


LA1224-RDB-BHS

		6501 William Cannon Drive West Austin, TX 78725-8598	
<small>This document contains information proprietary to NXP and shall not be used for engineering design, procurement or manufacture in whole or in part without the express written permission of NXP Semiconductors.</small>			
<small>Classification: Public Information</small>			
Designer: Rituraj Anand	Drawing Title: X-LA1224-RDB-BHS		
Drawn by: Rituraj Anand	Page Title: Cover Page		
Approved:	Size C	Document Number SCH-54891/PDF: SPF-54891	Rev A
Date: Tuesday, June 07, 2022		Sheet 1 of 67	

5		4		3		2		1	
Table of Contents									
1	Title Page								
2	Revision Control								
3	Block Diagram								
4	Stackup; Revision Notes								
5	LX2 SECTION								
6	Power ENTRY								
7	CPU Control								
8	PF8100 PMIC1 SUPPLIES								
9	PF8100 PMIC2 SUPPLIES								
10	LX2160 VDD								
11	LX2160 OVDD & GVDD SUPPLIES								
12	LX2160VTT POWER								
13	LX2160 VDD Power								
14	LX2160 GVDD/OVDD/SDVDD								
15	LX2160 PLL Power								
16	LX2160 Grounds								
17	LX2160 System Ctl. & JTAG								
18	SI5518 SYSTEM CLK								
19	SYSTEM CLK2								
20	LX2160 XSPI								
21	LX2160 SDHC1 Port & Slot								
22	LX2160 SDHC2 + eMMC								
23	LX2160 DDR Ports								
24	DDR4 #1 DIMM #1								
25	LX2160 NC and Special								
26	LX2160 SD #1								
27	DS250DF230 25GE Retimer								
28	DS250DF230 25GE SFP+								
29	AQR113 #1 10G PHY Control								
30	AQR113 #1 10G PHY Power								
31	AQR113 #2 10G PHY Control								
32	AQR113 #2 10G PHY Power								
33	LX2160 SD #2/PCle_CONN								
34	PCle_M.2_SLOT								
35	LX2160 SD #3/Slot #2								
36	LX2160 RGMII / MII / IEEE								
37	RGMII PHY #1 & Connector								
38	LX2160 USB 3.0 Ports								
39	LX2160 I2C Ports / Muxes								
40	Misc. I2C Devices								
41	RS232 UART								
42	LEA6T & Misc								
43	PPS_SYNC_MAPPING								
44	BLANK								
45	Reset_control								
46	LA1235 SECTION								
47	LA1235 Control								
48	LA1235 POR CONFIG								
49	PF7100 PMIC SUPPLY								
50	LA1235 VDD								
51	LA1235 DCS SUPPLY								
52	LA1235 POWER								
53	LA1235 GND								
54	BLANK								
55	LA1235 JTAG, IRQ, XSPI								
56	LA1235 SERDES CONTROLLER								
57	LA1235 I2C Ports/ Muxes								
58	LA1235 RF_CTL Subsystem								
59	LA1235 DCS_IQ								
60	LLCP [1:2] MUXING								
61	HS_DCS_BUFFER								
62	LS DCS PLUG CARD								
63	HS DCS PLUG CARD								
64	BLANK								
65	5V & 5.5V POWER SUPPLY								
66	DIP SWITCH								
67	JUMPERS & DNP								


Revisions			
Rev	Description	Date	Approved
A	Release A085	5-June-2022	

Design Note:

1. This design is derived from X-LA1224-RDB-B [51937 RevB].
-U65 part replaced with PLA1235S7S88AB.
-SW4[1:4] modified with 1011.

2. 51937 RevB PCB has been used for this design.

All information is subject to change without notice.
No warranty, expressed or applied, is made as to the
accuracy of the information contained herein. This
schematic is provided for reference purposes only.
Contact your NXP representative to obtain the
latest information on this product.



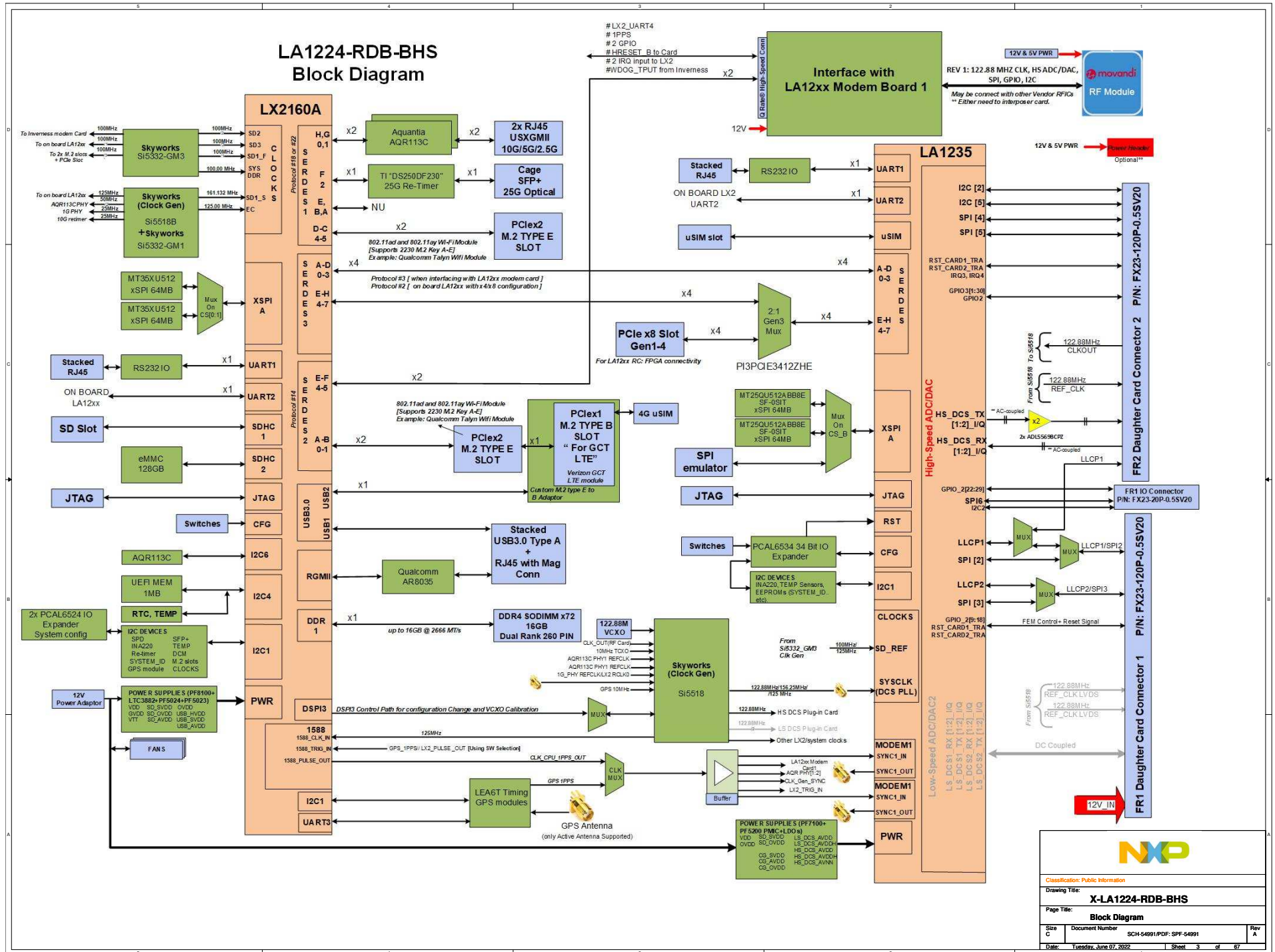
Classification: Public Information

Drawing Title:
X-LA1224-RDB-BHS

Page Title:
Revision Control

Size C	Document Number SCH-54991/PDF: SPF-54991	Rev A
Date: Sunday, June 05, 2022	Sheet 2 of 67	

LA1224-RDB-BHS Block Diagram



Lyr	Image	Vendor
✓cp	0.000 mils	
✓cs	0.000 mils	
✓cm	0.700 mils	
✓1sp	2.325 mils Dk: 3.34 MEG6 1078 (68.0%) SKG Base Cu: 0.38 oz 0.925 mils HP2 42%	Oak Mitsui
✓2pp	1.200 mils Dk: 3.58 MEG6 (2-1078) PIG Base Cu: 1.00 oz HVLP 94%	Panasonic
✓3sp	0.600 mils Dk: 3.25 MEG6 1035 (70.0%) MX Base Cu: 0.50 oz HVLP 14%	Panasonic
✓4pp	1.200 mils Dk: 4.50 R-175SV (1-2116) PIG Base Cu: 1.00 oz RTF 94%	Panasonic
✓5sp	0.600 mils Dk: 4.00 R-1650V 1080 (64.0%) SKG Base Cu: 0.50 oz RTF 6%	Panasonic
✓6pp	1.200 mils Dk: 4.50 R-175SV (1-2116) PIG Base Cu: 1.00 oz RTF 94%	Panasonic
✓7sp	0.600 mils Dk: 3.80 R-1650V 106 (74.0%) SKG Base Cu: 0.50 oz RTF 10%	Panasonic
✓8pp	2.600 mils Dk: 3.90 R-175SV (1-106) PIG Base Cu: 2.00 oz RTF 94%	Panasonic
✓9pp	2.600 mils Dk: 3.80 R-1650V 106 (74.0%) PIG Base Cu: 2.00 oz RTF 90%	Panasonic
✓10pp	2.600 mils Dk: 3.90 R-175SV (1-106) PIG Base Cu: 2.00 oz RTF 88%	Panasonic
✓11pp	2.600 mils Dk: 4.00 R-1650V 1080 (67.0%) PIG Base Cu: 2.00 oz RTF 94%	Panasonic
✓12sp	0.600 mils Dk: 4.50 R-175SV (1-2116) SKG Base Cu: 0.50 oz RTF 11%	Panasonic
✓13pp	1.200 mils Dk: 4.00 R-1650V 1080 (64.0%) PIG Base Cu: 1.00 oz RTF 93%	Panasonic
✓14sp	0.600 mils Dk: 4.50 R-175SV (1-2116) SKG Base Cu: 0.50 oz RTF 7%	Panasonic
✓15pp	1.200 mils Dk: 3.25 MEG6 1035 (70.0%) PIG Base Cu: 1.00 oz RTF 94%	Panasonic
✓16sp	0.600 mils Dk: 3.58 MEG6 (2-1078) SKG Base Cu: 0.50 oz HVLP 17%	Panasonic
✓17pp	1.200 mils Dk: 3.34 MEG6 1078 (68.0%) PIG Base Cu: 1.00 oz HVLP 94%	Panasonic
✓18sp	2.325 mils Dk: 3.34 MEG6 1078 (68.0%) SKG Base Cu: 0.38 oz 0.925 mils HP2 26%	Oak Mitsui
✓sm	0.700 mils	
✓ss	0.000 mils	
✓sp	0.000 mils	

Impedance Table										
Layer	Required Impedance (Ohms)	Calculated Impedance (Ohms)	Tolerance (Ohms)	Impedance Type	Reference Layers	Design L/W (mils)	Design Space (mils)	Finished L/W (mils)	Finished Space (mils)	Coplanar Space (mils)
1sp	50.0	47.8	±5.0	se coated microstrip	None / 2pp	6.50	---	6.50	---	---
1sp	100.0	95.5	±10.0	diff coated microstrip	None / 2pp	6.00	16.00	6.00	16.00	---
1sp	90.0	85.9	±9.0	diff coated microstrip	None / 2pp	7.55	18.00	7.55	18.00	---
3sp	50.0	49.5	±5.0	se stripline	2pp / 4pp	4.75	---	4.75	---	---
3sp	100.0	99.1	±10.0	diff stripline	2pp / 4pp	4.65	11.40	4.65	11.40	---
3sp	90.0	89.2	±9.0	diff stripline	2pp / 4pp	5.64	10.50	5.64	10.50	---
5sp	50.0	50.4	±5.0	se stripline	4pp / 6pp	3.60	---	3.60	---	---
5sp	100.0	100.1	±10.0	diff stripline	4pp / 6pp	3.60	12.30	3.60	12.30	---
5sp	90.0	90.8	±9.0	diff stripline	4pp / 6pp	4.40	11.50	4.40	11.50	---
7sp	50.0	49.7	±5.0	se stripline	6pp / 8pp	3.60	---	3.60	---	---
7sp	100.0	99.4	±10.0	diff stripline	6pp / 8pp	3.55	12.30	3.55	12.30	---
12sp	50.0	49.7	±5.0	se stripline	11pp / 13pp	3.60	---	3.60	---	---
12sp	100.0	99.5	±10.0	diff stripline	11pp / 13pp	3.55	12.30	3.55	12.30	---
14sp	50.0	50.4	±5.0	se stripline	13pp / 15pp	3.60	---	3.60	---	---
14sp	100.0	100.1	±10.0	diff stripline	13pp / 15pp	3.60	12.30	3.60	12.30	---
16sp	50.0	49.5	±5.0	se stripline	15pp / 17pp	4.75	---	4.75	---	---
16sp	100.0	99.2	±10.0	diff stripline	15pp / 17pp	4.65	11.40	4.65	11.40	---
16sp	90.0	89.3	±9.0	diff stripline	15pp / 17pp	5.64	10.50	5.64	10.50	---
18sp	50.0	47.8	±5.0	se coated microstrip	17pp / None	6.50	---	6.50	---	---
18sp	100.0	95.5	±10.0	diff coated microstrip	17pp / None	6.00	16.00	6.00	16.00	---
18sp	90.0	85.9	±9.0	diff coated microstrip	17pp / None	7.55	18.00	7.55	18.00	---

Drill Table											
Start Layer	End Layer	Drill Type	Plate Type	Via Fill	Stacked Via	Min Drill Size (mils)	Drill Depth (mils)	Pad Size (mils)	Hole Qty	Do Not Hit Layer	Related Process
1	18	Mechanical	PTH	----	----	0.00	92.1	0.00	0	----	Final Assembly - 1/18
1	18	Mechanical	Via	Non-Conductive Epoxy	----	9.80	92.1	19.00	9158	----	Final Assembly - 1/18
1	2	Laser	Micro Via	Copper Fill	No	6.00	4.0	12.00	190	----	Final Assembly - 1/18
18	17	Laser	Micro Via	Copper Fill	No	6.00	4.0	12.00	56	----	Final Assembly - 1/18
1	13	Backdrill	NPTH	----	----	19.00	63.8	0.00	24	14	Final Assembly - 1/18
18	6	Backdrill	NPTH	----	----	19.00	63.8	0.00	56	5	Final Assembly - 1/18
18	8	Backdrill	NPTH	----	----	19.00	52.8	0.00	10	7	Final Assembly - 1/18



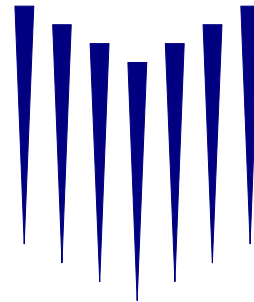
Classification: Public Information

Drawing Title: **X-LA1224-RDB-BHS**

Page Title: **Stackup & Notes**

Size C Document Number SCH-54891/PDF: SPF-54891

Date: Sunday, June 05, 2022 Sheet 4 of 87



LX2 SECTION



EAP Classification: CP: BUC: X PUB:			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: LX2 SECTION			
Size C	Document Number SCH-54891/PDF: SPF-54891		Rev A
Date: Sunday, June 05, 2022	Sheet 5	of 87	

DC Input Adaptor/Power Supply Specification:
C6P: Standard Model, 6 pin connector

MeanWell GST280A12-C6P: 252W @ 12V

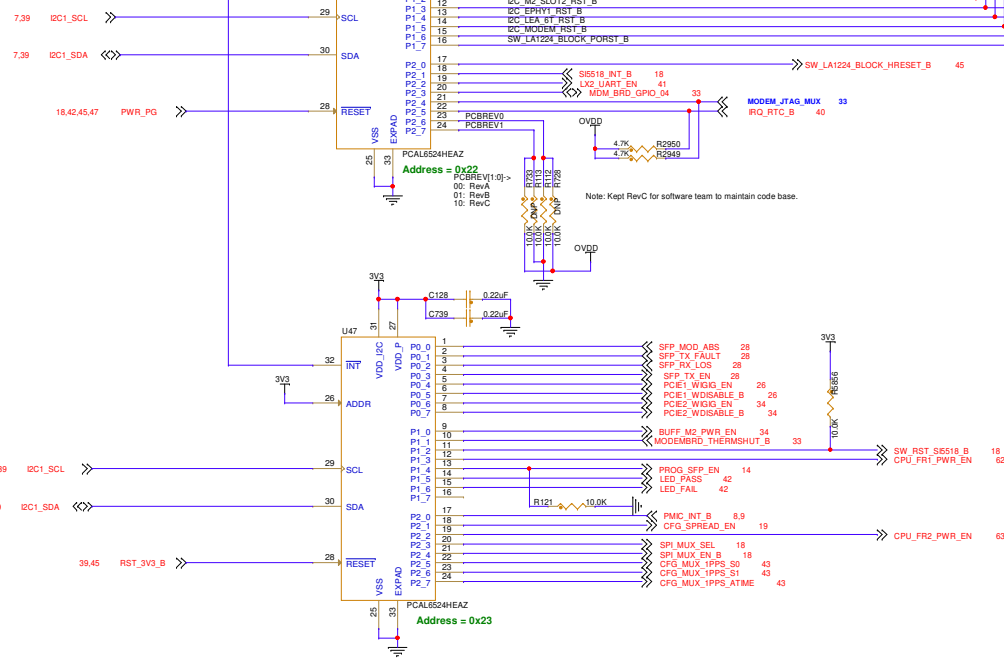
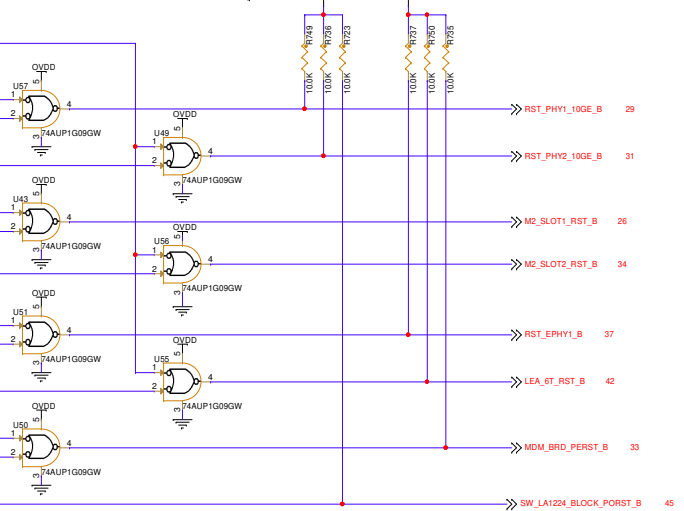


SW_DP-4SM

SW1[DEFAULT] = SW_DP[8]:1111_0011

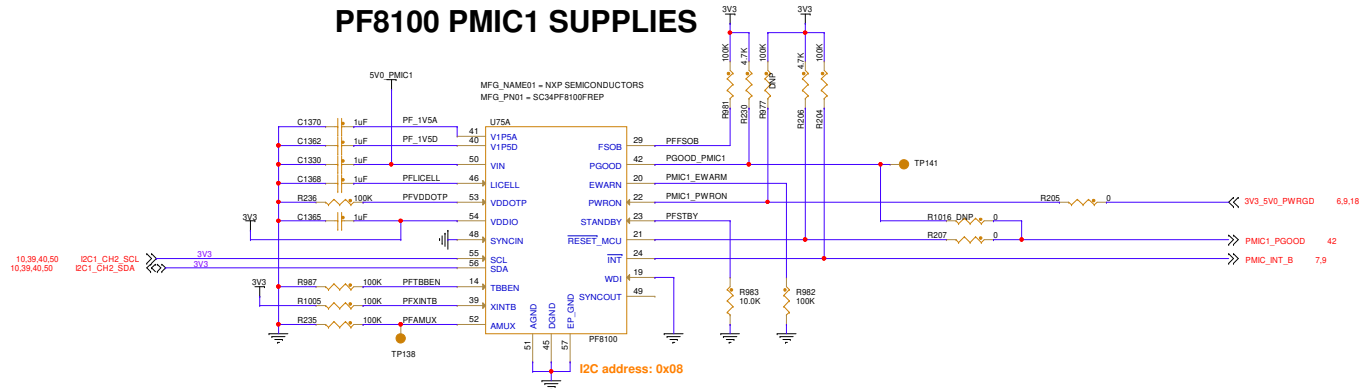
CFG_XSPI_MAP0 20
SD1_CLKF_SEL 19
CFG_MEM_WP 40

```
CFG_XSPI_WAPB
*****
>> 0 : DEVM0  D IVN1  No read
    1 : DEVM1  D IVN0  Swapped
```



Classification: Public Information			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: CPU Control			
Size C	Document Number	SCH-54991/PDF: SPF-54991	
		Rev A	
Date:	Sunday, June 05, 2022	Sheet	7 of 67

PF8100 PMIC1 SUPPLIES



LX2 POWER SEQUENCING

TIER 0
**USB_HVDD

TIER 1
**VDD, OVDD, USB_SVDD,VPP

TIER 3
SD_OVDD,SD_SVDD,AVDD,SDn_PLLn

TIER 4
GVDD, VTT, DDR_VREF,EVDD

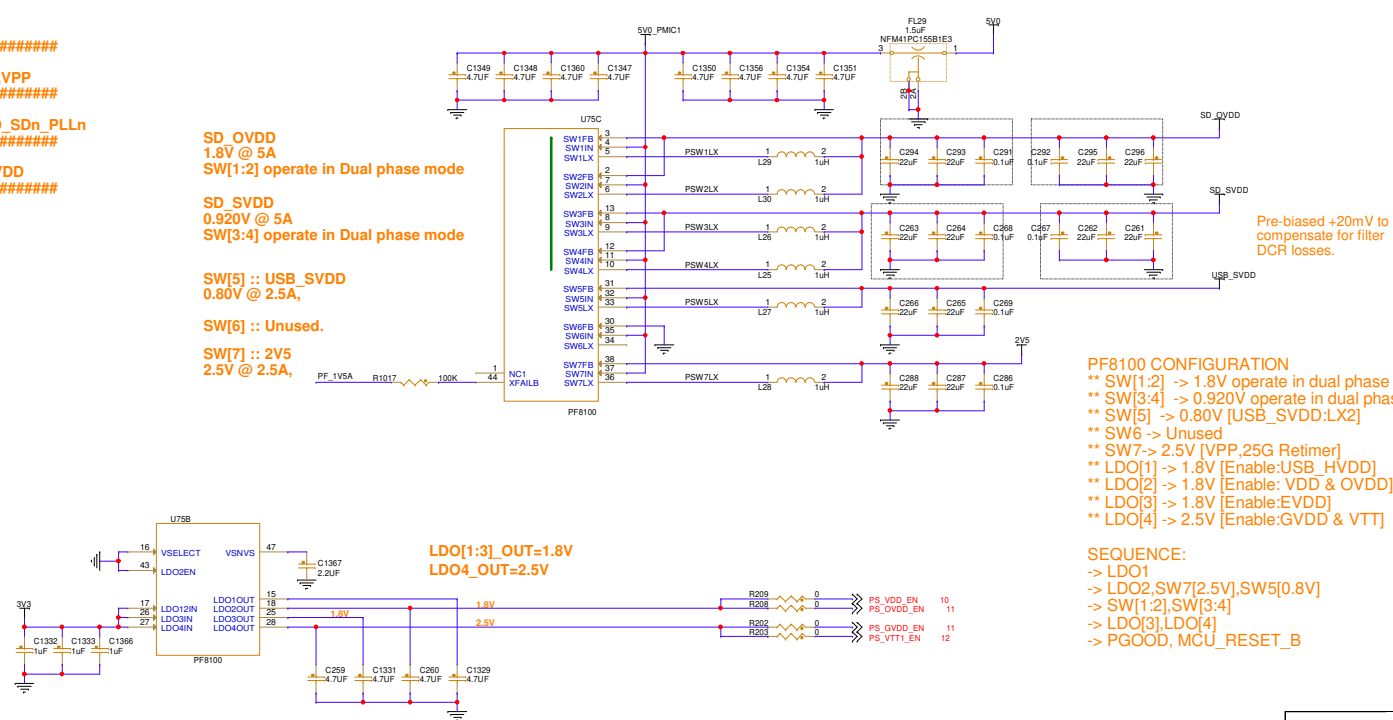
SD_OVDD
1.8V @ 5A
SW[1:2] operate in Dual phase mode

SD_SVDD
0.920V @ 5A
SW[3:4] operate in Dual phase mode

SW[5] :: USB_SVDD
0.80V @ 2.5A,

SW[6] :: Unused.

SW[7] :: 2V5
2.5V @ 2.5A,



PF8100 PMIC2 SUPPLIES

Schematic diagram of the PF8100 PMIC2 supplies. The chip is connected to a 3V3 supply through several capacitors (C1262, C1255, C1219, C1261, R192, C1216). It also has connections for I2C (SCL, SDA) and various control signals like RESET_MCU, INT, WDI, and SYNCOUT. The chip is labeled MFG_NAME01 = NXP SEMICONDUCTORS and MFG_PN01 = SC34PF8100QEP.

0V7
0.70V @ 10A, 7.5A est.
SW[1:4] operate in quad phase mode

SW[5] :: 1V0
1.0V @ 2.5A, 750mA est.

SW[6] :: Unused.

SW[7] :: 2V0
2.0V @ 2.5A, 1.2A est.

Schematic diagram of the PF8100 PMIC2 supplies. The chip is connected to a 3V3 supply through several capacitors (C1262, C1255, C1219, C1261, R192, C1216). It also has connections for I2C (SCL, SDA) and various control signals like RESET_MCU, INT, WDI, and SYNCOUT. The chip is labeled MFG_NAME01 = NXP SEMICONDUCTORS and MFG_PN01 = SC34PF8100QEP.

