

PG190-A02

GA104/GA106 GB5256

DP + DP + DP + HDMI/DP

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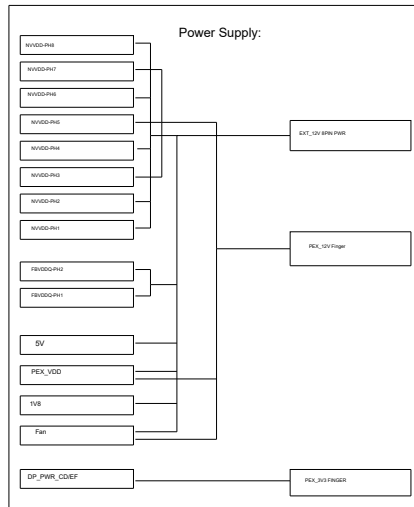
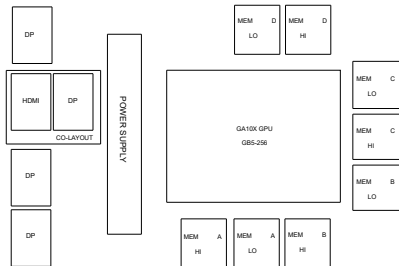
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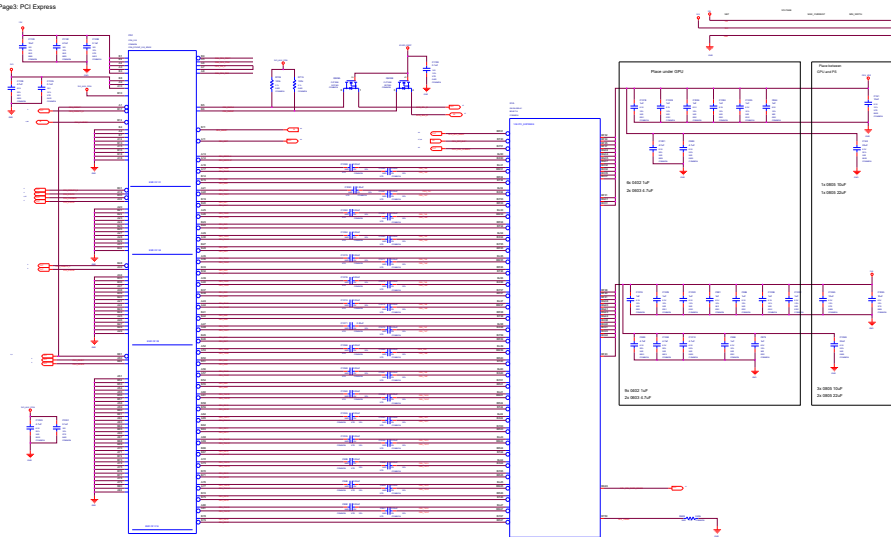
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TUF-RTX3060TI-O8G-GAMING



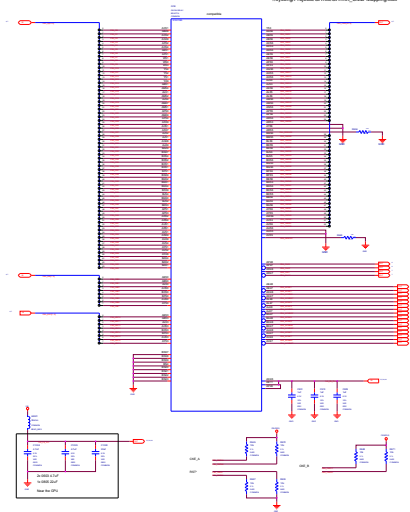
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Size	Project Name	Rev	
Custom	CG190P1	1.00	
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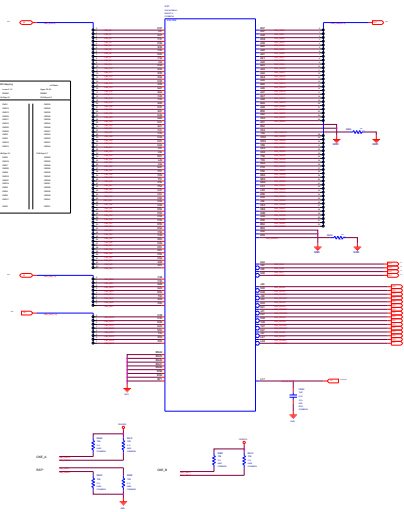


