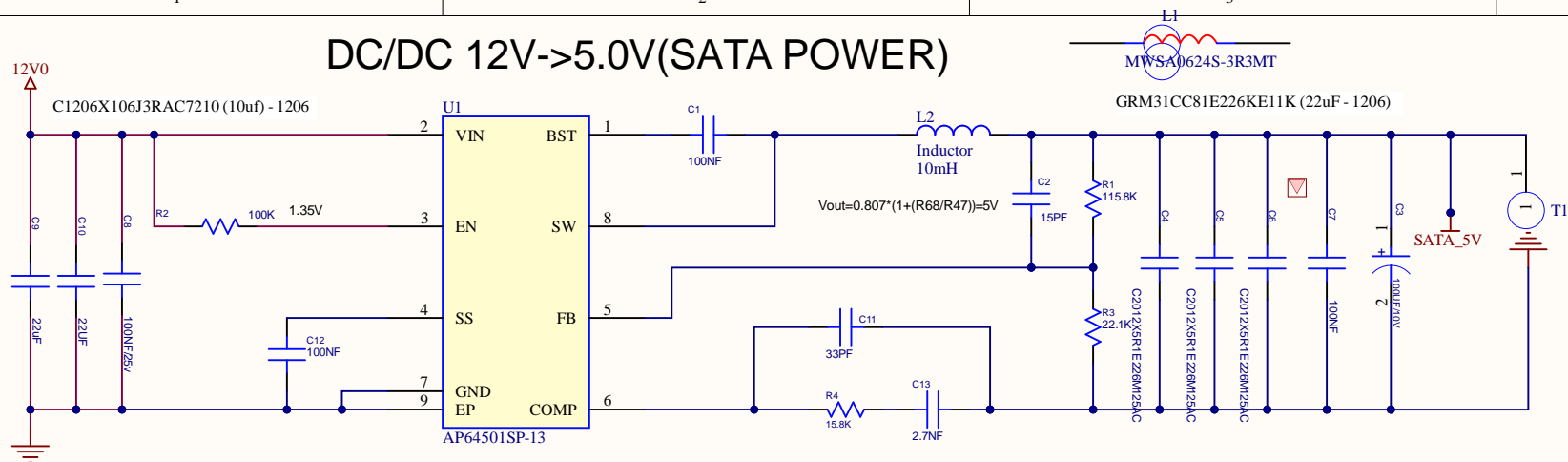
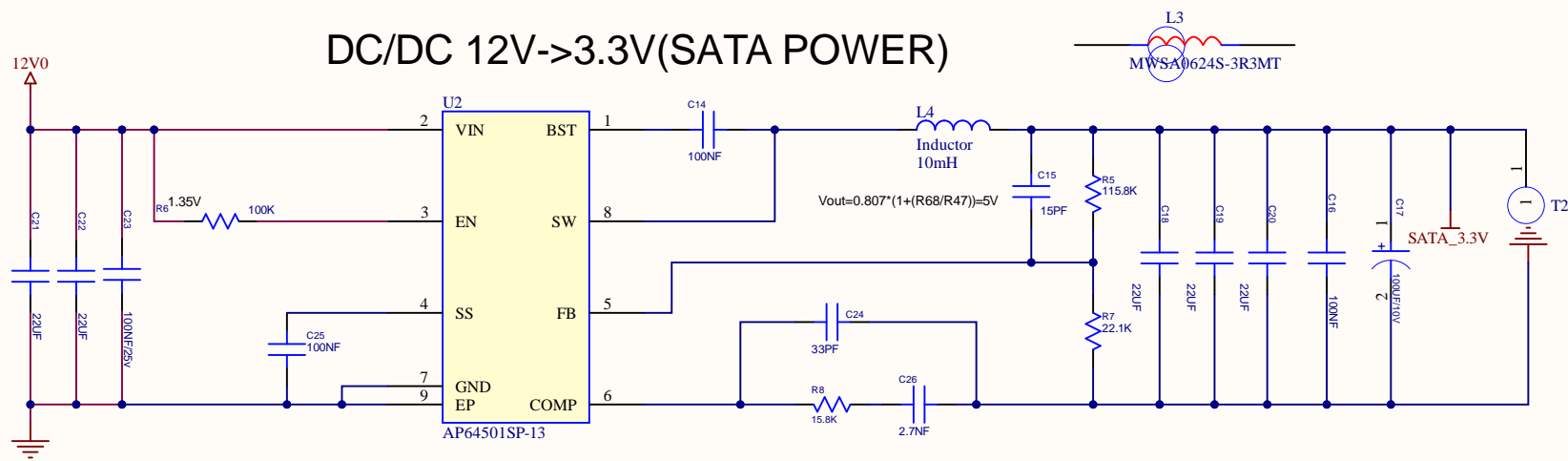


DC/DC 12V->5.0V(SATA POWER)



DC/DC 12V->3.3V(SATA POWER)



AP64501

Output Voltage (V)	R1 (kΩ)	R2 (kΩ)	L (μH)	C1 (μF)	C2 (μF)	C3 (nF)	C4 (pF)	R5 (kΩ)	C5 (nF)	C6 (pF) (Optional)
1.2	11.0	22.1	1.5	10	3 x 22	100	OPEN	3.74	2.7	150
1.5	19.6	22.1	2.2	10	3 x 22	100	OPEN	4.75	2.7	120
1.8	27.4	22.1	2.2	10	3 x 22	100	OPEN	5.62	2.7	100
2.5	47.5	22.1	3.3	10	3 x 22	100	OPEN	7.87	2.7	68
3.3	69.8	22.1	3.3	10	3 x 22	100	OPEN	10.50	2.7	56
5.0	115.8	22.1	3.6	10	3 x 22	100	OPEN	15.80	2.7	33
12.0	309.0	22.1	10.0	10	3 x 22	100	OPEN	37.40	2.7	1

Project Name: **Sata_4HD.PrjPcb**

Document Name: **Power Supply1.SchDoc**

Author: **José Meres**

Responsible Engineer: *

Requesting Company Name: *

Requesting Company Address: *

Requesting Company: *

Requesting Company Engineer: *

Requesting Company Phone: *

Size: **A4**

Checkd By: *

Date: **06/01/2022** Time: **14:29:37**

Modifie Date: **04/01/2022**

Time: **14:29:37**

File: **E:\OneDrive\ProjetoPCB's\Projeto_Raspbelry\CM4_Servidor\Power Supply1.SchDoc**

