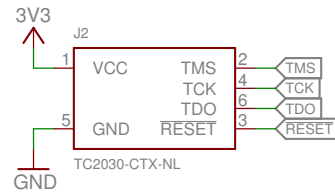
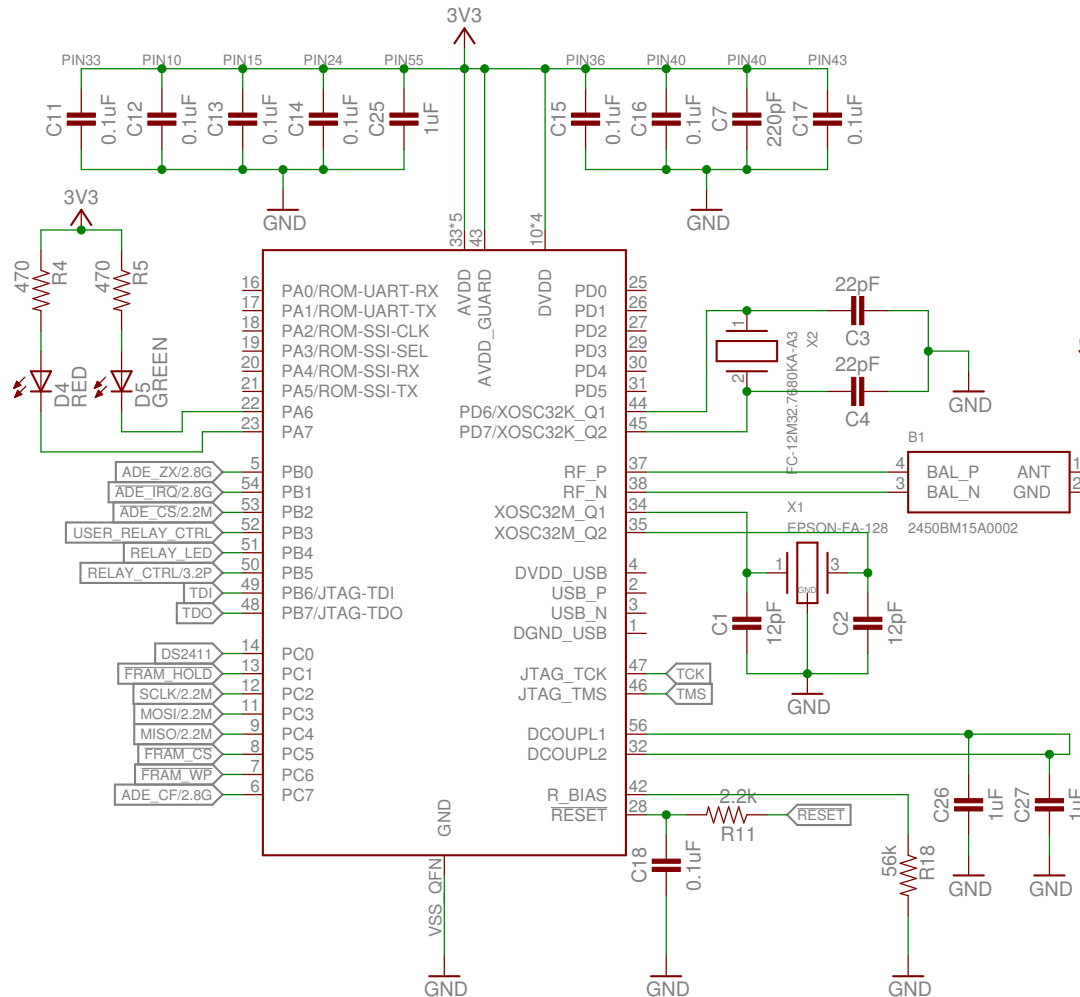