PF8100 CONFIGURATION
** SW[1:4] -> 0.70V operate in quad phase mode [AQR113 PHY]
** SW5 -> 1.0V [AQR113 PHY]
** SW6 -> Unused
** SW7-> 2.0V [AQR113 PHY]
** LDO[1:4] -> 1.8V [DON'T CARE]

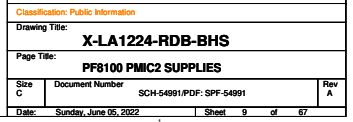
SEQUENCE:
-> 0.85V, 1.2V,
-> 2.1V
-> LDO[1:4]
-> PGOOD, MCU_RESET_B

Classification: Public Information

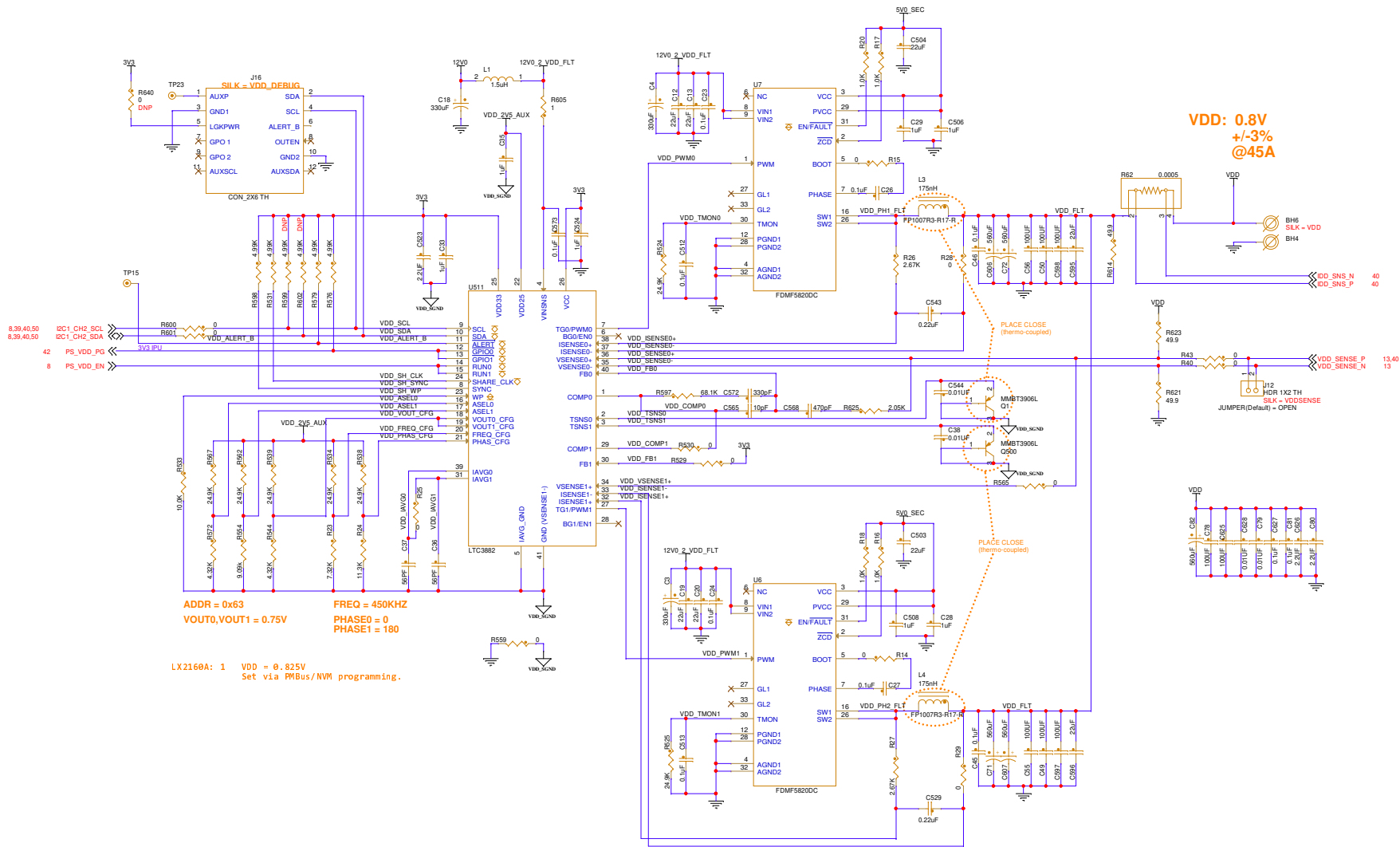
Drawing Title:
X-LA1224-RDB-BHS

Page Title:
PF8100 PMIC2 SUPPLIES

Size	C	Document Number	SCH-54991.PDF: SPF-54991	Rev
A				

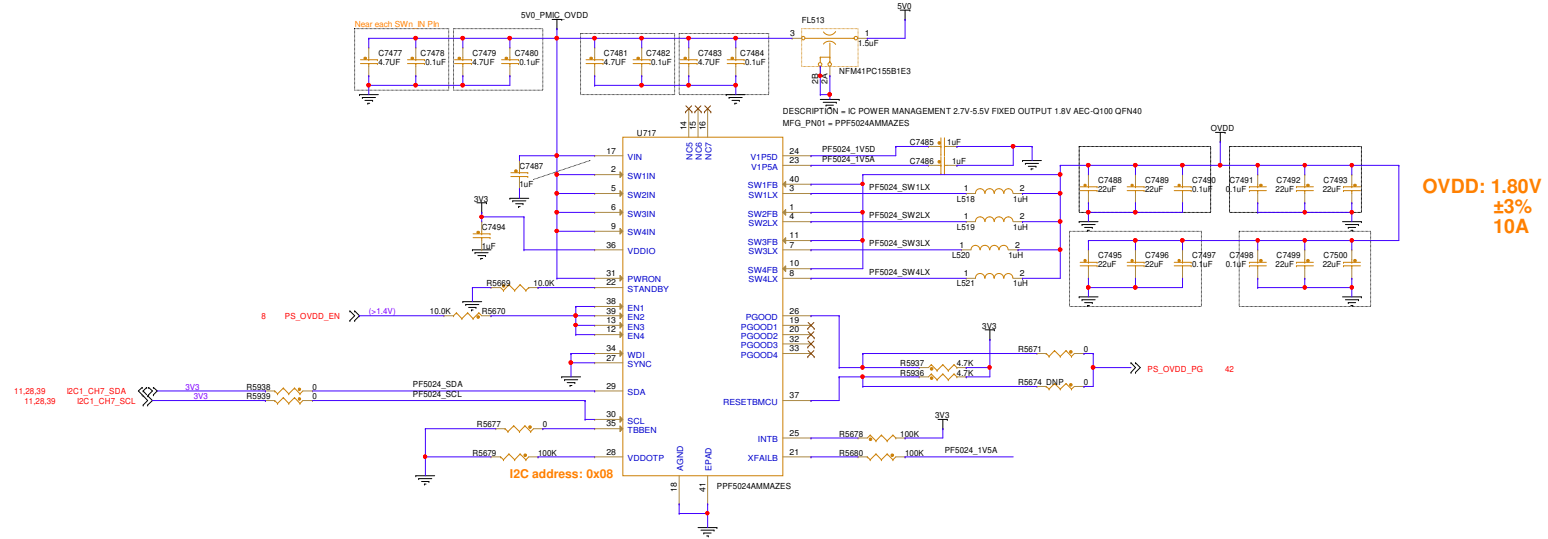


VDD POWER SUPPLY

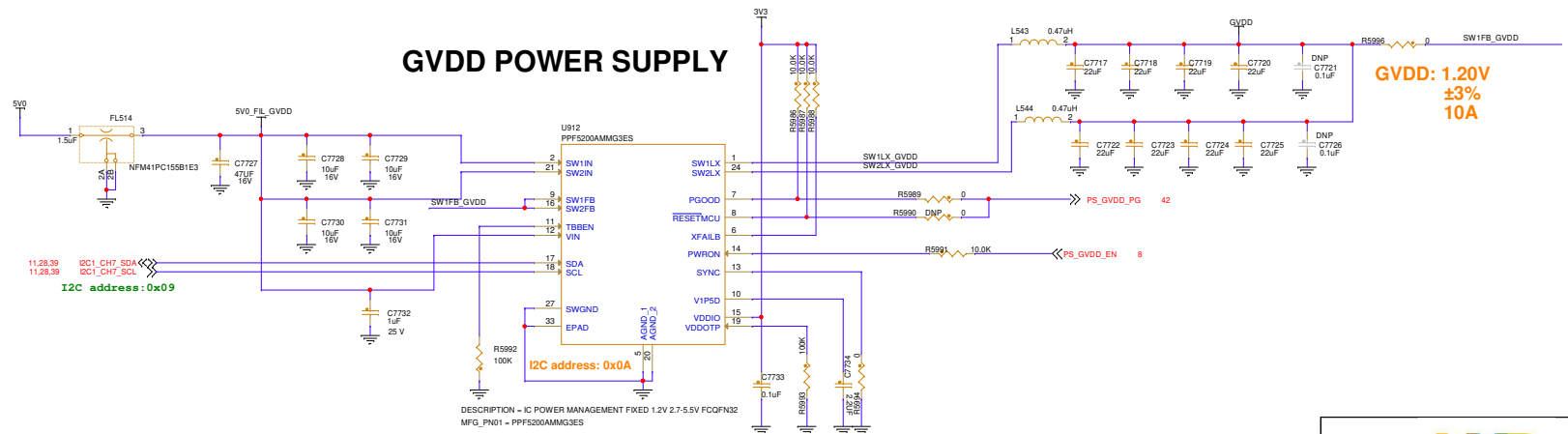


Classification: Public Information			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: VDD			
Size C	Document Number	SCH-54891/PDF: SPF-54891	Rev A
Date:	Sunday, June 05, 2022	Sheet	10 of 87

OVDD POWER SUPPLY



GVDD POWER SUPPLY



Classification: Public Information

Drawing Title: X-LA1224-RDB-BHS

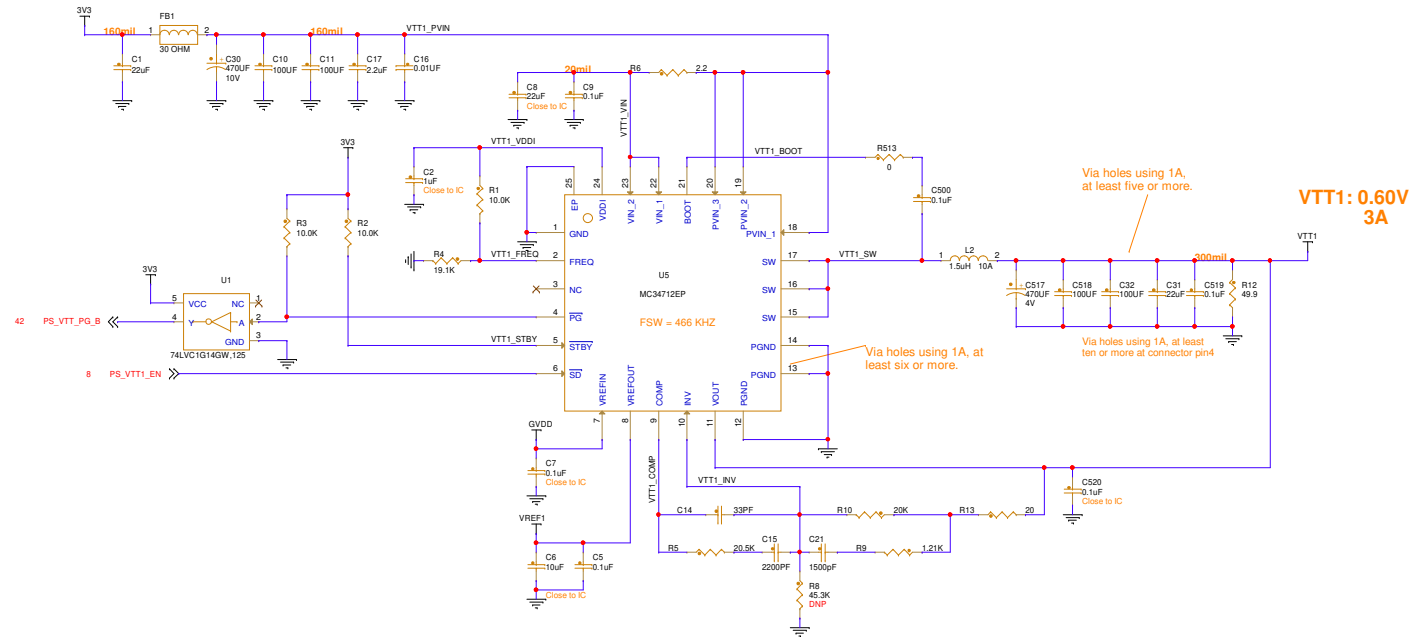
Page Title: OVDD & GVDD SUPPLIES

Size C Document Number SCH-54891/PDF: SPF-54891

Date: Sunday, June 05, 2022 Sheet 11 of 87

Rev A

VTT POWER SUPPLIES



Classification: Public Information

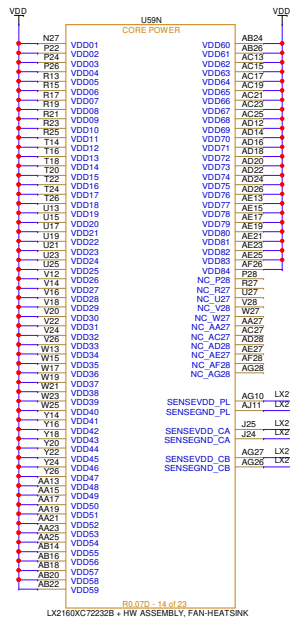
Drawing Title: **X-LA1224-RDB-BHS**

Page Title: **VTT POWER**

Size C	Document Number SCH-54991/PDF: SPF-54991
-----------	---

Date:	Sunday, June 05, 2022	Sheet	12	of	67
-------	-----------------------	-------	----	----	----

LX2160 VDD/CORE POWER



RO 07D - 14 of 23
LX2160XC7232B + HW ASSEMBLY, FAN-HEATSINK

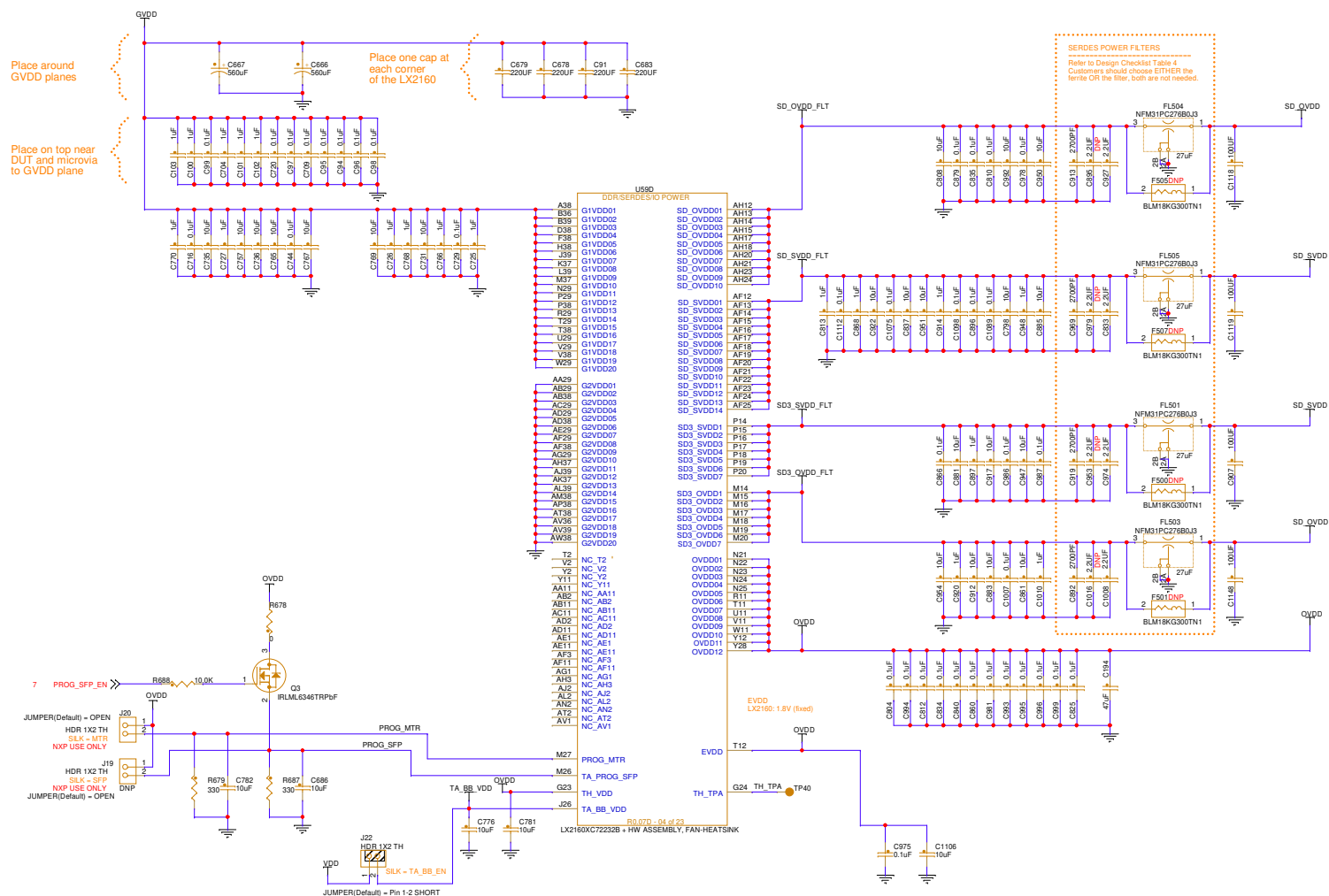
Place one cap directly on each VDD pin (95 total)

Place one cap at each corner of the LX2160

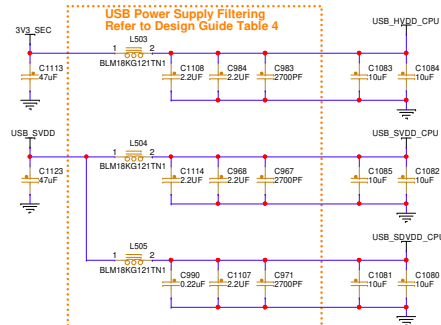
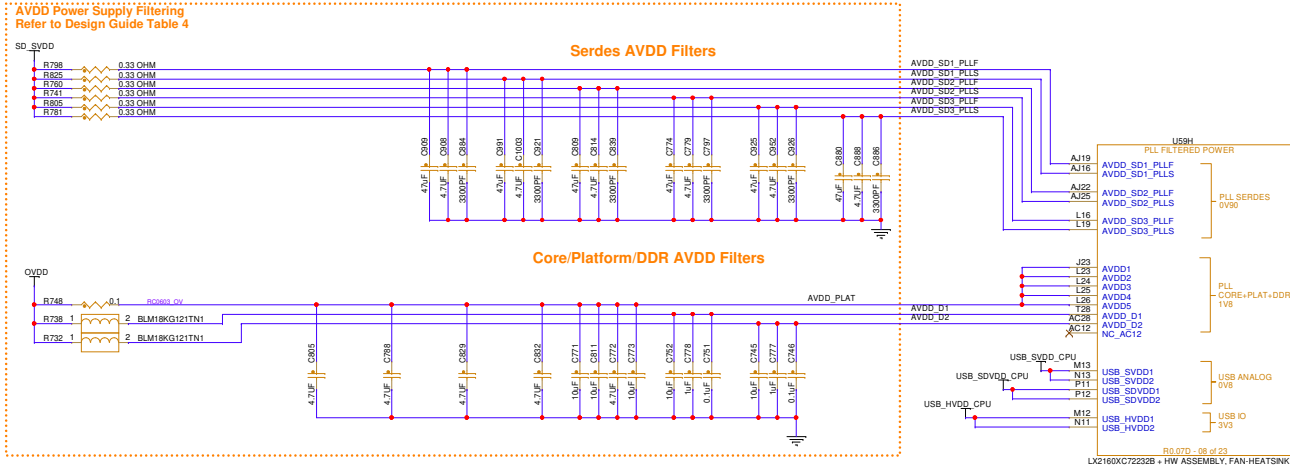
Place around VDD planes

Classification: Public Information			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: LX2160 VDD Power			
Size C	Document Number	SCH-54891/PDF: SPF-54891	Rev A
Date:	Sunday, June 05, 2022	Sheet 13 of 87	

LX2160 GVDD, OVDD, SD_VDD POWER CONNECTIONS



PLL FILTERED POWER



Classification: Public Information

Drawing Title: **X-LA1224-RDB-BHS**

Page Title: LX2160 PLL Power

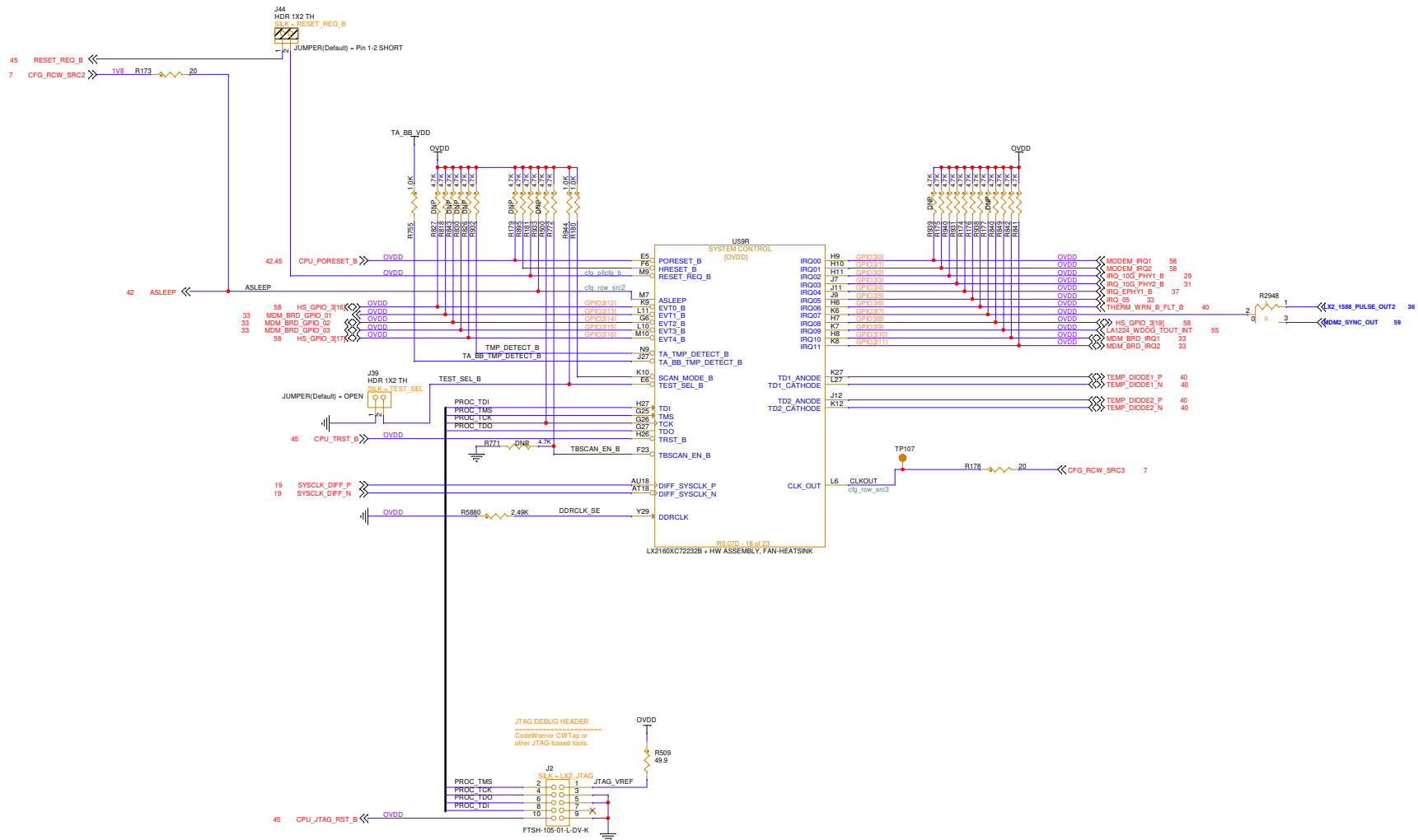
Size C	Document Number SCH-54991/PDF: SPF-54991
-----------	---

Date:	Sunday, June 05, 2022	Sheet	15	of	67
-------	-----------------------	-------	----	----	----

LX2160 GROUND PINS

US9M										US9K										US9E										US9F									
SERDES GROUNDS										SERDES GROUNDS										GROUNDS										GROUNDS									
A12	SD3_GND001	SD3_GND002	SD3_GND003	SD3_GND004	SD3_GND005	SD3_GND006	SD3_GND007	SD3_GND008	SD3_GND009	AG12	SD_GND001	SD_GND002	SD_GND003	SD_GND004	SD_GND005	SD_GND006	SD_GND007	SD_GND008	SD_GND009	A2	GND001	GND002	GND003	GND004	GND005	GND006	GND007	GND008	GND009	M4	V19	GND159	GND239	AD25	AD27	AD29	AD30	AD31	AD32
A14	SD3_GND010	SD3_GND011	SD3_GND012	SD3_GND013	SD3_GND014	SD3_GND015	SD3_GND016	SD3_GND017	SD3_GND018	AG14	SD_GND010	SD_GND011	SD_GND012	SD_GND013	SD_GND014	SD_GND015	SD_GND016	SD_GND017	SD_GND018	A10	GND010	GND011	GND012	GND013	GND014	GND015	GND016	GND017	GND018	M6	V21	GND161	GND241	AD33	AD34	AD35	AD36	AD37	AD38
A16	SD3_GND019	SD3_GND020	SD3_GND021	SD3_GND022	SD3_GND023	SD3_GND024	SD3_GND025	SD3_GND026	SD3_GND027	AG16	SD_GND019	SD_GND020	SD_GND021	SD_GND022	SD_GND023	SD_GND024	SD_GND025	SD_GND026	SD_GND027	A12	GND019	GND020	GND021	GND022	GND023	GND024	GND025	GND026	GND027	M8	V23	GND163	GND243	AD39	AD40	AD41	AD42	AD43	AD44
A18	SD3_GND028	SD3_GND029	SD3_GND030	SD3_GND031	SD3_GND032	SD3_GND033	SD3_GND034	SD3_GND035	SD3_GND036	AG18	SD_GND028	SD_GND029	SD_GND030	SD_GND031	SD_GND032	SD_GND033	SD_GND034	SD_GND035	SD_GND036	A14	GND028	GND029	GND030	GND031	GND032	GND033	GND034	GND035	GND036	M10	V25	GND165	GND245	AD45	AD46	AD47	AD48	AD49	AD50
A20	SD3_GND037	SD3_GND038	SD3_GND039	SD3_GND040	SD3_GND041	SD3_GND042	SD3_GND043	SD3_GND044	SD3_GND045	AG20	SD_GND037	SD_GND038	SD_GND039	SD_GND040	SD_GND041	SD_GND042	SD_GND043	SD_GND044	SD_GND045	A16	GND037	GND038	GND039	GND040	GND041	GND042	GND043	GND044	GND045	M12	V27	GND167	GND247	AD51	AD52	AD53	AD54	AD55	AD56
A22	SD3_GND046	SD3_GND047	SD3_GND048	SD3_GND049	SD3_GND050	SD3_GND051	SD3_GND052	SD3_GND053	SD3_GND054	AG22	SD_GND046	SD_GND047	SD_GND048	SD_GND049	SD_GND050	SD_GND051	SD_GND052	SD_GND053	SD_GND054	A18	GND046	GND047	GND048	GND049	GND050	GND051	GND052	GND053	GND054	M14	V29	GND169	GND249	AD57	AD58	AD59	AD60	AD61	AD62
B14	SD3_GND055	SD3_GND056	SD3_GND057	SD3_GND058	SD3_GND059	SD3_GND060	SD3_GND061	SD3_GND062	SD3_GND063	B14	SD3_GND055	SD3_GND056	SD3_GND057	SD3_GND058	SD3_GND059	SD3_GND060	SD3_GND061	SD3_GND062	SD3_GND063	B12	GND055	GND056	GND057	GND058	GND059	GND060	GND061	GND062	GND063	M16	V31	GND171	GND251	AD63	AD64	AD65	AD66	AD67	AD68
B16	SD3_GND064	SD3_GND065	SD3_GND066	SD3_GND067	SD3_GND068	SD3_GND069	SD3_GND070	SD3_GND071	SD3_GND072	B16	SD3_GND064	SD3_GND065	SD3_GND066	SD3_GND067	SD3_GND068	SD3_GND069	SD3_GND070	SD3_GND071	SD3_GND072	B10	GND064	GND065	GND066	GND067	GND068	GND069	GND070	GND071	GND072	M18	V33	GND173	GND253	AD69	AD70	AD71	AD72	AD73	AD74
B18	SD3_GND073	SD3_GND074	SD3_GND075	SD3_GND076	SD3_GND077	SD3_GND078	SD3_GND079	SD3_GND080	SD3_GND081	B18	SD3_GND073	SD3_GND074	SD3_GND075	SD3_GND076	SD3_GND077	SD3_GND078	SD3_GND079	SD3_GND080	SD3_GND081	B12	GND073	GND074	GND075	GND076	GND077	GND078	GND079	GND080	GND081	M20	V35	GND175	GND255	AD75	AD76	AD77	AD78	AD79	AD80
B20	SD3_GND082	SD3_GND083	SD3_GND084	SD3_GND085	SD3_GND086	SD3_GND087	SD3_GND088	SD3_GND089	SD3_GND090	B20	SD3_GND082	SD3_GND083	SD3_GND084	SD3_GND085	SD3_GND086	SD3_GND087	SD3_GND088	SD3_GND089	SD3_GND090	B14	GND082	GND083	GND084	GND085	GND086	GND087	GND088	GND089	GND090	M22	V37	GND177	GND257	AD81	AD82	AD83	AD84	AD85	AD86
B22	SD3_GND091	SD3_GND092	SD3_GND093	SD3_GND094	SD3_GND095	SD3_GND096	SD3_GND097	SD3_GND098	SD3_GND099	B22	SD3_GND091	SD3_GND092	SD3_GND093	SD3_GND094	SD3_GND095	SD3_GND096	SD3_GND097	SD3_GND098	SD3_GND099	B16	GND091	GND092	GND093	GND094	GND095	GND096	GND097	GND098	GND099	M24	V39	GND179	GND259	AD87	AD88	AD89	AD90	AD91	AD92
C13	SD3_GND100	SD3_GND101	SD3_GND102	SD3_GND103	SD3_GND104	SD3_GND105	SD3_GND106	SD3_GND107	SD3_GND108	C13	SD3_GND100	SD3_GND101	SD3_GND102	SD3_GND103	SD3_GND104	SD3_GND105	SD3_GND106	SD3_GND107	SD3_GND108	C11	GND100	GND101	GND102	GND103	GND104	GND105	GND106	GND107	GND108	M26	V41	GND181	GND261	AD93	AD94	AD95	AD96	AD97	AD98
C15	SD3_GND109	SD3_GND110	SD3_GND111	SD3_GND112	SD3_GND113	SD3_GND114	SD3_GND115	SD3_GND116	SD3_GND117	C15	SD3_GND109	SD3_GND110	SD3_GND111	SD3_GND112	SD3_GND113	SD3_GND114	SD3_GND115	SD3_GND116	SD3_GND117	C13	GND109	GND110	GND111	GND112	GND113	GND114	GND115	GND116	GND117	M28	V43	GND183	GND263	AD99	AD100	AD101	AD102	AD103	AD104
C17	SD3_GND118	SD3_GND119	SD3_GND120	SD3_GND121	SD3_GND122	SD3_GND123	SD3_GND124	SD3_GND125	SD3_GND126	C17	SD3_GND118	SD3_GND119	SD3_GND120	SD3_GND121	SD3_GND122	SD3_GND123	SD3_GND124	SD3_GND125	SD3_GND126	C15	GND118	GND119	GND120	GND121	GND122	GND123	GND124	GND125	GND126	M30	V45	GND185	GND265	AD105	AD106	AD107	AD108	AD109	AD110
C19	SD3_GND127	SD3_GND128	SD3_GND129	SD3_GND130	SD3_GND131	SD3_GND132	SD3_GND133	SD3_GND134	SD3_GND135	C19	SD3_GND127	SD3_GND128	SD3_GND129	SD3_GND130	SD3_GND131	SD3_GND132	SD3_GND133	SD3_GND134	SD3_GND135	C17	GND127	GND128	GND129	GND130	GND131	GND132	GND133	GND134	GND135	M32	V47	GND187	GND267	AD111	AD112	AD113	AD114	AD115	AD116
D21	SD3_GND136	SD3_GND137	SD3_GND138	SD3_GND139	SD3_GND140	SD3_GND141	SD3_GND142	SD3_GND143	SD3_GND144	D21	SD3_GND136	SD3_GND137	SD3_GND138	SD3_GND139	SD3_GND140	SD3_GND141	SD3_GND142	SD3_GND143	SD3_GND144	D19	GND136	GND137	GND138	GND139	GND140	GND141	GND142	GND143	GND144	M34	V49	GND189	GND269	AD117	AD118	AD119	AD120	AD121	AD122
D23	SD3_GND145	SD3_GND146	SD3_GND147	SD3_GND148	SD3_GND149	SD3_GND150	SD3_GND151	SD3_GND152	SD3_GND153	D23	SD3_GND145	SD3_GND146	SD3_GND147	SD3_GND148	SD3_GND149	SD3_GND150	SD3_GND151	SD3_GND152	SD3_GND153	D21	GND145	GND146	GND147	GND148	GND149	GND150	GND151	GND152	GND153	M36	V51	GND191	GND271	AD123	AD124	AD125	AD126	AD127	AD128
D25	SD3_GND154	SD3_GND155	SD3_GND156	SD3_GND157	SD3_GND158	SD3_GND159	SD3_GND160	SD3_GND161	SD3_GND162	D25	SD3_GND154	SD3_GND155	SD3_GND156	SD3_GND157	SD3_GND158	SD3_GND159	SD3_GND160	SD3_GND161	SD3_GND162	D23	GND154	GND155	GND156	GND157	GND158	GND159	GND160	GND161	GND162	M38	V53	GND193	GND273	AD129	AD130	AD131	AD132	AD133	AD134
D27	SD3_GND163	SD3_GND164	SD3_GND165	SD3_GND166	SD3_GND167	SD3_GND168	SD3_GND169	SD3_GND170	SD3_GND171	D27	SD3_GND163	SD3_GND164	SD3_GND165	SD3_GND166	SD3_GND167	SD3_GND168	SD3_GND169	SD3_GND170	SD3_GND171	D25	GND163	GND164	GND165	GND166	GND167	GND168	GND169	GND170	GND171	M40	V55	GND195	GND275	AD135	AD136	AD137	AD138	AD139	AD140
D29	SD3_GND172	SD3_GND173	SD3_GND174	SD3_GND175	SD3_GND176	SD3_GND177	SD3_GND178	SD3_GND179	SD3_GND180	D29	SD3_GND172	SD3_GND173	SD3_GND174	SD3_GND175	SD3_GND176	SD3_GND177	SD3_GND178	SD3_GND179	SD3_GND180	D27	GND172	GND173	GND174	GND175	GND176	GND177	GND178	GND179	GND180	M42	V57	GND197	GND277	AD141	AD142	AD143	AD144	AD145	AD146
D31	SD3_GND181	SD3_GND182	SD3_GND183	SD3_GND184	SD3_GND185	SD3_GND186	SD3_GND187	SD3_GND188	SD3_GND189	D31	SD3_GND181	SD3_GND182	SD3_GND183	SD3_GND184	SD3_GND185	SD3_GND186	SD3_GND187	SD3_GND188	SD3_GND189	D29	GND181	GND182	GND183	GND184	GND185	GND186	GND187	GND188	GND189	M44	V59	GND199	GND279	AD147	AD148	AD149	AD150	AD151	AD152
D33	SD3_GND190	SD3_GND191	SD3_GND192	SD3_GND193	SD3_GND194	SD3_GND195	SD3_GND196	SD3_GND197	SD3_GND198	D33	SD3_GND190	SD3_GND191	SD3_GND192	SD3_GND193	SD3_GND194	SD3_GND195	SD3_GND196	SD3_GND197	SD3_GND198	D31	GND190	GND191	GND192	GND193	GND194	GND195	GND196	GND197	GND198	M46	V61	GND201	GND281	AD153	AD154	AD155	AD156	AD157	AD158
D35	SD3_GND199	SD3_GND200	SD3_GND201	SD3_GND202	SD3_GND203	SD3_GND204	SD3_GND205	SD3_GND206	SD3_GND207	D35	SD3_GND199	SD3_GND200	SD3_GND201	SD3_GND202	SD3_GND203	SD3_GND204	SD3_GND205	SD3_GND206	SD3_GND207	D33	GND199	GND200	GND201	GND202	GND203	GND204	GND205	GND206	GND207	M48	V63	GND203	GND283	AD159	AD160	AD161	AD162	AD163	AD164
D37	SD3_GND208	SD3_GND209	SD3_GND210	SD3_GND211	SD3_GND212	SD3_GND213	SD3_GND214	SD3_GND215	SD3_GND216	D37	SD3_GND208	SD3_GND209	SD3_GND210	SD3_GND211	SD3_GND212	SD3_GND213	SD3_GND214	SD3_GND215	SD3_GND216	D35	GND208	GND209	GND210	GND211	GND212	GND213	GND214	GND215	GND216	M50	V65	GND205	GND285	AD165	AD166	AD167	AD168	AD169	AD170
D39	SD3_GND217	SD3_GND218	SD3_GND219	SD3_GND220	SD3_GND221	SD3_GND222	SD3_GND223	SD3_GND224	SD3_GND225	D39	SD3_GND217	SD3_GND218	SD3_GND219	SD3_GND220	SD3_GND221	SD3_GND222	SD3_GND223	SD3_GND224	SD3_GND225	D37	GND217	GND218	GND219	GND220	GND221	GND222	GND223	GND224	GND225	M52	V67	GND207	GND287	AD171	AD172	AD173	AD174	AD175	AD176
D41	SD3_GND226	SD3_GND227	SD3_GND228	SD3_GND229	SD3_GND230	SD3_GND231	SD3_GND232	SD3_GND233	SD3_GND234	D41	SD3_GND226	SD3_GND227	SD3_GND228	SD3_GND229	SD3_GND230	SD3_GND231	SD3_GND232	SD3_GND233	SD3_GND234	D39	GND226	GND227	GND228	GND229	GND230	GND231	GND232	GND233	GND234	M54	V69	GND209	GND289	AD177	AD178	AD179	AD180	AD181	AD182
D43	SD3_GND235	SD3_GND236	SD3_GND237	SD3_GND238	SD3_GND239	SD3_GND240	SD3_GND241	SD3_GND242	SD3_GND243	D43	SD3_GND235	SD3_GND236	SD3_GND237	SD3_GND238	SD3_GND239	SD3_GND240	SD3_GND241	SD3_GND242	SD3_GND243	D41	GND235	GND236	GND237	GND238	GND239	GND240	GND241	GND242	GND243	M56	V71	GND211	GND291	AD183	AD184	AD185	AD186	AD187	AD188
D45	SD3_GND244	SD3_GND245	SD3_GND246	SD3_GND247	SD3_GND248	SD3_GND249	SD3_GND250	SD3_GND251	SD3_GND252	D45	SD3_GND244	SD3_GND245	SD3_GND246	SD3_GND247	SD3_GND248	SD3_GND249	SD3_GND250	SD3_GND251	SD3_GND252	D43	GND244	GND245	GND246	GND247	GND248	GND249	GND250	GND251	GND252	M58	V73	GND213	GND293	AD189	AD190	AD191	AD192	AD193	AD194
D47	SD3_GND253	SD3_GND254	SD3_GND255	SD3_GND256	SD3_GND257	SD3_GND258	SD3_GND259	SD3_GND260	SD3_GND261	D47	SD3_GND253	SD3_GND254	SD3_GND255	SD3_GND256	SD3_GND257	SD3_GND258	SD3_GND25																						

