

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.

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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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With grateful thanks to:

Sparkfun for the MPL3115A2 Breakout

<https://www.sparkfun.com/products/11084>

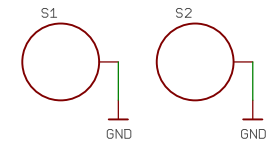
https://github.com/sparkfun/MPL3115A2_Breakout/tree/U_H1.1_L1.2.0

The hardware is released under Creative Commons ShareAlike 4.0 International.

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

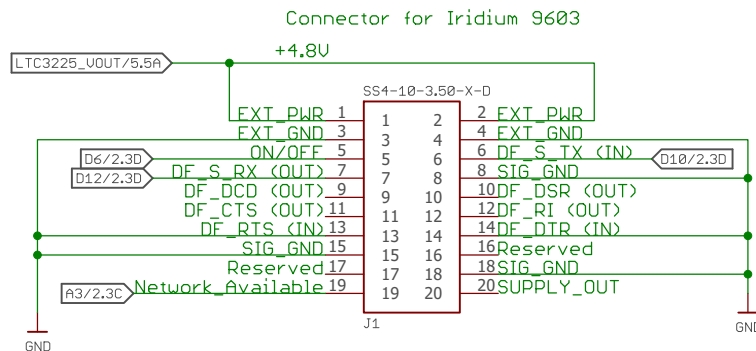
Mounting holes for Iridium 9603
2 x McMaster 95117A411 Press-In Nuts



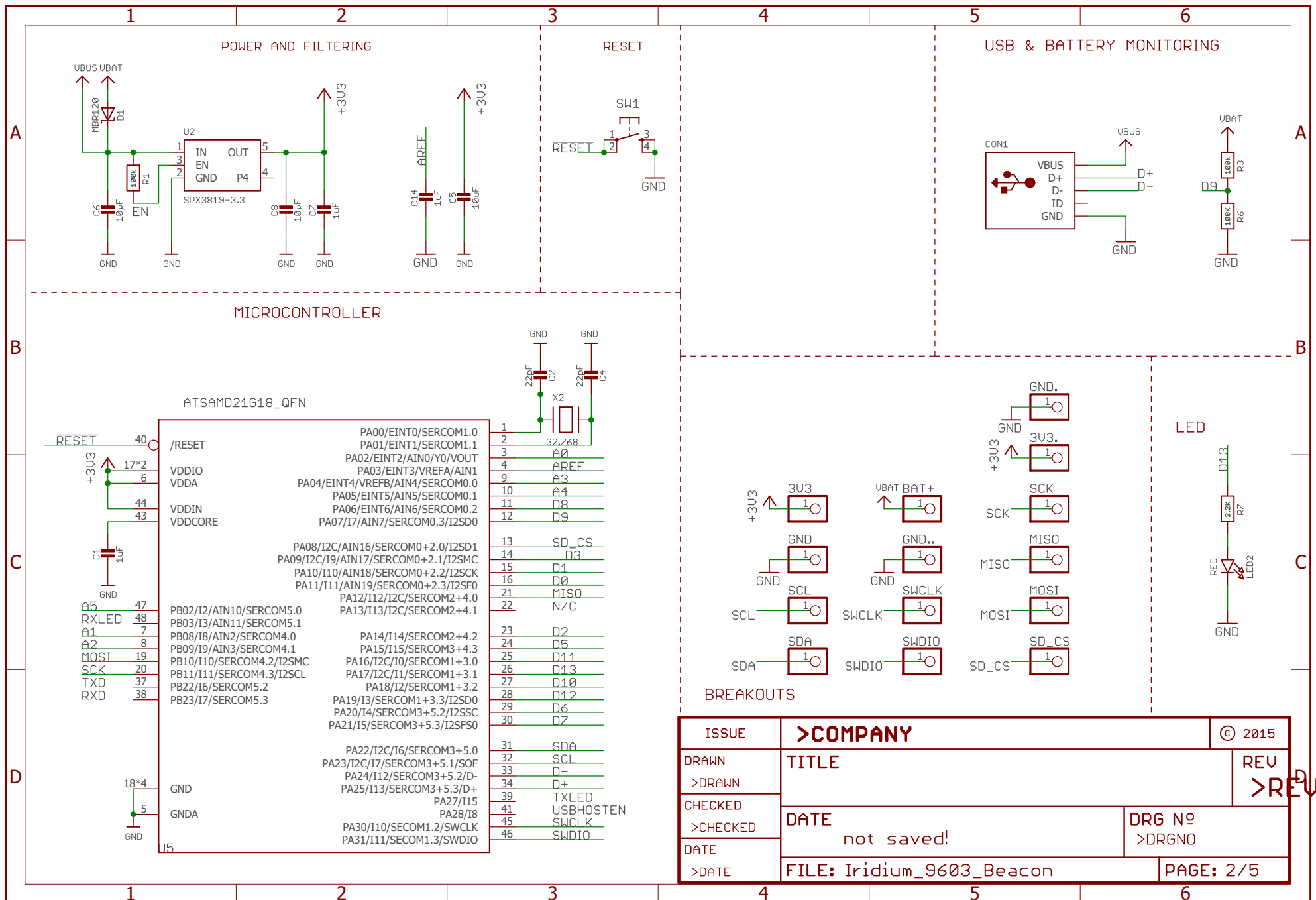
3 x AAA Energiser Ultimate Lithium
in Keystone Electronics 82 clips

