

LCFC Confidential


G Project M/B Schematics Document

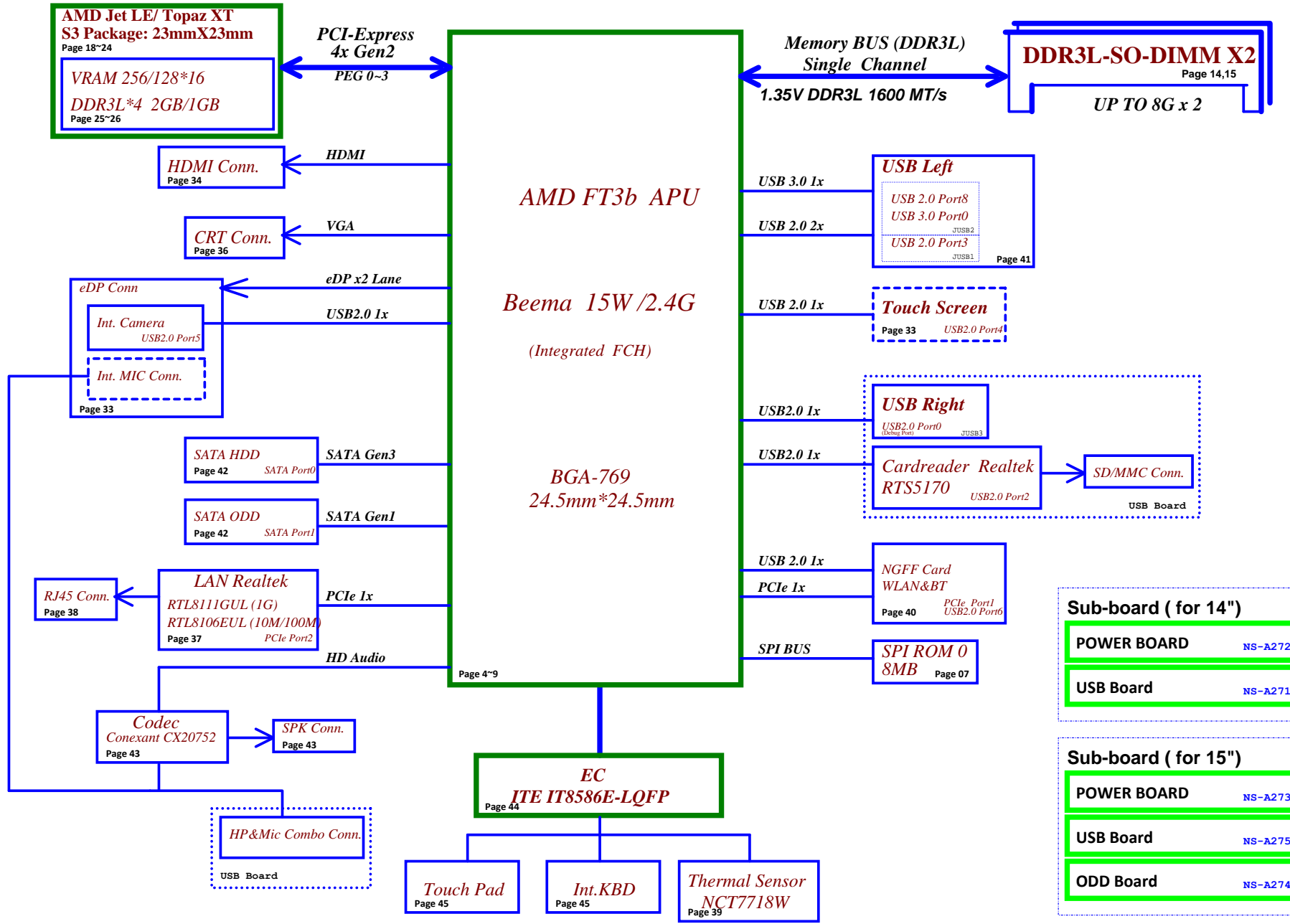
AMD FT3B Beema SOC with DDRIIL

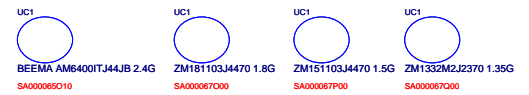
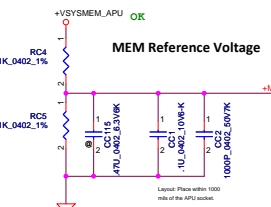
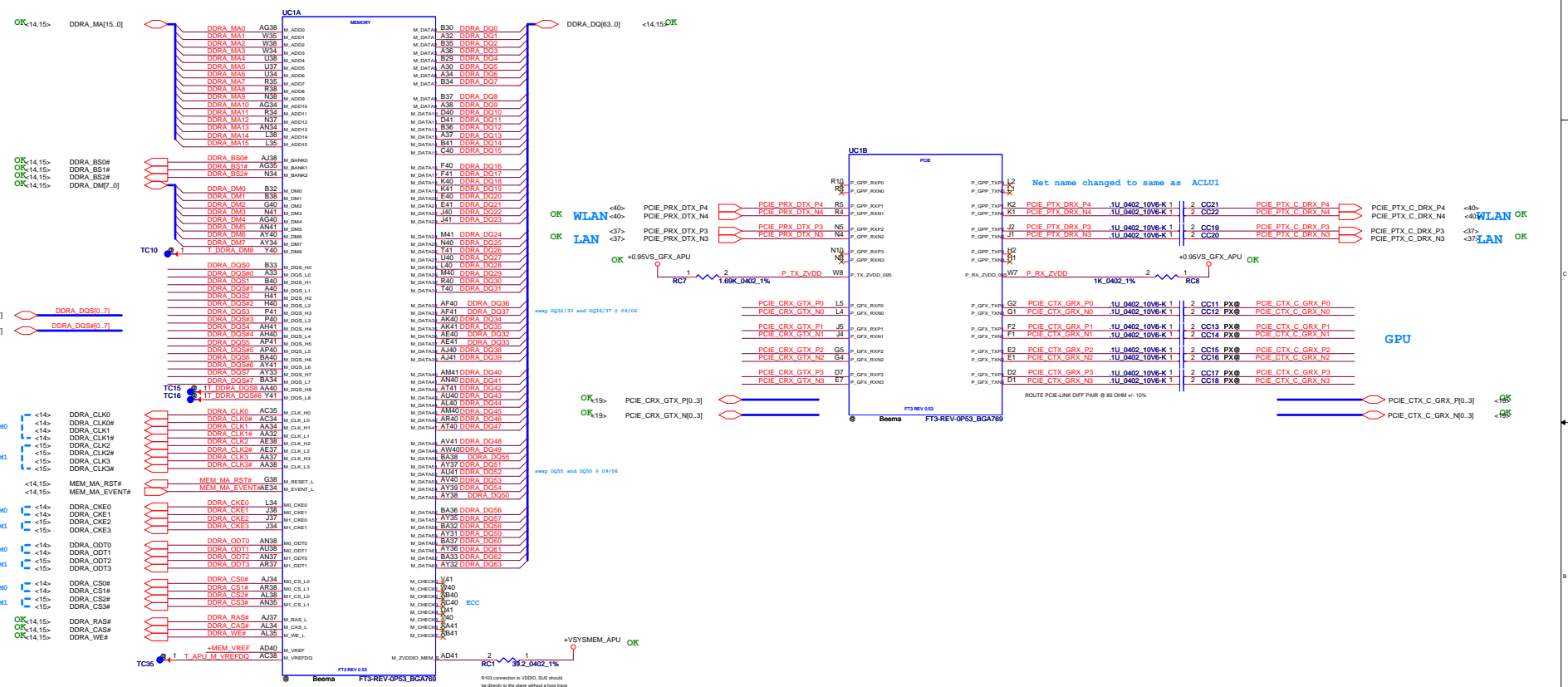
AMD JET-LE

2014-2-12

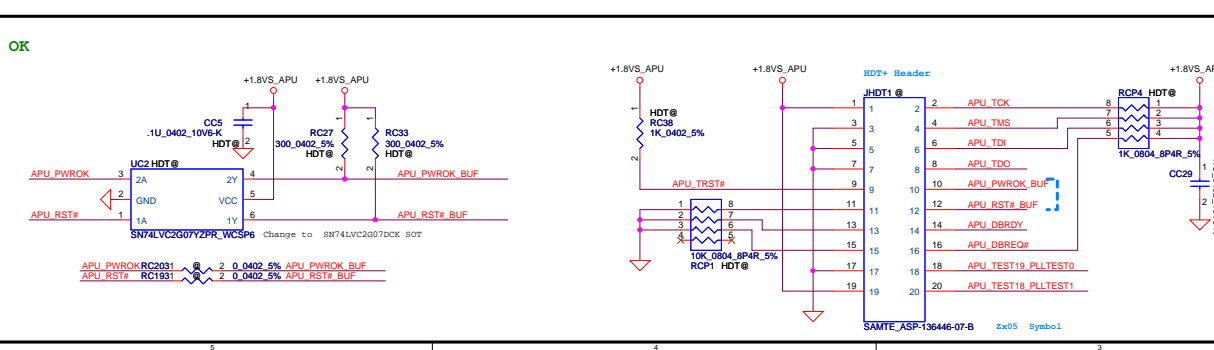
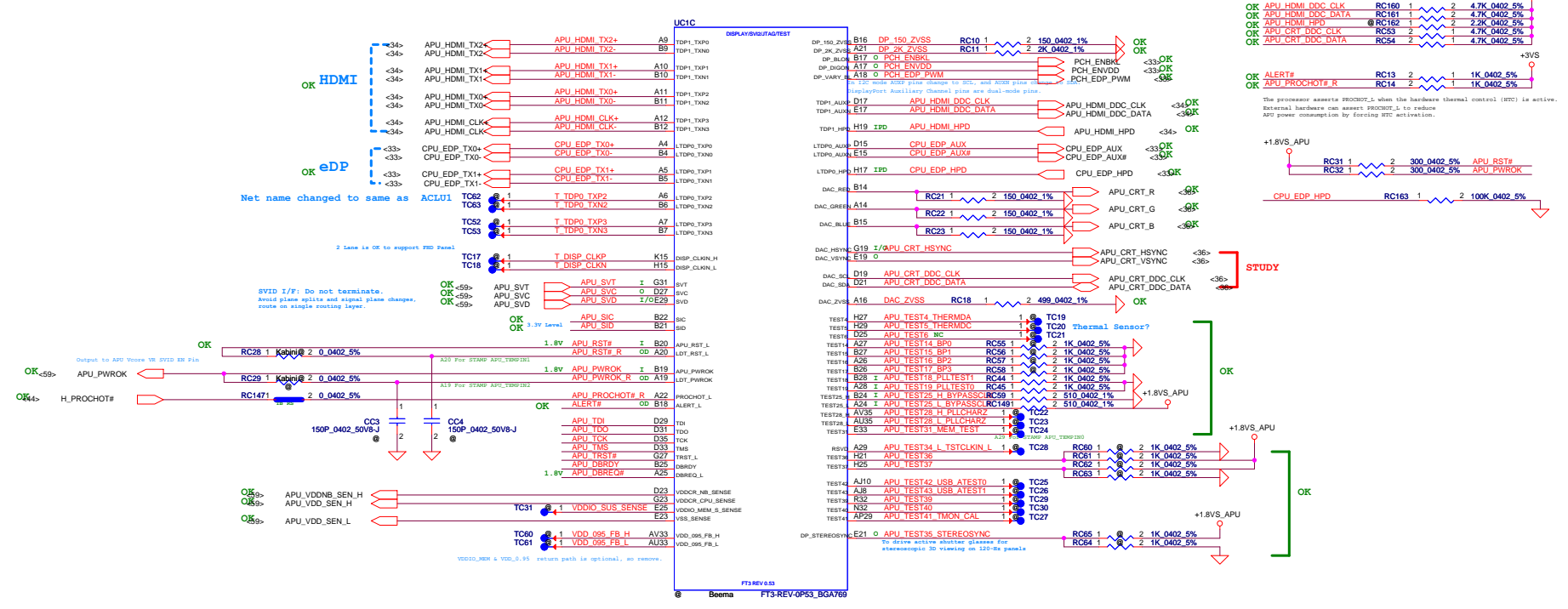
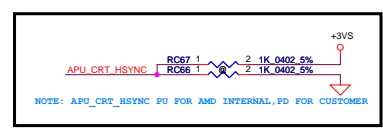
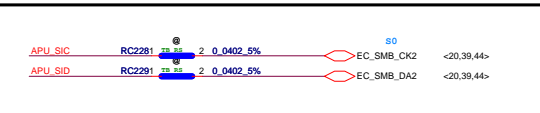
REV: 0.4

Security Classification	LC Future Center Secret Data			Title		
Issued Date	2013/08/15	Deciphered Date	2013/08/15	Cover Page		
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 Custom	Document Number NM-A281	Rev 0.4
				Date:	Thursday, February 20, 2014	Sheet 1 of 60

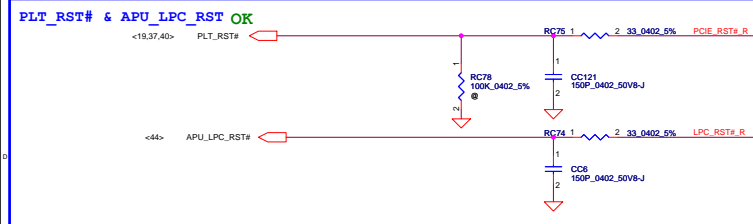




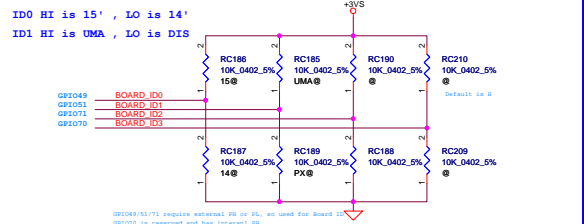
Security Classification	LC Future Center Secret Data		Title	Beema (MEM & PCIE I/F)
Issued Date	2013/08/15	Deciphered Date	2013/08/15	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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	NM-A281		Rev	0.4
Date	Thursday, February 20, 2014		Sheet	4 of 60



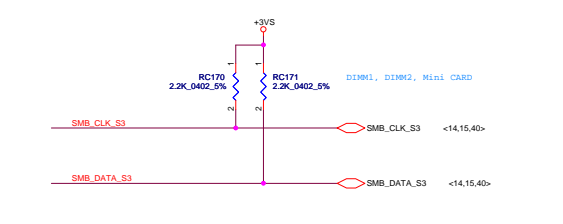
Security Classification		LC Future Center Secret Data		Title	
Issued Date	2013/08/15	Deciphered Date	2013/08/15	Beema (DISPLAY/CLK/MISC)	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RA 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 Custom	Document Number NW-A281
Date:	Thursday, February 20, 2014	Sheet	5	of	60



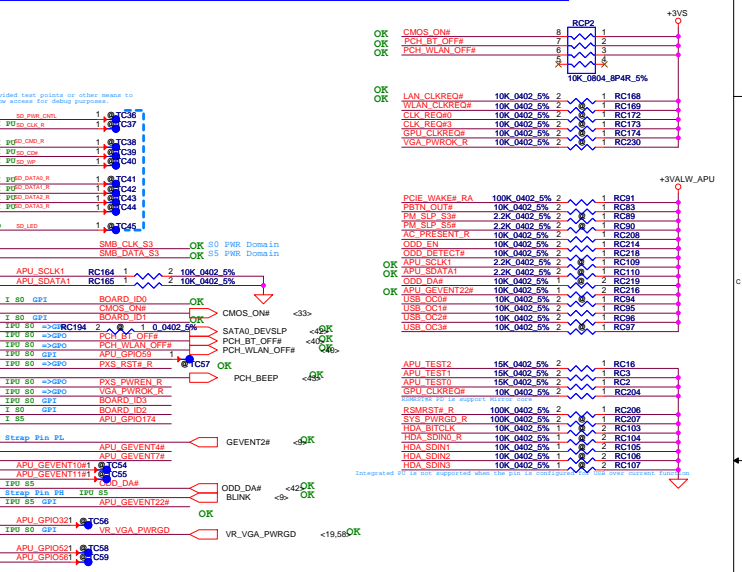
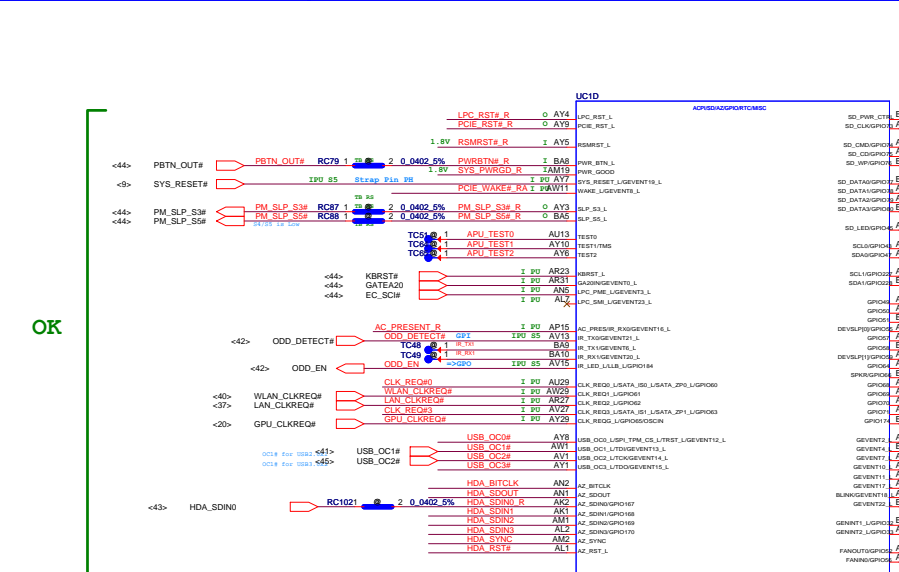
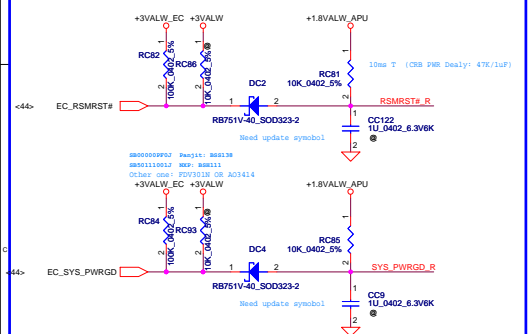
Broad ID OK



SMB_CLK_S3 OK



RSRMRST# OK



EC_WAKE# OK

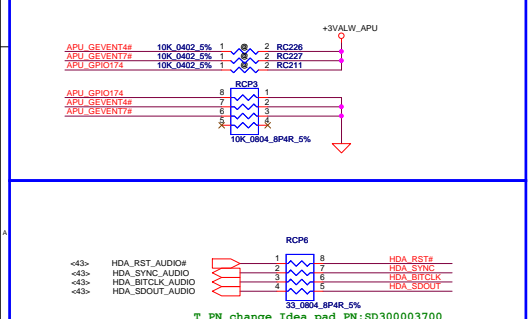
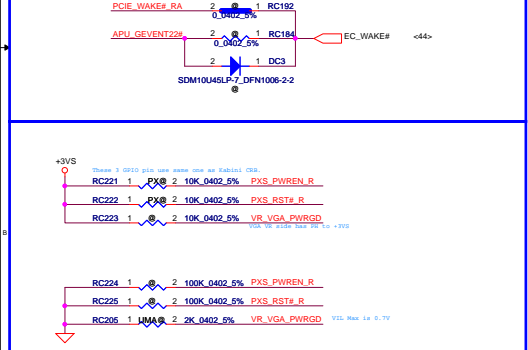
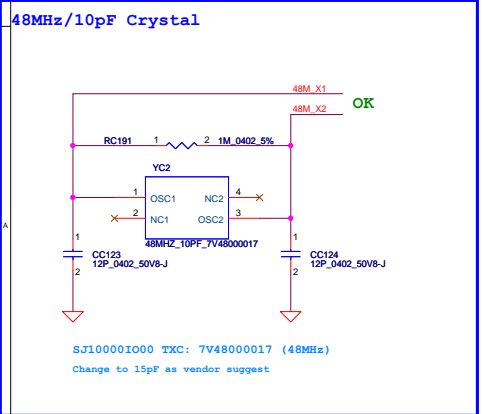
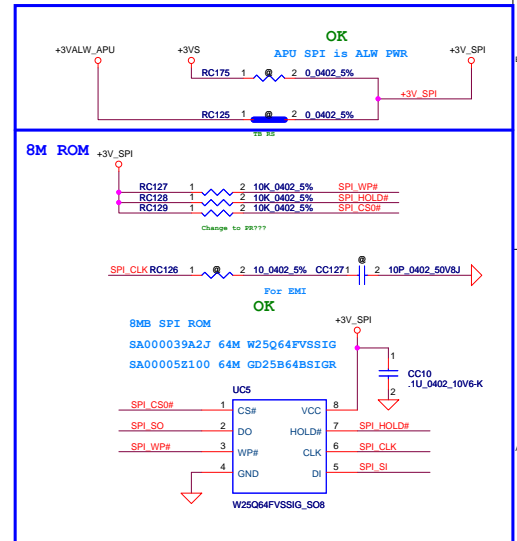
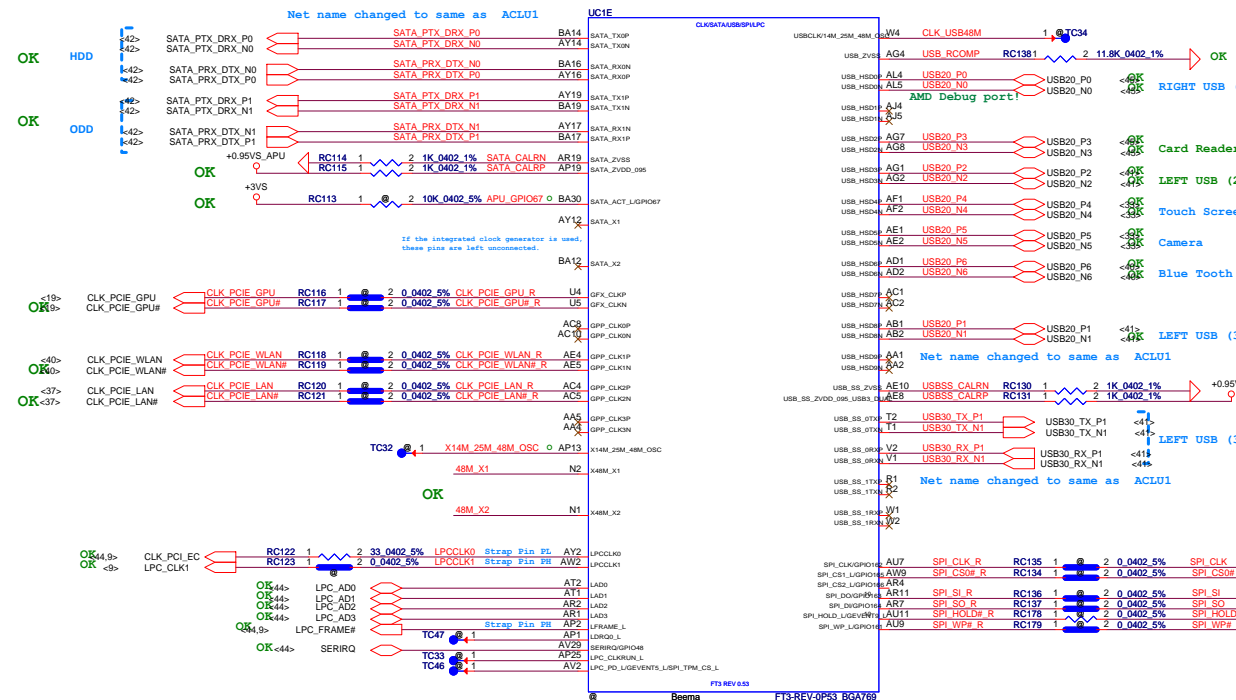
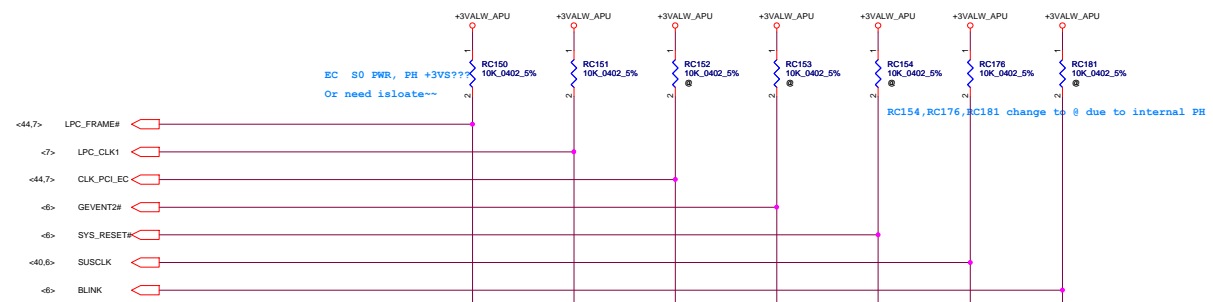


Table with Security Classification, LC Future Center Secret Data, Issued Date, Deciphered Date, Title, Beema (GEVENT/GPIO/SD/AZ) logo, Document Number, Date, and Revision information.



Security Classification	LC Future Center Secret Data		Title	Beema (SATA/USB/LPC/SPI/CLK)	
Issued Date	2013/08/15	Deciphered Date	2013/08/15	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.					
Date:	Thursday, February 20, 2014	Sheet	7	of	80



STRAP PINS

Signal	LFRAME_L	LPCCCLK1	LPCCCLK0	GEVENT2_L	SYS_RESET_L	RTCCLK	BLINK
Type	II	II	II	II	I	I	I
PULL HIGH	SPI ROM Default	Internal CLK Gen Default	Boot Fail Timer Enabled	1.8V SPI	Normal Power Up & Reset Timing Default	Coin Battery Default	LDT_RST#/ LDT_PWRGD output to APU Default
PULL LOW	LPC ROM	External CLK Gen	Boot Fail Timer Disabled Default	3.3V SPI Default	Reserved	Direct DC	Reserved

Type I straps become valid immediately after capture with the rising edge of RSMRST_L.
 Type II straps become valid after PWR_GOOD is asserted.
 All Strap pins must be configured with either external pull-up or pull-down resistors.