LX2160 System Control / JTAG



Classification: Public Information

Drawing Title: **X-LA1224-RDB-BHS**

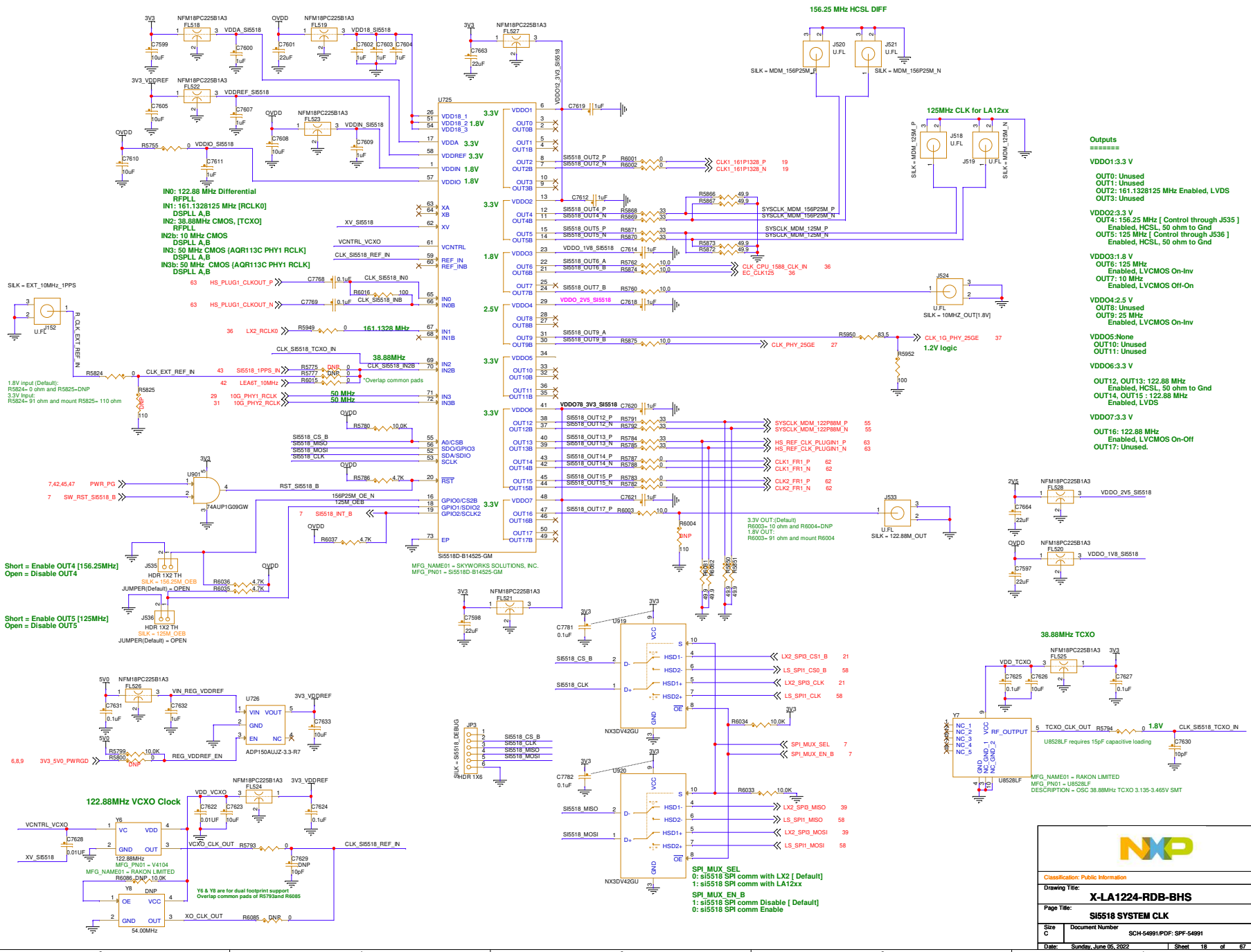
Page Title: LX2160 System Ctl. & JTAG

Size C	Document Number SCH-54991/PDF: SPF-54991
-----------	---

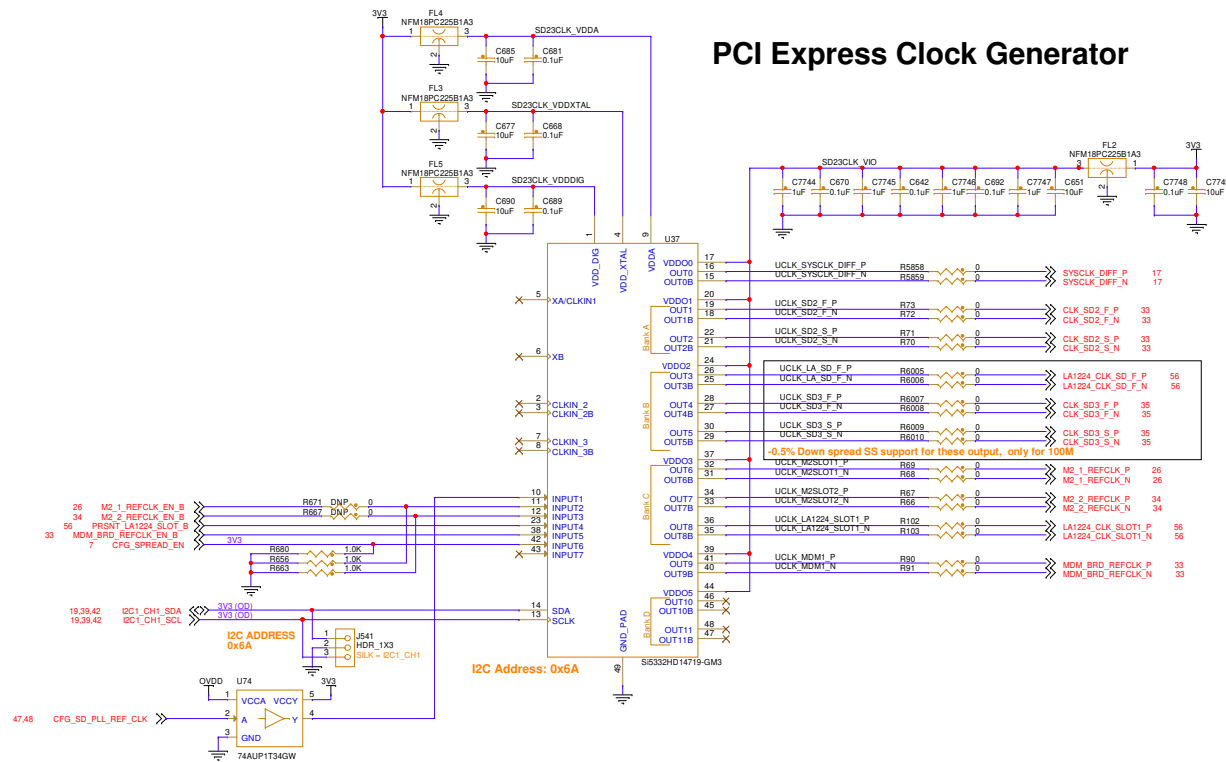
Date: Sunday, June 05, 2022 Sheet 17 of 67

--	--

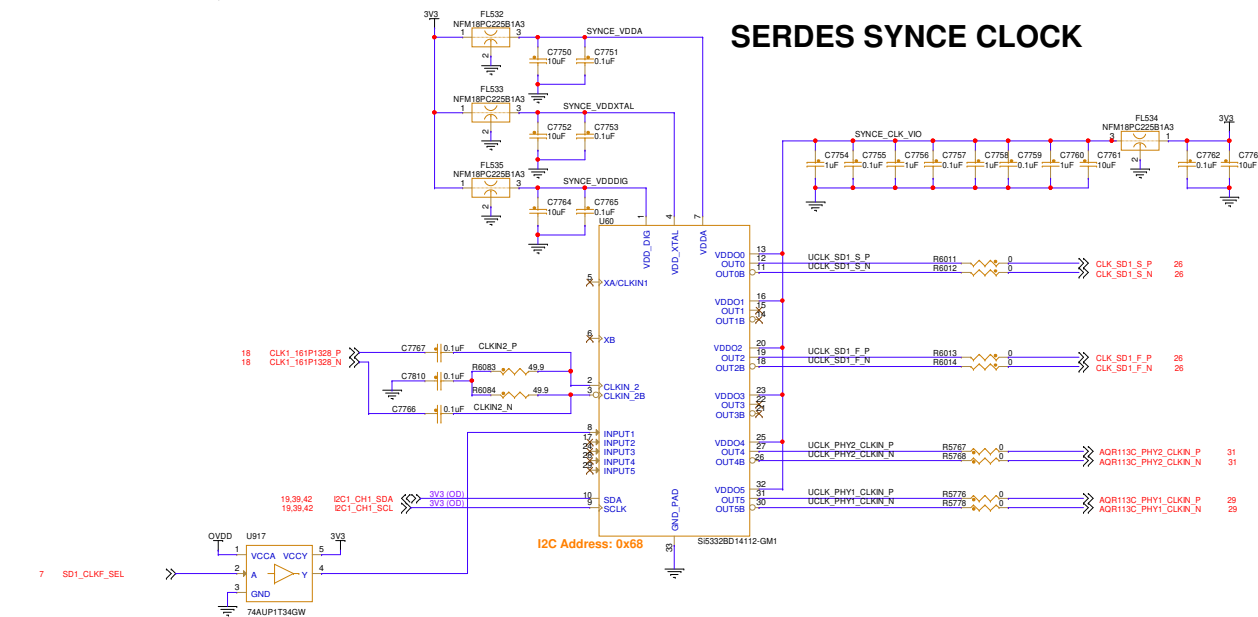
Si5518 SYSTEM CLK



PCI Express Clock Generator

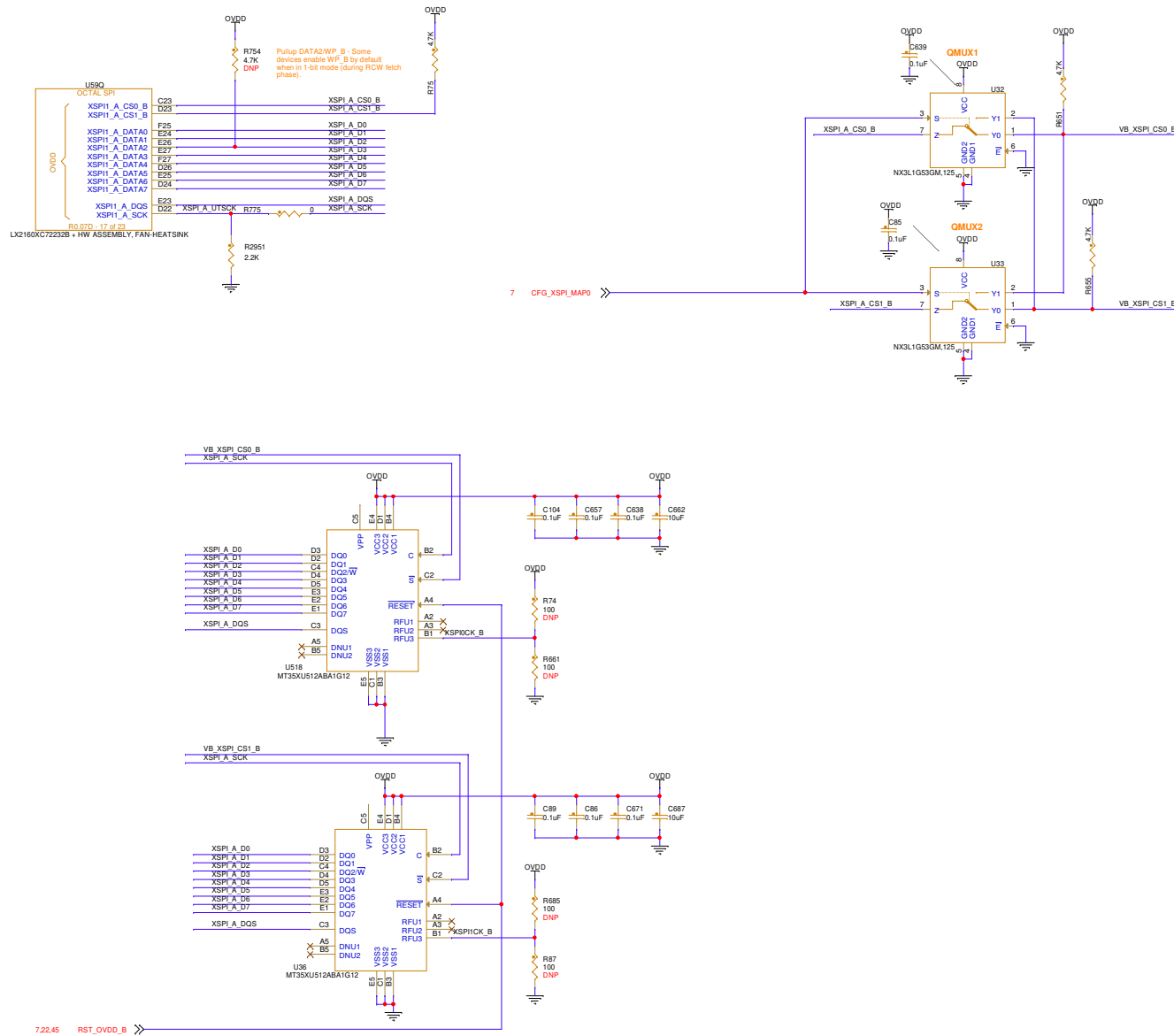


SERDES SYNC CLOCK



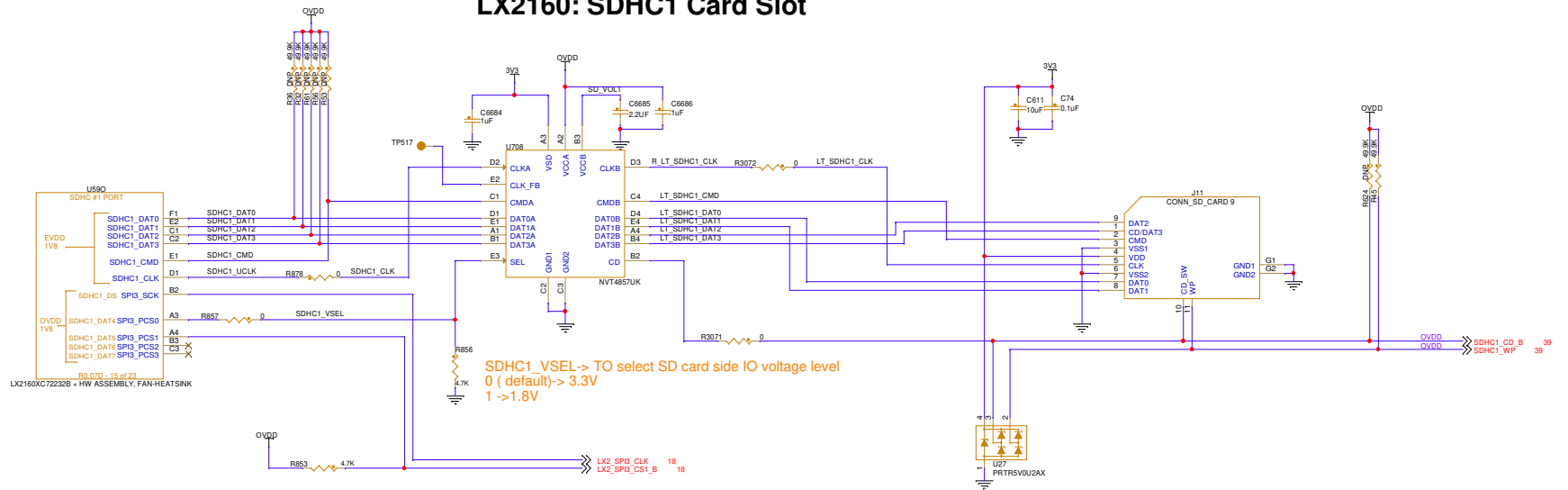
Classification: Public Information			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: SYSTEM CLOCK2			
Size C	Document Number	SCH-54891/PDF: SPF-54891	Rev A
Date:	Sunday, June 05, 2022	Sheet 19 of 87	

LX2160 Octal SPI Memory



Classification: Public Information			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: LX2160 XSPI			
Size C	Document Number SCH-54891/PDF: SPF-54891	Rev A	
Date: Sunday, June 05, 2022	Sheet 20 of 87		

LX2160: SDHC1 Card Slot



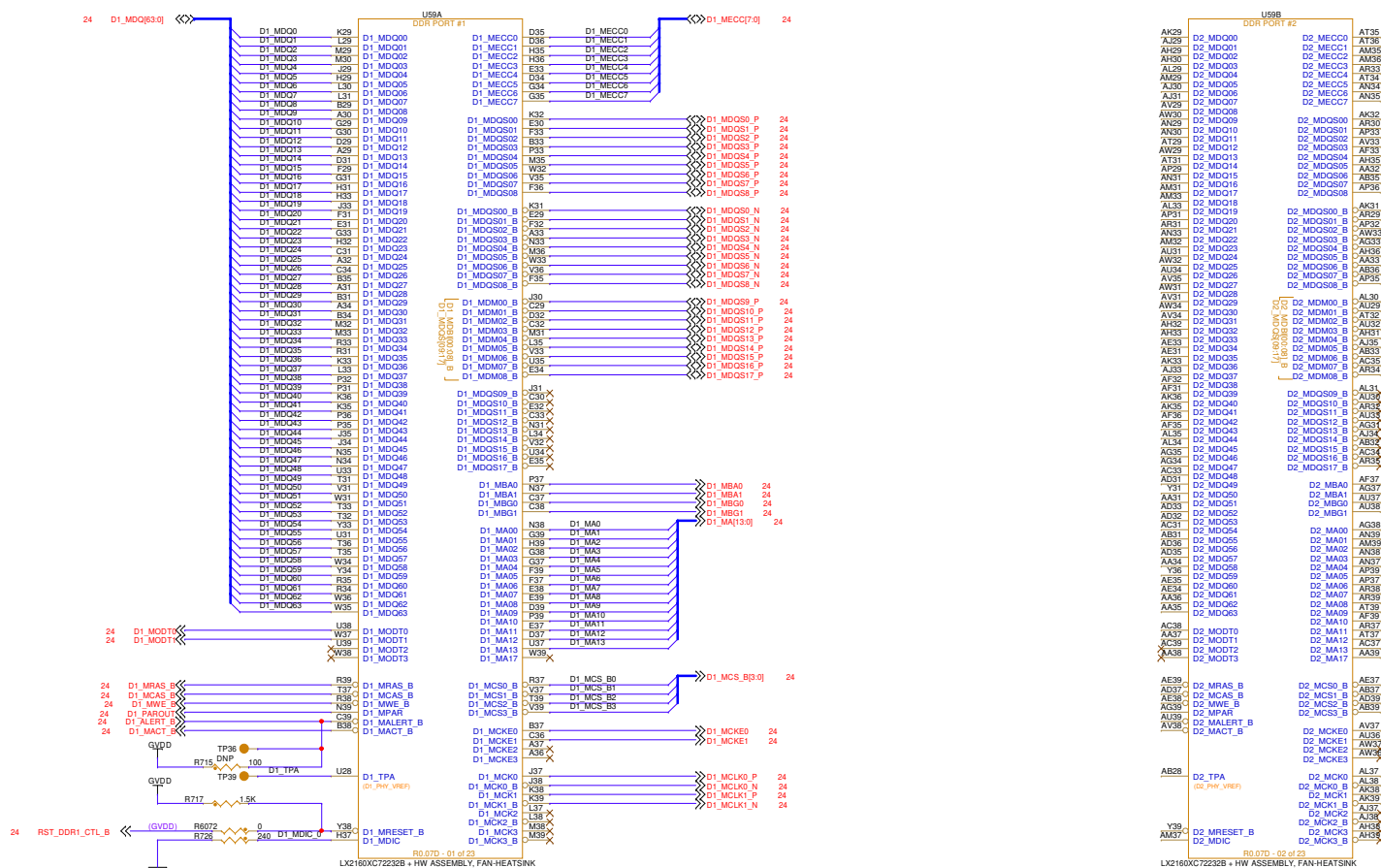
Classification: Public Information			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: LX2160 SDHC1 Port & Slot			
Size C	Document Number SCH-54891/PDF: SPF-54891	Rev A	
Date: Sunday, June 05, 2022	Sheet 21 of 87		



1. The 169-pad package (U48) is designed to overlay the 153-pad package (U47). Only one part is ever installed.
2. SDHC2: DAT[7:0]+CMD+CLK+STB: Match $\leq 1\text{ mm}$
3. SDHC2: DAT[7:0]+CMD must route through pin 2 of the pullup resistors.
4. For bypass capacitors: $0.1\mu\text{F}$ is nearest the pin, 2.2 or greater is furthest. Both are near the device pin.
5. Since the packages overlap only one set of bypass capacitors are used.
6. 50 ohm impedance (nominal)
6. Series termination for CLK is near the LX2160A DUT.