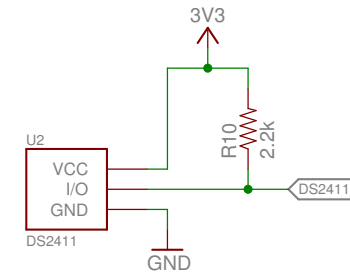
Programmer Header



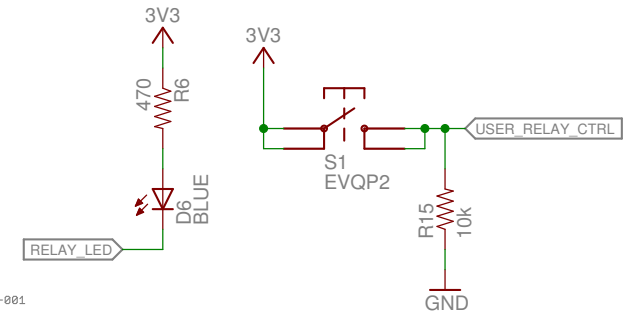
CC2538



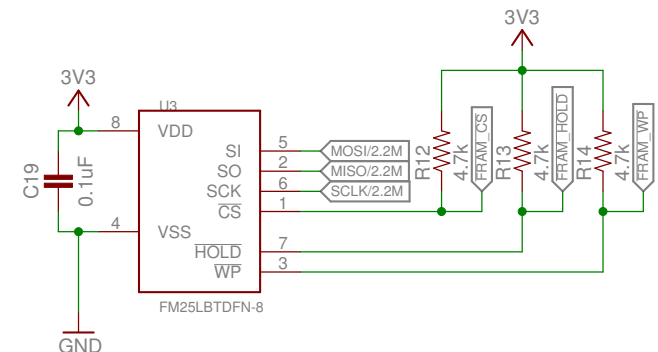
DS2411



Relay Control Switch and LED



FRAM



TITLE: ACme++

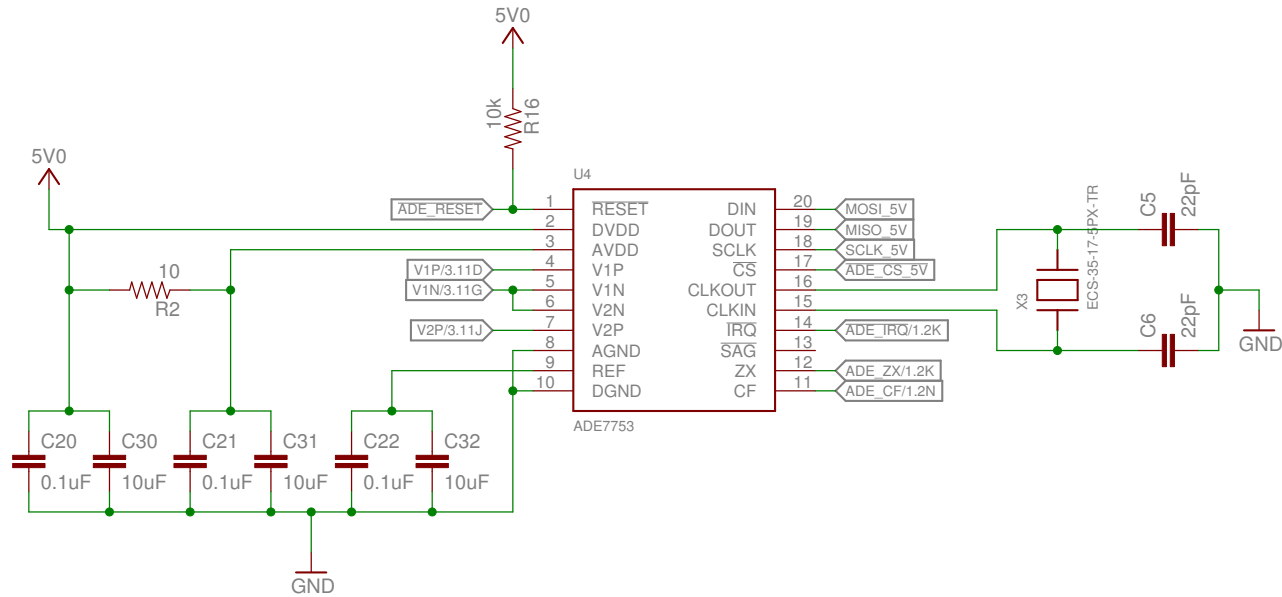
Document Number:

REV:

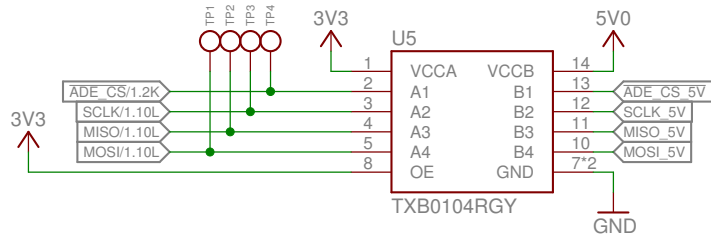
Date: 1/7/14 2:36 PM

Sheet: 1/4

