

DOMINO Qi
WIFI 4 THINGS



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Domino Qi Mini

06/03/15 23:58

Sheet: 1/1

Rev.C



Sym	N°	Mils	MM	Qty	Plated
+	1	12	0.30	329	YES
×	2	15	0.38	1	YES
□	3	22	0.55	2	NOT
◇	4	31	0.80	6	NOT
×	5	40	1.02	44	YES

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

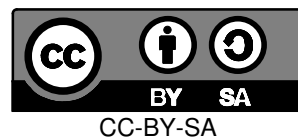
1.061 MM +/-10%

LAYER 1 LT TOP ← 18 UM CU + 12.5 UM PLATING (30.5 UM)

CORE ← 1.0 MM CORE FR-4 LG 135 INCLUDING COPPER

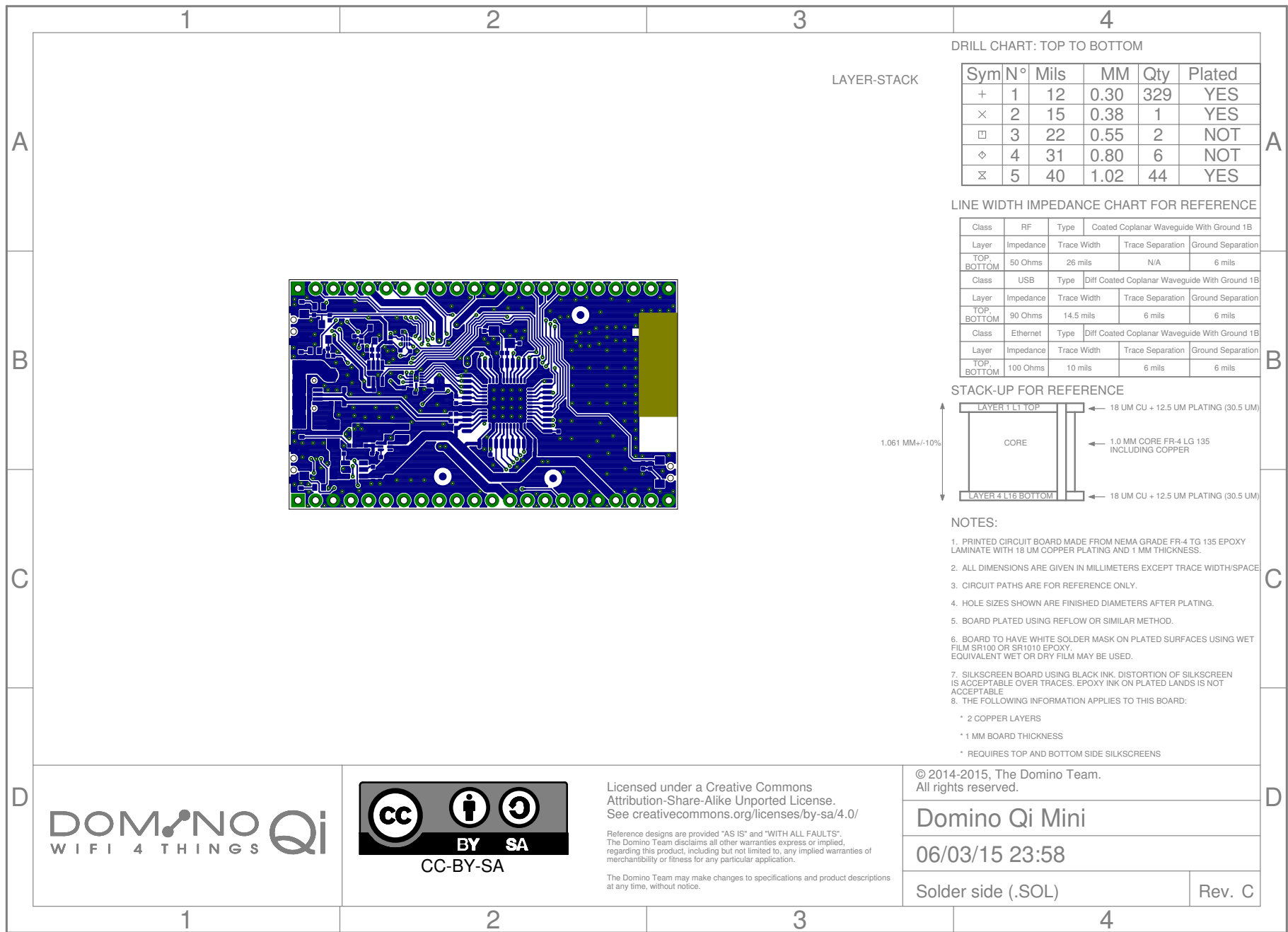
LAYER 4 LT BOTTOM ← 18 UM CU + 12.5 UM PLATING (30.5 UM)

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
 - * 1 MM BOARD THICKNESS
 - * REQUIRES TOP AND BOTTOM SIDE SILKSCREENS



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Rev. C





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×	2	15	0.38	1	YES
◇	3	22	0.55	2	NOT
◻	4	31	0.80	6	NOT
⊗	5	40	1.02	44	YES

