Extension Identification

D1 BAT54XV2T1G

U1 ATSHA204A-SWI

C9 4.7uF

R8 100k

GND

[DESIGN NOTE]
The ATSHA204 is powered through an IO Pin from the EDBG on an MCU board.
R100 is present to drain the capacitor C100 when power is removed from an MCU board.

Standard Extension Header (Female)

J1 2185-210RS0CYNT1

ID_DATA	1	2			
ADC(+)	3	4	ADC(-)	GND	
GPIO	5	6	GPIO	R2 1k	Y9
PWM(+)	7	8	PWM(-)	R3 1k	Y7
IRQ/GPIO	9	10	SPI_SS_B/GPIO	R5 1k	Y5
TWI_SDA	11	12	TWI_SCL	R7 1k	Y3
UART_RX	13	14	UART_TX		
SPI_SS_A	15	16	SPI_MOSI	R10 1k	Y2
SPI_MISO	17	18	SPI_SCK	R12 1k	DRIVEN_SHIELD
GND	19	20	VCC_TARGET		

Y8 R1 1k

Y6 R4 1k

Y4 R6 1k

Y1 R9 1k

C11 4.7uF

JS101 SNT-100-BK-G

Y0 R11 1k

J2 HEADER 1x3
1x3 pin header, Right angle, 2.54mm pitch SMD

VCC_TARGET

C14 100n

GND

U2 MCP23017

SCL	9	GPA0	17	COL_5	R14 330R
SDA	8	GPA1	18	COL_4	R15 330R
INTA	16	GPA2	19	COL_3	R16 330R
INTB	15	GPA3	20	COL_2	R18 330R
RESET	14	GPA4	21	COL_1	R19 330R
A0	11	GPA5	22	Touch status	R13 330R
A1	12	GPA6	23		
A2	13	GPA7	24		
NC	10	GPB0	25	ROW_1	R20 330R ROW 1
NC	7	GPB1	26	ROW_2	R21 330R ROW 2
VDD	5	GPB2	27	ROW_3	R22 330R ROW 3
VSS	6	GPB3	28	ROW_4	R24 330R ROW 4
PAD	29	GPB4	1	ROW_5	R26 330R ROW 5
		GPB5	2		
		GPB6	3		
		GPB7	4		