5

4

3

2

1

D

D

C


C

B

B

A

A

Security Classification	LC Future Center Secret Data			Title	
Issued Date	2013/08/15	Deciphered Date	2013/08/15	Blank	
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
				NM-A281	0.4
				Date:	Thursday, February 20, 2014
				Sheet	10 of 60

5

4

3

2

1

5

4

3

2

1

D

D

C


C

B

B

A

A

Security Classification	LC Future Center Secret Data			Title	
Issued Date	2013/08/15	Deciphered Date	2013/08/15	Blank	
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
				NM-A281	0.4
				Date:	Thursday, February 20, 2014 Sheet 11 of 60

5

4

3

2

1

5

4

3

2

1

D

D

C


C

B

B

A

A

Security Classification		LC Future Center Secret Data		Title	
Issued Date		Deciphered Date		Blank	
2013/08/15		2013/08/15			
<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&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	Rev
				Document Number	0.4
				NM-A281	
				Date:	Thursday, February 20, 2014
				Sheet	12 of 60

5

4

3

2

1

5

4

3

2

1

D

D

C


C

B

B

A

A

Security Classification	LC Future Center Secret Data			Title	
Issued Date	2013/08/15	Deciphered Date	2013/08/15	Blank	
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
				NM-A281	0.4
				Date: Thursday, February 20, 2014	Sheet 13 of 60

5

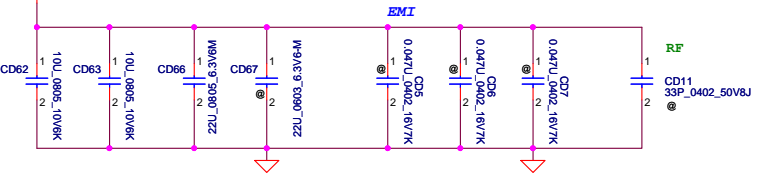
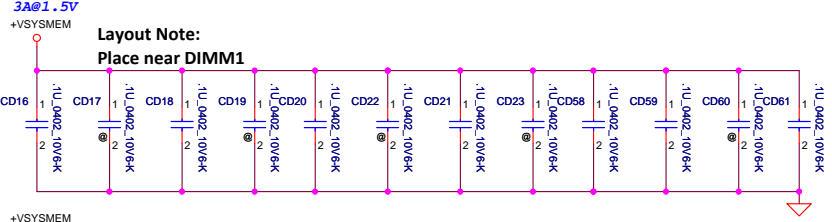
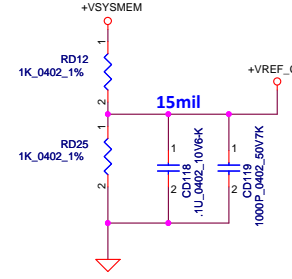
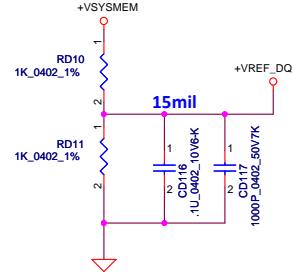
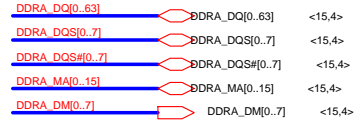
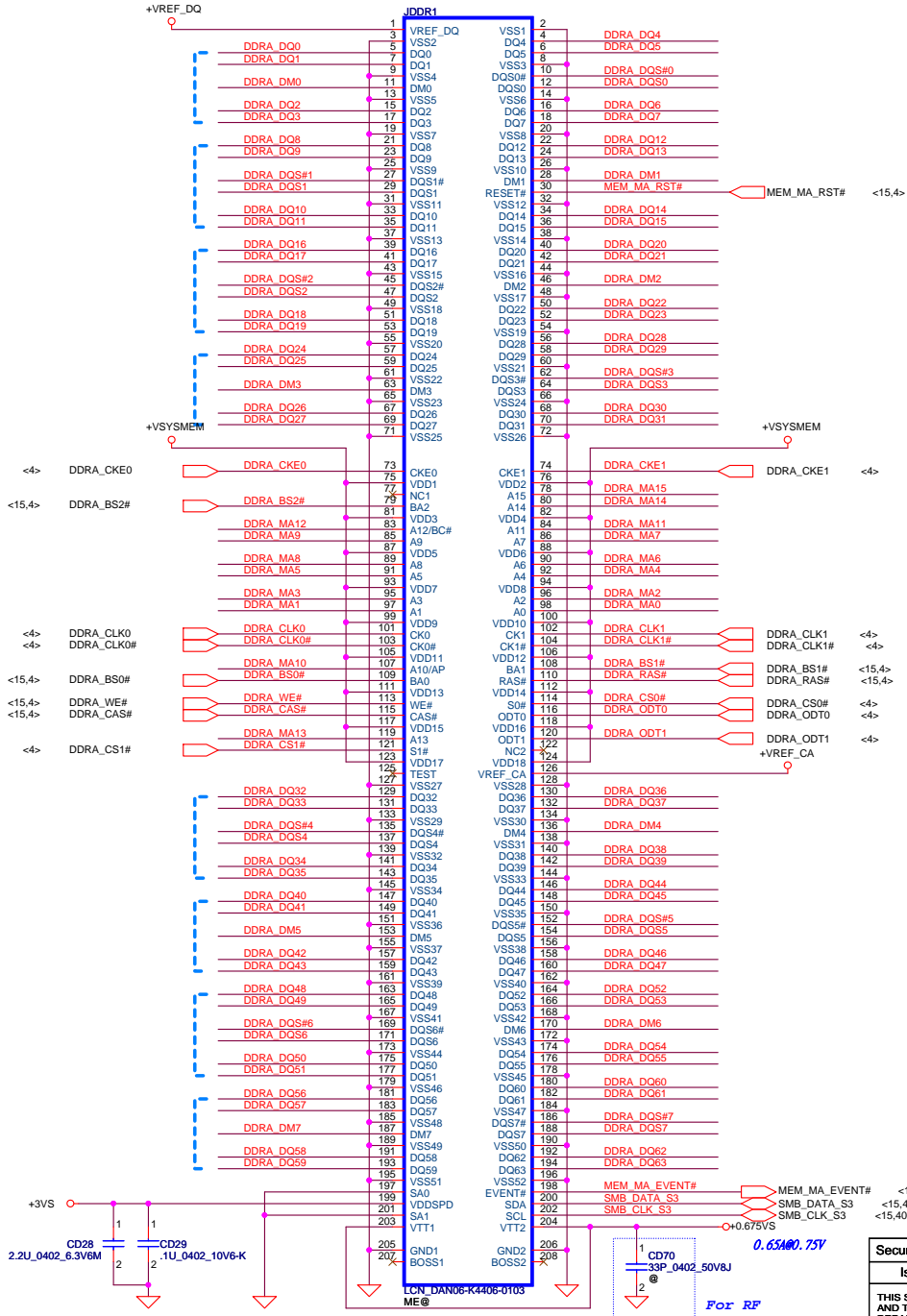
4

3

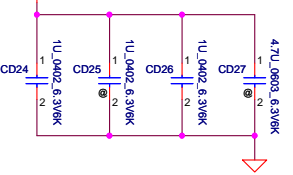
2

1

DDR3 SO-DIMM A

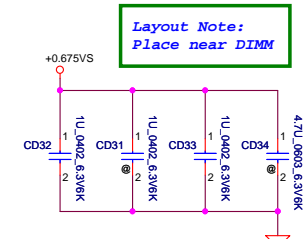
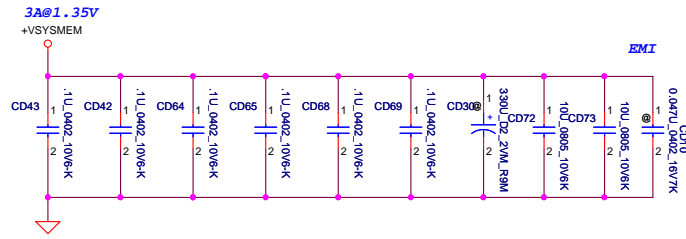
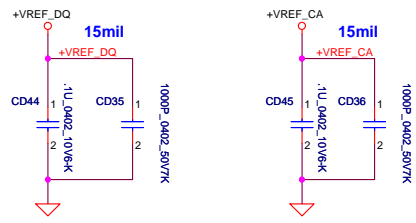
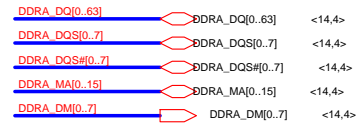
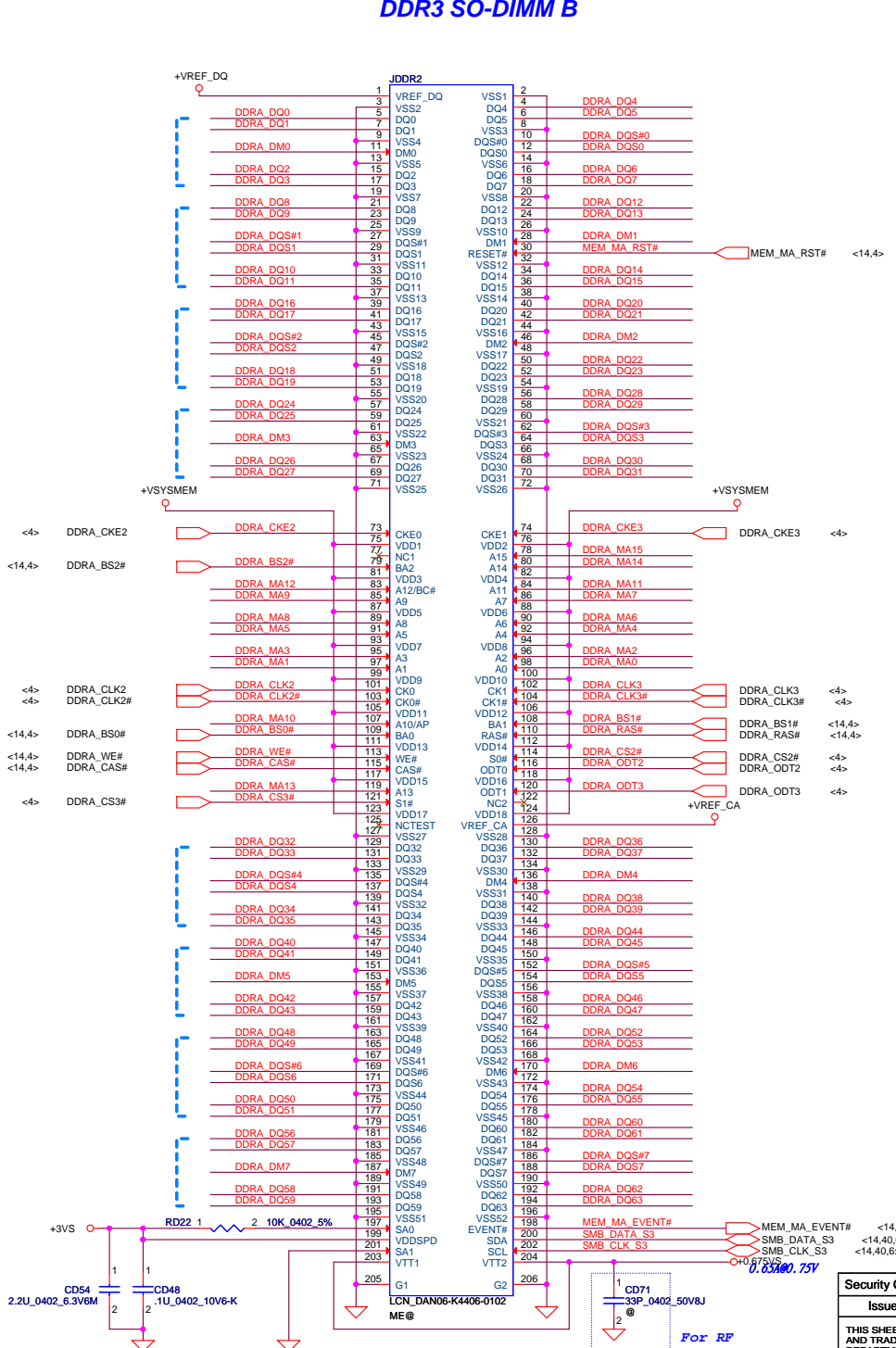


Layout Note: Place near DIMM



Security Classification	LC Future Center Secret Data		Title
Issued Date	2013/08/15	Deciphered Date	2013/08/15
			DDR3 SO-DIMM A
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 THE 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: Custom Document Number: NM-A281 Date: Thursday, February 20, 2014 Sheet: 14 of 60


DDR3 SO-DIMM B




Security Classification	LC Future Center Secret Data		Title
Issued Date	2013/08/15	Deciphered Date	2013/08/15
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 Custom Document Number NM-A281 Date: Thursday, February 20, 2014 Sheet 15 of 60



5	4	3	2	1
5	4	3	2	1

Security Classification	LC Future Center Secret Data		Title	
Issued Date	2013/08/15	Deciphered Date	2013/08/15	
<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 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.</p>				
Size	Document Number			Rev
Custom	NM-A281			0.4
Date:	Thursday, February 20, 2014		Sheet	16 of 60

5	4	3	2	1
5	4	3	2	1

Security Classification	LC Future Center Secret Data		Title	
Issued Date	2013/08/15	Deciphered Date	2013/08/15	
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	NM-A281			0.4
Date:	Thursday, February 20, 2014	Sheet	17	of 60

VGA Note list need to be update!

Power-Up/Down Sequence

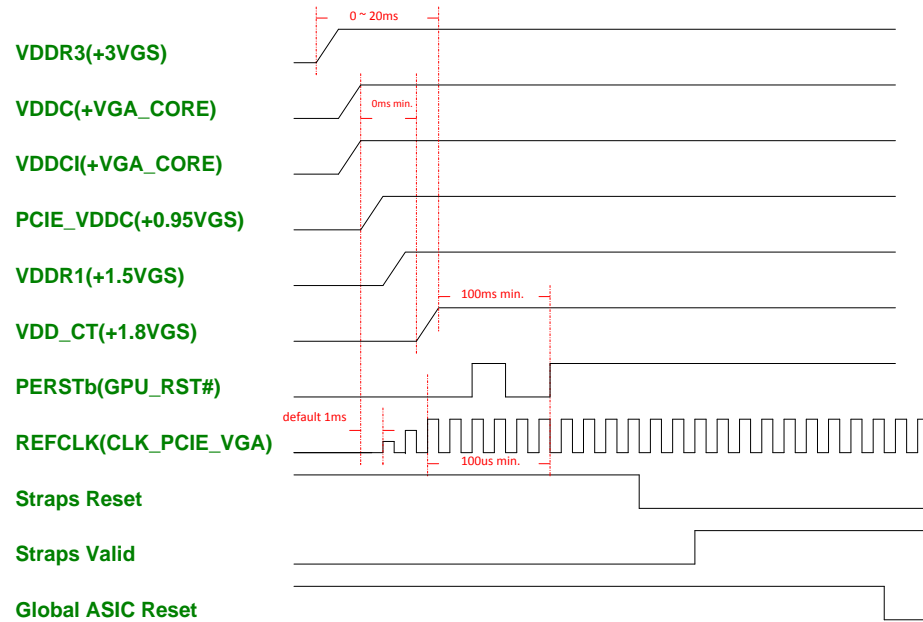
"Mars" has the following requirements with regards to power-supply sequencing to avoid damaging the ASIC:

- All the ASIC supplies must reach their respective nominal voltages within 20 ms of the start of the ramp-up sequence, though a shorter ramp-up duration is preferred. The maximum slew rate on all rails is 50 mV/μs.

The external pull ups on the DDC/AUX signals (if applicable) should ramp up before or after both VDDC and VDD_CT have ramped up.

VDDC and VDD_CT should not ramp up simultaneously. For example, VDDC should reach 90% before VDD_CT starts to ramp up (or vice versa).

For power down, reversing the ramp-up sequence is recommended.

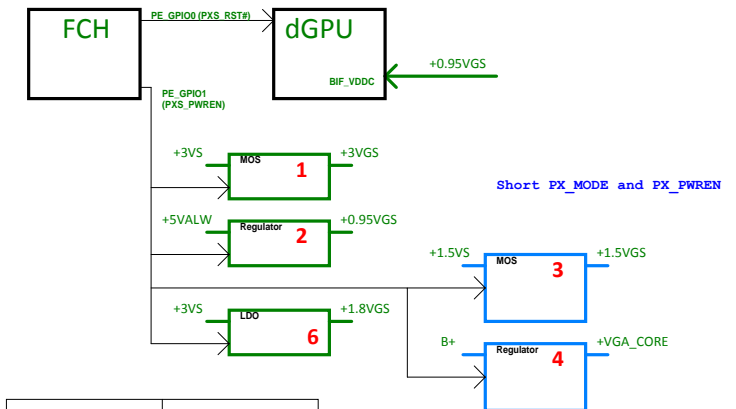


Without BACO option :

PE_GPIO0 : Low -> Reset dGPU ; High -> Normal operation
PE_GPIO1 : Low -> dGPU Power Off ; High -> dGPU Power ON

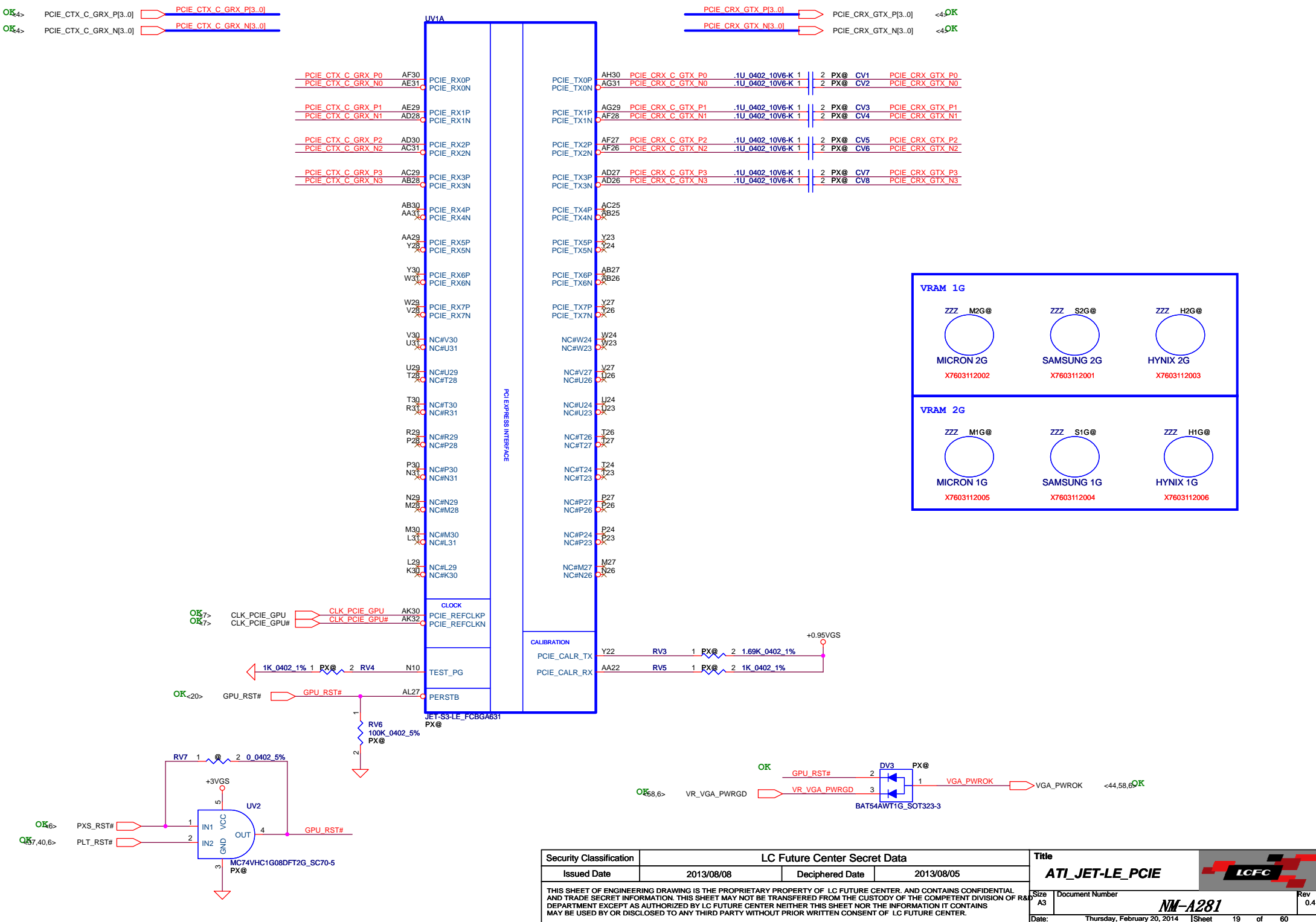
dGPU Power Pins	Voltage	Max current
VDD_CT, DP_VDDR, SPLL_PVDD, MPLL_PVDD, PCIE_PVDD, TSVDD, VDDR4, AVDD, VDD1D1	1.8V	1243mA
DP_VDDC, SPLL_VDDC, PCIE_VDDC, BIF_VDDC	0.95V	4560mA
VDDR3	3.3V	25mA
VDDR1	1.5V	1.5A
VDDC	0.8~1.125V	TBD
VDDCI	0.8~1.1V	8.8A

PX5.5



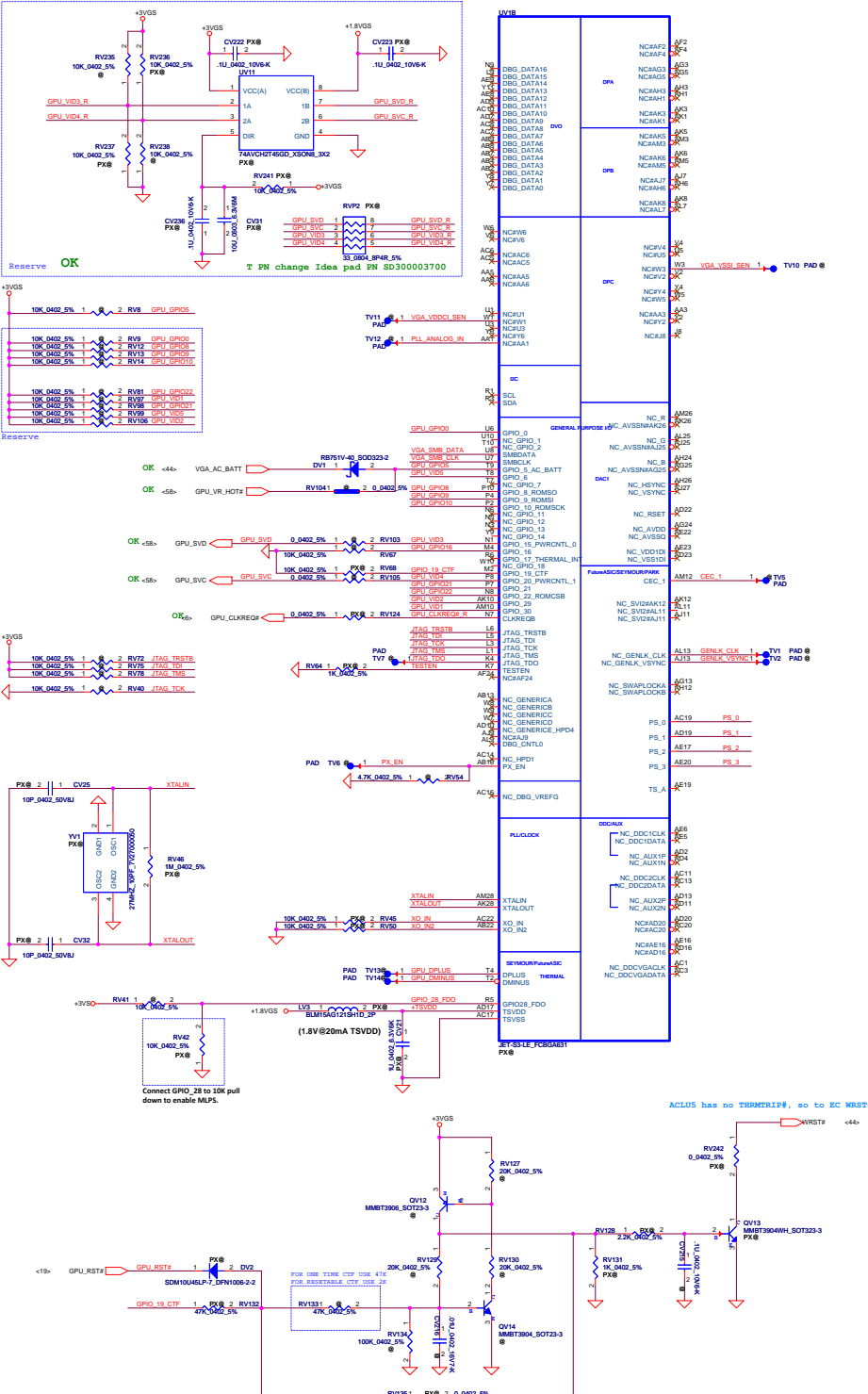
Name	Pin Assignment
PE_GPIO0	GPIO191
PE_GPIO1	GPIO192

Security Classification	LC Future Center Secret Data		Title	
Issued Date	2013/08/08	Deciphered Date	2013/08/05	
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 Custom NM-A281
Date:	Thursday, February 20, 2014	Sheet	18 of 60	Rev 0.4



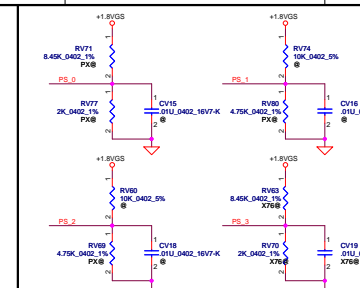
Security Classification			
LC Future Center Secret Data			
Issued Date	2013/08/08	Deciphered Date	2013/08/05
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF 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	
ATI_JET-LE_PCIE	
Size A3	Document Number
	NM-A281
Date:	Thursday, February 20, 2014
Sheet	19 of 60
Rev	0.4



CONFIGURATION STRAPS
 ALLOW FOR PULL UP PADS FOR THESE STRAPS AND IF THESE
 GPIOs ARE USED, THEY MUST NOT CONFLICT DURING RESET

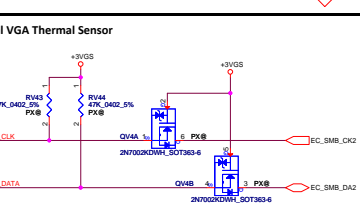
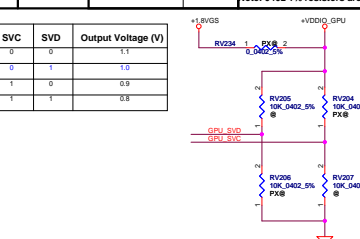
MLPS Bit	Strap Name	Description	RECOMMENDED SETTINGS
PS_[0]	ROM_CONFIG[0]	Define the ROM type when STRAP_BIOS_ROM_EN = 1	
PS_[0]	ROM_CONFIG[1]	Define the primary memory structure size when STRAP_BIOS_ROM_EN = 0.	100 = 256MB
PS_[4]	N/A	Reserved for internal use only. Must be 1 at reset.	1
PS_[6]	AUD_PORT_CONN_PINSTRAP[0]	The LSB (least significant bit) of the strap option that indicates the number of audio-capable display outputs.	X
PS_[11]	STRAP_BIF_GEN3_EN_A	1 = PCIe GEN3 is supported 0 = PCIe GEN3 is not supported	0 = Not support
PS_[12]	STRAP_BIF_CLK_PMEN	0 = The CLKREQ# power management capability is disabled 1 = The CLKREQ# power management capability is enabled	0
PS_[13]	N/A	Reserved for internal use only. Must be 0 at reset.	0
PS_[14]	STRAP_TX_CPD_DRV_FULL_SWING	0 = The transmitter half-swing is enabled 1 = The transmitter full-swing is enabled	1
PS_[18]	STRAP_TX_DEEMPHLEN	0 = Tx deemphasis disabled 1 = Tx deemphasis enabled.	+ Enable
PS_[21]	N/A	Reserved.	N/A
PS_[22]	N/A	Reserved.	N/A
PS_[23]	STRAP_BIOS_ROM_EN	0 = Disable the external BIOS ROM device. 1 = Enable the external BIOS ROM device.	0 = Disable
PS_[24]	STRAP_BIF_VGA_DIS	0 = VGA controller capability enabled. 1 = The device will not be recognized as the system's VGA controller.	0
PS_[28]	N/A	Reserved.	N/A
PS_[31]	BOARD_CONFIG[0]	Board configuration related strap options such as for memory ID	X
PS_[31]	BOARD_CONFIG[1]	11 = Hynix IG 10 = Micron IG 110 = Samsung IG	
PS_[31]	BOARD_CONFIG[2]	Determines the maximum number of digital display audio endpoints that will be generated for the OS end user. (Combine with PS_[32])	
PS_[31]	AUD_PORT_CONN_PINSTRAP[1]	11 = No usable endpoints. 10 = One usable endpoint. 01 = Two usable endpoints. 00 = Three usable endpoints.	X
PS_[31]	AUD_PORT_CONN_PINSTRAP[2]	01 = Four usable endpoints. 00 = Five usable endpoints. 00 = Six usable endpoints. 00 = All endpoints are usable.	



