

1 2 3 4 5 6 7 8

A

B

C

D

E

A

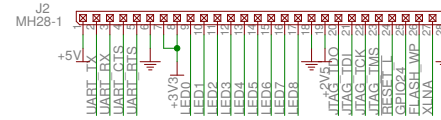
B

C

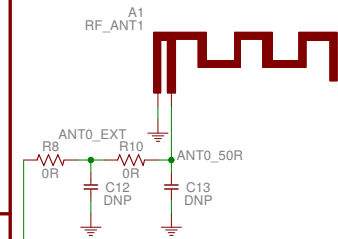
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E

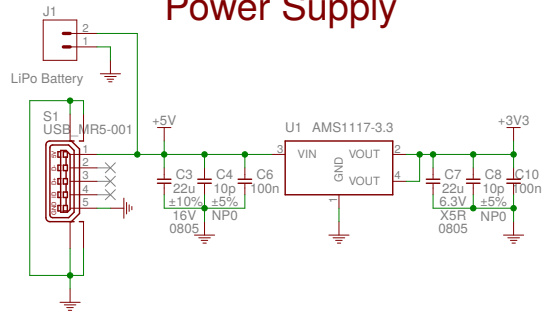
North Connector



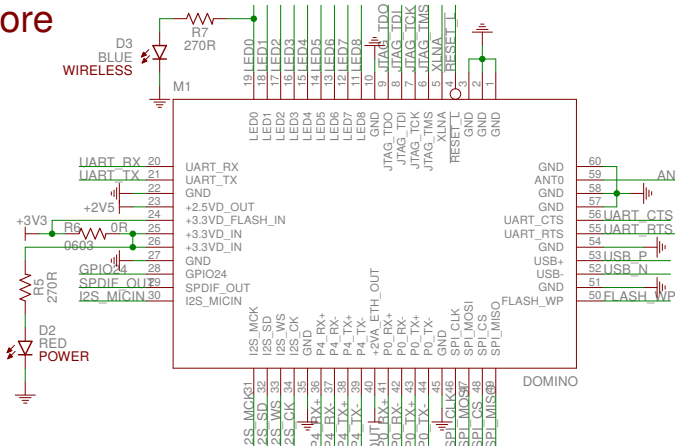
Antenna



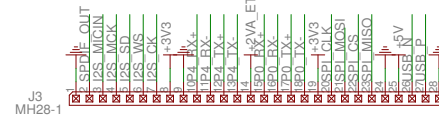
Power Supply



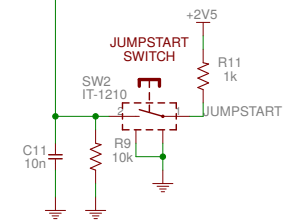
Core



South Connector



Jumpstart



Resistors are 5% 1/16W 0402 unless otherwise specified
Ceramic capacitors are ±10% 50V X7R dielectric 0402 unless otherwise specified

1 2 3 4 5 6 7 8

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10/05/15 19:45

Sheet: 1/1

Rev. B



Sym	N°	Mils	MM	Qty	Plated
+	1	12	0.30	262	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	HF	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

Diagram illustrating the cross-section of a PCB structure. The total thickness is 1.061 mm \pm 10%.

- Top layer: LAYER 1 L1 TOP (18 UM CU + 12.5 UM PLATING (30.5 UM))
- Core: CORE (1.0 MM CORE FR-4 LG 135 INCLUDING COPPER)
- Bottom layer: LAYER 4 L16 BOTTOM (18 UM CU + 12.5 UM PLATING (30.5 UM))

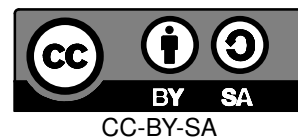
1. PRINTED CIRCUIT BOARD MADE FROM NEMA GRADE FR-4 TO 135 EPOXY LAMINATE WITH 18 UM COPPER PLATING AND 1 MM THICKNESS.
2. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS EXCEPT TRACE WIDTH/SPACE.
3. CIRCUIT PATHS ARE FOR REFERENCE ONLY.
4. HOLE SIZES SHOWN ARE FINISHED DIAMETERS AFTER PLATING.
5. BOARD PLATED 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
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 - * REQUIRES TOP AND BOTTOM SIDE SILKSCREENS