VCC_TARGET R17 1k

R23 0R
R25 0R
R27 0R

GND

COL 5
COL 4
COL 3
COL 2
COL 1

D3 D4 D5 D6 D7

GND

D2

GND

[DESIGN NOTE]
LED status used for multiTouch status

D8 D9 D10 D11 D12

GND

Y5 Y6 Y7 Y8 Y9

Y4 Y3 Y2 Y1 Y0

5x5 Sensor

E1 E2 E3 E4
SJ-5076 SJ-5076 SJ-5076 SJ-5076

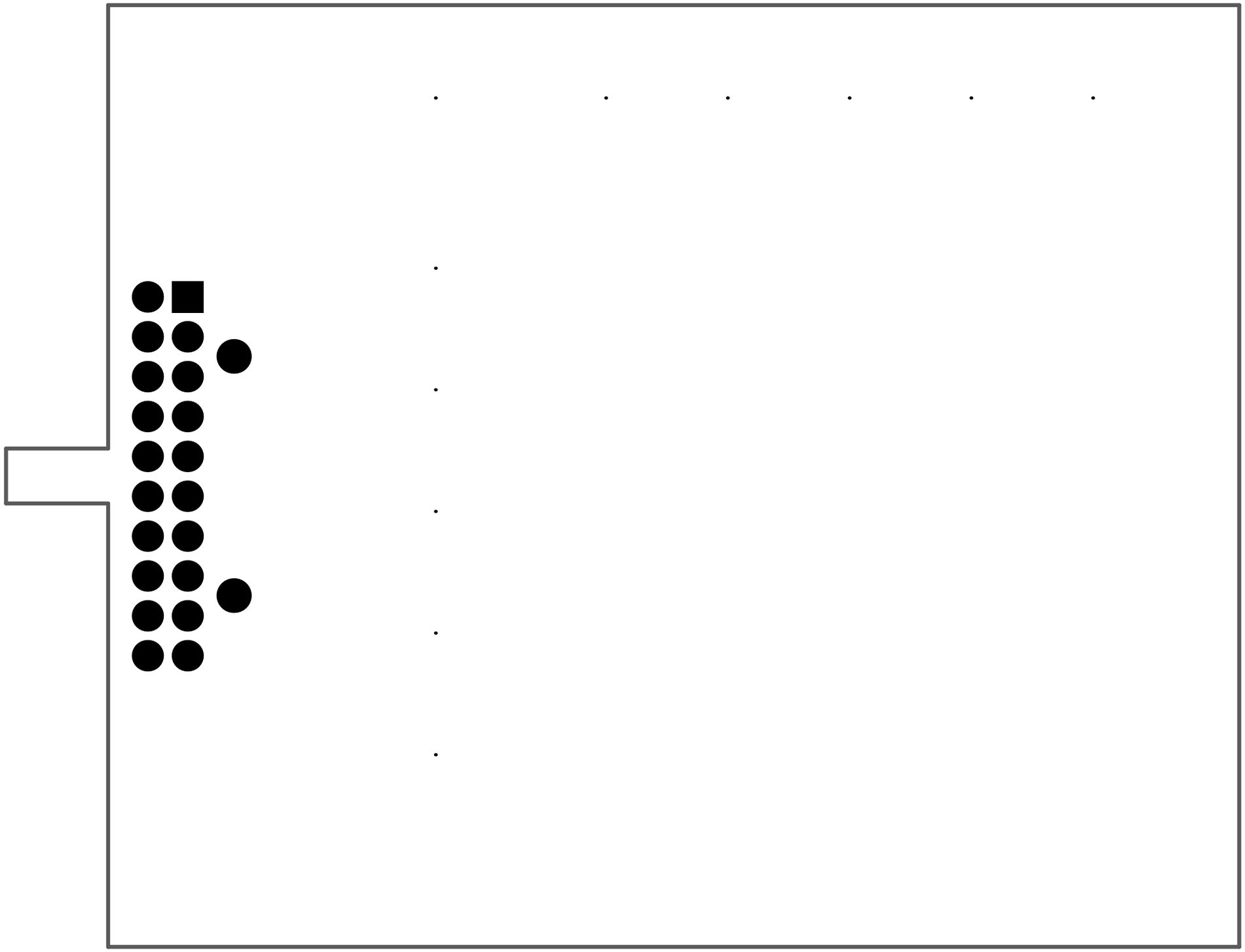
PCB1

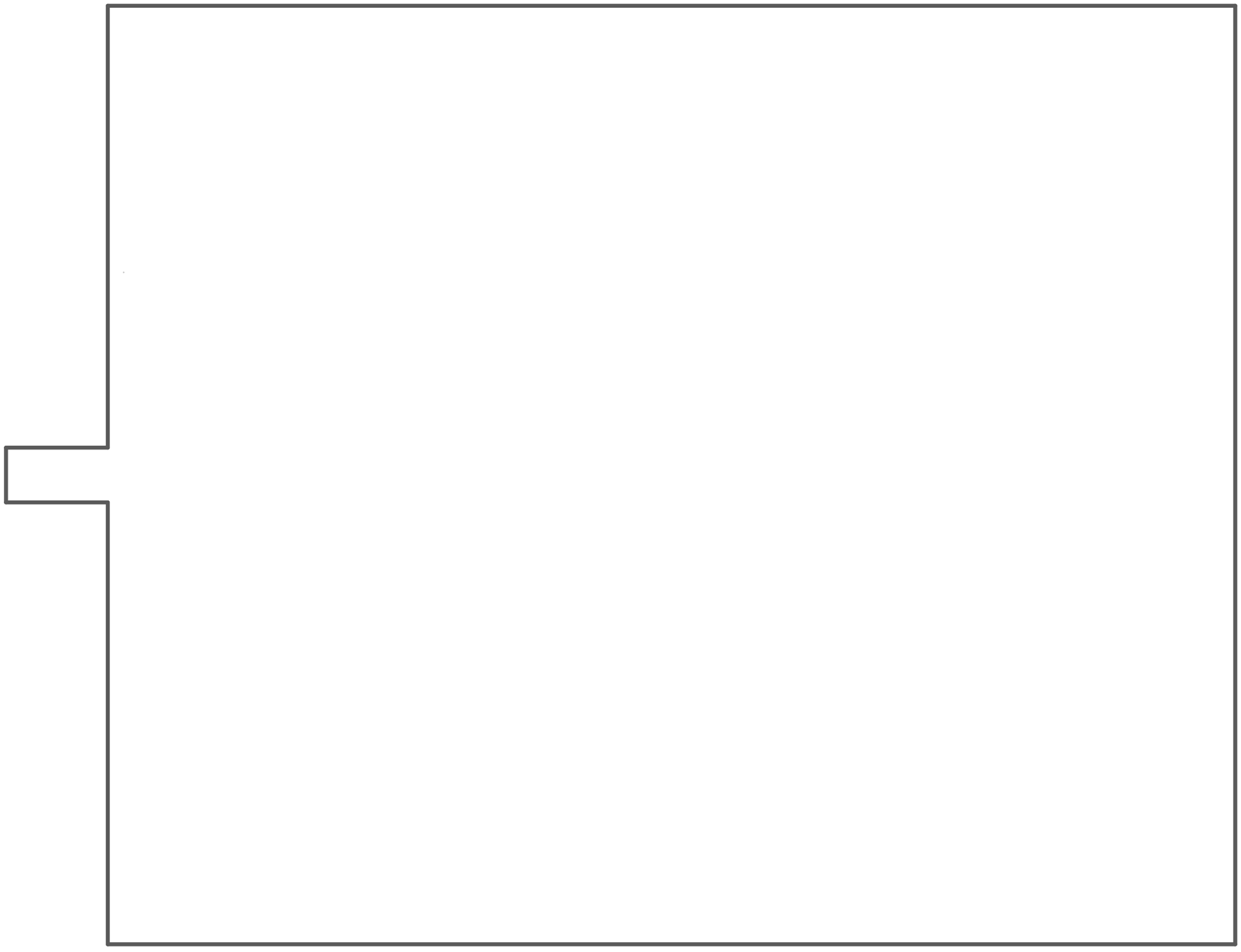
PCBADOC1
A12-1363

