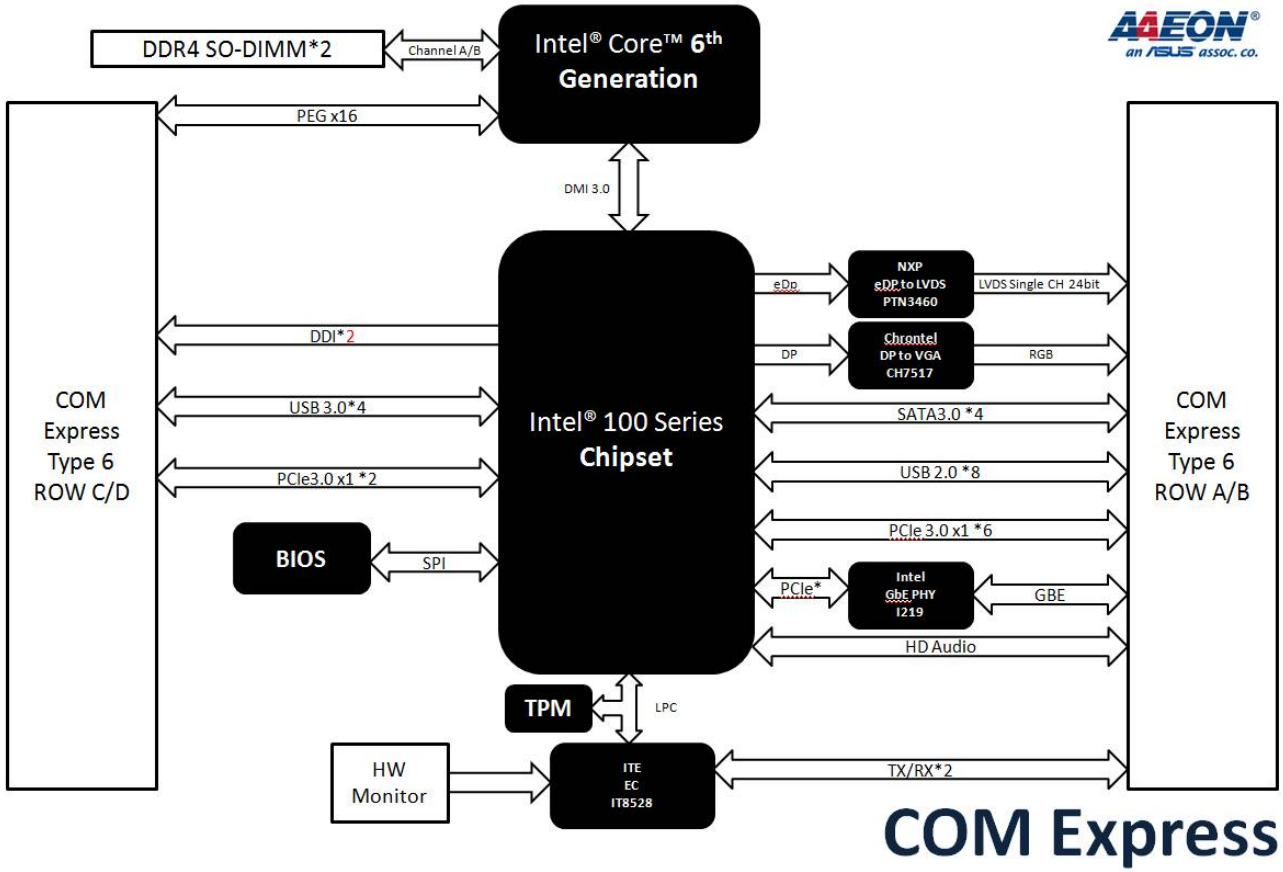
COM-SKH Rev. A1.3 BLOCK DIAGRAM



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A1.3 wTPM

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EC IT8528VG GPIO Pins :

PIN NO.	PIN Name	Multi-Func	Default	GPIO Function
M5	GPA0	PWM0	GPI	EC_AC_PRESENT
N5	GPA1	PWM1	GPI	PM_SUS_STAT#
M6	GPA2	PWM2	GPI	SUS_PWR_ACK
N6	GPA3	PWM3	GPI	FAN_PWM
K6	GPA4	PWM4	GPI	EC_LPC_PME#
J6	GPA5	PWM5	GPI	MOD_SPI_CSEN0#
M7	GPA6	PWM6/SSCK	GPI	BID0
K7	GPA7	PWM7/RIG1#	GPI	CAR_SPI_CSEN0#
A4	GPB0	RXD/SIN0	GPI	SRXD1X
A3	GPB1	TXD/SOUT0	GPI	STXD1X
D2	GPB2	CTX0	GPI	SLP_WLAN#_EC
B4	GPB3	SMCLK0	GPI	
A2	GPB4	SMDAT0	GPI	
F1	GPB5	GA20	GPO	5VSBY1_SW
H4	GPB6	KBRST#	KBRST	CB_WDT
A1	GPB7	RING#/PWRFIL /LPCRST#	GPI	EC_LID#
D1	GPC0	CRX0	GPI	CB_BATLOW#
B3	GPC1	SMCLK1	GPI	EC_CLK_3P3
B2	GPC2	SMDAT1	GPI	EC_DATA_3P3
K13	GPC3	KSO16/SMOSI	GPI	EC_PCH_THRMTRIP
C2	GPC4	TMRI0/WUI2	GPI	BIOS_DIS0#
J10	GPC5	KSO17/SMISO	GPI	BID1
E1	GPC6	TMR1/WUI3	GPI	BIOS_DIS1#
M2	GPC7	PWUREQ#	GPI	EC_PWRBTN#
E6	GPG0	SSCE1#/TM	GPI	
A5	GPG1	DTR1#/ID7	GPI	SYS_RESET#
E7	GPG2	SSCE0#	GPI	
D6	GPG6	DSR0#	GPI	

PIN NO.	PIN Name	Multi-Func	Default	GPIO Function
N1	GPD0	RI1#/WUI0	GPI	SLP_S3#
N3	GPD1	RI2#/WUI1	GPI	SLP_S4#
M4	GPD2	LPCRST#/WUI4	LPCRST#	BUF_PLT_RST#
N4	GPD3	ECSCI#	GPI	EC_SCI#
L2	GPD4	ECSMI#	GPI	EC_SMI#
N7	GPD5	GINT/CTS0#	GPI	EC_KBRST#
M11	GPD6	TACH0	GPI	EC_CPUFAN_TACH
M12	GPD7	TACH1	GPI	SLP_LAN#_EC
N2	GPE0	L80HLAT/WUI24	GPI	GPO0
A13	GPE1	EGAD	GPI	GPO1
A12	GPE2	EGCS#	GPI	GPO2
B12	GPE3	EGCLK	GPI	GPO3
E2	GPE4	PWRSW	GPI	FPANSWH#
N8	GPE5	WUI5/RTS1#	GPI	EC_PROCHOT
M1	GPE6	LPCRD#/WUI6	GPI	5VSBY2_SW
M3	GPE7	L80LLAT/WUI7	GPI	PS_ON#
A11	GPF0	PS2CLK0/TMB0	GPI	GPI0
B11	GPF1	PS2DAT0TMB1	GPI	GPI1
A10	GPF2	PS2CLK1/DTR0#	GPI	SUSACK#
B10	GPF3	PS2DAT1/RTS0#	GPI	EC_A20GATE
D9	GPF4	PS2CLK2/WUI20	GPI	GPI2
B9	GPF5	PS2DAT2/WUI21	GPI	GPI3
B1	GPF6	SMCLK2/WUI22	GPI	PECI_EC
C1	GPF7	SMDAT2/WUI23	GPI	RSMRST_PWRGD#

PIN NO.	PIN Name	Multi-Func	Default	GPIO Function
D8	GPH0	CLKRUN#/ID0	GPI/ID0	EC_RSMRST#
E8	GPH1	CRX1/SIN1/SUI17	GPI/ID1	SRXD2X
D7	GPH2	CTX1/SOUT1/WUI19	GPI/ID2	STXD2X
A9	GPH3	ID3	GPI/ID3	ALL_SYS_PWRGD
B8	GPH4	ID4	GPI/ID4	PWRGD_CB
A8	GPH5	ID5	GPI/ID5	EC_DPWROK
B7	GPH6	ID6	GPI/ID6	DELAY_ALL_SYS_PWRGD
G10	GPI0	ADC0	GPI ONLY	TH1_CPU
G13	GPI1	ADC1	GPI ONLY	TH2_COM
G12	GPI2	ADC2	GPI ONLY	VIN_SEN
F9	GPI3	ADC3	GPI ONLY	V5ALW_SEN
F13	GPI4	ADC4/WUI28	GPI ONLY	VDDR4_SEN
F10	GPI5	ADC5/DCD1#	GPI ONLY	
F12	GPI6	ADC6/DSR1#	GPI ONLY	VCORE_SEN
E13	GPI7	ADC7/CTS1#	GPI ONLY	VGT_SEN
E12	GPJ0	DAC0	GPI	SLP_SUS#
D13	GPJ1	DAC1	GPI	AutoBtn#
D12	GPJ2	DAC2	GPI	CB_SLP_S3#
C13	GPJ3	DAC3	GPI	CB_SLP_S4#
B13	GPJ4	DAC4/DCD0#	GPI	LVDS_PD#
C12	GPJ5	DAC5/RIG0#	GPI	GP_WAKE#

PCH GPIO Pins :

Group	Name	Power Well	Default	GPIO Function
Group A	GPP_A0	Primary Core 3.3V		KBRST
	GPP_A1			LPC_AD0
	GPP_A2			LPC_AD1
	GPP_A3			LPC_AD2
	GPP_A4			LPC_AD3
	GPP_A5			LPC_FRAME#
	GPP_A6			INT_SERIRQ
	GPP_A7			PIRQA#
	GPP_A8			PM_CLKRUN#
	GPP_A9			PCH_CLK_LPC0
	GPP_A10			PCI_CLK_EC
	GPP_A11			EC_LPC_PME#
	GPP_A12			
	GPP_A13			US_PWR_ACK
	GPP_A14			PM_SUS_STAT#
	GPP_A15			SUSACK#
	GPP_A16			
	GPP_A17~A23			
Group B	GPP_B0			
	GPP_B1			
	GPP_B2			SML1_ALERT#
	GPP_B3			
	GPP_B4			
	GPP_B5			CLK_PCIE_LAN1_REQ#
	GPP_B6~10			
	GPP_B11			MPHY_EXT_PWR_GATEB
	GPP_B12			SLP_S0#
	GPP_B13			PLT_RST#
	GPP_B14			HDA_SPKR
	GPP_B15~22			
	GPP_B23			SML1_ALERT#
Group C	GPP_C0			SMB_CLK
	GPP_C1			SMB_CLK
	GPP_C2			SMB_ALERT#
	GPP_C3			SML0_CLK
	GPP_C4			SML0_DATA
	GPP_C5			SML0_ALERT#
	GPP_C6			
	GPP_C7			
	GPP_C8~23			

PCH GPIO Pins :

Group	Name	Power Well	Default	GPIO Function
Group D	GPP_D0~8	Deep Sleep Power 3.3V		
	GPP_D9			SLEEP#
	GPP_D10			LID#
	GPP_D11			PCIE_CPPE0#
	GPP_D12			PCIE_CPPE1#
	GPP_D13~16			
	GPP_D17~D23			
Group E	GPP_E0~3	Primary Core 3.3V		
	GPP_E4			SCI#
	GPP_E5			SMI#
	GPP_E6~7			
	GPP_E8			SATA_LED#
	GPP_E9			USB_OC#_0_1
	GPP_E10			USB_OC#_2_3
	GPP_E11			USB_OC#_4_5
	GPP_E12			USB_OC#_6_7
Group F	GPP_F0~14			
	GPP_F15			
	GPP_F16			
	GPP_F17			
	GPP_F18			
	GPP_F19			EDP_VDD_EN
	GPP_F20			EDP_BKLT_EN
	GPP_F21			EDP_BKLT_CTRL
	GPP_F22~23			
Group G	GPP_G0~23			
Group H	GPP_H0~23			
Group I	GPP_I0			DPB_HPD
	GPP_I1			DPC_HPD
	GPP_I2			DPD_HPD
	GPP_I3			
	GPP_I4			DP_HPD
	GPP_I5			DPB_CTRLCLK
	GPP_I6			DPB_CTRLDATA
	GPP_I7			DPC_CTRLCLK
	GPP_I8			DPC_CTRLDATA
	GPP_I9			DPD_CTRLCLK
	GPP_I10			DPD_CTRLDATA

A1.3 wTPM

AAEON an ASUS assoc. co.

Title: System Setting

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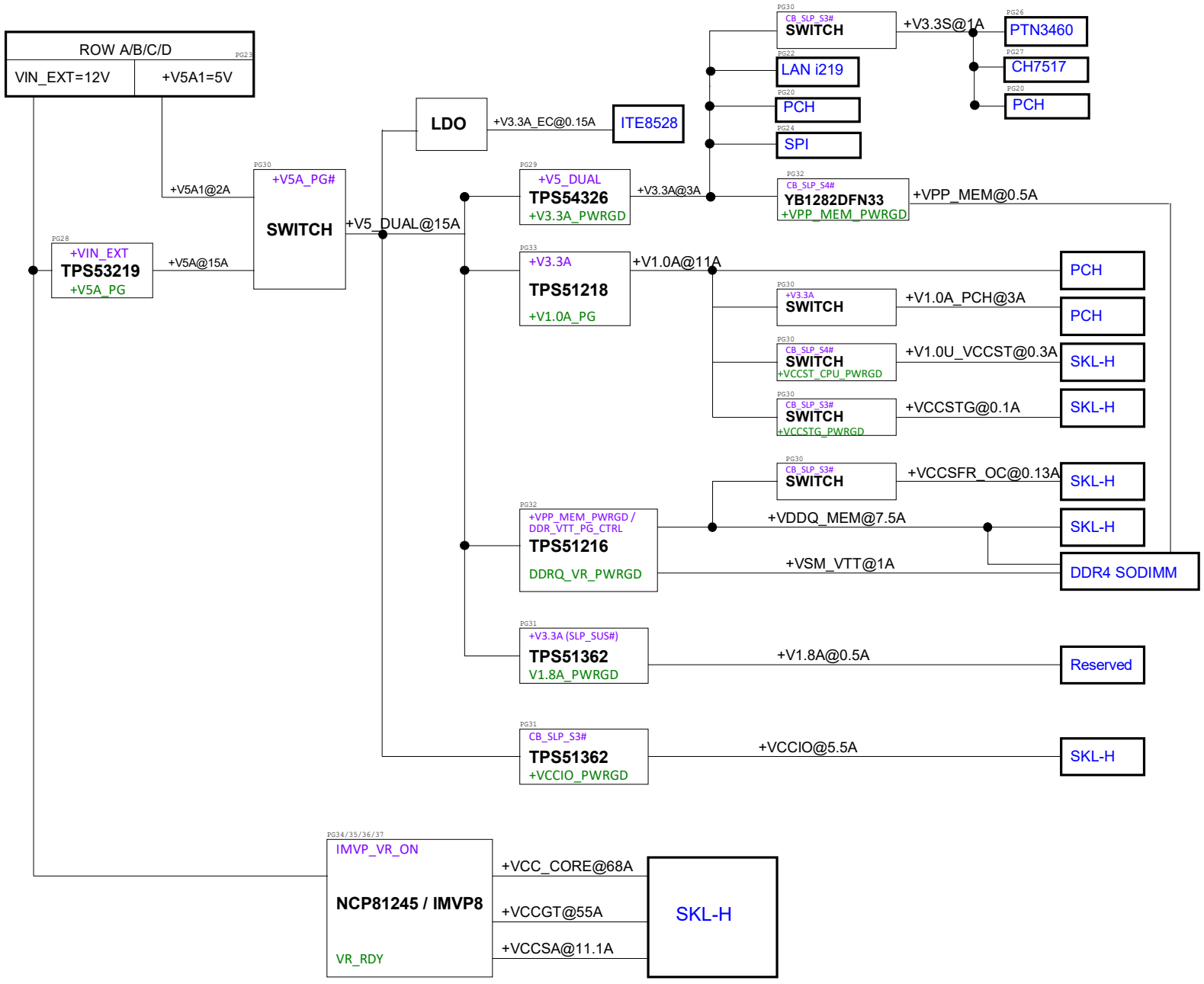

A1.3 wTPM

AAEON an ASUS assoc. co.

Title: **POWER MAP**		
Size: A	Document Number: **COM-SKHB6**	Rev: **A0.2**
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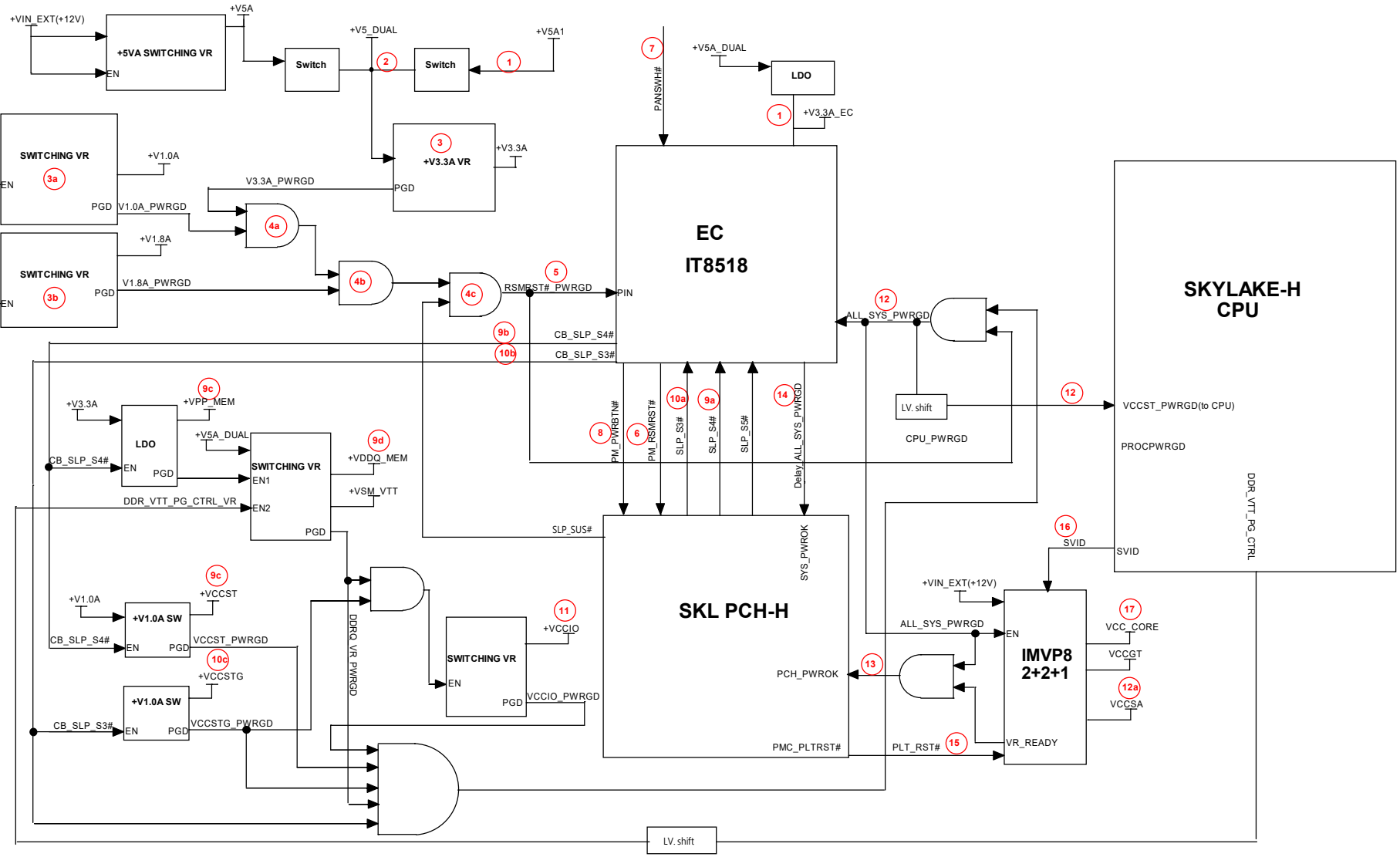

A1.3 wTPM

AAEON an ASUS assoc. co.

