

[illegible]

J2  
MH28-1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
UART TX	UART RX	UART TX	UART RX	UART TX	UART RX	UART TX	UART RX	UART TX	UART RX	UART TX	UART RX	UART TX	UART RX	UART TX	UART RX	UART TX	UART RX	UART TX	UART RX	UART TX	UART RX	UART TX	UART RX	UART TX	UART RX	UART TX	UART RX	UART TX	UART RX

+5V

+3V3

LED0

LED1

LED2

LED3

LED4

LED5

LED6

LED7

LED8

2V5

JTAG TMO

JTAG TDI

JTAG TDO

JTAG TMS

JTAG TRST

RESET

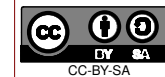
GPIO24

FLASH WP

FLASH

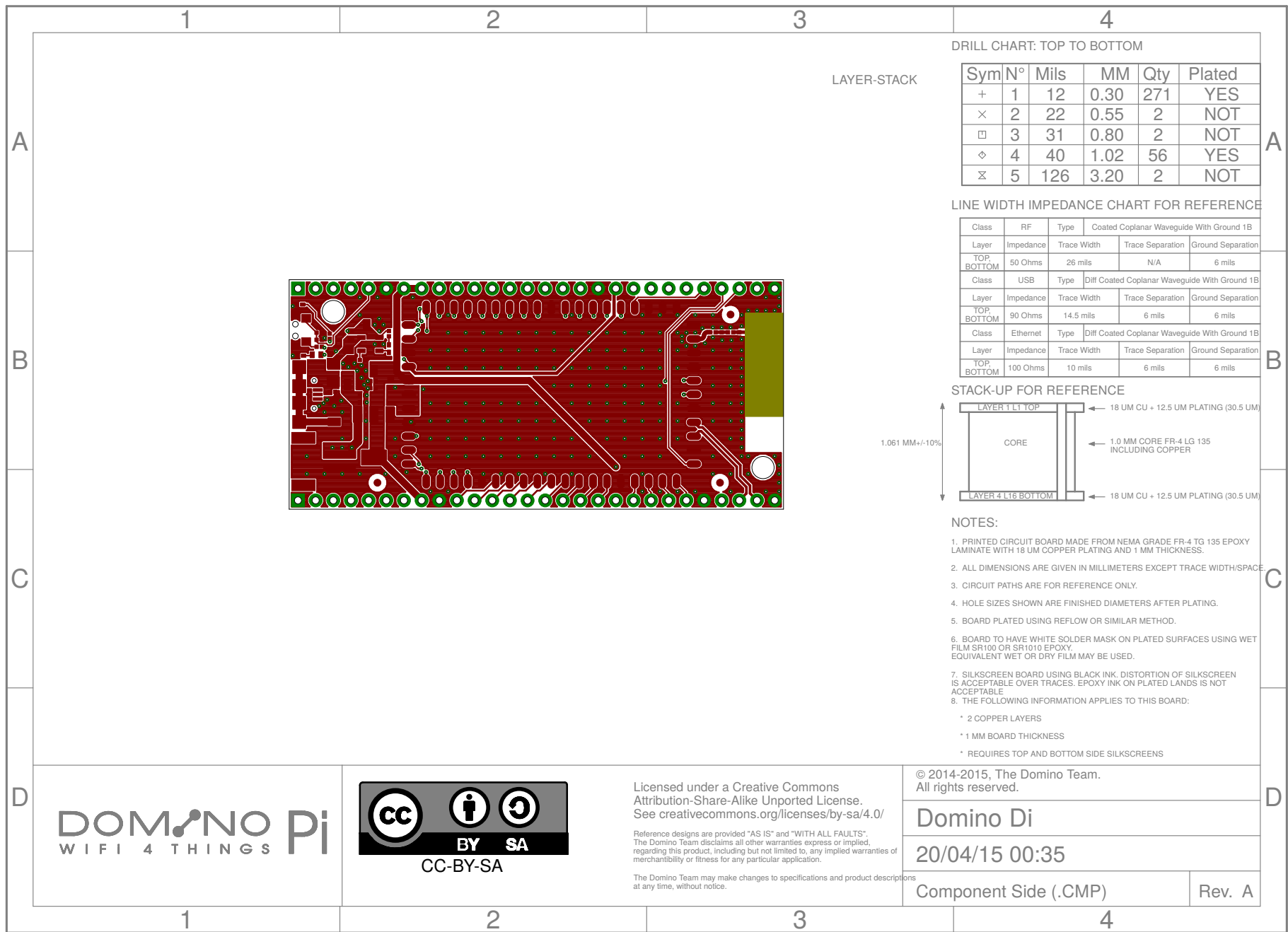
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Rev.A



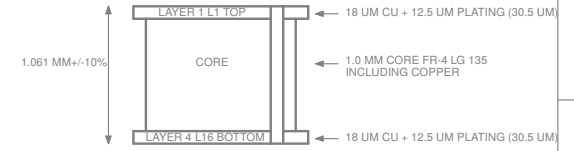
DRILL CHART: TOP TO BOTTOM

Sym	N°	Mils	MM	Qty	Plated
+	1	12	0.30	271	YES
×	2	22	0.55	2	NOT
□	3	31	0.80	2	NOT
◇	4	40	1.02	56	YES
⊗	5	126	3.20	2	NOT