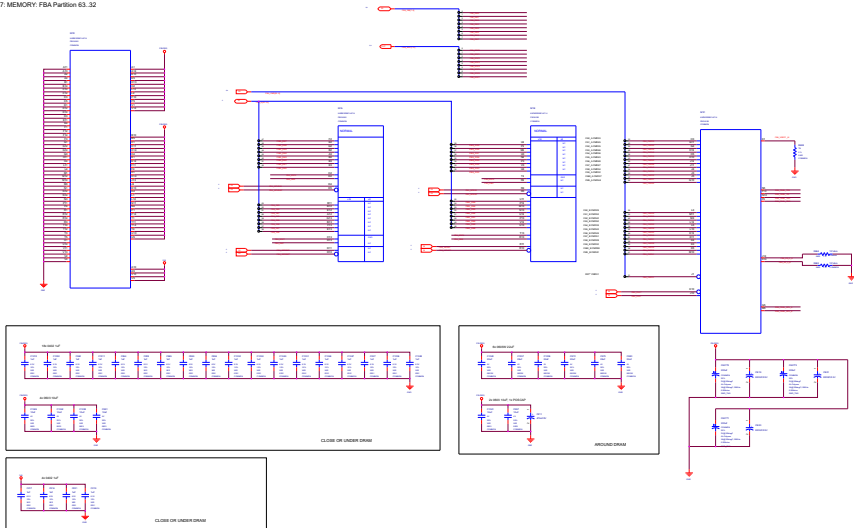


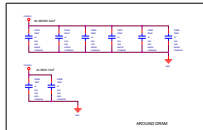
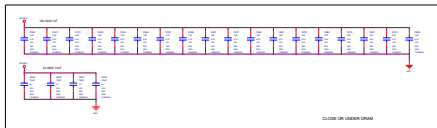
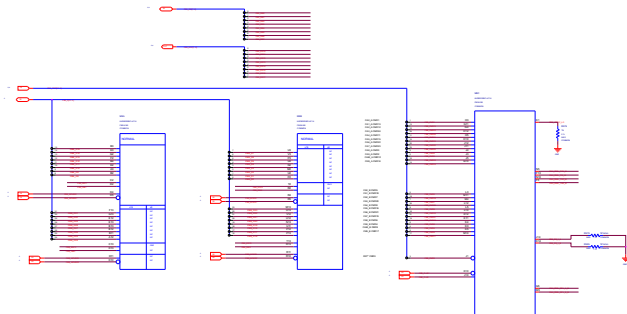
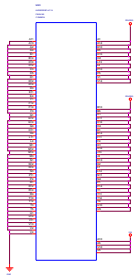
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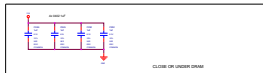
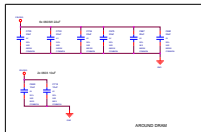
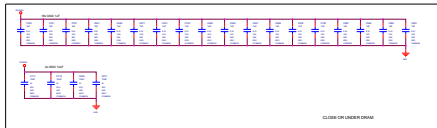
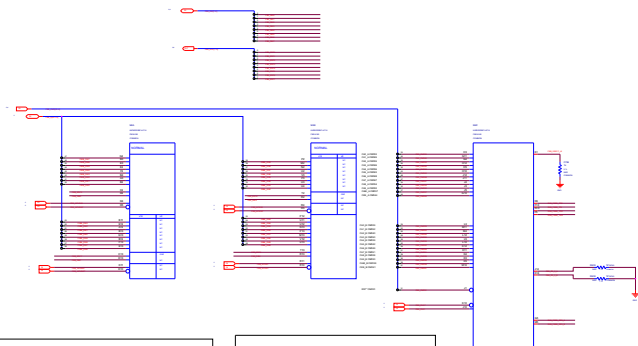
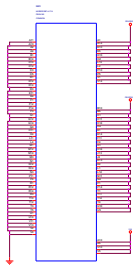


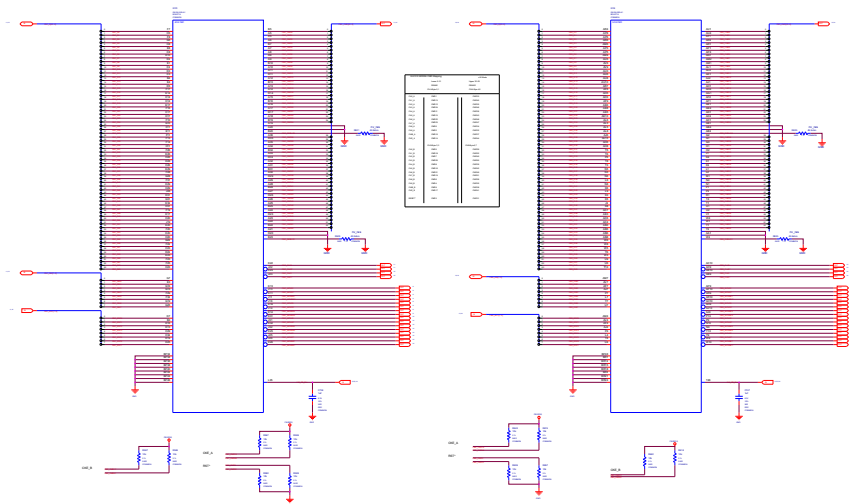
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0x0000000C	GPU_A
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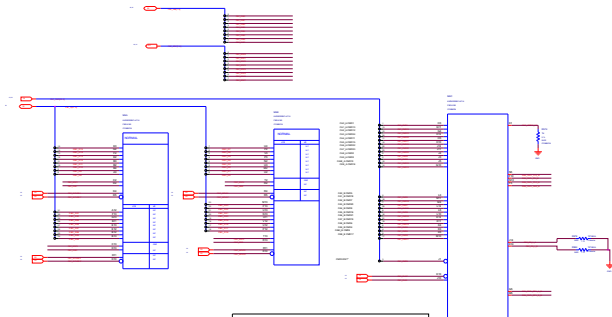
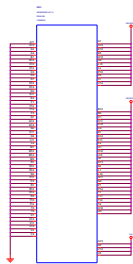




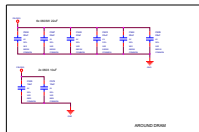








CLOSE OR UNDER DRAM

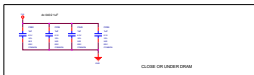
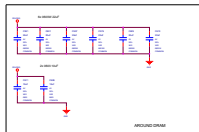
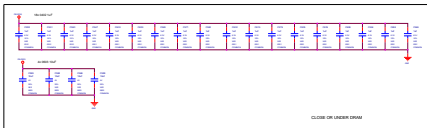
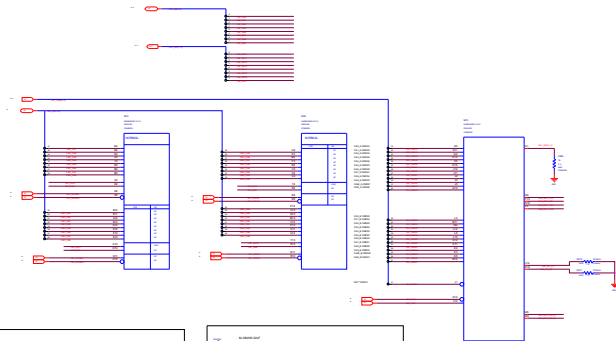
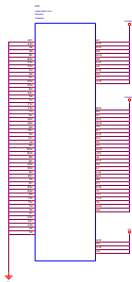


AROUND DRAM

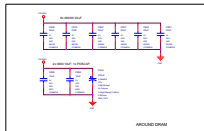
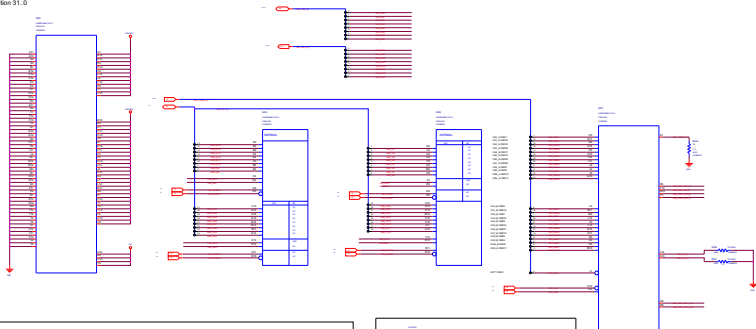


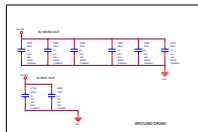
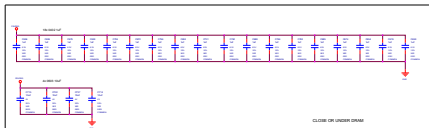
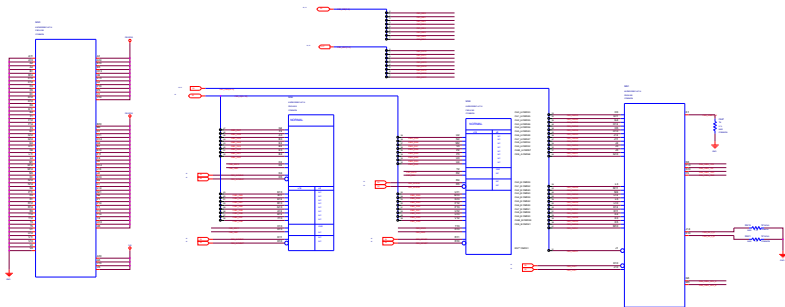
CLOSE OR UNDER DRAM