ADE7753 Power Measurement



Level Converter 5V SPI



TITLE: ACme++

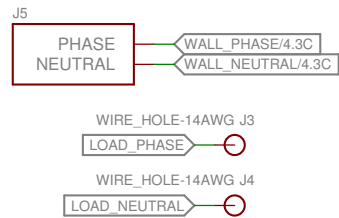
Document Number:

REV:

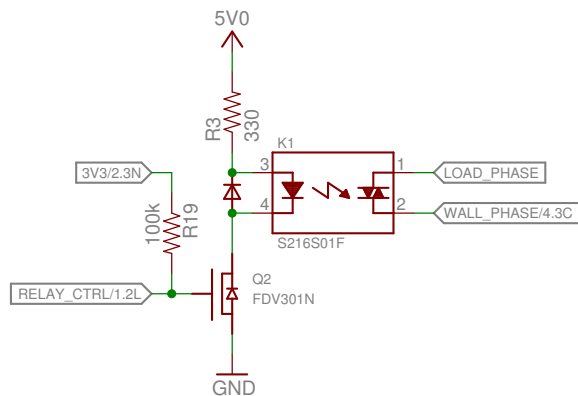
Date: 1/7/14 2:36 PM

Sheet: 2/4

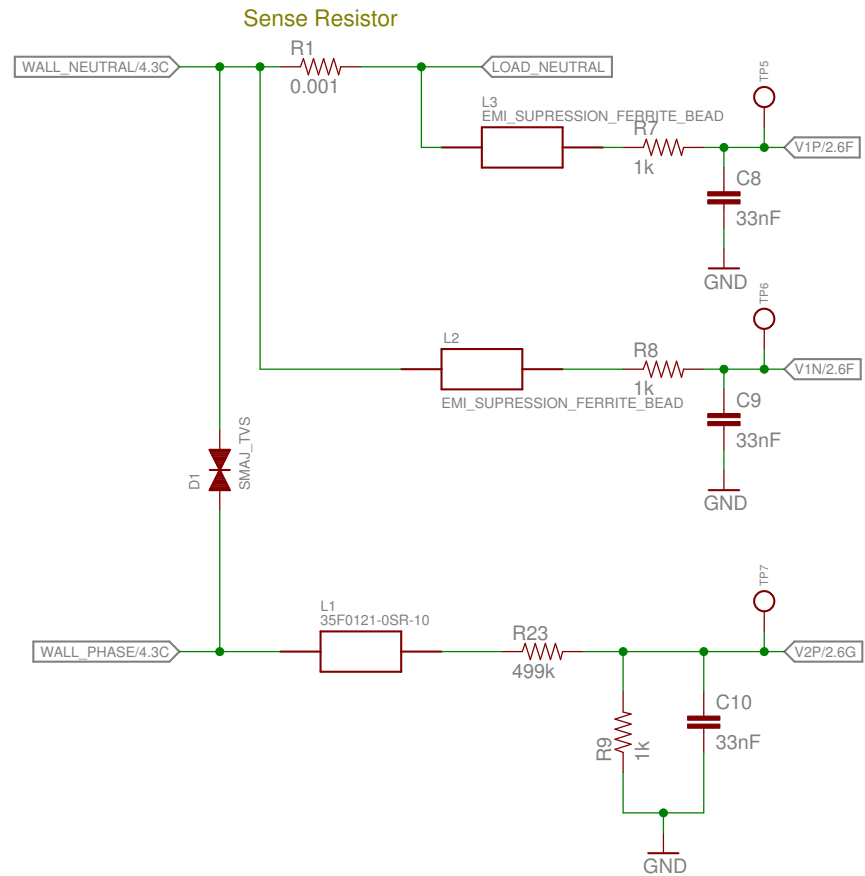
AC Plugs



Load Control Relay



Metering Conditioning



TITLE: ACme++

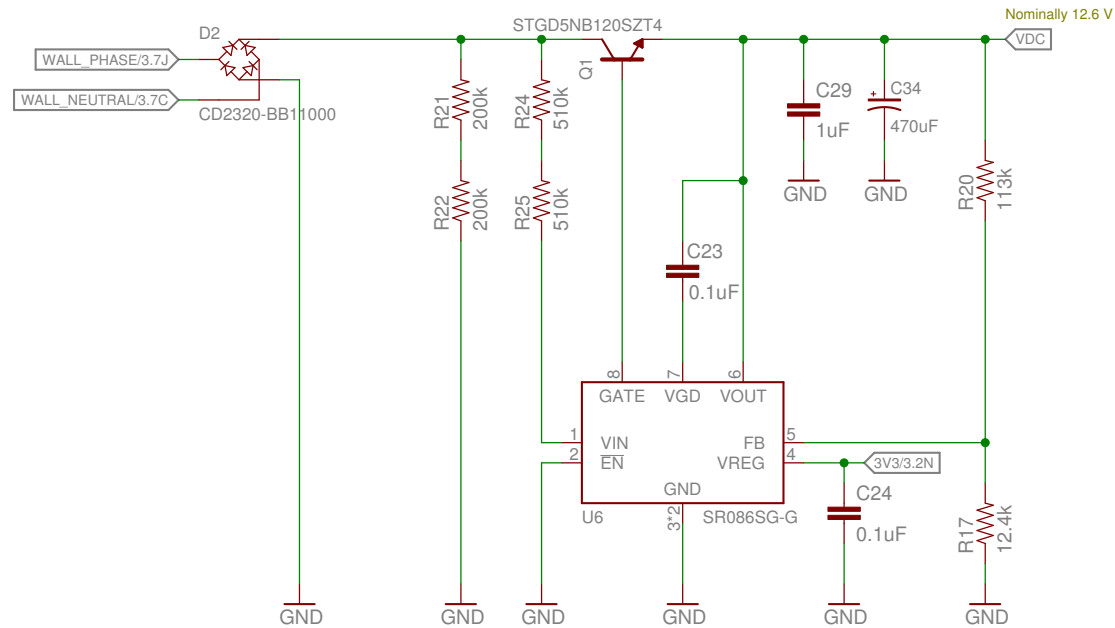
Document Number:

REV:

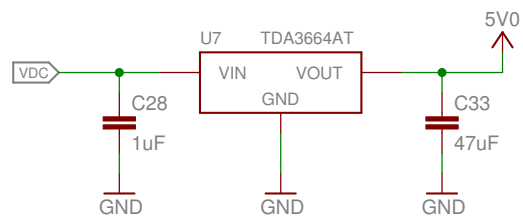
Date: 1/7/14 2:36 PM

Sheet: 3/4

AC-DC Converter



5V Regulator



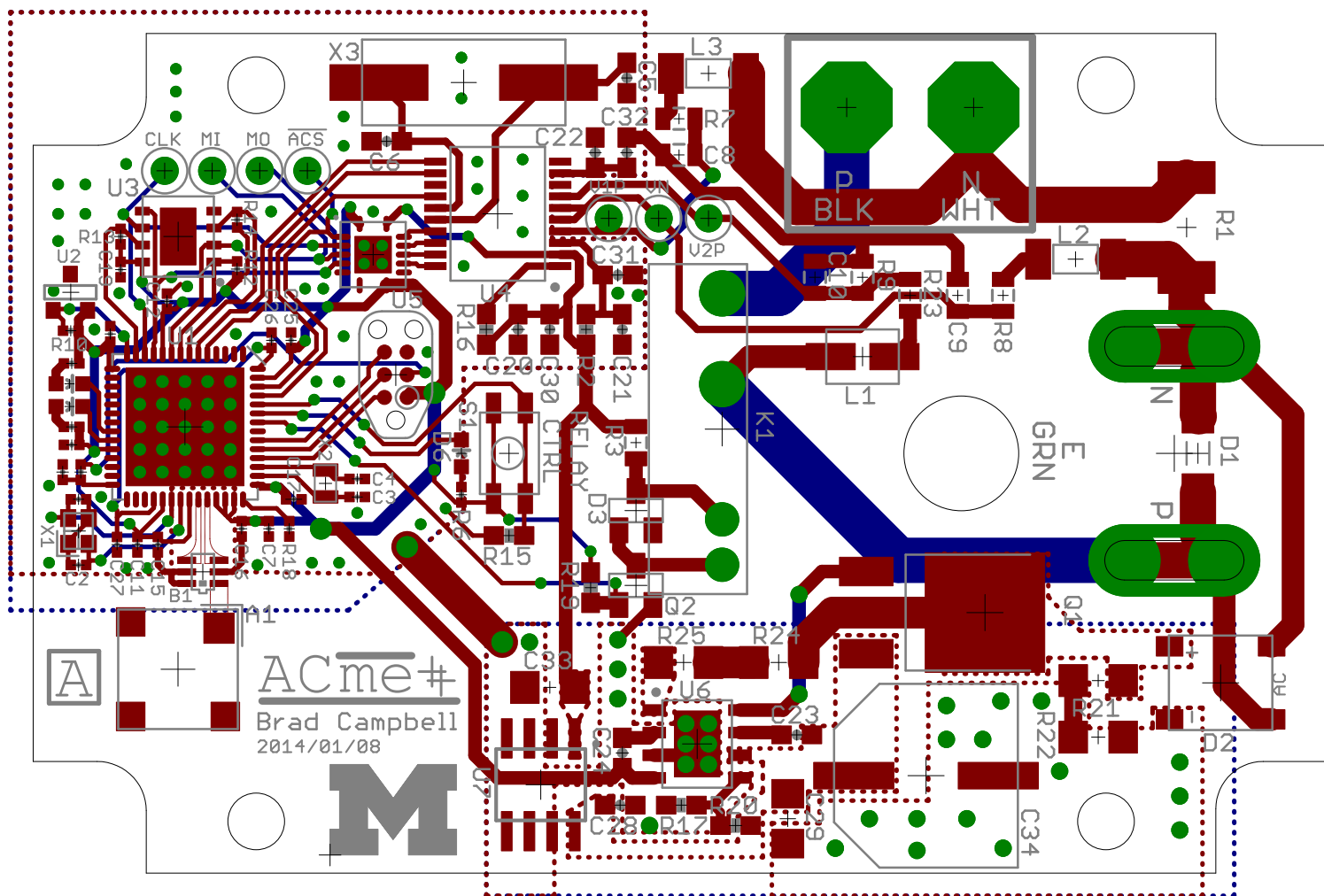
TITLE: ACme++

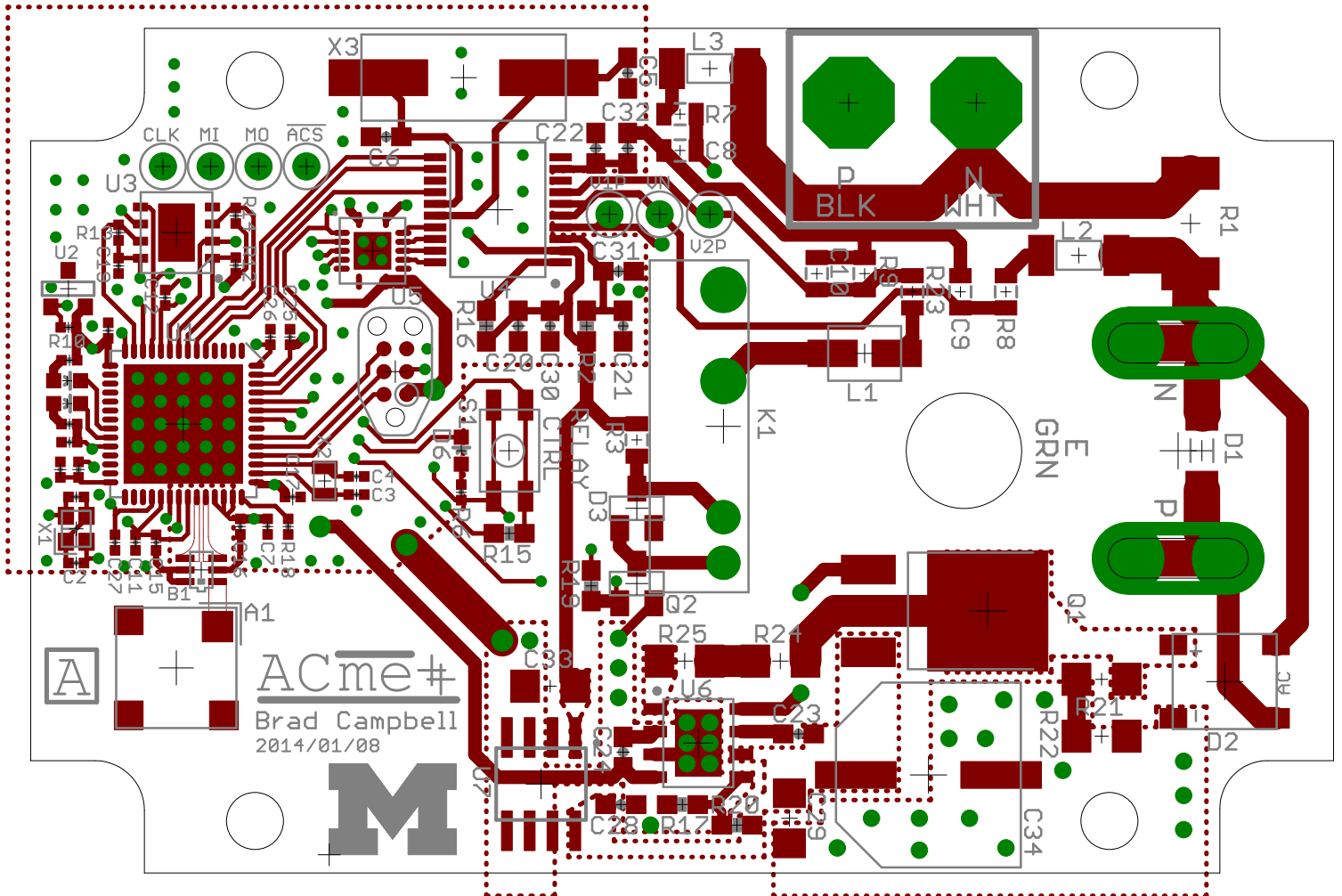
