

CB-1 SWG LOGIC SCHEMATICS

001.TITLE PAGE
002.EC HISTORY
003.CPU(1/16) : DDI/EDP
004.CPU(2/16) : MISC/JTAG
005.CPU(3/16) : DDR3L CHANNEL-A
006.CPU(4/16) : DDR3L CHANNEL-B
007.CPU(5/16) : RTC/HDA/SATA/JTAG
008.CPU(6/16) : CLOCK SIGNALS
009.CPU(7/16) : LPC/SPI/SMBUS/C-LINK
010.CPU(8/16) : SYSTEM PM
011.CPU(9/16) : LCD/PCI/DDI CONTROL
012.CPU(10/16) : GPIO/CPU/MISC/LPIO
013.CPU(11/16) : PCIE/USB
014.CPU(12/16) : POWER
015.CPU(13/16) : POWER
016.CPU(14/16) : GND
017.CPU(15/16) : NCTF
018.CPU(16/16) : CFG/RESERVED
019.DDI-VGA CONVERTER
020.BLANK
021.XDP CONNECTOR
022.RTC BATTERY
023.SPI FLASH
024.DDR3L BASE MEMORY CH-A (1/2)
025.DDR3L BASE MEMORY CH-A (2/2)
026.DDR3L SO DIMM CHANNEL-B
027.DDR3L DECOUPLING
028.N14M-GE(1/6) : PEG I/F
029.N14M-GE(2/6) : DIGITAL OUT I/F
030.N14M-GE(3/6) : VRAM I/F
031.N14M-GE(4/6) : GPIO
032.N14M-GE(5/6) : POWER
033.N14M-GE(6/6) : GND
034.VRAM CHANNEL-A
035.BLANK

36.MEMORY TERMINATION
37.BLANK
38.LCD CONNECTOR
39.BLANK
40.EXT CRT INTERFACE
41.DISPLAY PORT CONNECTOR
42.BLANK
43.SATA HDD CONN
44.BLANK
45.USB POWER/CONN
46.GBE CLARKVILLE
47.BLANK
48.GBE MAGNETICS
49.RJ45 CONNECTOR
50.PCIE MINI CARD SLOT
51.MEDIA CARD CONTROLLER
52.MEDIA CARD INTERFACE
53.SMART CARD I/F
54.AUDIO ALC3232-GR
55.AUDIO CONNECTOR
56.AUDIO JACK SENSE
57.AUDIO EXT MIC I/F
58.AUDIO SPEAKER
59.AUDIO BEEP
60.BLANK
61.MEC1619(1/3)
62.MEC1619(2/3)
63.MEC1619(3/3)
64.KEYBOARD CONNECTOR
65.TOUCH PAD CONNECTOR
66.BLANK
67.FAN CONNECTOR
68.G-SENSOR
69.TPM
70.EEPROM/SMBUS SW

ST-1
VER0.1
June/19/2012

71.THINK ENGINE(1/2)
72.THINK ENGINE(2/2)
73.DC-IN
74.BATTERY INPUT
75.BATTERY CHARGER(BQ24760)
76.CHARGER SELECTOR
77.BATTERY MONITOR
78.DC/DC VCC5M/VCC3M (TPS51220A)
79.DC/DC VCCCPUCORE(VT1320M)
80.DC/DC VCCCPUCORE(VT1334S)
81.BLANK
82.VCCCPUCORE DECOUPLING
83.DC/DC VCCGFXCORE_D (TPS51728)
84.BLANK
85.DC/DC VCC1R05AMT(VT356)
86.DC/DC VCC1R35A(VT357)
87.DC/DC VCC0R675B(TPS51200)
88.DC/DC VCC1R5VIDEO(VT356)
89.DC/DC VCC1R05VIDEO_PLL(BD3551HFN)
90.DC/DC VCC1R8B(BD9139)
91.BLANK
92.DC/DC VCC1R5B(BD3551HFN)
93.LOAD SW PCH SUS
94.LOAD SW LAN
95.LOAD SW VIDEO
96.LOAD SW B
97.BLANK
98.LOAD SW WWAN & WLAN
99.PTH FOR SCREW HOLES
100.3rd USB



<https://dr-bios.com>

EC Modify History

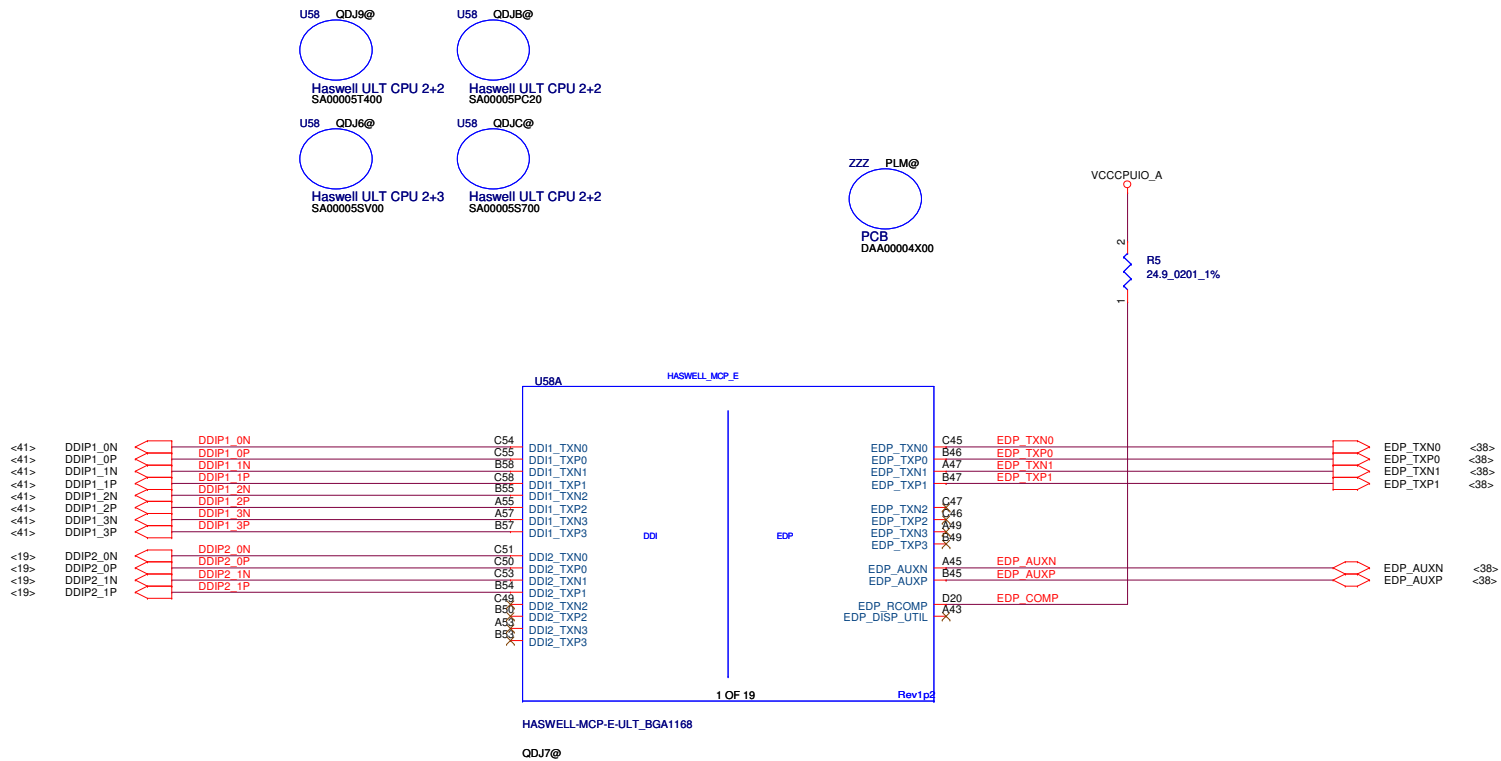
Date	EC version	File name
2013/05/06	CB_1_SWG_SIT_EC001-005	JV_CB-1_SWG_SIT_SCH_EC001-005_050601.pdf
2013/05/07	JVCB-1_SWG_SIT-SWG_ECR001-002	JV_CB-1_SWG_SIT_SCH_EC001-005_050701.pdf
2013/05/09	JVCB-1_SWG_SIT-SWG_ECR003	JV_CB-1_SWG_SIT_SCH_EC001-005_050901.pdf
2013/05/10	JVCB-1_SWG_SIT-SWG_ECR004	JV_CB-1_SWG_SIT_SCH_EC001-005_051001.pdf
2013/05/14	JVCB-1_SWG_SIT-SWG_ECR005	JV_CB-1_SWG_SIT_SCH_EC001-005_051401.pdf
2013/05/14	JVCB-1_SWG_SIT-SWG_EC006	JV_CB-1_SWG_SIT_SCH_EC001-006_051402.pdf
2013/07/03	JV_CB-1_SWG_SVT_SCH_EC001-004	JV_CB-1_SWG_SVT_SCH_EC001-004_070301.pdf

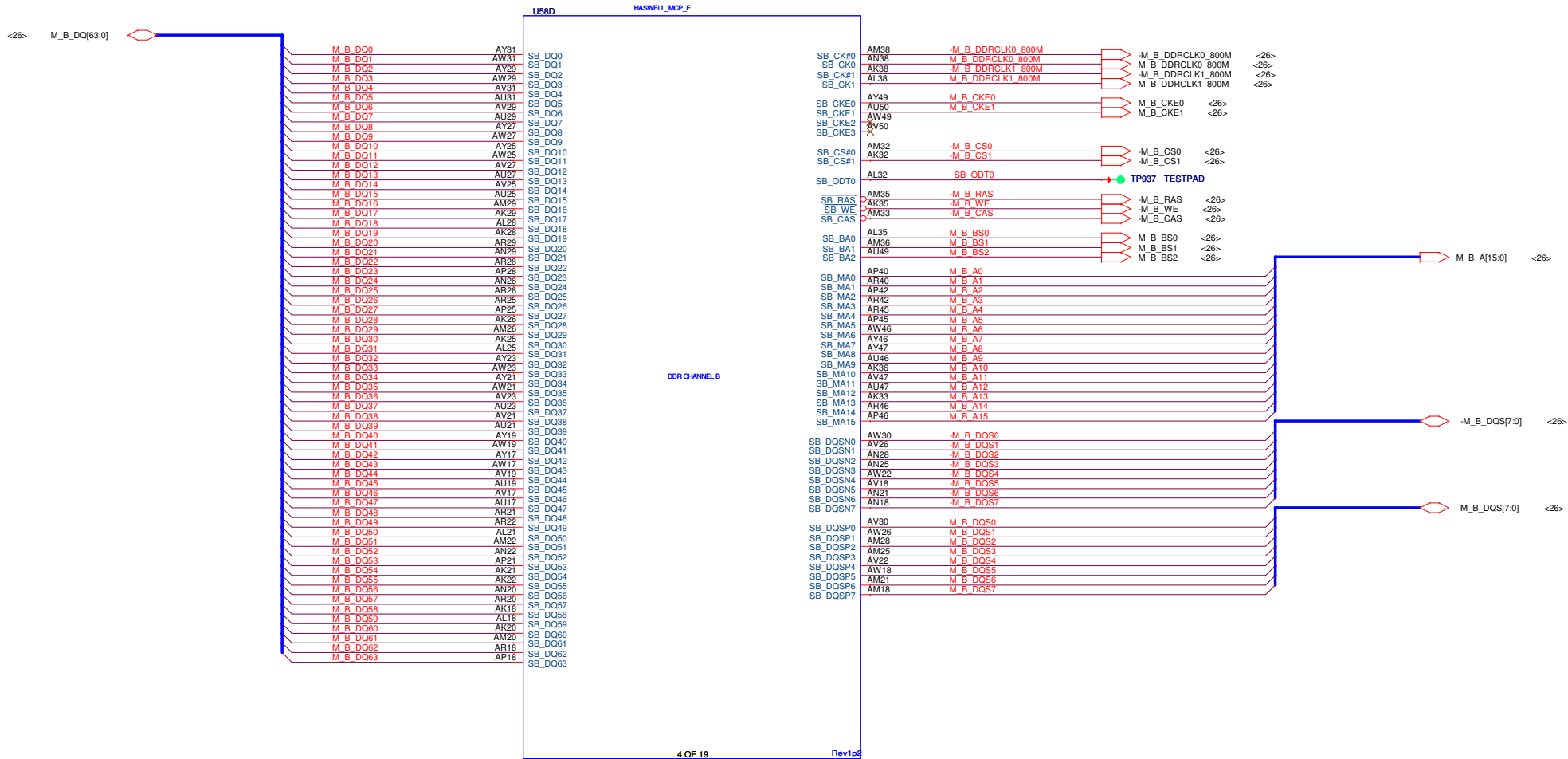
2012/10/02	CB_1_SWG_SDV_EC001-009	JV_CB-1_SWG_SDV1_SCH_EC001-008_121001A.pdf
2012/10/05	CB_1_SWG_SDV_EC010	JV_CB-1_SWG_SDV1_SCH_EC001-009_121004A.pdf
2012/10/09	CB_1_SWG_SDV_EC011	JV_CB-1_SWG_SDV1_SCH_EC009-010_100801.pdf
2012/10/12	CB_1_SWG_SDV_EC012	JV_CB-1_SWG_SDV1_SCH_EC010-011_101101.pdf
2012/10/13	CB_1_SWG_SDV_EC013	JV_CB-1_SWG_SDV1_SCH_EC011-012_101201.pdf
2012/10/16	CB_1_SWG_SDV_EC014	JV_CB-1_SWG_SDV1_SCH_EC013_101501.pdf
2012/10/17	CB_1_SWG_SDV_EC015	JV_CB-1_SWG_SDV1_SCH_EC014_101601.pdf
2012/10/18	CB_1_SWG_SDV_EC016	JV_CB-1_SWG_SDV1_SCH_EC015_101701.pdf
2012/10/19	CB_1_SWG_SDV_EC017	JV_CB-1_SWG_SDV1_SCH_EC016_101801.pdf
2012/10/20	CB_1_SWG_SDV_EC018	JV_CB-1_SWG_SDV1_SCH_EC017_101901.pdf
2012/10/25	CB_1_SWG_SDV_EC018-022	JV_CB-1_SWG_SDV1_SCH_EC018-021_102401.pdf
2012/10/31	CB_1_SWG_SDV_EC023	JV_CB-1_SWG_SDV1_SCH_EC022_103001.pdf
2012/10/32	CB_1_SWG_SDV_EC023-025	JV_CB-1_SWG_SDV1_SCH_EC023-024_103101.pdf
2012/11/15	CB_1_SWG_SDV_EC025-033	JV_CB-1_SWG_SDV1_SCH_EC025-032_111401.pdf
2012/11/23	CB_1_SWG_SDV_EC033-036	JV_CB-1_SWG_SDV1_SCH_EC025-035_112201.pdf
2012/11/27	CB_1_SWG_SDV_EC037	JV_CB-1_SWG_SDV1_SCH_EC036_112601.pdf
2012/12/05	CB_1_SWG_SDV_EC037-039	JV_CB-1_SWG_SDV1_SCH_EC037-038_120401.pdf

Security Classification	LC Future Center Secret Data			Title	
Issued Date	2012/05/01	Deciphered Date	2012/12/01	EC HISTORY	
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.				Figure	Document Number
				Date	Tuesday, July 30, 2013



Rev
0.1



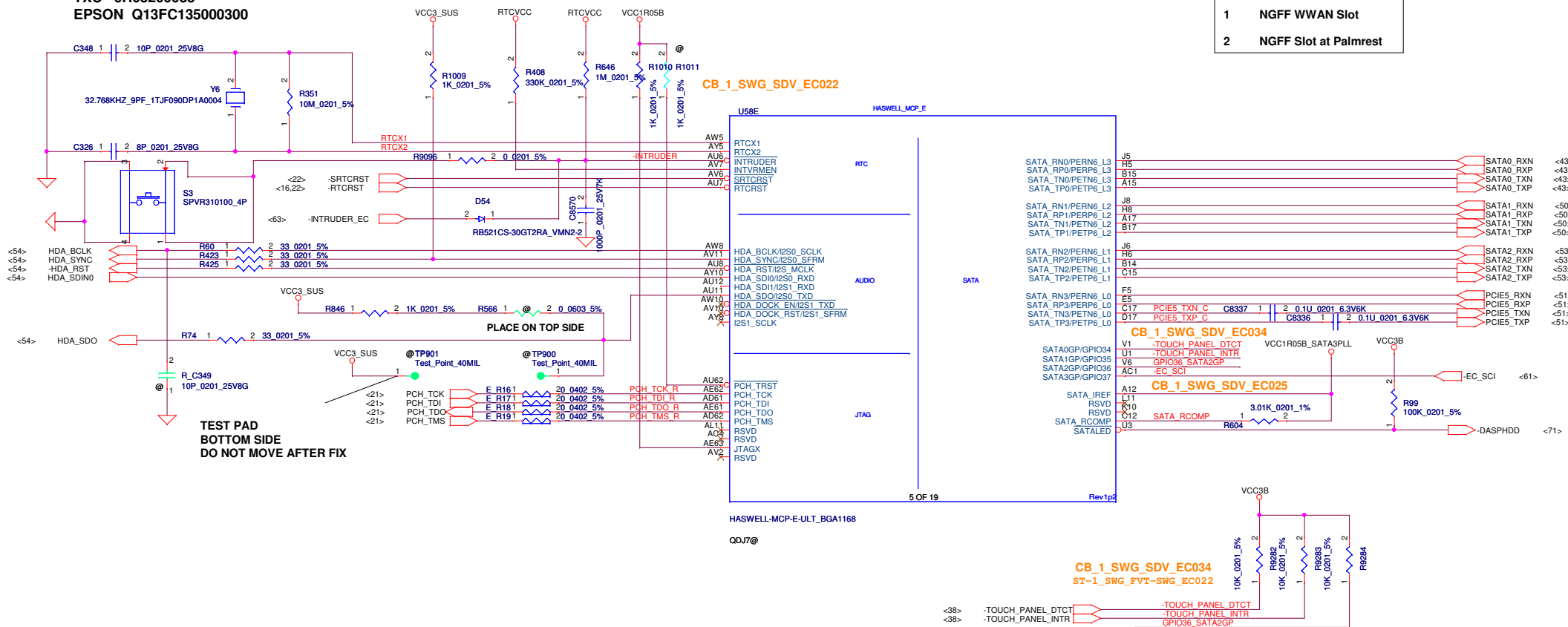


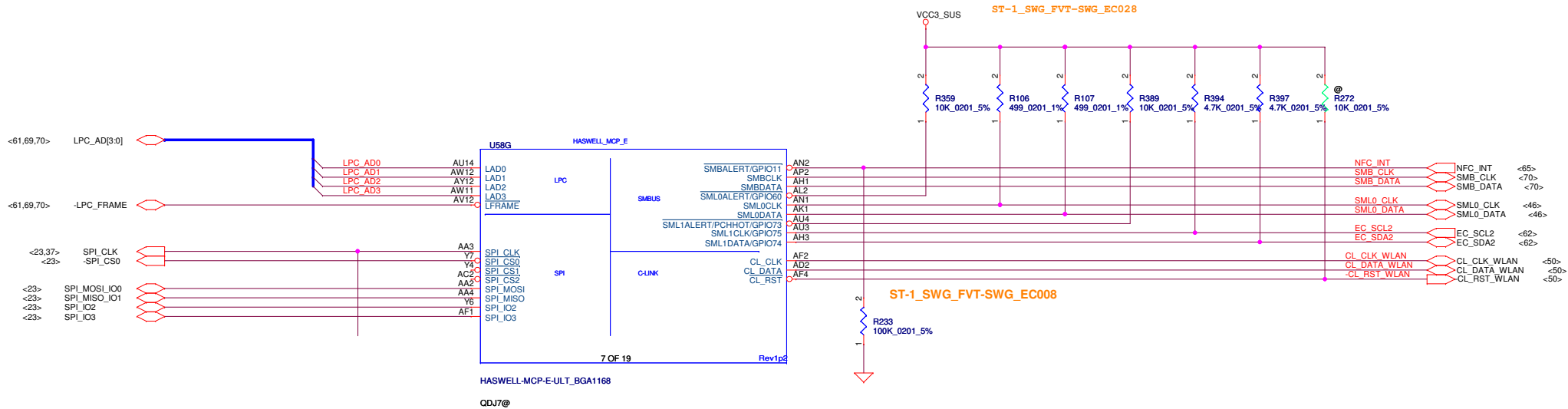
HASWELL-MCP-E-ULT_BGA1168


QDJ7@

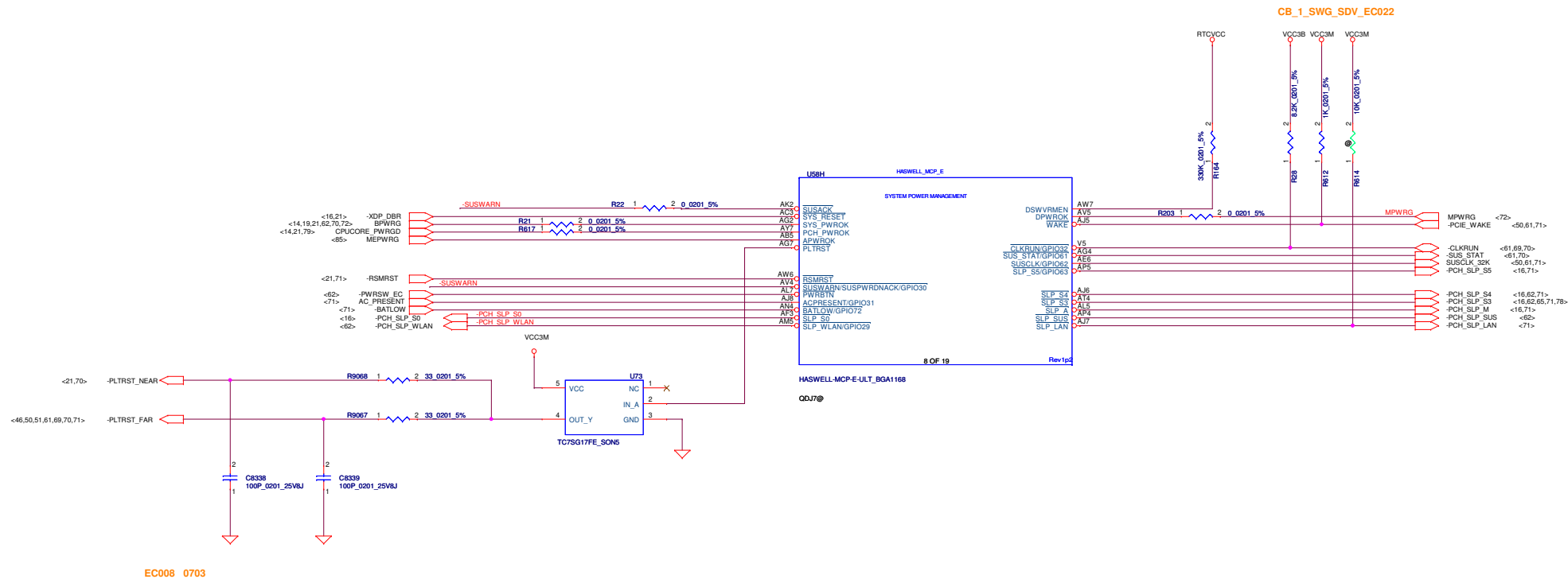
Security Classification		LC Future Center Secret Data		Title	
Issued Date	2012/05/01	Deciphered Date	2012/12/01	CPU(4/16) : DDR3L CHANNEL-B	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE 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 COBAIN SWG
Date: Tuesday, July 30, 2013				Sheet 6	Rev 0.1

