

# Iridium 9603 Beacon

Page 2:

With grateful thanks to:  
Adafruit for the Feather M0 Adalogger  
<https://www.adafruit.com/products/2796>  
<https://github.com/adafruit/Adafruit-Feather-M0-Adalogger-PCB>  
Adafruit invests time and resources providing this open source design,  
please support Adafruit and open-source hardware by purchasing products from Adafruit  
Designed by Adafruit Industries.

Page 3:

With grateful thanks to:  
Adafruit for the Ultimate GPS FeatherWing  
<https://www.adafruit.com/products/3133>  
<https://github.com/adafruit/Adafruit-Ultimate-GPS-FeatherWing-PCB>  
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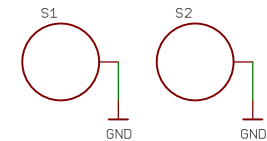
Page 4:

With grateful thanks to:  
Sparkfun for the MPL3115A2 Breakout  
<https://www.sparkfun.com/products/11084>  
[https://github.com/sparkfun/MPL3115A2\\_Breakout/tree/U\\_H1.1\\_L1.2.0](https://github.com/sparkfun/MPL3115A2_Breakout/tree/U_H1.1_L1.2.0)  
The hardware is released under Creative Commons ShareAlike 4.0 International.

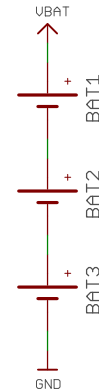
Page 5:

LTC3225EDDB SuperCapacitor Charger  
Based on Linear Technology DC1220B  
and Element14's LTC Library

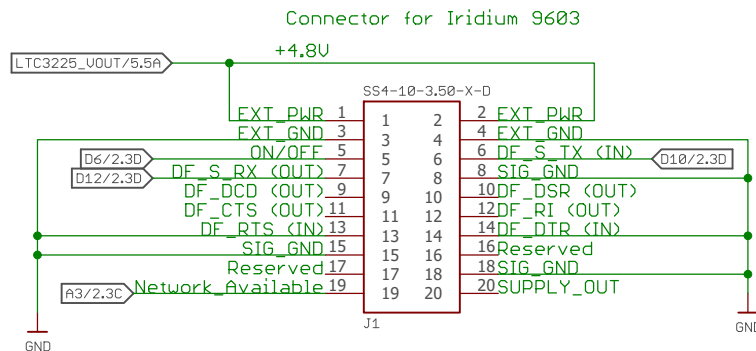
Mounting holes for Iridium 9603  
2 x McMaster 95117A411 Press-In Nuts



