Bluesocket

3040/3045 Access Point

March 2019
61700965F1-13C

Quick Start

P/N: 1700965F1, 1700966F1

Description

The Bluesocket 3040/3045 Access Point (BSAP) supports the newer generation of laptops with three stream radio support. It offers higher receive sensitivity on both the 2.4 and 5 GHz radios to compensate for Bring Your Own Devices (BYOD) such as smartphones, tablets, and Internet of Things (IoT) devices that have a fraction of the transmit power of traditional laptops.

Hardware

The following items are included in your shipment:

- Bluesocket 3040 (no external antenna connectors)/3045 (external antenna connectors) Access Point
- Wall/hard ceiling/junction box metal mounting bracket
- Metal mounting bracket hardware: four metal anchors with mounting screws for sheetrock; four plastic anchors with mounting screws for masonry
- Two T-rail mounting brackets (9/16 and 15/16) for recessed drop ceilings

Antennas

The BSAP 3040 includes a total of 10 internal modular high efficiency PIFA omnidirectional antennas - four internal antennas with 6 dBi peak gain for the 5 GHz radio, four internal antennas with 4 dBi peak gain for the 2.4 GHz radio, one internal antenna with 3/5 dBi peak gain for the dual band scanning/security radio (2.4/5 GHz respectively) and one internal antenna with 4 dBi peak gain for the BLE radio.

The BSAP 3045 includes a total of eight RP-SMA connectors for external antennas and two internal modular high efficiency PIFA omnidirectional antennas - four RP-SMA connectors for external antennas for the 5 GHz radio, four RP-SMA connectors for external antennas for the 2.4 GHz radio, one internal antenna with 3/5 dBi peak gain for the dual band scanning/security radio (2.4/5 GHz respectively) and one internal antenna with 4 dBi peak gain for the BLE radio.

ℹ️ NOTE

Record the 12-character MAC address and serial number listed on the back of the BSAP 3040/3045 before mounting the BSAP to a wall or other surface. This information will be required during configuration.

Installation

Before installing the equipment, inspect the BSAP. If damage has occurred during shipping, file a claim with the carrier, and then contact ADTRAN Customer Support. For more information, refer to the warranty or to ADTRAN enhanced support for ProCare or ProCare NBD purchased upgrades.

Mounting the BSAP to a Wall/Hard Ceiling/Junction Box

BSAPs should be positioned for maximum throughput and range between other APs and wireless client devices. Complete these instructions and refer to Figure 1 to mount the BSAP on an interior hard ceiling, wall, or junction box using the appropriate enclosed mounting kit:

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1. BSAP 3045 only: Install the antennas (sold separately) onto the appropriate antenna ports. The antenna ports are labeled **2.4G-1** through **2.4G-4** and **5G-1** through **5G-4**. The antennas are labeled **2.4G** and **5G**.

2. Using the metal bracket as a template, mark the locations of the four mounting holes on the sheetrock wall, hard ceiling, or over a junction box.

3. For sheetrock ceiling or walls: Press the point of the metal screw anchors into the sheetrock at the marks. Using a drill or Phillips-head screwdriver, drive the anchor into the sheetrock until the top is flush with the surface of the ceiling or wall.

4. For masonry walls: Using a 1/4-inch (6.35 mm) masonry drill bit, drill a hole 1.5-inch (38.1 mm) deep. Tap the anchor into the hole until the top is flush with the surface of the ceiling or wall.

5. Drive the appropriate provided mounting screws through the metal bracket into the anchors until the bracket is secure against the ceiling or wall.

6. Once the bracket is mounted on the ceiling or wall, insert the mounting pegs into the keyed slots on the back of the unit.

7. Slide the unit downward until the pegs are fully engaged.

8. Using a screwdriver, drive the set screw into the hole to secure the unit to the bracket.

9. Optionally protect your BSAP with a Kensington cable lock (not provided) inserted in the security slot.
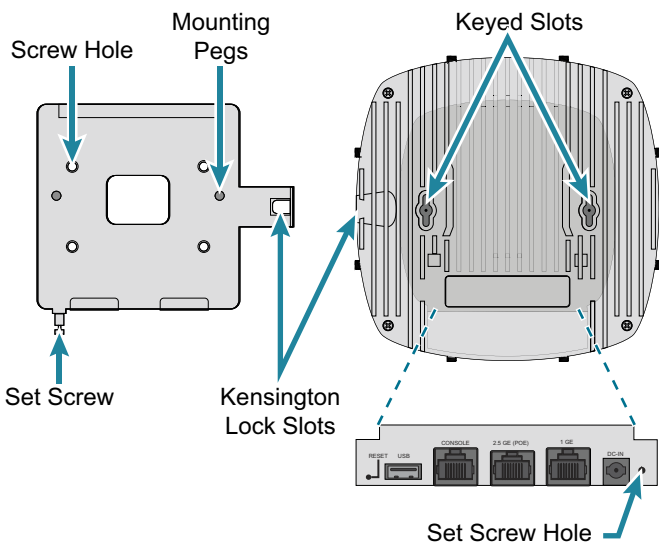
Figure 1. BSAP Hard Ceiling Mount