SATA Port Assignment	
0	HDD Connector
1	NGFF WWAN Slot
2	NGFF Slot at Palmrest



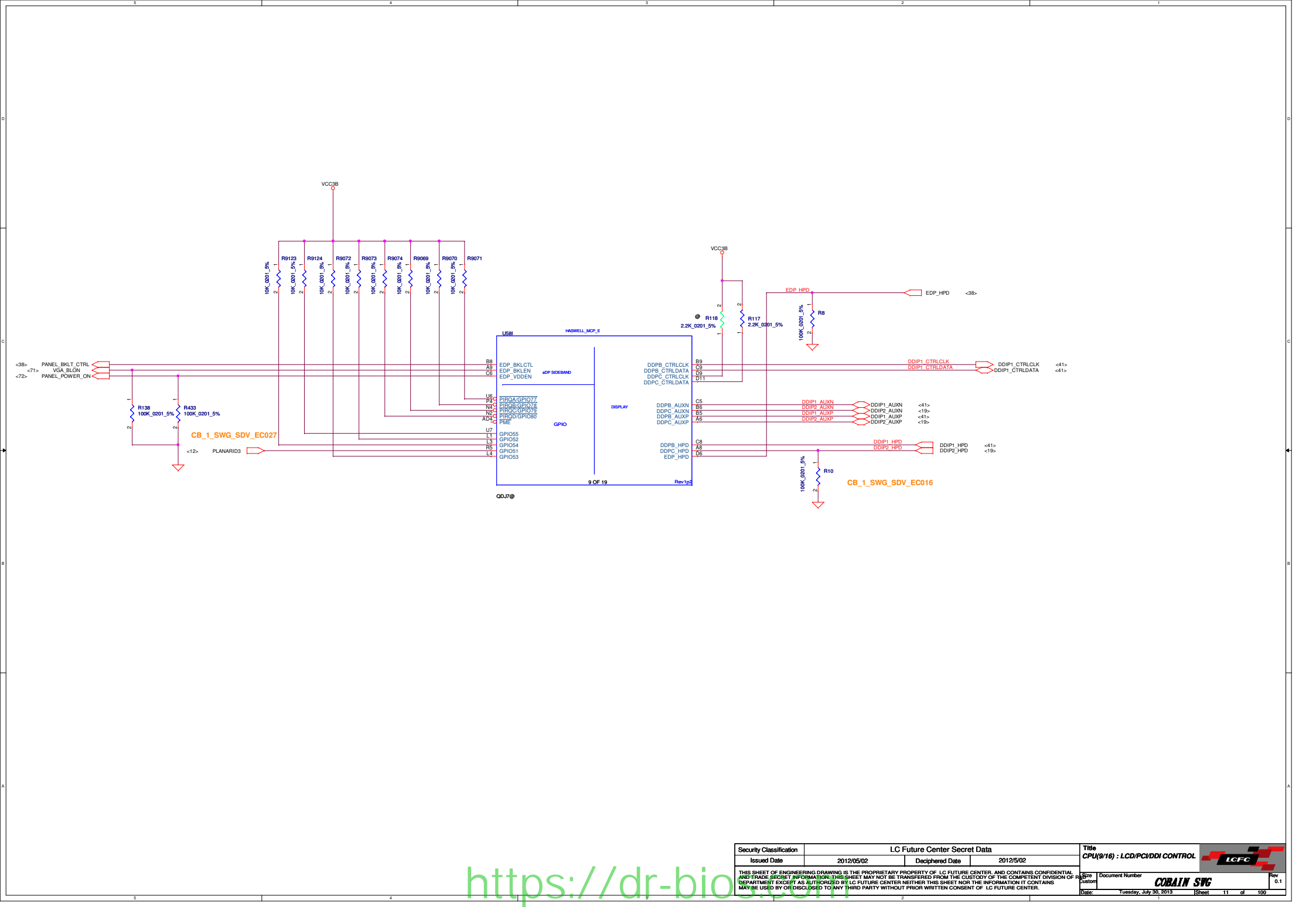


Security Classification		LC Future Center Secret Data				Title											
Issued Date		2012/05/01		Deciphered Date		2012/12/01				CPU(7/16) : LPC/SPI/SMBUS/C-LINK							
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. 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:	Tuesday, July 30, 2013		Sheet	9	of	100	0.1




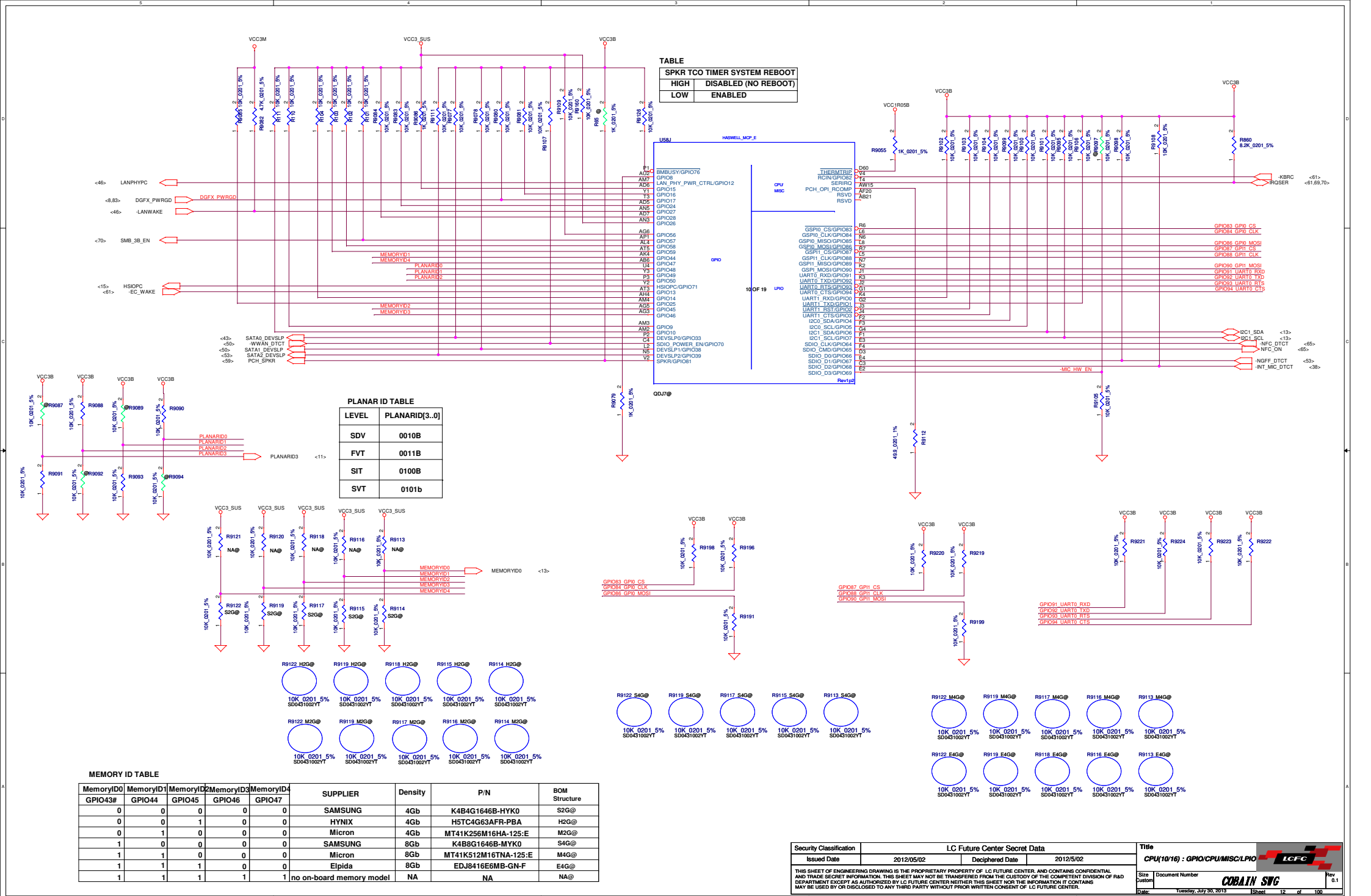
TABLE

CFG2 : PEG Static Lane Reversal
1 : Normal Operation
0 : Lane Reversal
CFG4 : Display Port Presence
1 : Disabled
0 : Enabled
CFG[6:5] : PEG Bifurcation
11 : Func 1 Disabled, Func 2 Disabled (x16,---,---)
10 : Func 1 Enabled, Func 2 Disabled (x8,x8,---)
01 : Func 1 Disabled, Func 2 Enabled
00 : Func 1 Enabled, Func 2 Enabled (x8,x4,x4)
CFG7 : PEG Defer Training
1 : PEG Train Immediately Following XXRESETB Deassertion
0 : PEG Wait for BIOS for Training



<https://dr-bios.com>

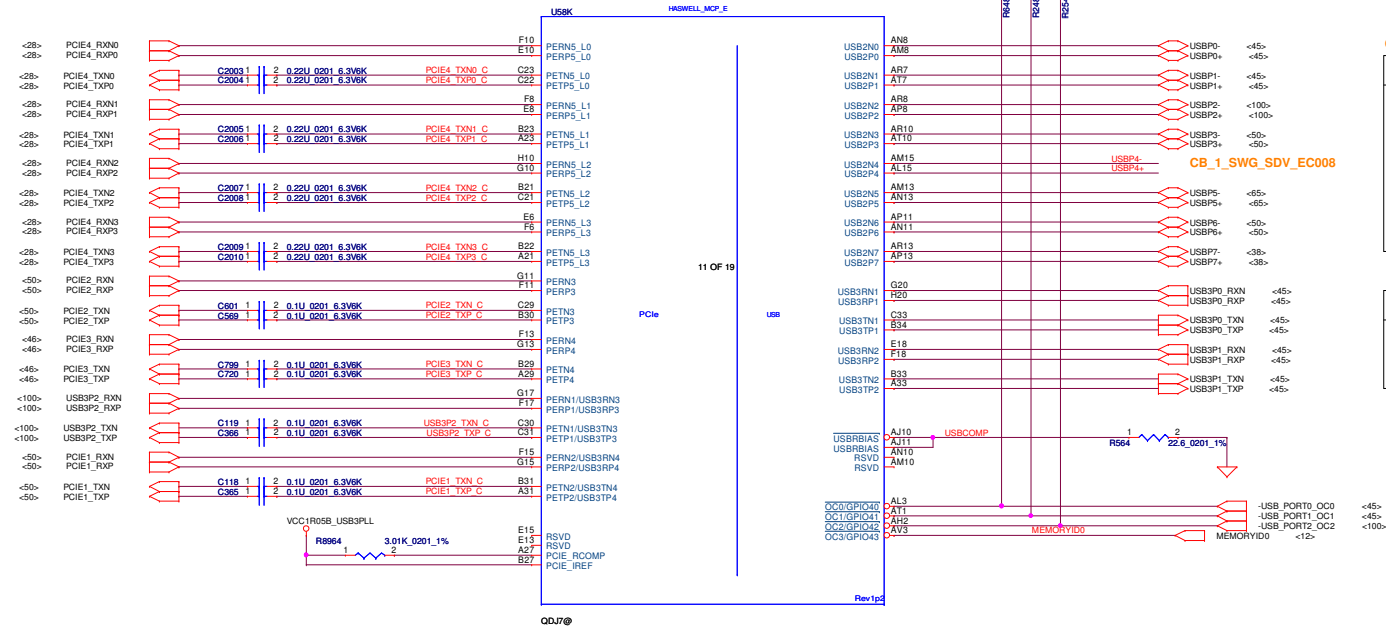
Security Classification		LC Future Center Secret Data		Title				
Issued Date		2012/05/02		Deciphered Date			2012/5/02	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE 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.								
Revision		8/76		Document Number			CORAIN SWG	
Date		Tuesday, July 30, 2013		Sheet		11 of 100		



Flexible I/O Configuration			
I/O	High Speed Signals	Configuration	Net Name
Port 1	USB3 1	USB3 1	USB3P0
Port 2	USB3 2	USB3 2	USB3P1
Port 3	PCIE 1/USB3 3	USB3 3	USB3P2
Port 4	PCIE 2/USB3 4	PCIE 2	PCIE1
Port 5	PCIE 3	PCIE 3	PCIE2
Port 6	PCIE 4	PCIE 4	PCIE3
Port 7	PCIE 5 L0	PCIE 5 L0	PCIE4_0
Port 8	PCIE 5 L1	PCIE 5 L1	PCIE4_1
Port 9	PCIE 5 L2	PCIE 5 L2	PCIE4_2
Port 10	PCIE 5 L3	PCIE 5 L3	PCIE4_3
Port 11	PCIE 6 L0	PCIE 6 L0	PCIE5
Port 12	SATA 2/PCIE 6 L1	SATA 2	SATA2
Port 13	SATA 1/PCIE 6 L2	SATA 1	SATA1
Port 14	SATA 0/PCIE 6 L3	SATA 0	SATA0

Update PCIe Port Assignment.

PCIe Port Assignment	
1	NGFF WLAN Slot Port1
2	NGFF WLAN Slot Port0
3	GbE PHY
4 (x4)	Discrete GPU
5 (x1)	Media Card Controller

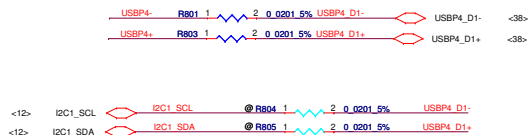


CB_1_SWG_SDV_EC009

USB Port Assignment	
0	USB 3.0 System Port (AOU)
1	USB 3.0 System Port (Debug)
2	USB3.0 System Port (3rd USB)
3	NGFF WWAN Slot
4	Smart Card Slot/Touch Panel
5	Fingerprint Reader
6	NGFF WLAN Slot
7	USB Camera

USB 3.0 Port Assignment	
0	USB 3.0 System Port (AOU)
1	USB 3.0 System Port (Debug)
2	USB3.0 System Port (3rd USB)

CB_1_SWG_SDV_EC029
CB_1_SWG_SDV_EC008
CB_1_SWG_SDV_EC028

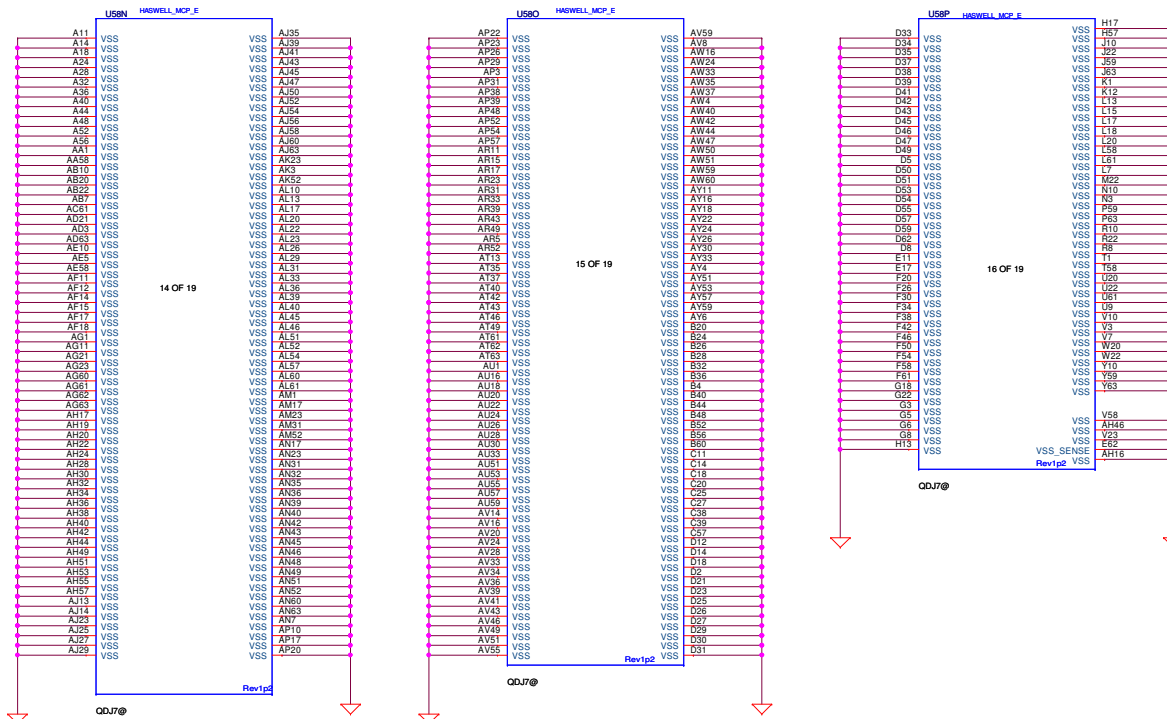
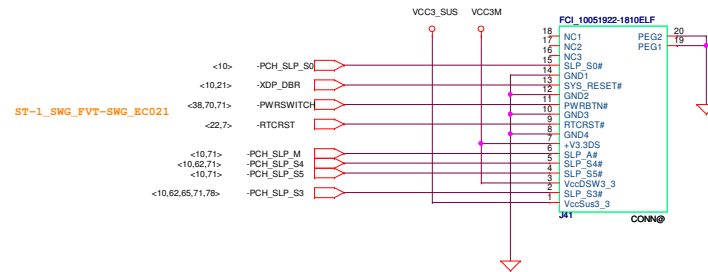


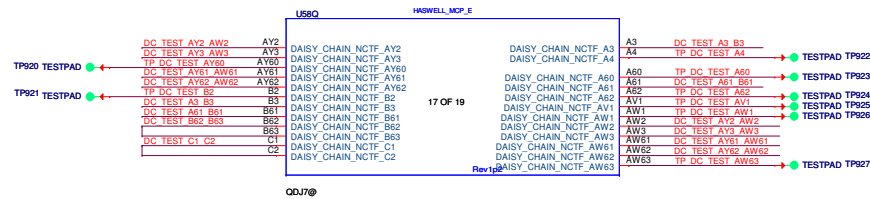
Device Selection	
0	Smart Card Slot
1	Touch Panel


Security Classification			LC Future Center Secret Data		Title	
Issued Date	2012/05/02	Deciphered Date	2012/5/02		CPU(11/16) : PCIE/USB	
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 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	Document Number	COBAIN SWG		Rev	0.1	
Date	Tuesday, July 30, 2013	Sheet	13	of	100	

<https://dr-bios.com>

APS/PETS Interface

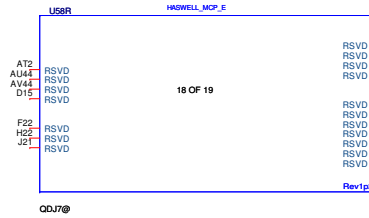
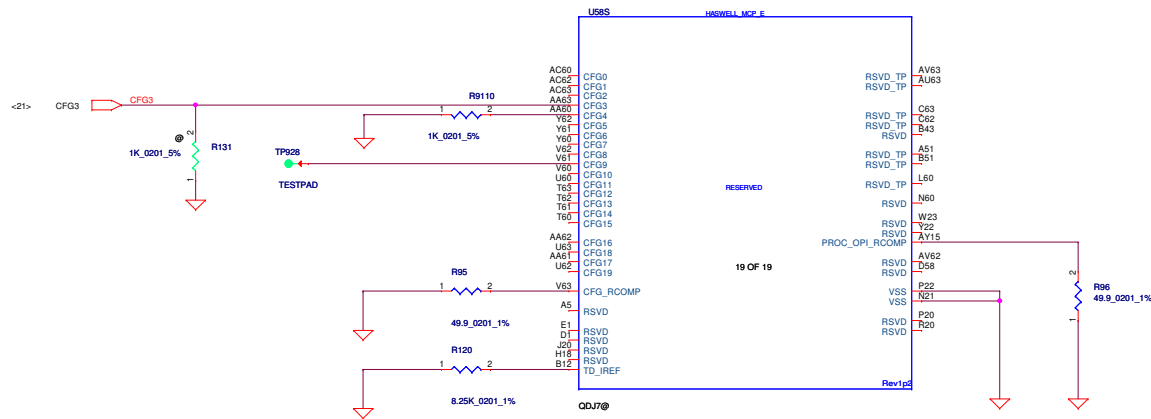




Security Classification	LC Future Center Secret Data		Title	
Issued Date	2012/05/02	Deciphered Date	2012/5/02	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY 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.				Rev 0.1
Size	Document Number	COBAIN SWG		Date
17	17	Tuesday, July 30, 2013		Sheet 17 of 100


Table

CFG4: Display Port Presence
1: Disabled 0: Enabled



ODJ7@

BLANK

Security Classification		LC Future Center Secret Data		Title			
Issued Date	2012/06/21	Deciphered Date	2012/06/21	BLANK			
<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>				Size	Document Number	Rev	
				Custom	COBAIN SWC	0.1	
Date				Tuesday, July 30, 2013	Sheet	20	of 100

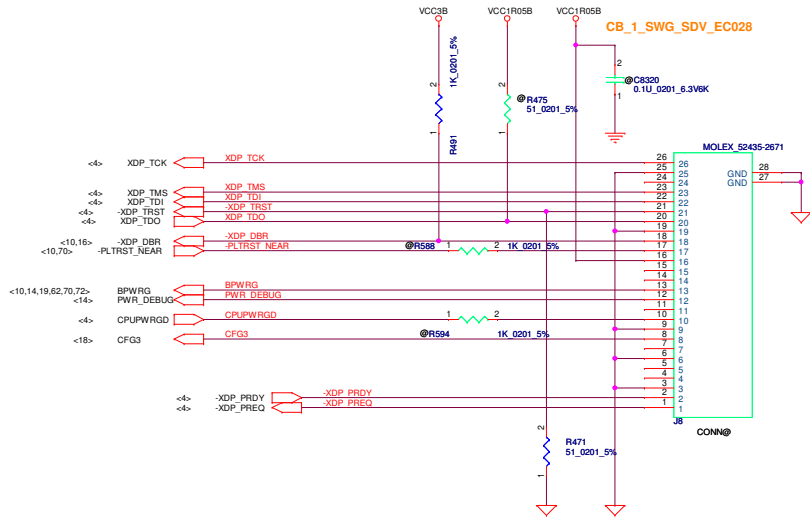


TABLE NOTE: J8 "ASM" FOR PDV/SDV ONLY.