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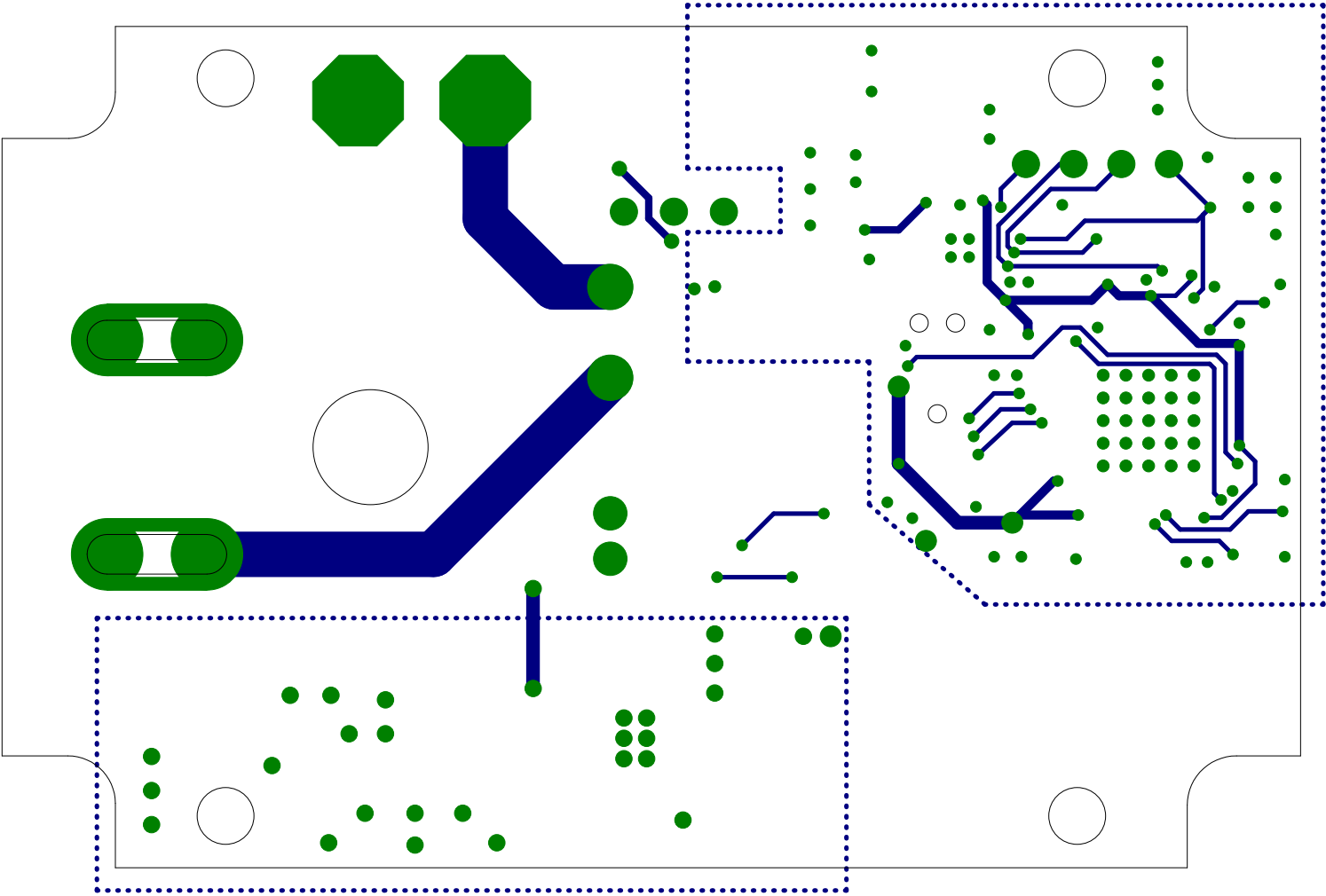
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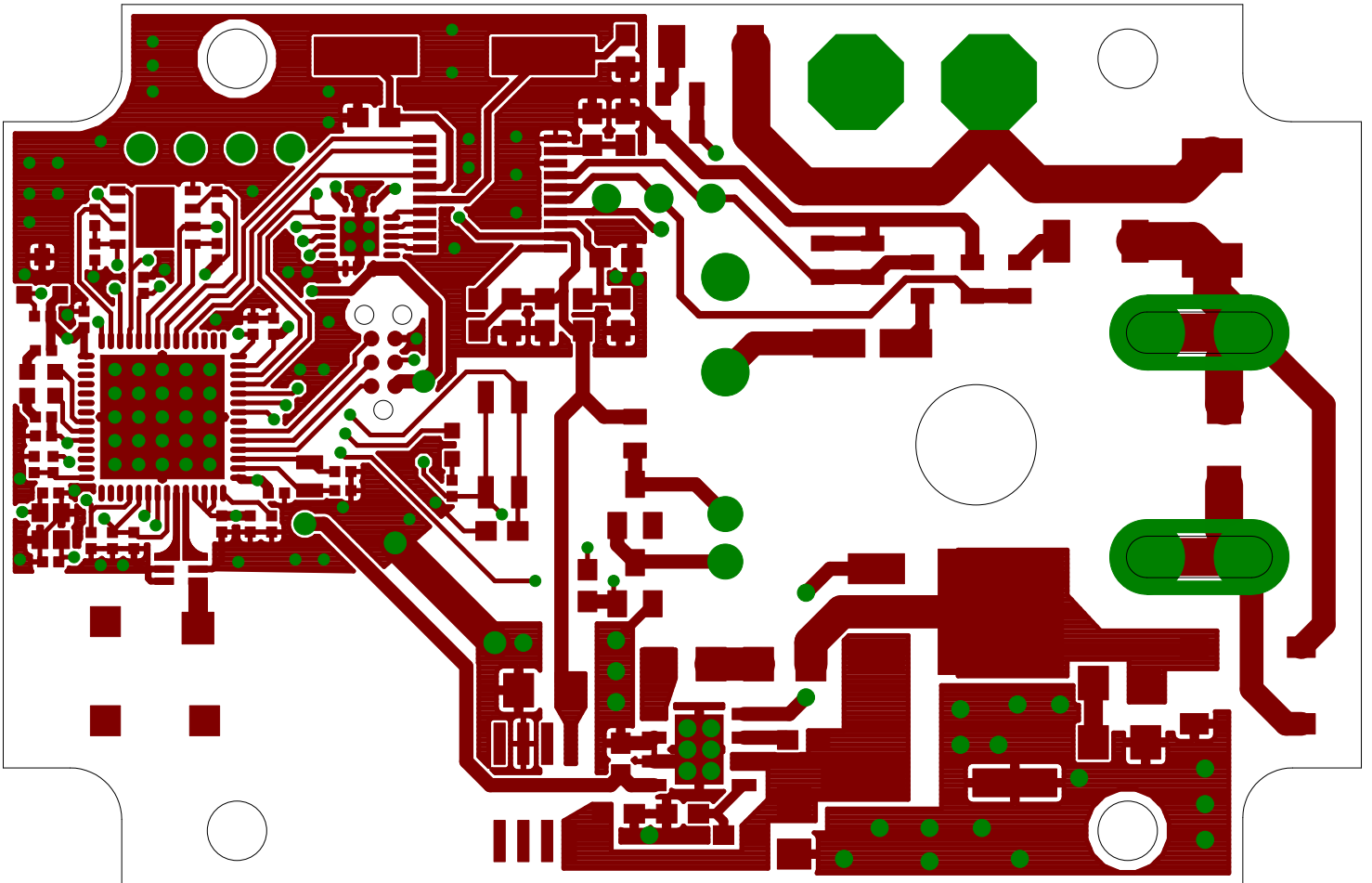
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Sheet: 4/4