ASUS		Title :	
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Size	Project Name	Rev	
Custom	CG190PI	1.00	
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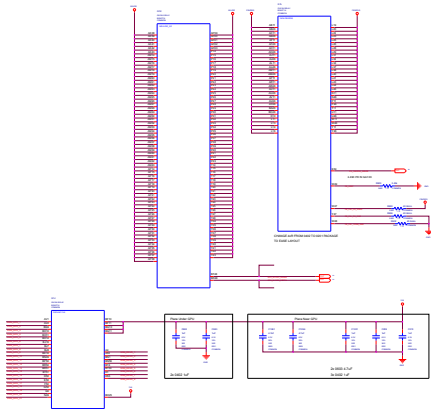
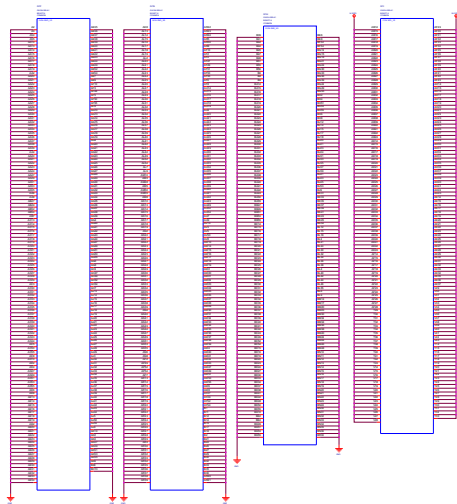


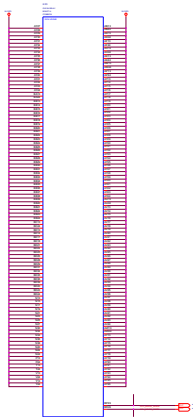
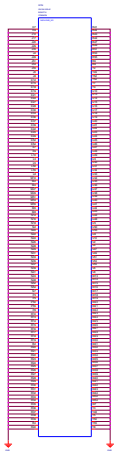
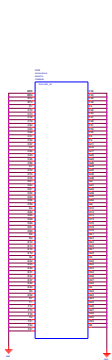
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Originator		Engineer: Kenny_Chih	
Size	Project Name	CG190PI	Rev 1.00
Custom			
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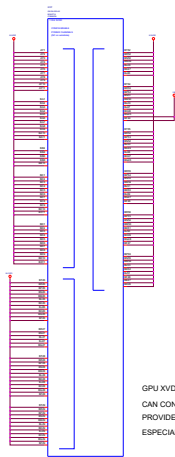




ASUS		Title :	
Engineer: Kenny_Chih			
Size	Project Name		
Custom	CG190PI		
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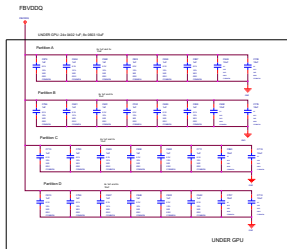




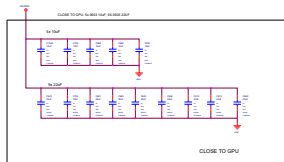
GPU XVDD BALLS (NC IN SUBSTRATE):

CAN CONNECT TO ANY POWER NET (NV/MS/1V8/PEX, etc.) ON SYSTEM BOARD,
PROVIDE FLEXIBILITY TO OPTIMIZE POWER CHANNELS ON SYSTEM BOARD,
ESPECIALLY USEFUL FOR LOW-COST DESIGN WITH REDUCED PCB LAYERS.

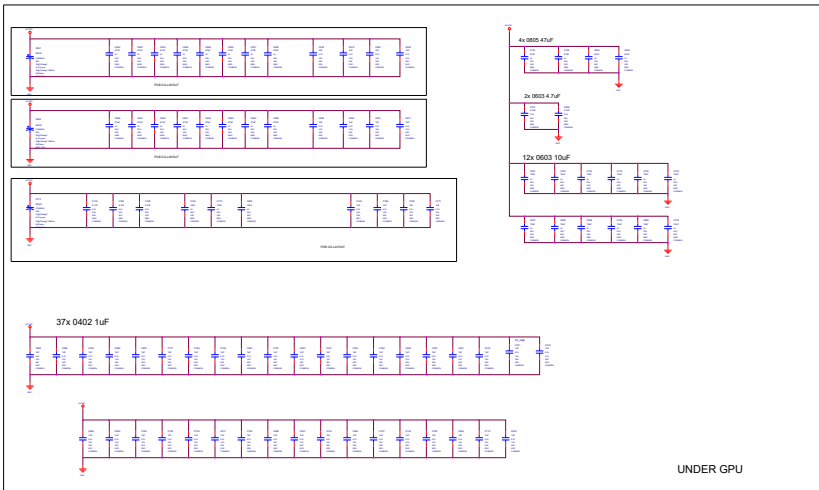
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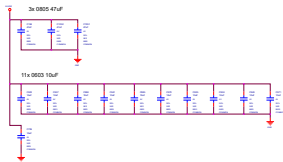
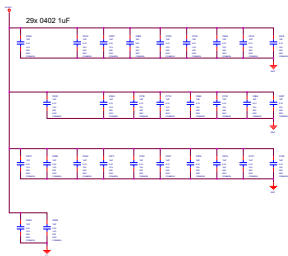
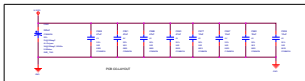