LINE WIDTH IMPEDANCE CHART FOR REFERENCE

Class	R	Type	Coated Coplanar Waveguide With Ground 1B		
Layer	Impedance	Trace Width	Trace Separation	Ground Separation	
TOP BOTTOM	50 Ohms	26 mils	N/A	6 mils	
Class	USB	Type	Diff Coated Coplanar Waveguide With Ground 1B		
Layer	Impedance	Trace Width	Trace Separation	Ground Separation	
TOP BOTTOM	90 Ohms	14.5 mils	6 mils	6 mils	
Class	Ethernet	Type	Diff Coated Coplanar Waveguide With Ground 1B		
Layer	Impedance	Trace Width	Trace Separation	Ground Separation	
TOP BOTTOM	100 Ohms	10 mils	6 mils	6 mils	

STACK-UP FOR REFERENCE



NOTES:

1. PRINTED CIRCUIT BOARD MADE FROM NEMA GRADE FR-4 TG 135 EPOXY LAMINATE WITH 18 UM COPPER PLATING AND 1 MM THICKNESS.
2. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS EXCEPT TRACE WIDTH/SPACE.
3. CIRCUIT PATHS ARE FOR REFERENCE ONLY.
4. HOLE SIZES SHOWN ARE FINISHED DIAMETERS AFTER PLATING.
5. BOARD PLATED USING REFLOW OR SIMILAR METHOD.
6. BOARD TO HAVE WHITE SOLDER MASK ON PLATED SURFACES USING WET FILM SR100 OR SR1010 EPOXY. EQUIVALENT WET OR DRY FILM MAY BE USED.
7. SILKSCREEN BOARD USING BLACK INK. DISTORTION OF SILKSCREEN IS ACCEPTABLE OVER TRACES. EPOXY INK ON PLATED LANDS IS NOT ACCEPTABLE
8. THE FOLLOWING INFORMATION APPLIES TO THIS BOARD:

- \* 2 COPPER LAYERS
- \* 1 MM BOARD THICKNESS
- \* REQUIRES TOP AND BOTTOM SIDE SILKSCREENS

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Component Side (.CMP)

Rev. A



Sym	N°	Mils	MM	Qty	Plated
+	1	12	0.30	271	YES
×	2	22	0.55	2	NOT
◇	3	31	0.80	2	NOT
◊	4	40	1.02	56	YES
⊗	5	126	3.20	2	NOT

Class	RF	Type	Coated Coplanar Waveguide With Ground 1B	
Layer	Impedance	Trace Width	Trace Separation	Ground Separation
TOP BOTTOM	50 Ohms	26 mils	N/A	6 mils
Class	USB	Type	Diff Coated Coplanar Waveguide With Ground 1	
Layer	Impedance	Trace Width	Trace Separation	Ground Separation
TOP BOTTOM	90 Ohms	14.5 mils	6 mils	6 mils
Class	Ethernet	Type	Diff Coated Coplanar Waveguide With Ground 1	
Layer	Impedance	Trace Width	Trace Separation	Ground Separation
TOP BOTTOM	100 Ohms	10 mils	6 mils	6 mils

1.061 MM +/-10%

LAYER 1 LT1 TOP

18 UM CU + 12.5 UM PLATING (30.5 UM)

CORE

1.0 MM CORE FR-4 LG 135 INCLUDING COPPER

LAYER 4 LT6 BOT TOM

18 UM CU + 12.5 UM PLATING (30.5 UM)

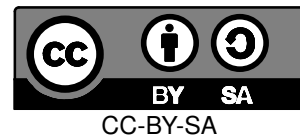
1. PRINTED CIRCUIT BOARD MADE FROM NEMA GRADE FR-4 TO 135 EPOXY LAMINATE WITH 18 UM COPPER PLATING AND 1 MM THICKNESS.
2. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS EXCEPT TRACE WIDTH/SPACE.
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Solder side (.SOL)