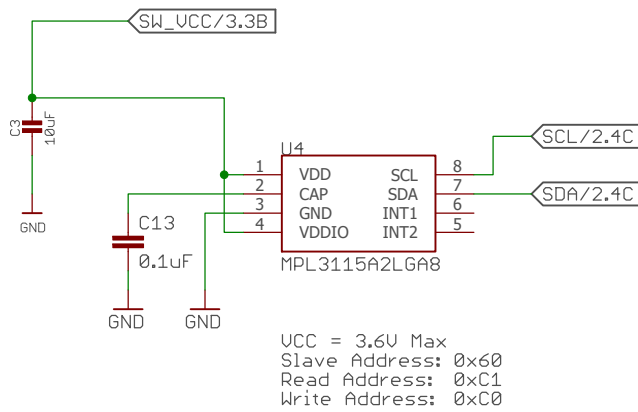


Fiducials



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A.Weiss

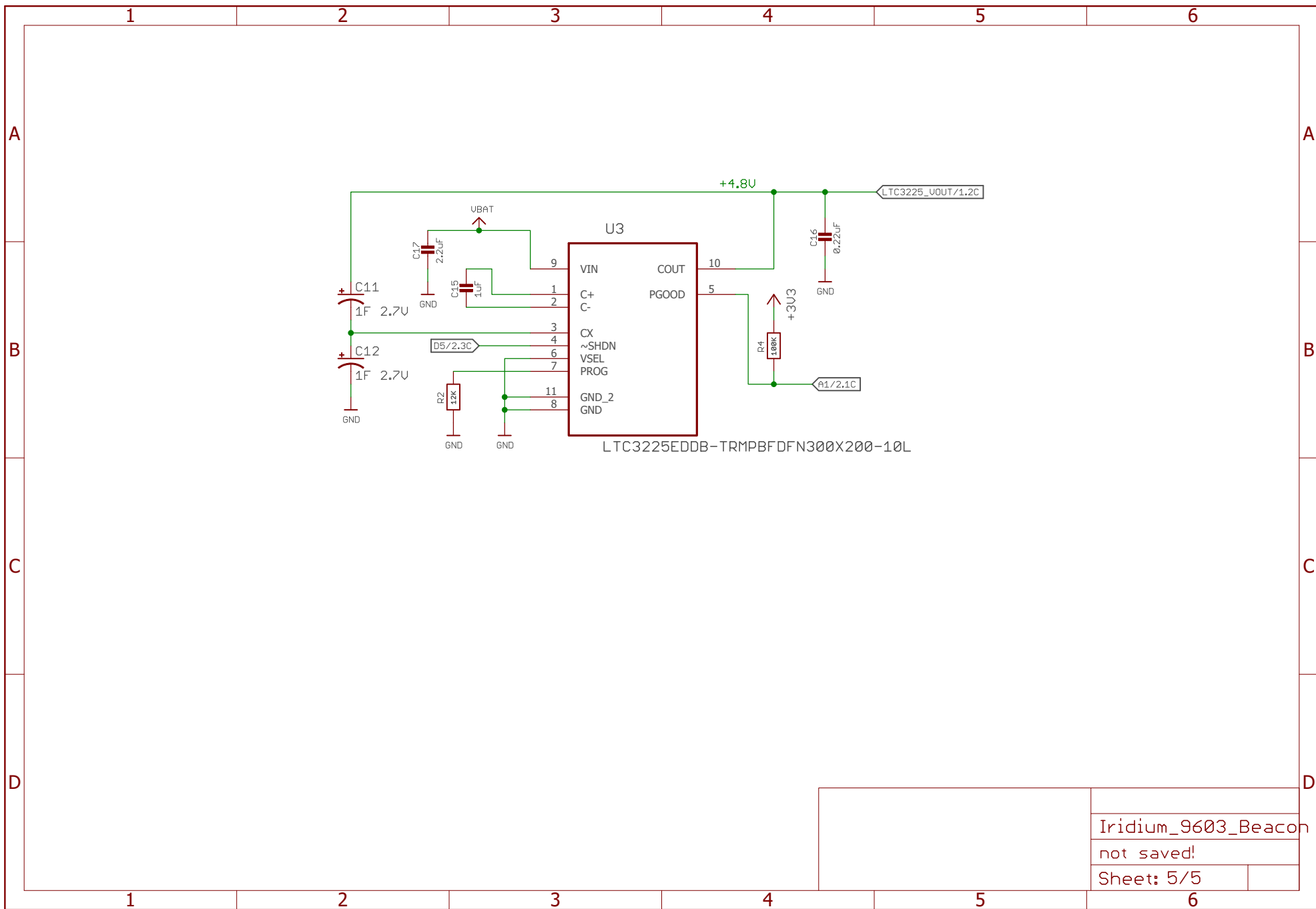
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Part	X	Y	Angle (wrt Eagle Lib!)	Package	Value	Manufacturer	Manufacturer Part No	Farnell Part No	Mouser Part No	McMaster Part No	Adafruit / ProtoPic	Description
FD1	8.89	9.72	0									Fiducial
FD2	44.45	55.44	0									Fiducial
C1	28.26	21.53	180	0603	1uF	Walsin	0603X105K100CT	2496916				MultiLayer Ceramic Capacitor; 1uF; 10V; 0603; X5R
C2	38.73	24.07	0	0603	12pF	Walsin	0603N120J500CT	2496884				MultiLayer Ceramic Capacitor; 12pF; 50V; 0603
C3	15.56	32.26	270	0805	10uF	Walsin	0805F106Z100CT	2496998				MultiLayer Ceramic Capacitor; 10uF; 10V; 0805
C4	38.73	26.54	0	0603	12pF	Walsin	0603N120J500CT	2496884				MultiLayer Ceramic Capacitor; 12pF; 50V; 0603
C5	33.97	35.5	180	0805	10uF	Walsin	0805F106Z100CT	2496998				MultiLayer Ceramic Capacitor; 10uF; 10V; 0805
C6	9.21	21.78	270	0805	10uF	Walsin	0805F106Z100CT	2496998				MultiLayer Ceramic Capacitor; 10uF; 10V; 0805
C7	21.59	21.78	270	0603	1uF	Walsin	0603X105K100CT	2496916				MultiLayer Ceramic Capacitor; 1uF; 10V; 0603; X5R
C8	19.37	21.78	270	0805	10uF	Walsin	0805F106Z100CT	2496998				MultiLayer Ceramic Capacitor; 10uF; 10V; 0805
C9	13.02	35.75	0	0805	0.1uF	Walsin	0805B104K500CT	2496944				MultiLayer Ceramic Capacitor; 0.1uF; 50V; 0805; X7R
C10	16.83	42.1	0	0805	10uF	Walsin	0805F106Z100CT	2496998				MultiLayer Ceramic Capacitor; 10uF; 10V; 0805
