

RFD900 SHIELD V2.0

USER MANUAL

Description:

The RFD900 Shield V2.0 is enables seamless interfacing with Arduino / Seeduino stalker boards for low power operation.

An on board regulator allows direct supply from a 12V battery, or up to a 4S lithium pack.

Shutdown / RTC pins also allow complete shutdown when interfaced with a Seeduino stalker board.

ABSOLUTE MAXIMUM RATINGS

	Value	Unit
Vcc Supply Voltage	20	V
Io Current from Regulator	2.4	A
IGN Voltage applied to ignition switch	20	V

RECOMMENDED OPERATING CONDITIONS

	Min	Nom	Max	Unit
Vcc Supply Voltage	5.5		17	V
IGN Voltage applied to ignition switch	1.5	3.3	20	V

RFD900 SHIELD PIN CONFIGURATION



Pin	Description
PD0/RX	USART Receive pin
PD1/TX	USART Transmit pin
PD2/INT0	Interrupt from RTC(Real Time Clock) chip.
PD3/REG_ENABLE	Switch to turn the voltage regulator ON or OFF
PD4/SWITCHED_VOL_ENABLE	Switch to turn the Switched Voltage Output pin ON or OFF

PD5	
PD6	
PD7/RX2	Receive pin
PB0/TX2	Transmit pin
PB1/RFD900_SWITCH	
PB2	
PB3	
PB4	
PB5	
PB6/GND	GND
PB7/AREF	
Analogue In 0	
Analogue In 1	
Analogue In 2	
Analogue In 3	
Analogue In 4	
Analogue In 5	
VIN	Supply voltage
GND	GND
+5V	+5V pin
+3.3V	+3.3V pin
RST	Reset pin
IGN	Ignition pin to turn ON the RFD900 and ATmega328P chip on the Seeduino board
SW_VOL	Switched Voltage Output. The output voltage (VIN or 5V) is selected by placing a jumper between 2 of three header pins.

MODES OF OPERATION

- The interrupt (INT0) from the RTC chip is active low therefore it should be pulled low in order to turn ON voltage regulator.
- The REG_ENABLE pin, which is an I/O on the ATmega328P is active high and it is used to turn the voltage regulator ON or OFF. As long as the REG_ENABLE pin is high, the voltage regulator will be turned ON.
- The SWITCHED_VOL_ENABLE pin, which is an I/O on the ATmega328P is active high and it is used to turn the Switched Voltage Output ON or OFF.
- The RFD900_SWITCH pin, which is an I/O on the ATmega328P is active high and it is used to turn the RFD900 ON or OFF.
- IGN is a pin that takes in an external voltage which is used to turn on the voltage regulator at anytime, and as long at this input voltage is greater than 1.5V, the voltage regulator will be in the ON mode.