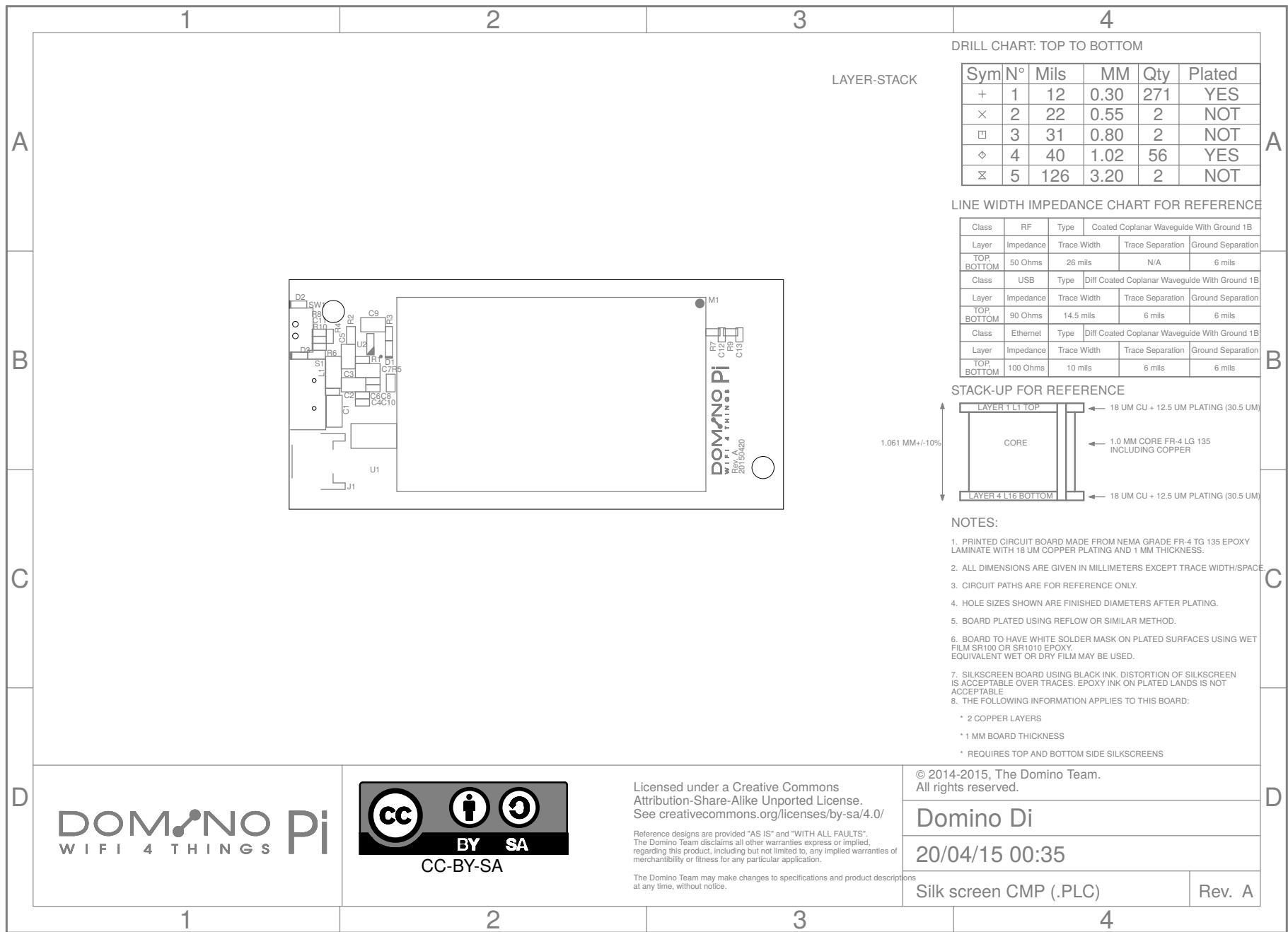
Rev. A



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### DRILL CHART: TOP TO BOTTOM

LINE WIDTH IMPEDANCE CHART FOR REFERENCE

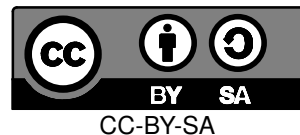
## STACK-UP FOR REFERENCE

NOTES:

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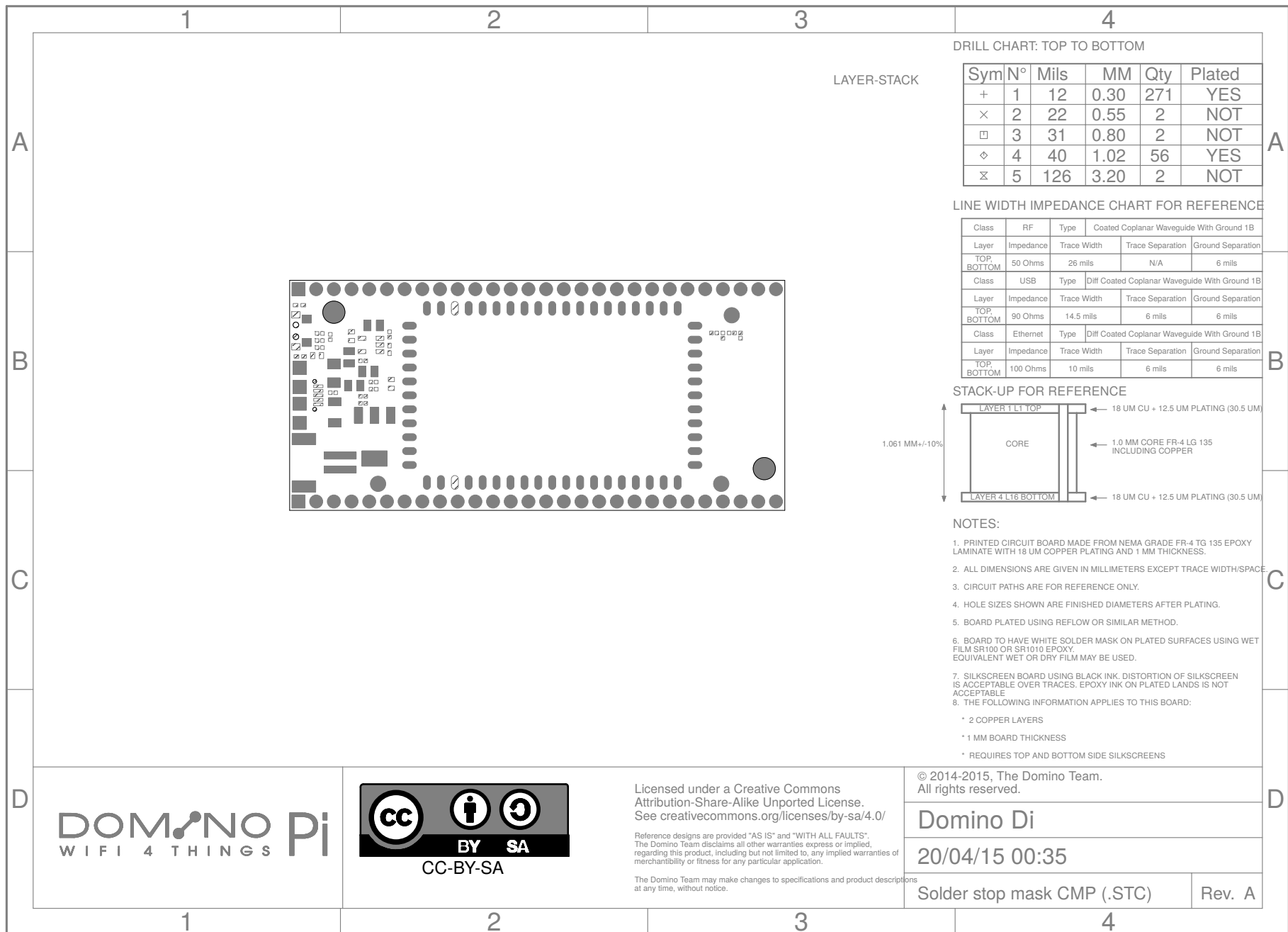
Rev. A