3 x AAA Energiser Ultimate Lithium  
in Keystone Electronics 82 clips



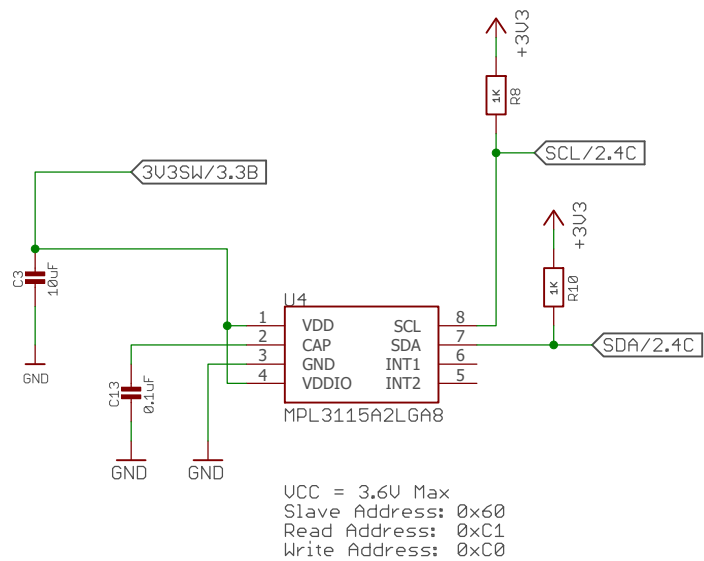
Fiducials



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Sheet: 1/6







A.Weiss

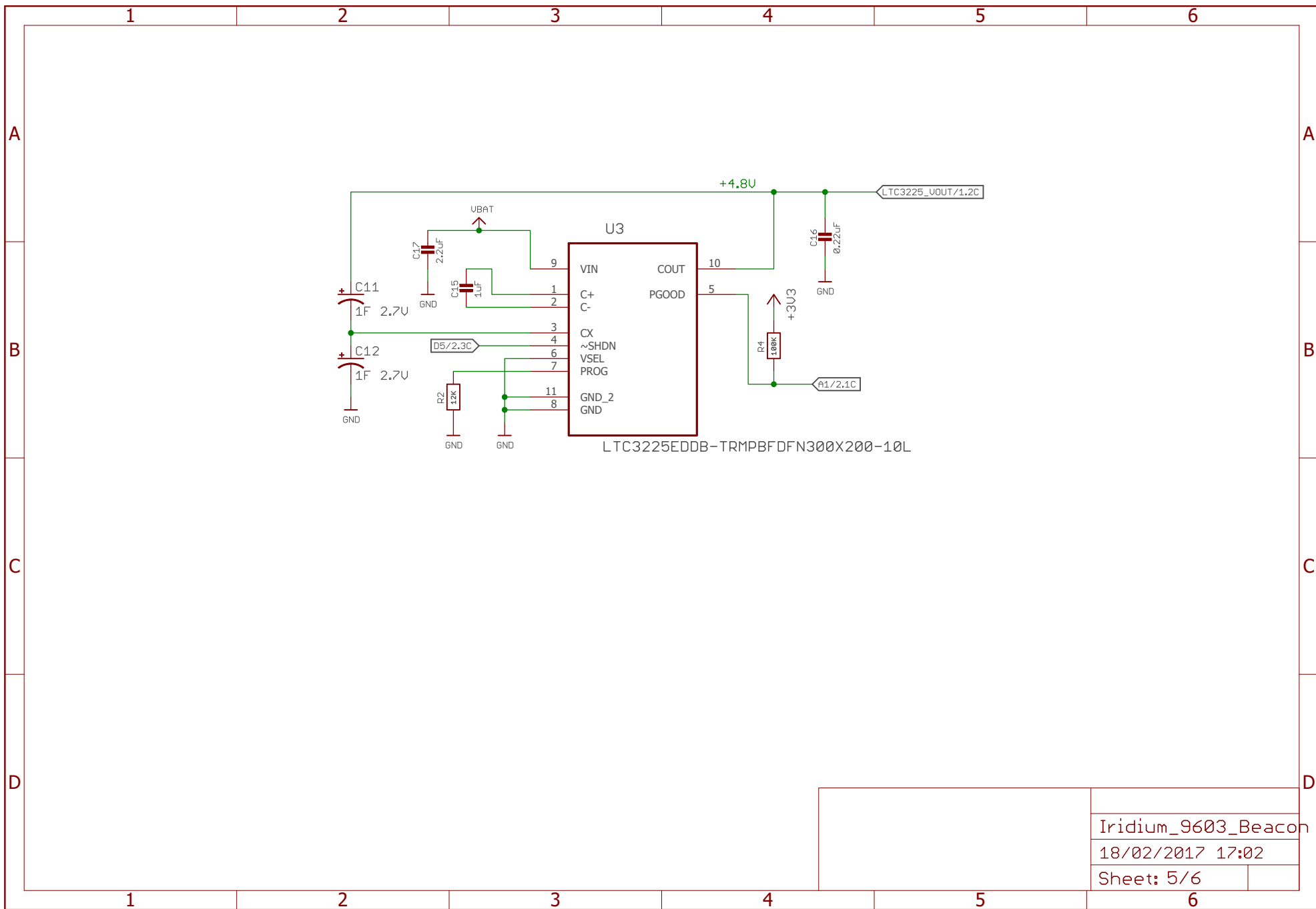
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Document Number:

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Date: 18/02/2017 17:02

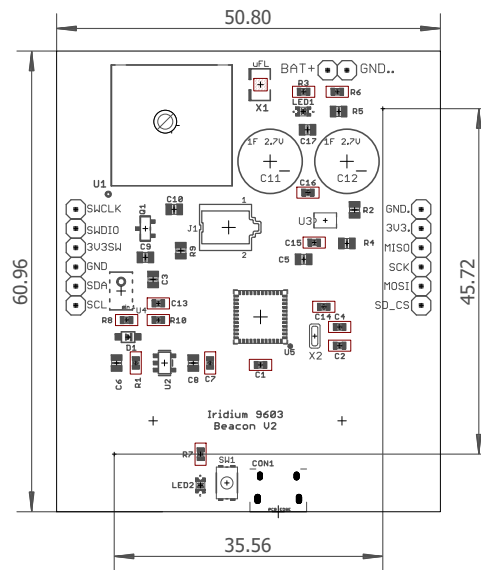
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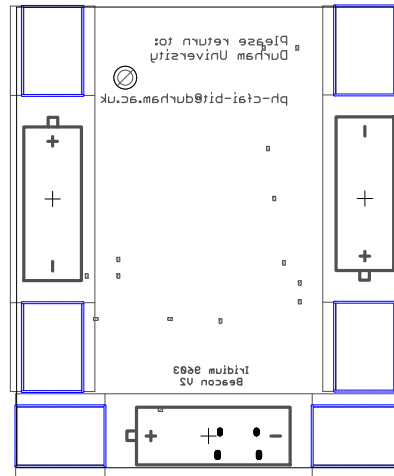
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18/02/2017 17:02
Sheet: 5/6

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A	Iridium 9603 Beacon Change Log											
B	V2:  Changed C13 to 0603 Added pull-up resistors for SCL and SDA (R8 & R10) Changed the 3V3 pin adjacent to SCL/SDA to 3V3SW Moved the origin to board bottom-left corner											
C												
D					<table><tr><td colspan="2">Iridium_9603_Beacon</td></tr><tr><td colspan="2">18/02/2017 17:02</td></tr><tr><td>Sheet: 6/6</td><td></td></tr></table>		Iridium_9603_Beacon		18/02/2017 17:02		Sheet: 6/6	
Iridium_9603_Beacon												
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Sheet: 6/6												
	1	2	3	4	5	6						