FBVDDQ

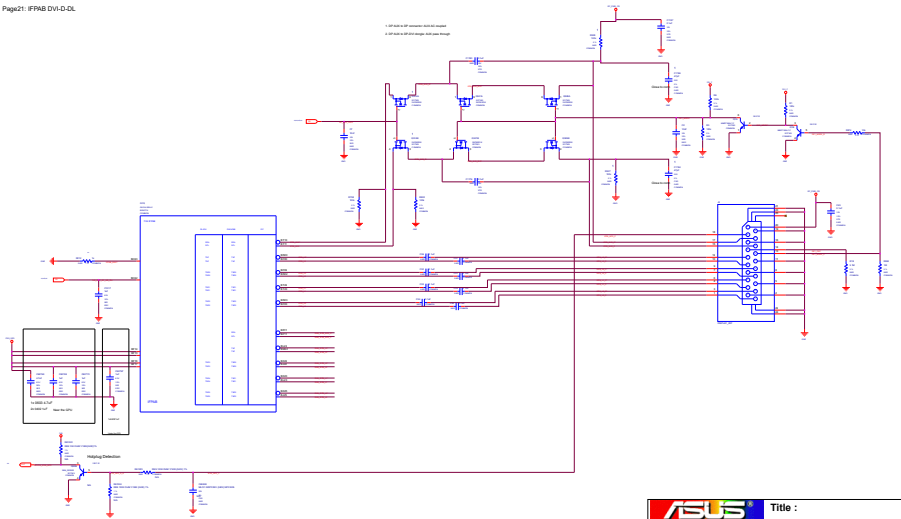


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Size	Project Name	Rev	
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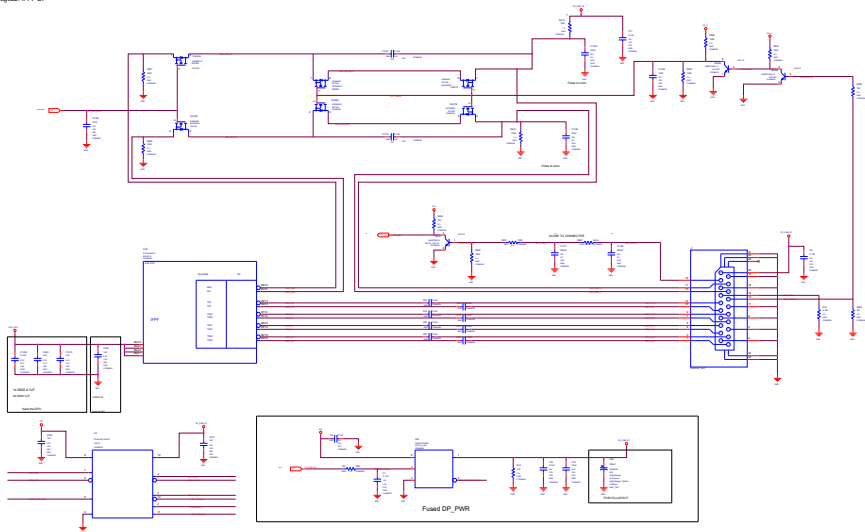


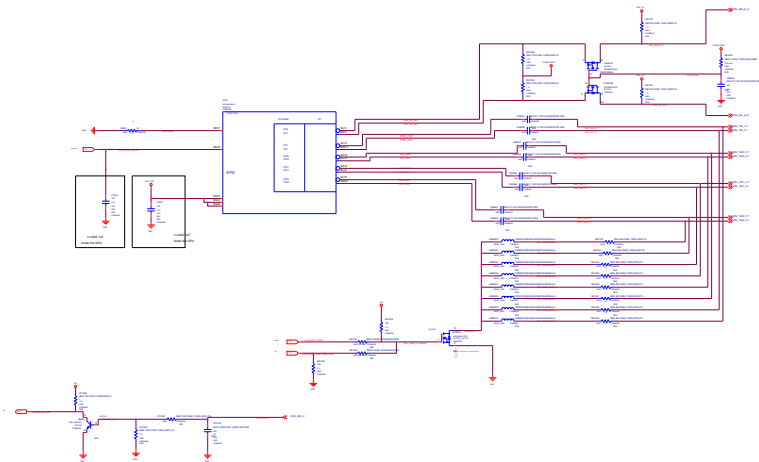


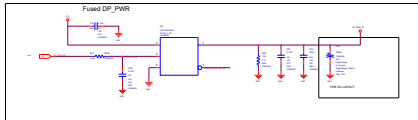
UNDER GPU

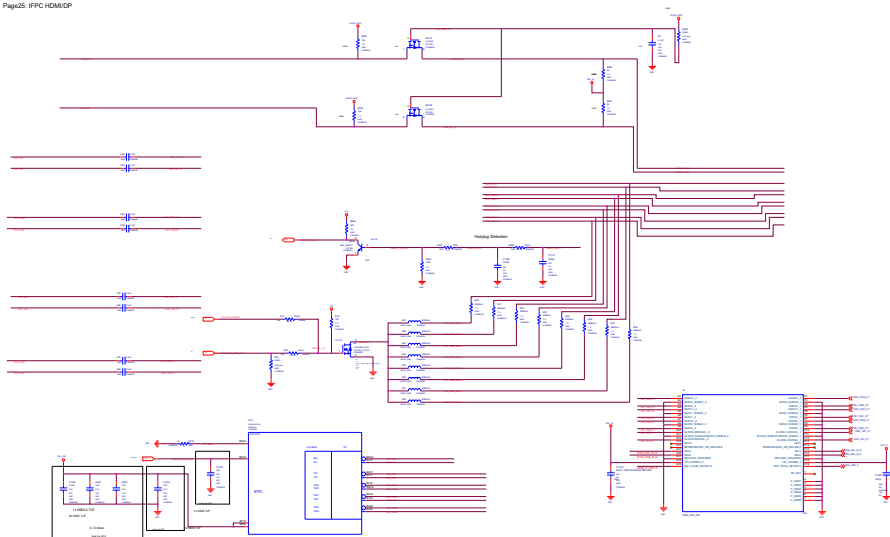


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-Organization-		Engineer: Kenny_Chih	
Size	Project Name	CG190PI	Rev 1.00
Custom			
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PartID/Qty	DENSITY	WGT/IN	VENDOR	QTY
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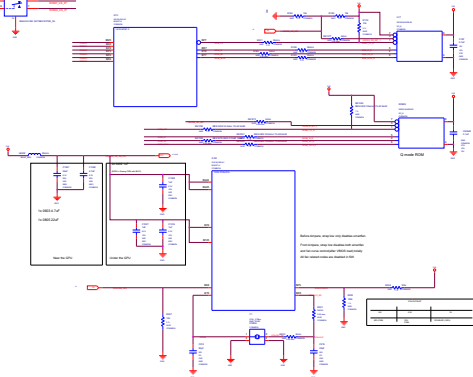
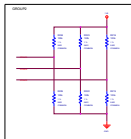
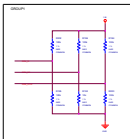
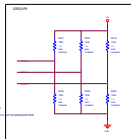
RCM_ID	RCM_N	RCM_RCM	INSTTYPE of FR_OVERT	I Enable IDisable
H	H	H	0x7	FR_OVERT enable
L	H	L	0x0	FR_OVERT disable