SIGNAL	REF DES	ENABLE	DISABLE
TDO	R475	ASM	NO ASM
TRST#	R471	ASM	ASM
DBRST#	R491	ASM	ASM
RESET#	R588	ASM	NO ASM
PWRGD	R594	ASM	NO ASM
	J8	ASM	NO ASM

↑
LOGIC

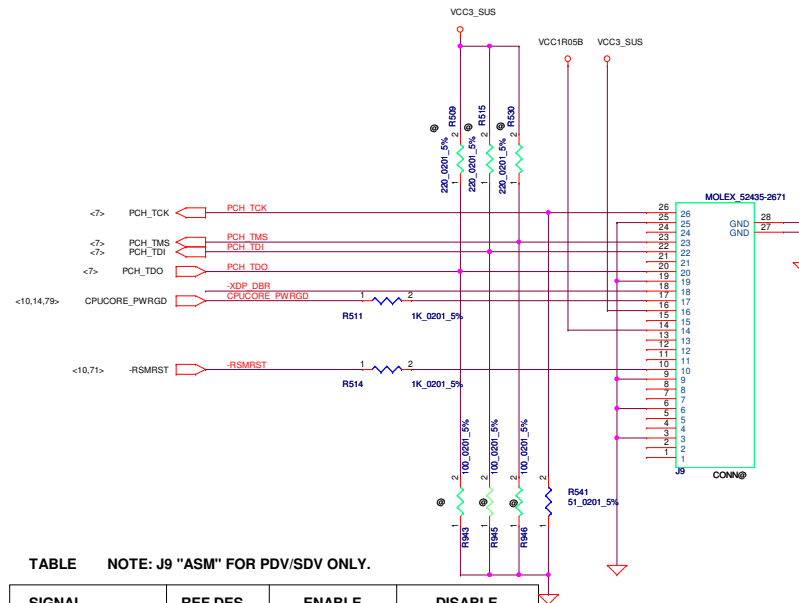
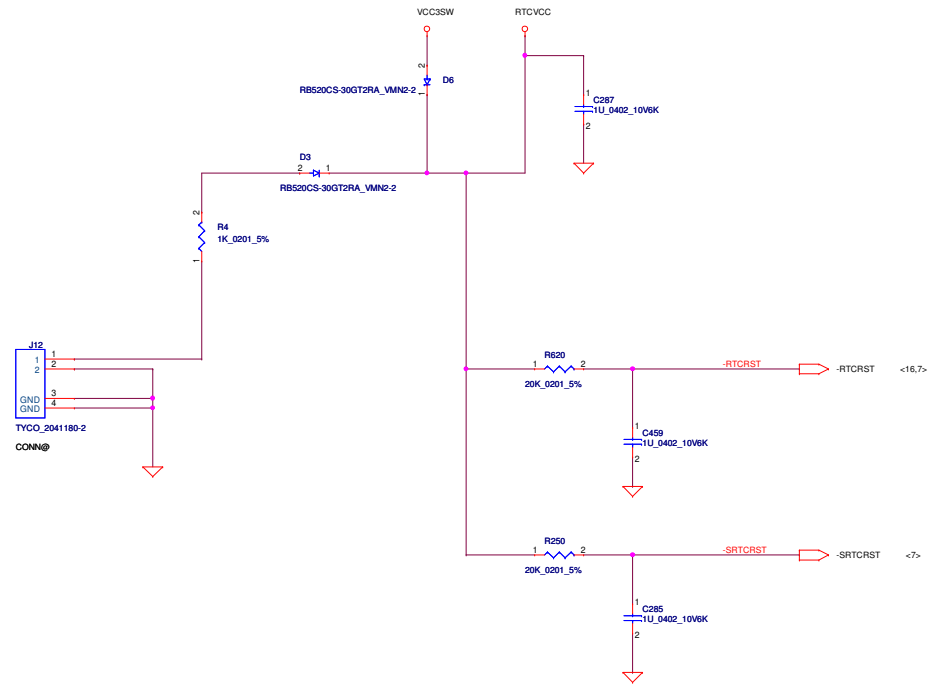



TABLE NOTE: J9 "ASM" FOR PDV/SDV ONLY.

SIGNAL	REF DES	ENABLE	DISABLE
TDO	R509 R943	220 100	NO ASM NO ASM
TMS	R530 R946	220 100	NO ASM NO ASM
TDI	R515 R945	220 100	NO ASM NO ASM
TCK	R541	51	51
CPUCORE_PWRGD	R511	ASM	NO ASM
-RSMRST	R514	ASM	NO ASM
	J9	ASM	NO ASM

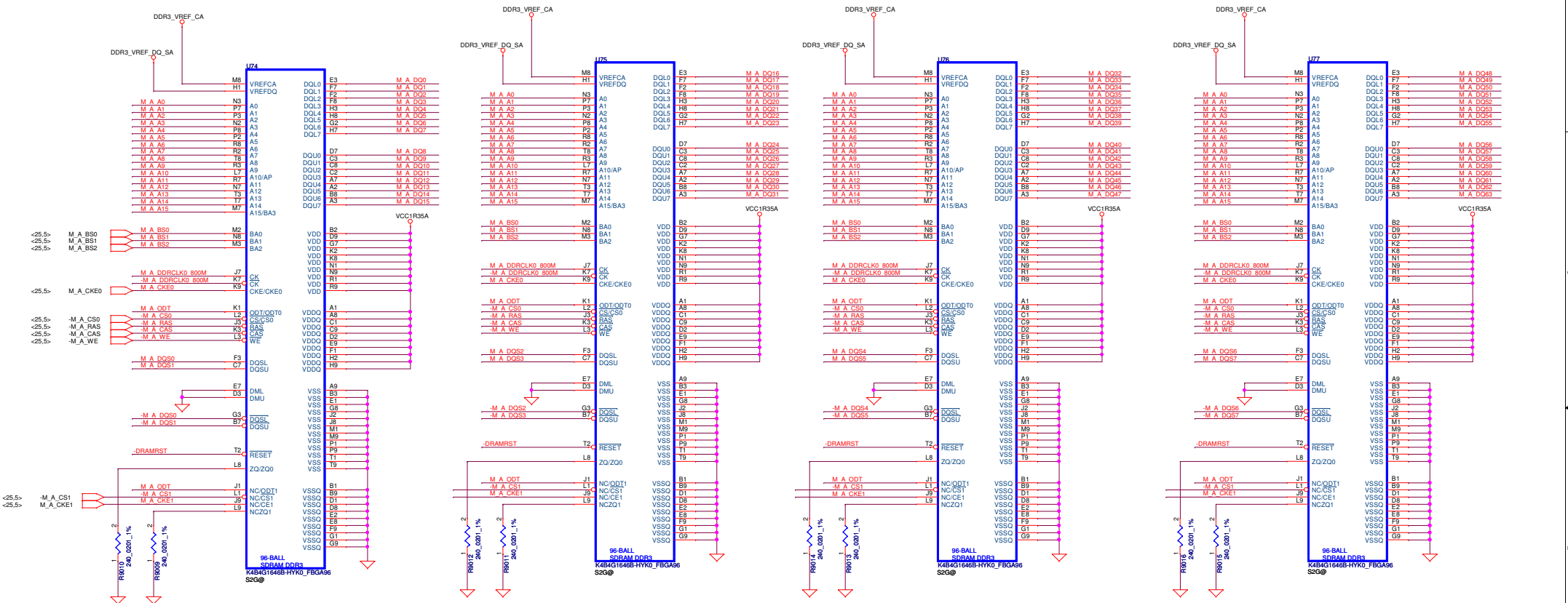
↑
LOGIC



Security Classification		LC Future Center Secret Data		Title			
Issued Date		Deciphered Date		RTC BATTERY			
2012/07/01		2014/07/01		Document Number		Rev	
				Custom		0.24	
<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.</p>							
Date:				Tuesday, July 30, 2013		Sheet 22 of 100	

<https://dr-bios.com/>

<5> M_A_DQ[63:0]
<5> -M_A_DQS[7:0]
<5> M_A_DQS[7:0]
<25.5> M_A_A[15:0]



<25.5> M_A_DDRCLK0_800M M_A_DDRCLK0_800M

CB_1_SWG_SDV_EC004

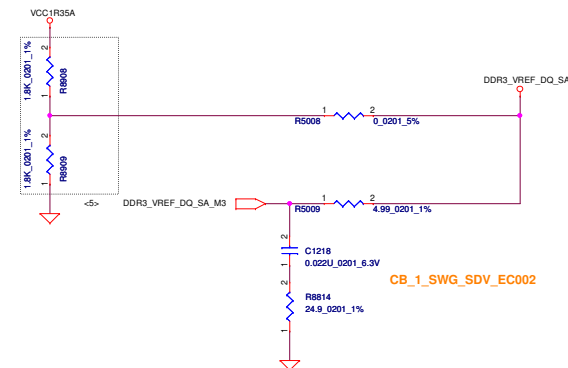
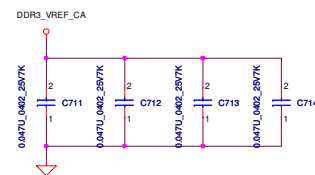
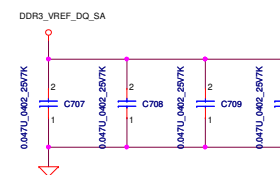
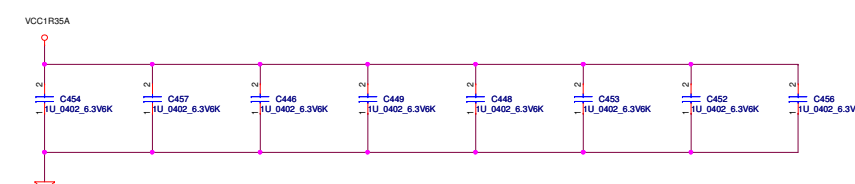
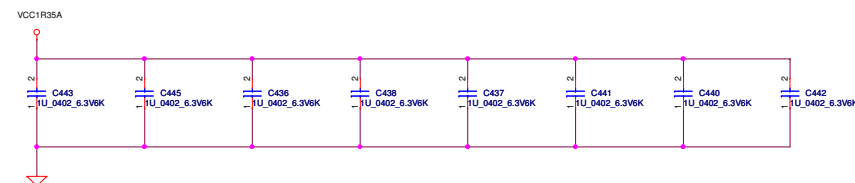
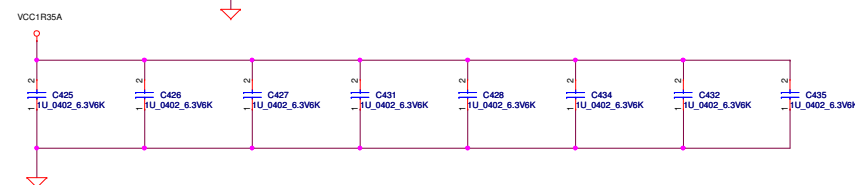
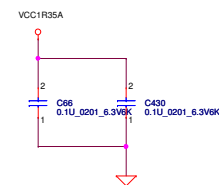
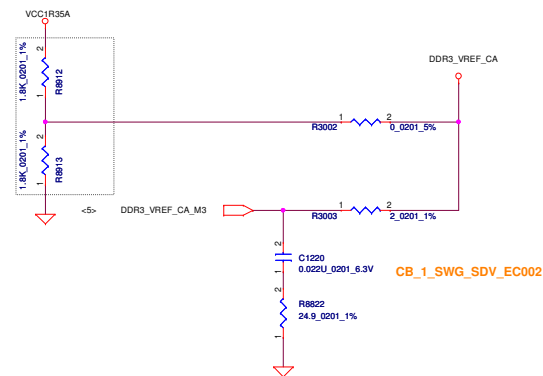
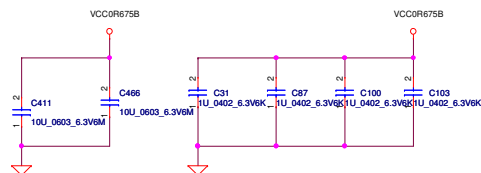
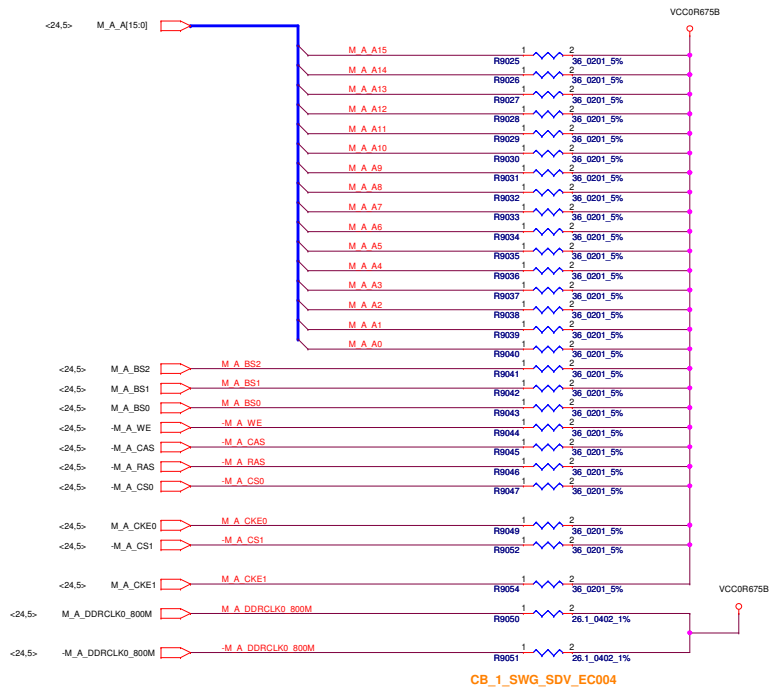
<25.5> -M_A_DDRCLK0_800M -M_A_DDRCLK0_800M

VCC1R35A
30_0201_5% 2 1 R9076 M_A_ODT

<26.4> -DRAMRST -DRAMRST



Security Classification				LC Future Center Secret Data		Title	
Issued Date				Deciphered Date		2012/06/21	
2012/06/21				2012/06/21		DDR3L BASE MEMORY CH-A (1/2)	
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		COBAIN SWC	
Date				Tuesday, July 31, 2013		Sheet 24 of 100	




Security Classification	LC Future Center Secret Data		This
Issued Date	2012/06/21	Deciphered Date	2012/06/21
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
			Date
			Sheet
			of
			100

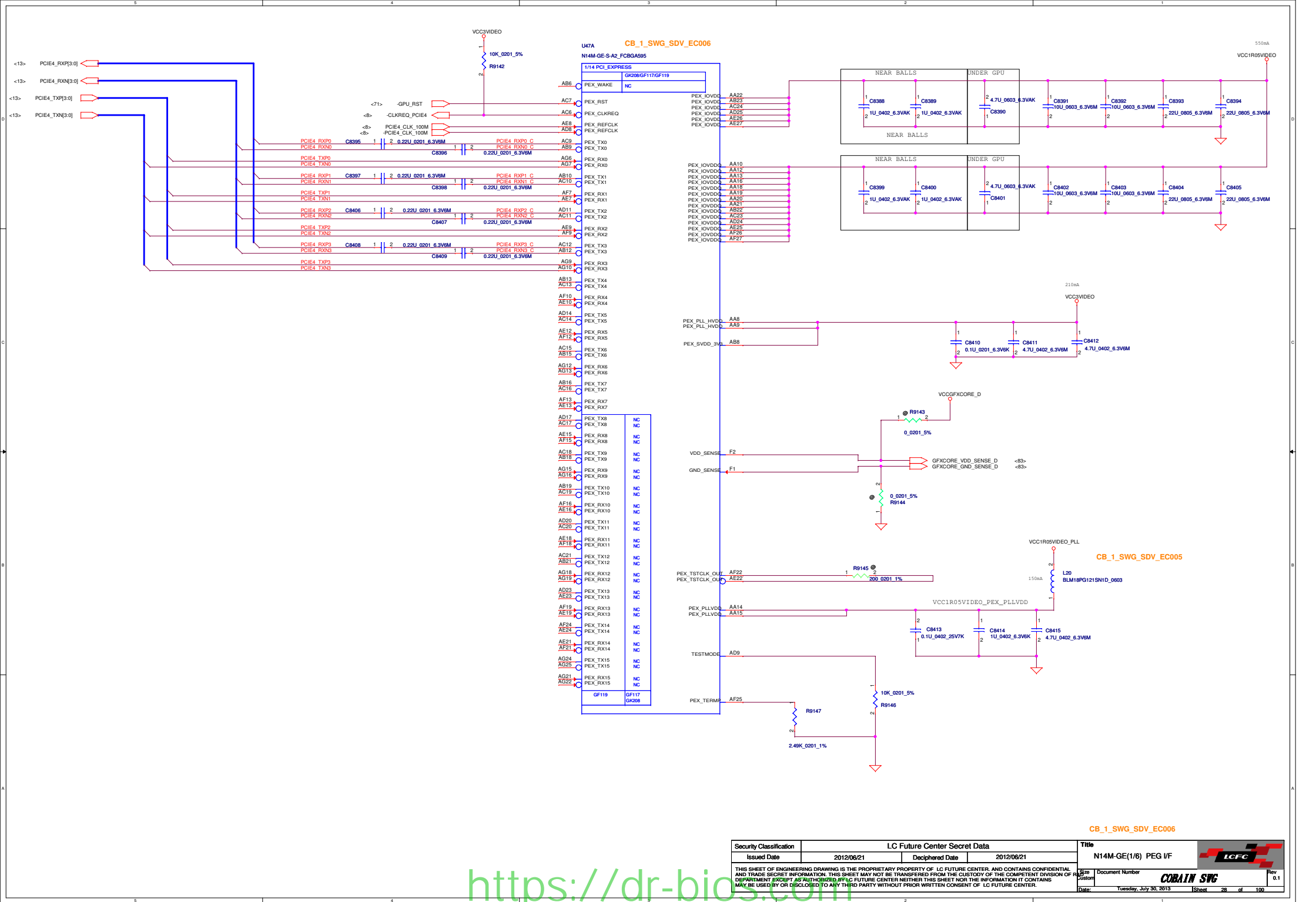
<https://dr-bios.com/>



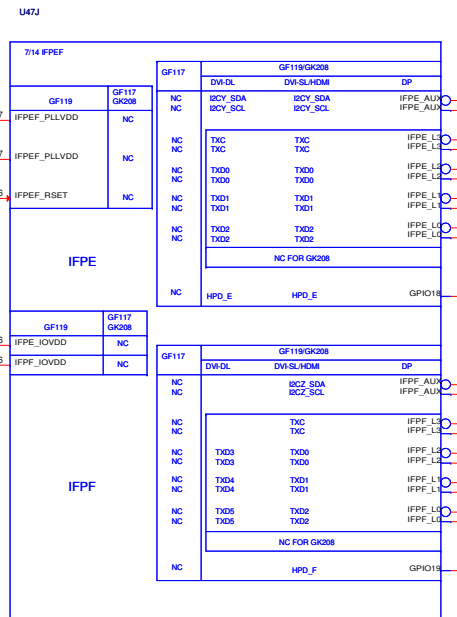
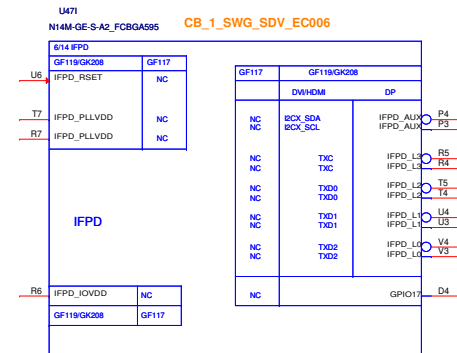
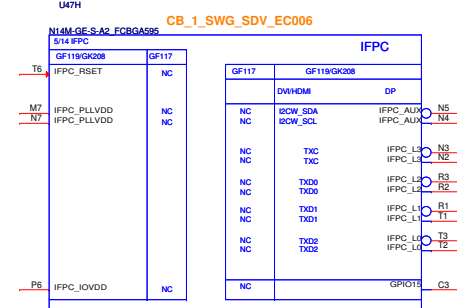
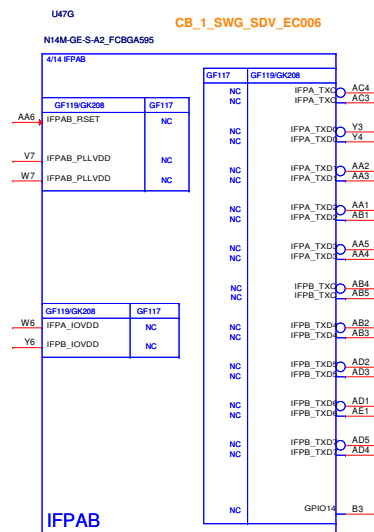
<https://dr-bios.com/>

Security Classification		LC Future Center Secret Data		Title	
Issued Date		Deciphered Date		DDR3L DECOUPLING	
2012/06/21		2012/06/21			
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.				Revision	Document Number
				0.1	8776
Date:				Tuesday, July 30, 2013	
Sheet				27 of 100	

COBAIN SWC

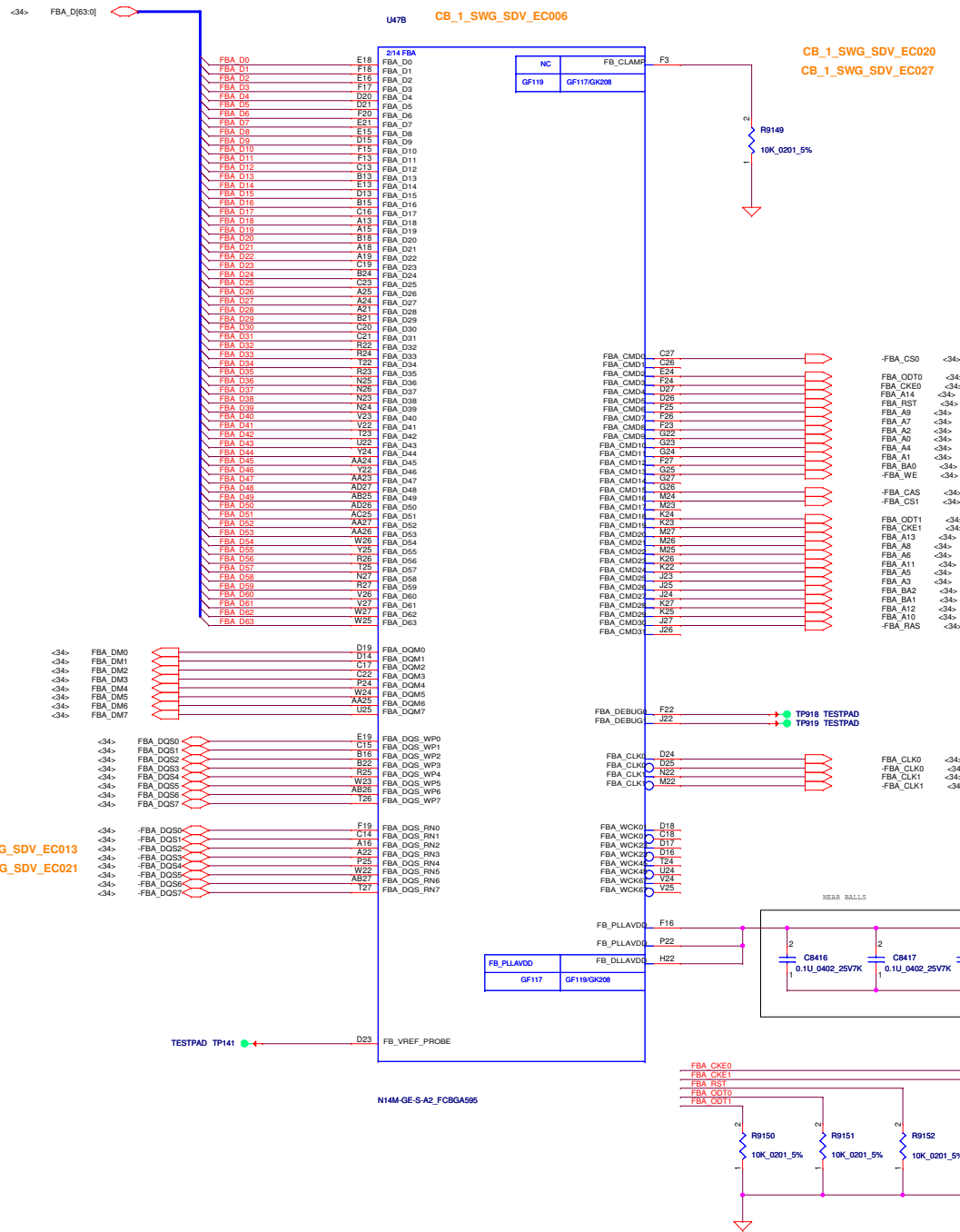


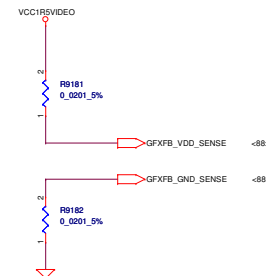
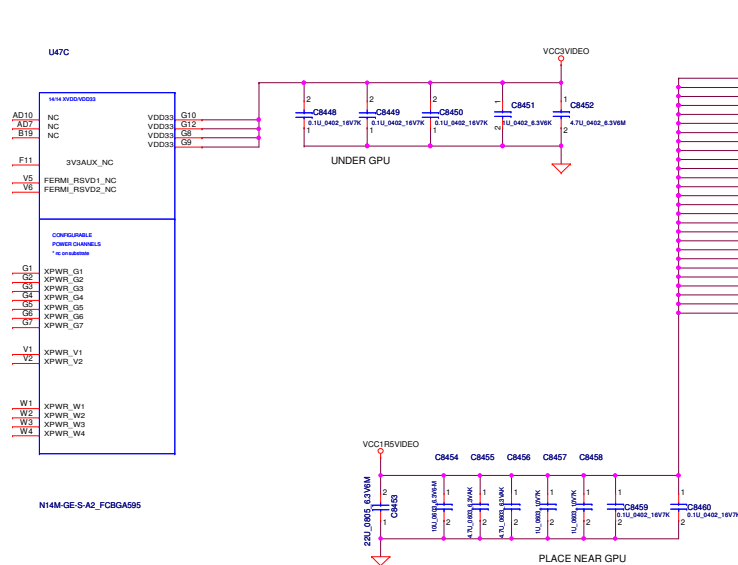
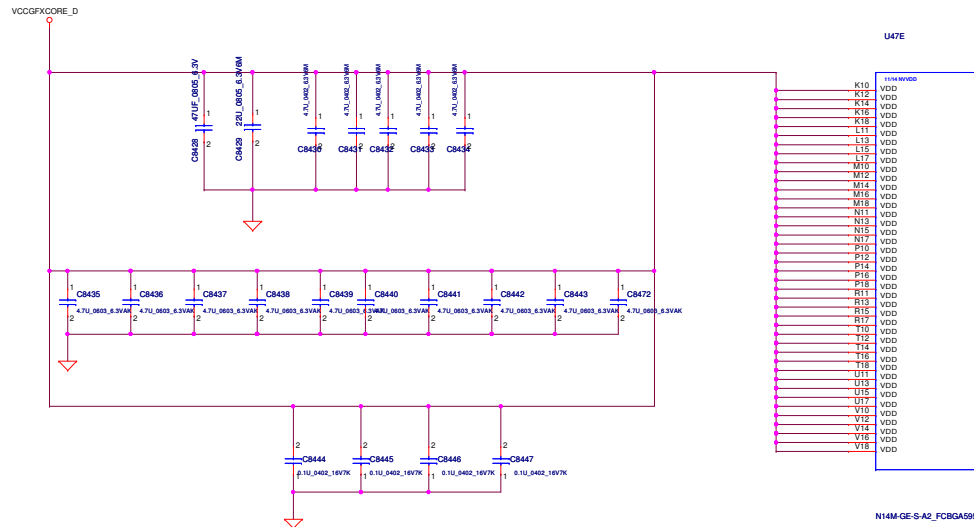
Security Classification			LC Future Center Secret Data			Title		
Issued Date			Deciphered Date			N14M-GE(1/6) PEG I/F		
2012/06/21			2012/06/21			size		
Custom			Document Number			COBAIN SWG		
Date:			Tuesday, July 30, 2013			Sheet 28 of 100		
Rev			0.1					



