C53	22UF_6.3V_X5R
C59	22UF_6.3V_X5R
C65	22UF_6.3V_X5R
C71	22UF_6.3V_X5R
C76	22UF_6.3V_X5R
C81	22UF_6.3V_X5R
C86	22UF_6.3V_X5R
C92	22UF_6.3V_X5R
C98	22UF_6.3V_X5R
C104	22UF_6.3V_X5R
C110	22UF_6.3V_X5R
C116	22UF_6.3V_X5R
C122	22UF_6.3V_X5R
C128	22UF_6.3V_X5R

CAP_0603_30X35X15_BODY39

+VDDCR_SOC

C137	X_0.22UF_6.3V_X5R
C140	X_0.22UF_6.3V_X5R
C144	0.22UF_6.3V_X5R
C148	0.22UF_6.3V_X5R
C151	0.22UF_6.3V_X5R
C154	0.22UF_6.3V_X5R
C157	0.22UF_6.3V_X5R
C160	0.22UF_6.3V_X5R
C163	0.22UF_6.3V_X5R
C169	0.22UF_6.3V_X5R

CAP_0402_16.4X16.4X12_BODY22

+1V2_MEM_S3

C165	4.7UF_10V_X5R
C171	4.7UF_10V_X5R
C175	4.7UF_10V_X5R
C179	4.7UF_10V_X5R
C183	4.7UF_10V_X5R
C187	4.7UF_10V_X5R
C191	4.7UF_10V_X5R
C195	4.7UF_10V_X5R
C206	4.7UF_10V_X5R
C208	4.7UF_10V_X5R
C210	4.7UF_10V_X5R
C212	4.7UF_10V_X5R
C198	4.7UF_10V_X5R
C200	4.7UF_10V_X5R
C202	4.7UF_10V_X5R
C204	4.7UF_10V_X5R
C214	4.7UF_10V_X5R
C216	4.7UF_10V_X5R
C215	4.7UF_10V_X5R
C217	4.7UF_10V_X5R

CAP_0402_16.4X16.4X12_BODY22

+1V2_MEM_S3

C166	22UF_6.3V_X5R
C176	22UF_6.3V_X5R
C172	22UF_6.3V_X5R
C180	22UF_6.3V_X5R
C184	22UF_6.3V_X5R
C188	22UF_6.3V_X5R
C192	22UF_6.3V_X5R
C196	22UF_6.3V_X5R

CAP_0603_30X35X15_BODY39

+1V2_MEM_S3

C167	180PF_50V_NPO
C173	180PF_50V_NPO
C177	0.22UF_6.3V_X5R
C185	0.22UF_6.3V_X5R
C181	0.22UF_6.3V_X5R
C193	0.22UF_6.3V_X5R
C189	0.22UF_6.3V_X5R
C199	0.22UF_6.3V_X5R
C197	0.22UF_6.3V_X5R
C201	0.22UF_6.3V_X5R
C205	0.22UF_6.3V_X5R
C203	0.22UF_6.3V_X5R
C209	0.22UF_6.3V_X5R
C207	0.22UF_6.3V_X5R
C213	0.22UF_6.3V_X5R
C211	0.22UF_6.3V_X5R

CAP_0402_16.4X16.4X12_BODY22

+VDDCR_SOC

C186	180PF_50V_NPO
C190	180PF_50V_NPO
C194	180PF_50V_NPO

CAP_0402_16.4X16.4X12_BODY22

Universal Scientific Industrial Co., Ltd.

TITLE: TINY6 M75Q-2 AM4 DECOUPLING		REV: V0.3
Document Number : <Doc>		
Prepared by : Jason		
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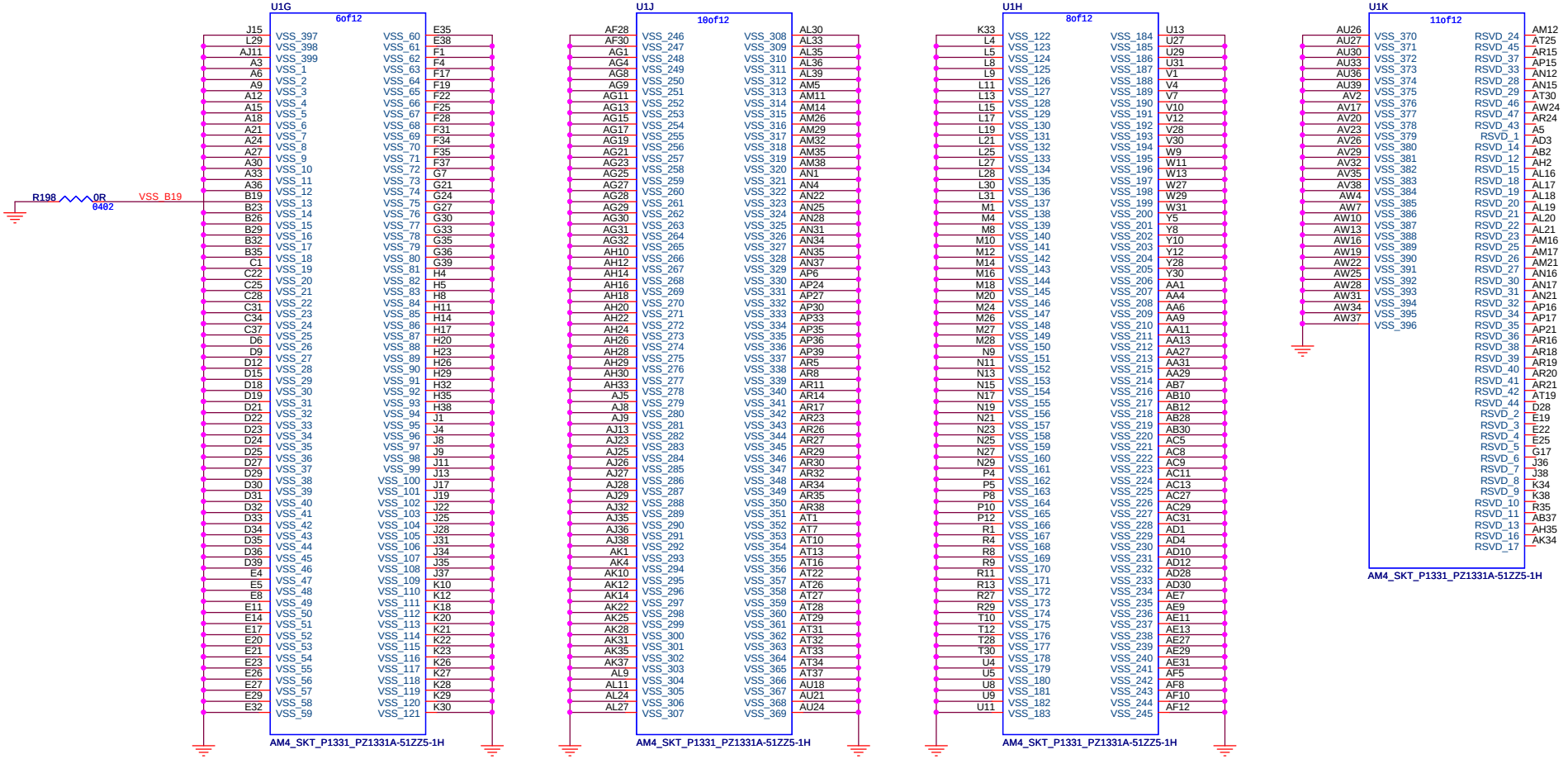
AM4 GND



Universal Scientific Industrial Co., Ltd.			
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Document Number : <Doc>			
Prepared by : Jason			
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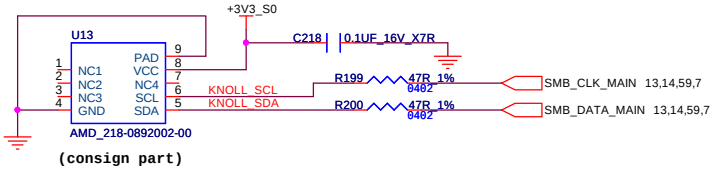
KNOLL & SPI ROM

AMD KNOLL



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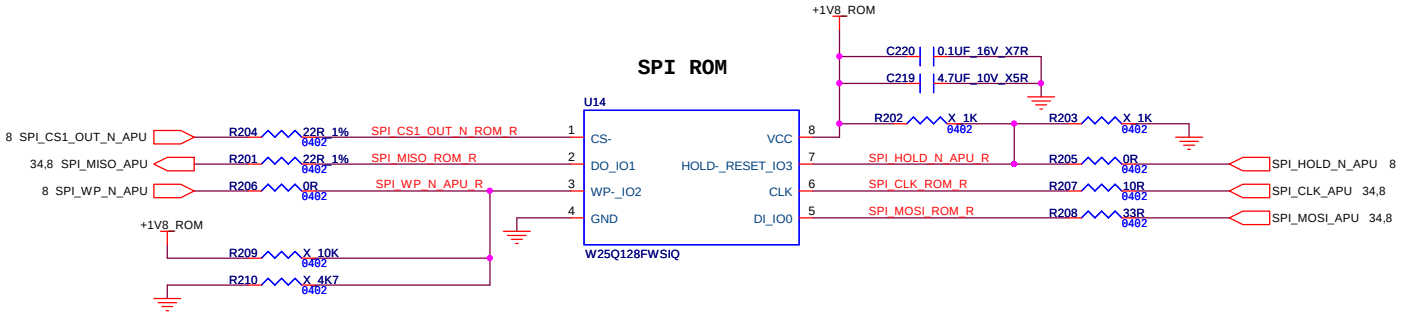
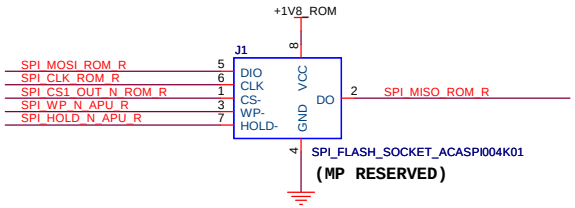


SPI SOCKET



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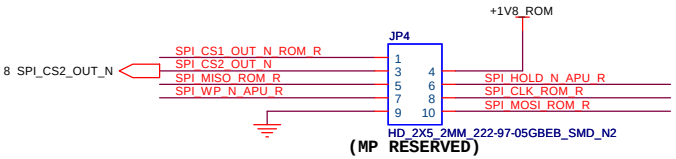

Universal Scientific Industrial Co., Ltd.		
TITLE: TINY6 M75Q-2 KNOLL & SPI ROM		REV: V0.3
Document Number : <Doc>		
Prepared by : Jason		
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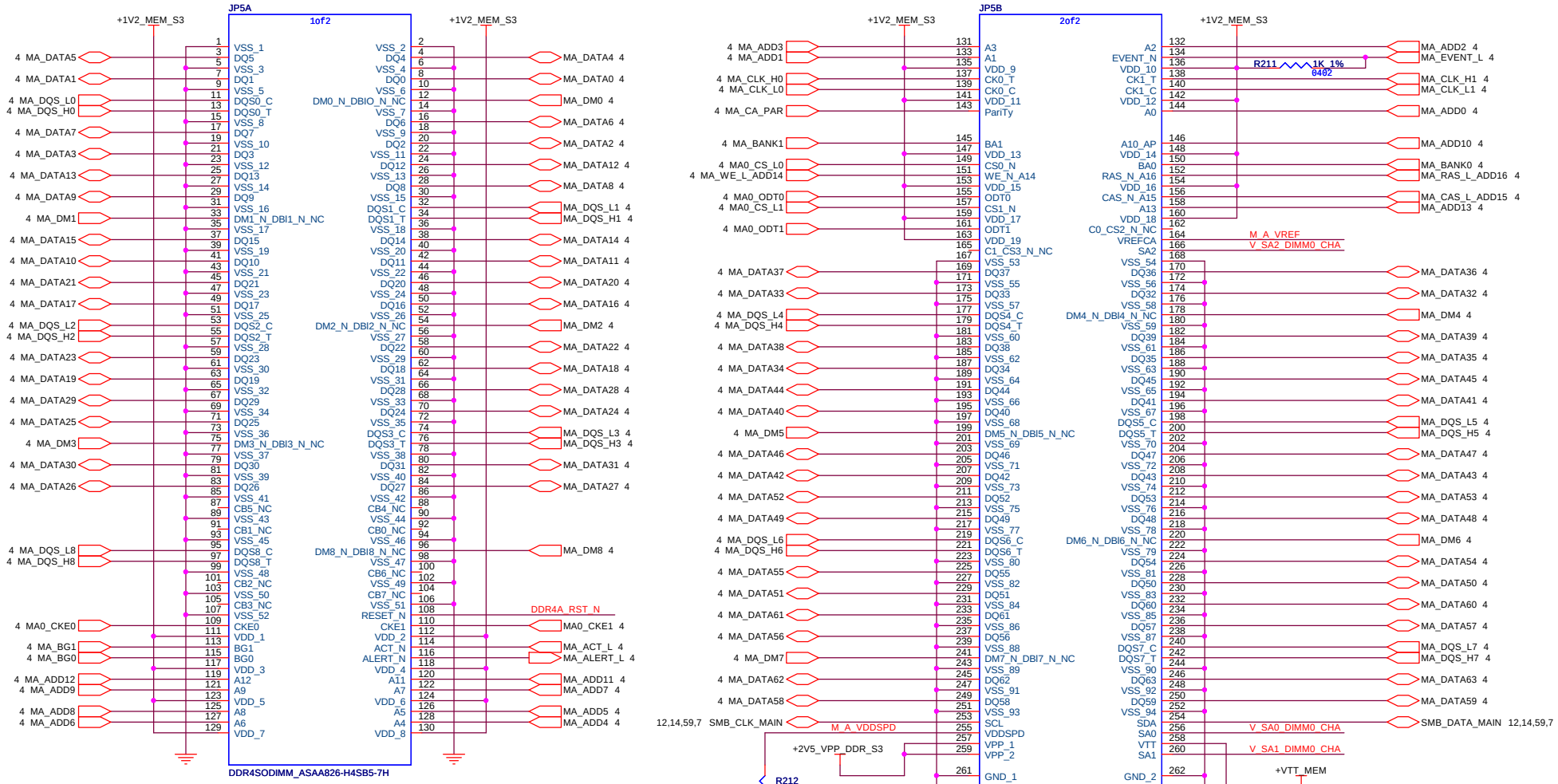
DDR4 SO-DIMM CHA

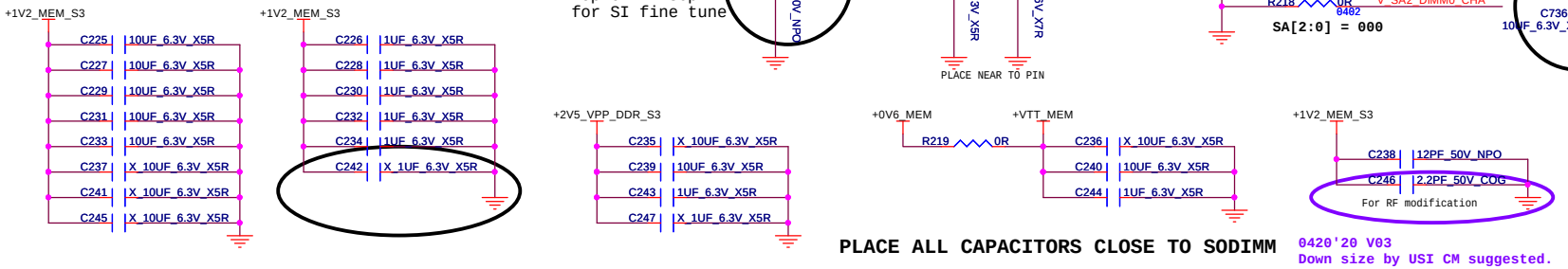


0221'20 SDV
Change C224 0.1uF --> 4.7uF
for power noise issue

PLACE ALL CAPACITORS CLOSE TO SODIMM

0221'20 SDV
Pop C221 180pF
for SI fine tune

0221'20 SDV
Add C736 for PWR stability



PLACE ALL CAPACITORS CLOSE TO SODIMM

0420'20 V03
Down size by USI CM suggested.

Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 DDR4 SO-DIMM CHA		REV: V0.3	
Document Number : <Doc>			
Prepared by : Jason			
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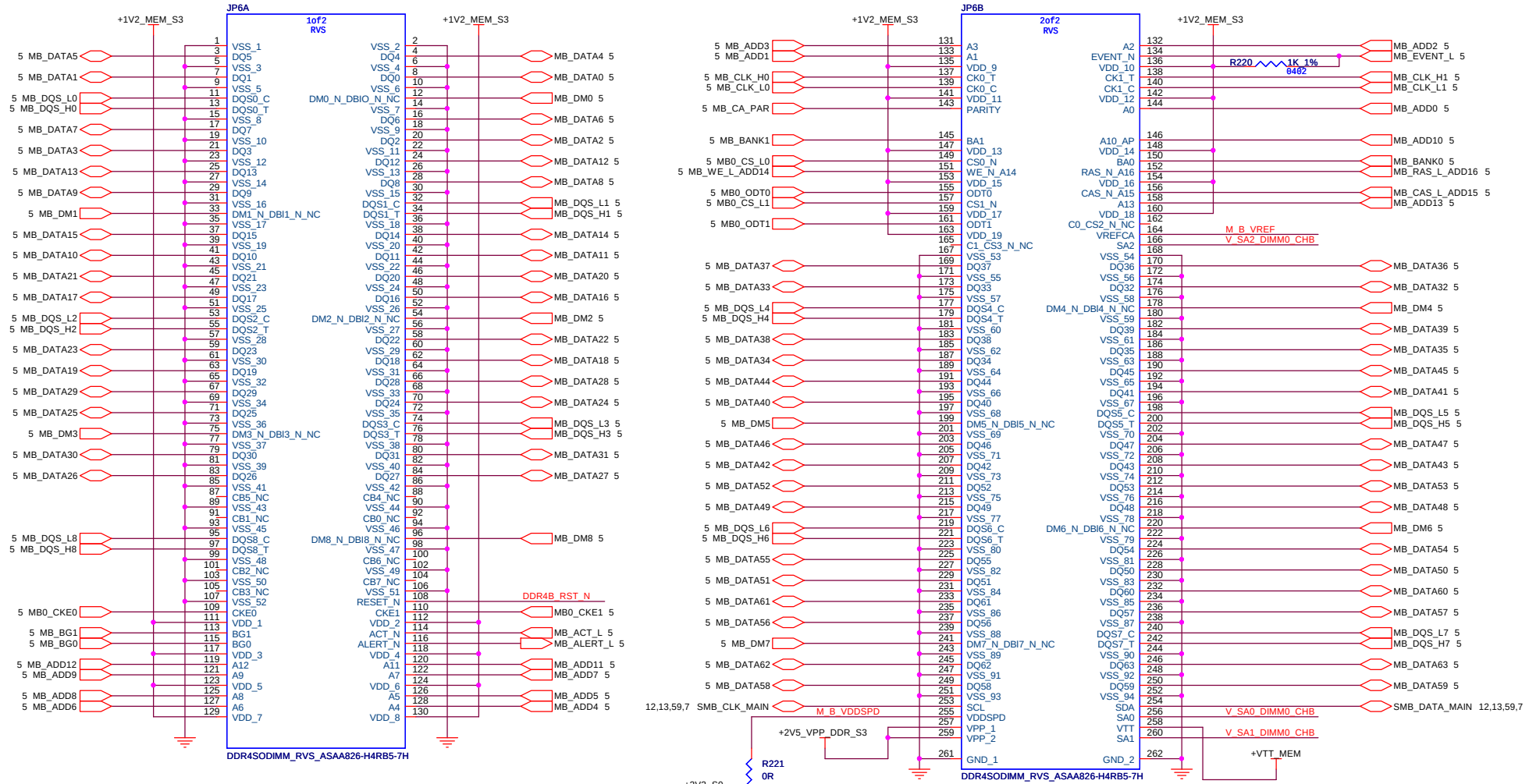
DDR4 SO-DIMM CHB



Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 DDR4 SO-DIMM CHB		REV: V0.3	
Document Number : <Doc>			
Prepared by : Jason			
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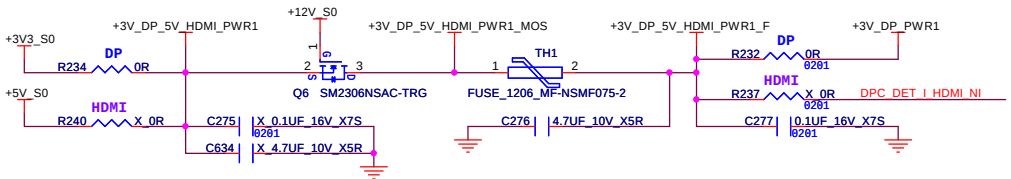
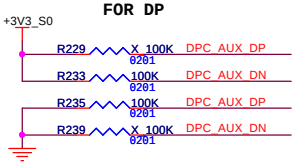
DP PORT

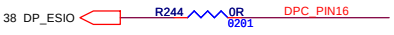
DP/HDMI PWR



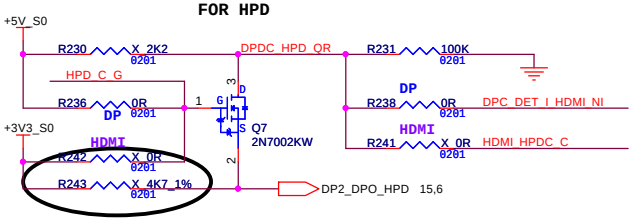
FOR DP



FOR LEGO

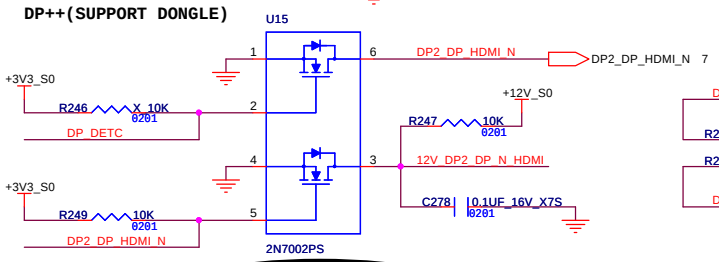


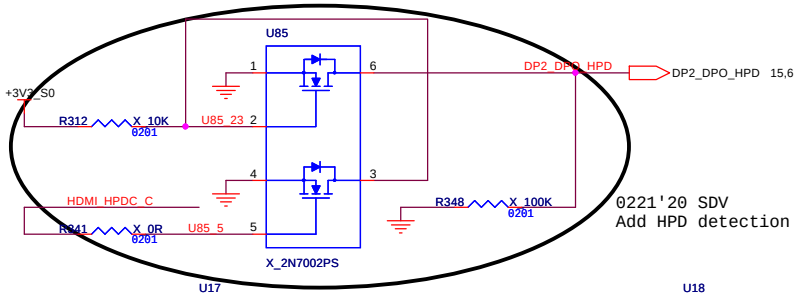
FOR HPD



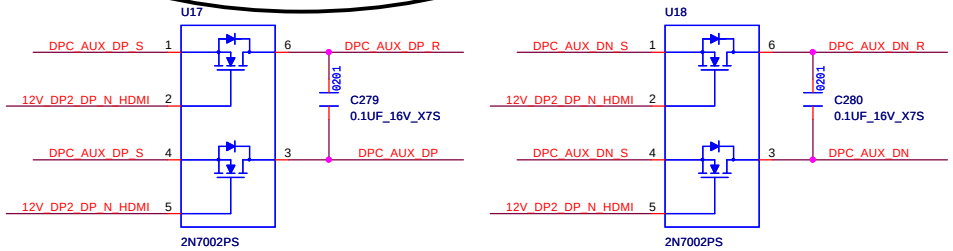
0221'20 SDV
No-Pop R243 to correct signal level issue

DP++(SUPPORT DONGLE)

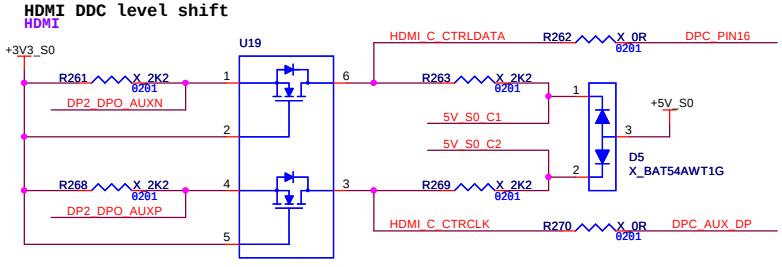




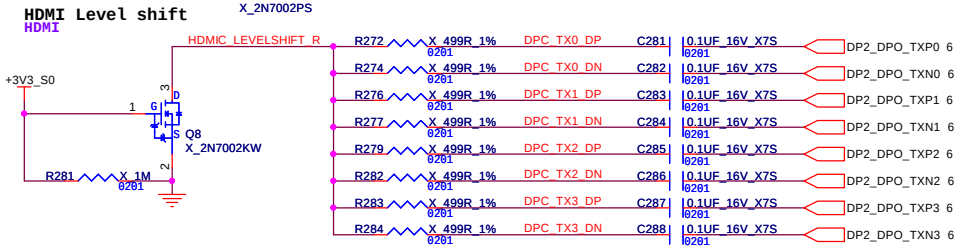
0221'20 SDV
Add HPD detection circuitry reservation

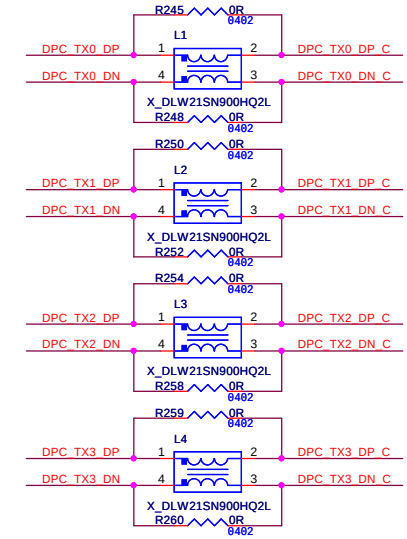


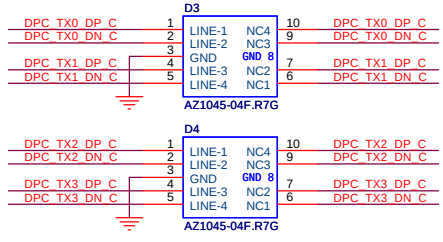
HDMI DDC level shift

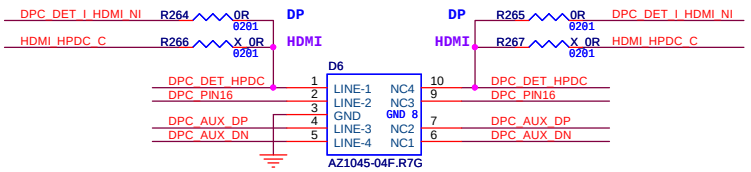


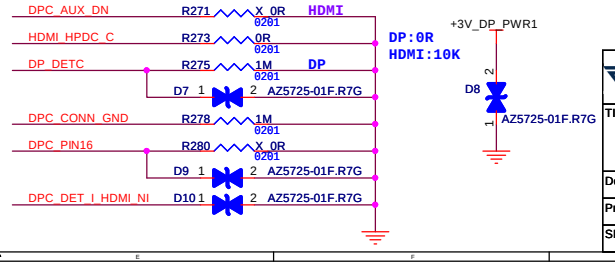
HDMI Level shift

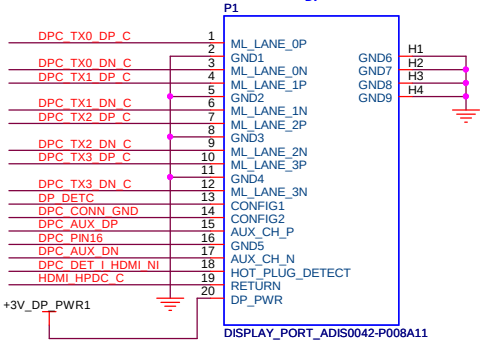












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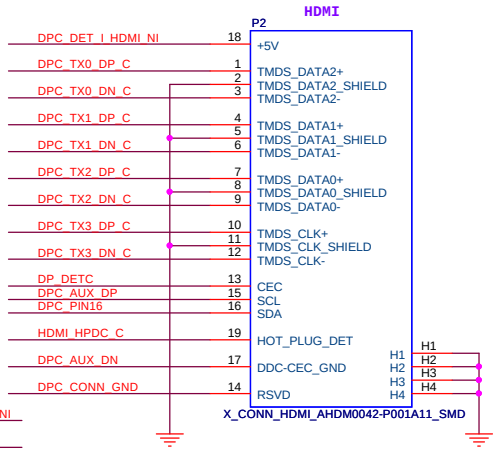

Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 DP PORT			REV: V0.3
Document Number : <Doc>			
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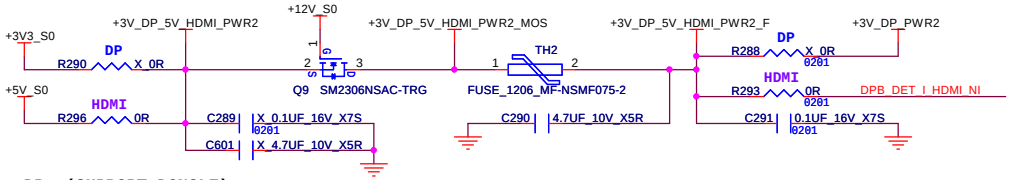
HDMI PORT

DP/HDMI PWR



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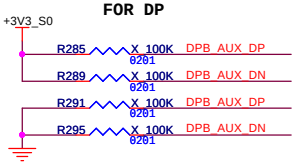

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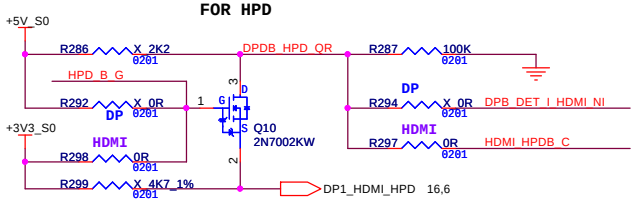