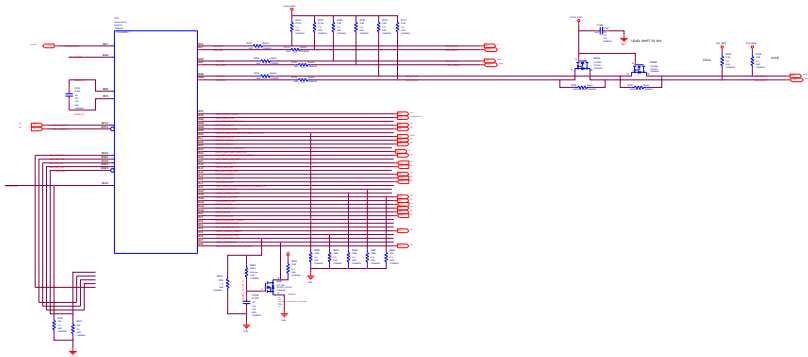
[illegible]

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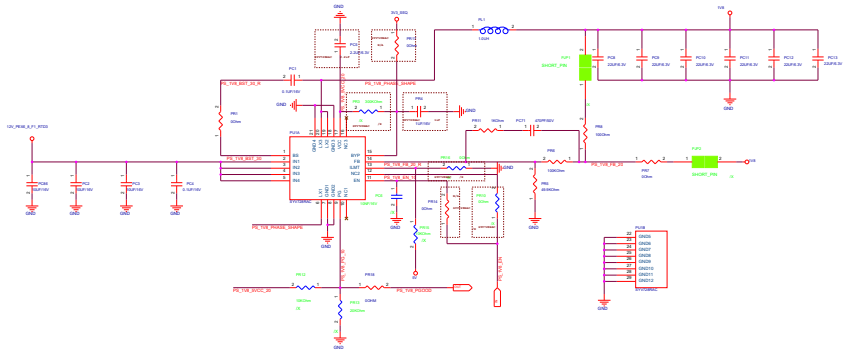
I PCIe_CFGLOW POWER
O PCIe_CFGHIGH POWER
I VGA_DEVICE ENABLE
O VGA_DEVICE DISABLE

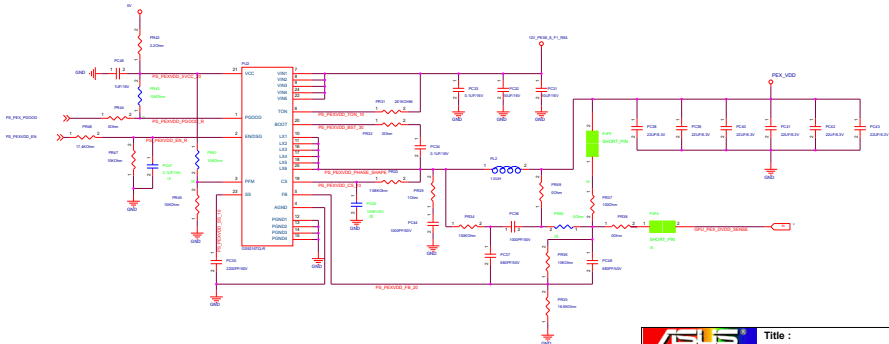
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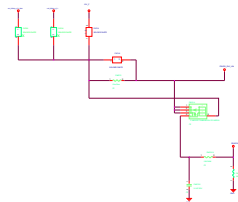
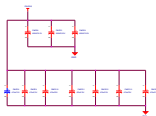
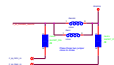
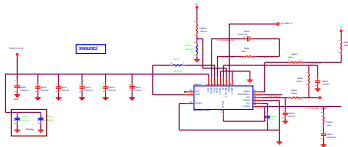
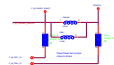
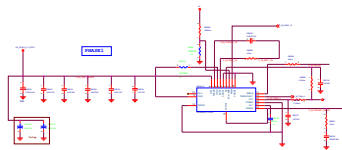


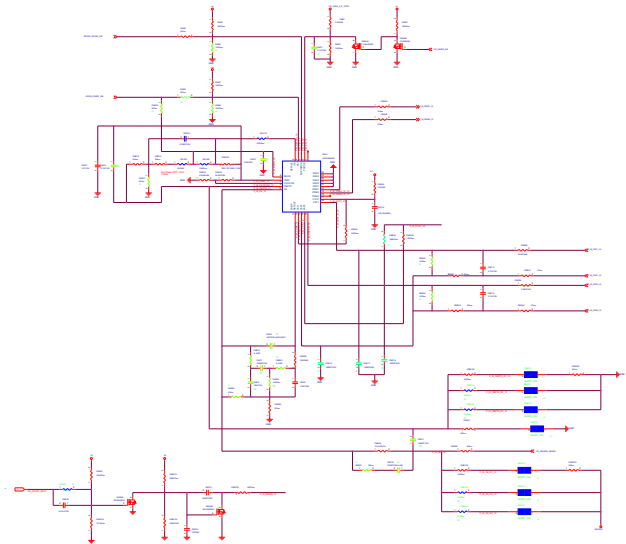
ASUS		Title :	
--Originator		Engineer: Kenny_Chieh	
Size	Project Name	Rev	
Custom	CG190PI	1.00	
Date: Monday, August 24, 2020		Printed	27 of 91