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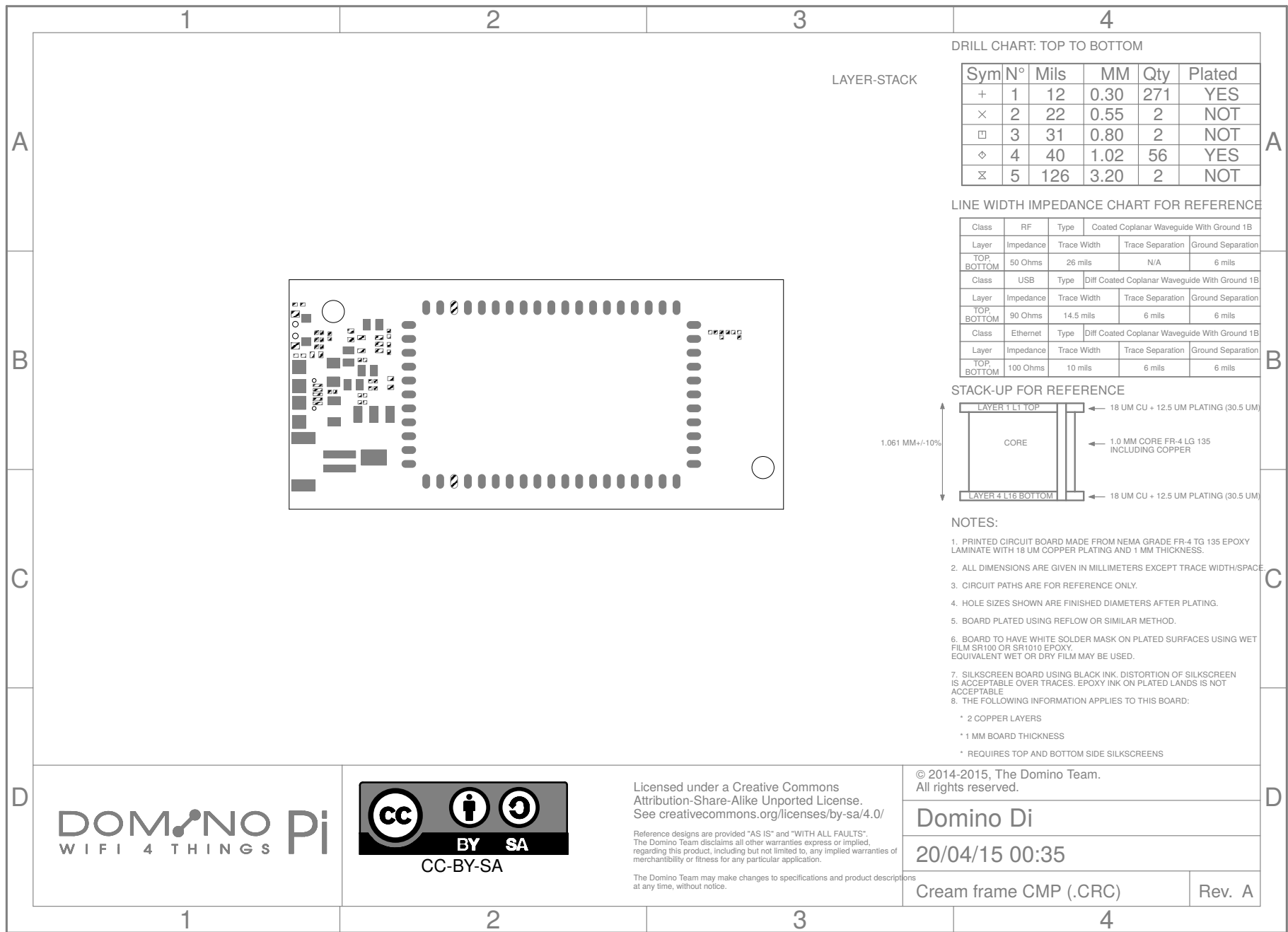
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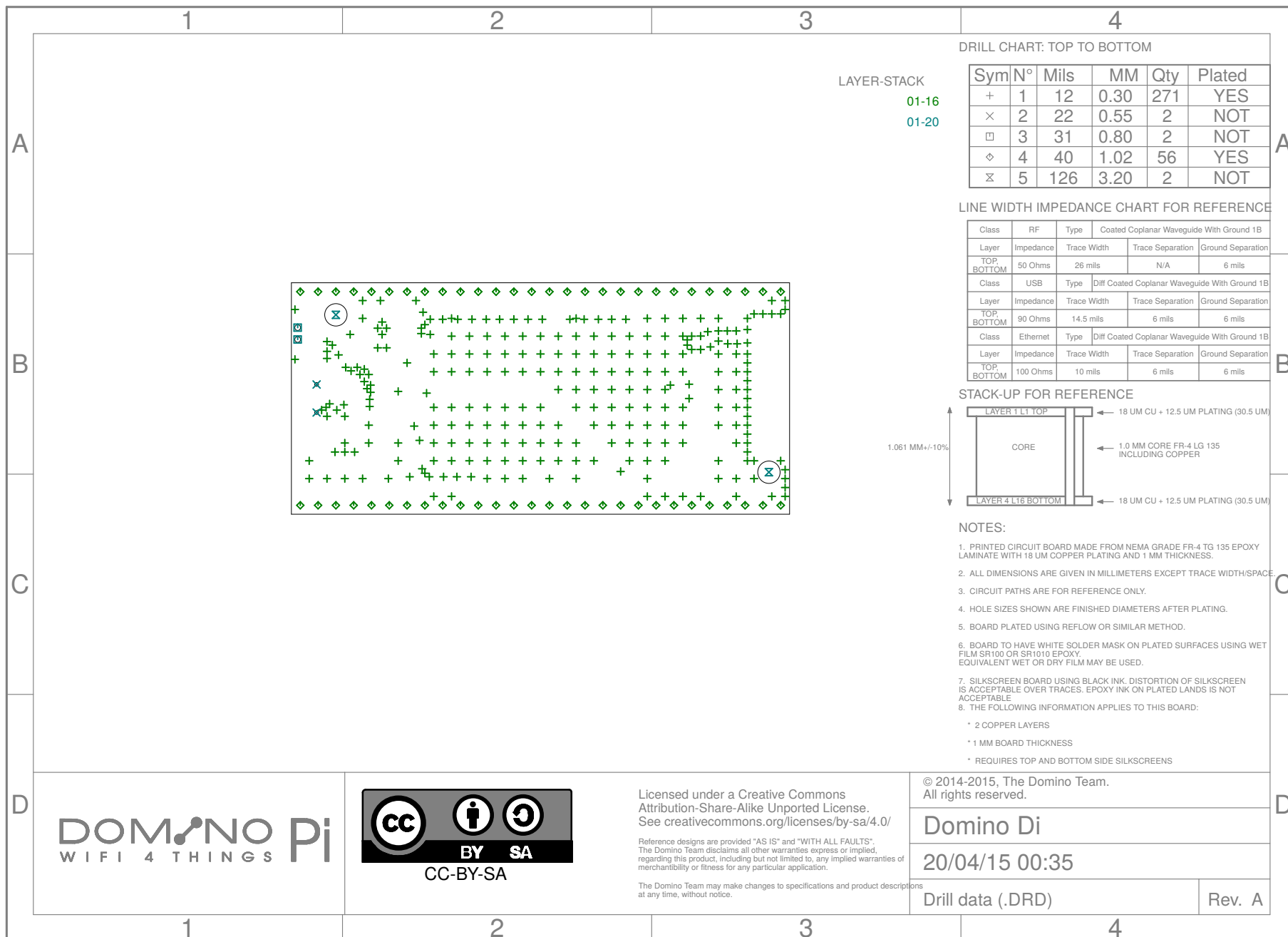


