

# LCFC Confidential

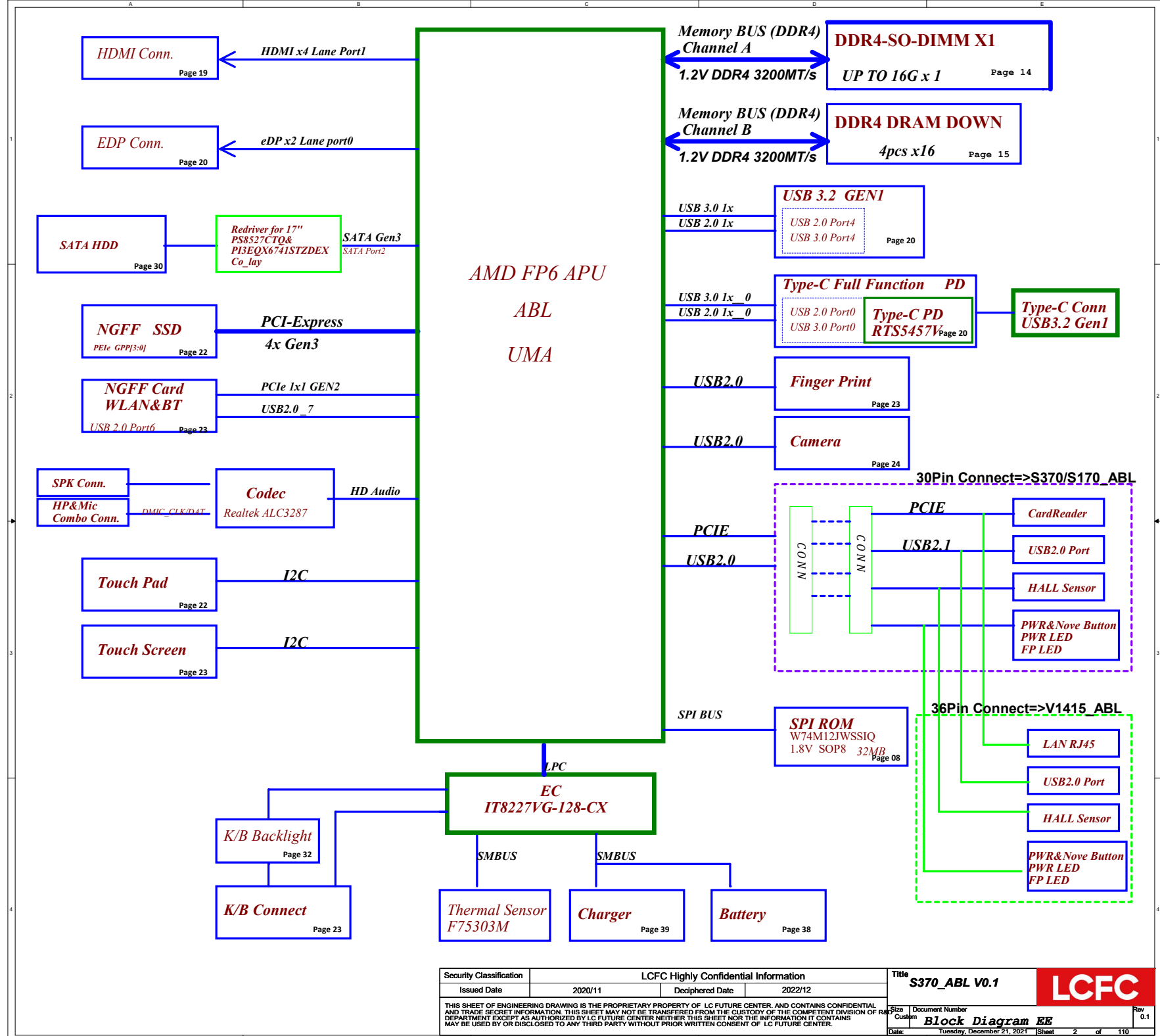
## S170&370\_ABL M/B Schematics Document

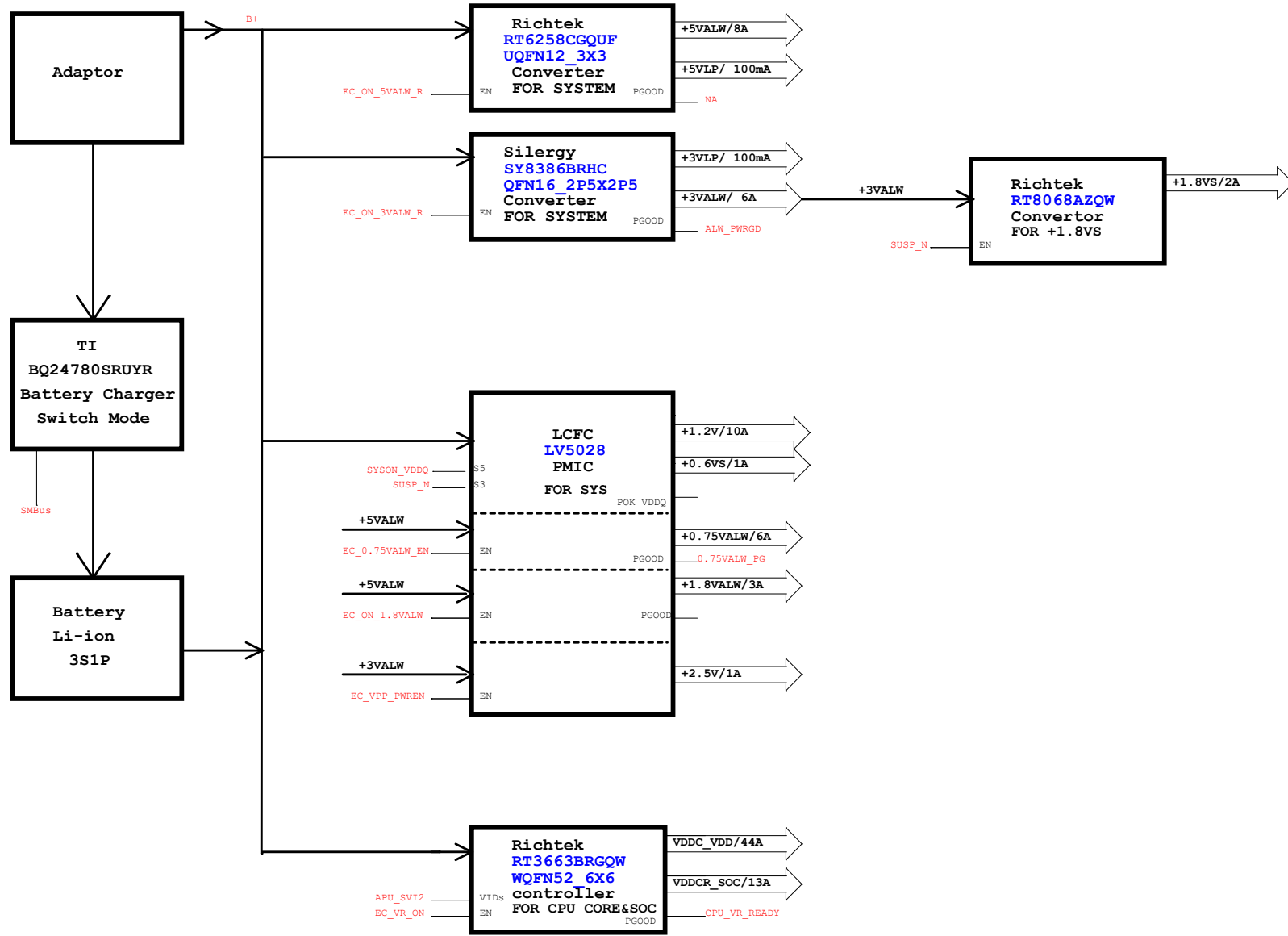
AMD FP6 ABL with DDR4

2021-04-28

REV: 0.1

Security Classification	LCFC Highly Confidential Information			Title	S370_ABL V0.1		LCFC
Issued Date	2020/11	Deciphered Date	2022/12	Size	Document Number	Rev	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				Custom	Cover Page	0.1	
Date:				Tuesday, December 21, 2021	Sheet	1 of 110	





Voltage Rails ( O --> Means ON , X --> Means OFF)

Power Plane State	B+ +3VL +5VL	+3VALW +5VALW +1.8VALW +0.75VALW		+1.2V +2.5V_DDR	+5VS +3VS +1.8VS +0.75VS +0.6VS +VDDC_VDD +VDDCR_SOC	
S0	O	O		O	O	O
S0Ix						
S3	O	O		O	X	X
S3 Battery only	O	O		O	X	X
S5 S4 AC Only	O	O		X	X	X
S5 S4 Battery only	O	X		X	X	X
S5 S4 AC & Battery don't exist	X	X		X	X	X

## HSIO Matrix

HSIO PORT	Function
USB2.0	0 Type-C USB2.0 Port 0
	1 USB3.0_P1
	2 Camera
	3 Touch Screen Change to I2C
	4 USB2.0 Port(For DB USB2.0)
	5
	6 FingerPrint
	7 BT
USB3.0	0 Type-C USB3.0 Port 0
	1 USB3.0_P1
	4 NC
	5 NC
DisPlay	0 eDP 2*Lane
	1 HDMI
	2 NC
	3 NC
PCIE/ SATA	PCIE0 LAN&Cardreader
	PCIE1 WLAN
	PCIE2/SATA0 SATA HDD
	PCIE3/SATA1 N/A
	PCIE4 N/A
	PCIE5 N/A
	PCIE6 N/A
	PCIE7 N/A
	PCIE8/SATA2
	PCIE9/SATA3 SSD
	PCIE10
	PCIE11

## SMBUS Control Table OK

Source Slave	EC IT8227C				PCH			
	EC_SMB_0 +3VS	EC_SMB_1 +3VL_EC	EC_SMB_3 +3VL_EC	EC_SMB_2 +3VL_EC	I2C0 1.8VS/3.3VS	I2C1 1.8VS/3.3VS	I2C2/SMBUS 1.8VS/3.3VS	USBC_I2C_SDA/CLK +1.8VALW
DGPU								
Memory Down	X	X	X	X	X	X	X	X
SODIMM							V 3VS	
BATT	X	V +3VL_EC	X	X	X	X	X	X
Charger	X	V +3VL_EC	X	X	X	X	X	X
WLAN	X	X	X	X	X	X	X	X
PMIC	X	X	V +3VL_EC	X	X	X	X	X
	X	X	X	X	X	X	X	X
Thermal Sensor	V +3VS	X	X	X	X	X	X	X
LPC&TS	X	X	X	X	V +3VS_CPU	X	X	X
TP	X	X	X	X	X	V 3VS	X	X
PD	X	X	X	V +3VL	X	X	X	V +1.8VALW
	X	X	X	X	X	X	X	X

## EC SMBus0 address

Device	Address
DGPU	
Thermal Sensor(NCT7718W)	
Thermal Sensor(NCT7719W)	1001_101xb
TOF	

## PCH SML0 address

Device	Address
Re-Timer	TBD

## PD I2C3 address

Device	Address
Re-Timer	TBD

## EC SMBus1 address

Device	Address
Smart Battery	0x16
Charger	0x12

## PCH SML1 address

Device	Address
PD	TBD

## EC SMBus3 address

Device	Address
IMVP9	
PMIC	0x34

## PCH ISH I2C0 address


Device	Address
TOF	
Accelerometer(MB)	001 1000b
Accelerometer(DB)	001 1001b
Light Sensor	1000 100xb

## EC SMBus4 address

Device	Address
PD	TBD

www.teknisi-indonesia.com



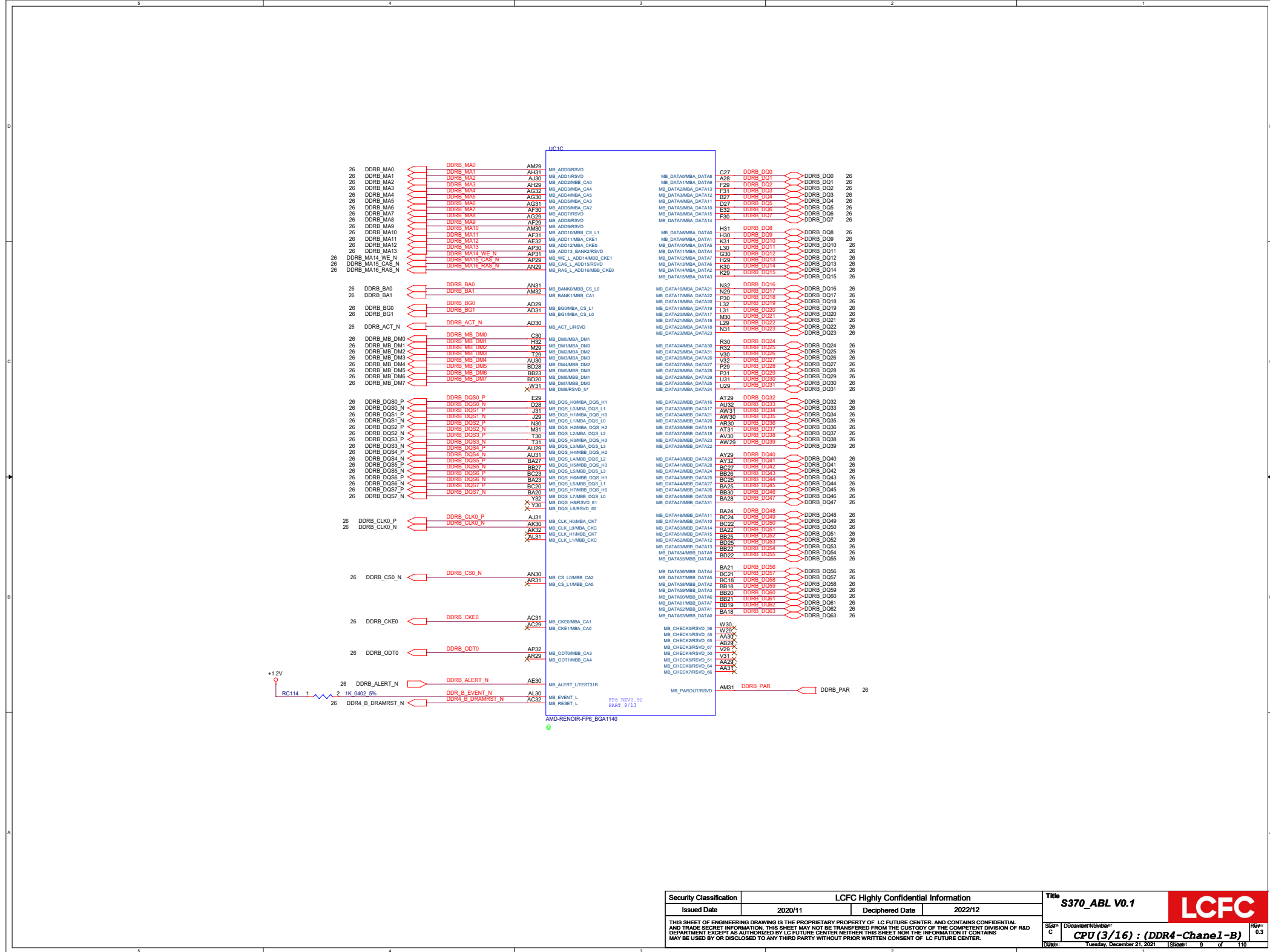
Security Classification	LCFC Highly Confidential Information			Title	S370_ABL V0.1			
Issued Date	2020/11	Deciphered Date	2022/12					
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				Size	Document Number		Rev	
				C	Notes For VGA		0.3	
				Date:	Tuesday, December 21, 2021	Sheet	5	of 110

Security Classification		LCFC Highly Confidential Information		Title		S370_ABL V0.1		LCFC	
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size	Document Number			Rev					
Scale	Notes For VGA			0.3					
Date:	Tuesday, December 21, 2021			Sheet			6 of 110		