CB_1_SWG_SDV_EC006

N14M-GE-S-A2_FCBGA595

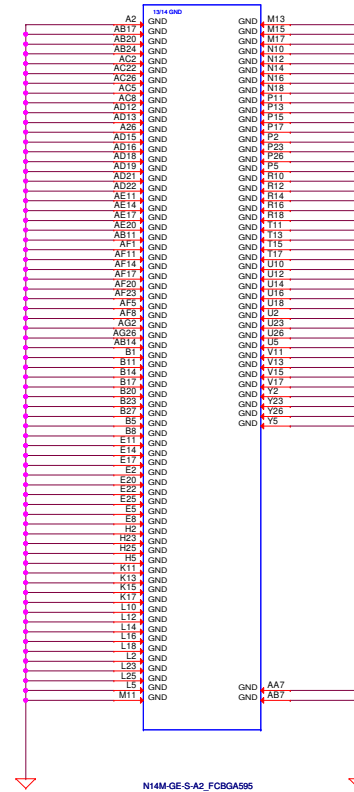





CB_1_SWG_SDV_EC006

Security Classification		LC Future Center Secret Data		Title	
Issued Date	2012/06/21	Deciphered Date	2012/06/21	N14M-GE(5/6) POWER	
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	CORAIN SWG
				Date	Tuesday, July 30, 2013
				Sheet	32 of 100

U47F CB_1_SWG_SDV_EC006



CB_1_SWG_SDV_EC006

Security Classification		LC Future Center Secret Data				Title			
Issued Date		2012/06/21		Deciphered Date		2012/06/21		N14M-GE(6/6) GND	
<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 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.</p>								Revision	
								Document Number	
								Date	
								Sheet	
								33 of 100	



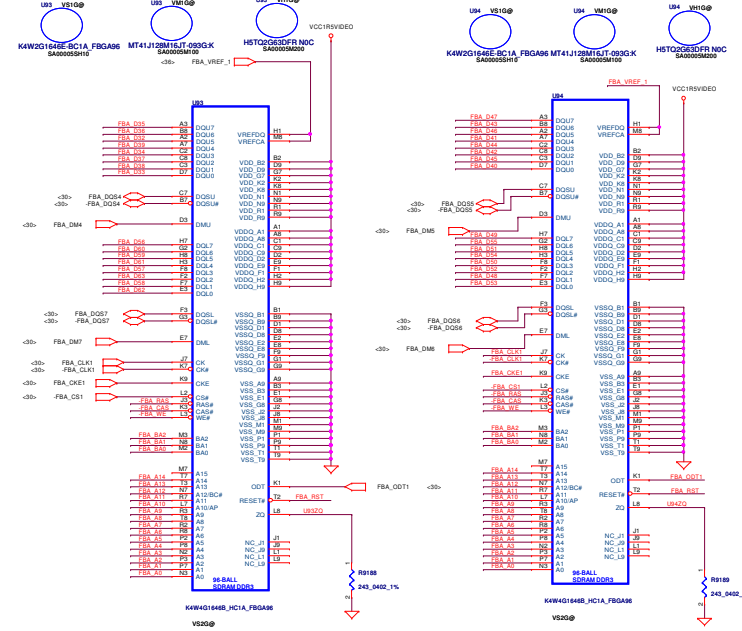
COBAIN SFC

<https://dr-bios.com>

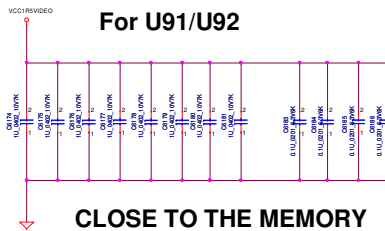
TABLE
DDR3 VIDEO MEMORY

	Micron 2GBITS (128Mx16)	HYNIX 2GBITS(128Mx16)	SAMSUNG 2GBITS(128Mx16)	SAMSUNG 4GBITS(256Mx16)	HYNIX 4GBITS(256Mx16)
U91 U92 U93 U94	MT41J128M16JT-093G-K	H5TQ2G63DFR N0C	K4W201646E-BC1A	K4W4G1646B-HC1A	TBD
BOM Structure	VM1G@	VH1G@	VS1G@	VS2G@	

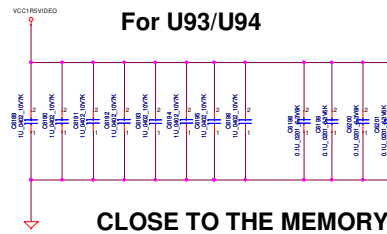
Notification
Sting-1 accepts 1GB support with DDR3. But Sting-1 has potential of 2GB support.
So we should check up 2GB(K4W4G1646B-HC1A) placement. K4W4G1646B-HC1A has largest X axis length (10mm) in VRAM.
MT41J128M16JT-093G-K has largest Y axis length (14mm). So estimation package size is most largest case (10mm * 14mm).



For U91/U92



For U93/U94



Security Classification	LC Future Center Secret Data		Title
Issued Date	2012/06/01	Discontinued Date	2012/06/01
N14M-GE VRAM CHANNEL-A			Rev 0.1
THIS SHEET OF ENGINEERING DRAWINGS IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THE SHEET MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF LC FUTURE CENTER.			LCFC
CORAIN SWG			Page 34 of 100

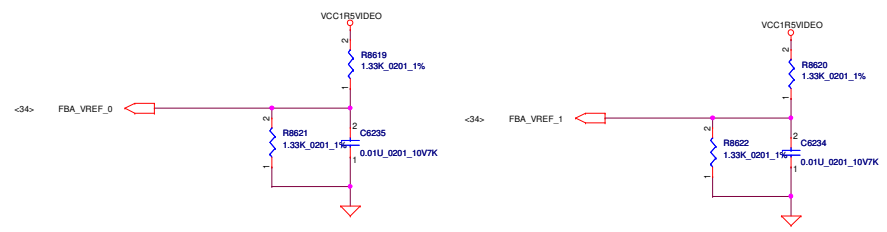
BLANK

<https://dr-bios.com/>


Security Classification	LC Future Center Secret Data			Title	
Issued Date	2012/05/02	Deciphered Date	2012/5/02	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 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	New
				0876	0.1
				Date:	Tuesday, July 30, 2013
				Sheet	35 of 100



CORAIN SVG



<https://dr-bios.com/>

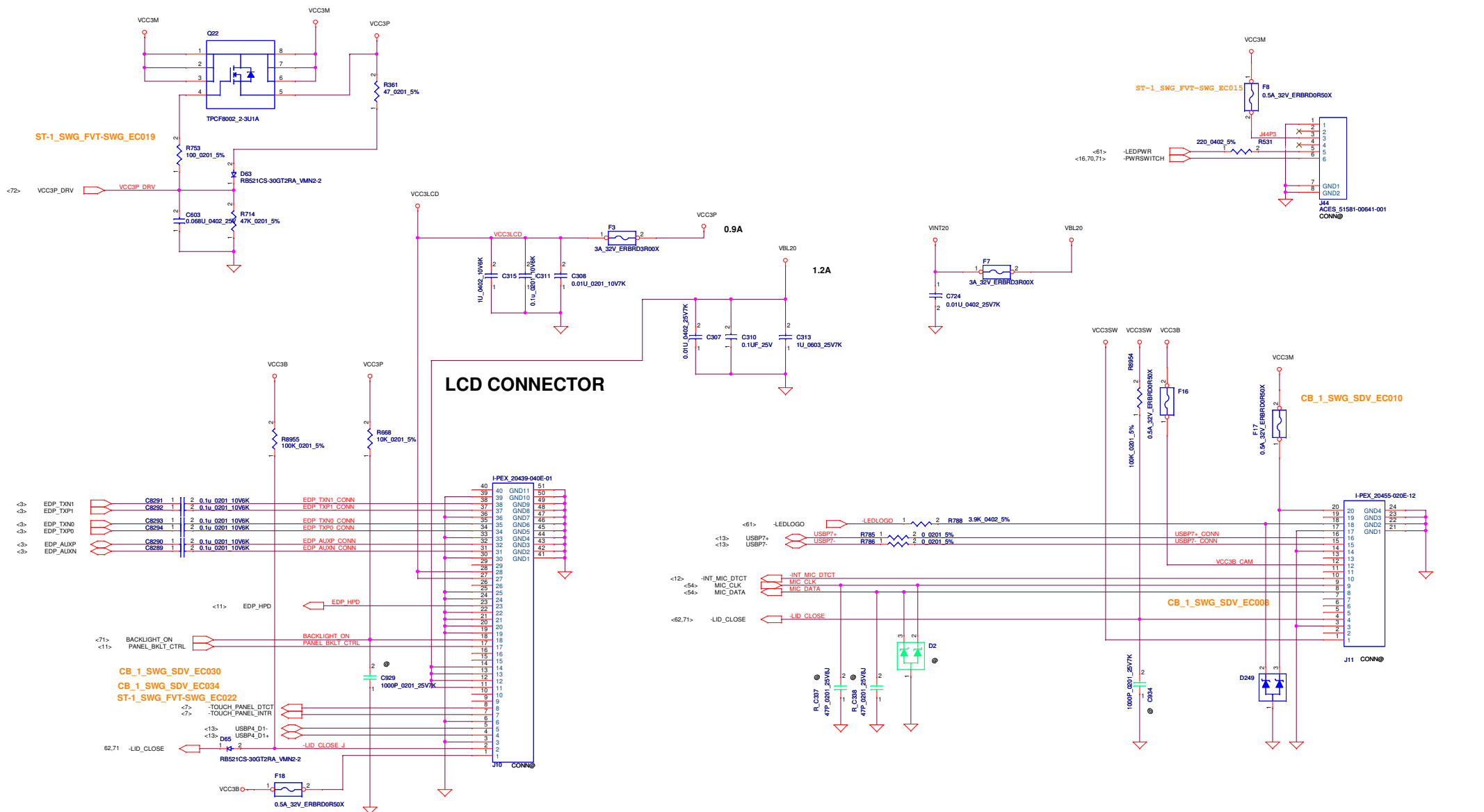
Security Classification	LC Future Center Secret Data		Title	
Issued Date	2012/05/02	Deciphered Date	2012/5/02	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY 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.				Rev
Document Number	COBAIN SVG		0.1	
Date	Tuesday, July 31, 2012		Sheet	36 of 100

BLANK

NEAR U58

Security Classification	LC Future Center Secret Data		Title	BLANK
Issued Date	2012/05/01	Deciphered Date	2012/12/01	
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.				Rev 0.1
Sheet	37	of	100	


<https://dr-bios.com>

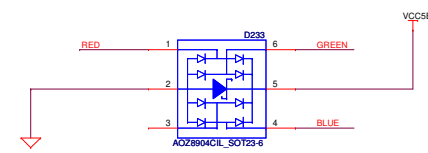


<https://dr-bios.com>

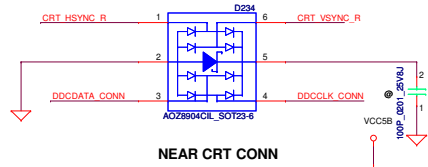
BLANK

<https://dr-bios.com/>

Security Classification		LC Future Center Secret Data		Title			
Issued Date		Deciphered Date		Blank			
2012/06/21		2012/06/21					
<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		Rev	
				876		0.1	
Date:				Tuesday, July 30, 2013		Sheet 99 of 100	



NEAR CRT CONN



NEAR CRT CONN

CB_1_SWG_SDV_EC017

500HM TRACE

CRT RED CONN
CRT GREEN CONN
CRT BLUE CONN

CONN#

SINGA_2052738-00011F

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

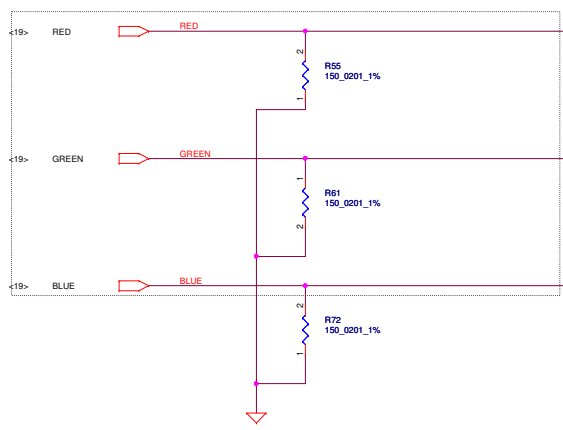
2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

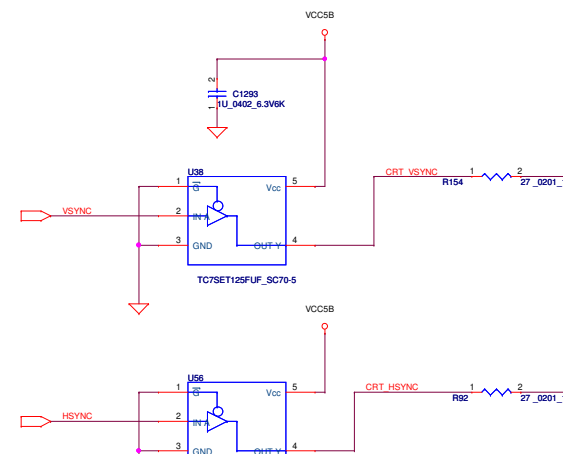
2502 0.1U_0201_6.3V6K

2502 0.1U_0201_6.3V6K

500HM TRACE



NEAR CRT CONN



CB_1_SWG_SDV_EC034

Vender	P/N
TOSHIBA	TC7SET125FU
NXP	74AHCT1G125GW

CB_1_SWG_SDV_EC004

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

DDCCLK_CONN

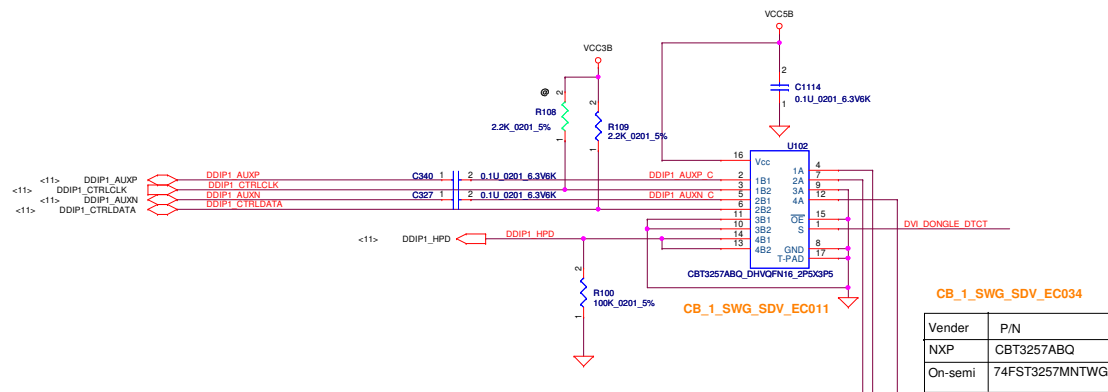
DDCCLK_CONN

DDCCLK_CONN

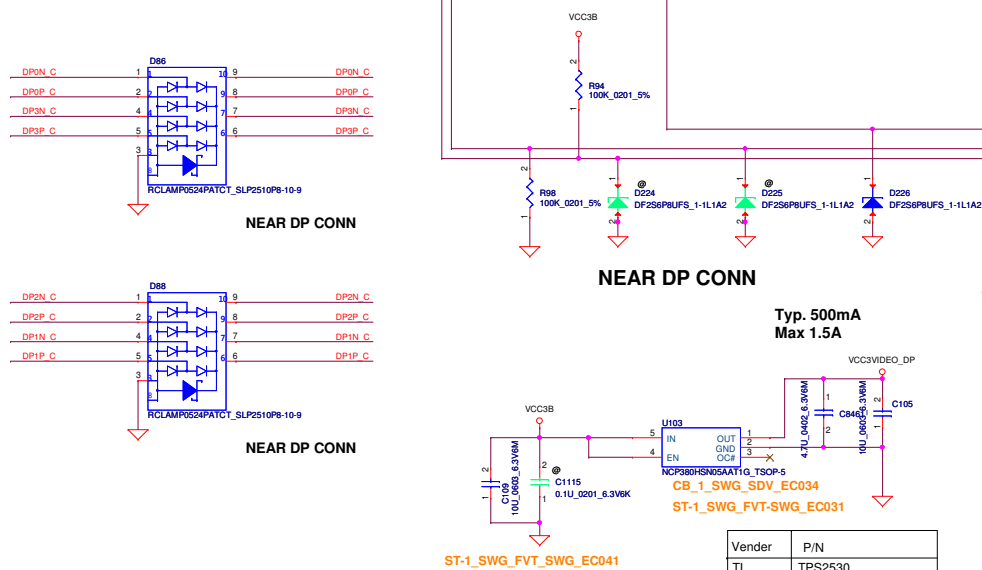
DDCCLK_CONN

DDCCLK_CONN

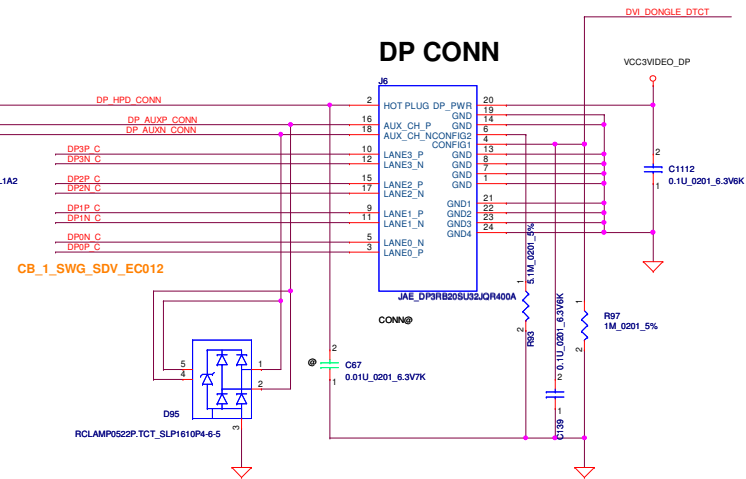
<https://dr-bios.com>



Vender	P/N
NXP	CBT3257ABQ
On-semi	74FST3257MNTWG



Vender	P/N
TI	TPS2530
On-semi	NCP380HSN05AAT1G



Security Classification	LC Future Center Secret Data		
Issued Date	2012/06/21	Deciphered Date	2012/06/21

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 OR 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.