CREA: *

CREA: *

CREA: *

CREA: *

CREA: *

CREA: *

SECTOR: **IOT Designer**

ART: *

IOT Discovery Shiled

Rua de Santo Agostinho, 50 1 A

São José - Fontainha

Lisboa - Cascais

Portugal + 351 912723376

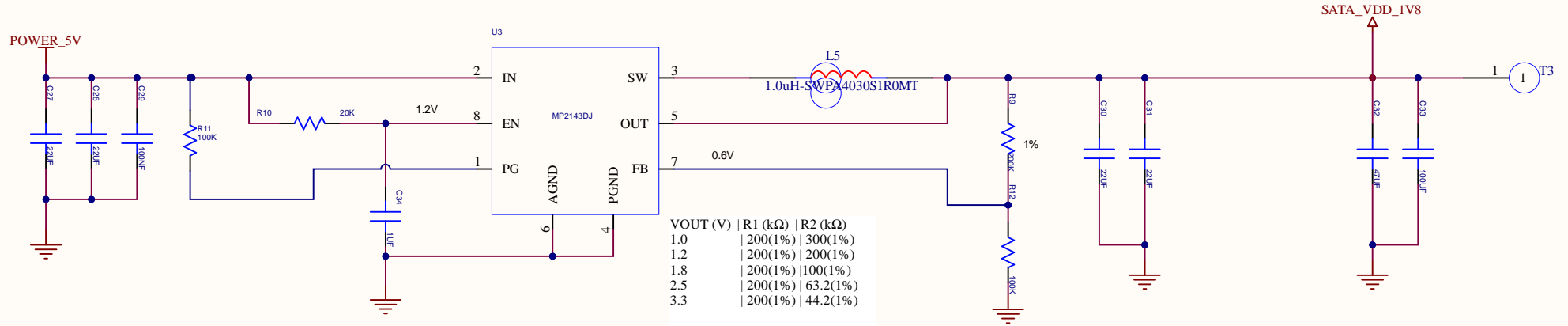
Revision: **00**

Sheet **1** of **8**

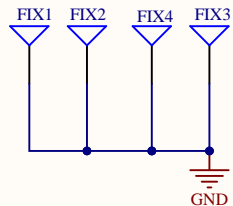
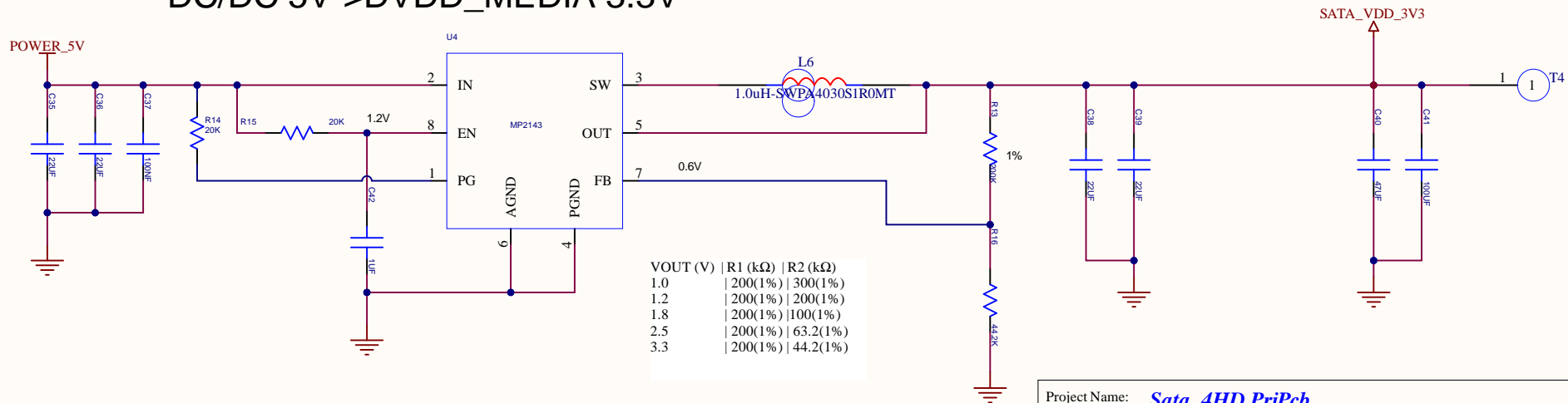