C13	15.56	29.4	0	0402	0.1uF	TDK	CGA2B3X7R1H104K050BB	2210822				MultiLayer Ceramic Capacitor; 0.1uF; 50V; 0402
C14	36.64	29.21	0	0603	1uF	Walsin	0603X105K100CT	2496916				MultiLayer Ceramic Capacitor; 1uF; 10V; 0603; X5R
C15	35.37	37.72	0	0603	1uF	Walsin	0603X105K100CT	2496916				MultiLayer Ceramic Capacitor; 1uF; 10V; 0603; X5R
C16	34.54	44.32	0	0603	0.22uF	Multicomp	MC0603F224Z160CT	1759019				MultiLayer Ceramic Capacitor; 0.22uF; 16V; 0603
C17	34.48	52.64	0	0805	2.2uF	Multicomp	MCTT21X225K100CT	1759477				MultiLayer Ceramic Capacitor; 2.2uF; 10V; 0805; X5R
CON1	30.61	5.08	0		Micro_USB	Amphenol_FCI	10103594	2293752				Amphenol FCI 10103594 Micro USB Type B
D1	10.48	26.86	180	SOD-123	MBR120	ON SEMICONDUCTOR	MBR120VLSFT1G	1431044				Schottky Rectifier; 20V; 1A; SOD-123
J1	24.05	39.72	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	33.91	55.05	270	2.0x1.25	RED	Multicomp	703-0107	2112119				LED; Red; 20mA; 2.2V; 2.0x1.25mm
LED2	20.32	5.59	180	2.0x1.25	RED	Multicomp	703-0107	2112119				LED; Red; 20mA; 2.2V; 2.0x1.25mm
Q1	13.02	39.56	90	SOT23	DMG3415U-7	Diodes Inc.	DMG3415U-7	1843688				MOSFET; P Channel; SOT23-WIDE
R1	11.75	21.78	270	0603	100k	Yageo	RC0603FR-13100KL	2309107				Chip Resistor; Thick Film; 100k; 50V; 0603; 100mW
R2	40.7	42.04	90	0805	12K	Panasonic	ERJ6ENF1202V	2303661				Chip Resistor; Thick Film; 12k; 150V; 0805; 125mW
R3	33.97	57.66	0	0603	100k	Yageo	RC0603FR-13100KL	2309107				Chip Resistor; Thick Film; 100k; 50V; 0603; 100mW