DDR4 CONTROLLERS #1 & #2



Added a 0 ohm series resistor to D1_MRESET_B signal (RST_DDR1_CTL_B net). This provides the option for managing possible overshoot



Classification: Public Information

Drawing Title: **X-LA1224-RDB-BHS**

Page Title: LX2160 DDR Ports

Size C	Document Number SCH-54991/PDF: SPF-54991
-----------	---

Date:	Sunday, June 05, 2022	Sheet	23	of	67
-------	-----------------------	-------	----	----	----

U59C
NC Block #1

AF4	NC_AF4	AL4
AK5	NC_AK5	AW4
AK6	NC_AK6	AW7
AK8	NC_AK8	AW7
AK5	NC_AK5	AW7
AF5	NC_AF5	AG6
AL4	NC_AL4	AG7
AL6	NC_AL6	AG8
AF8	NC_AF8	AG9
AF9	NC_AF9	AG9
AL9	NC_AL9	AG9
AL8	NC_AL8	AG9
AL7	NC_AL7	AG9
AL6	NC_AL6	AG9
AL5	NC_AL5	AG9
AL4	NC_AL4	AG9
AL3	NC_AL3	AG9
AL2	NC_AL2	AG9
AL1	NC_AL1	AG9
AL0	NC_AL0	AG9
AL1	NC_AL1	AG9
AL2	NC_AL2	AG9
AL3	NC_AL3	AG9
AL4	NC_AL4	AG9
AL5	NC_AL5	AG9
AL6	NC_AL6	AG9
AL7	NC_AL7	AG9
AL8	NC_AL8	AG9
AL9	NC_AL9	AG9
AL10	NC_AL10	AG9
AL11	NC_AL11	AG9
AL12	NC_AL12	AG9
AL13	NC_AL13	AG9
AL14	NC_AL14	AG9
AL15	NC_AL15	AG9
AL16	NC_AL16	AG9
AL17	NC_AL17	AG9
AL18	NC_AL18	AG9
AL19	NC_AL19	AG9
AL20	NC_AL20	AG9
AL21	NC_AL21	AG9
AL22	NC_AL22	AG9
AL23	NC_AL23	AG9
AL24	NC_AL24	AG9
AL25	NC_AL25	AG9
AL26	NC_AL26	AG9
AL27	NC_AL27	AG9
AL28	NC_AL28	AG9
AL29	NC_AL29	AG9
AL30	NC_AL30	AG9
AL31	NC_AL31	AG9
AL32	NC_AL32	AG9
AL33	NC_AL33	AG9
AL34	NC_AL34	AG9
AL35	NC_AL35	AG9
AL36	NC_AL36	AG9
AL37	NC_AL37	AG9
AL38	NC_AL38	AG9
AL39	NC_AL39	AG9
AL40	NC_AL40	AG9
AL41	NC_AL41	AG9
AL42	NC_AL42	AG9
AL43	NC_AL43	AG9
AL44	NC_AL44	AG9
AL45	NC_AL45	AG9
AL46	NC_AL46	AG9
AL47	NC_AL47	AG9
AL48	NC_AL48	AG9
AL49	NC_AL49	AG9
AL50	NC_AL50	AG9
AL51	NC_AL51	AG9
AL52	NC_AL52	AG9
AL53	NC_AL53	AG9
AL54	NC_AL54	AG9
AL55	NC_AL55	AG9
AL56	NC_AL56	AG9
AL57	NC_AL57	AG9
AL58	NC_AL58	AG9
AL59	NC_AL59	AG9
AL60	NC_AL60	AG9
AL61	NC_AL61	AG9
AL62	NC_AL62	AG9
AL63	NC_AL63	AG9
AL64	NC_AL64	AG9
AL65	NC_AL65	AG9
AL66	NC_AL66	AG9
AL67	NC_AL67	AG9
AL68	NC_AL68	AG9
AL69	NC_AL69	AG9
AL70	NC_AL70	AG9
AL71	NC_AL71	AG9
AL72	NC_AL72	AG9
AL73	NC_AL73	AG9
AL74	NC_AL74	AG9
AL75	NC_AL75	AG9
AL76	NC_AL76	AG9
AL77	NC_AL77	AG9
AL78	NC_AL78	AG9
AL79	NC_AL79	AG9
AL80	NC_AL80	AG9
AL81	NC_AL81	AG9
AL82	NC_AL82	AG9
AL83	NC_AL83	AG9
AL84	NC_AL84	AG9
AL85	NC_AL85	AG9
AL86	NC_AL86	AG9
AL87	NC_AL87	AG9
AL88	NC_AL88	AG9
AL89	NC_AL89	AG9
AL90	NC_AL90	AG9
AL91	NC_AL91	AG9
AL92	NC_AL92	AG9
AL93	NC_AL93	AG9
AL94	NC_AL94	AG9
AL95	NC_AL95	AG9
AL96	NC_AL96	AG9
AL97	NC_AL97	AG9
AL98	NC_AL98	AG9
AL99	NC_AL99	AG9
AL100	NC_AL100	AG9
AL101	NC_AL101	AG9
AL102	NC_AL102	AG9
AL103	NC_AL103	AG9
AL104	NC_AL104	AG9
AL105	NC_AL105	AG9
AL106	NC_AL106	AG9
AL107	NC_AL107	AG9
AL108	NC_AL108	AG9
AL109	NC_AL109	AG9
AL110	NC_AL110	AG9
AL111	NC_AL111	AG9
AL112	NC_AL112	AG9
AL113	NC_AL113	AG9
AL114	NC_AL114	AG9
AL115	NC_AL115	AG9
AL116	NC_AL116	AG9
AL117	NC_AL117	AG9
AL118	NC_AL118	AG9
AL119	NC_AL119	AG9
AL120	NC_AL120	AG9
AL121	NC_AL121	AG9
AL122	NC_AL122	AG9
AL123	NC_AL123	AG9
AL124	NC_AL124	AG9
AL125	NC_AL125	AG9
AL126	NC_AL126	AG9
AL127	NC_AL127	AG9
AL128	NC_AL128	AG9
AL129	NC_AL129	AG9
AL130	NC_AL130	AG9
AL131	NC_AL131	AG9
AL132	NC_AL132	AG9
AL133	NC_AL133	AG9
AL134	NC_AL134	AG9
AL135	NC_AL135	AG9
AL136	NC_AL136	AG9
AL137	NC_AL137	AG9
AL138	NC_AL138	AG9
AL139	NC_AL139	AG9
AL140	NC_AL140	AG9
AL141	NC_AL141	AG9
AL142	NC_AL142	AG9
AL143	NC_AL143	AG9
AL144	NC_AL144	AG9
AL145	NC_AL145	AG9
AL146	NC_AL146	AG9
AL147	NC_AL147	AG9
AL148	NC_AL148	AG9
AL149	NC_AL149	AG9
AL150	NC_AL150	AG9
AL151	NC_AL151	AG9
AL152	NC_AL152	AG9
AL153	NC_AL153	AG9
AL154	NC_AL154	AG9
AL155	NC_AL155	AG9
AL156	NC_AL156	AG9
AL157	NC_AL157	AG9
AL158	NC_AL158	AG9
AL159	NC_AL159	AG9
AL160	NC_AL160	AG9
AL161	NC_AL161	AG9
AL162	NC_AL162	AG9
AL163	NC_AL163	AG9
AL164	NC_AL164	AG9
AL165	NC_AL165	AG9
AL166	NC_AL166	AG9
AL167	NC_AL167	AG9
AL168	NC_AL168	AG9
AL169	NC_AL169	AG9
AL170	NC_AL170	AG9
AL171	NC_AL171	AG9
AL172	NC_AL172	AG9
AL173	NC_AL173	AG9
AL174	NC_AL174	AG9
AL175	NC_AL175	AG9
AL176	NC_AL176	AG9
AL177	NC_AL177	AG9
AL178	NC_AL178	AG9
AL179	NC_AL179	AG9
AL180	NC_AL180	AG9
AL181	NC_AL181	AG9
AL182	NC_AL182	AG9
AL183	NC_AL183	AG9
AL184	NC_AL184	AG9
AL185	NC_AL185	AG9
AL186	NC_AL186	AG9
AL187	NC_AL187	AG9
AL188	NC_AL188	AG9
AL189	NC_AL189	AG9
AL190	NC_AL190	AG9
AL191	NC_AL191	AG9
AL192	NC_AL192	AG9
AL193	NC_AL193	AG9
AL194	NC_AL194	AG9
AL195	NC_AL195	AG9
AL196	NC_AL196	AG9
AL197	NC_AL197	AG9
AL198	NC_AL198	AG9
AL199	NC_AL199	AG9
AL200	NC_AL200	AG9
AL201	NC_AL201	AG9
AL202	NC_AL202	AG9
AL203	NC_AL203	AG9
AL204	NC_AL204	AG9
AL205	NC_AL205	AG9
AL206	NC_AL206	AG9
AL207	NC_AL207	AG9
AL208	NC_AL208	AG9
AL209	NC_AL209	AG9
AL210	NC_AL210	AG9
AL211	NC_AL211	AG9
AL212	NC_AL212	AG9
AL213	NC_AL213	AG9
AL214	NC_AL214	AG9
AL215	NC_AL215	AG9
AL216	NC_AL216	AG9
AL217	NC_AL217	AG9
AL218	NC_AL218	AG9
AL219	NC_AL219	AG9
AL220	NC_AL220	AG9
AL221	NC_AL221	AG9
AL222	NC_AL222	AG9
AL223	NC_AL223	AG9
AL224	NC_AL224	AG9
AL225	NC_AL225	AG9
AL226	NC_AL226	AG9
AL227	NC_AL227	AG9
AL228	NC_AL228	AG9
AL229	NC_AL229	AG9
AL230	NC_AL230	AG9
AL231	NC_AL231	AG9
AL232	NC_AL232	AG9
AL233	NC_AL233	AG9
AL234	NC_AL234	AG9
AL235	NC_AL235	AG9
AL236	NC_AL236	AG9
AL237	NC_AL237	AG9
AL238	NC_AL238	AG9
AL239	NC_AL239	AG9
AL240	NC_AL240	AG9
AL241	NC_AL241	AG9
AL242	NC_AL242	AG9
AL243	NC_AL243	AG9
AL244	NC_AL244	AG9
AL245	NC_AL245	AG9
AL246	NC_AL246	AG9
AL247	NC_AL247	AG9
AL248	NC_AL248	AG9
AL249	NC_AL249	AG9
AL250	NC_AL250	AG9
AL251	NC_AL251	AG9
AL252	NC_AL252	AG9
AL253	NC_AL253	AG9
AL254	NC_AL254	AG9
AL255	NC_AL255	AG9
AL256	NC_AL256	AG9
AL257	NC_AL257	AG9
AL258	NC_AL258	AG9
AL259	NC_AL259	AG9
AL260	NC_AL260	AG9
AL261	NC_AL261	AG9
AL262	NC_AL262	AG9
AL263	NC_AL263	AG9
AL264	NC_AL264	AG9
AL265	NC_AL265	AG9
AL266	NC_AL266	AG9
AL267	NC_AL267	AG9
AL268	NC_AL268	AG9
AL269	NC_AL269	AG9
AL270	NC_AL270	AG9
AL271	NC_AL271	AG9
AL272	NC_AL272	AG9
AL273	NC_AL273	AG9
AL274	NC_AL274	AG9
AL275	NC_AL275	AG9
AL276	NC_AL276	AG9
AL277	NC_AL277	AG9
AL278	NC_AL278	AG9
AL279	NC_AL279	AG9
AL280	NC_AL280	AG9
AL281	NC_AL281	AG9
AL282	NC_AL282	AG9
AL283	NC_AL283	AG9
AL284	NC_AL284	AG9
AL285	NC_AL285	AG9
AL286	NC_AL286	AG9
AL287	NC_AL287	AG9
AL288	NC_AL288	AG9
AL289	NC_AL289	AG9
AL290	NC_AL290	AG9
AL291	NC_AL291	AG9
AL292	NC_AL292	AG9
AL293	NC_AL293	AG9
AL294	NC_AL294	AG9
AL295	NC_AL295	AG9
AL296	NC_AL296	AG9
AL297	NC_AL297	AG9
AL298	NC_AL298	AG9
AL299	NC_AL299	AG9
AL300	NC_AL300	AG9
AL301	NC_AL301	AG9
AL302	NC_AL302	AG9
AL303	NC_AL303	AG9
AL304	NC_AL304	AG9
AL305	NC_AL305	AG9
AL306	NC_AL306	AG9
AL307	NC_AL307	AG9
AL308	NC_AL308	AG9
AL309	NC_AL309	AG9
AL310	NC_AL310	AG9
AL311	NC_AL311	AG9
AL312	NC_AL312	AG9
AL313	NC_AL313	AG9
AL314	NC_AL314	AG9
AL315	NC_AL315	AG9
AL316	NC_AL316	AG9
AL317	NC_AL317	AG9
AL318	NC_AL318	AG9
AL319	NC_AL319	AG9
AL320	NC_AL320	AG9
AL321	NC_AL321	AG9
AL322	NC_AL322	AG9
AL323	NC_AL323	AG9
AL324	NC_AL324	AG9
AL325	NC_AL325	AG9
AL326	NC_AL326	AG9
AL327	NC_AL327	AG9
AL328	NC_AL328	AG9
AL329	NC_AL329	AG9
AL330	NC_AL330	AG9
AL331	NC_AL331	AG9
AL332	NC_AL332	AG9
AL333	NC_AL333	AG9
AL334	NC_AL334	AG9
AL335	NC_AL335	AG9
AL336	NC_AL336	AG9
AL337	NC_AL337	AG9
AL338	NC_AL338	AG9
AL339	NC_AL339	AG9
AL340	NC_AL340	AG9
AL341	NC_AL341	AG9
AL342	NC_AL342	AG9
AL343	NC_AL343	AG9
AL344	NC_AL344	AG9
AL345	NC_AL345	AG9
AL346	NC_AL346	AG9
AL347	NC_AL347	AG9
AL348	NC_AL348	AG9
AL349	NC_AL349	AG9
AL350	NC_AL350	AG9
AL351	NC_AL351	AG9
AL352	NC_AL352	AG9
AL353	NC_AL353	AG9
AL354	NC_AL354	AG9
AL355	NC_AL355	AG9
AL356	NC_AL356	AG9
AL357	NC_AL357	AG9
AL358	NC_AL358	AG9
AL359	NC_AL359	AG9
AL360	NC_AL360	AG9
AL361	NC_AL361	AG9
AL362	NC_AL362	AG9
AL363	NC_AL363	AG9
AL364	NC_AL364	AG9
AL365	NC_AL365	AG9
AL366	NC_AL366	AG9
AL367	NC_AL367	AG9
AL368	NC_AL368	AG9
AL369	NC_AL369	AG9
AL370	NC_AL370	AG9
AL371	NC_AL371	AG9
AL372	NC_AL372	AG9
AL373	NC_AL373	AG9
AL374	NC_AL374	AG9
AL375	NC_AL375	AG9
AL376	NC_AL376	AG9
AL377	NC_AL377	AG9
AL378	NC_AL378	AG9
AL379	NC_AL379	AG9
AL380	NC_AL380	AG9
AL381	NC_AL381	AG9
AL382	NC_AL382	AG9
AL383	NC_AL383	AG9
AL384	NC_AL384	AG9
AL385	NC_AL385	AG9
AL386	NC_AL386	AG9
AL387	NC_AL387	AG9
AL388		

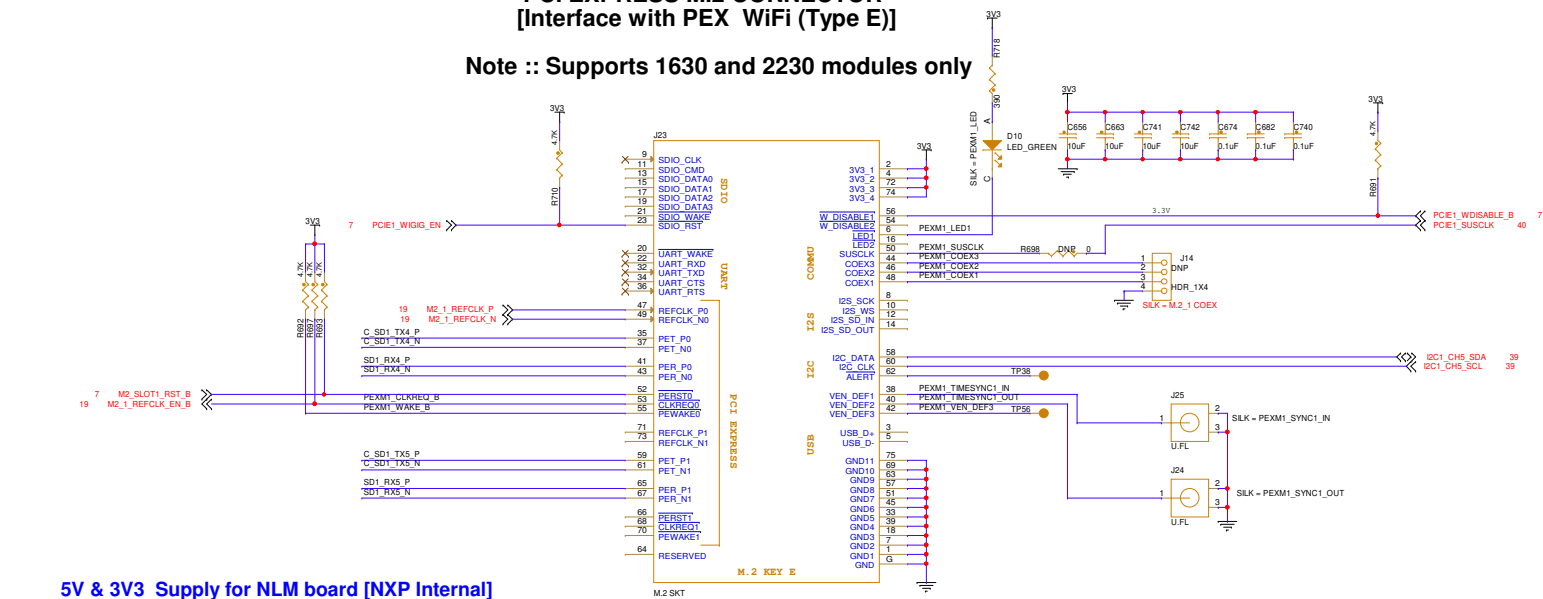
[illegible]

```

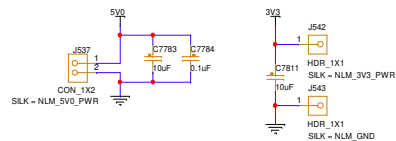
LX2160: # 22 - USXGMII.3 + USXGMII.4 + XXXXXX + XXXXXX + PCIe.2 x2 + XXXXXX + XXXXXX PLL Mapping
PLL Mapping + S555 + FF55
CLOCK-) SD1_PLLS_REF_CLK: 161.1328125 MHz + SD1_PLLF_REF_CLK: 100.00 MHz
-----
LX2160: # 18 - USXGMII.3 + USXGMII.4 + 25G.E.5 + 25G.E.6 + XXXXXX + XXXXXX + XXXXXX + XXXXXX
PLL Mapping + SFFF + S555
CLOCK-) SD1_PLLS_REF_CLK: 161.1328125 MHz + SD1_PLLF_REF_CLK: 161.1328125 MHz

```

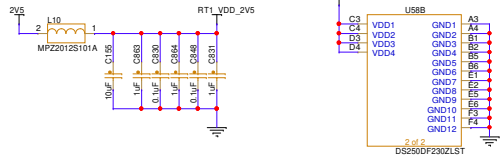
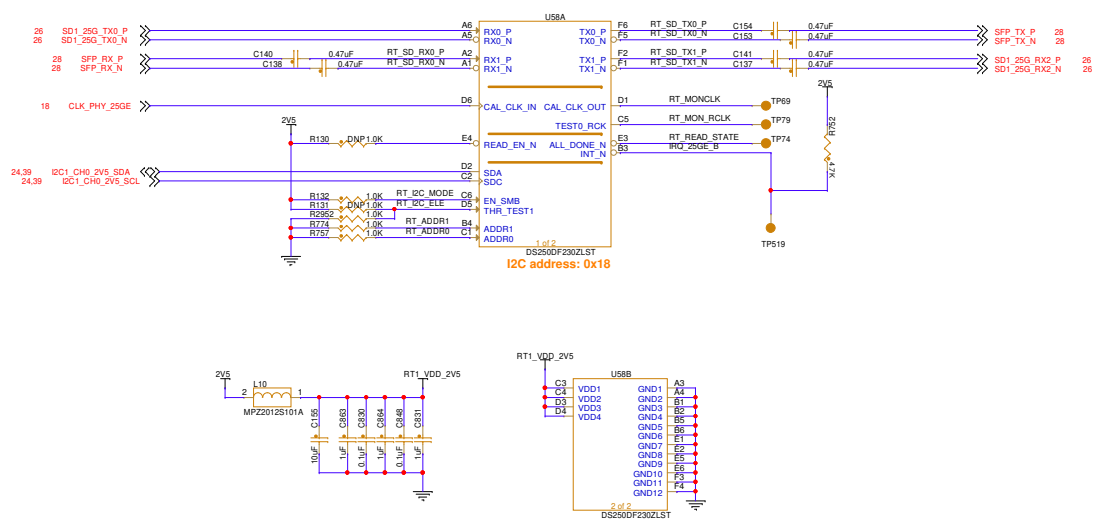
Note :: Supports 1630 and 2230 modules only



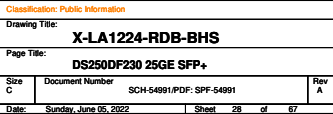
5V & 3V3 Supply for NLM board [NXP Internal]



25GE Retimer Ethernet Interface



Classification: Public Information			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: DS250DF230 25GE Retimer			
Size C	Document Number SCH-54891/PDF: SPF-54891	Rev A	
Date: Sunday, June 05, 2022	Sheet 27	of 87	

[illegible]

[illegible]

Classification: Public Information

Drawing Title: **X-LA1224-RDB-BHS**

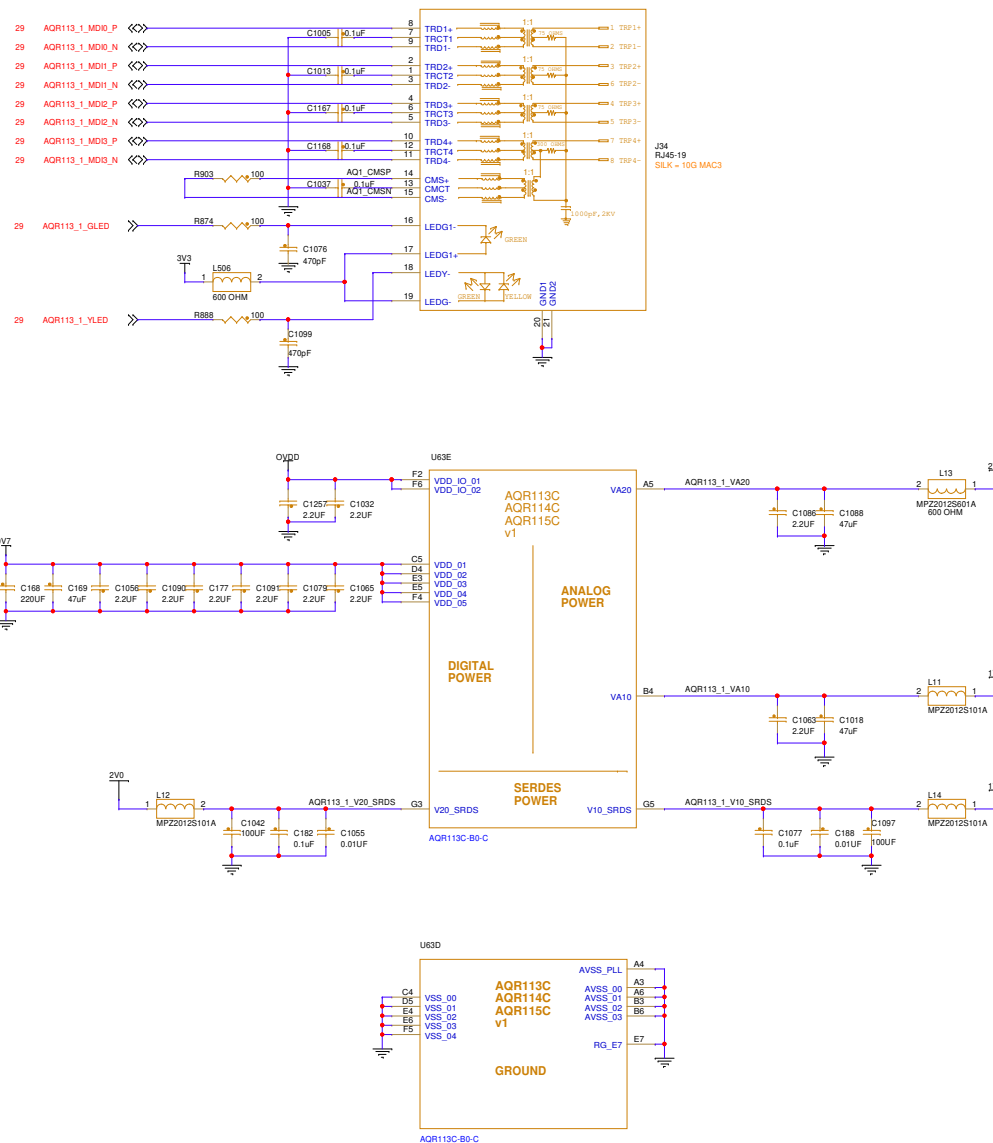
Page Title: **AQR113 #1 10G PHY Control**

Size C	Document Number SCH-54991/PDF: SPF-54991
-----------	---

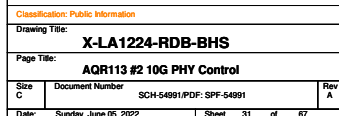
Date:	Sunday, June 05, 2022	Sheet	2
-------	-----------------------	-------	---

--	--

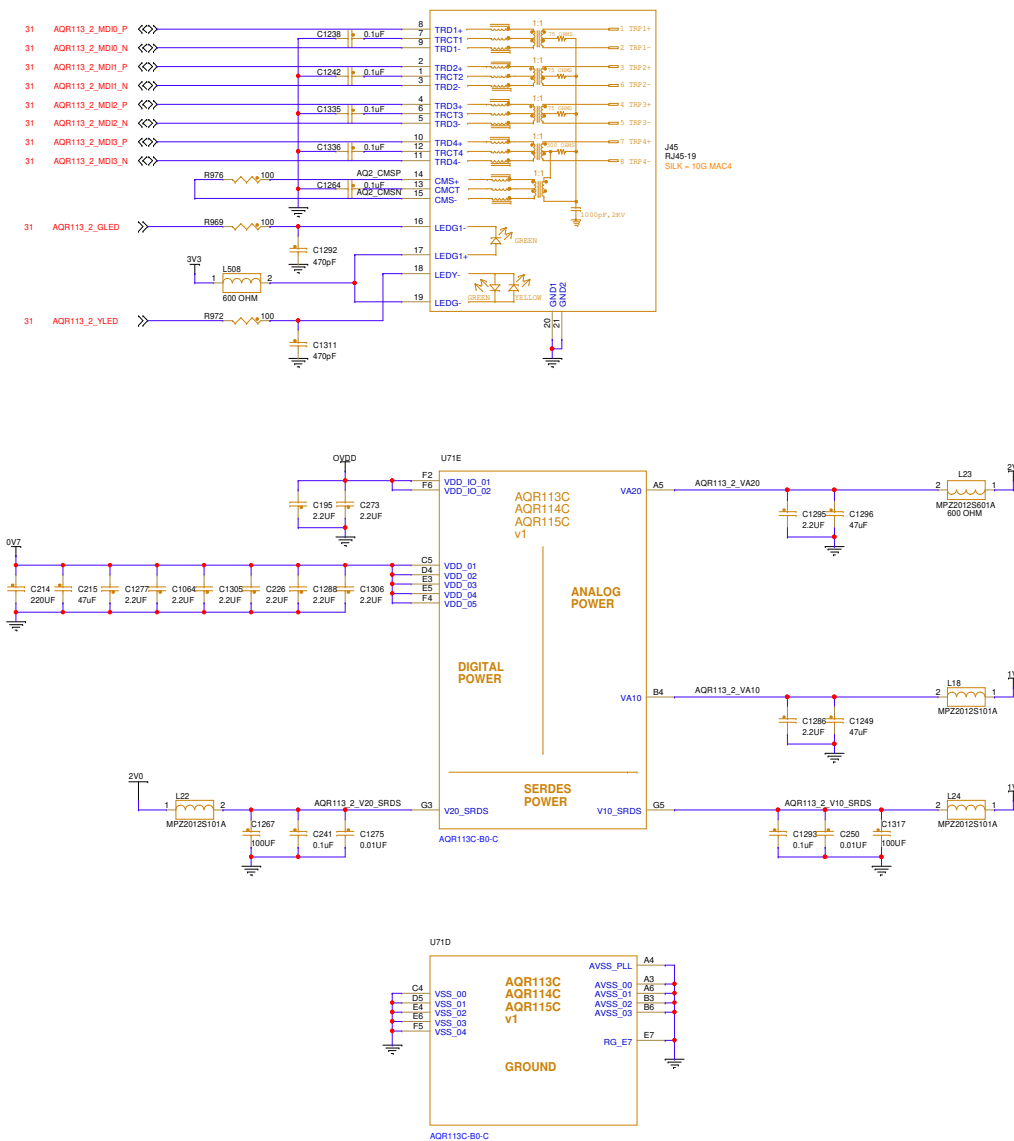
AQR113 #1 Power & Connector



Classification: Public Information			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: AQR113 #1 10G PHY Power			
Size C	Document Number SCH-54891/PDF: SPF-54891	Rev A	
Date: Sunday, June 05, 2022	Sheet 30 of 87		