Title: **Power Sequence**

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SKYLAKE-H BGA PROCESSOR(DMI/PEG)

A1.3 wTPM

AAEON an ASUS assoc. co.	Title: **PROCESSOR(1/7)**	
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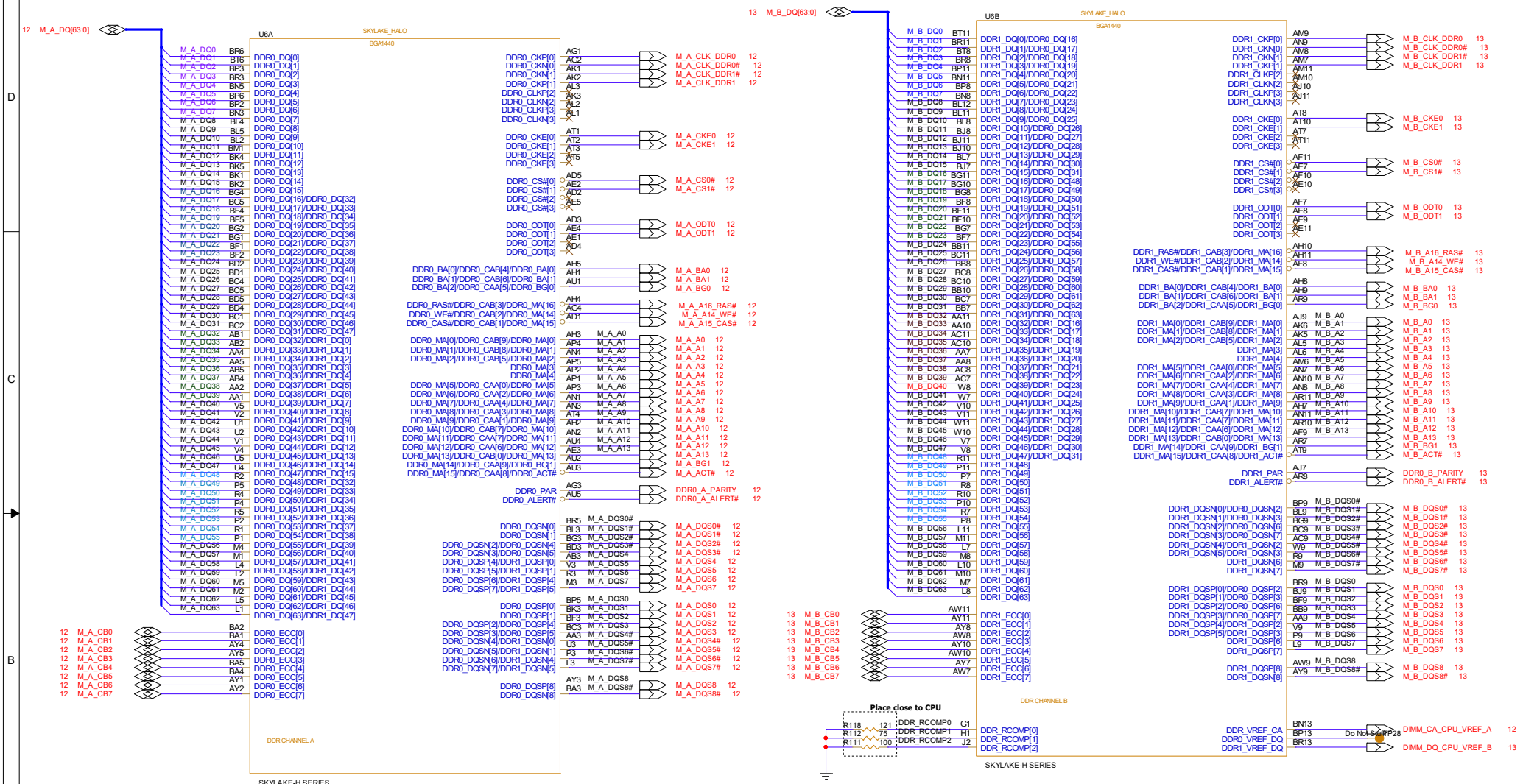

A1.3 wTPM

AAEON an ASUS assoc. co.	Title: **PROCESSOR(2/7)**	
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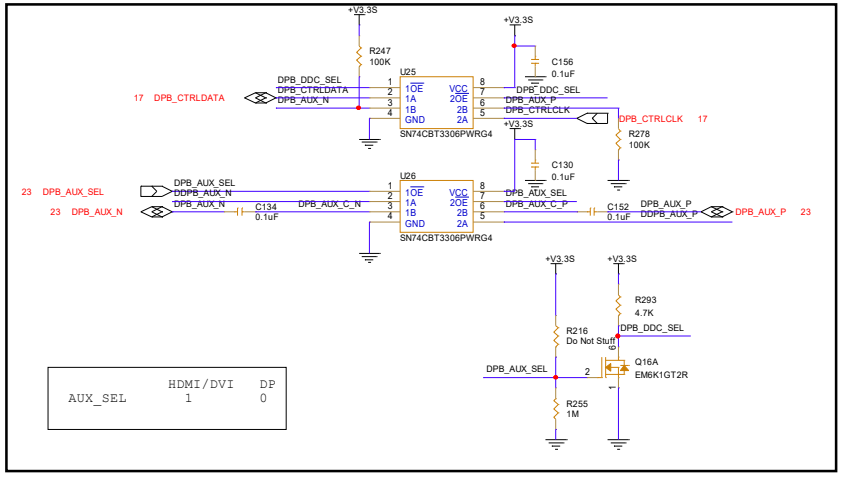

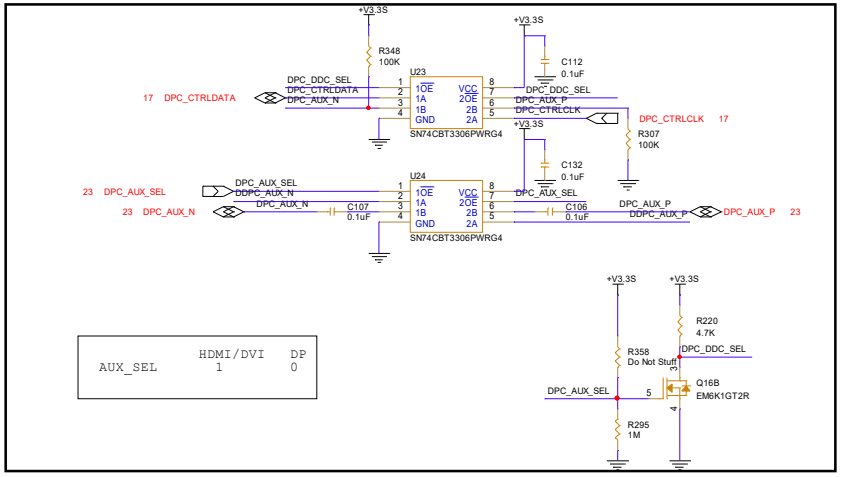

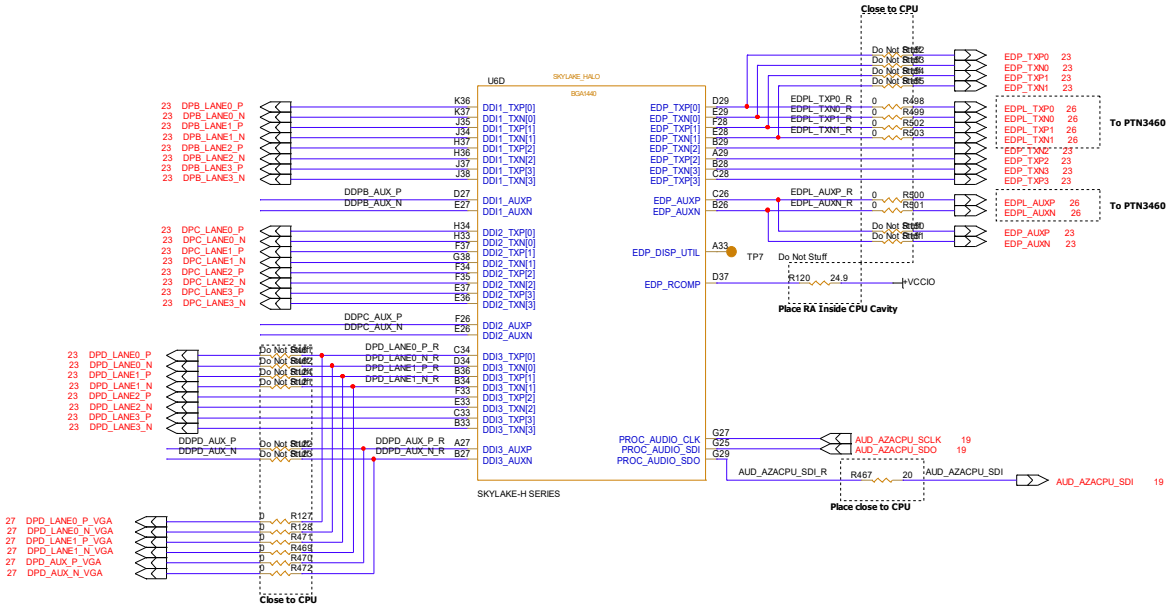

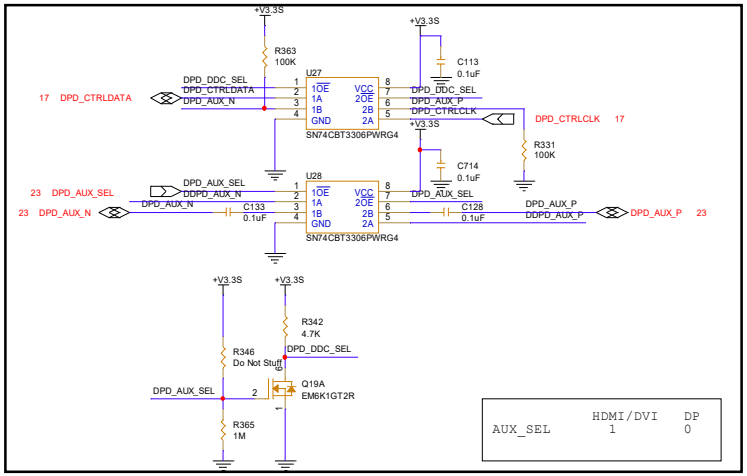

A1.3 wTPM

AAEON TECHNOLOGY INC.

Title	Lynx Point - (6 of 8)	
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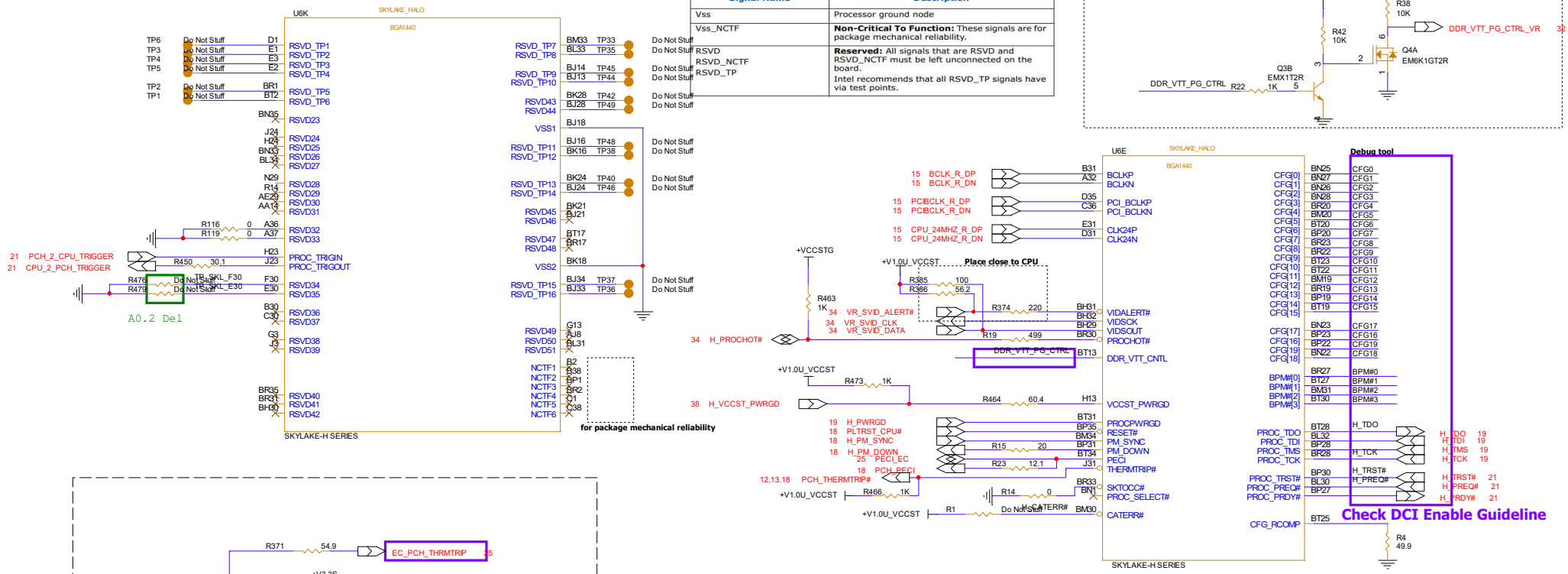
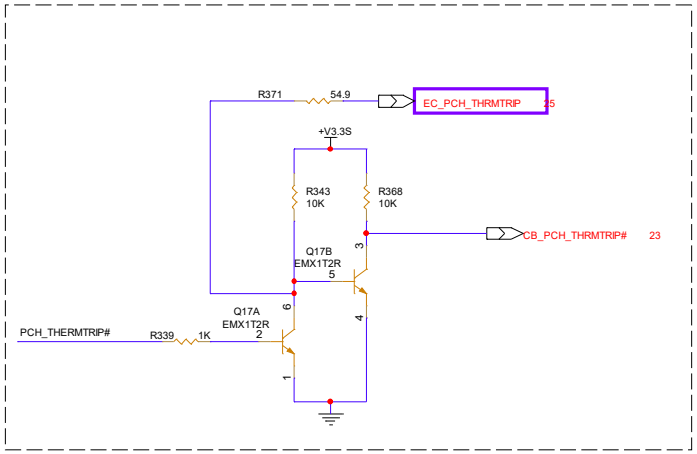
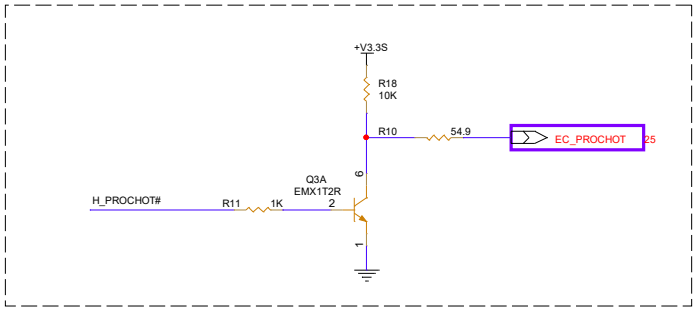
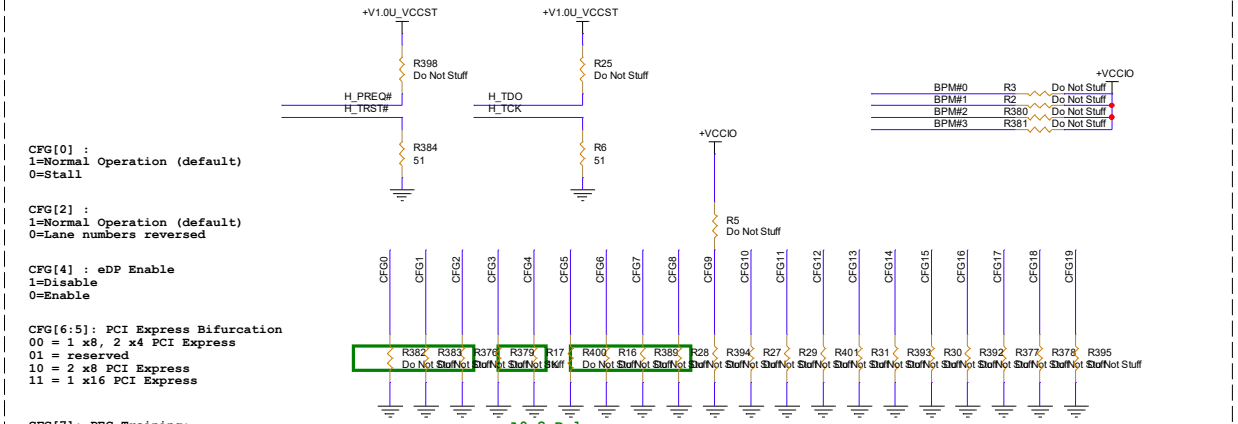
GND, RSVD, and NCTF Signals

Signal Name	Description
Vss	Processor ground node
Vss_NCTF	**Non-Critical To Function:** These signals are for package mechanical reliability.
RSVD RSVD_NCTF RSVD_TP	**Reserved:** All signals that are RSVD and RSVD_NCTF must be left unconnected on the board. Intel recommends that all RSVD_TP signals have via test points.









A1.3 wTPM

AAEON an ASUS assoc. co.

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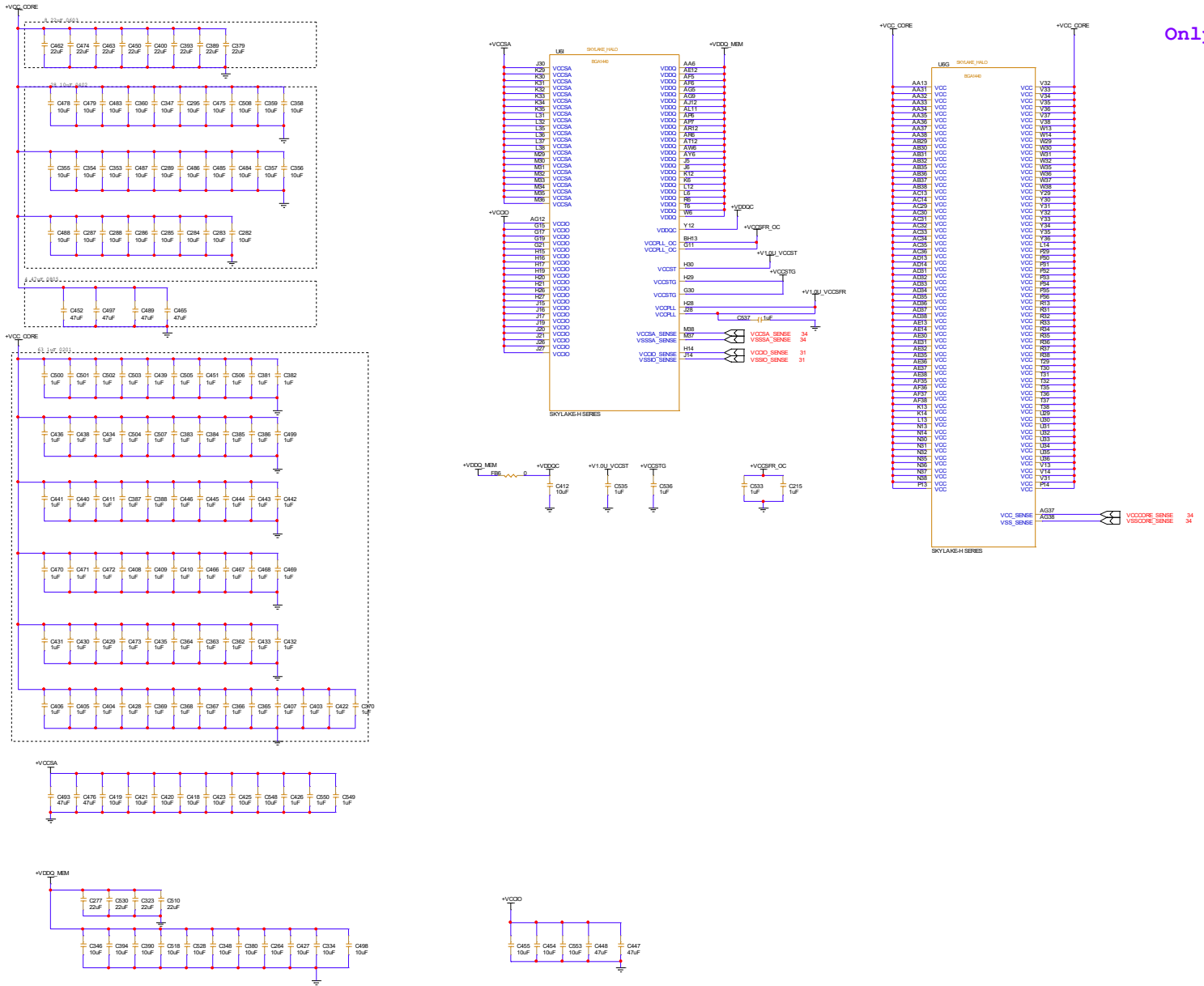

Only Support CPU SKUs without OPC in COM-SKH

A1.3 wTPM

AAEON an ASUS assoc. co.	Title: PROCESSOR(5/7)	
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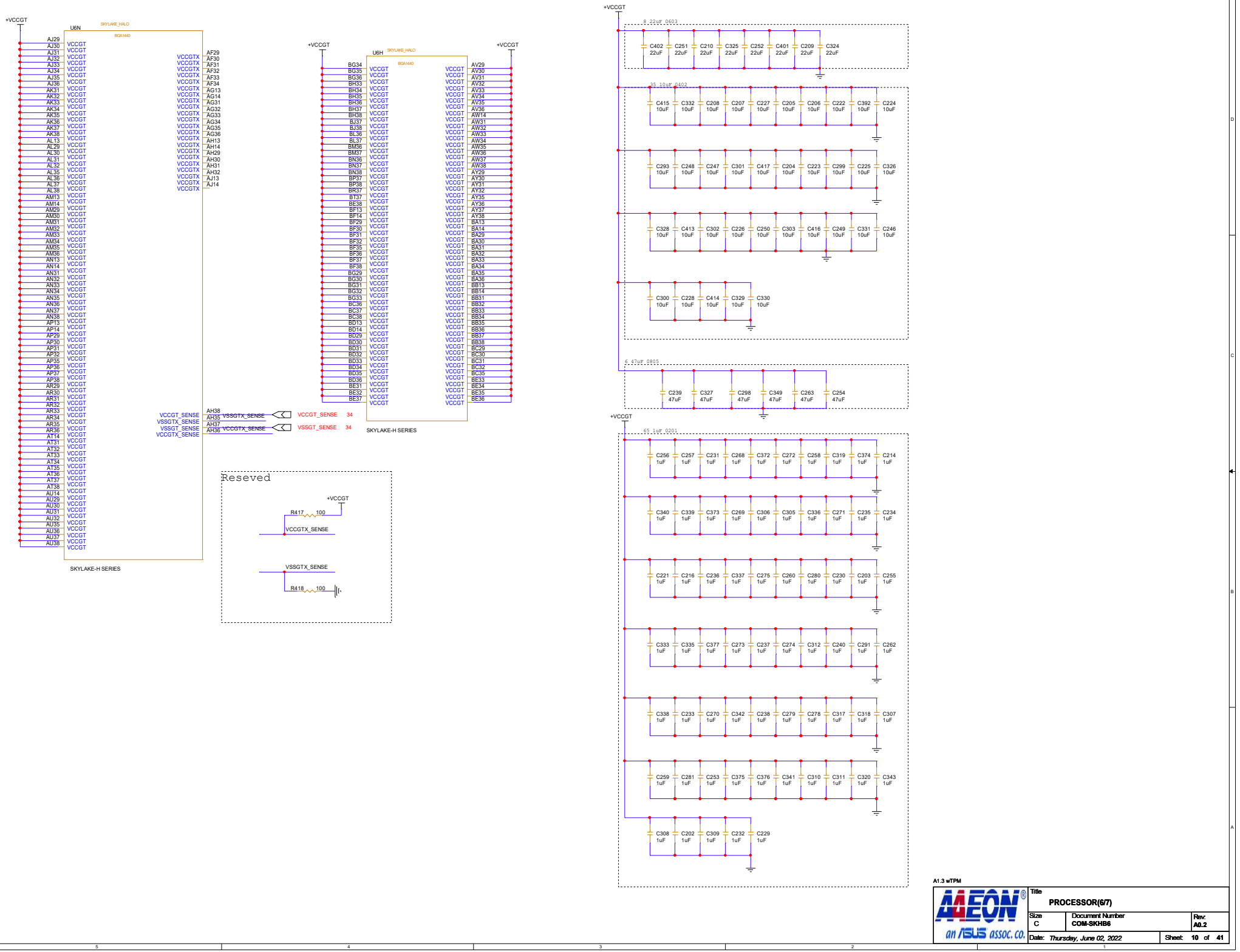