MLPS	BLIT				BOM			
	5	4	3	2	1	R_pu (Ω)	R_pd (Ω)	C (nF)
PS_0 [5:1]	1	1	0	0	1	RV71=8.45k	RV77=2k	CV15=NC
PS_1 [5:1]	1	1	0	0	0	RV74=NC	RV77=4.75k	CV16=NC
PS_2 [5:1]	1	1	0	0	0	RV60=NC	RV69=4.75k	CV18=NC
PS_3 [5:1]	1	1	X	X	X	RV60=X76	RV69=X76	CV16=X76

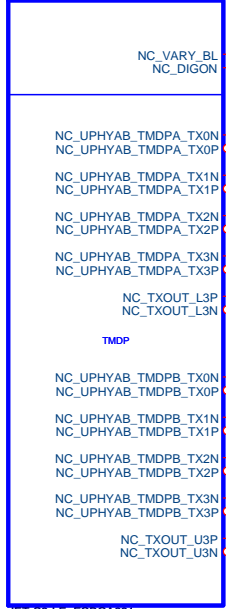
R_pu (Ω)	R_pd (Ω)	Bits [5:1]
NC	4750	000
8450	2000	001
4530	2000	010
6880	4900	011
4530	4900	100
680	50	3240
82	51	3400
10	10	4750
NC	NC	111

Note: 0402 1% resistors are required




No GPIO Reserve for NV GPU

UV1F

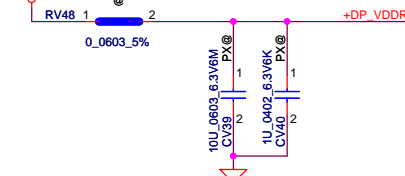


- AB11
- AB12
- AL15
- AK14
- AH16
- AJ15
- AL17
- AK16
- AH18
- AJ17
- AL19
- AK18
- AH20
- AJ19
- AL21
- AK20
- AH22
- AJ21
- AL23
- AK22
- AK24
- AJ23

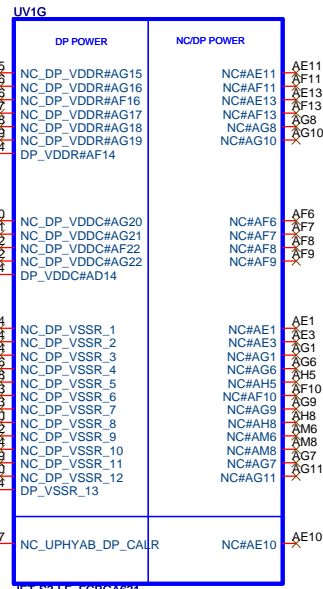
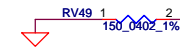
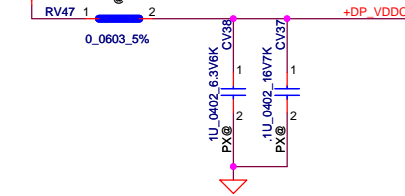
JET-S3-LE_FCBGA631
PX@

Security Classification		LC Future Center Secret Data		Title		
Issued Date	2013/08/08	Deciphered Date	2013/08/05	ATI_JET-LE_TMDP		
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	NM-A281	0.4
				Date:	Thursday, February 20, 2014	Sheet 21 of 60

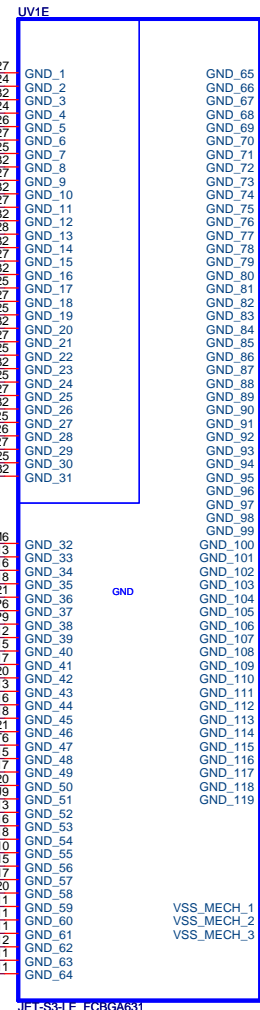
+1.8VGS @ (1.8V@425mA DP_VDDR)



+0.95VGS @ (0.95V@560mA DP_VDDC)



JET-S3-LE_FCBGA831 PX@



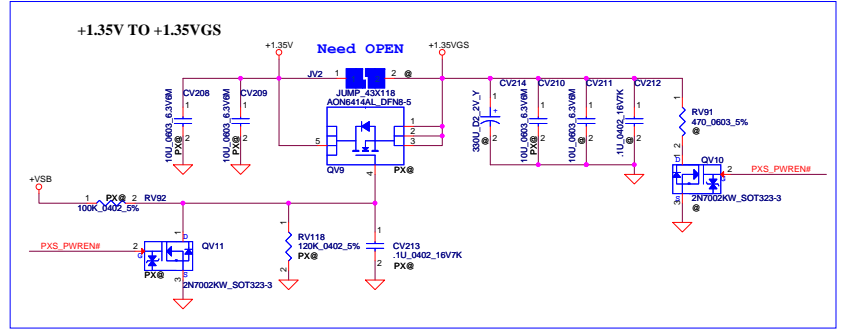
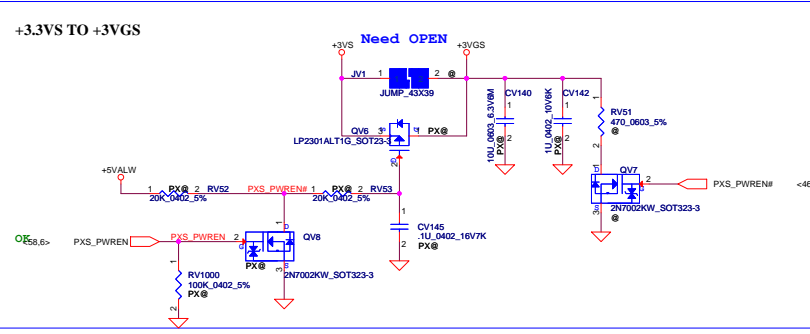
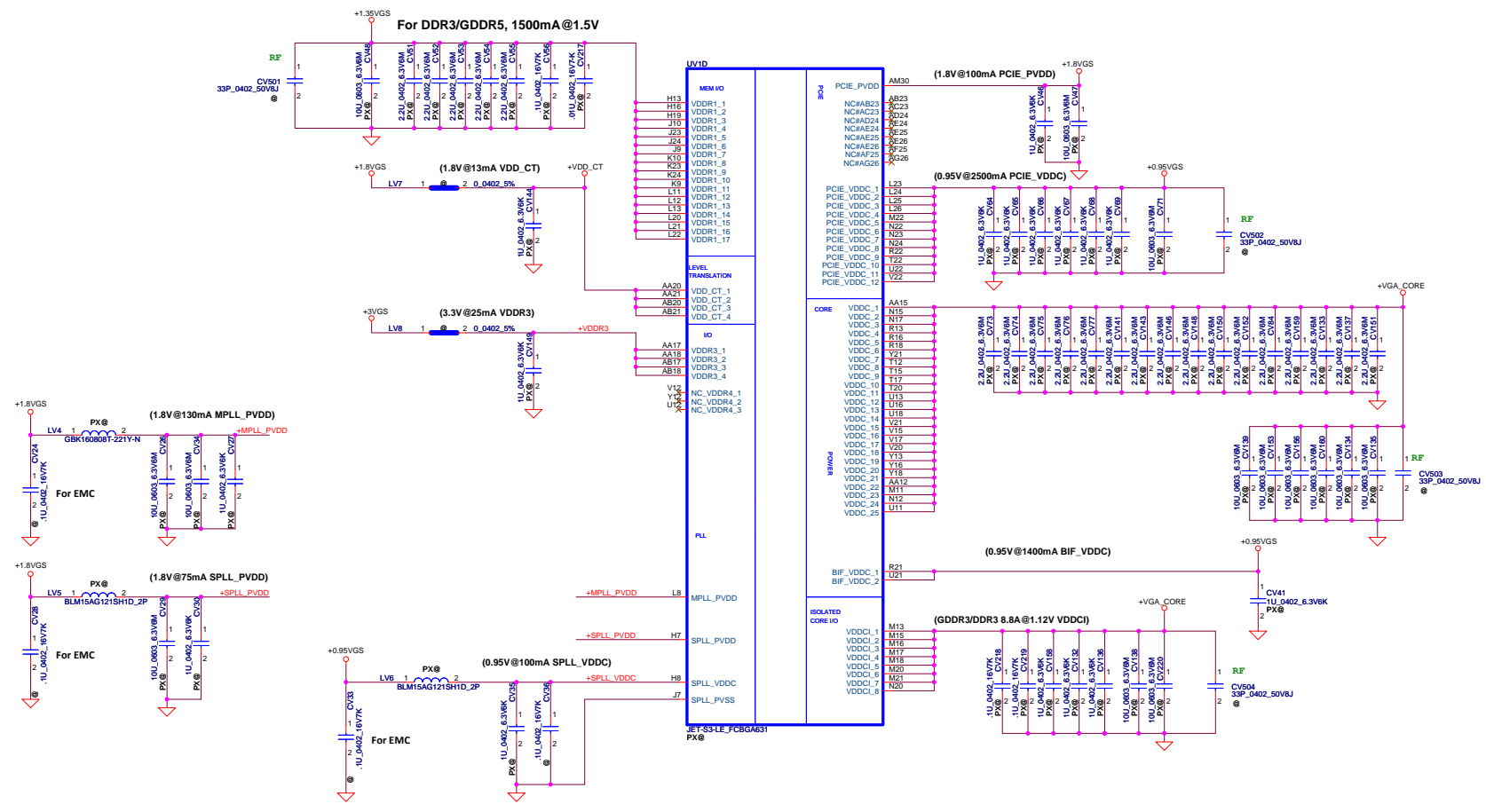
JET-S3-LE_FCBGA831 PX@


GND

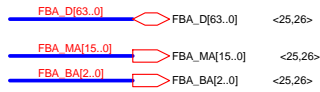
VSS_MECH_1
VSS_MECH_2
VSS_MECH_3

Security Classification		LC Future Center Secret Data	
Issued Date	2013/08/08	Deciphered Date	2013/08/05
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.			

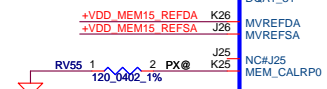
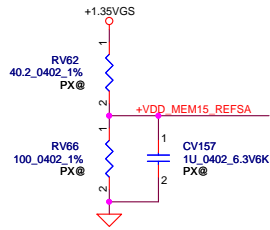
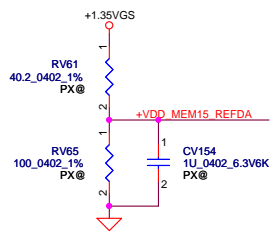
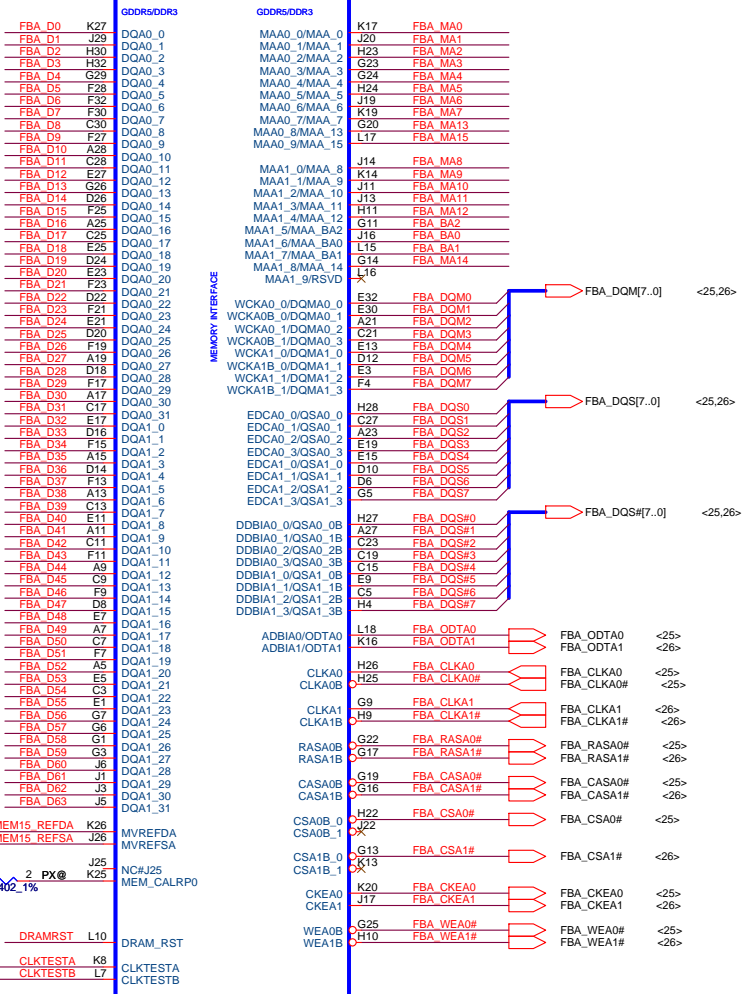
Title			Rev 0.4
ATI_JET-LE_DP Power			
Size	Document Number	NW-A281	
Date:	Thursday, February 20, 2014	Sheet	22 of 60



Security Classification	LC Future Center Secret Data		Title	ATL_JET-LE_Power	
Issued Date	2013/08/08	Deciphered Date	2013/08/05		
<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>					
Document Number	NW-A281		Rev	0.4	
Date:	Thursday, February 20, 2014	Sheet	23	of 80	



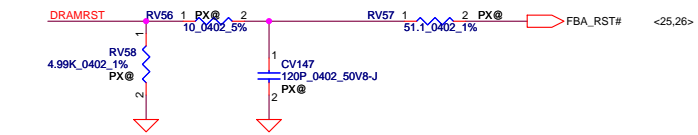
UVIC









Security Classification		LC Future Center Secret Data	
Issued Date	2013/08/08	Deciphered Date	2013/08/05
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
 ATL_JET-LE_MEM IF

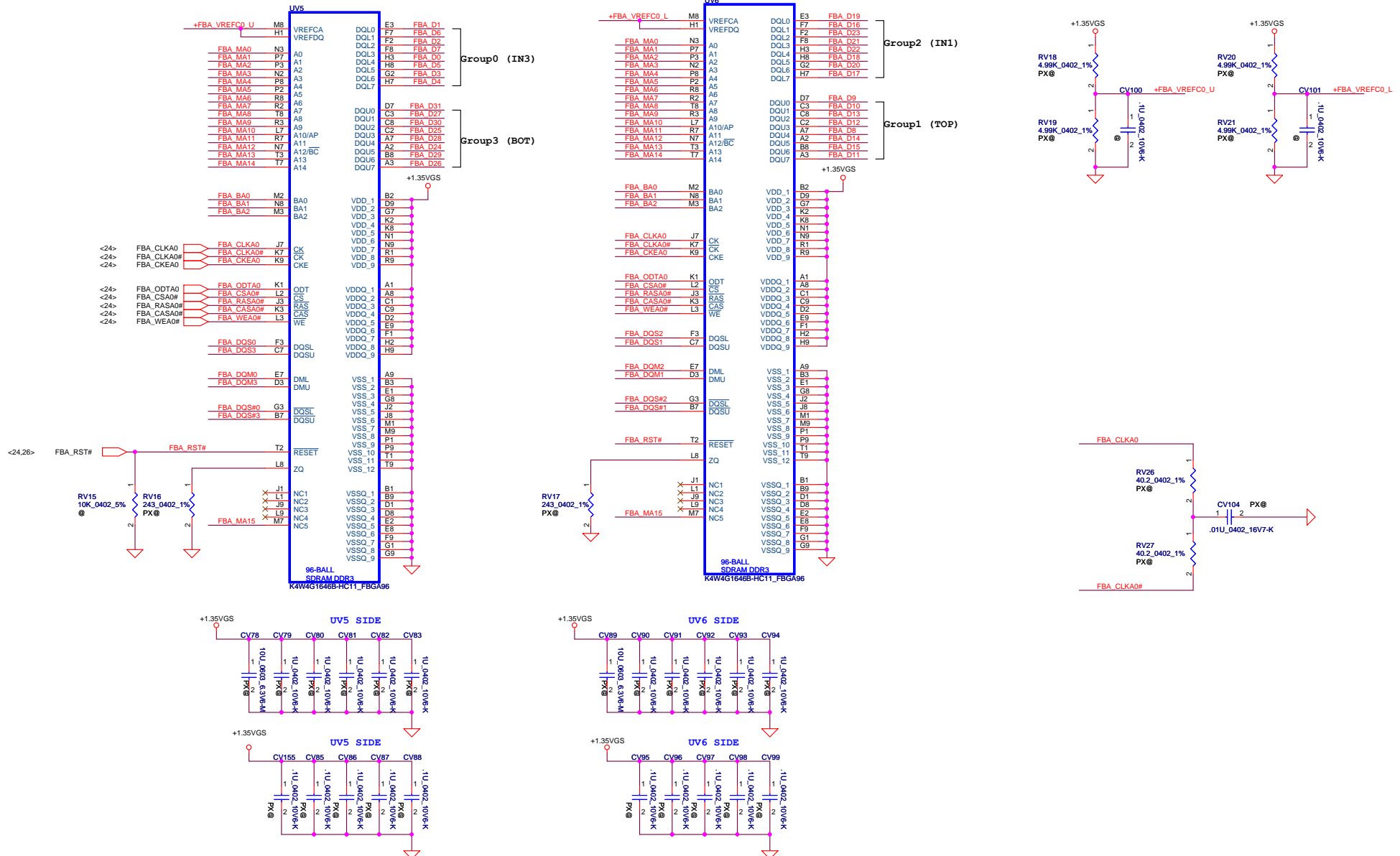
Size Custom
Document Number NM-A281
Date Thursday, February 20, 2014
 Sheet 24 of 60
 Rev 0.4



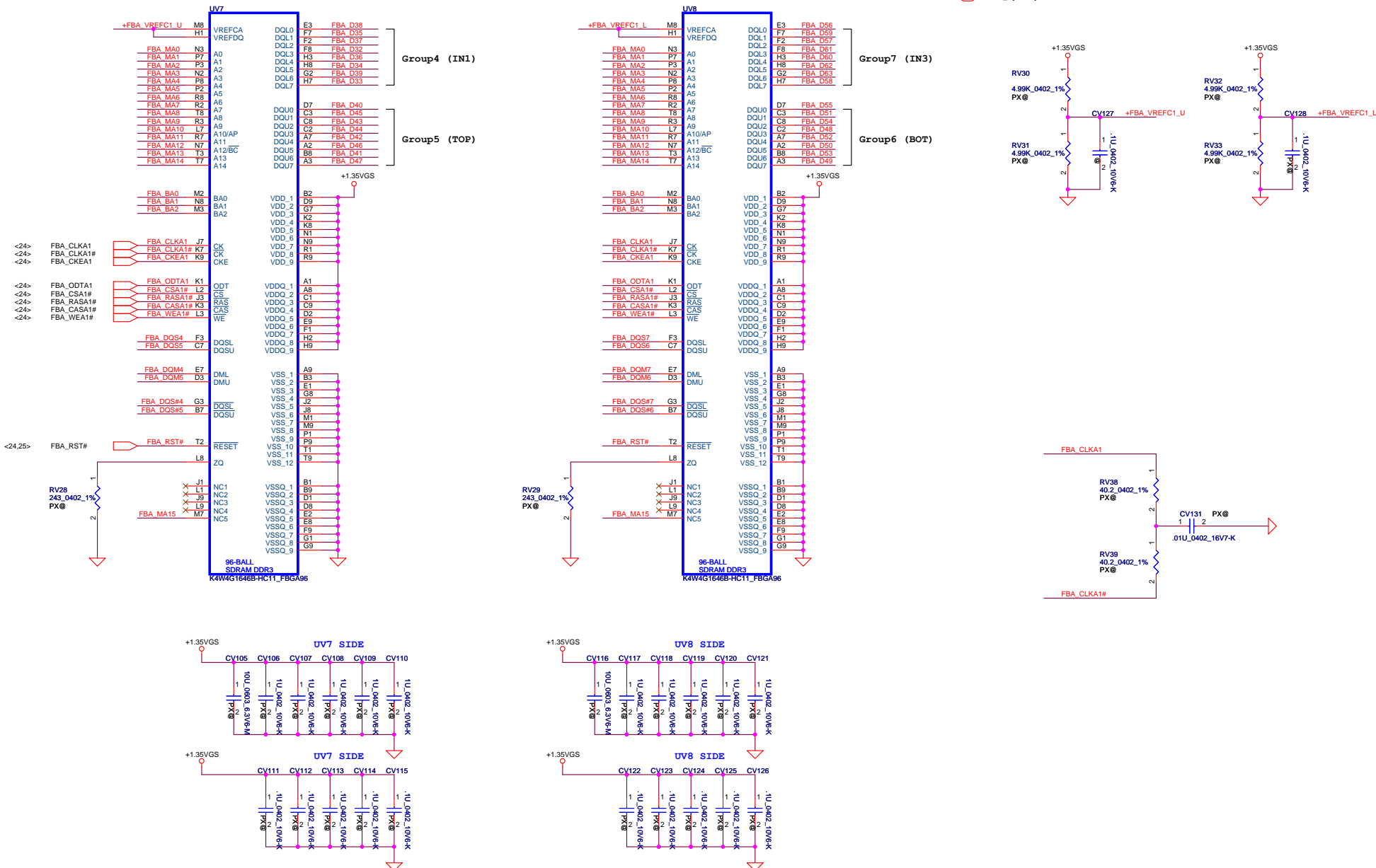
Memory Partition A - Lower 32 bits

-  FBA_MA[15..0] <24,26>
-  FBA_BA[2..0] <24,26>
-  FBA_DQS[3..0] <24>
-  FBA_DQM[3..0] <24>
-  FBA_DQS#[3..0] <24>
-  FBA_D[31..0] <24>

ACLU5 swap the VRAM Data @ 08/26
 VRAM 8 pcs change to 4 pcs @ 09/26




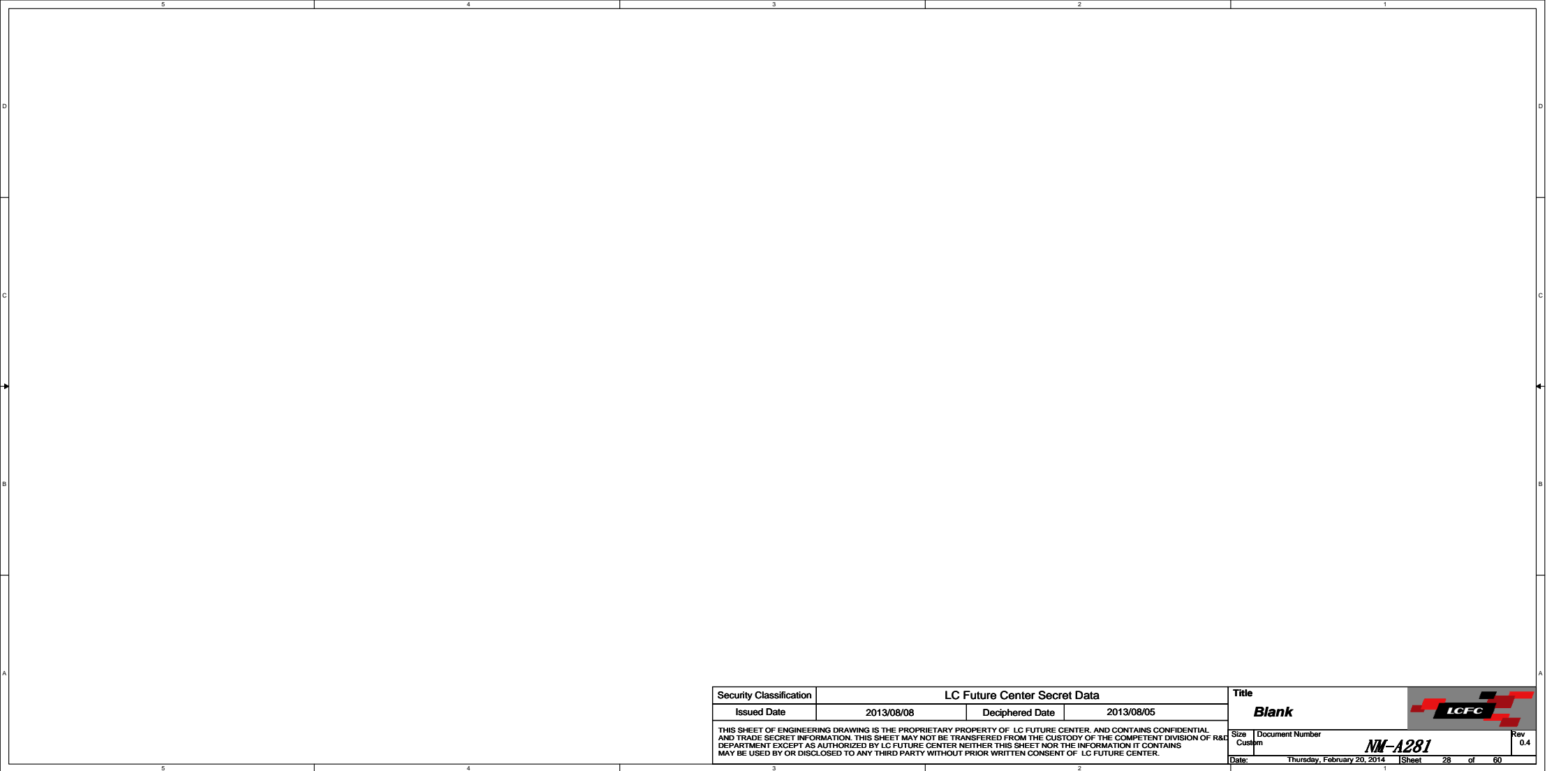
Memory Partition A - Upper 32 bits




- FBA_MA[15..0] <24,25>
- FBA_BA[2..0] <24,25>
- FBA_DQS[7..4] <24>
- FBA_DQM[7..4] <24>
- FBA_DQS#[7..4] <24>
- FBA_D[63..32] <24>

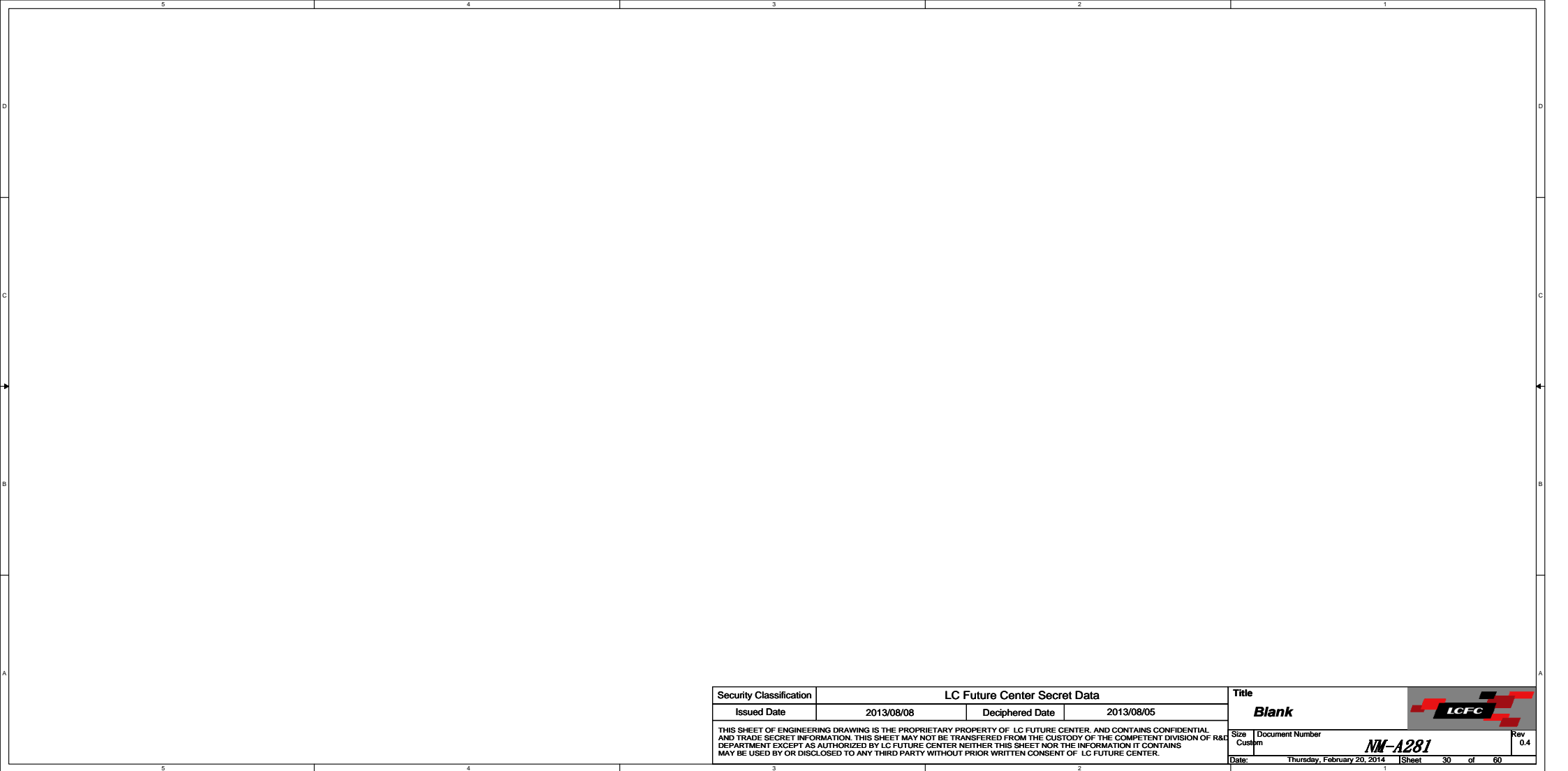
5	4	3	2	1
5	4	3	2	1


Security Classification	LC Future Center Secret Data		Title	
Issued Date	2013/08/08	Deciphered Date	2013/08/05	
<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 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.</p>				
Size	Document Number			Rev
Custom	NM-A281			0.4
Date:	Thursday, February 20, 2014	Sheet	27	of 60

