BATTERY

POWER 5V

POWER 12V

GPS

MCU

REQUIRED_UNLOCK

SIMCOM

LED_STATUS

LOCK

INPUT
BATTERY
16V
GND

INPUT
R15 10k
VOLT_CHECK
R12 1k
C16 104
GND

LM1
V-IN V-OUT
GND
ON/OFF FB
C19 100uF
C17 104
D2 DIODE Zener
L6 33uH
T1 10K
R13 220R
R10 510R
L4 LED_5V
C14 220uF
5V
GND

LM2
V-IN V-OUT
GND
ON/OFF FB
C20 100uF
C18 104
D3 DIODE Zener
L7 33uH
T2 10K
R14 1k
R11 510R
L5 LED_12V
C15 220nF
12V
GND

GPS NEO 1
VCC
RX RX_GPS
TX TX_GPS
GND
GPS NEO 6M
5V
C10 104
GND

MCU1
VCC
AVCC
AREF
C12 104
C13 104
C11 104
5V
GND
GND

R8 10k
5V
RESET1
Nut Nhan 4 Chan Cam 6x6
RESET
C5 10uF
GND

C9 22pF
C6 22pF
C8 16Mhz
GND

RESET
PC6 / PCINT14 / RESET
(PCINT7/XTAL2/TOSC2)PB7
(PCINT6/XTAL1/TOSC1)PB6
GND_1
GND_2
GND

PB5 (SCK/PCINT5)
PB4 (MISO/PCINT4)
PB3 (MOSI/OC2A/PCINT3)
PB2 (SS/OC1B/PCINT2)
PB1 (OC1A/PCINT1)
(PCINT0/CLKO/ICP1)PB0   POW_ON
PC5 (ADC5/SCL/PCINT13)   LOCK
PC4 (ADC4/SDA/PCINT12)   LOCK_STATUS
PC3 (ADC3/PCINT11)   REQUIRE_STATUS
PC2 (ADC2/PCINT10)
PC1 (ADC1/PCINT9)   VOLT_CHECK
PC0 (ADC0/PCINT8)
(PCINT23/AIN1) PD7
(PCINT22/OC0A/AIN0)PD6
(PCINT21/OC0B/T1) PD5
(PCINT20/XCK/T0) PD4   RX_GPS
(PCINT19/OC2B/INT1) PD3   TX_GPS
(PCINT18/INT0) PD2   REQUIRE
(PCINT17/TXD) PD1   RX_SIM
(PCINT16/RXD)PD02   TX_SIM
ATMEGA328P-PU

5V
R9 10k
REQUIRE1
Nut Nhan 4 Chan Cam 6x6
REQUIRE
C7 10uF
GND

SIM A1
VIN
GND
VBAT
NC
RST
RXD   RX_SIM
TXD   TX_SIM
CTS
PCM OUT
PCM IN
PCM SYNC
PCM CLK
SIM A7600C
VI
GND
VBAT
ADC2
ADC1
DTR   DTR
RI
NET   NET_STATUS
FLYMODE
RESET
POWER KEY
12V
C3 104
GND
C4 104
C2 104
GND
GND
C1 104
GND

DTR
C21
Q2 2N2222
POW_ON
R3 1k
GND

5V
L3 LED 3mm
R7 220R
NET_STATUS
R4 1k
Q3 2N2222
GND
GND

LOCK_STATUS
L1 LED 3mm
R5 220R
GND

REQUIRE_STATUS
L2 LED 3mm
R6 220R
GND

12V
D1
LOCK
Header2
LOCK
R16 1k
Q1 TIP122
GND

Title
Size A3
Number
Revision
Date: 5/11/2023
File: C:\Users\..\baocaodoan.SchDoc
Sheet of
Drawn By:

Comment	Description	Designator	Footprint	LibRef	Quantity
16V	Multicell Battery	BATTERY	BAT-2	Battery	1
104	Cắm	C1, C2, C3, C4, C10, C11, C12, C13, C16, C17, C18, C21	tu gom	Tu gom 104 50V	12
10uF	Cắm	C5, C7	tu hoa 4mm	Tu Hoa 10uF 16V 4x7	2
22pF	Cắm	C6, C9	tu gom	Tu gom 22pF 50V	2
16Mhz	Crystal For all Crystal 2pin.	C8	Thach Anh 2 chan cam	Thach Anh 2 chan Cam	1
220uF	Cắm	C14	tu hoa 8mm	Tu Hoa 220uF 35V 8x12	1
220nF	Cắm	C15	tu hoa 8mm	Tu Hoa 220uF 35V 8x12	1
100uF	Cắm	C19, C20	tu hoa 8mm	Tu Hoa 100uF 50V 8x11	2
Diode	Default Diode	D1	DIO-1A	Diode	1
DIODE Zener	Zenner	D2, D3	DIO-2A - LONG	DIODE Zener	2
		GPS NEO 1	GPS NEO 6	Component_1	1
LED 3mm	Cắm	L1	LED-3MM-RED	LED 3mm Do	1
LED 3mm	Cắm	L2	LED-3MM-YELLOW	LED 3mm Vang	1
LED 3mm	Cắm	L3	LED-3MM-BLUE	LED 3mm Xanh Duong	1
LED_5V	Cắm	L4	LED-3MM-RED	LED 3mm Do	1
LED_12V	Cắm	L5	LED-3MM-RED	LED 3mm Do	1
33uH	Cắm	L6, L7	CUON CAM 100uH3A	CUON CAM 470uH DIP	2
		LM1, LM2	LM2596		2
Header2	Header IDC, 2 x 1 Pin Vertical 2.54mm Pitch (Non-Boxed, Male)	LOCK	HDR2	Header2	1
ATMEGA328P-PU	ATMEGA328P-PU; 8 bit Microcontroller AVR 20MHz 1; 32kb Flash; 2kb RAM; I2C SPI 2	MCU1	27_DIP_7.62mm	ATMEGA328P-PU	1
TIP122	Darlington Silicon Power NPN Transistor, 8 Amp, 100 Volts and 65 Watts	Q1	TO220-123	TIP122	1
2N2222	NPN 600mW, ECB	Q2, Q3	TO92-123	2N222	2
1k	Cắm	R3, R4, R12, R14, R16	tro vach 1/4w	Tro Vach 1/4W 5% 1k, Tro Vach 1/4W 5% 1.8k, Tro Vach 1/4W 5% 220R	5
220R	Cắm	R5, R6, R7, R13	tro vach 1/4w	Tro Vach 1/4W 5% 220R	4
10k	Căm, Cắm	R8, R9, R15	tro vach 1/4w	Tro Vach 1/4W 5% 10k, Tro Vach 1/4W 1% 10k	3
510R	Cắm	R10, R11	tro vach 1/4w	Tro Vach 1/4W 5% 510R	2
Nut Nhan 4 Chan Cam 6x6	Nut Nhan 4 Chan 6x6mm	REQUIRE1, RESET1	Nut Nhan 4 Chan Cam 6x6	Nut Nhan 4 Chan Cam 6x6	2
SIM A7600C		SIM A1	SIM A7600C	SIM A7600C	1
10K	Cắm	T1, T2	Bien Tro Vi Chinh Dung	Bien Tro Tinh Chinh 10K Dung	2