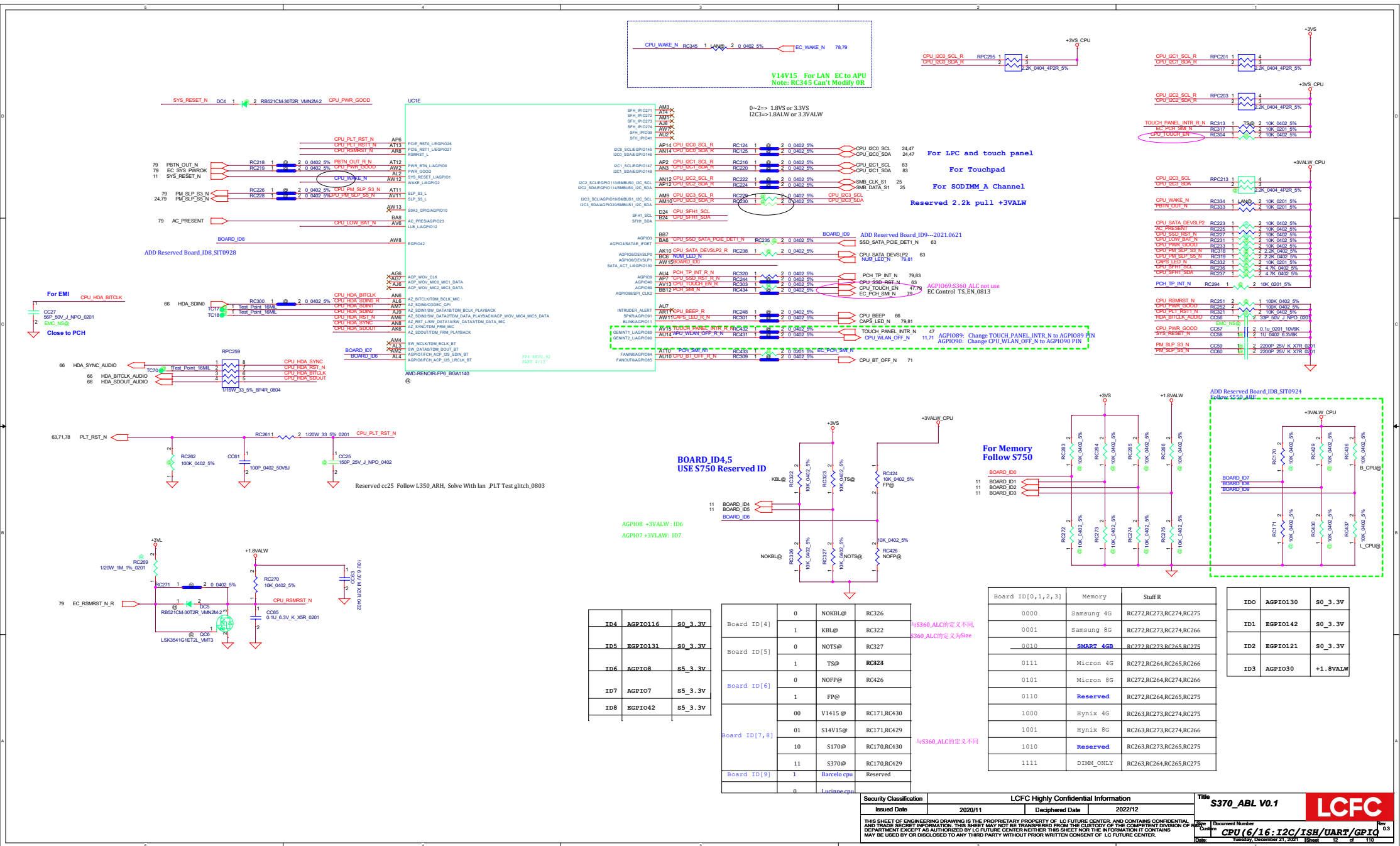


PD FW Update

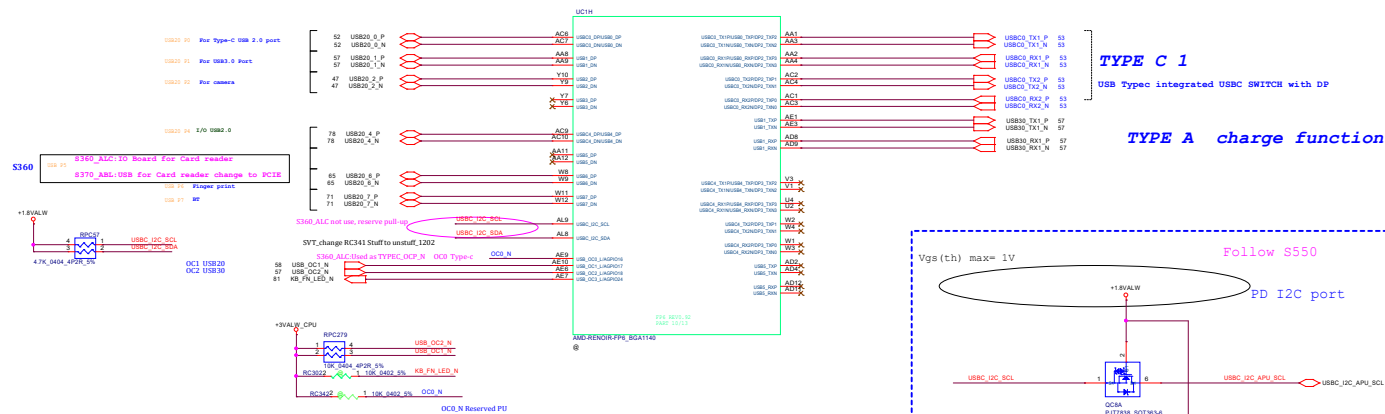
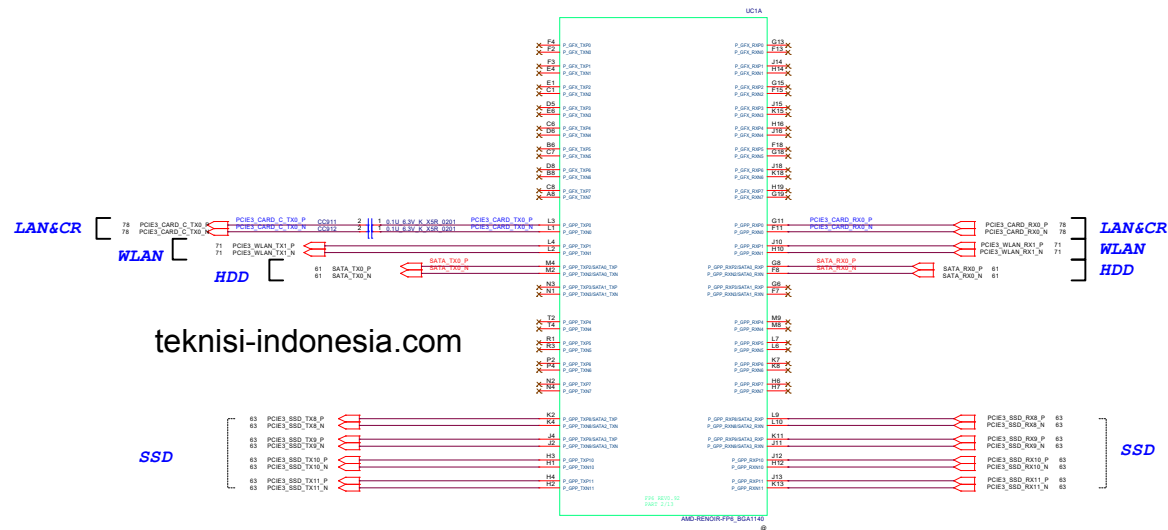
www.teknisi-indonesia.com

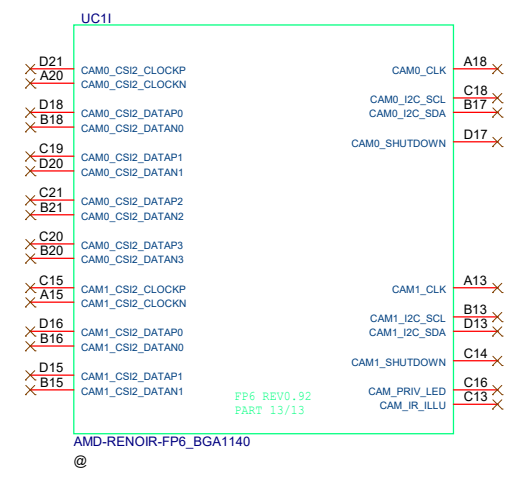
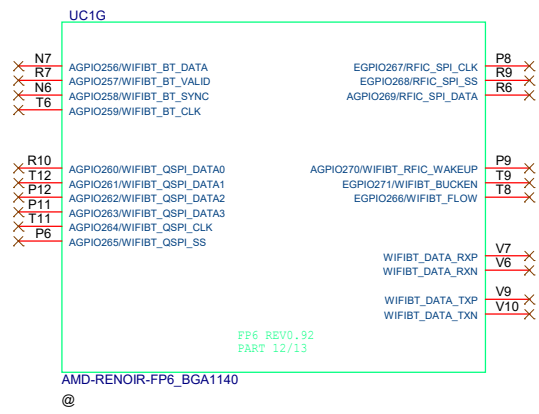
Security Classification		LCFC Highly Confidential Information		Title		<div>S370_ABL V0.1</div> <div>LCFC</div>	
Issued Date	2020/11	Deciphered Date	2022/12	Size	Document Number	Rev	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				B	CPU (4/16) : MISC/JTAG	0.3	
				Date:	Tuesday, December 21, 2021	Sheet	10 of 110





5	4	3	2	1
D				
C				
B				
A				
Security Classification		LCFC Highly Confidential Information		
Issued Date	2020/11	Deciphered Date	2022/12	Title S370_ABL V0.1
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				LCFC
Size B	Document Number CPU (7/16) : AUDIO			Rev 0.3
Date:	Tuesday, December 21, 2021			Sheet 13 of 110




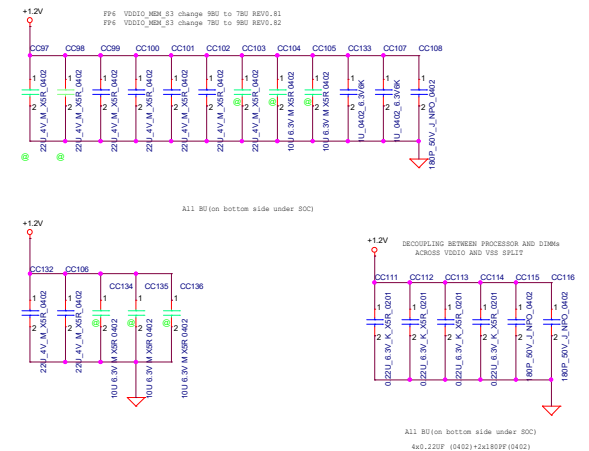
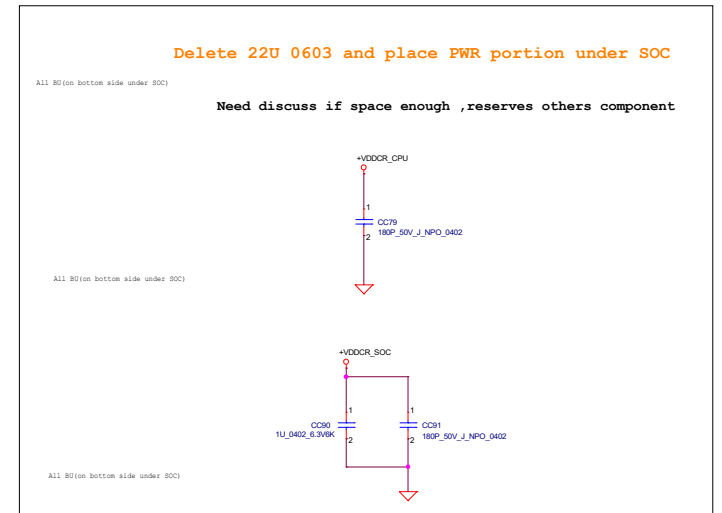
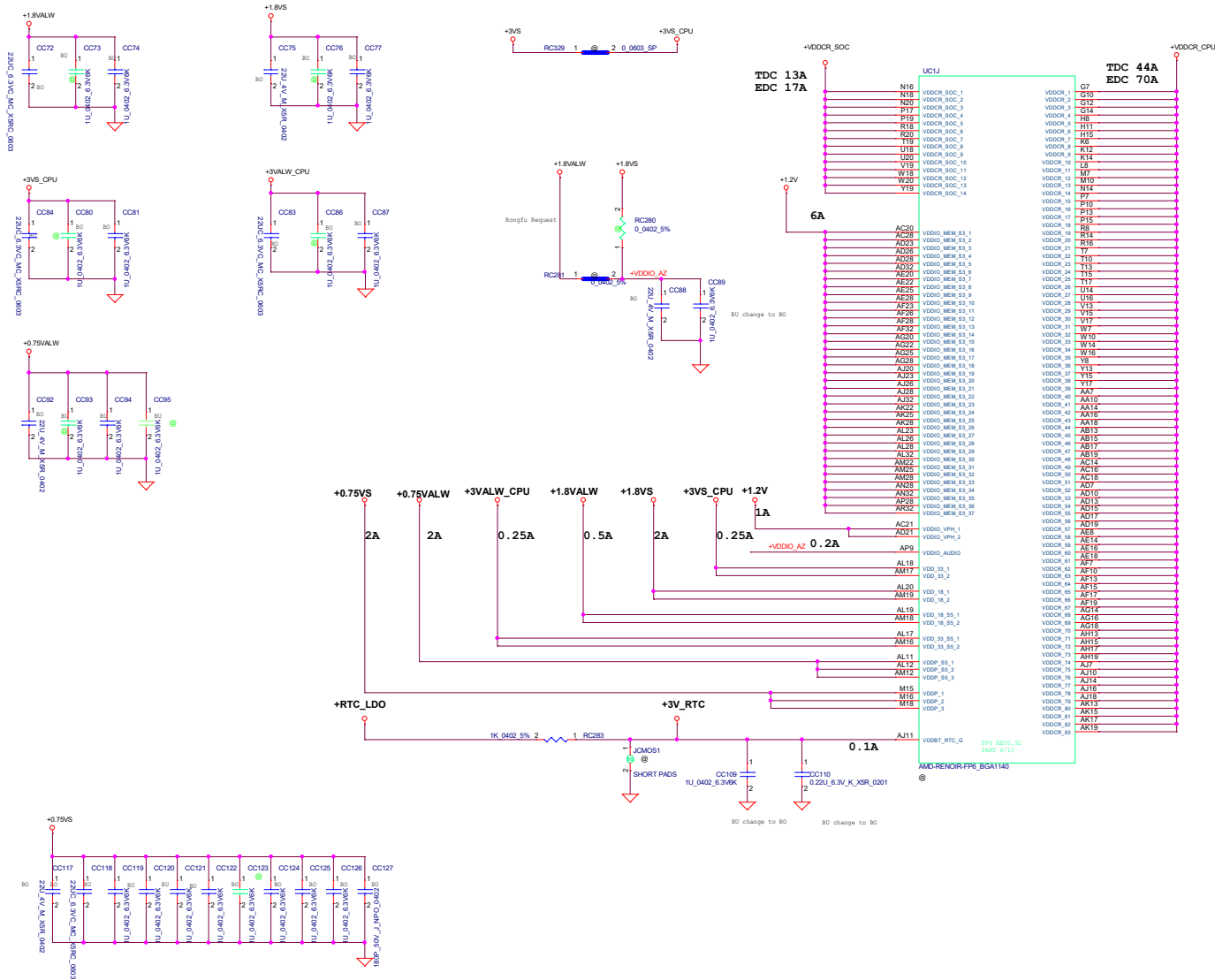


Security Classification		LCFC Highly Confidential Information		Title		LCFC
Issued Date	2020/11	Deciphered Date	2022/12	S370_ABL V0.1		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				Size	Document Number	
				B	CPU(9/16): CSI-2/CNVI	Rev 0.3
				Date:	Tuesday, December 21, 2021	Sheet 15 of 110

5	4	3	2	1
D				
C				
B				
A				
Security Classification		LCFC Highly Confidential Information		
Issued Date	2020/11	Deciphered Date	2022/12	Title S370_ABL V0.1
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				LCFC
Size B	Document Number CPU(10/16) : CLOCK SIGNALS			Rev 0.3
Date:	Tuesday, December 21, 2021	Sheet	16 of 110	




Security Classification		LCFC Highly Confidential Information		Title			
Issued Date	2020/11	Deciphered Date	2022/12	S370_ABL V0.1			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				Size	Document Number	Rev	
				B	CPU(11/16) : SYSTEM PM	0.3	
Date:				Tuesday, December 21, 2021	Sheet	17	of 110

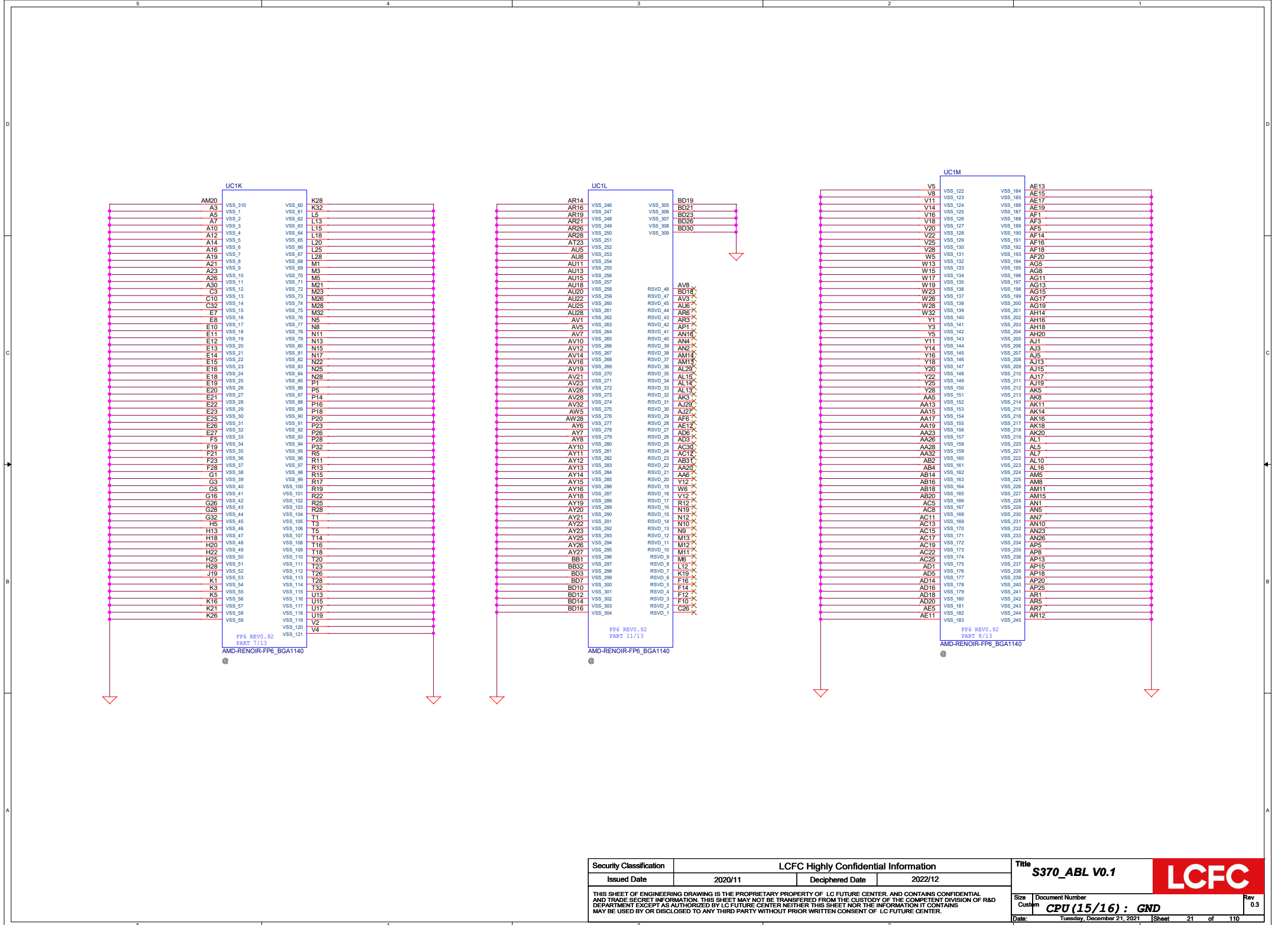


teknisi-indonesia.com

Security Classification		LCFC Highly Confidential Information		Title	
Issued Date	2020/11	Deciphered Date	2022/12	S370_ABL V0.1	LCFC
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. THIS SHEET FOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.					
Revision	1	Document Number	CPU (13/16) : CPU Power (2/2)		
Date	Tuesday, December 21, 2021	Sheet	18	of	110


Security Classification	LCFC Highly Confidential Information			Title <b>S370_ABL V0.1</b>	<b>LCFC</b>	
Issued Date	2020/11	Deciphered Date	2022/12			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				Size B	Document Number <b>CPU (12/16) : CPU Power (1/2)</b>	Rev 0.3
Date:				Tuesday, December 21, 2021	Sheet 19 of 110	

Security Classification	LCFC Highly Confidential Information			Title <b>S370_ABL V0.1</b>	
Issued Date	2020/11	Deciphered Date	2022/12		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				Size B	Document Number <b>CPU(14/16) : PCH Power</b>
				Date: Tuesday, December 21, 2021	Sheet 20 of 110



Security Classification				LCFC Highly Confidential Information				Title		S370_ABL V0.1		LCFC	
Issued Date		2020/11		Deciphered Date		2022/12		Size		Document Number		Rev	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.		CPU(15/16) : GND		Tuesday, December 21, 2021		Sheet		21		of		110	
												0.3	



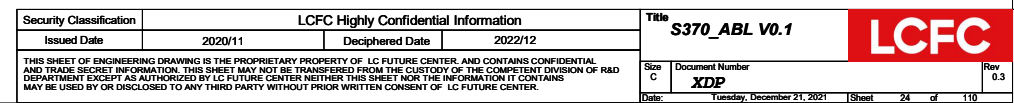
Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>PCH PWR Reserved</b>		Rev	
								0.3	
Date:				Tuesday, December 21, 2021		Sheet		22 of 110	

Security Classification	LCFC Highly Confidential Information			Title <b>S370_ABL V0.1</b>	<b>LCFC</b>
Issued Date	2020/11	Deciphered Date	2022/12		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				Size B	Document Number <b>CPU(16/16) : CFG/RESERVED</b>
				Date: Tuesday, December 21, 2021	Sheet 23 of 110