Power Supply2

DC/DC 5V->DVDD_MEDIA 1.8V

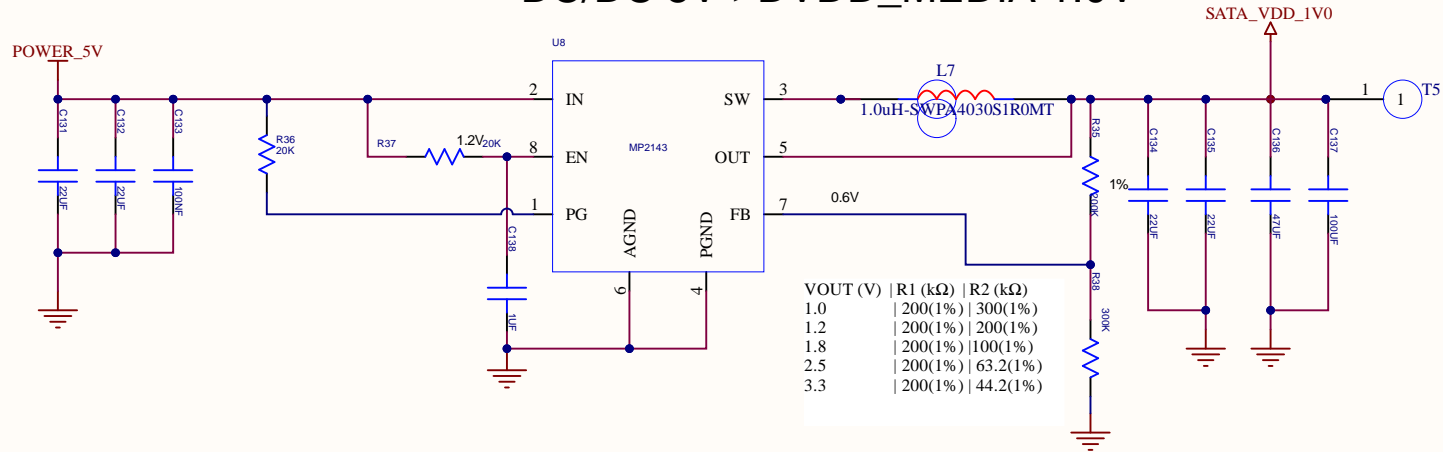


DC/DC 5V->DVDD_MEDIA 3.3V

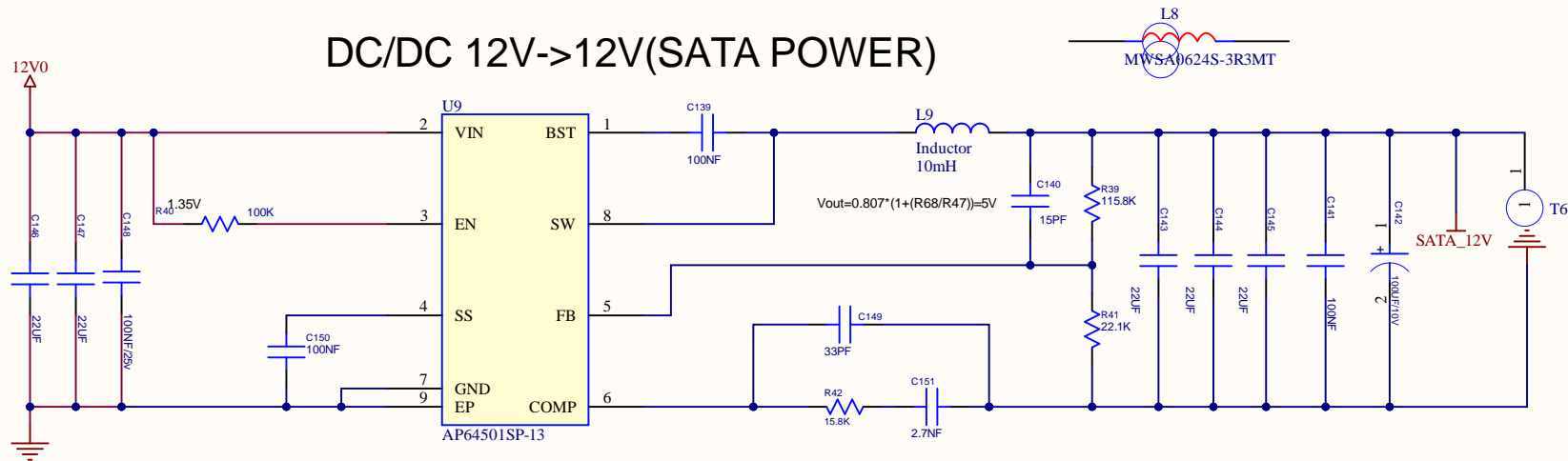


Project Name: Sata_4HD.PrjPcb		
Document Name: Power Supply2.SchDoc		
Author: José Meres	CREA: *	
Responsible Engineer: *	CREA: *	IOT Discovery Shiled
Requesting Company Name: *		Rua de Santo Agostinho, 50 1 A
Requesting Company Address: *		São Jose - Fontainha
Requesting Company: *	CREA: *	Lisboa - Cascais
Requesting Company Engineer: *	CREA: *	Portugal + 351 912723376
Requesting Company Phone: *	SECTOR: IOT Designer	Revision: 00
Size: A4	Check By: *	ART: * Sheet 2 of 8
Date: 06/01/2022	Time: 14:29:37	Modifie Date: 04/01/2022
Time: 14:29:37		
File: E:\OneDrive\ProjetoPCB's\Projeto_Raspbelry\CM4_Servidor\Power Supply2.SchDoc		

DC/DC 5V->DVDD_MEDIA 1.0V



DC/DC 12V->12V(SATA POWER)



AP64501

Output Voltage (V)	R1 (kΩ)	R2 (kΩ)	L (μH)	C1 (μF)	C2 (μF)	C3 (nF)	C4 (pF)	R5 (kΩ)	C5 (nF)	C6 (pF) (Optional)
1.2	11.0	22.1	1.5	10	3 x 22	100	OPEN	3.74	2.7	150
1.5	19.6	22.1	2.2	10	3 x 22	100	OPEN	4.75	2.7	120
1.8	27.4	22.1	2.2	10	3 x 22	100	OPEN	5.62	2.7	100
2.5	47.5	22.1	3.3	10	3 x 22	100	OPEN	7.87	2.7	68
3.3	69.8	22.1	3.3	10	3 x 22	100	OPEN	10.50	2.7	56
5.0	115.8	22.1	3.6	10	3 x 22	100	OPEN	15.80	2.7	33
12.0	309.0	22.1	10.0	10	3 x 22	100	OPEN	37.40	2.7	1

Project Name: **Sata_4HD.PrjPcb**

Document Name: **Power Supply3.SchDoc**

Author: **José Meres**

Responsible Engineer: *

Requesting Company Name: *

Requesting Company Address: *

Requesting Company: *

Requesting Company Engineer: *

Requesting Company Phone: *

Size: **A4**

Check By: *

Date: **06/01/2022** Time: **14:29:37**

Modifie Date: **04/01/2022** Time: **14:29:37**

File: **E:\OneDrive\ProjetoPCB's\Projeto_Raspbelry\CM4_Servidor\Power Supply3.SchDoc**