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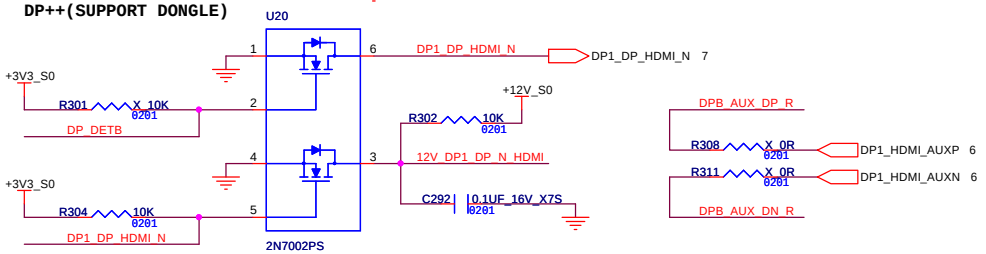
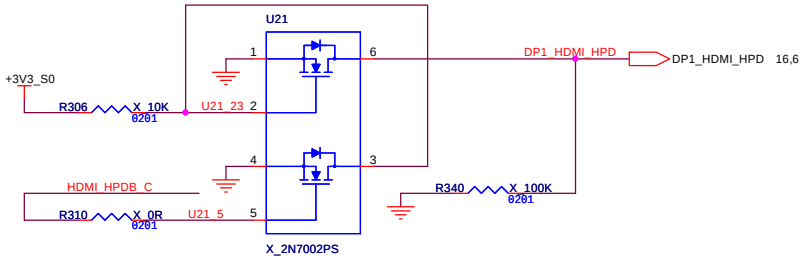
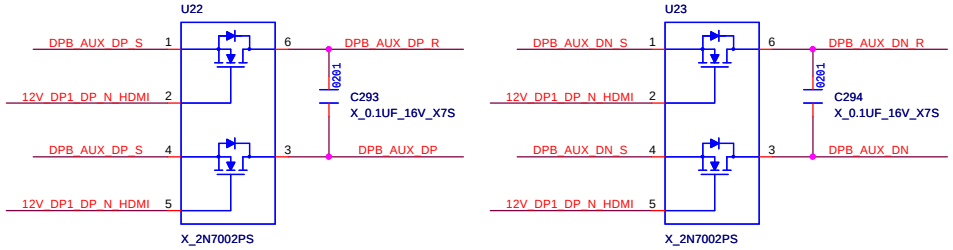
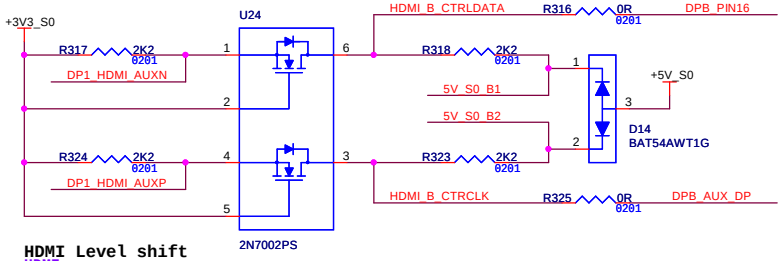






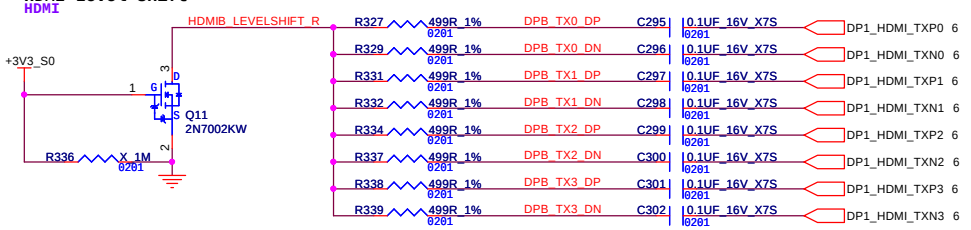
HDMI DDC level shift

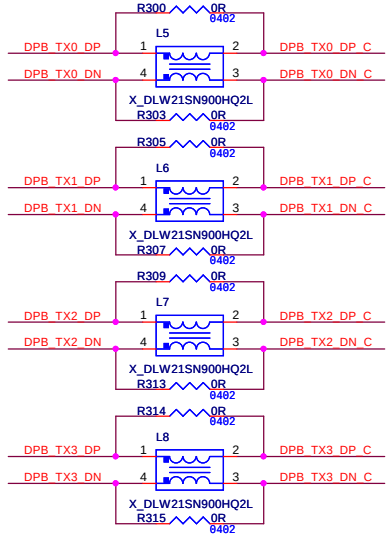
HDMI

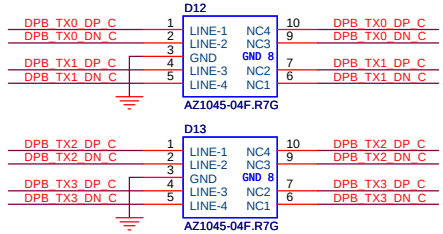


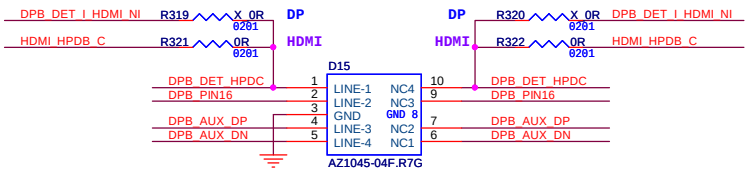
HDMI Level shift

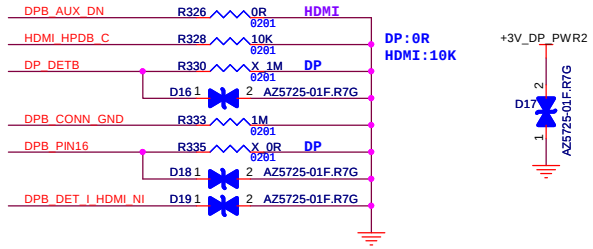
HDMI

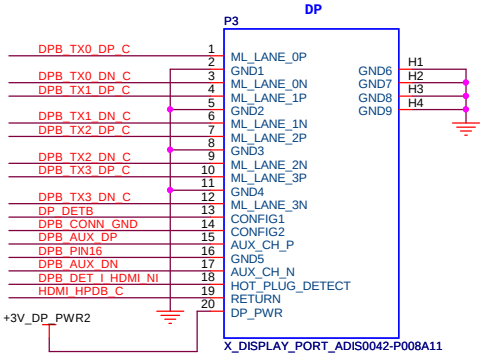












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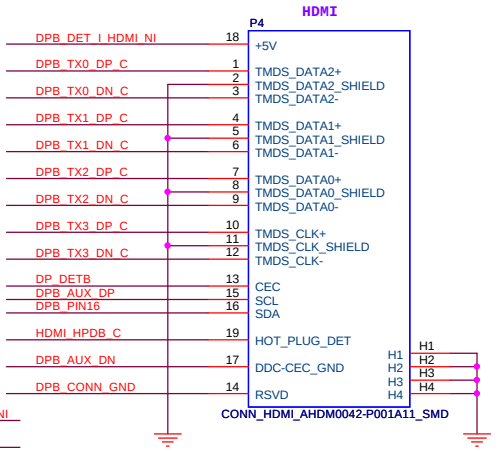

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Document Number : <Doc>			
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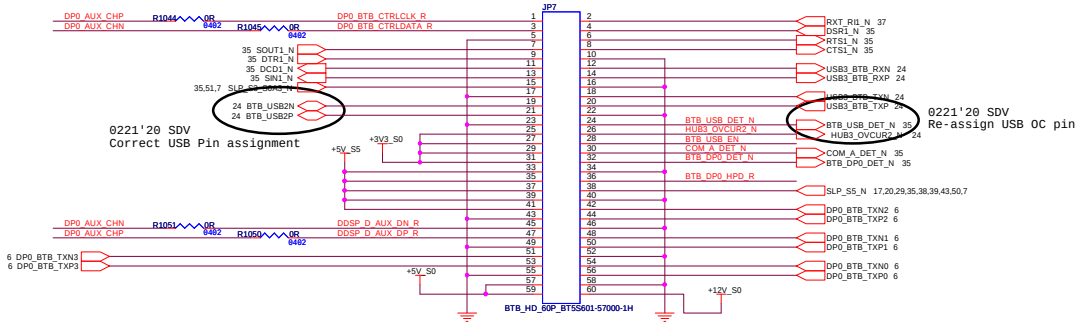
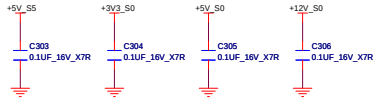
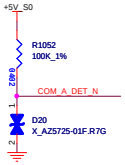
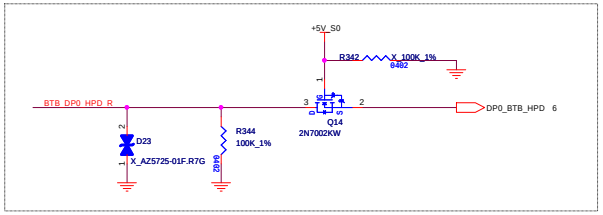
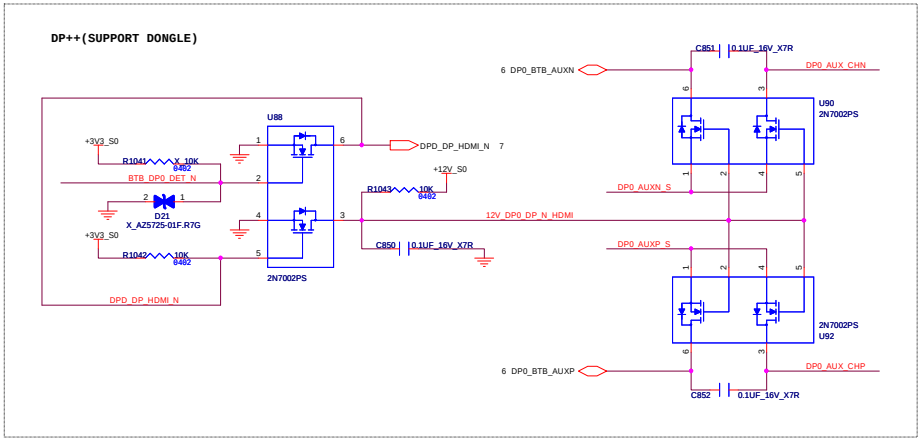
3 IN 1 BTB CONNECTOR

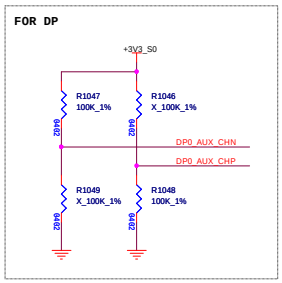












Universal Scientific Industrial Co., Ltd.		
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Prepared by : Jason		
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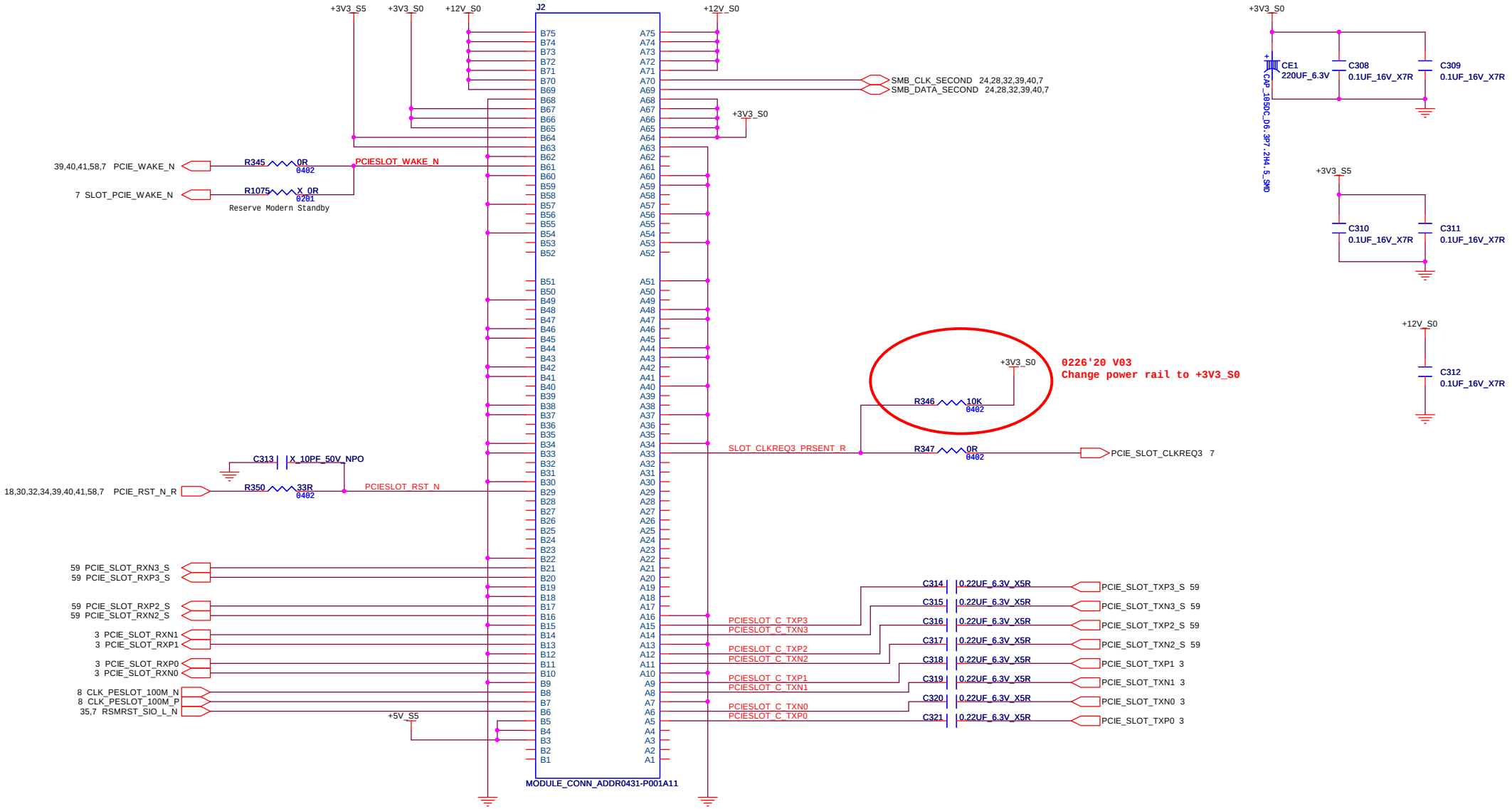
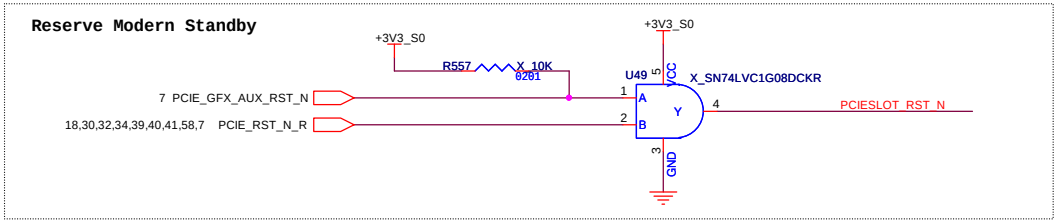
PCIEX4





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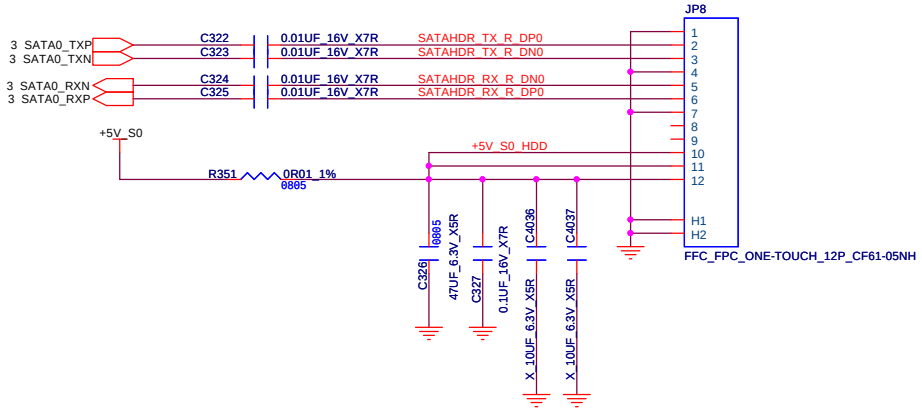
SIZE : A3	Date: Tuesday, April 28, 2020		PAGE: 18 of 66

SATA 3.0 FFC



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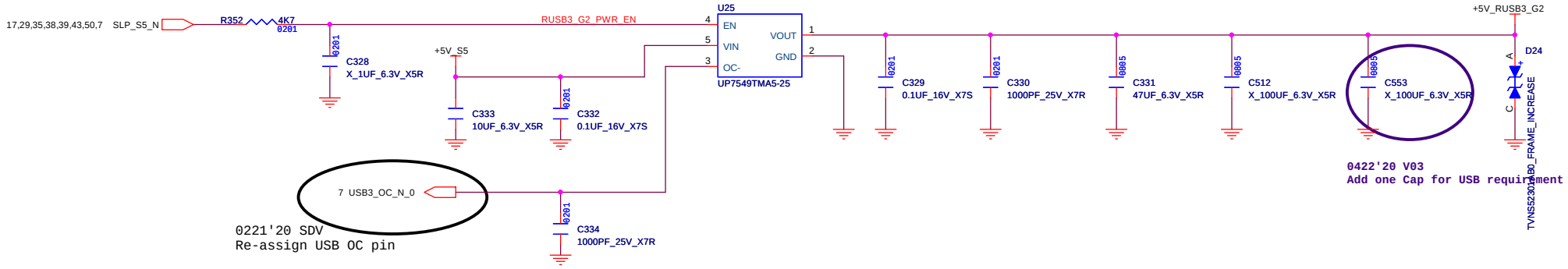
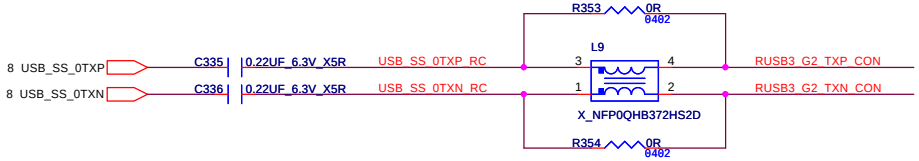
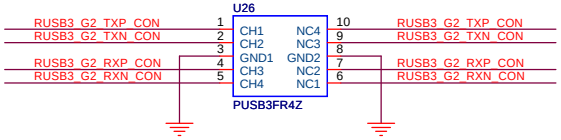
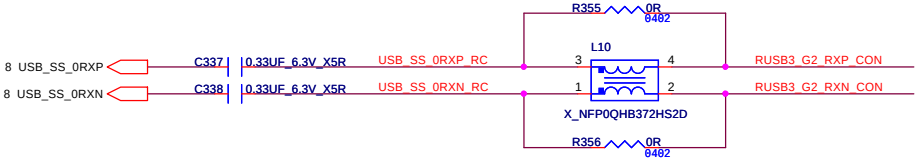
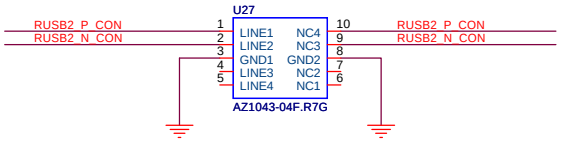
REAR USB 3.2 GEN 1 (TIO)

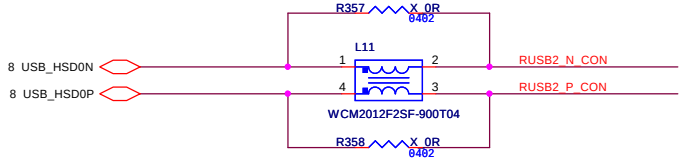


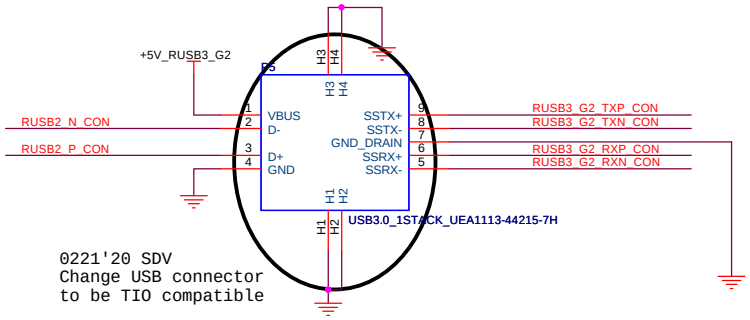












Universal Scientific Industrial Co., Ltd.			
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Document Number : <Doc>			
Prepared by : Jason			
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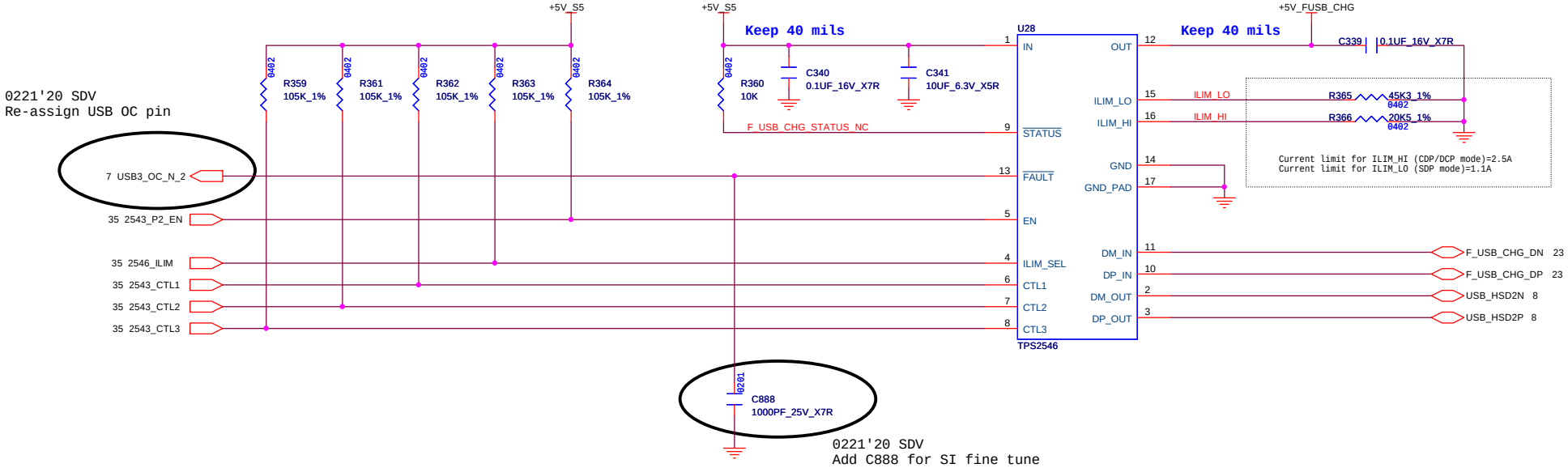
USB CHARGING



Control Signal			Model Select				
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Charge EN	S0	CDP	1	1	1	1 -ILIM_HI 2.5A	1
	S3	DCP	0	1	1	0 -ILIM_HI 2.5A	1
	S4/S5	DCP	0	0	1	1 -ILIM_HI 2.5A	1
Charge DIS	S0	SDP	0	1	0	0 -ILIM_LO 1.1A	1
	S3	SDP	0	1	0	0 -ILIM_LO 1.1A	1
	S4/S5	SDP	Shunt Down				0

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TITLE: TINY6 M75Q-2 USB CHARGING		REV: V0.3
Document Number : <Doc>		
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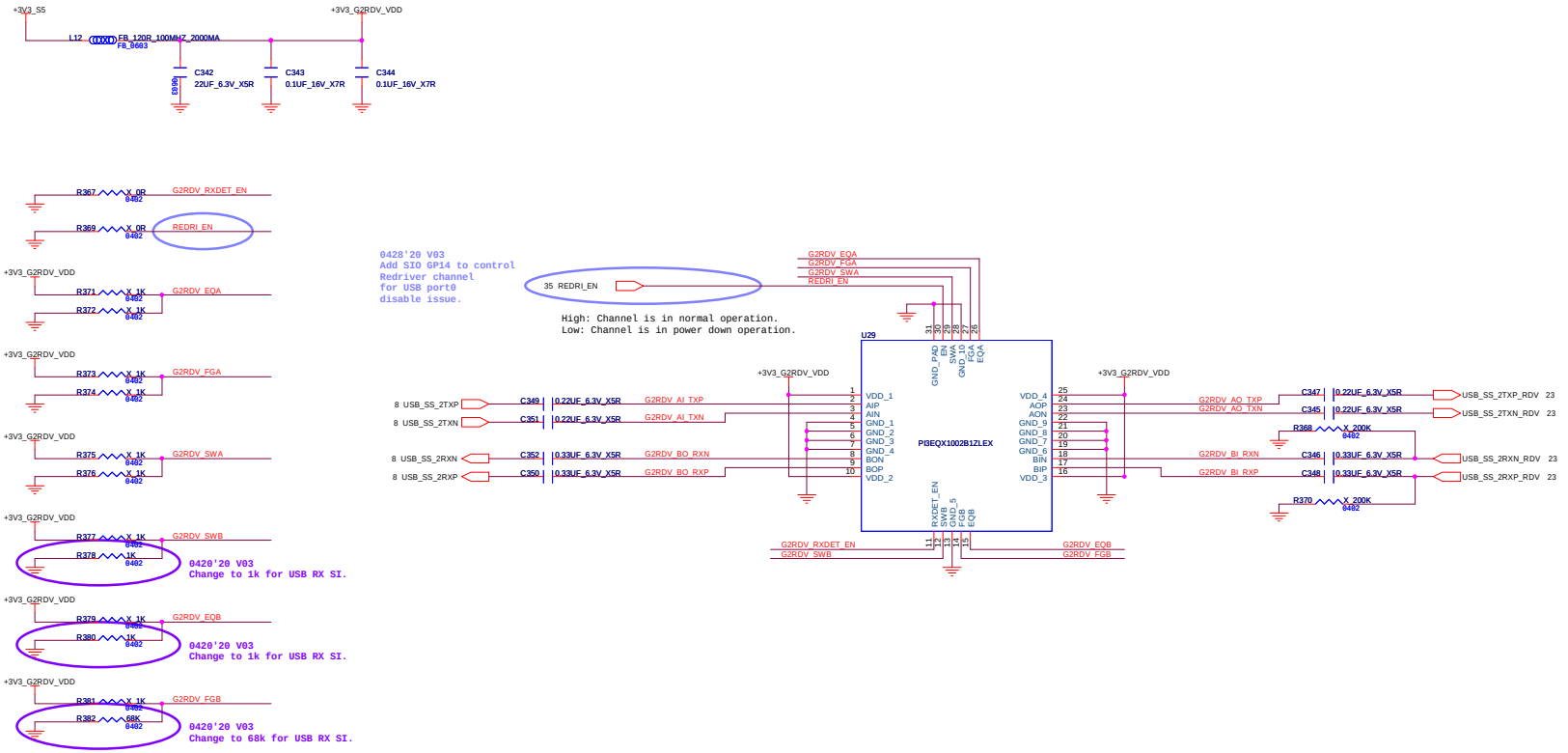
USB3.1 GEN2 REDRIVER



Universal Scientific Industrial Co., Ltd.		
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Document Number : <Doc>		
Prepared by : Jason		
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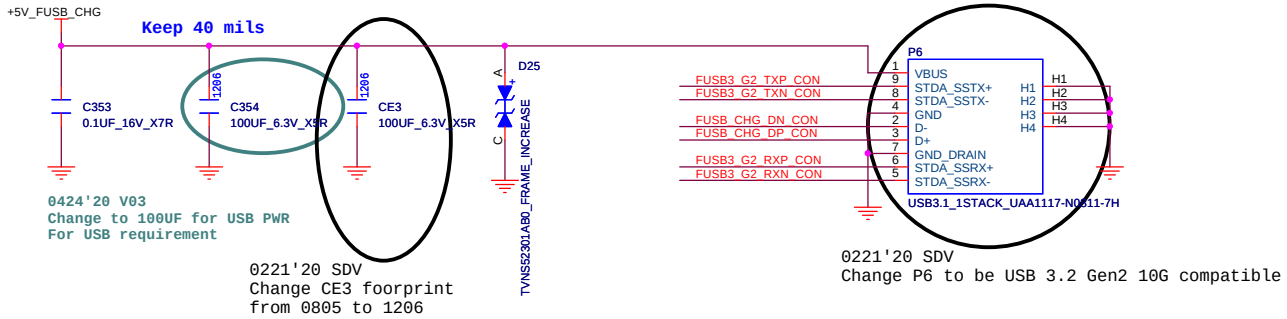
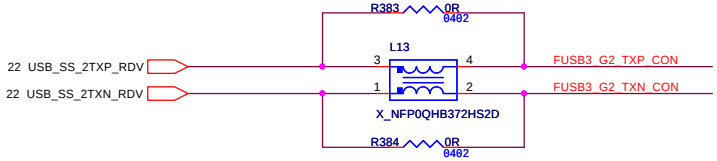
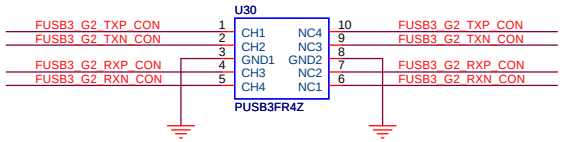
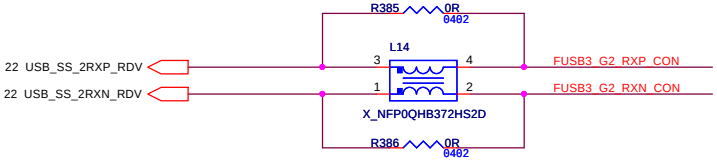
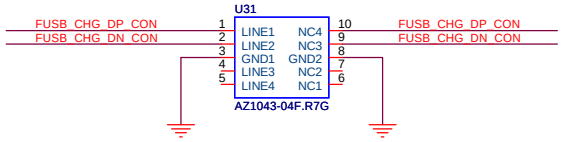
FRONT USB 3.2 GEN 2

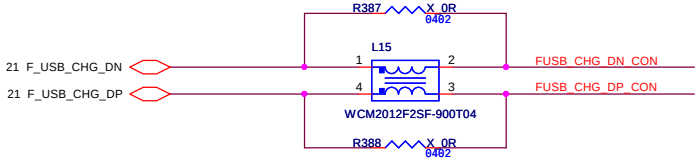












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Document Number : <Doc>		
Prepared by : Jason		
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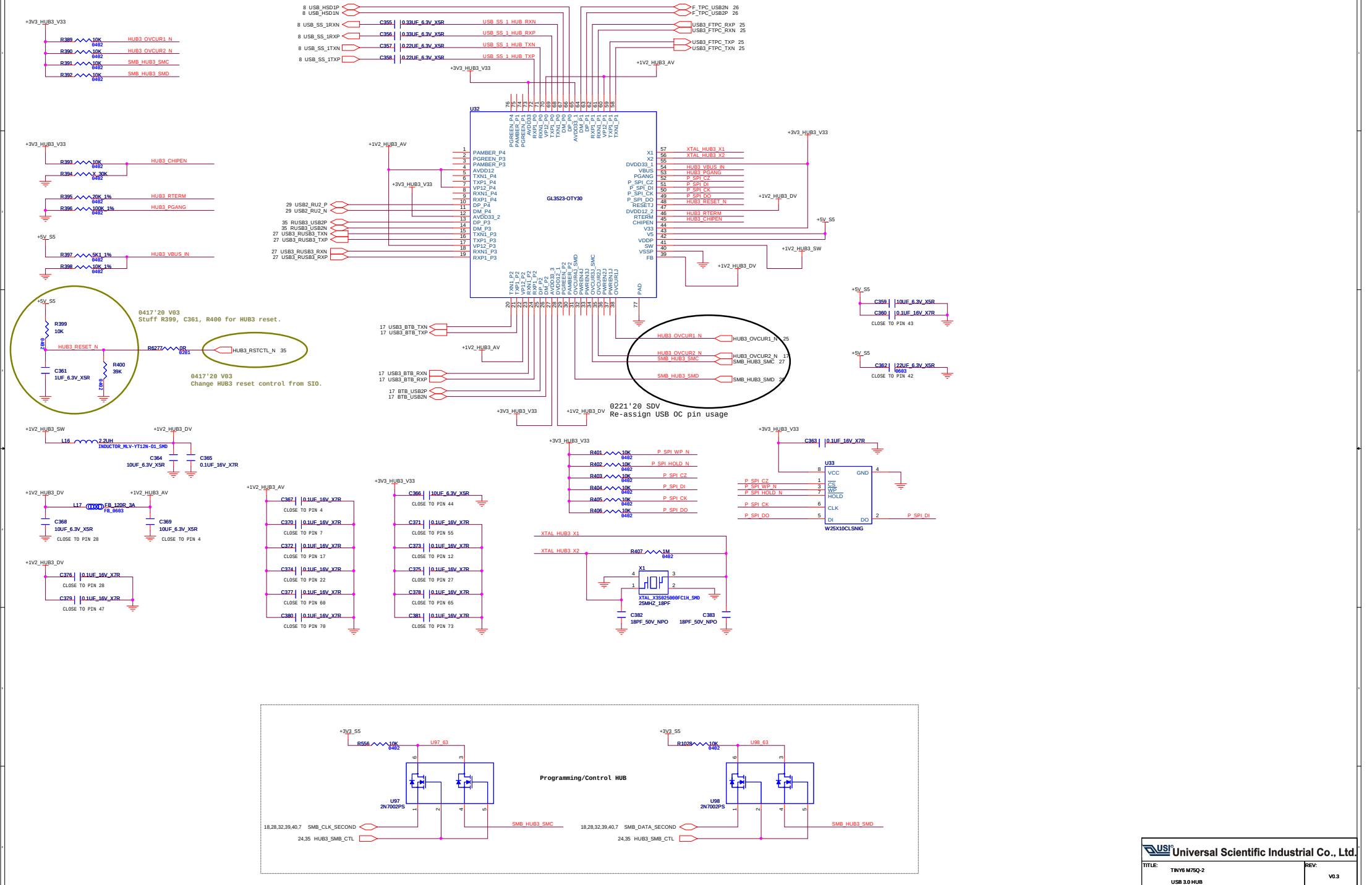
USB 3.0 HUB