Mounting the BSAP to a Dropped Ceiling

BSAPs should be positioned for maximum throughput and range between other APs and wireless client devices.The BSAP ships with two drop ceiling mounting brackets (9/16 and 15/16) to mount the BSAP on the ceiling tile separators of recessed dropped ceilings. Complete these instructions and refer to Figure 2 to mount the BSAP to a dropped ceiling:

1. For the BSAP 3045 only: Install the antennas (sold separately) onto the appropriate antenna ports. the Antenna ports are labeled **2.4G-1** through **2.4G-4** and **5G-1** through **5G-4**.

2. Align the edges of the recessed ceiling mounting bracket with the bracket channels on the bottom of the BSAP shown in Figure 2. Slide the bracket onto the BSAP until you hear the bracket release tab snap into place.

3. Align the appropriately sized mounting bracket at a slight angle to the T-rail. Rotate the bracket until the stationary bracket tabs slide onto the T-rail and the flexible bracket tabs snap over the T-rail.

4. To remove the BSAP from the mounting bracket, use a screw driver to lift the bracket release tab and slide the BSAP off the bracket.
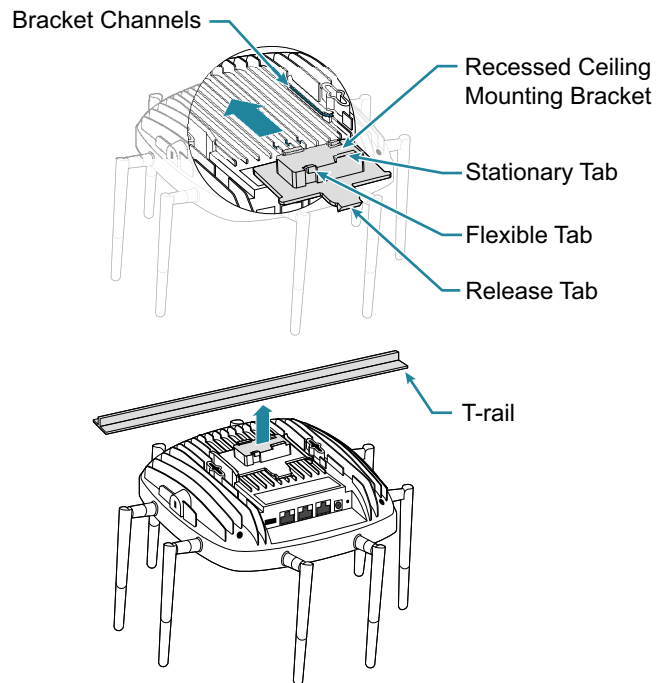
Figure 2. BSAP Drop Ceiling Mount

Supplying Power to the BSAP

The BSAP 3040/3045 does not have a power switch. It is powered on when connected to a network device that supplies PoE based on the IEEE 802.3at standard, or optionally by the following:

- External 802.3at PoE+ injector (P/N 1700926F1)
- External 2 amp DC power adapter (P/N 1700963F1) connected to an AC power source.

To use the external DC power adapter, connect the adapter to the **DC-IN** port on the back of the unit. The DC power adapter automatically adjusts to any voltage between 100 and 240 VAC at 50 or 60 HZ. No voltage range settings are required.

Connecting to the BSAP

If powering the BSAP using a network device such as a switch:

1. Connect the BSAP Ethernet port to the appropriate switch-port.

2. Obtain the IP address of the BSAP from the Dynamic Host Control Protocol (DHCP) server based on the MAC address of the BSAP. DHCP is enabled by default.