Part	X	Y	Angle (wrt Eagle Lib!)	Package	Value	Manufacturer	Manufacturer Part No	Farnell Part No	Mouser Part No	McMaster Part No	Adafruit / ProtoPic	Description Fiducial Fiducial
FD1	7.62	7.62	0									
FD2	43.18	53.34	0									
C1	26.99	19.43	180	0603	1uF	Walsin	0603X105K100CT	2496916				MultiLayer Ceramic Capacitor; 1uF; 10V; 0603; X5R
C2	37.47	21.97	0	0603	12pF	Walsin	0603N120J500CT	2496884				MultiLayer Ceramic Capacitor; 12pF; 50V; 0603
C3	12.76	30.73	270	0805	10uF	Walsin	0805F106Z100CT	2496998				MultiLayer Ceramic Capacitor; 10uF; 10V; 0805
C4	37.47	24.45	0	0603	12pF	Walsin	0603N120J500CT	2496884				MultiLayer Ceramic Capacitor; 12pF; 50V; 0603
C5	32.7	33.4	180	0805	10uF	Walsin	0805F106Z100CT	2496998				MultiLayer Ceramic Capacitor; 10uF; 10V; 0805
C6	7.94	19.69	270	0805	10uF	Walsin	0805F106Z100CT	2496998				MultiLayer Ceramic Capacitor; 10uF; 10V; 0805
C7	20.32	19.69	270	0603	1uF	Walsin	0603X105K100CT	2496916				MultiLayer Ceramic Capacitor; 1uF; 10V; 0603; X5R
C8	18.1	19.69	270	0805	10uF	Walsin	0805F106Z100CT	2496998				MultiLayer Ceramic Capacitor; 10uF; 10V; 0805
C9	11.75	33.66	0	0805	0.1uF	Walsin	0805B104K500CT	2496944				MultiLayer Ceramic Capacitor; 0.1uF; 50V; 0805; X7R
C10	15.56	40.01	0	0805	10uF	Walsin	0805F106Z100CT	2496998				MultiLayer Ceramic Capacitor; 10uF; 10V; 0805
C13	13.46	27.56	0	0603	0.1uF	Walsin	0603B104K500CT	2496834				MultiLayer Ceramic Capacitor; 0.1uF; 50V; 0603; X7R
C14	35.37	27.11	0	0603	1uF	Walsin	0603X105K100CT	2496916				MultiLayer Ceramic Capacitor; 1uF; 10V; 0603; X5R
C15	34.1	35.62	0	0603	1uF	Walsin	0603X105K100CT	2496916				MultiLayer Ceramic Capacitor; 1uF; 10V; 0603; X5R
C16	33.27	42.23	0	0603	0.22uF	Multicomp	MC0603F224Z160CT	1759019				MultiLayer Ceramic Capacitor; 0.22uF; 16V; 0603
C17	33.21	50.55	0	0805	2.2uF	Multicomp	MCTT21X225K100CT	1759477				MultiLayer Ceramic Capacitor; 2.2uF; 10V; 0805; X5R
CON1	29.34	2.99	0		Micro_USB	Amphenol_FCI	10103594	2293752				Amphenol FCI 10103594 Micro USB Type B
D1	9.46	23.11	180	SOD-123	MBR120	ON SEMICONDUCTOR	MBR120VLSFT1G	1431044				Schottky Rectifier; 20V; 1A; SOD-123
J1	22.78	37.63	0		SS4-10-3.50	Samtec	SS4-10-3.50-L-D-K-TR	2085336				Samtec SS4-10-3.50-L-D-K-TR
LED1	32.64	52.96	270	2.0x1.25	RED	Multicomp	703-0107	2112119				LED; Red; 20mA; 2.2V; 2.0x1.25mm
LED2	19.05	3.49	180	2.0x1.25	RED	Multicomp	703-0107	2112119				LED; Red; 20mA; 2.2V; 2.0x1.25mm
Q1	11.75	37.47	90	SOT23	DMG3415U-7	Diodes Inc.	DMG3415U-7	1843688				MOSFET; P Channel; SOT23-WIDE
R1	10.48	19.69	270	0603	100k	Yageo	RC0603FR-13100KL	2309107				Chip Resistor; Thick Film; 100k; 50V; 0603; 100mW
R2	39.43	39.94	90	0805	12K	Panasonic	ERJ6ENF1202V	2303661				Chip Resistor; Thick Film; 12k; 150V; 0805; 125mW
R3	32.7	55.56	0	0603	100k	Yageo	RC0603FR-13100KL	2309107				Chip Resistor; Thick Film; 100k; 50V; 0603; 100mW