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

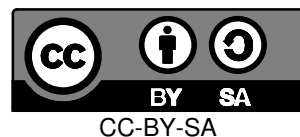
CORE

1.0 MM CORE FR-4 LG 135 INCLUDING COPPER

LAYER 4 LT6 BOTTOM

18 UM CU + 12.5 UM PLATING (30.5 UM)

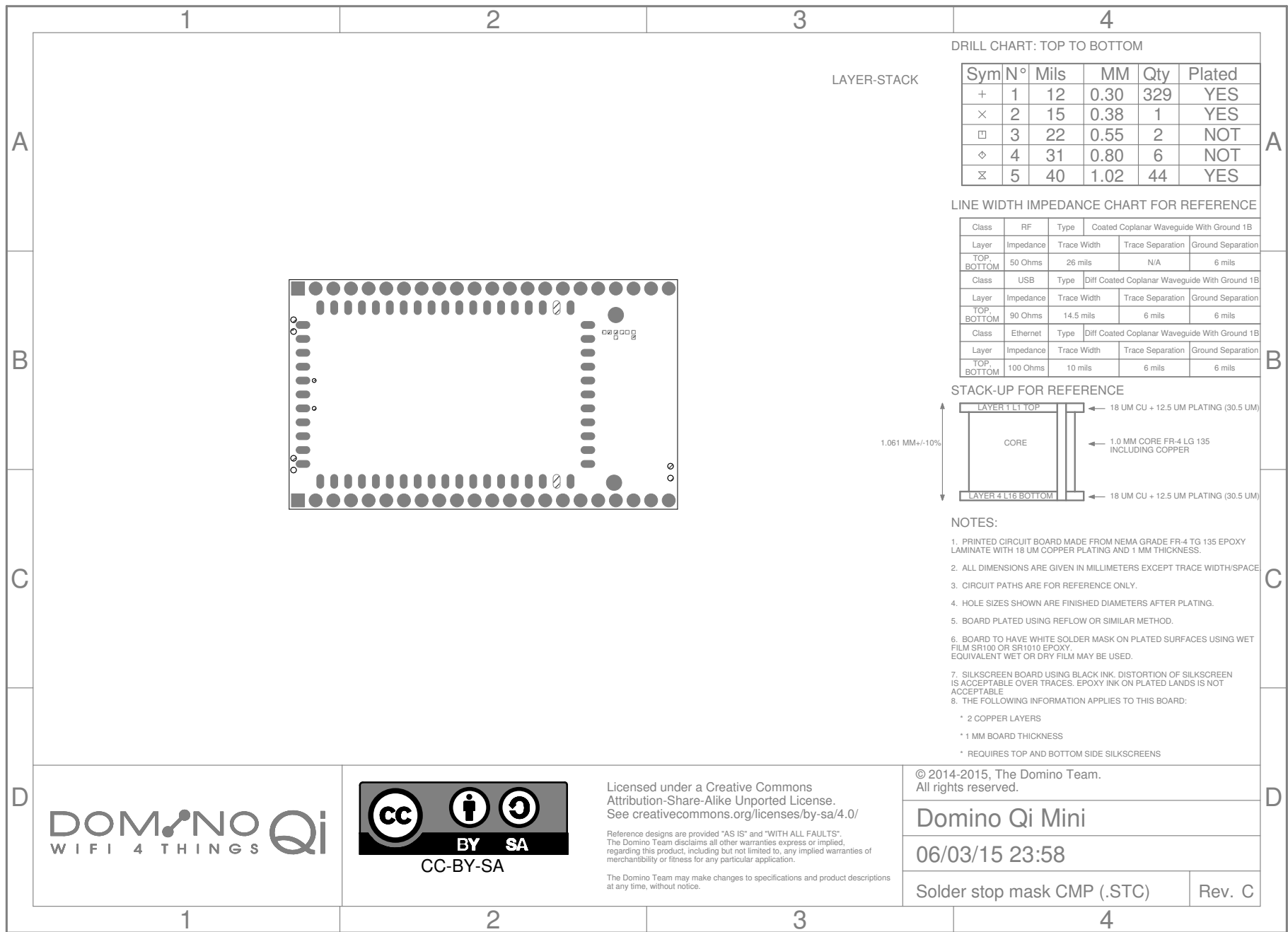
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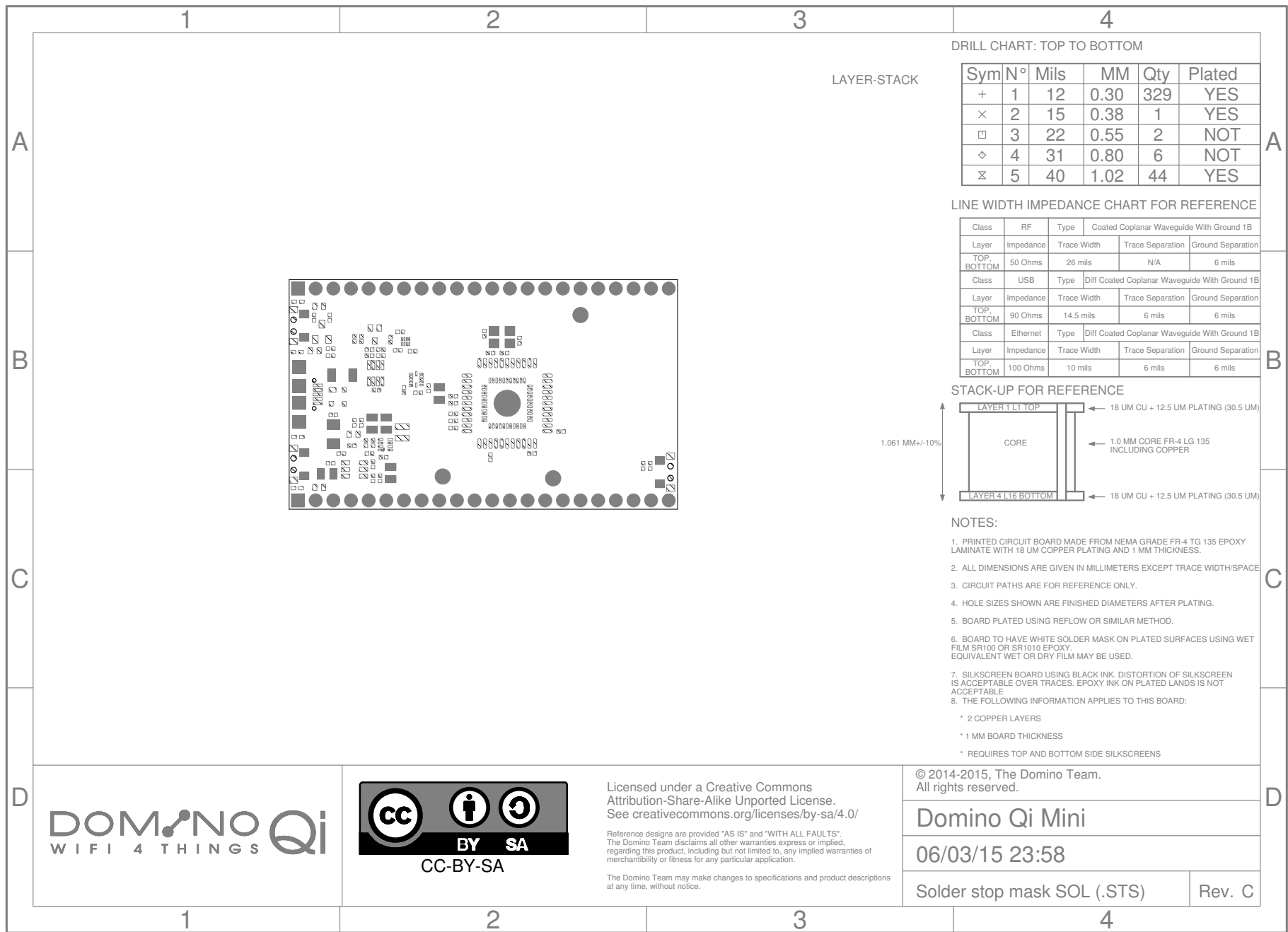