0417'20 V03
Stuff R399, C361, R400 for HUB3 reset.
0417'20 V03
Change HUB3 reset control from SIO.
0221'20 SDV
Re-assign USB OC pin usage
GL3523-OTY30
U32
W25X10CLSNIG
U33
Programming/Control HUB
U97
2N7002PS
U98
2N7002PS
Universal Scientific Industrial Co., Ltd.
TITLE:
TINY6 M75Q-2
USB 3.0 HUB
REV:
V0.3
Document Number :
<Doc>
Prepared by :
Jason
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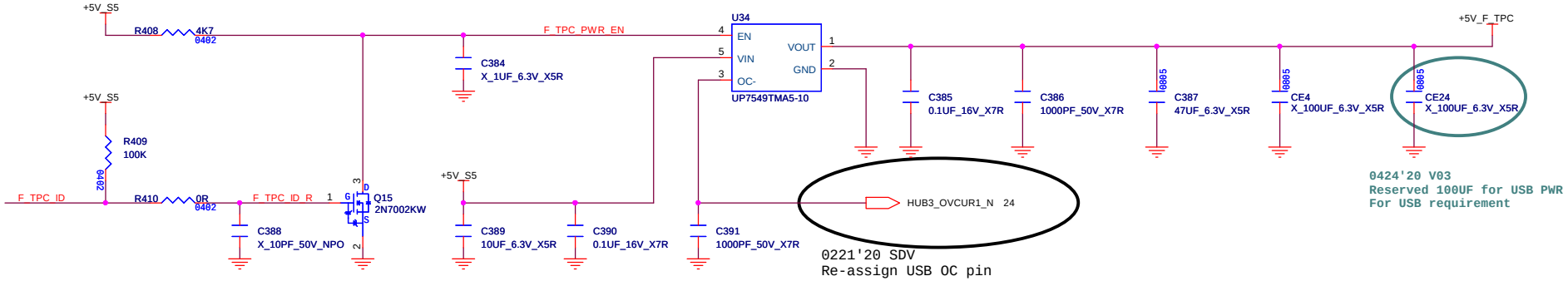
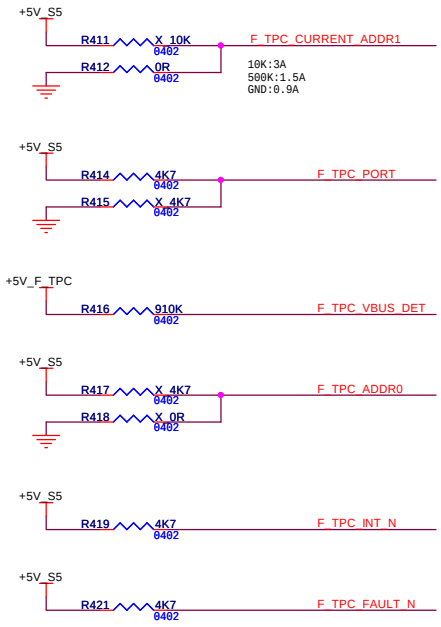
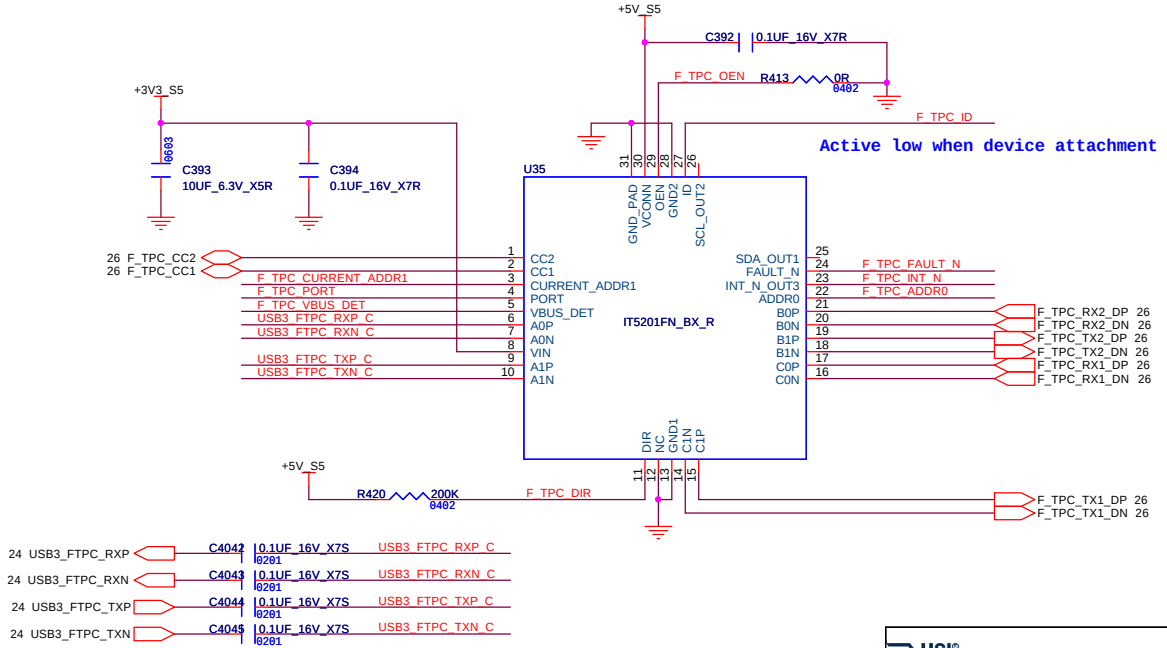
TYPE C PWR & MUX







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Document Number : <Doc>			
Prepared by : Jason			
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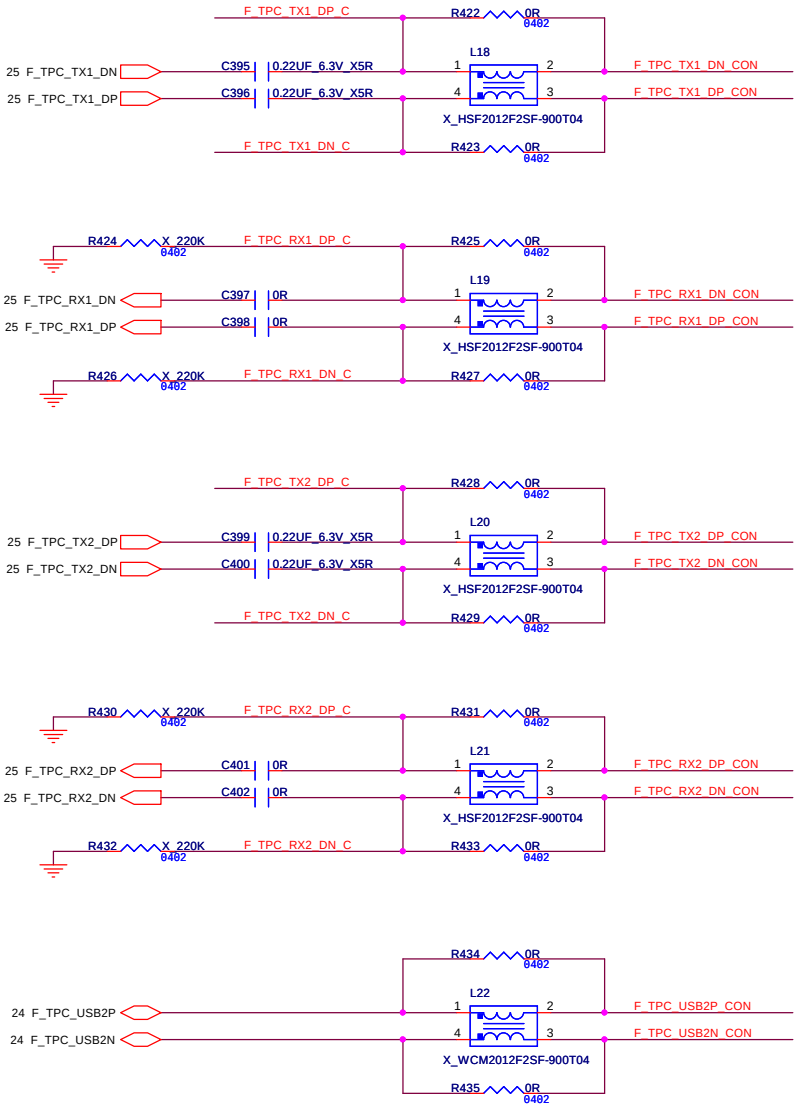
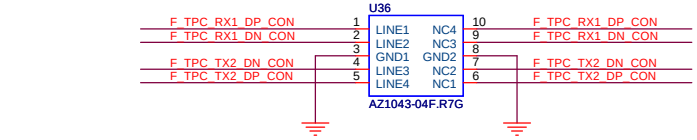
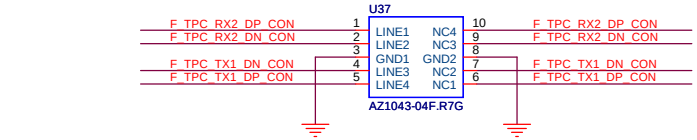
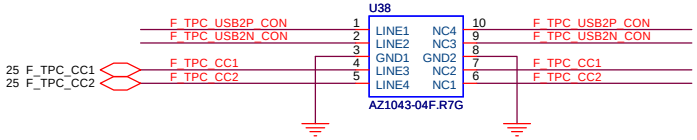
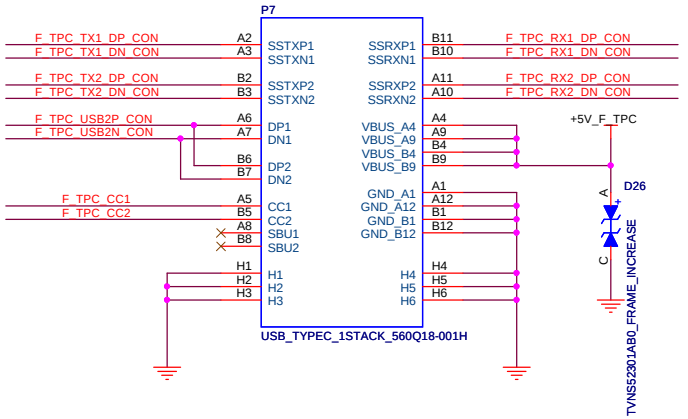
FRONT USB TYPE C PORT

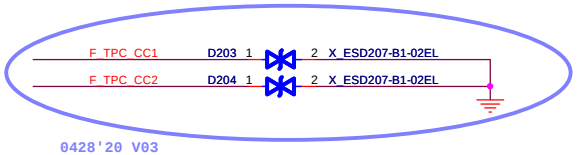












0428'20 V03
Reserved ESD diodes for EMC requirement.

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TITLE: TINY6 M75Q-2 FRONT USB TYPE C PORT		REV: V0.3
Document Number : <Doc>		
Prepared by : Jason		
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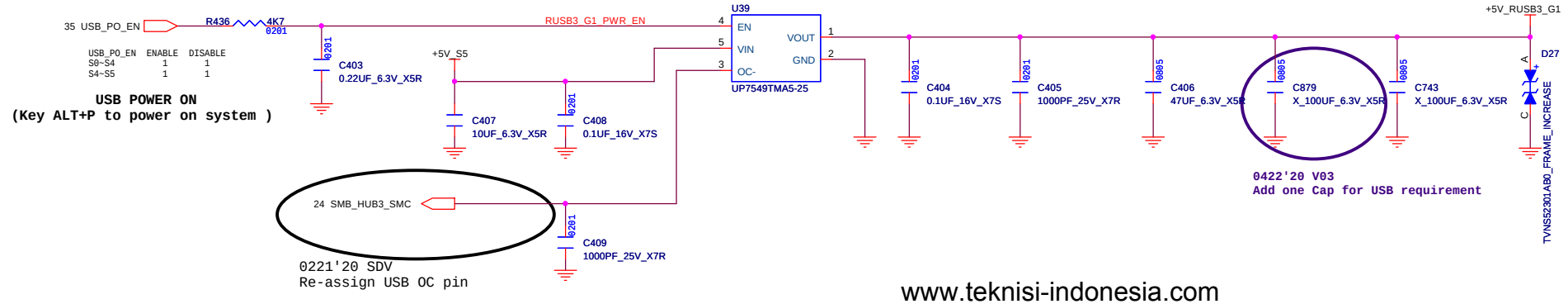
REAR USB 3.2 GEN 1

USB POWER ON & DEBUG



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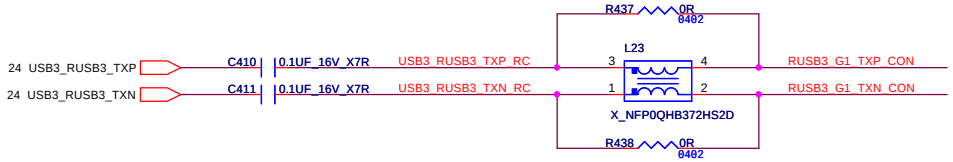

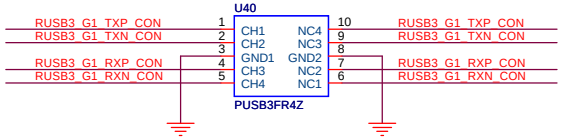

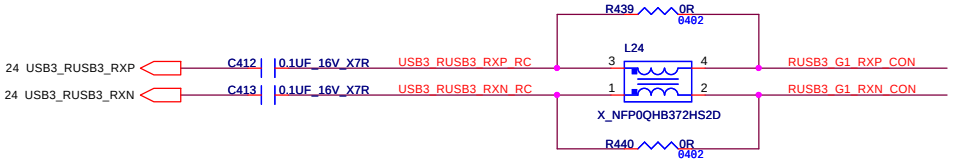

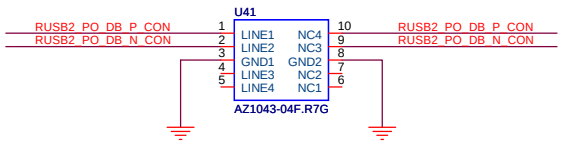

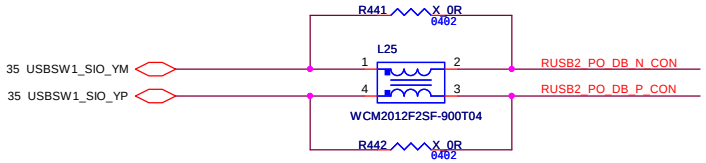

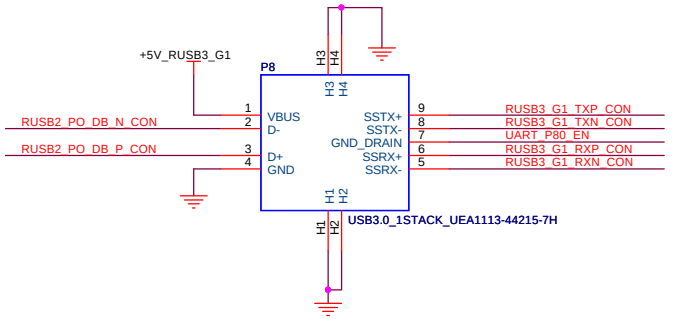

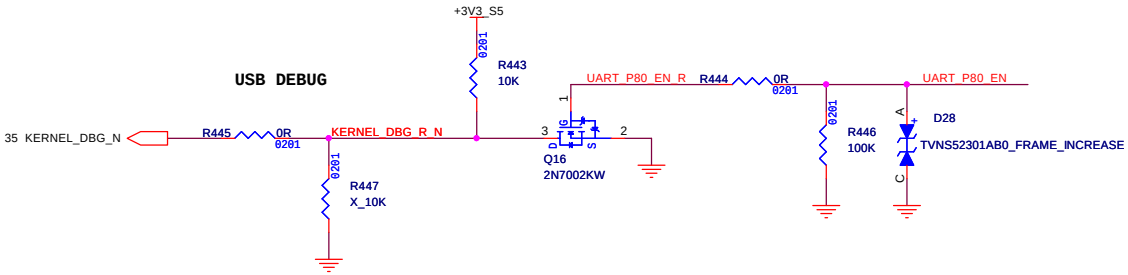

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Document Number : <Doc>			
Prepared by : Jason			
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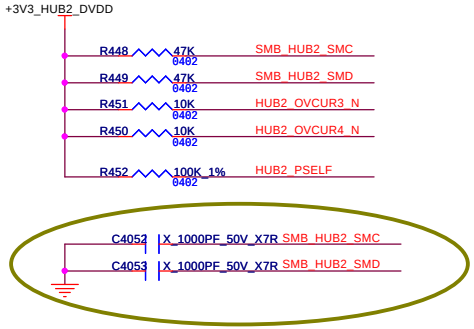
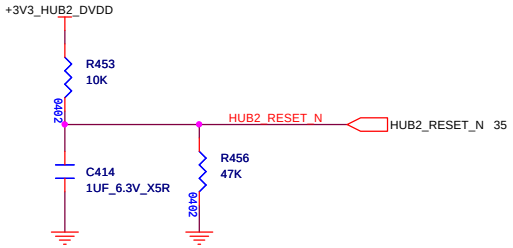
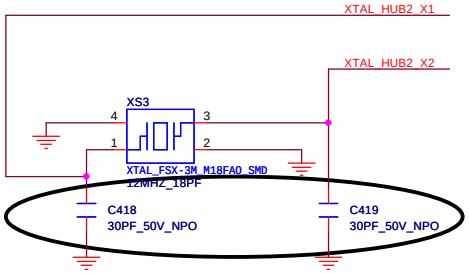
USB 2.0 HUB

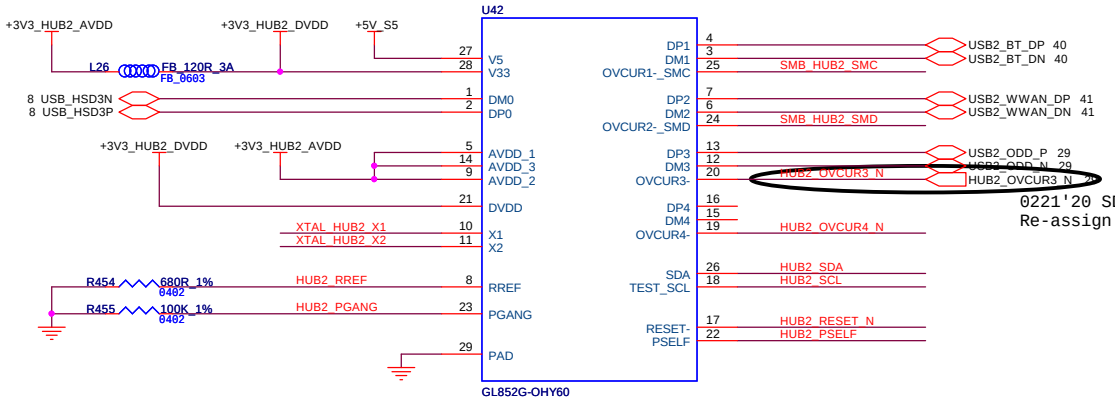


0417'20 V03
Reserve C4052, C4053 for SI fine tune

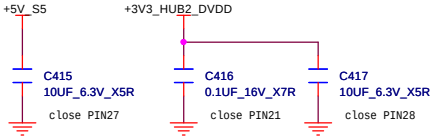


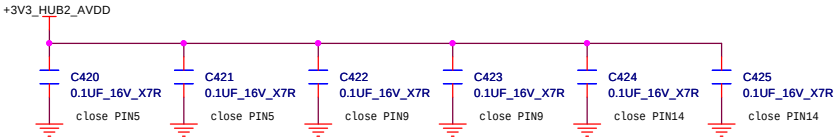


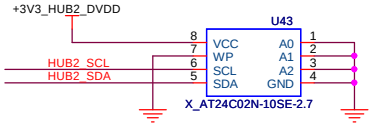
0221'20 SDV
Change C418/C419 from 18pF to 30pF
for better accuracy

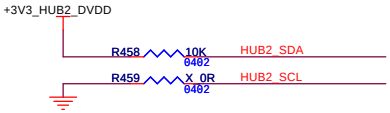


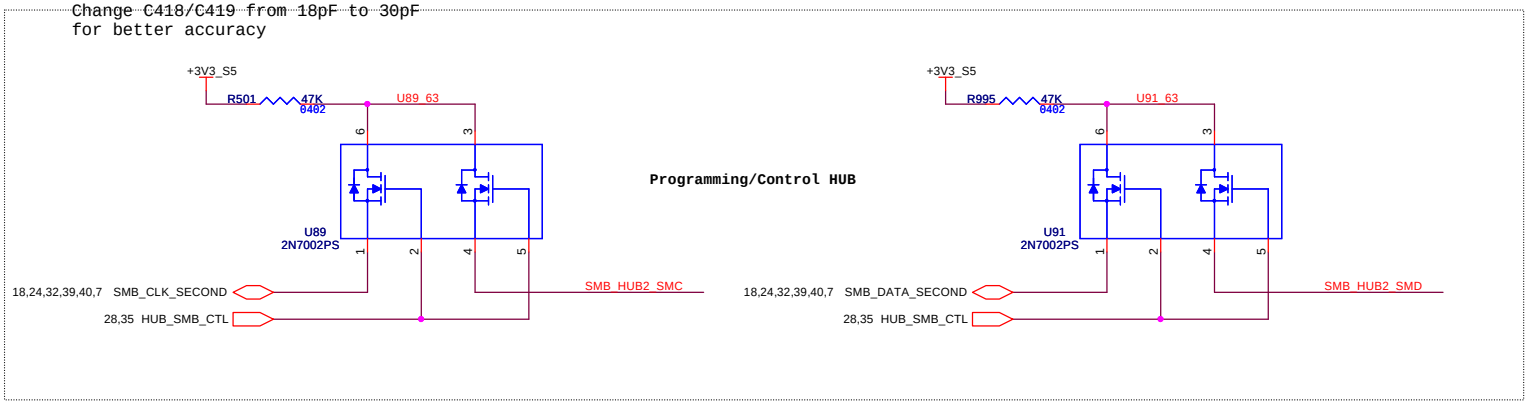
0221'20 SDV
Re-assign USB OC pin











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TITLE: TINY6 M75Q-2 USB 2.0 HUB			REV: V0.3
Document Number : <Doc>			
Prepared by : Jason			
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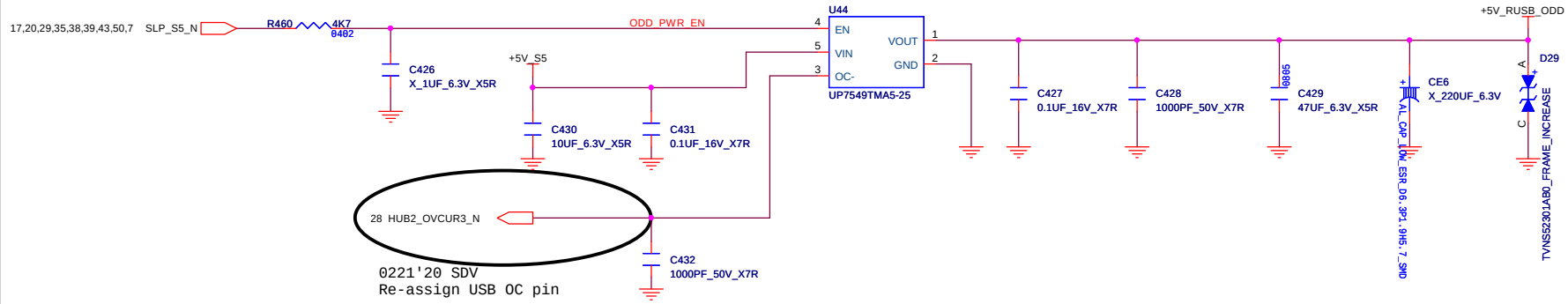
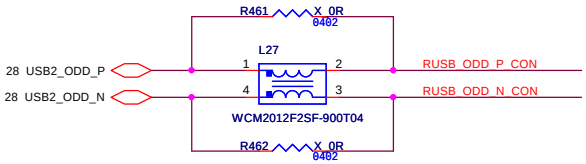
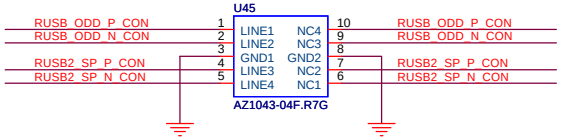
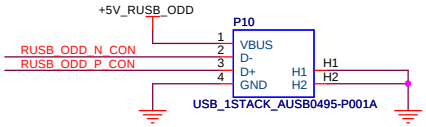
REAR USB 2.0 PORTS

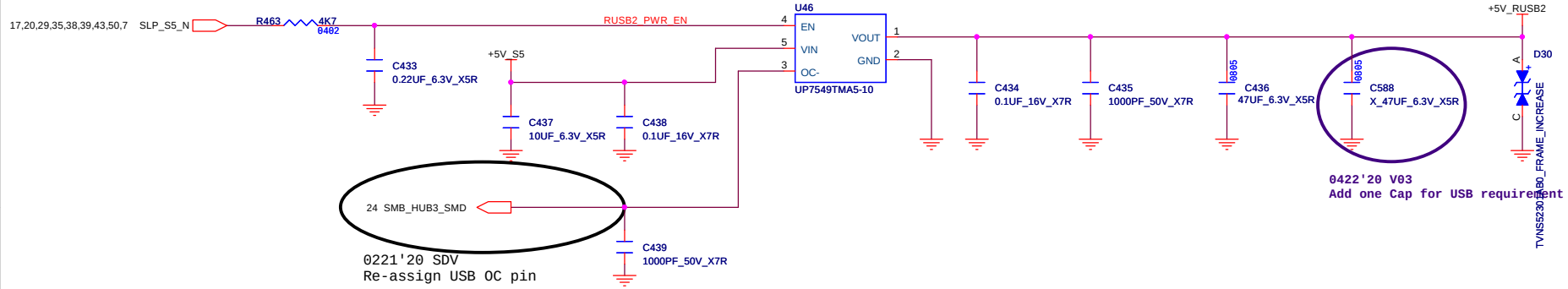


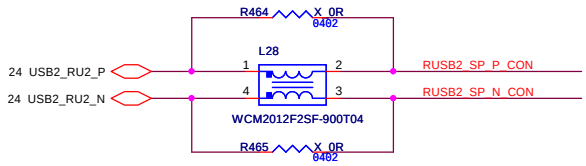




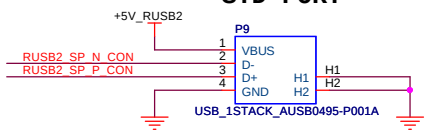
ODD PORT







STD PORT



Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 REAR USB 2.0			REV: V0.3
Document Number : <Doc>			
Prepared by : Jason			
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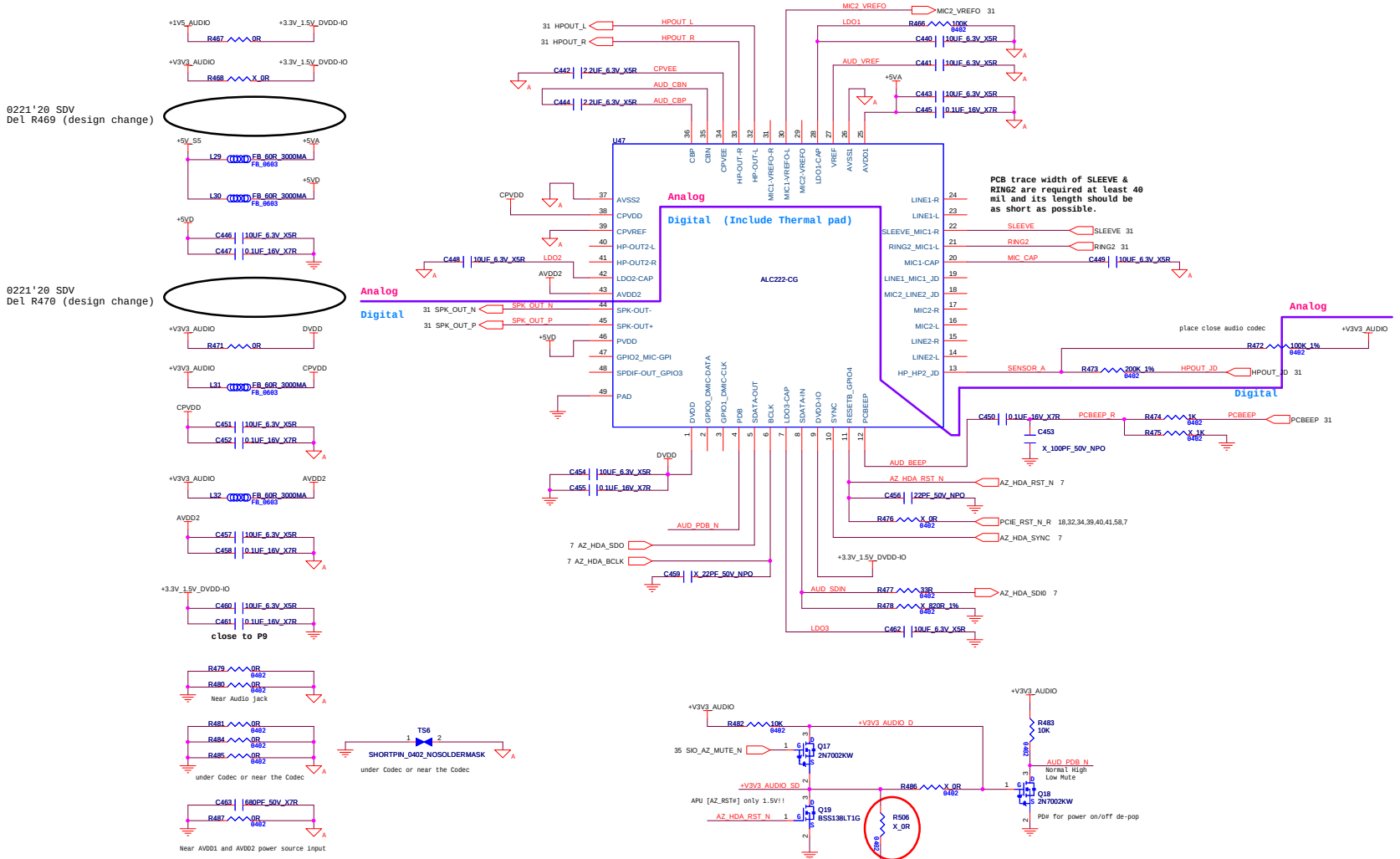
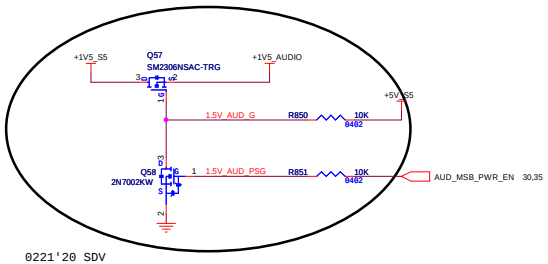
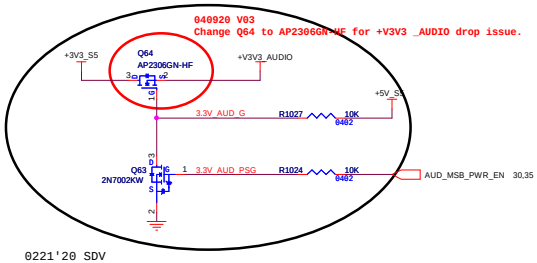
AUDIO CODEC ALC222