## HDT Debug Header

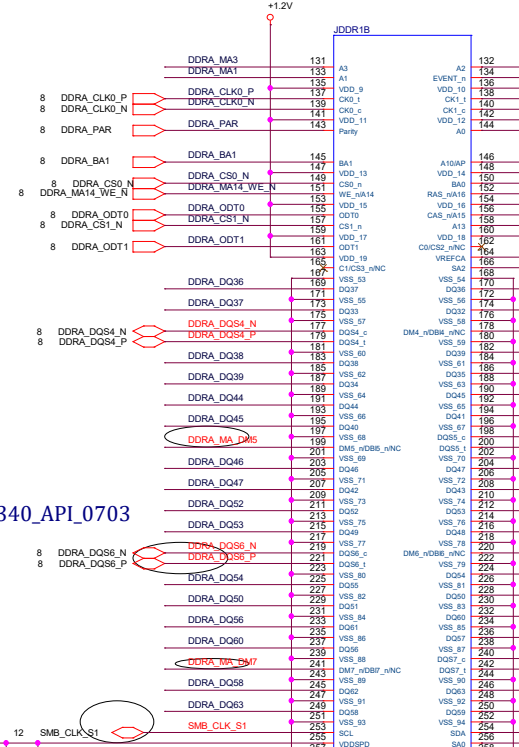


## HDT Debug Header



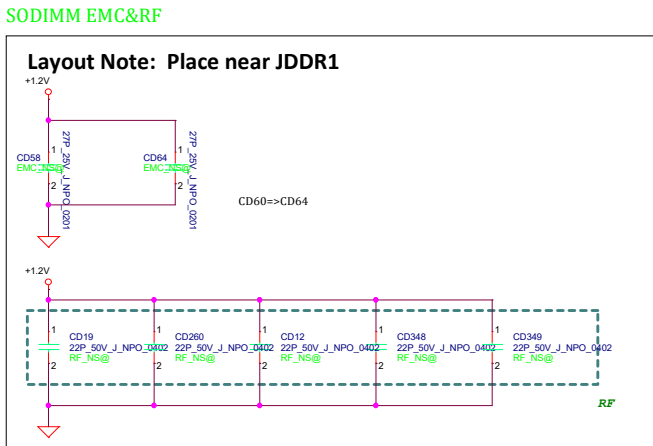
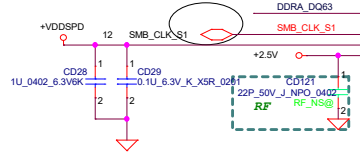



DDRA_DQ[0..63]		DDRA_DQ[0..63]	8
DDRA_MA[0..13]		DDRA_MA[0..13]	8
DDRA_MA_DM[0..7]		DDRA_MA_DM[0..7]	8



Pin Name	Net Name
DQ0	DRDRA_DQ6
DQ01	DRDRA_DQ5
DQ02	DRDRA_DQ2
DQ03	DRDRA_DQ3
DQ4	DRDRA_DQ4
DQ5	DRDRA_DQ0
DQ6	DRDRA_DQ1
DQ7	DRDRA_DQ7
DQ#0	DRDRA_DQ#0
DQ#0	DRDRA_DQ#0
DQ8	DRDRA_DQ13
DQ9	DRDRA_DQ9
DQ10	DRDRA_DQ14
DQ11	DRDRA_DQ10
DQ12	DRDRA_DQ12
DQ13	DRDRA_DQ8
DQ14	DRDRA_DQ15
DQ15	DRDRA_DQ11
DQ#1	DRDRA_DQ#1
DQ#1	DRDRA_DQ#1
DQ16	DRDRA_DQ20
DQ17	DRDRA_DQ21
DQ18	DRDRA_DQ22
DQ19	DRDRA_DQ19
DQ20	DRDRA_DQ16
DQ21	DRDRA_DQ17
DQ22	DRDRA_DQ23
DQ23	DRDRA_DQ18
DQ#2	DRDRA_DQ#2
DQ#2	DRDRA_DQ#2
DQ24	DRDRA_DQ28
DQ25	DRDRA_DQ29
DQ26	DRDRA_DQ31
DQ27	DRDRA_DQ27
DQ28	DRDRA_DQ24
DQ29	DRDRA_DQ25
DQ30	DRDRA_DQ30
DQ31	DRDRA_DQ26
DQ#3	DRDRA_DQ#3
DQ#3	DRDRA_DQ#3
DQ32	DRDRA_DQ33
DQ33	DRDRA_DQ37
DQ34	DRDRA_DQ34
DQ35	DRDRA_DQ38
DQ36	DRDRA_DQ32
DQ37	DRDRA_DQ36
DQ38	DRDRA_DQ35
DQ39	DRDRA_DQ39
DQ#4	DRDRA_DQ#4
DQ#4	DRDRA_DQ#4
DQ40	DRDRA_DQ44
DQ41	DRDRA_DQ45
DQ42	DRDRA_DQ47
DQ43	DRDRA_DQ43
DQ44	DRDRA_DQ41
DQ45	DRDRA_DQ45
DQ46	DRDRA_DQ46
DQ47	DRDRA_DQ42
DQ#5	DRDRA_DQ#5
DQ#5	DRDRA_DQ#5
DQ48	DRDRA_DQ48
DQ49	DRDRA_DQ49
DQ50	DRDRA_DQ50
DQ51	DRDRA_DQ55
DQ52	DRDRA_DQ52
DQ53	DRDRA_DQ53
DQ54	DRDRA_DQ54
DQ55	DRDRA_DQ51
DQ#6	DRDRA_DQ#6
DQ#6	DRDRA_DQ#6
DQ56	DRDRA_DQ60
DQ57	DRDRA_DQ56
DQ58	DRDRA_DQ63
DQ59	DRDRA_DQ59
DQ60	DRDRA_DQ61
DQ61	DRDRA_DQ57
DQ62	DRDRA_DQ58
DQ63	DRDRA_DQ62
DQ#7	DRDRA_DQ#7
DQ#7	DRDRA_DQ#7

for MEM\_MB\_RST# overshoot issue



Security Classification	LCFC Highly Confidential Information		Title	
Issued Date	2020/11	Deciphered Date	2022/12	

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.

Size	Document Number	Rev
Custom	<b>DDRV SO-DIMM A</b>	0.1
Date:	Tuesday, December 21, 2021	Sheet 25 of 110

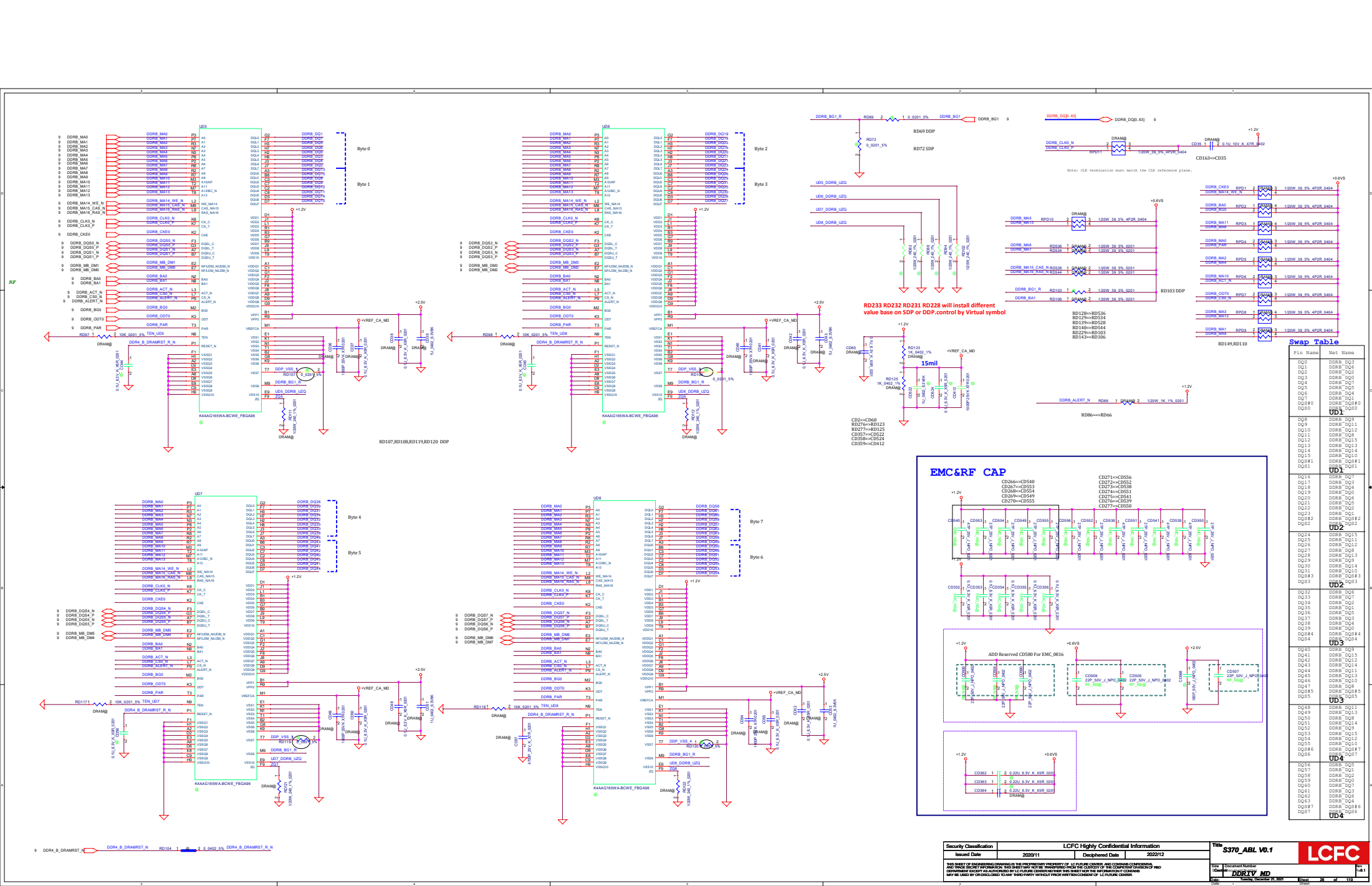


TABLE of TPM (U9801)		
Vendor	P/N	LCFC P/N
Nuvoton	NPCT750LABYX	SA00008KS20
ST Micro	ST33HTPH2E32AHC0	SA000089E20

NOTE:  
Check timing sequence in SDV phase.

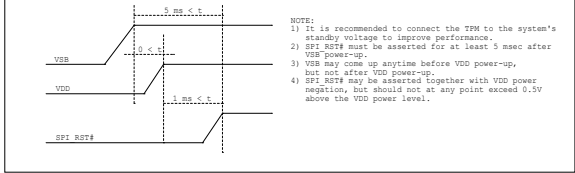


TABLE			
Pin No	TCG PTP Spec (v38)	Nuvoton NPCT750LABYX	ST Micro ST33HTPH2E32AHC0
1	VDD	VSB	NC
2	GND	NC	GND
3	NC	NC	NC
4	GPIO	GPIO/PP	PP
5	NC	NC	NC
6	GPIO	GPIO3	NC
7	GPIO	NC	GPIO
8	VDD	VHIO	NC
9	NC	NC	NC
10	NC	NC	NC
11	NC	NC	NC
12	NC	NC	NC
13	GPIO	GPIO4	NC
14	NC	NC	NC
15	NC	NC	NC
16	GND	GND	NC
17	SPI_RST#	RST#	SPI_RST#
18	SPI_PIRQ#	PIRQ#/GPIO2	SPI_PIRQ#
19	SPI_CLK	SCLK	SPI_CLK
20	SPI_CS#	SCS#/GPIO5	SPI_CS#
21	MOSI	MOSI/GPIO7	MOSI
22	VDD	VHIO	VPS
23	GND	GND	NC
24	MISO	MISO	MISO
25	NC	NC	NC
26	NC	NC	NC
27	NC	NC	NC
28	NC	NC	NC
29	SDA/GPIO1	SDA/GPIO1	NC
30	SDA/GPIO0	SDA/GPIO0	NC
31	NC	NC	NC
32	NC	NC	NC

SPI ROM

Used RPMC BIOS ROM




Need to confirm with BIOS 32M or 16M7\_0428


Security Classification		LCFC Highly Confidential Information		Title	
Issued Date	2020/11	Deciphered Date	2022/12	S370_ABL V0.1	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				Document Number	Rev
				SPI ROM/TPM	0.1
				Date	Yuesday, December 21, 2021 Sheet 27 of 110

www.teknisi-indonesia.com




Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>GPU STRAP/DP/HDMI</b>		Rev 0.3	
Date:		Tuesday, December 21, 2021		Sheet		29		of 110	




Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>GPU MEM Interface</b>		Rev 0.3	
Date:		Tuesday, December 21, 2021		Sheet		30		of 110	




Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>GPU MEM Interface (C/D)</b>		Rev	
								0.3	
Date:				Tuesday, December 21, 2021		Sheet		31 of 110	




Security Classification	LCFC Highly Confidential Information			Title	S370_ABL V0.1			
Issued Date	2020/11	Deciphered Date	2022/12	Size	Document Number	Rev		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				C	GPU GPIO/JTAG	0.3		
				Date:	Tuesday, December 21, 2021	Sheet	32	of 110






Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>GPU Strap</b>		Rev	
								0.3	
Date:				Tuesday, December 21, 2021		Sheet		33 of 110	




Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>GPU PWR1</b>		Rev	
								0.3	
Date: Tuesday, December 21, 2021 Sheet 34 of 110									




Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>GPU_PWR2</b>		Rev	
								0.3	
Date: Tuesday, December 21, 2021									
Sheet 35 of 110									




Security Classification	LCFC Highly Confidential Information			Title	S370_ABL V0.1			
Issued Date	2020/11	Deciphered Date	2022/12	Size	Document Number	Rev		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				C	GPU GND	0.3	Date: Tuesday, December 21, 2021	
				Sheet		36	of	
						110		



Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>VRAM A [31:0]</b>		Rev	
								0.1	
Date:				Tuesday, December 21, 2021		Sheet		37 of 110	


www.teknisi-indonesia.com

Security Classification		LCFC Highly Confidential Information		Title	S370_ABL V0.1	
Issued Date	2020/11	Deciphered Date	2022/12			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				Size	Document Number	Rev
				C	VRAM A [64:32]	0.1
				Date:	Tuesday, December 21, 2021	Sheet 38 of 110




Security Classification	LCFC Highly Confidential Information			Title	S370_ABL V0.1		<div>LCFC</div>	
Issued Date	2020/11	Deciphered Date	2022/12	Size	Document Number	Rev		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				C	VRAM B [31:0]	0.1		
				Date:	Tuesday, December 21, 2021	Sheet	39	of 110




Security Classification	LCFC Highly Confidential Information			Title	S370_ABL V0.1			
Issued Date	2020/11	Deciphered Date	2022/12					
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				Size	Document Number		Rev	
				C	VRAM B [64:32]		0.1	
				Date:	Tuesday, December 21, 2021	Sheet	40	of 110






Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>VRAM C [31:0]</b>		Rev	
								0.3	
Date:				Tuesday, December 21, 2021		Sheet		41 of 110	





Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>VRAM C [64:32]</b>		Rev	
								0.3	
Date:				Tuesday, December 21, 2021		Sheet		42 of 110	



Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL v0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>VRAM D [31:0]</b>		Rev	
								0.3	
Date:				Tuesday, December 21, 2021		Sheet		43 of 110	



Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>VRAM D [64:32]</b>		Rev	
								0.3	
Date:				Tuesday, December 21, 2021		Sheet		44 of 110	

Security Classification	LCFC Highly Confidential Information			Title <b>S370_ABL V0.1</b>	
Issued Date	2020/11	Deciphered Date	2022/12		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				Size B	Document Number <b>eDP MUX</b>
				Date: Tuesday, December 21, 2021	Sheet 45 of 110

A		B		C		D		E	
1									
2									
3									
4									

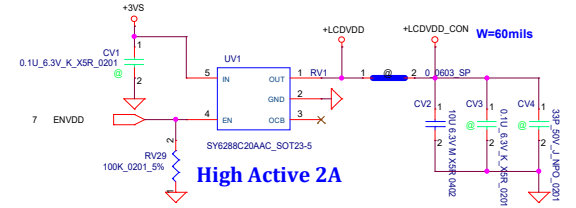
Security Classification	LCFC Highly Confidential Information		
Issued Date	2020/11	Deciphered Date	2022/12
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.			

Title		S370_ABL V0.1		LCFC	
Size	Document Number	NV DDS LOGIC		Rev	
C				0.3	
Date:		Tuesday, December 21, 2021	Sheet	46	of 110

## LCD EDP Display

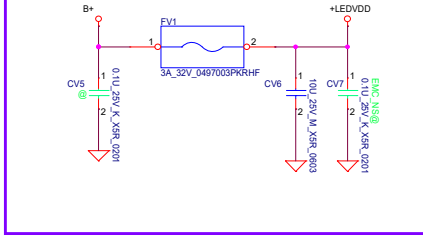
### LCD Power Circuit

Follow Intel S360ITL\_0610



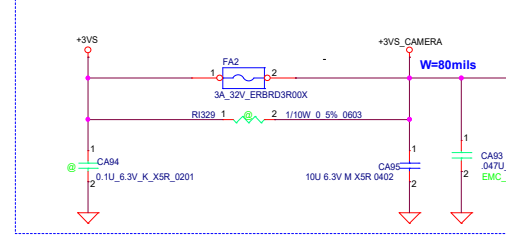
## LED Power

Follow Intel S360ITL\_0610

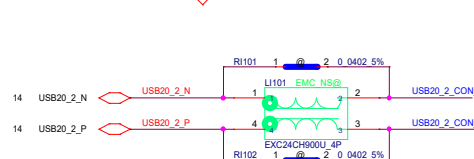
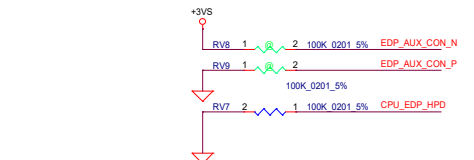
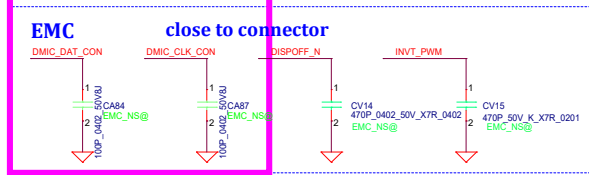
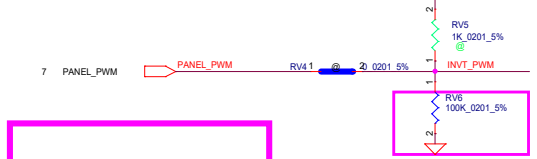
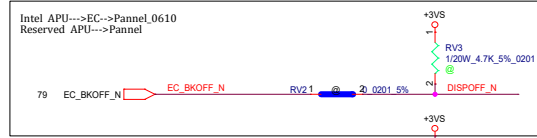
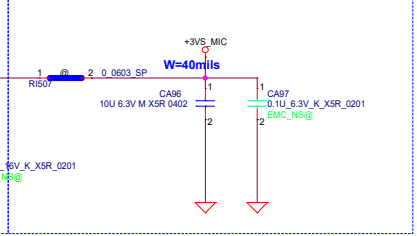