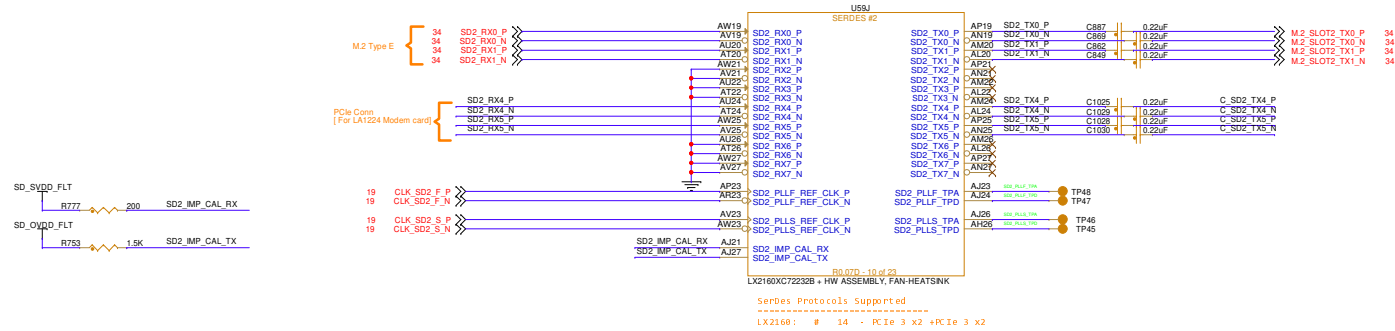
[illegible]

AQR113 #2 Power & Connector

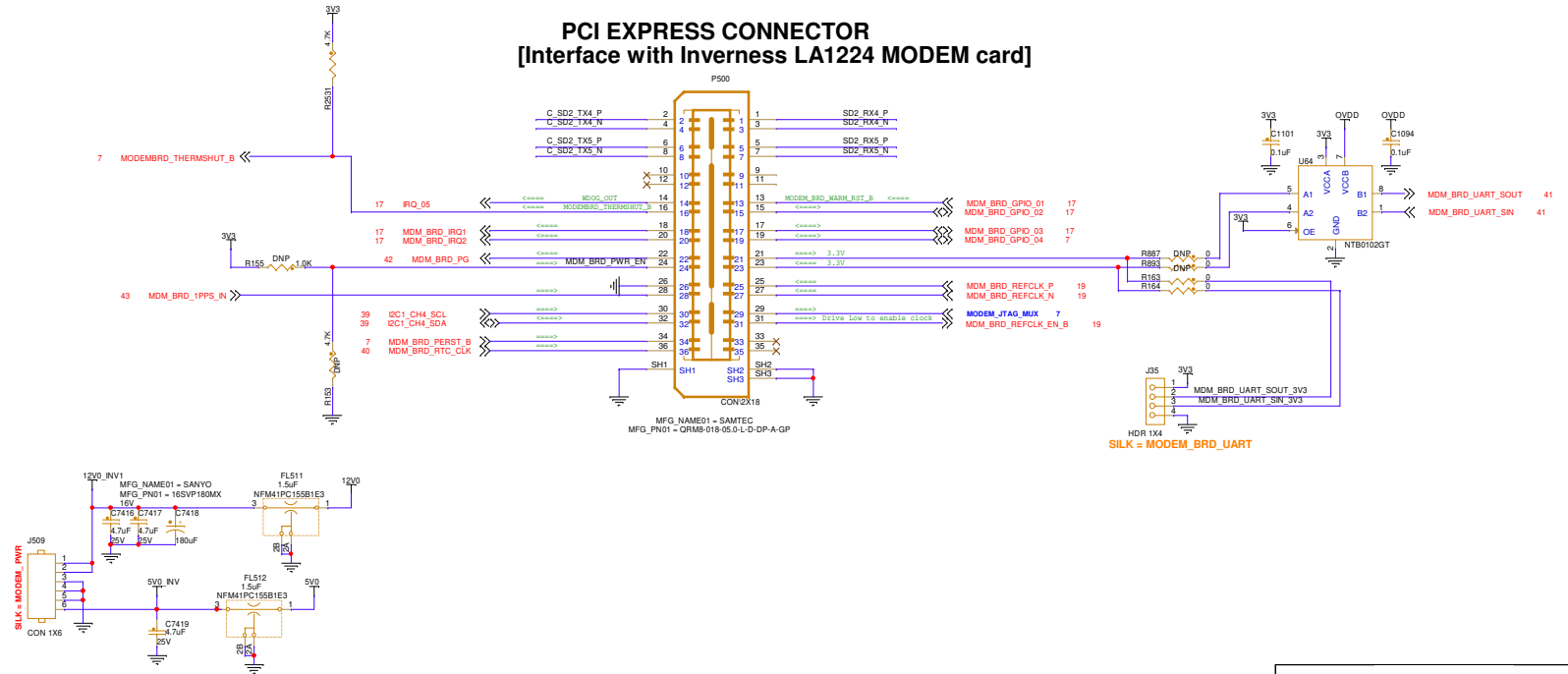


Classification: Public Information			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: AQR113 #2 10G PHY Power			
Size C	Document Number	SCH-54891/PDF: SPF-54891	Rev A
Date:	Sunday, June 05, 2022	Sheet 32 of 87	

SERDES 2 / PCI EXPRESS SLOT #1 / SATA PORTS



PCI EXPRESS CONNECTOR [Interface with Inveness LA1224 MODEM card]

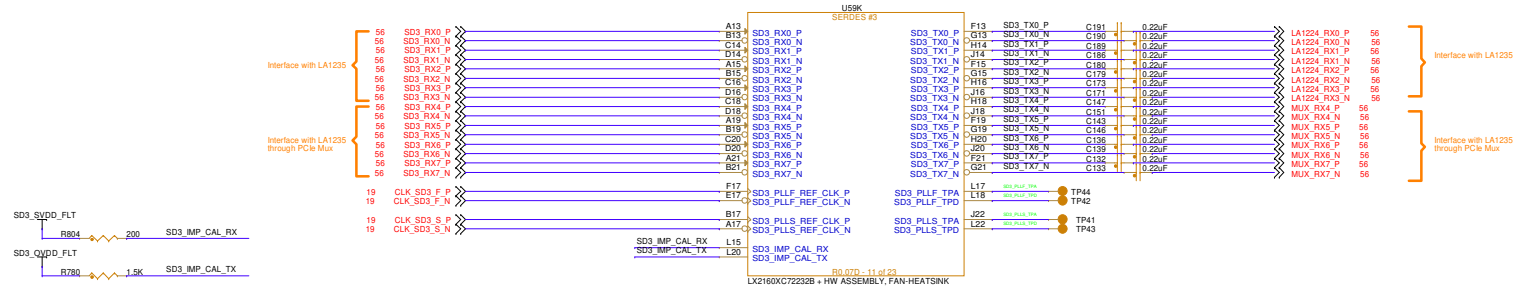


Classification: Public Information			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: LX2160 SD #2/PCIe_CONN			
Size C	Document Number	SCH-54891/PDF-SPF-54891	Rev A
Date:	Sunday, June 05, 2022	Sheet 33 of 87	

Note :: Supports 1630 and 2230 modules only



SERDES 3 / PCI EXPRESS SLOT #2



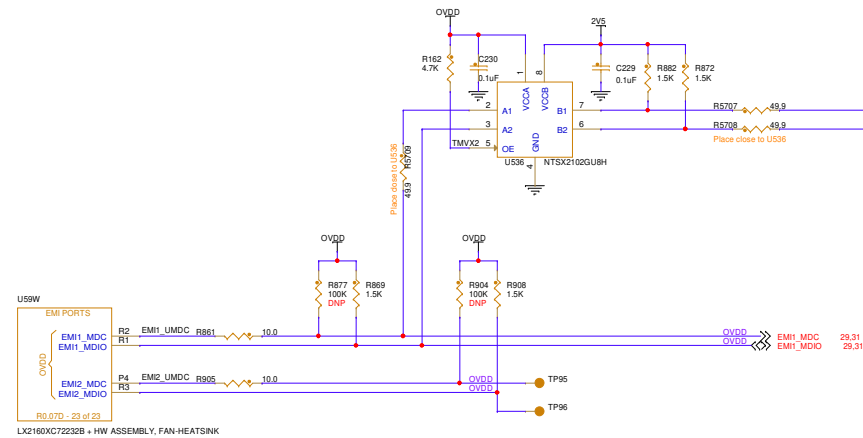
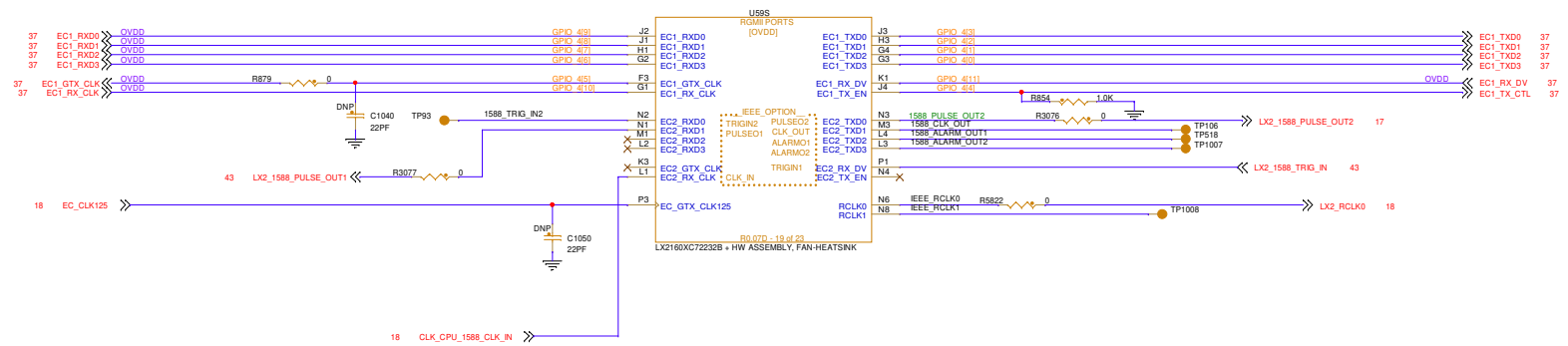
SerDes Protocols Supported

 LX2160: # 2 - PCIe.5 x8
 LX2081: #0x30 - PCIe.3 x8



Classification: Public Information			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: LX2160 SD #3/Slot #2			
Size C	Document Number SCH-54891/PDF: SPF-54891	Rev A	
Date: Sunday, June 05, 2022	Sheet 35 of 87		

LX2160 RGMII Ethernet Controllers / MII Ports / IEEE-1588



Classification: Public Information

Drawing Title: **X-LA1224-RDB-BHS**

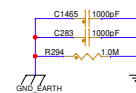
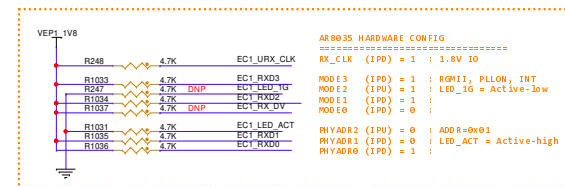
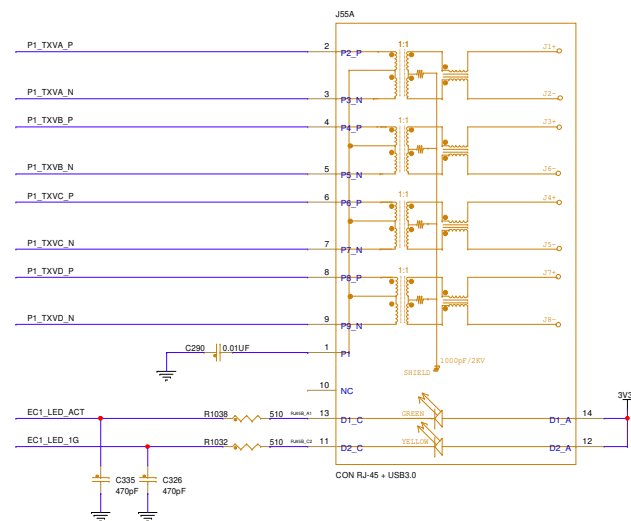
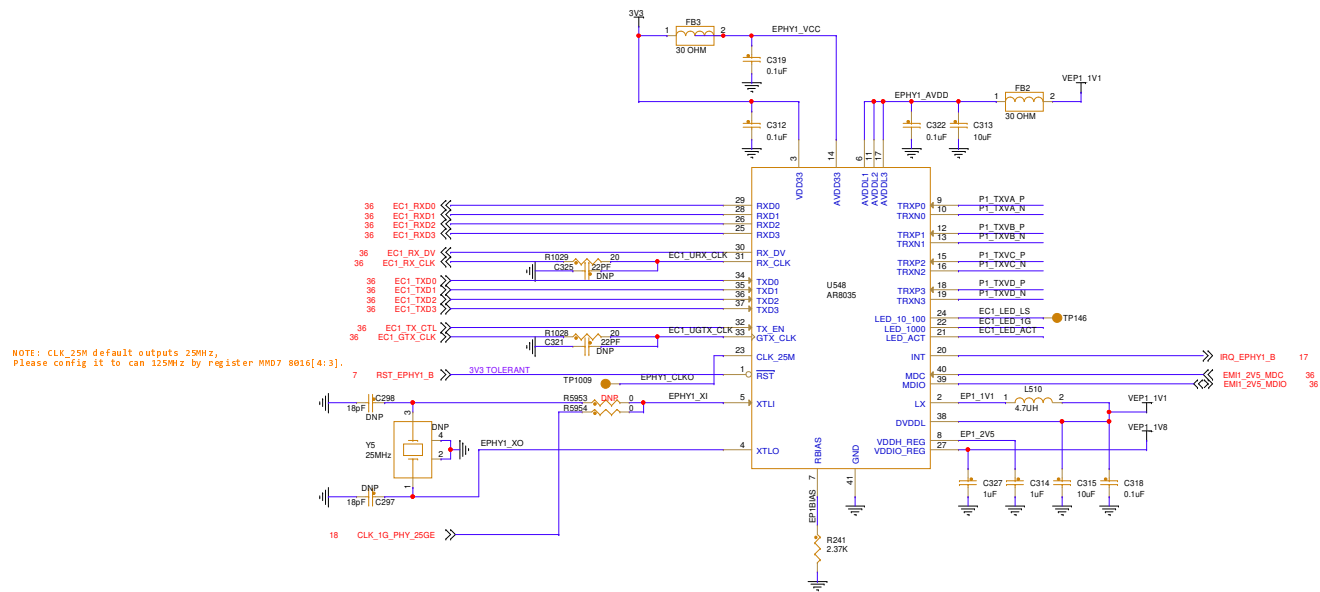
Page Title: **LX2160 RGMII / MII / IEEE**

Size C Document Number SCH-54891/PDF: SPF-54891

Date: Sunday, June 05, 2022 Sheet 38 of 87

Rev A

1G RGMII Ethernet #1



Classification: Public Information

Drawing Title: **X-LA1224-RDB-BHS**

Page Title: **RGMII PHY #1 & Connector**

Size C	Document Number SCH-54991/PDF: SPF-54991
-----------	---

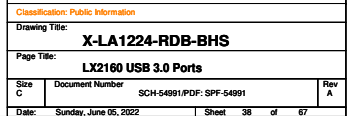
Date:	Sunday, June 05, 2022	Sheet	37
-------	-----------------------	-------	----

```

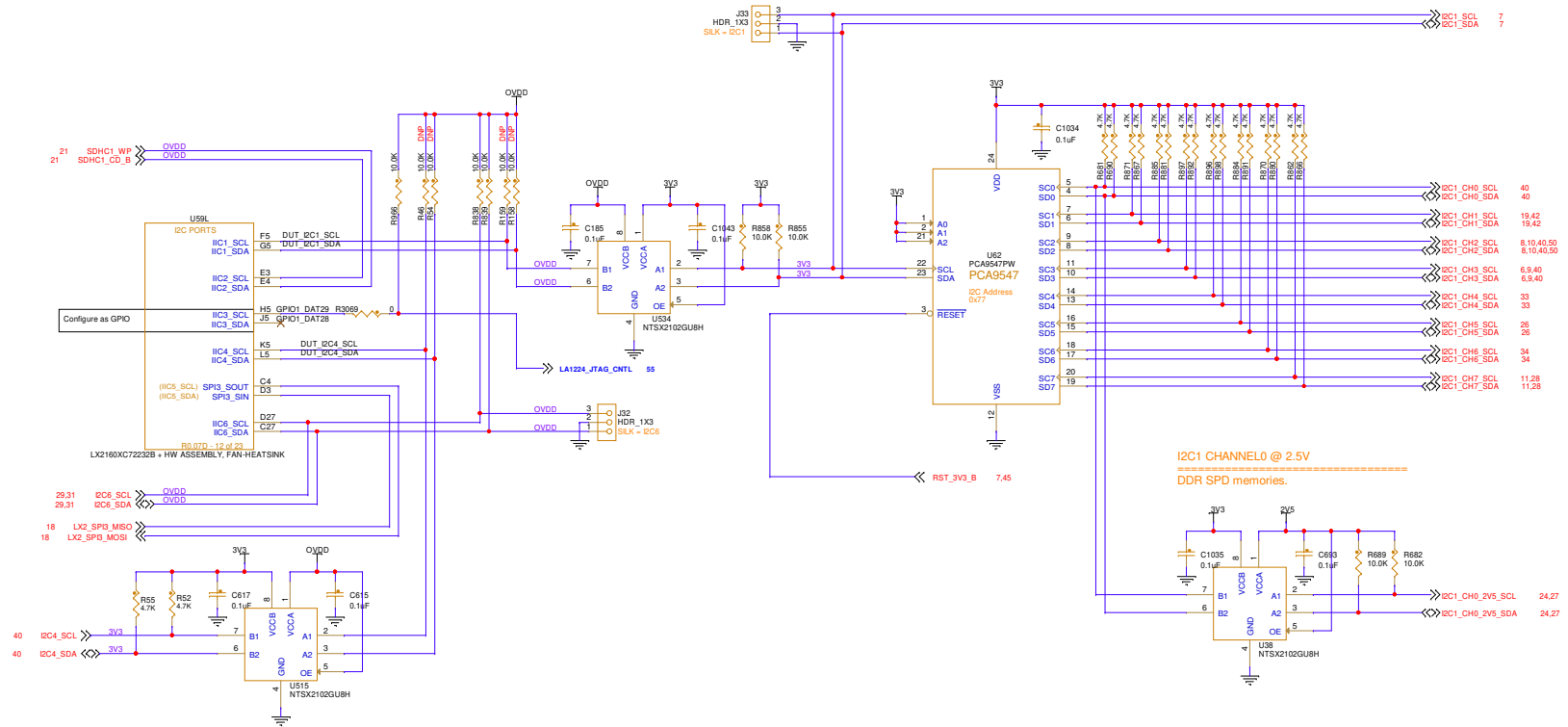
=====
R_ILDR = 17.4K
IMAX: 49495 * 17.4^-0.948    :: 3.30 A
IYP: 52275 * 17.4^-0.979     :: 3.20 A
IMIN: 52949 * 17.4^-1.042    :: 2.95 A

```

Applies to both USB ports.



LX2160 I2C Ports and Multiplexers



Classification: Public Information

Drawing Title: **X-LA1224-RDB-BHS**

Page Title: LX2160 I2C Ports / Muxes

Size C	Document Number SCH-54991/PDF: SPF-54991
-----------	---

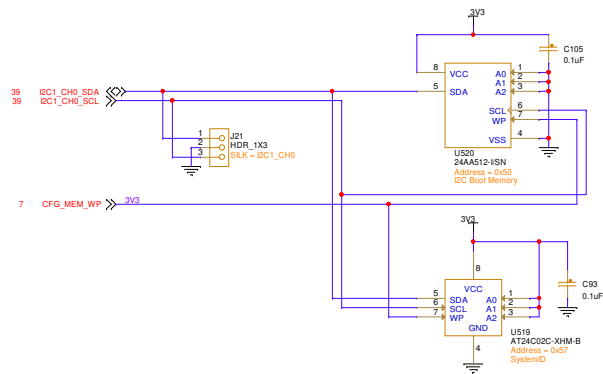
Date:	Sunday, June 05, 2022	Sheet	39
-------	-----------------------	-------	----

DATE	06/06/2016	TIME	00:00	USER	00
1					

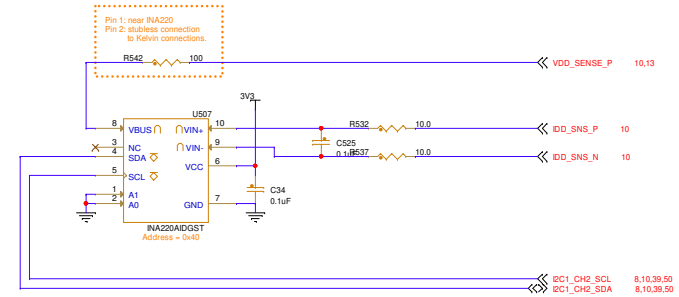
Rev
A

Misc. I2C Devices

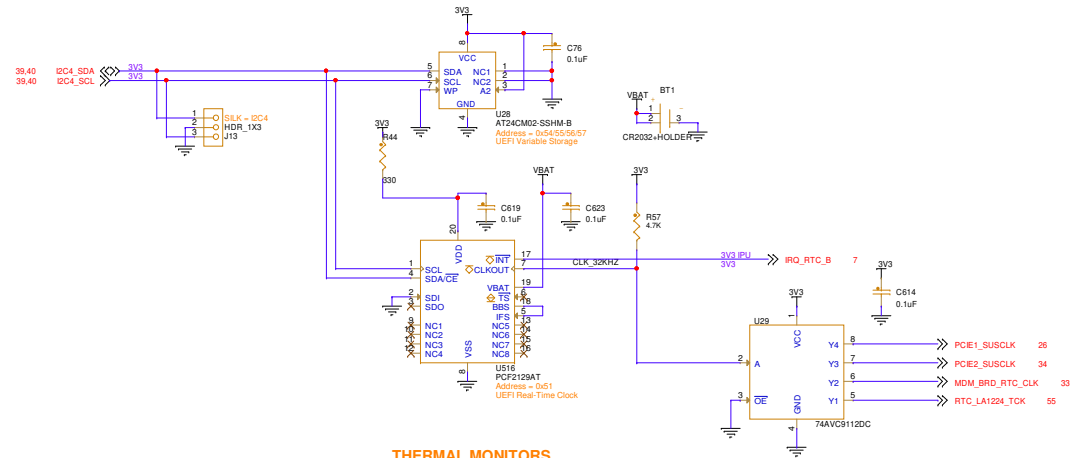
I2C BOOT AND SYSTEM ID EEPROMS



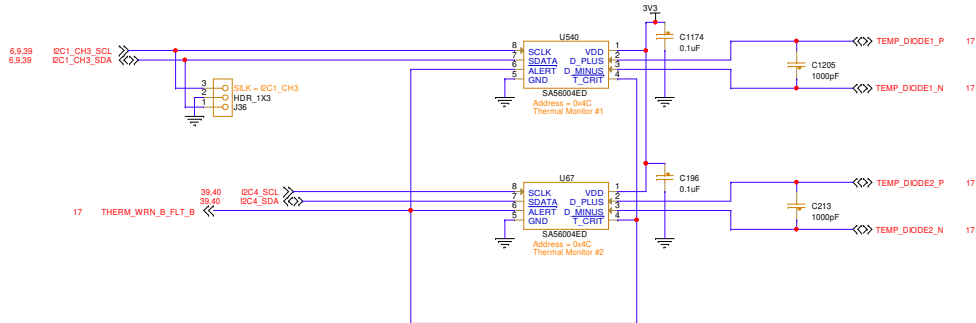
CURRENT MEASUREMENT



UEFI DOMAIN



THERMAL MONITORS



Classification: Public Information

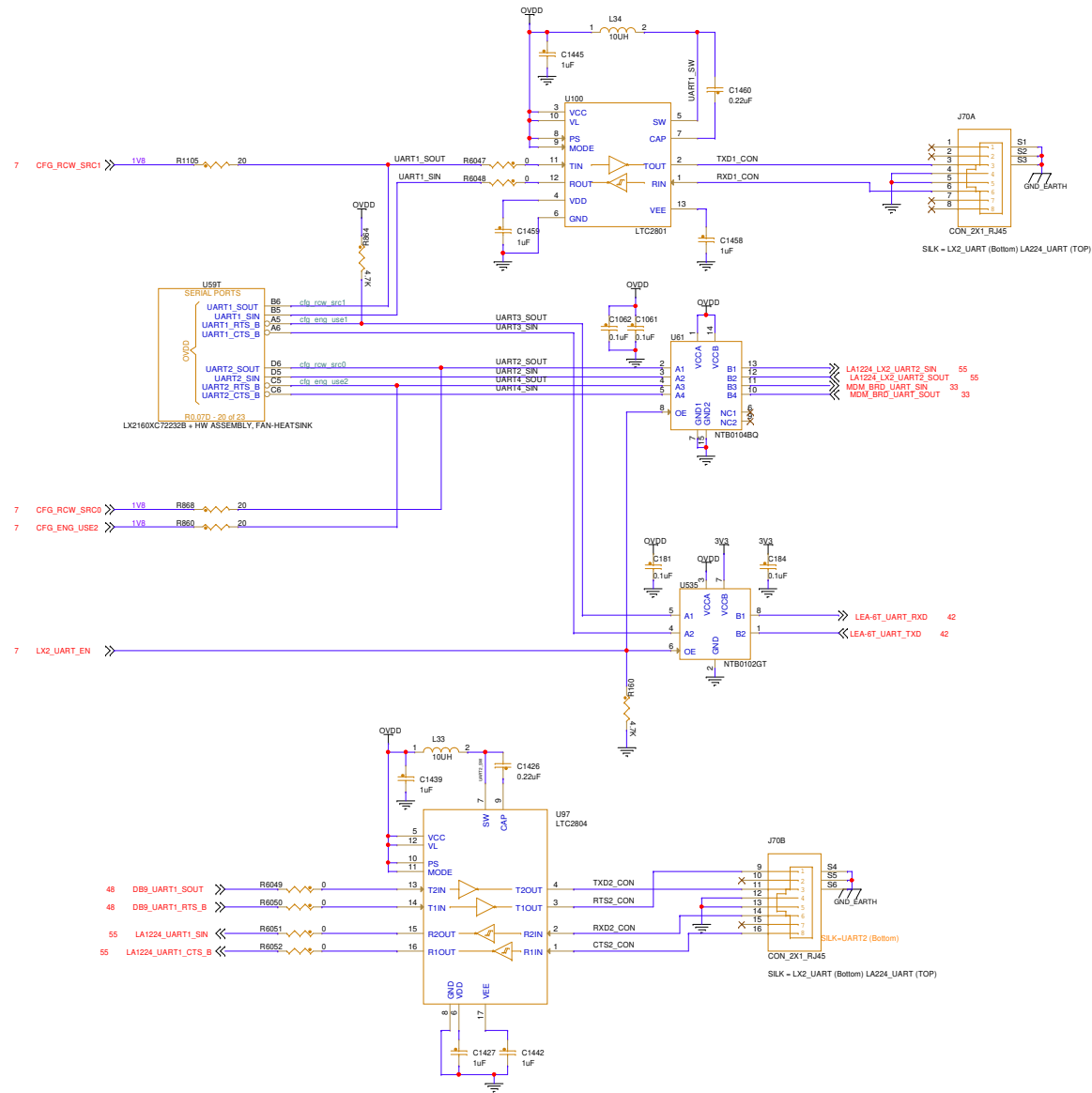
Drawing Title: **X-LA1224-RDB-BHS**

Page Title: Misc. I2C Devices

Size C	Document Number SCH-54991/PDF: SPF-54991
-----------	---

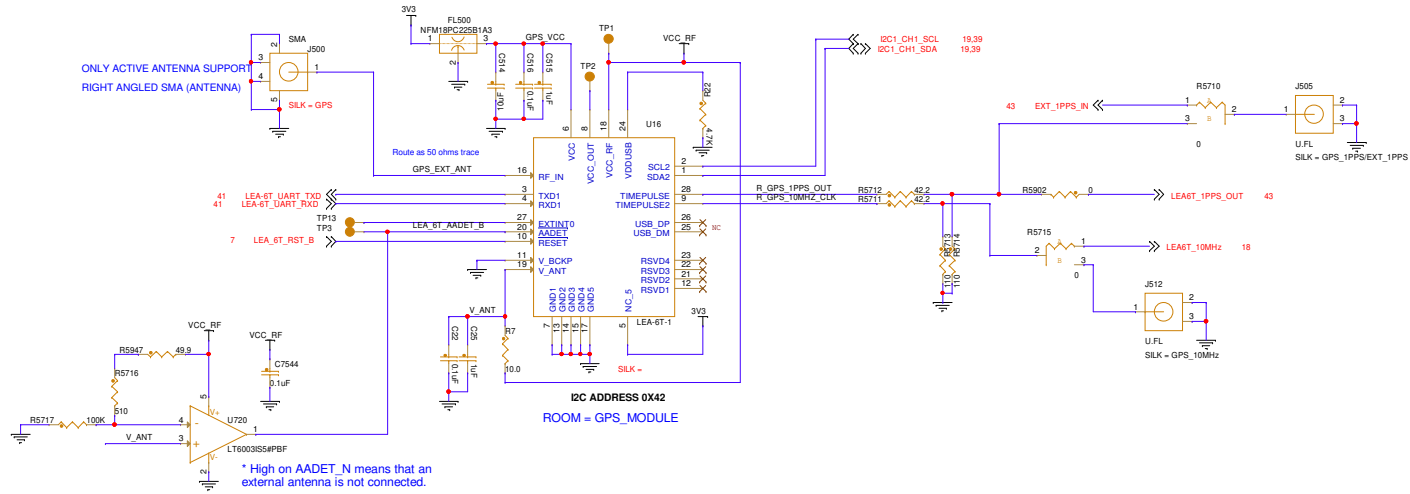
Date:	Sunday, June 05, 2022	Sheet	40	of	67
-------	-----------------------	-------	----	----	----