0221'20 SDV
Move page
Change R851 control from PSON_N to AUD_MSB_PWR_EN



0221'20 SDV
Modify the +V3V3_AUDIO control to be Modern Standby Ready
Add Q63/Q64
Re-assign R1024/R1027

Universal Scientific Industrial Co., Ltd.		
TITLE: TINY6 M75Q-2 AUDIO CODEC ALC222		REV: V0.3
Document Number : <Doc>		
Prepared by : Jason		
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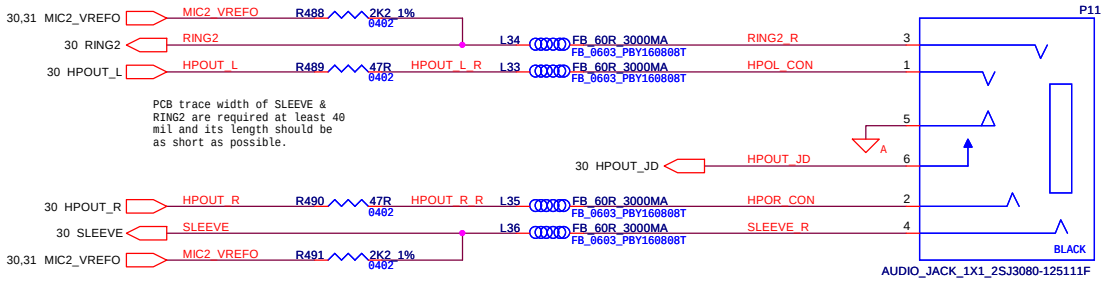
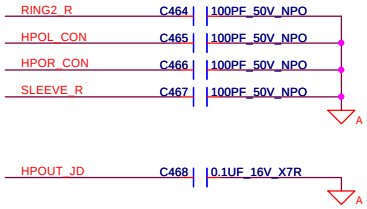
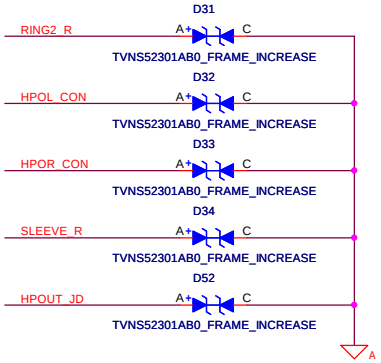
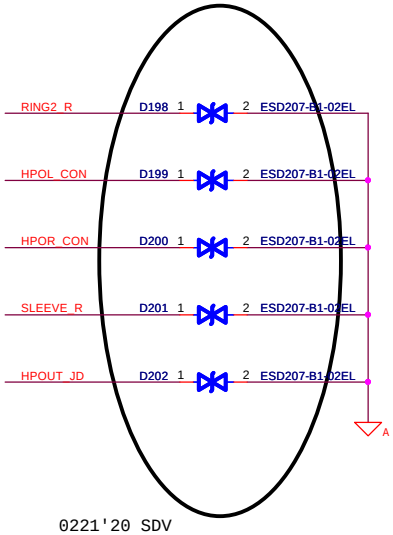
AUDIO JACK & SPK & BUZZER

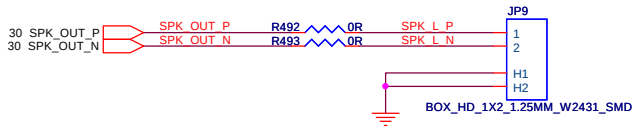


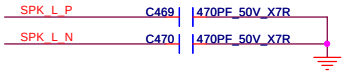


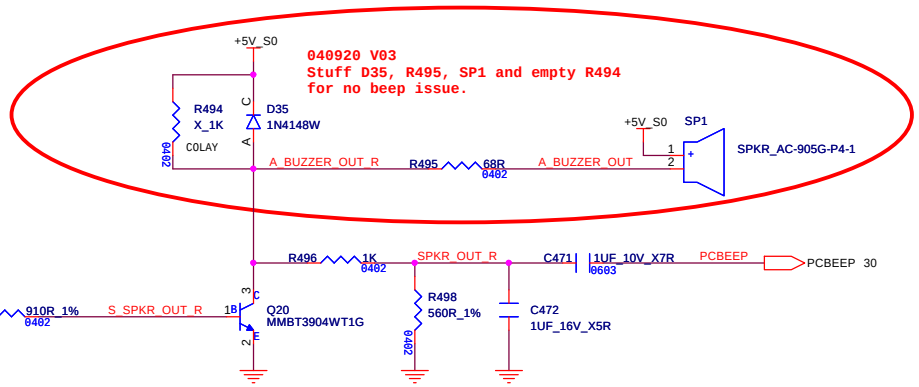




0221'20 SDV
Add D198/D199/D200/D201/D202 for ESD consideration







Universal Scientific Industrial Co., Ltd.		
TITLE: TINY6 M75Q-2 AUDIO JACK & SPK & BUZZER		REV: V0.3
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Prepared by : Jason		
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LAN RTL8111FP

0325'20 V03
This power trace requires at least 40 mils.

042420 V03
Remove R2005 for design requirement.

042420 V03
Change R2006 to 10K
and C11 to 0.1UF
for design requirement.

042220 V03
Remove Q25 for design requirement.

0221'20 SDV
+1V8_LAN PWR re-design

0422'20 V03
Add series resistors
on SPISO/SPISI for fine tune reservation

0221'20 SDV
+1V1_LAN PWR re-design

040920 V03
Change R2008 to 10K for 2nd sources requirement.

0221'20 SDV
+1V1_LAN PWR re-design

0221'20 SDV
Add C685 for SI fine tune

0416'20 V03
Change R1062 to 33R
for SI fine tune.

Close To pin 9,25,40,45,46,57,66,68,70,85

VDD3318 decides the voltage level of PERSTB/CLKREQB/LANWAKEB/ISOLATEB
PERSTB_RC/CLKREQB_RC/LANWAKEB_RC/ISOLATEB_RC

Close To pin 16,31

Close To pin 39

Power-On Latch

Mode	DIS_DASH
Enable DASH Function	1
Disable DASH Function	0

GPI PIN:
The Setting is Changed from the Register.
Only one function can be selected at one time.
1. General Purpose Input/Output pin.
2. Power Save.
3. Link Status.

DDR Vref

These resistors must be installed even if there is no Wifi device connected.

If VDD3318 is 3.3V,install.

If VDD3318 is 1.8V,install.

Reserve Modern Standby

SPI Flash

Close To pin 4,21,22,23,38

Close To pin 14,20,24,37,43,49,54,65,71,81

Close To pin 60

Close To pin 74

Close To pin 77

Universal Scientific Industrial Co., Ltd.	
TITLE: TINY6 M75Q-2 LAN RTL8111EPV COLAY RTL8111HN	REV: V0.3
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Prepared by : Jason	
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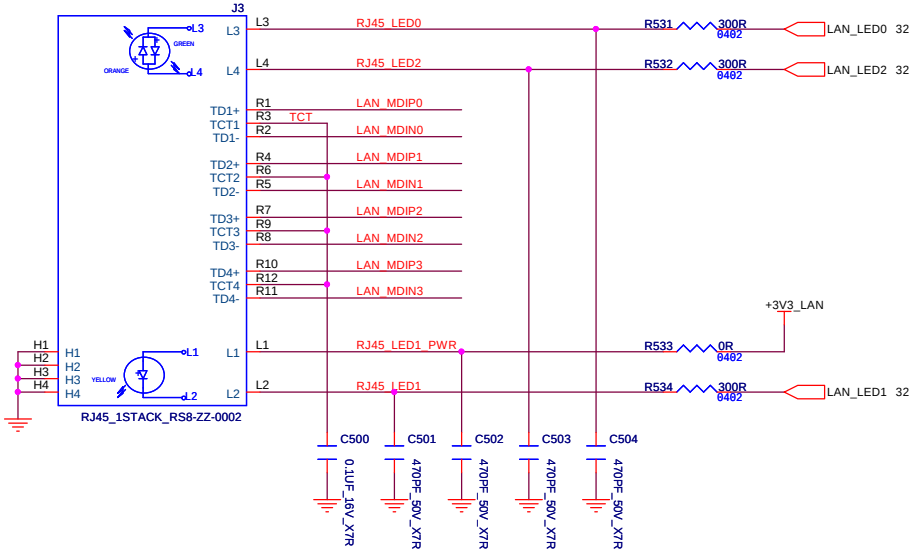
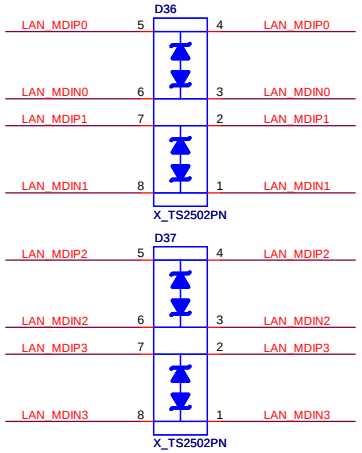
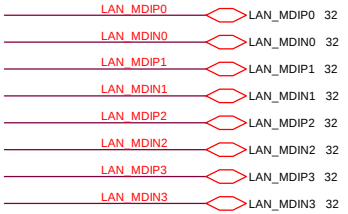
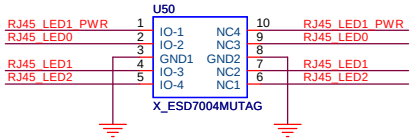
RJ45 CONNECTOR









Universal Scientific Industrial Co., Ltd.		
TITLE: TINY6 M75Q-2 RJ45 CONNECTOR		REV: V0.3
Document Number : <Doc>		
Prepared by : Jason		
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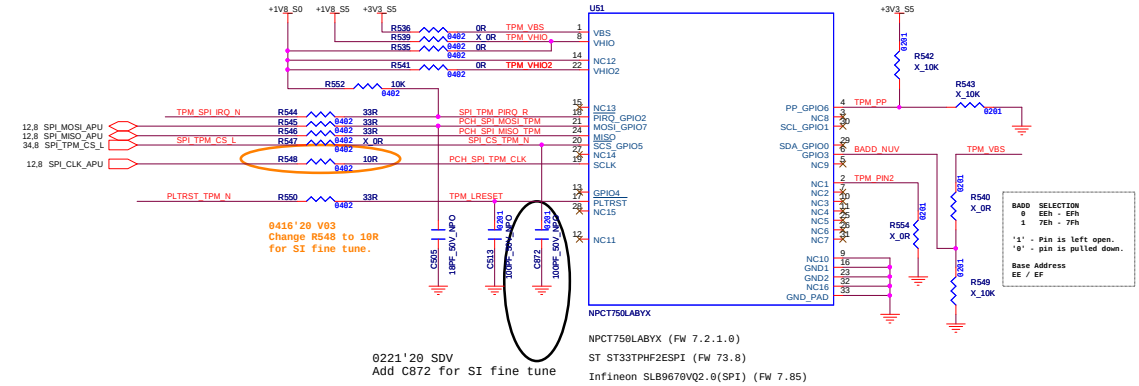
TPM

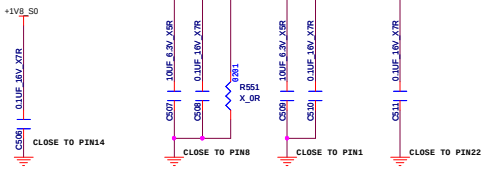
SPI TPM

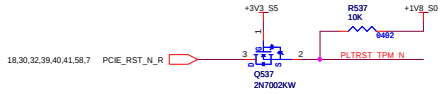


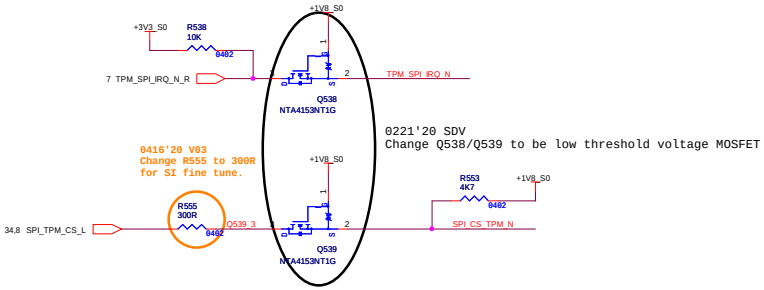
0416'20 V03
Change R548 to 10R
for SI fine tune.

0221'20 SDV
Add C872 for SI fine tune

NPCT750LABYX (FW 7.2.1.0)
ST ST33TPHF2ESPI (FW 73.8)
Infineon SLB9670VQ2.0(SPI) (FW 7.85)

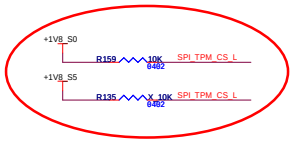






0416'20 V03
Change R555 to 300R
for SI fine tune.

0221'20 SDV
Change Q538/Q539 to be low threshold voltage MOSFET



0226'20 V03
Change power rail to +1V8_S0 for design request

	INF	ST	NUVO
PIN1	VDD	NiC	VSB
PIN2	GND	GND	NC_2
PIN3	NC	NiC	GPX/GPIO2
PIN4	NC	NiC	PP
PIN5	NC	NiC	TEST
PIN6	GPIO	NC	GPIO3/BADD
PIN7	PP	PP	NC_7
PIN8	GND	NiC	VDD_8
PIN9	NC	NiC	GND_9
PIN10	NC	NiC	NC_9
PIN11	NC	NiC	NC_10
PIN12	NC	NiC	NC_11
PIN13	NC	NiC	CLKRUN/GPIO4/SINT
PIN14	NC	NiC	VHIO
PIN15	NC	NiC	LAD3
PIN16	NC	NiC	GND_16
PIN17	RST#	SPI_RST	SPI_RST
PIN18	PIRQ#	SPI_PIRQ	LAD2/SPI_IRQ
PIN19	SCLK	SPI_CLK	LCLK/SCLK
PIN20	CS#	SPI_CS	LFRAME/SCS
PIN21	MOSI	MOSI	LAD1/MOSI
PIN22	VDD	VPS	VHIO_22
PIN23	GND	NiC	GND_23
PIN24	MISO	MISO	LAD0/MISO
PIN25	NC	NiC	NC
PIN26	NC	NiC	NC
PIN27	NC	NiC	SERIRQ
PIN28	NC	NiC	LPCCPD
PIN29	NC	NiC	SDA/GPIO0
PIN30	NC	NiC	GPIO1/SCL
PIN31	NC	NiC	NC
PIN32	GND	NiC	GND

Universal Scientific Industrial Co., Ltd.

TITLE: TINY6 M75Q-2 TPM		REV: V0.3
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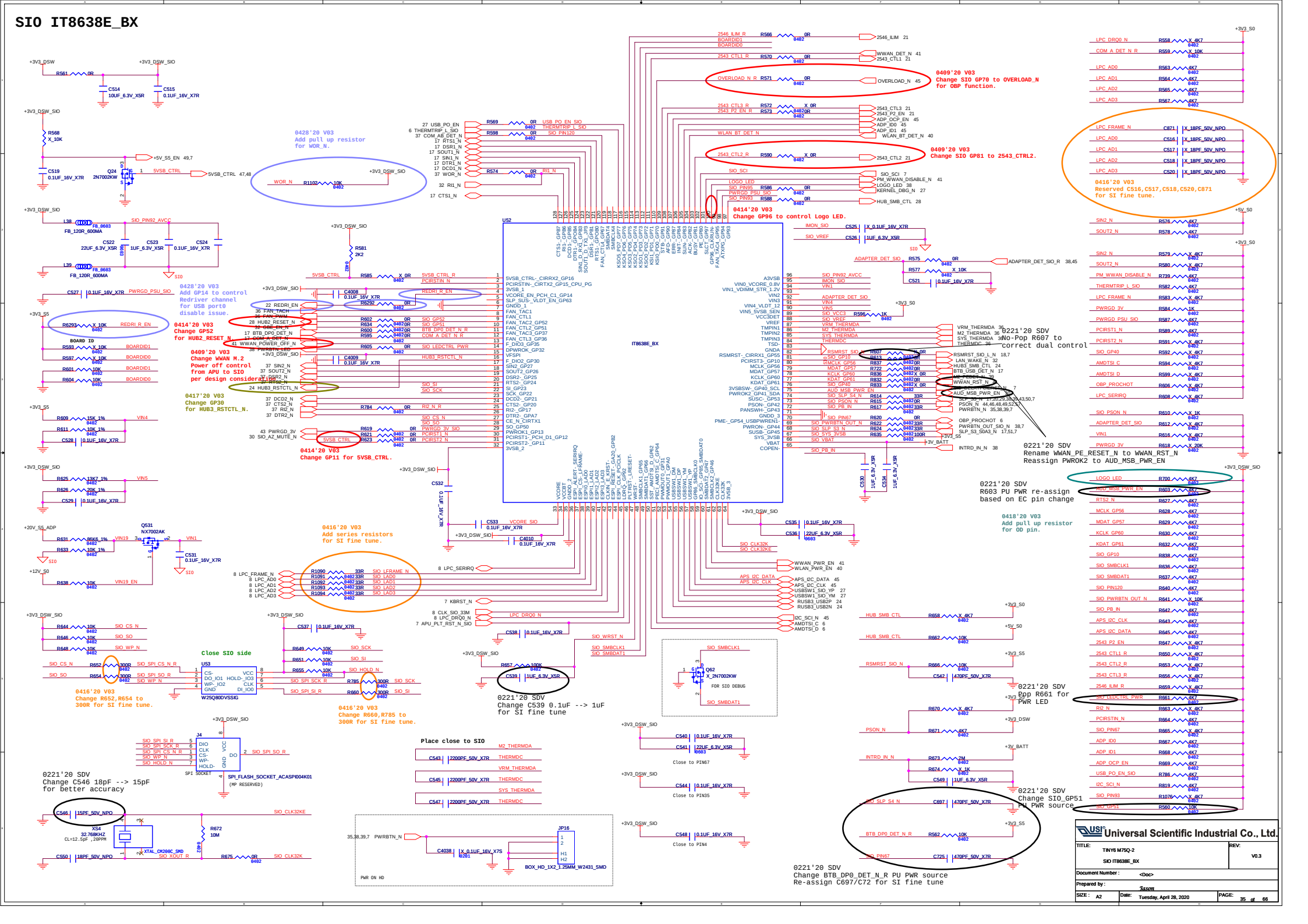
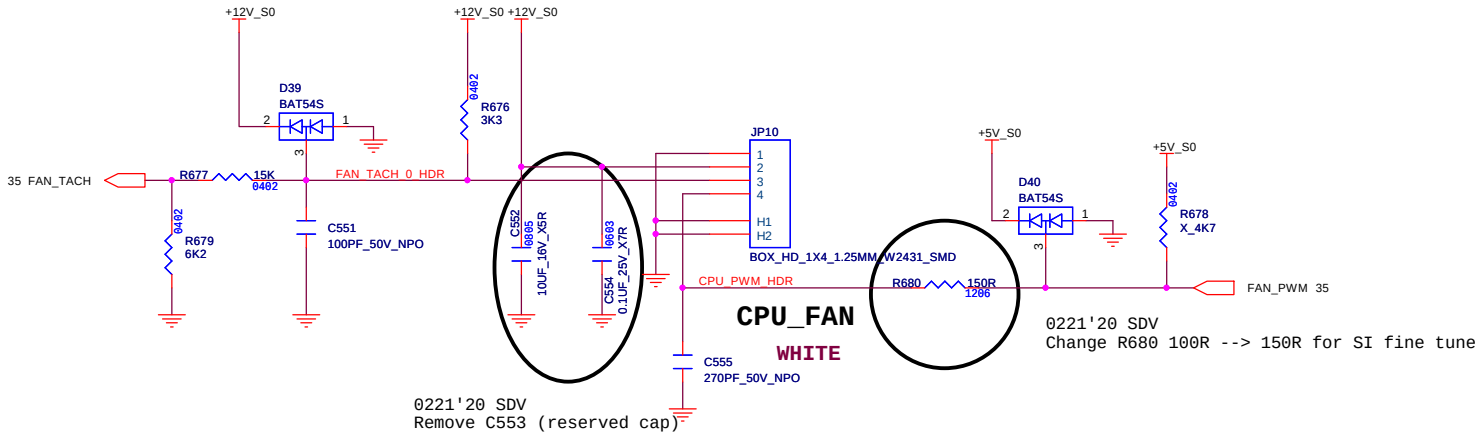
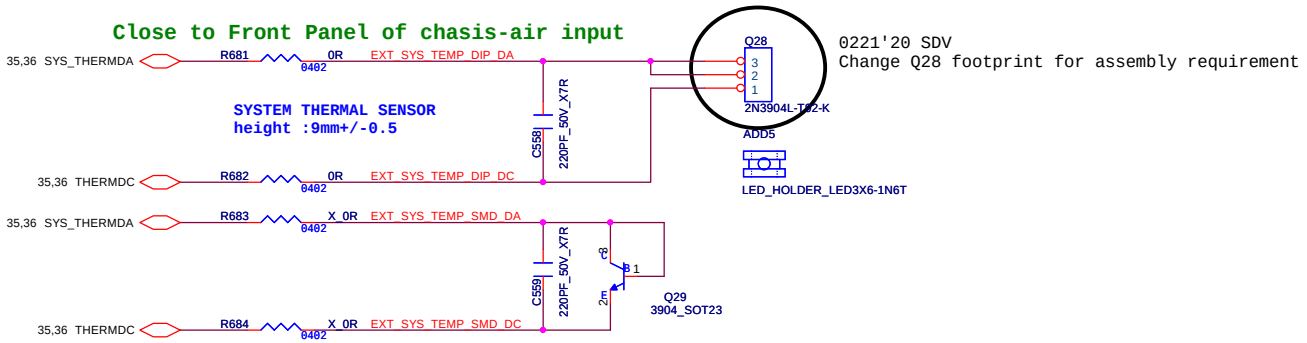
SIO IT8638E_BX



CPU FAN

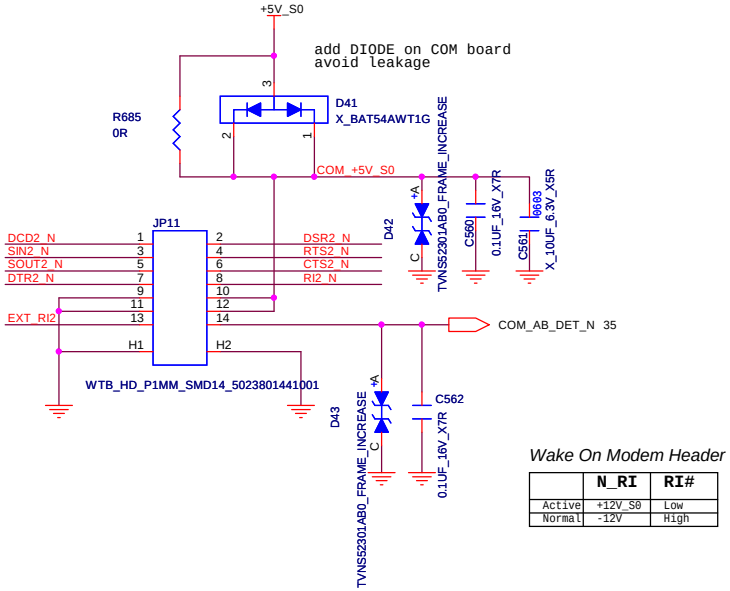


THERMAL SENSOR



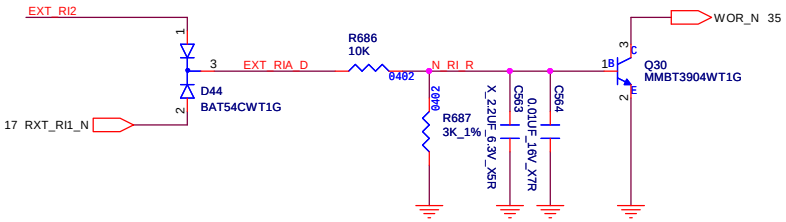
Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 CPU FAN AND THERMAL			REV: V0.3
Document Number : <Doc>			
Prepared by : Jason			
SIZE : A3	Date: Tuesday, April 28, 2020		PAGE: 36 of 66

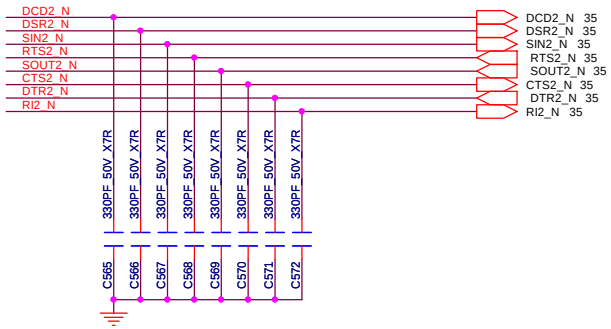
COM PORT



Wake On Modem Header

	N_RI	RI#
Active	+12V_S0	Low
Normal	-12V	High

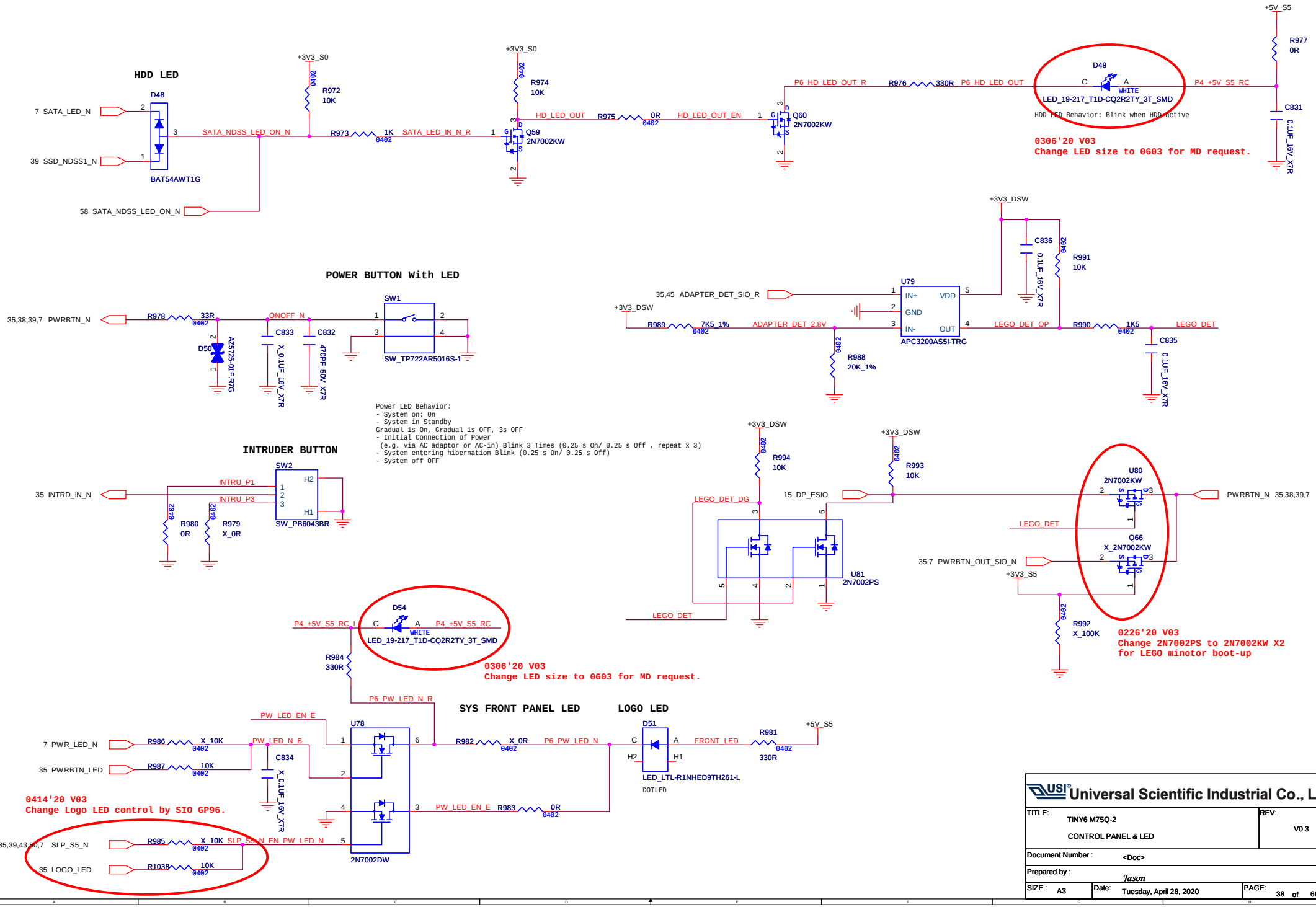




Universal Scientific Industrial Co., Ltd.