## DMIC BOARD POWER

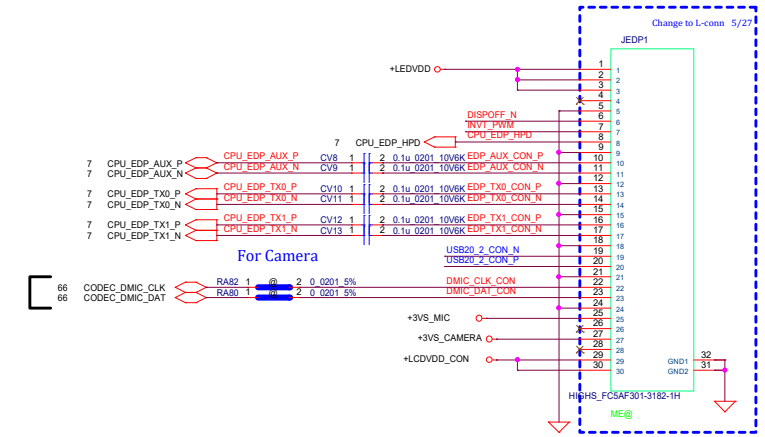
### Camera



### DMIC



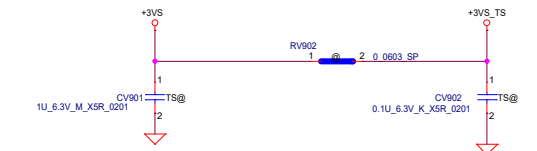
For DMIC



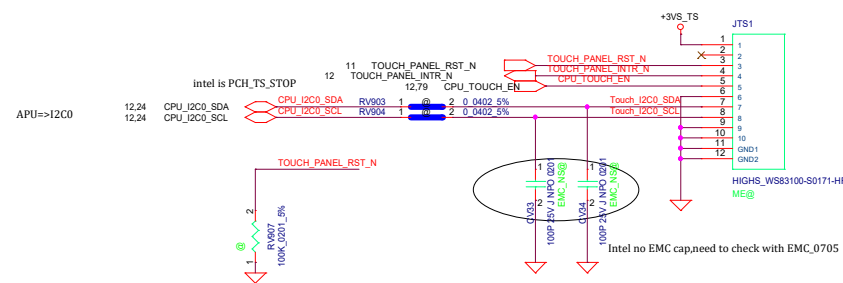
Follow S170 J1L, Change JEDP1  
SP01001XA00 to A40-T0000239  
临时料号，需要ME确认。

## Touch Screen

### Touch Panel Power\_Follow s750\_0705



## confirm Pin define with ME




Security Classification		LCFC Highly Confidential Information		Title	
Issued Date		Deciphered Date		S370_ABL V0.1	
2020/11		2022/12		LCFC	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.					
Size		Document Number			
		eDP_DDI/CAM/DMIC/ISH			
		Rev 0.3			
Date:		Tuesday, December 21, 2021		Sheet 47 of 110	

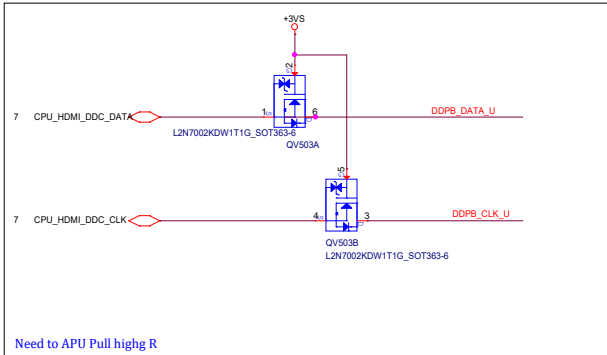
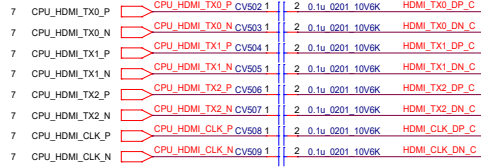
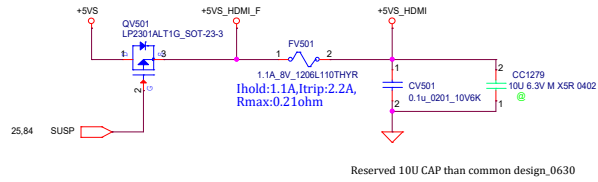




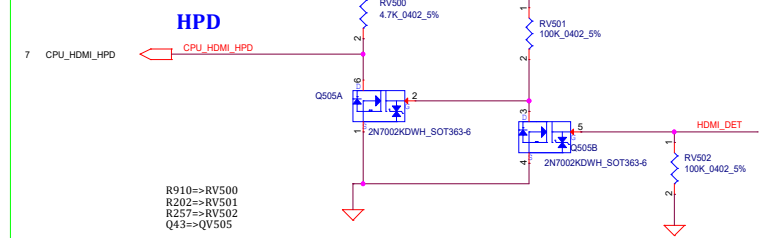


Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>HDMI RETIMER</b>		Rev	
								0.3	
Date:				Tuesday, December 21, 2021		Sheet		49 of 110	

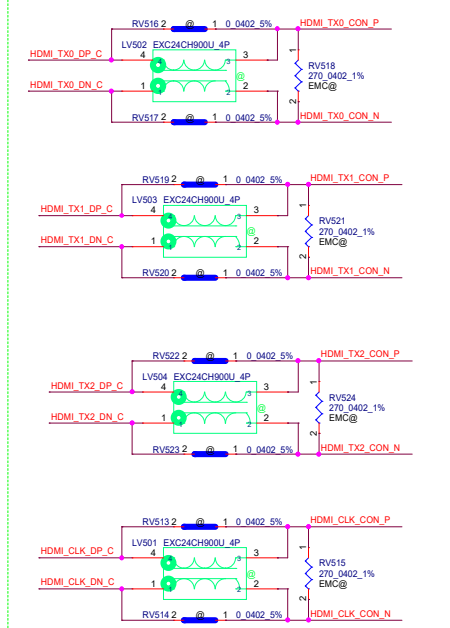
## HDMI Power



## Follwo Y550 A+N\_0724

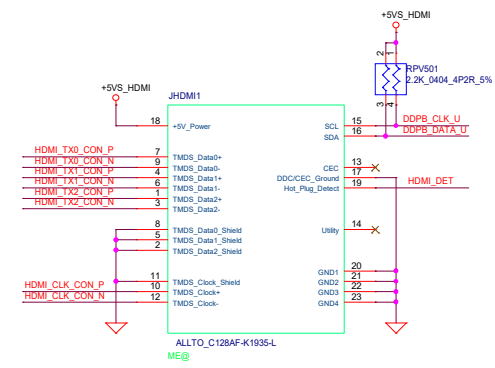
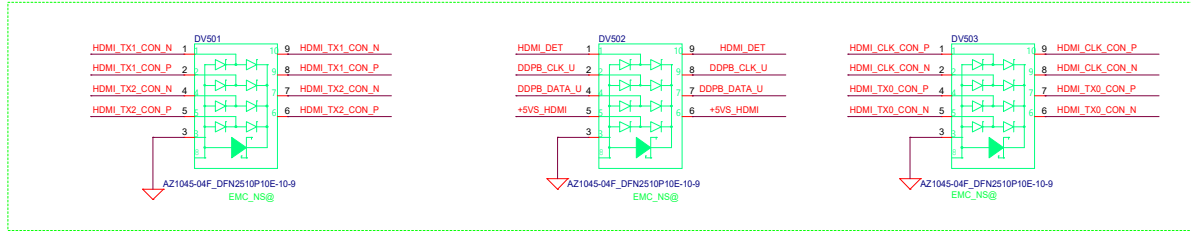


RV518,RV521,RV524,RV515 Follow S508&550\_ARE 270R

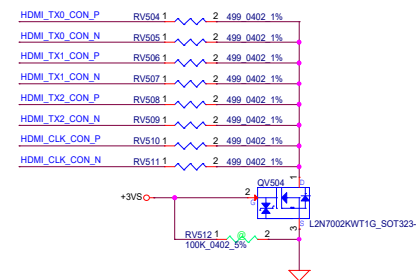


## EMC

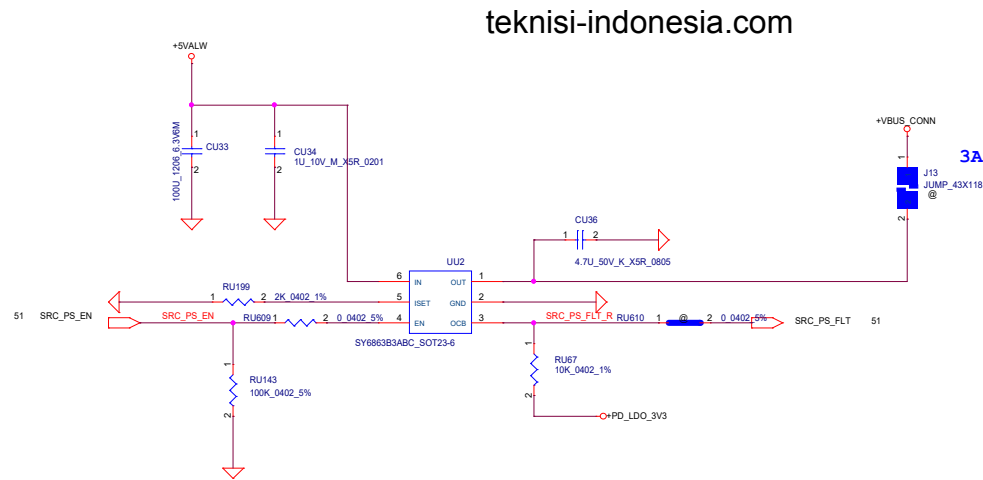
## EMC

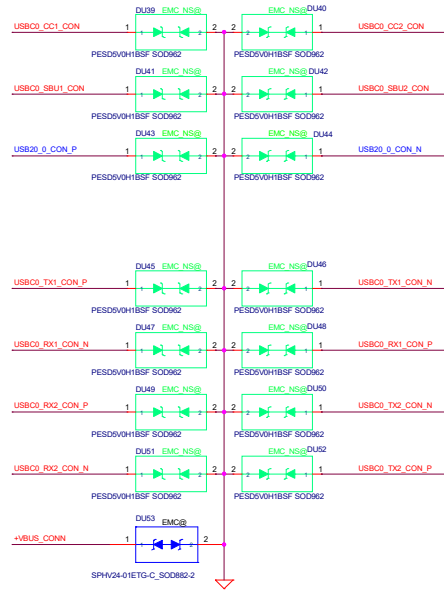


common desing: Rtmids 470R, On CAP with Common choke\_0630










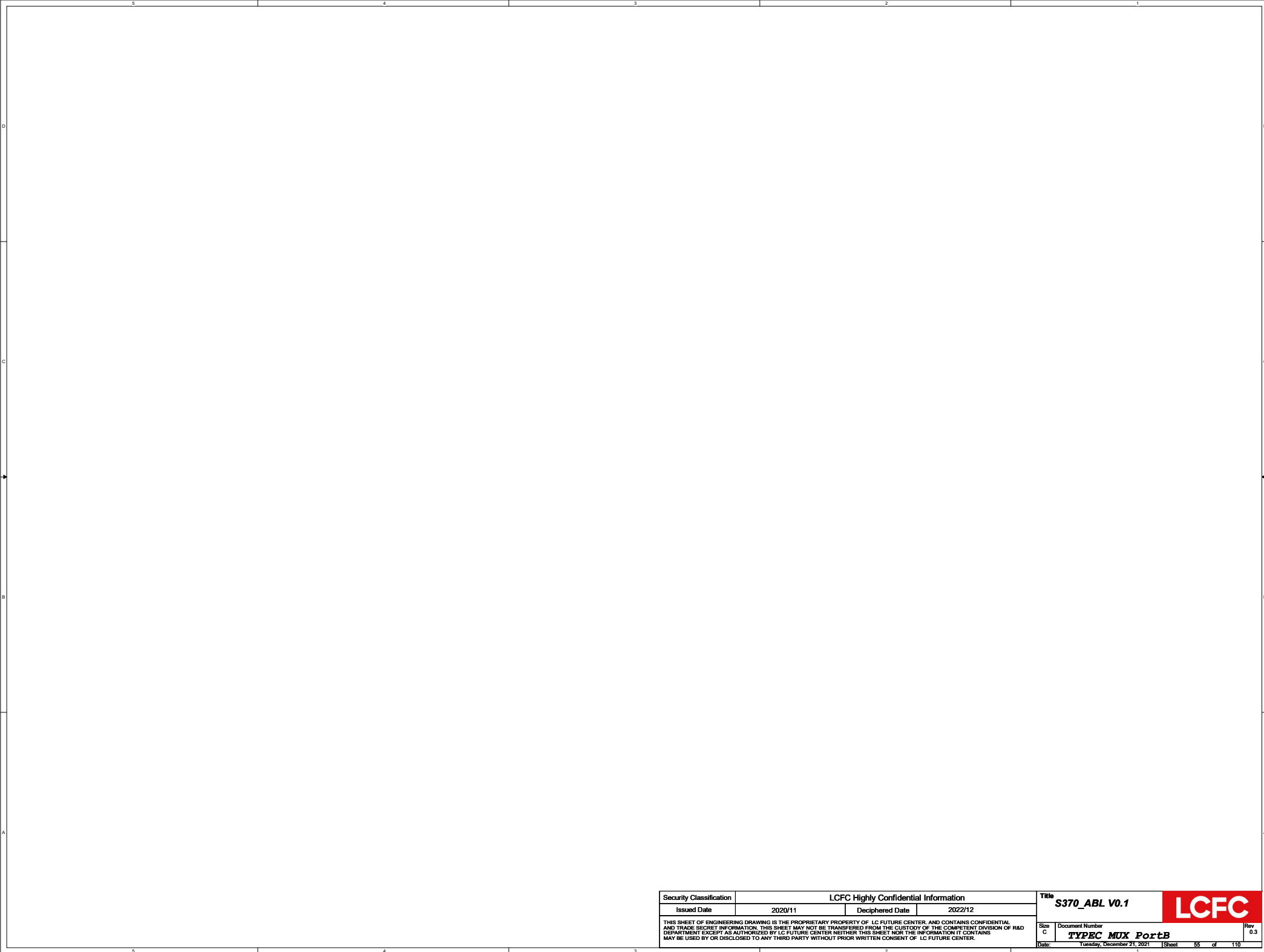
JUC1,JUC2 co-lay




Security Classification	LCFC Highly Confidential Information		Title	S370_ABL V0.1		LCFC
Issued Date	2020/11	Deciphered Date	2022/12			
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF LC FUTURE CENTER TO ANY OTHER PARTY WITHOUT THE AUTHORIZATION BY LC FUTURE CENTER. THIS INFORMATION CONTAINED HEREIN MAY BE USED OR BY DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</p>						
<p>Docuement Number</p> <p>Case# <b>Type-C CONN</b></p>			<p>Rev 0.1</p>			



Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>TYPEC Controller PortB</b>		Rev	
								0.3	
Date:				Tuesday, December 21, 2021		Sheet		54 of 110	

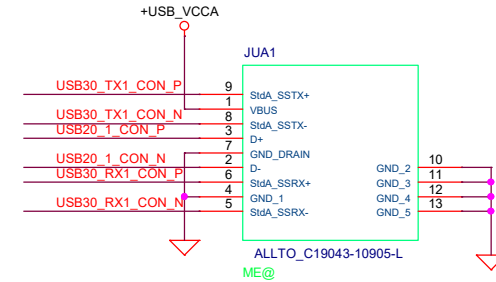
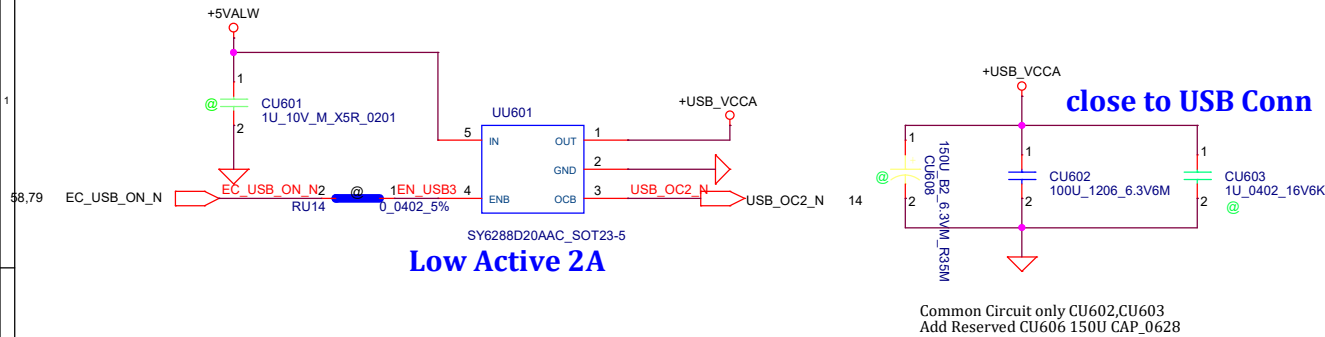


Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>TYPEC MUX PortB</b>		Rev	
								0.3	
Date:				Tuesday, December 21, 2021		Sheet		55 of 110	