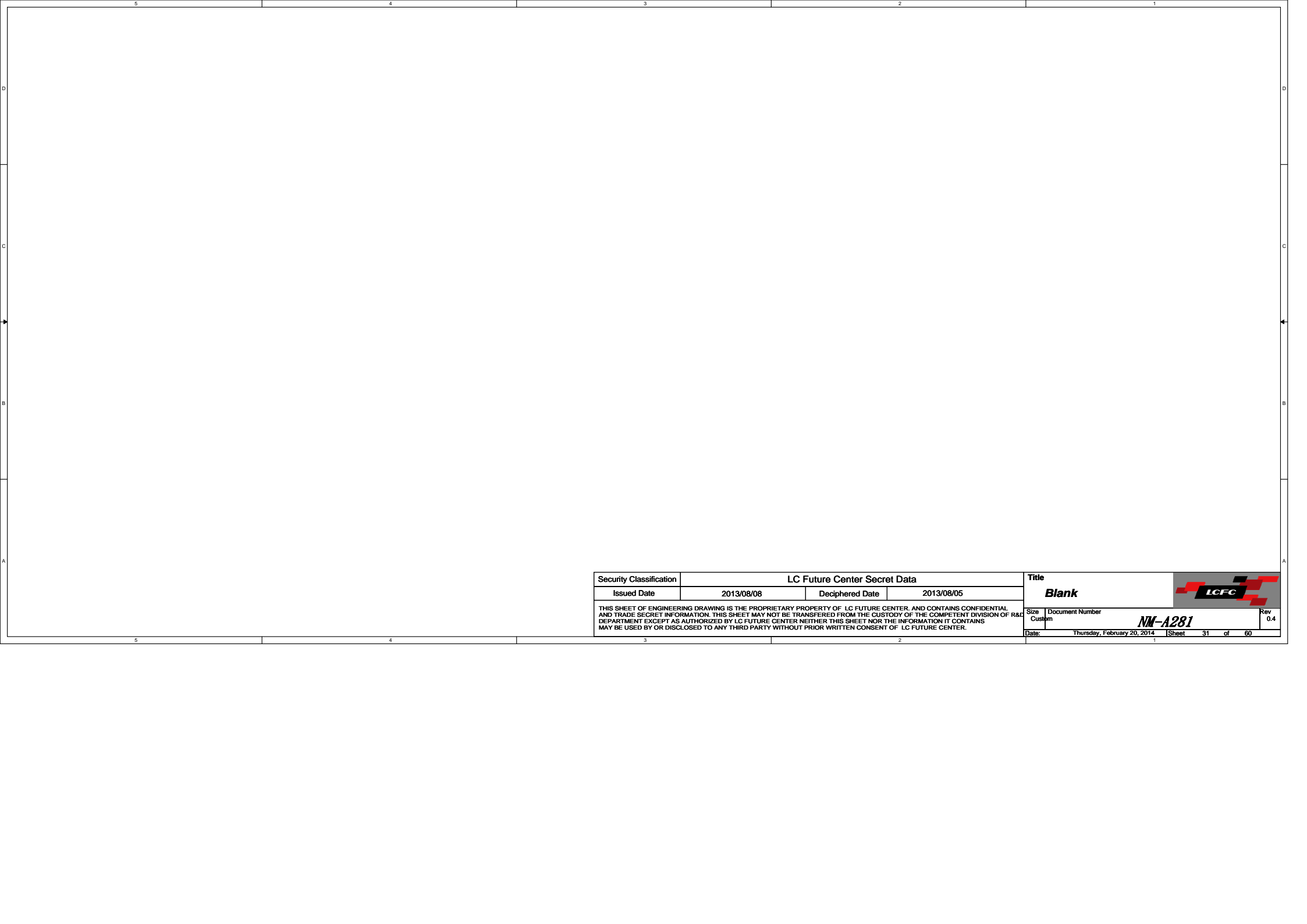



Security Classification	LC Future Center Secret Data			Title		
Issued Date	2013/08/08	Deciphered Date	2013/08/05	Blank		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE 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 Custom	Document Number NM-A281	Rev 0.4
				Date:	Thursday, February 20, 2014	Sheet 28 of 60

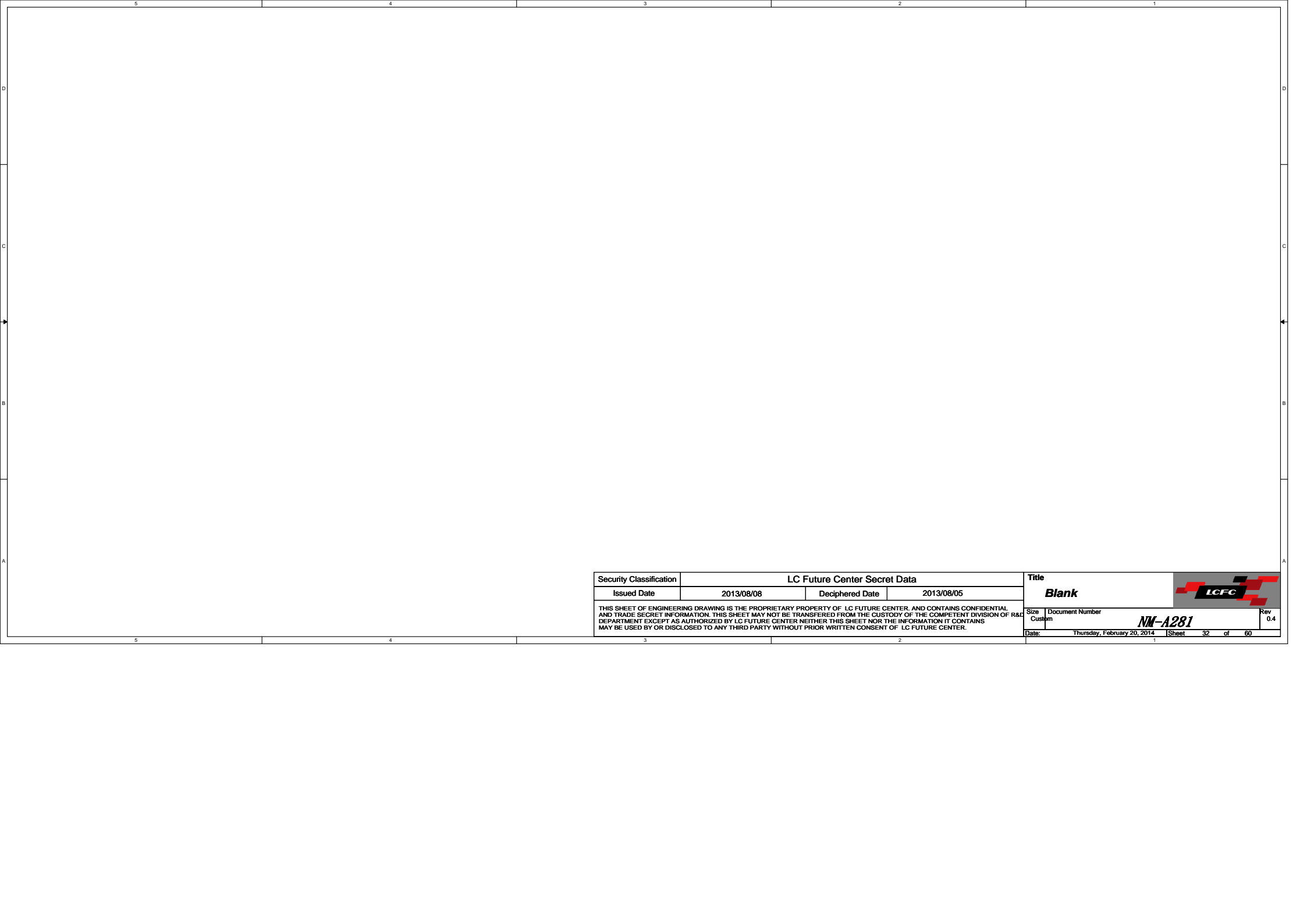
5	4	3	2	1									
A	B	C	D	A									
<table border="1"> <tr> <td>Security Classification</td> <td colspan="3">LC Future Center Secret Data</td> </tr> <tr> <td>Issued Date</td> <td>2013/08/08</td> <td>Deciphered Date</td> <td>2013/08/05</td> </tr> </table>				Security Classification	LC Future Center Secret Data			Issued Date	2013/08/08	Deciphered Date	2013/08/05	Title Blank	
Security Classification	LC Future Center Secret Data												
Issued Date	2013/08/08	Deciphered Date	2013/08/05										
<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 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.</p>				<table border="1"> <tr> <td>Size</td> <td>Document Number</td> <td>Rev</td> </tr> <tr> <td>Custom</td> <td>NM-A281</td> <td>0.4</td> </tr> </table>	Size	Document Number	Rev	Custom	NM-A281	0.4			
Size	Document Number	Rev											
Custom	NM-A281	0.4											
				Date: Thursday, February 20, 2014 Sheet 29 of 60									




Security Classification	LC Future Center Secret Data		Title	
Issued Date	2013/08/08	Deciphered Date	2013/08/05	
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	Date:		Rev
Custom	NM-A281	Thursday, February 20, 2014		0.4
			Sheet	30 of 60

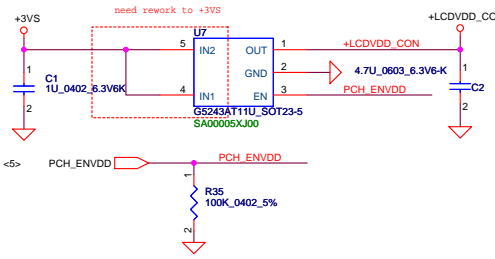


Security Classification	LC Future Center Secret Data			Title		
Issued Date	2013/08/08	Deciphered Date	2013/08/05	Blank		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE 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 Custom	Document Number NM-A281	Rev 0.4
				Date:	Thursday, February 20, 2014	Sheet 31 of 60

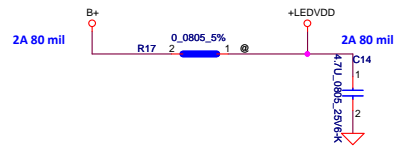


Security Classification	LC Future Center Secret Data			Title	
Issued Date	2013/08/08	Deciphered Date	2013/08/05	Blank	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE 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 Custom	Document Number NM-A281
				Date: Thursday, February 20, 2014	Rev 0.4
				Sheet 32 of 60	

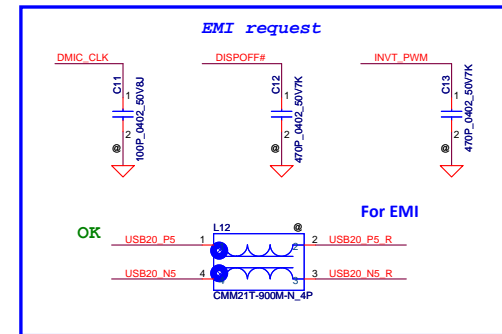
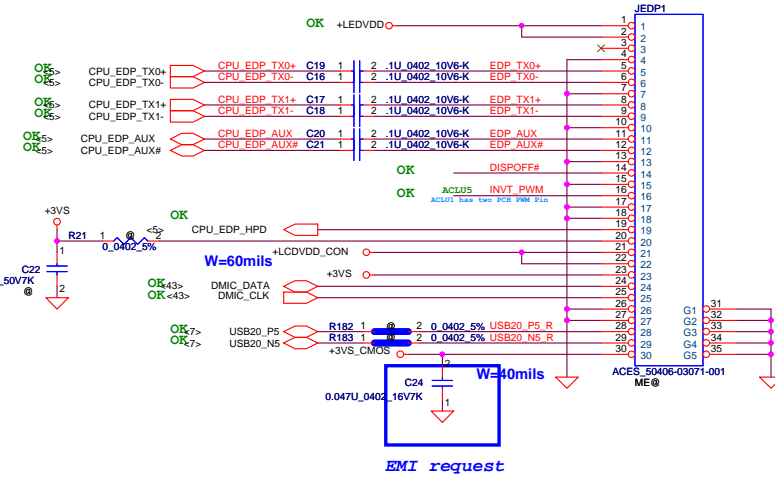
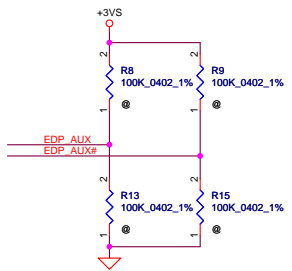
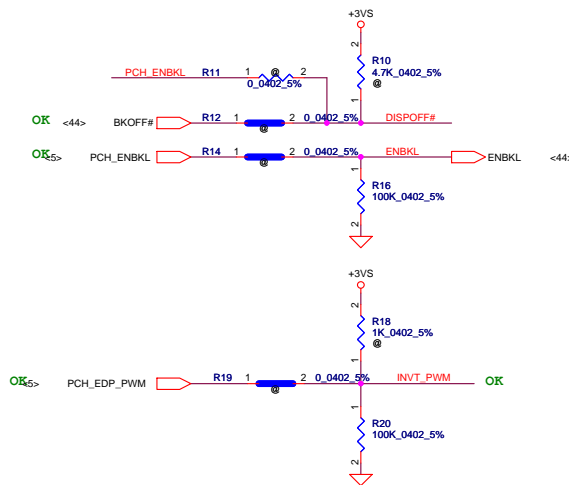
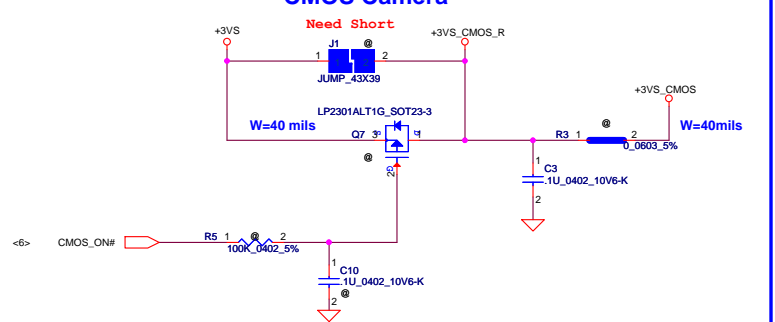
LCD POWER CIRCUIT OK



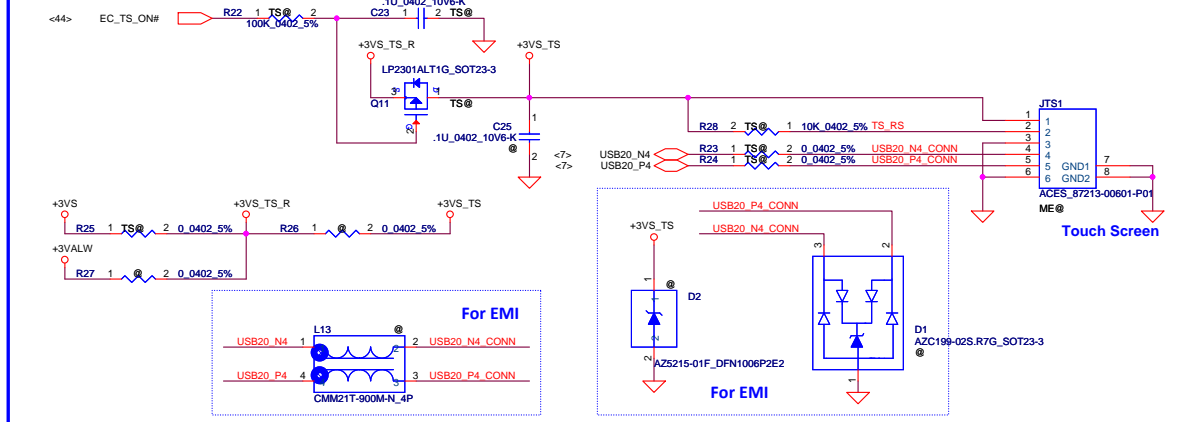
B+ to +LEDVDD POWER OK



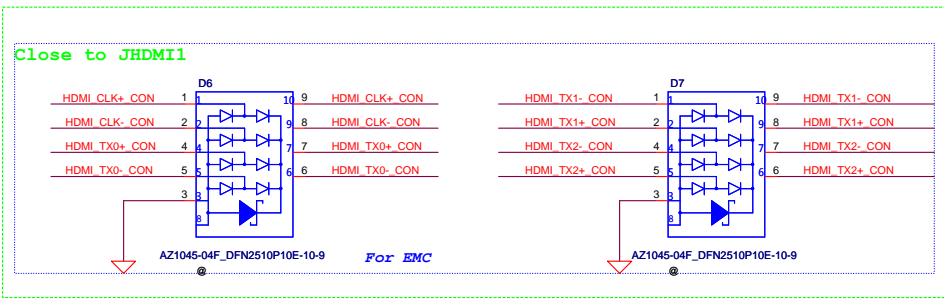
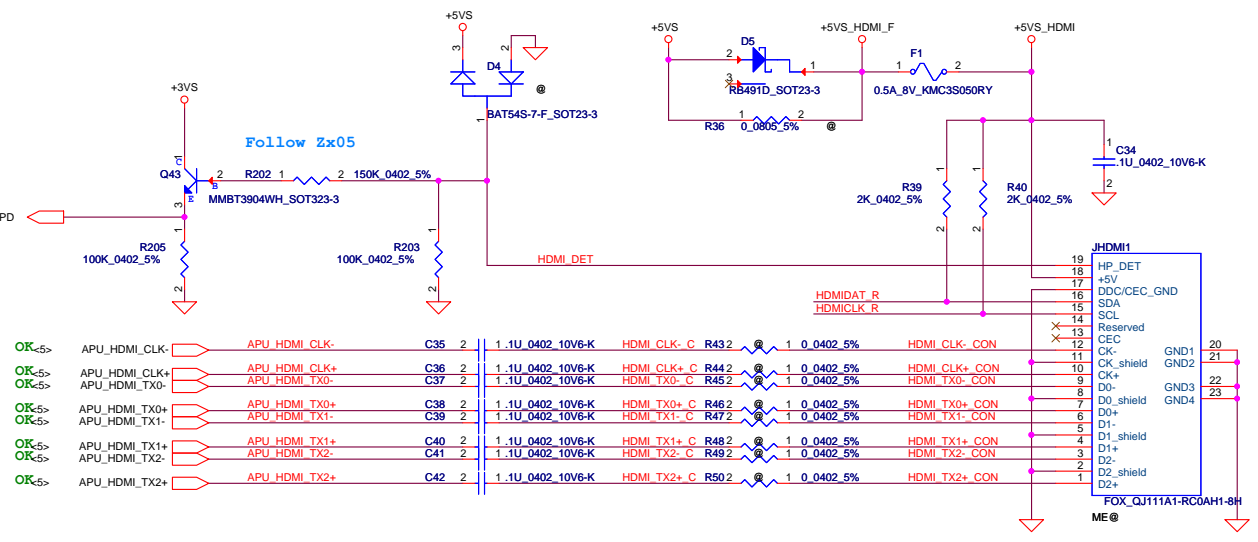
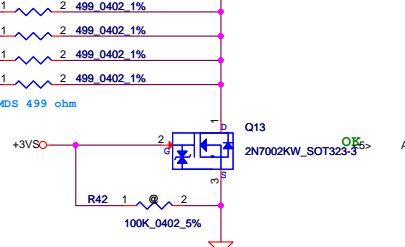
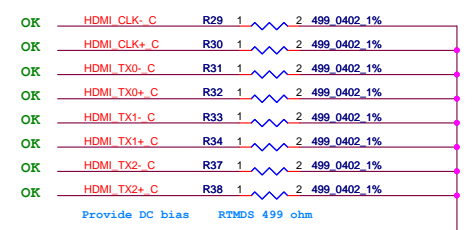
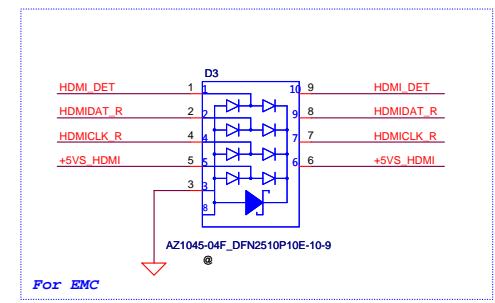
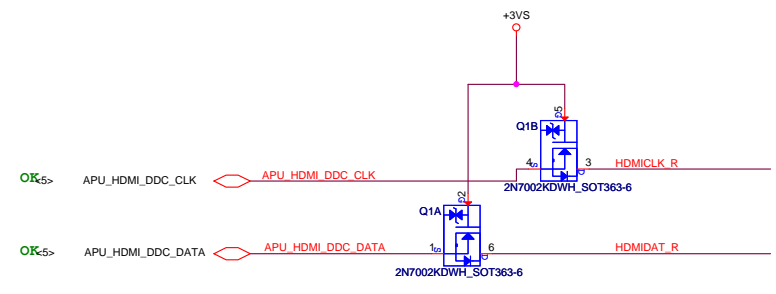
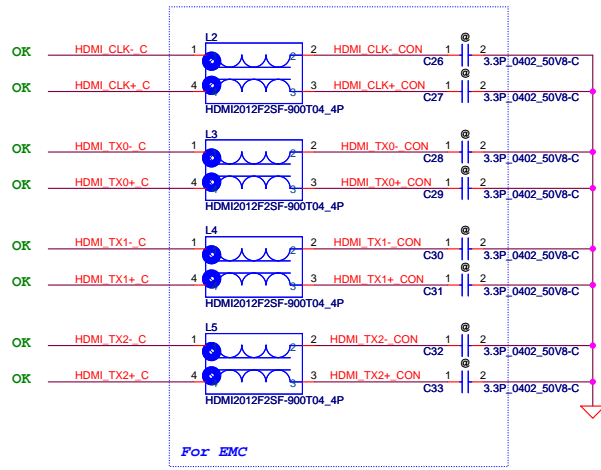
CMOS Camera OK



Touch Screen OK



Security Classification	LC Future Center Secret Data		Title	eDP/ CMOS/Touch screen
Issued Date	2013/08/08	Deciphered Date	2013/08/05	
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 THE 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	Date		Rev
		Thursday, February 20, 2014		0.4
		Sheet 33 of 60		

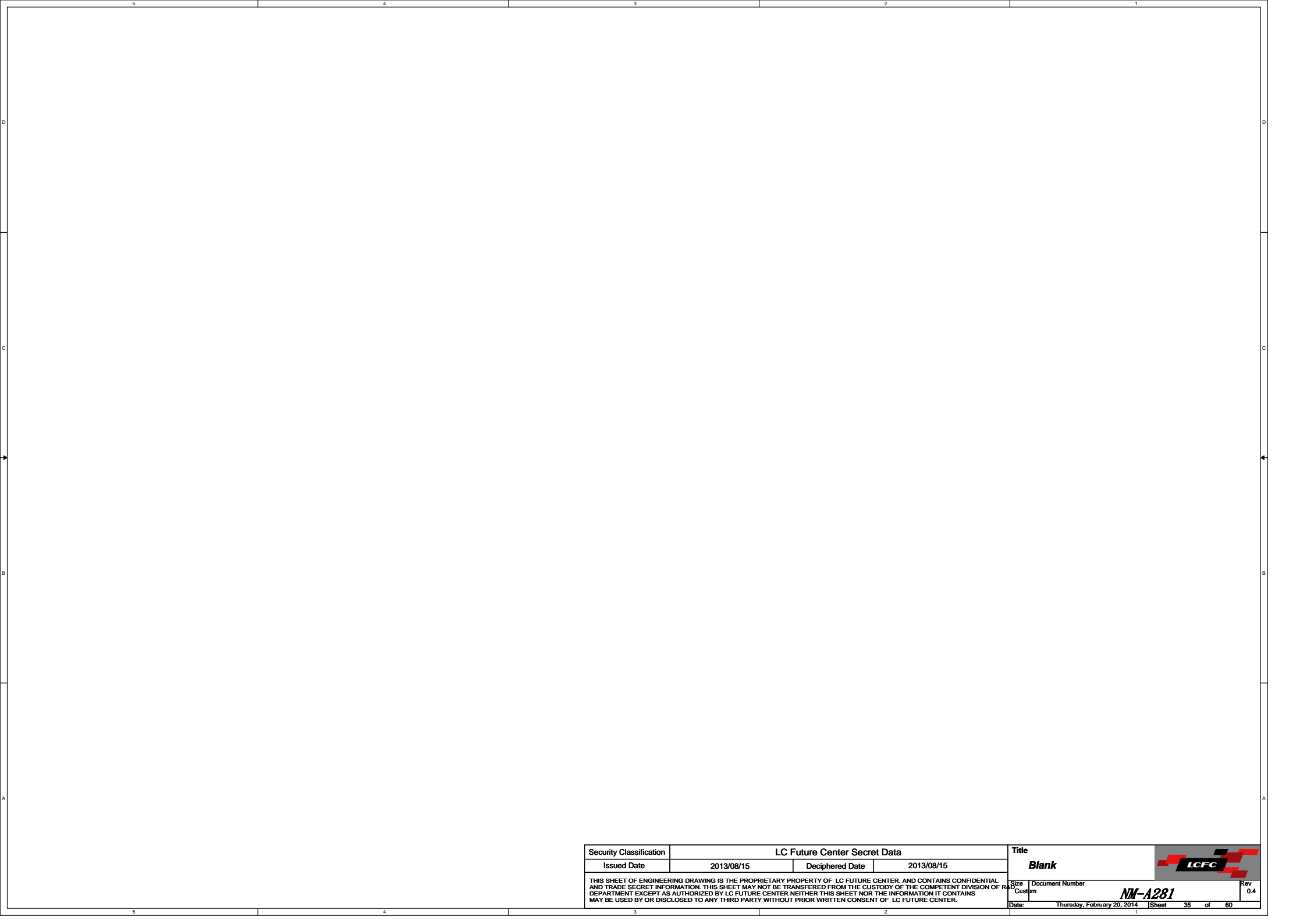



Security Classification				LC Future Center Secret Data				Title	
Issued Date		2013/08/15		Deciphered Date		2013/08/15		HDMI_CONN	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.									
Date:		Thursday, February 20, 2014		Sheet		34		of 60	