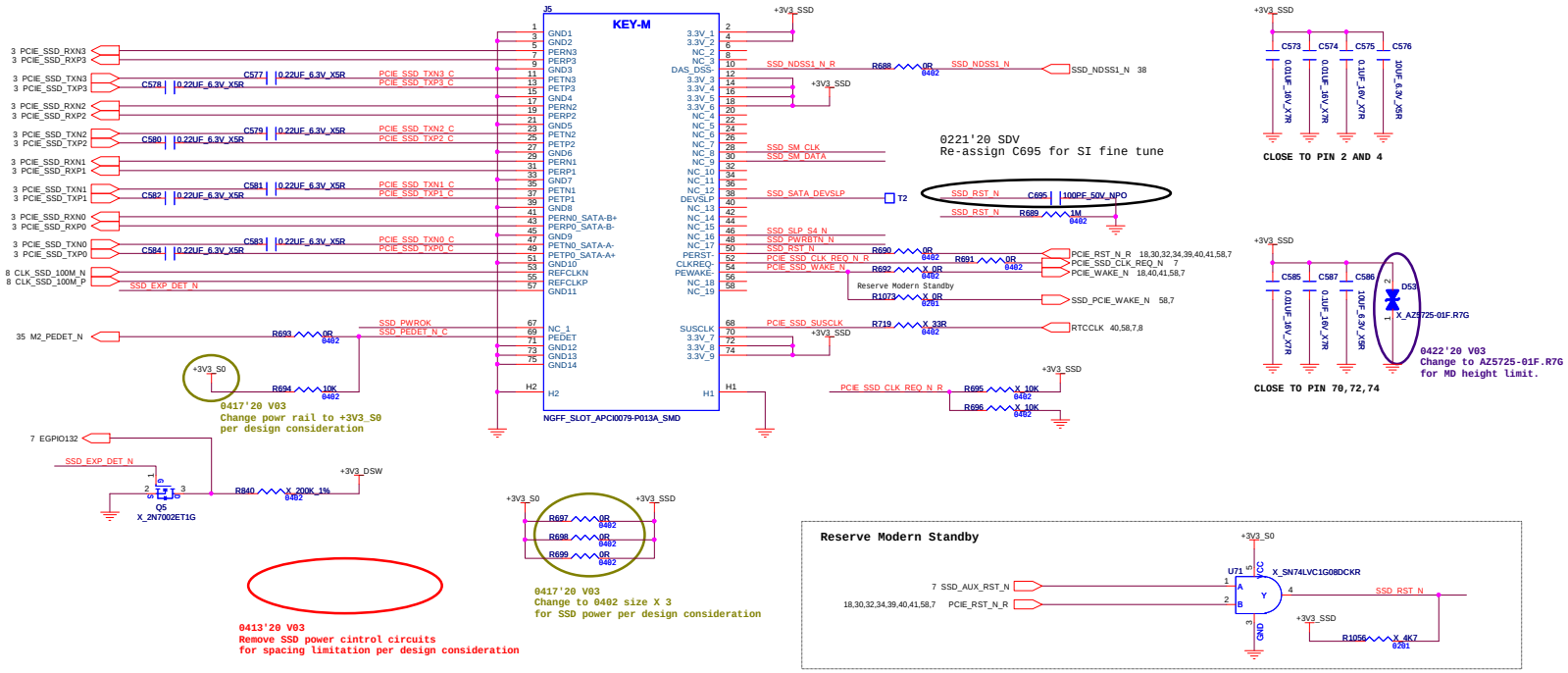
TITLE: TINY6 M75Q-2 COM PORT		REV: V0.3
Document Number : <Doc>		
Prepared by : Jason		
SIZE : A3	Date: Tuesday, April 28, 2020	PAGE: 37 of 66

CONTROL PANEL & LED

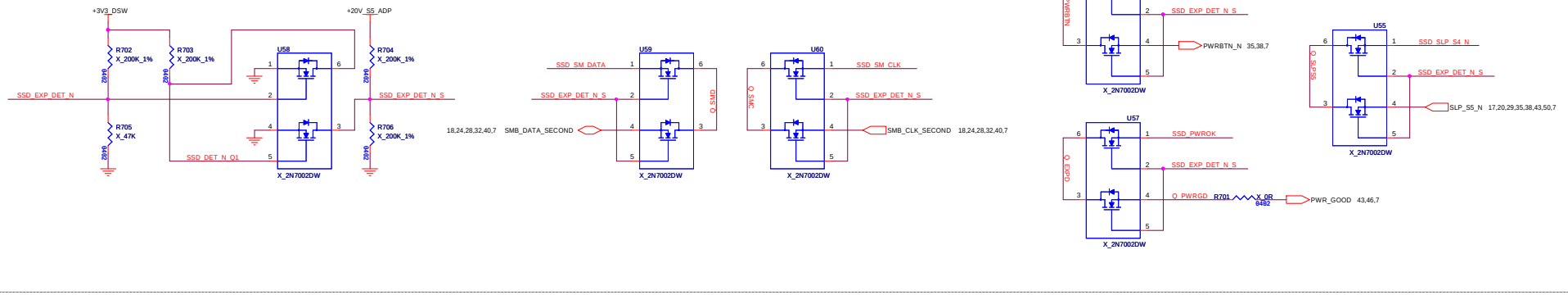


Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 CONTROL PANEL & LED			REV: V0.3
Document Number : <Doc>			
Prepared by : Jason			
SIZE : A3	Date: Tuesday, April 28, 2020		PAGE: 38 of 66

M.2 2280-M SSD

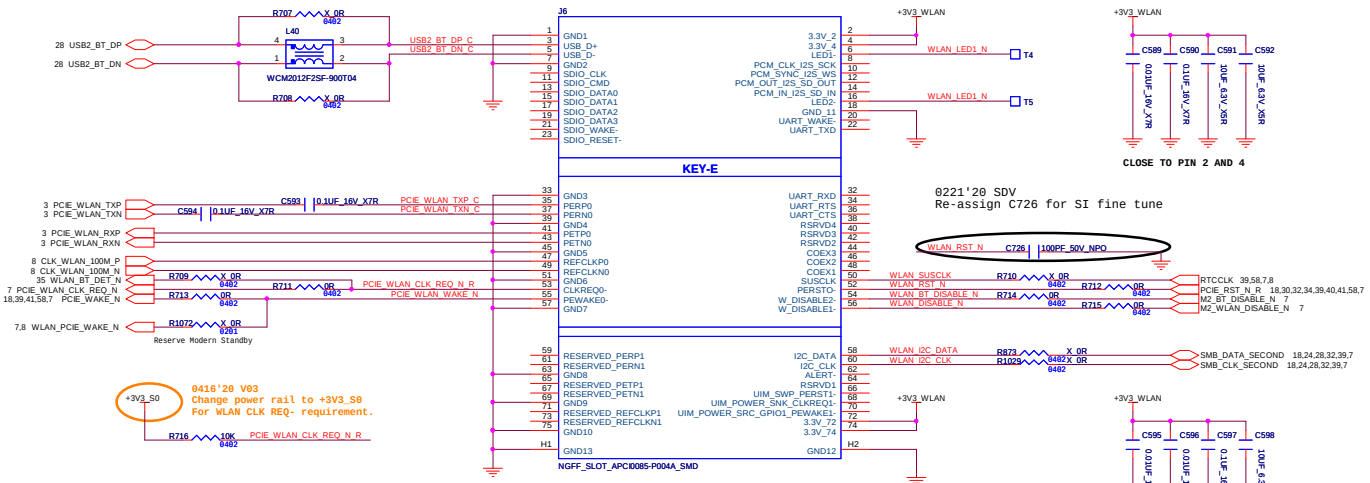


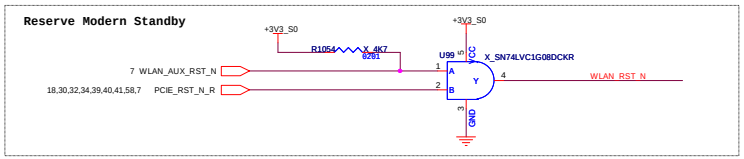
Support MOD

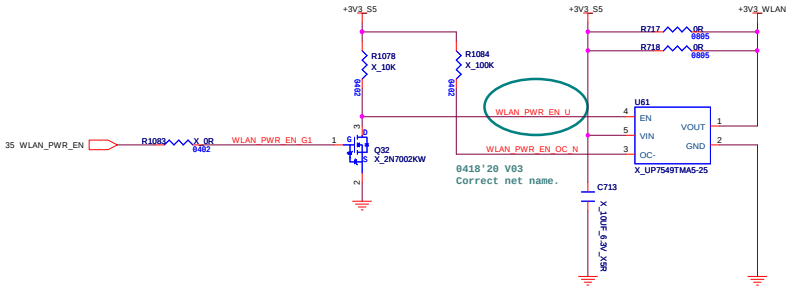


Universal Scientific Industrial Co., Ltd.	
TITLE: TINY6 M75Q-2 M.2 2280-M SSD	REV: V0.3
Document Number : <Doc>	
Prepared by : Jason	
SIZE : A2	Date: Tuesday, April 28, 2020 PAGE: 39 of 66

M.2 2230-E WLAN







Universal Scientific Industrial Co., Ltd.	
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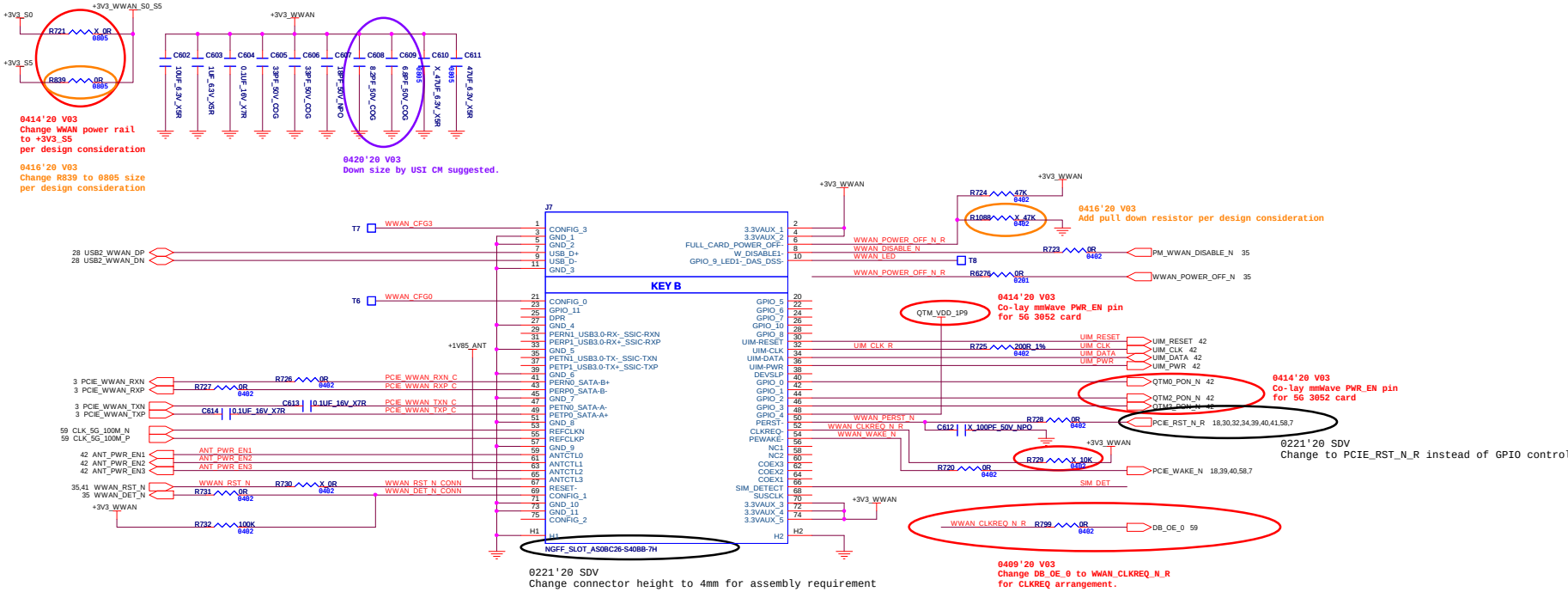
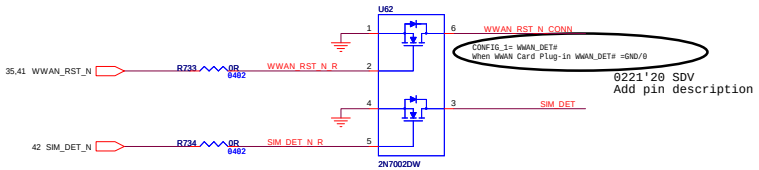
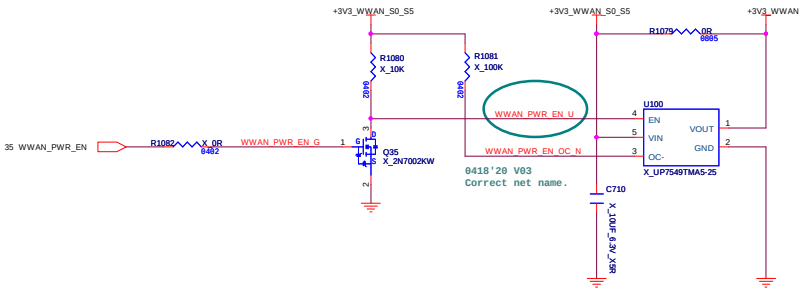
Document Number : <Doc>	
Prepared by : Jason	
SIZE : A2	Date: Tuesday, April 28, 2020 PAGE: 40 of 66

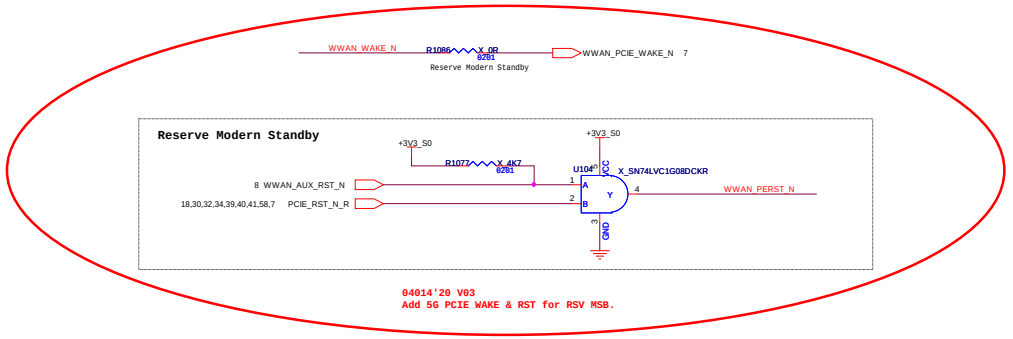
M.2 3042-B WWAN 5G

RESERVED









Universal Scientific Industrial Co., Ltd.	
TITLE: TINY6 M75Q-2 M.2 3042-B WWAN 5G	REV: V0.3
Document Number : <Doc>	
Prepared by : Jason	
SIZE : A2	Date: Tuesday, April 28, 2020
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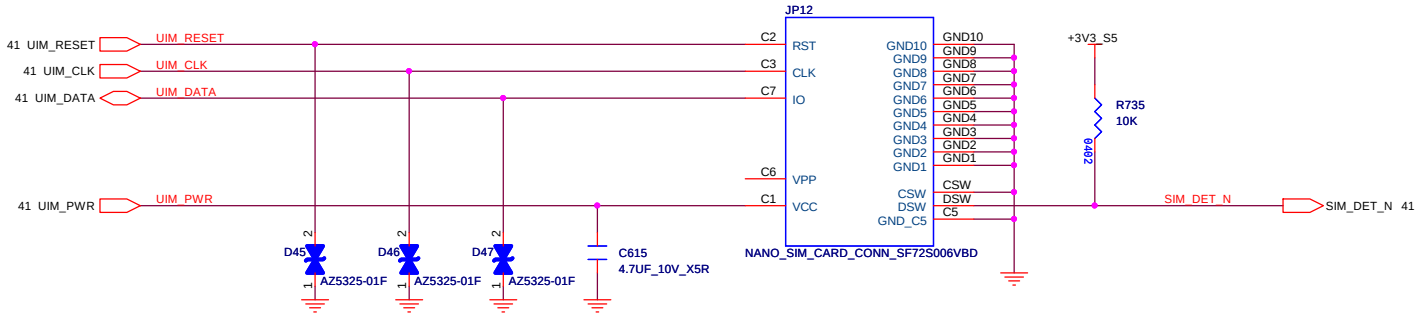
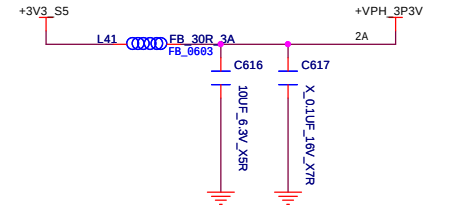
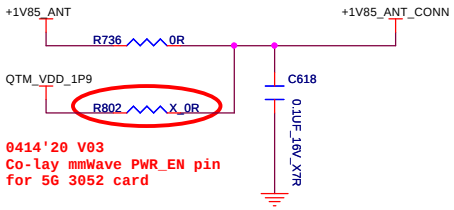
UIM & ANT PWR CONN

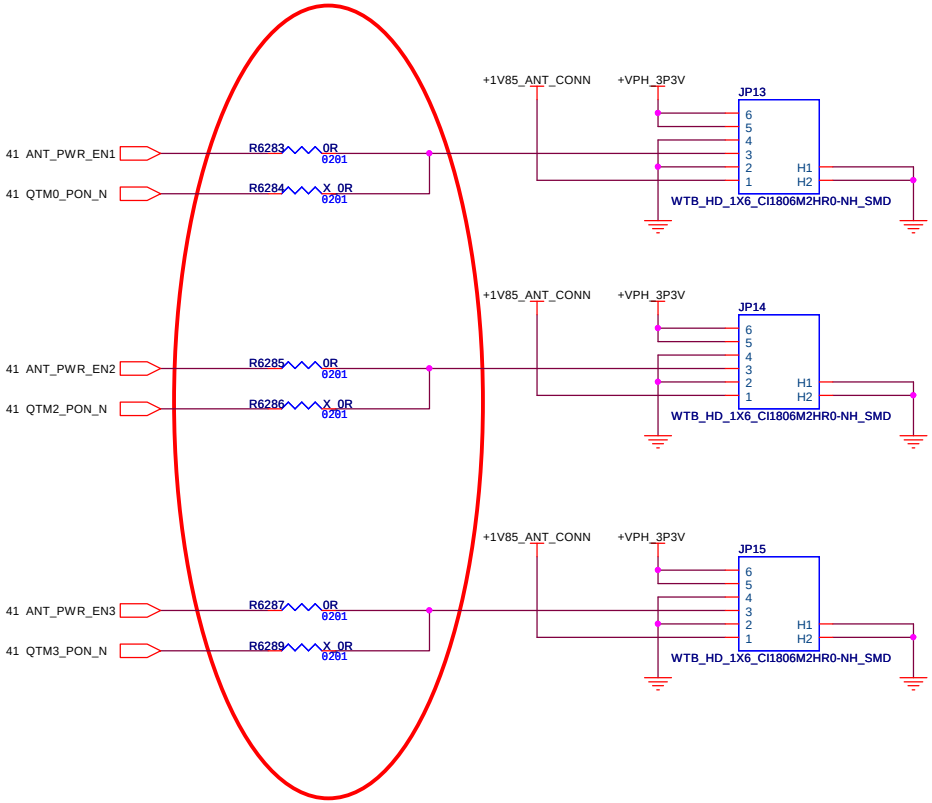
RESERVED







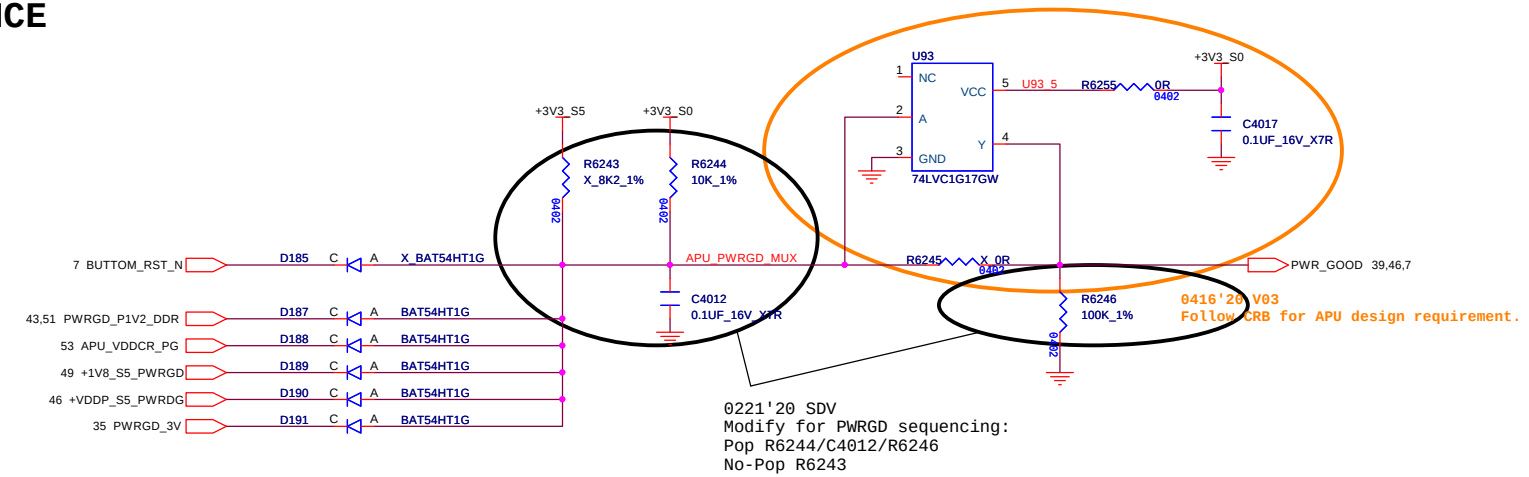
0414'20 V03
Co-lay mmWave PWR_EN pin
for 5G 3052 card



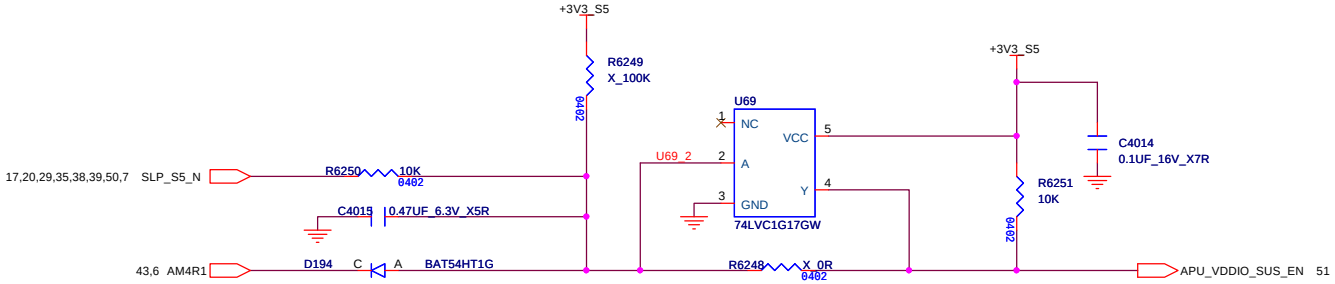
0414'20 V03
Co-lay mmWave PWR_EN pin
for 5G 3052 card

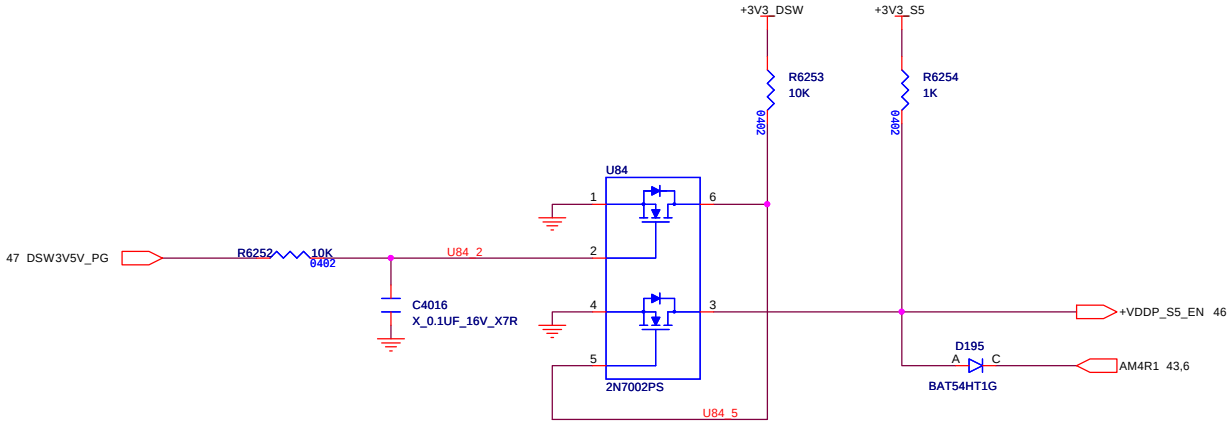
Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 UIM & ANT PWR CONN			REV: V0.3
Document Number : <Doc>			
Prepared by : Jason			
SIZE : A3	Date: Tuesday, April 28, 2020		PAGE: 42 of 66

POWER SEQUENCE



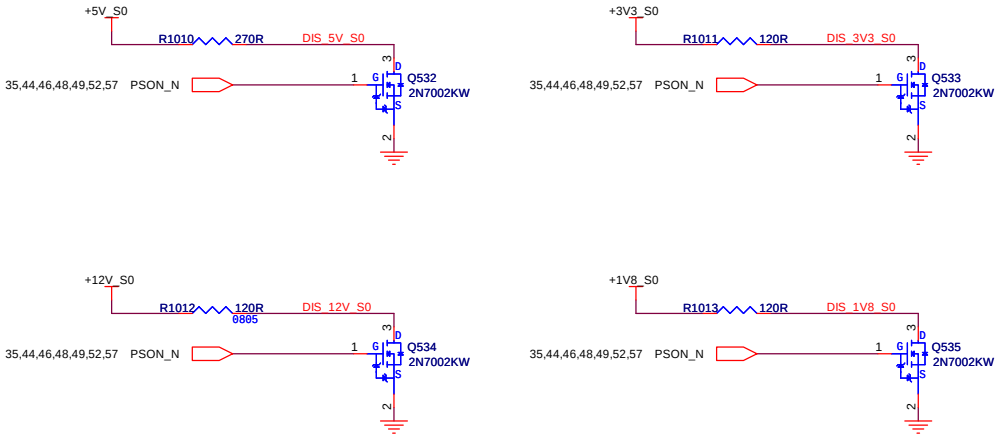
0221'20 SDV
Modify for PWRGD sequencing:
Pop R6244/C4012/R6246
No-Pop R6243





Universal Scientific Industrial Co., Ltd.		
TITLE: TINY6 M75Q-2 POWER SEQUENCE		REV: V0.3
Document Number : <Doc>		
Prepared by : Jason		
SIZE : A3	Date: Tuesday, April 28, 2020	PAGE: 43 of 66

POWER DISCHARGE



Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 POWER DISCHARGE			REV: V0.3
Document Number : <Doc>			
Prepared by : Jason			
SIZE : A3	Date: Tuesday, April 28, 2020		PAGE: 44 of 66

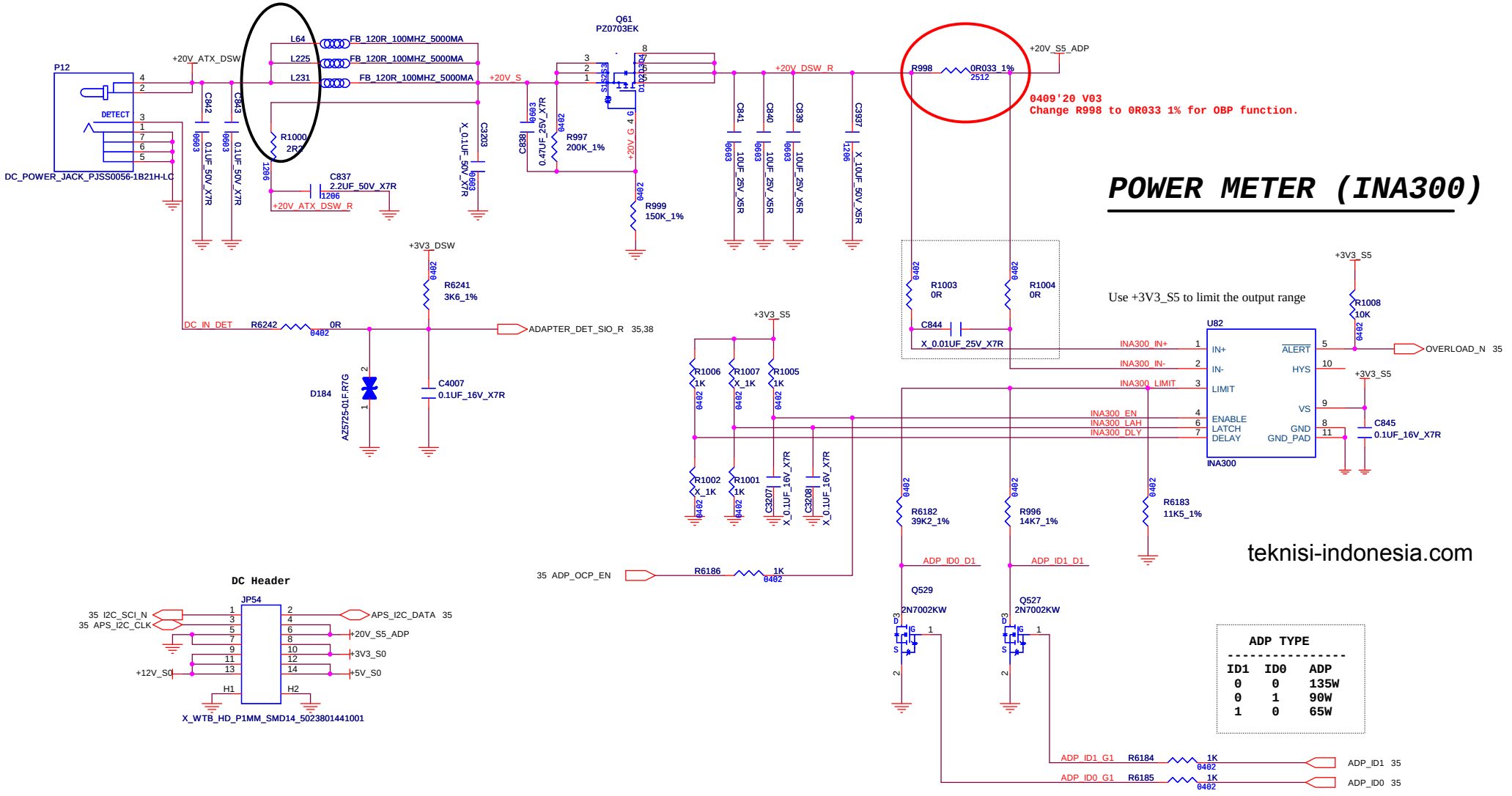
DC IN 20V

0221'20 SDV
Correct the connection of R1000

0409'20 V03
Change R998 to 0R033 1% for OBP function.