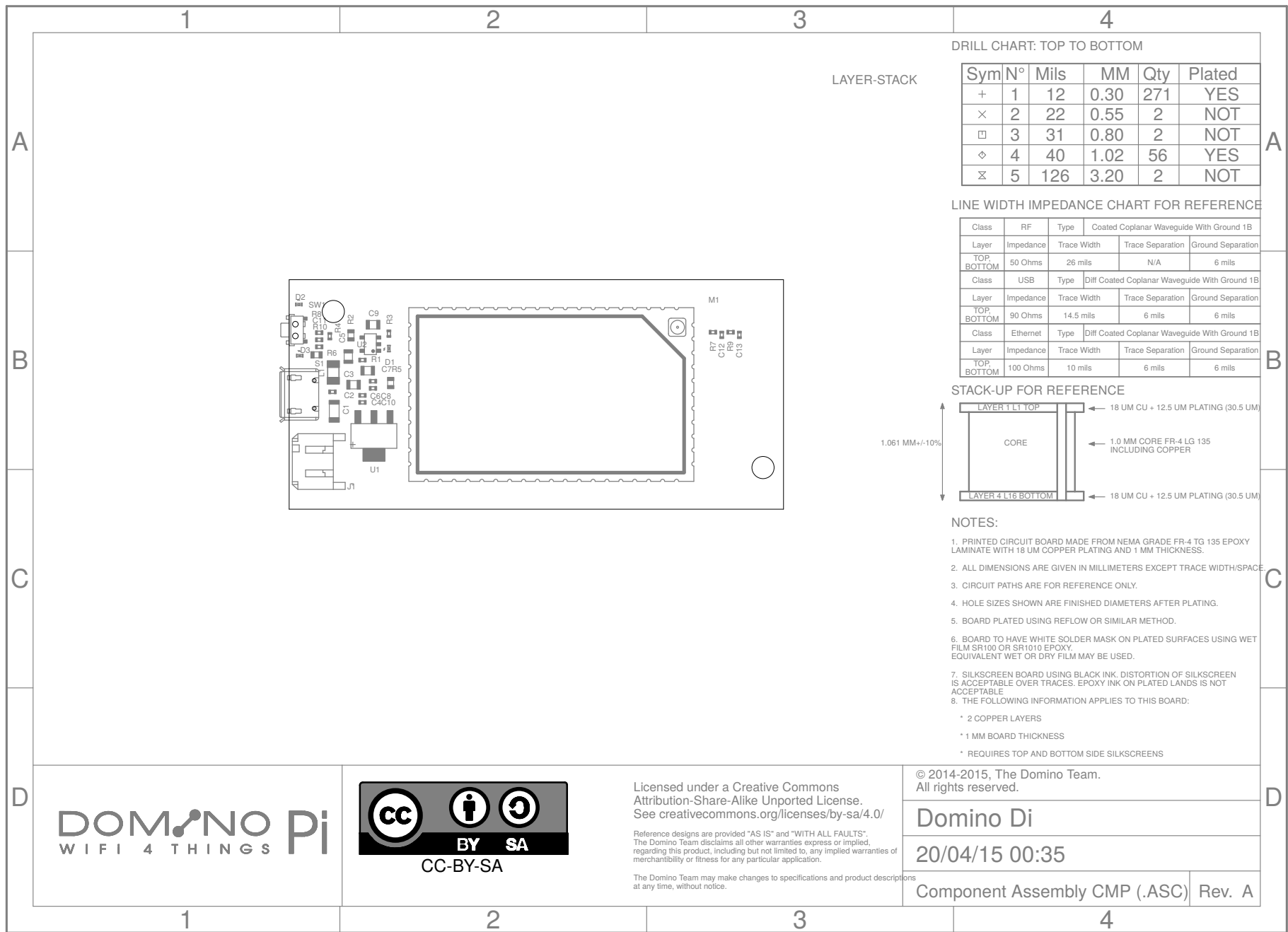












LAYER-STACK

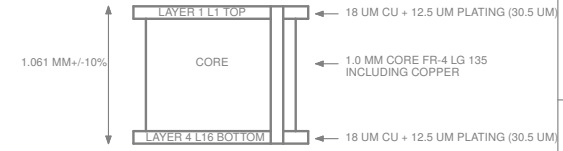
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×	2	22	0.55	2	NOT
□	3	31	0.80	2	NOT
◇	4	40	1.02	56	YES
⊗	5	126	3.20	2	NOT

LINE WIDTH IMPEDANCE CHART FOR REFERENCE

Class	RF	Type	Coated Coplanar Waveguide With Ground 1B	
Layer	Impedance	Trace Width	Trace Separation	Ground Separation
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Class	USB	Type	Diff Coated Coplanar Waveguide With Ground 1B	
Layer	Impedance	Trace Width	Trace Separation	Ground Separation
TOP, BOTTOM	90 Ohms	14.5 mils	6 mils	6 mils
Class	Ethernet	Type	Diff Coated Coplanar Waveguide With Ground 1B	
Layer	Impedance	Trace Width	Trace Separation	Ground Separation
TOP, BOTTOM	100 Ohms	10 mils	6 mils	6 mils