3. Use a Secure Shell (SSH) client to connect to the default IP address of the BSAP.

If powering the BSAP using a PoE injector:

1. Connect the Ethernet port of the BSAP to the **OUT** port of the PoE injector.

2. Connect the Ethernet port of the computer to the **IN** port on the PoE injector.

3. Use a Secure Shell (SSH) client to connect to the default IP address of the BSAP.

If the BSAP is powered using the optional DC power adapter:

1. Connect the Ethernet port of the BSAP to the Ethernet port of the computer.

2. Use a Secure Shell (SSH) client to connect to the default IP address of the BSAP.

Using the AP with Express Cloud

Express Cloud is now included with the purchase of new ADTRAN Bluesocket 2000 and 3000 series APs. Express Cloud can be used with the BSAP, however Elite Cloud or Elite On-Premises can be purchased for access to upgraded features.

For initial setup of Express Cloud:

1. Go to https://adtran.com/cloud and provide the requested information to create a new account. Express Cloud access information and credentials will be sent via email within one business day.

2. After receiving e-mail confirmation, connect BSAP to a power supply.

3. Connect BSAP to an internet-accessed network. The BSAP will automatically discover Express Cloud and will display in the account.

For existing Express Cloud accounts adding additional BSAPs:

1. Go to https://adtran.com/cloud.

2. Using the same email address as the existing Express Cloud account in the email field and the domain name in the company field.

3. If using an email address that already has an account and a domain that already exists, you will be adding additional BSAPs to that existing account and domain.

4. Confirmation that BSAPs have been added will be sent via email within one business day.

5. After receiving e-mail confirmation, connect the BSAP to a power supply.

6. Connect the BSAP to an internet-accessed network. The BSAP will automatically discover Express Cloud and will display in the account.

Express Cloud support is available in the ADTRAN interactive support community online at https://supportforums.adtran.com.

For further details regarding Express Cloud, Elite Cloud and Elite On-Premises, please refer to the FAQ in the support Community.

For further information on creating an Express Cloud account refer to Creating an Express Cloud Account in the support community.

Using the BSAP with Elite Cloud

Purchasing an Elite Cloud subscription automatically creates a user cloud account. All further communication regarding the subscription will be provided via email.

For initial setup of Express Cloud:

1. Elite Cloud access information and credentials will be sent via email within one business day.

2. After receiving e-mail confirmation, connect the BSAP to a power supply.

3. Connect the BSAP to an internet-accessed network. The BSAP will automatically discover Elite Cloud and will display in the account.

For existing Elite Cloud accounts purchasing additional BSAPs and Elite Cloud Subscriptions:

1. Confirmation that the BSAPs have been added will be sent via email within one business day.

2. After receiving e-mail confirmation, connect the BSAP to a power supply.

3. Connect the BSAP to an internet-accessed network. The BSAP will automatically discover Elite Cloud and will display in the account.

Using the BSAP with Elite On-Premises

The BSAP can be configured for use with Elite On-Premises, the Bluesocket virtual wireless local area network (vWLAN). Using BSAP discovery to configure the BSAP with a previously-installed vWLAN can be achieved by allowing the BSAP to discover the vWLAN and receive its configuration information. This BSAP discovery process uses an algorithm that attempts discovery methods in this order: static configuration, Dynamic Host Control Protocol (DHCP) vendor option (43), Domain Naming System (DNS) discovery, cached vWLAN info, and Express/Elite Cloud Zero Touch discovery. If no response to the discovery request is received, the algorithm moves to the next method in the list.

Two additional network components can be configured to facilitate BSAP discovery:

1. An external DHCP server can be configured to assign IP addresses to the BSAPs associated with the vWLAN. When configuring the DHCP server, make sure to configure the Bluesocket DHCP Vendor option (**43**) on the server.

2. An external DNS server can be configured to resolve the name **apdiscovery** to the IP address of the vWLAN in the network environment.

ℹ️ NOTE
When running static configuration the BSAP will not automatically query the other discovery methods.For more information on the vWLAN and BSAP discovery, please refer to the *vWLAN AP Discovery Configuration Guide* available online at https://support-forums.adtran.com.

Configuring the BSAP's IP Address or Static Discovery Using the CLI

By default, DHCP is enabled on the BSAP. However, if static configuration is required for the IP address or BSAP discovery for the BSAP, users can access the BSAP's CLI using either a VT100 terminal emulation program or an SSH client.

To access the BSAP CLI using a VT100 terminal emulation program:

1. Connect a DB-9 to RJ-45 serial cable (rollover cable) to the AP's **CONSOLE** port, and connect the other end of the serial cable to the PC.

2. Open a VT100 terminal emulation program with the following settings: **115,200** data rate, **eight** data bits, no parity bits, and **1** stop bit (no flow control).

