Item	Name On PCB	Value	Package Size	Manufacturer part Number	DigiKey part number	Quantity per PCB	Cost per 1 pcs	Cost for Require	Product/site info
ANALOG SWITCH									
SN74LVC2G53	IC3		SM8	SN74LVC2G53DCT	296-13269-2-ND	1	$0.67	$0.67	https://www.digikey.com/product-detail/en/texas-instruments/SN74LVC2G53DCTR/296-13269-1-ND/484508
Bypass Capacitor 1 uF (1206)	C5	1 uF	1206	CC1206KRX7R9BB104	311-1179-1-ND	1	$0.19	$0.19	https://www.digikey.com/product-detail/en/yageo/CC1206KRX7R9BB104/311-1179-1-ND/303089
RADIO									
SAMTEC TLE 14 POS	Freewave Z9-C		TLE	TLE-107-01-G-DV-A	SAM10182-ND	1	$2.83	$2.83	https://www.digikey.com/product-detail/en/samtec-inc/TLE-107-01-G-DV-A/SAM10182-ND/6678919
FREEWAVE Z9-C or Z9-T	Freewave Z9-C			Z9-C	2108-Z9-C-ND	1	$490.44	$490.44	https://www.digikey.com/products/en?keywords=freewave%20Z9-C
CONNECTIVE HARDWARE									
Female-Female 1/4", 2-56 standoffs						4	$1.87	$7.48	https://www.mcmaster.com/91115A806
Female-Male 1/4", 2-56 standoffs	For connecting the entire board					4	$2.15	$8.60	https://www.mcmaster.com/91075A211
2-56 Thread, 3/16" Long Bolt		(Packs of 100 @ $5.40)				1	$5.40	$5.40	https://www.mcmaster.com/91802A076
CONNECTORS/ANTENNA									
900 MHz RF antenna			SMA	A09-HASM-675	A09-HASM-675-ND	1	$25.00	$25.00	https://www.digikey.com/product-detail/en/digi-international/A09-HASM-675/A09-HASM-675-ND/615818
MMCX to SMA connector			MMCX	CBA-SMA-MMCXRA	CBA-SMA-MMCXRA-ND	1	$5.81	$5.81	https://www.digikey.com/product-detail/en/rf-solutions/CBA-SMA-MMCXRA/CBA-SMA-MMCXRA-ND/2781759
JUMPERS									
2x3 2.54 mm header block	Z9-C Radio/Z9-TRadio		2.54 mm	M20-9980345	952-2120-ND	4	$0.27	$1.08	https://www.digikey.com/product-detail/en/harwin-inc/M20-9980345/952-2120-ND/3728084
2x1 2.54 mm Shunt Jumper	RST_RADIO/EN_VCC2		2.54 mm	QPC02SXGN-RC	S9337-ND	2	$0.10	$0.20	https://www.digikey.com/product-detail/en/sullins-connector-solutions/QPC02SXGN-RC/S9337-ND/2618262
2x2 2.54 mm Shunt Jumper	Z9-C Radio/Z9-TRadio		2.54 mm	MNT-102-BK-G	SAM9042-ND	3	$0.76	$2.28	https://www.digikey.com/product-detail/en/samtec-inc/MNT-102-BK-G/SAM9042-ND/2685308
SD CARD									
Micro SD socket	SD card					1	$1.95	$1.95	https://www.adafruit.com/product/1660
RELAY BLOCK									
Relay Driver			SOT26	DRDC3105E6-7	DRDC3105E6-7DICT-ND	1	$0.46	$0.46	https://www.digikey.com/product-detail/en/diodes-incorporated/DRDC3105E6-7/DRDC3105E6-7DICT-ND/3028443
2A Latching Relay	relays 1 and 2			TQ2SS-L2-3V-Z	255-3845-1-ND	1	$5.07	$5.07	https://www.digikey.com/product-detail/en/panasonic-electric-works/TQ2SS-L2-3V-Z/255-3845-1-ND/3885594
ROCKBLOCK+ INTERFACE									
ROCKBLOCK+						1	$250.00	$250.00	
TERM BLK 7POS SIDE ENT 3.5MM PCB				1751293	277-6247-ND	1	$4.40	$4.40	https://www.digikey.com/product-detail/en/phoenix-contact/1751293/277-6247-ND/2511029
VOLTAGE DIVIDER									
VBAT Resistor (0603) 1MOhm		1 M Ohms	\0603	CPF0603B1M0E	A119955DKR-ND	1	$0.52	$0.52	https://www.digikey.com/product-detail/en/te-connectivity-passive-product/CPF0603B1M0E/A119955DKR-ND/4966666
Trim pot CT6 2MOhms		2 M Ohms	CT6	CT6EP205	CT6EP205-ND	1	$0.79	$0.79	https://www.digikey.com/product-detail/en/nidec-copal-electronics/CT6EP205/CT6EP205-ND/738311
POWER GRID									
Polulu 5V step down	D36V28F5			D36V28F5		1	$11.95	$11.95	https://www.polulu.com/product/3782
Polulu 3.3V step down	(Recommend D36V28F3)			N/A		1	$11.95	$11.95	https://www.polulu.com/product/3782
3.5 mm 3-position screw terminal			3.5 mm pitch length	1751251	277-5749-ND	1	$1.95	$1.95	https://www.digikey.com/product-detail/en/phoenix-contact/1751251/277-5749-ND/2511152
RS232 INTERFACE TO RADIO									
MAX3243	MAX3243		SSOP-28	MAX3243CDBR	296-6941-1-ND	1	$1.91	$1.91	https://www.digikey.com/product-detail/en/texas-instruments/MAX3243CDBR/296-6941-1-ND/371563
0.1 uF SMD capacitor (1206)	C1, C2, C3, C4, CBYPASS	1 uF	1206	CC1206KRX7R9BB104	311-1179-1-ND	5	$0.19	$0.95	https://www.digikey.com/product-detail/en/yageo/CC1206KRX7R9BB104/311-1179-1-ND/303089
							Total	841.88	