CREA: *

CREA: *

CREA: *

CREA: *

CREA: *

CREA: *

SECTOR: **IOT Designer**

ART: *

IOT Discovery Shileld

Rua de Santo Agostinho, 50 1 A

São José - Fontainha

Lisboa - Cascais

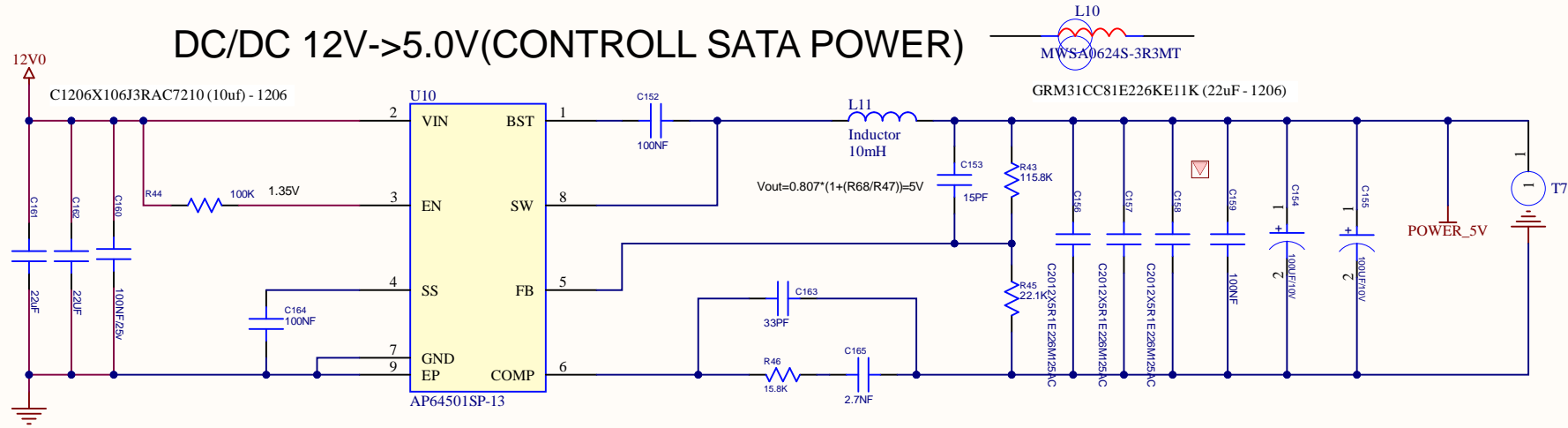
Portugal + 351 912723376


Revision: 00

Sheet 3 of 8

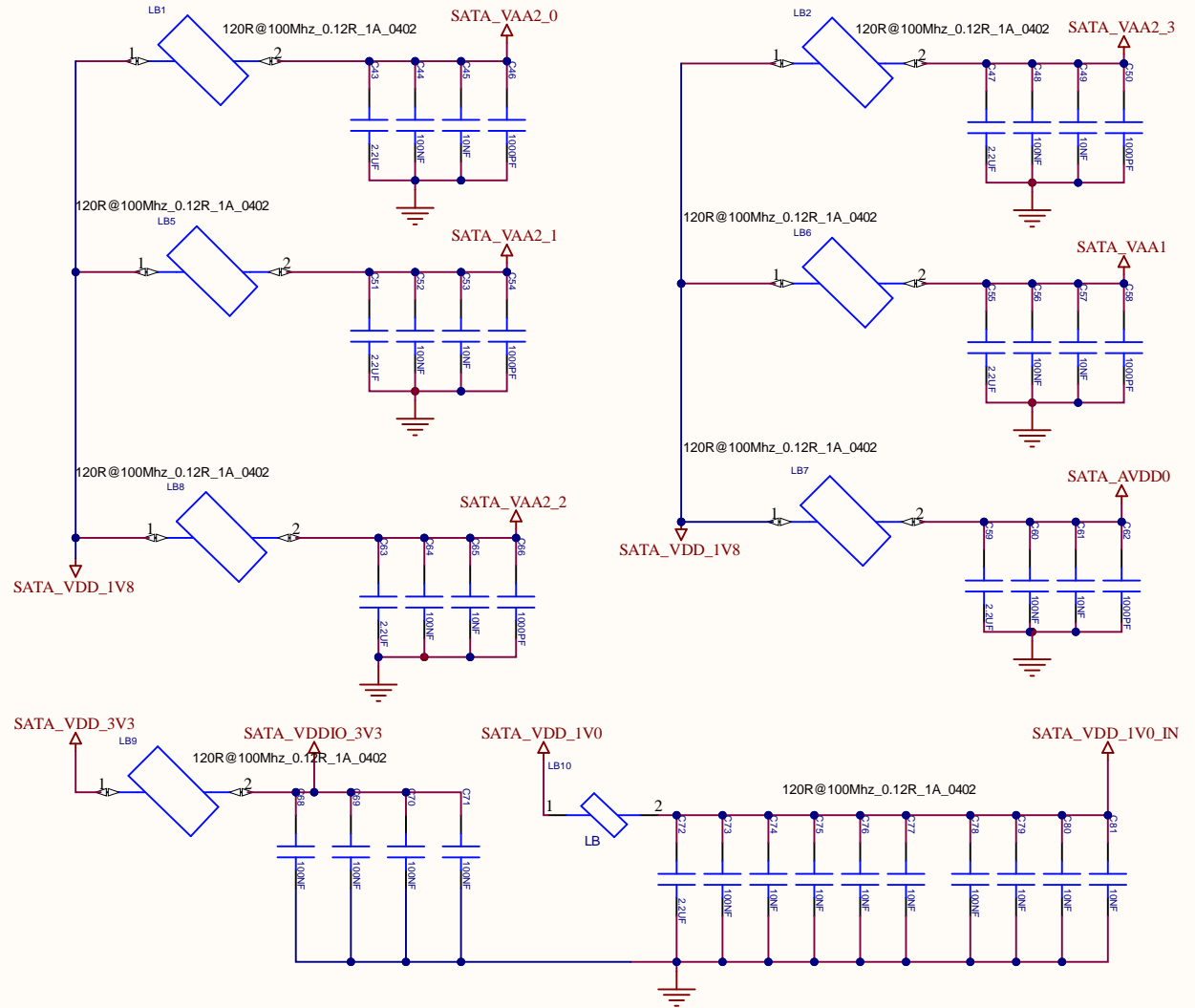
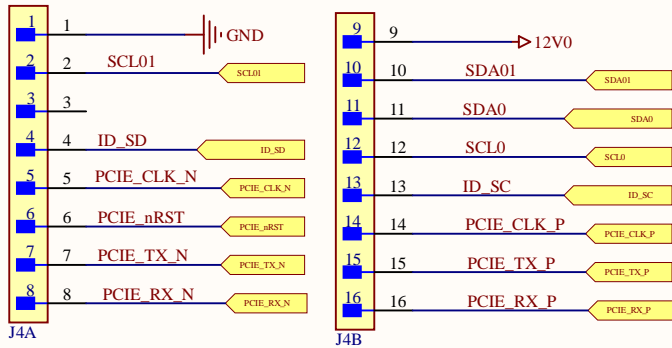
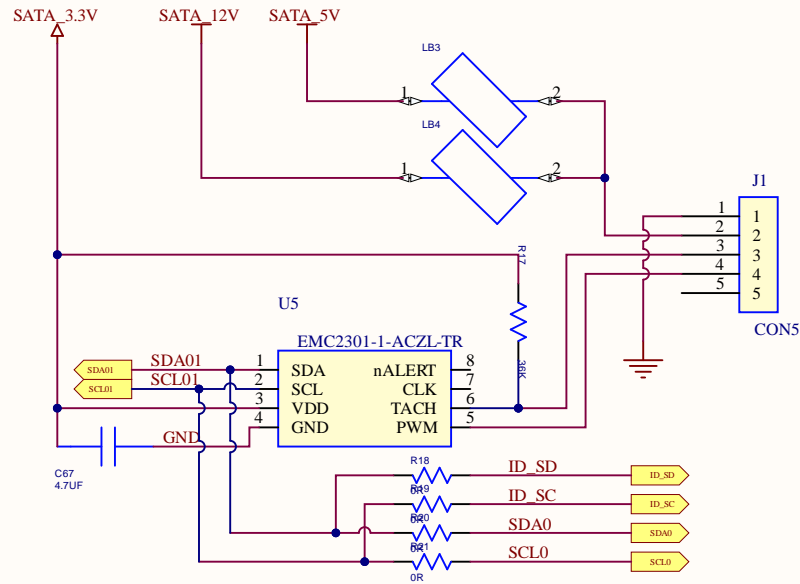



DC/DC 12V->5.0V(CONTROLL SATA POWER)