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Component Side (.CMP)

Rev. B



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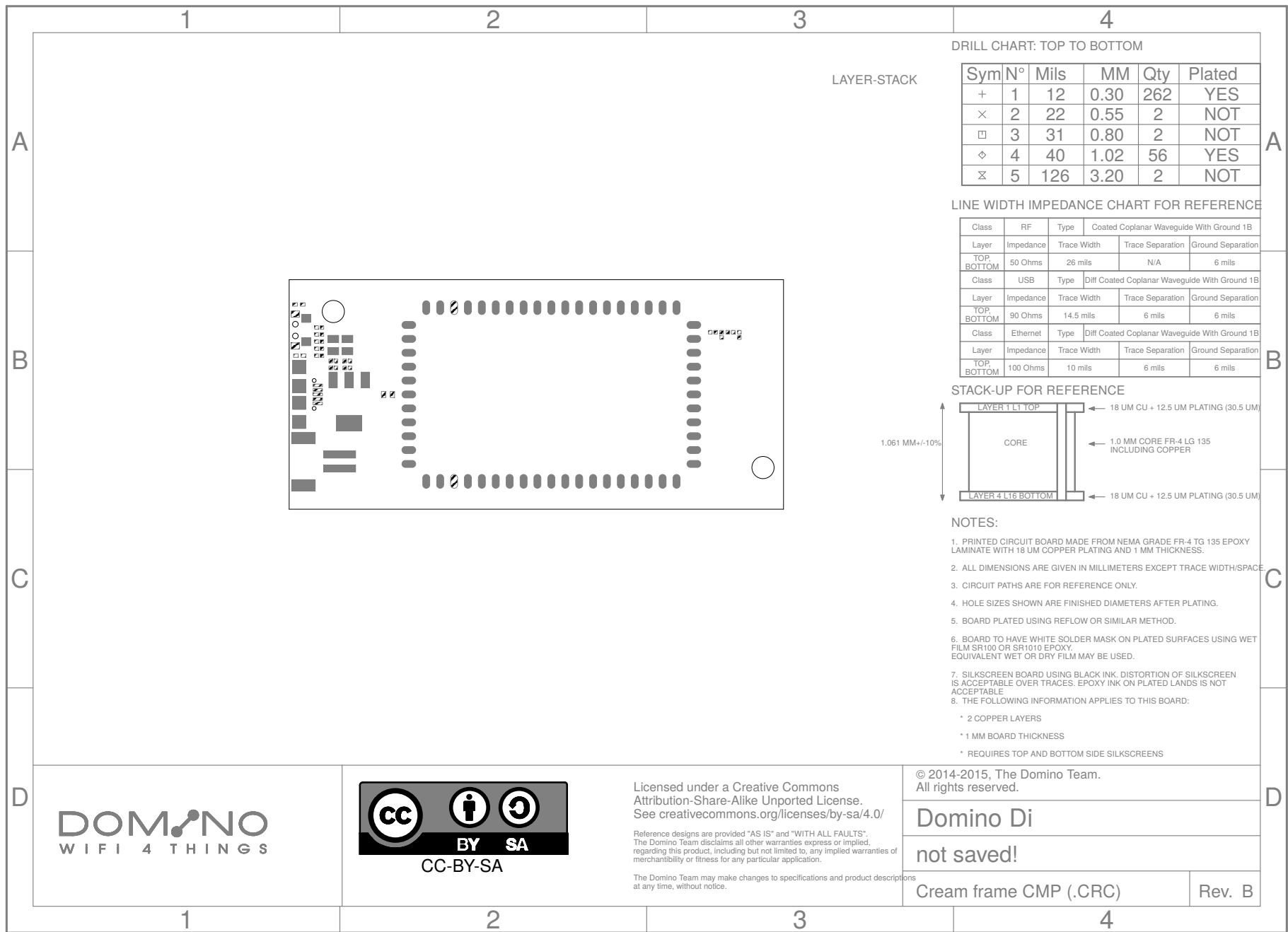
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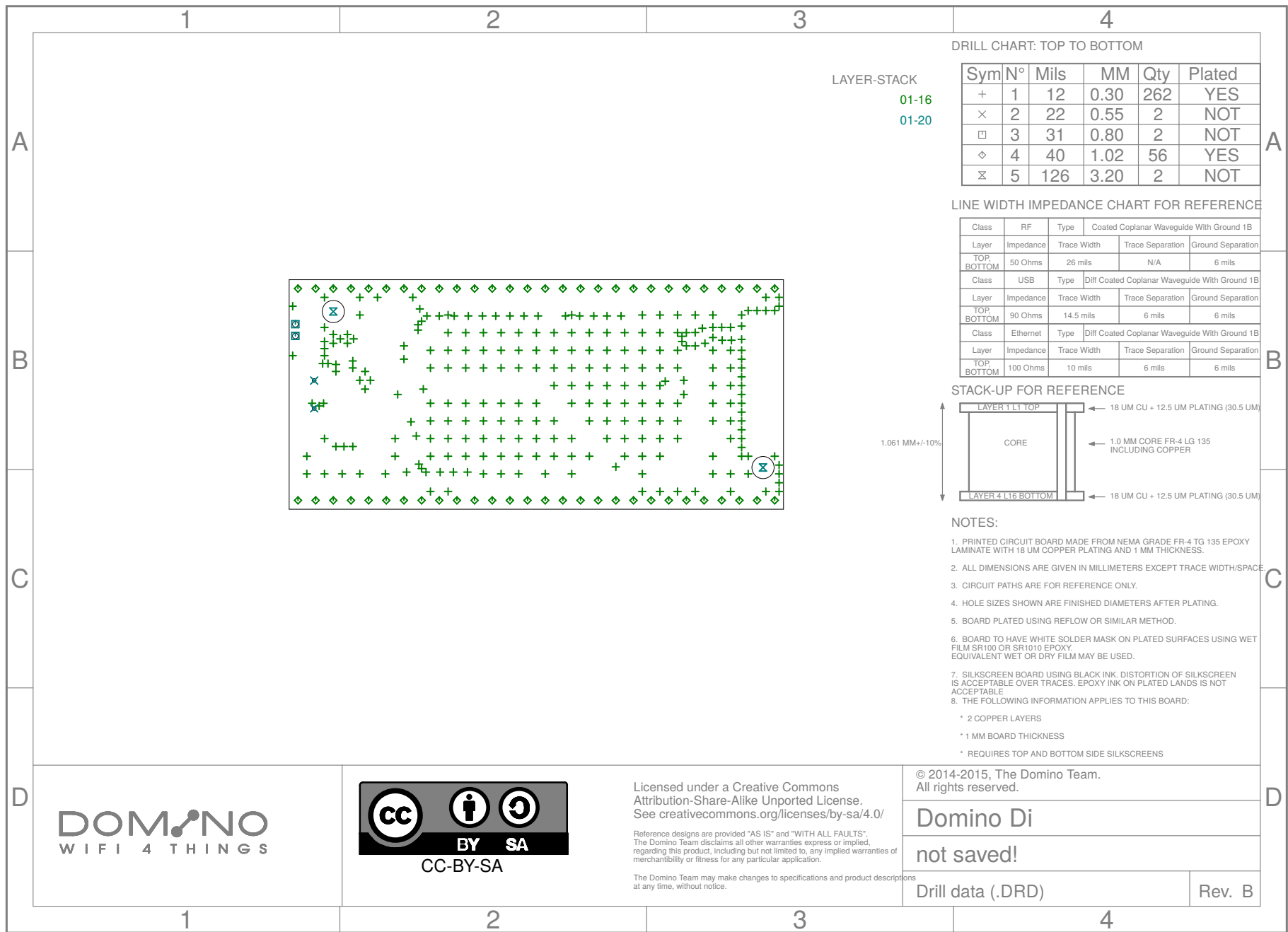
Rev. B