UART INTERFACES

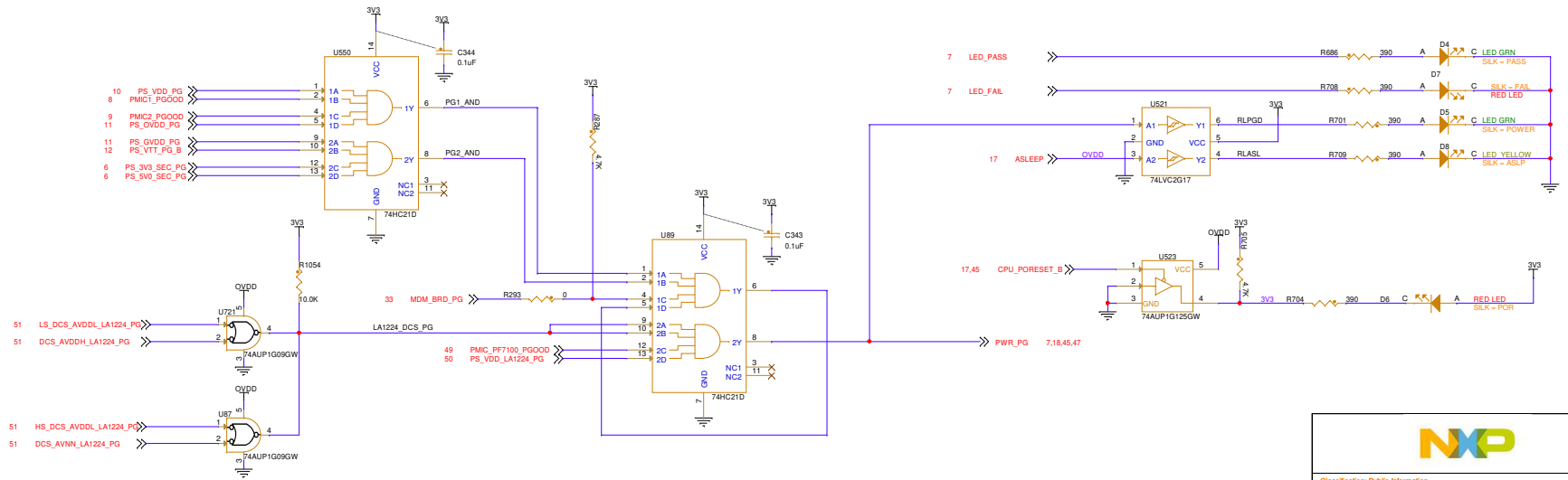


Classification: Public Information			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: RS232 UART and CAN IO			
Size C	Document Number SCH-54891/PDF: SPF-54891	Rev A	
Date: Sunday, June 05, 2022	Sheet 41 of 87		

GPS MODULE



SYSTEM MONITORING



Classification: Public Information

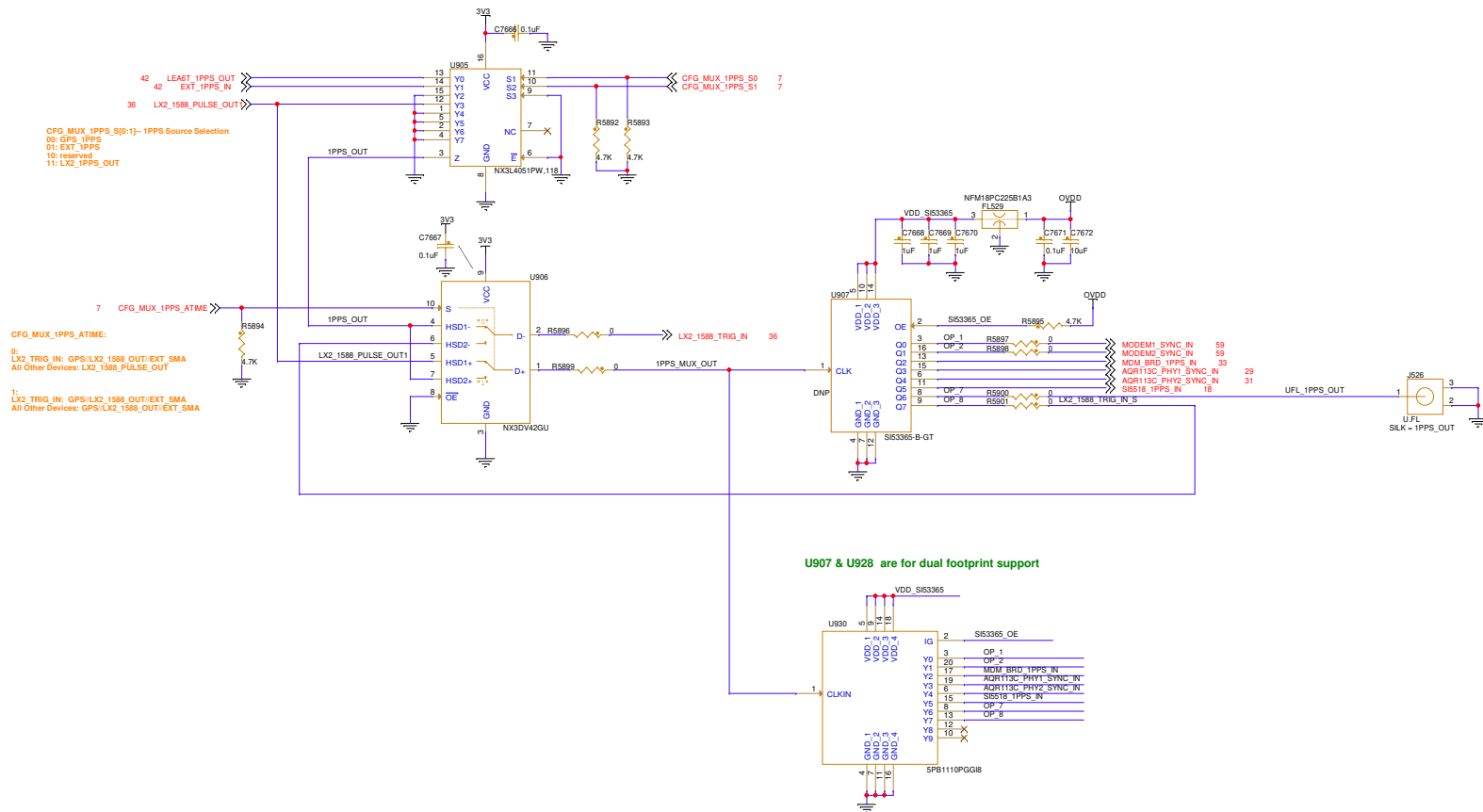
Drawing Title: **X-LA1224-RDB-BHS**

Page Title: **LEA6T & Misc**

Size C	Document Number SCH-54991/PDF: SPF-54991
-----------	---

Date:	Sunday, June 05, 2022	Sheet	42	of	67
-------	-----------------------	-------	----	----	----

PPS_SYNC_MAPPING




U907 & U928 are for dual footprint support

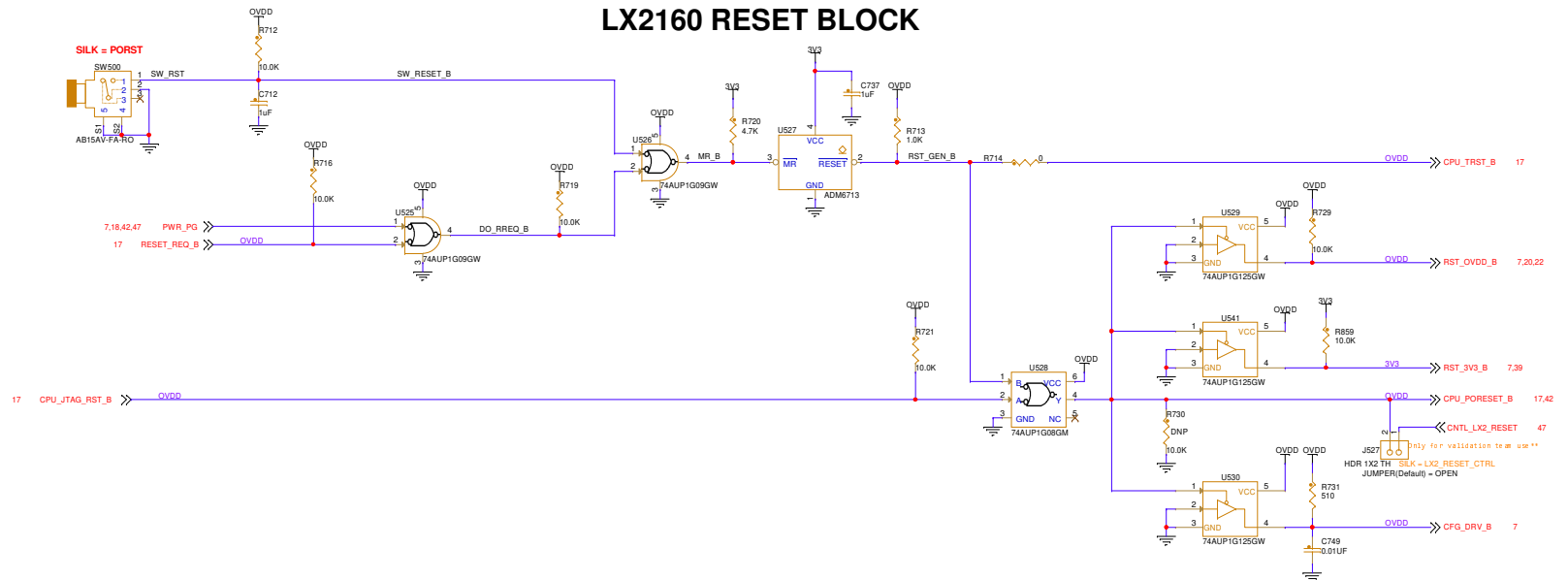


IAP Classification: CP: BUC: X PUBL:			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: PPS_SYNC_MAPPING			
Size C	Document Number SCH-54891/PDF: SPF-54891	Rev A	
Date: Sunday, June 05, 2022	Sheet 43 of 87		

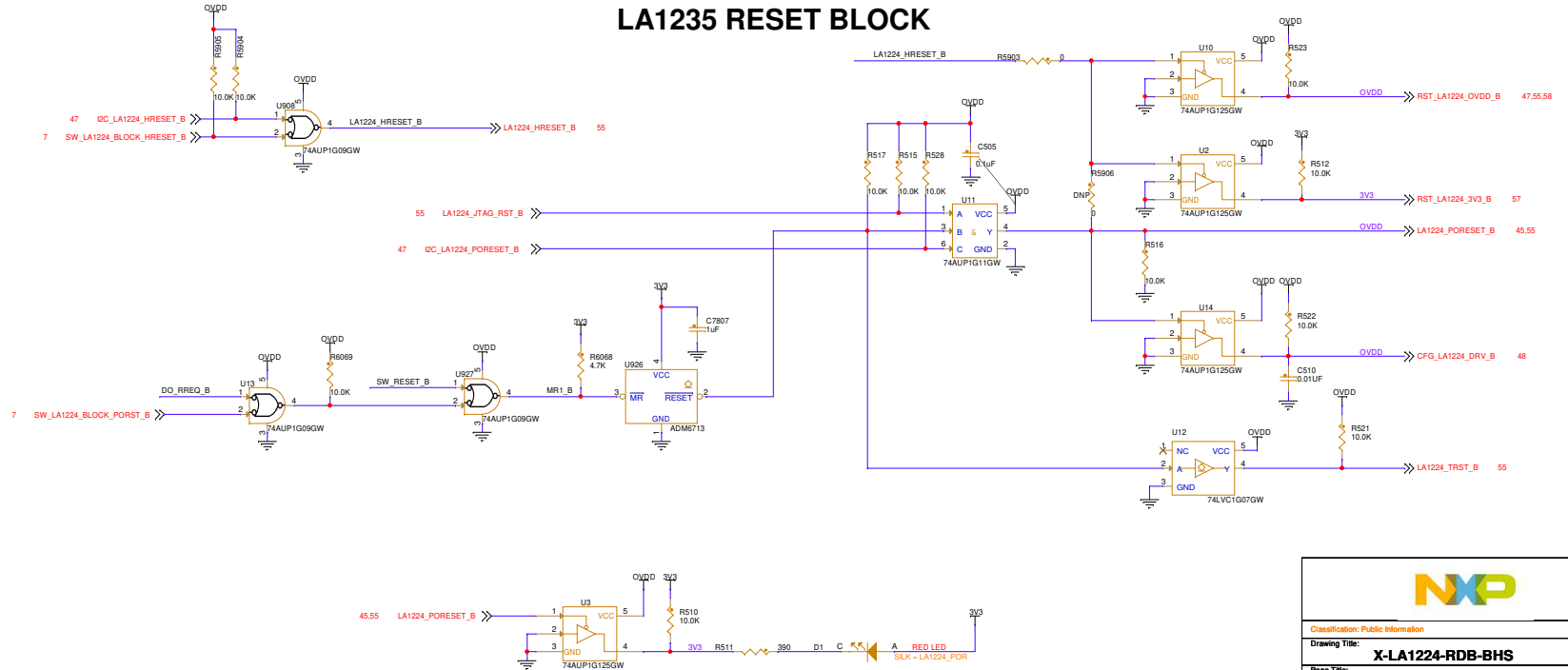
5	4	3	2	1
D				D
C				C
B				B
A				A
5	4	3	2	1

			
Classification: Public Information			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: BLANK			
Size C	Document Number SCH-54891/PDP: SPF-54891		Rev A
Date: Sunday, June 05, 2022	Sheet 44	of 87	

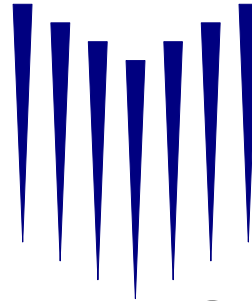
LX2160 RESET BLOCK



LA1235 RESET BLOCK



Classification: Public Information			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: Reset_control			
Size C	Document Number SCH-54991.PDF: SPF-54991	Rev A	
Date: Sunday, June 05, 2022	Sheet 45 of 67		



LA1235 SECTION



EAP Classification:		CP:	BUC: X	PUBL:
Drawing Title:		X-LA1224-RDB-BHS		
Page Title:		LA1235 SECTION		
Size	Document Number	SCH-54891/PDF: SPF-54891		Rev
C				A
Date:	Sunday, June 05, 2022	Sheet	48	of 87

LA1235 Control

LA12xx-specific
switch settings
SW4-> 1011_0011

LA12xx-specific
switch settings
SW3-> 1111_0011

LA12xx-specific
switch settings
SW5-> 0111_1000

LA12xx-specific
switch settings
SW6-> 0000_0000

```
SW4[1:12] : CFG_BOOT_SRC[1:8]
=====
00 : Pin30 reset pin
01 : Pin30P1 flash(EP30_1[5] pullup)
02 : PC044 reset key
>> 1 : PC044 reset key

SW4[3] : CFG_BOOT_HO_B
=====
00 : Boot Holdoff Disable
01 : Boot Holdoff Enable
>> 1 : Boot Holdoff Enable

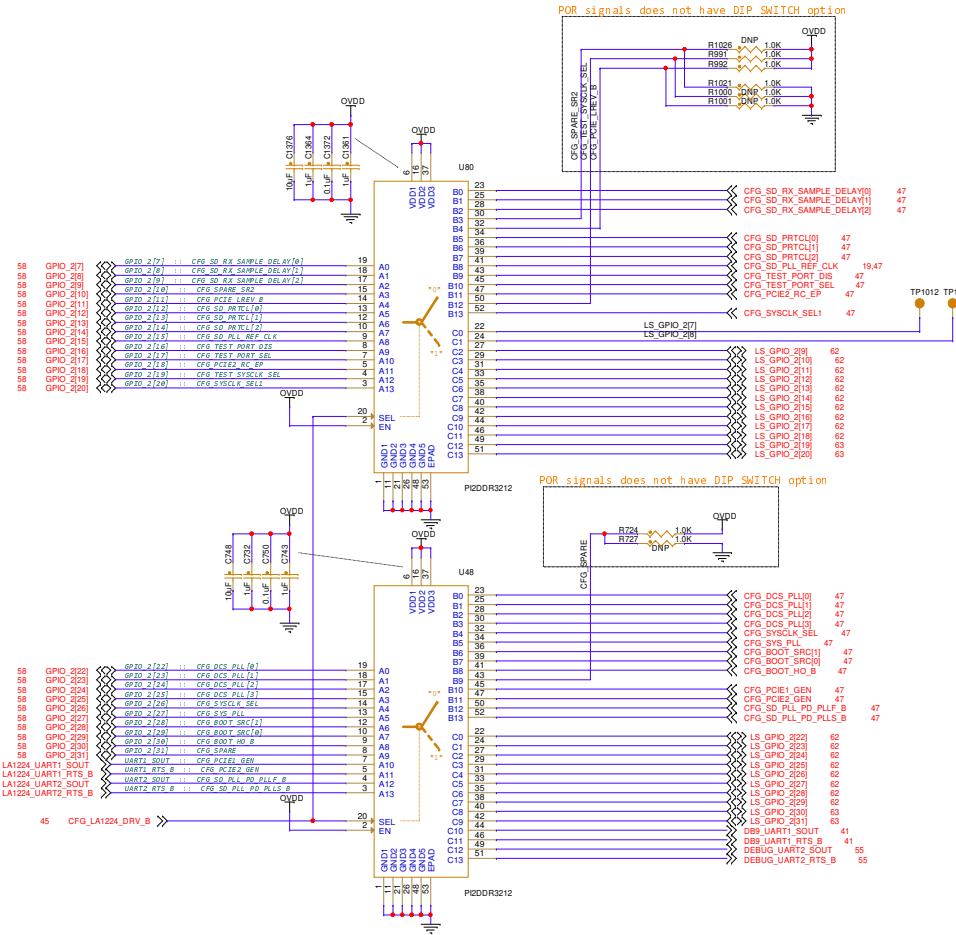
SW4[4] : CFG_SYS_PLL [System PLL Clock Ratio]
=====
For SYSCLK = 132.00 & 132 MHz:
00 : 1:1 (132.00 * 1 = 132.00 MHz) (120% * 100 MHz)
01 : 5:1 (132.00 * 5 = 660.00 MHz) (120% * 400 MHz)
For SYSCLK = 136.25 MHz:
00 : 5:1 (136.25 * 5 = 681.25 MHz)
01 : 4:1 (136.25 * 4 = 545.00 MHz)
>> 1 : 4:1 (136.25 * 4 = 545.00 MHz)

SW4[5] : CFG_SYSCLK_SEL [SYSCLK Reference Clock]
=====
00 : 136.25 MHz
01 : 132.00 MHz
02 : 132.00 MHz
>> 1 : 132.00 MHz

SW4[7] : CFG_TEST_RST_B
=====
0 : Test Port enabled
1 : Test Port disabled
>> 1 : Test Port disabled

SW4[8] : CFG_TEST_RST_SEL
=====
0 : Test port 0 selected
1 : Test port 1 selected
```

LA1235 POR CONFIGURATION



```

GPIO_2[7]  :: CFG_SD_RX_SAMPLE_DELAY[0]
GPIO_2[8]  :: CFG_SD_RX_SAMPLE_DELAY[1]
GPIO_2[9]  :: CFG_SD_RX_SAMPLE_DELAY[2]
GPIO_2[10] :: CFG_SPARE_SR2
GPIO_2[11] :: CFG_PCIE1_TREX_B
GPIO_2[12] :: CFG_SD_PRTCL[0]
GPIO_2[13] :: CFG_SD_PRTCL[1]
GPIO_2[14] :: CFG_SD_PRTCL[2]
GPIO_2[15] :: CFG_SD_PLL_REF_CLK
GPIO_2[16] :: CFG_TEST_PORT_D1S
GPIO_2[17] :: CFG_TEST_PORT_SEL
GPIO_2[18] :: CFG_PCIE2_RC_EP
GPIO_2[19] :: CFG_TEST_SYSCLK_SEL
GPIO_2[20] :: CFG_SYSCLK_SEL1
GPIO_2[21] :: CFG_DCS_PLL[0]
GPIO_2[22] :: CFG_DCS_PLL[1]
GPIO_2[23] :: CFG_DCS_PLL[2]
GPIO_2[24] :: CFG_DCS_PLL[3]
GPIO_2[25] :: CFG_SYSCLK_SEL
GPIO_2[26] :: CFG_SYSCLK_SEL
GPIO_2[27] :: CFG_SYSCLK_SEL
GPIO_2[28] :: CFG_BOOT_SRC[1]
GPIO_2[29] :: CFG_BOOT_SRC[0]
GPIO_2[30] :: CFG_BOOT_HO_B
GPIO_2[31] :: CFG_SPARE
UART1_SOUT :: CFG_PCIE1_GEN
UART1_RTS_B :: CFG_PCIE2_GEN
UART2_SOUT :: CFG_SD_PLL_PD_PLIF_B
UART2_RTS_B :: CFG_SD_PLL_PD_PLIS_B
    
```



ICAP Classification:		CP:	IJO: X	PUB:
Drawing Title:				
X-LA1224-RDB-BHS				
Page Title:				
LA1235 POR CONFIG				
Size C	Document Number SCH-54991/PDF: SPF-54991			Rev A
Date:	Sunday, June 05, 2022		Sheet 48 of 67	

PF7100 PMIC SUPPLIES FOR LA12XX

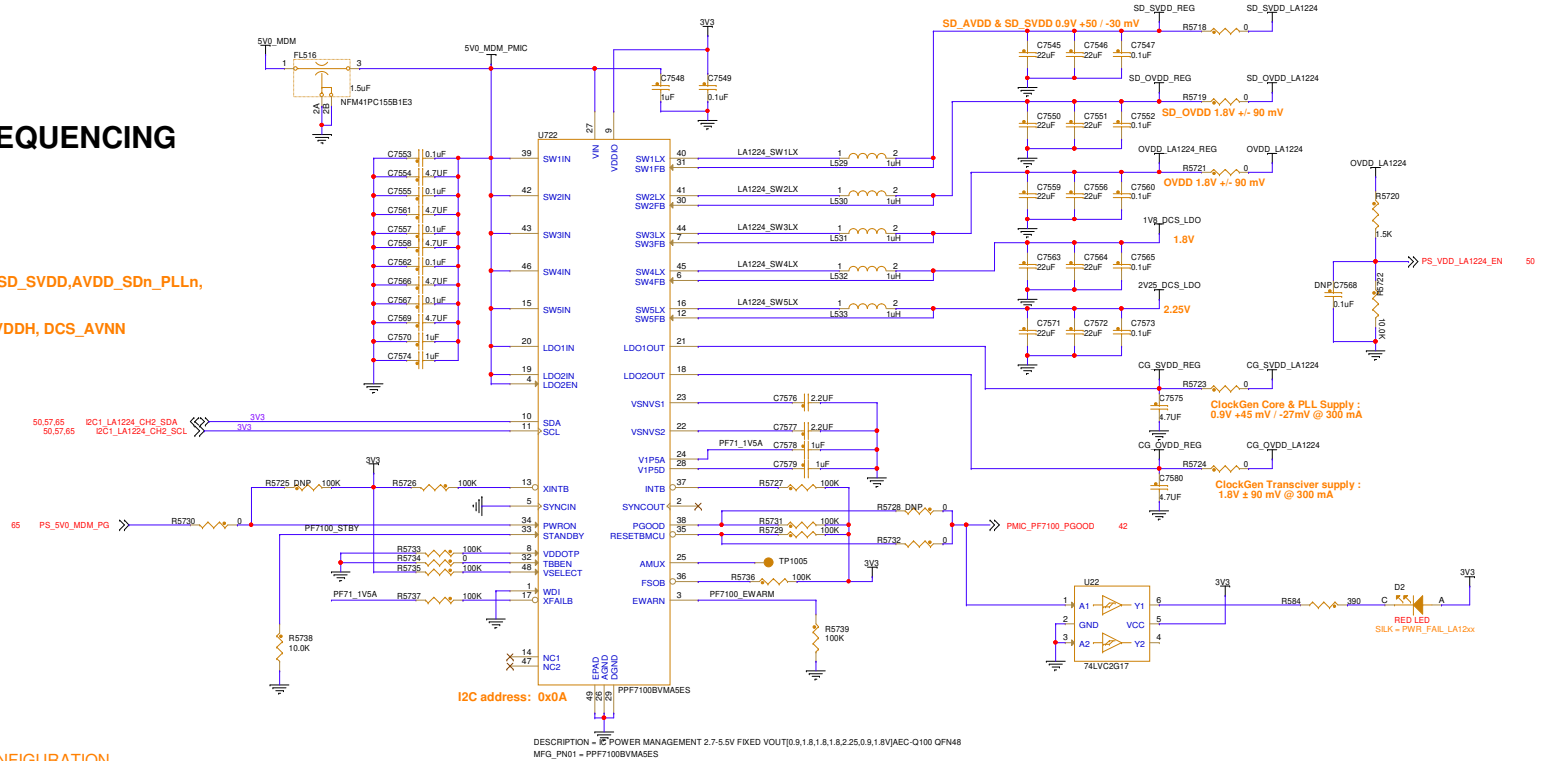
LA1235 POWER SEQUENCING

TIER 0
**OVDD

TIER 1
** VDD

TIER 2
, CG_OVDD, CG_SVDD, SD_OVDD, SD_SVDD, AVDD_SDn_PLLn,

TIER 3
LS/HS DCS_AVDDL/CVDD, DCS_AVDDH, DCS_AVNN
#####



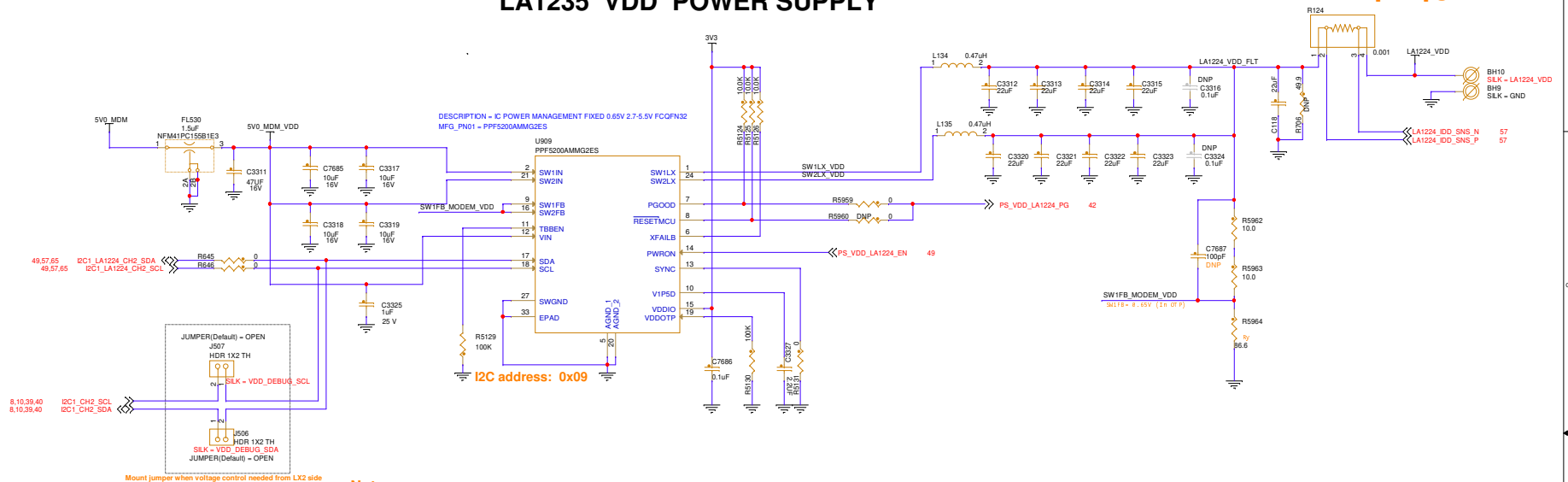
PF7100 CONFIGURATION
** SW[1] -> 0.90V [SD_SVDD:LA12xx]
** SW[2] -> 1.80V [SD_OVDD:LA12xx]
** SW[3] -> 1.80V [OVDD:LA12xx]---> ENABLE VDD SUPPLY
** SW[4] -> 1.80V [LDO input for LS_AVDD&CVDD][0.8/1.2V], HS_AVDD 1.2V:LA12xx]---> ENABLE AVNN SUPPLY
** SW[5] -> 2.25V [LDO input for HS_LS_AVDDH 1.8V:LA12xx]
** LDO[1] -> 0.9V [CG_SVDD,CG_AVDD:LA12xx]
** LDO[2] -> 1.8V [CG_OVDD:LA12xx]

SEQUENCE:
-> SW[3]
<----- Delay >-----> PF200 tONSWx=310uS max
-> LDO1.LDO2 SW[1].SW[2]
<----- Delay >----->
-> SW[4].SW[5]
<----- Delay >----->
-> PGOOD, MCU_RESET_B



Classification: Public Information			
Drawing Title: X-LA1224-RDB-BHS			
Page Title: PF7100 PMIC SUPPLY			
Size C	Document Number SCH-54991/PDF: SPF-54991	Rev A	
Date: Sunday, June 05, 2022	Sheet 49	of 67	