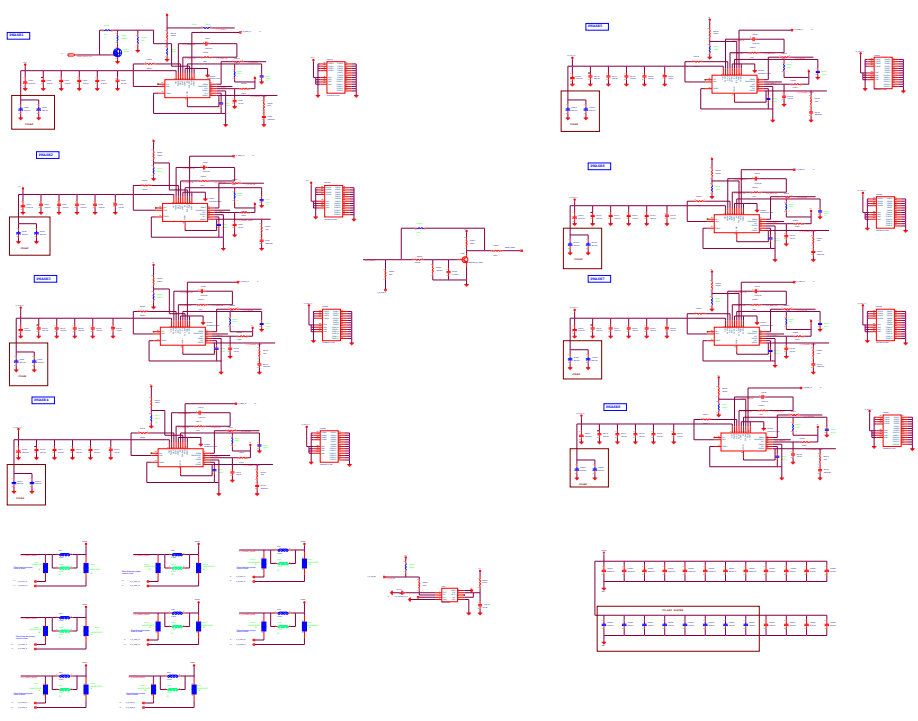




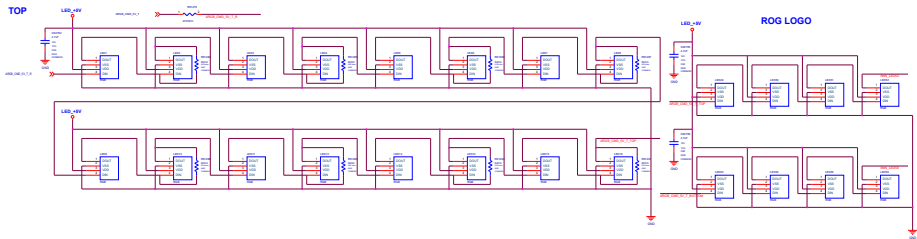
ASUS		Title :	
<OrigName>		Engineer: Kenny_Chih	
Size	Project Name	CG190PI	
Custom			
Date:	Monday, August 24, 2020	Sheet	30 of 51



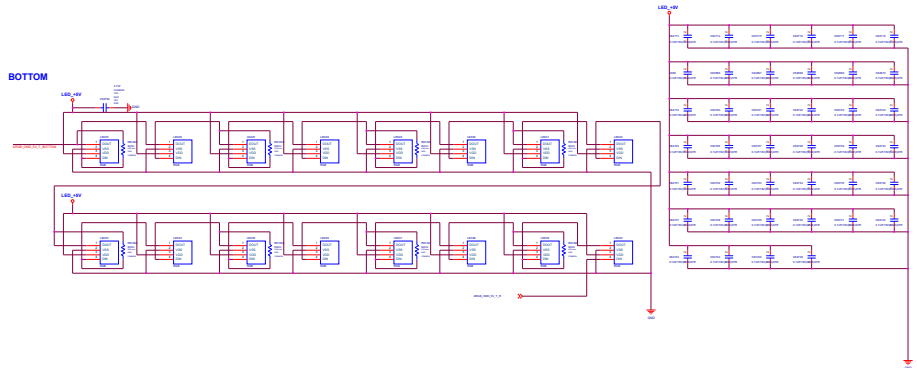


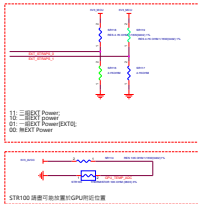
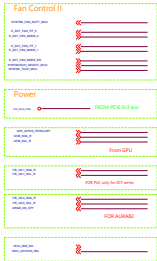
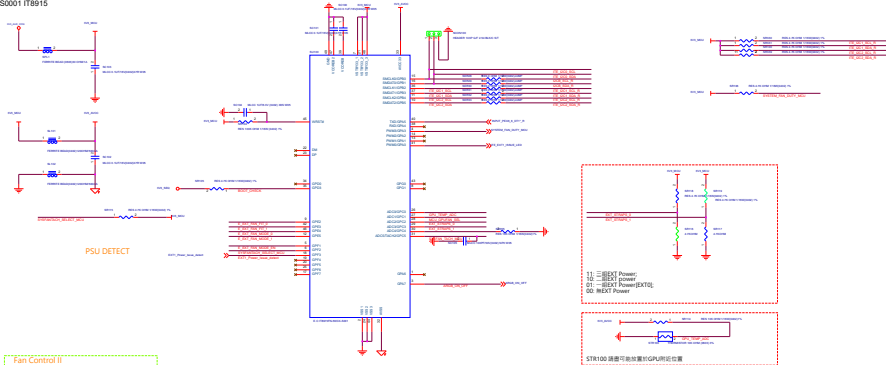


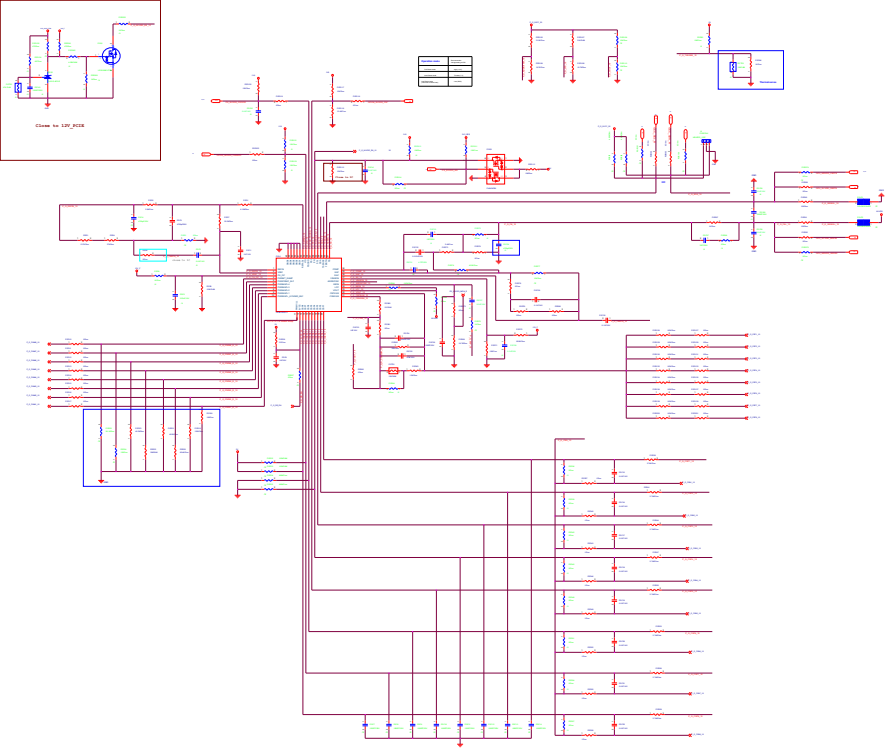
TOP



BOTTOM







Power



From 12V (for 外模式風扇使用, 任一組12V皆可)

From PCIE 3V3_AUX (for ITE)

From BUS 3V3 (for ITE logic判斷)

3v3_prot start after pex

From 5V (for 背板LED)

1V8

12V



from ite for strix to swap fan1 and fan3 tach



From EXT 0 (外部電源第一組)

