tRF BoB

LE51-868 Inside

GPRS - 3G - GPS - GNSS - RF - ETHERNET

BoB
Break Out Board

TELIT WIRELESS SOLUTIONS

FEATURES

- **Range:** Up to 2000 m
- **Up to 128 kB Flash, 8kB RAM, 2 kB EEPROM**
- **32.768 kHZ RTC, 4 Timers**
- **Configurable output power**
- **5 I/0 Ports Max available**
- **Hayes mode or 'AT' mode for configuration**
- **Cyclic wake up: wakes up periodically and listens to the radio link**
- **For ultra low-power, low-latency applications.**
- **Download Over The Air (DOTA)**
- **Pre-certified RF modules, Header Form Factor**
- **Cyclic wake up: wakes up periodically and listens to the radio link**
- **PCB Dimension:** 47 x 25.4 mm
- **Radio Data Rate:** from 2.4 kbps to 100 kbps
- **Transmit (Yellow) - Receive(Red) - Power(Green) LEDs**

47.00mm
25.78mm
2.54mm
22.86mm
25.40mm
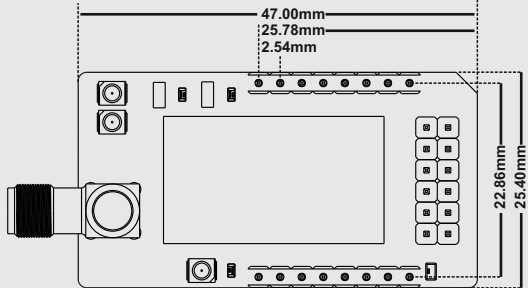
INTRODUCTION
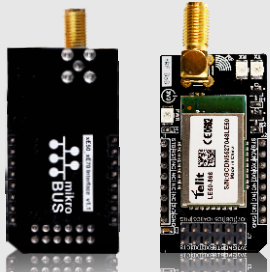
"tRF BoB 51" is a formative with a microBUS structure. It is an effective and easy solution for adding 868 MHz SIGFOX RF communication to your design.It features the Telit LE51-868MHz transceiver module, a SMA connector for an antenna also two radio communication(Tx - Rx) LEDs. "tBoB RF 51" communicates with the target board microcontroller via microBUS UART (Rx, Tx), AN, RST, PWM and INT lines. It has a LED diode in order to power indicator.

APPLICATIONS

- **Telemetry**
- **Automated Meter reading**
- **Wireless Sensor Networks**
- **Home and Building Automation**
- **Wireless Alarm and Security Systems**
- **Industrial Monitoring and Control**
- **Long range Irrigation Systems**

POWER SUPPLY

Power Supply Voltage: 3.3 V

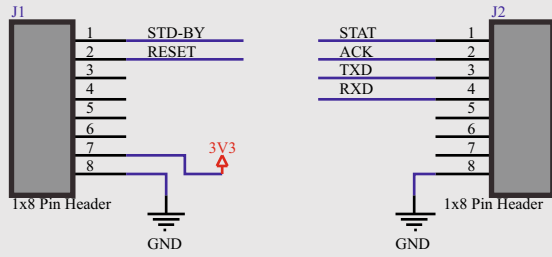Power Supply Current(Min) : 100 mA

PLUGGING THE BOARD

Once you have soldered the headers your board is ready to be placed into desired mikroBUS™ socket. Make sure to align the cut in the lower-right part of the board with the markings on the silkscreen at the mikroBUS™ socket. If all of the pins arealigned correctly, push the board all the way into the socket. your board is esired mikroBUS™ socket.
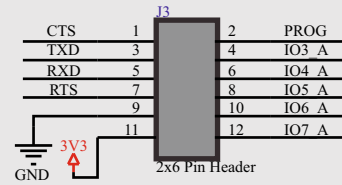
SCHEMATIC

mikroBUS

J1 — 1x8 Pin Header

Pin	Signal
1	STD-BY
2	RESET
3	
4	
5	
6	
7	
8	3V3

GND

J2 — 1x8 Pin Header

Signal	Pin
STAT	1
ACK	2
TXD	3
RXD	4
	5
	6
	7
	8

GND

AUX BUS

J3 — 2x6 Pin Header

Signal	Pin	Pin	Signal
CTS	1	2	PROG
TXD	3	4	IO3_A
RXD	5	6	IO4_A
RTS	7	8	IO5_A
	9	10	IO6_A
	11	12	IO7_A

GND 3V3

ANTENNA

ANT1

Signal	Pin	
ANT	1	Live Pin
	2	GND

GND

U1 — xE50_xE70 Module (xE50_xE70 Telit RF Module)

Signal	Pin	Module Pin		Module Pin	Pin	Signal
IO1_P	J1	IO1_P / TX LED		VDD	J25	3V3
IO2_P	J2	IO2_P / RX LED				
IO3_A	J3	IO3_A		TXD	J19	TXD
IO4_A	J4	IO4_A		RXD	J21	RXD
IO5_A	J5	IO5_A		RTS	J22	RTS
IO6_A	J6	IO6_A		CTS	J24	CTS
IO7_A	J7	IO7_A				
ACK	J8	Status TX-RX / IO8_AD_DA / ACK TX				
STAT	J9	IO9		RF_ANT	J29	ANT

GND pins
J11 GND
J12 GND
J13 GND
J15 GND
J17 GND
J20 GND
J26 GND
J27 GND
J28 GND
J30 GND

GND

	Pin	Signal
PDI_DATA	J14	
STAND_BY	J18	STD-BY
PROG	J16	PROG
RESET	J23	RESET

LED / Transistor section

- 3V3 — D2 (IO2) — R2 1K — Q2 Pre-Biased NPN — IO2_P — GND
- 3V3 — D3 (IO1) — R1 1K — Q1 Pre-Biased NPN — IO1_P — GND
- 3V3 — R3 1K — D1 (POWER) — GND
- 3V3 — C2 1uF — GND