A1.3 wTPM

AAEON an ASUS assoc. co.	Title: PROCESSOR(6/7)		
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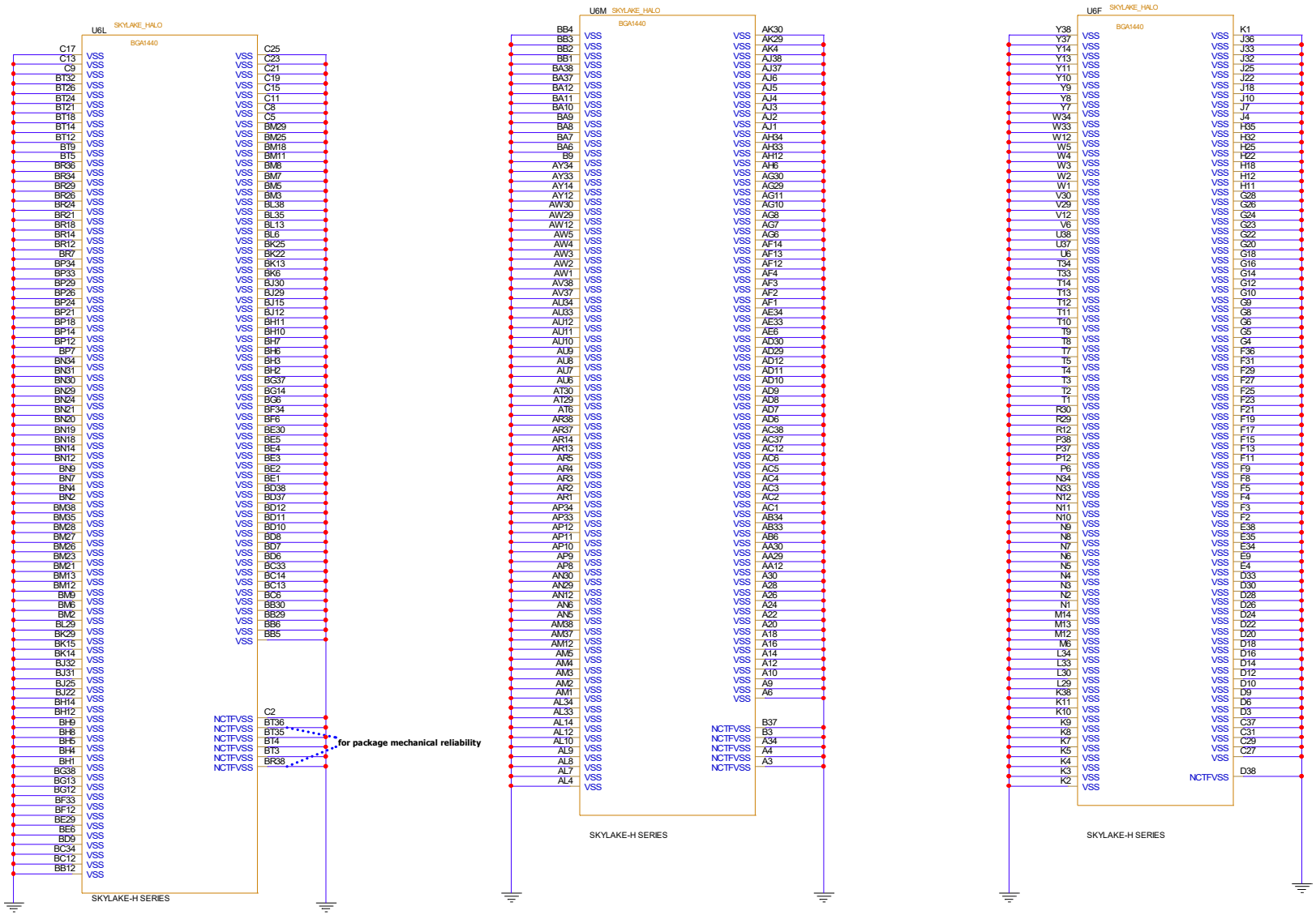

A1.3 wTPM

AAEON an ASUS assoc. co.	Title: **PROCESSOR(7/7)**	
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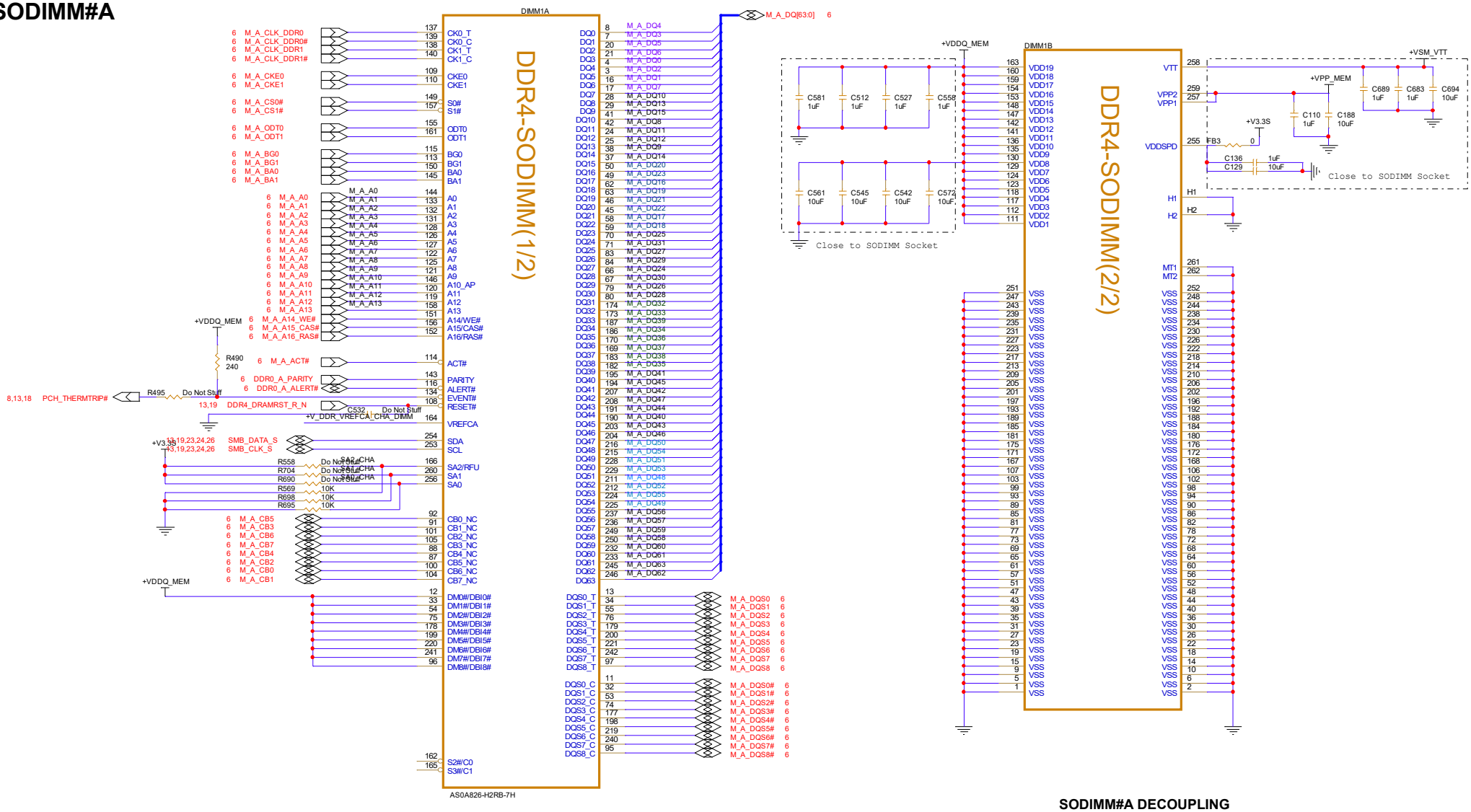
SODIMM#A



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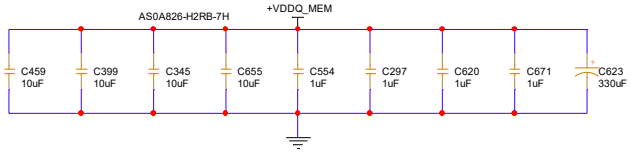

A1.3 wTPM

AAEON an ASUS assoc. co.

Title: **DDR4 SO-DIMM-A**		
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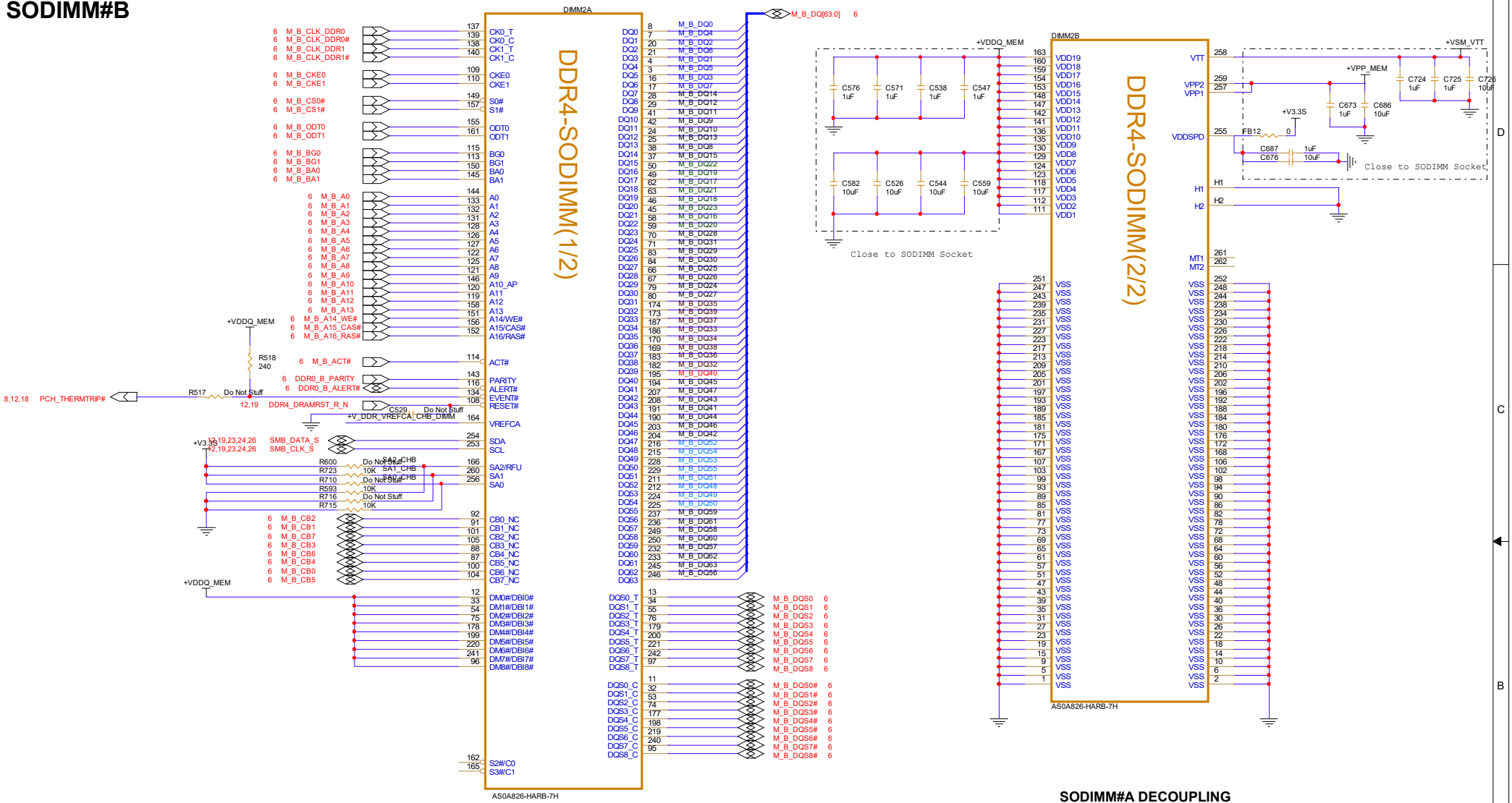
SODIMM#B



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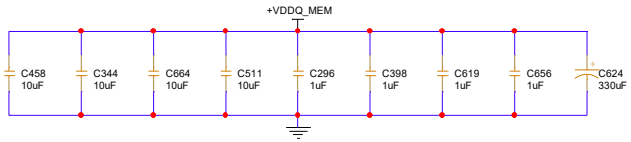

A1.3 wTPM

Title: **DDR4 SO-DIMM-B**		
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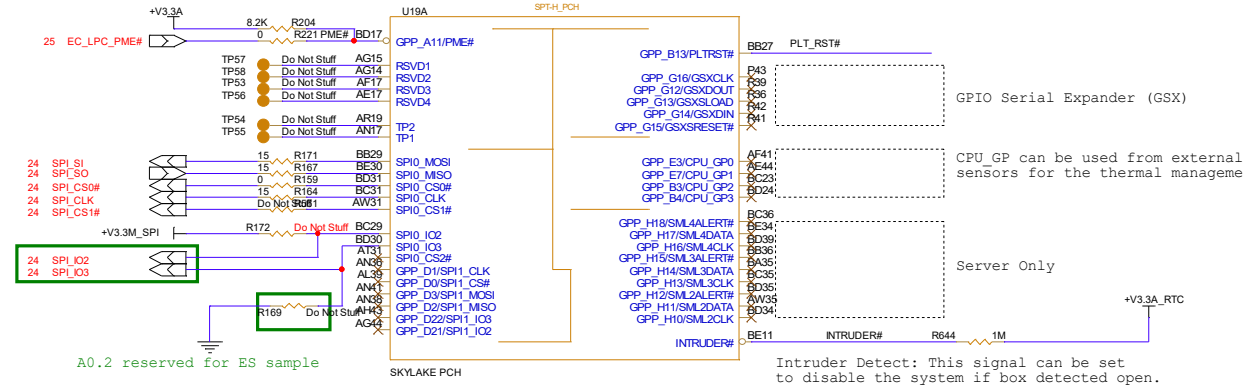

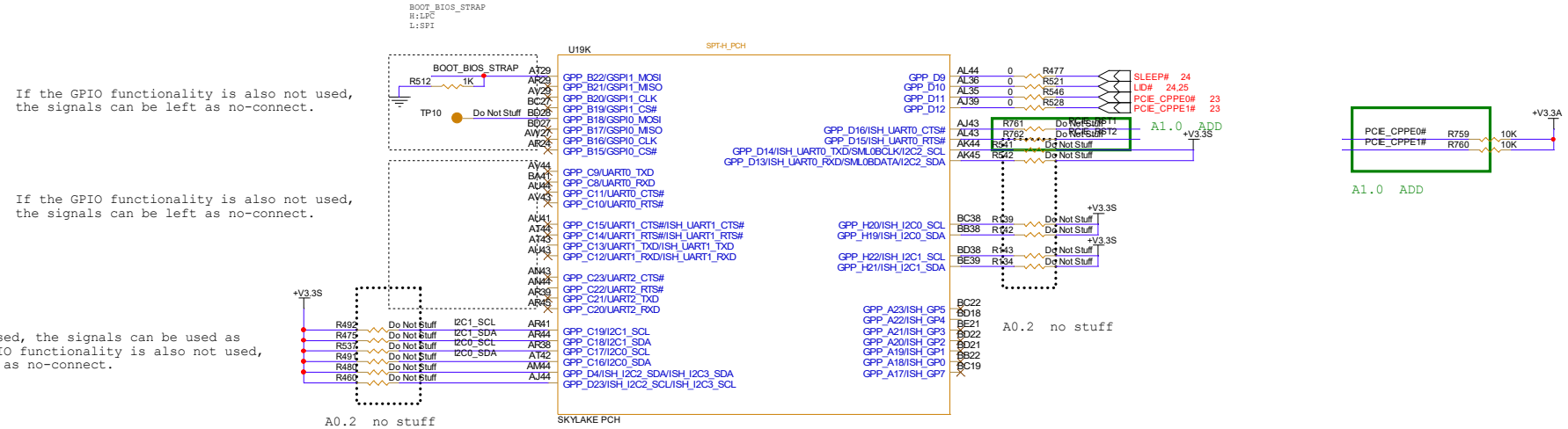

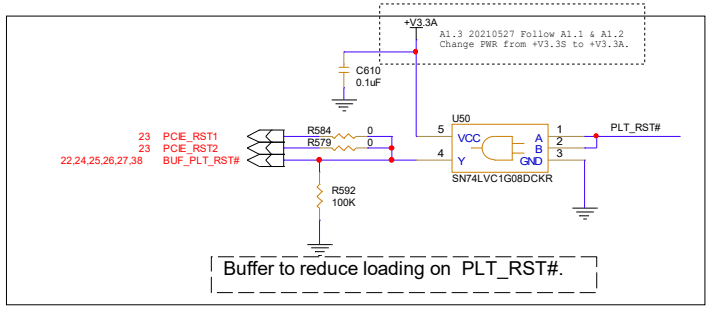

A1.3 wTPM

AAEON an ASUS assoc. co.

Title: **PCH(1/8)**		
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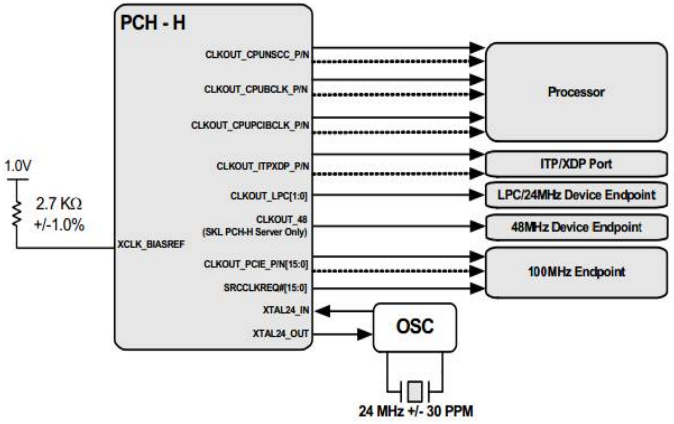
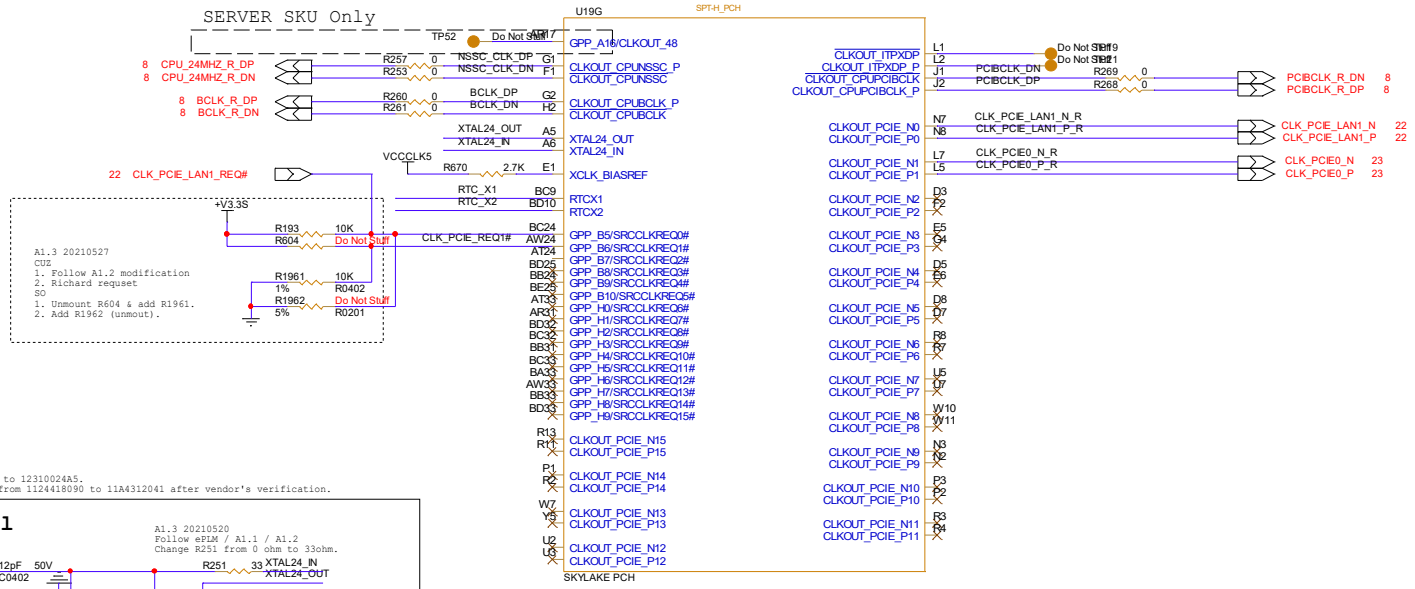
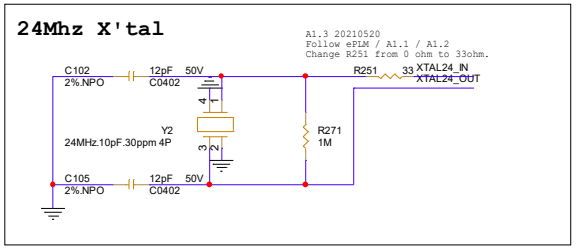
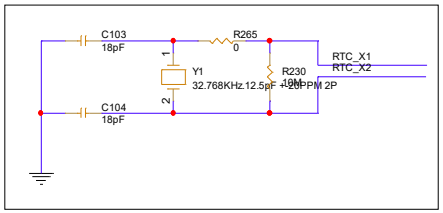




A1.3 20220127 非主推用料
Change Y2 from 12310024A2 to 12310024A5.
And change C102 and C105 from 1124418090 to 11A4312041 after vendor's verification.





NOTE:

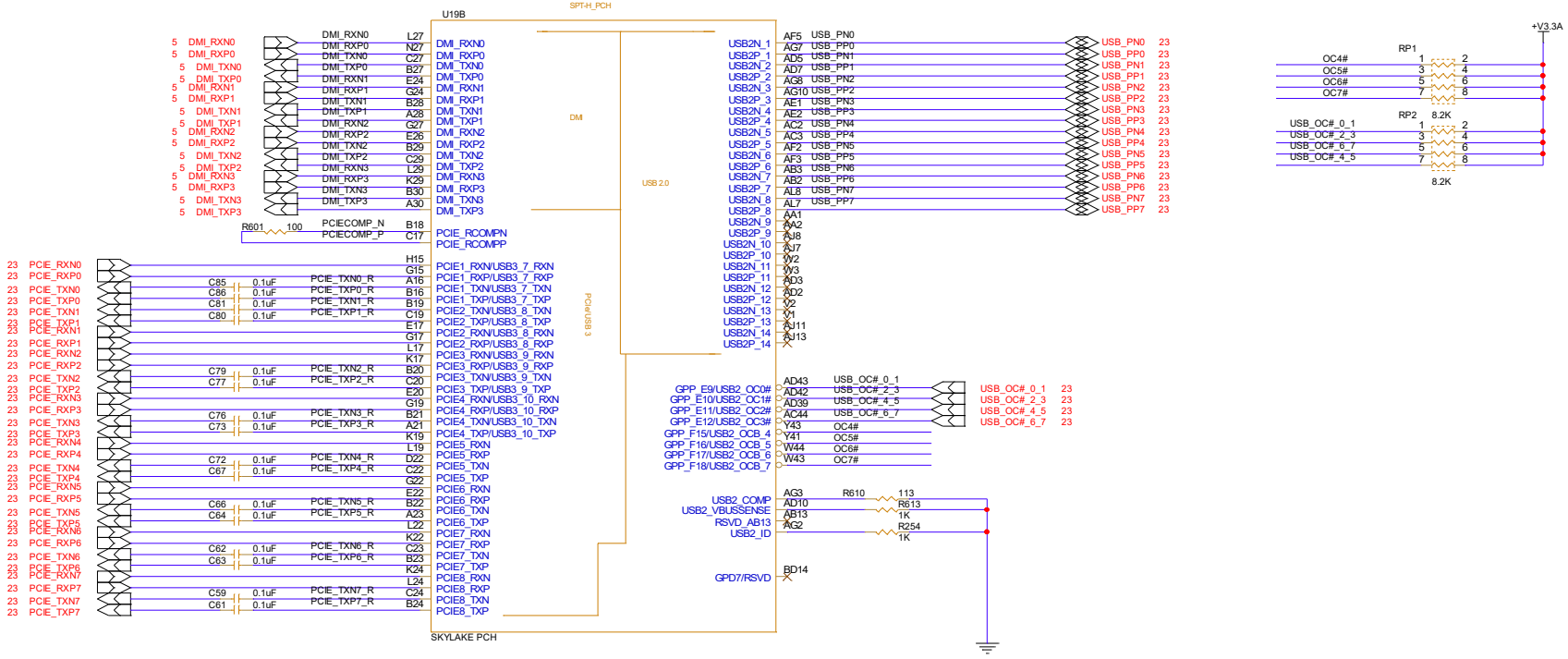
Any differential clock pair not being used must be left as no connect and its associated clock buffer must be disabled by means of the Intel ME FW

Any single ended clock signal not being used must be left as no connect and its associated clock buffer must be disabled by means of the Intel ME FW.