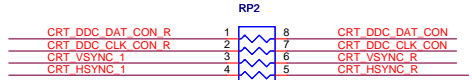
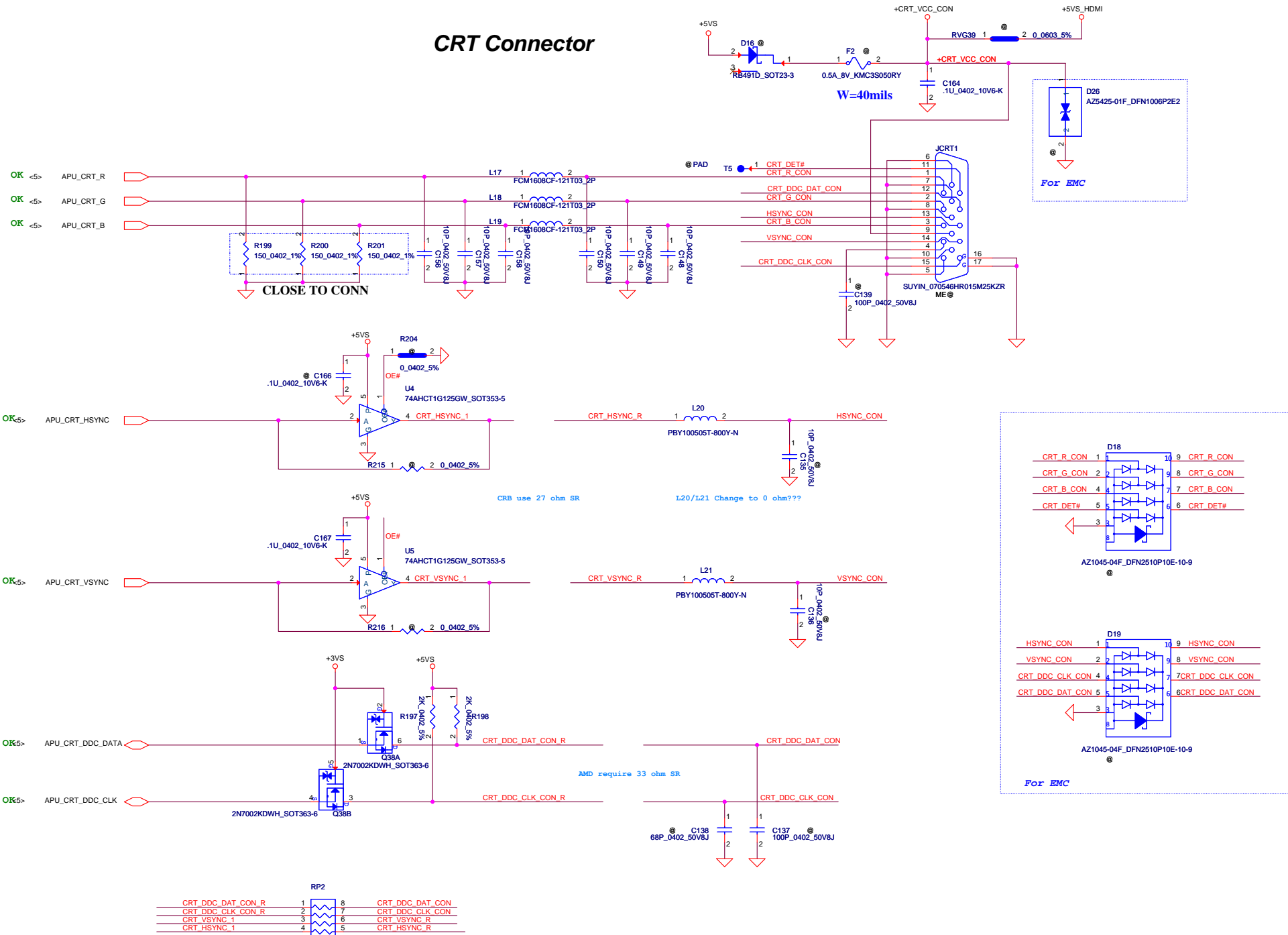
NM-A281

Rev 0.4



Security Classification		LC Future Center Secret Data		Title		
Issued Date	2013/08/15	Deciphered Date	2013/08/15	Blank		
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	NM-A281	0.4
				Date:	Thursday, February 20, 2014	Sheet 35 of 60

CRT Connector



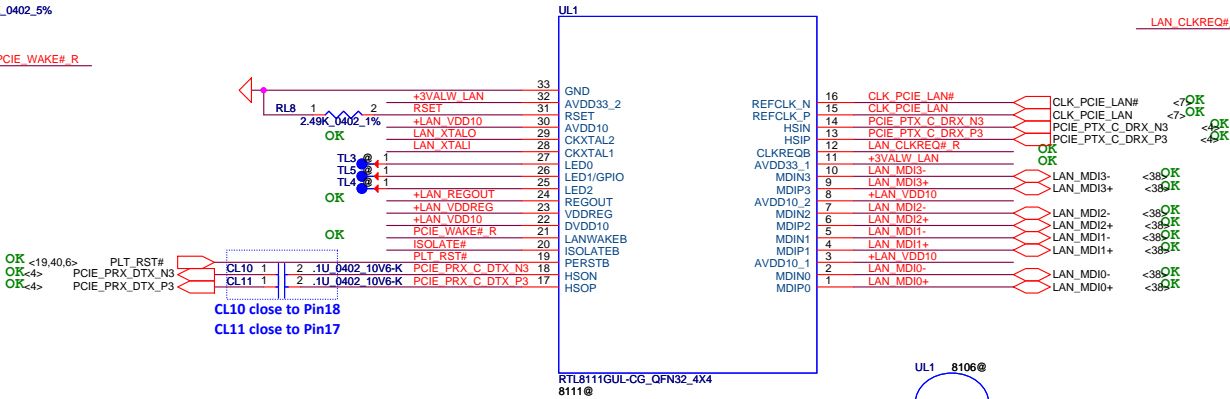
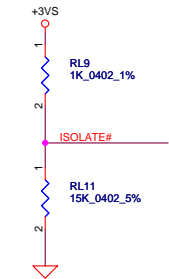
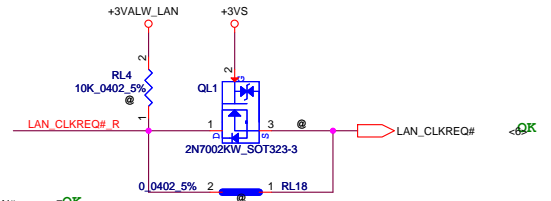
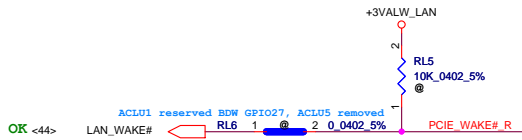
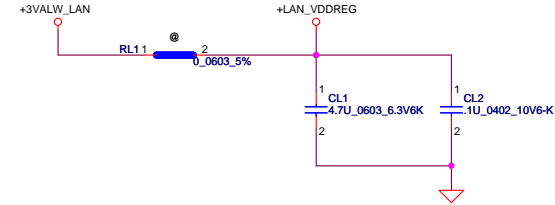
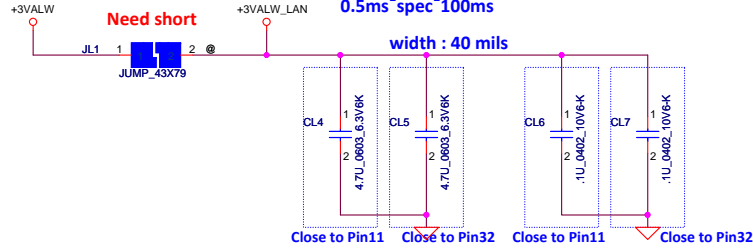
T PN change Idea pad PN SD300003700

Security Classification		LC Future Center Secret Data	
Issued Date	2013/08/15	Deciphered Date	2013/08/15
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 THE 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.			

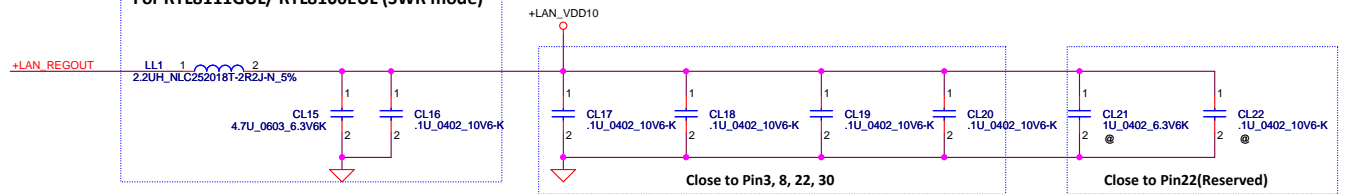
Title		LCFC	
CRT		Size	Rev
Custom	Document Number	NM-A281	0.4
Date:	Thursday, February 20, 2014	Sheet	36 of 60

+3VALW TO +3VALW_LAN

+3VALW_LAN rising time (10%~90%):
0.5ms spec~100ms

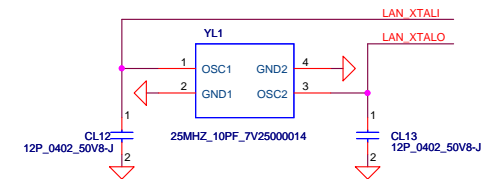


For RTL8111GUL/RTL8106EUL (SWR mode)



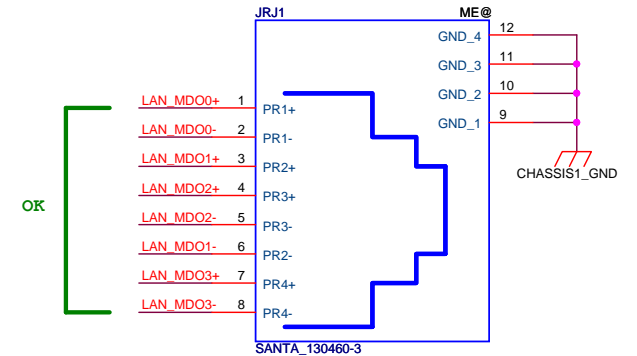
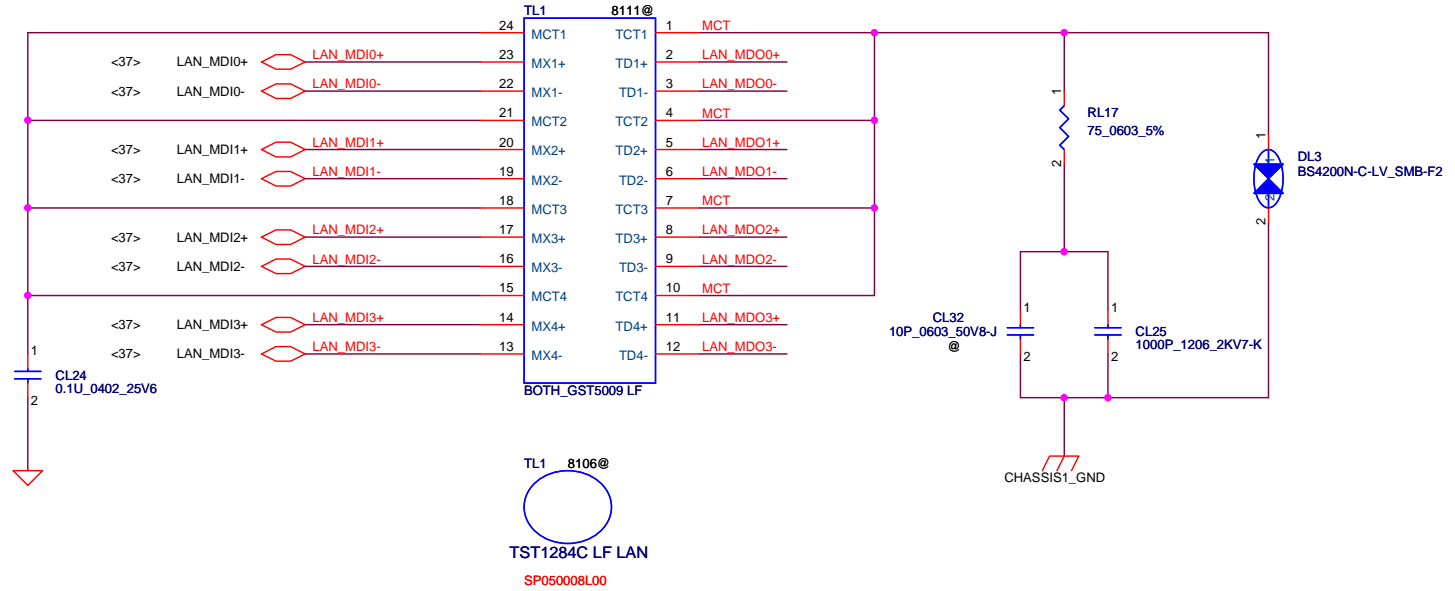
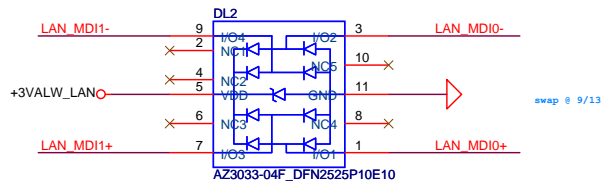
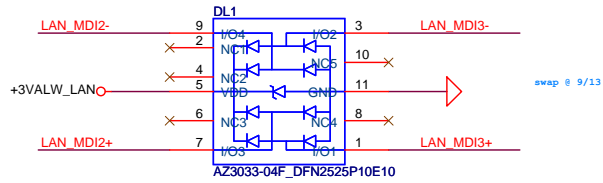
Layout Note: LL1 must be within 200mil to Pin36,
CL15,CL16 must be within 200mil to LL1
+LAN_REGOUT: Width =60mil

LAN ROM OK



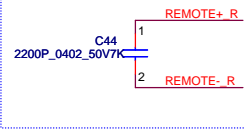
Security Classification		LC Future Center Secret Data		Title	
Issued Date	2013/08/08	Deciphered Date	2013/08/05	LAN_RTL8111GUL/RTL8106E	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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 Custom	Document Number	Date		Rev	0.4
	NM-A281	Thursday, February 20, 2014		Sheet	37 of 60

DL1/DL2
1'S PN:SC30003M00



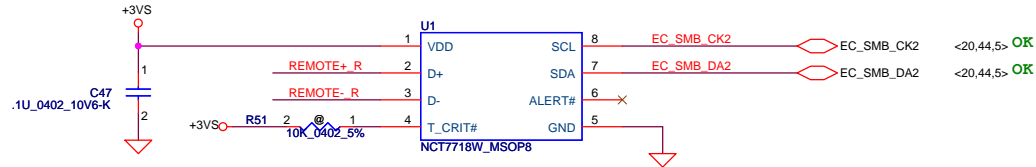
Security Classification	LC Future Center Secret Data			Title	
Issued Date	2013/08/08	Deciphered Date	2013/08/05	LAN_Transformer	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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 0.4
				Document Number	NM-A281
				Date:	Thursday, February 20, 2014
				Sheet	38 of 60

Close to U1

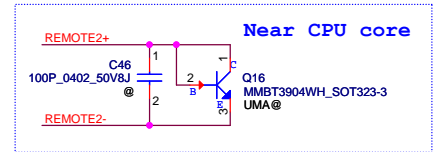
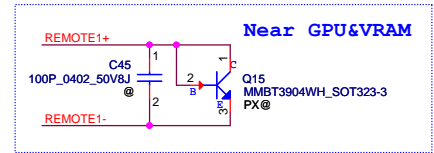


SMSC thermal sensor placed near DIMM

OK

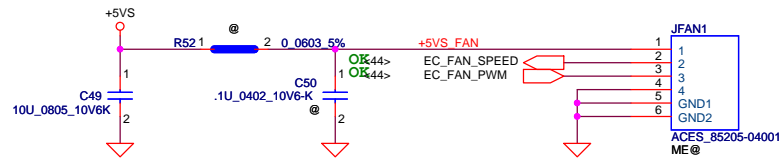


Address 1001_101xb



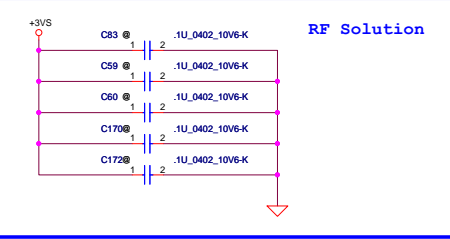
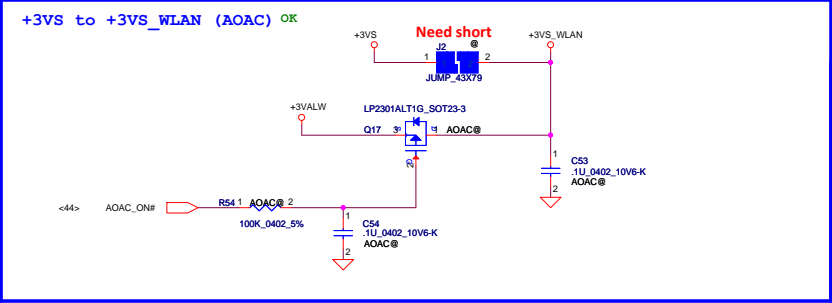
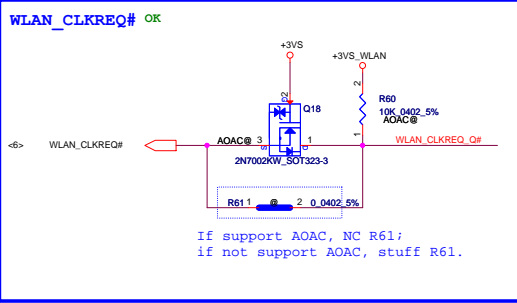
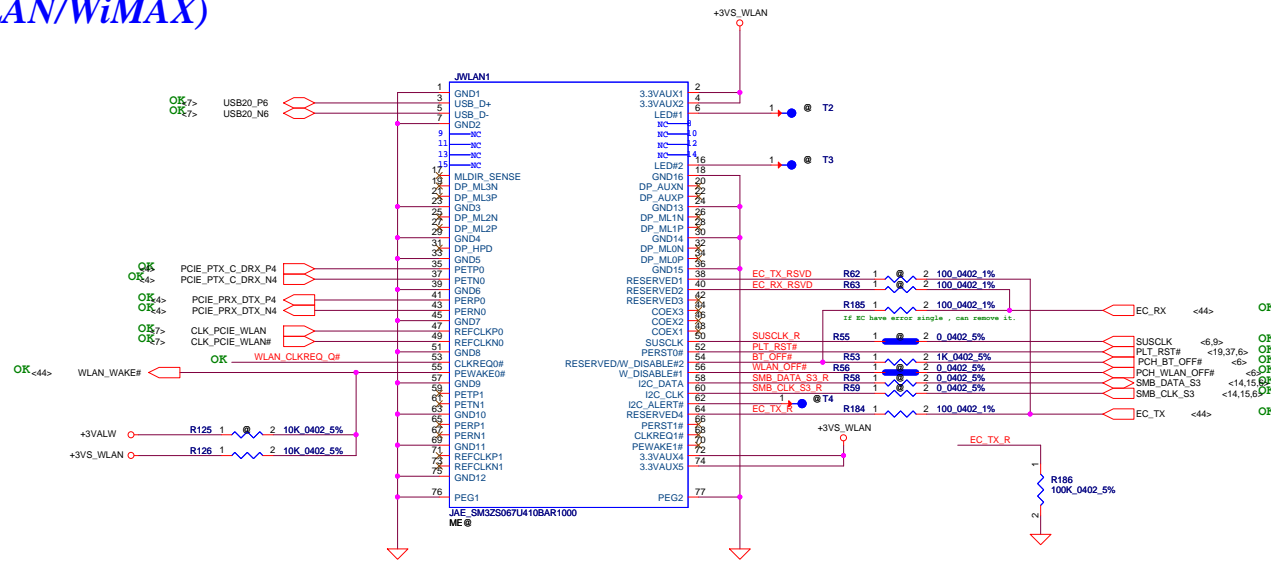
REMOTE+/-_R, REMOTE1+/-, REMOTE2+/-:
Trace width/space:10/10 mil
Trace length:<8"

FAN Conn

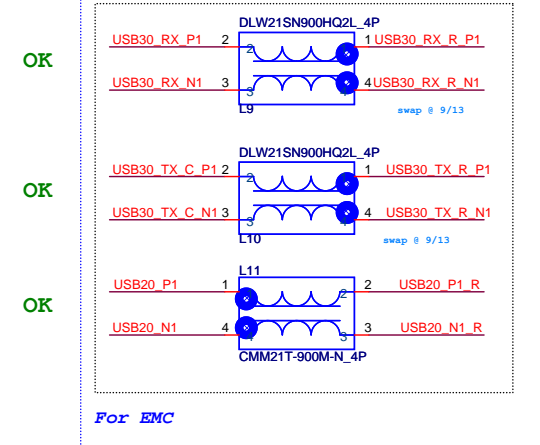
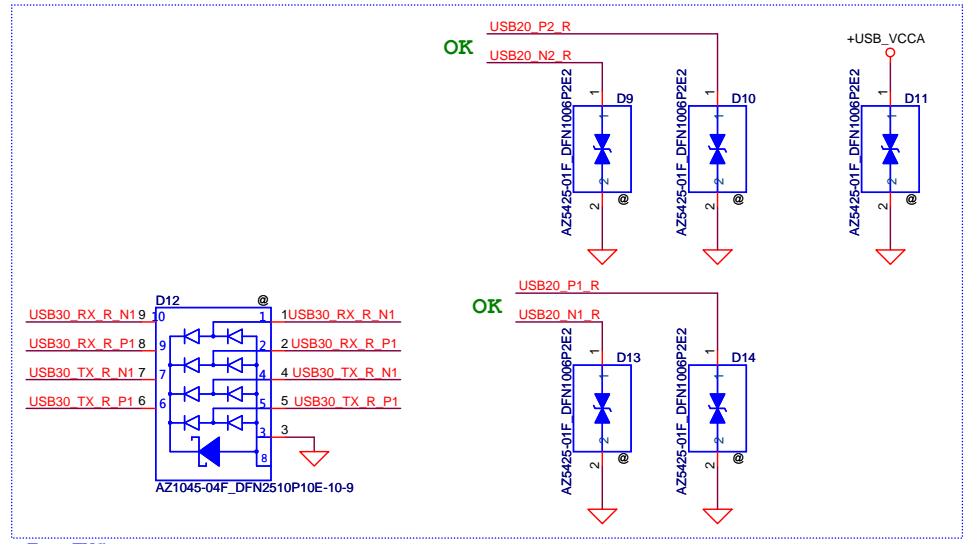
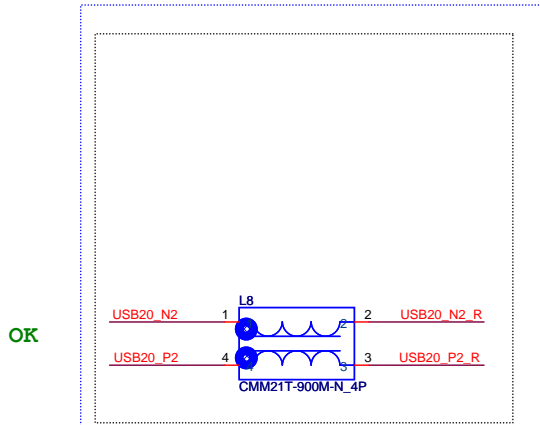
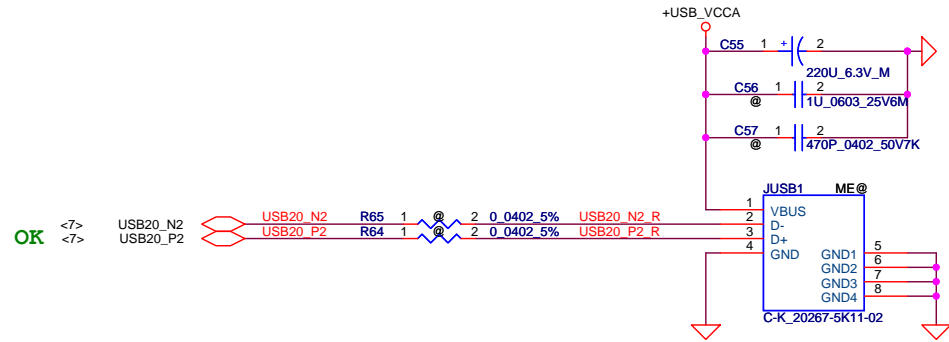
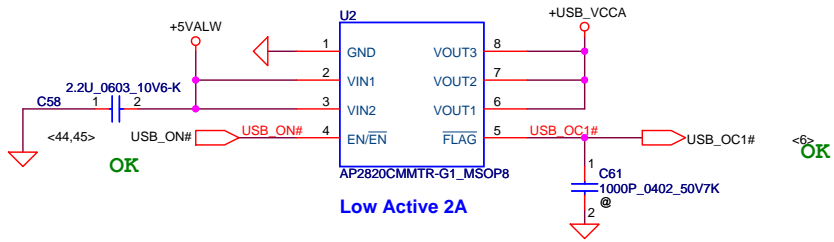


Security Classification	LC Future Center Secret Data		Title	
Issued Date	2013/08/08	Deciphered Date	2013/08/05	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY 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 0.4

Mini-Express Card(WLAN/WiMAX)

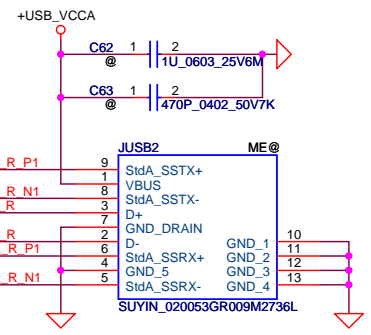


LEFT SIDE USB3.0 PORT X2



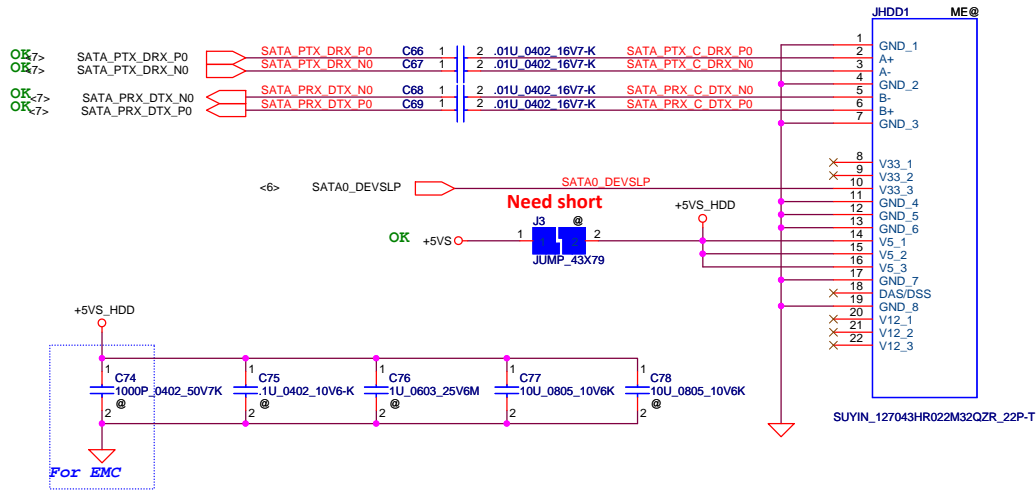
For EMC

OK	<7>	USB30_TX_P1	USB30_TX_P1	C64	1	2	.1U 0402 10V6-K	USB30_TX_C_P1	R68	1	@	2	0 0402 5%	USB30_TX_R_P1
OK	<7>	USB30_TX_N1	USB30_TX_N1	C65	1	2	.1U 0402 10V6-K	USB30_TX_C_N1	R69	1	@	2	0 0402 5%	USB30_TX_R_N1
OK	<7>	USB20_P1	USB20_P1						R70	1	@	2	0 0402 5%	USB20_P1_R
OK	<7>	USB20_N1	USB20_N1						R71	1	@	2	0 0402 5%	USB20_N1_R
OK	<7>	USB30_RX_P1	USB30_RX_P1						R72	1	@	2	0 0402 5%	USB30_RX_R_P1
OK	<7>	USB30_RX_N1	USB30_RX_N1						R73	1	@	2	0 0402 5%	USB30_RX_R_N1

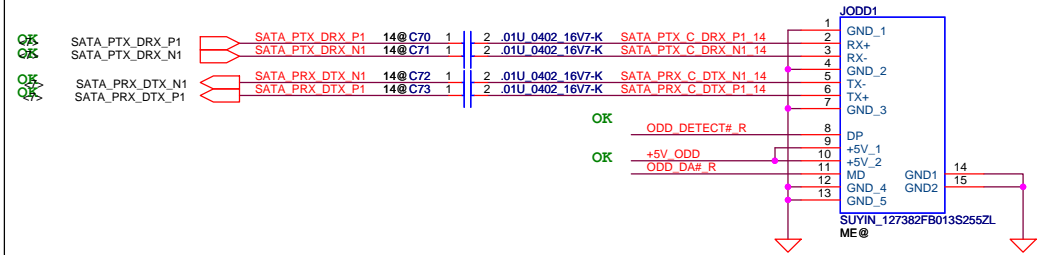


Security Classification				LC Future Center Secret Data				Title			
Issued Date		2013/08/08		Deciphered Date		2013/08/05		USB2.0/USB3.0 PORT (LEFT)			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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.											
Size	Document Number	Rev								Date	
Custom	NM-A281	0.4								Thursday, February 20, 2014	
										Sheet 41 of 60	

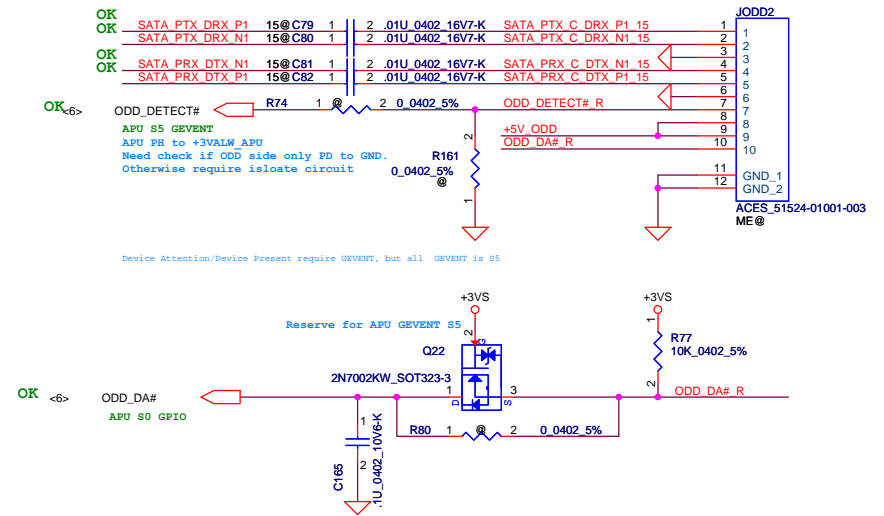
SATA HDD Conn.