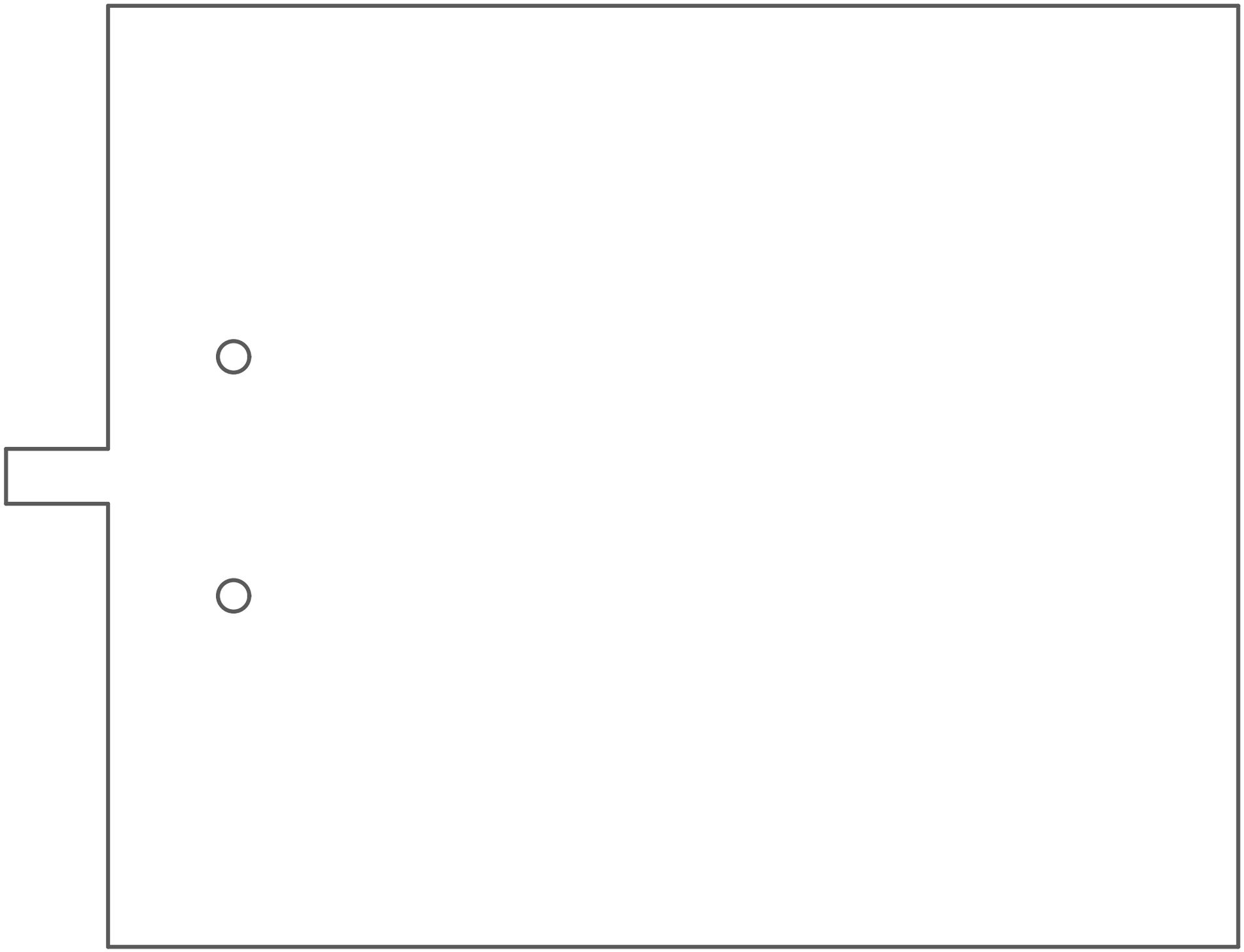
A08-2947
QT8 Xplained Pro extension kit PCB documentatio

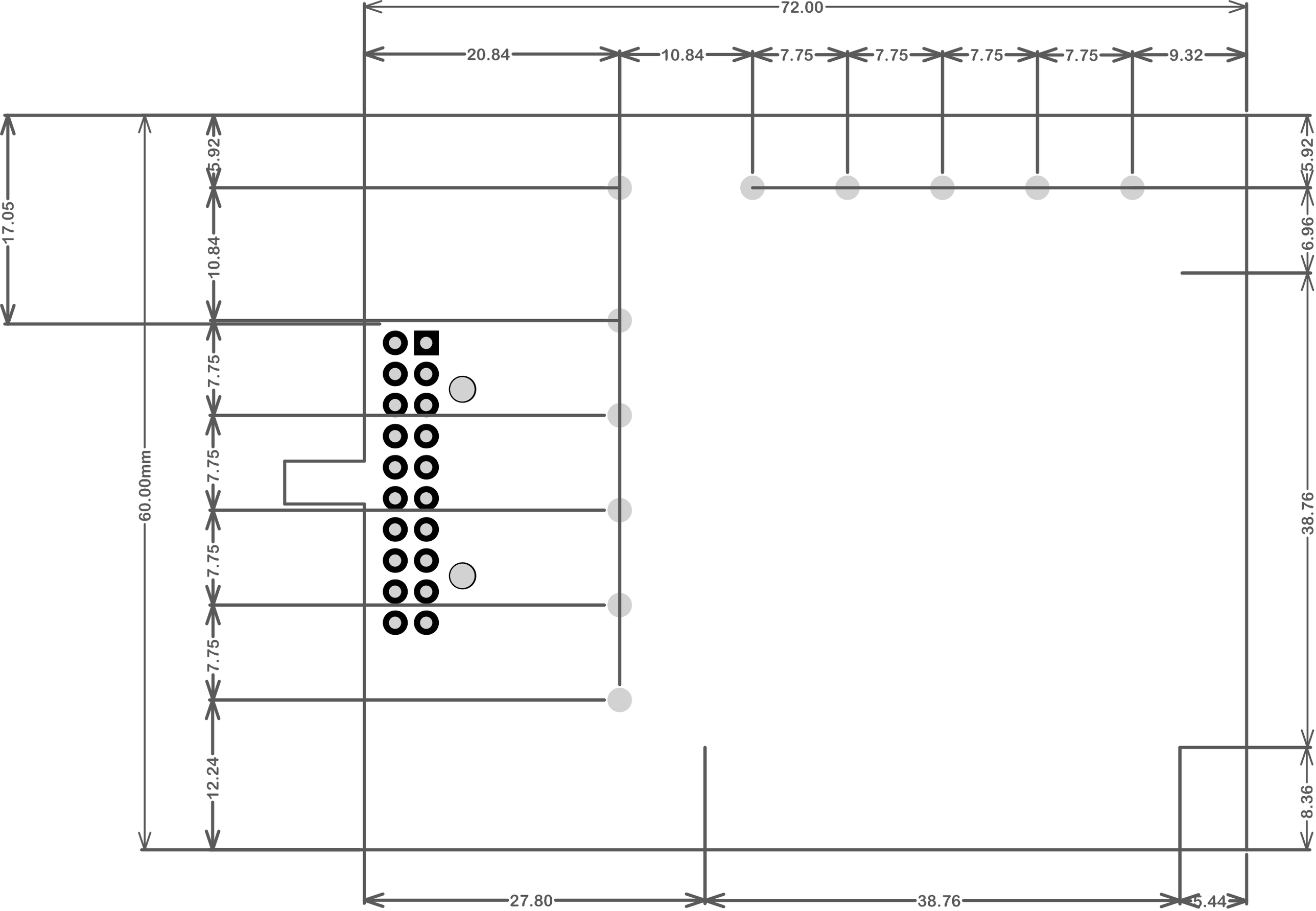
LABEL1
Product number/revision
Serial number