POWER METER (INA300)

Use +3V3_S5 to limit the output range

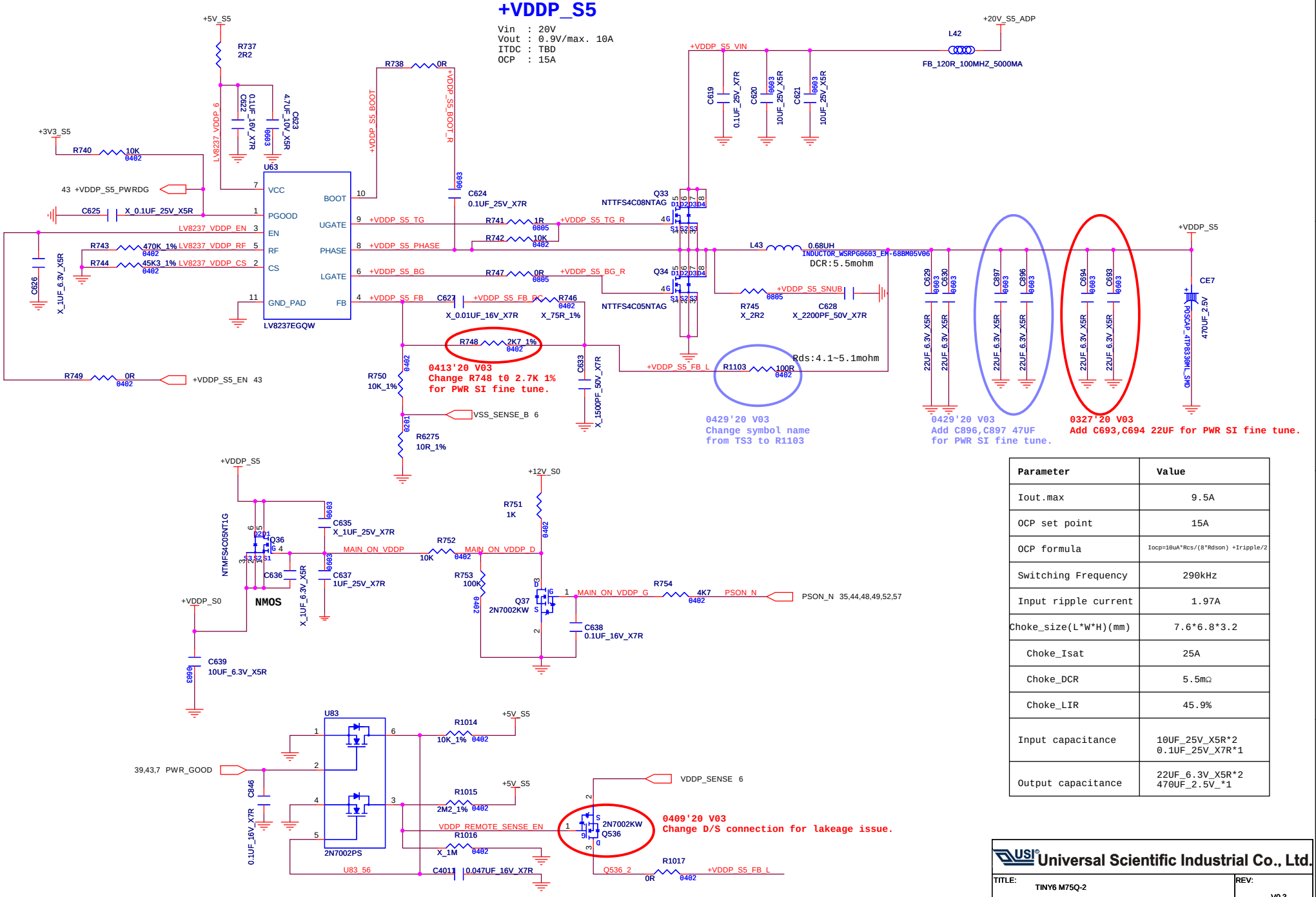


ADP TYPE		
ID1	ID0	ADP
0	0	135W
0	1	90W
1	0	65W

Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 DC IN 20V			REV: V0.3
Document Number : <Doc>			
Prepared by : Jason			
SIZE : A3	Date: Tuesday, April 28, 2020		PAGE: 45 of 66

+VDDP_S5

Vin : 20V
Vout : 0.9V/max. 10A
ITDC : TBD
OCP : 15A



Parameter	Value
Iout.max	9.5A
OCP set point	15A
OCP formula	Iocp=10uA*Rcs/(8*Rdson) +Iripple/2
Switching Frequency	290kHz
Input ripple current	1.97A
Choke_size(L*W*H)(mm)	7.6*6.8*3.2
Choke_Isat	25A
Choke_DCR	5.5mΩ
Choke_LIR	45.9%
Input capacitance	10UF_25V_X5R*2 0.1UF_25V_X7R*1
Output capacitance	22UF_6.3V_X5R*2 470UF_2.5V_*1

Universal Scientific Industrial Co., Ltd.

TITLE: TINY6 M75Q-2 +VDDP_S5		REV: V0.3
Document Number : <Doc>		
Prepared by : Jason		
SIZE : A3	Date: Wednesday, April 29, 2020	PAGE: 46 of 66

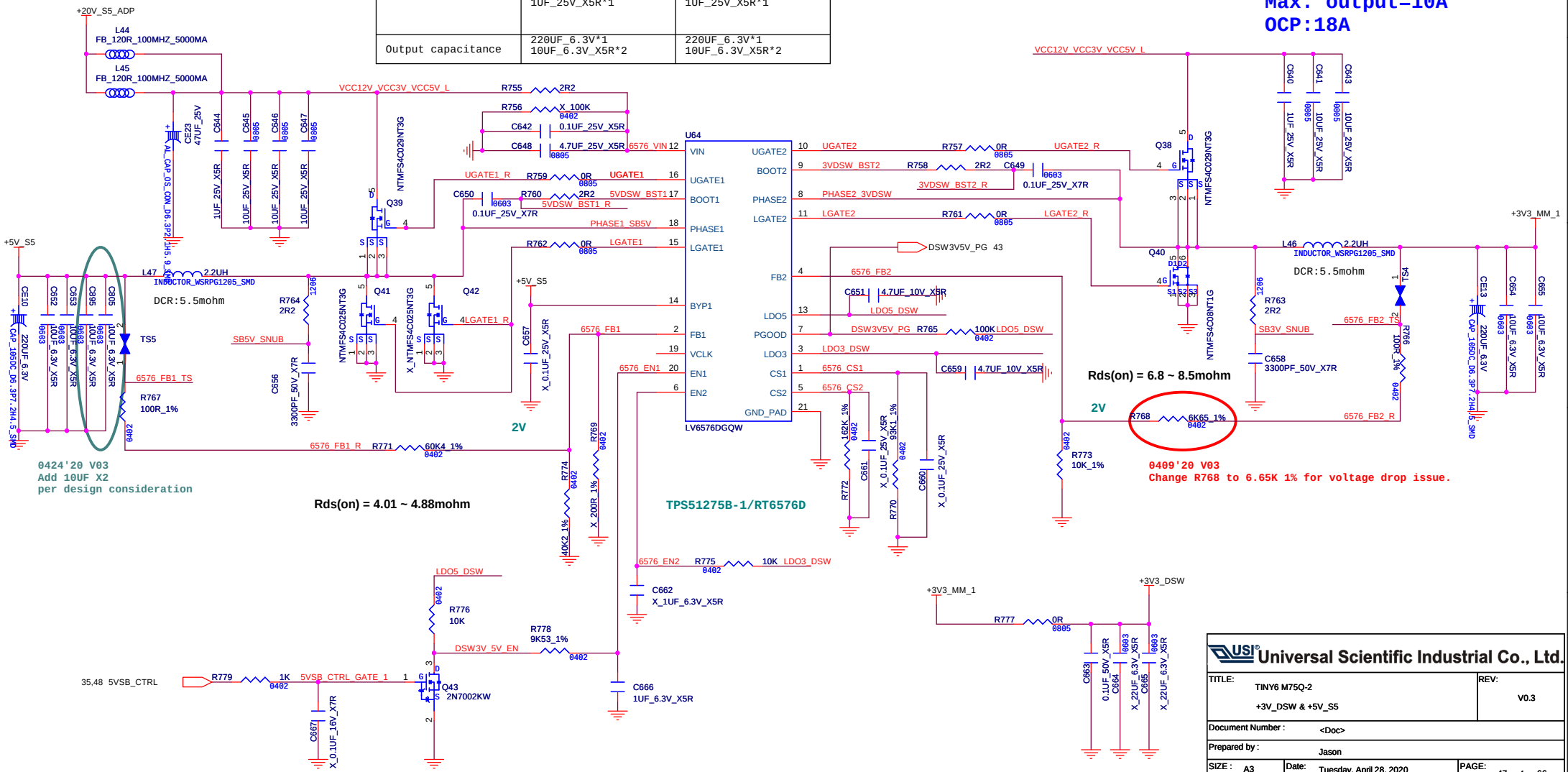
Enable	Disable
EN1,EN2 > 1.4 V	EN1,EN2 < 0.4 V

+5V_S5/+3V3_MM_1

Parameter	+5V_S5	+3V_MM_1
Iout.max	14A	17A
OCP set point	23A	25.8A
OCP formula	RLIMIT=(ILIMITxRDS(ON))x8/10μA	RLIMIT=(ILIMITxRDS(ON))x8/10μA
Switching Frequency	300kHz	355kHz
Input ripple current	6.063A	6.31A
Choke_size(L*W*H)(mm)	13.8*12.9*5	13.8*12.9*5
Choke_Isat	32A	32A
Choke_DCR	5.5mΩ	5.5mΩ
Choke_LIR	40.6%	20.8%
Input capacitance	10UF_25V_X5R*3 1UF_25V_X5R*1	10UF_25V_X5R*2 1UF_25V_X5R*1
Output capacitance	220UF_6.3V*1 10UF_6.3V_X5R*2	220UF_6.3V*1 10UF_6.3V_X5R*2

+5V_S5
Max. output=14A
OCP:23A

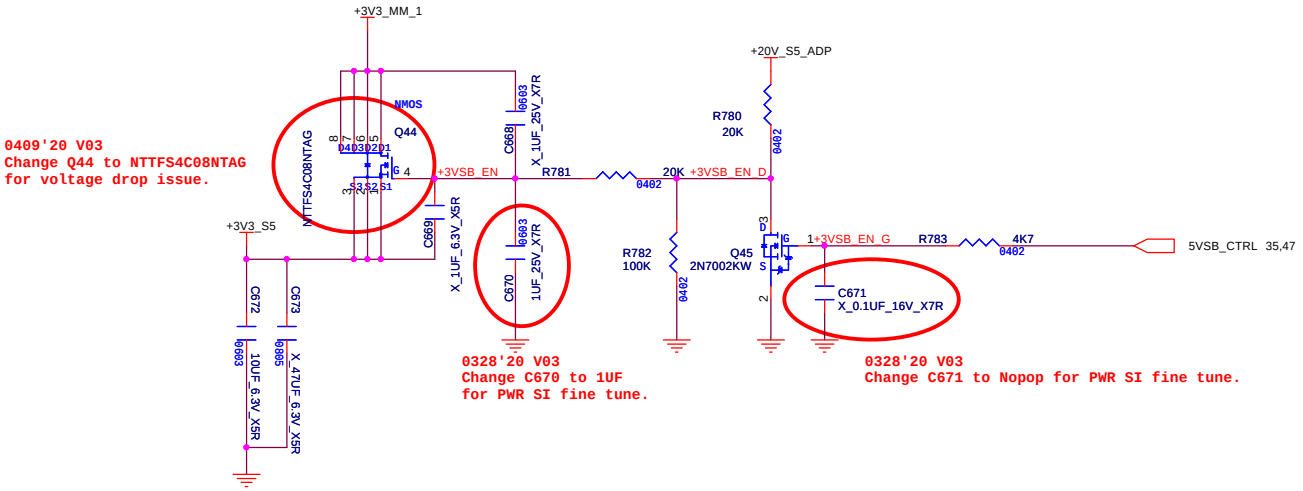
+3V_MM_1
Max. output=10A
OCP:18A



Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 +3V_DSW & +5V_S5			REV: V0.3
Document Number : <Doc>			
Prepared by : Jason			
SIZE : A3	Date: Tuesday, April 28, 2020		PAGE: 47 of 66

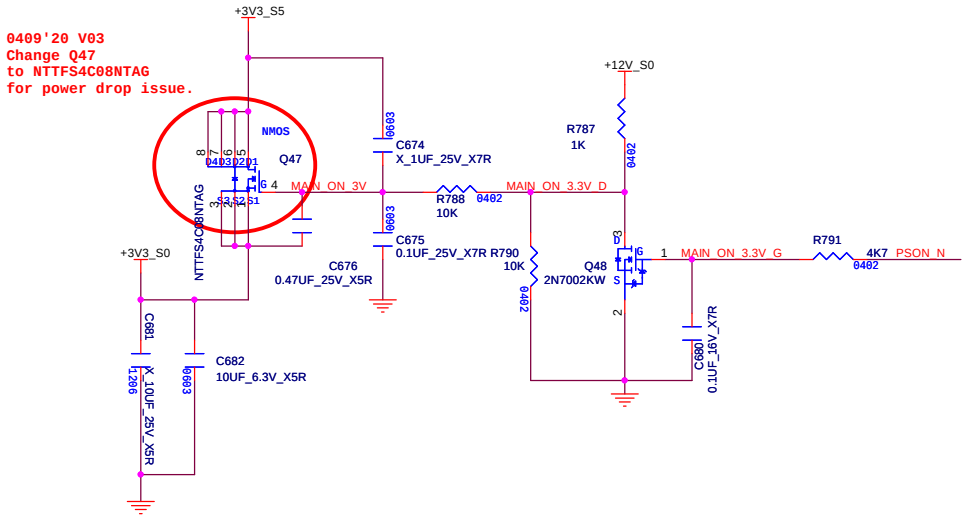
STAND BY POWER CONTROL

+3V3_S5

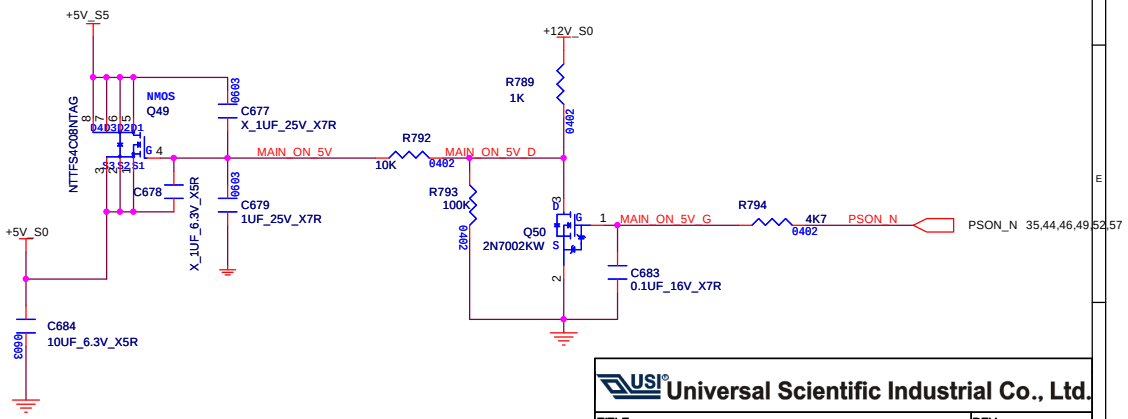


SYSTEM POWER CONTROL

+3V3_S0



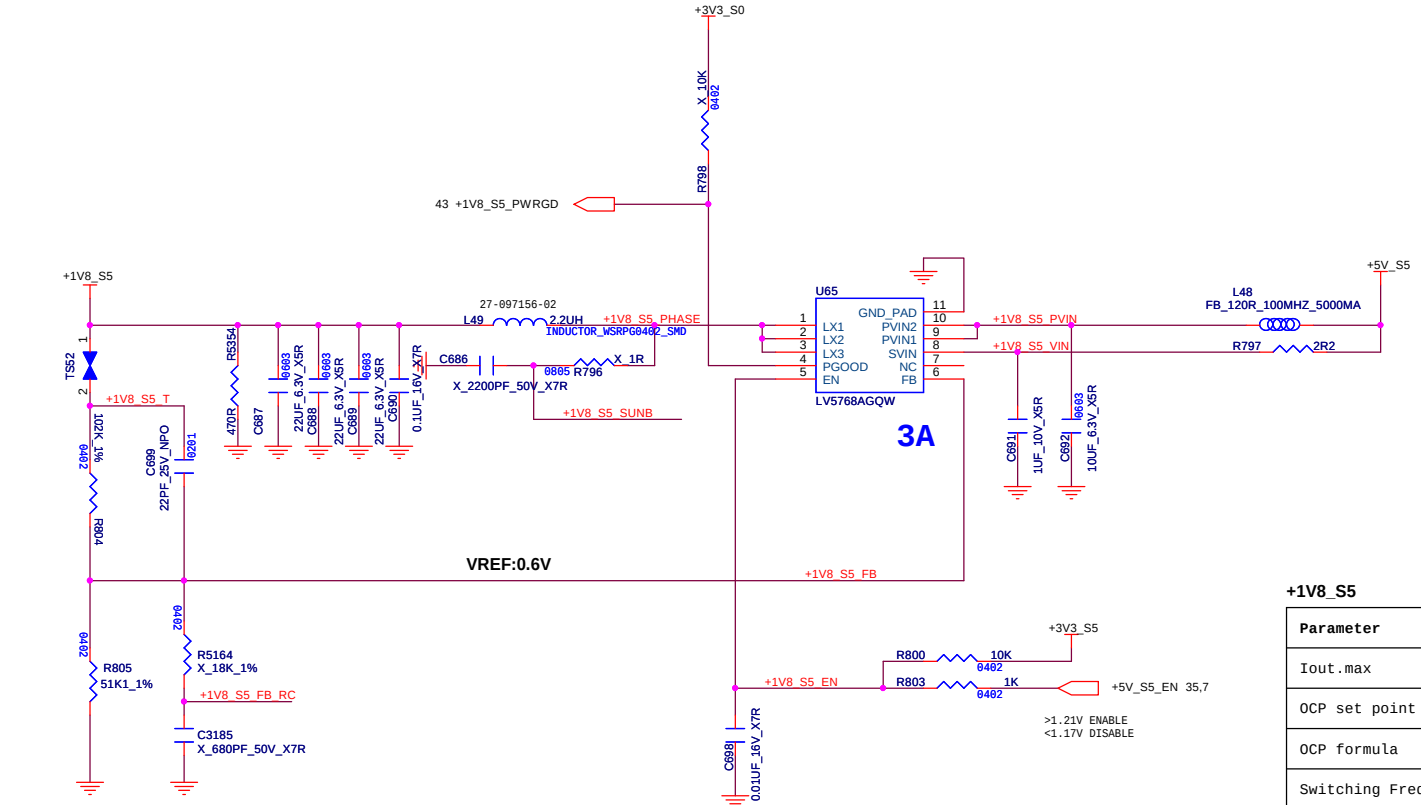
+5V_S0



Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 VCC3/5V			REV: V0.3
Document Number : <Doc>			
Prepared by : Jason			
SIZE : A3	Date: Tuesday, April 28, 2020	PAGE: 48 of 66	

+1V8_S5

TDC:2.25A

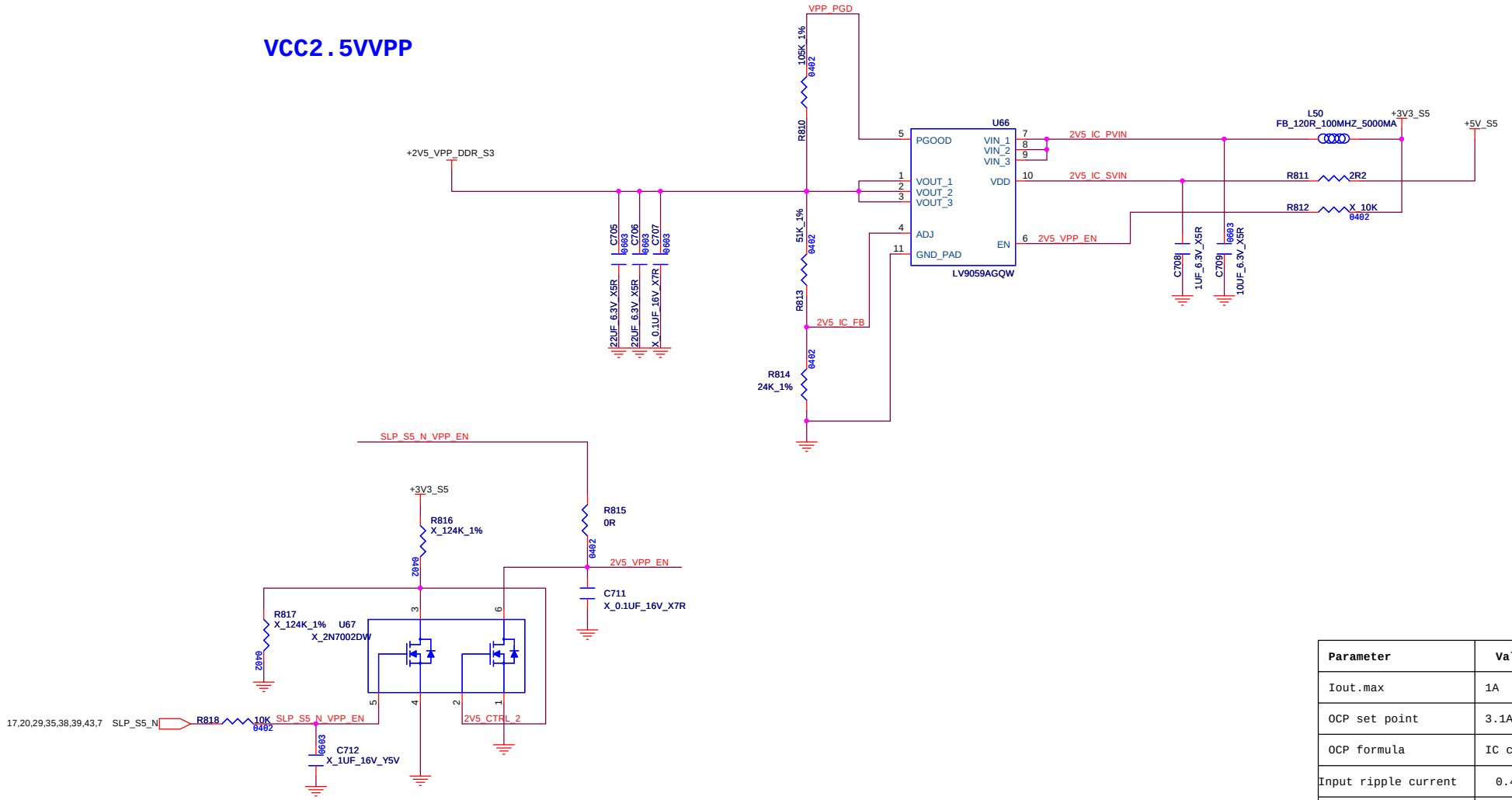


+1V8_S5

Parameter	Value
Iout.max	2.53A
OCP set point	4A
OCP formula	IC Controlled
Switching Frequency	1MHz
Input ripple current	1.2144A
Choke_size(L*W*H)(mm)	4.5X4.1X2
Choke_Isat	5A
Choke_DCR	51mΩ
Choke_LIR	20.7%
Input capacitance	10UF_6.3V_X5R*1
Output capacitance	22UF_6.3V_X5R*3 0.1UF_6.3V_X7R*1

Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 +1V35_GPU_S0			REV: V0.3
Document Number : <Doc>			
Prepared by : Jason			
SIZE : A3	Date: Tuesday, April 28, 2020		PAGE: 49 of 66

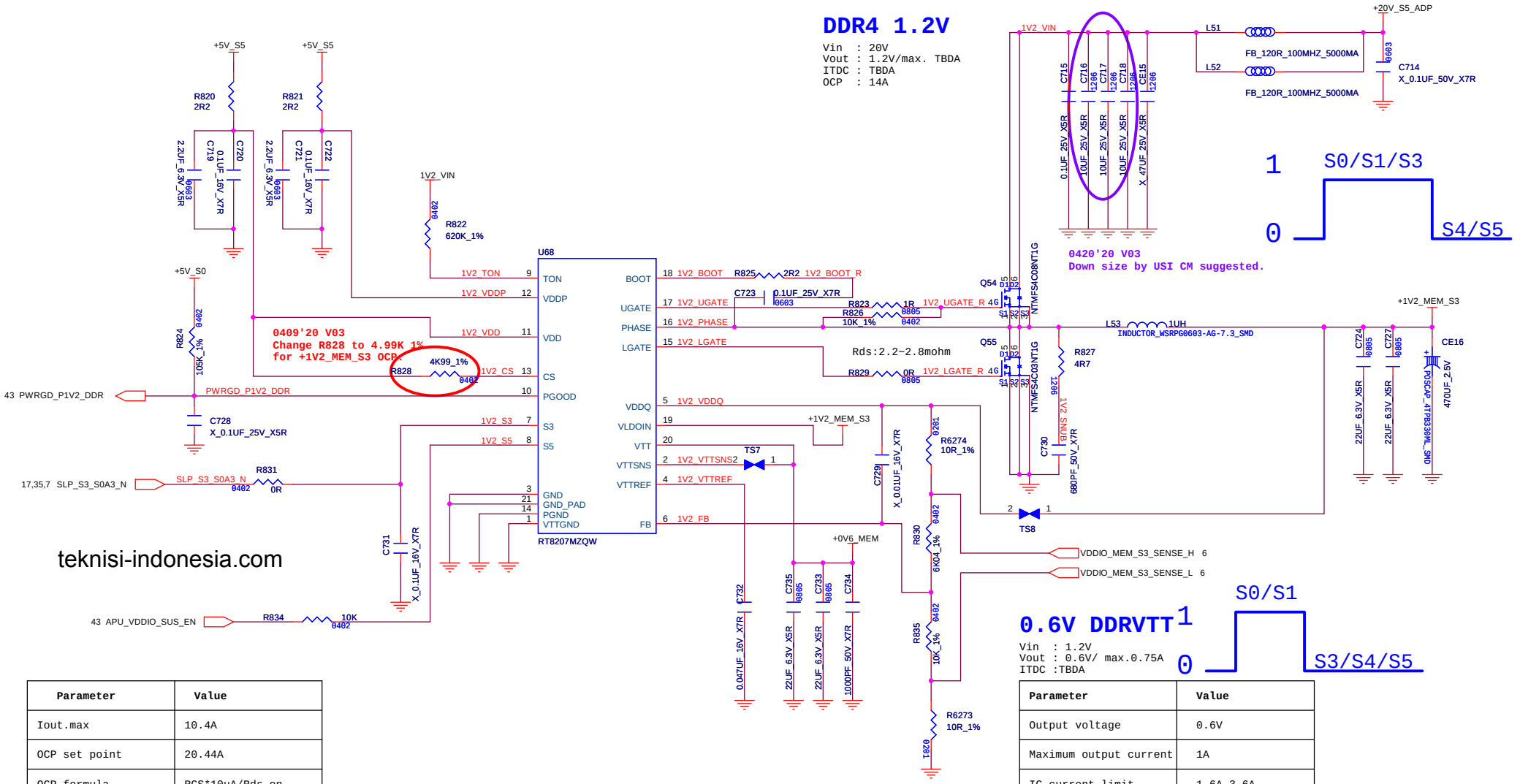
VCC2.5VPP



Parameter	Value
Iout.max	1A
OCP set point	3.1A-4.2A
OCP formula	IC controlled
Input ripple current	0.429A
Input capacitance	10UF_6.3V_X5R*1 1UF_6.3V_X5R*1
Output capacitance	22UF_6.3V_X5R*2

Universal Scientific Industrial Co., Ltd.

TITLE: TINY6 M75Q-2 VCC2.5V_VPP			REV: V0.3
Document Number : <Doc>			
Prepared by : Jason			
SIZE : A3	Date: Tuesday, April 28, 2020		PAGE: 50 of 66

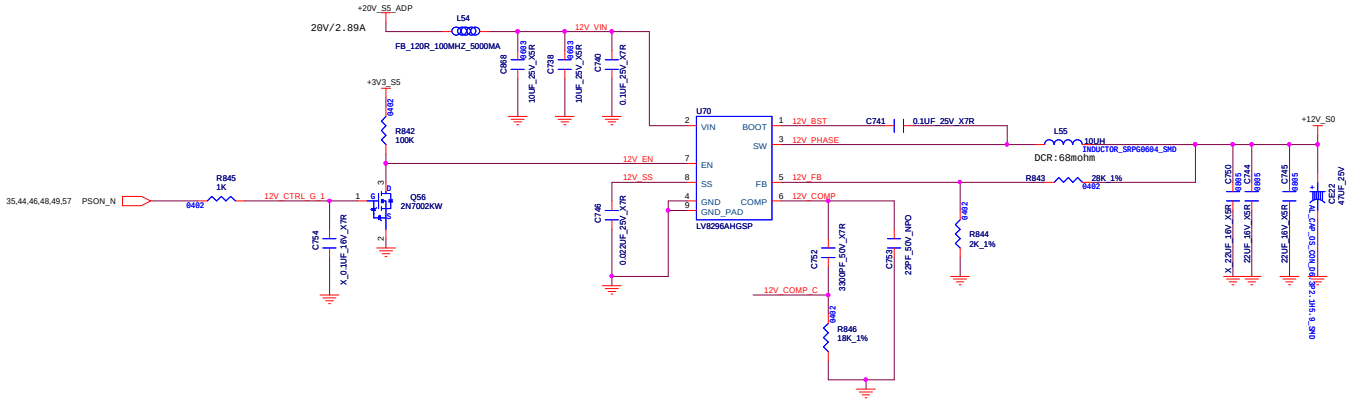


Parameter	Value
Iout.max	10.4A
OCP set point	20.44A
OCP formula	RCS*10uA/Rds_on
Switching Frequency	408kHz
Input ripple current	2.47A
Choke_size(L*W*H)(mm)	7.6*6.8*3
Choke_Isat	22A
Choke_DCR	10mΩ
Choke_LIR	26.6%
Input capacitance	10UF_25V_X5R*3 0.1UF_25V_X5R*1
Output capacitance	470UF_2.5V*1 22UF_6.3V_X5R*2

Parameter	Value
Output voltage	0.6V
Maximum output current	1A
IC current limit	1.6A-3.6A
Max. PD(theoretically)	0.6W
Rja	68°C/W
Enable condition	"+3V_S5" ON

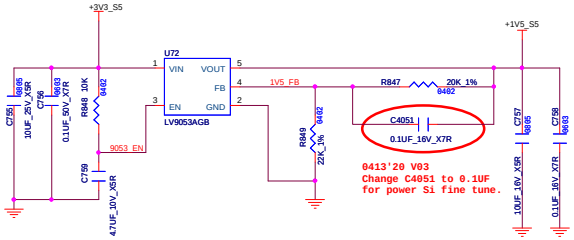
Universal Scientific Industrial Co., Ltd.