A1.3 wTPM

AAEON an ASUS assoc. co.

Title: **PCH(2/8)**		
Size: A	Document Number: **COM-SKHB6**	Rev: **A0.2**
Date: *Thursday, June 02, 2022*		Sheet: **15** of **41**



A1.3 wTPM

AAEON an ASUS assoc. co.

Title: **PCH(3/8)**

Size	Document Number	Rev:
A	**COM-SKHB6**	**A0.2**

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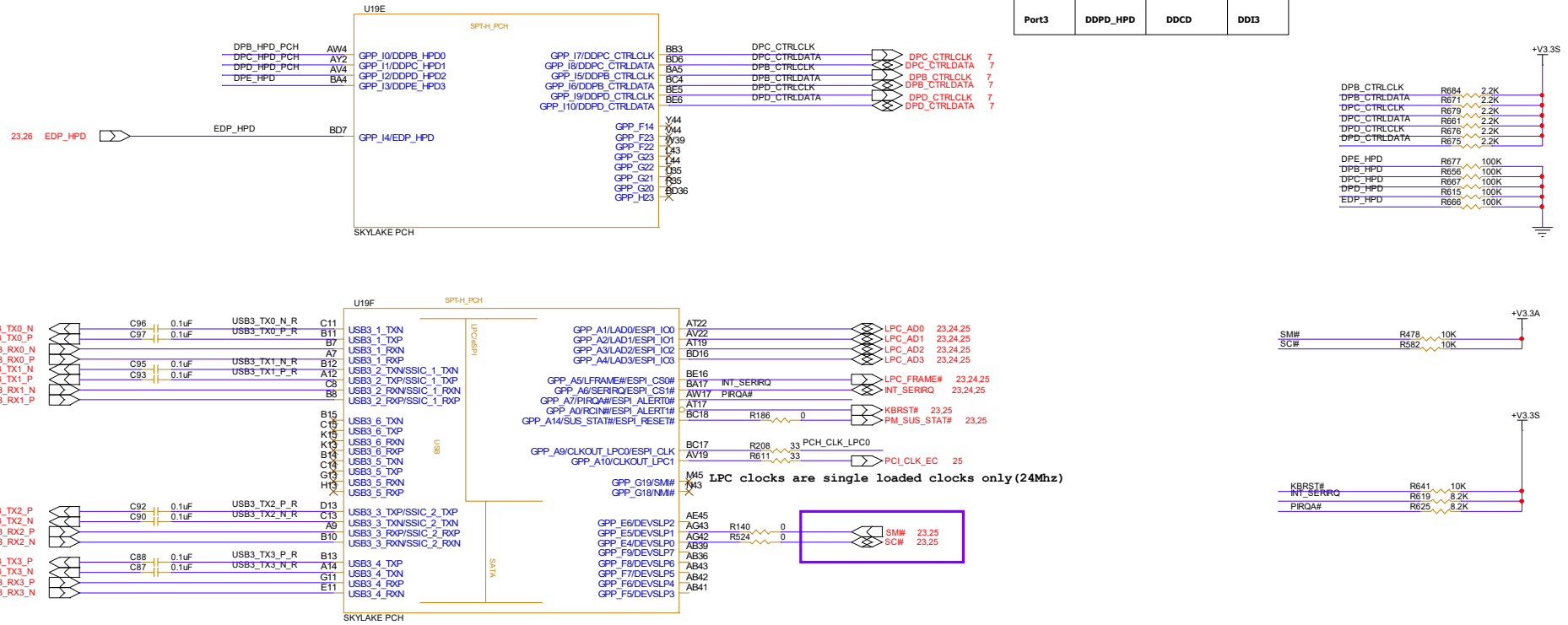
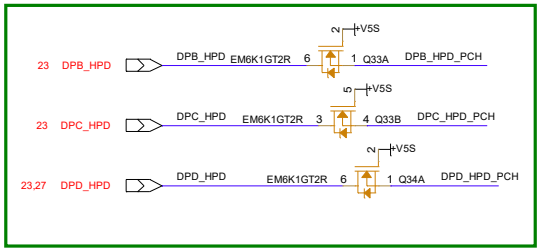
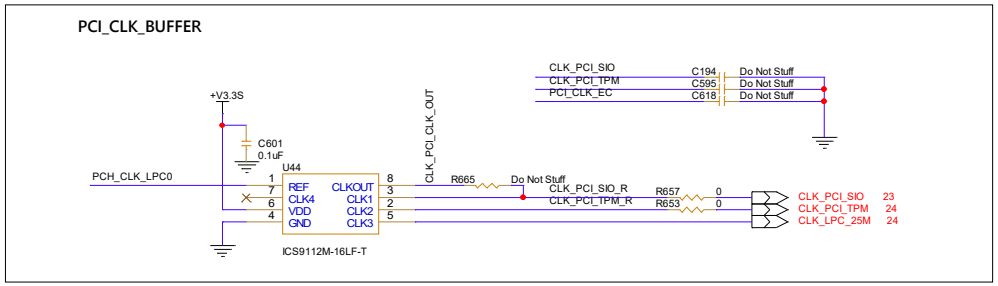
	HPD	DDC	DDI(CPU)
Port1	DDPB_HPD	DDCB	DDI1
Port2	DDPC_HPD	DDCC	DDI2
Port3	DDPD_HPD	DDCD	DDI3





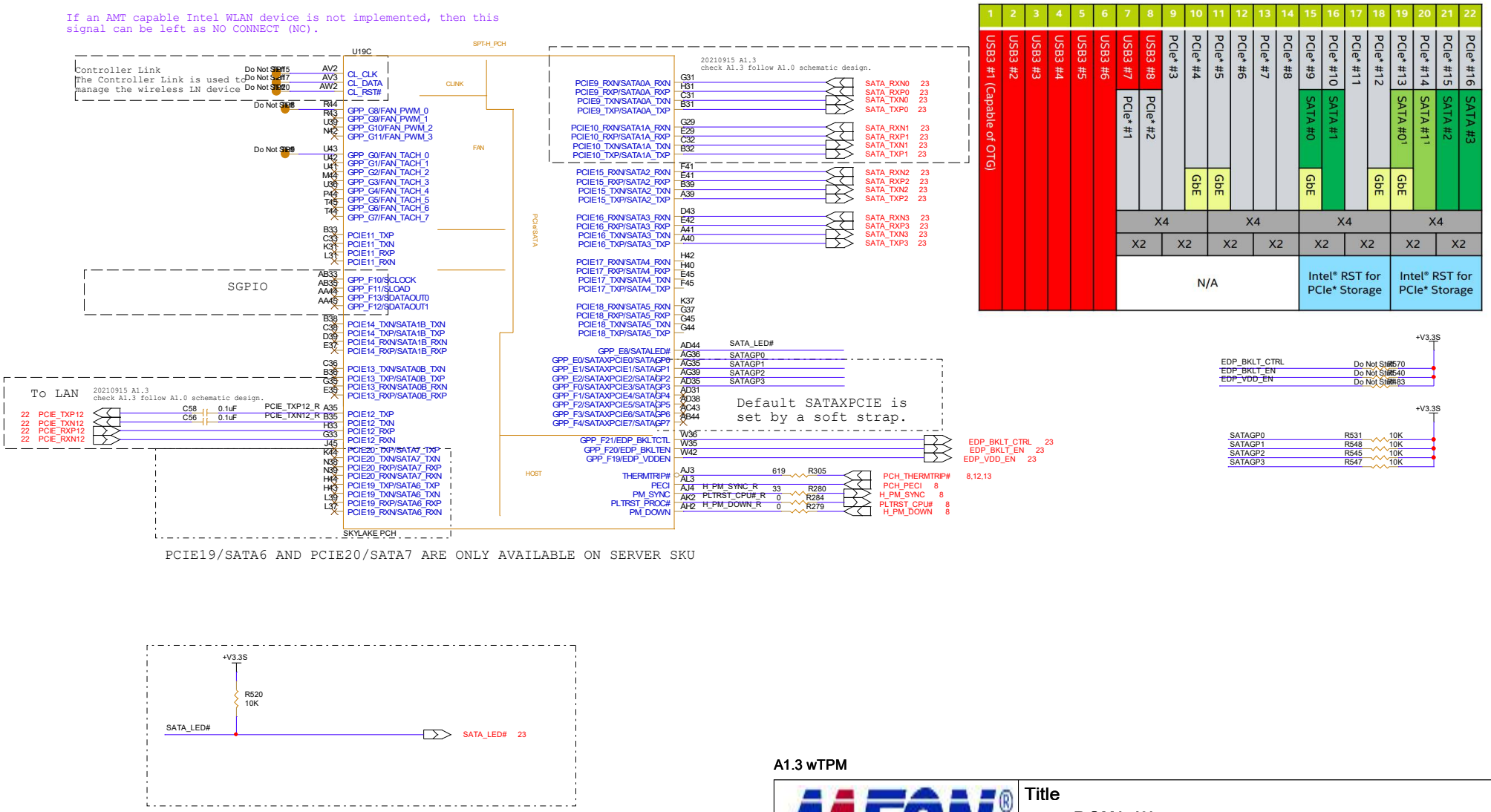
A0.2 ADD



A1.3 wTPM

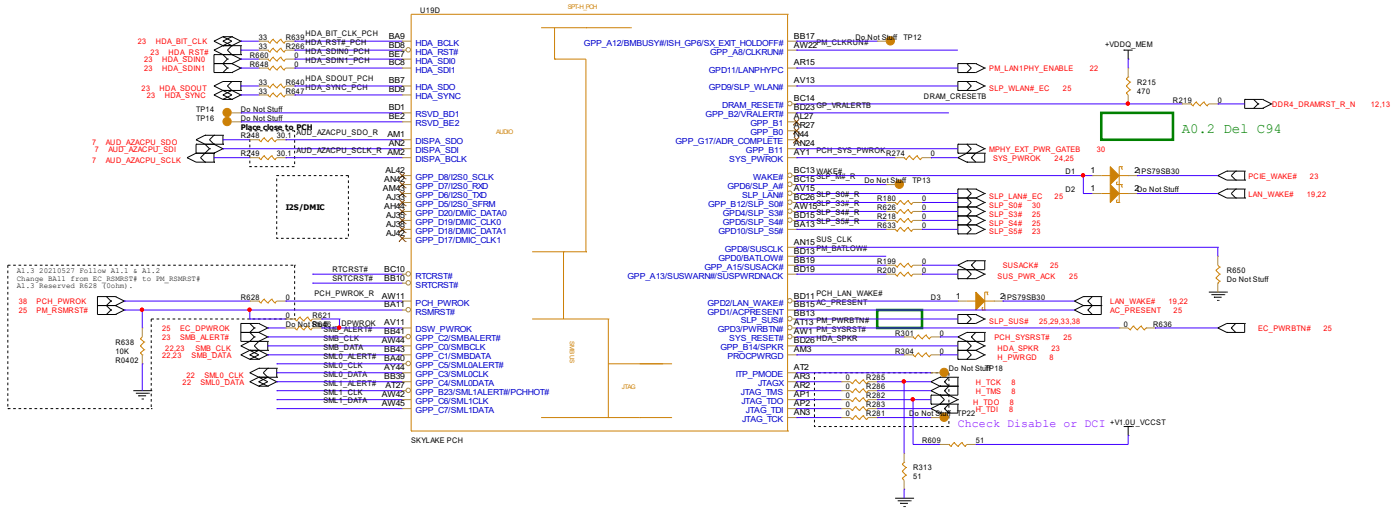
AAEON an ASUS assoc. co.

Title: **PCH(4/8)**		
Size: A	Document Number: **COM-SKHB6**	Rev: **A0.2**
Date: *Thursday, June 02, 2022*		Sheet: **17** of **41**

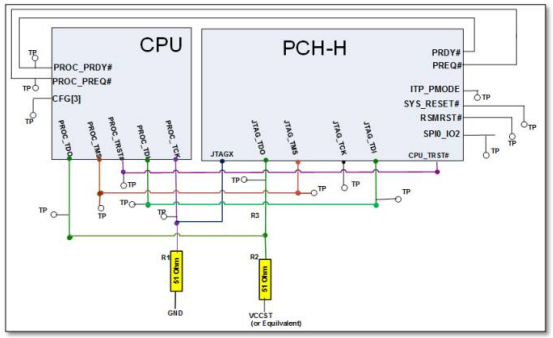


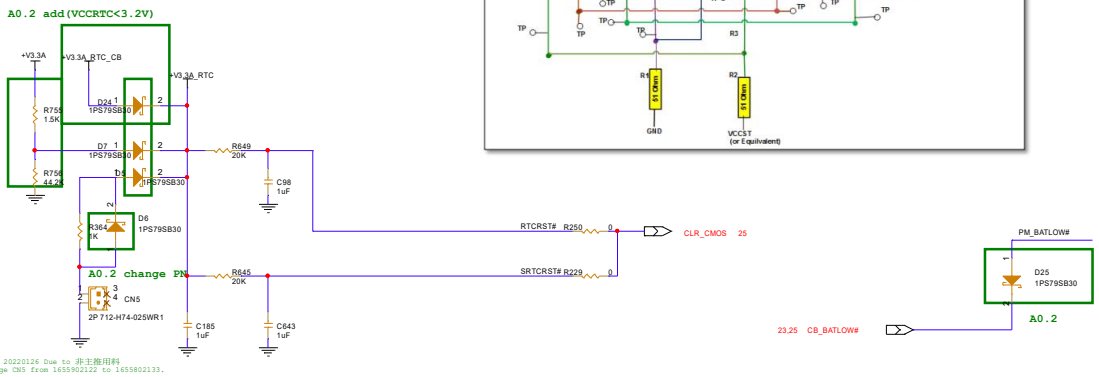
A1.3 wTPM

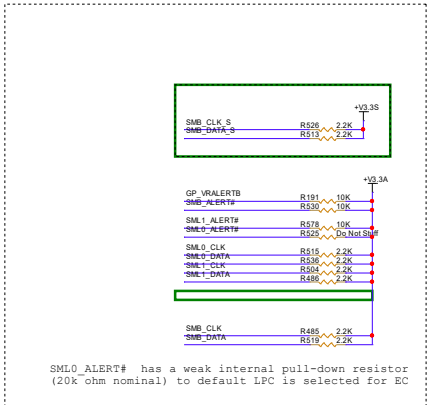
Title: **PCH(5/8)**		
Size: A	Document Number: **COM-SKHB6**	Rev: **A0.2**
Date: *Thursday, June 02, 2022*		Sheet: **18** of **41**

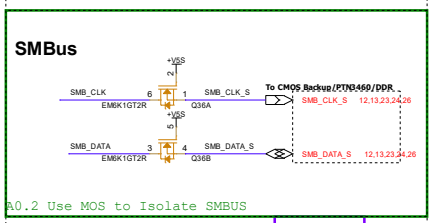


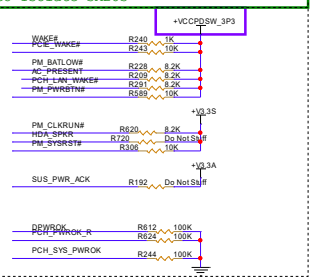
Implementation of DCI Debug tool









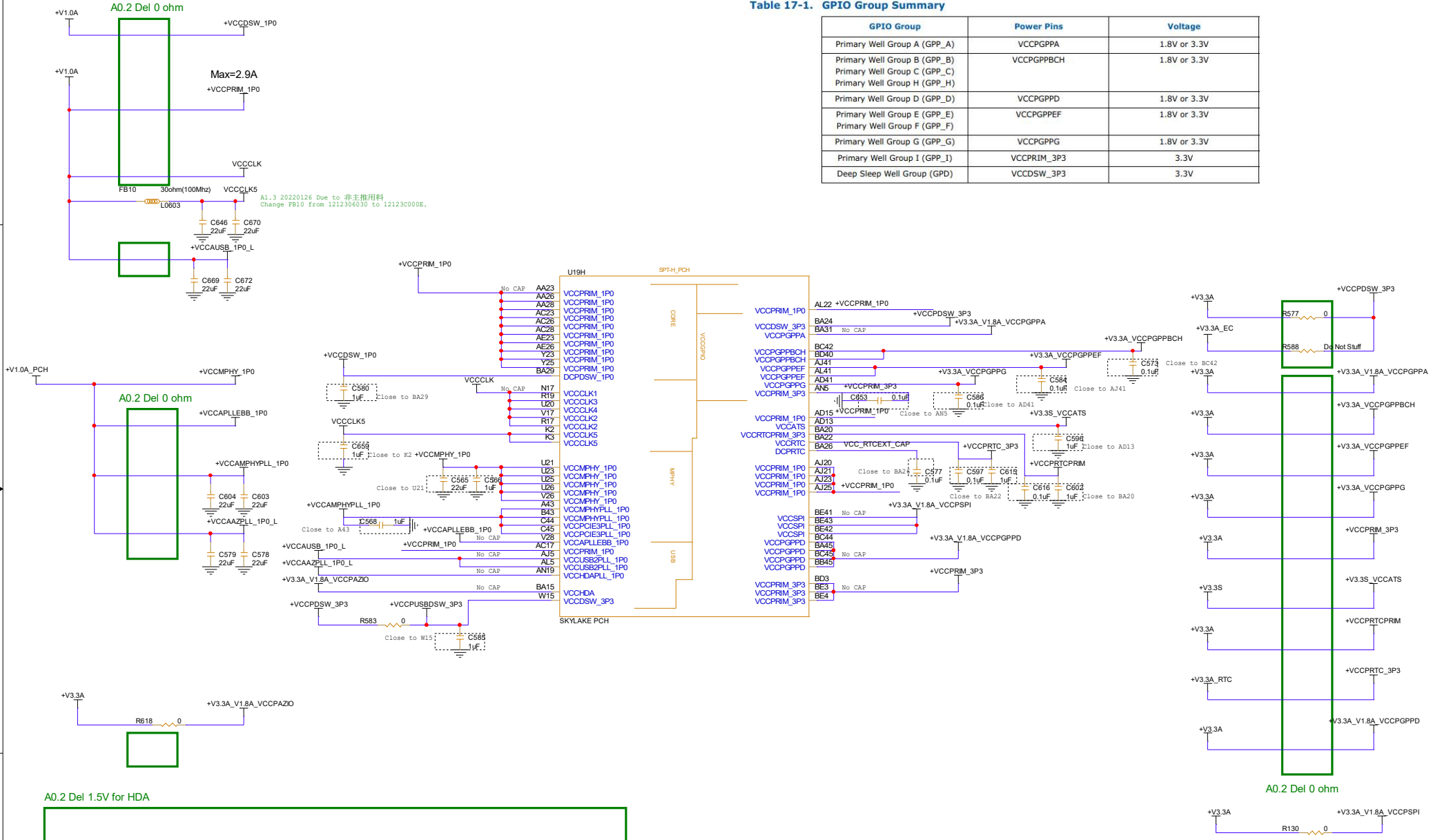


A1.3 wTPM

AAEON an ASUS assoc. co.	Title: PCH(6/8)	
Size: Custom	Document Number: COM-SKHB6	Rev: A0.2
Date: Thursday, June 02, 2022		Sheet: 19 of 41

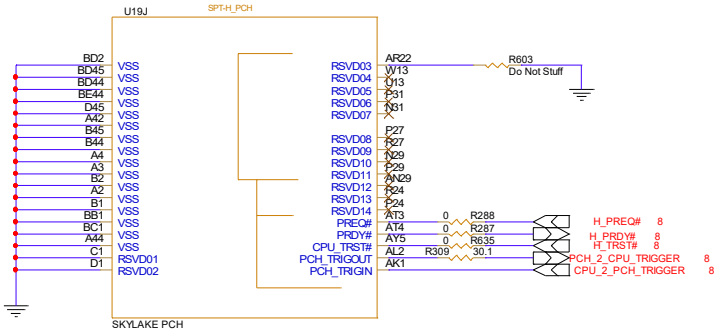
Table 17-1. GPIO Group Summary

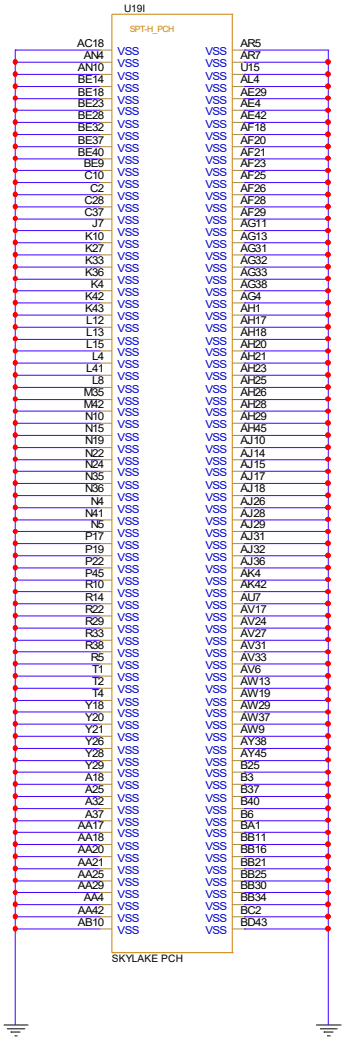
GPIO Group	Power Pins	Voltage
Primary Well Group A (GPP_A)	VCCPGPPA	1.8V or 3.3V
Primary Well Group B (GPP_B) Primary Well Group C (GPP_C) Primary Well Group H (GPP_H)	VCCPGPPBCH	1.8V or 3.3V
Primary Well Group D (GPP_D)	VCCPGPPD	1.8V or 3.3V
Primary Well Group E (GPP_E) Primary Well Group F (GPP_F)	VCCPGPPEF	1.8V or 3.3V
Primary Well Group G (GPP_G)	VCCPGPPG	1.8V or 3.3V
Primary Well Group I (GPP_I)	VCCPRIM_3P3	3.3V
Deep Sleep Well Group (GPD)	VCCDSW_3P3	3.3V