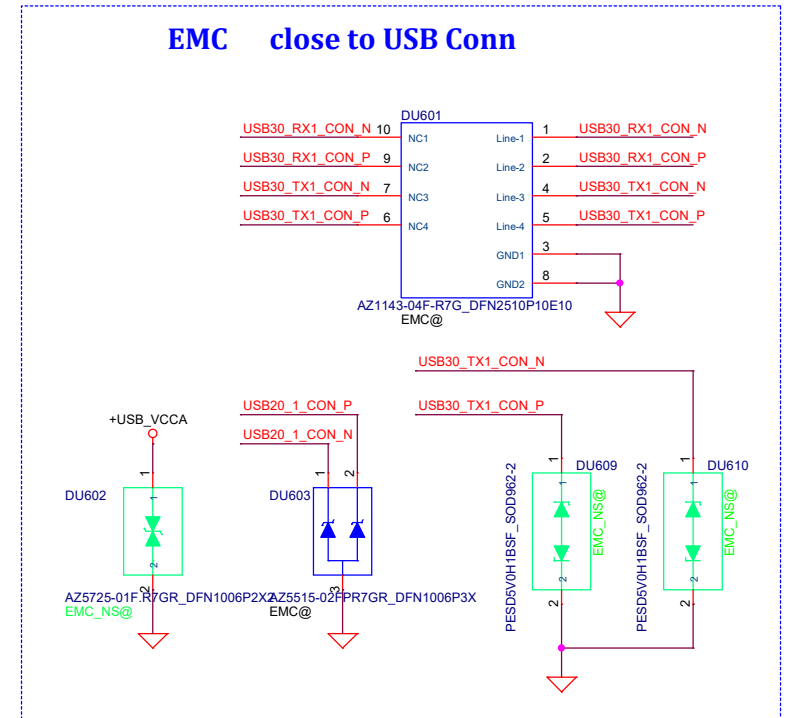
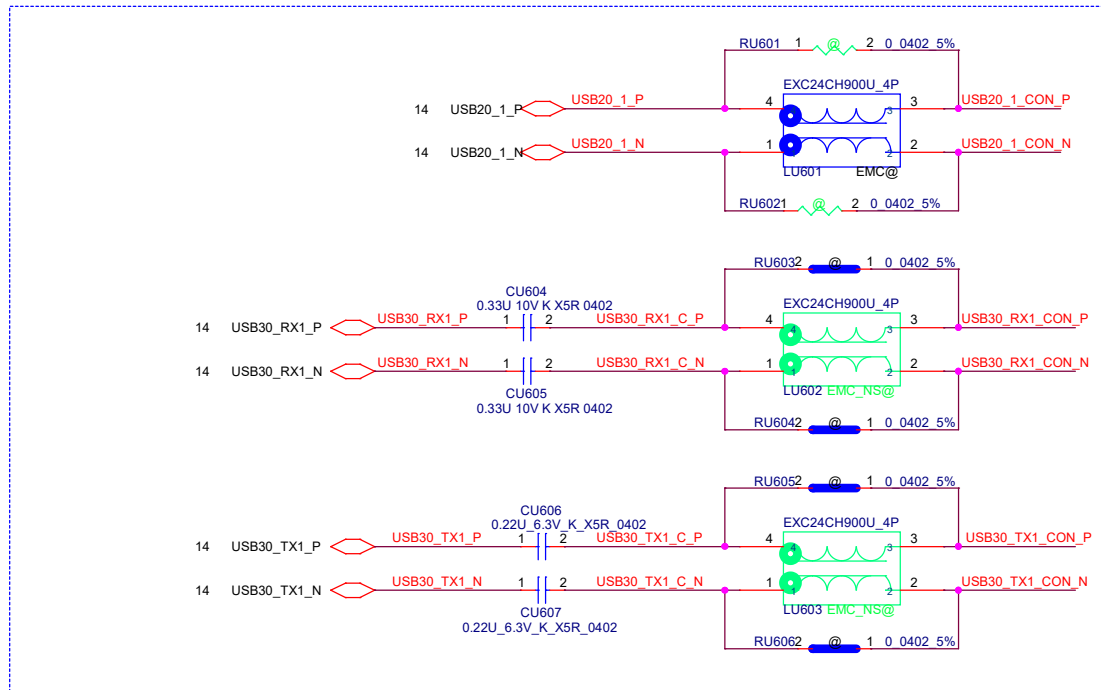
Security Classification		LCFC Highly Confidential Information		Title		S370_ABL V0.1		LCFC	
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Date		Tuesday, December 21, 2021		Sheet		56		of 110	
Rev		0.3		Document Number		Custom		TYPEC CONN PortB	



## USB3.0 PORT



teknisi-indonesia.com

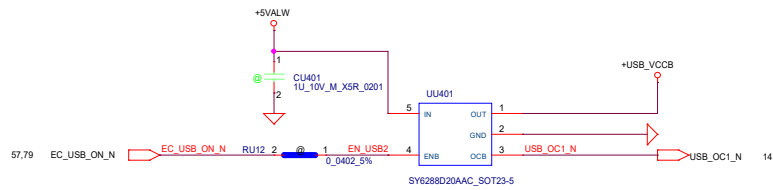


Security Classification		LCFC Highly Confidential Information		Title	
Issued Date	2020/11	Deciphered Date	2022/12	S370_ABL V0.1	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				Size B	Document Number
				USBA PortA	
				Date:	Tuesday, December 21, 2021
				Sheet	57 of 110
				Rev	0.3

LCFC


USB2.0 Port and CMC&TVS&CAP MOVE to SUB Board

### USB2.0 PORT




Low Active 2A

the different with Base:  
1.S540 No USB2.0 only,S360&V14V15 have


Security Classification		LCFC Highly Confidential Information		Title		
Issued Date		2020/11	Deciphered Date		S370_ABL V0.1	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.						
Size	C	Document Number		USBA PortB		Rev
Date:	Tuesday, December 21, 2021		Sheet	58	of	110



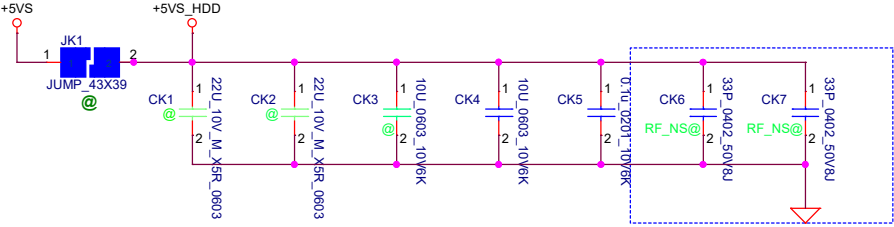
Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>USBA PortC</b>		Rev	
								0.3	
Date:				Tuesday, December 21, 2021		Sheet		59 of 110	



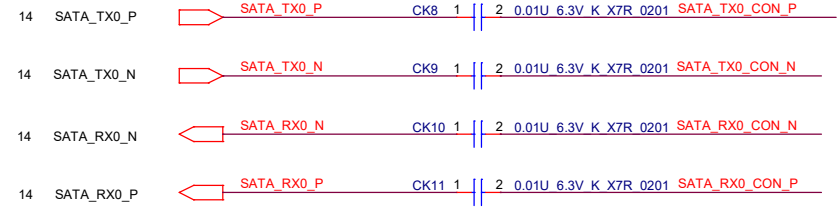
Security Classification	LCFC Highly Confidential Information		
Issued Date	2020/11	Deciphered Date	2022/12
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.			

Title		S370_ABL V0.1			
Size	Document Number			Rev	
C	USB HUB			0.3	
Date:	Tuesday, December 21, 2021		Sheet	60	of 110

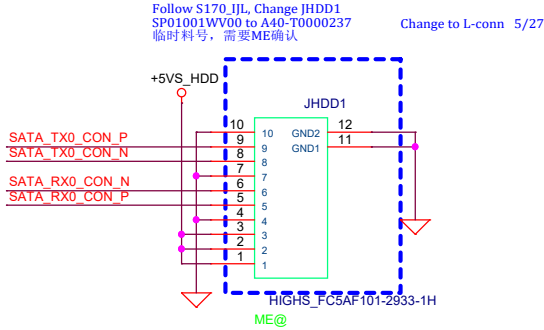
HDD Power



HDD Without Redriver




S370/170\_ABL Delete HDD Redriver Design---2021.0616

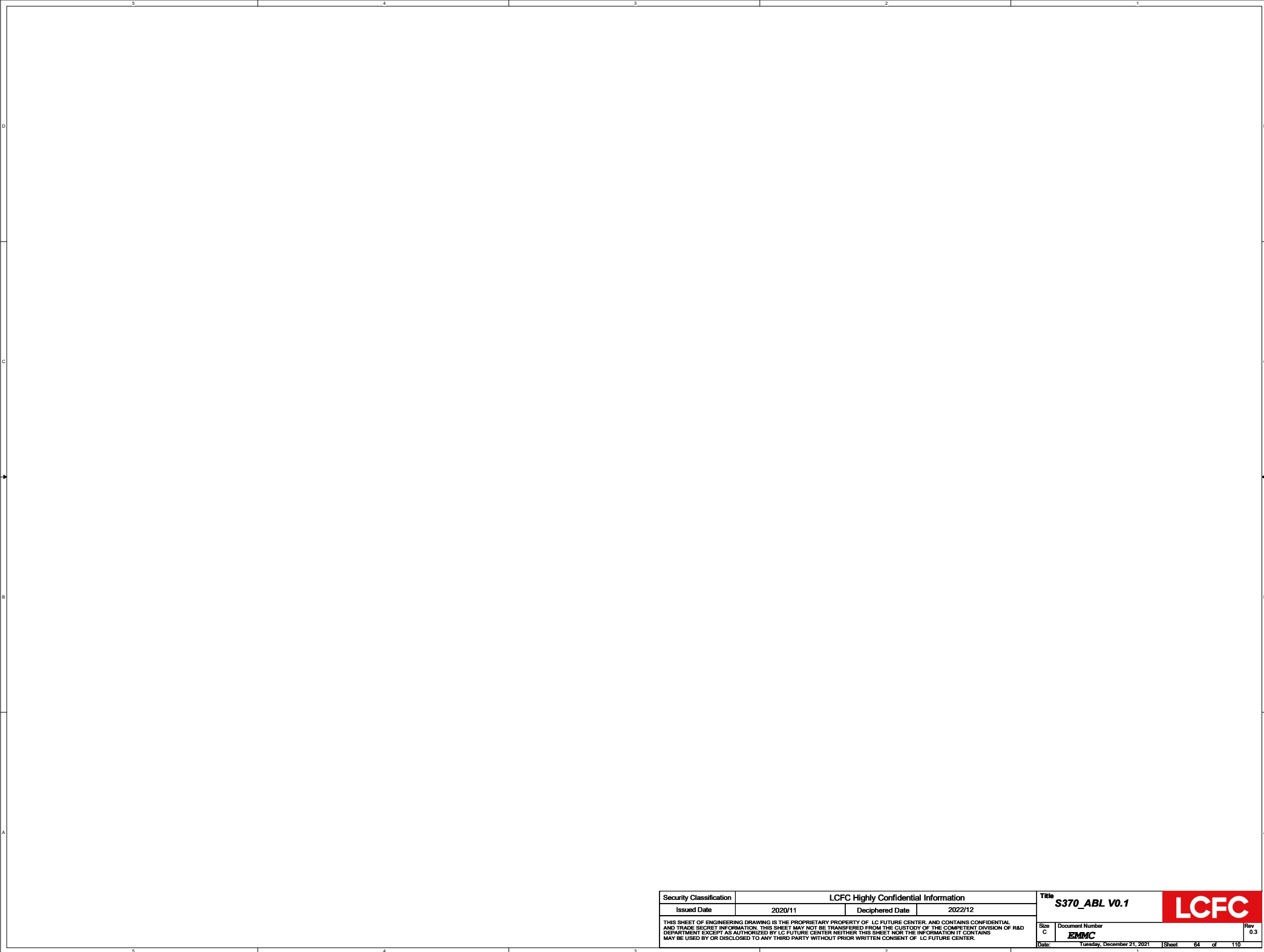



Security Classification		LCFC Highly Confidential Information				Title		<div>S370_ABL V0.1</div> <div>LCFC</div>	
Issued Date		2020/11		Deciphered Date		2022/12			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.									
Size		Document Number				Rev			
Custom		HDD				0.3			
Date:		Tuesday, December 21, 2021				Sheet		61 of 110	



Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		ODD		Rev	
								0.3	
Date: Tuesday, December 21, 2021									
Sheet 82 of 110									

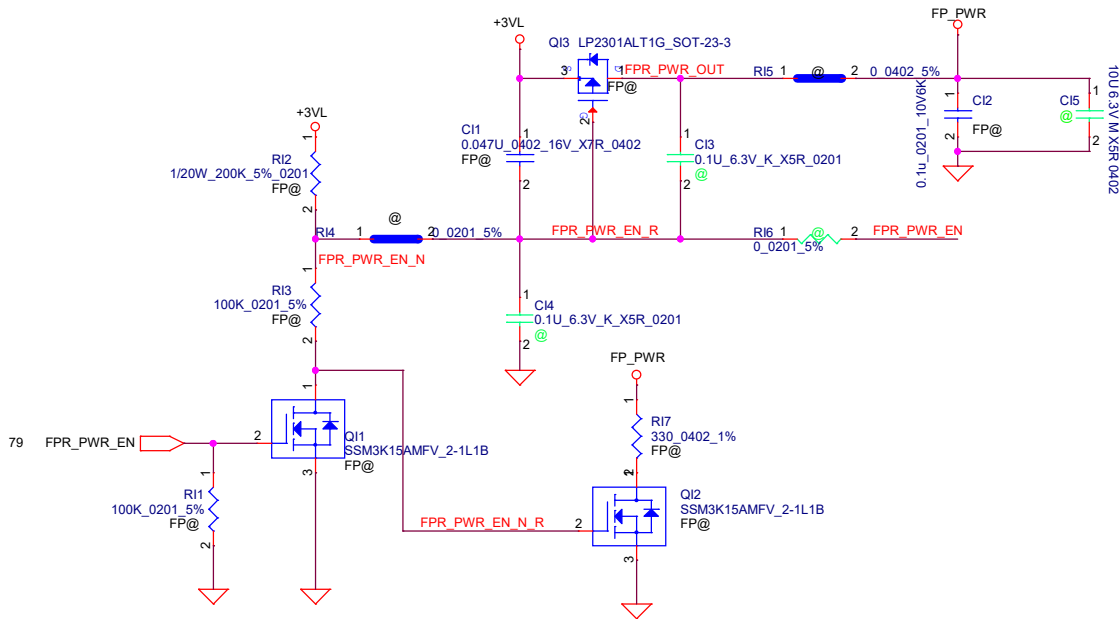




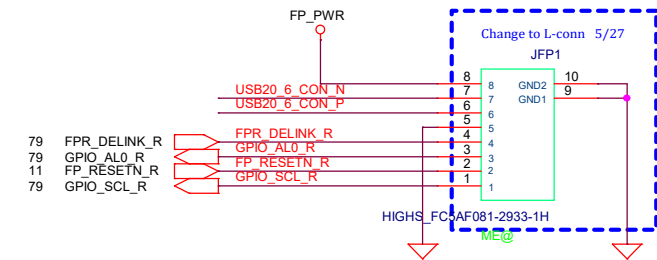
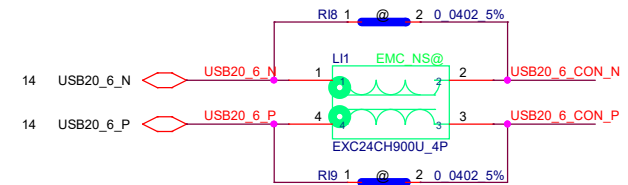
Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>EMMC</b>		Rev	
								0.3	
Date: Tuesday, December 21, 2021 Sheet 64 of 110									



## FP Power Control

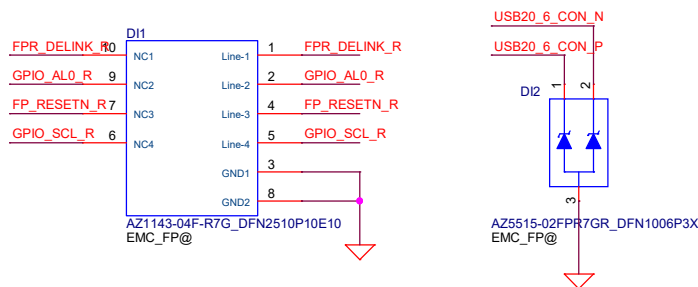


FingerPrint USB2.0==>APU USB2.0\_6

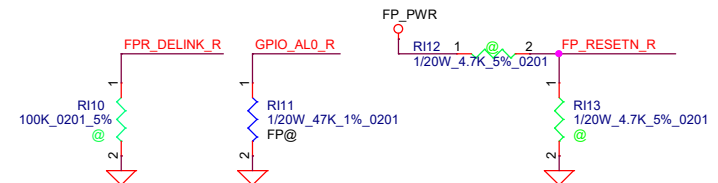


Follow S170\_IJL, Change JFP1  
SP01001YV00 to A40-T0000240  
临时料号, 需要ME确认

## EMC close to Conn



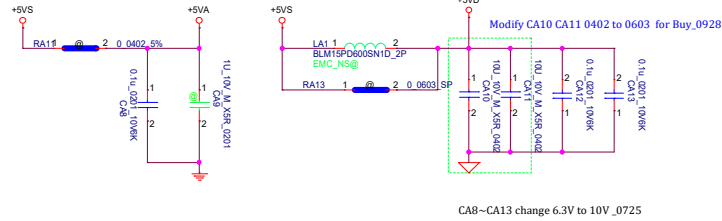
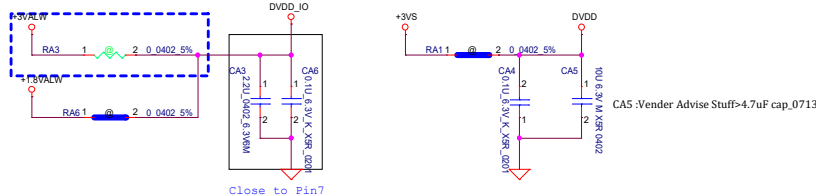
www.teknisi-indonesia.com



Security Classification		LCFC Highly Confidential Information		Title		LCFC
Issued Date	2020/11	Deciphered Date	2022/12	S370_ABL V0.1		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				Size B	Document Number FPR	Rev 0.3
				Date: Tuesday, December 21, 2021	Sheet 65 of 110	

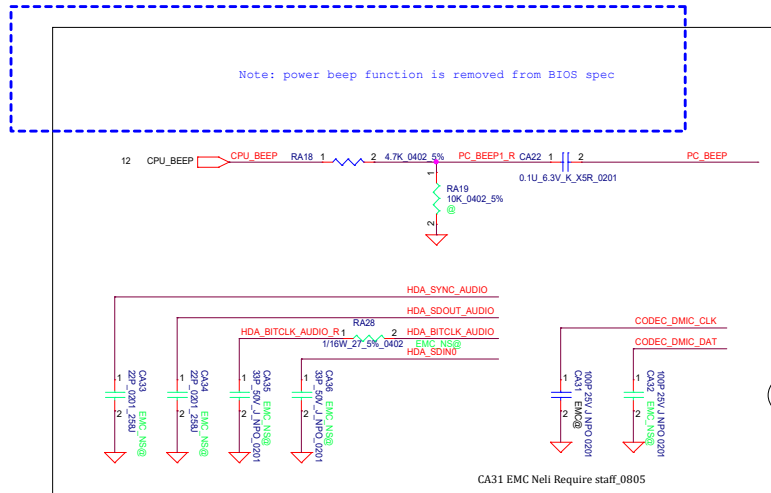
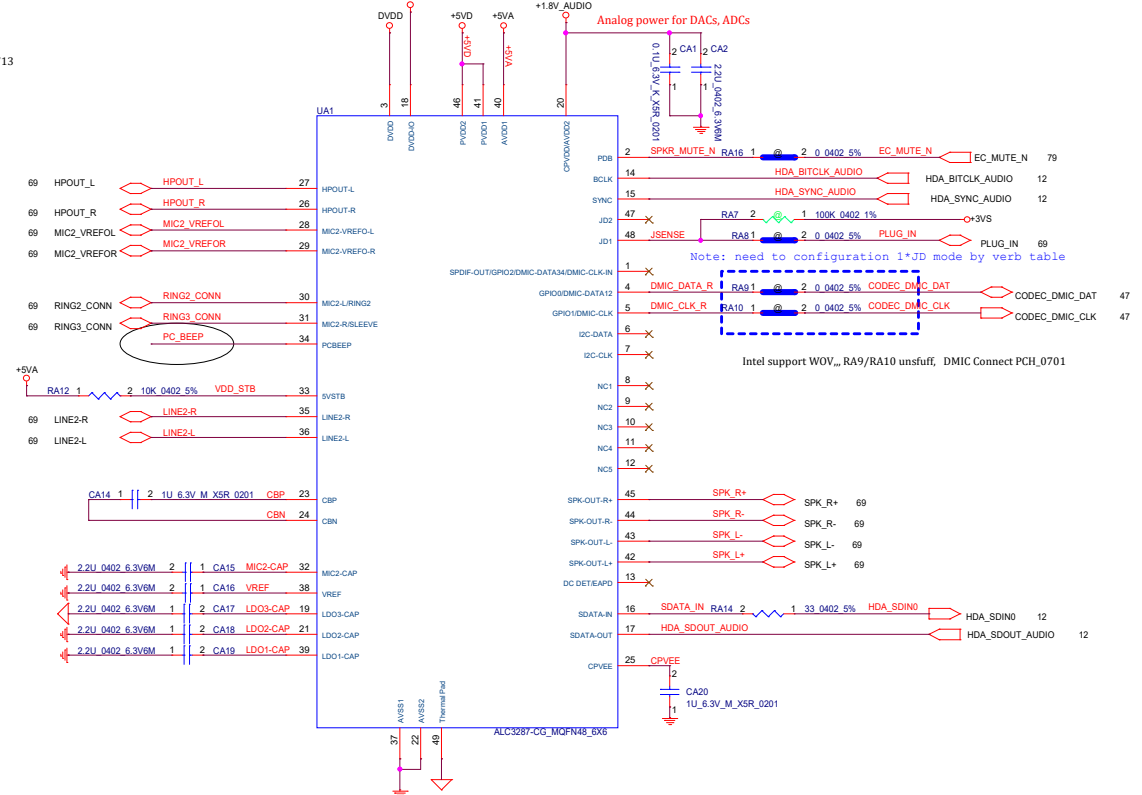
**the diffrent with Base MODULE:**  
**1.Module no ra3 to DVDD\_IO,S360&V14&V15 reserve**  
**2.Module no ra5 CA21 to EC\_BEEP,S360&V14&V15 reserve**