STACK-UP FOR REFERENCE

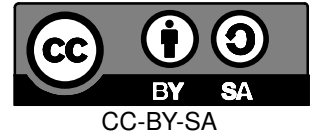


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WIFI 4 THINGS



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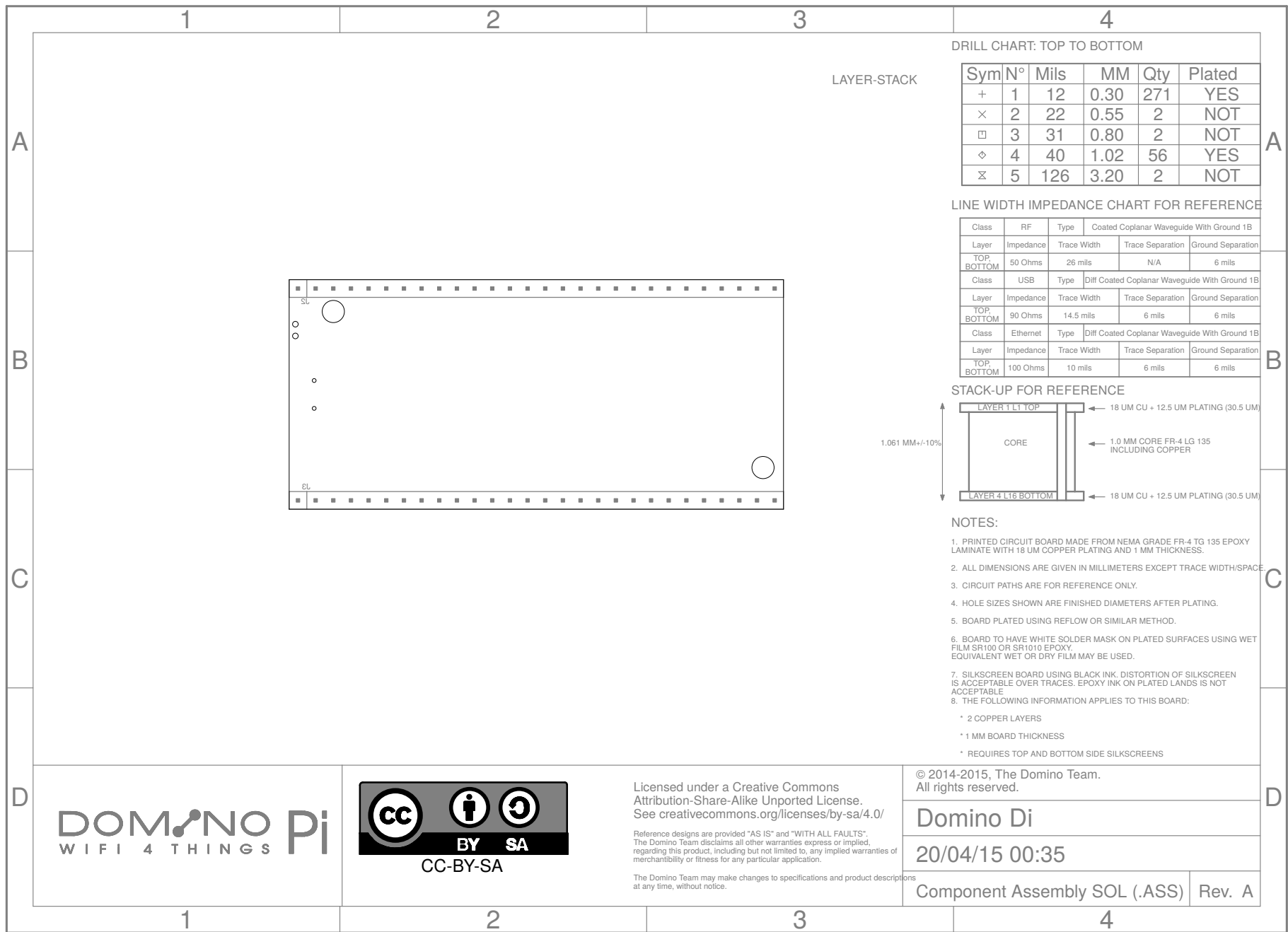