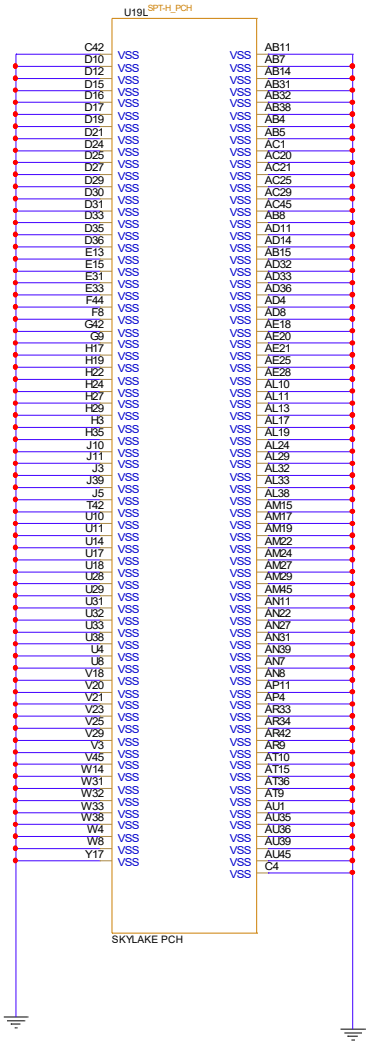


A1.3 wTPM

AAEON an ASUS assoc. co.	Title: **PCH(7/8)**	
Size: A	Document Number: **COM-SKHB6**	Rev: **A0.2**
Date: *Thursday, June 02, 2022*		Sheet: **20** of **41**







A1.3 wTPM

AAEON an ASUS assoc. co.	Title: **PCH(8/8)**	
Size: A	Document Number: **COM-SKHB6**	Rev: **A0.2**
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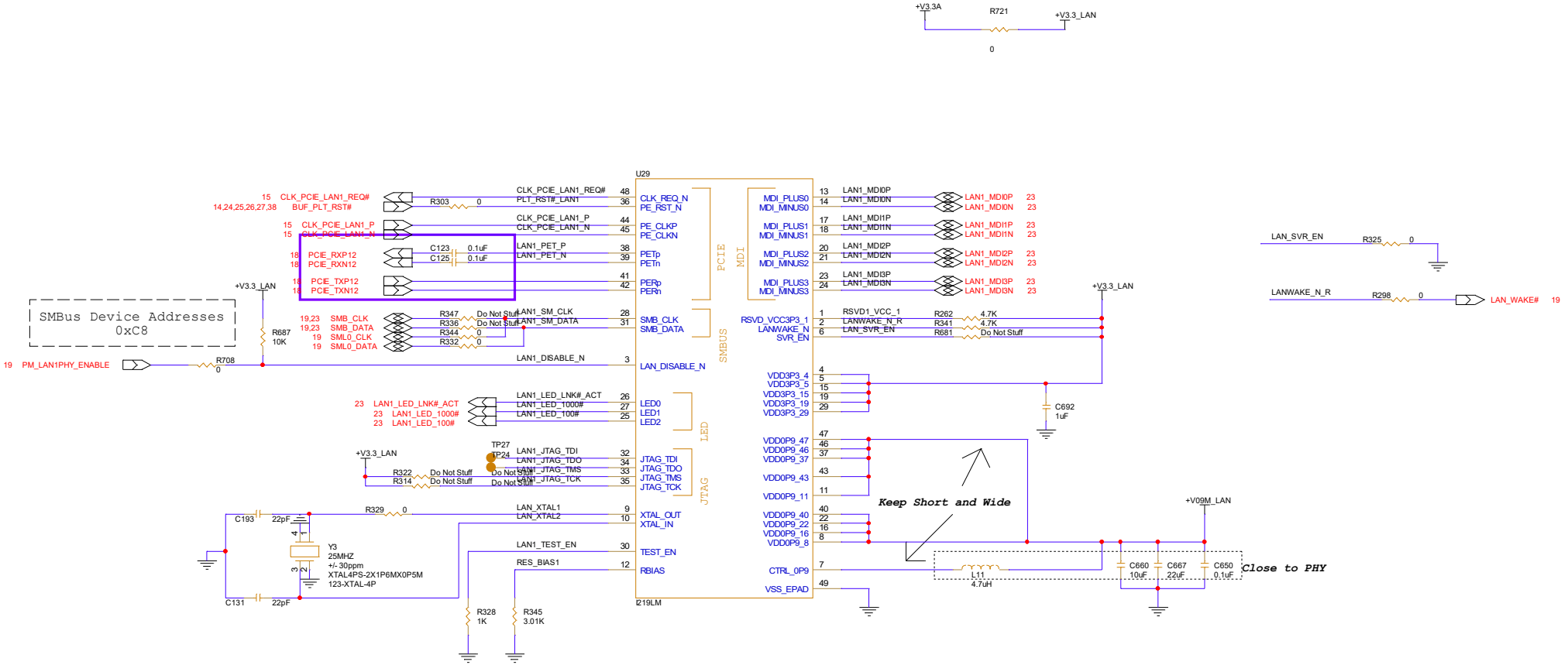
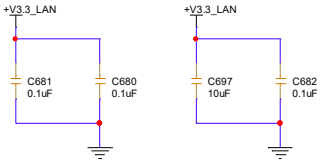
Jacksonville -MOBILE





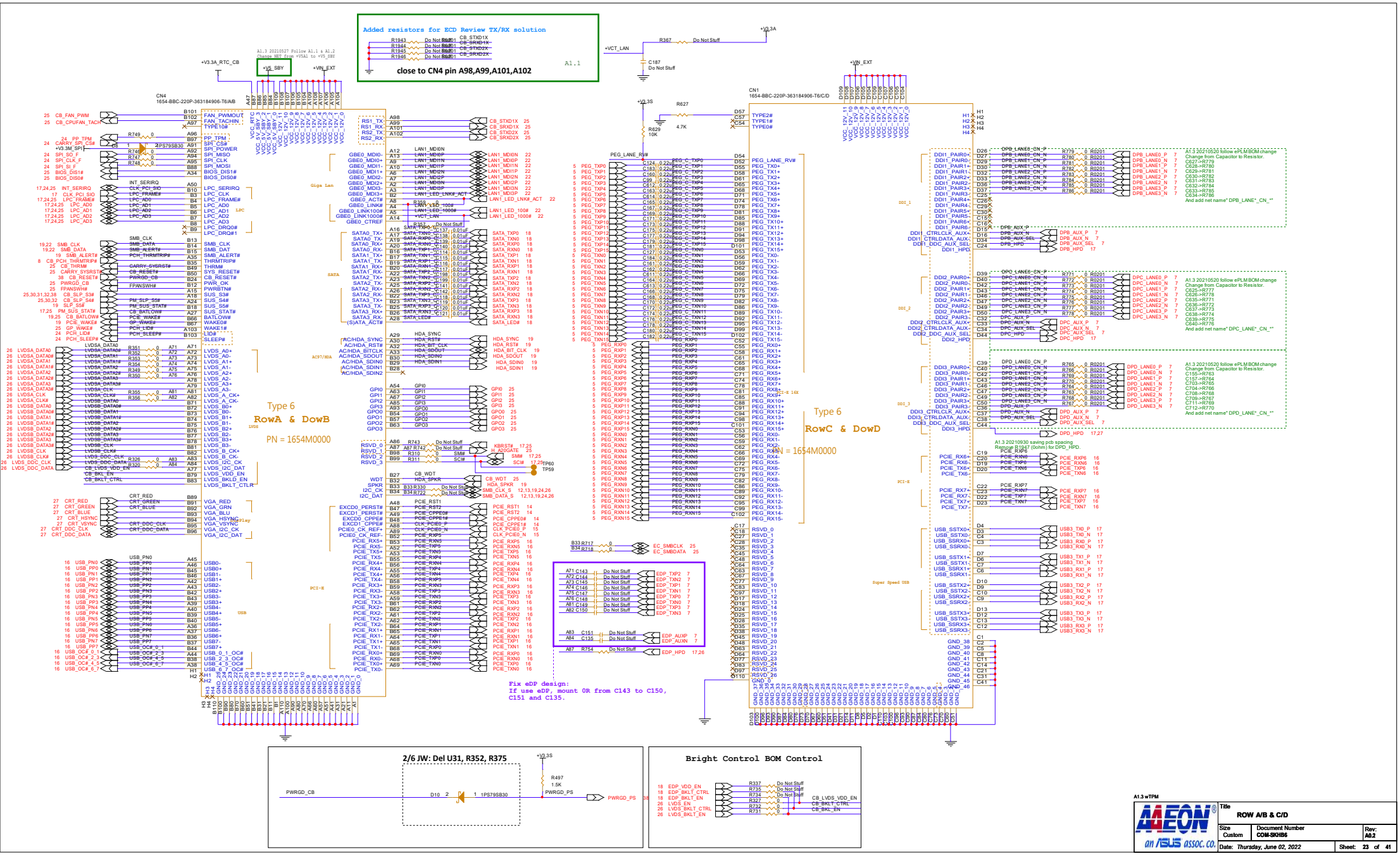
ACTIVITY LED
Green = LINK UP
BLINKING = TX/RX ACTIVITY

SPEED LED
Off = Link 10 Mbps
Green = Link 100 Mbps
Orange = Link 1000 Mbps

LEDs	Mode	Function
LED0	0100	LINK/ACTIVITY
LED1	0111	LINK 1000
LED2	0110	LINK 100

A1.3 wTPM

AAEON an ASUS assoc. co.	Title: **LAN-I219**	
Size: A	Document Number: **COM-SKHB6**	Rev: **A0.2**
Date: *Thursday, June 02, 2022*		Sheet: **22** of **41**


Added resistors for ECD Review TX/RX solution
close to CN4 pin A98,A99,A101,A102
A1.1
CN4
1654-BBC-220P-363184906-T6/A/B
CN1
1654-BBC-220P-363184906-T6/C/D
Type 6
RowA & DowB
PN = 1654M0000
Type 6
RowC & DowD
PN = 1654M0000
Fix eDP design:
If use eDP, mount 0R from C143 to C150,
C151 and C135.
2/6 JW: Del U31, R352, R375
Bright Control BOM Control
A1.3 wTPM
ROW A/B & C/D
Size
Custom
Document Number
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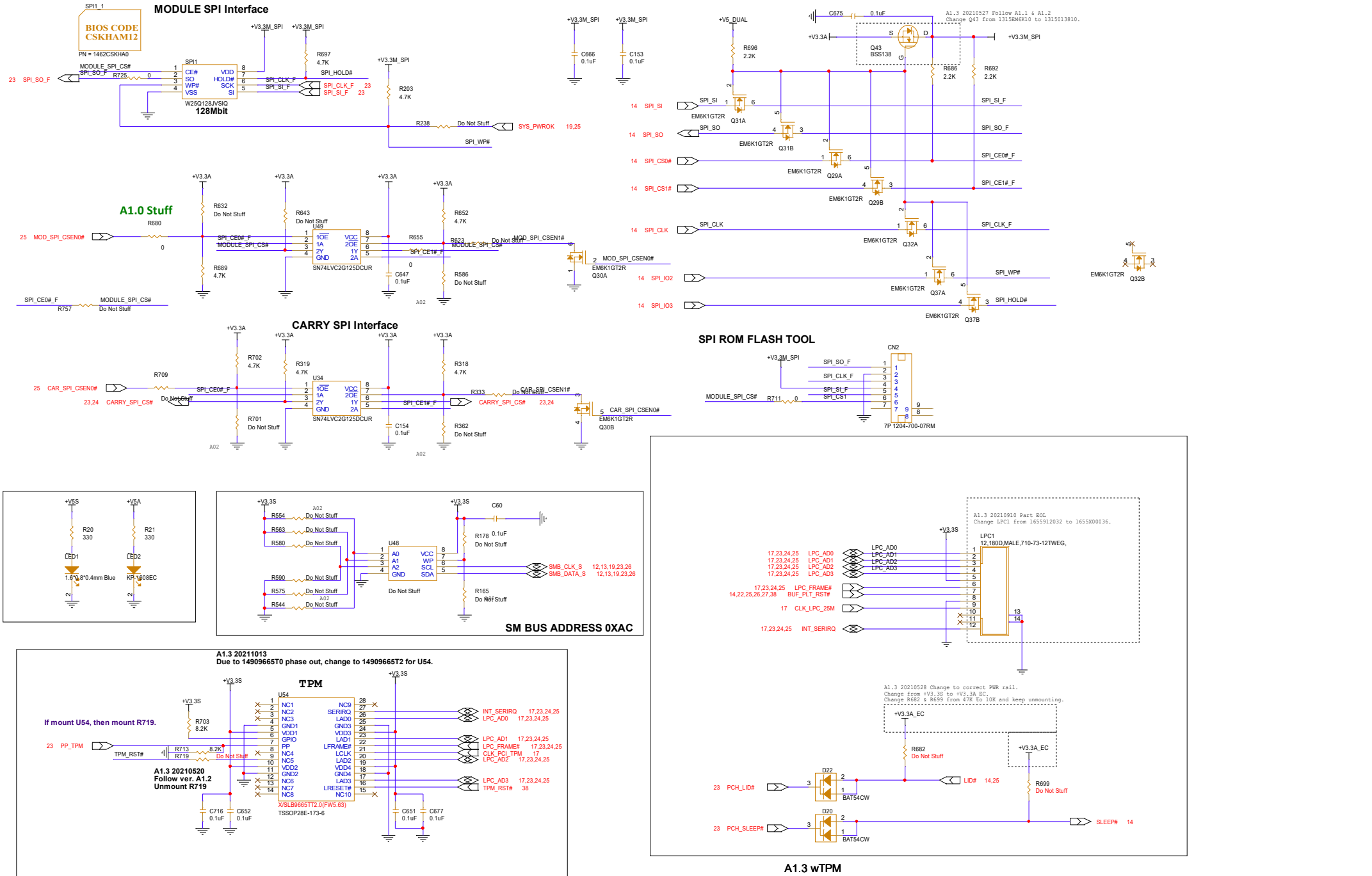
MODULE SPI Interface
BIOS CODE
CSKHAM12
PN = 1462CSKHA0
W25Q128JVSIQ
128Mbit
A1.0 Stuff
SN74LVC2G125DCUR
EM6K1GT2R
CARRY SPI Interface
SPI ROM FLASH TOOL
7P 1204-700-07RM
SM BUS ADDRESS 0XAC
A1.3 20211013
Due to 14909665T0 phase out, change to 14909665T2 for U54.
TPM
If mount U54, then mount R719.
A1.3 20210520
Follow ver. A1.2
Unmount R719
X/SLB9665TT2.0(FW5.63)
TSSOP28E-173-6
A1.3 20210527 Follow A1.1 & A1.2
Change Q43 from 1315EM6K10 to 1315013810.
A1.3 20210910 Part EOL
Change LPC1 from 1655912032 to 1655X00036.
LPC1
12.180D.MALE.710-73-12TWEG,
A1.3 20210528 Change to correct PWR rail.
Change from +V3.3S to +V3.3A_EC.
Change R682 & R699 from 47K To 10K and keep unmounting.
BAT54CW
A1.3 wTPM
AAEON
an ASUS assoc. co.
Title
SPI TPM
Size
Custom
Document Number
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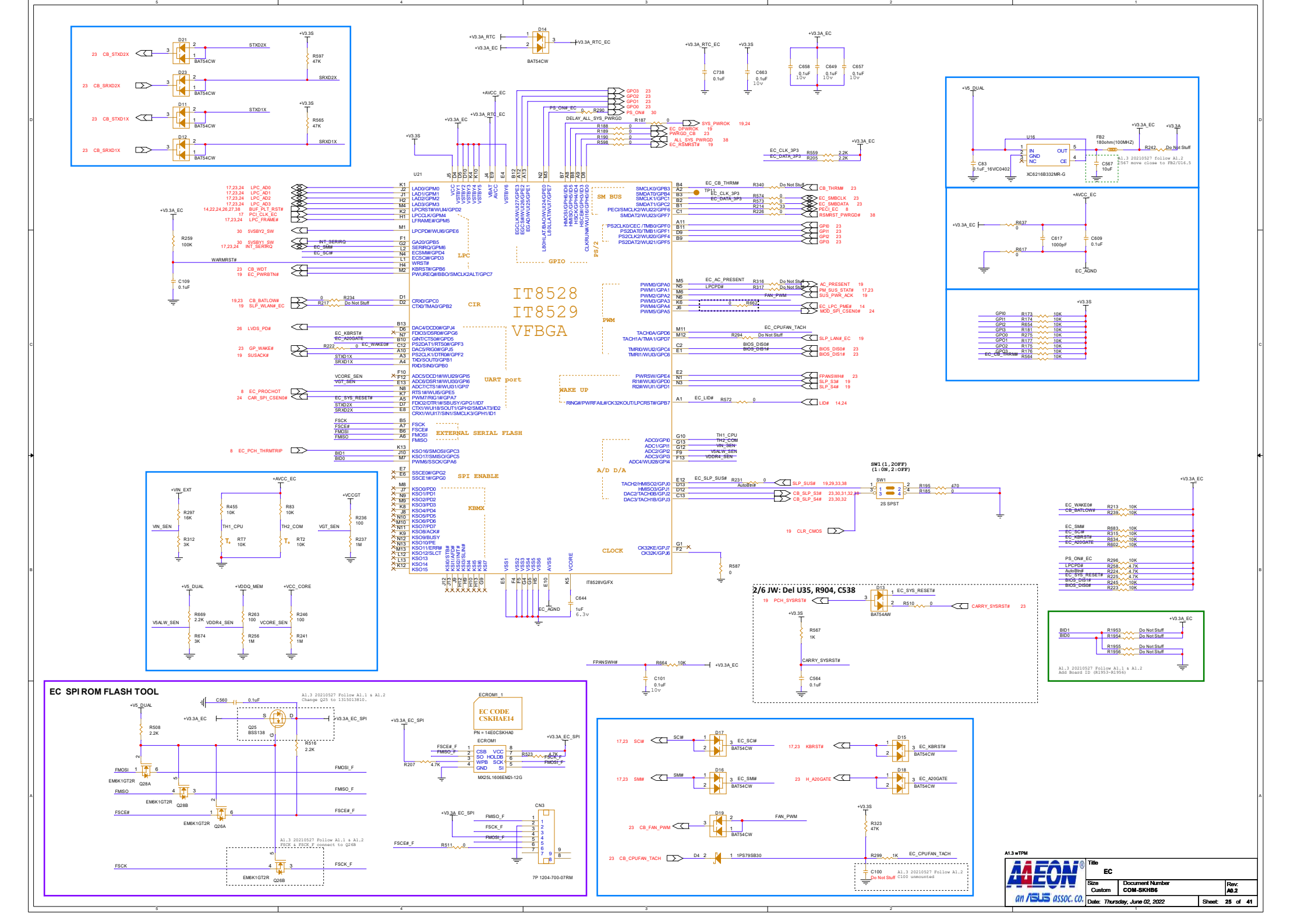
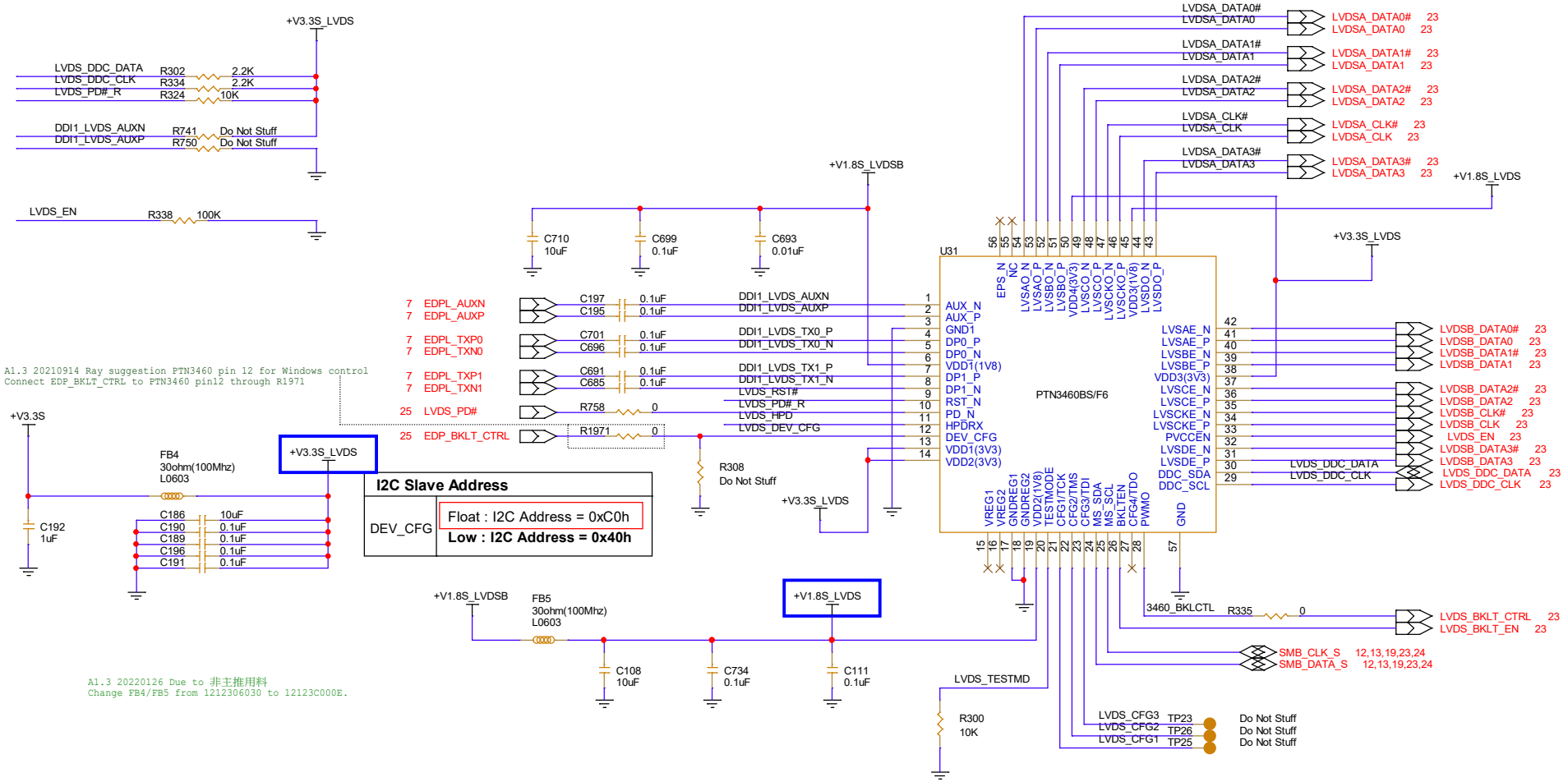

IT8528
IT8529
VFBGA
SM BUS
GPIO
LPC
CIR
PWM
UART port
WAKE UP
EXTERNAL SERIAL FLASH
SPI ENABLE
KBMX
A/D D/A
CLOCK
EC SPI ROM FLASH TOOL
EC CODE CSKHAE14
2/6 JW: Del U35, R904, C538
SW1 (1,2OFF) (1:ON,2:OFF)
2S SPST
IT8528VG/FX
MX25L1606EM2I-12G
7P 1204-700-07RM
XC6216B332MR-G
BAT54CW
EM6K1GT2R
BSS138
A1.3 20210527 Follow A1.1 & A1.2
Change Q25 to 1315013810.
A1.3 20210527 Follow A1.1 & A1.2
FSCK & FSCK_F connect to Q26B
A1.3 20210527 Follow A1.2
Add Board ID (R1953-R1956)
A1.3 20210527 Follow A1.2
C100 unmounted
A1.3 wTPM

PTN3460



CFG1	HIGH	Dual LVDS Bus
	LOW	**Single LVDS Bus**
CFG2	**HIGH**	**JEIDA or VESA Format (18 bpp)**
	OPEN	JEIDA Format (24 bpp)
	LOW	VESA Format (24 bpp)
CFG3	HIGH	LVDS CLK Fequency 0.5%
	OPEN	LVDS CLK Fequency 1%
	LOW	**LVDS CLK Fequency 0%**
CFG4	HIGH	LVDS Output Swing 400mV
	OPEN	**LVDS Output Swing 300mV**
	LOW	LVDS Output Swing 250mV

A1.3 wTPM

AAEON an ASUS assoc. co.