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Silk screen SOL (.PLS)

Rev. C





LAYER-STACK

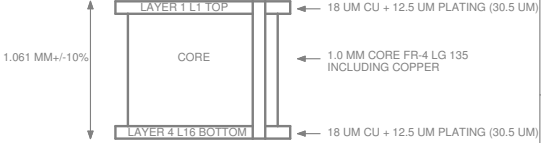
DRILL CHART: TOP TO BOTTOM

Sym	N°	Mils	MM	Qty	Plated
+	1	12	0.30	329	YES
×	2	15	0.38	1	YES
□	3	22	0.55	2	NOT
◇	4	31	0.80	6	NOT
⊗	5	40	1.02	44	YES

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	

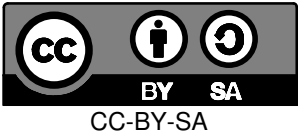
STACK-UP FOR REFERENCE



NOTES:

1. PRINTED CIRCUIT BOARD MADE FROM NEMA GRADE FR-4 TG 135 EPOXY LAMINATE WITH 18 UM COPPER PLATING AND 1 MM THICKNESS.
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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.
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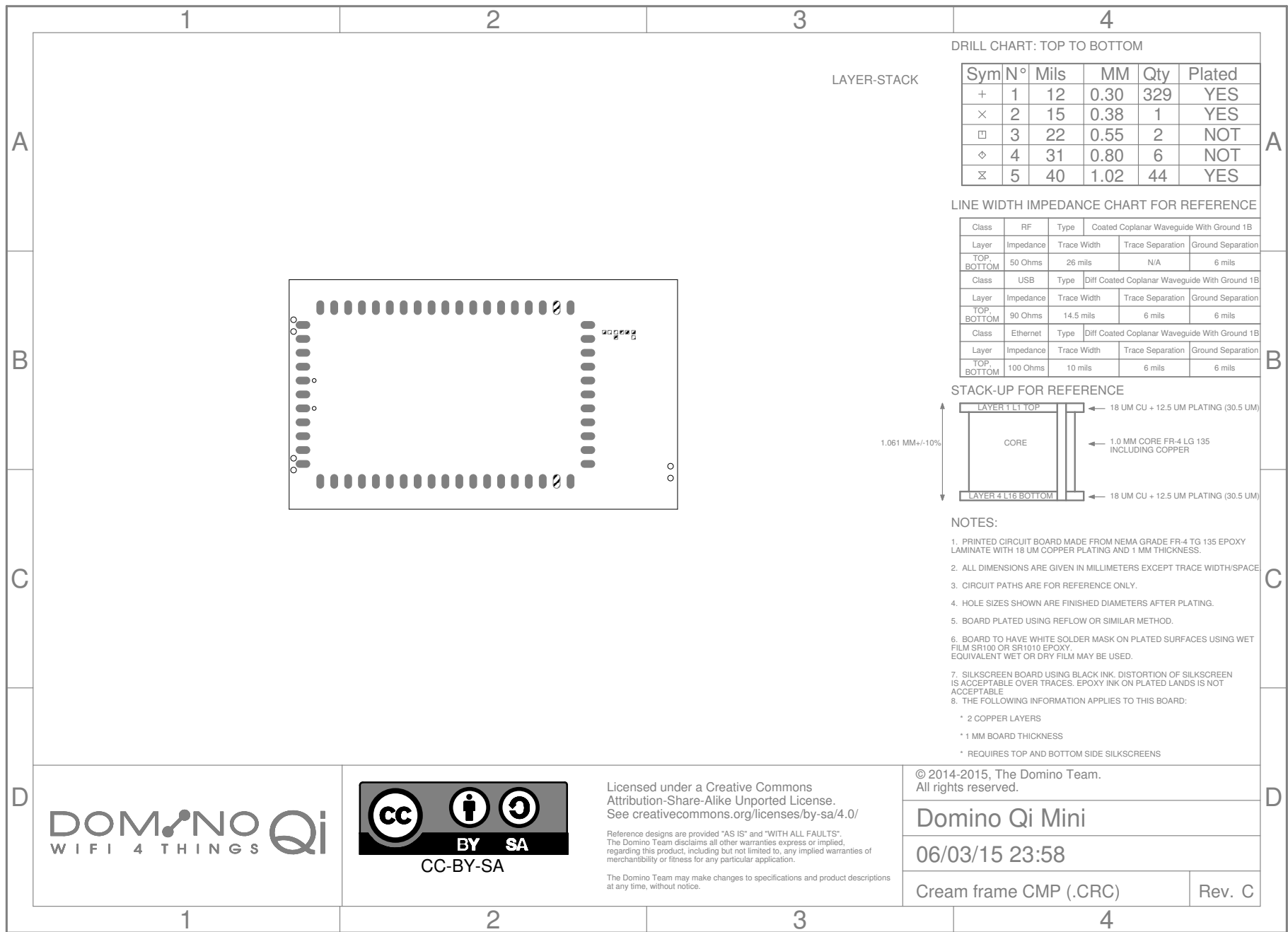
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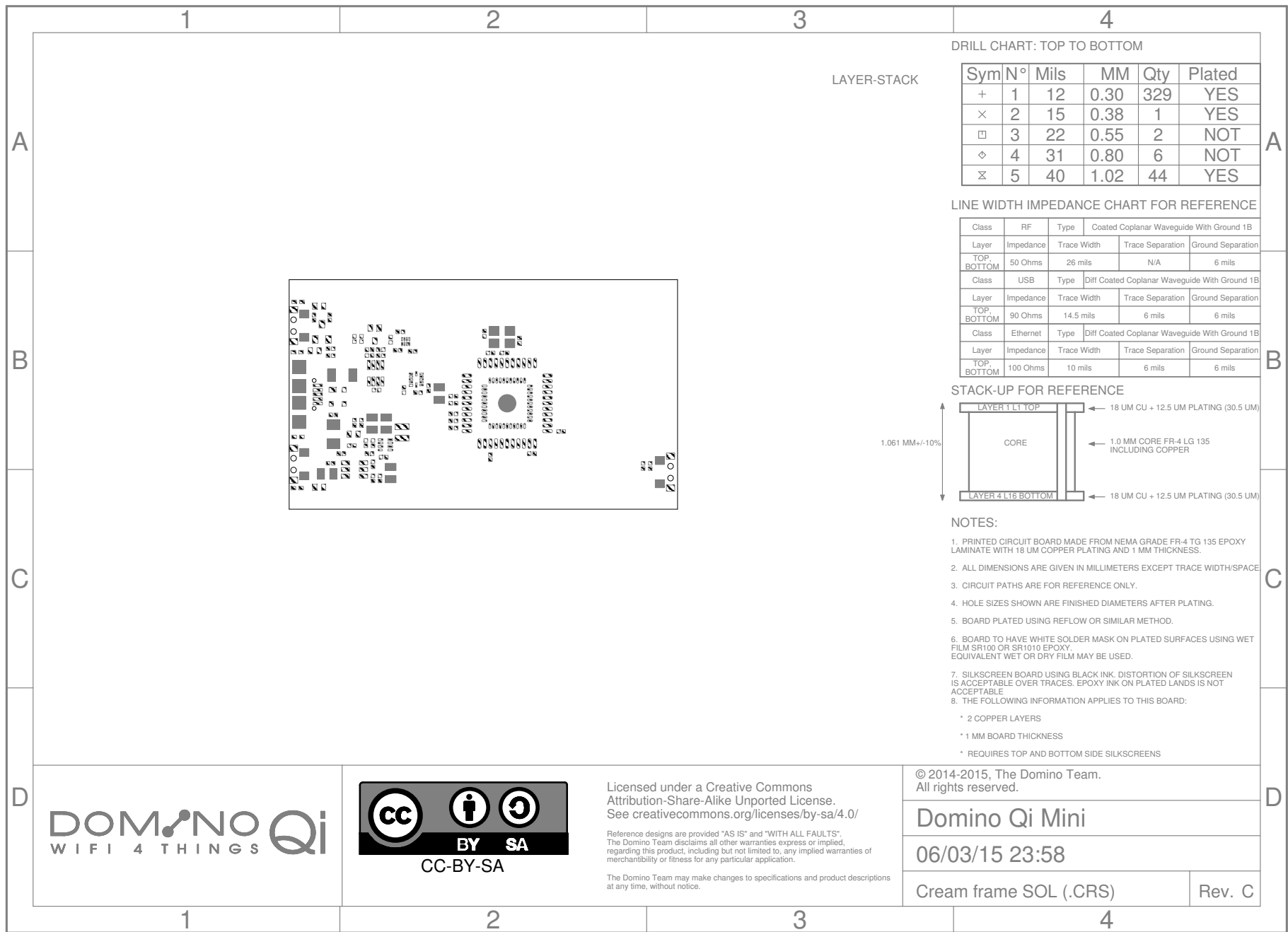
Domino Qi Mini