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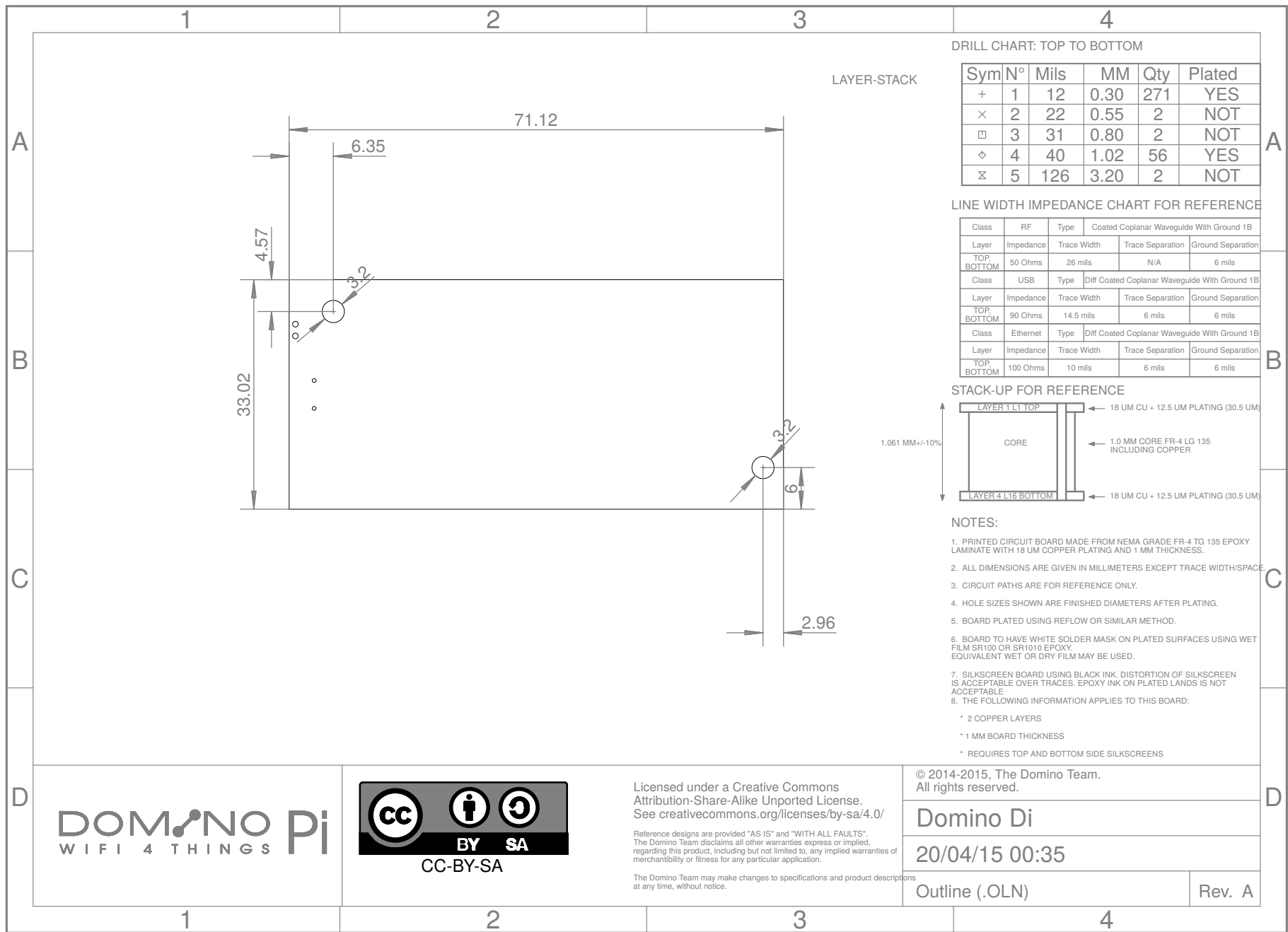
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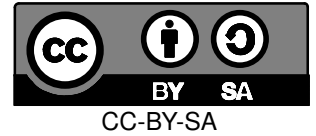
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Component Assembly CMP (.ASC) Rev. A