Note: DVDD-IO must be equal to or smaller than DVDD

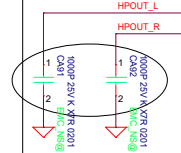


CA8~CA13 change 6.3V to 10V\_0725

Follow Intel, beep need to confirm\_0701



CA31 EMC Neli Require staff\_0805




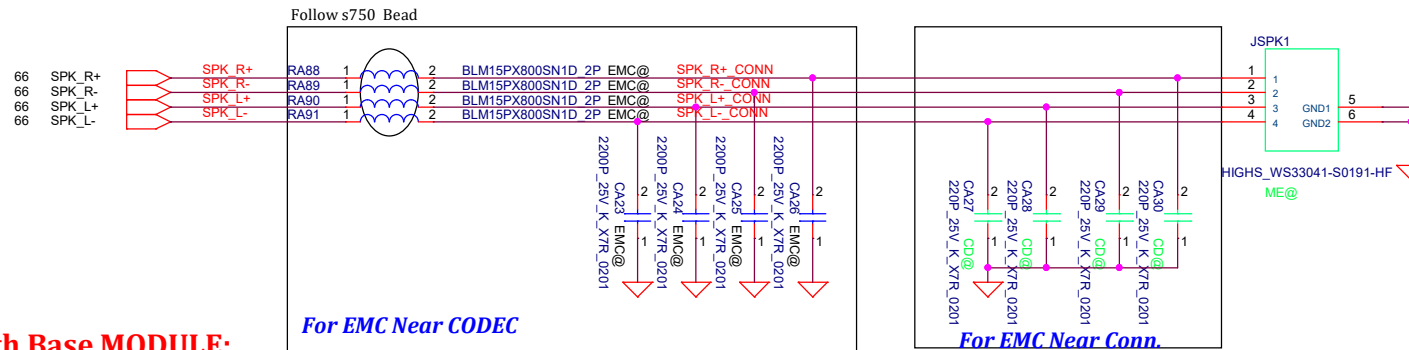
CA91, CA92 Is it necessary to reserve



Security Classification	LCFC Highly Confidential Information			Title	S370_ABL V0.1		<div>LCFC</div>	
Issued Date	2020/11	Deciphered Date	2022/12	Size	Document Number	Rev		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				C	Audio Amplifier	0.3		
				Date:	Tuesday, December 21, 2021	Sheet	87	of 110



Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>Audio DSP</b>		Rev	
								0.3	
Date: Tuesday, December 21, 2021 Sheet 68 of 110									



Speaker

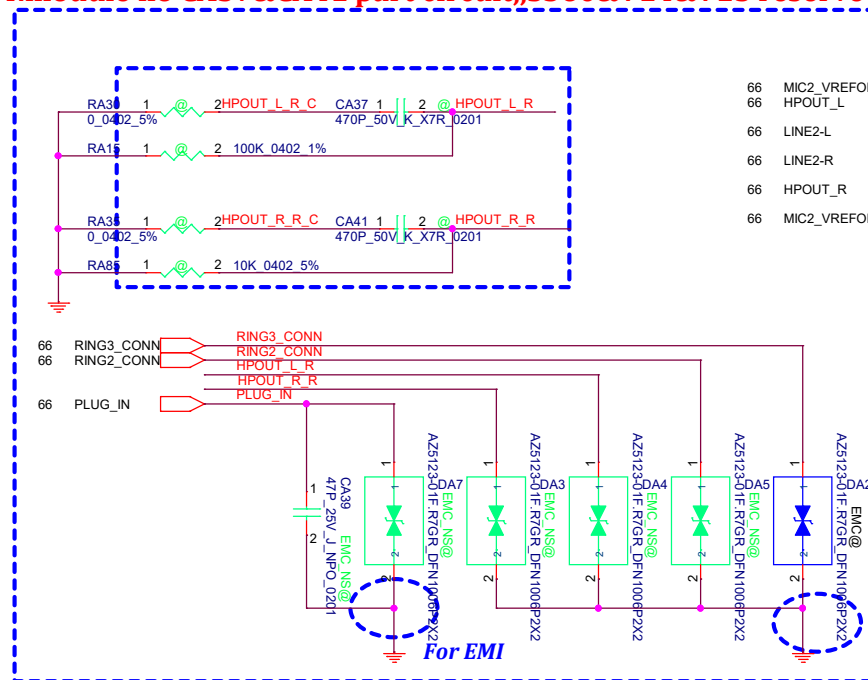
the different with Base MODULE:

1.S360&V14&V15 RA86&RA87 VALUE different with module,

2.for EMC TVS EMC\_NS@ type different with module

3.GND type different

4.module no CA37&CA41 part circuit,S360&V14&V15 reserve



Security Classification				LCFC Highly Confidential Information		Title	
Issued Date	2020/11	Deciphered Date	2022/12			S370_ABL V0.1	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				Size B	Document Number	Audio SPK/Jack	
				Date:	Tuesday, December 21, 2021	Sheet	69 of 110

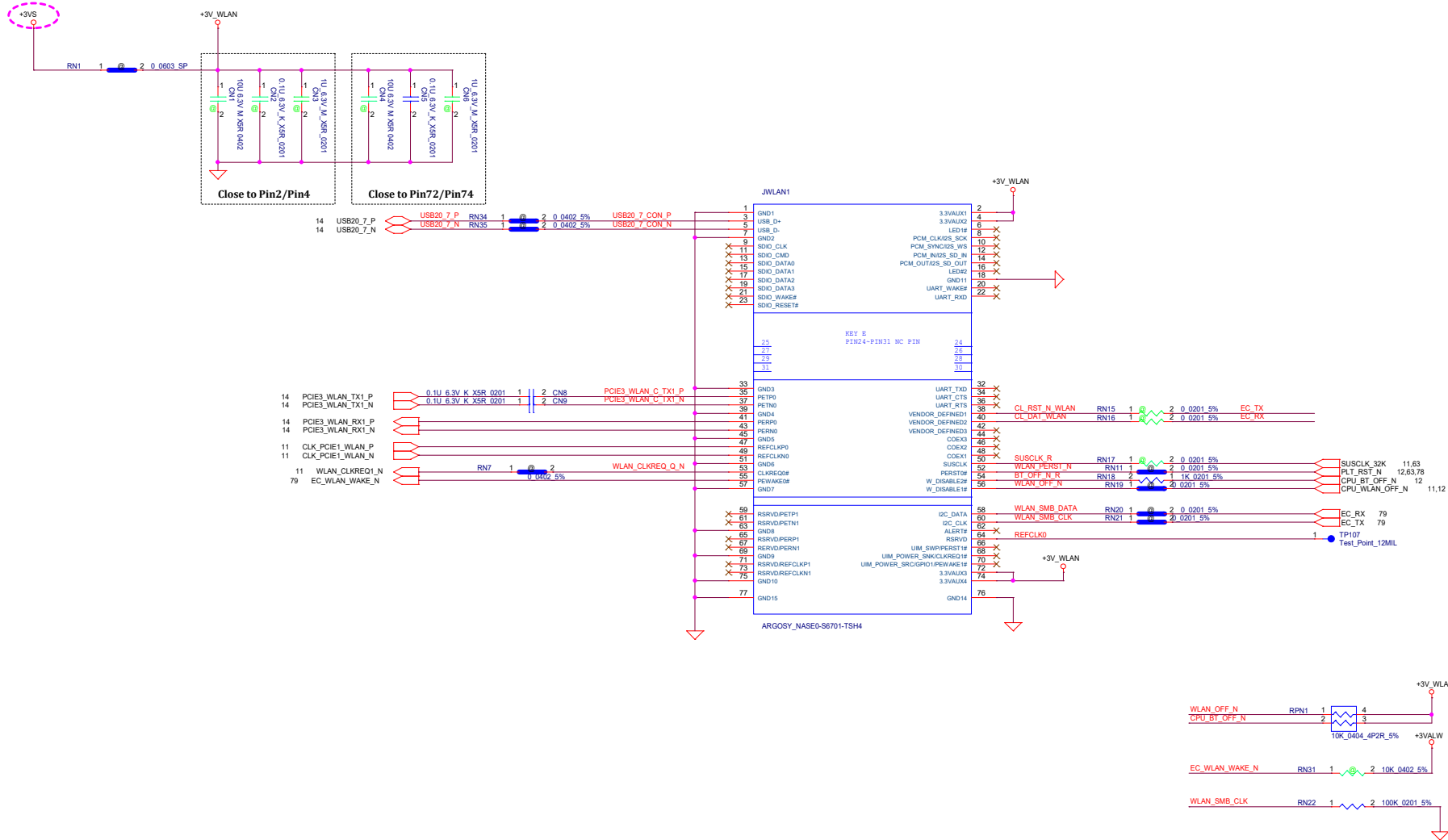
LCFC

Rev 0.3

S360\_AUC  
Card reader Circuit MOVE to SUB Board S360  
USB2.0 on SUB Board

# Mini-Express Card(WLAN/WiMAX)


## Copy Wlan common design



www.teknisi-indonesia.com




LAN Circuit MOVE to SUB Board in V360 DB V14V15

Security Classification		LCFC Highly Confidential Information		Title		S370_ABL V0.1			
Issued Date	2020/11	Deciphered Date	2022/12	Size	Document Number				
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.					B	LAN Chipset	Rev	0.3	
					Date:	Tuesday, December 21, 2021	Sheet	73	of 110



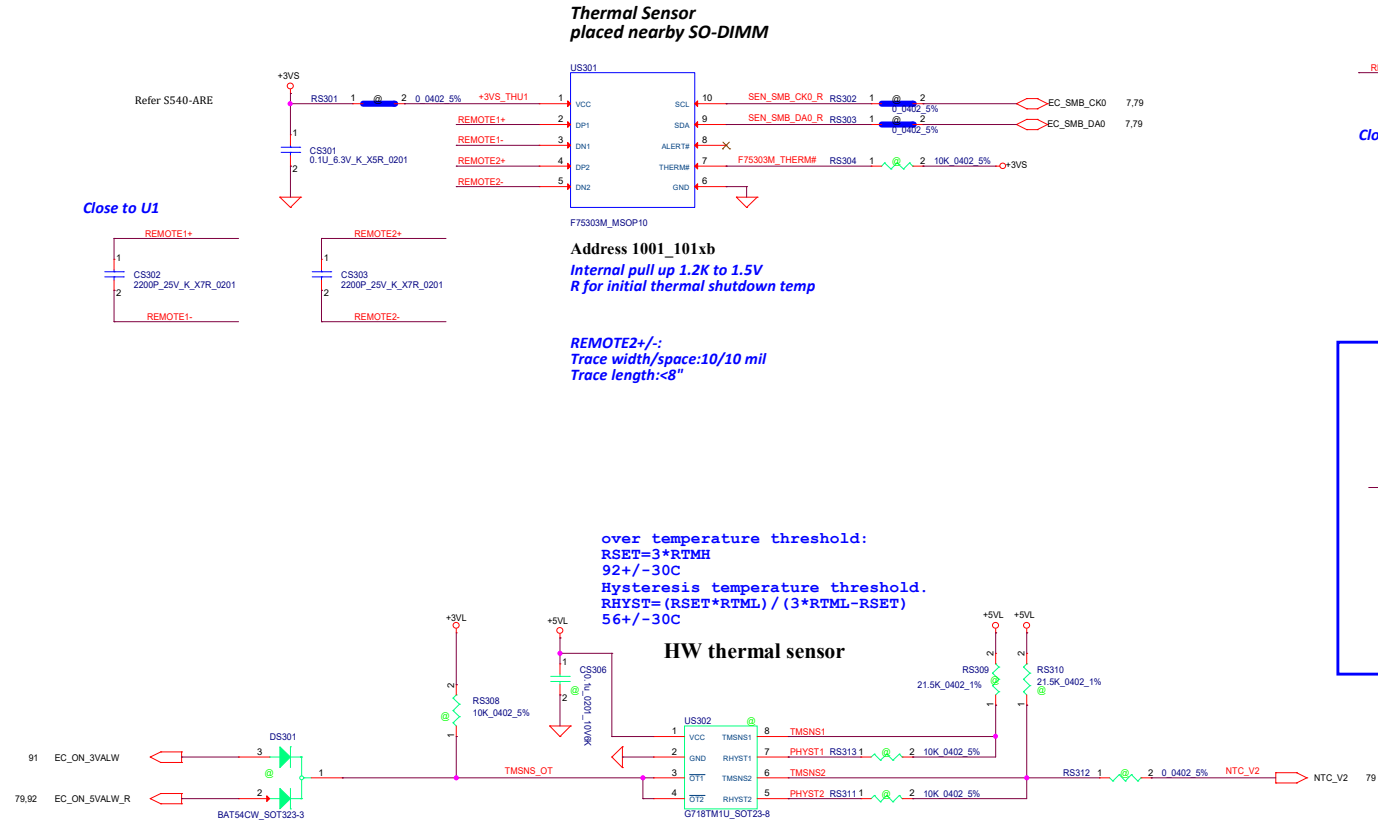
Security Classification	LCFC Highly Confidential Information			Title	S370_ABL V0.1		<div>LCFC</div>	
Issued Date	2020/11	Deciphered Date	2022/12	Size	Document Number	Rev		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				C	LAN Transformer	0.3		
				Date:	Tuesday, December 21, 2021	Sheet	74	of 110



Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>LAN CONN</b>		Rev	
								0.3	
Date: Tuesday, December 21, 2021									
Sheet 75 of 110									



# APU Thermal Sensor Follow S750\_ARH\_0701



USB2.0\_1 For USB2.0 Connector;  
USB2.0\_6 For S360 Card Reader

S360 ALC AMD Record

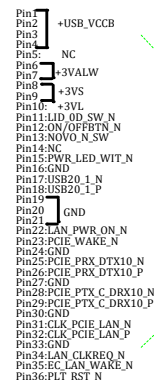
## IO CONN

IO小板上的Pin名字沿用S170-IJL的，但是USB信号以及PCIE信号实际Port口需要看MB上的信号名：

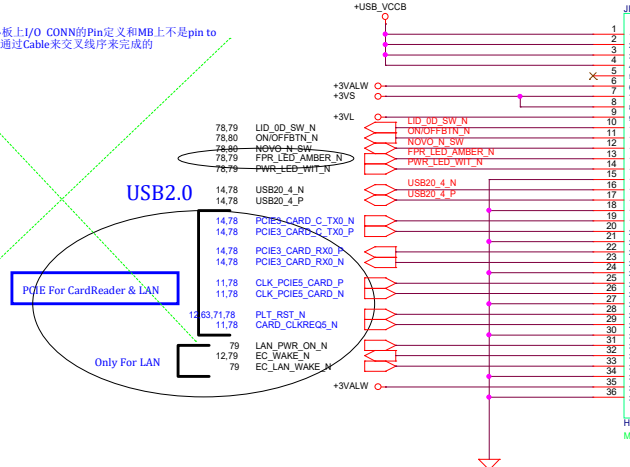
USB2.0\_4 For USB2.0 Connector;

V14V15: USB2.0 LAN

### V14V15 IO CON Pin define

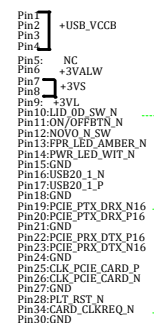


V1415的小板上I/O CONN的Pin定义和MB上不是pin to pin的,而是通过Cable来交叉线序来完成的

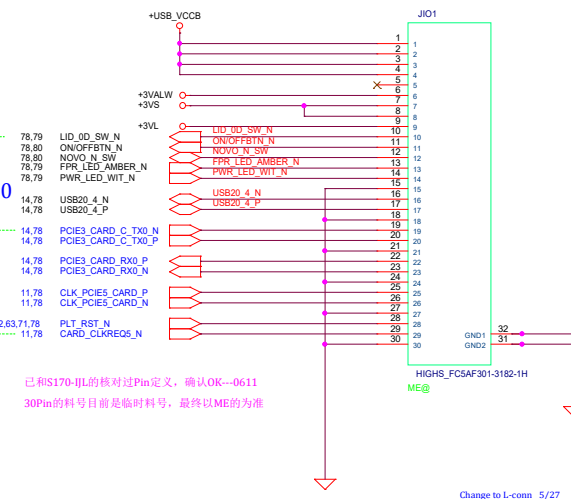


S170S370: USB2.0 CardReader

### S370/170 IO CON Pin define



S370/170的小板上IO CONN的Pin定义和MB上是pin to pin的，通过Cable直接连线来完成的。



已和S170-IJL的核对过Pin定义, 确认OK---0611

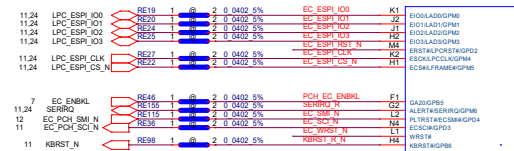
30Pin的料号目前是临时料号，最终以ME的为准

Change to L-conn 5/27

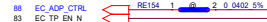
Security Classification		LCFC Highly Confidential Information		Title	
Issued Date		2020/11	Deciphered Date		2022/12
				S370_ABL V0.1	
				LCFC	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.					
Size C		Document Number			
		Sub Board CONN			
Date		Updated December 21 2021		18Sheet	78 of 110

Note: 20201104  
S370ABL0310  
S IC IT8227VG-128/CX BGA 128P CONTROLLER

### Used LPC Interface



### GPCh-S360\_ALC used as EC\_RTOST



### GPCh-S360\_ALC used as TE4



### RE99 NC P\_APU\_OCP power Reserved

GPCh-S360\_ALC used as EC\_VBUS\_1

### For PMIC LV5028



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



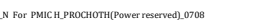
### EC\_VPP\_PWREN



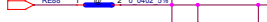
### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



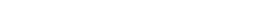
### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



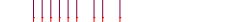
### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



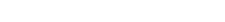
### EC\_VPP\_PWREN



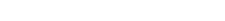
### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



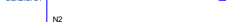
### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



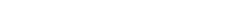
### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