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Solder stop mask SOL (.STS)

Rev. C





LAYER-STACK

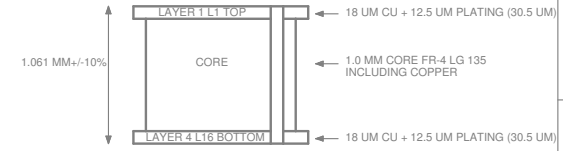
DRILL CHART: TOP TO BOTTOM

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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	

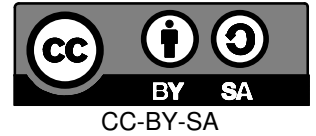
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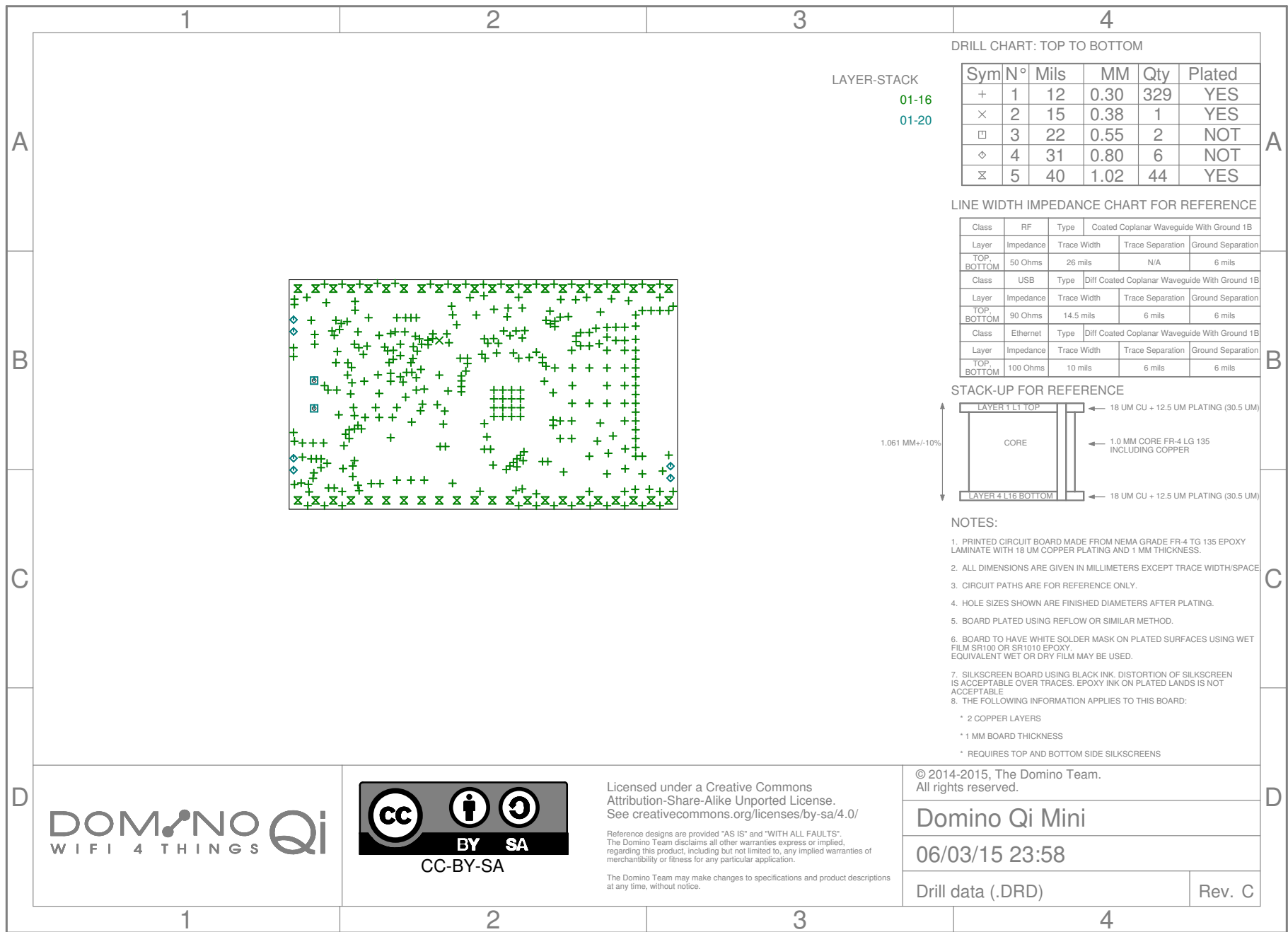
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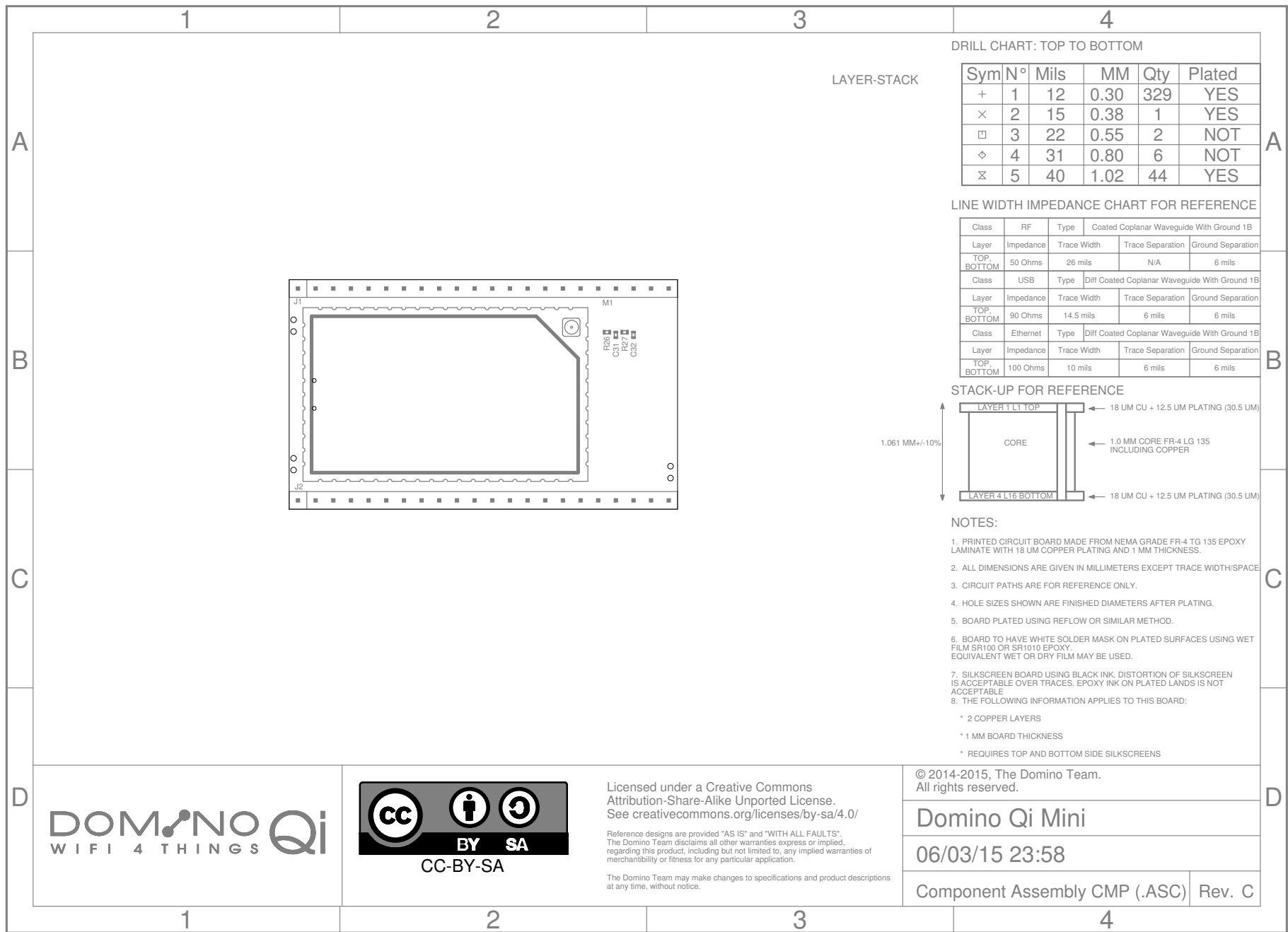
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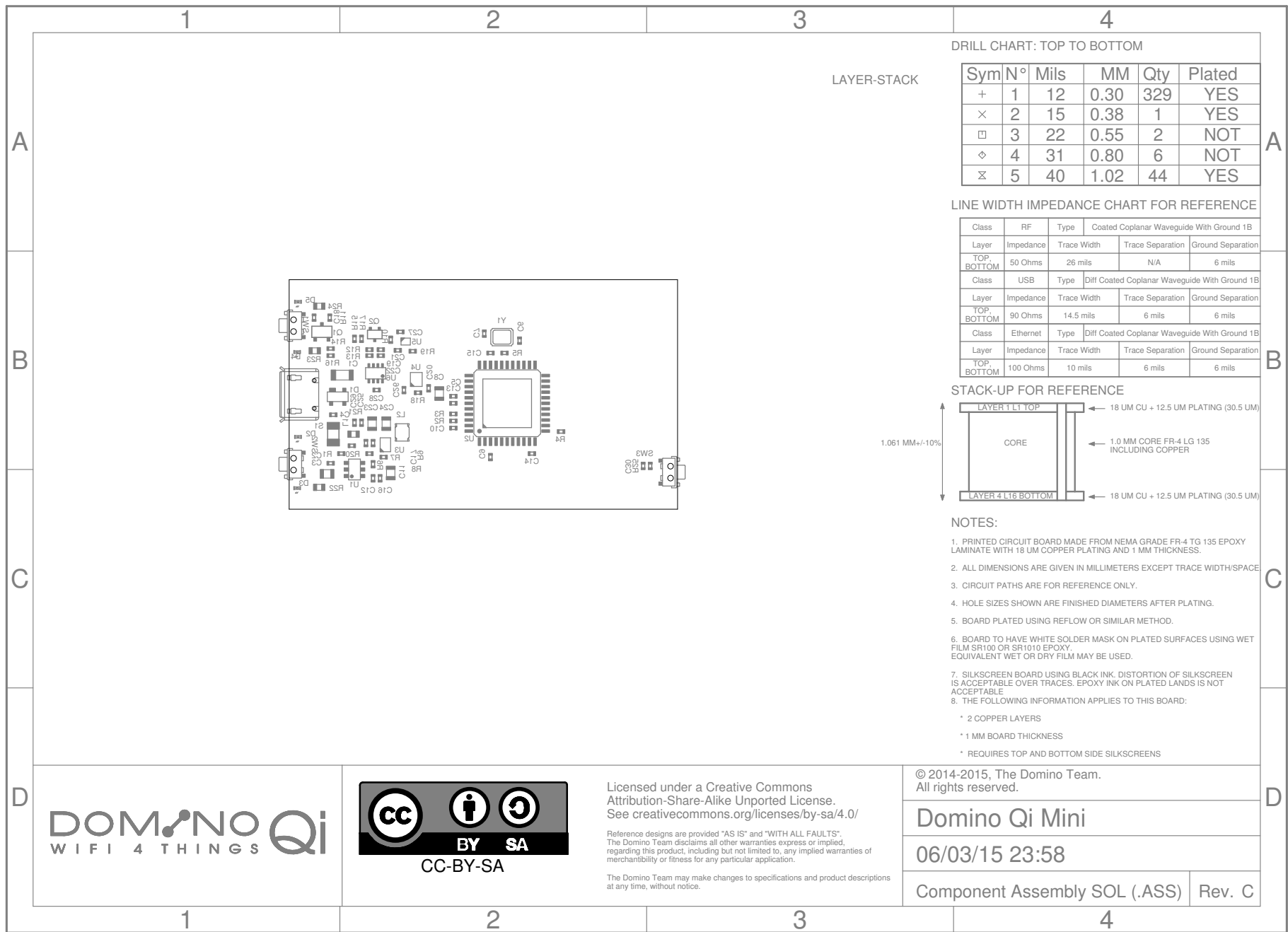
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Cream frame SOL (.CRS)