TITLE: TINY6 M75Q-2 System DDR4 VR		REV: V0.3
Document Number : <Doc>		
Prepared by : Jason		
SIZE : A3	Date: Tuesday, April 28, 2020	PAGE: 51 of 66



+12V_S0

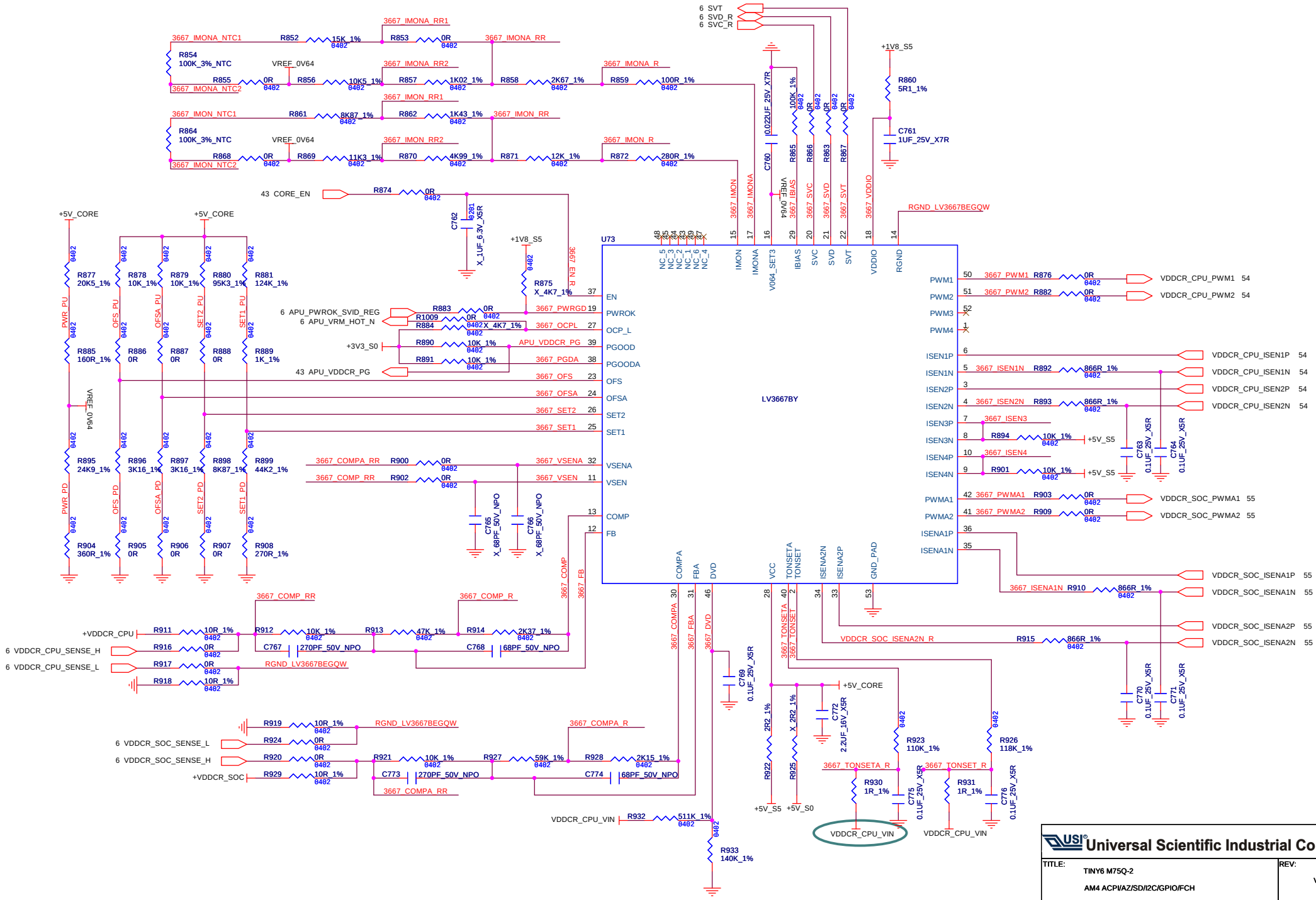
Parameter	Value
Iout.max	2.201A
OCP set point	3.8A-6.4A
OCP formula	IC Controlled
Switching Frequency	340kHz
Input ripple current	1.13A
Choke_size(L*W*H)(mm)	11.5*10.3*4.0
Choke_Isat	8.5A
Choke_DCR	30mΩ
Choke_LIR	64.1%
Input capacitance	10UF_25V_X5R_*2 0.1UF_25V_X7R*1
Output capacitance	22UF_16V_X5R*2 47UF_25V*1



+1V5_S5

Parameter	Value
Iout.max	0.276A
OCP set point	0.4A-1A
OCP formula	IC controlled
Input ripple current	0.138A
Input capacitance	10UF_25V_X5R*1 0.1UF_50V_X7R*1
Output capacitance	10UF_16V_X5R*1 0.1UF_16V_X7R*1

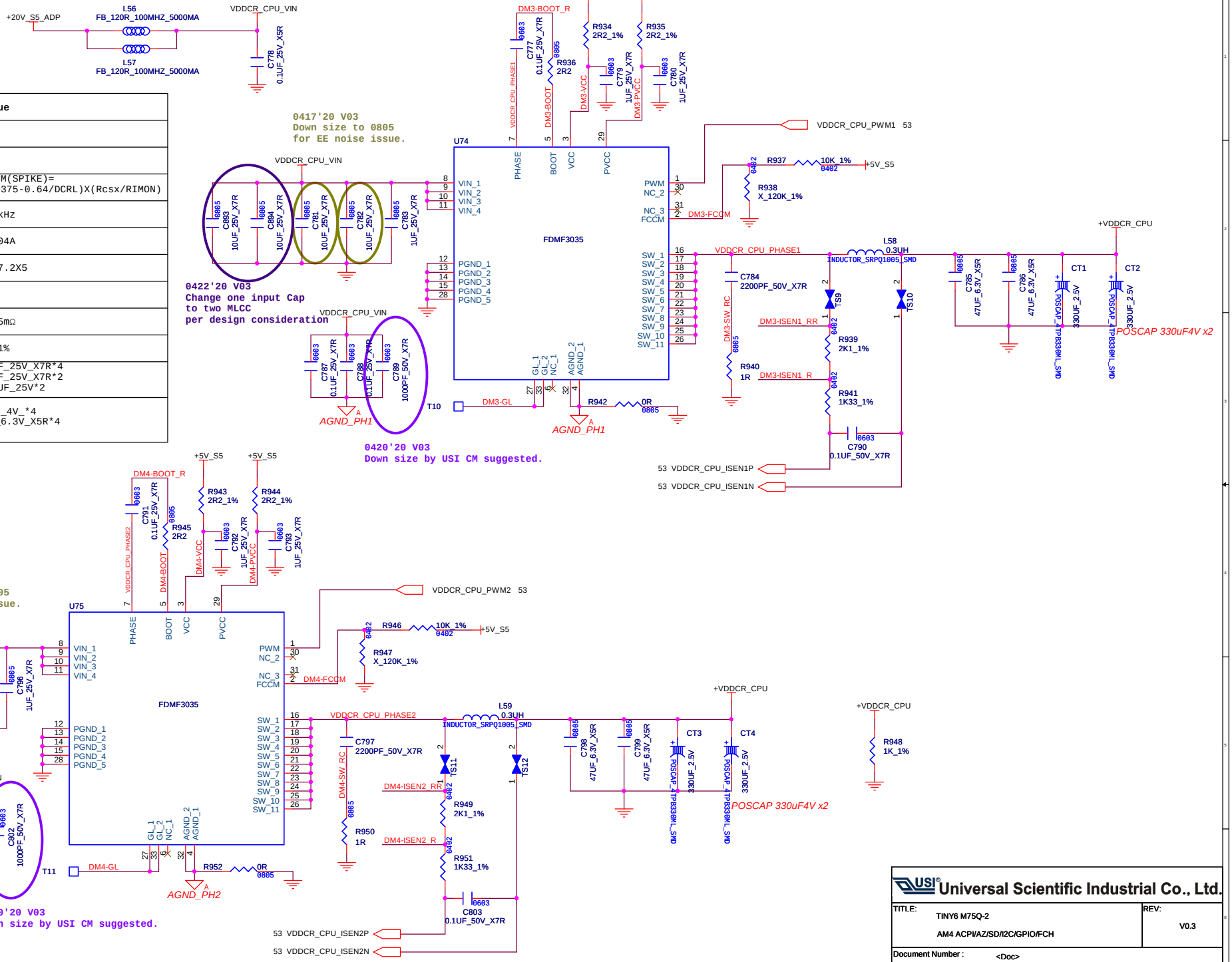
Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 20V TO 12V			REV: V0.3
Document Number : <Doc>			
Prepared by : Jason			
SIZE : A2	Date: Tuesday, April 28, 2020		PAGE: 52 of 66



Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 AM4 ACPI/AZ/SD/I2C/GPIO/FCH		REV: V0.3	
Document Number : <Doc>			
Prepared by : Jason			
SIZE : A3	Date: Tuesday, April 28, 2020	PAGE: 53 of 66	

VDDCR_CPU

Parameter	Value
Iout.max	55A
OCP set point	70A
OCP formula	IL,SUM(SPIKE)= (3.19375-0.64/DCRL)X(Rcsx/RIMON)
Switching Frequency	359kHz
Input ripple current	8.604A
Choke_size(L*W*H)(mm)	11X7.2X5
Choke_Isat	61A
Choke_DCR	1.05mΩ
Choke_LIR	35.1%
Input capacitance	10UF_25V_X7R*4 1UF_25V_X7R*2 47UF_25V*2
Output capacitance	330UF_4V_*4 47UF_6.3V_X5R*4



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TITLE: TINY6 M75Q-2 AM4 ACPI/AZ/SD/I2C/GPIO/FCH		REV: V0.3
Document Number : <Doc>		
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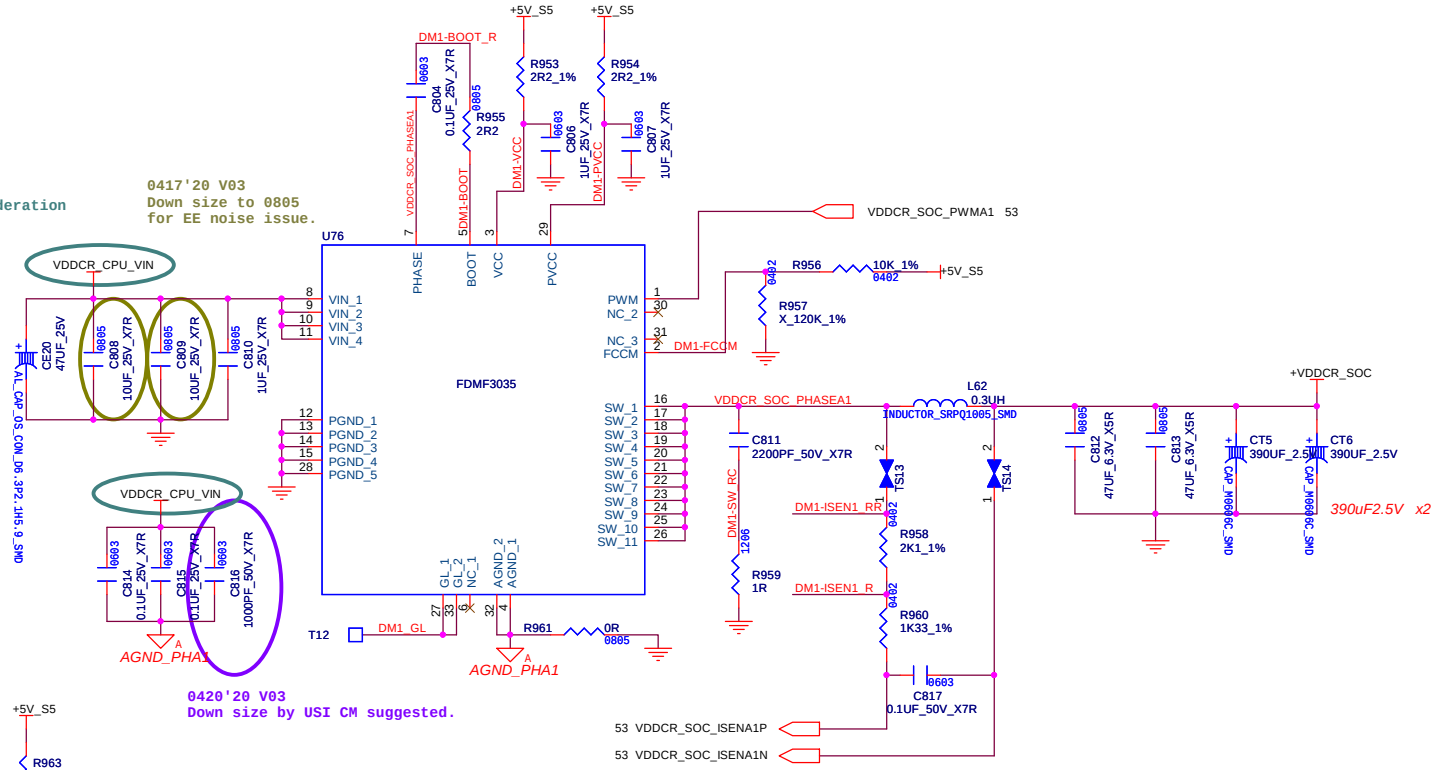
0424'20 V03
Remove L60,L61 for interleave
per design consideration

VDDCR_SOC

Parameter	Value
Iout.max	60A
OCP set point	70A
OCP formula	IL,SUM(SPIKE)= (3.19375-0.64/DCRL)X(Rcsx/RIMON)
Switching Frequency	375kHz
Input ripple current	9.387A
Choke_size(L*W*H)(mm)	11X7.2X5
Choke_Isat	61A
Choke_DCR	1.05mΩ
Choke_LIR	30.8%
Input capacitance	10UF_25V_X7R*4 1UF_25V_X7R*2 47UF_25V*2
Output capacitance	390UF_2.5V_*4 47UF_6.3V_X5R*4

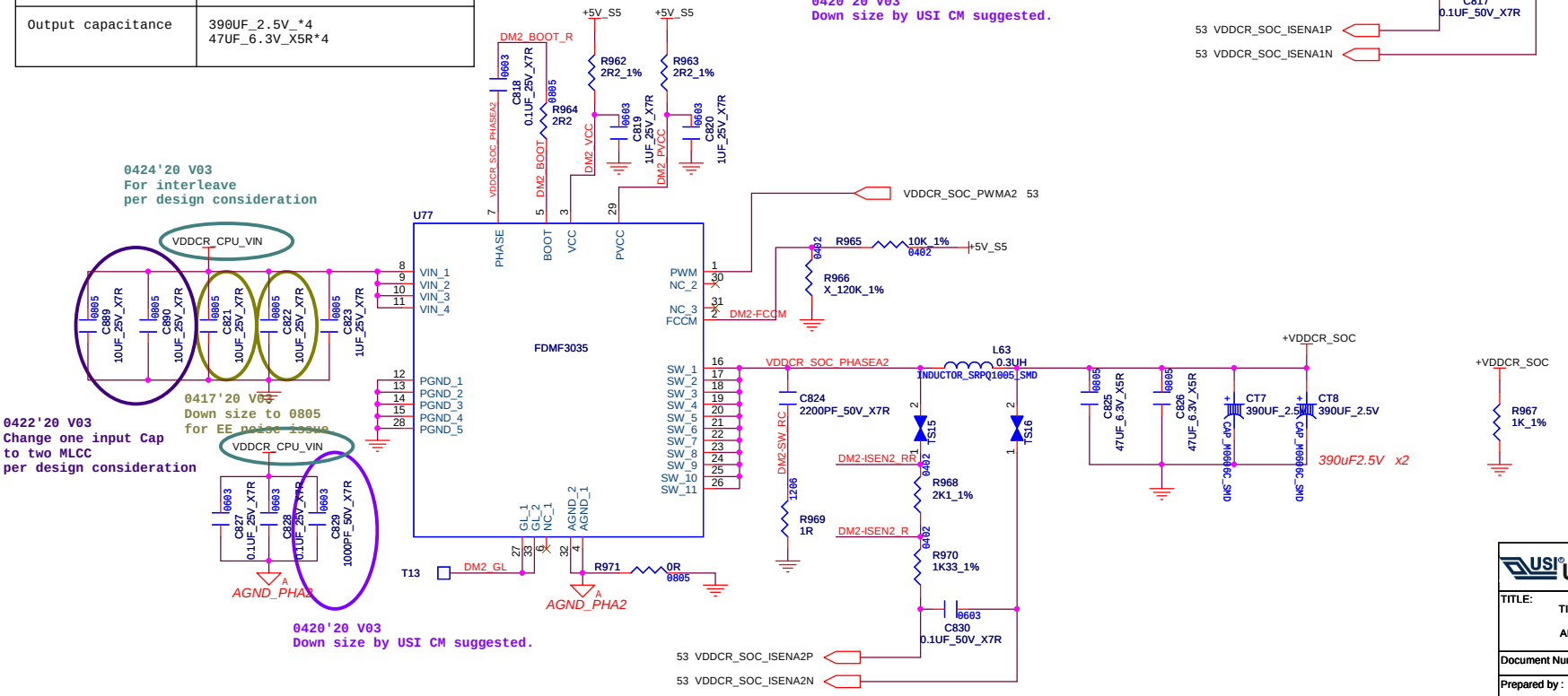
0424'20 V03
For interleave
per design consideration

0417'20 V03
Down size to 0805
for EE noise issue.



0420'20 V03
Down size by USI CM suggested.

0424'20 V03
For interleave
per design consideration



0422'20 V03
Change one input Cap
to two MLCC
per design consideration

0417'20 V03
Down size to 0805
for EE noise issue.

0420'20 V03
Down size by USI CM suggested.

Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 AM4 ACPI/AZ/SD/I2C/GPIO/FCH			REV: V0.3
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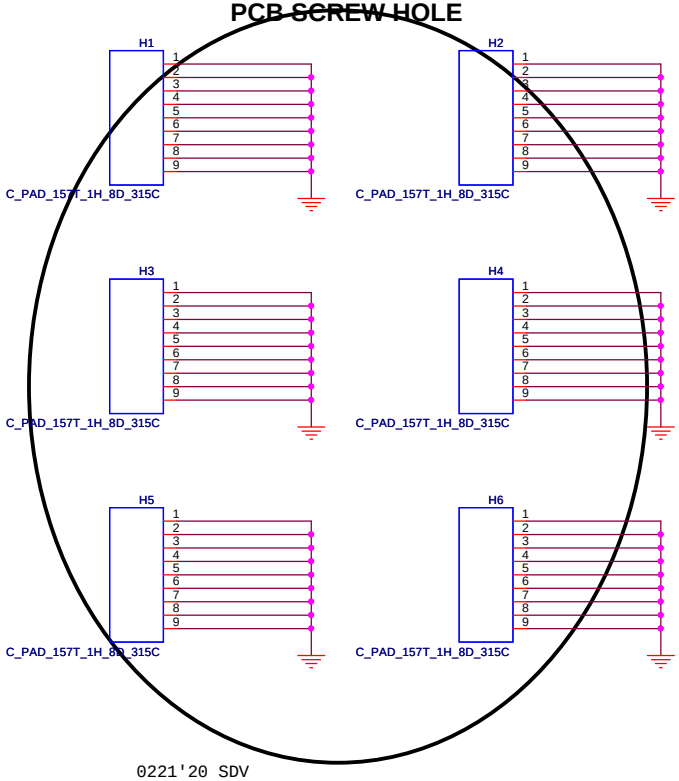
SCREW HOLE

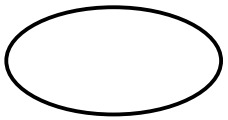
PCB SCREW HOLE



0221'20 SDV
Change to PTH hole

H15
WIFI_HOLE_7.5X0.9_R0.3

H16
SCREW_HOLE_PTH_2.5MM



0221'20 SDV
Del holes

M.2 WIFI STAND OFF HOLE

H7 STAND_OFF_HOLE_M2X0.4X6

BTB STAND OFF HOLE

H8 STAND_OFF_HOLE_M3X0.5X3.7

SSD CARD STAND OFF HOLE

H9 SSD_CARD_SCREW_HOLE_3.8_0.9_1.6

H10 SSD_CARD_SCREW_HOLE_3.8_0.9_1.6

H11 SSD_CARD_SCREW_HOLE_3.8_0.9_1.6

SINGAL PORT LAN CARD STAND OFF HOLE

H18 STAND_OFF_HOLE_M3X0.5X3.7

APU SCREW HOLE

H12 SCREW_HOLE_NPTH_4.2MM_8MM_1D

H13 SCREW_HOLE_NPTH_4.2MM_8MM_1D

H14 SCREW_HOLE_NPTH_4.2MM_8MM_1D

M.2 5G STAND OFF HOLE

SCREW_H_295T174B_D154PS_H102

H19

0417'20 V03
Change 5G standoff hole for DXF updated.

Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 SCREW HOLE			REV: V0.3
Document Number : <Doc>			
Prepared by : Jason			
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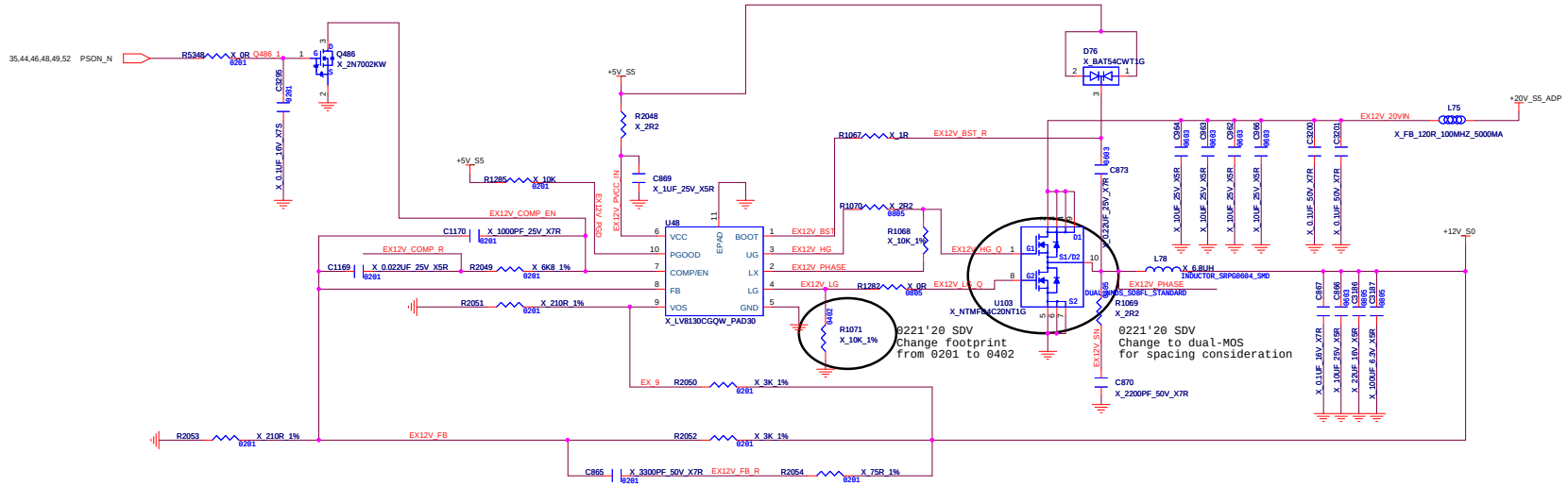
RESERVE FOR GFX CARD



Universal Scientific Industrial Co., Ltd.		
TITLE: TINY6 M75Q-2 RESERVE FOR GFX CARD		REV: V0.3
Document Number : <Doc>		
Prepared by : Jason		
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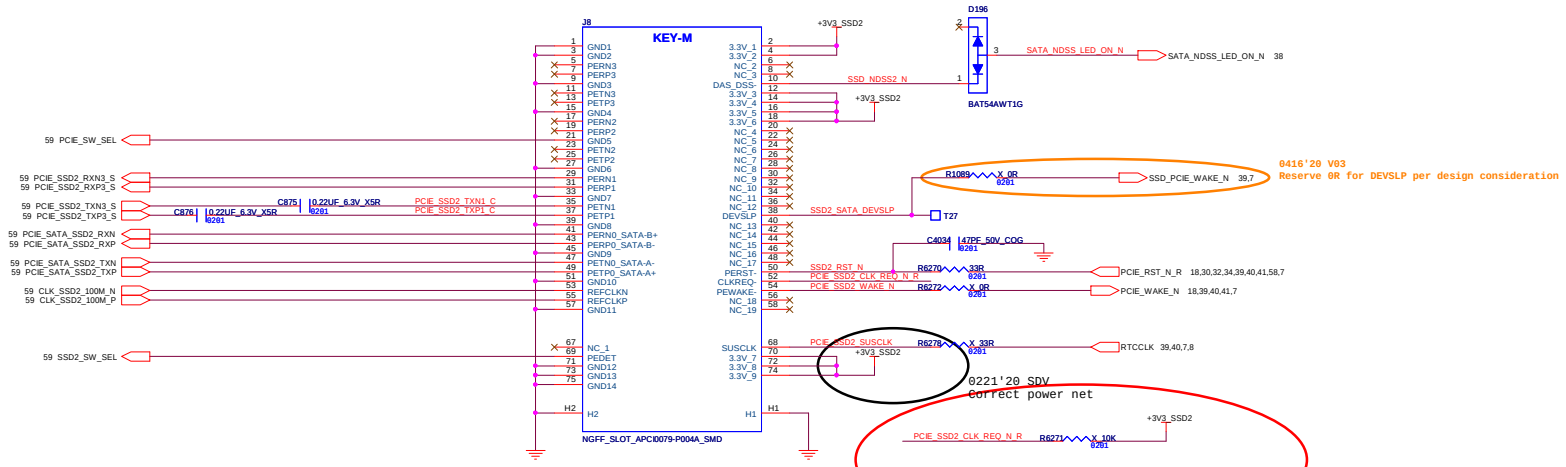
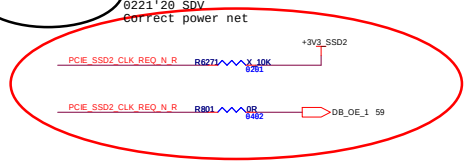
M.2 2242 SSD



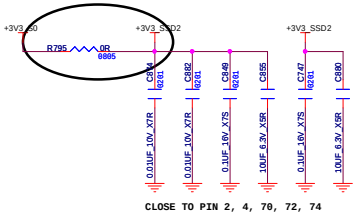
0416'20 V03
Reserve 0R for DEVSLP per design consideration

0221'20 SDV
Correct power net

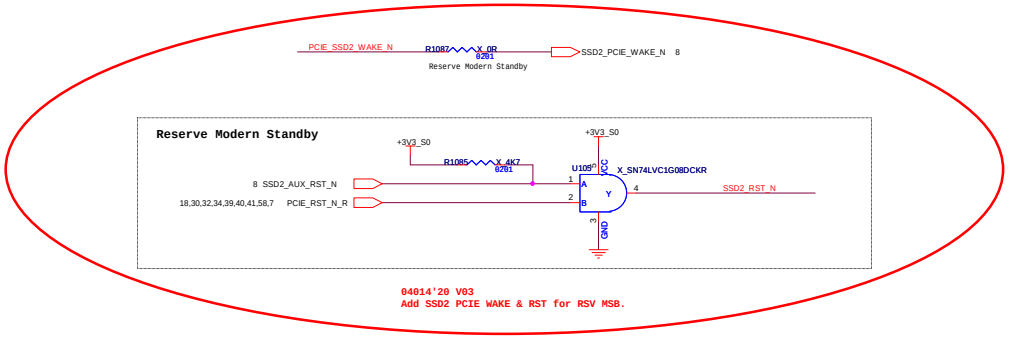


0409'20 V03
Change DB_OE_1 to PCIE_SSD2_CLK_REQ_N_R
for CLKREQ arrangement.

0221'20 SDV
Change footprint from 0402 to 0805



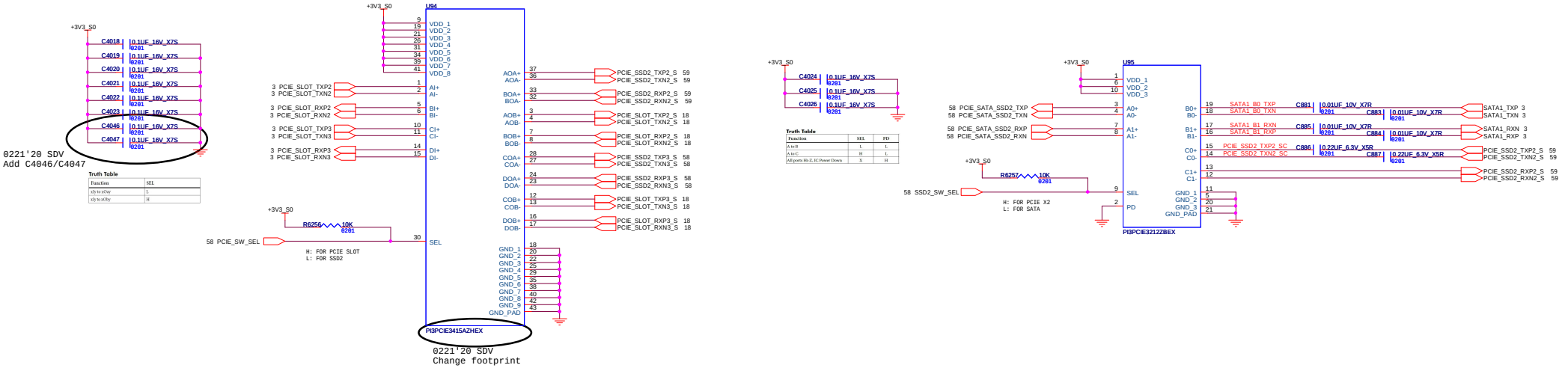
CLOSE TO PIN 2, 4, 70, 72, 74



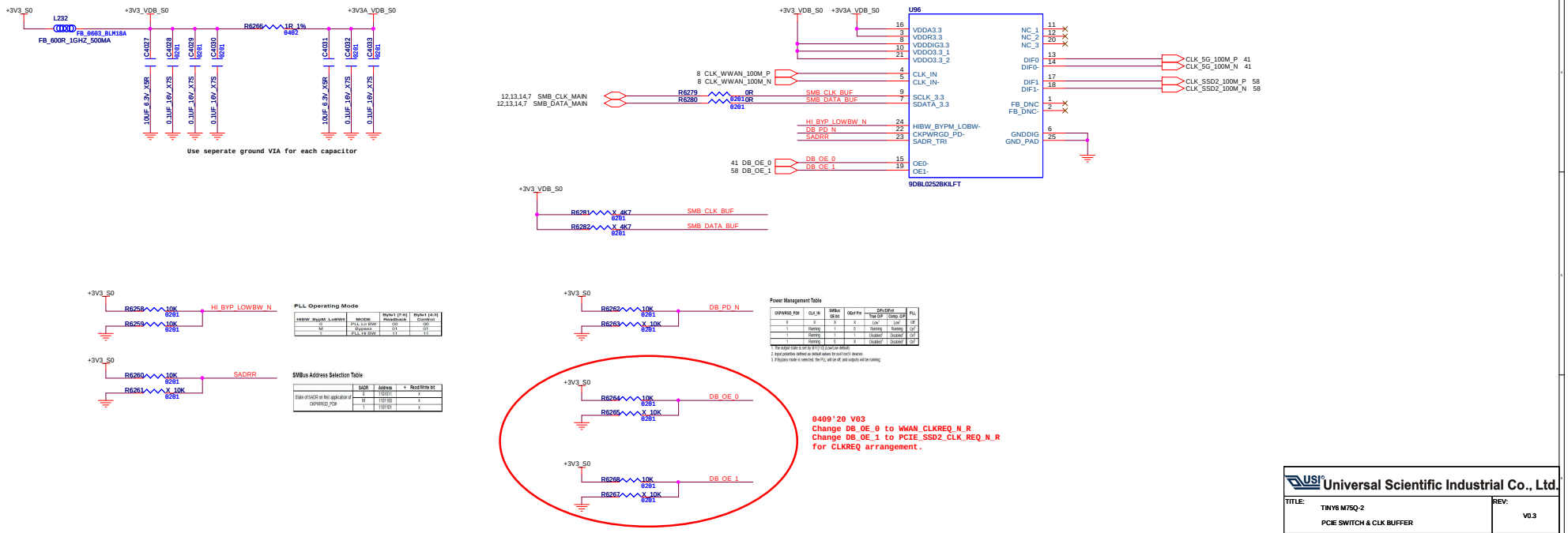
04014'20 V03
Add SSD2 PCIE WAKE & RST for RSV MSB.