PSU DETECT INPUT



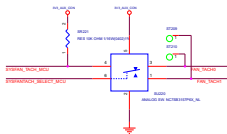
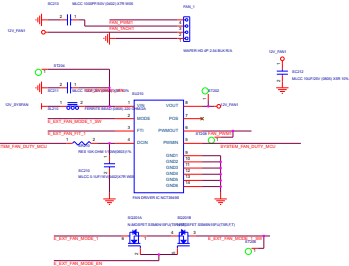
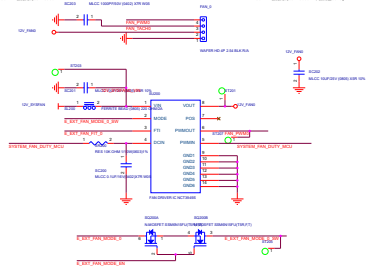
I2C

GPU I2CB Master (for ITE / ENE/NCT3933)

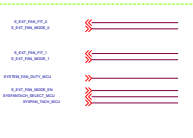
from ITE(FOR PLC ONLY)

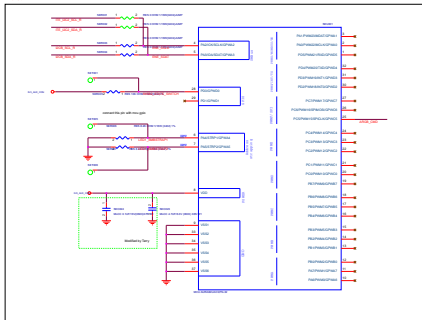
ITE I2C MASTER (FOR AURA2 /UEST COLAY)

via 链接用的connector 下面用个delay

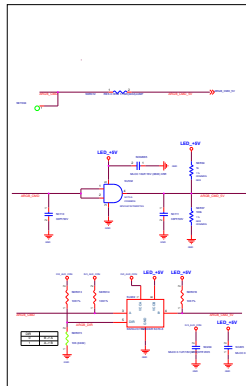
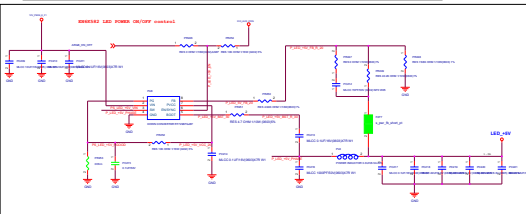


Fan Control II





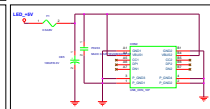
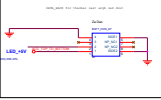
TUF and NO-ARGO Power



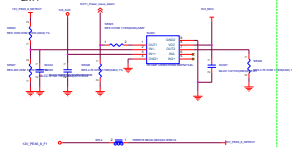
Tut angle connector



Ass Bottom angle correction



EXT1



VIN+ > 10.8V: Vout = L

VIN+ < 10.8V: Vout = Hi

$$10.8V \times 20Kohm / (100Kohm + 20Kohm) = 1.8V$$

SR301/SR311, 若僅需做組建速度檢測, 其他零件可以移除, 但SR301/SR310/SR328需上件4.7K

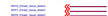


EXT12V INPUT

EXT POWER connected DETECT PIN



OUTPUT: AS ITE8915 INPUT

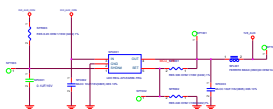


from ite8915



THE STATE OF TEXAS,)
COUNTY OF DALLAS,)
ss: I, _____,)
Notary Public in and for the State of Texas, do hereby certify that the foregoing is a true and correct copy of the original of the same as the same appears from the records of my office.

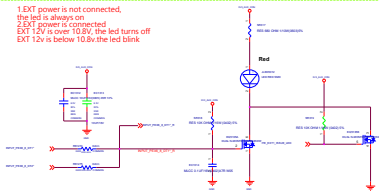
1v8_ref



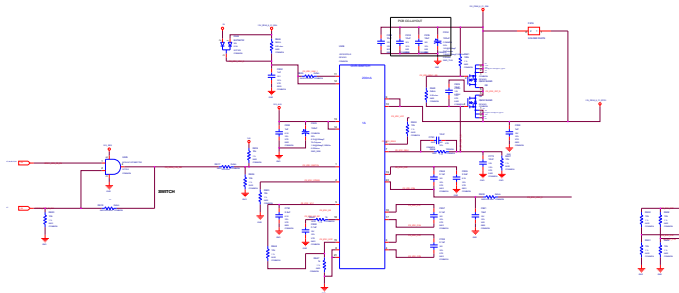
$$V_{OUT} = 0.8 \cdot \left(1 + \frac{R1}{R2} \right)$$

$$0.8 \times (1 + 30K/24K) = 1.8V$$

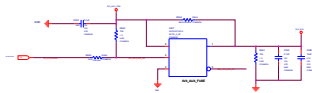
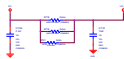
1.EXT power is not connected,
the led is always on
2.EXT power is connected
EXT 12V is over 10.8V, the led turns off
EXT 12v is below 10.8v.the led blink



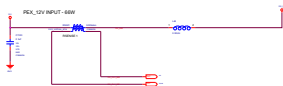
AND GATE LOGIC				SWITCH	
QND4	QND5	SWITCH	VOUT	SWITCH	VOUT
0	0	0	0V	0	VOUT = 0V0
0	1	0	0V	1	VOUT = 0V0
1	0	0	0V		
1	1	1	3V3		



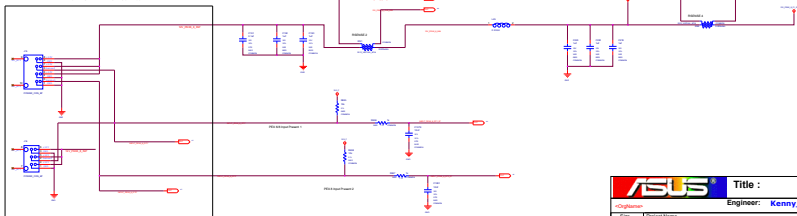
PEX3V3 INPUT - 10W



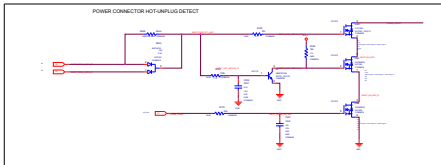
PEX_12V INPUT - 60W

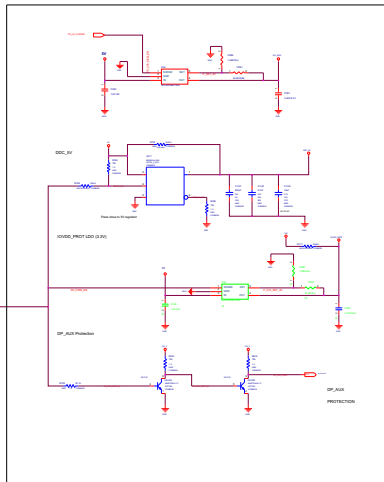
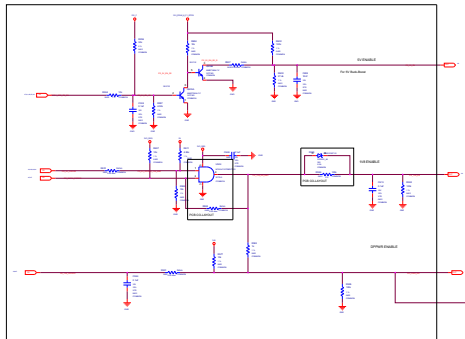