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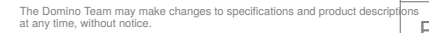
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Outline (.OLN)

Rev. A



# Domino Di Rev. A

Item	Qty	Value	Manufacturer	Device	Package	Reference	Description	Remarks
1	11n	ANY		C1206_1n_X7R_10%_CER_500V	C1206	C1	CAP CER 1000PF 500V 10% X7R 1206	
2	0 DNP	NONE		C0402_DNP	C0402	C12(DNP), C13(DNP)	CAP DNP 0402	
3	210n	ANY		C0402_10n_X7R_10%_CER_50V	C0402	C2, C11	CAP CER 10000PF 50V 10% X7R 0402	
4	222u	ANY		C0805_22u_X5R_20%_CER_6V3	C0805	C3, C7	CAP CER 22UF 6.3V 20% X5R 0805	
5	210p	ANY		C0402_10p_NP0_5%_CER_50V	C0402	C4, C8	CAP CER 10PF 50V 5% NP0 0402	
6	04u7	ANY		C0805_4u7_X5R_10%_CER_16V	C0805	C5(DNP), C9(DNP)	CAP CER 4.7UF 16V 10% X5R 0805	
7	2100n	ANY		C0402_100n_X7R_10%_CER_50V	C0402	C6, C10	CAP CER 0.1UF 50V 10% X7R 0402	
8	0 GREEN	ANY		LED0402-GREEN	LED0402	D1(DNP)	LED GREEN CLEAR 0402 SMD	
9	1 RED	ANY		LED0402-RED	LED0402	D2	LED RED CLEAR 0402 SMD	
10	1 BLUE	ANY		LED0402-BLUE	LED0402	D3	LED BLUE CLEAR 0402 SMD	
11	1 LiPo Battery	JST		S2B-PH-SM4-TB	S2B-PH-SM4-TB	J1	CONN HEADER PH SIDE 2POS 2MM SMD	
12	2 MH28-1	ANY		MH28-1-0.1	MH28-1-0.1	J2, J3	CONN HEADER VERT .100 1ROW 28POS 10.5 TAIL 8.5 BODY 15AU	
13	1 BLM31PG601SN1L	MURATA		BLM31PG601SN1L	FB1206	L1	FERRITE CHIP 600 OHM 1500MA 1206	
14	1 DOMINO	GL-CONNECT		DOMINO-CORE	DOMINO	M1	MOD AR9331 WIFI	
15	02k	ANY		R0402_2k_5%_62.5mW	R0402	R1(DNP)	RES 2K OHM 1/16W 5% 0402 SMD	
16	11k	ANY		R0402_1k_5%_62.5mW	R0402	R10	RES 1K OHM 1/16W 5% 0402 SMD	
17	20R	ANY		R0603_0R_5%_125mW	R0603	R2, R5	RES 0.0 OHM 1/8W JUMP SMD 0603	
18	0330R	ANY		R0402_330R_5%_62.5mW	R0402	R3(DNP)	RES 330 OHM 1/16W 5% 0402 SMD	
19	1270R	ANY		R0402_270R_5%_62.5mW	R0402	R4	RES 270 OHM 1/16W 5% 0402 SMD	
20	1270R	ANY		R0603_270R_5%_125mW	R0603	R6	RES 270 OHM 1/8W 5% 0603 SMD	
21	20R	ANY		R0402_0R_5%_62.5mW	R0402	R7, R9	RES 0.0 OHM 1/16W JUMP 0402 SMD	
22	110k	ANY		R0402_10k_5%_62.5mW	R0402	R8	RES 10K OHM 1/16W 5% 0402 SMD	
23	1 USB_MR5-001	SZJUSTWELL ELECTRONICS		USB MR5-001	USB-MR5-001	S1	CONN USB MICRO B RECPT SMT R/A	
24	1 IT-1210	SZJUSTWELL ELECTRONICS		IT-1210	IT-1210	SW1	SWITCH TACTILE SPST-NO 0.05A 12V	
25	1 AMS1117-3.3	ADVANCED MONOLITHIC SYSTEMS		AMS1117-3.3	SOT223	U1	IC REG LDO 3.3V 0.8A SOT223	
26	0 MCP73831T-2ACI/OT	MICROCHIP		MCP73831T-2ACI/OT	SOT23-5	U2(DNP)	IC CONTROLLER LI-ION 4.2V SOT23-5	