

Application Note No.: LAN-076e_1
 Version: 1.0
 Author: J. Tian
 Date: 19.10.2017

History:

Version	Changes	Date	Author
1.0	First edition	19.10.2017	J. Tian

Connecting the Wi-Fi Adapter phyBOARD Upgrade Kit [KPEB-WLBT-01]

Content

1	Introduction	2
2	Requirements.....	2
3	Getting Started	3
	3.1 Enable Wi-Fi Expansion Boards	5
	3.2 How to change the Wireless Network Configuration.....	5

1 Introduction

This Application Note provides a guide for how to connect the Wi-Fi adapter to Phytec phyBOARD SBCs. As of printing of this manual suitable phyBOARDs are phyBOARD-Wega AM335x, phyBOARD-Segin i.MX 6UL/ULL and phyBOARD-Mira i.MX 6.

In this Application Note the phyBOARD-Segin i.MX 6UL/ULL is used as an example to describe all steps necessary to connect the Wi-Fi adapter and to enable the expansion boards configuration in *barebox*, as well as to change the wireless network configuration in the phyBOARD.

2 Requirements

In order to make the WLAN adapter work properly on the different phyBOARDs, the following system requirements, including hardware and software, are necessary. Deviations from these requirements may suffice, or may have other workarounds.

Hardware:

- phyBOARD-Segin i.MX 6UL/ULL Kit(PB-02013) (or another suitable phyBOARD Kit)
- PEB-WLBT-01 Wi-Fi adapter
- Power supply either 5 V DC, or 12 V – 24 V DC¹



Be sure to select the appropriate power supply for your phyBOARD. phyBOARDs delivered with the PEB-POW-01 (Power Module) require a 12 V – 24 V DC (min. 500 mA)¹ power supply connected to the 2-pole Phoenix Contact MINI COMBICON base strip on the PEB-POW-01.

phyBOARDs without the Power Module require a 5 V DC power supply (min. 1 A)¹ connected to the 2-pole Phoenix Contact MINI COMBICON base strip on the phyBOARD.

For details please refer to the QuickStart Guide of your phyBOARD Kit.

Software:

- Yocto-Linux BSP PD17.1.1



Please use one of the following BSPs, if you are using another phyBOARD:

- phyBOARD-Mira i.MX 6: PD16.1.0 and newer
- phyBOARD-Wega AM335x: PD17.1.1 and newer