Drawn By: *	MICROCHIP
Engineer: *	
Project Title *	Designed with Altium — Altium.com
Sheet Title: Water Tolerant Touch Surface Development Kit	
Size A3	PCB Assembly Number: A09-3028 PCBA Revision: 2
	PCB Number: A09-2769 PCB Revision: 2
File: QT8_Xplained_Pro.SchDoc	Date: 8.7.2019 Page: 2 of 4

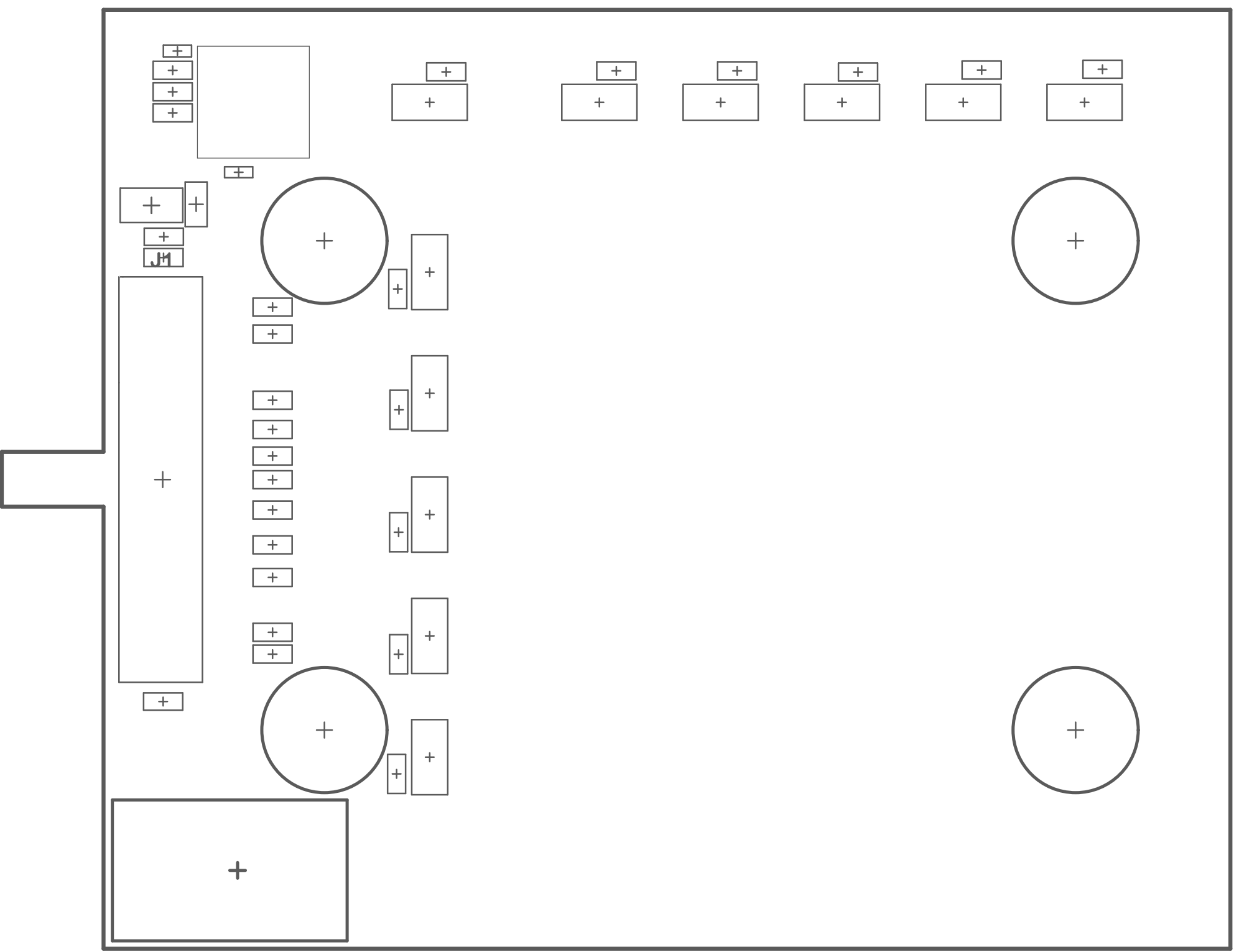


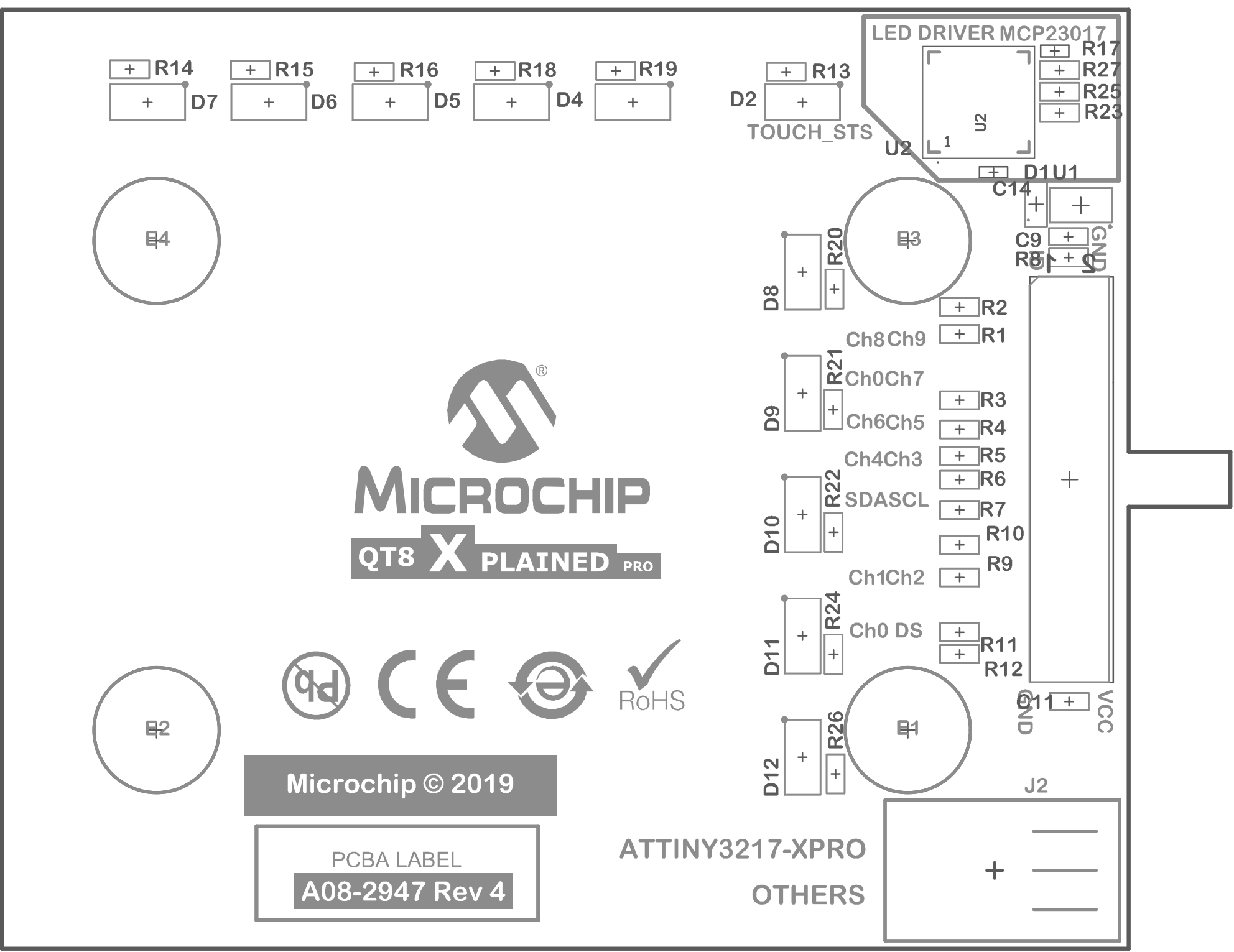


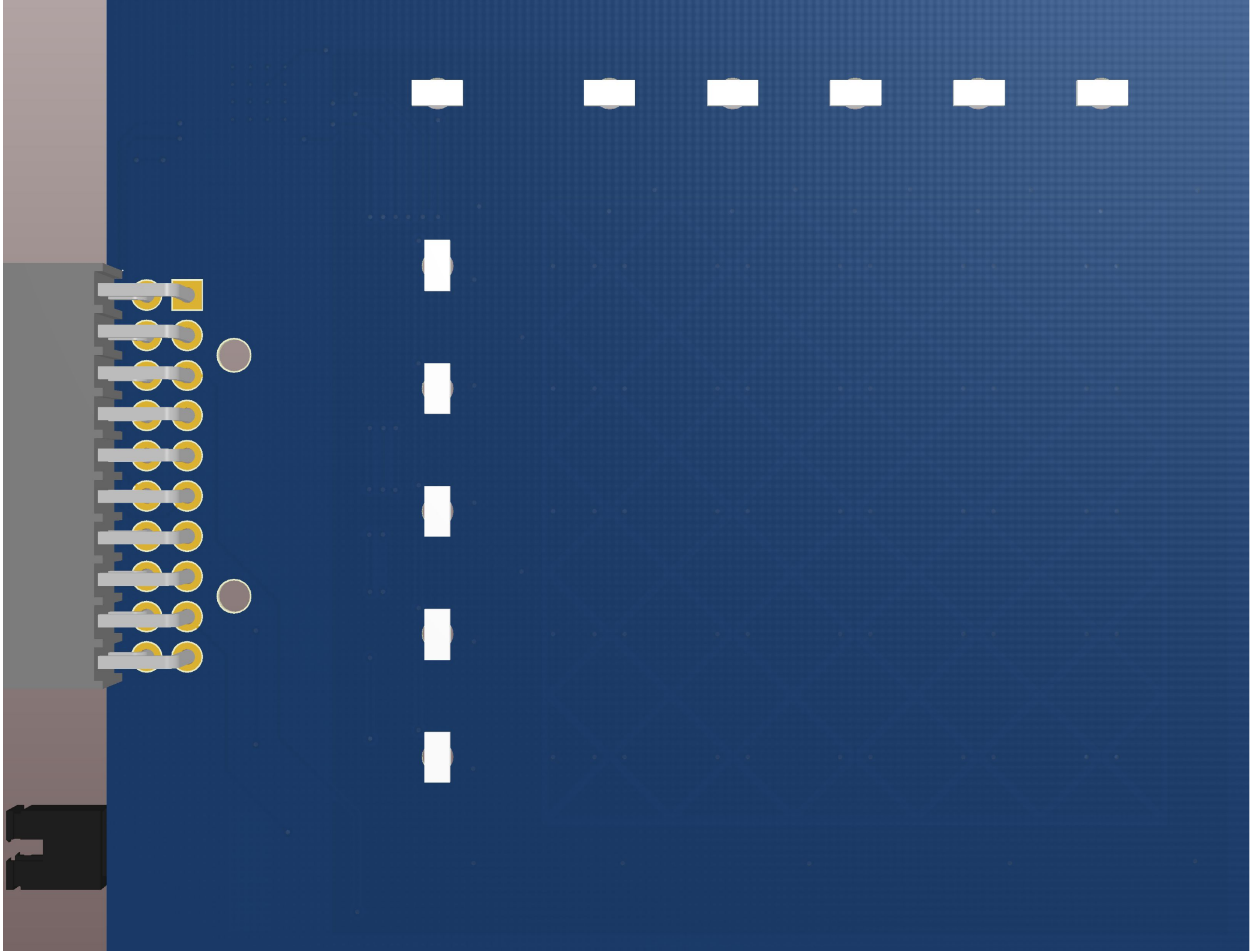


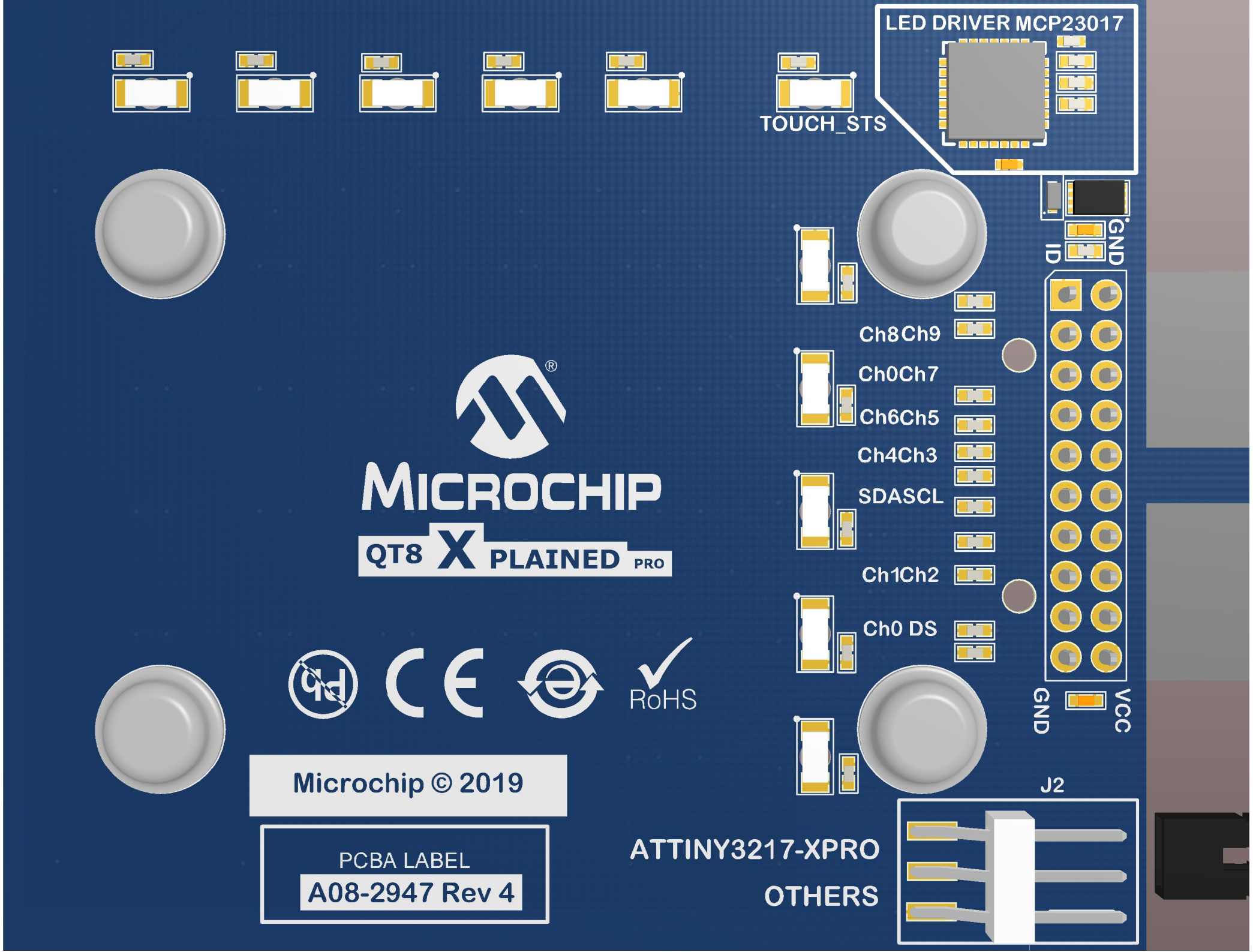


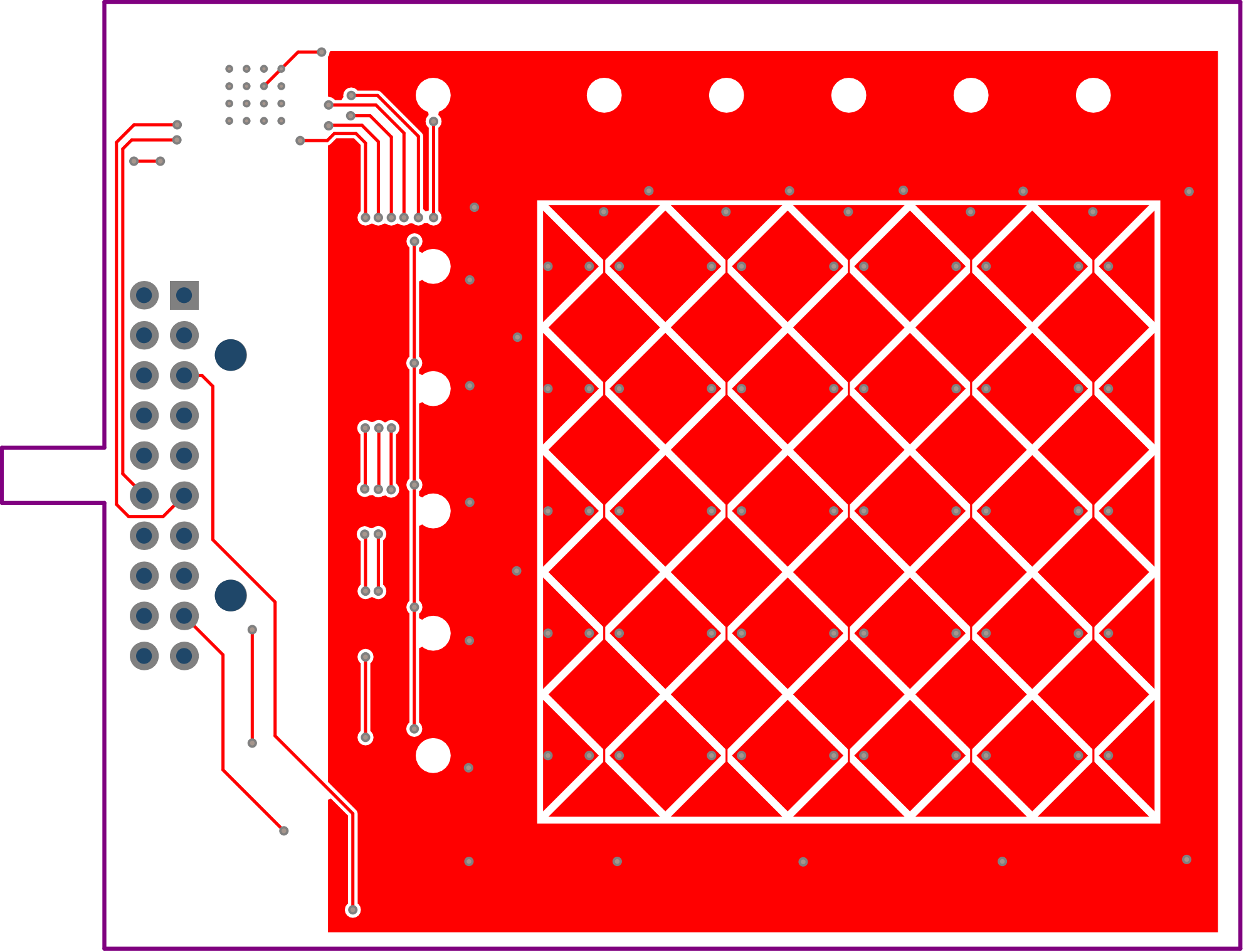
ALL DIMENSIONS ARE IN MM

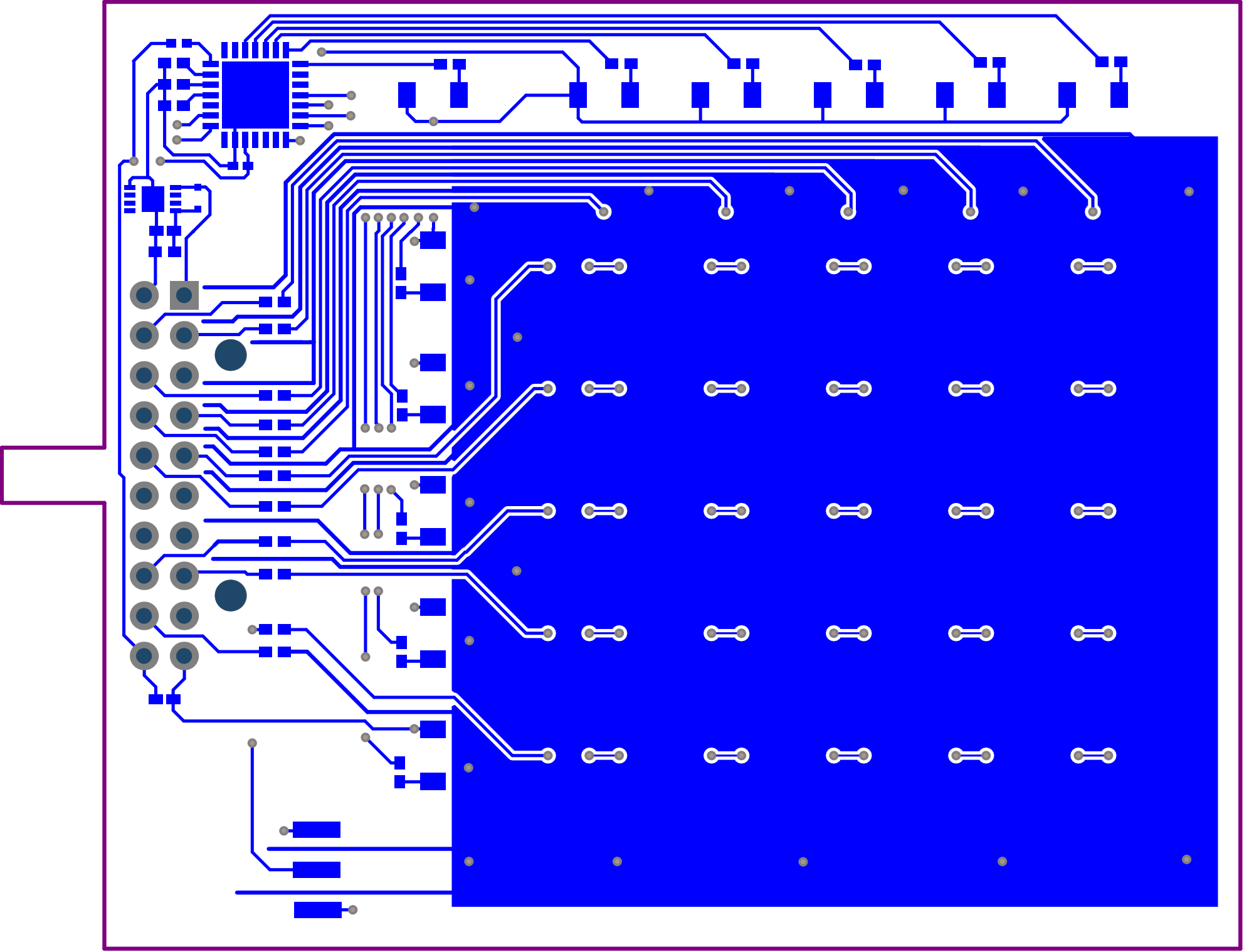



LED DRIVER MCP23017
R14
R15
R16
R18
R19
R13
R17
R27
R25
R23
D7
D6
D5
D4
D2
TOUCH_STS
U2
D1U1
C14
C9
R8
GND
VCC
H4
H3
H2
H1
D8
R20
R2
R1
Ch8Ch9
D9
R21
Ch0Ch7
R3
Ch6Ch5
R4
Ch4Ch3
