



WRAP THOR 2022-1-B2B Evaluation Kit

Data Sheet

Version 1.0

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Contents:

1. Version history	3
2. Terms & Abbreviations	3
3. Introduction	4
4. Physical outlook	5
5. Schematics	6
6. Assembly	7
7. RS-232 (D9) DTE interface	8
8. SPI (J3) interface	9
9. Board-to-Board (J2) interface	10

List of Tables:

Table 1: RS232 PIN configuration	8
Table 2: SPI Interface PIN description	9
Table 3: AMP Connector PIN Description	11

List of Figures:

Figure 1: WRAP THOR 2022-1-B2B Evaluation Kit	5
Figure 2: WRAP THOR B2B Evaluation Kit Schematics	6
Figure 3: WRAP THOR B2B Evaluation Kit Assembly	7

1. VERSION HISTORY

Version:	Author:	Comments:
1.0	TR	First release

2. TERMS & ABBREVIATIONS

Term or Abbreviation:	Explanation:
<i>ASCII</i>	American Standard Code for Information Interchange
<i>B2B</i>	Short for WRAP THOR 2202-1-b2b Bluetooth module.
<i>Bluetooth</i>	Set of technologies providing audio and data transfer over short-range radio connections
<i>DTE</i>	Data Terminal Equipment
<i>SPI</i>	Serial Peripheral Interface
<i>UART</i>	Universal Asynchronous Receiver / Transmitter

3. INTRODUCTION

FEATURES

- Evaluation Kit for WRAP THOR 2022-1-B2B *Bluetooth* wireless communication modules
- Unregulated power supply input (5-9V).
- Regulated power supply to B2B module (3.3V) or unregulated power supply to B2B module (5-9V).
- RS-232 serial interface (D9, DTE)
- SPI for upgrading the firmware and parameters
- BlueGiga ASCII interface as the default firmware

TARGET APPLICATIONS

Evaluation of WRAP THOR 2022-1-B2B *Bluetooth* modules. Prototype and pilot *Bluetooth* systems utilized with WRAP THOR 2022-1-B2B module.

ELECTRICAL FUNCTIONALITY

Please, refer the details of WRAP THOR 2022-1-B2B *Bluetooth* module from the respective data sheet (WRAP THOR 2022-1/2022-1-B2B, Data Sheet). The physical outlook, schematics, assembly and the PIN configurations of the interfaces of WRAP THOR 2022-1-B2B Evaluation Kit are described in this document.

4. PHYSICAL OUTLOOK

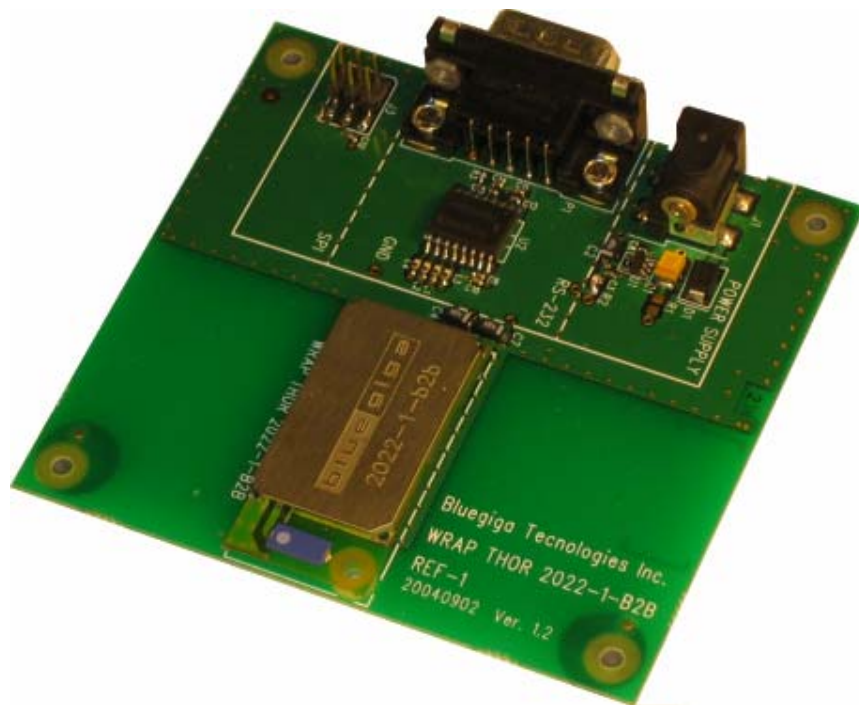


Figure 1: WRAP THOR 2022-1-B2B Evaluation Kit

5. SCHEMATICS

WRAP THOR 2022-1-B2B REFERENCE DESIGN 1 ver 1.3

- Power Supply (Unregulated / Regulated)
- RS-232 Interface (PC)
- UART Interface (BT)
- SPI Interface (PC/BT)

