

				Bill of Material		Last Rev.:		03.03.2016		fbro									
				Corresponding Schematic: sho_b1_n1_00.pdf		Review Report:		1											
				Detailed Bill of Material															
Article Number				Description															
B200-NINA-B112-00				BOM NINA Blueprint, B200															
Function				Ref-Des		Order code		Description		Manufacturer		Use		Notes		Cost USD		@ count	
																Pricing from online shop (mouser.com/digi-key.com). Cheaper option may be available.			
Core (Mandatory)								Core components											
Core				M1		NINA-B111-00B		SHORT RANGE BLE MODULE U-BLOX NINA-B111-00B -40/+85C		u-blox AG		Radio module							
Core				C1		GRM033R60J104KE19D		CAP CER X5R 0201 100N 10% 6.3V		Murata Manufacturing Company, Ltd.		Input capacitor				0,04		10k	
Core				C2		GRM033R60J104KE19D		CAP CER X5R 0201 100N 10% 6.3V		Murata Manufacturing Company, Ltd.		Input capacitor				0,04		10k	
Sensor								Bosch accelerometer, gyro and thermometer											
Sensor				MT1		BMI160		SMAL, LOW POWER INERTIAL MEASUREMENT UNIT BMI160 BMI160 3.6V -40/+85C		Bosch		Sensor		High end sensor used in automotive GPS dead-reckoning. Depending on application cheaper sensors are available		2,37		5k	
Sensor				C5		GRM033R60J104KE19D		CAP CER X5R 0201 100N 10% 6.3V		Murata Manufacturing Company, Ltd.		Input capacitor, sensor				0,04		10k	
Sensor				C7		GRM033R60J104KE19D		CAP CER X5R 0201 100N 10% 6.3V		Murata Manufacturing Company, Ltd.		Input capacitor, sensor				0,04		10k	
Sensor				R1		RK73B1HTTC103J		RES THICK FILM CHIP 0201 10K 5% 0.05W		KOA		Pull-up resistor I2C				0,007		10k	
Sensor				R2		RK73B1HTTC103J		RES THICK FILM CHIP 0201 10K 5% 0.05W		KOA		Pull-up resistor I2C				0,007		10k	
Sensor				R11		RK73B1HTTC104J		RES THICK FILM CHIP 0201 100K 5% 0.05W		KOA		Pull-up resistor Interrupt				0,007		10k	
Sensor				R12		RK73B1HTTC104J		RES THICK FILM CHIP 0201 100K 5% 0.05W		KOA		Pull-up resistor Interrupt				0,007		10k	
LED								One RGB LED including											
LEDs				DS7		SMLP36RGB1W3		SMLP36 RGB LED RGB 3.1V 0.005A 0.035W -40/+85C		ROHM		RGB LED				0,059		100k	
LEDs				R3		RK73B1HTTC272J		RES THICK FILM CHIP 0201 2K7 5% 0.05W		KOA		LED current limit resistor				0,007		10k	
LEDs				R4		RK73B1HTTC102J		RES THICK FILM CHIP 0201 1K0 5% 0.05W		KOA		LED current limit resistor				0,007		10k	
LEDs				R5		RK73B1HTTC102J		RES THICK FILM CHIP 0201 1K0 5% 0.05W		KOA		LED current limit resistor				0,007		10k	
LEDs				U1		74LVC3G07		IC BUFF/DVR TRPL N-INV SM8		Texas Instruments		LED buffer		Optional , NINA is capable of sourcing LEDs. If a VCC voltage lower then Vf for the LEDs is used then this external buffer can be used		0,5		100k	
Buttons								Two buttons and a dip switch											
Buttons				S1		CHS-01TA		SWITCH DIP 1-POS SLIDE SMD 6V		Copal Electronics Inc.		Power on/off switch				0,45		10k	
Buttons				U3		B3U-1000		SWITCH TACTILE SPST-NO 0.05A 12V		Omron Electronics Inc-EMC Div		General function switch				0,55		10k	
Buttons				U4		B3U-1000		SWITCH TACTILE SPST-NO 0.05A 12V		Omron Electronics Inc-EMC Div		General function switch				0,55		10k	
Battery								Rechargeable battery solution											
Battery				C14		GRM033R60J104KE19D		CAP CER X5R 0201 100N 10% 6.3V		Murata Manufacturing Company, Ltd.		Filter capacitor		Pi filter to reduce stress on the battery		0,007		10k	
Battery				C15		GRM033R60J104KE19D		CAP CER X5R 0201 100N 10% 6.3V		Murata Manufacturing Company, Ltd.		Filter capacitor		Pi filter to reduce stress on the battery		0,007		10k	
Battery				R13		RK73B1HTTC3R3J		RES THICK FILM CHIP 0201 3R3 5% 0.05W -55/+125C		KOA		Filter resistor		Pi filter to reduce stress on the battery		0,007		10k	
Battery				B1		ML-2020/H1CN		BATT LITH COIN 3V RECHARGE PINS		Panasonic - BSG		Rechargeable battery				1,4		2k5	
Debug																			
Debug				J3		SFM210-LPSE-D05-SP-BK		2-ROWS SMD-PCB CONNECTOR 10 Position 0.039" (1.00mm) Gold Surface Mount		Sullins Connector Solutions		Debug header		Header for accessing UART and SWD		1,50		2k5	