R4	38.42	35.5	0	0805	100k	Multicomp	MC01W08051100K	9332405				Chip Resistor; Thick Film; 100k; 150V; 0805; 100mW
R5	37.34	52.96	180	0805	470R	Multicomp	MC01W08051470R	9333258				Chip Resistor; Thick Film; 470R; 150V; 0805; 100mW
R6	37.15	55.56	0	0603	100k	Yageo	RC0603FR-13100KL	2309107				Chip Resistor; Thick Film; 100k; 50V; 0603; 100mW
R7	19.05	7.62	270	0603	2.2K	Panasonic	ERJ3GEYJ222V	2059610				Chip Resistor; Thick Film; 2.2k; 75V; 0603; 100mW
R8	9.27	25.37	180	0603	1K	Multicomp	MCWR06X1001FTL	2447272				Chip Resistor; Thick Film; 1k; 50V; 0603; 100mW
R9	16.45	34.54	90	0805	100k	Multicomp	MC01W08051100K	9332405				Chip Resistor; Thick Film; 100k; 150V; 0805; 100mW
R10	13.46	25.37	0	0603	1K	Multicomp	MCWR06X1001FTL	2447272				Chip Resistor; Thick Film; 1k; 50V; 0603; 100mW
SW1	22.54	3.81	270	4.6x2.8	Tactile Switch	Multicomp	MCIPTG23K-V	1605470				Tactile Switch; 4.6x2.8mm; 50mA; 12V
U1	15.24	51.12	90		FGPMMOPA6H	GlobalTop	FGPMMOPA6H		(Breakout: 485-746)		790 / PPADA790	GPS MTK3339 Chipset
U2	14.29	19.69	270	SOT23-5	SPX3819-3.3	Exar	SPX3819M5-L-3-3/TR		701-SPX3819M5-L-33TR			LDO Voltage Regulator; 500mA; SOT-23-5
U3	35.56	38.54	90	DFN-10	LTC3225EDDB	Linear Technology	LTC3225EDDB#TRMPBF	1715231				Supercapacitor Charger
U4	8.54	29.21	180	LGA8	MPL3115A2	NXP	MPL3115A2	2009084				Pressure Sensor
U5	26.99	25.78	90	TQFN48	ATSAMD21G18A	Atmel	ATSAMD21G18A-MF	2460544				ATSAMD21G18A-MF; QFN48
X1	26.23	56.52	180		uFL	Hirose	U.FL-R-SMT(01)	3908021				HIROSE U.FL-R-SMT(01); U.FL Coaxial; Straight Jack; 50 ohm
X2	34.16	23.24	270		32.768	Epson	Q13FC13500004	1278036				Crystal; 32.768kHz; 12.5pF; 3.2 x 1.5mm
BAT1					AAA-Clip_Pair	Keystone Electronics	82	908721				Keystone Electronics 82 AAA Battery Clip (Pair)
BAT2					AAA-Clip_Pair	Keystone Electronics	82	908721				Keystone Electronics 82 AAA Battery Clip (Pair)
BAT3					AAA-Clip_Pair	Keystone Electronics	82	908721				Keystone Electronics 82 AAA Battery Clip (Pair)
C11					1F 2.7V	Bussmann	HV0810-2R7105-R	2148482				Supercapacitor; 1F; 2.7V; +30%, -10%; 3.5mm Pitch
C12					1F 2.7V	Bussmann	HV0810-2R7105-R	2148482				Supercapacitor; 1F; 2.7V; +30%, -10%; 3.5mm Pitch
S1					Press-In Nut	McMaster-Carr	95117A411			95117A411		Press-In Nut; 2-56
S2					Press-In Nut	McMaster-Carr	95117A411			95117A411		Press-In Nut; 2-56
ANT1					IP.1621.25.4.A.02	Taoglas	IP.1621.25.4.A.02		960-IP1621254A02			25mm Iridium Patch Antenna
X2-ANT1					uFL	Hirose	U.FL-R-SMT(01)	3908021				HIROSE U.FL-R-SMT(01); U.FL Coaxial; Straight Jack; 50 ohm
CABLE								1340201				Molex uFL Plug/Plug 50mm 73412-0508
SPACERS_x4										94669A100		4.5mm OD x 6mm Spacers for Iridium Module and Antenna PCB
SCREWS_x2										92185A092		2-56 x 0.75" Screws for Iridium Module and Antenna PCB