R4	39.69	37.59	0	0805	100k	Multicomp	MC01W08051100K	9332405				Chip Resistor; Thick Film; 100k; 150V; 0805; 100mW
R5	38.61	55.05	180	0805	470R	Multicomp	MC01W08051470R	9333258				Chip Resistor; Thick Film; 470R; 150V; 0805; 100mW
R6	38.42	57.66	0	0603	100k	Yageo	RC0603FR-13100KL	2309107				Chip Resistor; Thick Film; 100k; 50V; 0603; 100mW
R7	20.32	9.72	270	0603	2.2K	Panasonic	ERJ3GEYJ222V	2059610				Chip Resistor; Thick Film; 2.2k; 75V; 0603; 100mW
R9	17.72	36.64	90	0805	100k	Multicomp	MC01W08051100K	9332405				Chip Resistor; Thick Film; 100k; 150V; 0805; 100mW
SW1	23.81	5.91	270	4.6x2.8	Tactile Switch	Multicomp	MCIPTG23K-V	1605470				Tactile Switch; 4.6x2.8mm; 50mA; 12V
U1	16.51	53.21	90		FGPMMOPA6H	GlobalTop	FGPMMOPA6H		(Breakout: 485-746)		790 / PPADA790	GPS MTK3339 Chipset
U2	15.56	21.78	270	SOT23-5	SPX3819-3.3	Exar	SPX3819M5-L-3-3/TR		701-SPX3819M5-L-33TR			LDO Voltage Regulator; 500mA; SOT-23-5
U3	36.83	40.64	90	DFN-10	LTC3225EDDB	Linear Technology	LTC3225EDDB#TRMPBF	1715231				Supercapacitor Charger
U4	9.81	31.31	180	LGA8	MPL3115A2	NXP	MPL3115A2	2009084				Pressure Sensor
U5	28.26	27.88	90	TQFN48	ATSAMD21G18A	Atmel	ATSAMD21G18A-MF	2460544				ATSAMD21G18A-MF; QFN48
X1	27.5	58.61	180		uFL	Hirose	U.FL-R-SMT(01)	3908021				HIROSE U.FL-R-SMT(01); U.FL Coaxial; Straight Jack; 50 ohm; Phosphor Bronze
X2	35.43	25.34	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; Phosphor Bronze
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