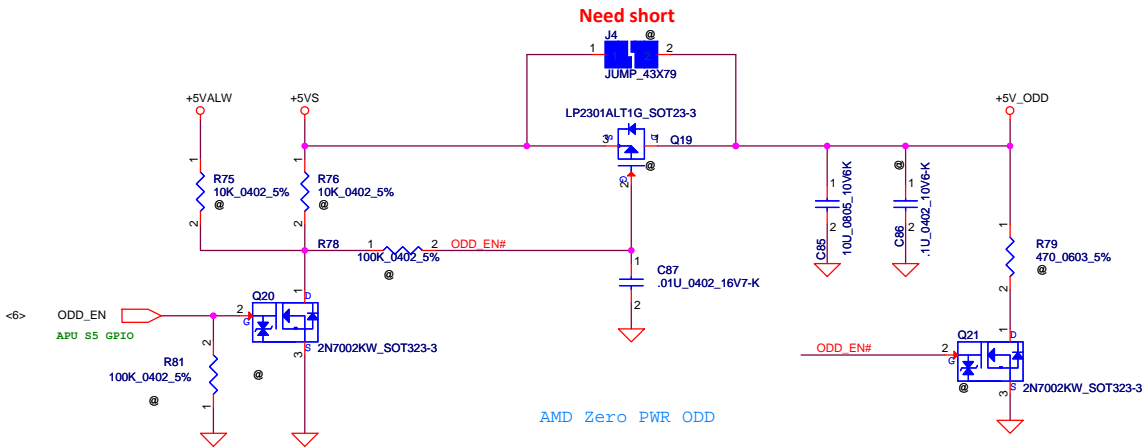
FOR 14" SATA ODD Conn.



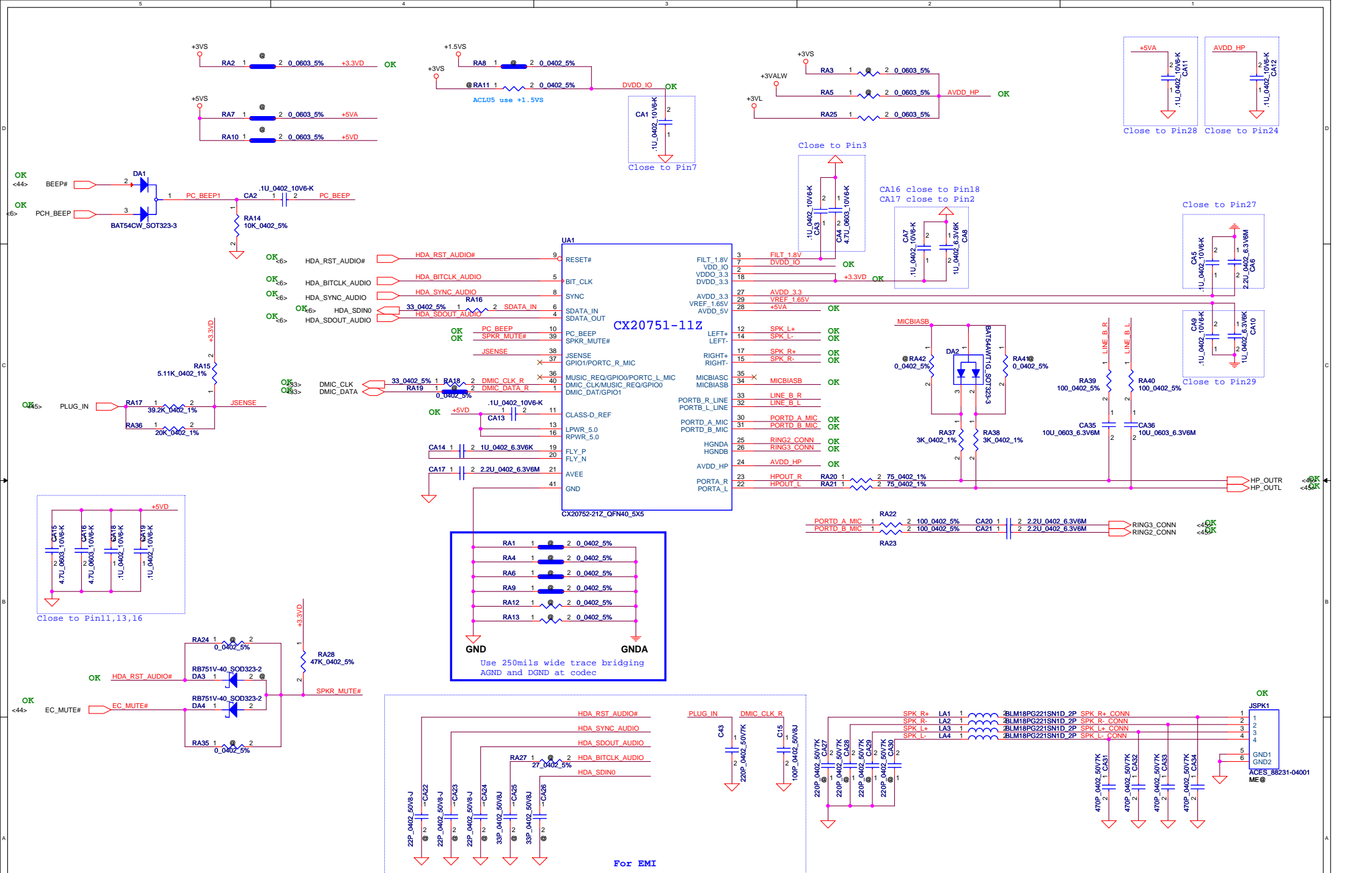
FOR 15" SATA ODD FFC Conn



+5VS to +5V_ODD OK



Security Classification				LC Future Center Secret Data		Title	
Issued Date		2013/08/08		Deciphered Date		2013/08/05	
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				0.4	
Custom	NM-A281	Date				Thursday, February 20, 2014 Sheet 42 of 60	



Property	Value
Issued Date	2013/08/08
Deciphered Date	2013/08/05

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.

LC Future Center Secret Data

Title Codec_CX20752

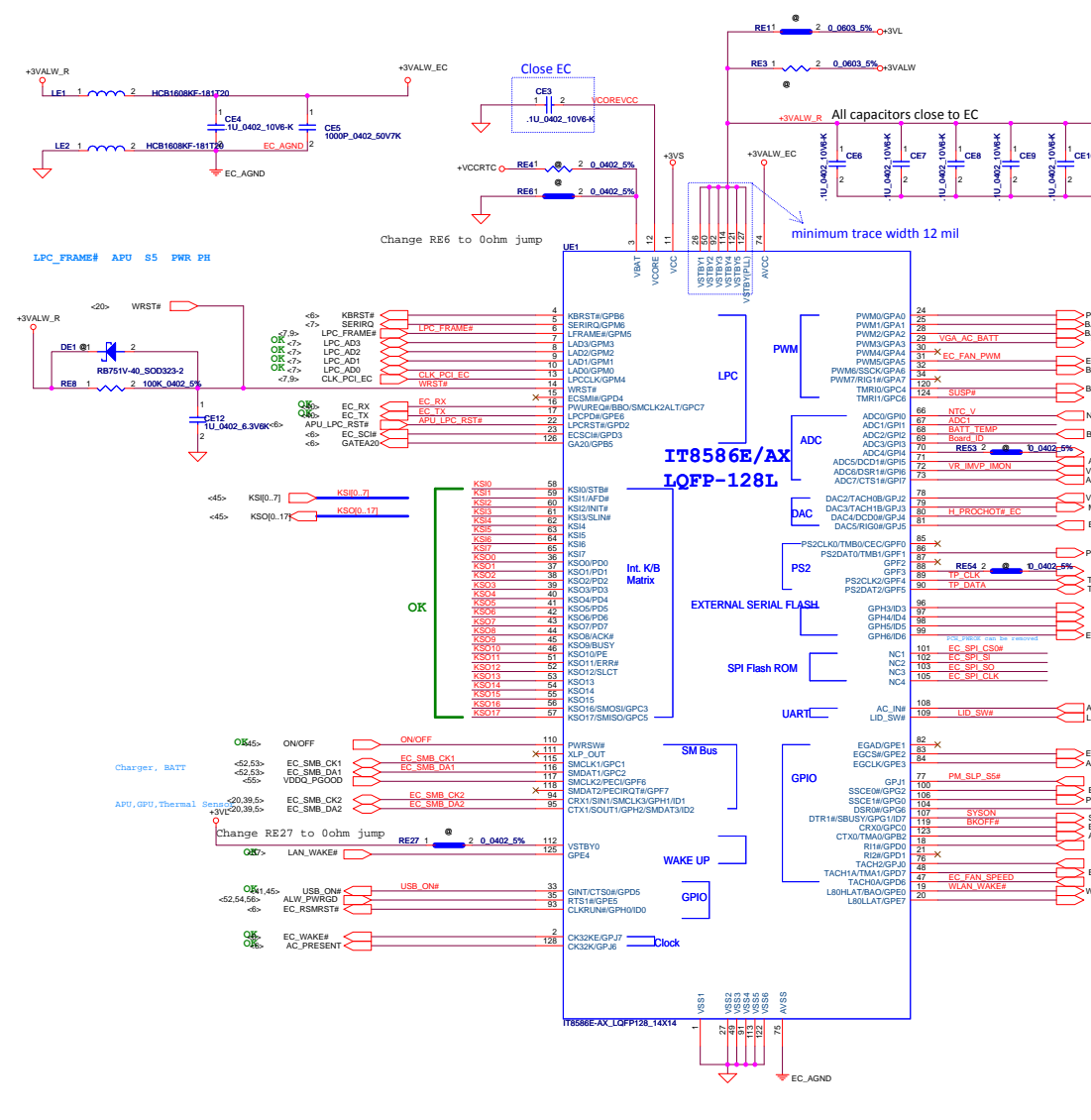
Size Custom

Document Number NM-A281

Date Thursday, February 20, 2014

Sheet 43 of 60

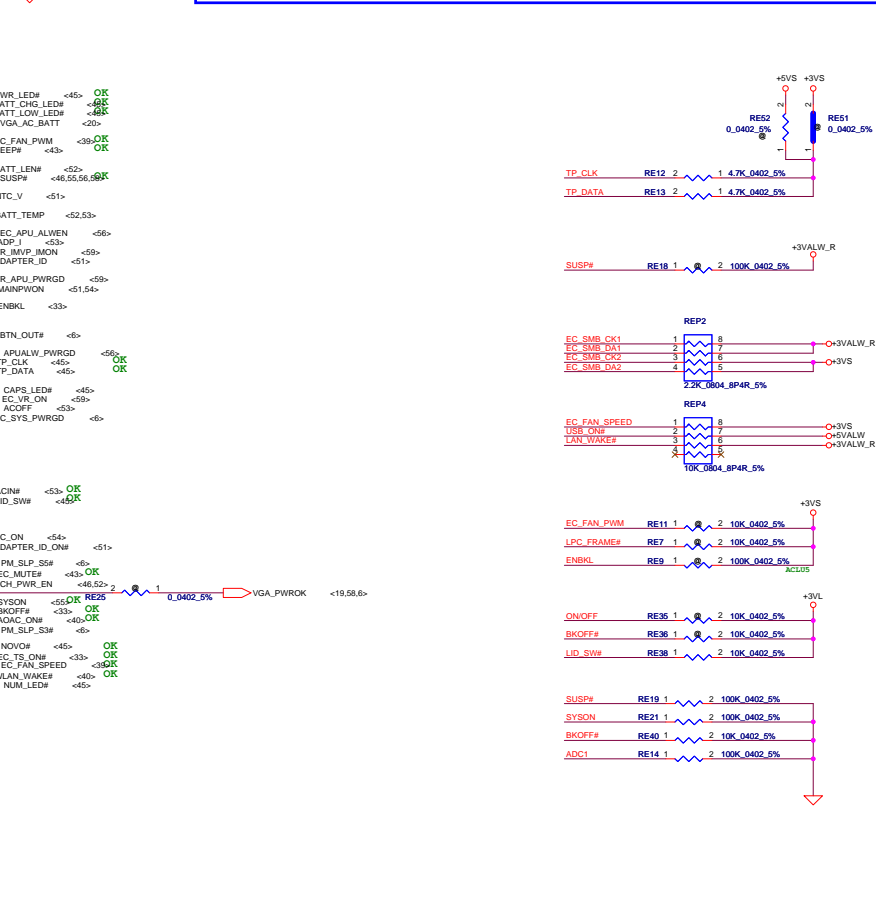
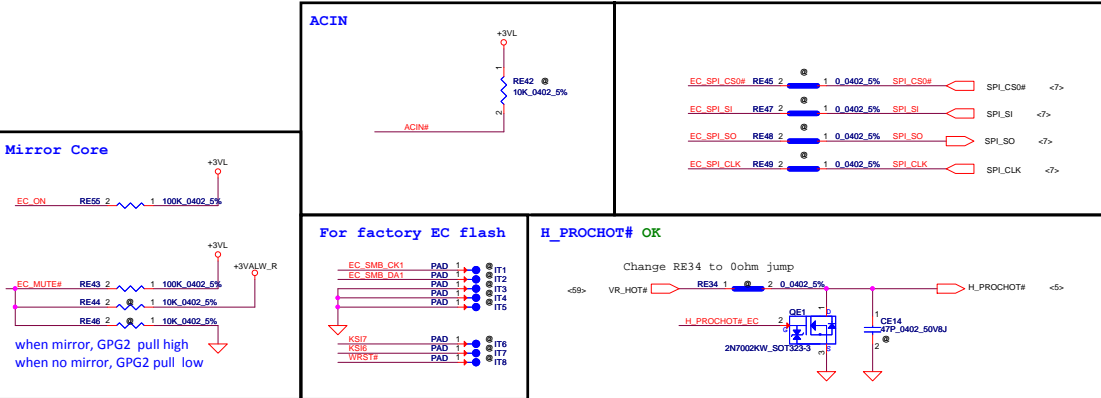
Rev 0.4



BORAD ID Config

Vcc	3.3V +/- 5%
RE33	100K +/- 1%

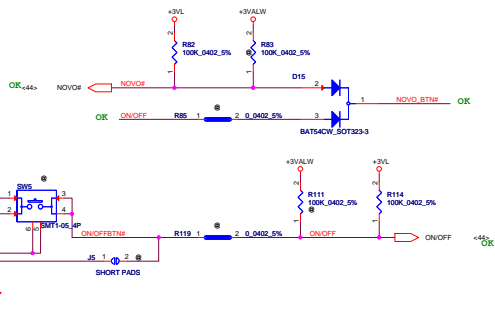
Board ID	RE34	V _{AD_BTD} min	V _{AD_BTD} typ	V _{AD_BTD} max	Phase
0	0K +/- 5%	0 V	0 V	0 V	SDV
1	8.2K +/- 5%	0.216 V	0.250 V	0.289 V	
2	18K +/- 5%	0.436 V	0.503 V	0.538 V	
3	33K +/- 5%	0.712 V	0.819 V	0.875 V	
4	4.7K +/- 5%	0.141 V	0.148 V	0.155 V	
5	24K +/- 5%	0.612 V	0.638 V	0.664 V	



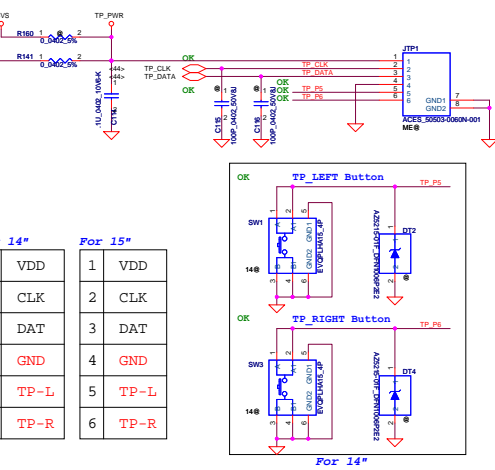
Security Classification	LC Future Center Secret Data	
Issued Date	2013/08/08	Deciphered Date
<p>Title EC ITE8586LQFP</p> <p>Document Number NW-A281</p> <p>Date Thursday, February 23, 2014 Sheet 44 of 60</p>		

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 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.

ON/OFF switch

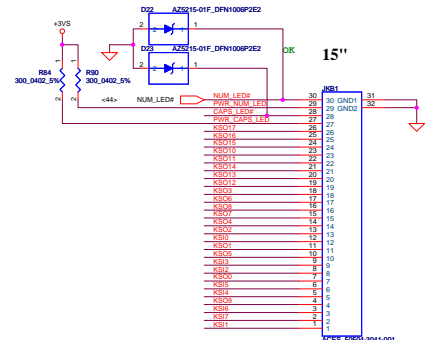
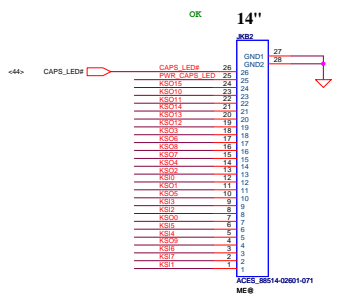
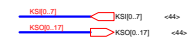


TP/B Connector



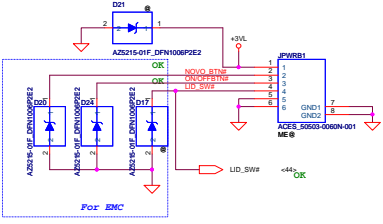
For 14"		For 15"	
1	VDD	1	VDD
2	CLK	2	CLK
3	DAT	3	DAT
4	GND	4	GND
5	TP-L	5	TP-L
6	TP-R	6	TP-R

K/B Connector



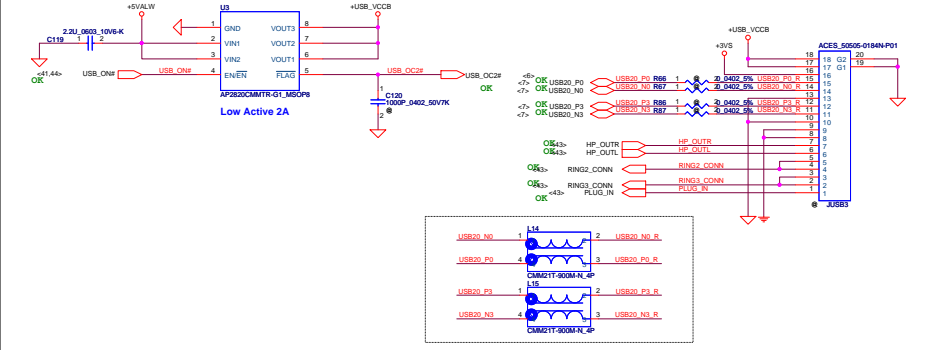
14"		15"	
KB_1	KS11_14	KS00_15	
KB_2	KS17_14	KS12_15	
KB_3	KS16_14	KS13_15	
KB_4	KS09_14	KS05_15	
KB_5	KS14_14	KS01_15	
KB_6	KS18_14	KS10_15	
KB_7	KS00_14	KS02_15	
KB_8	KS12_14	KS04_15	
KB_9	KS13_14	KS07_15	
KB_10	KS05_14	KS08_15	
KB_11	KS01_14	KS06_15	
KB_12	KS10_14	KS03_15	
KB_13	KS02_14	KS01_15	
KB_14	KS04_14	KS01_15	
KB_15	KS07_14	KS01_15	
KB_16	KS08_14	KS01_15	
KB_17	KS06_14	KS01_15	
KB_18	KS03_14	KS01_15	
KB_19	KS02_14	KS01_15	
KB_20	KS01_14	KS01_15	
KB_21	KS01_14	KB_LED_PWR	15
KB_22	KS01_14	CAPS_LED#	15
KB_23	KS01_14	VDD_15	
KB_24	KS01_14	NUM_LED#	15

PWR/B Connector

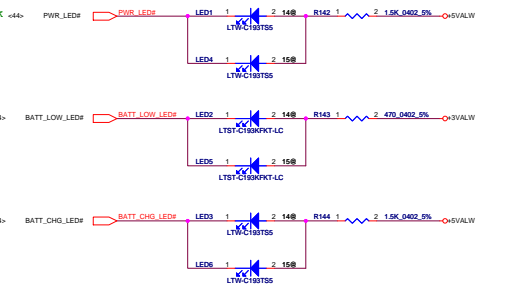


USB I/O Connector

Right Side USB2.0 Port X 1 (USB/B)

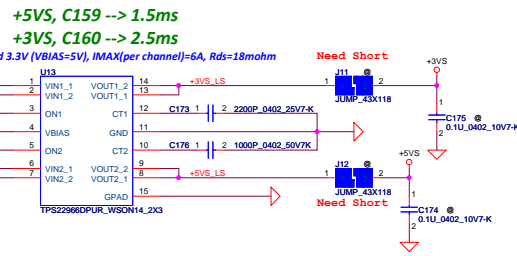
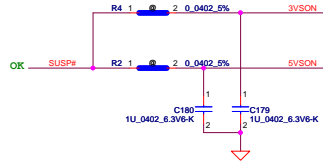


LED

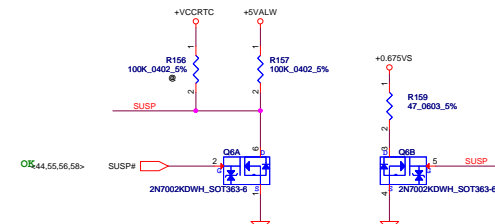


Security Classification				LC Future Center Secret Data		Title	
Issued Date	2013/08/08	Deciphered Date	2013/08/05	KBD/PWR/LED/TP Conn.			
<small>THIS SHEET OF ENGINEERING DRAWINGS IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT 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.</small>							
Size	Document Number		Rev				
Scale	Title		Date		1509, February 21, 2014 45 of 60		

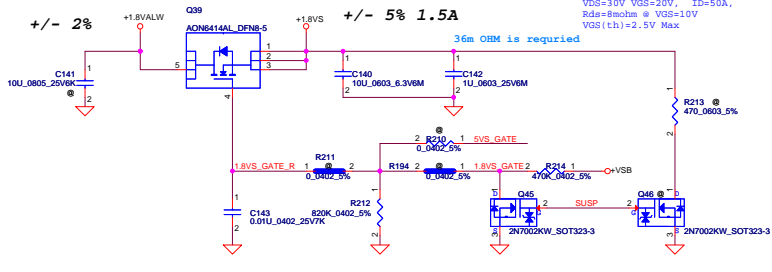
Load Switch
 +5VALW To +5VS OK
 +3VALW To +3VS



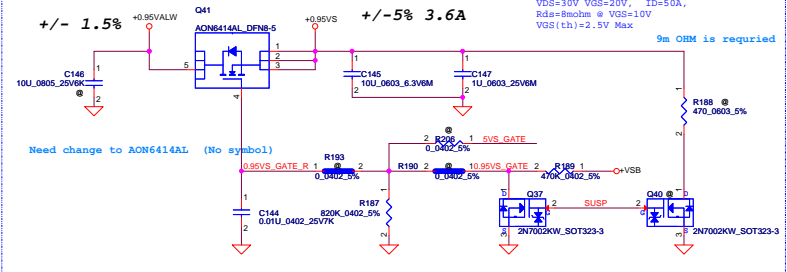
For DisCharge



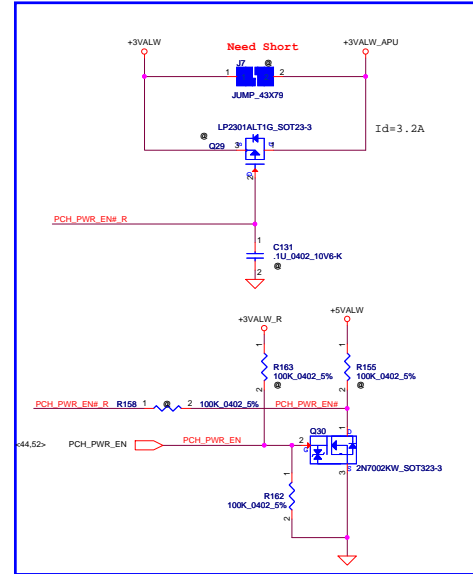
+1.8VALW to +1.8VS



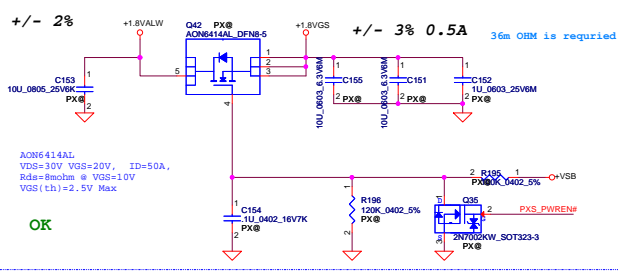
+0.95VALW to +0.95VS



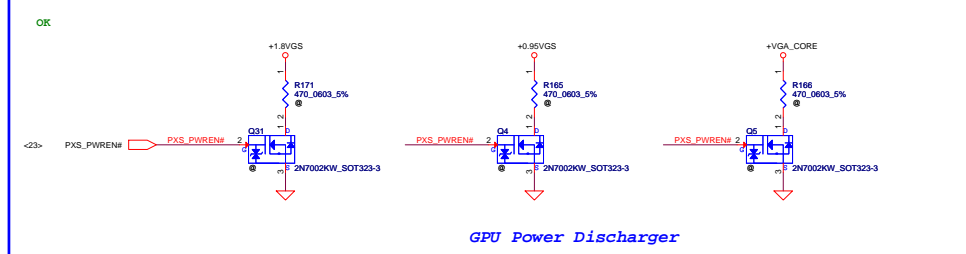
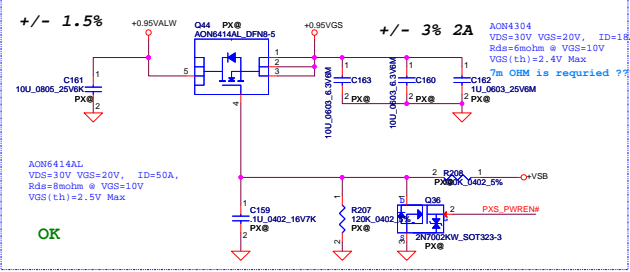
Need check all the EN pin and PWR Sequence.