Sym	N°	Mils	MM	Qty	Plated
+	1	12	0.30	262	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 1	
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	
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	
Layer	Impedance	Trace Width	Trace Separation	Ground Separation
TOP, BOTTOM	100 Ohms	10 mils	6 mils	6 mils

1.061 MM +/-10%

LAYER 1 LT6 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 BOTTOM

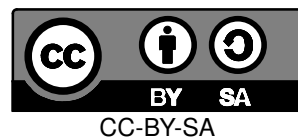
18 UM CU + 12.5 UM PLATING (30.5 UM)

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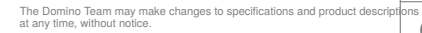
Component Assembly CMP (.ASC) Rev. B

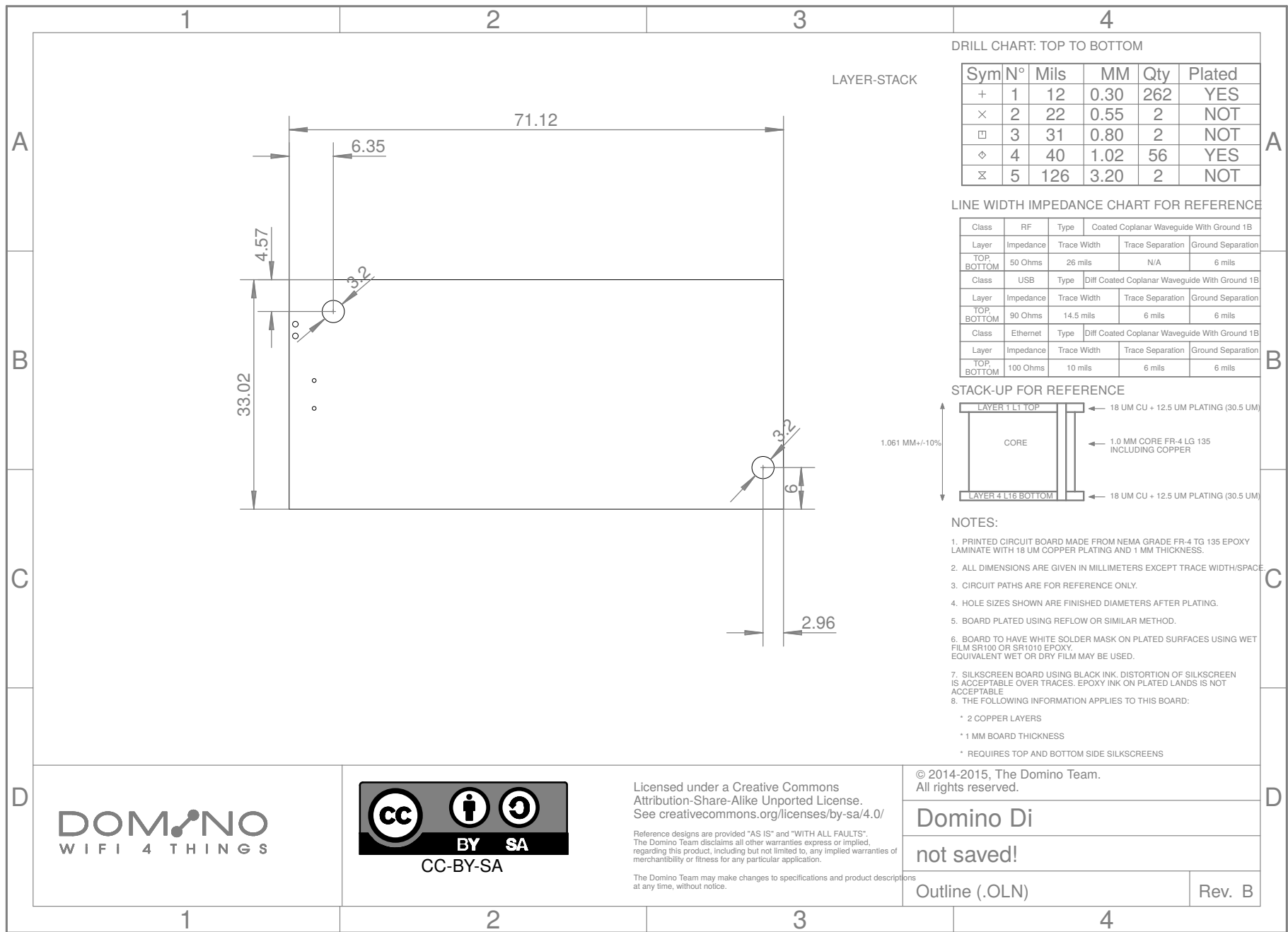


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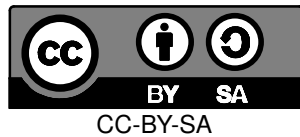
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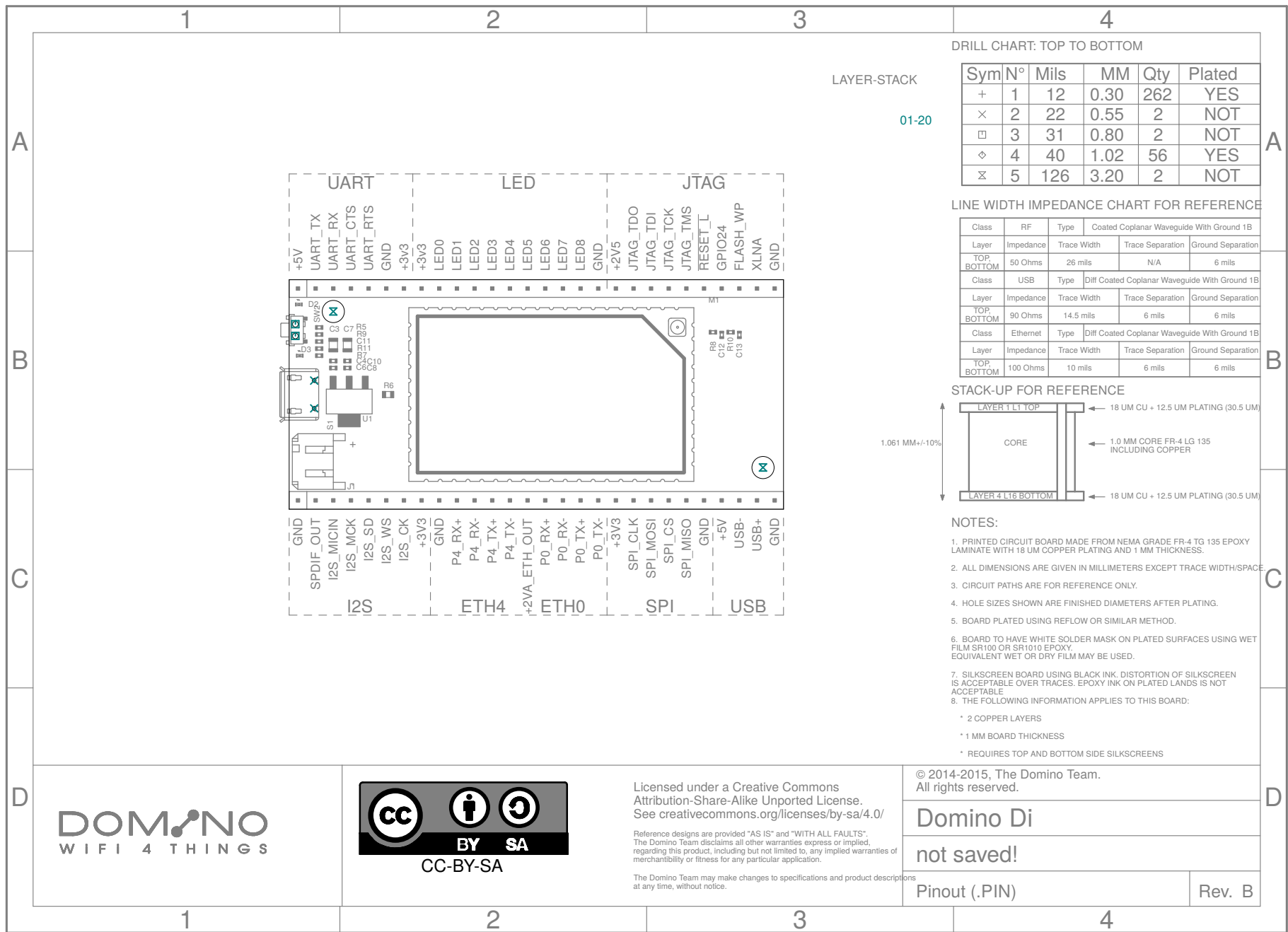
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Outline (.OLN)