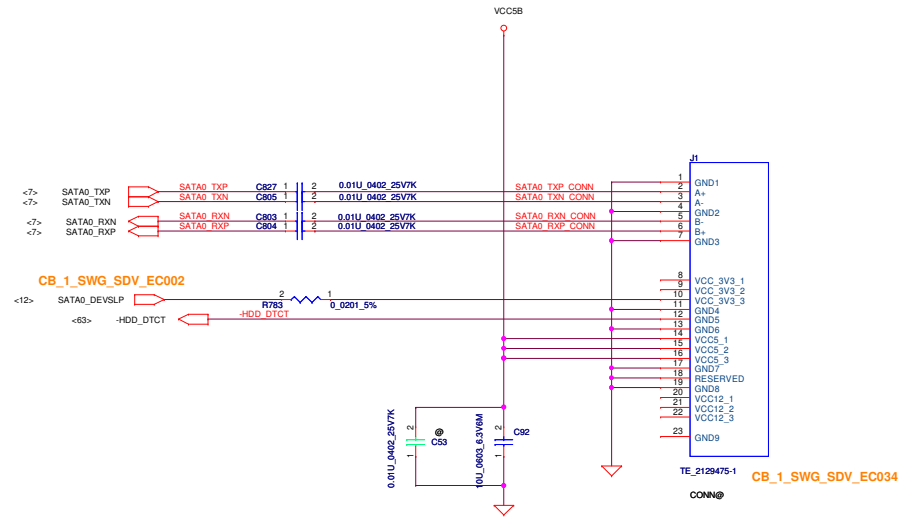
Title DISPLAY PORT CONNECTOR			
Size Custom	Document Number COBAIN SWG	Rev 0.1	
Date: Tuesday, July 30, 2013	Sheet 41 of 100		

BLANK

<https://dr-bios.com/>

Security Classification	LC Future Center Secret Data			Title	
Issued Date	2012/05/02	Deciphered Date	2012/5/02	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 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
				CORAIN SVG	0.1
				Date: Tuesday, July 30, 2013	Sheet 42 of 100






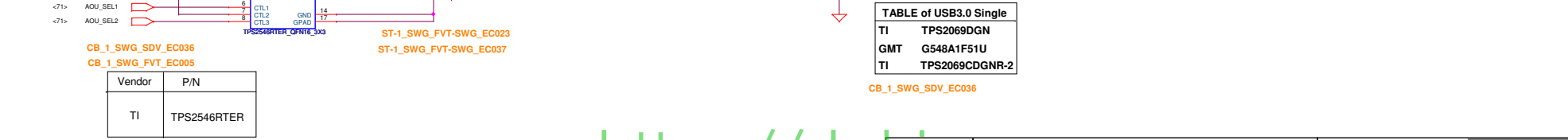
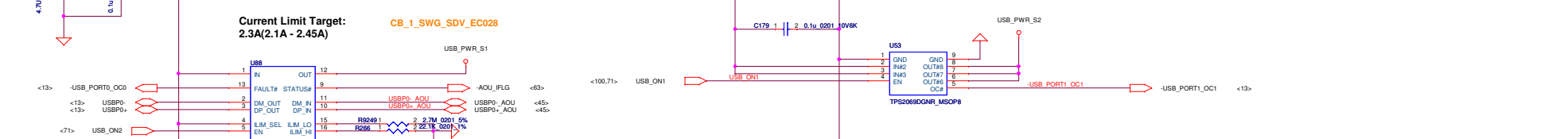
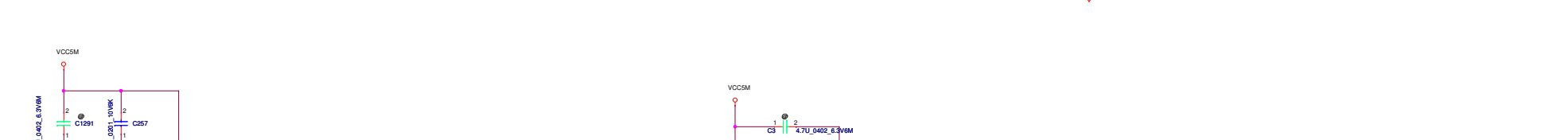
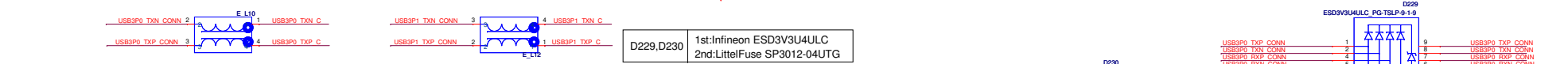
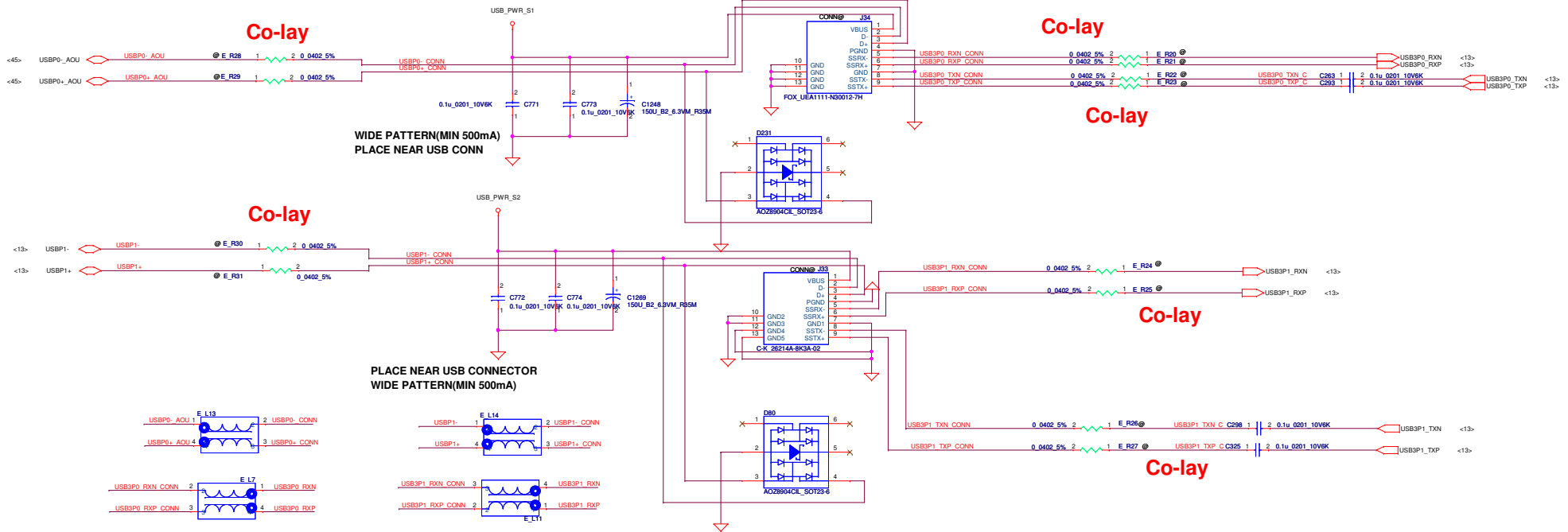
Security Classification	LC Future Center Secret Data		Title	SATA HDD CONN	
Issued Date	2012/06/21	Deciphered Date	2012/06/21	Document Number	Rev 0.1
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY 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.					
Date:	Tuesday, July 30, 2013	Sheet	43	of	100

<https://dr-bios.com>

BLANK


<https://dr-bios.com/>

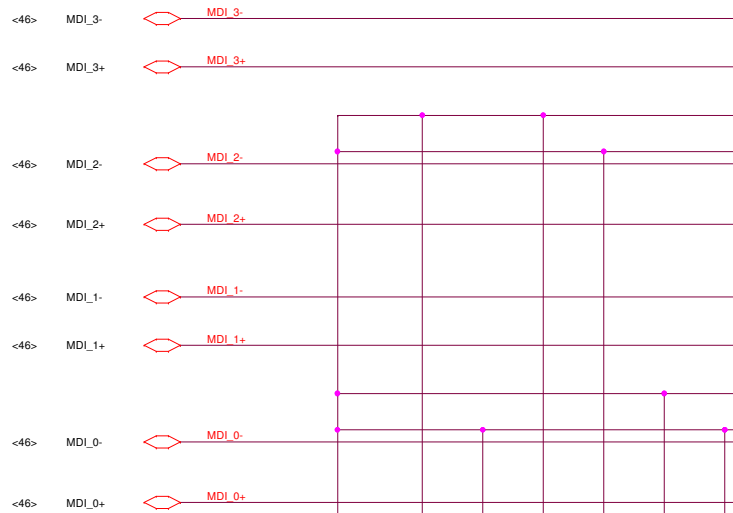
Security Classification		LC Future Center Secret Data		Title				
Issued Date		2012/05/02	Deciphered Date		2012/5/02		BLANK	
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM 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.</p>								
Size		Document Number		Rev				
Custom		876		CORAIN SVG		0.1		
Date:		Tuesday, July 30, 2013		Sheet		44 of 100		



BLANK

<https://dr-hive.com>

Security Classification	LC Future Center Secret Data				Title				
Issued Date	2012/05/01		Deciphered Date	2012/12/01		GBE LAN SWITCH			
<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 FRODO BAGGINS 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	
						Custom	COBAIN SWG		0.1
						Date:	Tuesday, July 30, 2013		Sheet



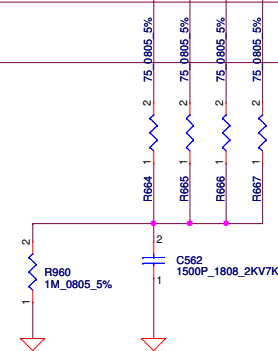
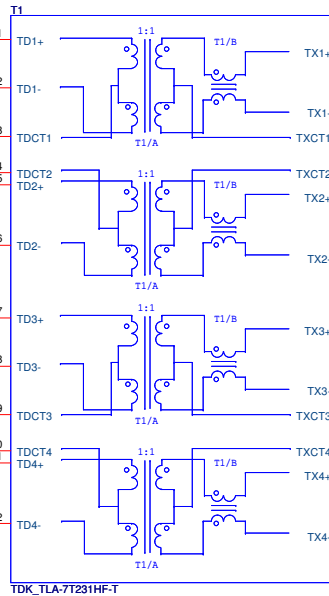
THE WIDTH OF THESE TRACE SHOULD BE WIDER THAN 35MIL TO PREVENT VOLTAGE DROP.

C303 SHOULD BE PLACED AS CLOSE TO MAGNETICS AS POSSIBLE.

ESD REASON

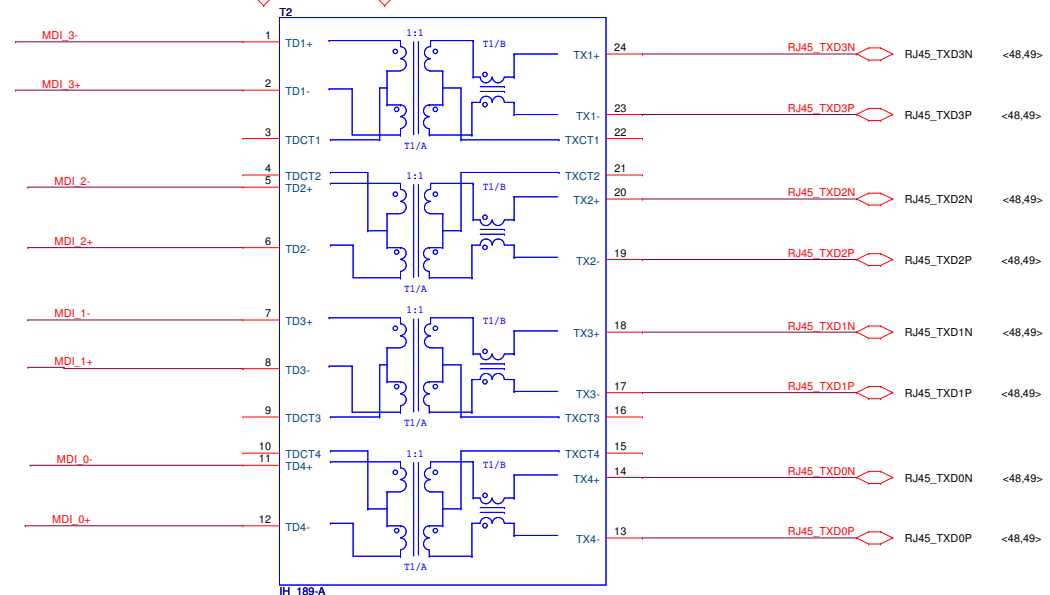
Vendor	P/N
TDK	TLA-71231HF-T
Timag	IH-115-F
Bothand	NA69LF

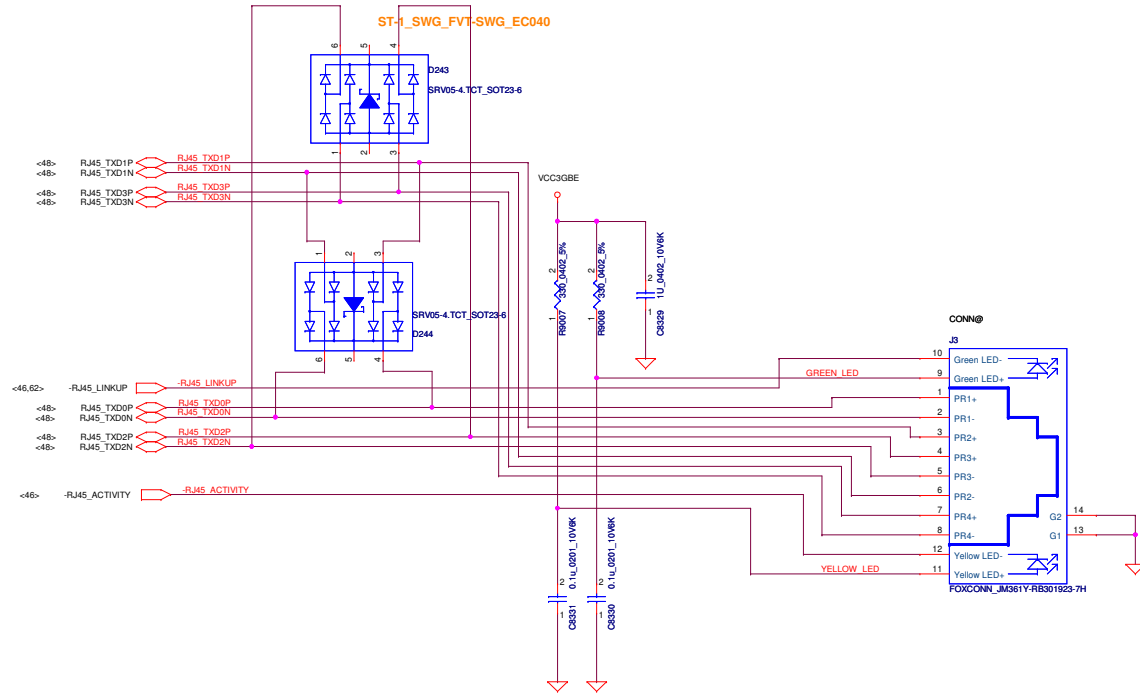
ST-1_SWG_FVT-SWG_EC017
ST-1_SWG_FVT-SWG_EC033



PATTERN MUST BE SHORT AND WIDE.

HIGH VOLTAGE 1500PF CAP IS OPTIONAL



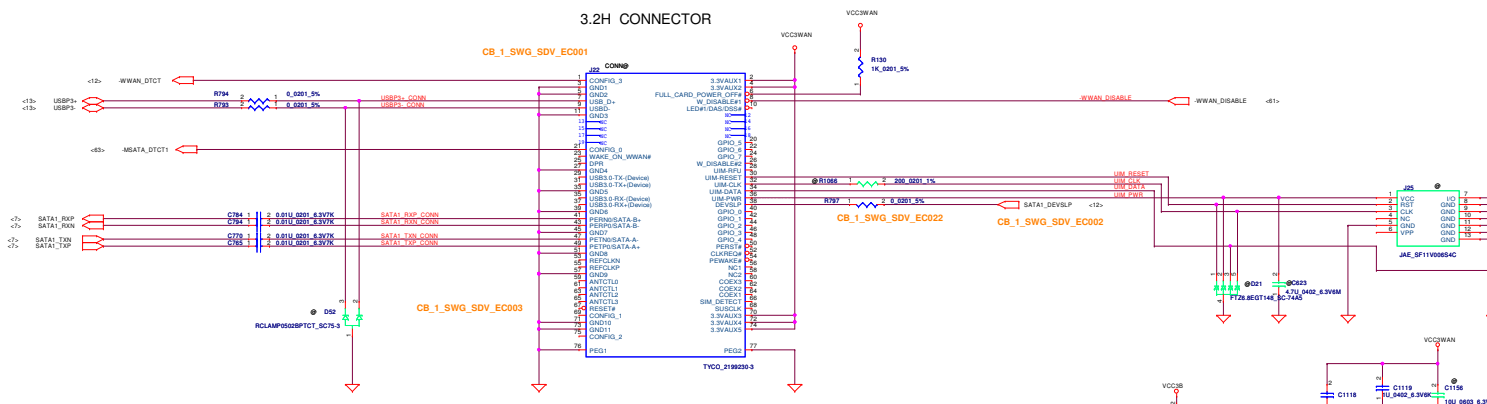


Security Classification	LC Future Center Secret Data			Title
Issued Date	2012/05/02	Deciphered Date	2012/5/02	RJ45 CONNECTOR
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM 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.				Rev 0.1
Document Number	CORA IN SWG			Date: Tuesday, July 30, 2013
Sheet	49	of	100	

<https://dr-bios.com>

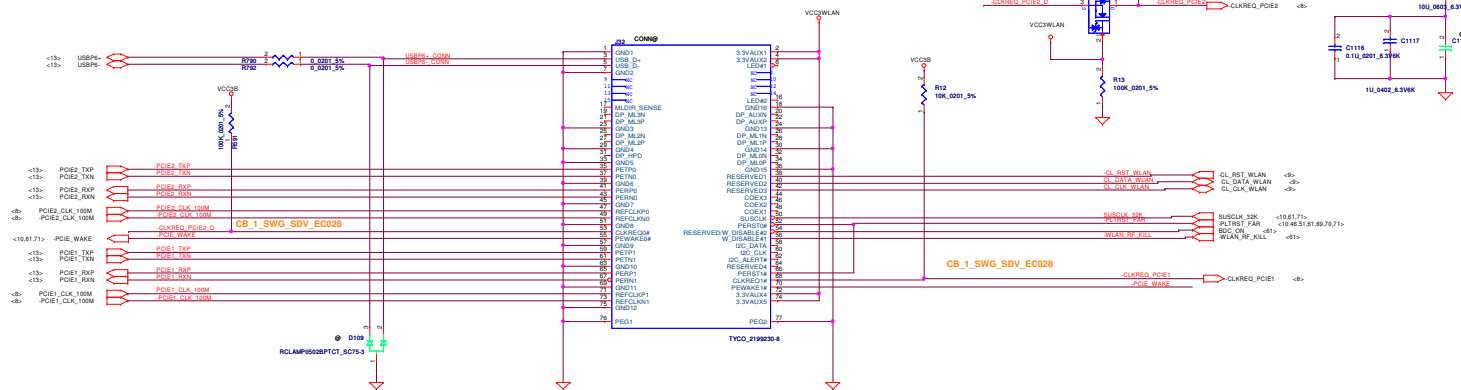
TYPE-B NGFF CCARD FOR WWAN/SSD

3.2H CONNECTOR



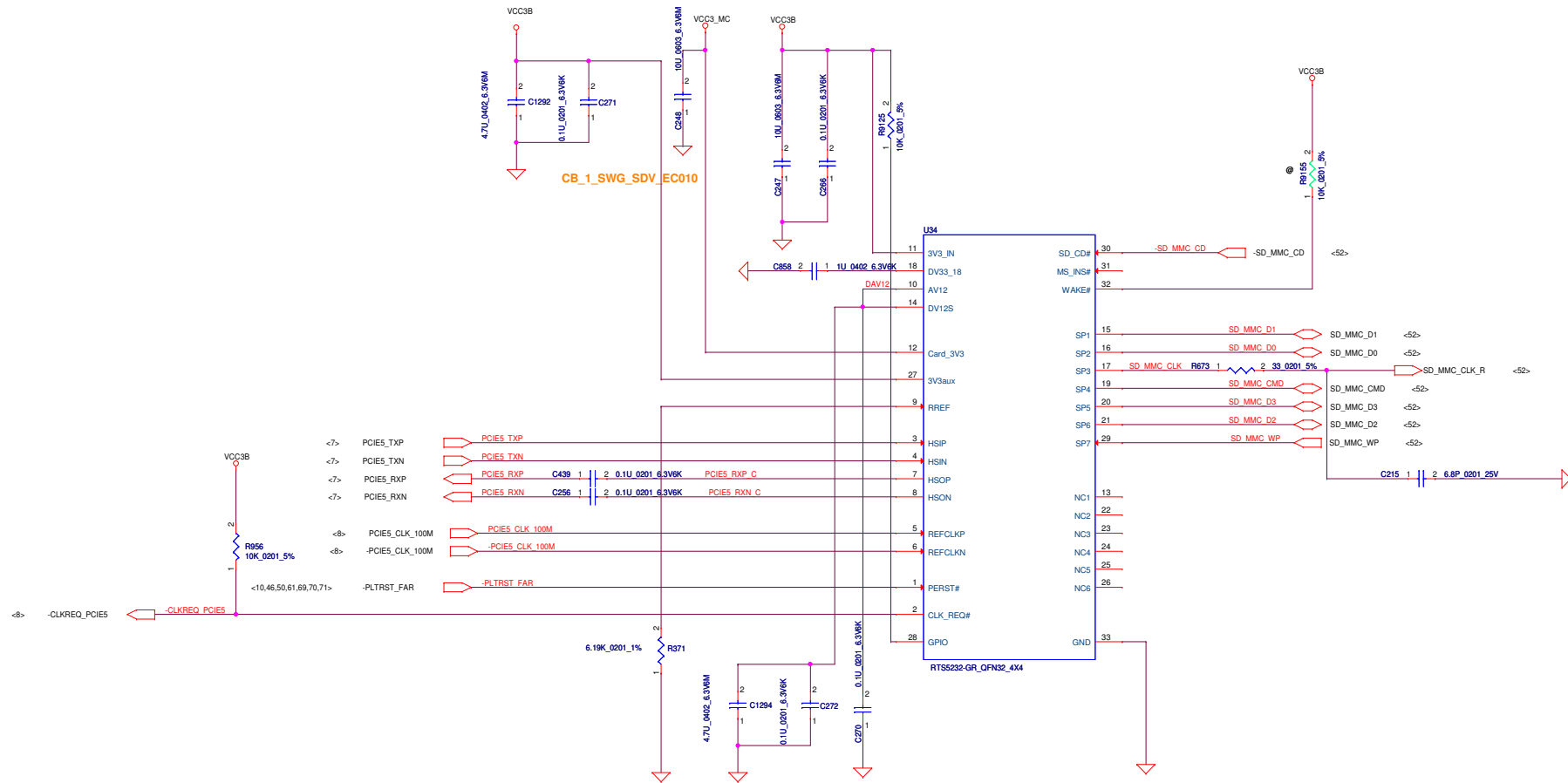
TYPE-A NGFF CCARD FOR WLAN

3.2H CONNECTOR



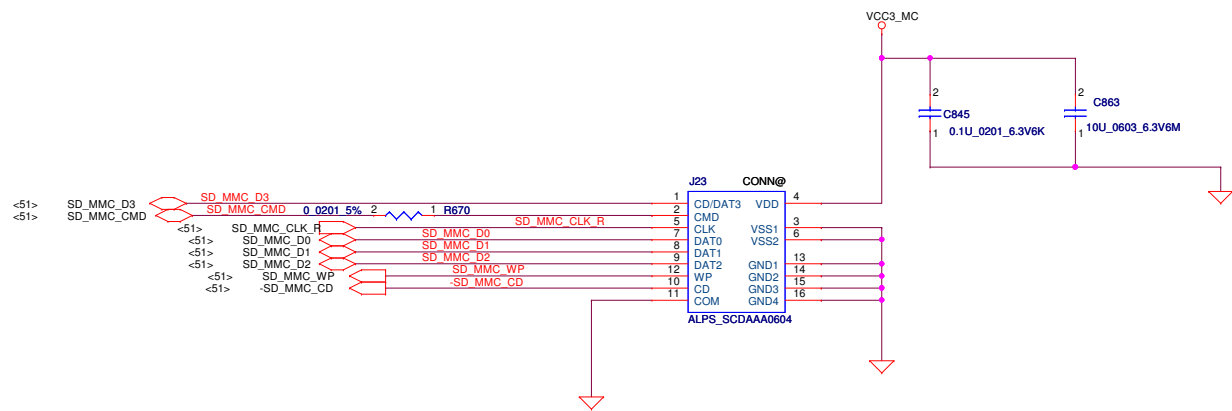
Security Classification	LC Future Center Secret Data		Title	PCIE MINI CARD SLOT
Issued Date	2013/06/21	Designed Date	2013/06/21	
THIS SHEET OF ENGINEERING DRAWINGS IS THE PROPRIETARY PROPERTY OF LG FUTURE CENTER AND IS CONFIDENTIAL. ANY DISCLOSURE OF THIS SHEET OF ENGINEERING DRAWINGS TO ANY OTHER PARTY WITHOUT THE WRITTEN CONSENT OF LG FUTURE CENTER IS STRICTLY PROHIBITED.				
Size	Document Number	CONAIN SEC		Rev. 0.1
Scale	Version	July 30, 2013	Design	01