Universal Scientific Industrial Co., Ltd.		
TITLE: TINY6 M75Q-2 M.2 2242 SSD		REV: V0.3
Document Number : <Doc>		
Prepared by : Jason		
SIZE : A2	Date: Tuesday, April 28, 2020	PAGE: 58 of 66

PCIE SWITCH



CLOCK BUFFER



Company	Universal Scientific Industrial Co., Ltd.
TITLE	TINY6 M75Q-2 PCIE SWITCH & CLK BUFFER
REV	V0.3
Document Number	<Doc>
Prepared by	Jason
SIZE	A2
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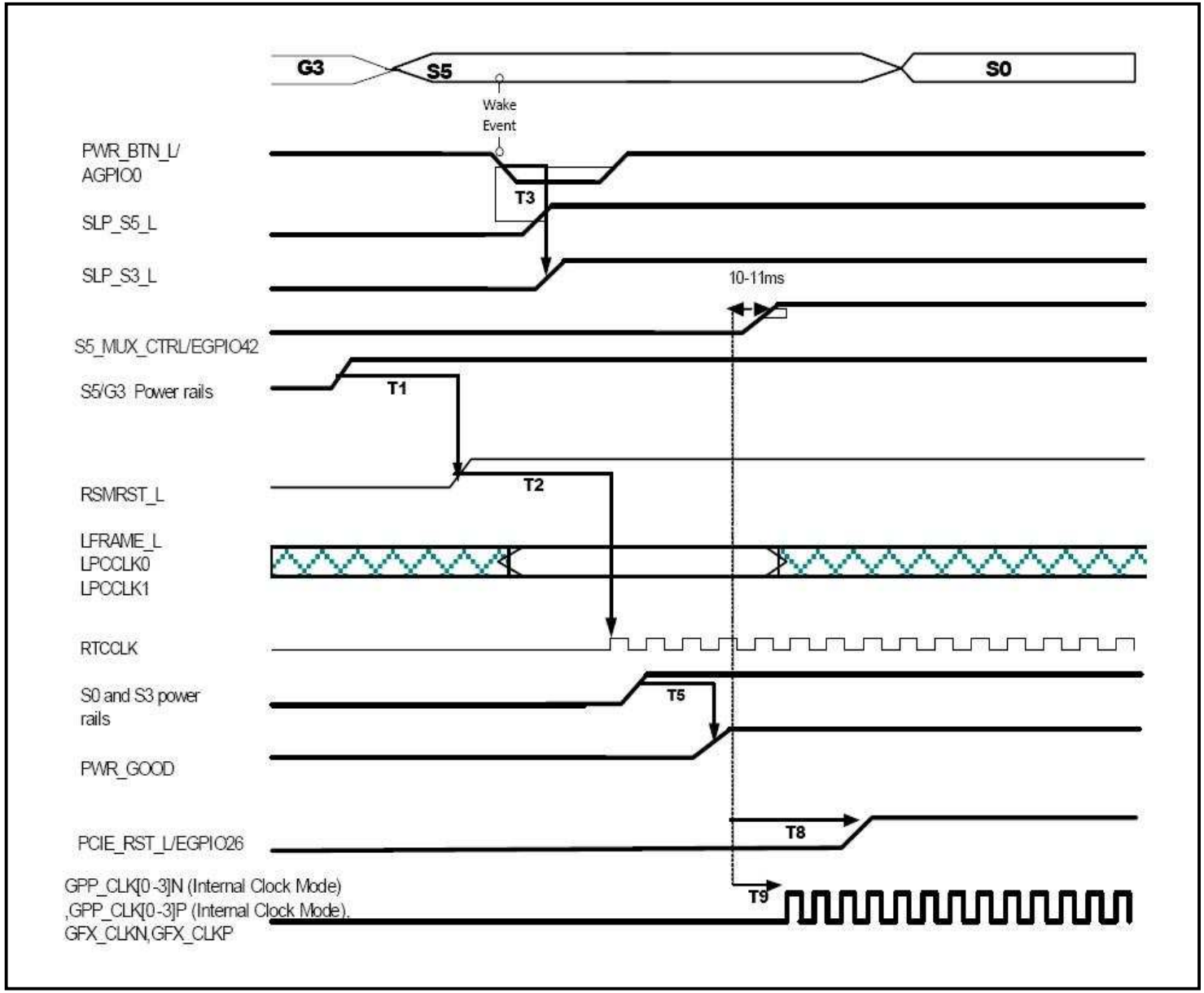
PWR SEQUENCE DIAGRAM



Universal Scientific Industrial Co., Ltd.			
TITLE: TINY6 M75Q-2 PWR SEQUENCE DIAGRAM			REV: V0.3
Document Number : <Doc>			
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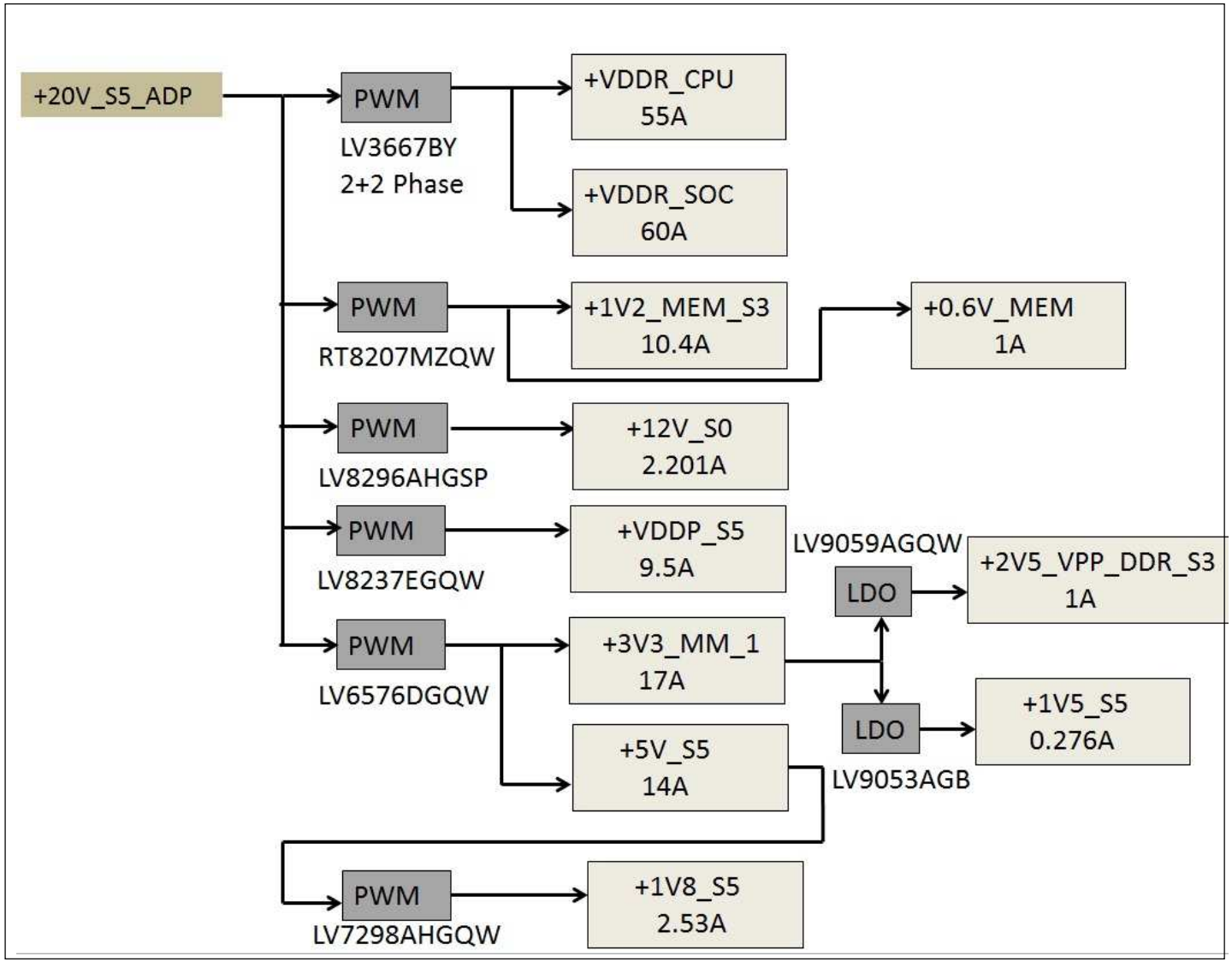
PWR DELIVERY DIAGRAM



Universal Scientific Industrial Co., Ltd.		
TITLE: TINY6 M75Q-2 PWR DELIVERY DIAGRAM		REV: V0.3
Document Number : <Doc>		
Prepared by : Jason		
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GPIO TABLE

PIN No.	SIO Pin Name	Tiny 6 AMD Usage	Power Domain	Default H/L
1	5VSB_CTRL-_CIRRX2_GP16	Reserve for 5VSB_CTRL	3VSB(+3V3_DSW_SIO)	L
2	PCIRSTIN-_CIRTX2_GP15_CPU_PG	PU to 3VSB	3VSB(+3V3_DSW_SIO)	H
4	VCORE_EN_PCH_C1_GP14	NC		H
5	SLP_SUS-_VLDT_EN_GP63	NC		H
7	FAN_TAC1	FAN_TACH	3VSB(+3V3_DSW_SIO)	H
8	FAN_CTL1	FAN_PWM	3VSB(+3V3_DSW_SIO)	H
9	FAN_TAC2_GP52	5VSB_CTRL	3VSB(+3V3_DSW_SIO)	H
10	FAN_CTL2_GP51	GBE_EN_N	3VSB(+3V3_DSW_SIO)	H
11	FAN_TAC3_GP37	BTB_DP0_DET_N	3VSB(+3V3_DSW_SIO)	H
12	FAN_CTL3_GP36	COM_A_DET_N	3VSB(+3V3_DSW_SIO)	H
13	F_DIO3_GP35	NC		H
14	DPWROK_GP32	PWRBTN_LED	3VSB(+3V3_DSW_SIO)	H
16	F_DIO2_GP30	NC		H
17	SIN2_GP27	SIN2_N	VCC3(+3V3_S0)	H
18	SOUT2_GP26	SOUT2_N	VCC3(+3V3_S0)	H
19	DSR2-_GP25	DSR2_N	VCC3(+3V3_S0)	H
20	RTS2-_GP24	RTS2_N	VCC3(+3V3_S0)	H
21	SI_GP23	SIO_SI	VFSPI(+3V3_DSW_SIO)	H
22	SCK_GP22	SIO_SCK	VFSPI(+3V3_DSW_SIO)	H
23	DCD2-_GP21	DCD2_N	VCC3(+3V3_S0)	H
24	CTS2-_GP20	CTS2_N	VCC3(+3V3_S0)	H
25	RI2-_GP17	RI2_N	3VSB(+3V3_DSW_SIO)	H
26	DTR2-_GPA7	DTR2_N	VCC3(+3V3_S0)	H
27	CE_N_CIRTX1	SIO_CS_N	VFSPI(+3V3_DSW_SIO)	H
28	SO_GP50	SIO_SO	VFSPI(+3V3_DSW_SIO)	H
29	PWROK1_GP13	PWRGD_3V	VCC3(+3V3_S0)	L
30	PCIRST1-_PCH_D1_GP12	SIO_AZ_MUTE_N	3VSB(+3V3_DSW_SIO)	L
31	PCIRST2-_GP11	HUB2_RESET_N	3VSB(+3V3_DSW_SIO)	L
36	ESPI_ALERT-_SERIRQ	LPC_SERIRQ	VCCBT(+3V3_S5)	H
37	ESPI_CS-_LFRAME-	LPC_FRAME_N	VCCBT(+3V3_S5)	H
38	ESPI0_LAD0	LPC_AD0	VCCBT(+3V3_S5)	H
39	ESPI0_LAD1	LPC_AD1	VCCBT(+3V3_S5)	H
40	ESPI0_LAD2	LPC_AD2	VCCBT(+3V3_S5)	H
41	ESPI0_LAD3	LPC_AD3	VCCBT(+3V3_S5)	H
42	CLKIN_E_KRST-	KBRST_N	VCC3(+3V3_S0)	H
43	ESPI_RESET-_GA20_GPB2	NC		H
44	ESPI_CLK_PCICLK	CLK_SIO_33M	VCCBT(+3V3_S5)	H
45	LDRQ-_GP92	LPC_DRQ0_N	VCCBT(+3V3_S5)	H
46	PLTRST-_LRESET-	APU_PLT_RST_N_SIO	VCCBT(+3V3_S5)	H
48	SMBCLK1_GP65	SIO_SMBCLK1	3VSB(+3V3_DSW_SIO)	H
49	SMBDAT1_GP66	SIO_SMBDAT1	3VSB(+3V3_DSW_SIO)	H
50	SST_AMDTSI_D_GP62	AMDTSI_D	VCC3(+3V3_S0)	H
51	PECI_AMDTSI_C_GP64	AMDTSI_C	VCC3(+3V3_S0)	H
52	PWMOUT0_GP31	I2C_SCI_N	3VSB(+3V3_DSW_SIO)	H
53	PWMOUT1_GPA0	NC		H
54	USBSW1_DM	RUSB3_USB2N	3VSB(+3V3_DSW_SIO)	H
55	USBSW1_DP	RUSB3_USB2P	3VSB(+3V3_DSW_SIO)	H
56	USBSW1_YM	USBSW1_SIO_YM	3VSB(+3V3_DSW_SIO)	H
57	USBSW1_YP	USBSW1_SIO_YP	3VSB(+3V3_DSW_SIO)	H
58	GP86_SMBCLK0	APS_I2C_CLK	3VSB(+3V3_DSW_SIO)	H
59	IO_SCI-_GP85_SMBDAT0	APS_I2C_DATA	3VSB(+3V3_DSW_SIO)	H
60	SMBDAT2_GP47	WLAN_PWR_EN		H
61	SMBCLK2_GP46	WWAN_PWR_EN		H
65	COPEN-	INTRD_IN_N	+3V_BATT	H
68	SUSB-_GP45	SLP_S3_S0A3_N	3VSB(+3V3_DSW_SIO)	H
69	PWRON-_GP44	PWRBTN_OUT_SIO_N	3VSB(+3V3_DSW_SIO)	H
70	ME-_GP54_USBPWREN1-	OBP_PROCHOT	3VSB(+3V3_DSW_SIO)	H
72	PANSWH-_GP43	PWRBTN_N	3VSB(+3V3_DSW_SIO)	H
73	PSON-_GP42	PSON_N	3VSB(+3V3_DSW_SIO)	H
74	SUSC-_GP53	SLP_S5_N	3VSB(+3V3_DSW_SIO)	H
75	PWROK2_GP41_SDA	PU to VCC3	VCC3(+3V3_S0)	L
76	3VSBSW-_GP40_SCL	SIO_DELAYPCIERST_N	VCC3(+3V3_S0)	H
77	KDAT_GP61	WWAN_PE_RESET_N	3VSB(+3V3_DSW_SIO)	H
78	KCLK_GP60	M2_PEDET_N	3VSB(+3V3_DSW_SIO)	H
79	MDAT_GP57	BTB_USB_DET_N	3VSB(+3V3_DSW_SIO)	H
80	MCLK_GP56	HUB3_SMB_CTL	3VSB(+3V3_DSW_SIO)	H
81	PCIRST3-_GP10	LAN_WAKE_N	3VSB(+3V3_DSW_SIO)	L
82	RSMRST-_CIRRX1_GP55	RSMRST_SIO_N	3VSB(+3V3_DSW_SIO)	H
84	TSD-	THERMDC	A3VSB(+3V3_DSW_SIO)	H
85	TMPIN3	SYS_THERMDA	A3VSB(+3V3_DSW_SIO)	H
86	TMPIN2	M2_THERMDA	A3VSB(+3V3_DSW_SIO)	H
87	TMPIN1	VRM_THERMDA	A3VSB(+3V3_DSW_SIO)	H
97	GP93	HUB_SMB_CTL	3VSB(+3V3_DSW_SIO)	H
98	ATXPG_GP94	PWRGD_PSU_SIO	VCC3(+3V3_S0)	H
99	FAN_TAC4_GP95	KERNEL_DBG_N	3VSB(+3V3_DSW_SIO)	H
100	GP96_CLKRUN-	SSD_PWR_EN	3VSB(+3V3_DSW_SIO)	H
101	SLCT_GP97	PM_WWAN_DISABLE_N	3VSB(+3V3_DSW_SIO)	H
102	PE_GP80	SIO_SCI	3VSB(+3V3_DSW_SIO)	H
103	BUSY_GP81	OVERLOAD_N_R	3VSB(+3V3_DSW_SIO)	H
104	GPACK-_GP82	WLAN_BT_DET_N	3VSB(+3V3_DSW_SIO)	L
105	SLIN-_GP83	ADP_ID1	3VSB(+3V3_DSW_SIO)	H
106	INIT-_GP84	ADP_ID0	3VSB(+3V3_DSW_SIO)	H
107	ERR-_GP87	ADP_OCP_EN	3VSB(+3V3_DSW_SIO)	H
108	AFD-_GP90	2543_P2_EN_R	3VSB(+3V3_DSW_SIO)	H
109	STB-_GP91	2543_CTL3_R	VCC3(+3V3_S0)	H
110	KSI0_PD0_GP70	2543_CTL2_R	3VSB(+3V3_DSW_SIO)	H
111	KSI1_PD1_GP71	2543_CTL1_R	3VSB(+3V3_DSW_SIO)	H
112	KSO0_PD2_GP72	WWAN_DET_N	3VSB(+3V3_DSW_SIO)	H
113	KSO1_PD3_GP73	BOARDID0	3VSB(+3V3_DSW_SIO)	H
114	KSO2_PD4_GP74	BOARDID1	3VSB(+3V3_DSW_SIO)	H
115	SO3_PD5_GP75	2546_ILIM_R	3VSB(+3V3_DSW_SIO)	H
116	KSO4_PD6_GP76	USB_PO_EN	3VSB(+3V3_DSW_SIO)	H
117	KSO5_PD7_GP77	THERMTRIP_L_SIO	3VSB(+3V3_DSW_SIO)	H
118	SMBCLK4	NC	3VSB(+3V3_DSW_SIO)	H
119	SMBDAT4	NC	3VSB(+3V3_DSW_SIO)	H
120	FAN_CTL4_GP67	COM_AB_DET_N	3VSB(+3V3_DSW_SIO)	H
121	RTS1-_GPOB0	RTS1_N	VCC3(+3V3_S0)	H
122	DSR1-_GPB1	DSR1_N	VCC3(+3V3_S0)	H
123	SOUT1_D_TX1_JP3	SOUT1_N	VCC3(+3V3_S0)	H
124	SIN1_D_RX1_GPB3	SIN1_N	VCC3(+3V3_S0)	H
125	DTR1-_GPOB4	DTR1_N	VCC3(+3V3_S0)	H
126	DCD1-_GPB5	DCD1_N	VCC3(+3V3_S0)	H
127	RI1-_GPB6	WOR_N	3VSB(+3V3_DSW_SIO)	H
128	CTS1-_GPB7	CTS1_N	VCC3(+3V3_S0)	H

PIN No.	AM4 Pin Name	Tiny 6 AMD Usage	Power Domain	Default H/L
AN5	PWR_BTN_L/AGPIO0	PWRBTN_OUT_SIO_N	VDD_33_S5(+3V3_S5)	H
AM4	SYS_RESET_L/AGPIO1	SYS_RESET_L	VDD_33_S5(+3V3_S5)	H
AL5	WAKE_L/AGPIO2	PCIE_WAKE_N	VDD_33_S5(+3V3_S5)	H
AT6	AGPIO3	WLAN_PCIE_WAKE_N	VDD_33_S5(+3V3_S5)	H
AR6	AGPIO4	APU_DELAYPCIERST_N	VDD_33_S5(+3V3_S5)	L
AP22	AGPIO5/DEVSLP0	SSD_PCIE_WAKE_N	VDD_33(+3V3_S0)	L
AN8	AGPIO6	M2_WLAN_DISABLE_N	VDD_33_S5(+3V3_S5)	L
AP7	AGPIO8	M2_BT_DISABLE_N	VDD_33_S5(+3V3_S5)	L
AN2	AGPIO9/SGPIO0_DATAOUT	LAN_PCIE_WAKE_N	VDD_33_S5(+3V3_S5)	L
AR3	S0A3_GPIO/AGPIO10/SGPIO0_CLK	+5V_S5_EN	VDD_33_S5(+3V3_S5)	H
AV13	BLINK/AGPIO11	PWR_LED_N	VDD_33_S5(+3V3_S5)	H
AL1	USB_OC0_L/AGPIO16	USB3_OC_N_0	VDD_33_S5(+3V3_S5)	H
AM1	USB_OC1_L/TDI/AGPIO17	USB3_OC_N_1	VDD_33_S5(+3V3_S5)	H
AR1	USB_OC2_L/TCK/AGPIO18	USB3_OC_N_2	VDD_33_S5(+3V3_S5)	H
AK3	SCL1/I2C3_SCL/AGPIO19	SMB_CLK_SECOND	VDD_33_S5(+3V3_S5)	OD
AK2	SDA1/I2C3_SDA/AGPIO20	SMB_DATA_SECOND	VDD_33_S5(+3V3_S5)	OD
AN3	AGPIO23/SGPIO0_LOAD	DP_D_DET_N_R	VDD_33_S5(+3V3_S5)	H
AP1	USB_OC3_L/TDO/AGPIO24	SIO_SCI	VDD_33_S5(+3V3_S5)	H
AR4	AGPIO40/SGPIO0_DATAIN	SW_CLR_CMOS_N	VDD_33_S5(+3V3_S5)	H
AU17	SPI_TPM_CS_L/AGPIO76	SPI_TPM_CS_L	VDD_33(+3V3_S0)	H
AW21	SERIRQ/AGPIO87	LPC_SERIRQ	VDD_33(+3V3_S0)	H
AV22	GENINT1_L/AGPIO89	GENINT1_L_AGPIO89	VDD_33(+3V3_S0)	H
AU23	GENINT2_L/AGPIO90	TPM_SPI_IRQ_N_R	VDD_33(+3V3_S0)	H
AW23	SPKR/AGPIO91	APU_SPKR	VDD_33(+3V3_S0)	L
AT23	CLK_REQ0_L_SATA_IS0_L_SATA_ZP0_L_AGPIO92	PCIE_LAN_CLKREQ2	VDD_33(+3V3_S0)	H
AV24	CLK_REQ1_L/AGPIO115	PCIE_WLAN_CLK_REQ_N	VDD_33(+3V3_S0)	H
AT24	CLK_REQ2_L/AGPIO116	PCIE_SSD_CLK_REQ_N	VDD_33(+3V3_S0)	H
AM22	SATA_ACT_L/AGPIO130	SATA_LED_N	VDD_33(+3V3_S0)	H
AL7	PCIE_RST_L/EGPIO26	PCIE_RST_L_EGPIO26	VDD_33_S5(+3V3_S5)	H
AT18	EGPIO70	WWAN_POWER_OFF_N	VDD_33(+3V3_S0)	H
AU20	LPCCLK0/EGPIO74	CLK_SIO_33M	VDD_33(+3V3_S0)	L
AU19	LPCCLK1/EGPIO75	LPCCLK1	VDD_33(+3V3_S0)	H
AW11	EGPIO95	LAN_DISABLE_N	VDD_33(+3V3_S0)	L
AV12	EGPIO96	SSD_AUX_RST_N	VDD_33(+3V3_S0)	L
AW12	EGPIO97	DP1_DP_HDMI_N	VDD_33(+3V3_S0)	H
AU13	EGPIO98	DP2_DP_HDMI_N	VDD_33(+3V3_S0)	L
AV13	EGPIO99	DPD_DP_HDMI_N	VDD_33(+3V3_S0)	H
AT14	EGPIO100	LAN_AUX_RST_N	VDD_33(+3V3_S0)	L
AW20	LAD0/EGPIO104	LPC_AD0	VDD_33(+3V3_S0)	H
AV21	LAD1/EGPIO105	LPC_AD1	VDD_33(+3V3_S0)	H
AT21	LAD2/EGPIO106	LPC_AD2	VDD_33(+3V3_S0)	H
AT20	LAD3/EGPIO107	LPC_AD3	VDD_33(+3V3_S0)	H
AT15	ESPI_ALERT_L/LDRQ0_L/EGPIO108	LPC_DRQ0_N	VDD_33(+3V3_S0)	L
AW18	LFRAME_L/EGPIO109	LPC_FRAME_N	VDD_33(+3V3_S0)	H
AU25	SCL0/I2C2_SCL/EGPIO113	SMB_CLK_MAIN	VDD_33(+3V3_S0)	OD
AV25	SDA0/I2C2_SDA/EGPIO114	SMB_DATA_MAIN	VDD_33(+3V3_S0)	OD
AT17	SPI_CS1_L/EGPIO118	SPI_CS1_OUT_N_APU	+1V8_S5	H
AW15	SPI_CS2_L/ESPI_CS_L/EGPIO119	SPI_CS2_OUT_N	+1V8_S5	H
AV16	SPI_WP_L/ESPI_DAT2/EGPIO122	SPI_WP_N_APU	+1V8_S5	H
AL23	CLK_REQ3_L/SATA_IS1_L/SATA_ZP1_L/EGPIO131	PCIE_SLOT_CLKREQ3	VDD_33(+3V3_S0)	H
AV15	SPI_HOLD_L/ESPI_DAT3/EGPIO133	SPI_HOLD_N_APU	+1V8_S5	H

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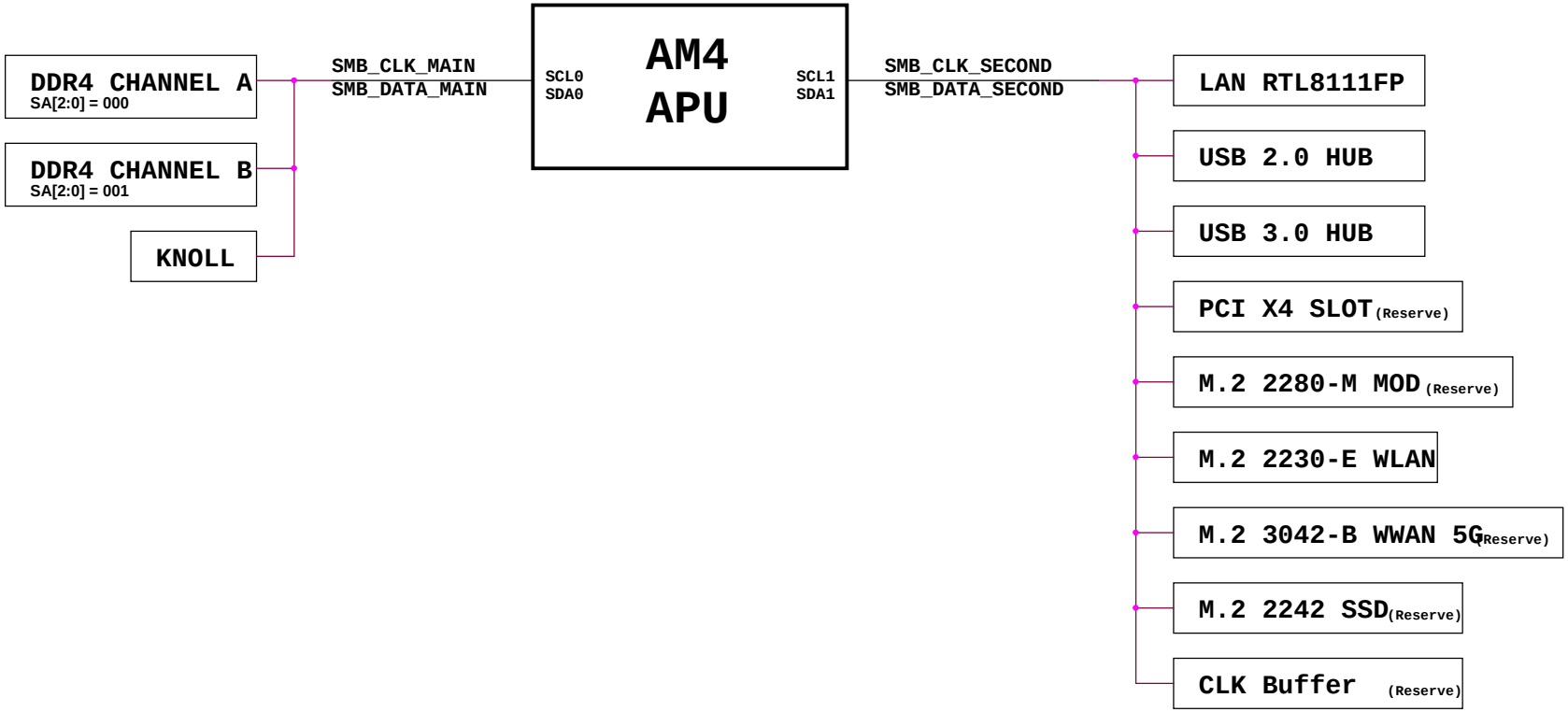
SMB MAP



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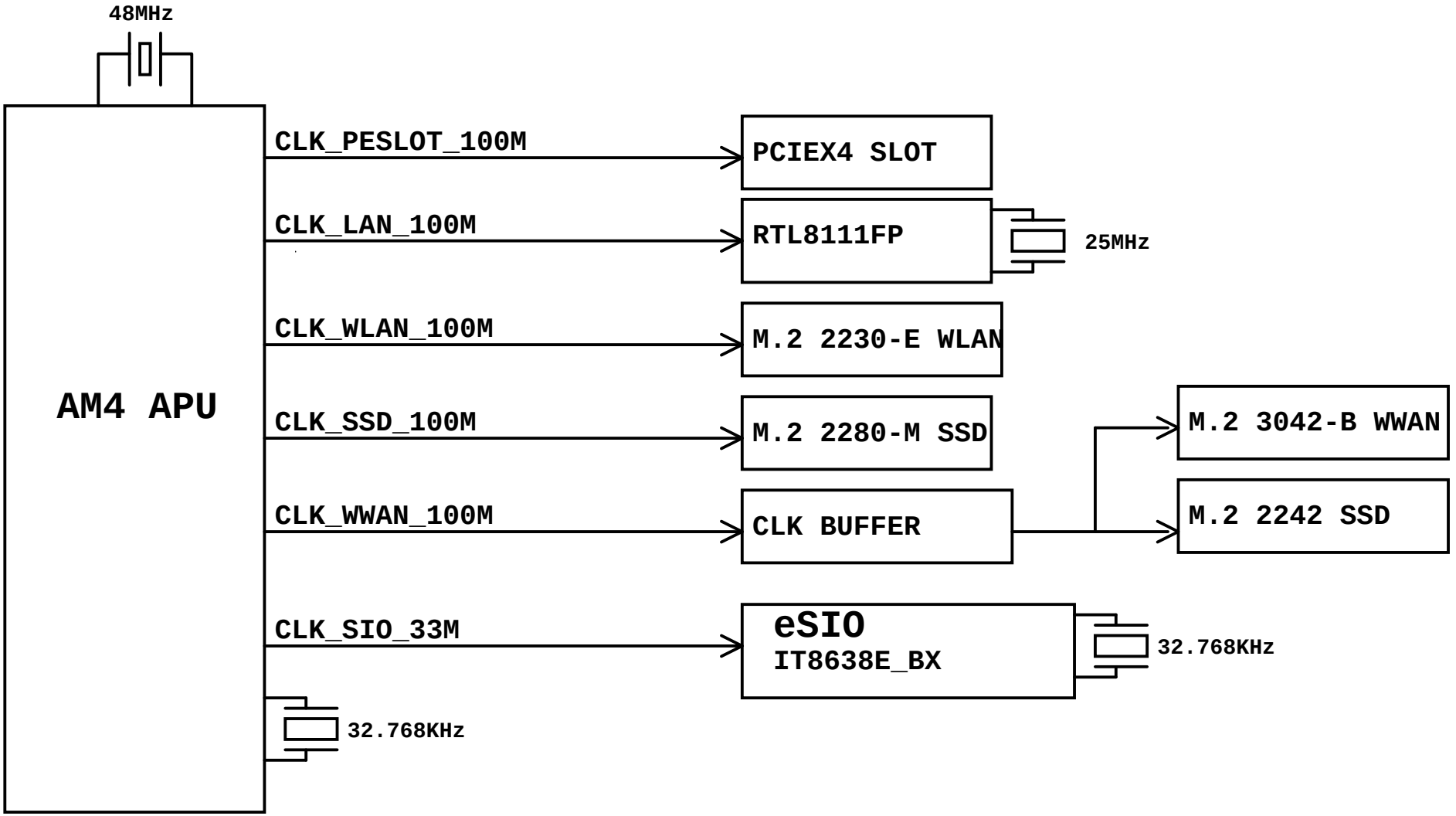
CLOCK DIAGRAM



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