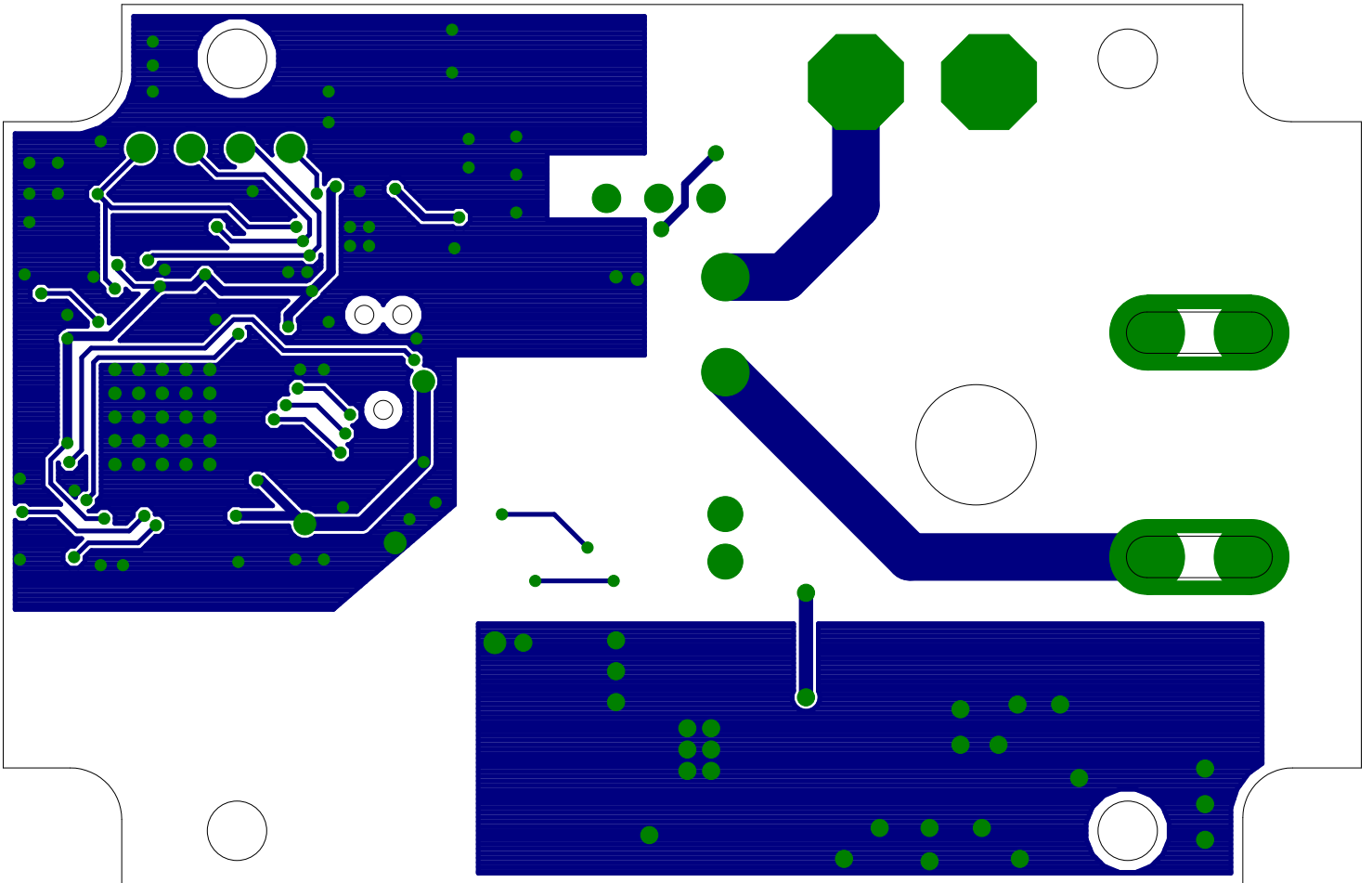


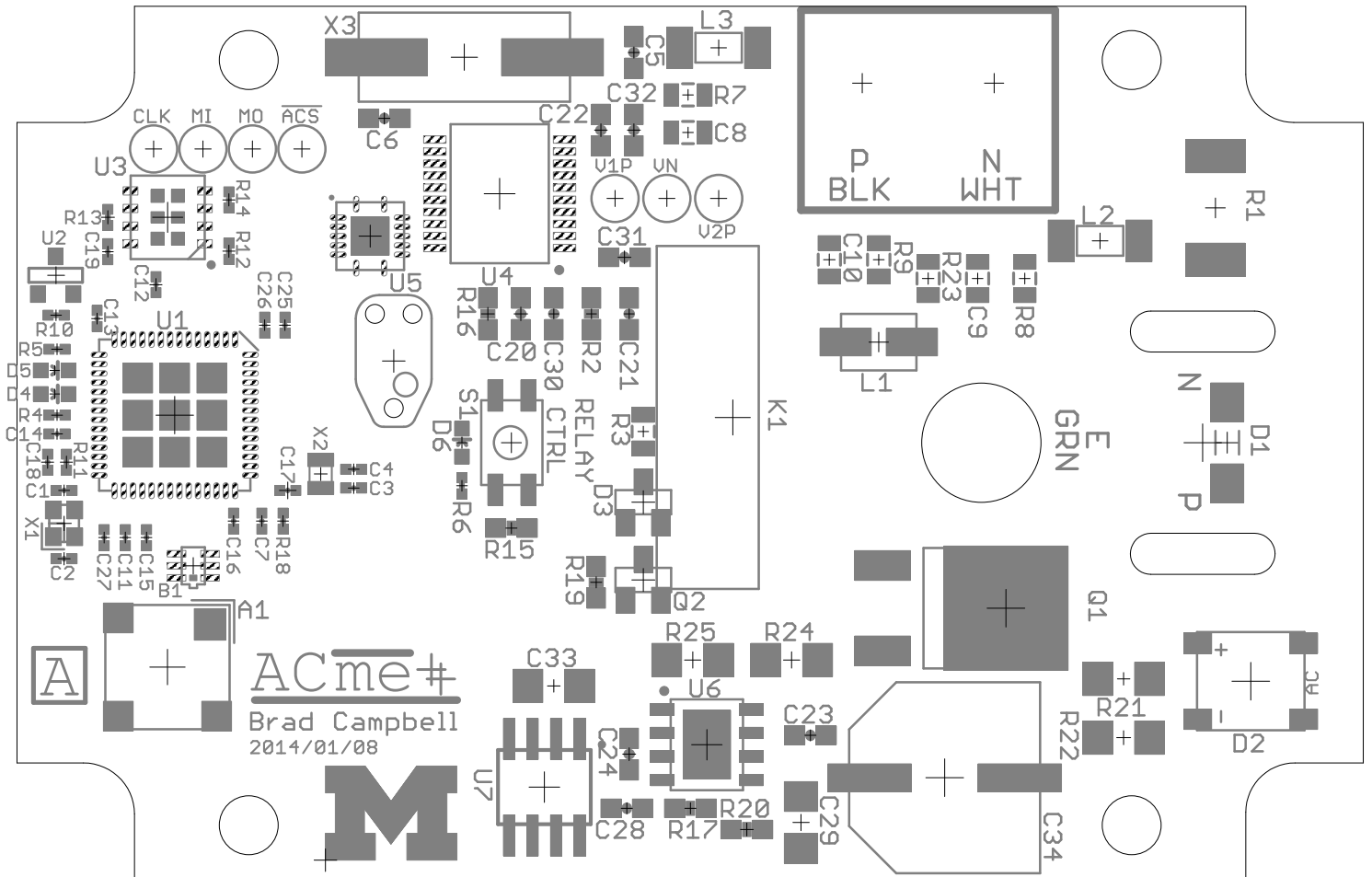




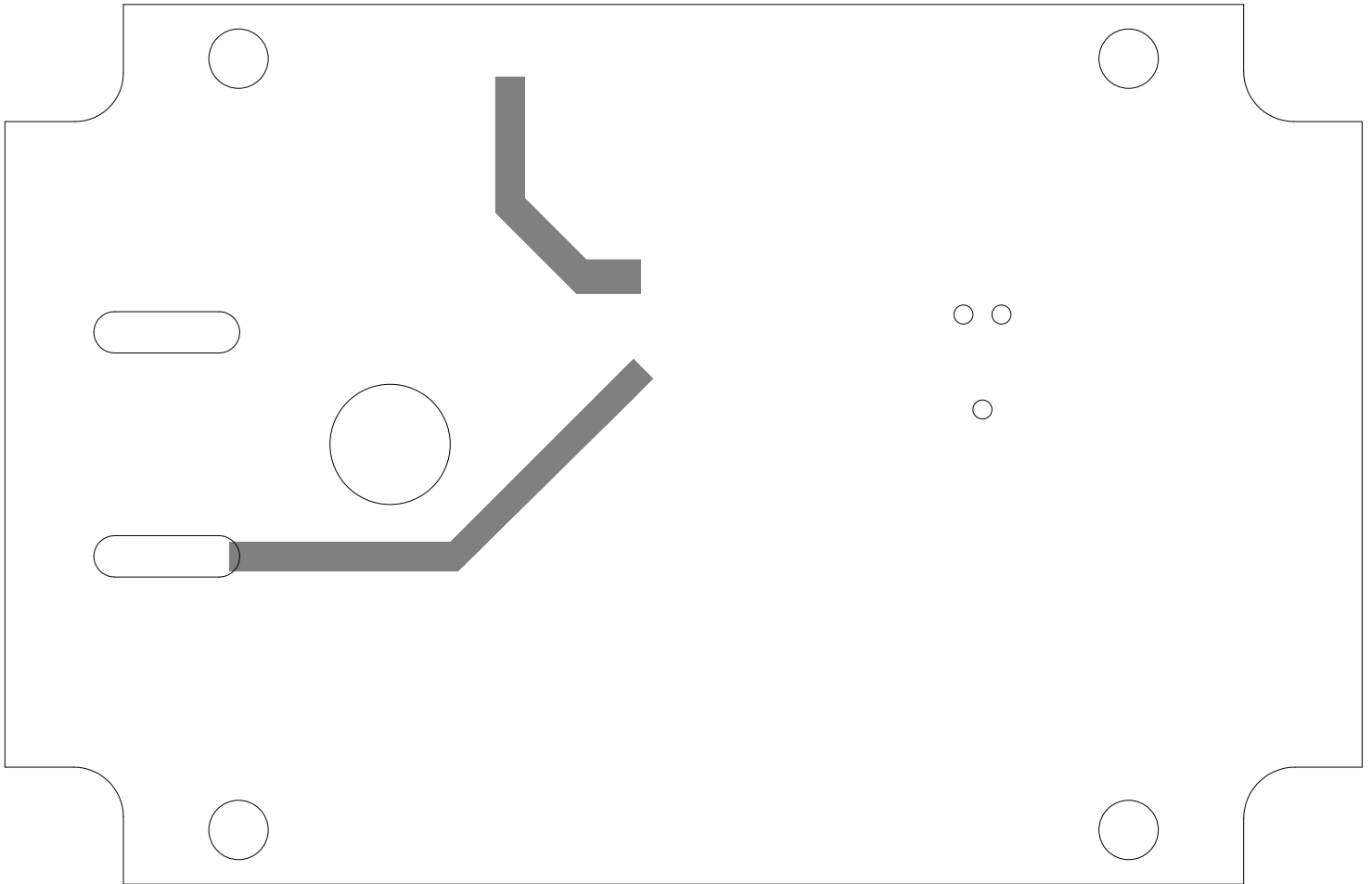


Bottom Copper Layer

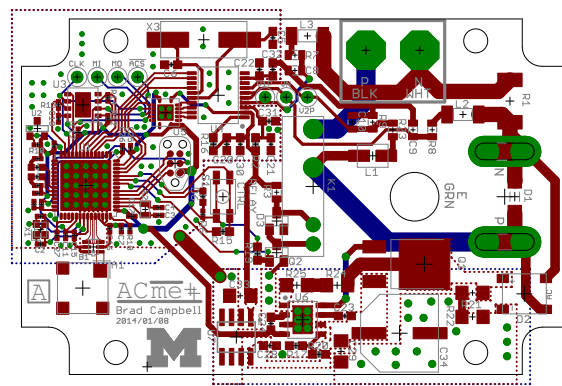




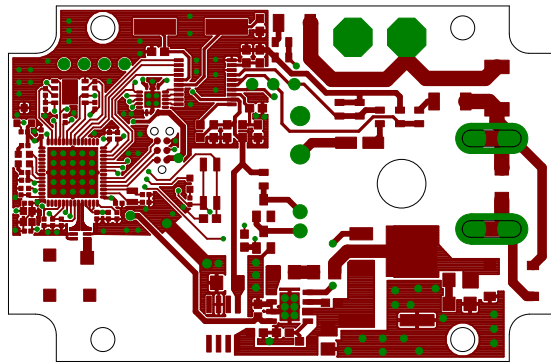
Bottom Paste Layer with Silkscreen



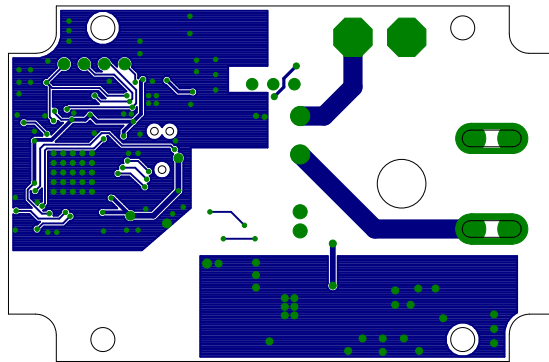
Top and Bottom Layers 1:1 Scale



Top Layer 1:1 Scale



Bottom Copper Layer 1:1 Scale



Qty	Value	Device
1	FRACTUS-2.4GHZ-FR05-S1-N-0-001	FRACTUS-2.4GHZ-FR05-S1-N-0-001
1	2450BM15A0002	2450BM15A0002
2	12pF	CAPACITOR
2	22pF	CAPACITOR
2	22pF	CAP0603-CAP
1	220pF	CAPACITOR
3	33nF	CAP0805
9	0.1uF	CAPACITOR
5	0.1uF	CAP0603-CAP
3	1uF	CAPACITOR
1	1uF	CAP0603-CAP
1	1uF	CAP1206
3	10uF	CAP0603-CAP
1	47uF	CAP1206
1	470uF	CAP_EEE-FP1E471AP
2		CAP_POL
1	SMAJ_TVS	SMAJ_TVS
1	CD2320-BB11000	CD2320-BB11000
1	DIODE_MMBD914	DIODE_MMBD914
1	RED	LED0603
1	GREEN	LED0603
1	BLUE	LED0603
1	AC-PLUG	AC-PLUG
1	TC2030-CTX-NL	TC2030-CTX-NL
3	WIRE_HOLE-14AWG	WIRE_HOLE-14AWG
1	S216S01F	S216S01F
1	35F0121-0SR-10	35F0121-0SR-10
2	EMI_SUPPRESSION_FERRITE_BEAD	EMI_SUPPRESSION_FERRITE_BEAD
1	STGD5NB120SZT4	STGD5NB120SZT4
1	FDV301N	FDV301N
1	0.001	RESISTOR2512
1	10	RESISTOR0603-RES
