

SpaceLogic AD v3 Wi-Fi Module HMIs

EcoStruxure™ Building



Introduction

SpaceLogic™ AD v3 Wi-Fi Module is an optional accessory to SpaceLogic Advanced Display v3 (AD v3). Through the Wi-Fi module, you can establish wireless communication between AD v3 and EcoStruxure BMS servers connected to a wireless access point. For more information on AD v3, see the SpaceLogic Advanced Display Specification Sheet.

The AD v3 Wi-Fi Module is an M.2 form factor card, which is inserted into an expansion slot (M.2 connector) on the AD v3 main board. The Wi-Fi module comes with an adhesive mount Wi-Fi antenna. For information on how to install the Wi-Fi module and the antenna, see the SpaceLogic AD v3 Wi-Fi Module Installation Sheet.

Features

The AD v3 Wi-Fi Module has the following features:

- Low power consumption and high performance
- Compliant with IEEE 802.11 a/b/g/n/ac
- Compact M.2 2230 card with PCI Express interface
- Support of both 2.4 GHz and 5 GHz frequency bands
- Enhanced wireless security through WEP 64-bit and 128-bit encryption with TKIP, WPA/WPA2, and AES-CCMP

SpaceLogic AD v3 Wi-Fi Module

Part Numbers

Product	Part number
AD v3 Wi-Fi Module (Includes M.2 2230 card and antenna with integrated cable)	SXWADWIFI10002
AD v3 cable, straight, USB-C, 2.4 m (7.87 ft)	SXWADUSBC10001

Specifications

SpaceLogic AD v3 Wi-Fi Module	
Card	
Card form factor	M.2 2230
Card connector keying, interface	M.2 key E, PCI Express
Radio	
Communication protocol	IEEE 802.11 a/b/g/n/ac
Frequency	2.412 to 2.484 GHz 4.915 to 5.925 GHz
Modulation schemes	DSSS with DBPSK and DQPSK QFDM with BPSK, QPSK, 16-QAM, 64-QAM, and 256-QAM CCK
Radio signal range	40 m (131 ft) free space
Output power – 2.4 GHz band	See table below.
IEEE standard	Output power
802.11b (11 Mbps)	18 dBm +1/-1.5 dBm
802.11g (54 Mbps)	17 dBm +1/-1.5 dBm
802.11n (HT20, MCS7)	16 dBm +1/-1.5 dBm
802.11n (HT40, MCS7)	16 dBm +1/-1.5 dBm
Output power – 5 GHz band	See table below.
IEEE standard	Output power
802.11a (54 Mbps)	17 dBm +1.5/-2 dBm
802.11n (HT20, MCS7)	16 dBm +1.5/-2 dBm
802.11n (HT40, MCS7)	16 dBm +1.5/-2 dBm
802.11ac (VHT80, MCS9)	14 dBm +1.5/-2 dBm
Receive sensitivity – 2.4 GHz band	See table below.
IEEE standard	Receive sensitivity
802.11b (11 Mbps)	Less than -79 dBm
802.11g (54 Mbps)	Less than -65 dBm
802.11n (HT20, MCS7)	Less than -64 dBm
802.11n (HT40, MCS7)	Less than -61 dBm

