WT11 EVALUATION KIT

DATA SHEET

Thursday, 01 April 2010

Version 1.4

blue giga

VERSION HISTORY

Version	Comment
1.0	MSa
1.1	NM
1.2	PR
1.3	MSa
1.4	Table 2 corrected

TABLE OF CONTENTS

1   Introduction

FEATURES

- Evaluation Kit for WT11 *Bluetooth* wireless communication modules
    - EKWT11-A with internal chip antenna
    - WKET11-E with U.FL connector and external antenna
- Unregulated power supply input (5-9V)
- RS-232 serial interface (D9, DTE)
- USB interface
- SPI for upgrading the firmware and parameters
- Reset and DSR buttons
- Switches for I/O or UART and I/O or LED/USB/UART selection
- 2,5mm audio jacks for speaker and microphone connection
- 16 pin I/O interface (6xGPIO, 4xPCM, RESET, GND, POWER, TxD, RxD and +V)
- iWRAP™ command interface software as a default firmware

TARGET APPLICATIONS

WT11 Evaluation Kit is meant for evaluation and development of WRAP THOR WT11 *Bluetooth* modules or prototyping and piloting *Bluetooth* systems utilized with WRAP THOR WT11 module.

ELECTRICAL FUNCTIONALITY

Please, refer the details of WT11 *Bluetooth* module from the latest respective data sheet (WT11 Data Sheet). The physical outlook, schematics, assembly and the PIN configurations of the interfaces of WT11 Evaluation Kit are described in this document.

SOFTWARE FUNCTIONALITY

WT11 Evaluation Kit is delivered with iWRAP software as default firmware. iWRAP is a simple ASCII command based interface, which enables access to various *Bluetooth* functions. A detailed description of iWRAP can be found from *iWRAP User Guide,* which can be found from the CD delivered with the evaluation kit or alternatively downloaded from the Tech-forum.

2   Physical outlook

Figure 1: WT11 Evaluation Kit, Onboard Installation Kit and CD

3 Schematics

Schematics of WT11 Evaluation Kit can be found from the CD delivered with the package or alternatively downloaded form http://techforum.bluegiga.com
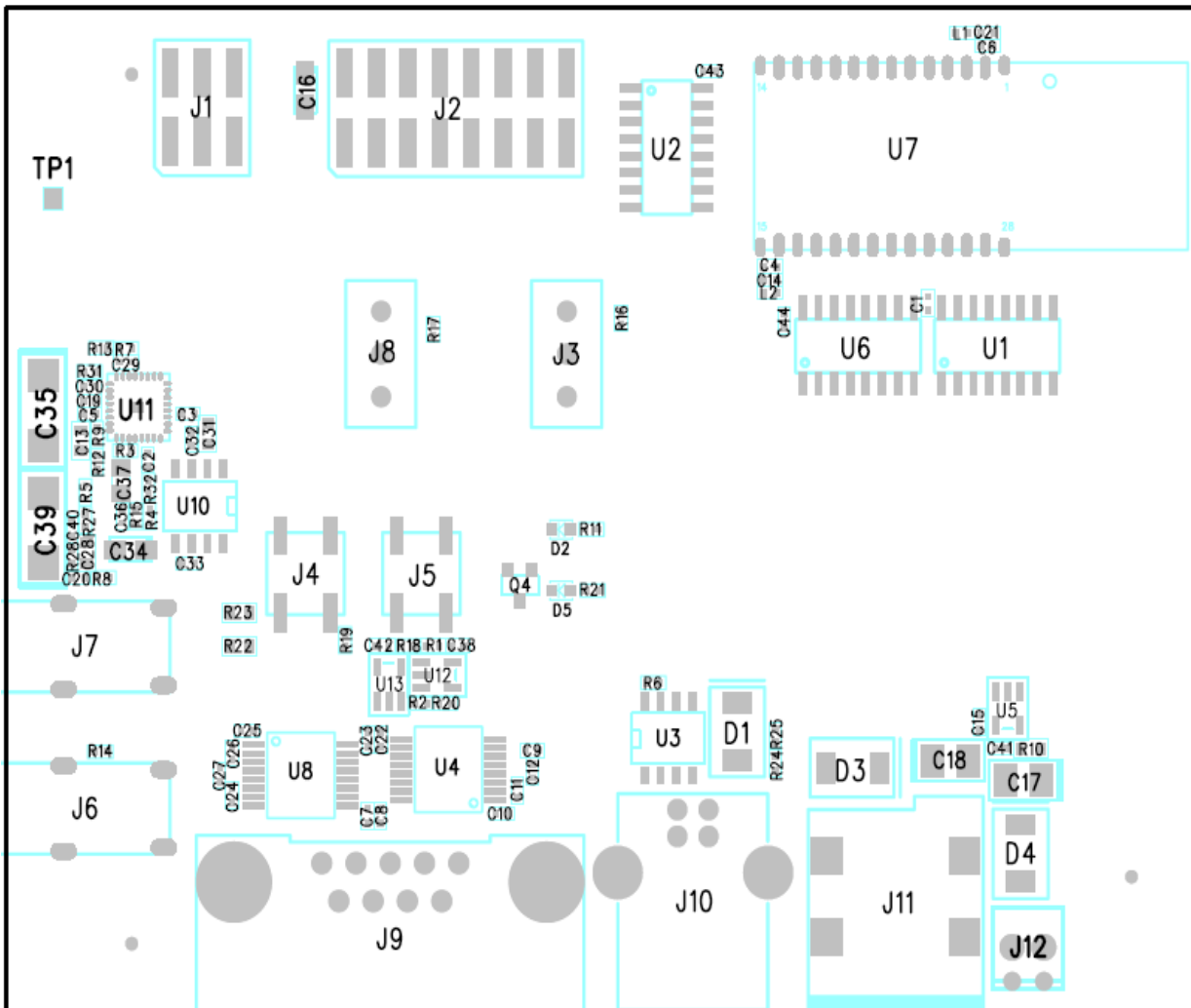
4 Assembly