Rev. C







LAYER-STACK

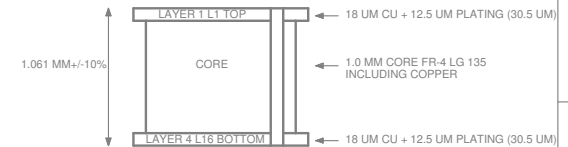
DRILL CHART: TOP TO BOTTOM

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◇	4	31	0.80	6	NOT
⊗	5	40	1.02	44	YES

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	

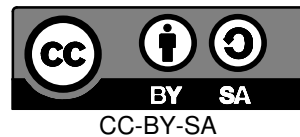
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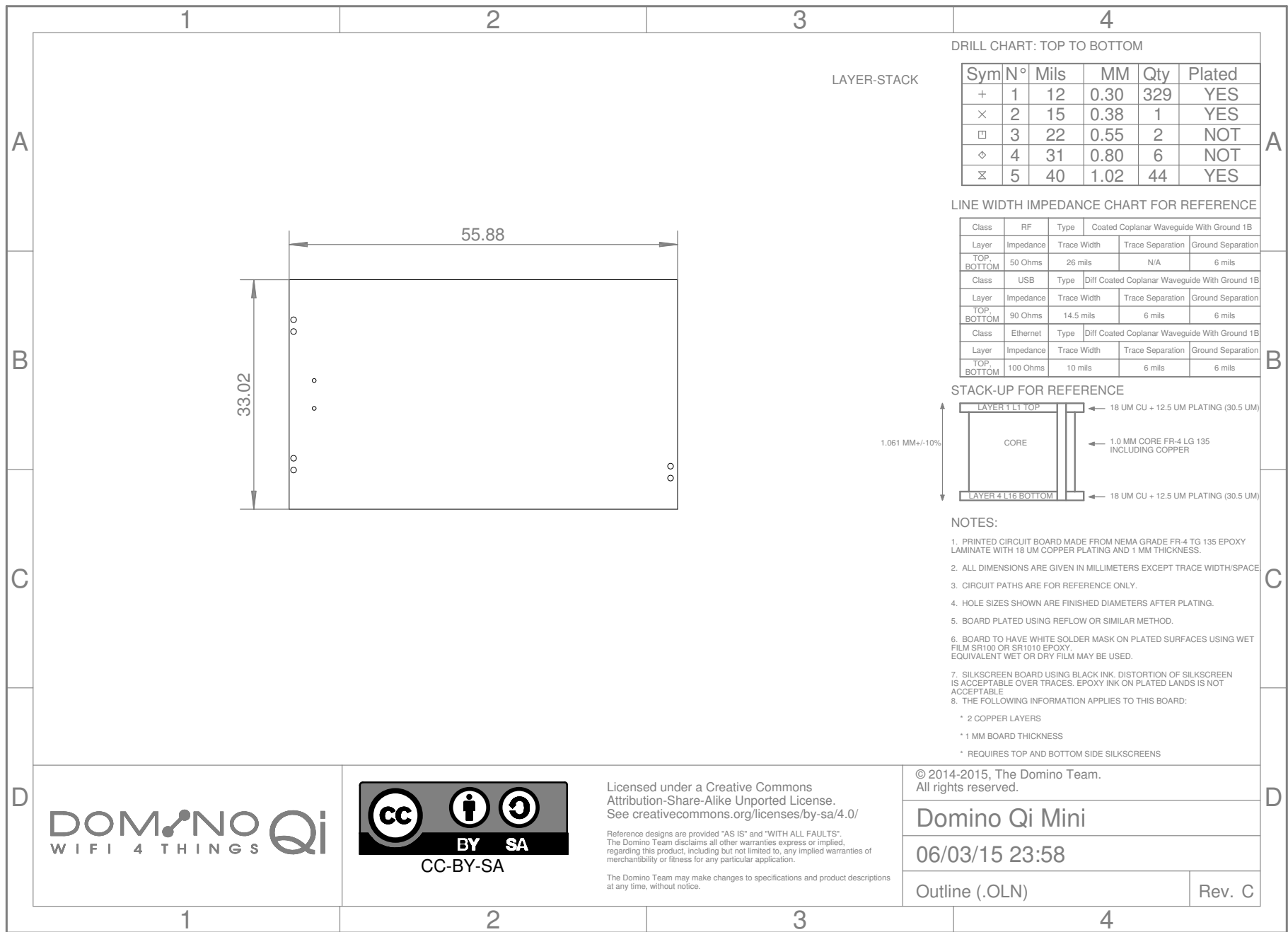
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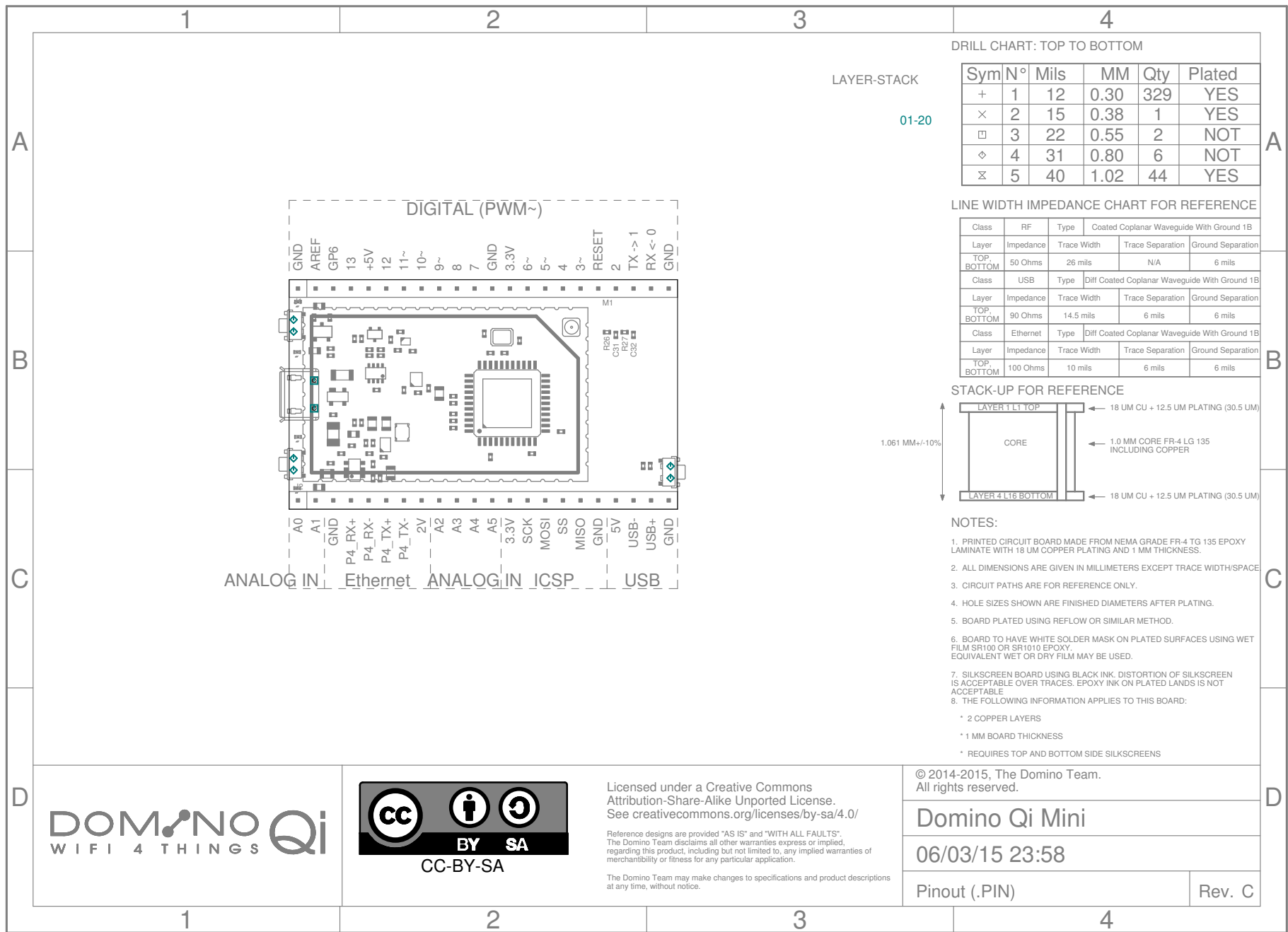
Domino Qi Mini

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Component Assembly SOL (.ASS)