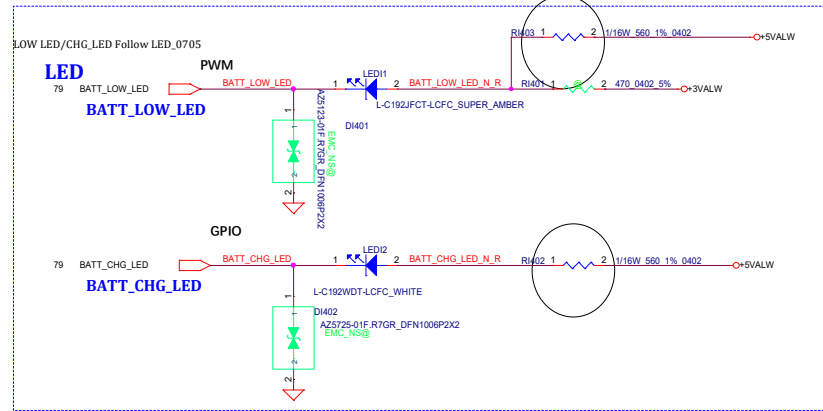
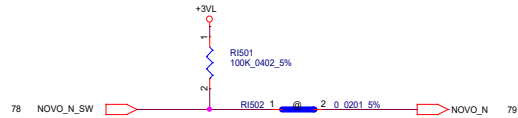
### EC\_VPP\_PWREN



### EC\_VPP\_PWREN



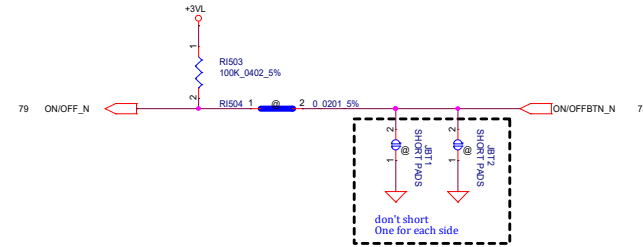
## NOVO BUTTON



Power LED  
check S750\_ARH IO Board\_0705

## PWR BUTTON

Nove button: follow S750 RI504 0R, Intel 2.2k

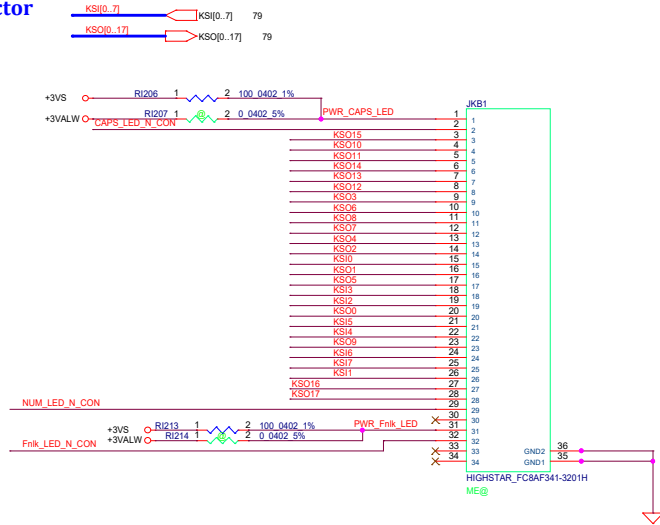


www.teknisi-indonesia.com

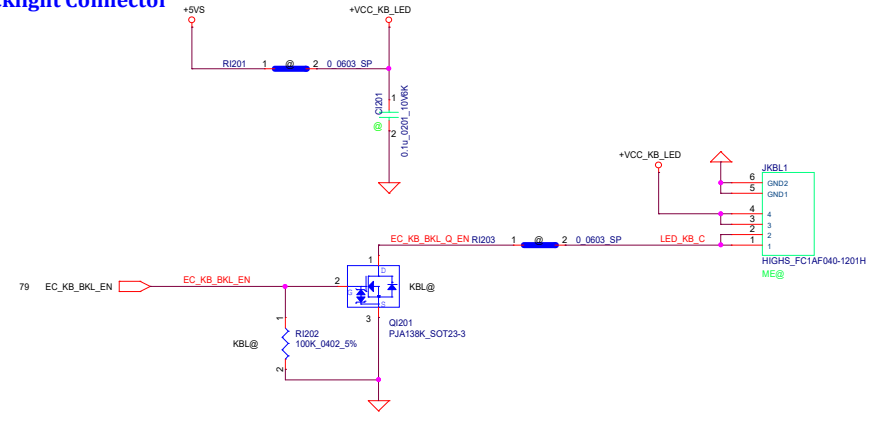
LED	State	LED Behavior
State (Same as the power button LED)	System on	White on (battery 21%-100%)
	Standby LED closed	500ms on, 500ms off (battery 0%-20%)
	System off	OFF
	Battery only	OFF
Charging	Charging	Amber on (battery 1%-90%)
		White on (battery 91%-100%)



## K/B Connector



## KB Backlight Connector

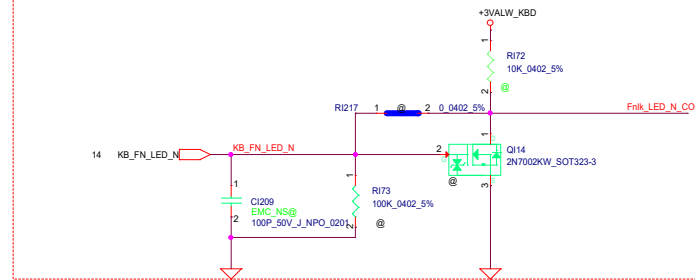


the diffrent with module:  
1.modulel No 15 KB,S360&V14V15 have

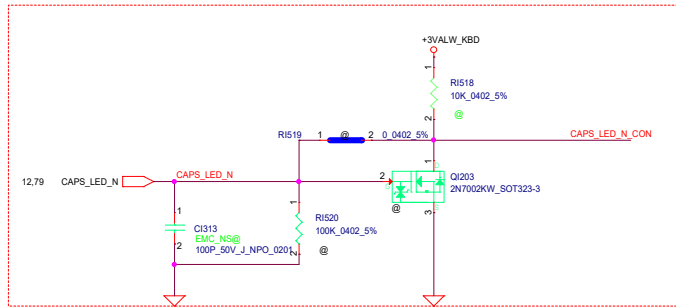
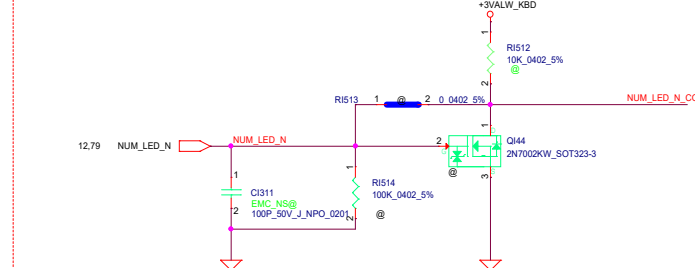
## K/B Connector



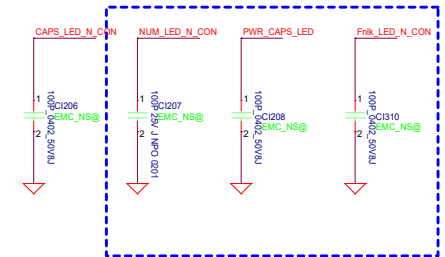
## Fnlk\_LED#\_Follow S550\_are\_0706



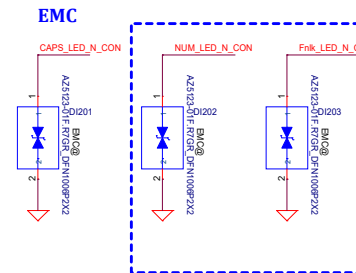
## ADD Number LED



C1209/C1313/C1311 unstuff\_SIT\_1003




## close to Conn



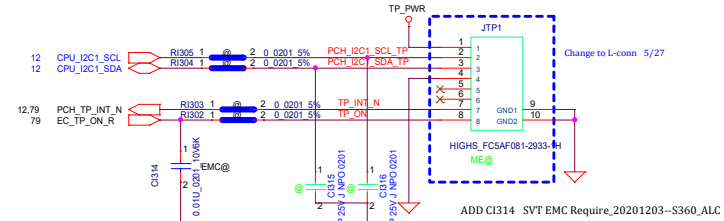
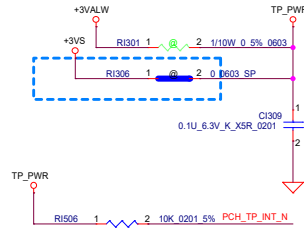
Security Classification		LCFC Highly Confidential Information		Title		S370_ABL V0.1	LCFC
Issued Date		2020/11	Deciphered Date		2022/12		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.							
Size	C	Document Number					Rev
		KB/KBBL CONN					0.3
Date:		Tuesday, December 21, 2021			Sheet	81	of 110



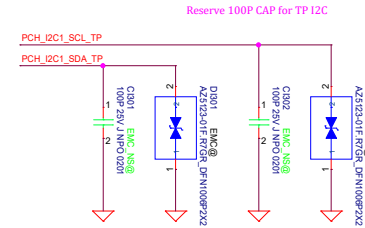
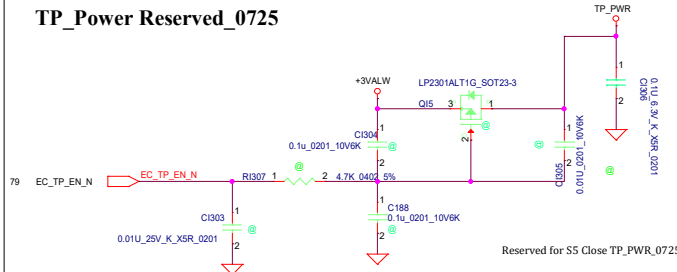
Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>Anti Ghost KB</b>		Rev	
								0.3	
Date:				Tuesday, December 21, 2021		Sheet		82 of 110	

# **Touch Pad** (the diffrent with Base MODULE: 1.Module no RI306,S360&V14&V15 Rerserve) Intel 备注

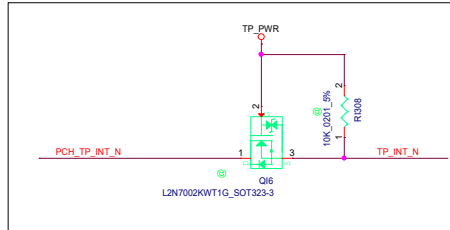
Need support wake up by touch pad  
Follow latest UE spec



## **TP\_Power Reserved\_0725**

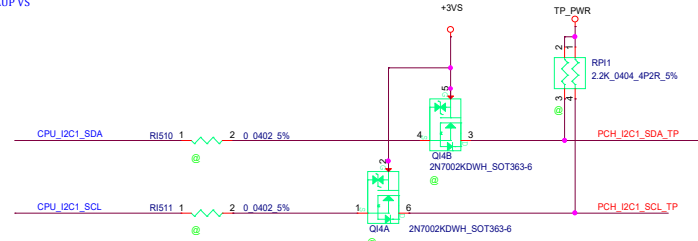


Follow S750\_ARH ,S750\_ARH APU USE S5 Power,SO Reserve Mosfet\_0708

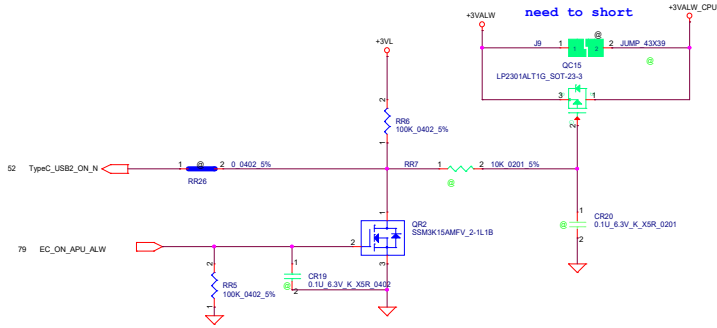


AUP VS

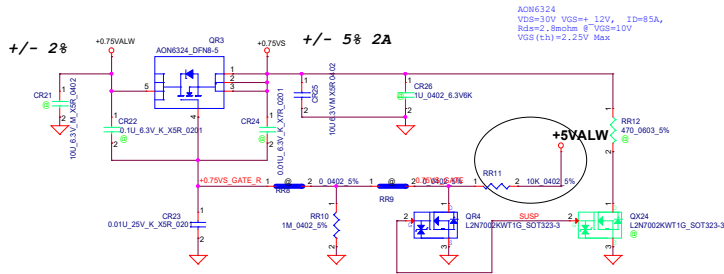
TP If use +3VALW power,need to levelshift,need to check\_0702



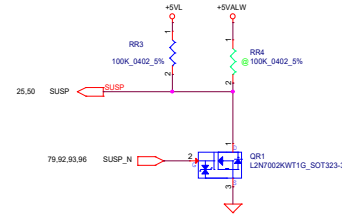
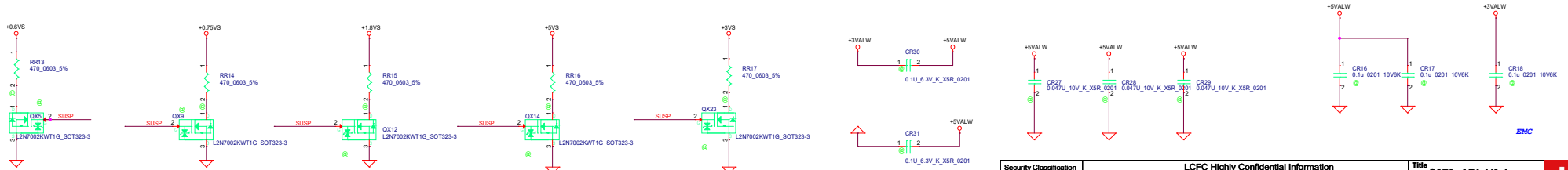
TO +3VALW\_APU




TO +0.75VS



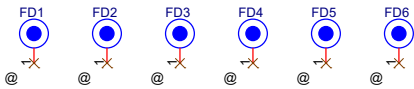
For DisCharge



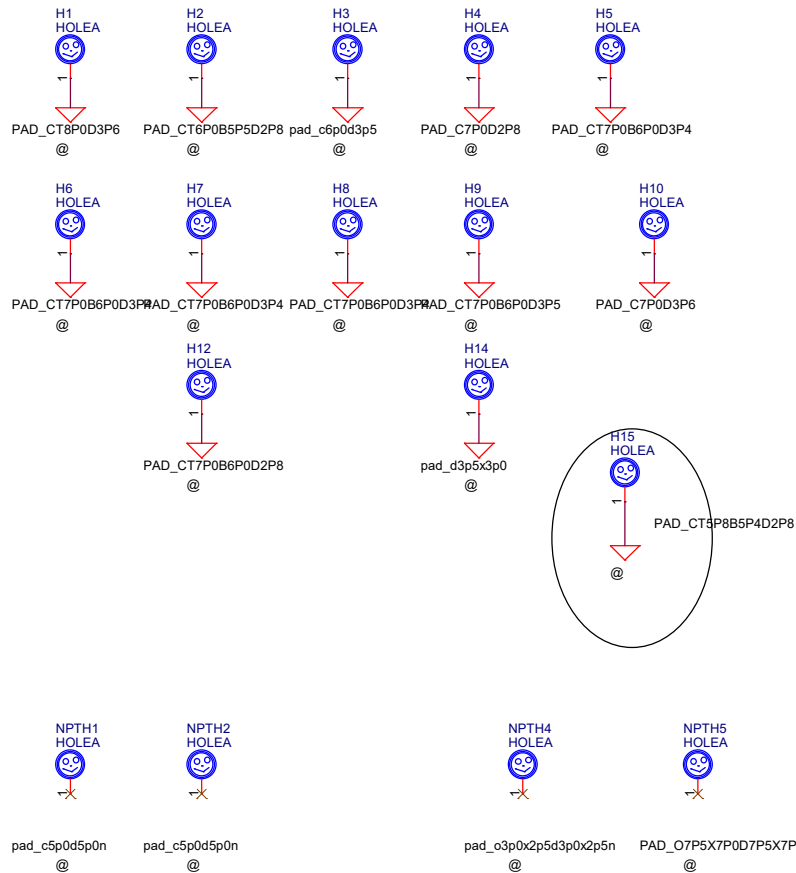


Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<b>DCDC MS PWR</b>		Rev	
								0.3	
Date:				Tuesday, December 21, 2021		Sheet		85 of 110	

## PCB Fedical Mark PAD

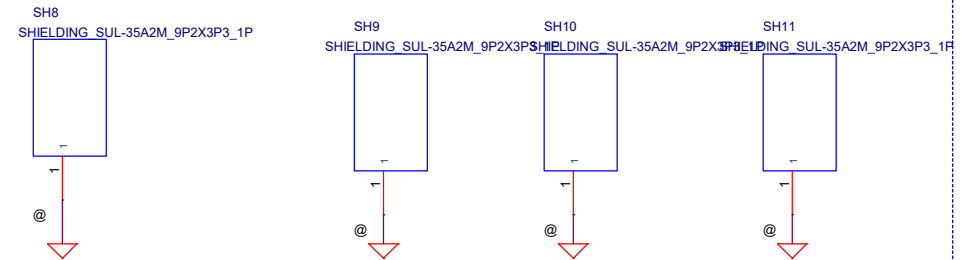


## Hole

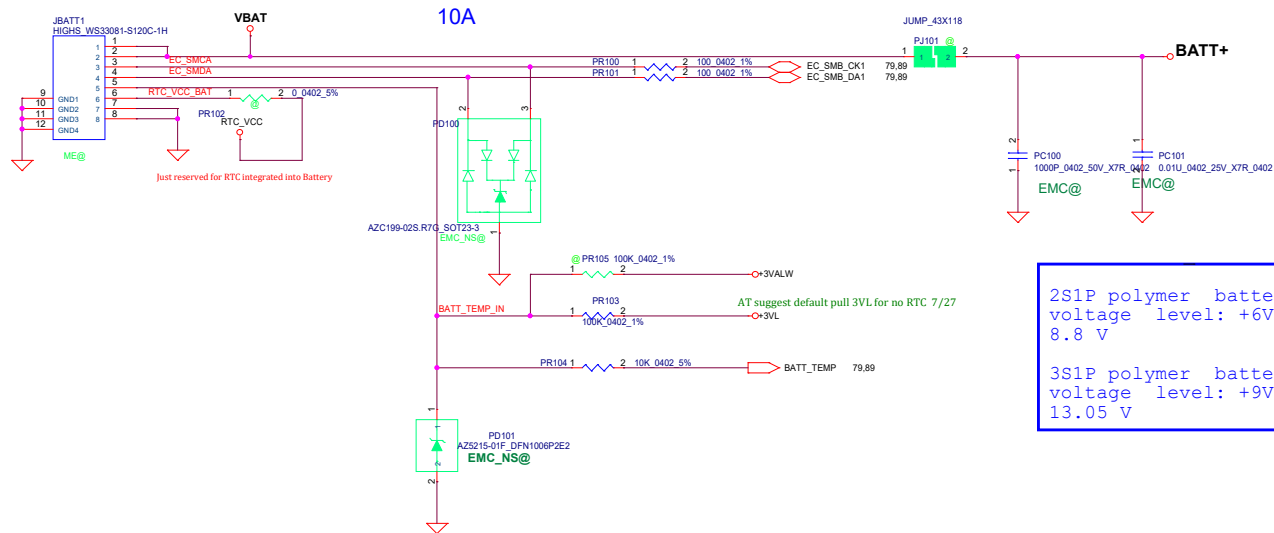


## MD Shielding

## SO-DIMM Shielding

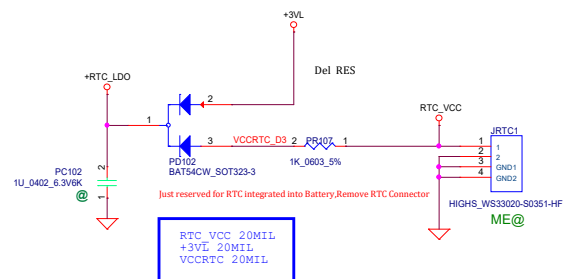


Security Classification		LCFC Highly Confidential Information		Title		<div> <div>S370_ABL V0.1</div> <div>LCFC</div> </div>
Issued Date	2020/11	Deciphered Date	2022/12	Size	Document Number	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.						Rev
						0.3
Date: Tuesday, December 21, 2021						Sheet
						86 of 110