+1.8VALW to +1.8VGS Reserve for GPU/APU share +1.8V

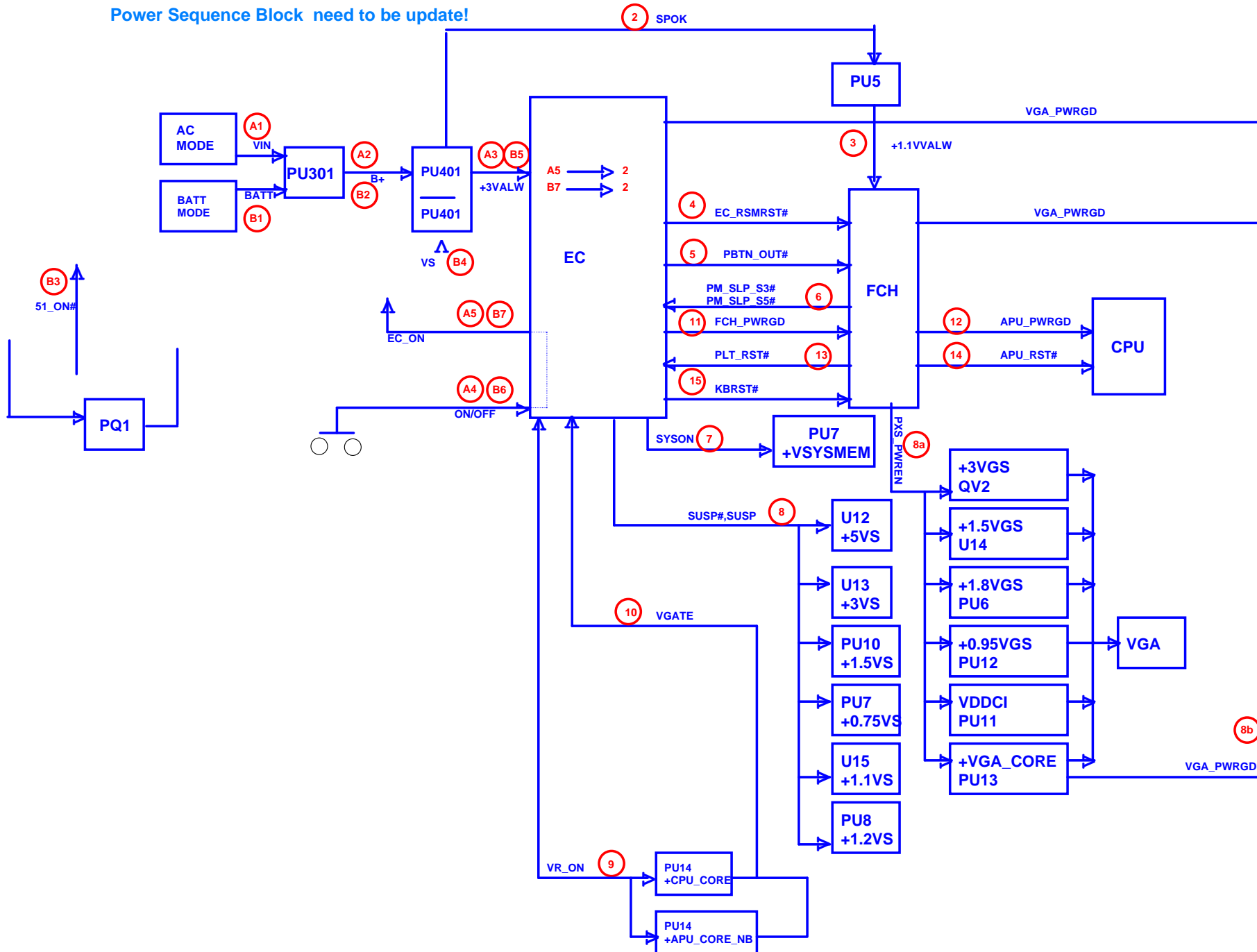


+0.95VALW to +0.95VGS Reserve for GPU/APU share +0.95V



Security Classification	LC Future Center Secret Data		Title
Issued Date	2013/08/15	Deciphered Date	2013/08/15
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.			DC V TO VS INTERFACE Document Number NM-A281 Date: Thursday, February 20, 2014 13:58:46 of 60

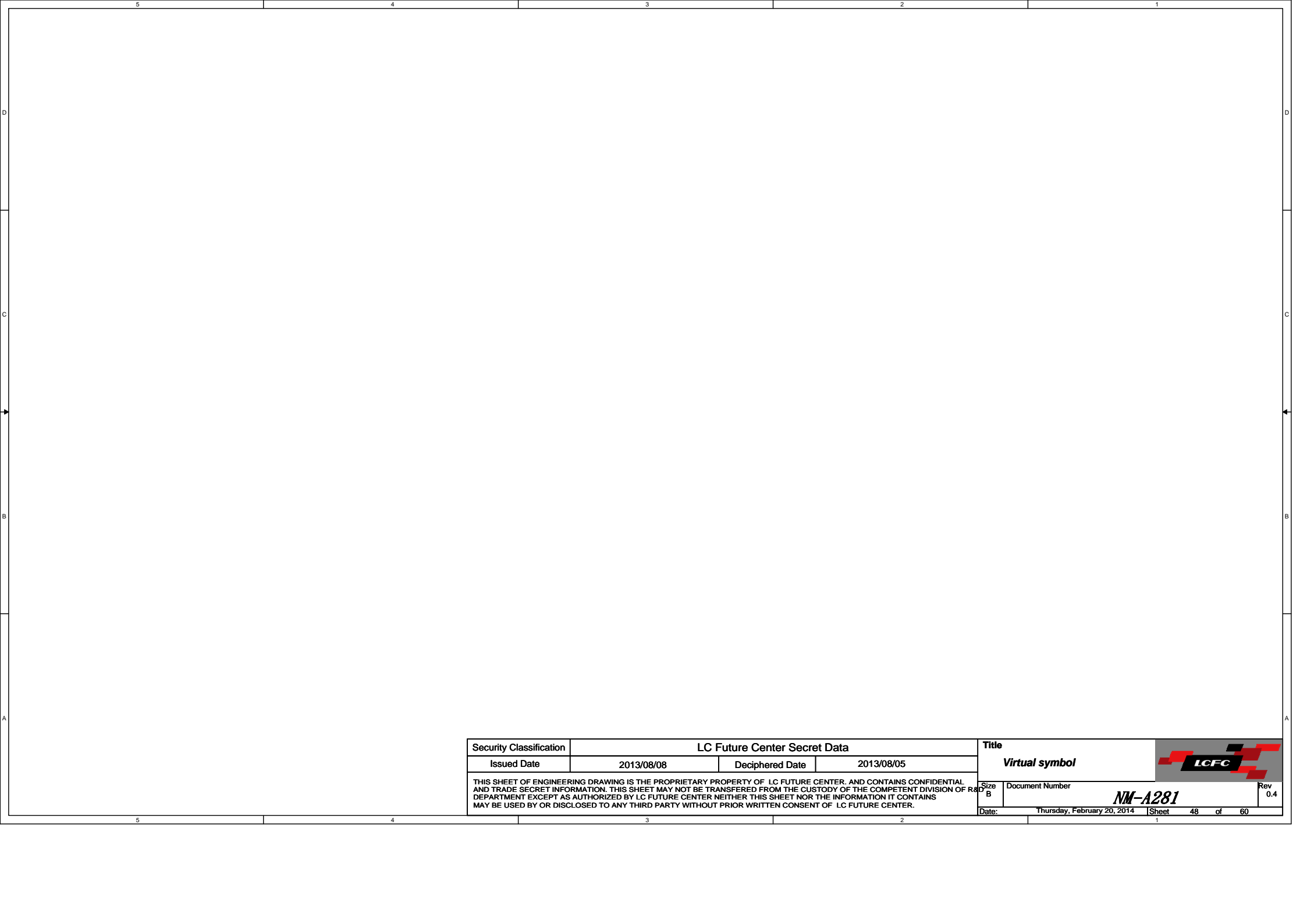
Power Sequence Block need to be update!




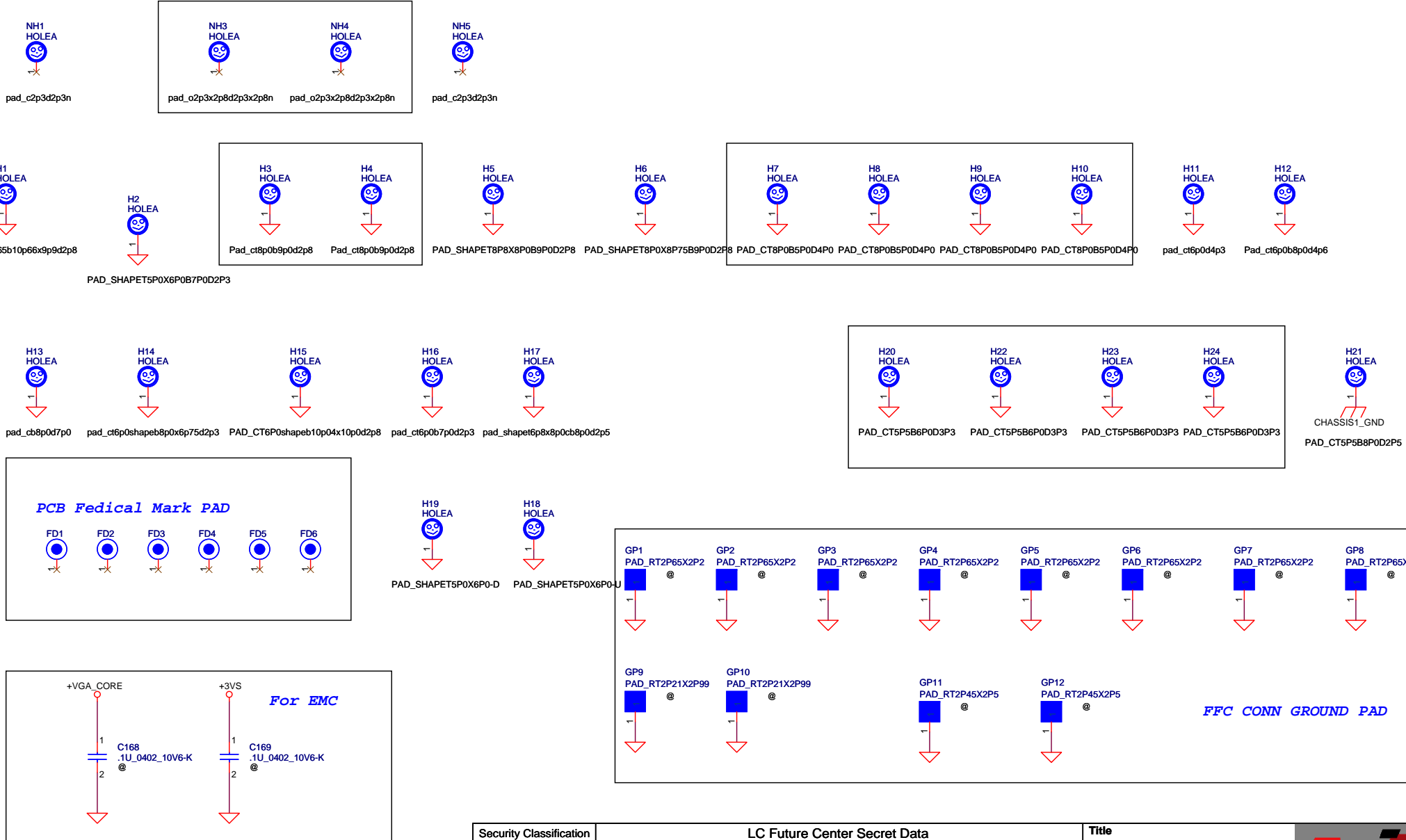
Security Classification	LC Future Center Secret Data	
Issued Date	2013/08/15	Deciphered Date 2013/08/15
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE 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	Power sequence Block
Size	Custom
Document Number	NM-A281
Date:	Thursday, February 20, 2014
Sheet	47 of 60
Rev	0.4

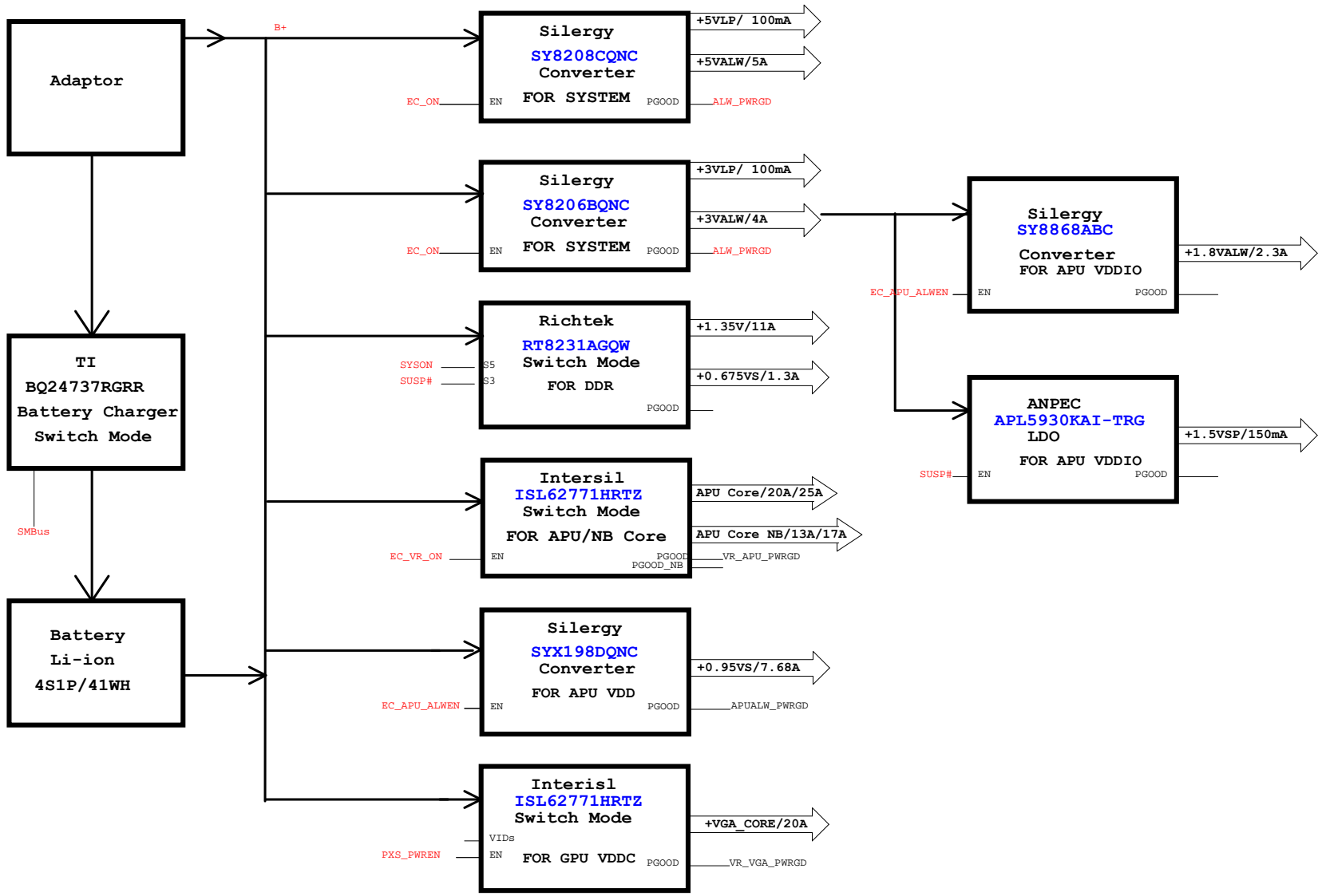


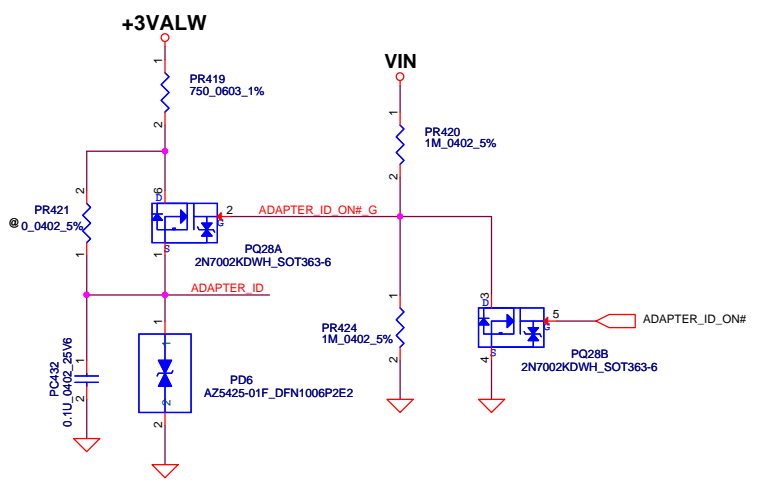
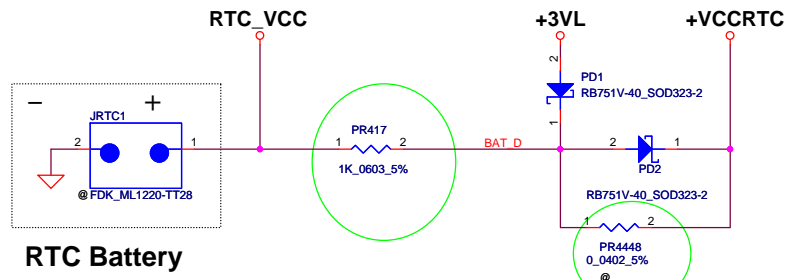
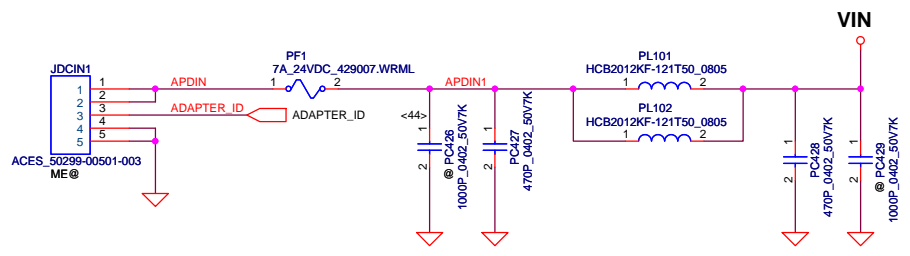


Security Classification	LC Future Center Secret Data			Title		
Issued Date	2013/08/08	Deciphered Date	2013/08/05	Virtual symbol		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF ROYAL CANADIAN MOUNTED POLICE 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 NM-A281	Rev 0.4
				Date:	Thursday, February 20, 2014	Sheet 48 of 60

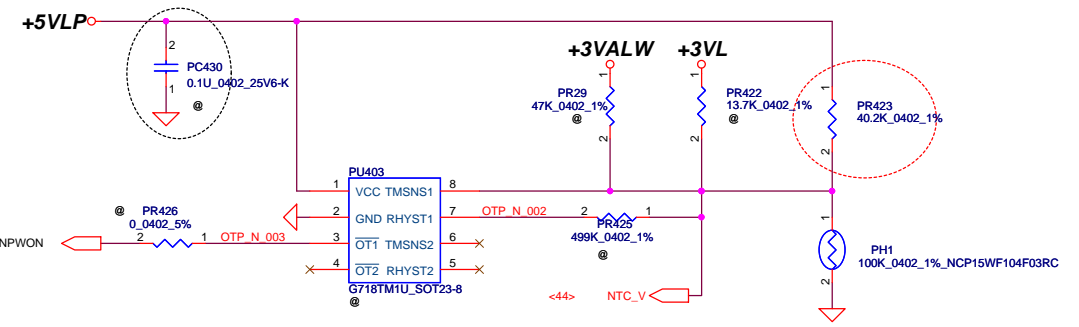


Security Classification	LC Future Center Secret Data		Title	
Issued Date	2013/08/08	Deciphered Date	2013/08/05	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY 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 0.4
			Date:	Thursday, February 20, 2014
			Sheet	49 of 60

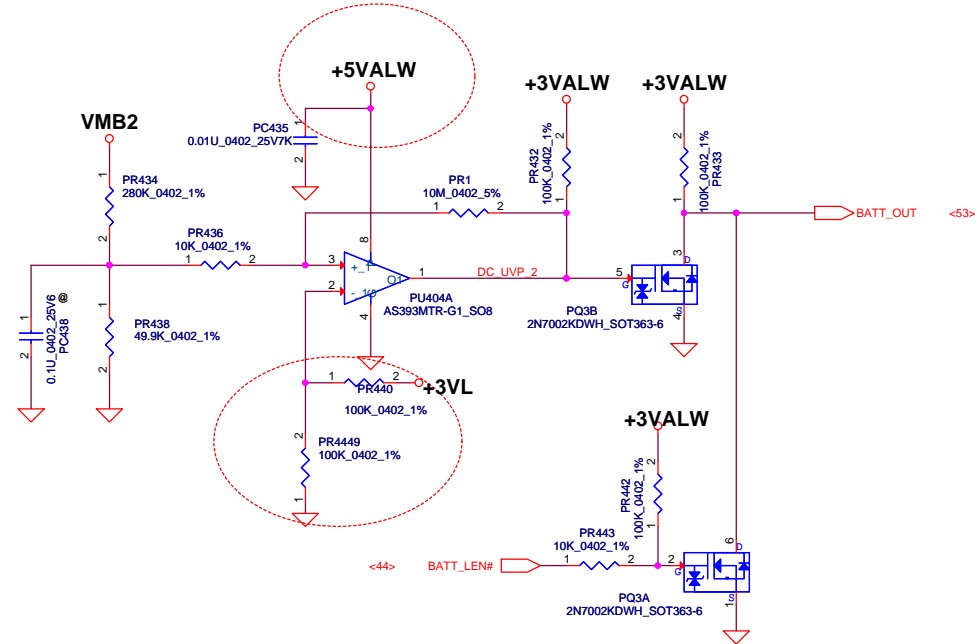
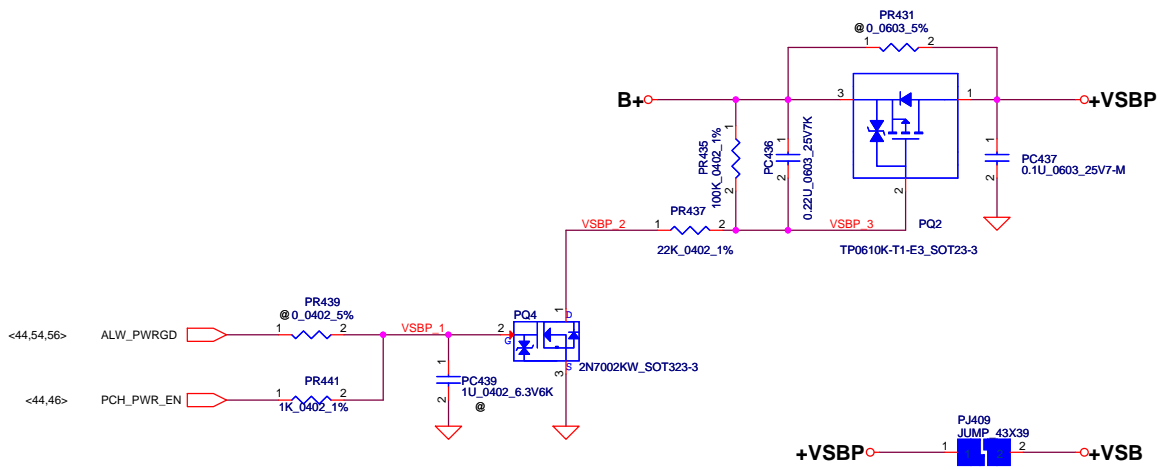
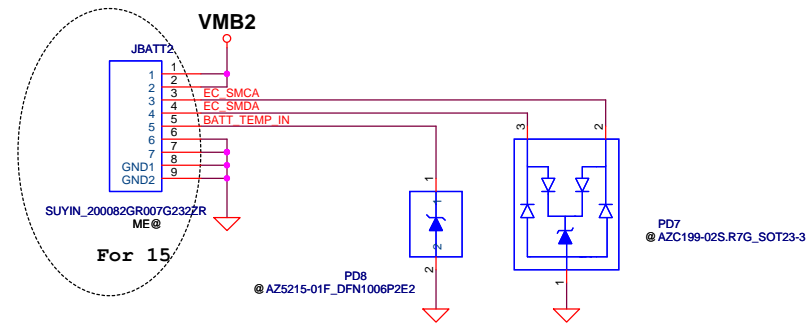
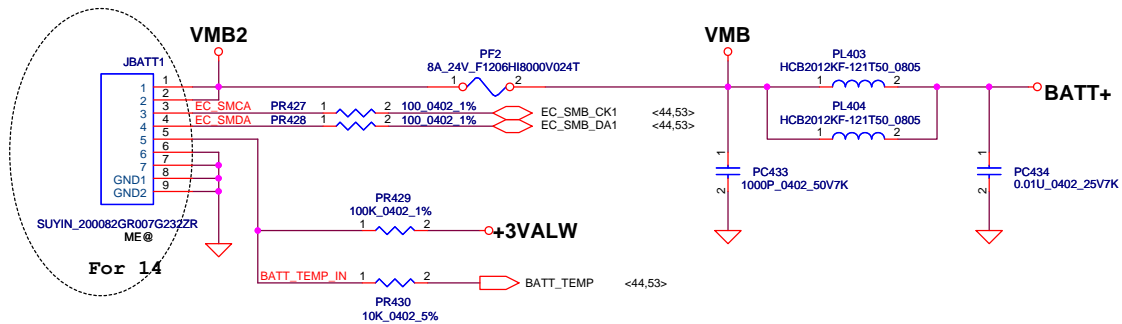




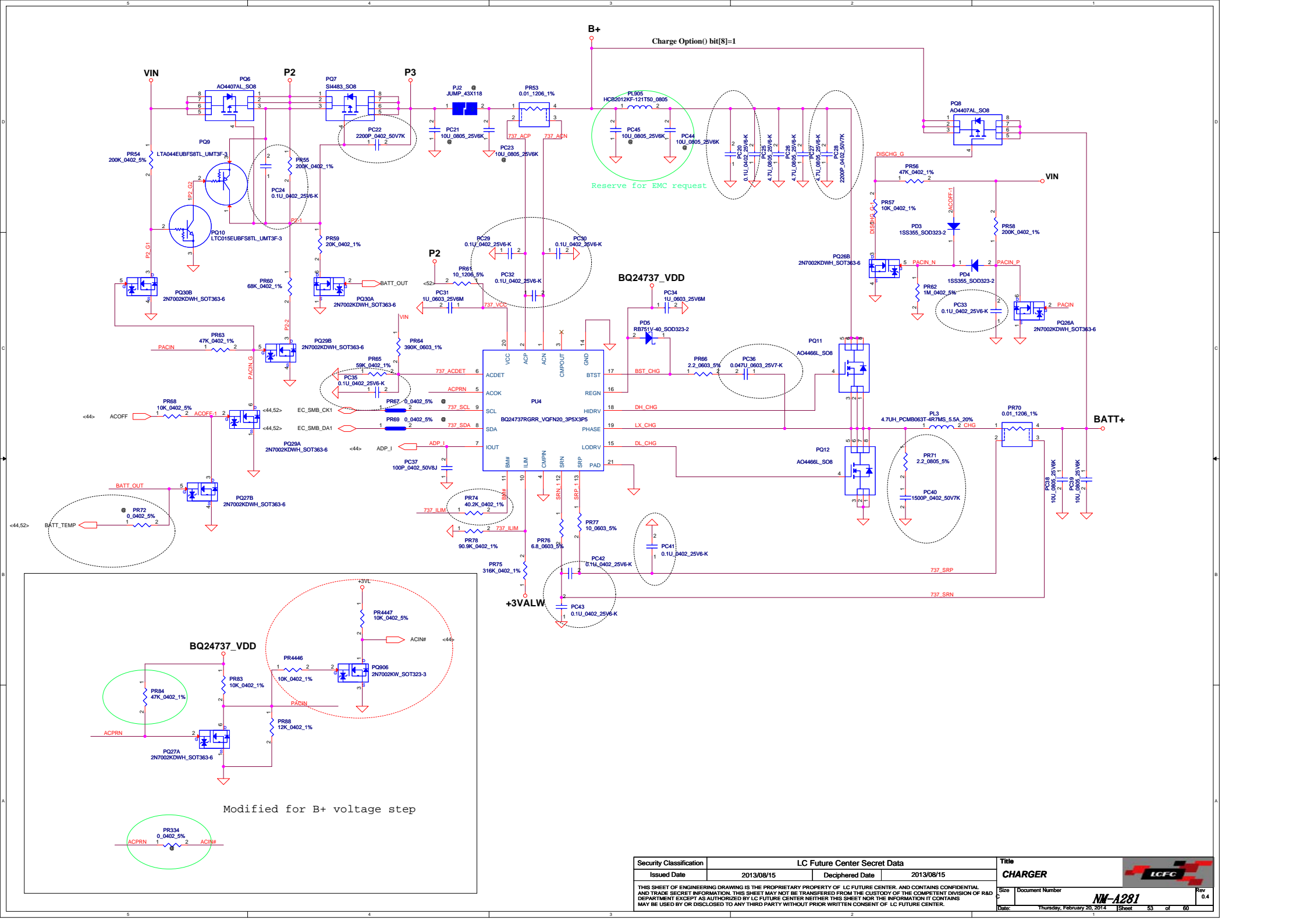
PH1 under CPU bottom side :
CPU thermal protection at 92+3 degree C
Recovery at 56 +3 degree C