LA1235 VDD: 0.8V [$\pm 3\%$] @16A

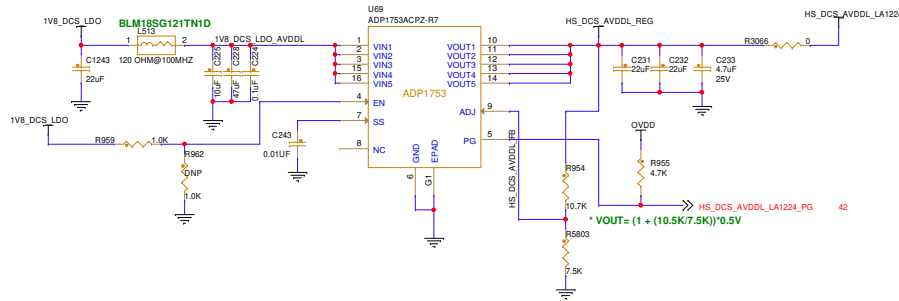


**** PPF5200AMMG2ES OTP programmed set to default output to 0.65V.**

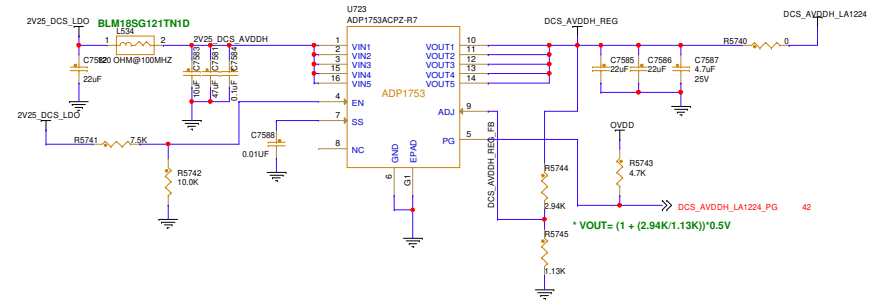
** Bridge resistor will elevate the voltage on LA1224_VDD_FLT to 0.8V. This allows manual tuning through resistors without need for OTP change

LA1235 DCS SUPPLY

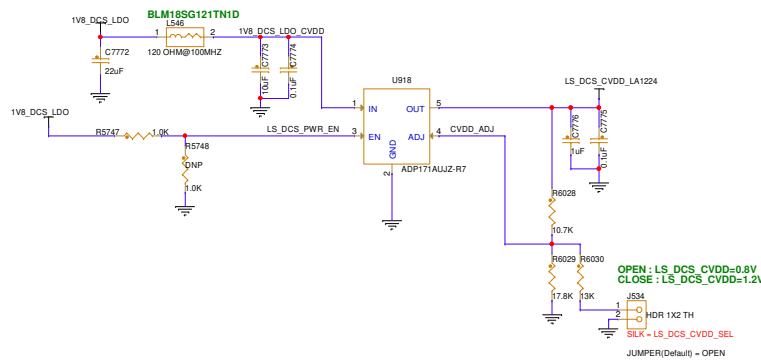
MODEM HS_DCS_AVDD: 1.2V @ 1.2A MAX



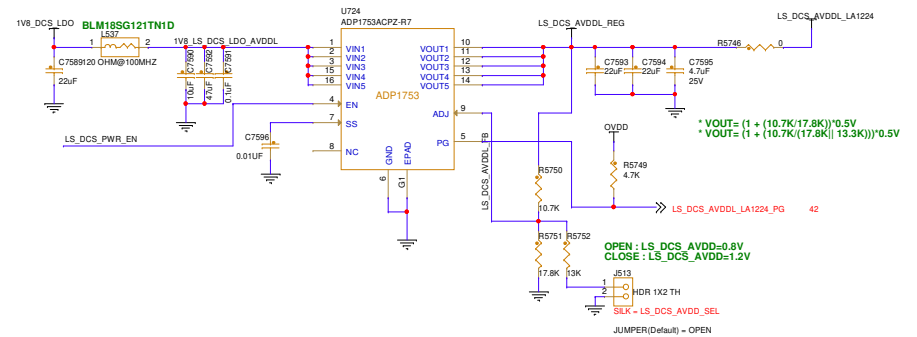
MODEM DCS_AVDDH : 1.8V @ 800 mA MAX



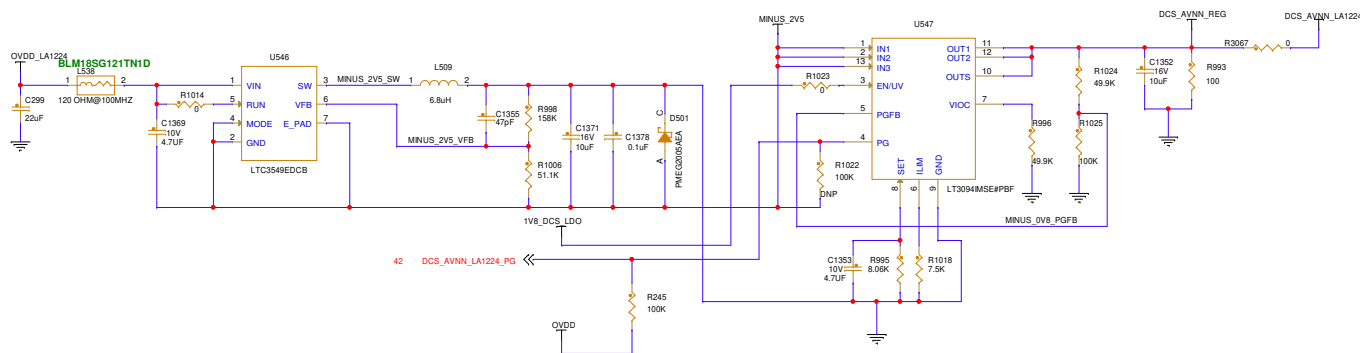
MODEM LS_DCS_CVDD: 0.8V/1.2V @ 300 mA MAX



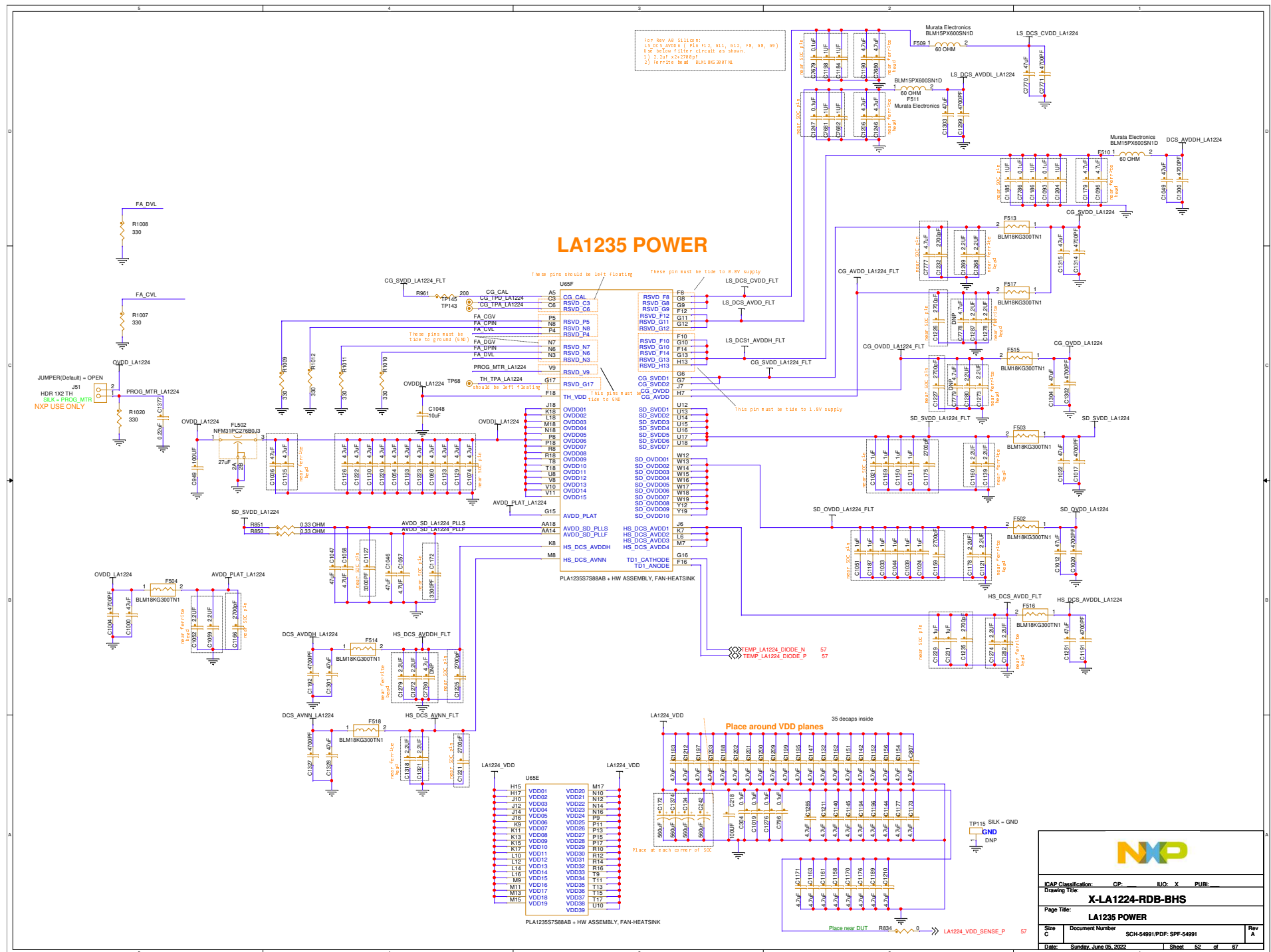
MODEM LS_DCS_AVDD: 0.8V/1.2V @ 800 mA MAX



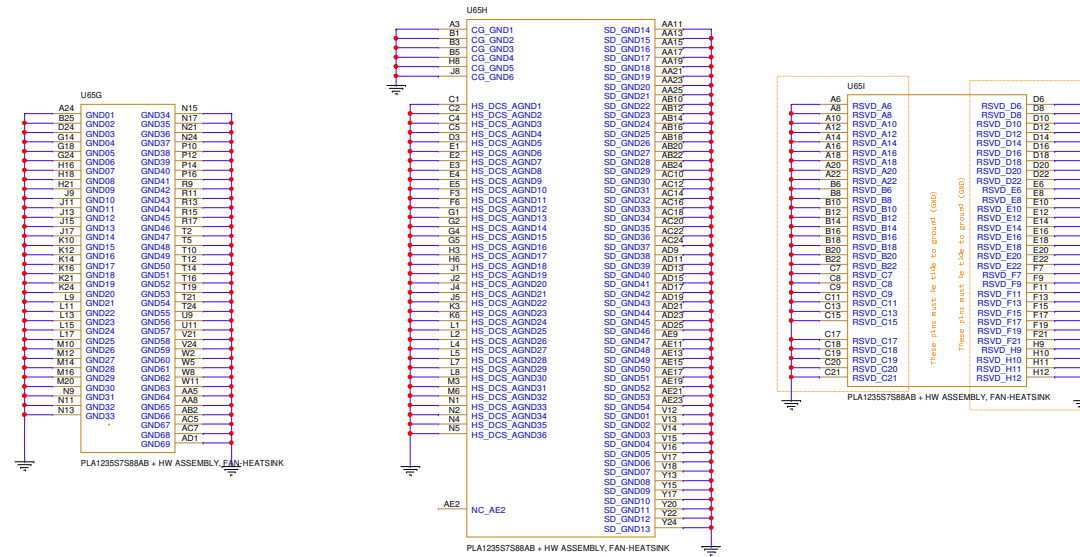
DCS AVNN POWER SUPPLIES : - 0.8V ± 24 mV @ 500 mA



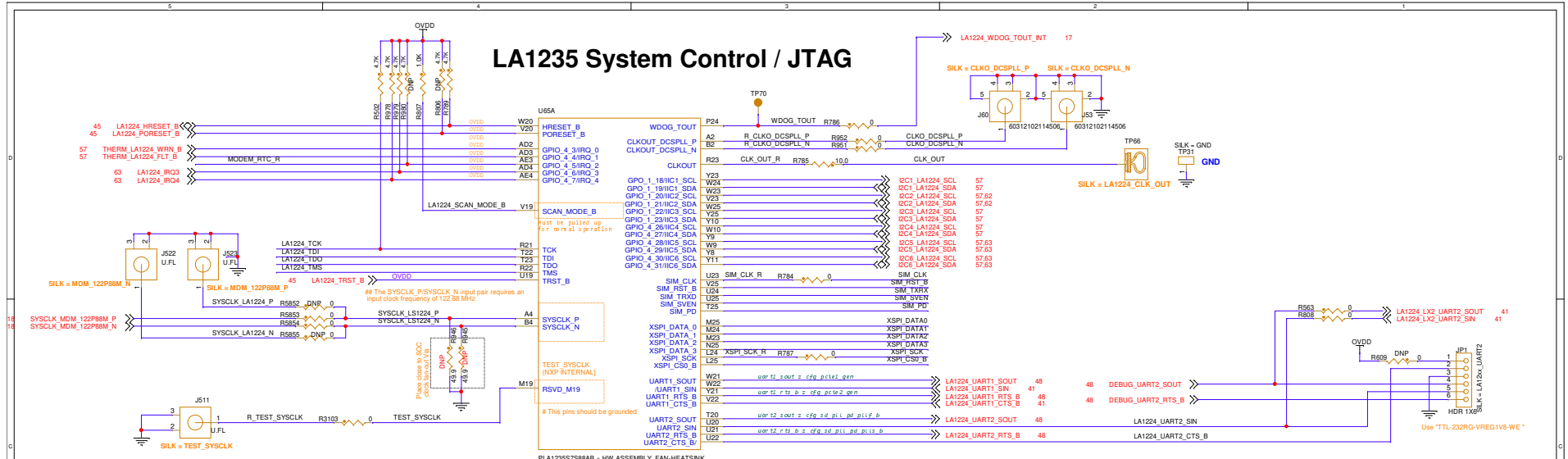
ICAP Classification:		CP:	IUC: X		PUB:
Drawing Title:					
X-LA1224-RDB-BHS					
Page Title:					
LA1235 DCS SUPPLY					
Size C	Document Number SCH-54891/PDF: SPF-54891				Rev A
Date:	Sunday, June 05, 2022		Sheet	51	of 87



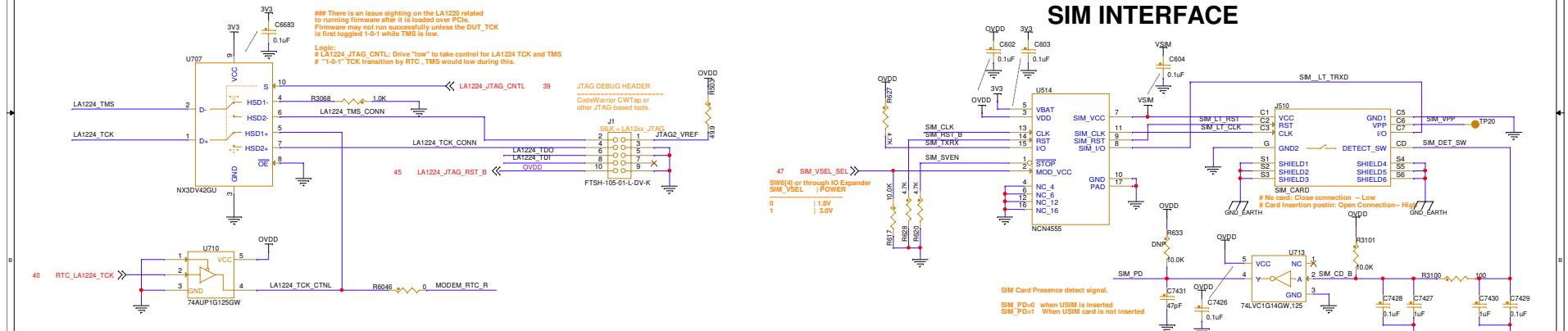
LA1235 GND



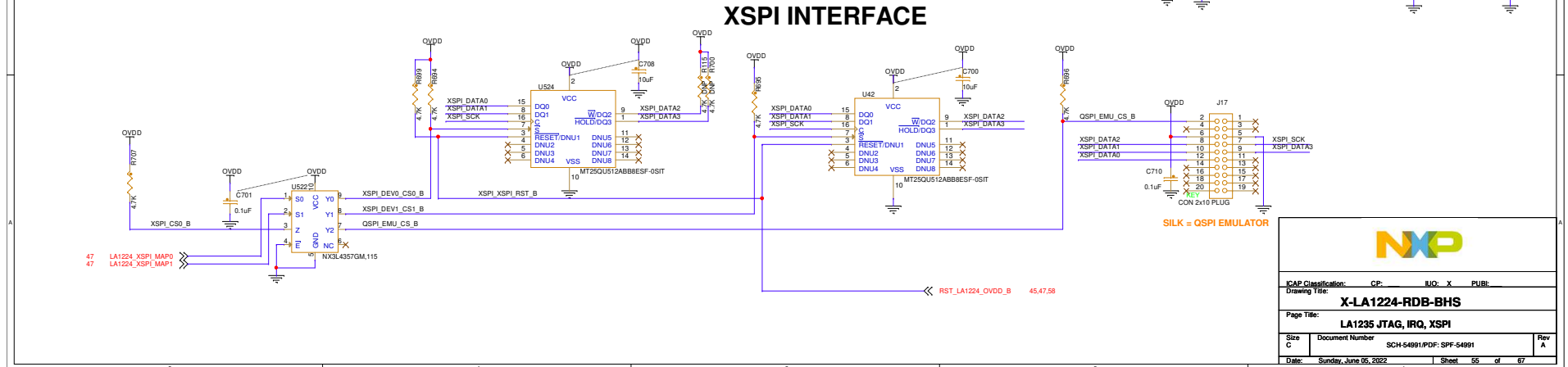
LA1235 System Control / JTAG



SIM INTERFACE

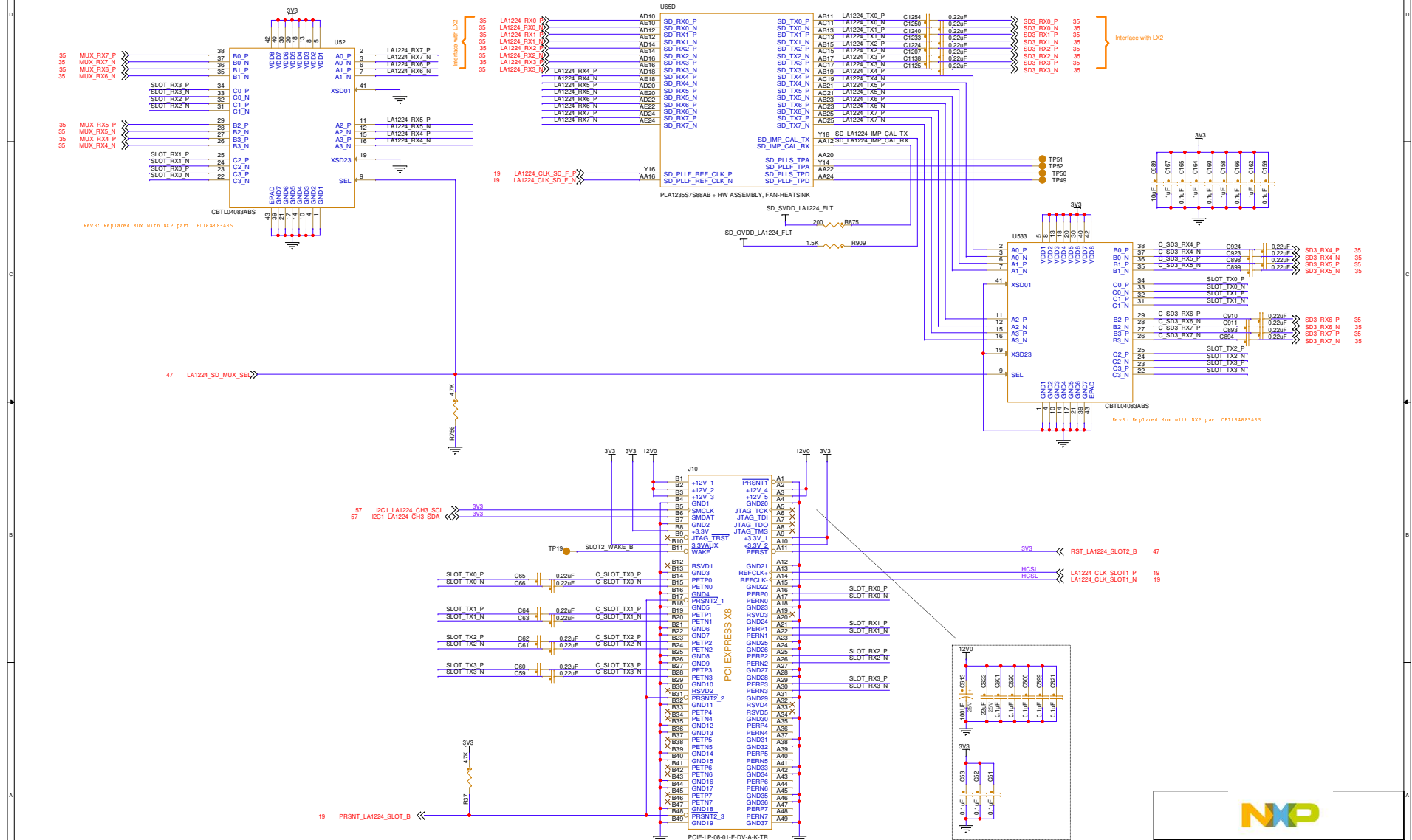


XSPI INTERFACE



ICAP Classification:		CP:	IJO: X	PUB:
Drawing Title:				
X-LA1224-RDB-BHS				
Page Title:				
LA1235 JTAG, IRQ, XSPI				
Size C	Document Number SCH-54991/PDF: SPF-54991			
Date:	Sunday, June 05, 2022			Sheet 55 of 67

SERDES CONTROLLER



ICAP Classification: CP: IUO: X PUBI:

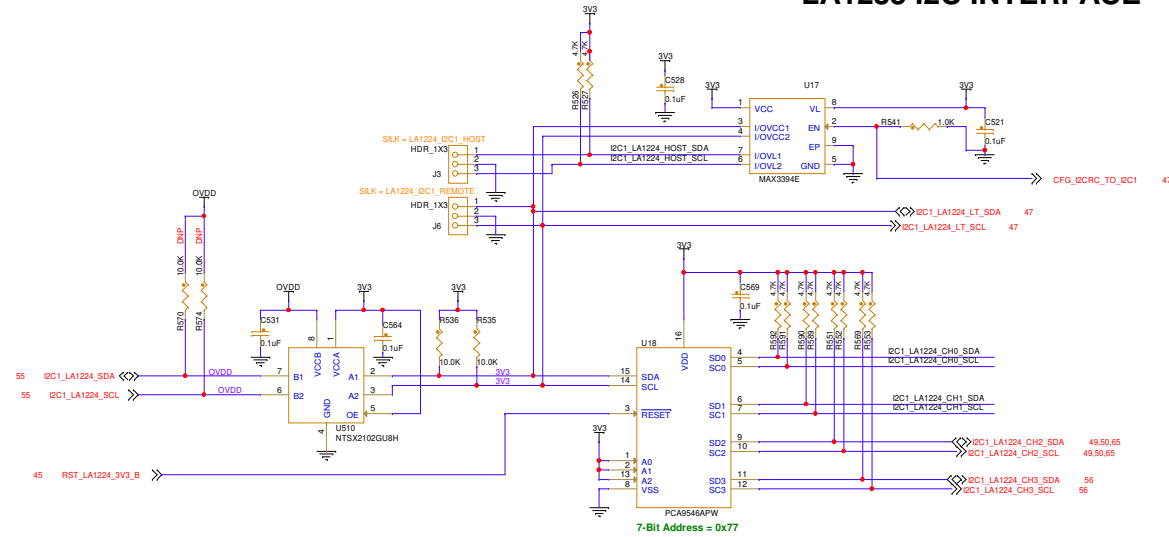
Drawing Title: **X-LA1224-RDB-BHS**

Page Title: **LA1235 SERDES CONTROLLER**

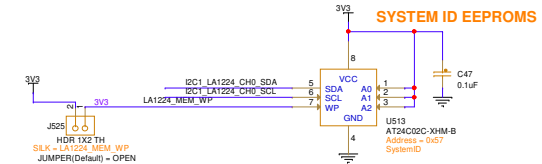
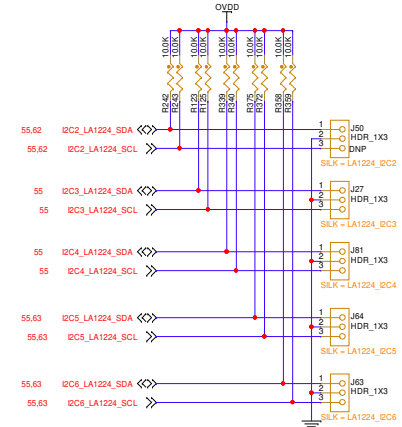
Size C	Document Number SCH-54991/PDF: SPF-54991
-----------	---

Date:	Sunday, June 05, 2022	Sheet	56	of
-------	-----------------------	-------	----	----

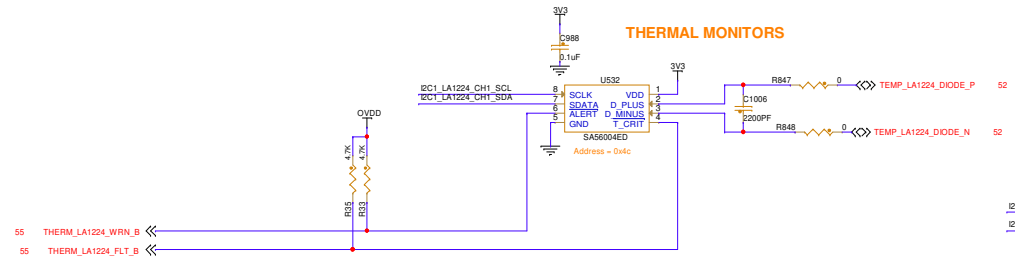
LA1235 I2C INTERFACE



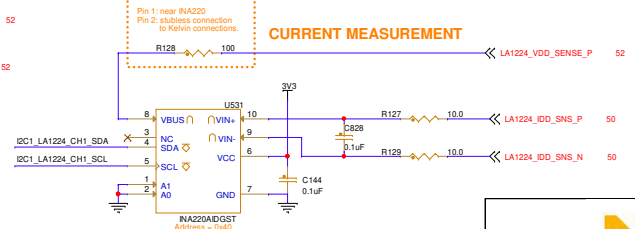
I2C Headers



THERMAL MONITORS

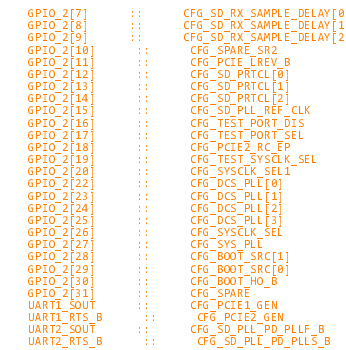
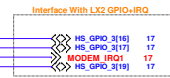
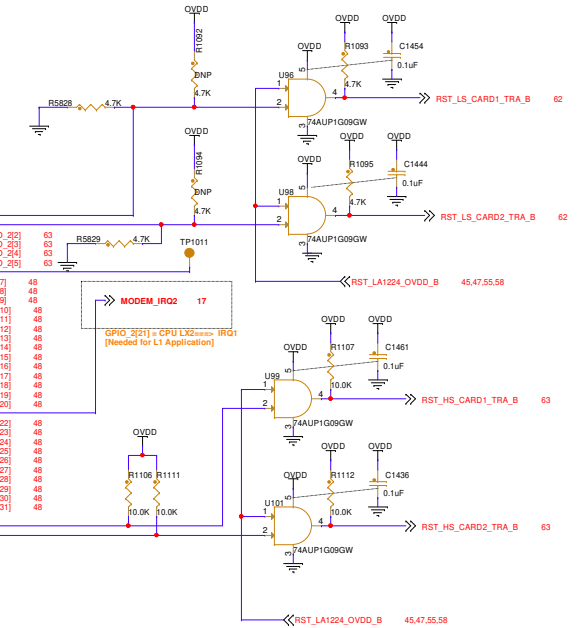
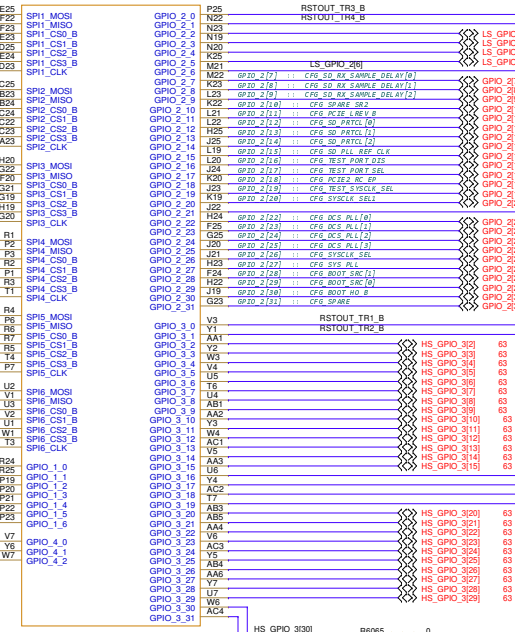
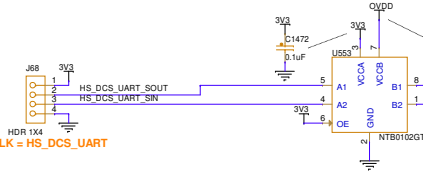
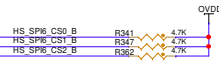
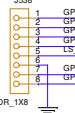
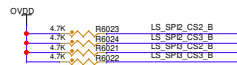
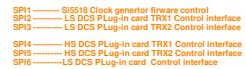