Figure 2: WT11 Evaluation Kit assembly

5 Gerber

Gerber of WT11 Evaluation Kit can be found from the CD delivered with the package or alternatively downloaded form http://techforum.bluegiga.com.

6 SPI (J1) 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 1: SPI Interface PIN description

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7　GPIO (J2) interface

General purpose interface pin configuration is show in Table 2. 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
RTS	9	O	UART RTS
CTS	10	I	UART CTS
GND	11	GND	GND
GND	12	GND	GND
TxD	13	O	UART TX
RxD	14	I	UART RX
GND	15	GND	GND
+V	16	POWER	Unregulated power supply output (5-9 V)

Table 2: GPIO interface PIN description

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8 PIO SELECT (J3)

This switch toggles PIO2 to PIO7 signal connections between J2 connector and LED/USB/UART interfaces.

Note: '*Top*' and '*bottom*' positions refer to viewing WT11 Evaluation Kit from top side as seen in Figure 2.

- Top position must be used when WT11 module is interfaced trough J2 connector.

- Bottom position is used when WT11 module is interfaced trough the DB9 RS232 connector or if USB port or if link state LED is used.

J3 Switch top position:

- PIO2 connects to pin 3 on the J2 interface

- PIO3 connects to pin 4 on the J2 interface

- PIO4 connects to pin 5 on the J2 interface

- PIO5 connects to pin 6 on the J2 interface

- PIO6 connects to pin 7 on the J2 interface

- PIO7 connects to pin 8 on the J2 interface

J3 Switch bottom position:

- PIO2 connects to USB_IO1

- PIO3 connects to nDTR-UART

- PIO4 connects to nCD-UART

- PIO5 connects to nDSR-MUX

- PIO6 connects to VBUS

- PIO7 connects to blue LED on the board marked with PIO7

9 RESET (J4)

The RESET button resets the module using the reset pin on the WT11.

10 DSR (J5)

The DSR button is connected to PIO5 pin on the WT11. Thus, when you want to use the DSR signal, please refer to the iWRAP 2.1.0 manual. The use of DSR signal is described under SET CONTROL ESCAPE chapter.

11 Speaker JACK (J6)

Connect your generic PC headset's 3,5mm speaker plug here.

12 Microphone JACK (J7)

Connect your generic PC headset's 3,5mm headphone plug here.

13 SIG Select (J8)

This switch toggles nCTS and RxD signals connection between J2 connector and DB9 RS232 connector.

Note: '*Top*' and '*bottom*' positions refer to viewing WT11 Evaluation Kit from top side as seen in Figure 2.

- Top position must be used when external WT11 module's nCTS and RxD pins are interfaced trough J2 connector.

- Bottom position must be used when WT11 is interfaced trough the DB9 RS232 connector.

J8 Switch top position:

- nCTS connects to pin 10 on the GPIO (J2) interface

- RxD connects to pin 14 on the GPIO (J2) interface

J8 Switch bottom position:

- nCTS connects to nCTS-UART

- RxD connects to RXD-UART

14   RS-232 (J9) 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 3: RS232 PIN configuration

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15   USB (J10) interface

J10 connector is a standard USB B receptacle connector.

16   Power supply (J11)

This connector is used with the 5V power supply delivered with the evaluation kit. Diameter 6.0mm, inner pin diameter 2.0mm.

17   Power supply (J12)

This connector can be used for external power supply. Power supply must be 5-9V unregulated.

18 Contact Information

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