Security Classification		LC Future Center Secret Data		Title	
Issued Date	2013/08/15	Deciphered Date	2013/08/15	DCIN / RTC	
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	Date		Sheet	Rev
Custom	NM-A281	Thursday, February 20, 2014		51	0.4
				of	60

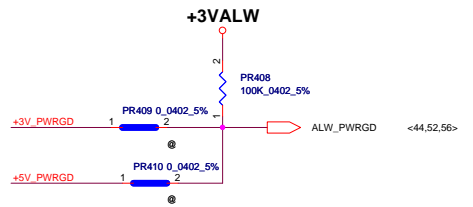
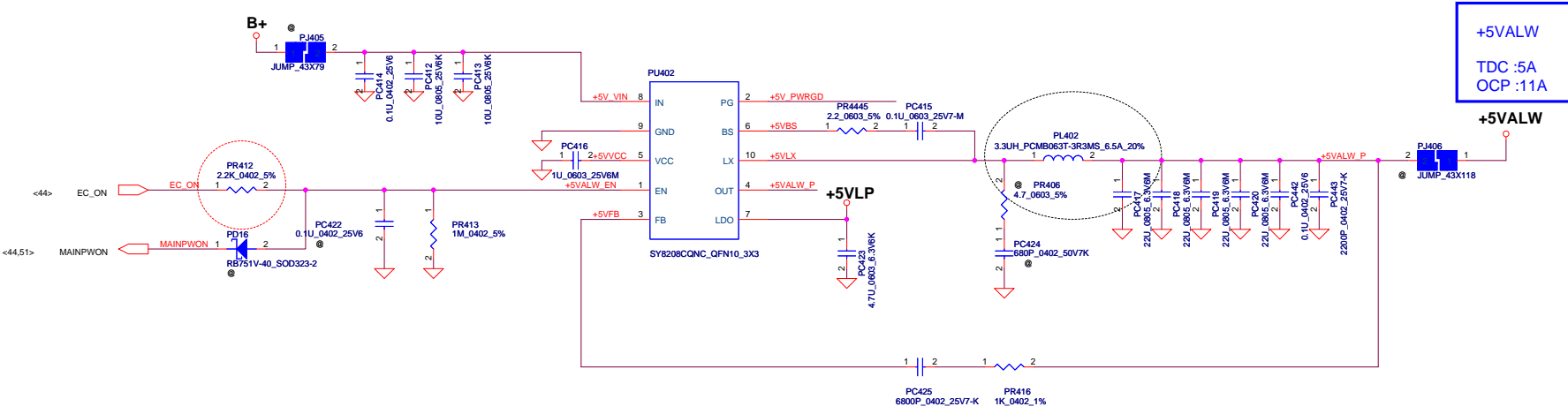
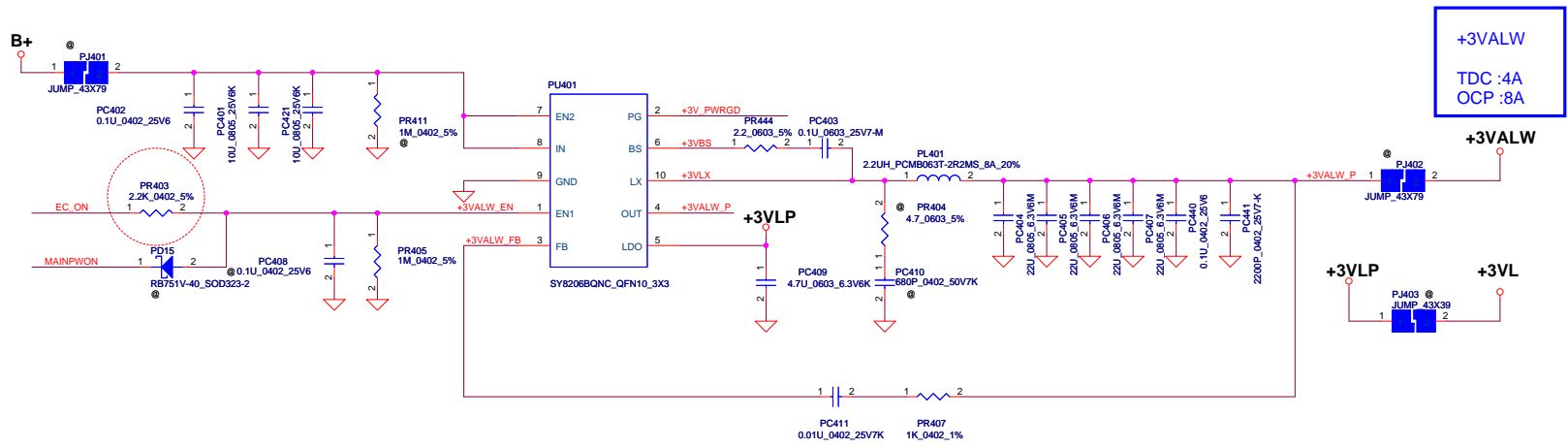


Security Classification		LC Future Center Secret Data		Title	
Issued Date	2013/08/15	Deciphered Date	2013/08/15	BATTERY CONN/OTP	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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	Date		Rev	
Custom	NM-A281	Thursday, February 20, 2014		0.4	
				Sheet	60



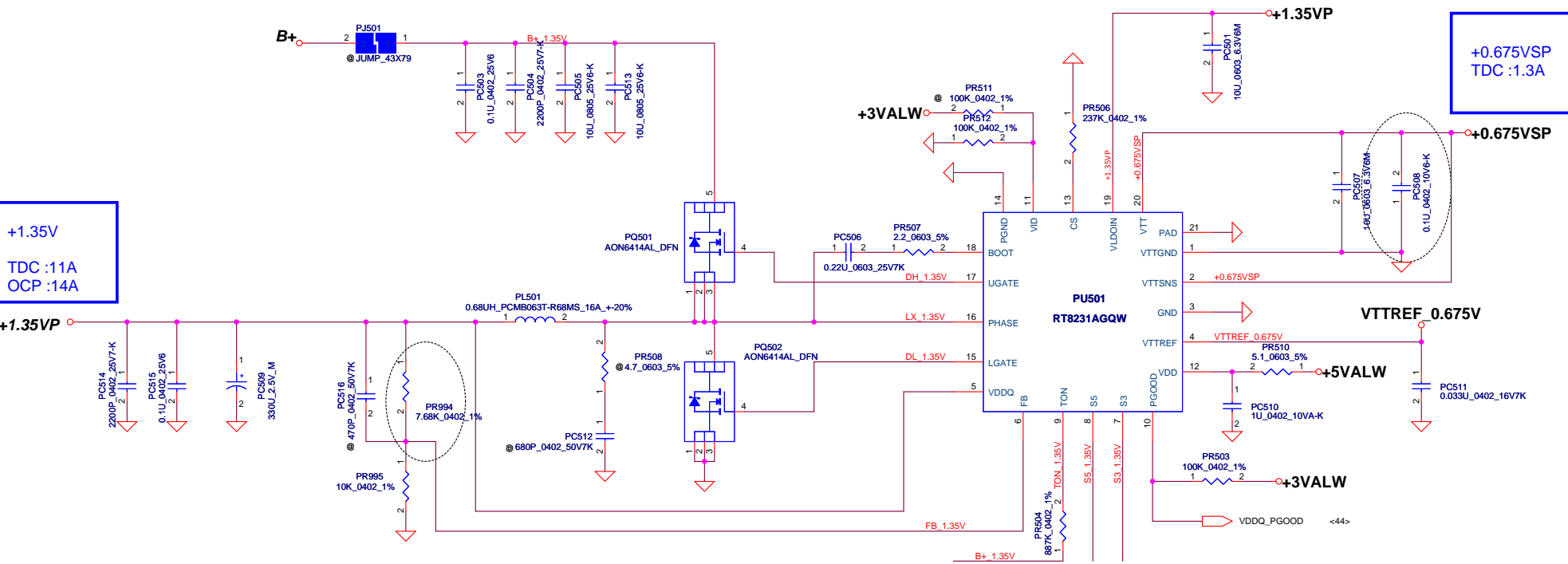
Modified for B+ voltage step

Security Classification	LC Future Center Secret Data		Title	
Issued Date	2013/08/15	Deciphered Date	2013/08/15	
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		Date: Thursday, February 20, 2014 Sheet 53 of 60
	NM-A281	0.4		

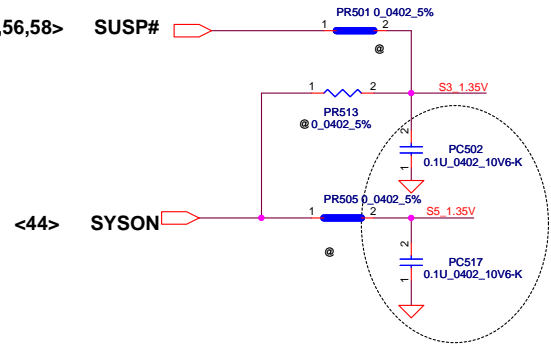


+1.35V
TDC :11A
OCP :14A

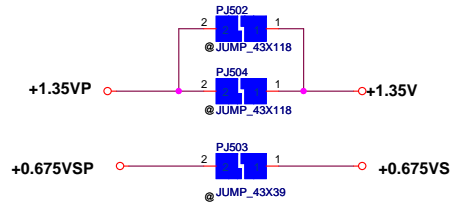
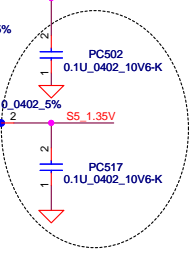
+0.675VSP
TDC :1.3A



<44,46,56,58> SUSP#



<44> SYSON

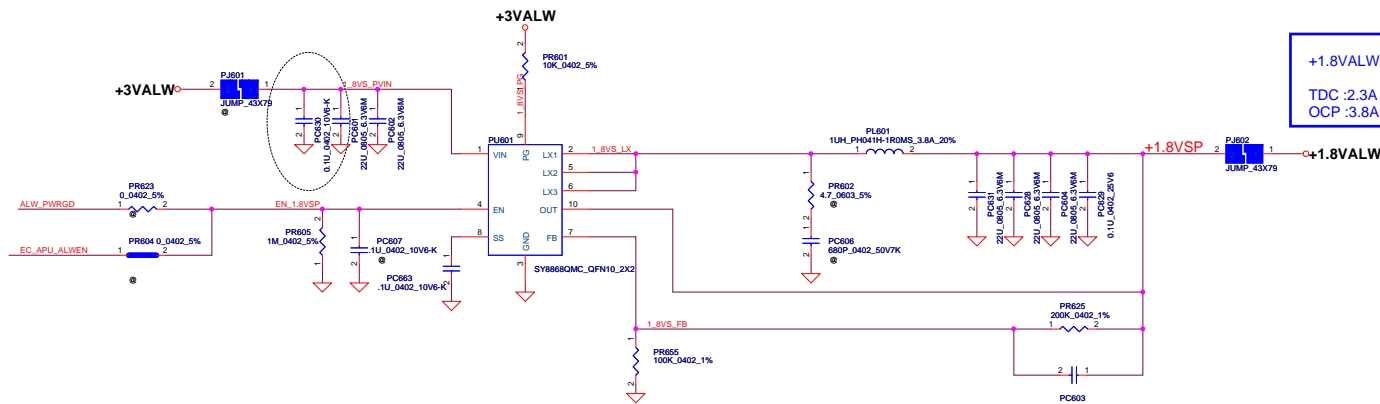


Security Classification	LC Future Center Secret Data		
Issued Date	2013/08/15	Deciphered Date	2013/08/15
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF ROYAL CANADIAN MOUNTED POLICE 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.			

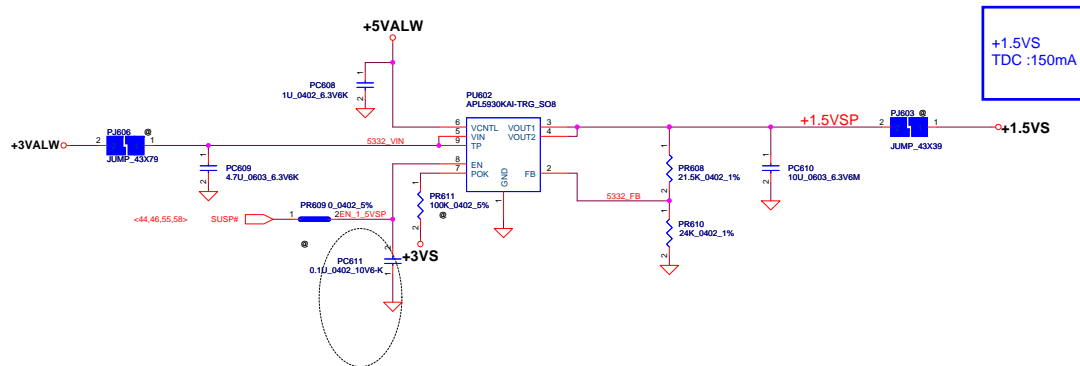
Title	1.35VS/+0.675VS		
Size	Document Number	Rev	0.4
Date:	Thursday, February 20, 2014	Sheet	55 of 60



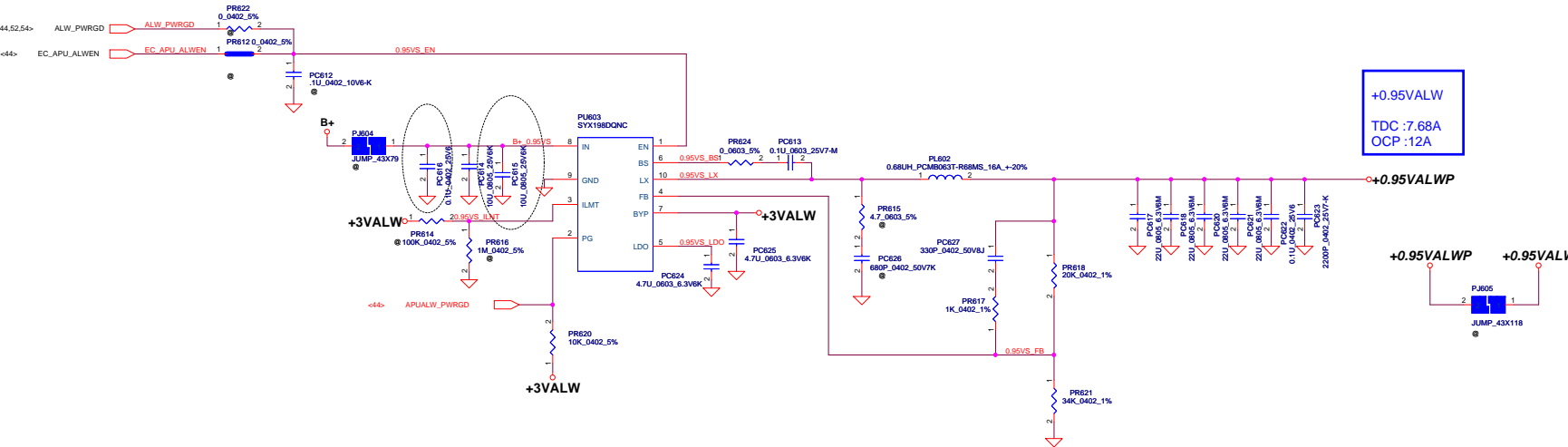
NM-1281



+1.8VALW
TDC :2.3A
OCP :3.8A



+1.5VS
TDC :150mA




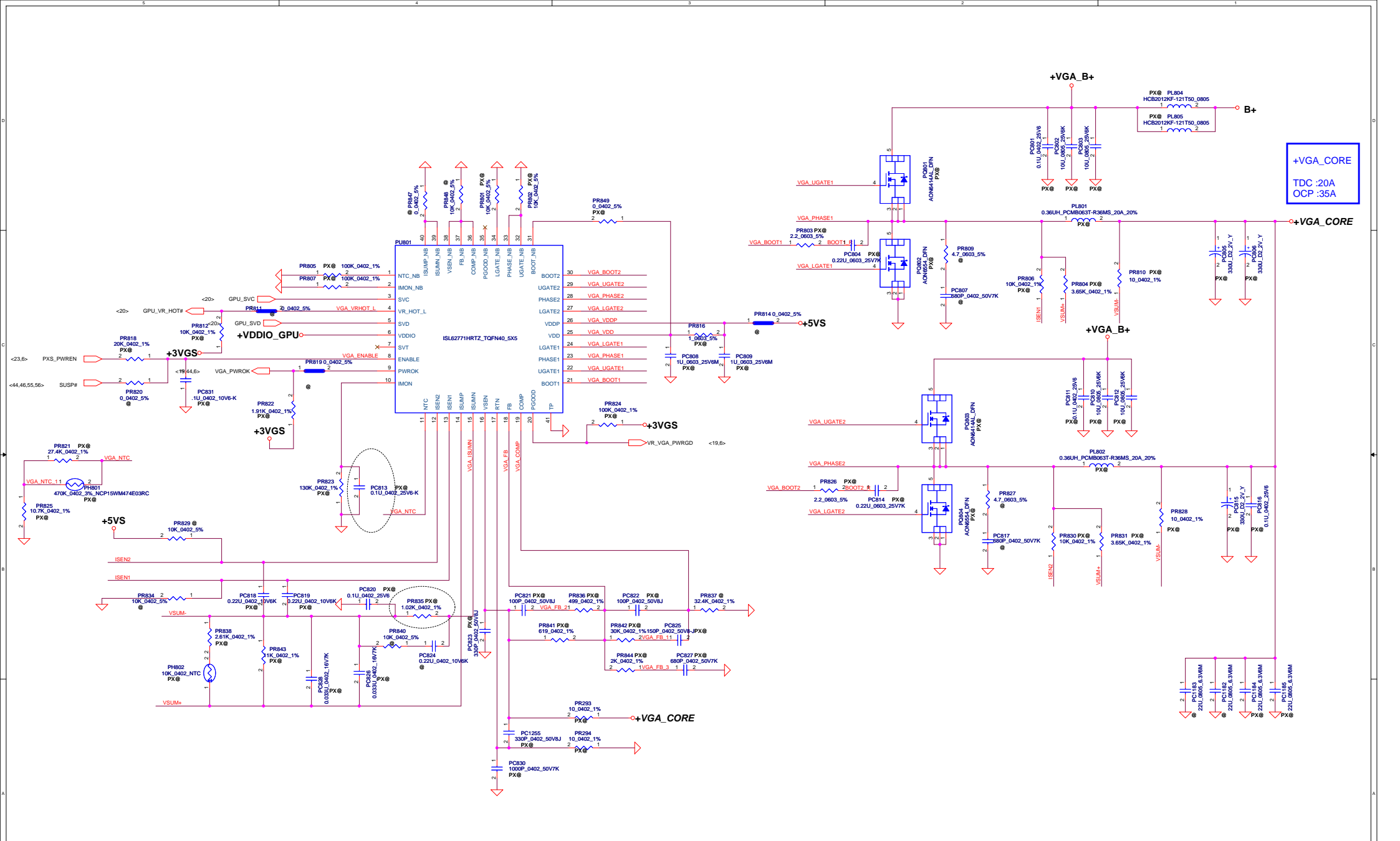
+0.95VALW
TDC :7.68A
OCP :12A

Security Classification	LC Future Center Secret Data		Title
Issued Date	2013/08/15	Deciphered Date	2013/08/15
			+1.35VS_VGA/+1.5VS
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.			
Doc No	Platform	Doc Number	Rev
		NM-A281	04
Date:	Thursday, February 20, 2014	Sheet	56 of 60



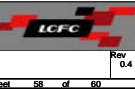


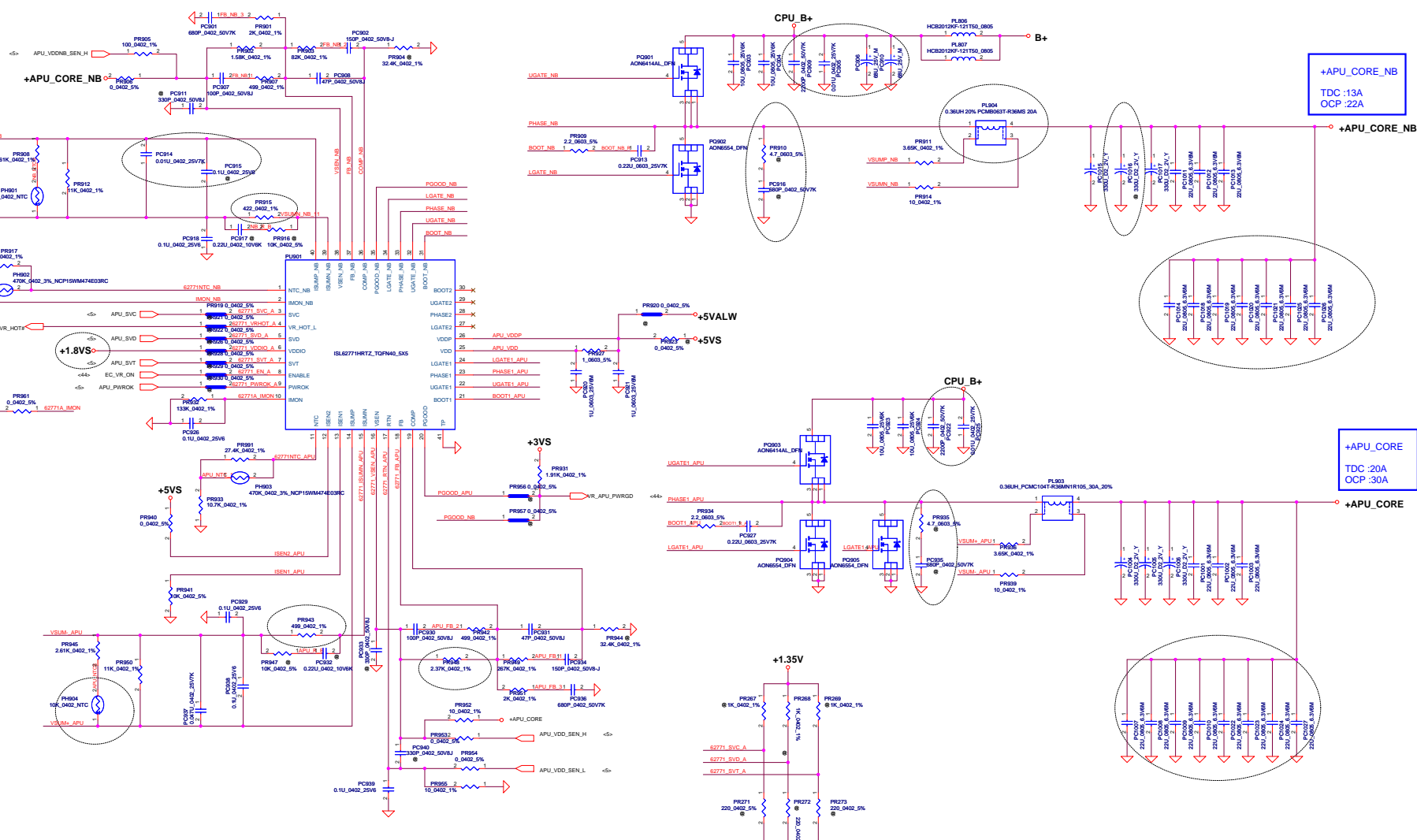
Security Classification		LC Future Center Secret Data		Title			
Issued Date	2013/08/15	Deciphered Date	2013/08/15				
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF THE 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	NM-A281	0.4	
				Date:	Thursday, February 20, 2014	Sheet	57 of 60



+VGA_CORE
TDC: :20A
OCP: :35A

Security Classification	LC Future Center Secret Data		Title	+VGA_CORE
Issued Date	2013/08/15	Deciphered Date	2013/08/15	
<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 REPRODUCED, COPIED, OR DISCLOSED TO ANY OTHER PERSON OR ORGANIZATION WITHOUT THE WRITTEN CONSENT OF LC FUTURE CENTER.</p>				
Document Number	NM-A281			Rev
Date	Thursday, February 20, 2014			0.4
Sheet	58			of
	60			

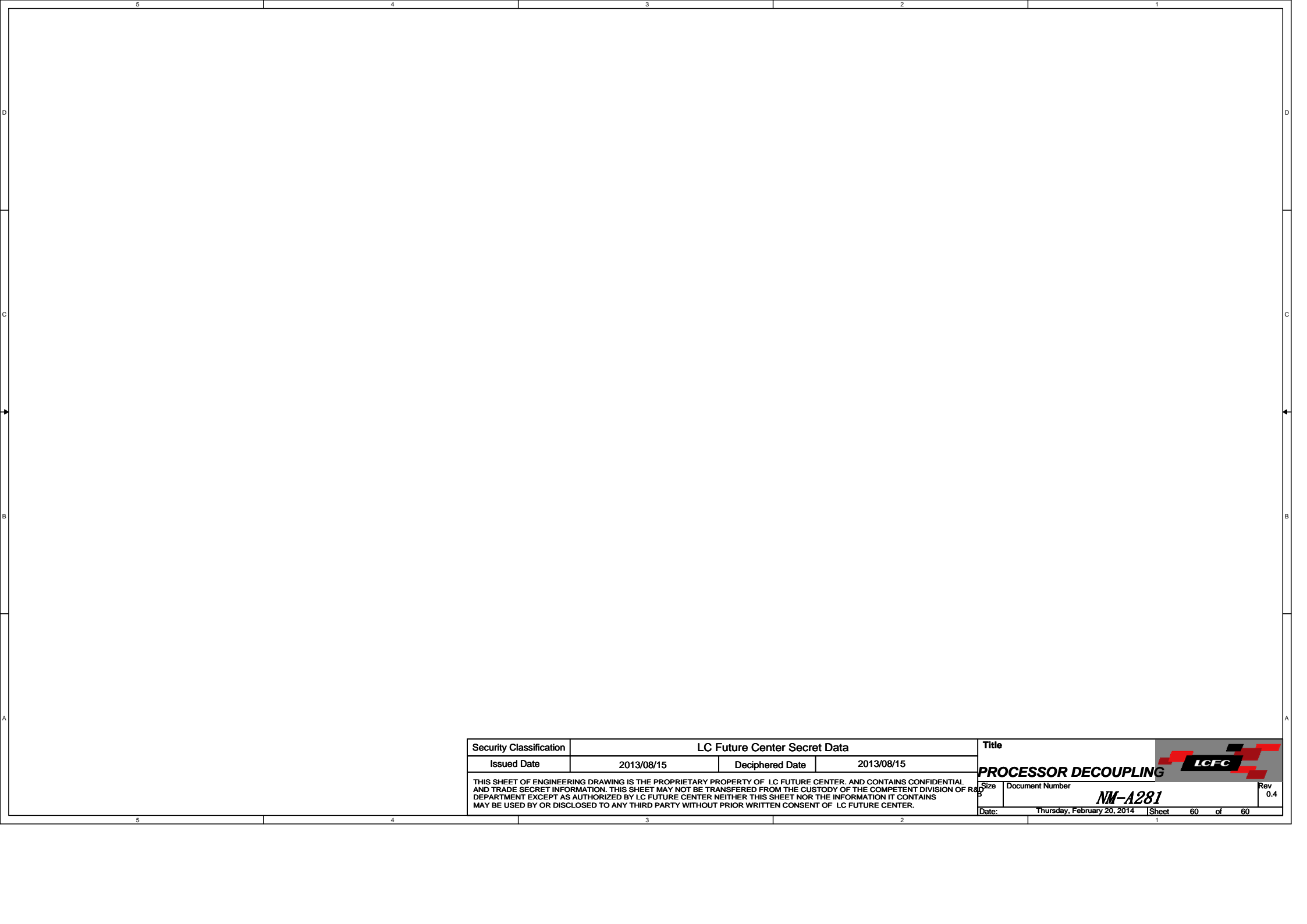





PRE-PWROK METAL VID CODES

SVC	SVD	Boot Voltage
0	0	1.1V
0	1	1.0V
1	0	0.9V
1	1	0.8V(Default)

Security Classification		LC Future Center Secret Data		Title	
Issued Date	2013/08/15	Deciphered Date	2013/08/15	PWR_CPU Core	
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 TRANSMITTED FROM THE CUSTODY OF THE COMPUTING DIVISION OF THE 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.				Doc#	Rev
Doc#	Document Number	Date		Rev	0.4
	NW-4281	Thursday, February 20, 2014		Sheet	59 of 60



Security Classification	LC Future Center Secret Data			Title	
Issued Date	2013/08/15	Deciphered Date	2013/08/15	PROCESSOR DECOUPLING	
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 RESEARCH 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	Rev
				Document Number	0.4
				Date:	Thursday, February 20, 2014
				Sheet	60 of 60