Title: **DP TO LVDS**		
Size: **B**	Document Number: **COM-SKHB6**	Rev: **A0.2**
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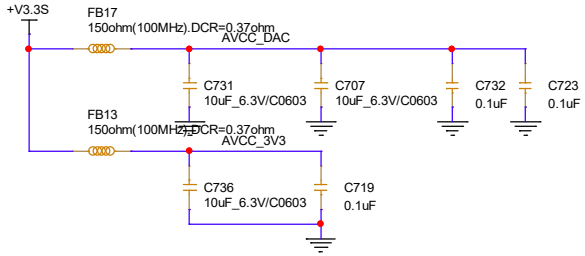
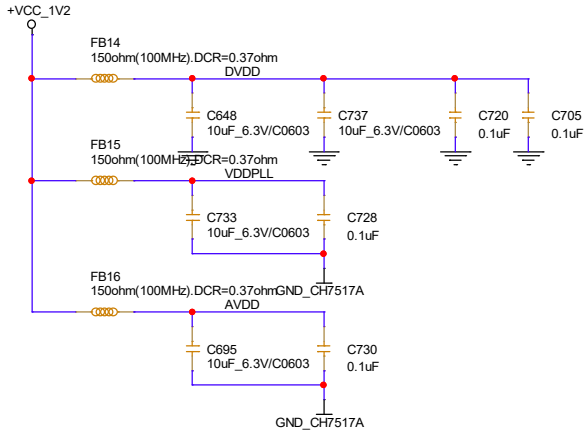
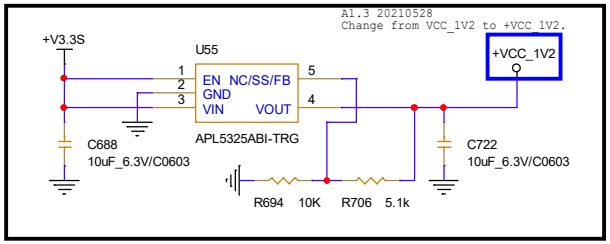
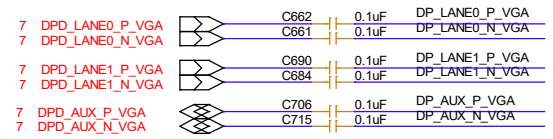
Note:
1. +1.05V power spply tolerance range -5%~+25%
2. +3.3V power spply tolerance range +/-10%

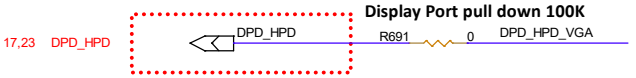




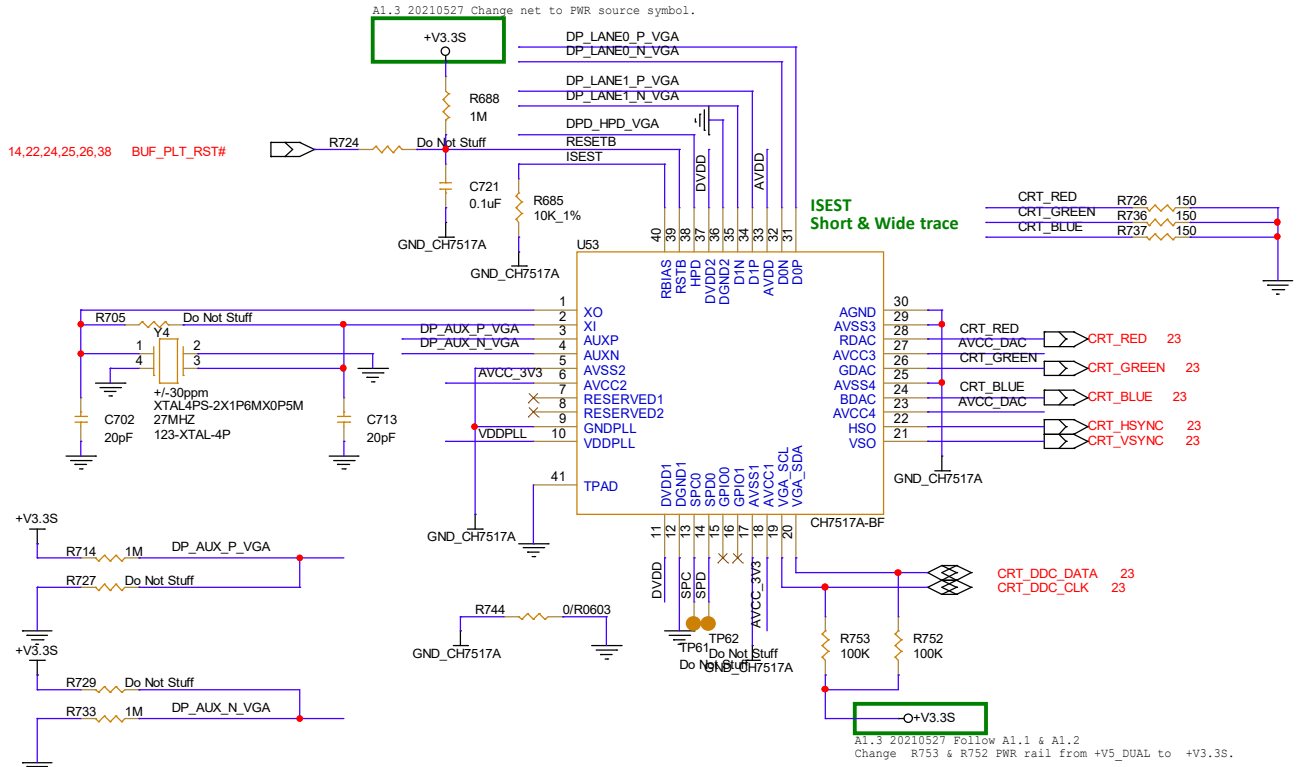
Reserve for Test





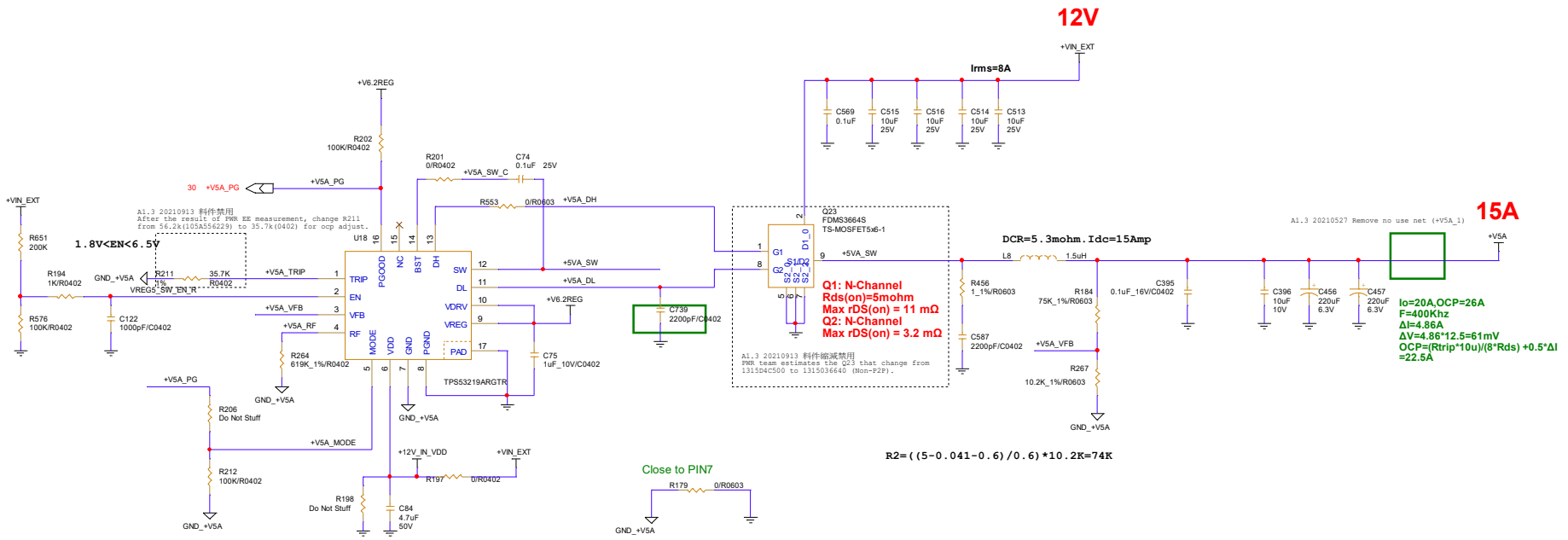


CH7517



A1.3 wTPM

AAEON an ASUS assoc. co.	Title: DP to VGA	
	Size: B	Document Number: COM-SKHB6 / Rev: A0.2
	Date: *Thursday, June 02, 2022*	Sheet: 27 of 41



A1.3 wTPM

AAEON an ASUS assoc. co.	Title: PPWER SWITCH +V5A	
Size: Custom	Document Number: COM-SKHB6	Rev: A0.2
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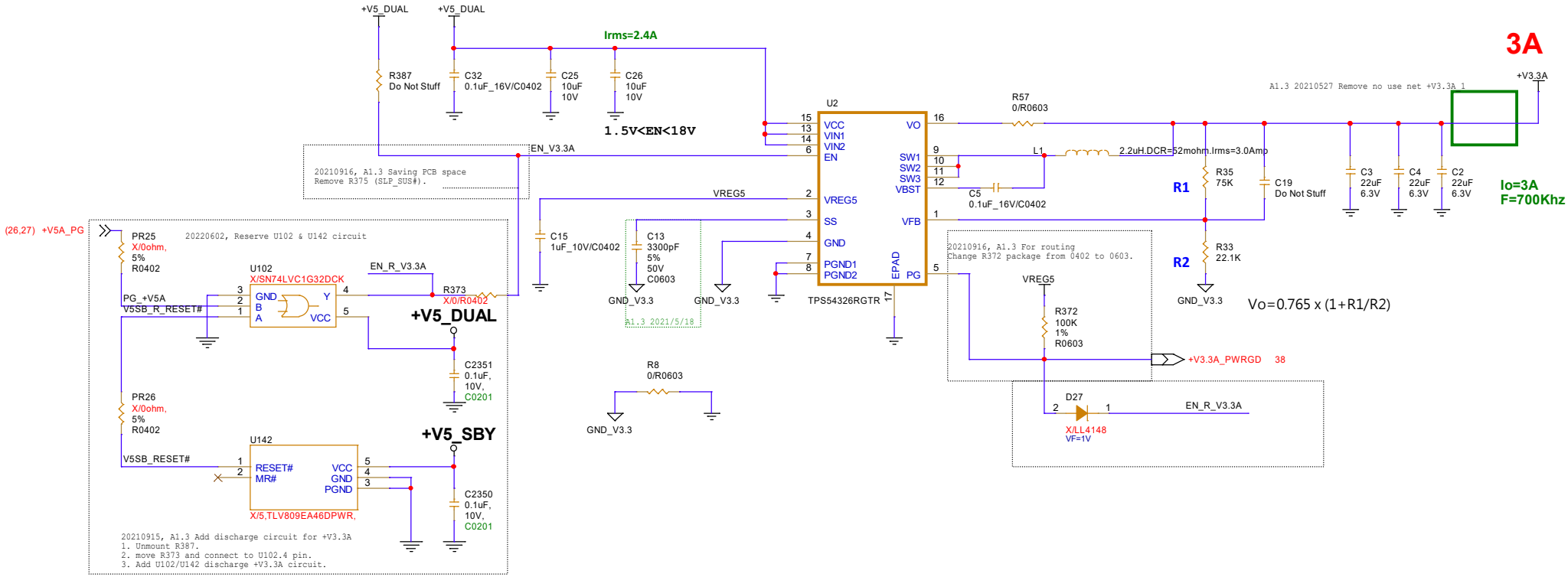
+V3.3A



A1.3 wTPM

AAEON an ASUS assoc. co.

Title: PPWER SWITCH +V3A		
Size: Custom	Document Number: COM-SKHB6	Rev: A0.2
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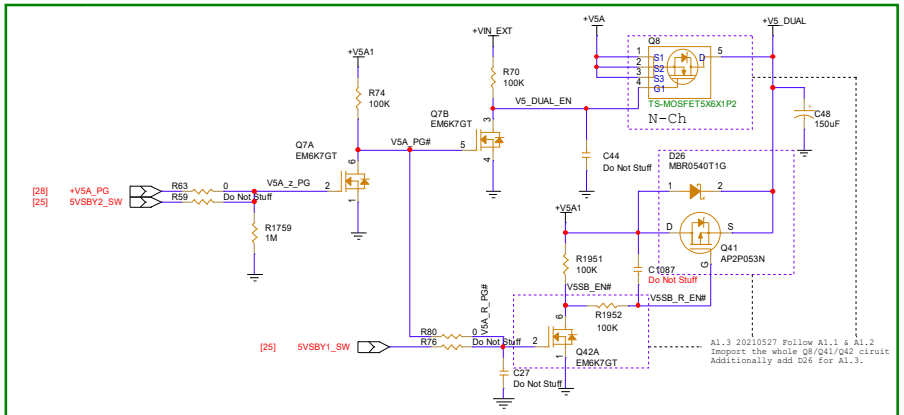
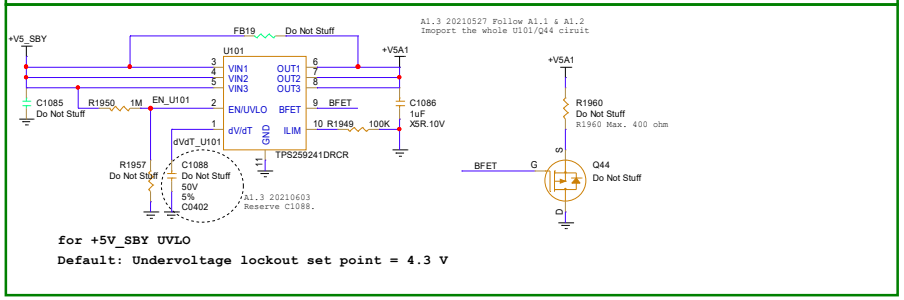
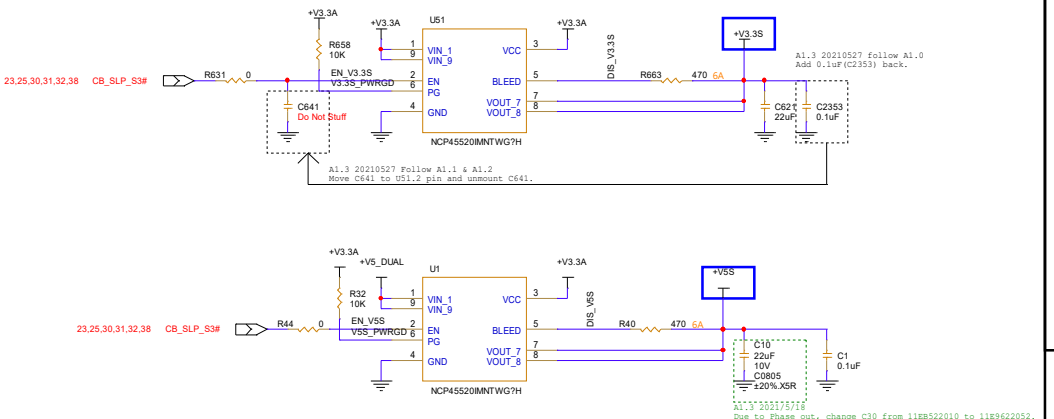
+V5_DUAL switch circuit

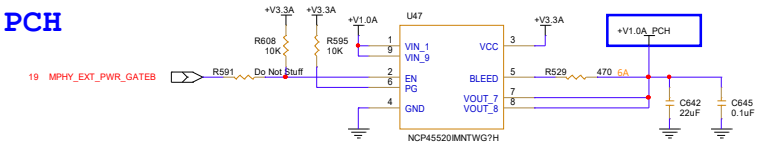
+V5A1, from carrier board
+V5A, from COM Module



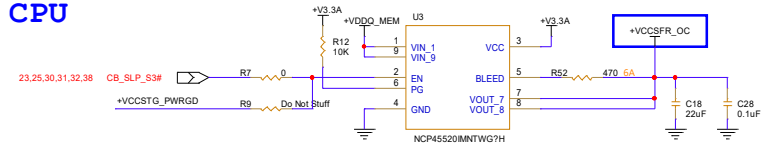


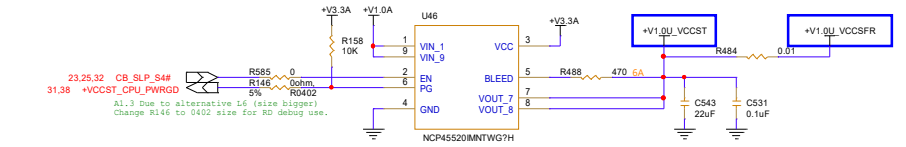


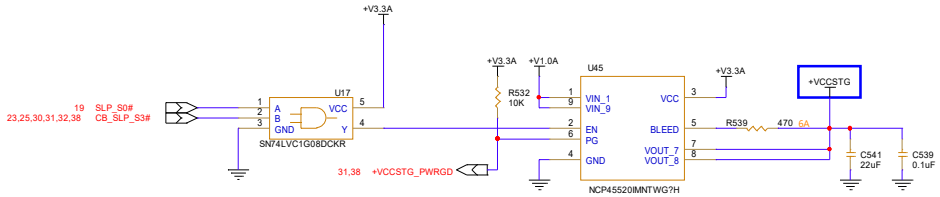
To PCH



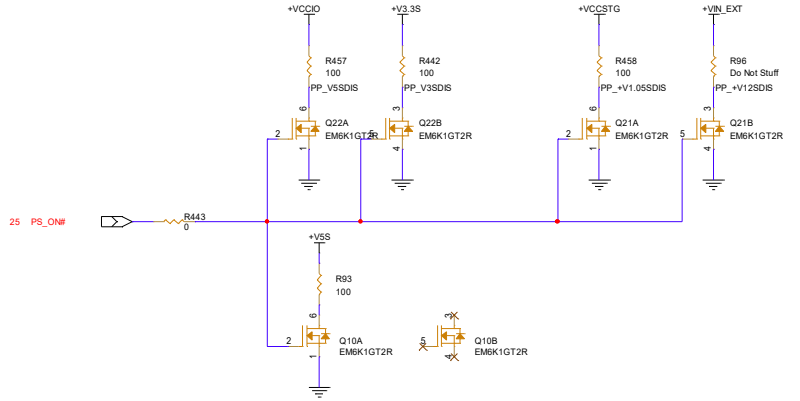
To CPU







Discharge



A1.3 wTPM

AAEON an ASUS assoc. co.

Title: PPWER SWITCH +V5_3V_1.8V_STG		
Size: Custom	Document Number: COM-SKHB6	Rev: A0.2
Date: Thursday, June 02, 2022	Sheet: 30 of 41	

+VCCIO

A1.3 Due to alternative L6 (size bigger)
Remove R117 (+VCCST_CPU_PWRGD) for saving PCB space.