1	330	RESISTOR0805-RES
3	470	RESISTOR
3	1k	RESISTOR0805-RES
2	2.2k	RESISTOR
3	4.7k	RESISTOR
2	10k	RESISTOR0603-RES
1	12.4k	RESISTOR0603-RES
1	56k	RESISTOR
1	100k	RESISTOR0603-RES
1	113k	RESISTOR0603-RES
2	200k	RESISTOR1206
1	499k	RESISTOR0805-RES
2	510k	RESISTOR1206
1	EVQP2	EVQP2
1	CC2538	CC2538
1	DS2411	DS2411
1	FM25LBTFN-8	FM25LBTFN-8

1 ADE7753
1 TXB0104RGY
1 SR086SG-G
1 TDA3664AT
1 EPSON-FA-128
1 FC-12M32.7680KA-A3
1 ECS-35-17-5PX-TR
1 ENCLOSURE
0 ENCLOSURE
1 SOCKET
0 14AWG Black
0 14AWG Green
0 14AWG White
4 #4 Screw

ADE7753
TXB0104RGY
SR086SG-G
TDA3664AT
EPSON-FA-128
FC-12M32.7680KA-A3
ECS-35-17-5PX-TR
PPB-11860-BK
PPB-11860-WT
739W-X2/03
6717 BK005
6717 GR005
6717 WH005

Package

FRACTUS-ANTENNA-FR05-S1-N-0-001	
2450BM	
0402-CAP	
0402-CAP	
0603-CAP	
0402-CAP	
0805	
0402-CAP	
0603-CAP	
0402-CAP	
0603-CAP	
	1206
0603-CAP	
	1206
CAP_SM_10MM	
	2917
DO214_TVS	
CD2320	
SOT-23	
LED-0603	
LED-0603	
LED-0603	
AC_MALE_PINS	
TC2030-IDC-NL	
WIRE_HOLE-14AWG	
RELAY_SX16S0X	
35F0102	
L1806	
DPAK	
SOT-23	
R2512	
0603-RES	
0805	
0402-RES	
0805	
0402-RES	
0402-RES	
0603-RES	
0603-RES	
0402-RES	
0603-RES	
0603-RES	
	1206
0805	
	1206
EVQP2	
S-PVQFN-N56	
SOT-23	
TDFN-8	