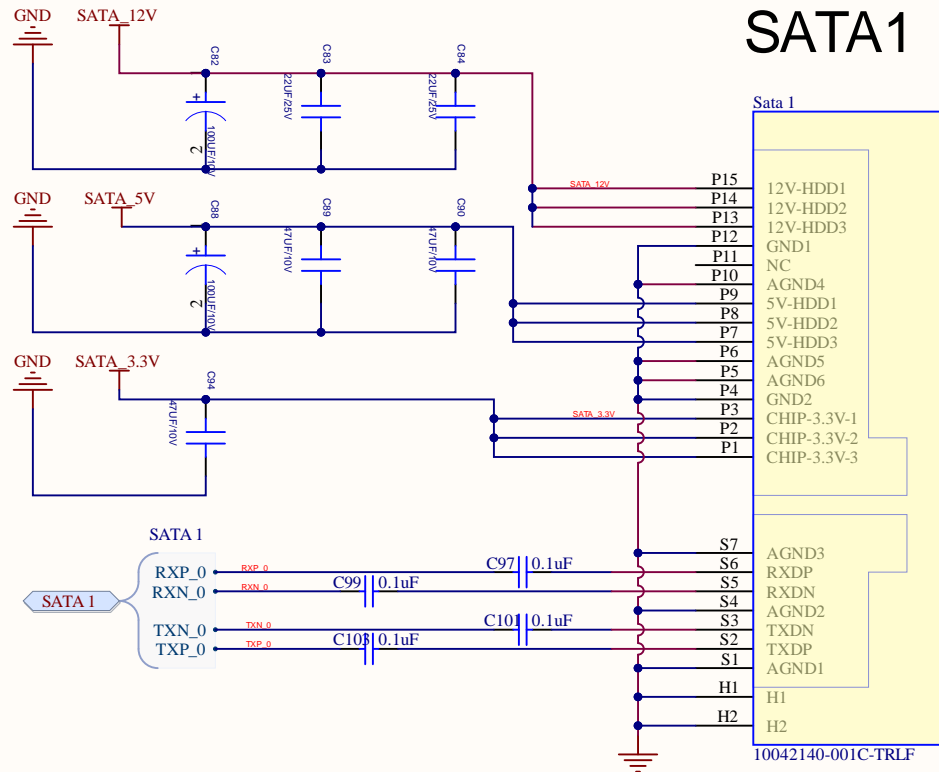
Project Name: <i>Sata_4HD.PrjPcb</i>			
Document Name: <i>Power Supply4.SchDoc</i>			
Author: <i>José Meres</i>	CREA: *		
Responsible Engineer: *	CREA: *		
Requesting Company Name: *			<i>IOT Discovery Shiled</i>
Requesting Company Address: *			<i>Rua de Santo Agostinho, 50 1 A</i>
Requesting Company: *			<i>São Jose - Fontainha</i>
Requesting Company Engineer: *			<i>Lisboa - Cascais</i>
Requesting Company Phone: *			<i>Portugal + 351 912723376</i>
Size: <i>A4</i>	Checkd By: *	ART: *	Revision: <i>00</i>
Date: <i>06/01/2022</i>	Time: <i>14:29:37</i>	Modifie Date: <i>04/01/2022</i>	Time: <i>14:29:37</i>
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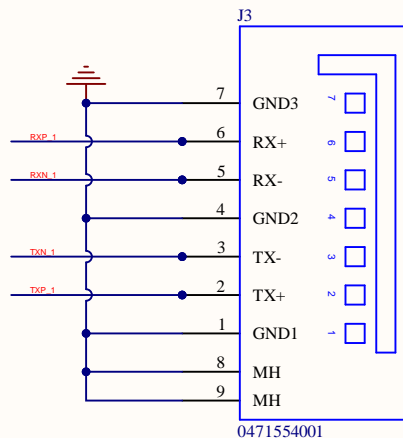
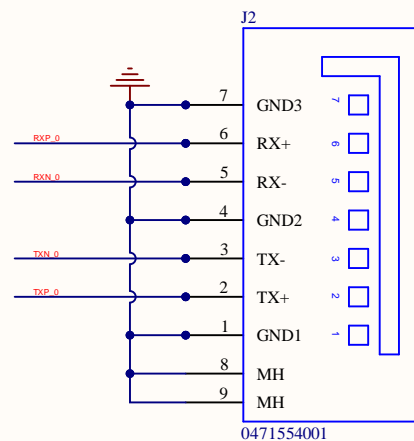
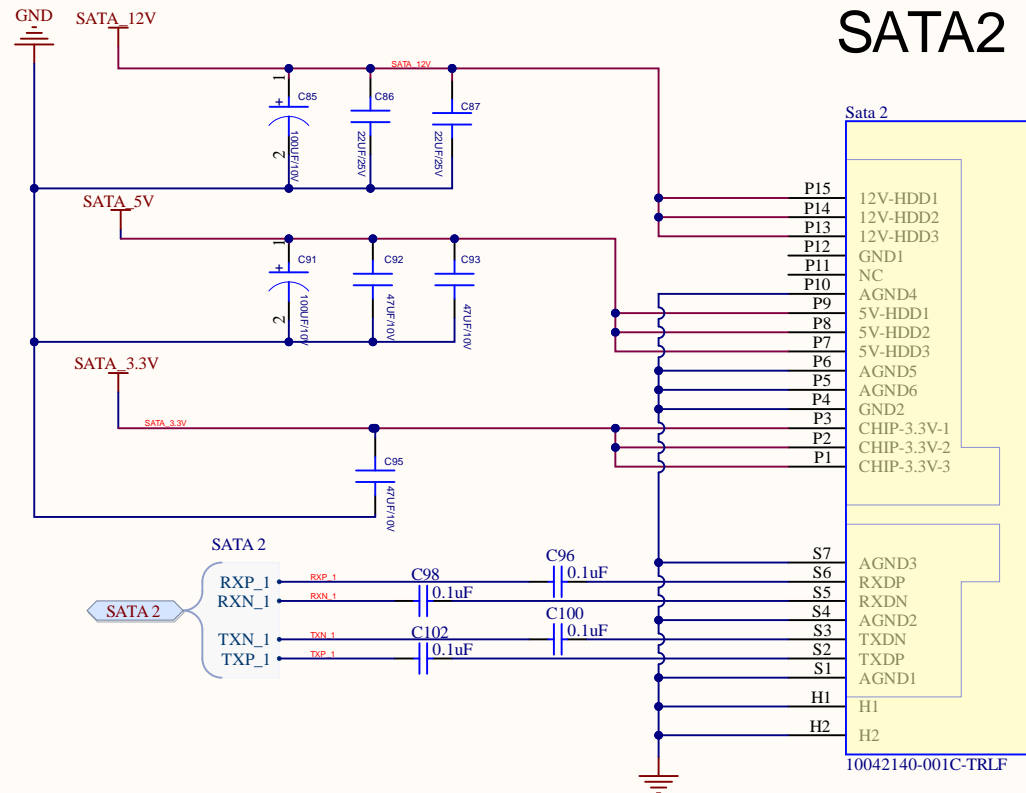



Project Name: <i>Sata_4HD.PrjPcb</i>		
Document Name: <i>Sata_SSD1.SchDoc</i>		
Author: <i>José Meres</i>	CREA: *	<i>IOT Discovery Shiled</i>
Responsible Engineer: *	CREA: *	
Requesting Company Name: *		<i>Rua de Santo Agostinho, 50 1 A</i>
Requesting Company Address: *		<i>São Jose - Fontainha</i>
Requesting Company: *	CREA: *	<i>Lisboa - Cascais</i>
Requesting Company Engineer: *		<i>Portugal + 351 912723376</i>
Requesting Company Phone: *		SECTOR: <i>IOT Designer</i>
Size: <i>A4</i>	Checkd By: *	Revision: <i>00</i>
	ART: *	Sheet <i>5</i> of <i>8</i>
Date: <i>06/01/2022</i>	Time: <i>14:29:38</i>	Modifie Date: <i>06/01/2022</i>
Time: <i>14:29:38</i>		
File: <i>E:\OneDrive\ProjetoPCB's\Projeto_Raspbelry\CM4_Servidor\Sata_SSD1.SchDoc</i>		