R5
D10
R22
SDASCL
R6
R7
R10
R9
Ch1Ch2
D11
R24
Ch0 DS
R11
R12
C11
D12
R26
J2
MICROCHIP
QT8 XPLAINED PRO
RoHS
Microchip © 2019
PCBA LABEL
A08-2947 Rev 4
ATTINY3217-XPRO
OTHERS




LED DRIVER MCP23017
TOUCH_STS
GND
ID
Ch8Ch9
Ch0Ch7
Ch6Ch5
Ch4Ch3
SDASCL
Ch1Ch2
Ch0 DS
GND
VCC
MICROCHIP
QT8 XPLAINED PRO
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A08-2947 Rev 4
ATTINY3217-XPRO
OTHERS
J2





Fitted	Designator	Quantity	Value	Manufacturer	MPN	Description
Fitted	C14	1	100n	Kemet	C0402C104K4RACTU	Ceramic capacitor, SMD 0402, X7R, 16V, +/-10%
Fitted	C9, C11	2	4.7uF	Murata	GRM155R60J475ME87D	Ceramic capacitor, SMD 0402, X5R, 6.3V, +/-20% (de33687)
Fitted	D1	1	BAT54XV2T1G	ON Semiconductor	BAT54XV2T1G	Schottky diode, If:200mA, Vf:0.35V, Vrrm:30V, SOD-523