Rev. B



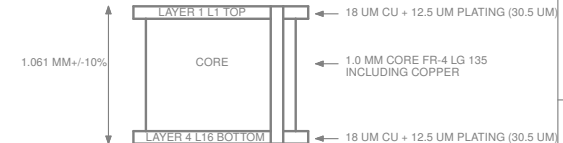
DRILL CHART: TOP TO BOTTOM

Sym	N°	Mils	MM	Qty	Plated
+	1	12	0.30	262	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	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 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:

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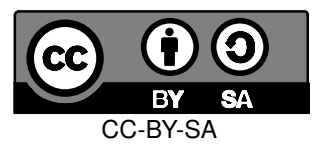
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Pinout (.PIN)

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Item	Qty	Value	Manufacturer	Device	Package	Reference	Description	Remarks
1	1 ANY	2n2		C1210_2n2_X7R_10%_CER_2kV	C1206	C1	CAP CER 2200PF 1KV 10% X7R 1210	
2	5 ANY	100n		C0402_100n_X7R_10%_CER_50V	C0402	C2, C3, C4, C5, C6	CAP CER 0.1UF 50V 10% X7R 0402	
3	1 ANY	BLUE		LED0603-BLUE	LED0603	D1	LED BLUE CLEAR 0603 SMD	
4	1 ANY	WHITE		LED0603-WHITE	LED0603	D2	LED WHITE CLEAR 0603 SMD	
5	4 ANY	GREEN		LED0603-GREEN	LED0603	D3, D4, D5, D6	LED GREEN CLEAR 0603 SMD	
6	1 ANY	RED		LED0603-ORANGE	LED0603	D7	LED ORANGE CLEAR 0603 SMD	
7	1 ANY	ORANGE		LED0603-ORANGE	LED0603	D8	LED ORANGE CLEAR 0603 SMD	
8	1 ANY	YELLOW		LED0603-YELLOW	LED0603	D9	LED YELLOW CLEAR 0603 SMD	
9	1 SHEZHEN HUILY ELECT	HBJ-2H101NLF		HBJ-2H101NLF	HBJ-2H101NLF	J1	CONN MAGJACK 2PORT 100 BASE-T	
10	1 ANY	MH3-1		MH3-1-0.1	MH3-1-0.1	J2	CONN HEADER VERT .100 1ROW 3POS 8.08 HEAD 3.05 TAIL 15AU	
11	2 ANY	MH18-1		MH18-1-0.1	MH18-1-0.1	J3, J4	CONN HEADER VERT .100 1ROW 18POS 8.08 HEAD 3.05 TAIL 15AU	
12	1 ANY	4k7		R0402_4k7_5%_62.5mW	R0402	R1	RES 4.7K OHM 1/16W 5% 0402 SMD	
13	6 ANY	270R		R0603_270R_5%_125mW	R0603	R12, R13, R14, R15, R16, R17	RES 270 OHM 1/8W 5% 0603 SMD	
14	3 ANY	330R		R0603_330R_5%_125mW	R0603	R18, R19, R20	RES 330 OHM 1/8W 5% 0603 SMD	
15	1 ANY	15k		R0402_15k_5%_62.5mW	R0402	R2	RES 15K OHM 1/16W 5% 0402 SMD	
16	1 ANY	220R		R0402_220R_5%_62.5mW	R0402	R3	RES 220 OHM 1/16W 5% 0402 SMD	
17	8 ANY	49R9		R0402_49R9_1%_62.5mW	R0402	R4, R5, R6, R7, R8, R9, R10, R11	RES 49.9 OHM 1/16W 1% 0402 SMD	