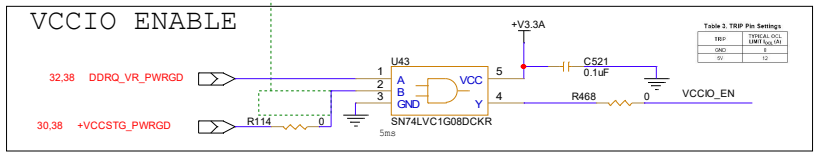
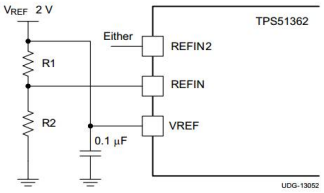
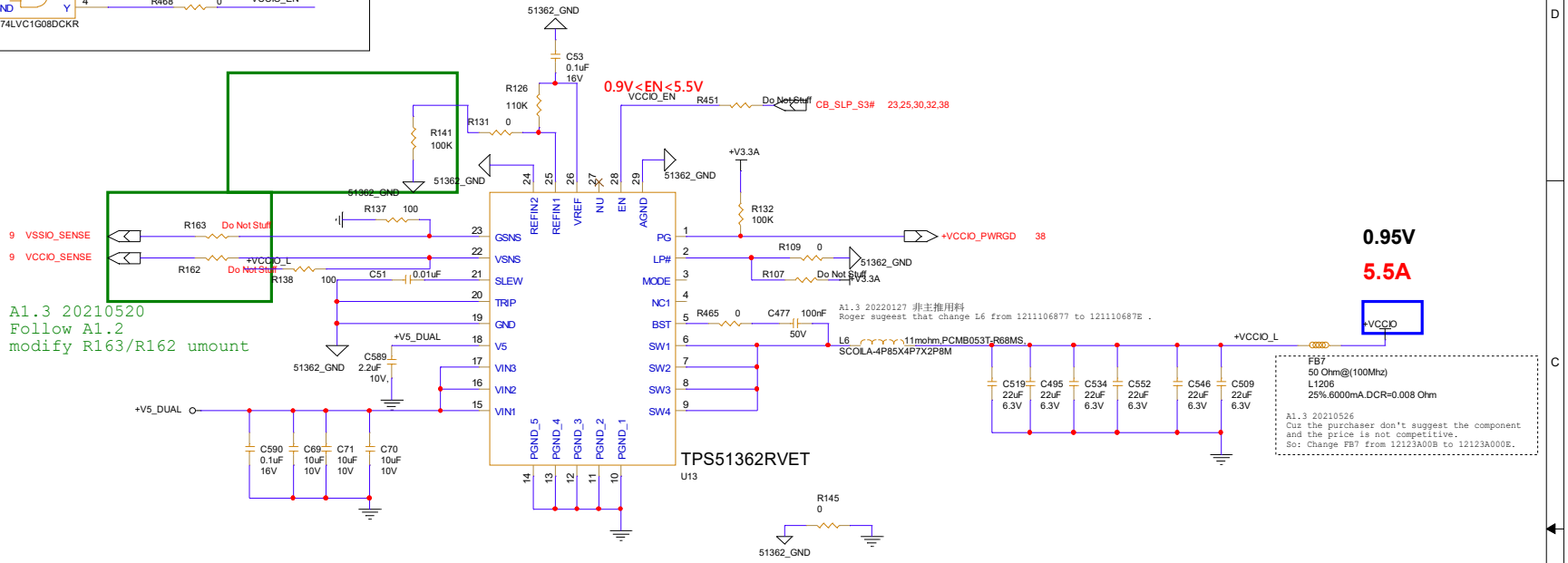


Table 1. REFIN and REFIN2 Pin Settings

VOLTAGE (V)		V_{OUT} OUTPUT VOLTAGE (V)
REFIN PIN (V_{REFIN})	REFIN2 PIN (V_{REFIN2})	
GND	GND	1.05
Float	GND	1.2
GND	Float	1.5
Float	Float	1.35
Resistor dividers	Either GND or Float	Adjustable from 0.6 to 2.0





A1.3 20210520
Follow A1.2
modify R163/R162 umount

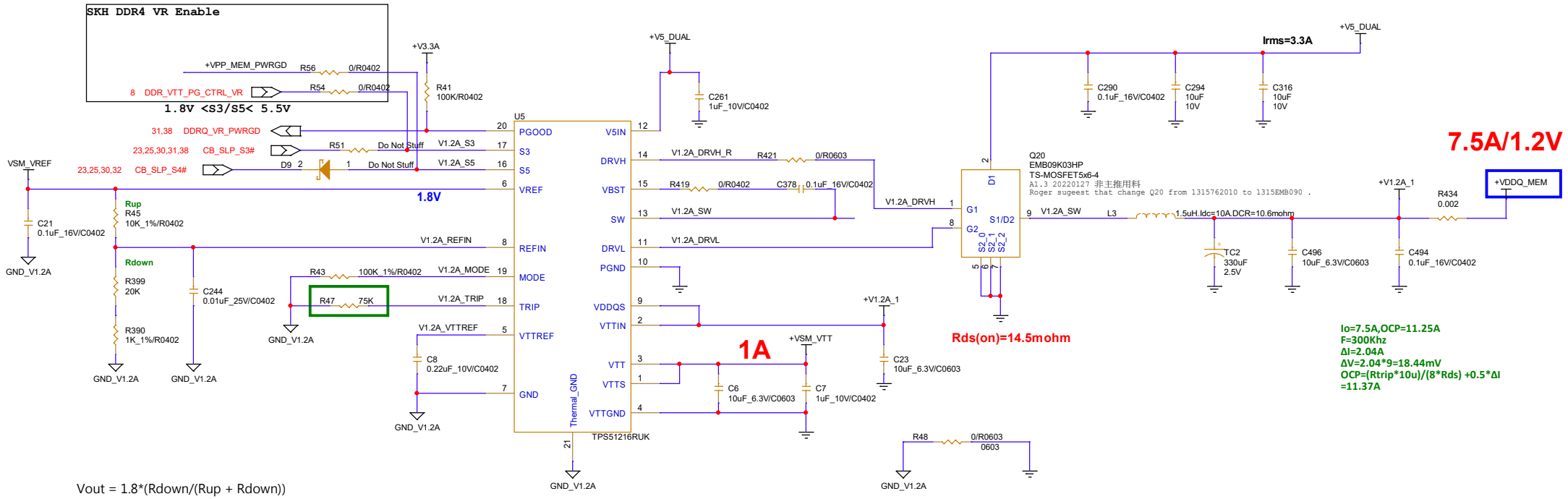
A1.3 20220127 非主推用料
Roger sugeest that change L6 from 1211106877 to 121110687E .

A1.3 20210526
Cuz the purchaser don't suggest the component and the price is not competitive.
So: Change FB7 from 12123A000B to 12123A000E.

A1.3 wTPM

AAEON an ASUS assoc. co.

Title: **+V1.05/+V1.5S**		
Size: Custom	Document Number: **COM-SKHB6**	Rev: **A0.2**
Date: *Thursday, June 02, 2022*		Sheet: **31** of **41**



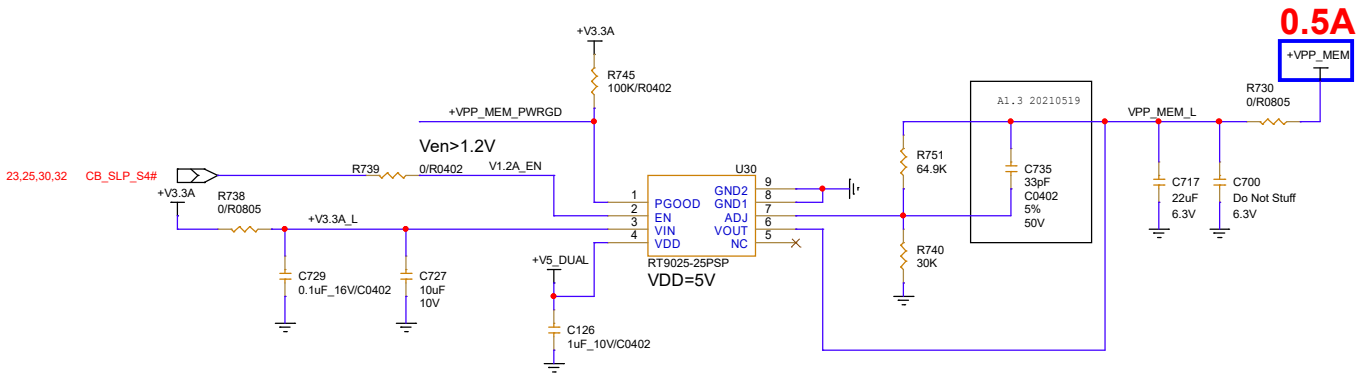
Vout = 1.8*(Rdown/(Rup + Rdown))

MODE Selection

Resistance(K ohm)	SW Frequency(kHz)	Discharge Mode
200	400	Tracking
100	300	Tracking
68	300	Non-tracking
47	400	Non-tracking

S3/S5 Power State Control

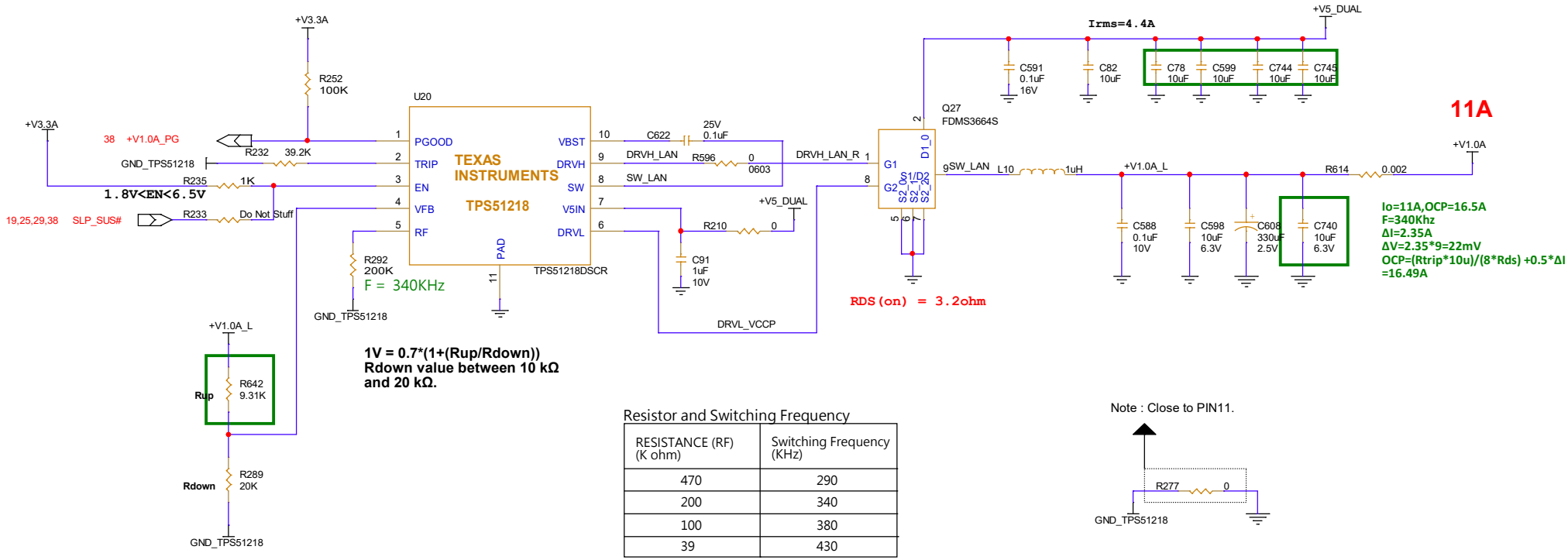
STATE	S3	S5	VREF	VDDQ	VTTREF	VTT
S0	HI	HI	ON	ON	ON	ON
S3	LO	HI	ON	ON	ON	OFF
S4/S5	LO	LO	OFF	OFF	OFF	OFF



Vout = 0.8 x (1 + Rup / Rdown)=2.5V

A1.3 wTPM

Title: +VDDQ_MEM/VPP		
Size: A3	Document Number: COM-SKHB6	Rev: A0.2
Date: Thursday, June 02, 2022	Sheet: 32 of 41	



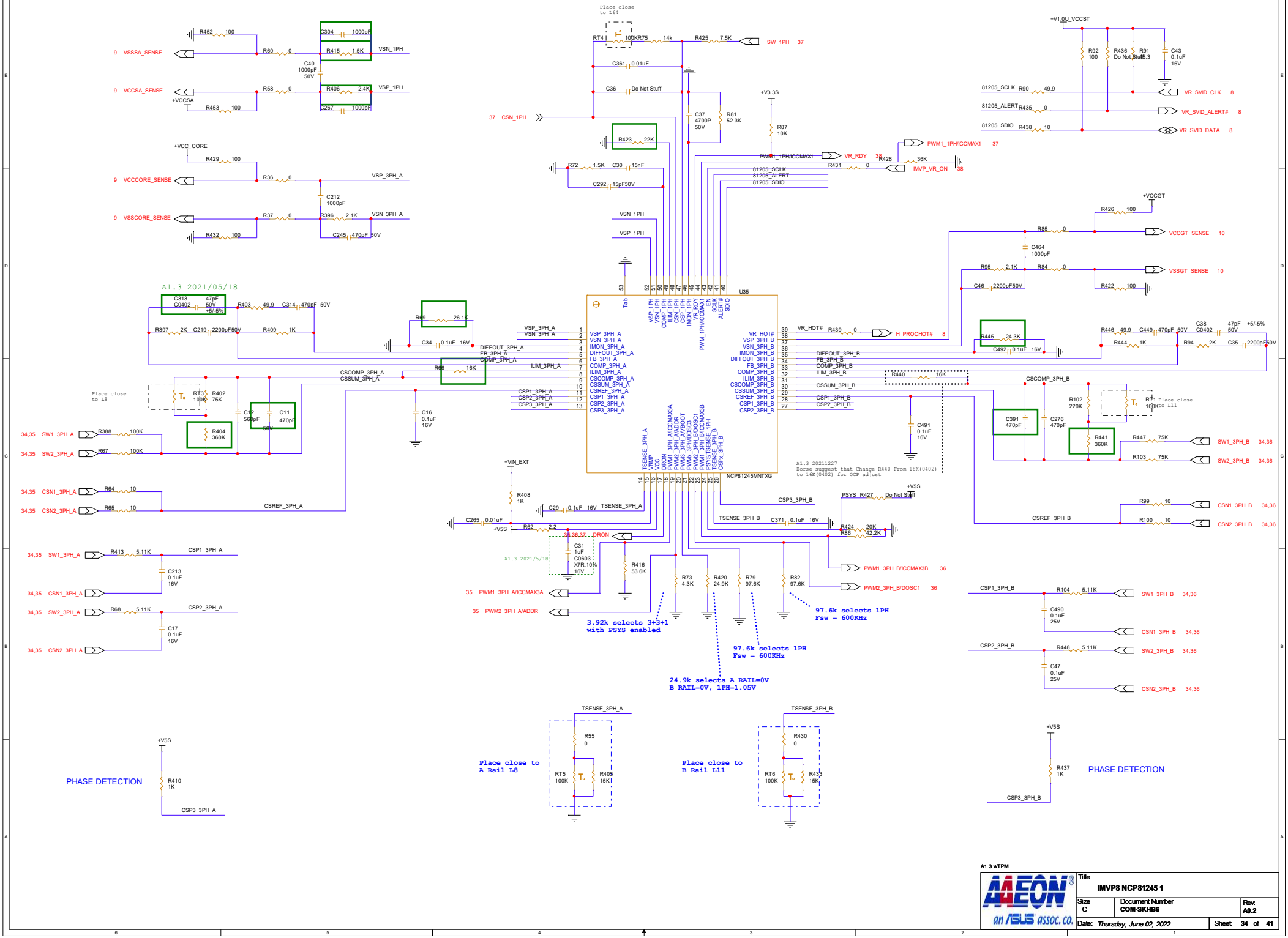
Resistor and Switching Frequency

RESISTANCE (RF) (K ohm)	Switching Frequency (KHz)
470	290
200	340
100	380
39	430

A1.3 wTPM

AAEON an ASUS assoc. co.

Title: +V1.0A		
Size: B	Document Number: COM-SKHB6	Rev: A0.2
Date: Thursday, June 02, 2022	Sheet: 33 of 41	


A1.3 2021/05/18
NCP81245MNTXG
U35
PHASE DETECTION
PHASE DETECTION
Place close to A Rail L8
Place close to B Rail L11
3.92k selects 3+3+1 with PSYS enabled
97.6k selects 1PH Fsw = 600KHz
97.6k selects 1PH Fsw = 600KHz
24.9k selects A RAIL=0V B RAIL=0V, 1PH=1.05V
A1.3 20211227 Horse suggest that Change R440 From 18K(0402) to 16K(0402) for OCP adjust
A1.3 wTPM
IMVP8 NCP81245 1
COM-SKHB6
Thursday, June 02, 2022
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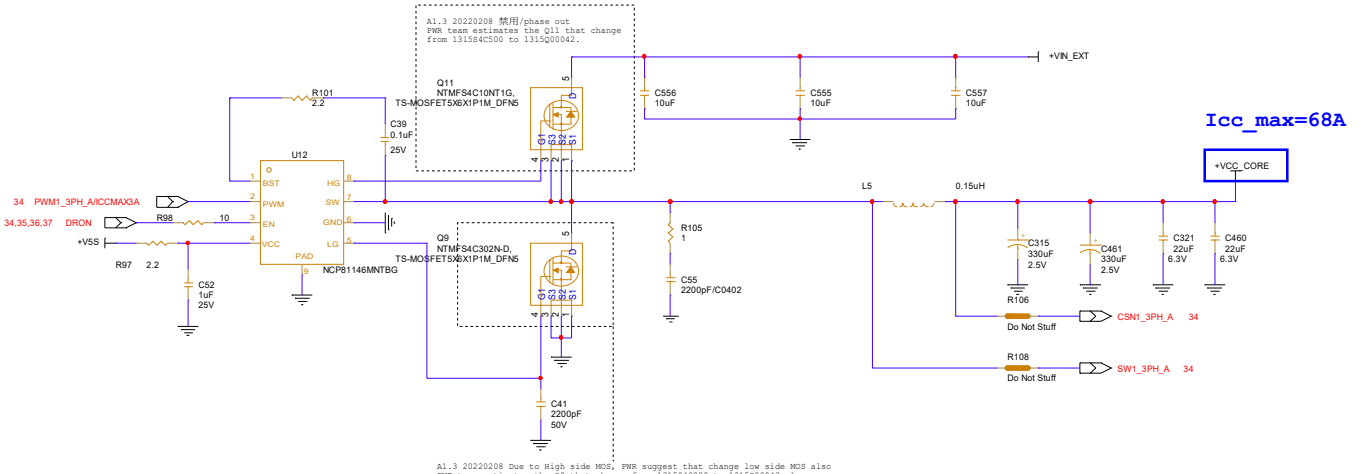
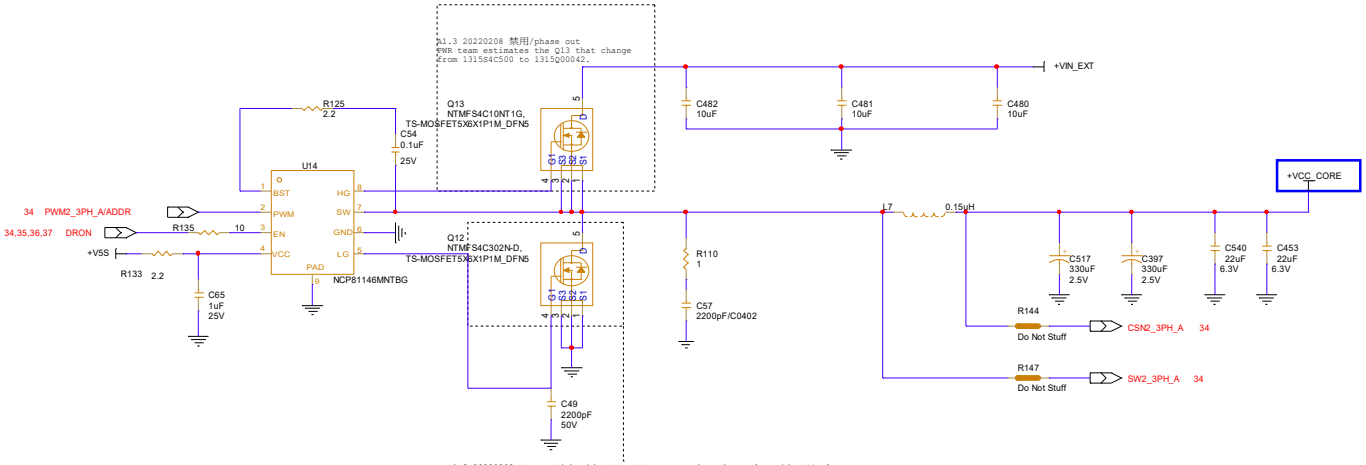




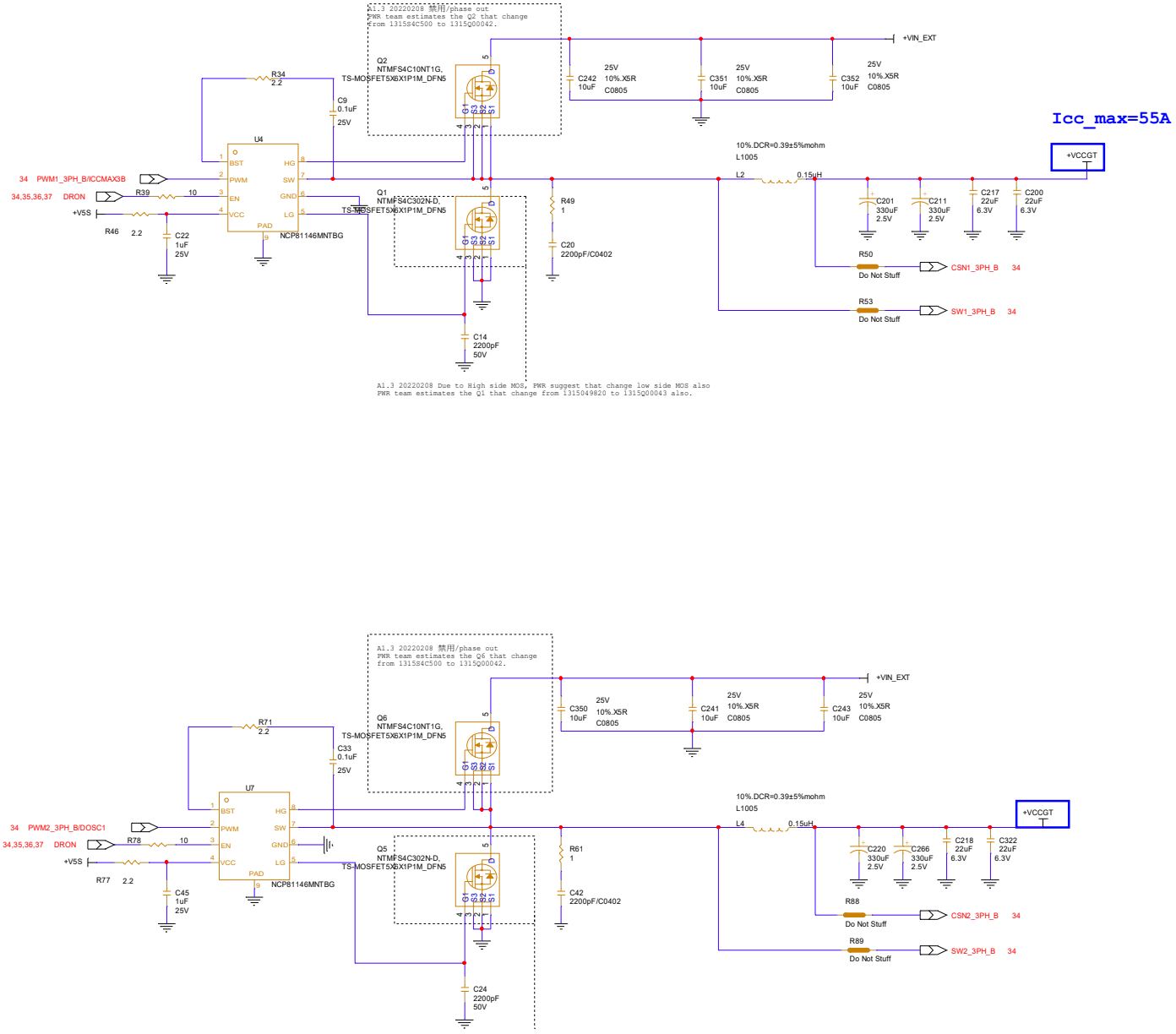
A1.3 wTPM

AAEON an ASUS assoc. co.