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Receive sensitivity – 5 GHz band		See table below.
IEEE standard	Receive sensitivity	
802.11a (54 Mbps)	Less than -65 dBm	
802.11n (HT20, MCS7)	Less than -64 dBm	
802.11n (HT40, MCS7)	Less than -61 dBm	
802.11ac (VHT80, MCS9)	Less than -51 dBm	
Maximum data rate		See table below.
IEEE standard	Maximum data rate	
802.11b	11 Mbps	
802.11a, 802.11g	54 Mbps	
802.11n	300 Mbps	
802.11ac	866.7 Mbps	
Antenna connectors		2 IPEX MHF4 connector receptacles: Ant1 (Main): Wi-Fi Tx/Rx ^a Ant2 (Aux): Wi-Fi Tx/Rx
a) Use only the Ant1 connector receptacle.		
Power input		
Nominal voltage		3.3 VDC
Power consumption		Maximum 0.79 W (3.3 V)
Environment		
Ambient temperature, operating		0 to 70 °C (32 to 158 °F)
Ambient temperature, storage		-30 to +85 °C (-22 to +185 °F)
Humidity, operating		Maximum 85 % RH non-condensing
Humidity, storage		Maximum 60 % RH non-condensing
Mechanical		
Dimensions (W x H x D)		22 x 30 x 2.25 mm (0.87 x 1.18 x 0.09 in.)
Weight		2.5 g (0.088 oz)
Security		
Security		WEP 64-bit and 128-bit encryption with TKIP, WPA/WPA2, AES-CCMP
Hardware compatibility		
AD v3 bundle part number		SXWADBUND10013 ^a
a) AD v3 Wi-Fi Module (SXWADWIFI10002) is not compatible with the AD v3 bundle with part number SXWADBUND10003.		
Agency compliances		
EMC		ETSI EN 301 489-1 V2.1.1; ETSI EN 301 489-17 V3.1.1 FCC 47 CFR Part 15 Subpart B, Class B ICES-003 (Issue 6), Class B

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Radio	ETSI EN 300 328 V2.2.2 ETSI EN 301 893 V2.1.1 FCC 47 CFR Part 15 Subpart C FCC 47 CFR Part 15 Subpart E RSS-247, Issue 2 (2017) RSS-Gen, Issue 5 (2018)
SAR	BS/EN 62311:2008 FCC 47 CFR Part 2, 2.1093; IEEE C95.1-1991; IEEE 1528-2003 RSS-102 Issue 5 (2015); IEC 62209-2 (2010); IEEE 1528-2003
Safety standards	BS/EN 62368-1:2014 + A11:2007 IEC 62368-1:2014
FCC ID	TX2-RTL8822CE
ISED certification number	IC: 6317A-RTL8822CE
Antenna	
Frequency	2.400 to 5.850 GHz
Peak gain	2.91 dBi (at 2.484 GHz)
VSWR	≤ 2.5
Ambient temperature, operating	-30 to +65 °C (-22 to +149 °F)
Ambient temperature, storage	-30 to +85 °C (-22 to +185 °F)
Installation	Adhesive tape (for installation inside AD v3)

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Regulatory Notices



Federal Communications Commission

FCC Rules and Regulations CFR 47, Part 15, Class B

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. (2) This device must accept any interference received, including interference that may cause undesired operation.

FCC ID: TX2-RTL8188EE

Innovation, Science and Economic Development Canada

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions: (1) This device may not cause interference. (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) L'appareil ne doit pas produire de brouillage; (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

IC: 6317A-RTL8188EE



Regulatory Compliance Mark (RCM) - Australian Communications and Media Authority (ACMA)

This equipment complies with the requirements of the relevant ACMA standards made under the Radiocommunications Act 1992 and the Telecommunications Act 1997. These standards are referenced in notices made under section 182 of the Radiocommunications Act and 407 of the Telecommunications Act.



CE - Compliance to European Union (EU)

2014/53/EU Radio Equipment Directive (RED)

2011/65/EU Restriction of Hazardous Substances (RoHS) Directive

2015/863/EU amending Annex II to Directive 2011/65/EU

This equipment complies with the rules, of the Official Journal of the European Union, for governing the Self Declaration of the CE Marking for the European Union as specified in the above directive(s).



WEEE - Directive of the European Union (EU)

This equipment and its packaging carry the waste of electrical and electronic equipment (WEEE) label, in compliance with European Union (EU) Directive 2012/19/EU, governing the disposal and recycling of electrical and electronic equipment in the European community.



UK Conformity Assessed

S.I. 2017/1206 - Radio Equipment Regulations 2017

S.I. 2012/3032 - Restriction of the Use of Certain Hazardous Substances in Electrical and

Electronic Equipment Regulations 2012

S.I. 2013/3113 - Waste Electrical and Electronic Equipment Regulations 2013

This equipment complies with the rules, of the UK regulations, for governing the UKCA Marking for the United Kingdom specified in the above directive(s).

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