SSOP-20
S-PVQFN-N14
SR086
SOIC_8
FA-128
FC-12M
CSM-7X

Parts

A1

B1

C1, C2

C3, C4

C5, C6

C7

C8, C9, C10

C11, C12, C13, C14, C15, C16, C17, C18, C19

C20, C21, C22, C23, C24

C25, C26, C27

C28

C29

C30, C31, C32

C33

C34

C36, C37

D1

D2

D3

D4

D5

D6

J1

J2

J3, J4, J5

K1

L1

L2, L3

Q1

Q2

R1

R2

R3

R4, R5, R6

R7, R8, R9

R10, R11

R12, R13, R14

R15, R16

R17

R18

R19

R20

R21, R22

R23

R24, R25

S1

U1

U2

U3

U4
U5
U6
U7
X1
X2
X3

Description	DIGIKEY
Fractus Reach Xtend	
BALUN JTI MATCHED ZIGBEE	712-1536-1-ND
Capacitor	445-1236-1-ND
Capacitor	490-5868-1-ND
Capacitor	445-1273-1-ND
Capacitor	445-1251-1-ND
Capacitor	478-1389-1-ND
Capacitor	445-1265-1-ND
Capacitor	445-1316-1-ND
Capacitor	445-4998-1-ND
Capacitor	445-5956-1-ND
Capacitor	445-1381-1-ND
Capacitor	1276-1119-1-ND
Capacitor	399-5508-1-ND
Surface mount low ESR cap.	PCE4440CT-ND
Bridge rectifier	SMAJ250CALFCT-ND
DIODE SML SIG 100V 0.2A SOT23-3	CD2320-B11000CT-ND
LEDs	MMBD914FSCT-ND
LEDs	160-1835-1-ND
LEDs	160-1834-1-ND
LEDs	160-1837-1-ND
For use with Bud Industries Box: 377-1709-ND	
Tag Connect footprint for ARM JTAG.	
Solder point for 14AWG wire	
RELAY SSR 240VAC 16A TRIAC 4-SIP	425-2413-5-ND
FERRITE 10A 42 OHMS @ 10 MHZ SMD	240-2520-1-ND
FERRITE 300MA 150 OHM 1806 SMD	240-2418-1-ND
5 A - 1200 V - low drop internally clamped IGBT	497-4352-1-ND
	FDV301NCT-ND
Resistor	P1.0TCT-ND
Resistor	RHM10.0CFCT-ND
Resistor	RHM330KCT-ND
Resistor	RHM470BHCT-ND
Resistor	P16058CT-ND
Resistor	RHM2.2KCECT-ND
Resistor	RHM4.7KCECT-ND
Resistor	RHM10.0KCFCT-ND
Resistor	RHM12.4KCFCT-ND
Resistor	RHM56KBHCT-ND
Resistor	RHM100KCGCT-ND
Resistor	RHM113KCFCT-ND
Resistor	P200KALCT-ND
Resistor	P499KCCT-ND
Resistor	P510KALCT-ND
	P11084SCT-ND
A Powerful System-On-Chip for 2.4-GHz IEEE 802.15.4, 6LoWPAN	296-35797-1-ND
Maxim DS2411	DS2411R+CT-ND
IC FRAM 4KBIT 10MHZ 8SOIC	FM25L04B-DGRA-ND

Single-Phase Multifunction Metering IC	ADE7753ARSZRLCT-ND
4-BIT BIDIRECTIONAL VOLTAGE-LEVEL TRANSLATOR	296-21930-1-ND
Adjustable Off-Line Inductorless Switching Regulator	
Very low dropout voltage/quiescent current 5 V voltage regulator	568-3310-1-ND
MHz RANGE CRYSTAL UNIT	SER3800CT-ND
kHz RANGE CRYSTAL UNIT	SER3672CT-ND
CRYSTAL 3.579545MHZ 17PF SMD	XC1234CT-ND
BOX ABS 3.09X2.09X1.65" BLK	377-1709-ND
BOX ABS 3.09X2.09X1.65" WHT	377-1710-ND
OUTLET PWR NEMA 5-15R SNAPIN/IDC	Q228-ND
HOOK-UP STRND 14AWG BLACK 100'	6717 BK005-ND
HOOK-UP STRND 14AWG GREEN 100'	6717 GR005-ND
HOOK-UP STRND 14AWG WHITE 100'	6717 WH005-ND
#4 3/16" Panhead Self-Tapping Screws	

852-S216S01F

14N9591

595-CC2538SF53RTQT 87W7713

877-FM25L04B-DG

584-ADE7753ARSZR 59K0984

689-SR086SG-G
771-TDA3664ATN1118
732-FA128-32F20X-K3

92470a106

1 712-1536-1-NB1
2 445-1236-1-NC1, C2
2 490-5868-1-NC3, C4
2 445-1273-1-NC5, C6
1 445-1251-1-NC7
3 478-1389-1-NC8, C9, C10
9 445-1265-1-NC11, C12, C13, C14, C15, C16, C17, C18, C19
5 445-1316-1-NC20, C21, C22, C23, C24
3 445-4998-1-NC25, C26, C27
1 445-5956-1-NC28
1 445-1381-1-NC29
3 1276-1119-1-C30, C31, C32
1 399-5508-1-NC33
1 PCE4440CT-NC34
1 SMAJ250CALFD1
1 CD2320-B11(D2
1 MMBD914FSD3
1 160-1835-1-ND4
1 160-1834-1-ND5
1 160-1837-1-ND6
1 425-2413-5-NK1
1 240-2520-1-NL1
2 240-2418-1-NL2, L3
1 497-4352-1-NQ1
1 FDV301NCT-IQ2
1 P1.0TCT-ND R1
1 RHM10.0CFCR2
1 RHM330KCT-R3
3 RHM470BHCIR4, R5, R6
3 P16058CT-NIR7, R8, R9
2 RHM2.2KCECR10, R11
3 RHM4.7KCECR12, R13, R14
2 RHM10.0KCFIR15, R16
1 RHM12.4KCFIR17
1 RHM56KBHCIR18
1 RHM100KCGIR19
1 RHM113KCFIR20
2 P200KALCT-NR21, R22
1 P499KCCT-NIR23
2 P510KALCT-NR24, R25
1 P11084SCT-NS1
1 296-35797-1-U1
1 DS2411R+CTU2
1 FM25L04B-D(U3
1 ADE7753ARSU4
1 296-21930-1-U5
1 568-3310-1-NU7
1 SER3800CT-NX1