Title: 33) IMVP8 VCORE

Size	Document Number	Rev.
C	COM-SKHB6	A0.2

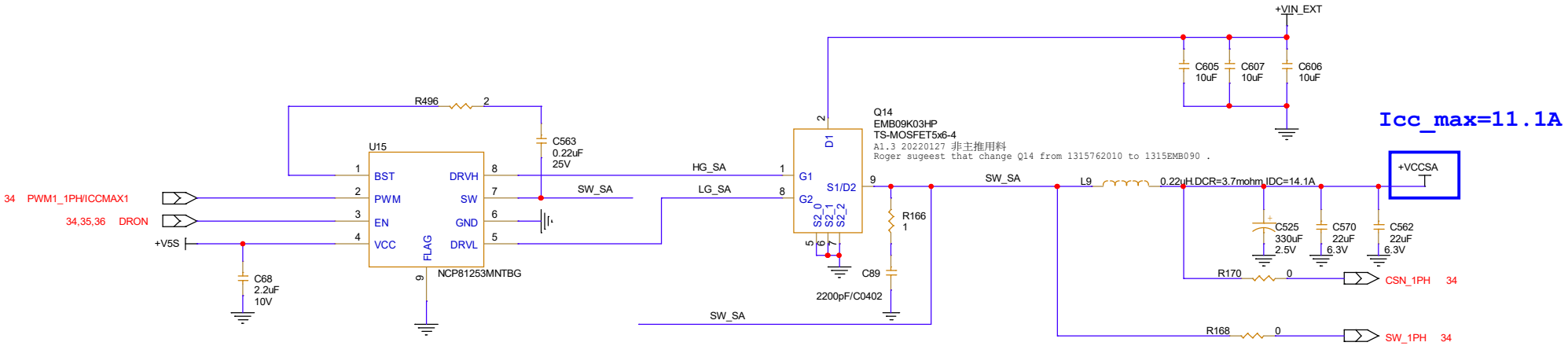
Date: Thursday, June 02, 2022 | Sheet: 35 of 41



A1.3 wTPM

AAEON an ASUS assoc. co.

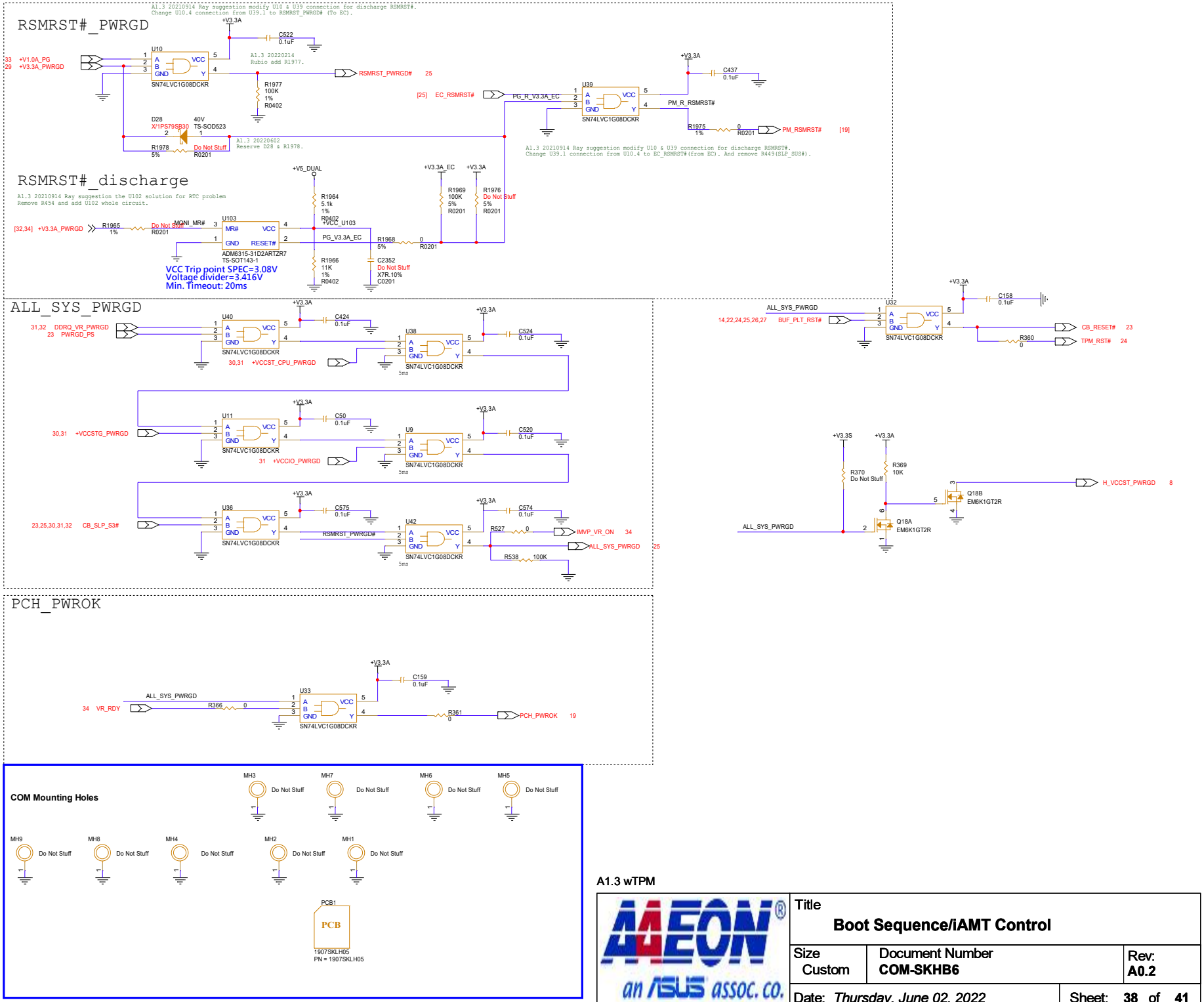
Title: IMVP8 VCCGT		
Size: C	Document Number: COM-SKHB6	Rev: A0.2
Date: Thursday, June 02, 2022	Sheet: 36 of 41	



A1.3 wTPM

AAEON an ASUS assoc. co.

Title: IMVP8 VCCSA		
Size: B	Document Number: COM-SKHB6	Rev: A0.2
Date: *Thursday, June 02, 2022*	Sheet: 37 of 41	


RSMRST#_PWRGD
A1.3 20210914 Ray suggestion modify U10 & U39 connection for discharge RSMRST#.
Change U10.4 connection from U39.1 to RSMRST_PWRGD# (To EC).
+V3.3A
C522
0.1uF
U10
SN74LVC1G08DCKR
33 +V1.0A_PG
29 +V3.3A_PWRGD
A1.3 20220214
Rubio add R1977.
RSMRST_PWRGD# 25
R1977
100K
1%
R0402
D28
X/1PS79SB30
40V
TS-SOD523
R1978
5%
Do Not Stuff
R0201
A1.3 20220602
Reserve D28 & R1978.
[25] EC_RSMRST#
PG_R_V3.3A_EC
U39
SN74LVC1G08DCKR
PM_R_RSMRST#
C437
0.1uF
R1975
1%
0
R0201
PM_RSMRST# [19]
A1.3 20210914 Ray suggestion modify U10 & U39 connection for discharge RSMRST#.
Change U39.1 connection from U10.4 to EC_RSMRST#(from EC). And remove R449(SLP_SUS#).
RSMRST#_discharge
A1.3 20210914 Ray suggestion the U102 solution for RTC problem
Remove R454 and add U102 whole circuit.
+V5_DUAL
R1964
5.1k
1%
R0402
+VCC_U103
[32,34] +V3.3A_PWRGD
R1965
1%
Do Not Stuff
R0201
MGNI_MR#
U103
MR#
GND
VCC
RESET#
ADM6315-31D2ARTZR7
TS-SOT143-1
PG_V3.3A_EC
R1968
5%
0
R0201
+V3.3A_EC
R1969
100K
5%
R0201
R1976
Do Not Stuff
5%
R0201
R1966
11K
1%
R0402
C2352
Do Not Stuff
X7R 10%
C0201
VCC Trip point SPEC=3.08V
Voltage divider=3.416V
Min. Timeout: 20ms
ALL_SYS_PWRGD
31,32 DDRQ_VR_PWRGD
23 PWRGD_PS
U40
SN74LVC1G08DCKR
C424
0.1uF
30,31 +VCCST_CPU_PWRGD
U38
SN74LVC1G08DCKR
C524
0.1uF
5ms
30,31 +VCCSTG_PWRGD
U11
SN74LVC1G08DCKR
C50
0.1uF
31 +VCCIO_PWRGD
U9
SN74LVC1G08DCKR
C520
0.1uF
5ms
23,25,30,31,32 CB_SLP_S3#
U36
SN74LVC1G08DCKR
C575
0.1uF
RSMRST_PWRGD#
U42
SN74LVC1G08DCKR
C574
0.1uF
5ms
R527
0
IMVP_VR_ON 34
ALL_SYS_PWRGD 25
R538
100K
ALL_SYS_PWRGD
14,22,24,25,26,27 BUF_PLT_RST#
U32
SN74LVC1G08DCKR
C158
0.1uF
CB_RESET# 23
R360
0
TPM_RST# 24
+V3.3S
R370
Do Not Stuff
R369
10K
Q18B
EM6K1GT2R
Q18A
EM6K1GT2R
ALL_SYS_PWRGD
H_VCCST_PWRGD 8
PCH_PWROK
ALL_SYS_PWRGD
34 VR_RDY
R366
0
U33
SN74LVC1G08DCKR
C159
0.1uF
R361
0
PCH_PWROK 19
COM Mounting Holes
MH3 Do Not Stuff
MH7 Do Not Stuff
MH6 Do Not Stuff
MH5 Do Not Stuff
MH9 Do Not Stuff
MH8 Do Not Stuff
MH4 Do Not Stuff
MH2 Do Not Stuff
MH1 Do Not Stuff
PCB1
PCB
1907SKLH05
PN = 1907SKLH05
A1.3 wTPM
AAEON
an ASUS assoc. co.
Title
Boot Sequence/iAMT Control
Size
Custom
Document Number
COM-SKHB6
Rev:
A0.2
Date: Thursday, June 02, 2022
Sheet: 38 of 41

COM-SKHB6 Revision History

01. Project code: TBD
02. Model name: COM-SKHB6
03. Model revision: A1.3_0_0
04. 96-Level: TBD
05. PCB P/N: 1907SKLH05
06. PCB thickness: 2.0 mm
07. PCB stackup: 12 Layer
08. Panelization: TBD
09. PCB VIA: NON-HDI
10. Material: TBD
11. PCB Dimension: TBD

*U19 is PCH. Must modify the BOM when create BOM.
*U6 is CPU. Must modify the BOM when create BOM.

Revision History Page 1

Item	Page #	Title	Date	Request Owner	Issue Description	Solution Description	Rev.	Bug ID
1		First Release	2015/	HW			A1.0	
2	30	Phase Out	2021/05/18	HW	The part is phase out.	Change C10 from 11EB522010 to 11E9622052.	A1.3	
3		ePLM	2021/05/18	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 1121501691 to 1121501690 for C5,C21,C32,C83,C290,C378,C395,C494,C591,C661, C662,C684,C690,C705,C706,C715,C719,C720,C721, C723,C728,C729,C732.	A1.3	
4		ePLM	2021/05/18	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 11E9610080 to 1129610080 for C6,C23,C496,C598,C740.	A1.3	
5		ePLM	2021/05/18	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 11E9501091 to 11EB501040 for C7,C15,C75,C91,C98,C110,C126,C136,C185,C192,C261, C296,C297,C398,C426,C512,C527,C538,C547,C549,C550 ,C554,C558,C566,C568,C571,C576,C581,C585,C596, C602,C615,C619,C620,C643,C656,C671,C673,C683, C687,C689,C692,C724,C725.	A1.3	
6		ePLM	2021/05/18	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 11E9522790 to 1129522790 for C8.	A1.3	
7		ePLM	2021/05/18	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 1124533282 to 11A4433180 for C13.	A1.3	
8		ePLM	2021/05/18	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 11C1501080 to 11C1501030 for C31.	A1.3	
9		ePLM	2021/05/18	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 1129747091 to 1129747090 for C38,C313.	A1.3	
10		ePLM	2021/05/18	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 1129710391 to 1129710390 for C122,C212,C464	A1.3	
11		ePLM	2021/05/18	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 1129701791 to 1129701790 for C244,C265,C361,C693.	A1.3	
12		ePLM	2021/05/19	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 11C4547140 to 1124547190 for C276,C391	A1.3	
13		ePLM	2021/05/19	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 11E4433090 to 1124433090 for C735.	A1.3	
14		ePLM	2021/05/19	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 1651526001 to 16515X0003 for DIMM2	A1.3	
15		ePLM	2021/05/19	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 12123A0009 to 12123A000E for FB7. 非主推用料/價格不具優勢	A1.3	
16		ePLM	2021/05/19	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 121112207G to 1211122079 for L1.	A1.3	
17		ePLM	2021/05/19	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 1907SKLH01 to 1907SKLH05 for PCB1.	A1.3	
18		ePLM	2021/05/19	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 1050539214 to 1050504324 for R73.	A1.3	
19		ePLM	2021/05/19	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Keeping PR1, PR2 are 1540782282.	A1.3	
20		ePLM	2021/05/19	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 1462001280 to 1462001282 for SPI1. BIOS PN:1462CSKHA0	A1.3	

COM-SKHB6 Revision History

01. Project code: TBD
02. Model name: COM-SKHB6
03. Model revision: A1.3_0_0
04. 96-Level: TBD
05. PCB P/N: 1907SKLH05
06. PCB thickness: 2.0 mm
07. PCB stackup: 12 Layer
08. Panelization: TBD
09. PCB VIA: NON-HDI
10. Material: TBD
11. PCB Dimension: TBD

*U19 is PCH. Must modify the BOM when create BOM.
*U6 is CPU. Must modify the BOM when create BOM.

Revision History Page 2

Item	Page #	Title	Date	Request Owner	Issue Description	Solution Description	Rev.	Bug ID
21		ePLM	2021/05/19	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 144SKLPCH0 to 1440QM1700 for U19.	A1.3	
22		ePLM	2021/05/19	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 14S9346000 to 14S9346001 for U31.	A1.3	
23		ePLM	2021/05/19	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 14407517A0 to 14407517A1 for U53.	A1.3	
24		ePLM	2021/10/13	HW	Due to orignal part phase out and optional function.	Change from 14909665T0 to 14909665T2 for U54.	A1.3	
25		ePLM	2021/05/19	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 14S3010700 to 1430053251 for U55	A1.3	
26		ePLM	2021/05/19	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 12310025A5 to 1231X00003 for Y3	A1.3	
27		ePLM	2021/05/19	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Change from 12310027A3 to 1231X00004 for Y4	A1.3	
28	Page 23	ePLM	2021/05/20	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	***ePLM BOM change from Capaciotr to Resistor. Change from 12310027A3 to 105B700009. ,so change C155->R763 C157->R764 C703->R765 C704->R766 C708->R768 C709->R767 C711->R769 C712->R770 C625->R777 C626->R778 C635->R771 C636->R772 C637->R773 C638->R774 C639->R775 C640->R776 C627->R779 C628->R780 C629->R781 C630->R782 C631->R783 C632->R784 C633->R785 C634->R786 And add net name DPD_LANE*_CN_*, DPC_LANE*_CN_*, DPB_LANE*_CN_*	A1.3	
29		ePLM	2021/05/20	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Confirm with Jeff C. that R757 change to unmount. ePLM R757 mount ver. A1.1 R757 unmount ver. A1.2 R757 unmount	A1.3	
30		ePLM	2021/05/20	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Confirm with Jeff C. that Q37 change to mount. ePLM Q37 unmount ver. A1.1 Q37 mount ver. A1.2 Q37 mount	A1.3	
31		ePLM	2021/05/20	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Follow ver. A1.2 that umount R162,R163,R719	A1.3	
32		ePLM	2021/05/20	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Follow ePLM / A1.1 / A1.2 Change R251 from 0 ohm to 33ohm.	A1.3	
33		ePLM	2021/05/20	HW	Follow the ePLM BOM of 9697SKLH05-S to change the parts. Standard P/N: COM-SKHB6-A10-0001	Follow ePLM BOM modification and change from SW1 to SW1(1,2OFF).	A1.3	

A1.3 wTPM

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COM-SKHB6 Revision History

01. Project code: TBD
02. Model name: COM-SKHB6
03. Model revision: A1.3_0_0
04. 96-Level: TBD
05. PCB P/N: 1907SKLH05
06. PCB thickness: 2.0 mm
07. PCB stackup: 12 Layer
08. Panelization: TBD
09. PCB VIA: NON-HDI
10. Material: TBD
11. PCB Dimension: TBD

*U19 is PCH. Must modify the BOM when create BOM.
*U6 is CPU. Must modify the BOM when create BOM.

Revision History

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.	Bug ID
34	31	ePLM	2021/05/26	HW	Cuz the purchaser don't suggest the component and the price is not competitive.	Change FB7 from 12123A00B to 12123A000E.	A1.3	
35	25	A1.2	2021/05/27	HW	Follow A1.2 modification	C567 move close to FB2/U16.5	A1.3	
36	25	A1.2	2021/05/27	HW	Follow A1.2 modification	C100 unmount	A1.3	
37	25	A1.2	2021/05/27	HW	1. Follow A1.2 modification 2. Richard requset	1. Unmount R604 & add R1961. 2. Add R1962 (unmout).	A1.3	
38	25	A1.2	2021/05/27	HW	Follow A1.2 modification	Orignal A1.2 add U100 circuit, but Ray suggest that remove U100 whole circuit and add new design.	A1.3	
39	30	A1.2	2021/05/27	HW	Follow A1.2 modification	1. Move C641 to U51.2 pin and unmount C641. 2. Imoport the whole Q8/Q41/Q42 ciruit 3. Imoport the whole U101/Q44 ciruit 4. Additionally add D26 for A1.3.	A1.3	
40	30	A1.2	2021/05/27	HW	Follow A1.2 modification	Change R753 & R752 PWR rail from +V5_DUAL to +V3.3S for right PWR rail.	A1.3	
41	30	A1.2	2021/05/27	HW	Follow A1.2 modification	Add Board ID (R1953~R1956)	A1.3	
42	24	PWR rail	2021/05/27	HW	Change to correct PWR rail.	Change from +V3.3S to +V3.3A_EC. Change R682 & R699 from 47K to 10K and keep unmounting.	A1.3	
43	23	PWR rail	2021/06/04	HW	Remove A1.1 design for PCB spacing.	Remove R1947 (0ohm) for DPD_HPD.	A1.3	
44	14	PWR rail	2021/06/04	HW	follow A1.1 & A1.2 design	Change U50.5 from +V3.3S to +V3.3A.	A1.3	
45	19	PWR rail	2021/06/04	HW	follow A1.1 & A1.2 design	Change BA11 from EC_RSMRST# to PM_RSMRST#	A1.3	
46	23	PWR rail	2021/06/04	HW	follow A1.1 & A1.2 design	Change NET from +V5A1 to +V5_SBY	A1.3	
47	24	PWR rail	2021/06/04	HW	follow A1.1 & A1.2 design	Change Q43 from 1315EM6K10 to 1315013810.	A1.3	
48	25	PWR rail	2021/06/04	HW	follow A1.1 & A1.2 design	Change Q25 to 1315013810.	A1.3	
49	25	PWR rail	2021/06/04	HW	follow A1.1 & A1.2 design	FSCK & FSCK_F connect to Q26B	A1.3	
50	27	PWR rail	2021/06/04	HW	follow A1.1 & A1.2 design	Change R753 & R752 PWR rail from +V5_DUAL to +V3.3S.	A1.3	
51	27	PWR rail	2021/06/04	HW	follow A1.1 & A1.2 design	Change from VCC_1V2 to +VCC_1V2.	A1.3	
52	30	PWR rail	2021/06/04	HW	follow A1.1 & A1.2 design	Reserve C1088	A1.3	
53	38	ESS	2021/09/14	HW	Ray suggestion that add accelerated discharge RSMRST# ciruit for RTC problem and modify U10 & U39 connection for discharge RSMRST#.	Remove R454 and add U102 whole circuit. And remove R449. Change U39.1 connection from U10.4 to EC_RSMRST#(from EC). Change U10.4 connection from U39.1 to RSMRST_PWRGD# (To EC).	A1.3	
54	25	禁用/ 一物二號	2021/09/08	HW	Follow A1.2 modification	Change C648,C688,C695, C707,C722,C731, C733,C736,C737 from 11EA610030 to 11EB610050.	A1.3	
55	24	禁用	2021/09/08	HW	part EOL	Change LPC1 from 1655912032 to 1655X00036.	A1.3	
56	28	禁用	2021/09/13	HW	料件縮減禁用	PWR team estimates the Q23 that change from 1315D4C500 to 1315036640 (Non-P2P).	A1.3	
57	35, 36	禁用	2021/09/13	HW	禁用/phase out	PWR team estimates the Q11,Q13,Q2,Q6 that change from 1315S4C500 to 1315Q00042. Due to PWR suggestion, PWR team estimates the Q9,Q12,Q1,Q5 that change from 1315049820 to 1315Q00043 also.	A1.3	
58	26	ESS	2021/09/14	HW	Ray suggestion PTN3460 pin 12 for Windows control	Connect EDP_BKLT_CTRL to PTN3460 pin12 through R1971	A1.3	
59	29, 38	Discharge	2021/09/15	HW	Add discharge circuit for +V3.3A	1. Unmount R387. 2. move R373 and connect to U102.4 pin. 3. Add U102/U142 discharge +V3.3A circuit. 4. Add D27 for discharging RSMRST#. 5. Add D28 for discharge path.	A1.3	
60	26	PCB space	2021/09/16	HW	Saving PCB space and smooth routing.	Remove R375 (SLP_SUS#). Change R372 package from 0402 to 0603.	A1.3	
61	30	A1.0	2021/09/23	HW	Follow A1.0.	Add 0.1uF(C2353) back.	A1.3	
62	28	Forbidden	2021/10/27	HW	禁用/phase out	After the result of PWR EE measurement, change R211 from 56.2k(105A556229) to 35.7k(0402) for ocp adjust.	A1.3	
63	34	Dr.MOS EOL	2021/10/27	HW	After verifing Dr.MOS, change OCP value.	Horse suggest that Change R440 From 18K(0402) to 16K (0402) for OCP adjust	A1.3	
64	19, 20, 26 ,15, 31, 30	Componets	2022/01/26	HW	非主推用料	Tina suggested that 1.Change CN5 from 1655902122 to 1655802133. 2.Change FB4/FB5/FB10 from 1212306030 to 12123C000E. 3.Change Y2 from 12310024A2 to 12310024A5. And change C102 and C105 from 1124418090 to 11A4312041 after vendor's verification. 4.Roger sugeest that change Q14, Q20 from 1315762010 to 121110687E . 5.Roger sugeest that change L6 from 1211106877 to 121110687E . 6. Remove R117 (+VCCST_CPU_PWRGD) for saving PCB space. 7.Change R146 to 0402 size for RD debug use.	A1.3	

A1.3 wTPM

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