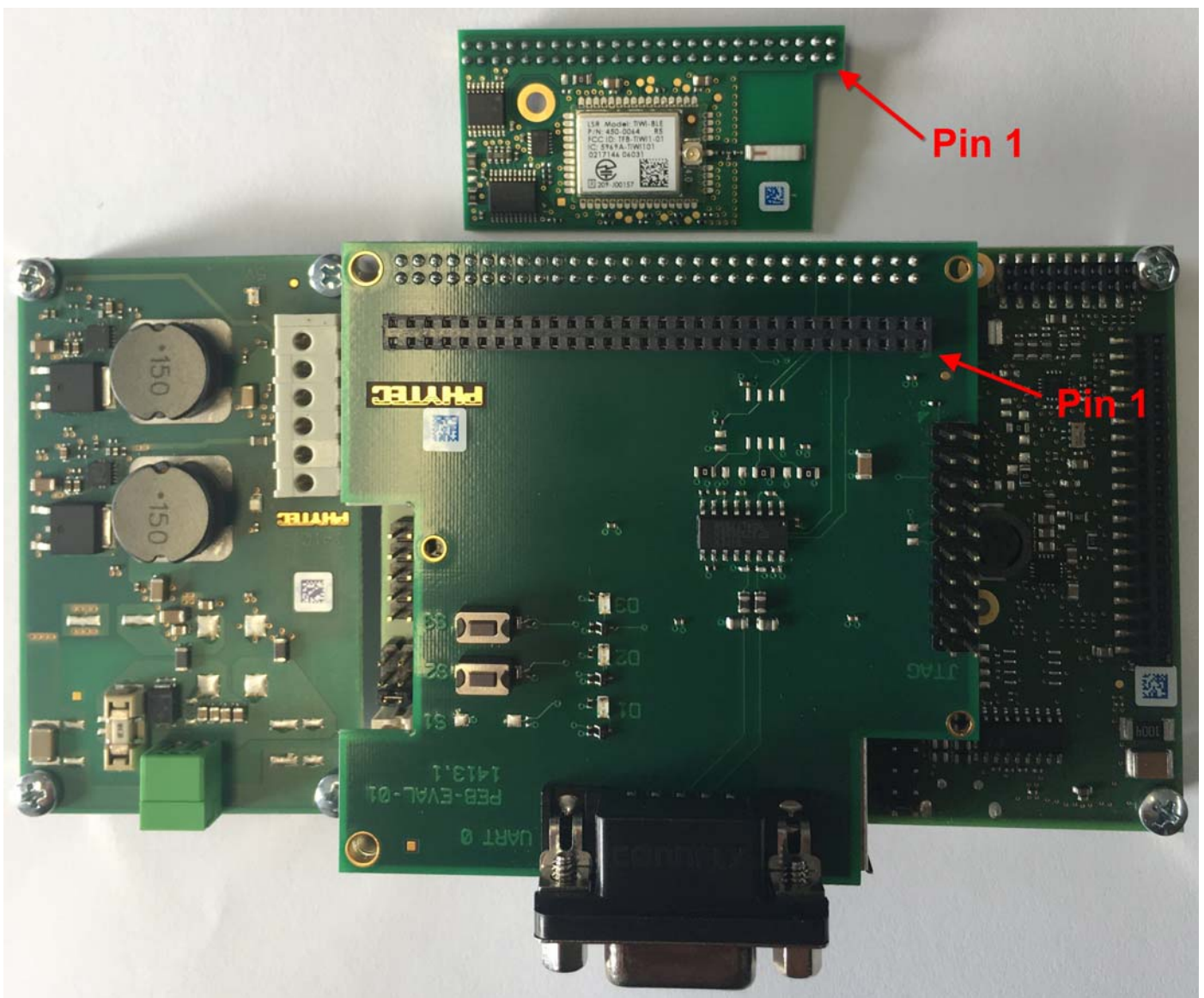
¹: The supply current required depends on the phyBOARD you are using and additional expansion boards or displays connected to it, and thus, might be lower or higher than the specified value. E.g. if only the WLAN adapter is connected to the phyBOARD-Segin, the current consumption is about 60 mA at 24 V via the PEB-POW-01 (Power Module), and about 200 mA at 5 V connected directly to the 2-pole Phoenix Contact MINI COMBICON on the phyBOARD.