2S1P polymer battery  
voltage level: +6V ~  
8.8 V

3S1P polymer battery  
voltage level: +9V ~  
13.05 V

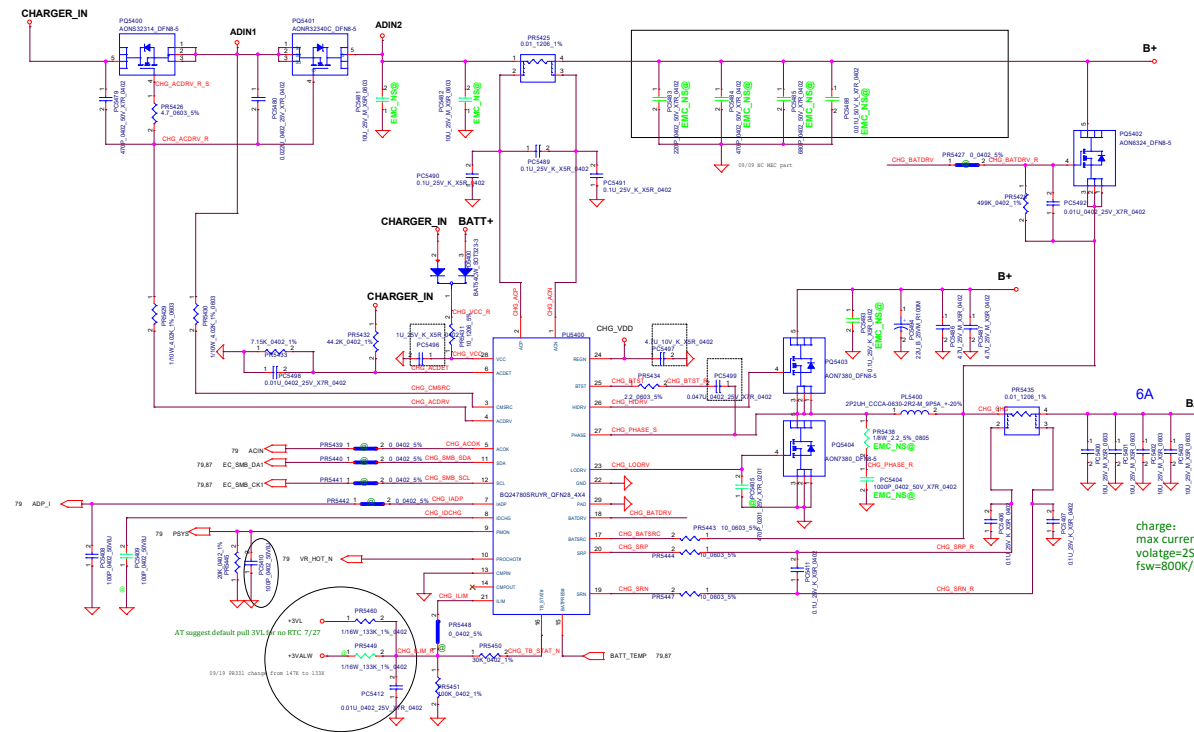


teknisi-indonesia.com



Security Classification	LCFC Highly Confidential Information			Title	S370_ABL V0.1			
Issued Date	2020/11	Declassified Date	2022/12	Issue Number	PWR ACIN			
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CEMENT AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RAILWAY GROUP LIMITED TO ANY OTHER PERSON OR ENTITY WITHOUT THE WRITTEN AUTHORIZATION OF LC FUTURE CEMENT. NO INFORMATION CONTAINED HEREIN MAY BE USED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CEMENT.</p>					Date	10/25/2023	Sheet	88 of 110





charge:  
max current=5.8A  
voltage=25  
fsw=800K/REG0x12[9:8] = 01

ACDECT setting 17.2V  
Charge current limit HW=7A  
DC discharge limit =28A  
Discharge current limit HW=9A during Turbo boost

IDPM	V(ILIM)	PR5320
500mA	1.2V	402K
1.0A	1.4V	332K
1.5A	1.6V	280K
2.0A	1.8V	237K
3.0A	2.2V	174K
3.25A	2.3V	162K
4.0A	2.6V	162K

← LOGIC

$$VILIM=1V+40x(VACP-VACN)=1+40xIDPMxRAC$$

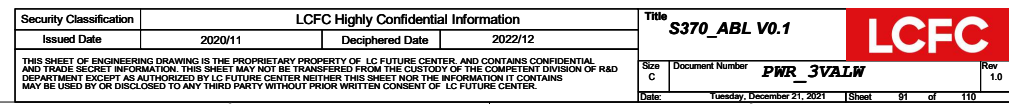
IND IN USE	PR5333
1uH	93K
2.2uH	137K
3.3uH	169K

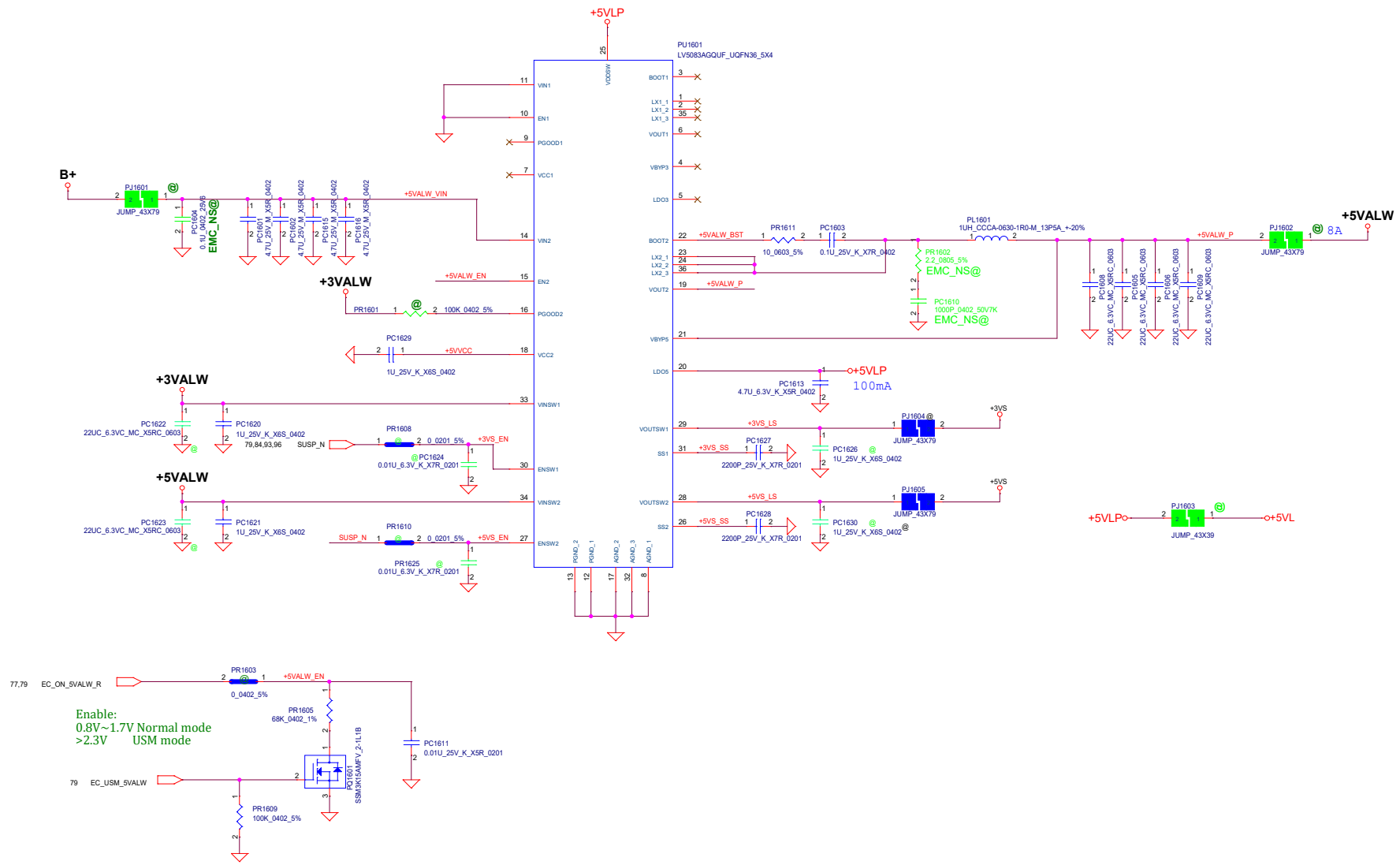
← LOGIC

# of CELL	VCELL PRES	PR5322
1-CELL	1.5V	301K
2-CELL	2.4V	150K
3-CELL	3.3V	82K
4-CELL	4.5V	33.2K

← LOGIC

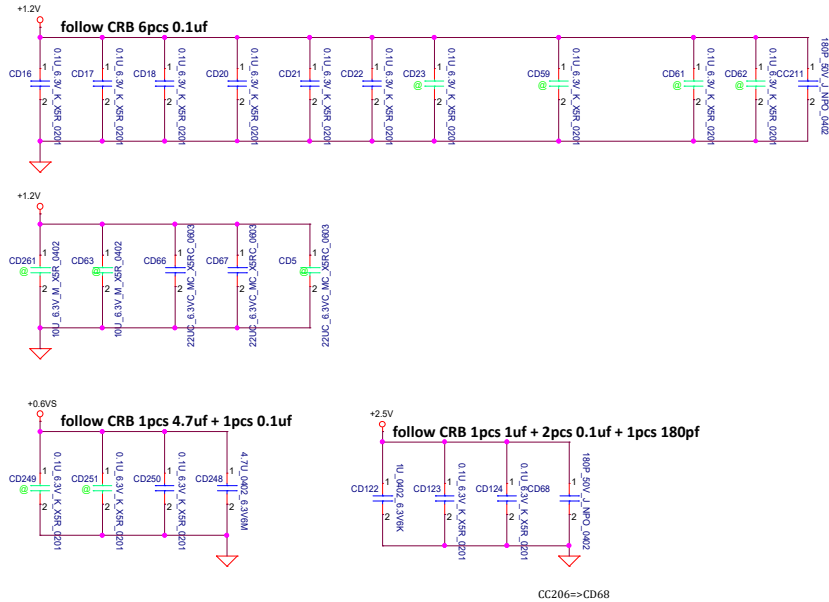




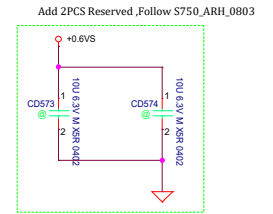
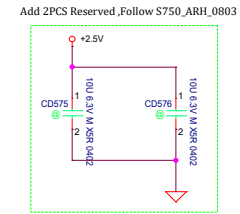
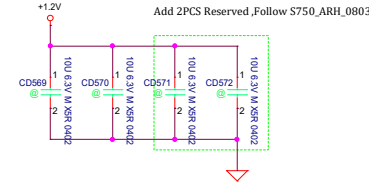




**EE Side Channel A SODIMM**  
Follow S350\_ARE\_0803

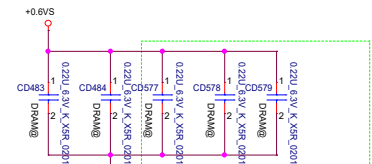
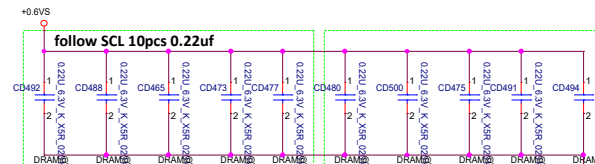
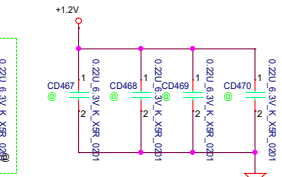
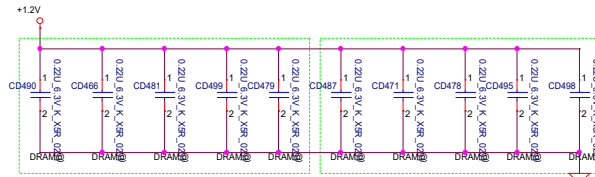
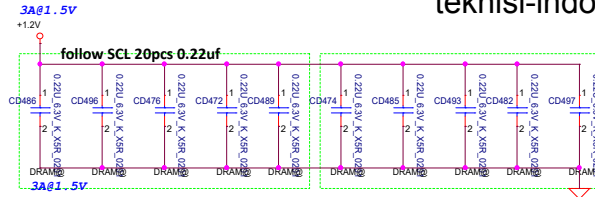


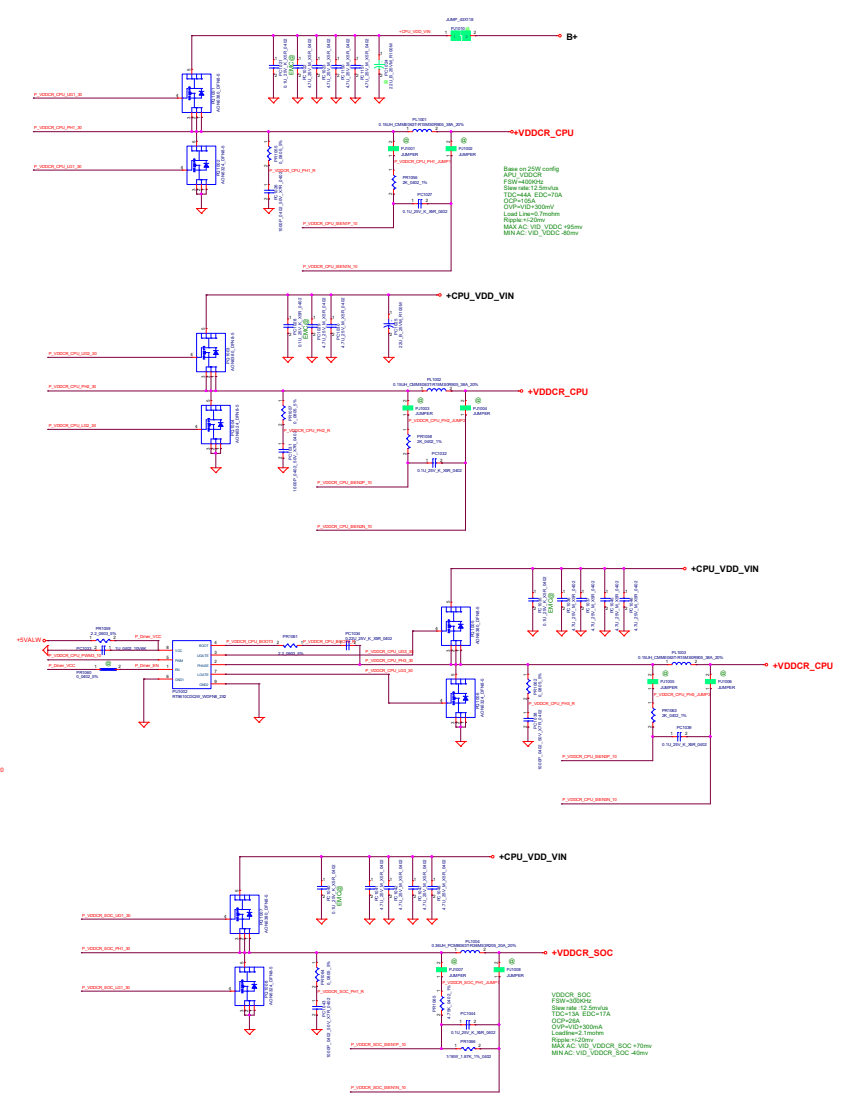
**EE Side Channel B MD**

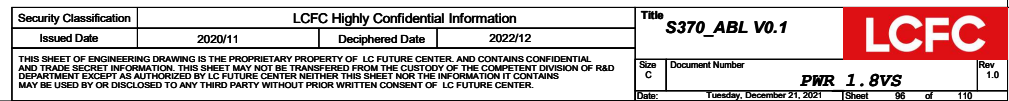


**Layout Note: Place near DRAM**

teknisi-indonesia.com



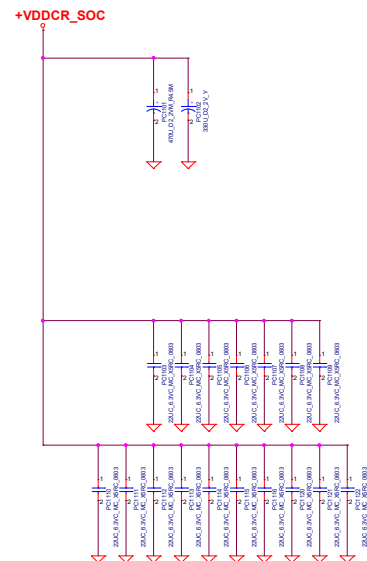









Security Classification	LCFC Highly Confidential Information			Title	S370_ABL V0.1		<div>LCFC</div>
Issued Date	2020/11	Deciphered Date	2022/12	Size	Document Number	Rev	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				C	<Doc>	1.0	
				Date:	Tuesday, December 21, 2021	Sheet	97 of 110



5		4		3		2		1	





Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size		C		Document Number		<Doc>		Rev	
								8.0	
Date:				Tuesday, December 21, 2021		Sheet		101 of 110	





www.teknisi-indonesia.com


Security Classification	LCFC Highly Confidential Information			Title	S370_ABL V0.1		LCFC
Issued Date	2020/11	Deciphered Date	2022/12	Size	Document Number	Rev	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				B	PWR GPU PWR2	1.0	
				Date:	Tuesday, December 21, 2021	Sheet	104 of 110



5	4	3	2	1
D				
C				
B				
A				
Security Classification		LCFC Highly Confidential Information		
Issued Date	2020/11	Deciphered Date	2022/12	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.				
Size B	Document Number <Doc>			Rev 1.0
Date:	Tuesday, December 21, 2021			Sheet 105 of 110





Security Classification		LCFC Highly Confidential Information		Title		<b>S370_ABL V0.1</b>			
Issued Date		2020/11		Deciphered Date		2022/12			
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY LC FUTURE CENTER. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF LC FUTURE CENTER.</small>									
Size	C	Document Number				<Doc>		Rev	1.0
Date:		Tuesday, December 21, 2021				Sheet	107	of	110