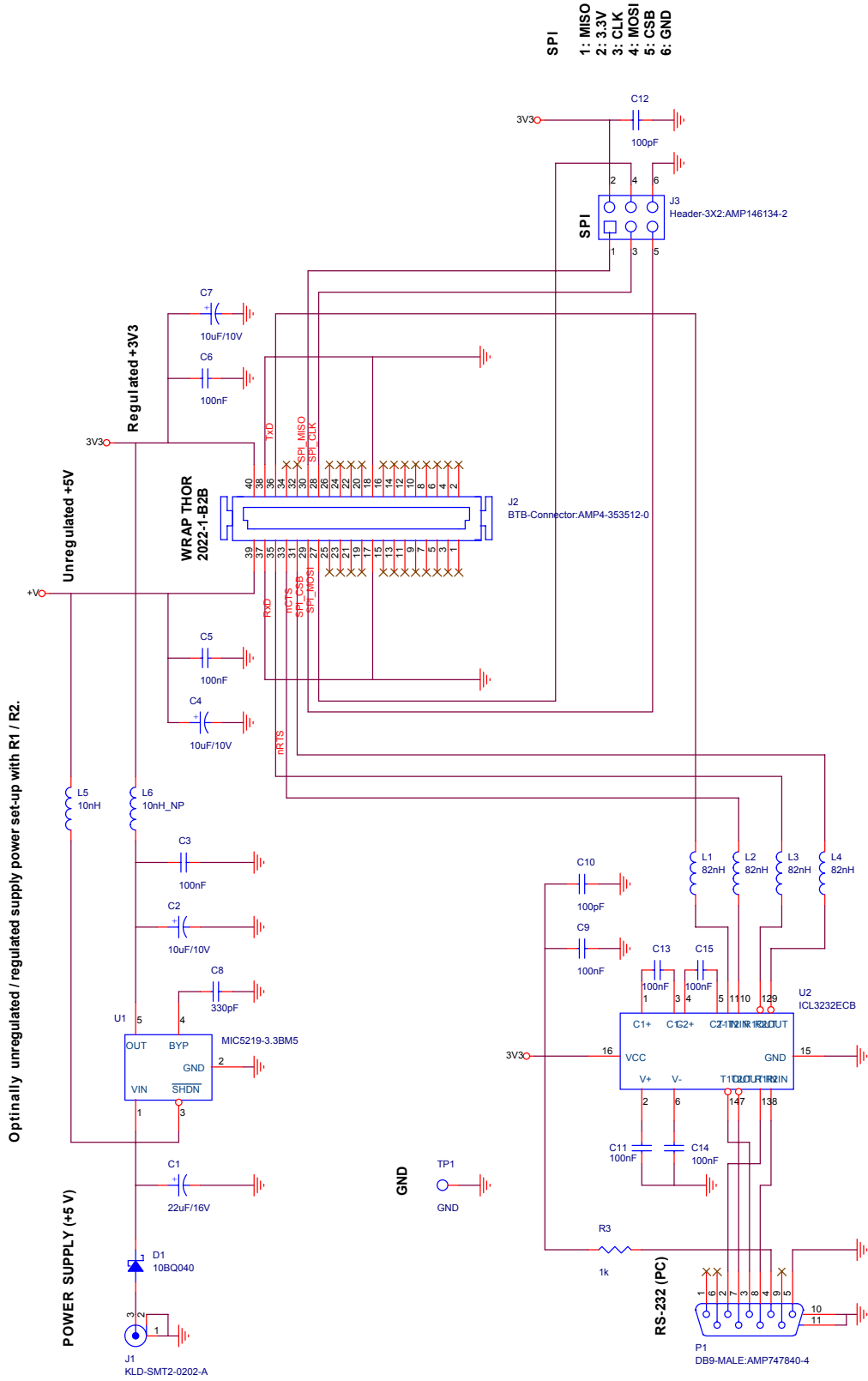


Figure 2: WRAP THOR B2B Evaluation Kit Schematics

6. ASSEMBLY

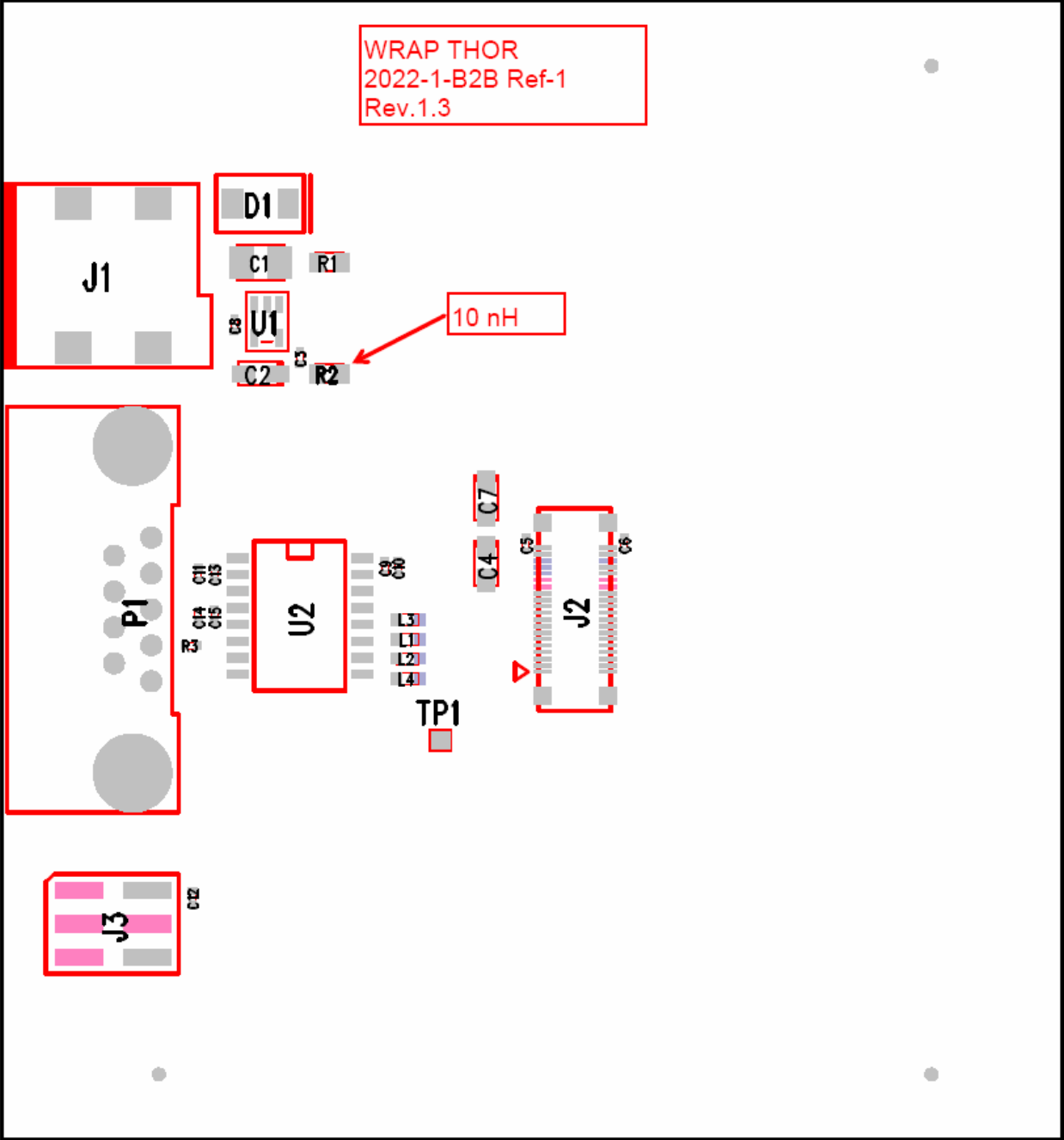


Figure 3: WRAP THOR B2B Evaluation Kit Assembly

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 (J3) 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. BOARD-TO-BOARD (J2) INTERFACE

The board-to-board connector type is *AMP 4-353512-0* on the Evaluation Kit side and *AMP 4-353515-0* on the module side. The board-to-board connector pin description (*AMP 4-353515-0*) is shown in Table 3. Please, refer the connector data sheet for the relating detailed technical information.

PIN Name:	No.:	I/O:	Description:
RESET_IN	1	I	Reset if high. (Internal 1 kohm pull-down resistor.)
NC	2	NC	Not connected.
PIO(2)	3	I/O	Programmable I/O number 2
NC	4	NC	Not connected.
PIO(3)	5	I/O	Programmable I/O number 3
PIO(4)	6	I/O	Programmable I/O number 4
PIO(6)	7	I/O	Programmable I/O number 6
PIO(5)	8	I/O	Programmable I/O number 5
PIO(7)	9	I/O	Programmable I/O number 7
NC	10	NC	Not connected.
NC	11	NC	Not connected.