3 Getting Started

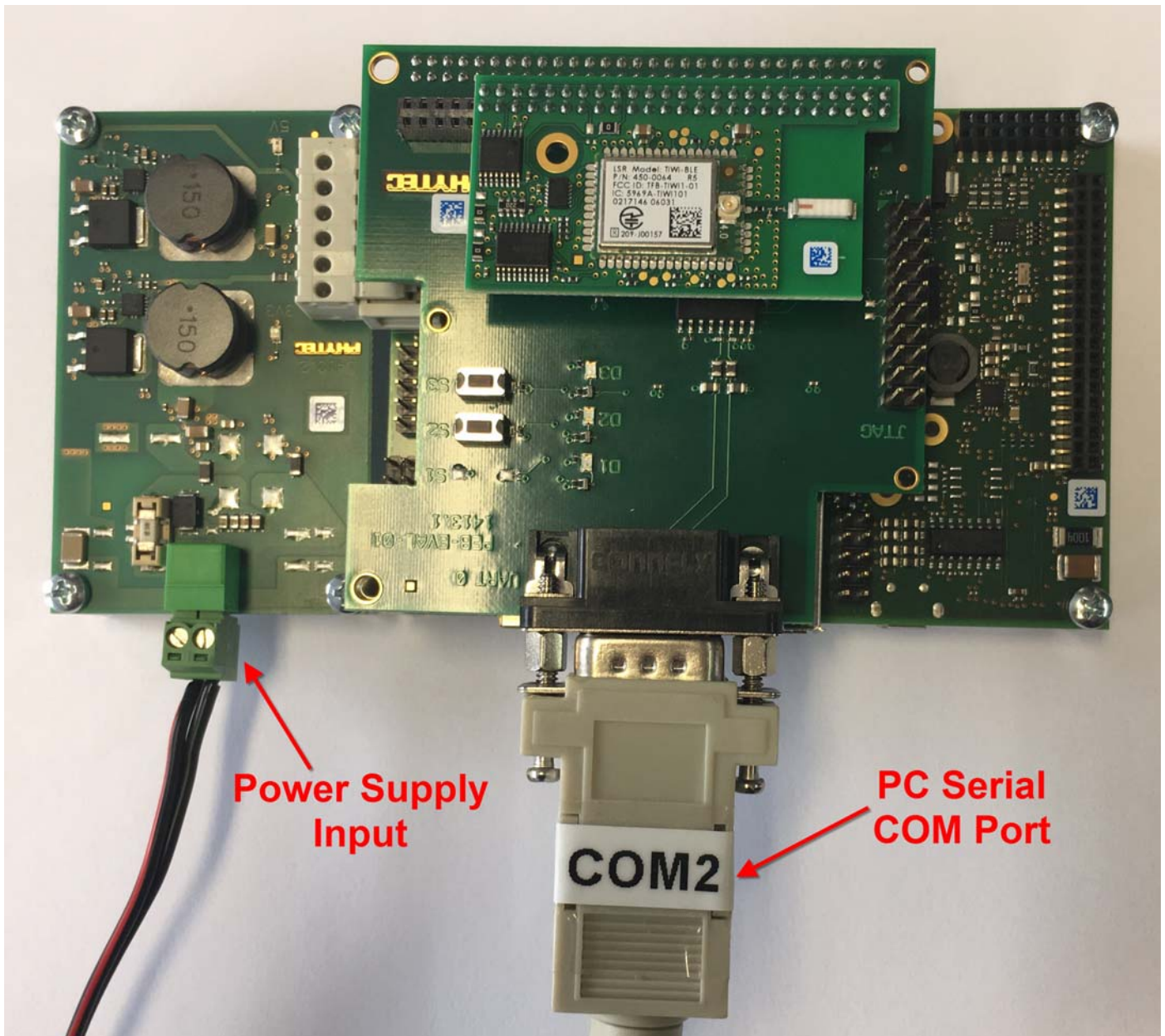
- Plug the Wi-Fi adapter into the expansion connector of phyBOARD-Segin. Because the expansion connector has 10 pins more than the adapter connector, please make sure that the adapter is inserted correctly.



Be very careful about pin assignment when plugging the Wi-Fi adapter into the expansion connector of phyBOARDs, the Wi-Fi adapter might be damaged if the misalignment of the connection.




- Connect the RS-232 cable between your host PC and the phyBOARD-Segin debug adapter as shown below.



- Start your favorite terminal software (e.g. *Minicom*, or *Tera Term*) on your host PC and configure it for 115200 baud, 8 data bits, no parity, 1 stop bit (8n1) and no handshake.
- Connect the power supply to the power connector.

3.1 Enable Wi-Fi Expansion Boards

The BSP has already been configured to support the Wi-Fi adapter, but it must be enabled as an expansion board by editing the file *config-expansions* in the *barebox* environment. Please refer to chapter "Enable Wi-Fi Expansion Boards" of the phyBOARD-Segin Yocto BSP Manual (L-844) for more detailed information. The phyBOARD-Segin BSP Manual is available at www.phytec.de/produkt/single-board-computer/phyboard-segin-download/.

	<p>Please find the appropriate manuals at the following addresses, if you are using another phyBOARD:</p> <ul style="list-style-type: none"> • phyBOARD-Mira i.MX 6: www.phytec.de/produkt/system-on-modules/phycore-imx-6-phyboard-mira-download/ • phyBOARD-Wega AM335x: www.phytec.de/produkt/single-board-computer/phyboard-wega-download/
---	--

3.2 How to change the Wireless Network Configuration

This Wi-Fi adapter can be configured either as Wi-Fi hotspot or as Wi-Fi Direct client. Please refer to chapter "How to change the Wireless Network Configuration" of the Phyttec Yocto Reference Manual for setup info at:

www.phytec.de/documents/l-813e-5-yocto-reference-manual/

Please contact our technical support, if you need additional information, or if you have any questions.

Europe (except France):	France:
▪ +49 6131 9221-31	▪ +33 2 43 29 22 33
▪ support@phytec.de	▪ support@phytec.fr
North America:	India:
▪ +1 206 780-9047	▪ +91-80-4086 7047/50
▪ support@phytec.com	▪ support@phytec.in
China:	
▪ +86-755-6180-2110	
▪ support@phytec.cn	