

Expansion Port

WIFI

USER MANUAL



B+B SMARTWORX

Powered by

ADVANTECH

Used Symbols



Danger – Information regarding user safety or potential damage to the router.



Attention – Problems that can arise in specific situations.



Information, notice – Useful tips or information of special interest.

GPL Licence

Source codes under GPL licence are available free of charge by sending an email to:

cellularsales@advantech-bb.com.



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1. Safety Instruction



Please, observe the following instructions:

- The expansion port must be used in compliance with all applicable international and national laws and in compliance with any special restrictions regulating the utilization of the communication module in prescribed applications and environments.
- Use only the original Advantech B+B SmartWorx company accessories. Thus you will prevent possible health risks and damage to the devices and ensure compliance with all relevant provisions. Unauthorised adjustments or use of unapproved accessories may result in damage to the expansion port and breach of applicable laws. Use of unapproved adjustments or accessories may lead to cancellation of guarantee, which has no effects on your legal rights.
- Do not expose the expansion port to extreme conditions. Protect it from dust, moisture and heat.

2. Product Disposal Instructions

The WEEE (Waste Electrical and Electronic Equipment: 2012/19/EU) directive has been introduced to ensure that electrical/electronic products are recycled using the best available recovery techniques to minimize the impact on the environment. This product contains high quality materials and components which can be recycled. At the end of its life this product **MUST NOT** be mixed with other commercial waste for disposal. Check the terms and conditions of your supplier for disposal information.

3. Description of the Expansion Port

The expansion port WiFi is designed as an additional expansion board, that allows using the WiFi wireless interface in v2 routers of Advantech B+B SmartWorx company. This expansion port is provided as an internal part of the router.

The WiFi module supports AP (Access Point) function. This module allows you to scan the neighboring networks. Due to WiFi module it is possible to perform automatic configuration of connected devices (maximum number is 2007) via DHCP server.

Expansion port WiFi supports these **standards**:

- 802.11b: 1, 2, 5.5, 11 Mbps
- 802.11g: 6, 9, 12, 24, 36, 48, 54 Mbps
- 802.11n: (20 MHz) MCS0-7, up to 72 Mbps, (40 MHz) MCS0-7, up to 150 Mbps

Expansion port WiFi supports the following types of **authentication**: Shared, WPA, WPA2 and RADIUS. Detailed list and description of supported authentication types may be found in the *Configuration Manual – Cellular Industrial v2 Routers* [2].

Expansion port WiFi supports the following types of **security**: WEP, TKIP, AES. Detailed list and description of supported security types may be found in the *Configuration Manual – Cellular Industrial v2 Routers* [2].



For putting WiFi network into operation in the place, where several wi-fi networks are already operated, it is recommended to set a new WiFi network to a different radio channel than other networks are running. Overlapping of more WiFi networks can cause occasional network outages or less communication speed of your network.



User information: Expansion port WiFi can be fitted only into PORT2.

3.1 Port Configuration

The configuration of port is possible via Web interface of the router. Configuration of WiFi is described in *Configuration Manual – Cellular Industrial v2 Routers* [2]. The pages with status (*Status – WiFi*, *Status – WiFi Scan*) and with configuration (*Configuration – WiFi Configuration*, *Configuration – WLAN Configuration*) are accessible in the Web interface of the router.

3.2 State Indication of WiFi Port

LED diode	Description of indication
Green LED	WiFi expansion port is powered on.
Yellow LED	Off permanently.

Table 1: State indication of WiFi port

3.3 Delivery Identification

Trade name	Type name	Power supply
XC-WIFI	XC-WIFI	Internal supply

Table 2: Delivery identification

Example of expansion port label:



Figure 1: Expansion port label

3.4 Technical Specifications

Expansion port WIFI		
Power supply	Internal	+3,3 V
Environment	Operating temperature	-15 to +65 °C
	Storage temperature	-20 to +85 °C
Standards	Emission	EN 55022/B
	Immunity	ETS 300 342
	Safety	EN 60950
Type of device	Access point, station	
Antenna connector	R-SMA – 50 Ohms	
Internal Antenna Impedance	50 Ω	
Frequency band	2.4 GHz	
Standards	802.11b, 802.11g, 802.11n	
2.4 GHz supported channels	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13	
RX Sensitivity	11b, 11 Mbit/s	typ. -85 dBm
	11g, 54 Mbit/s	typ. -70 dBm
	(HT20) 11n, MSC7	typ. -66 dBm
	(HT40) 11n, MSC7	typ. -62 dBm
TX Output Power	11b, 11 Mbit/s	min. 18, typ. 19, max. 20 dBm
	11g, 54 Mbit/s	min. 14.5, typ. 16, max. 17.5 dBm
	802.11n (HT20)	min. 13.5, typ. 15, max. 16.5 dBm
	802.11n (HT40)	min. 13.5, typ. 15, max. 16.5 dBm

Table 3: Technical specifications

4. Recommended Literature

- [1] Advantech B+B SmartWorx: **Application Note – Expansion Port Mounting for v2 Routers (APP-0001-EN)**
- [2] Advantech B+B SmartWorx: **Configuration Manual – Cellular Industrial v2 Routers (MAN-0021-EN)**

5. Customers Support

5.1 Customer Support for NAM

Phone: +1-800-346-3119 (Monday – Friday, 7 a.m. to 5:30 p.m. CST)
Fax: +1-815-433-5109
E-mail: support@advantech-bb.com
Web: www.advantech-bb.com

5.2 Customer Support for Europe

Phone: +353 91 792444
Fax: +353 91 792445
E-mail: techSupport@advantech-bb.com
Web: www.advantech-bb.com

5.3 Customer Support for Asia

Phone: +886-2-2792-7818 #1299 (Monday – Friday, 9 a.m. to 5:30 p.m. UTC+8)
Fax: +886-2-2794-7327
E-mail: icg.support@advantech.com.tw
Web: www.advantech.com



Upkeep-advice:

- During cleaning of the router do not use aggressive chemicals, solvents and abrasive cleaners!



Hereby, Advantech B+B SmartWorx s.r.o. company declares that the router with this expansion port installed is in compliance with EU Directive **2014/53/EU**.

The full text of the EU Declaration of Conformity of the corresponding router is available at the following internet address: www.advantech-bb.cz/eudoc