NC	12	NC	Not connected.
NC	13	NC	Not connected.
NC	14	NC	Not connected.
NC	15	NC	Not connected.
NC	16	NC	Not connected.
GND	17	GND	Ground.
GND	18	GND	Ground.
PCM_SYNC	19	I/O	Synchronous data strobe (pull-down).

PCM_CLK	20	I/O	Synchronous data clock (pull-down)
PCM_IN	21	I	Synchronous 8 kbps data input (pull-down)
PCM_OUT	22	O	Synchronous 8 kbps data output (pull-down)
NC	23	NC	Not connected.
NC	24	NC	Not connected.
NC	25	NC	Not connected.
NC	26	NC	Not connected.
SPI_MOSI	27	I	SPI data input (pull-down)
SPI_CLK	28	I	SPI clock (pull-down)
SPI_CSB	29	I	SPI chip select (pull-up). Active low.
SPI_MISO	30	O	SPI data output (pull-down).
UART_CTS	31	I	UART CTS (internal pull-down). Active low.
USB_D-	32	A	USB Data -
UART_RTS	33	O	UART RTS (internal pull-up). Active low.
USB_D+	34	A	USB Data +
UART_RX	35	I	Asynchronous serial data in.
UART_TX	36	O	Asynchronous serial data out.
GND	37	GND	Ground.
GND	38	GND	Ground.
5V0	39	VDD	Power supply connection. (Unregulated power input)
3V3	40	VDD	Power supply connection. (Regulated power input)

Table 3: AMP Connector PIN Description