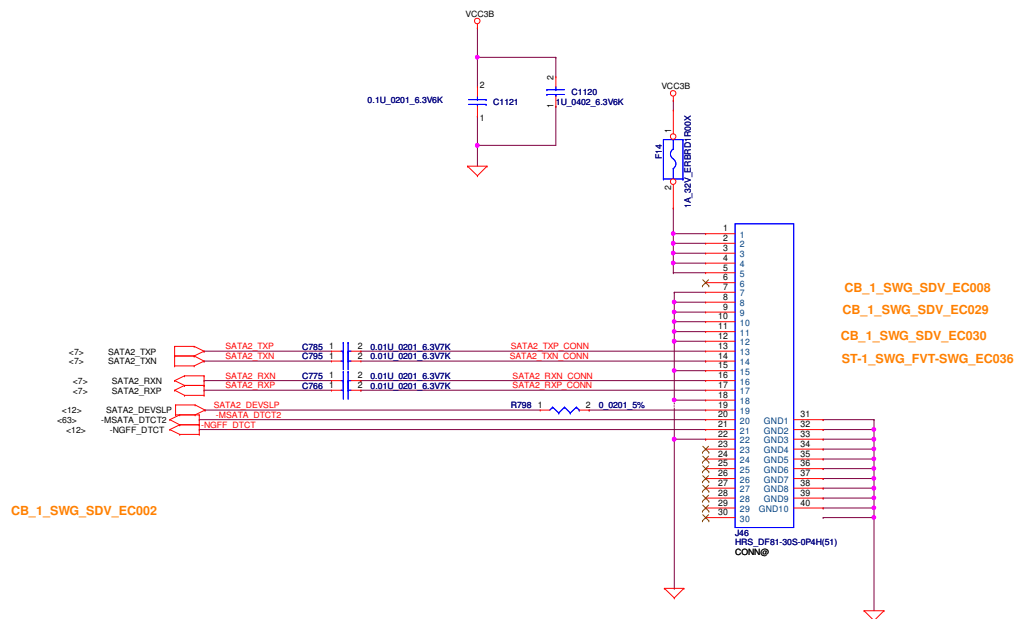
<https://dr-bios.com>



<https://dr-files.com>

Security Classification		LC Future Center Secret Data		Title	
Issued Date	2012/05/01	Deciphered Date	2012/12/01	MEDIA CARD CONTROLLER	
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	COBA IN SWC		Rev
Date	Tuesday, July 30, 2013	Sheet	51	of	100





CB_1_SWG_SDV_EC008

CB_1_SWG_SDV_EC029

CB_1_SWG_SDV_EC030

ST-1_SWG_FVT-SWG_EC036

CB_1_SWG_SDV_EC002

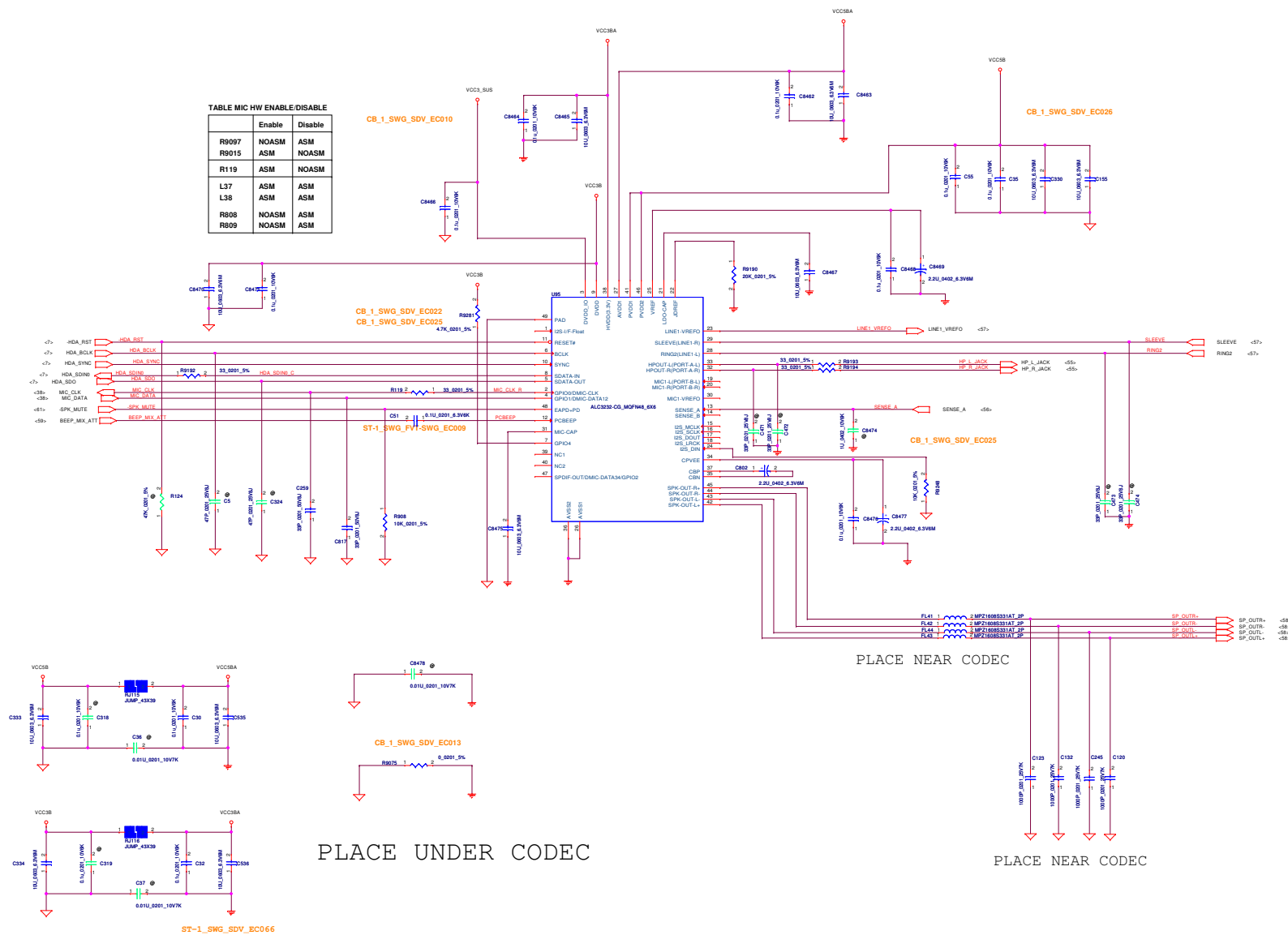
Security Classification	LC Future Center Secret Data			Title	SMART CARD I/F	
Issued Date	2012/07/01	Deciphered Date	2014/07/01	Document Number	1876	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY 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.				Revision	0.1	New
				Date	Tuesday, July 30, 2013	Sheet 53 of 100

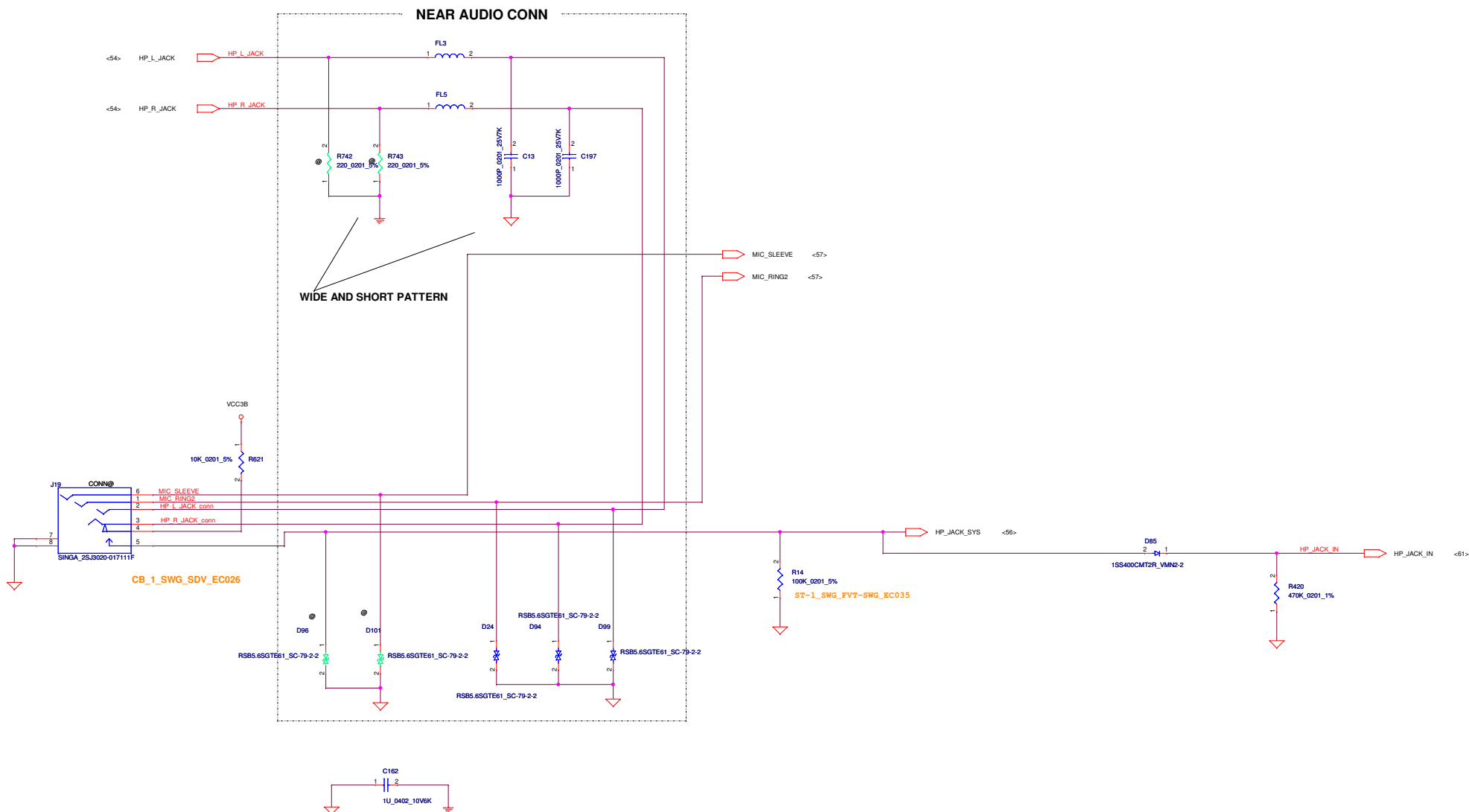



COBAIN SFC

<https://dr-bios.com>

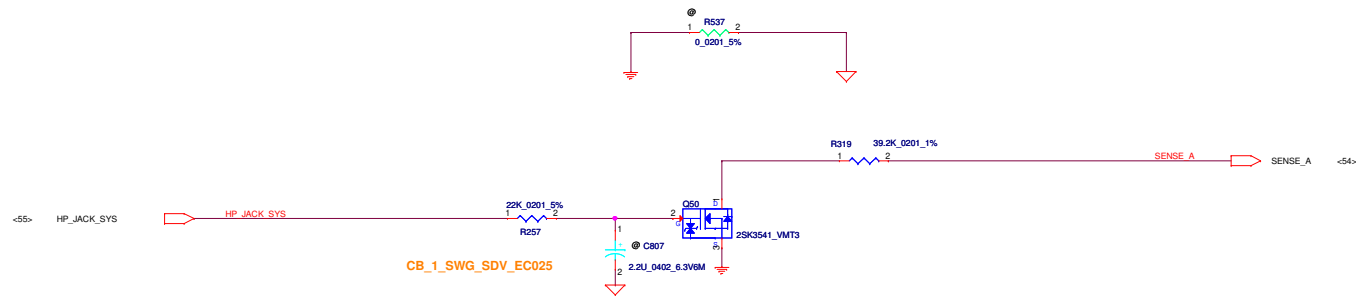
	Enable	Disable
R9097	NOASM	ASM
R9015	ASM	NOASM
R119	ASM	NOASM
L37	ASM	ASM
L38	ASM	ASM
R808	NOASM	ASM
R809	NOASM	ASM





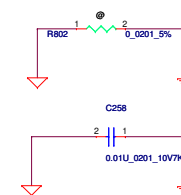
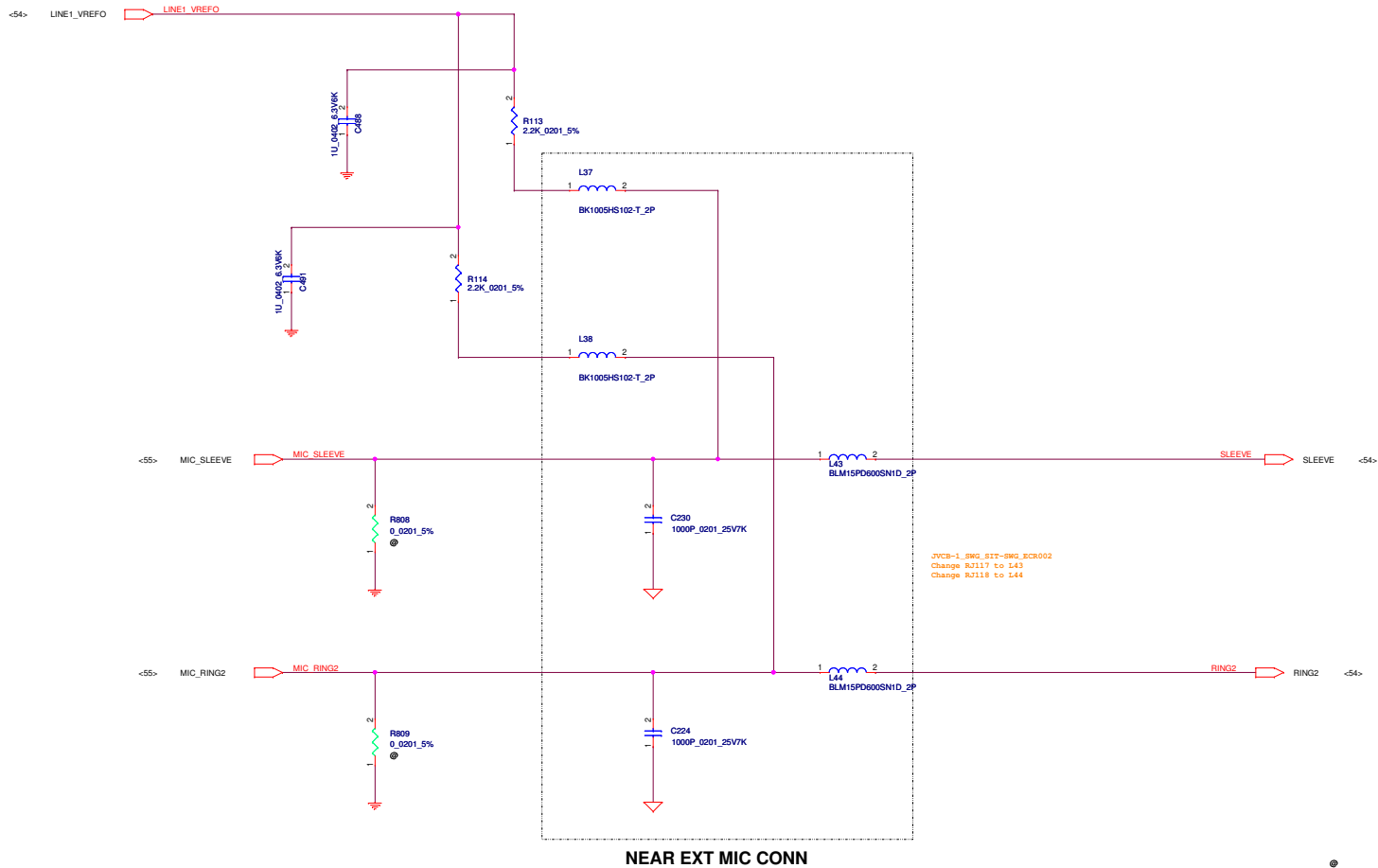
Security Classification		LC Future Center Secret Data		Title	
Issued Date		2012/05/02	Deciphered Date		2012/5/02
AUDIO CONNECTOR					
					
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF 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.</p>					
Size		Document Number		Rev	
Customer		COBA IN SWG		0.1	
Date:		Tuesday, July 30, 2013		Sheet 55 of 100	


<https://dr-bios.com>



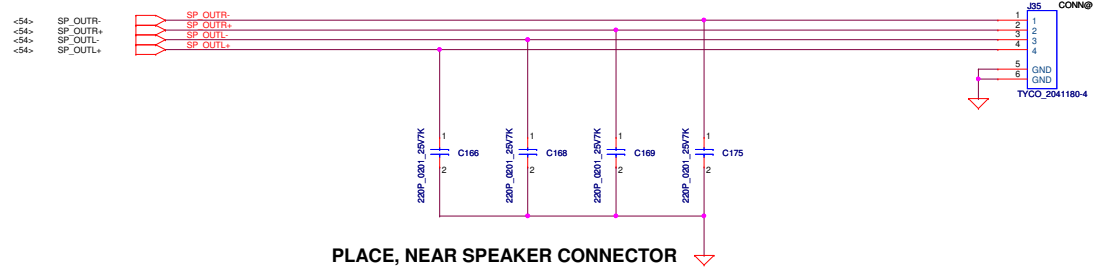
Security Classification		LC Future Center Secret Data		Title	
Issued Date		2012/05/02	Deciphered Date	2012/5/02	AUDIO JACK SENSE
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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			0.1
C	COBAIN SVG	Date			Tuesday, July 30, 2013
Sheet		56		of	
1		1		100	

<https://dr-bios.com/>



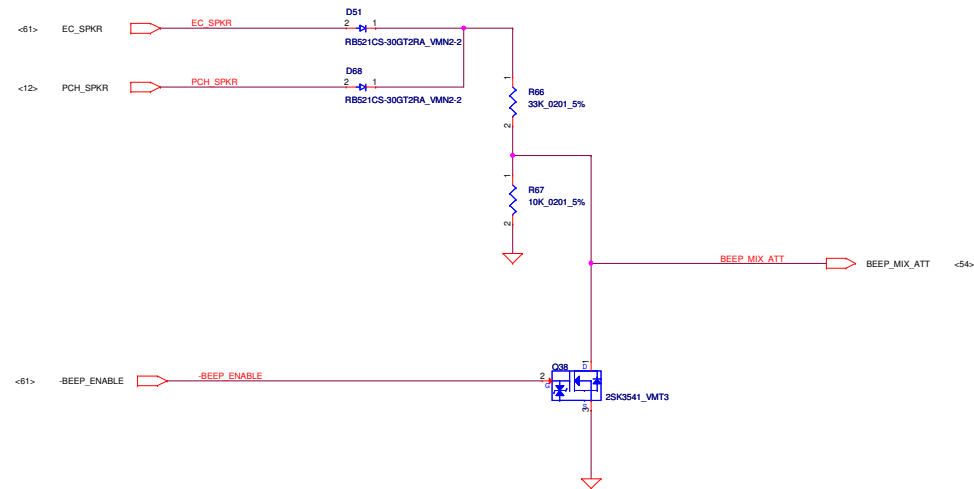
Security Classification		LC Future Center Secret Data		Title			
Issued Date		2012/06/21	Deciphered Date		2012/06/21		AUDIO EXT MIC I/F
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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		Revision			
A		C0BAIN SW		0.1			
Date:		Tuesday, July 30, 2013		Sheet		57 of 100	

<https://dr-bios.com/>



Security Classification		LC Future Center Secret Data		Title	
Issued Date	2012/05/02	Deciphered Date	2012/5/02	AUDIO SPEAKER	
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 Platform	Rev 0.1
				Date: Tuesday, July 30, 2013	Sheet 58 of 100

<https://dr-bios.com>




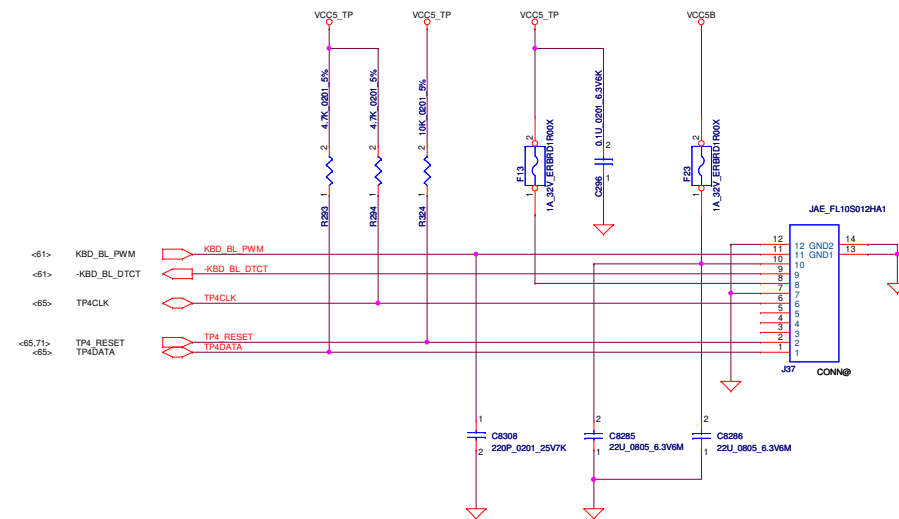
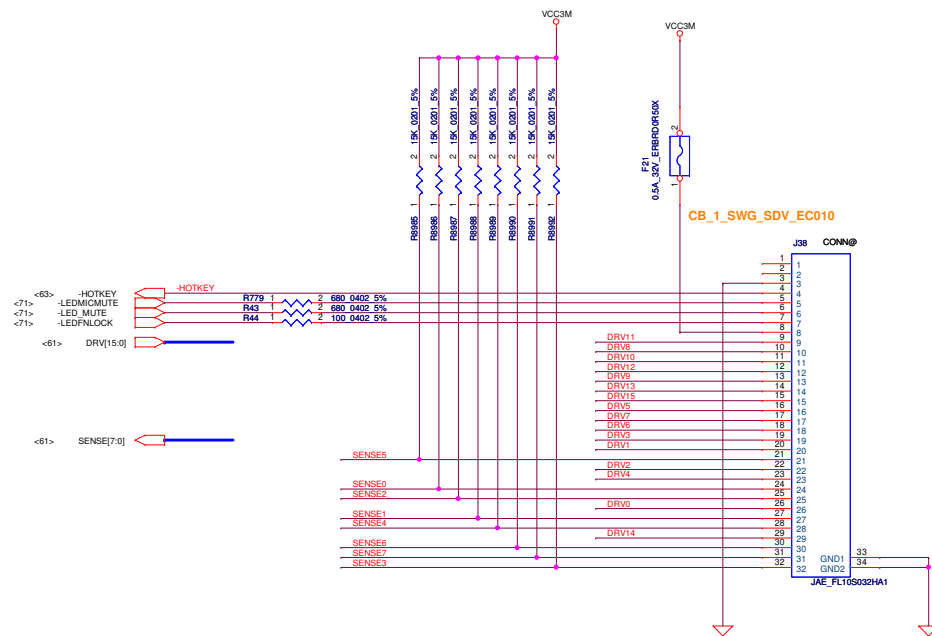
Security Classification		LC Future Center Secret Data		Title	
Issued Date	2012/05/02	Deciphered Date	2012/5/02	AUDIO BEEP	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM 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
				Custom	COBAIN SWG
				Date:	Tuesday, July 30, 2013
				Sheet	59 of 100