SATA1

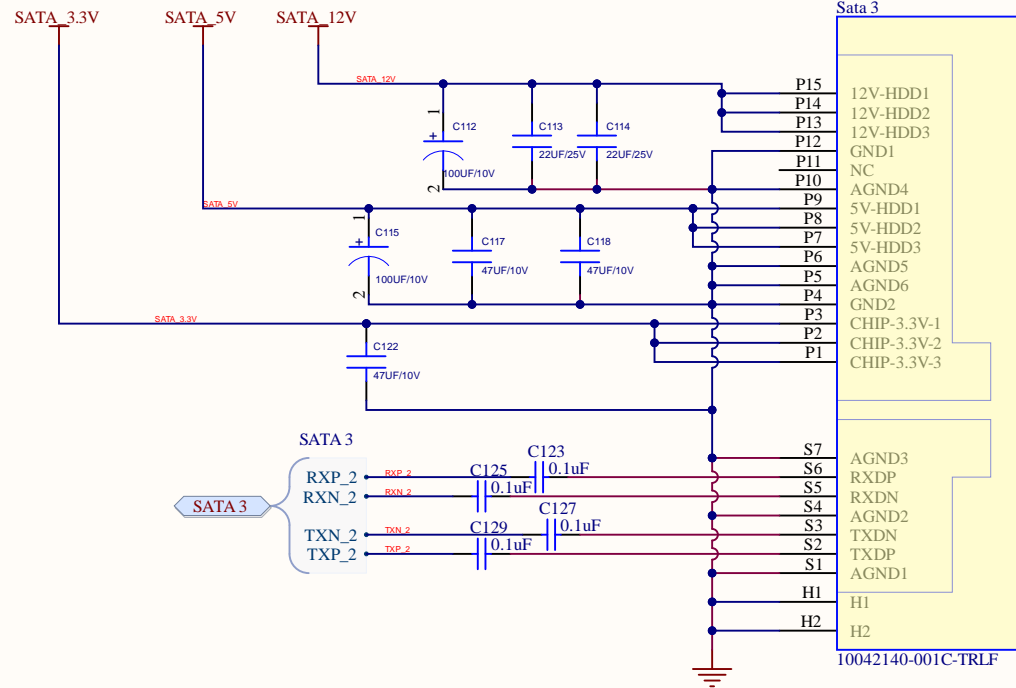


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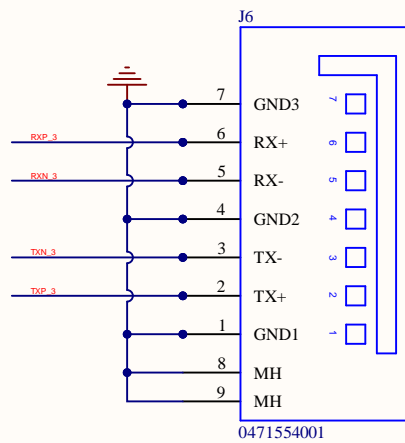
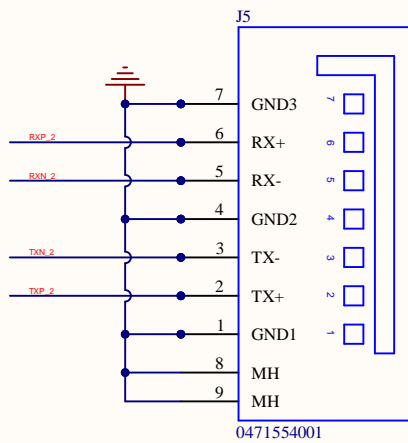
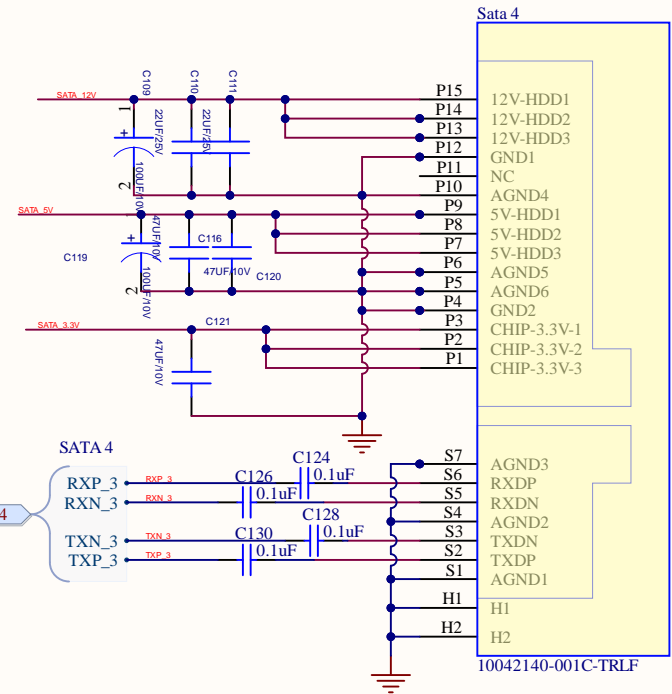



Project Name: <i>Sata_4HD.PrjPcb</i>		
Document Name: <i>Sata_SSD2.SchDoc</i>		
Author: <i>José Meres</i>	CREA: *	<i>IOT Discovery Shileld</i> <i>Rua de Santo Agostinho, 50 1 A</i> <i>São Jose - Fontainha</i> <i>Lisboa - Cascais</i> <i>Portugal + 351 912723376</i> Revision: <i>00</i> Sheet <i>6</i> of <i>8</i>
Responsible Engineer: *	CREA: *	
Requesting Company Name: *		
Requesting Company Address: *		
Requesting Company: *	CREA: *	
Requesting Company Engineer: *	CREA: *	
Requesting Company Phone: *	SECTOR: <i>IOT Designer</i>	
Size: <i>A4</i>	Checkd By: *	ART: *
Date: <i>06/01/2022</i>	Time: <i>14:29:38</i>	Modifie Date: <i>04/01/2022</i>
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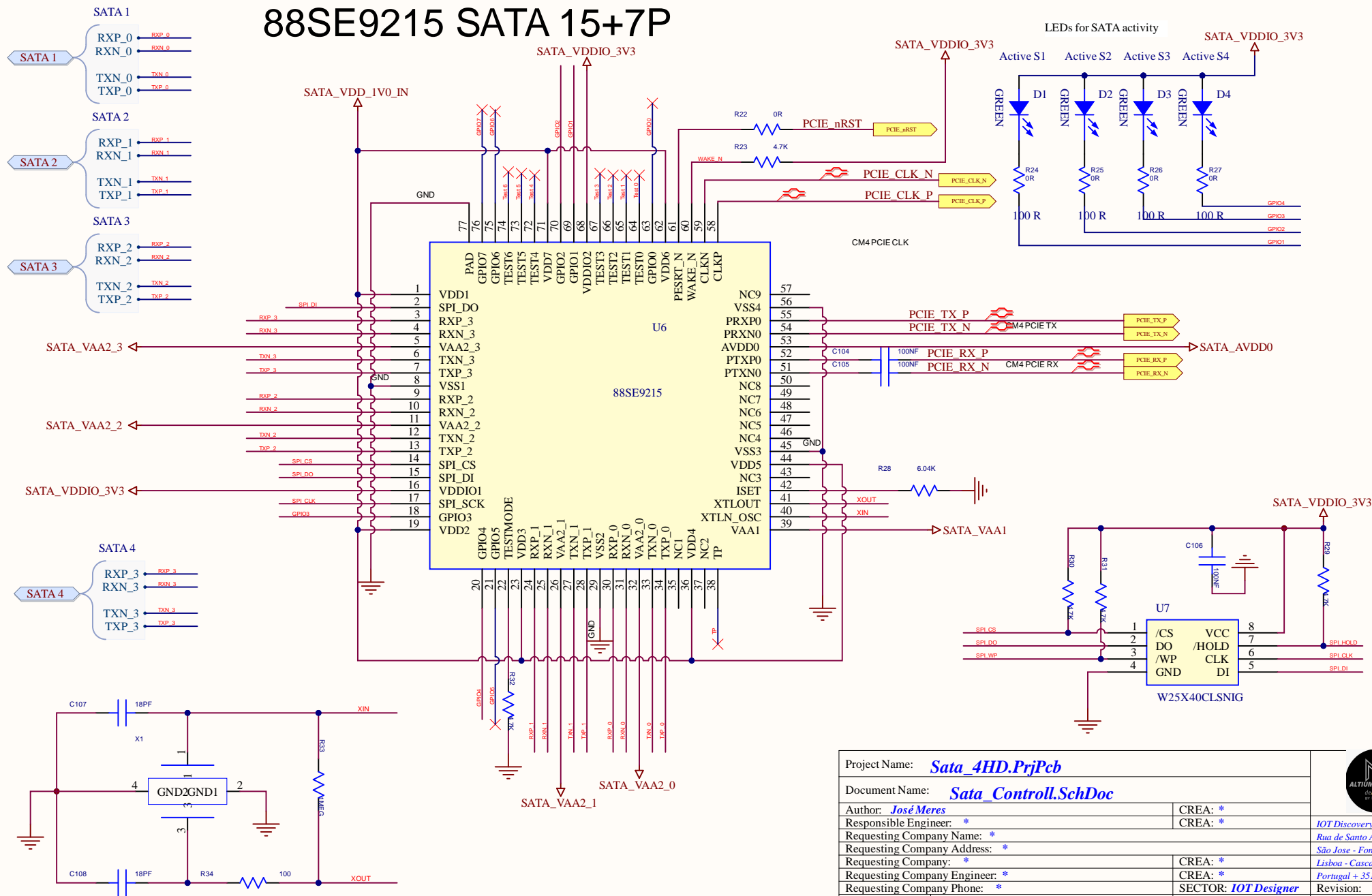