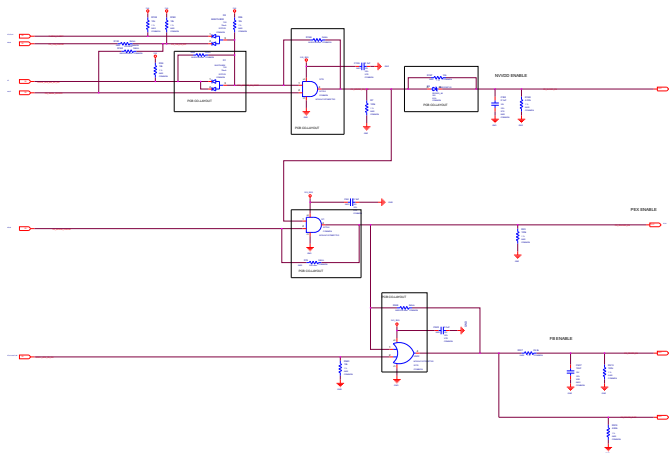
PEX8 INPUT 1 - 24x PCIe CON 150W

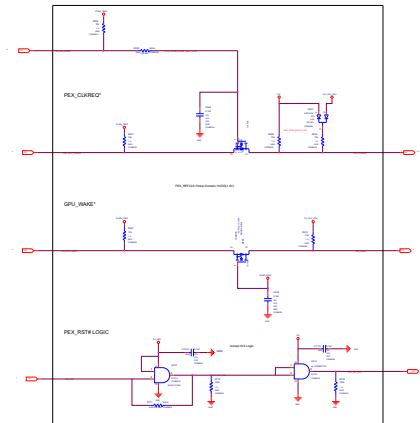


ASUS		Title :	
->Originator		Engineer: Kenny_Chih	
Size	Project Name	Rev	
Custom	CG190PI	1.00	
Date: Monday, August 24, 2020		Print	42 of 91

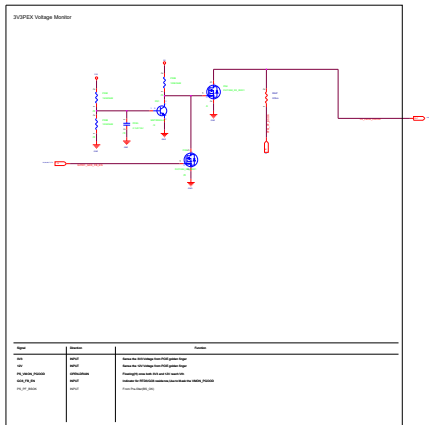


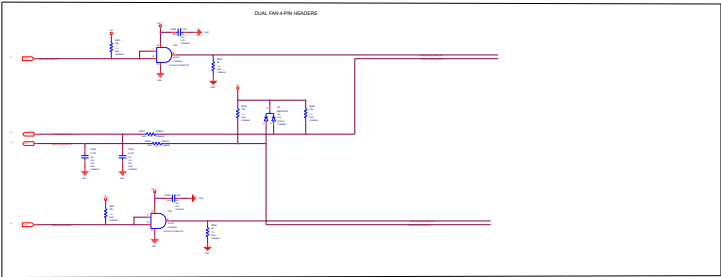
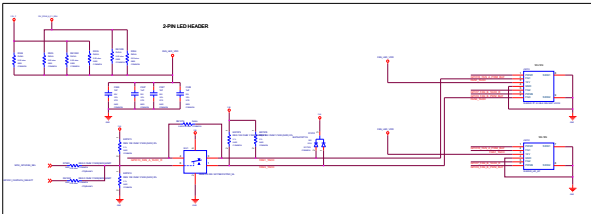


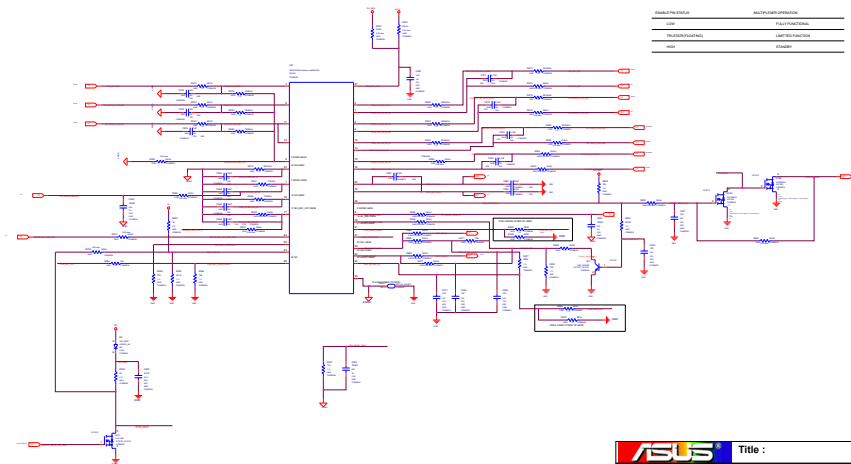




ASUS		Title :	
Originator		Engineer: Kenny_Chih	
Size	Project Name	Rev	
Custom	CG190PI	1.00	
Date: Monday, August 21, 2023		Print	48 of 91







MODE PM STATUS	MULTIPLE PM OPERATION
LOW	DEVICE A
TRUSTED (PLACING)	STAND-BY
HIGH	DEVICE B

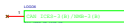
ENABLE PM STATUS	MULTIPLE PM OPERATION
LOW	FULLY FUNCTIONAL
TRUSTED (PLACING)	LIMITED FUNCTION
HIGH	STANDBY

ASUS		Title :	
Originator		Engineer: Kenny_Chih	
Size	Project Name	Rev	
Custom	CG190PI	1.00	
Date: Monday, August 21, 2006		Print	48 of 91





Re-design logo
Do not place this on reference board



CAN ICES-3 (B) / NMB-3 (B)



		Title :	
<OrigName>		Engineer: Kenny_Chih	
Size	Project Name	Rev	
Custom	CG190PI	1.00	
Date	Monday, August 16, 2021	Sheet	11 of 11