<https://dr-bios.com>

BLANK


<https://dr-bios.com/>

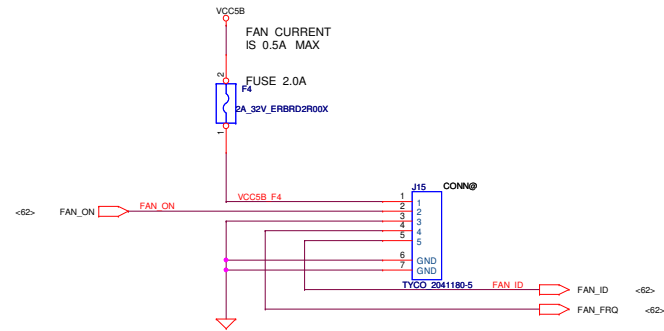
Security Classification	LC Future Center Secret Data			Title		
Issued Date	2012/05/02	Deciphered Date	2012/5/02	BLANK		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF 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.				8/76	Document Number	New
					CORAIN SVG	0.1
				Date:	Tuesday, July 30, 2013	Sheet 60 of 100



BLANK

<https://dr-bios.com/>

Security Classification	LC Future Center Secret Data			Title		
Issued Date	2012/05/02	Deciphered Date	2012/5/02	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 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.				8/76	Document Number	New
					CORAIN SVG	0.1
				Date:	Tuesday, July 30, 2013	Sheet 66 of 100

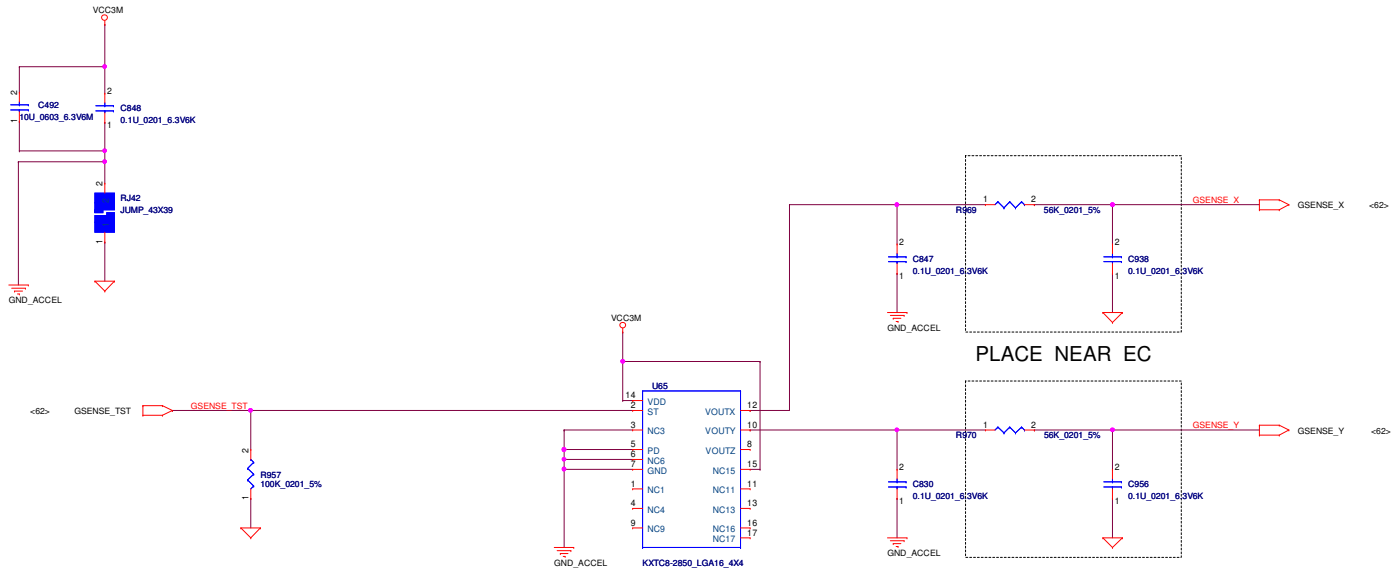


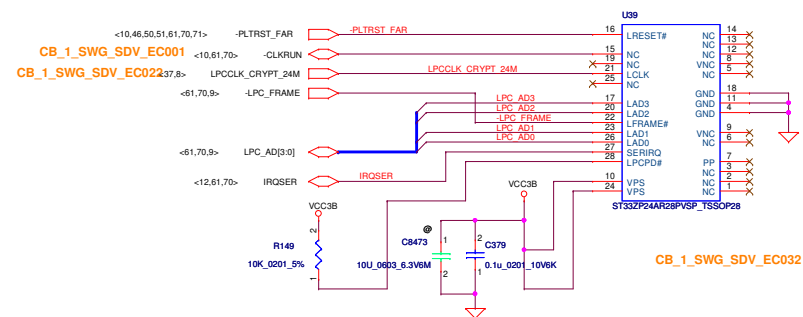
Security Classification	LC Future Center Secret Data			Title	FAN CONNECTOR	
Issued Date	2012/05/02	Deciphered Date	2012/5/02	Document Number	CORA IN SWC	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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.				Date	Tuesday, July 30, 2013	Sheet 67 of 100



<https://dr-bios.com>

TABLE

	LIS34AL KXTC8-2850	NO ACC.
R401 R957	NO_ASM ASM	ASM ASM
U65	ASM	NO_ASM
Q105	ASM	NO_ASM
R885 C829 C969	10-OHM ASM ASM	NO_ASM NO_ASM NO_ASM
C830 C847	ASM ASM	NO_ASM NO_ASM
R969 C938 R970 C956	56K ASM 56K ASM	NO_ASM NO_ASM NO_ASM NO_ASM
C704 R344 C703	NO_ASM NO_ASM NO_ASM	NO_ASM NO_ASM NO_ASM
R125	ASM	ASM





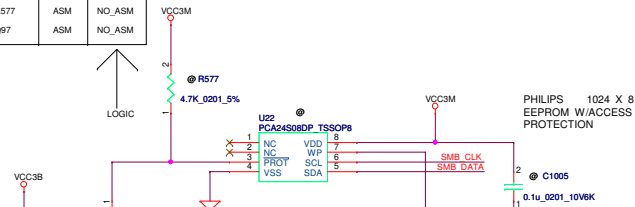
Security Classification		LC Future Center Secret Data				Title					
Issued Date		2012/05/02		Deciphered Date		2012/5/02				TPM	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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		Date		Sheet		Rev			
Austen		CORAIN SVG		Tuesday, July 30, 2013		69		0.1			
						of		100			

<https://dr-bios.com/>

TABLE

EEPROM	U22	U23
U22	ASM	NO_ASM
C1005	ASM	NO_ASM
R577	ASM	NO_ASM
Q97	ASM	NO_ASM

LOGIC

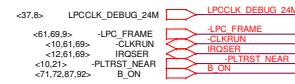
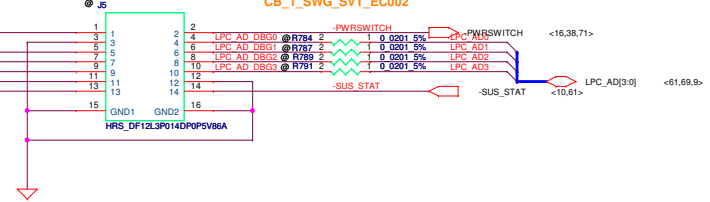


TABLE

REF	DES	ENABLE	DISABLE
J5	ASM	NO_ASM	
R220	ASM	NO_ASM	

LOGIC

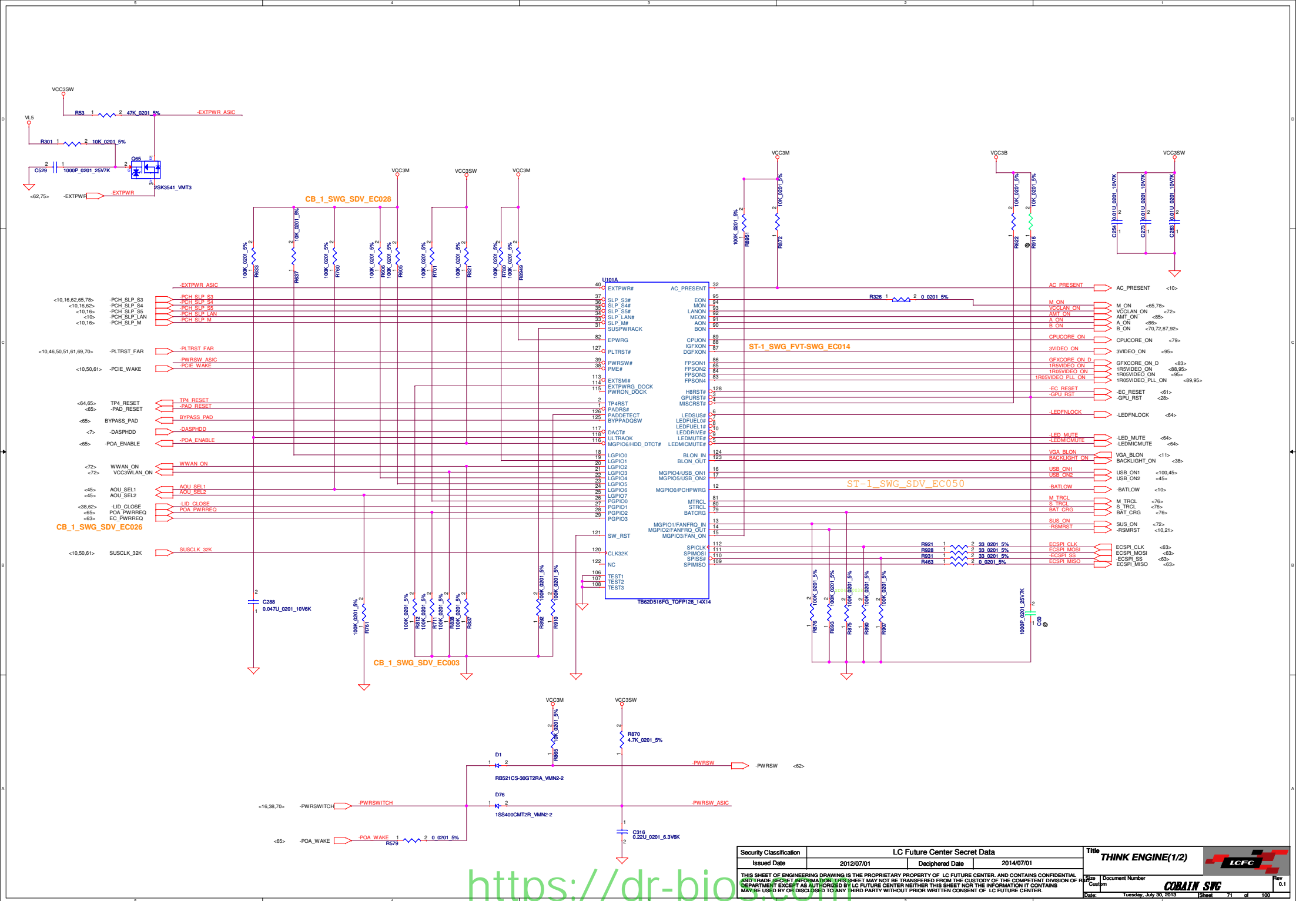
CB_1_SWG_SDV_EC022

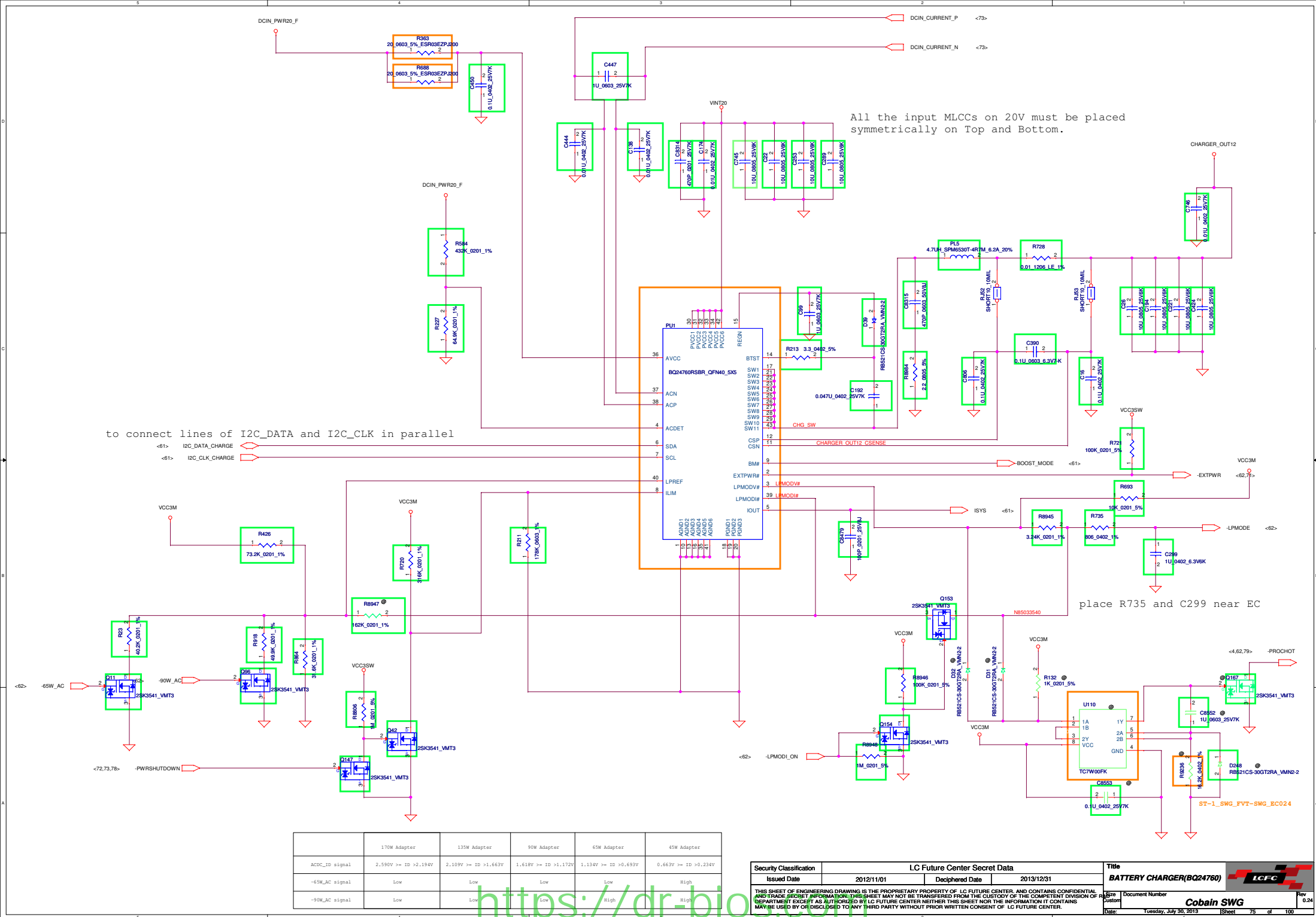
CB_1_SWG_SDV_EC028
CB_1_SWG_SVT_EC002

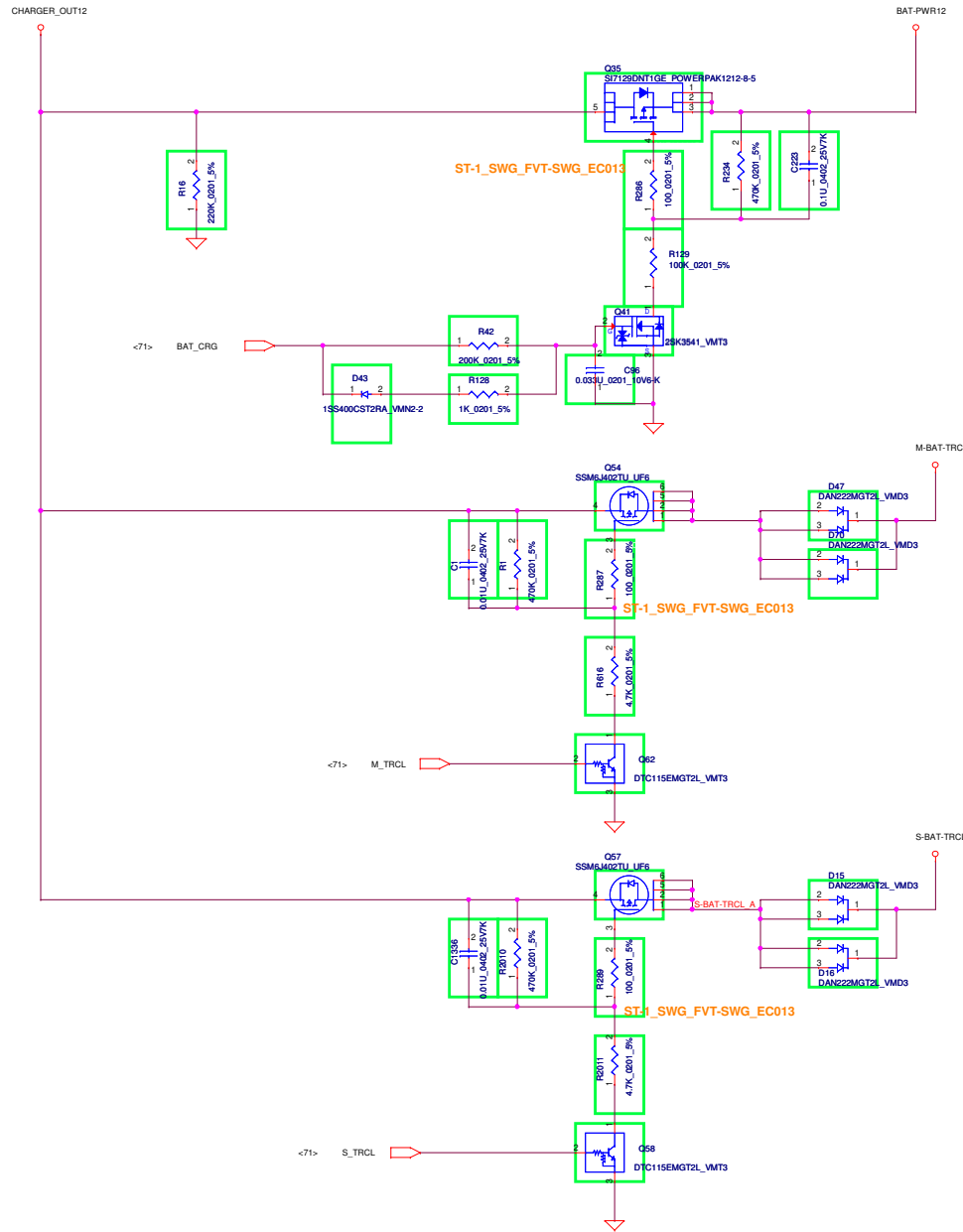
TABLE


EEPROM	U22	U23
U21	ASM	NO_ASM
U31	ASM	NO_ASM
C25	ASM	NO_ASM
R291	ASM	NO_ASM
Q84	ASM	NO_ASM
R8941	NO_ASM	ASM
R8940	NO_ASM	ASM
R30	ASM	NO_ASM
R45	ASM	NO_ASM

LOGIC

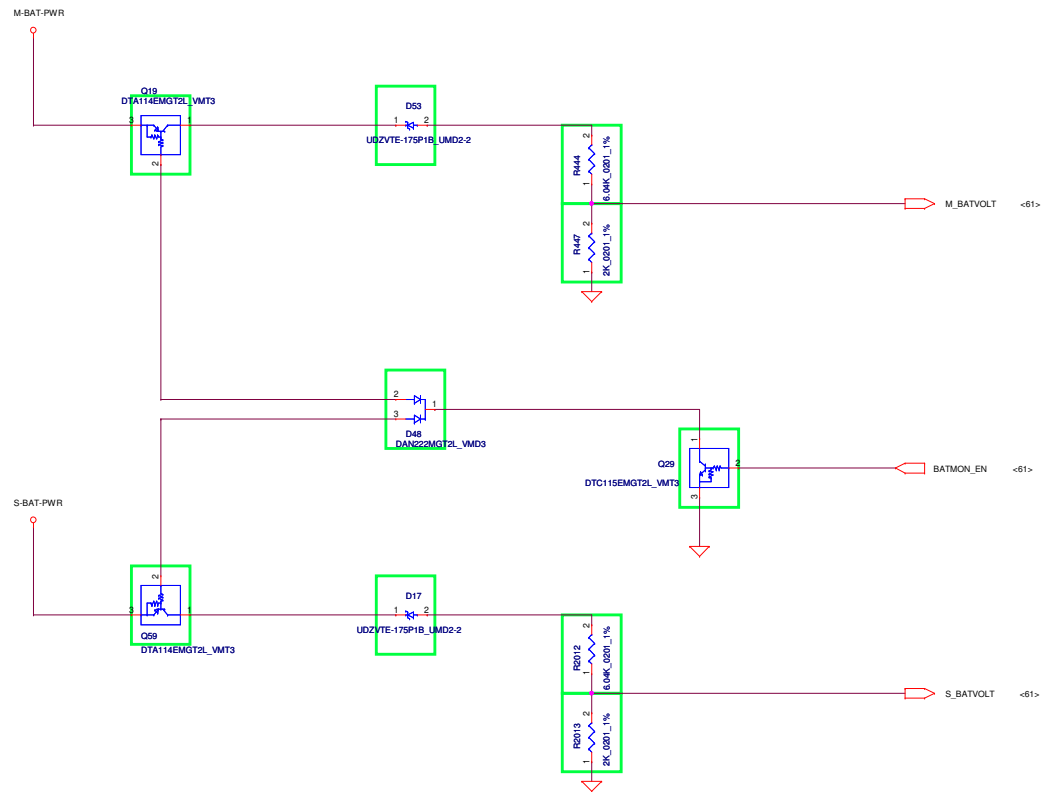






Security Classification		LC Future Center Secret Data		Title	
Issued Date		2012/11/01		Deciphered Date	
				2013/12/31	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE 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.				CHARGER SELECTOR	
					
				Cobain SWG	
				Size	
Document Number		Revision		Rev	
				0.24	
Date		Tuesday, July 30, 2013		Sheet	
				76 of 100	

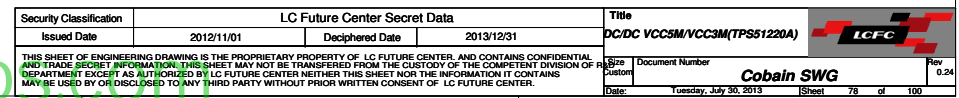
<https://dr-bios.com/>

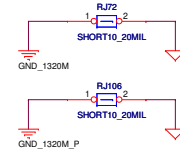


Security Classification	LC Future Center Secret Data			Title	BATTERY MONITOR	
Issued Date	2012/11/01	Deciphered Date	2013/12/31	Revision	Document Number	New
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS 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.				Date	Tuesday, July 30, 2013	Sheet 77 of 100
				Cobain SWG		0.24

<https://dr-bios.com/>

All the input MLCCs on 20V must be placed symmetrically on Top and Bottom.






THIS SHEET OF ENGINEERING DRAWING IS THE PROPERTY OF THE U.S. DEPARTMENT OF COMMERCE AND TRADE SECRET INFORMATION. THIS DRAWING IS LOANED TO YOU BY THE U.S. DEPARTMENT EXCEPT AS AUTHORIZED BY LAW, IT IS NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE U.S. DEPARTMENT OF COMMERCE AND TRADE SECRET INFORMATION. IT MAY BE USED BY OR DISCLOSED TO ANY OTHER PERSON OR ENTITY ONLY AS AUTHORIZED BY THE U.S. DEPARTMENT OF COMMERCE AND TRADE SECRET INFORMATION.