Pin Usage

Rover Pins	Function	Block	Verified
A0	CHANNEL SELECT ANALOG SWITCH		
A3	ROCKBLOCK+ Ring Alert		
A1	Battery voltage reader		
A2	GNSS RELAY RESET		
A4			
A5	ROCKBLOCK+ Network Available		
RX (0)	Radio TX		
TX (1)	Radio RX		
9	Rockblock+ ON/OFF		
13	RX2 to Rockblock+		
12	GNSS RELAY SET		
11	TX2 to Rockblock+		
10	SD Card CS		
6	SD card Reset		
5	Reset Radio		
SCL (GPIO 21)	optionally enable/disable the second voltage regulator		
SDA (GPIO 20)			

Consolidated BOM

Digikey		Analog switch	3	296-13269-1-ND	$0.67	$2.01	For signal routing on SS base
Digikey		1.uF Capacitor	10	311-1179-1-ND	$0.18	$1.80	Passives for SS base
Digikey		TLE 14-pos connector	3	SAM10182-ND	$2.83	$8.49	Connector for Freeware radion on Base
Digikey		2x3 2.54 mm header block	10	952-2120-ND	$0.27	$2.70	Signal routing on Base PCB
Digikey		2x1 2.54 mm Shunt Jumper	5	S9337-ND	$0.10	$0.50	Signal routing on Base PCB
Digikey		2x2 2.54 mm Shunt Jumper	10	SAM9042-ND	$0.76	$7.60	Signal routing on Base PCB
Adafruit		Micro SD socket	2	1660	$1.95	$3.90	For Micro SD on base PCB
Digikey		Relay Driver	4	DRDC3105E6-7DICT-ND	$0.46	$1.84	For driving power relay on Base PCB
Digikey		Dual coil latching relay	2	255-3845-1-ND	$5.07	$10.14	Power switching on base PCB
Digikey		7-pos screw terminal	2	277-6247-ND	$4.40	$8.80	Connector for ROCKBLOCK+ on Base PCB
Digikey		10k 0603 resistor	5	A119955DKR-ND	$0.56	$2.80	Passives for SS base
Digikey		variable potentiometer	3	CT6EP205-ND	$0.81	$2.43	Power management on base PCB
Digikey		3-pos screw terminal	2	277-5749-ND	$1.95	$3.90	Power management on base PCB
Digikey		MAX3234 RS232 interface	3	296-6941-1-ND	$1.91	$5.73	RS232 interface for ROCKBLOCK+ and Z9-C on base PCB
Polulu		3.3V voltage reg	1	3781	$11.95	$11.95	Power management on base PCB
Polulu		5V voltage reg	1	3782	$11.95	$11.95	Power management on base PCB