Fitted	D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12	11	LTST-C250KRKT			LED, SMD, RED, 3.2x1.2mm, reverse mount
Fitted	E1, E2, E3, E4	4	SJ-5076	3M	SJ-5076	2.8mm adhesive feet,diam 8.0mm
Fitted	J1	1	2185-210RS0CYNT1	WCON HARDWARE ELECTRONICS CO., LTD	2185-210RS0CYNT1	2x10, female pin header receptable, right-angled, 2.54mm pitch, THM, PIP
Fitted	J2	1	1x3 pin header, Right angle, 2.54mm pitch SMD	GLOBAL CONNECTOR TECHNOLOGY	BG301-03-A-0540-L-B	1x3 pin header, Right angle, 2.54mm pitch SMD
Fitted	JS101	1	SNT-100-BK-G	SAMTEC	SNT-100-BK-G	Jumper cap for 2.54mm pinheader
Fitted	LABEL1	1		ACT Logimark AS	505462	PCBA identification label PP Top White Gloss
Fitted	PCB1	1	QT8 Xplained Pro extension kit PCB documentatio			QT8 Xplained Pro extension kit PCB documentation
Fitted	PCBADOC1	1	QT8 Xplained Pro extension kit PCBA			QT8 Xplained Pro extension kit PCBA Documentation
Fitted	R1, R2, R3, R4, R5, R6, R7, R9, R10, R11, R12	11	1k			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R13, R14, R15, R16, R18, R19, R20, R21, R22, R24, R26	11	330R	ASJ	CR10-3300-FK	Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R17	1	1k			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	R23, R25, R27	3	0R	(n/a)	RMCF0402ZT0R00	RES 0.0 OHM 1/16W 0402 SMD
Fitted	R8	1	100k			Thick film resistor, SMD 0402, 1/16W, 1%
Fitted	U1	1	ATSHA204 SWI UDFN8	ATMEL	ATSHA204A-MAHCZ-T	ATSHA204 with 1-wire interface and UDFN8 package
Fitted	U2	1	MCP23017	Microchip Technolo	MCP23017-E/ML	16-Bit I/O Expander