



## **WRAP THOR 2022-1 Evaluation Kit**

**Data Sheet**

**Version 1.0**

**Friday, December 10, 2004**

**Copyright © 2004 Bluegiga Technologies**

All rights reserved.

Bluegiga Technologies assumes no responsibility for any errors, which may appear in this manual. Furthermore, Bluegiga Technologies reserves the right to alter the hardware, software, and/or specifications detailed herein at any time without notice, and does not make any commitment to update the information contained herein. Bluegiga Technologies' products are not authorized for use as critical components in life support devices or systems.

The WRAP is a registered trademark of Bluegiga Technologies

The *Bluetooth* trademark is owned by the *Bluetooth* SIG Inc., USA, and is licensed to Bluegiga Technologies.

All other trademarks listed herein are owned by their respective owners.

## Contents:

<b>1. Version history .....</b>	<b>3</b>
<b>2. Terms &amp; Abbreviations .....</b>	<b>3</b>
<b>3. Introduction .....</b>	<b>4</b>
<b>4. Physical outlook .....</b>	<b>5</b>
<b>5. Schematics .....</b>	<b>6</b>
<b>6. Assembly .....</b>	<b>7</b>
<b>7. RS-232 (D9) DTE interface .....</b>	<b>8</b>
<b>8. SPI (J6) interface .....</b>	<b>9</b>
<b>9. GPIO (J4) interface .....</b>	<b>10</b>

### List of Tables:

Table 1: RS232 PIN configuration .....	8
Table 2: SPI Interface PIN description .....	9

### List of Figures:

Figure 1: WRAP THOR 2022-1 Evaluation Kit .....	5
Figure 2: WRAP THOR 2022-1 Evaluation Kit Schematics.....	6
Figure 3: WRAP THOR 2022-1 Evaluation Kit Assembly .....	7

## 1. VERSION HISTORY

<b>Version:</b>	<b>Author:</b>	<b>Comments:</b>
1.0	TR	First release

## 2. TERMS & ABBREVIATIONS

<b>Term or Abbreviation:</b>	<b>Explanation:</b>
<b><i>ASCII</i></b>	American Standard Code for Information Interchange
<b><i>Bluetooth</i></b>	Set of technologies providing audio and data transfer over short-range radio connections
<b><i>DTE</i></b>	Data Terminal Equipment
<b><i>SPI</i></b>	Serial Peripheral Interface
<b><i>UART</i></b>	Universal Asynchronous Receiver / Transmitter

### **3. INTRODUCTION**

#### **FEATURES**

- Evaluation Kit for WRAP THOR 2022-1 *Bluetooth* wireless communication modules
- Unregulated power supply input (5-9V)
- RS-232 serial interface (D9, DTE)
- 16 pin I/O interface (6xGPIO, 4xPCM, RESET, GND, POWER, TxD, RxD and +V)
- USB interface
- SPI for upgrading the firmware and parameters
- BlueGiga ASCII interface as the default firmware

#### **TARGET APPLICATIONS**

Evaluation of WRAP THOR 2022-1 *Bluetooth* modules. Prototype and pilot *Bluetooth* systems utilized with WRAP THOR 2022-1 module.

#### **ELECTRICAL FUNCTIONALITY**

Please, refer the details of WRAP THOR 2022-1 *Bluetooth* module from the respective data sheet (WRAP THOR 2022-1/2022-1, Data Sheet). The physical outlook, schematics, assembly and the PIN configurations of the interfaces of WRAP THOR 2022-1 Evaluation Kit are described in this document.