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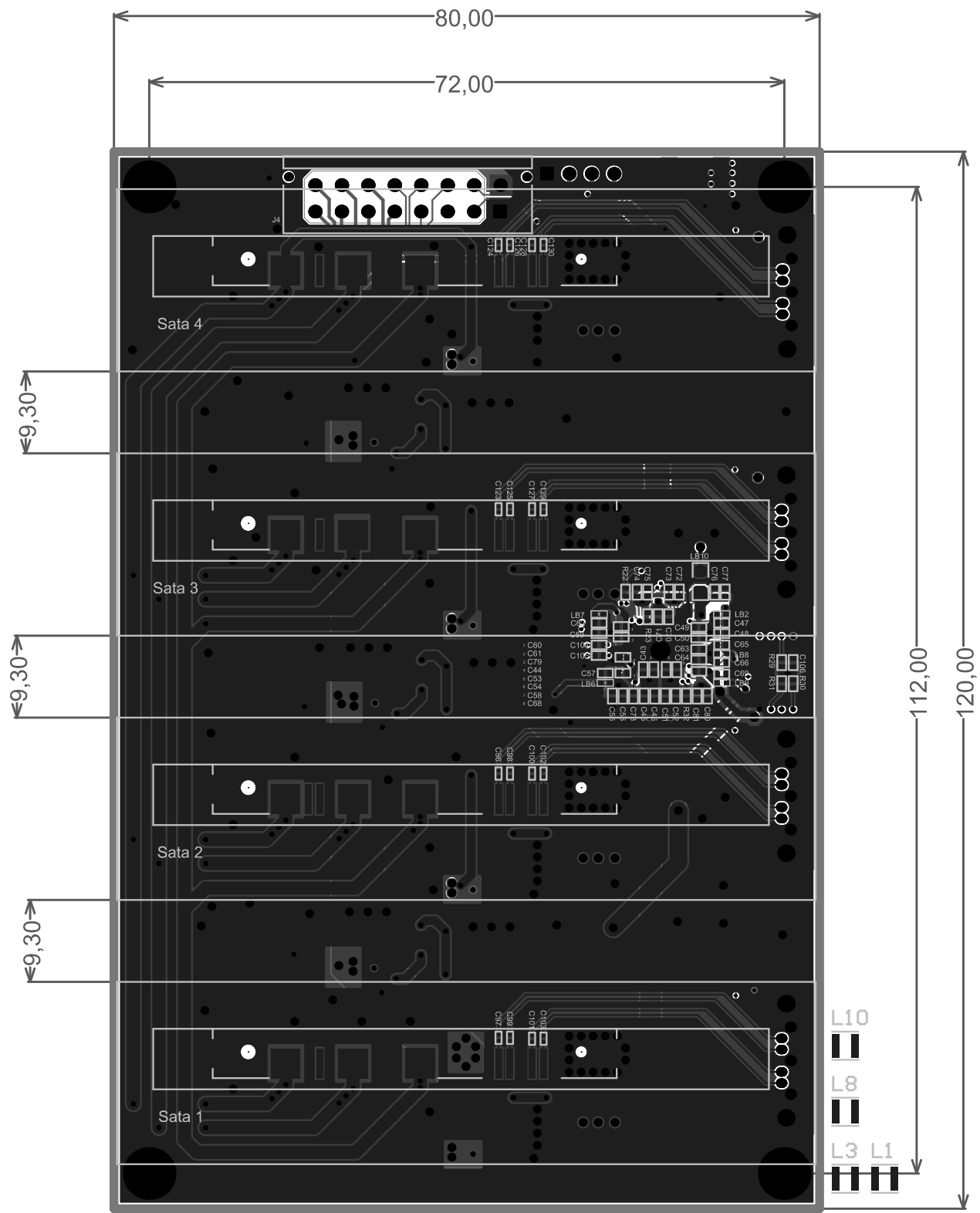


Project Name: <i>Sata_4HD.PrjPcb</i>		
Document Name: <i>Sata_SSD4.SchDoc</i>		
Author: <i>José Meres</i>	CREA: *	
Responsible Engineer: *	CREA: *	
Requesting Company Name: *		<i>IOT Discovery Shiled</i>
Requesting Company Address: *		<i>Rua de Santo Agostinho, 50 1 A</i>
Requesting Company: *		<i>São Jose - Fontainha</i>
Requesting Company Engineer: *		<i>Lisboa - Cascais</i>
Requesting Company Phone: *		<i>Portugal + 351 912723376</i>
Size: <i>A4</i>	Checkd By: *	Revision: <i>00</i>
Date: <i>06/01/2022</i>	Time: <i>14:29:38</i>	Sheet <i>7</i> of <i>8</i>
Modifie Date: <i>04/01/2022</i>		
Time: <i>14:29:38</i>		
File: <i>E:\OneDrive\ProjetoPCB's\Projeto_Raspbelry\CM4_Servidor\Sata_SSD4.SchDoc</i>		