Rev. C





Domino Qi Mini Rev. C

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	122u	ANY		C1206_22u_X7R_20%_CER_10V	C0805	C11	CAP CER 22UF 10V 20% X7R 1206	
3	210p	ANY		C0402_10p_NP0_5%_CER_50V	C0402	C12, C25	CAP CER 10PF 50V 5% NP0 0402	
4	21u	ANY		C0402_1u_X7R_10%_CER_25V	C0402	C13, C19	CAP CER 1UF 25V 10% X7R 0402	
5	122p	ANY		C0402_22p_NP0_5%_CER_50V	C0402	C17	CAP CER 22PF 50V 5% NP0 0402	
6	14100n	ANY		C0402_100n_X7R_10%_CER_50V	C0402	C2, C9, C10, C14, C15, C16, C18, C20, C21, C22,	CAP CER 0.1UF 50V 10% X7R 0402	
7	222u	ANY		C0805_22u_X5R_20%_CER_6V3	C0805	C23, C24	CAP CER 22UF 6.3V 20% X5R 0805	
8	14u7	ANY		C0805_4u7_X5R_10%_CER_16V	C0805	C3	CAP CER 4.7UF 16V 10% X5R 0805	
9	0DNP	NONE		C0402_DNP	C0402	C31(DNP), C32(DNP)	CAP DNP 0402	
10	210n	ANY		C0402_10n_X7R_10%_CER_50V	C0402	C4, C30	CAP CER 10000PF 50V 10% X7R 0402	
11	110u	ANY		C0402_10u_X5R_10%_CER_6V3	C0402	C5	CAP CER 10UF 6.3V 10% X5R 0402	
12	220p	ANY		C0402_20p_NP0_5%_CER_50V	C0402	C6, C7	CAP CER 20PF 50V 5% NP0 0402	
13	12u2	ANY		C0402_2u2_X5R_10%_CER_6V3	C0805	C8	CAP CER 2.2UF 6.3V 20% X5R 0402	
14	1PRTR5V0U2X	NXP		PRTR5V0U2X	SOT143B	D1	TVS DIODE ARRAY 2CH 5V SOT143	
15	1GREEN	ANY		LED0603-GREEN	LED0402	D2	LED GREEN CLEAR 0603 SMD	
16	1YELLOW	ANY		LED0603-YELLOW	LED0402	D3	LED YELLOW CLEAR 0603 SMD	
17	1WHITE	ANY		LED0603-WHITE	LED0402	D4	LED WHITE CLEAR 0603 SMD	
18	1BLUE	ANY		LED0603-BLUE	LED0402	D5	LED BLUE CLEAR 0603 SMD	
19	2MH22-1	ANY		MH22-1-0.1	MH22-1-0.1	J1, J2	CONN HEADER VERT .100 1ROW 22POS 10.5 TAIL 8.5 BODY 15AU	
20	1BLM31PG601SN1L	MURATA		BLM31PG601SN1L	FB1206	L1	FERRITE CHIP 600 OHM 1500MA 1206	
21	1SWPA252012S1R0NT	SUNLORD		SWPA252012SMT	SWPA252012S	L2	INDUCTOR 1.2UH 2.0A SMD2.5 X 2.0 X 1.2	
22	1DOMINO	GL-CONNECT		DOMINO-CORE	DOMINO	M1	MOD AR9331 WIFI	
23	1AP2302GN	ANPEC		AP2302GN	SOT23-3	Q1	MOSFET N-CH 20V 2.8A SOT-23	
24	12SC4081	ROHM SEMICONDUCTOR		2SC4081	SOT323	Q2	TRANS NPN 50V 0.15A SOT-323	
25	1100k	ANY		R0402_100k_5%_62.5mW	R0402	R1	RES 100K OHM 1/16W 5% 0402 SMD	
26	24k7	ANY		R0402_4k7_5%_62.5mW	R0402	R11, R14	RES 4.7K OHM 1/16W 5% 0402 SMD	
27	247k	ANY		R0402_47k_5%_62.5mW	R0402	R15, R17	RES 47K OHM 1/16W 5% 0402 SMD	
28	11k	ANY		R0402_1k_5%_62.5mW	R0402	R16	RES 1K OHM 1/16W 5% 0402 SMD	
29	222R	ANY		R0402_22R_5%_62.5mW	R0402	R2, R3	RES 22 OHM 1/16W 5% 0402 SMD	
30	1270R	ANY		R0402_270R_5%_62.5mW	R0402	R20	RES 270 OHM 1/16W 5% 0402 SMD	
31	10R	ANY		R0603_0R_5%_125mW	R0603	R21	RES 0.0 OHM 1/8W JUMP SMD 0603	
32	2330R	ANY		R0603_330R_5%_125mW	R0603	R22, R23	RES 330 OHM 1/8W 5% 0603 SMD	
33	1270R	ANY		R0603_270R_5%_125mW	R0603	R24	RES 270 OHM 1/8W 5% 0603 SMD	
34	20R	ANY		R0402_0R_5%_62.5mW	R0402	R26, R27	RES 0.0 OHM 1/16W JUMP 0402 SMD	
35	710k	ANY		R0402_10k_5%_62.5mW	R0402	R4, R7, R10, R12, R13(DNP), R18, R19, R25	RES 10K OHM 1/16W 5% 0402 SMD	
36	11M	ANY		R0402_1M_5%_62.5mW	R0402	R5	RES 1M OHM 1/16W 0402 SMD	
37	115k	ANY		R0402_15k_5%_62.5mW	R0402	R6	RES 15K OHM 1/16W 5% 0402 SMD	
38	133k2	ANY		R0402_33k2_1%_62.5mW	R0402	R8	RES 33.2K OHM 1/16W 1% 0402 SMD	
39	1150k	ANY		R0402_150k_1%_62.5mW	R0402	R9	RES 150K OHM 1/16W 1% 0402 SMD	
40	1USB_MR5-001	SZJUSTWELL ELECTRONICS		USB MR5-003A	USB-MR5-001	S1	CONN USB MICRO B RECPT SMT R/A	
41	3IT-1210	SZJUSTWELL ELECTRONICS		IT-1210	IT-1210	SW1, SW2, SW3	SWITCH TACTILE SPST-NO 0.05A 12V	
42	1MP65151DJ	MONOLITHIC POWER		MP65151DJ	SOT23-6	U1	IC POWER SWITCH 1.7A SOT23-6	
43	1ATMEGA32U4-AU/MU	ATMEL		ATMEGA32U4-MU	ATMEGA32U4_DUAL	U2	IC MCU 8BIT 32KB FLASH 44QFN	Or ATMEGA32U4-AU
44	1MP2162GQH	MONOLITHIC POWER		MP2162GQH	QFN-8_2X1.5	U3	IC REG BUCK SYNC ADJ 2A 8WDFN	
45	1NTB0104GU12	NXP		NTB0104GU12	XQFN-12	U4	IC TRANSLATING TXRX 12XQFN	
46	1NTB0102GF	NXP		NTB0102GF	SOT1089	U5	TXRX TRANSLATING DUAL 3ST 8XSON	
47	1MAX3375EEKA+T	MAXIM INTEGRATED		MAX3375EEKA+T	SOT23-8	U6	IC LVL XLTR LV 8MBPS SOT23-8	
48	116MHz	ANY		CRYSTAL_16MHZ_32X25_2SH_12PF_CRYSTAL_32X25		Y1	CRYSTAL 16MHZ 12PF 30PPM 3.2 X 2.5 SMD	