CURRENT MEASUREMENT

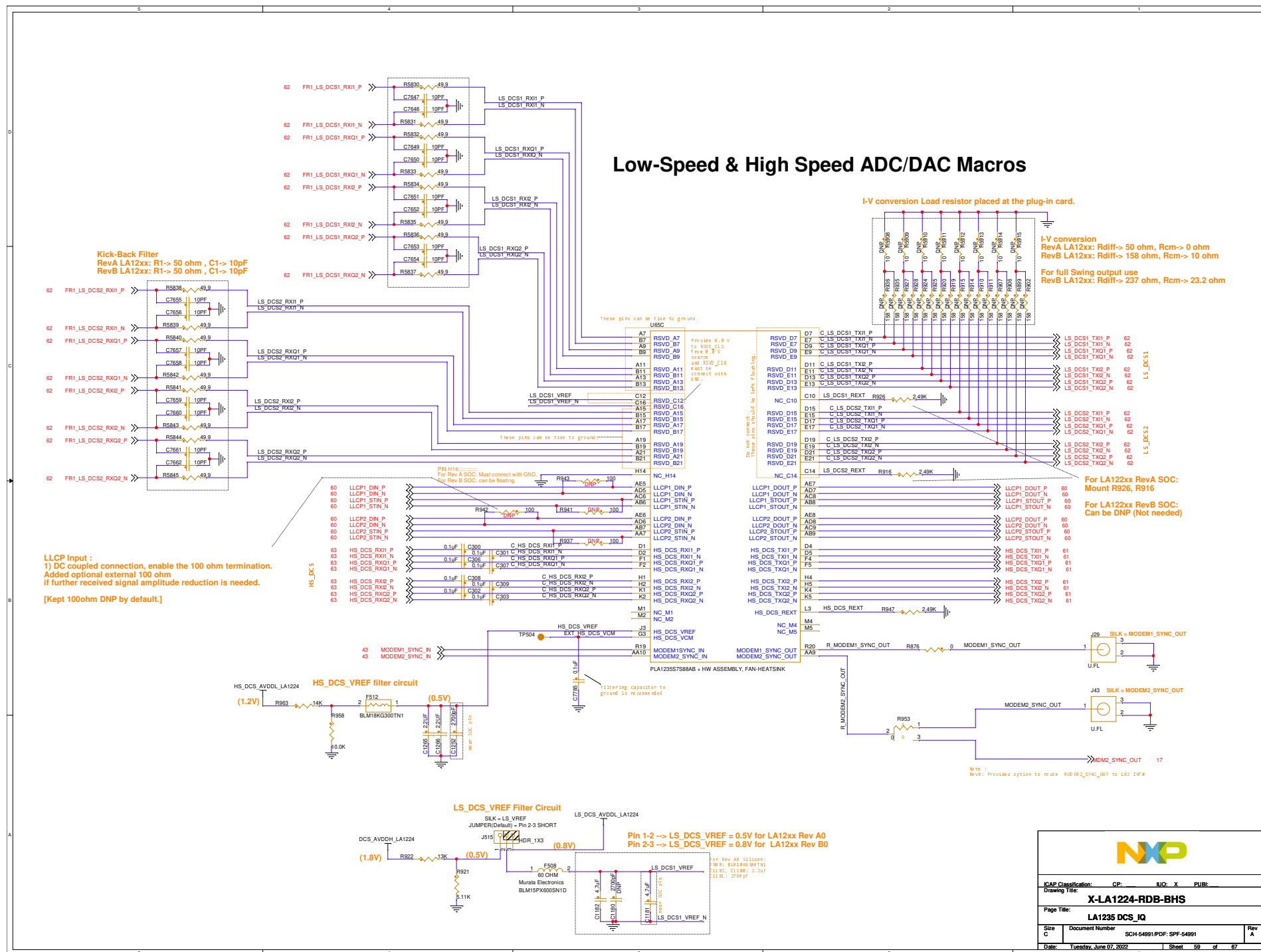


IAP Classification:		CP:	BUO: X	PUB:
Drawing Title:		X-LA1224-RDB-BHS		
Page Title:		LA1235 I2C Ports/ Muxes		
Size	Document Number	SCH-54891/PDF: SPF-54891		Rev
C				A
Date:	Sunday, June 05, 2022	Sheet	57	of 67

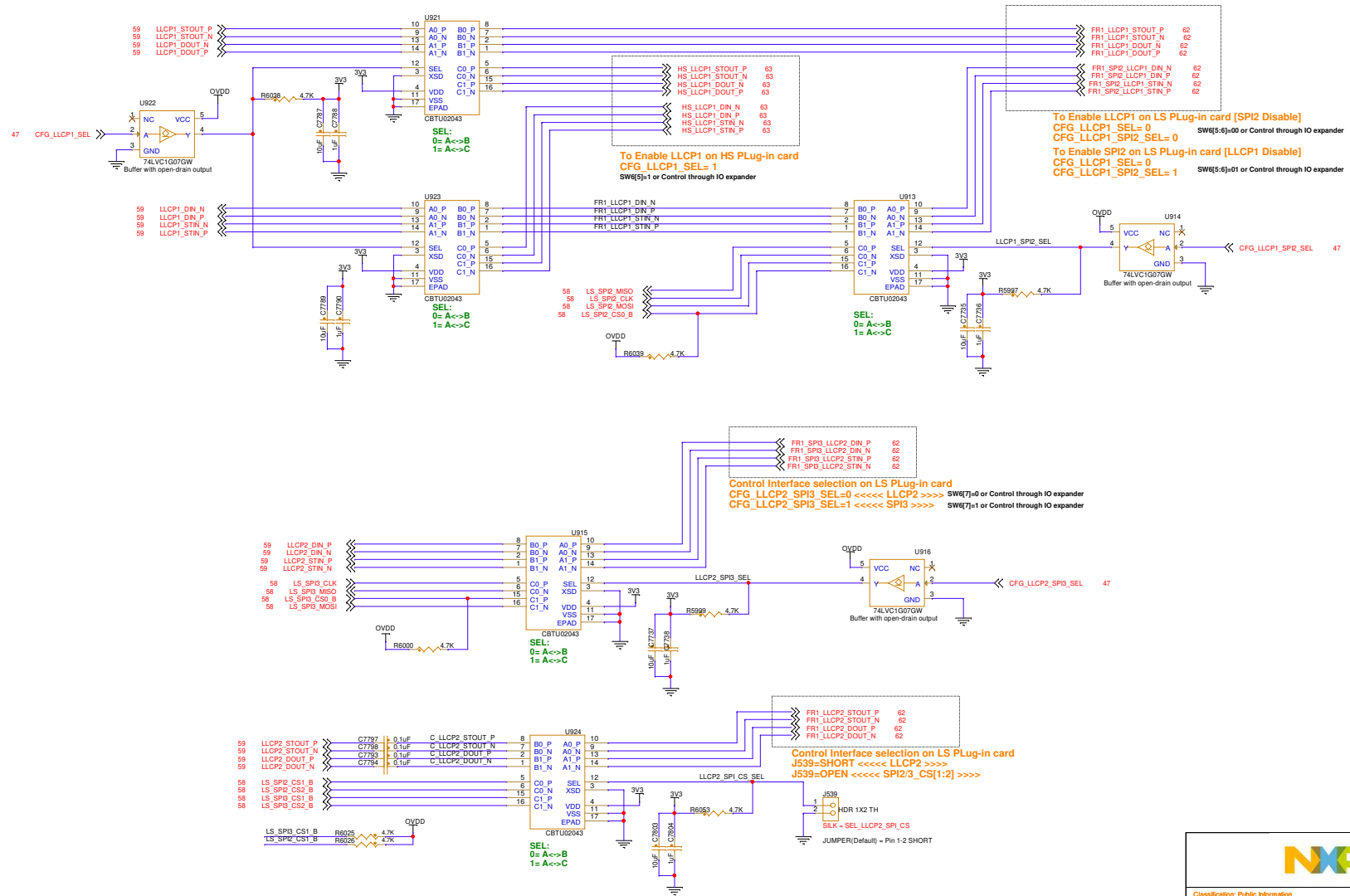
RF_CTL Subsystem for LS_DCS & HS_DCS



ICAP Classification:		CP:	IJO: X	PUBI:
Drawing Title:				
X-LA1224-RDB-BHS				
Page Title:				
LA1235 RF_CTL Subsystem				
Size C	Document Number SCH-54991/PDF: SPF-54991			Rev A
Date:	Sunday, June 05, 2022	Sheet	58	of 67



LLCP [1:2] & SPI[2:3] MUXING



Classification: Public Information

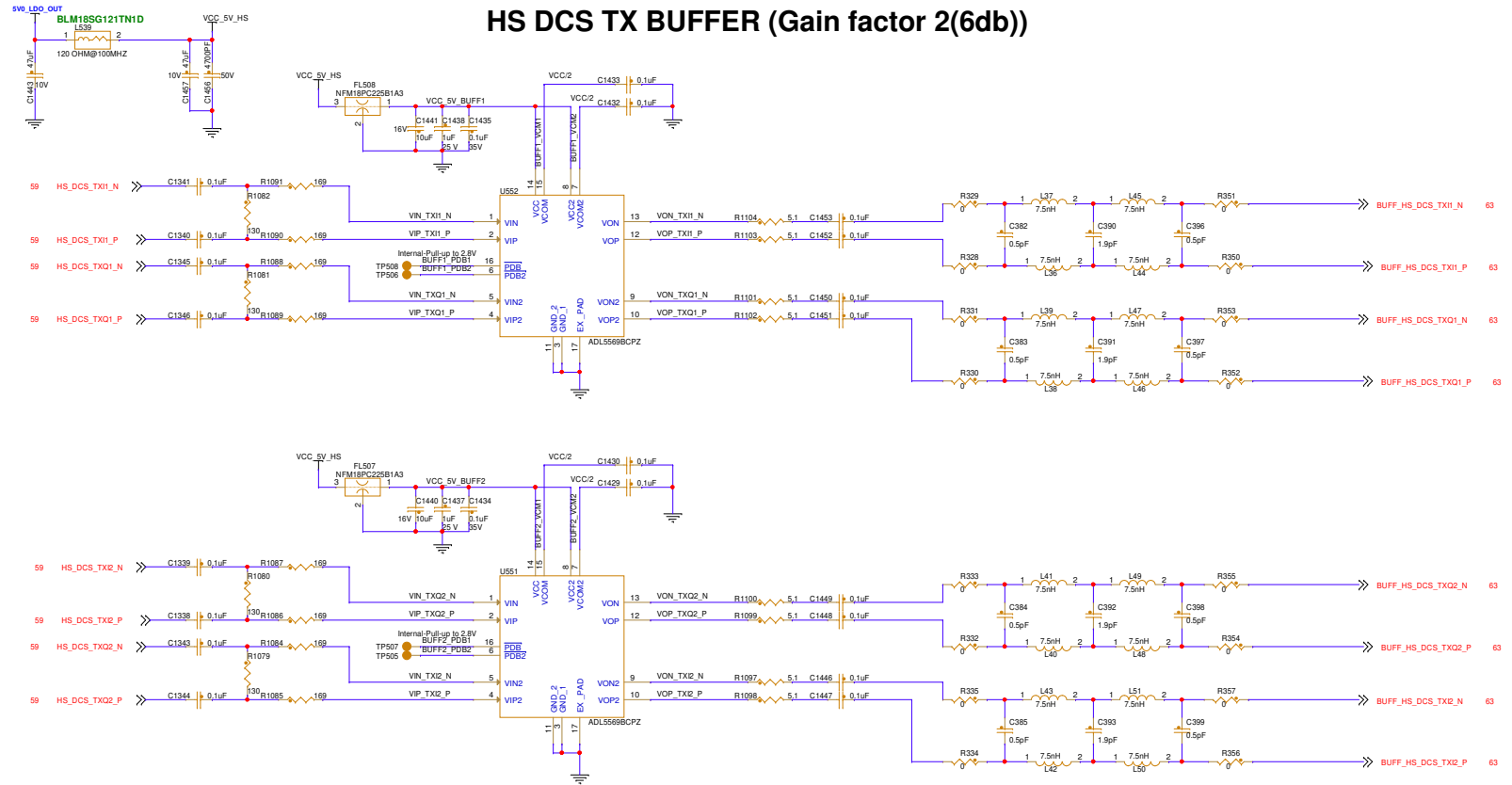
Drawing Title: **X-LA1224-RDB-BHS**

Page Title: **LLCP [1:2] MUXING**

Size C	Document Number SCH-54991/PDF: SPF-54991
-----------	---

Date:	Sunday, June 05, 2022	Sheet	60	of	67
-------	-----------------------	-------	----	----	----

HS DCS TX BUFFER (Gain factor 2(6db))



ICAP Classification:		CP:	IJO: X		PUB:	
Drawing Title:						
X-LA1224-RDB-BHS						
Page Title:						
HS_DCS_BUFFER						
Size C	Document Number SCH-54991/PDF: SPF-54991					Rev A
Date:	Sunday, June 05, 2022			Sheet	61 of 67	

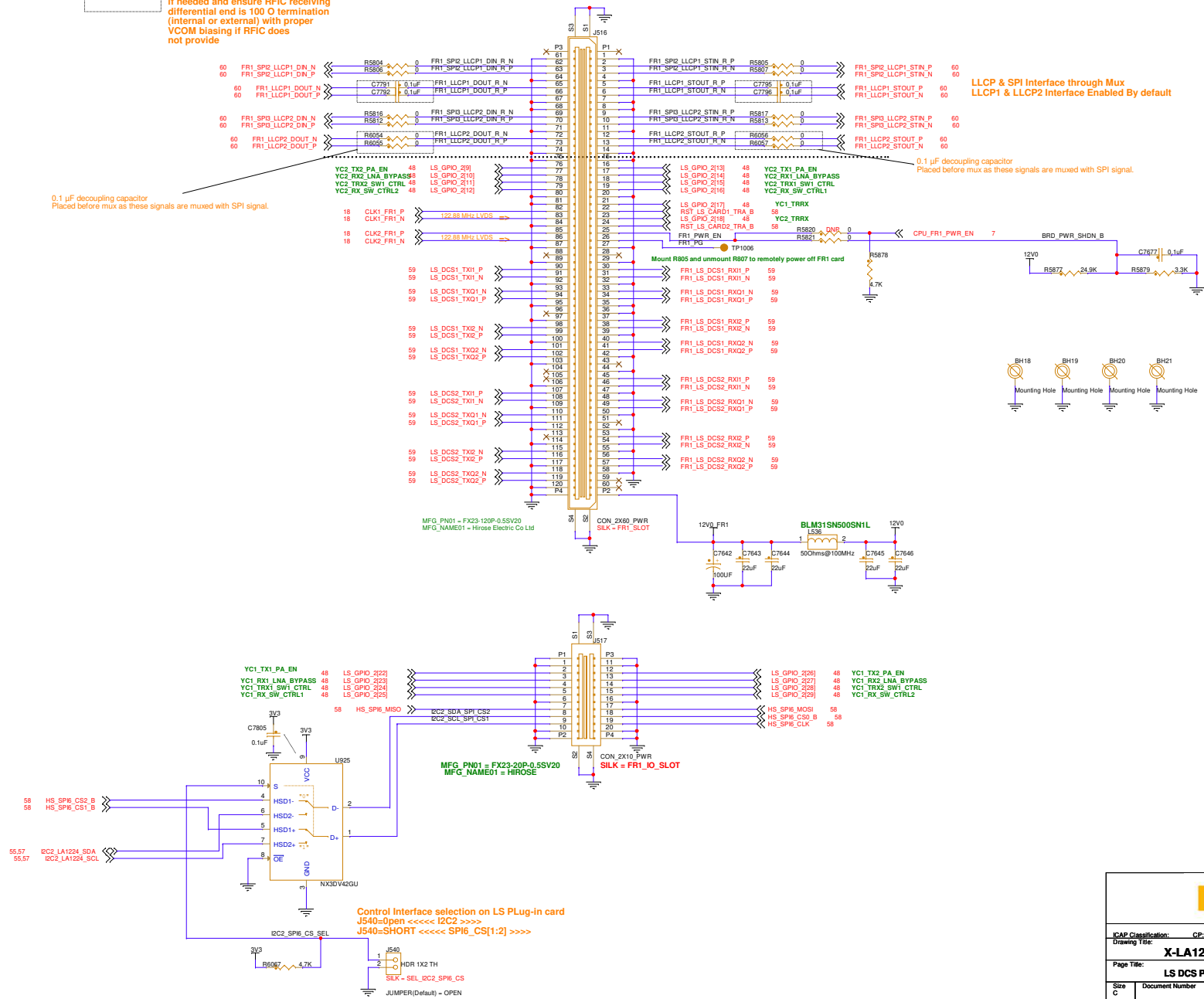
LS DCS PLUG CARD

0.1 μF decoupling capacitor if needed and ensure RFIC receiving differential end is 100 Ω termination (internal or external) with proper VCOM biasing if RFIC does not provide

0.1 μ F decoupling capacitor
Placed before mux as these signals are muxed with SPI signal.

LLCP & SPI Interface through Mux
LLCP1 & LLCP2 Interface Enabled By default

0.1 μ F decoupling capacitor
Placed before mux as these signals are muxed with SPI signal.



ICAP Classification:		CP:	IJO: X	PUBI:
Drawing Title:				
X-LA1224-RDB-BHS				
Page Title:				
LS DCS PLUG CARD				
Size C	Document Number			Rev A
	SCH-54991.PDF: SPF-54991			
Date:	Sunday, June 05, 2022	Sheet	62	of 57

HS DCS PLUG CARD

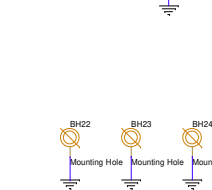
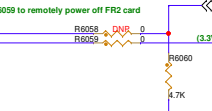
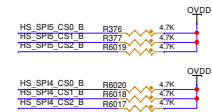
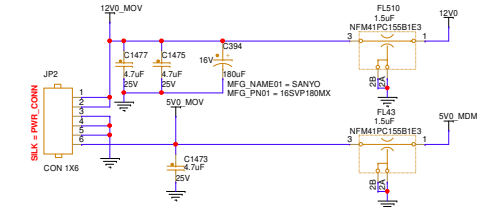
0.1 μ F decoupling capacitor if needed and ensure RFIC receiving differential end is 100 Ω termination (Internal or external) with proper VCOM biasing if RFIC does not provide

LLCP1 Interface (Routed through Mux)

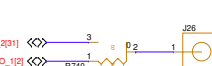
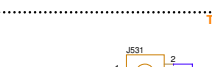
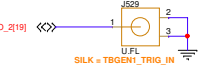
Ref_CLK for Plug-in Card
Note:
Sync Clock out from RF transceiver (122.88MHz Default)
Could be LVDS, LVPECL, HCSL and CML

HS DCS DAC Input to LA122xx (Through Buffer) (Ac-coupled)

Power Connector for Plug-in card [Optional]




TBGEN TRIG_IN, TRIG_OUT & SYNC_IN [1.8V]



ICAP Classification:		CP:	IJO: X	PUB:
Drawing Title:				
X-LA1224-RDB-BHS				
Page Title:				
HS DCS PLUG CARD				
Size C	Document Number SCH-54891/PDF: SPF-54891			Rev A
Date:	Sunday, June 05, 2022	Sheet	63	of 67

5	4	3	2	1
D				D
C				C
B				B
A				A
5	4	3	2	1



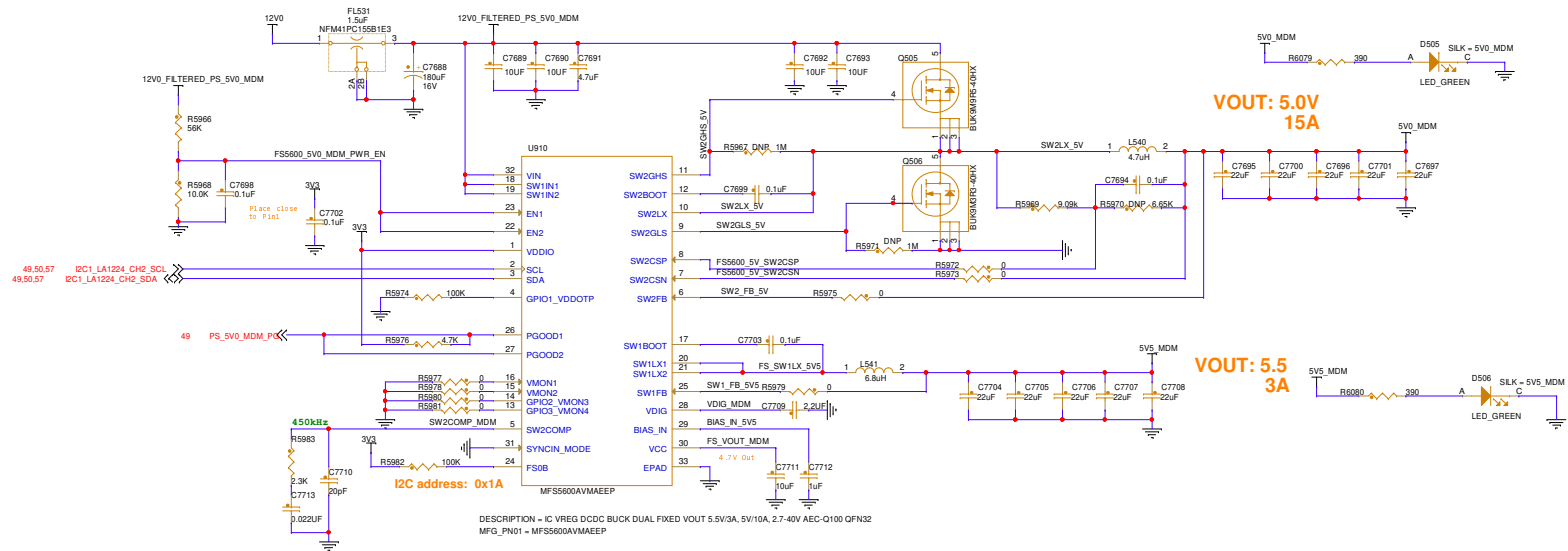
Classification: Public Information

Drawing Title:
X-LA1224-RDB-BHS

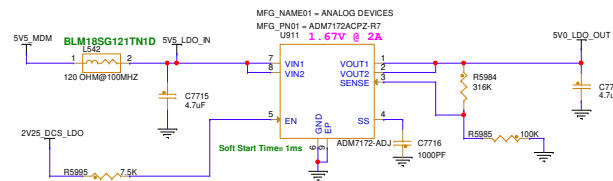
Page Title:
BLANK

Size C	Document Number SCH-54891/PDP: SPF-54891	Rev A
Date: Sunday, June 05, 2022	Sheet 64 of 67	

5V0 and 5.5V POWER SUPPLY [For LA12xx]




5V0 (LDO for HS DCS Buffers) POWER SUPPLY



ICAP Classification:		CP:	IJO: X	PUBt:
Drawing Title:				
X-LA1224-RDB-BHS				
Page Title:				
5V & 5.5V POWER SUPPLY				
Size C	Document Number SCH-54991/PDF: SPF-54991			Rev A
Date: Sunday, June 05, 2022		Sheet 65 of 67		

SWITCH(DEFAULT)-LIST

REF DES	SWITCH(DEFAULT)	PAGE NAME
SW1	1111 0011	007 - CPU Control
SW3	1111 1111	047 - LA1235 Control
SW4	1011 0011	047 - LA1235 Control
SW5	0111 1000	047 - LA1235 Control
SW6	0000 0000	047 - LA1235 Control



ICAP Classification:

CP:

BUO: X

PUBL:

Drawing Title:

X-LA1224-RDB-BHS

Page Title:

DIP SWITCH

Size

C

Document Number

SCH-54891/PDF: SPF-54891

Date:

Sunday, June 05, 2022

Rev

A

Sheet

68

of

67

DNP LIST

REF DES	ASSY_OPT	PAGE NAME
F1,J82,R5636,R5653		006 - Power ENTRY
R5637,R5639,R5654,R5656, R5657,R5658,R5923,R5931,TP24, TP90	DNP	006 - Power_ENTRY
R113,R728	DNP	007 - CPU Control
R977,R1016	DNP	008 - PF8100 PMIC1 SUPPLIES
R918,R957	DNP	009 - PF8100 PMIC2 SUPPLIES
R599,R602,R640	DNP	010 - VDD
C7721,C7726,R5674,R5990	DNP	011 - OVDD & GVDD
R8	DNP	012 - VTT POWER
C895,C953,C979,C1016,F500, F501,F505,F507,J19	DNP	014 - LX2160 GVDD/OVDD/SDVDD
R177,R179,R771,R826,R827, R830,R843,R933,R939	DNP	017 - LX2160 System Ctl. & JTAG
Y6		018 - Si5518 SYSTEM CLK
C7629,R5775,R5777,R5800, R5825,R6004,R6085,R6086,Y8	DNP	018 - Si5518 SYSTEM CLK
R667,R671	DNP	019 - SYSTEM CLK2
R74,R87,R661,R685,R754	DNP	020 - LX2160 XSPI
R32,R36,R53,R56,R61,R624	DNP	021 - LX2160 SDHC1 Port & Slot
U34A,U34B	DNP	022 - LX2160 SDHC2 + eMMC
R715	DNP	023 - LX2160 DDR Ports
J14,R698	DNP	026 - LX2160 SD #1
R130,R131	DNP	027 - DS250DF230 25GE Retimer
R883	DNP	029 - AQR113 #1 10G PHY Control
R153,R155,R887,R893	DNP	033 - LX2160 SD #2/PCle CONN
J5,R568,R603	DNP	034 - PCIe M.2 SLOT
C1040,C1050,R877,R904	DNP	036 - LX2160 RGMII / MII / IEEE
C297,C298,C321,C325,R247, R1037,R5953,Y5	DNP	037 - RGMII PHY #1 & Connector
R46,R54,R158,R159	DNP	039 - LX2160 I2C Ports / Muxes
BT1		040 - Misc. I2C Devices
U907	DNP	043 - PPS SYNC MAPPING
R730,R5906	DNP	045 - Reset control
R19,R3118,R3120	DNP	047 - LA1235 Control
R727,R1000,R1001,R1026	DNP	048 - LA1235 POR CONFIG
C7568,R5725,R5728	DNP	049 - PF7100 PMIC SUPPLY
C3316,C3324,C7687,R706,R5960	DNP	050 - LA1235 VDD
R5752,R6030		051 - LA1235 DCS SUPPLY
R962,R1022,R5748	DNP	051 - LA1235 DCS SUPPLY
C1021,C1024,C1033,C1039, C1044,C1051,C1131,C1150, C1169,C1187,C1229,C1231		052 - LA1235 POWER
C7778,C7779,C7780,TP115	DNP	052 - LA1235 POWER
R115,R609,R633,R700,R806, R945,R946,R980,R5852,R5855	DNP	055 - LA1235 JTAG, IRQ, XSPI
J50,R570,R574	DNP	057 - LA1235 I2C Ports/ Muxes
R1092,R1094	DNP	058 - LA1235 RF CTL Subsystem
R921,R922		059 - LA1235 DCS IQ
C1180,R899,R902,R906,R907, R910,R911,R914,R915,R919, R920,R924,R925,R927,R928, R935,R936,R937,R941,R942, R943,R5908,R5909,R5910,R5911, R5912,R5913,R5914,R5915	DNP	059 - LA1235 DCS_IQ
U551,U552		061 - HS_DCS_BUFFER
R1079,R1080,R1081,R1082, R1084,R1085,R1086,R1087, R1088,R1089,R1090,R1091, R1097,R1098,R1099,R1100, R1101,R1102,R1103,R1104		061 - HS_DCS_BUFFER
R5820	DNP	062 - LS DCS PLUG CARD
R6058	DNP	063 - HS DCS PLUG CARD
R5966		065 - 5V & 5.5V POWER SUPPLY
R5967,R5970,R5971	DNP	065 - 5V & 5.5V POWER SUPPLY

JUMPER(DEFAULT)- LIST

REF DES	JUMPER(DEFAULT)	PAGE NAME
J12	OPEN	010 - VDD
J19,J20	OPEN	014 - LX2160 GVDD/OVDD/SDVDD
J22	Pin 1-2 SHORT	014 - LX2160 GVDD/OVDD/SDVDD
J39	OPEN	017 - LX2160 System Ctl. & JTAG
J44	Pin 1-2 SHORT	017 - LX2160 System Ctl. & JTAG
J535,J536	OPEN	018 - Si5518 SYSTEM CLK
J40	Pin 1-2 SHORT	038 - LX2160 USB 3.0 Ports
J527	OPEN	045 - Reset control
J506,J507	OPEN	050 - LA1235 VDD
J513,J534	OPEN	051 - LA1235 DCS SUPPLY
J51	OPEN	052 - LA1235 POWER
J525	OPEN	057 - LA1235 I2C Ports/ Muxes
J515	Pin 2-3 SHORT	059 - LA1235 DCS IQ
J539	Pin 1-2 SHORT	060 - LLC[P1-2] MUXING
J540	OPEN	062 - LS DCS PLUG CARD



Classification: Public Information

Drawing Title: **X-LA1224-RDB-BHS**

Page Title: **JUMPER & DNP**

Size C Document Number SCH-54891/PDF: SPF-54891

Date: Sunday, June 05, 2022 Sheet 67 of 67