88SE9215 SATA 15+7P



Project Name: <i>Sata_4HD.PrjPcb</i>		
Document Name: <i>Sata_Controll.SchDoc</i>		
Author: <i>José Meres</i>	CREA: *	
Responsible Engineer: *	CREA: *	<i>IOT Discovery Shiled</i>
Requesting Company Name: *		<i>Rua de Santo Agostinho, 50 1 A</i>
Requesting Company Address: *		<i>São Jose - Fontainha</i>
Requesting Company: *	CREA: *	<i>Lisboa - Cascais</i>
Requesting Company Engineer: *	CREA: *	<i>Portugal + 351 912723376</i>
Requesting Company Phone: *	SECTOR: <i>IOT Designer</i>	Revision: <i>00</i>
Size: <i>A4</i>	Check By: *	ART: *
Date: <i>06/01/2022</i>	Time: <i>14:29:38</i>	Modifie Date: <i>05/01/2022</i>
File: <i>E:\OneDrive\ProjetoPCB's\Projeto_Raspbelry\CM4_Servidor\Sata_Controll.SchDoc</i>		Sheet <i>8</i> of <i>8</i>



Comment	Description	Designator	Footprint	LibRef	Quantity
100NF		C1, C7, C12, C14, C16, C25, C44, C48, C52, C56, C60, C64, C68, C69, C70, C71, C73, C78, C104, C105, C106, C139, C141, C150, C152, C159, C164	C0402-ROUND	C_o_Dup1, C_o_Dup3	27
15PF		C2, C15, C140, C153	C0402-ROUND	C_o_Dup1	4
100UF/10V		C3, C17, C82, C85, C88, C91, C109, C112, C115, C119, C142, C154, C155	Capacitor SMD Eletrolitic-D8.0x10	CP_0	13
C2012XSR1E226M125 AC		C4, C5, C6, C156, C157, C158	C0805-ROUND	C_o_Dup1	6
100NF/25v		C8, C23, C148, C160	C0805-ROUND	C_o_Dup1	4
22uF		C9, C10, C18, C19, C20, C21, C22, C27, C28, C30, C31, C35, C36, C38, C39, C131, C132, C134, C135, C143, C144, C145, C146, C147, C161, C162	C0805-ROUND	C_o_Dup1, C_o_Dup3	26
33PF		C11, C24, C149, C163	C0402-ROUND	C_o_Dup1	4
2.7NF		C13, C26, C151, C165	C0402-ROUND	C_o_Dup1	4
100NF		C29, C37, C133	C0805-ROUND	C_o_Dup3	3
47UF		C32, C40, C136	C0805-ROUND	C_o_Dup3	3
100UF		C33, C41, C137	C0805-ROUND	C_o_Dup3	3
1UF		C34, C42, C138	C0402-ROUND	C_o_Dup3	3
2.2UF		C43, C47, C51, C55, C59, C63, C72	C0402-ROUND	C_o_Dup3	7
10NF		C45, C49, C53, C57, C61, C65, C74, C75, C76, C77, C79, C80, C81	C0402-ROUND	C_o_Dup3	13
1000PF		C46, C50, C54, C58, C62, C66	C0402-ROUND	C_o_Dup3	6
4.7UF		C67	C0402-ROUND	C_4	1
22UF/25V		C83, C84, C86, C87, C110, C111, C113, C114	C0805-ROUND	C_o_Dup2	8
47UF/10V		C89, C90, C92, C93, C94, C95, C116, C117, C118, C120, C121, C122	C0805-ROUND	C_o_Dup2	12
GRM155R71A104KA0 1D	Chipe CapacitorSMD	C96, C97, C98, C99, C100, C101, C102, C103, C123, C124, C125, C126, C127, C128, C129, C130	C0201-ROUND	Capacitor	16
18PF		C107, C108	C0402-ROUND	C_o_Dup3	2
GREEN		D1, D2, D3, D4	LED-0603	LED_1	4
Fix	Generic Antenna	FIX1, FIX2, FIX3, FIX4	Fix_6X3.5	Fix	4
CON5		J1	HDR1X4 M - Especial	CON5	1
0471554001	CONN SATA HDR 7POS PCB VERT	J2, J3, J5, J6	SATA_VERTICAL	0471554001	4
43045-1612		J4	MOLEX_43045-1627	43045-1612	1
MW5A0624S-3R3MT	Inductor	L1, L3, L8, L10	NRS3015T2R2MNGHV	SWPA4030S	4
Inductor		L2, L4, L9, L11	NR6045-220M	Inductor	4
1.0uH- SWPA4030S1R0MT		L5, L6, L7	NRS3015T2R2MNGHV	SWPA4030S	3
LB		LB1, LB2, LB4, LB5, LB6, LB7, LB8, LB9	L0402S2F\$S2F\$A	LB	8
LB/NC		LB3	L0402S2F\$S2F\$A	LB	1
LB		LB10	L0805-ROUND	LB_2	1
115.8K		R1, R5, R39, R43	R0402-ROUND	R_o_Dup1	4
100K		R2, R6, R11, R12, R40, R44	R0402-ROUND	R_o_Dup1, R_o_Dup2	6
22.1K		R3, R7, R41, R45	R0402-ROUND	R_o_Dup1	4
15.8K		R4, R8, R42, R46	R0402-ROUND	R_o_Dup2	4
200K		R9, R13, R35	R0402-ROUND	R_o_Dup2	3
20K		R10, R14, R15, R36, R37	R0402-ROUND	R_o_Dup2	5
44.2K		R16	R0402-ROUND	R_o_Dup2	1
36k		R17	R0402-ROUND	R_1	1
OR		R18, R19, R20, R21, R22	R0402-ROUND	R_1, R_o_Dup2	5
4.7K		R23, R29, R30, R31, R32	R0402-ROUND	R_o_Dup2	5
OR		R24, R25, R26, R27	R0201-ROUND	R_o_Dup2	4
6.04K		R28	R0402-ROUND	R_o_Dup2	1
1MEG		R33	R0402-ROUND	R_o_Dup2	1
100		R34	R0402-ROUND	R_o_Dup2	1
300K		R38	R0402-ROUND	R_o_Dup2	1
10042140-001C-TRLF		Sata 1, Sata 2, Sata 3, Sata 4	sata_22p_smd_h6_h9	SATA 5+12P	4
TEST		T1, T2, T3, T4, T5, T6, T7	TEST_40	TEST	7
AP64501SP-13		U1, U2, U9, U10	SO8-EP	AP64501SP-13	4
MP2143		U3, U4, U8	SOT23-8	MP2143_0	3
EMC2301-1-ACZL-TR		U5	SO08	EMC2301-1-ACZL-TR_0	1
88SE9215		U6	Sata-88SE9215	88SE9215	1
W25X40CLSNIG		U7	SO08	W25X40CLSNIG	1
25M		X1	HSX4-0302	X_B_0	1