## 4. PHYSICAL OUTLOOK



**Figure 1:** WRAP THOR 2022-1 Evaluation Kit

# 5. SCHEMATICS

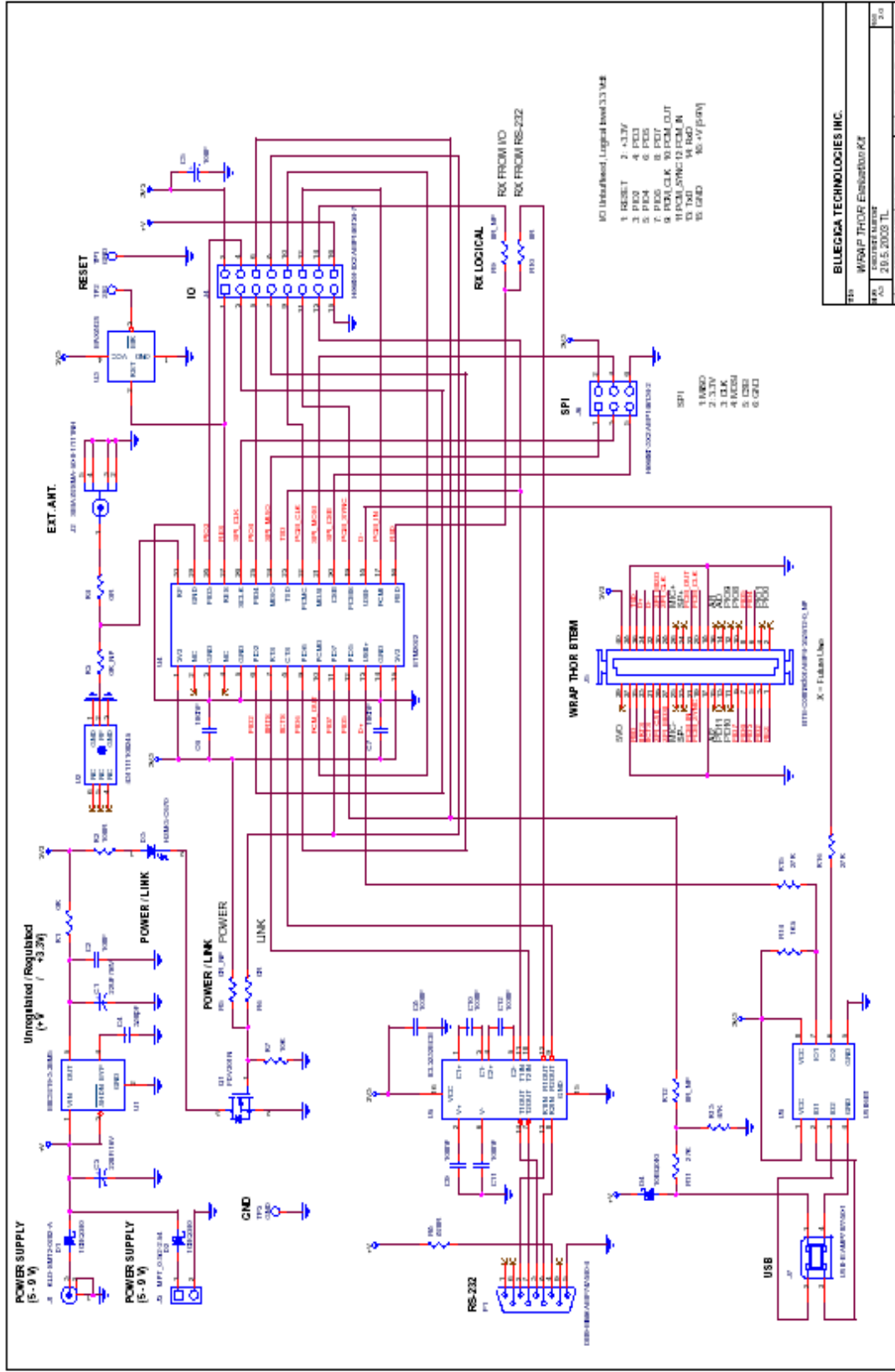


Figure 2: WRAP THOR 2022-1 Evaluation Kit Schematics

# 6. ASSEMBLY

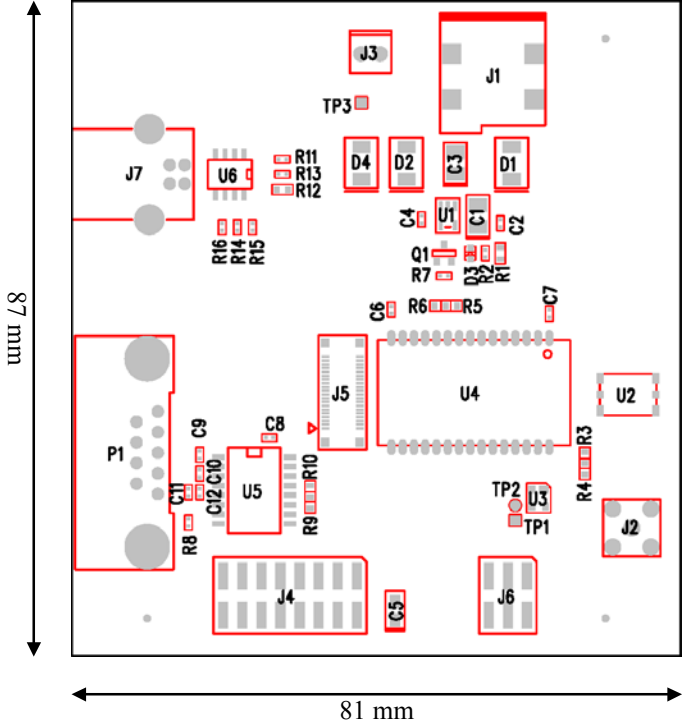


Figure 3: WRAP THOR 2022-1 Evaluation Kit Assembly



## 7. RS-232 (D9) DTE INTERFACE

RS-232 interface PIN configuration is shown in Table 1. The physical interface is D9-male connector (*AMP747840-4*).

PIN Name:	No.:	I/O:	Description:
NC	1	NC	Not connected
RxD	2	I	RxD
TxD	3	O	TxD
DTR	4	O	DTR on
GND	5	GND	Ground
NC	6	NC	Not connected
RTS	7	O	RTS
CTS	8	I	CTS
NC	9	NC	Not connected

**Table 1:** RS232 PIN configuration

## 8. SPI (J6) INTERFACE

SPI interface pin configuration is show in Table 2. The physical interface is 2X3 pin header (AMP146134-2).

PIN Name:	No.:	I/O:	Description:
MISO	1	O	MISO
3.3 V	2	POWER	3.3 V power supply input
CLK	3	I	CLK
MOSI	4	I	MOSI
CSB	5	I	CSB
GND	6	GND	GND

**Table 2:** SPI Interface PIN description

## 9. GPIO (J4) INTERFACE

General purpose interface pin configuration is show in **Error! Reference source not found..**  
The physical interface is 2X8 pin header (AMP146134-7).

PIN Name:	No.:	I/O:	Description:
RESET	1	I	Reset
3.3 V	2	POWER	Regulated power supply output (3.3 V)
PIO2	3	I/O	Programmable IO number 2
PIO3	4	I/O	Programmable IO number 3
PIO4	5	I/O	Programmable IO number 4
PIO5	6	I/O	Programmable IO number 5
PIO6	7	I/O	Programmable IO number 6
PIO7	8	I/O	Programmable IO number 7
PCM_CLK	9	I/O	PCM clock
PCM_OUT	10	O	PCM out
PCM_SYNC	11	I/O	PCM synchronization
PCM_IN	12	I	PCM input
TxD	13	O	UART TX
RxD	14	I	UART RX
GND	15	GND	GND
+V	16	POWER	Unregulated power supply output (5-9 V)