BLANK

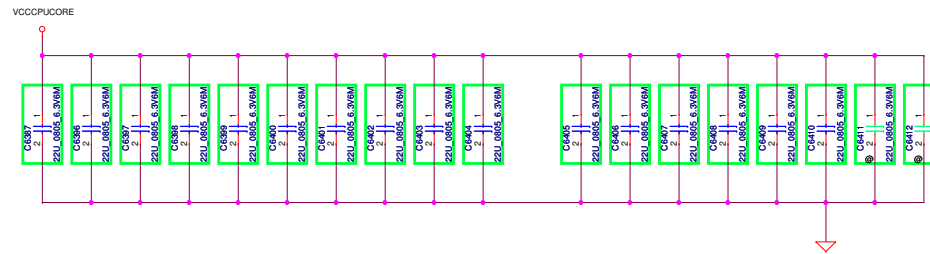
<https://dr-bios.com/>

Security Classification		LC Future Center Secret Data		Title	
Issued Date	2012/11/01	Deciphered Date	2013/12/31	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 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.				8/26	Document Number
				Cobain SWG	
Date:				Tuesday, July 30, 2013	Sheet 81 of 100




Cobain SWG

Rev 0.24

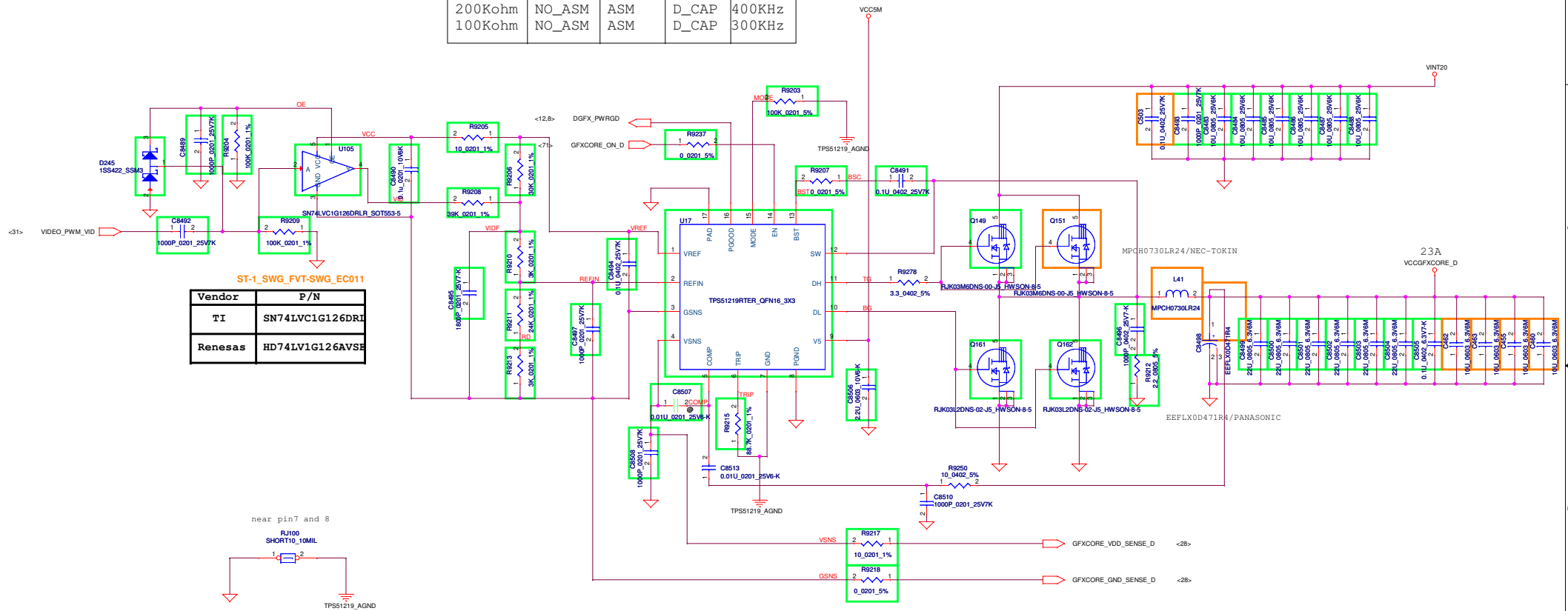


16pcs 22uF for VCCCPUCORE of 25W ULT CPU
 (14pcs 22uF for VCCCPUCORE of 15W ULT CPU)

Security Classification		LC Future Center Secret Data		Title	
Issued Date	2012/11/01	Deciphered Date	2013/12/31	VCCCPUCORE DECOUPLING	
<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.</p>					
Revision		Document Number		Rev	
		Cobain SWG		0.24	
Date:		Tuesday, July 30, 2013		Sheet 82 of 100	

<https://dr-bios.com/>

R9203	C8507	C8513	mode	sw freq
1Kohm	ASM	NO_ASM	D_CAP2	500KHz
200Kohm	NO_ASM	ASM	D_CAP	400KHz
100Kohm	NO_ASM	ASM	D_CAP	300KHz




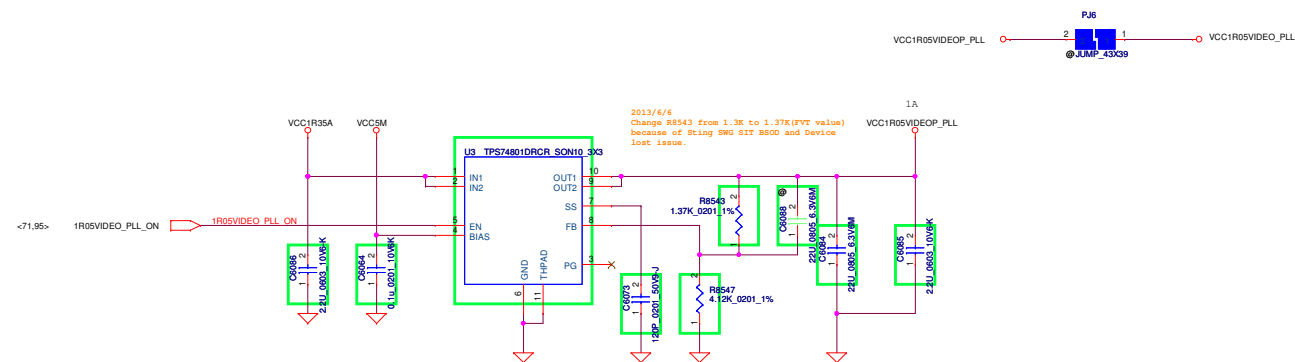
Vendor	P/N
TI	SN74LVC1G126DRI
Renesas	HD74LV1G126AVSE


near pin7 and 8
RJ100
SHORT10_10MIL

BLANK

<https://dr-bios.com/>

Security Classification	LC Future Center Secret Data			Title	 BLANK
Issued Date	2012/11/01	Deciphered Date	2013/12/31	Document Number	
<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>				Revision	Rev 0.24
				Date:	Tuesday, July 30, 2013




Security Classification	LC Future Center Secret Data			Title		Rev
Issued Date	2012/11/01	Deciphered Date	2013/12/31	DC/DC VCC1R05VIDEO_PLL(TPS74801)		
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.				8/26	Document Number	Cobain SWG
				Date	Tuesday, July 30, 2013	
				Sheet	89	of 100

<https://dr-bios.com/>

BLANK

<https://dr-bios.com/>

Security Classification		LC Future Center Secret Data		Title	
Issued Date		Deciphered Date		BLANK	
2012/11/01		2013/12/31			
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.				8/26	Document Number
				Cobain SWG	
Date:				Tuesday, July 30, 2013	Sheet 90 of 100




New 0.24

BLANK

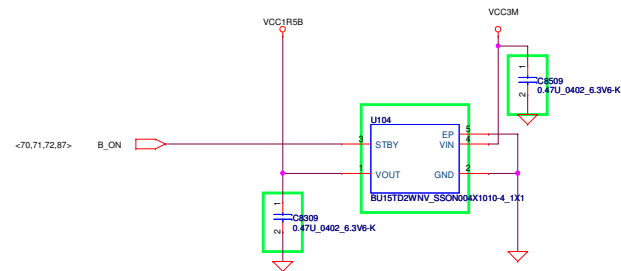
<https://dr-bios.com/>


Security Classification		LC Future Center Secret Data		Title	
Issued Date	2012/11/01	Deciphered Date	2013/12/31	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 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.				876	Document Number
				Cobain SWG	
Date:				Tuesday, July 30, 2013	Sheet 91 of 100



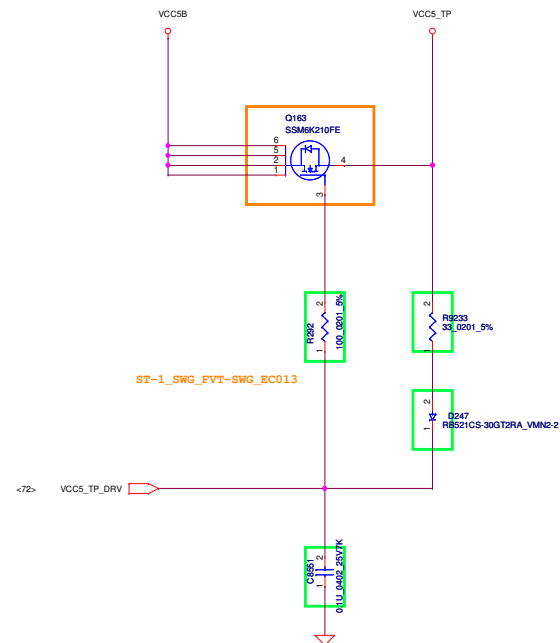
Cobain SWG


Rev 0.24



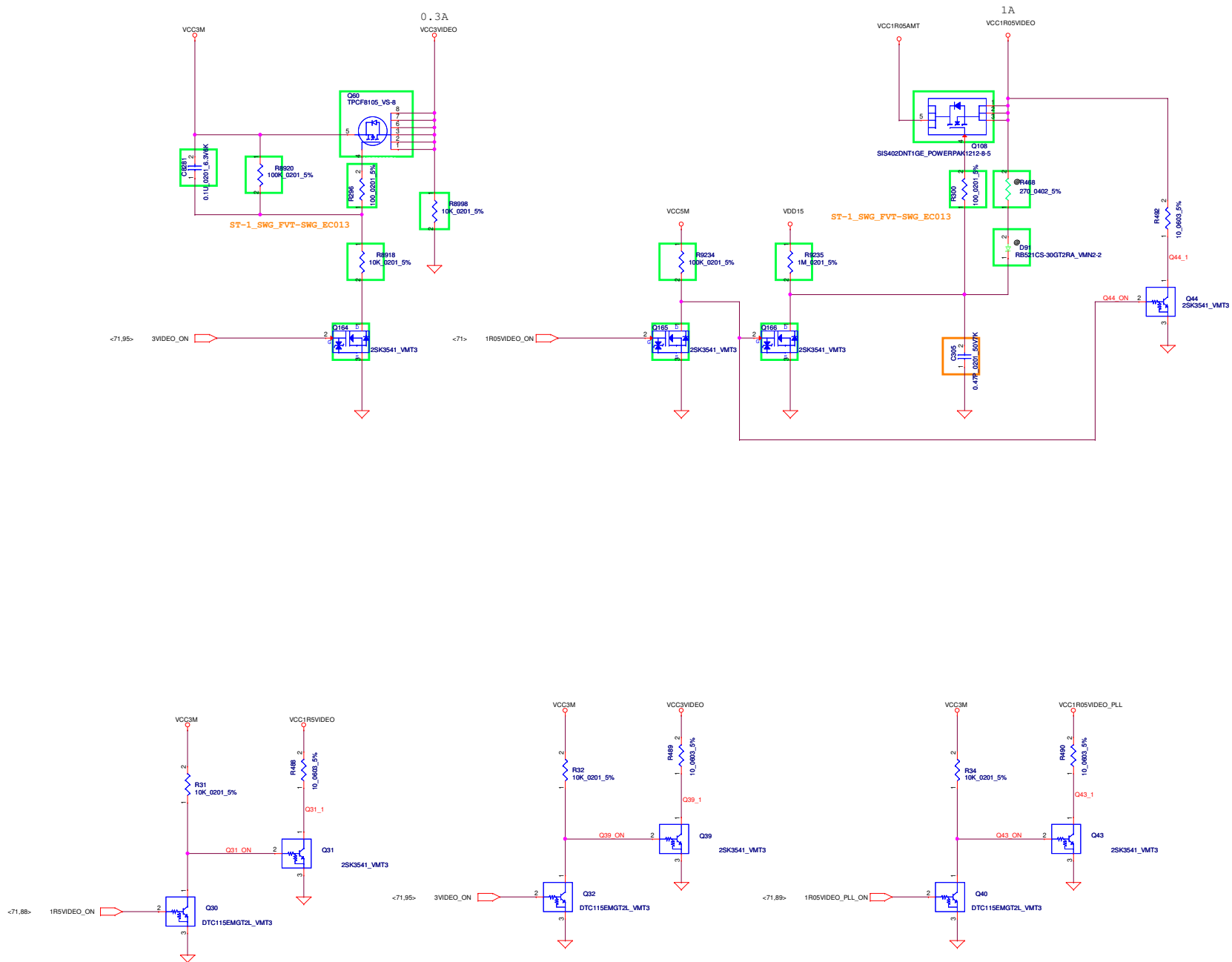
Security Classification		LC Future Center Secret Data				Title	
Issued Date		2012/11/01		Deciphered Date		2013/12/31	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY 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/DC VCC1RSB(BU15TD2WNV)	
							
						Size	Document Number
						Cobain SWG	
						Date:	Tuesday, July 30, 2013
						Rev	0.24
						Sheet	92 of 100


<https://dr-bios.com/>



Security Classification	LC Future Center Secret Data			Title	
Issued Date	2012/11/01	Deciphered Date	2013/12/31	LOAD SW PCH SUS	
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 RAILROADS TO ANY OTHER PERSON OR ENTITY WITHOUT THE WRITTEN CONSENT OF THE DIVISION. THIS SHEET AND 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 Cobain SWG Date: Tuesday, July 30, 2013
					Rev 0.24 Sheet 93 of 100





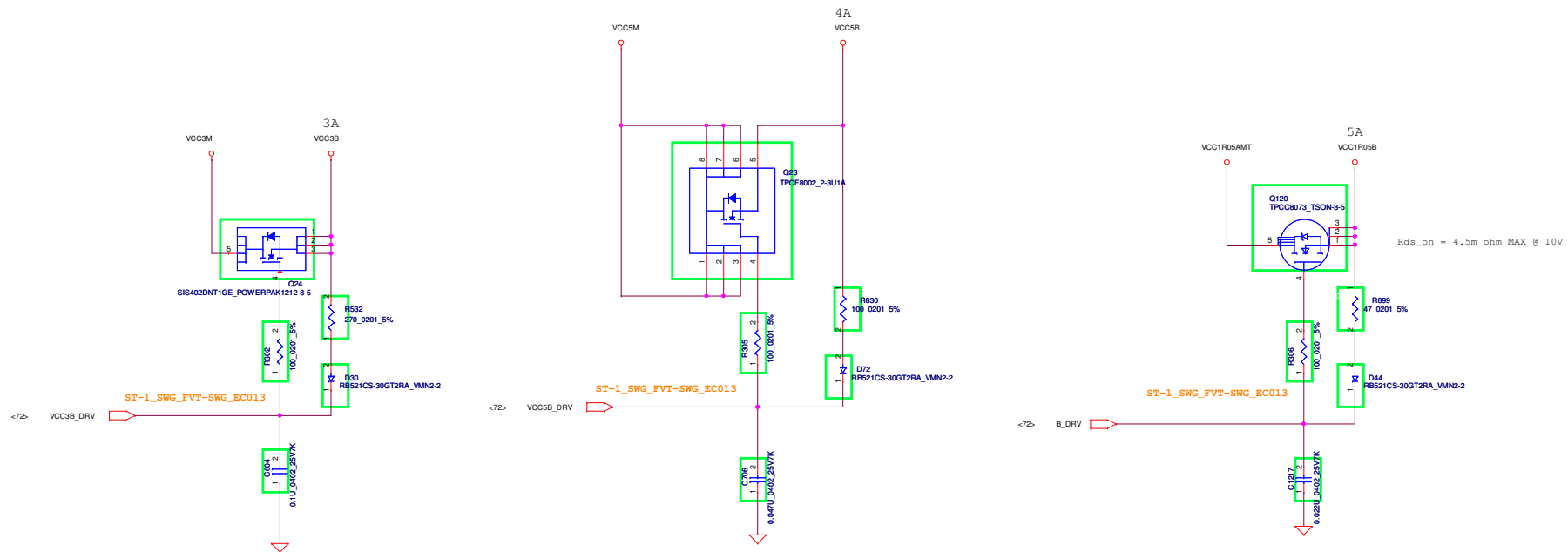
Security Classification	LC Future Center Secret Data		Title	
Issued Date	2012/11/01	Deciphered Date	2013/12/31	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF LC FUTURE CENTER, AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY 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.				Revision 1876 Date: Tuesday, July 30, 2013 Sheet 95 of 100


LOAD SW VIDEO

Sting SWG

Rev
0.24

<https://dr-bios.com/>




Security Classification	LC Future Center Secret Data			Title	 LOAD SW B
Issued Date	2012/11/01	Deciphered Date	2013/12/31	Revision	
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 Cobain SWG Date: Tuesday, July 30, 2013 Sheet 96 of 100

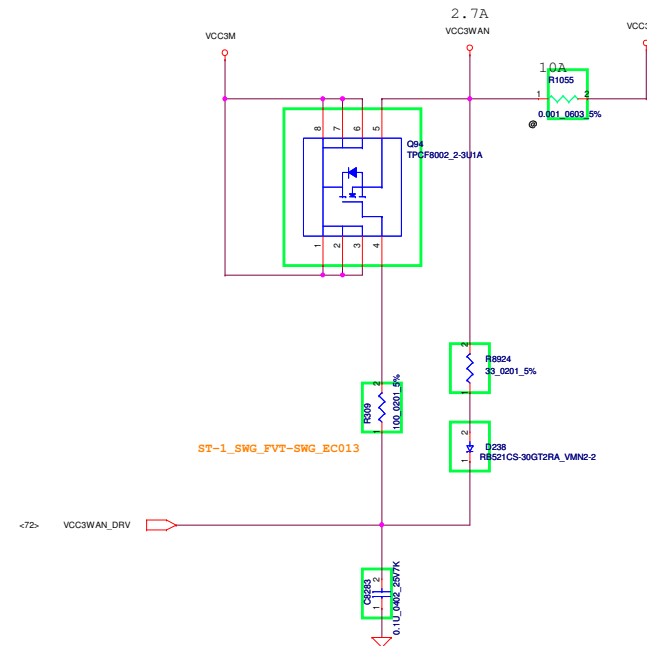
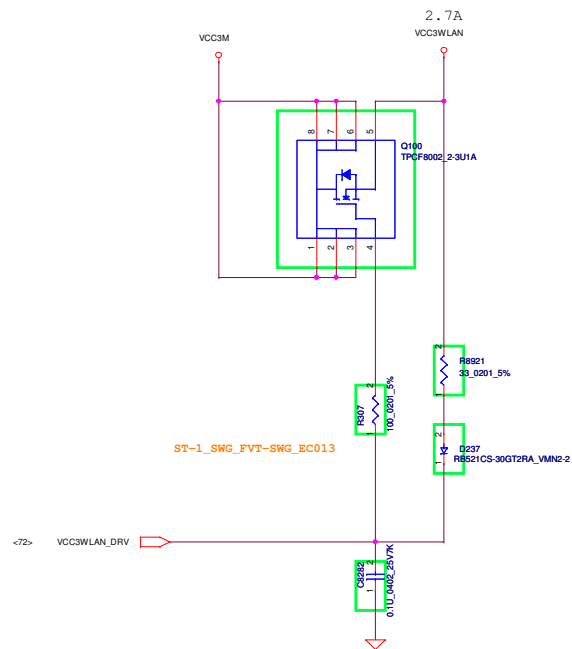
<https://dr-bios.com/>

BLANK

<https://dr-bios.com/>

Security Classification		LC Future Center Secret Data		Title	
Issued Date	2012/11/01	Deciphered Date	2013/12/31	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 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.				Revision	Document Number
				0.24	1876
Date:				Tuesday, July 30, 2013	Sheet 97 of 100

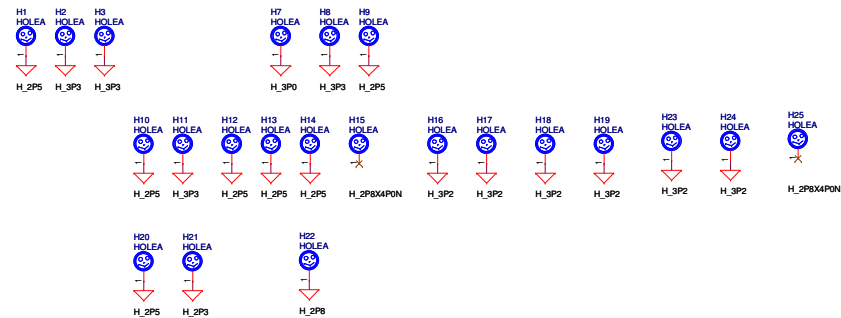

Cobain SWG



TABLE

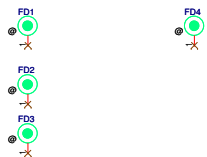
AOAC	YES	NO
R1055	NO-ASM	ASM
Q94	ASM	NO-ASM
R8924	ASM	NO-ASM
R8926	ASM	NO-ASM
C8283	ASM	NO-ASM
D238	ASM	NO-ASM

↑
LOGIC



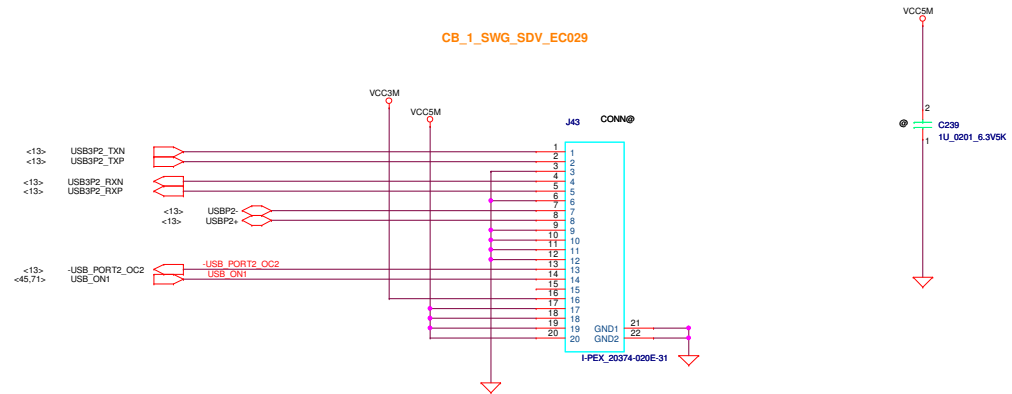
FID
Board Area

FID
Component Area



Security Classification	LC Future Center Secret Data			Title
Issued Date	2012/11/01	Deciphered Date	2013/12/31	PTH FOR SCREW HOLES
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.				Revision
				0.1
				Date: Tuesday, July 30, 2013
				Sheet 99 of 100

<https://dr-bios.com/>



<https://dr-bios.com>