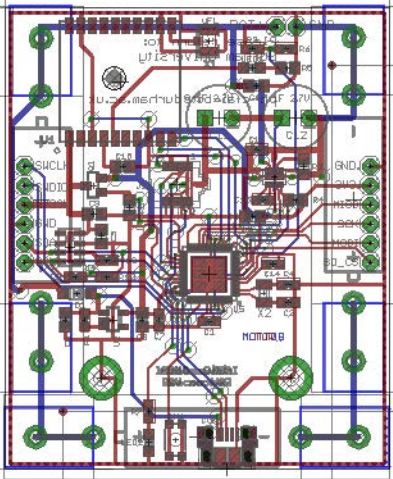


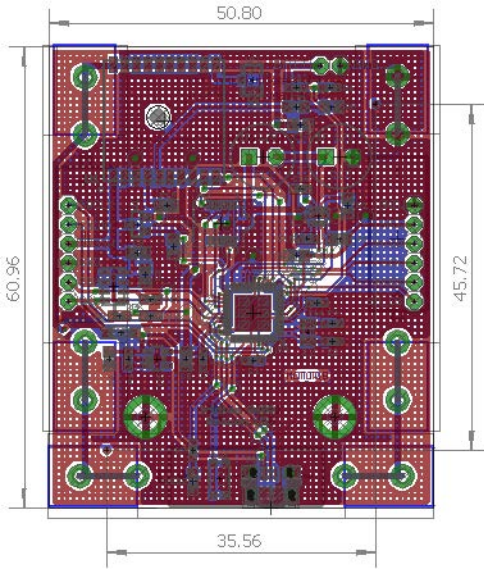
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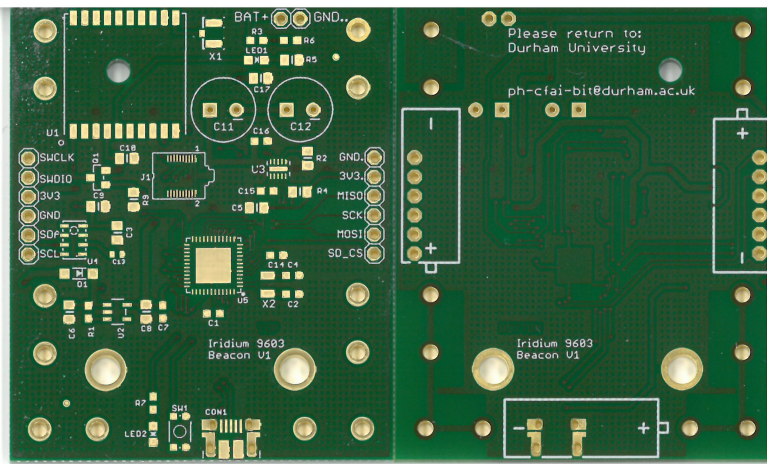
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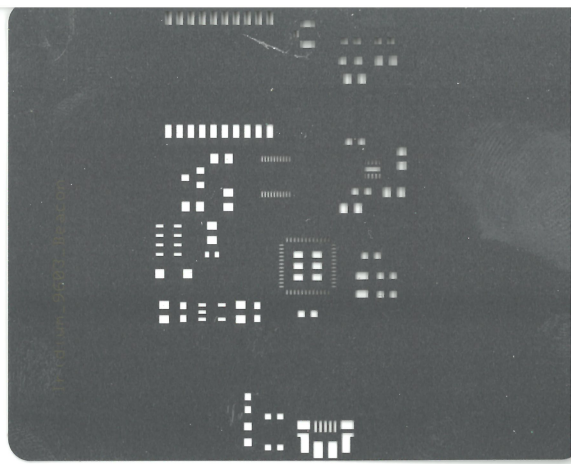
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**Version 1 PCB**



## Version 1 Paste Mask