3. Select **<Enter>** to access the CLI. At the prompt, enter the user name **adm1n** and the password **blue1socket**.

To access the BSAP CLI using an SSH client, complete these steps:

1. Ensure that the BSAP is connected to a controlling computer (using the provided RJ-45 Ethernet cable).

2. Specify that the computer's TCP/IP setting is On or Enabled by navigating to Control Panel and select Network Connections.

3. Double-click the connection of your network interface card and select Internet Protocol (TCP/IP).

4. Select Properties then specify that the TCP/IP setting is enabled.

5. Set your PC to a static IP address of 192.168.190.2 with a subnet mask of 255.255.255.0.

6. Access the BSAP's command line interface (CLI) using an SSH client.

7. Open an SSH connection using the unit's default IP address (192.168.190.1) and port 2335 connected to the LAN1 port on the AP.

8. At the prompt, enter the user name **adm1n** and the password **blue1socket**.

BSAP 3040/3045 LED Descriptions

LED Array ⏻	⎍	2.5 GE	1 GE	2.4 GHz	5 GHz	📶	BSAP State
Green Solid	Off	Green Solid	Off	Green Solid	Green Solid	Off	Boot Loader Initialization
Green Solid	Green Solid	Off	Off	Off	Off	Off	Operating System Initialization
Green Solid	Green Flashing Fast	Orange Flashing	Off	Off	Off	Off	LAN Initialization
Green Solid	Green Flashing Slow	Green Flashing	Off	Off	Off	Off	Discovering vWLAN
Green Solid	Orange Flashing Slow	Green Flashing	Off	Off	Off	Off	Firmware Upgrade (Download)
Green Solid	Orange Flashing Fast	Green Flashing	Off	Off	Off	Off	Firmware Upgrade (writing or verifying)
Green Solid	Orange Solid	Green Flashing	Off	Off	Off	Off	Firmware Upgrade Complete
Green Solid	Green Solid	Green Flashing	Off	Green Flashing 2.4G LED only	Green Flashing 5G LED only	Off	Operational with No Activity on Radios
Green Solid	Green Solid	Green Flashing	Off	Green Flashing 2.4G LED only	Green Flashing 5G LED only	Off	Operational with Activity on Radios

Flash speed varies with data rate. If the data rate is slow, LED flashes slowly. If the data rate is extremely slow, the LED may appear solid green.

Configuring the Application

More detailed documentation for configuring the BSAP 3040/3045 is provided in the *vWLAN Administrator's Guide*, available online at https://supportforums.adtran.com.

Additional safety and regulatory guidelines are given in the document *Bluesocket Compliance Notice* available online at https://supportforums.adtran.com.

Third-Party Software

The software included in this product contains copyrighted software that is licensed under the GNU General Public License (GPL). You may obtain the complete corresponding source code of such software components from ADTRAN for a period of three years after our last shipment of this product.

If electronic distribution is desired, you may send your request to OpenSourceReviewBoard@adtran.com.

If distribution on physical media is desired, you may send a request, together with a money order or check for $5, to:

ADTRAN, Inc.
Attn: OSRB Coordinator
901 Explorer Blvd.
Huntsville, AL 35806

Please indicate in your request that this is a GPL Source Request. Please also identify the requested product's part-number. This offer is valid to anyone in receipt of this information.

Acronyms

BSAP	Bluesocket Access Point
CLI	Command Line Interface
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name System
LED	Light Emitting Diode
PIFA	Planar Inverted F Antenna
PNS	Product Name Short
PoE	Power Over Ethernet
SSH	Secure Shell
TCP/IP	Transmission Control Protocol/Internet Protocol
vWLAN	Virtual Wireless Local Area Network
WIDS	Wireless Intrusion-Detection System

SAFETY AND REGULATORY

Refer to the Safety and Regulator Notice for this product (P/N: 1700962F1-17) for detailed safety and regulatory information.

Consultez l'avis sur la sécurité et la conformité à la réglementation pour ce produit (1700962F1-17) pour obtenir des renseignements détaillés sur la sécurité et la réglementation

Ausführliche Sicherheits- und regulatorische Informationen sind in der Konformitätserklärung zur Sicherheit und Einhaltung von Normen zu diesem Produkt (1700962F1-17) aufgeführt.

FCC Radio Frequency Interference

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.

ADTRAN

The following online documents and resources provide additional information for this product:

Bluesocket Compliance Notice

vWLAN Administrator's Guide

vWLAN AP Discovery Configuration Guide

CAUTION!
SUBJECT TO ELECTROSTATIC DAMAGE
OR DECREASE IN RELIABILITY
HANDLING PRECAUTIONS REQUIRED

ADTRAN CUSTOMER CARE:

From within the U.S.   1.888.423.8726
From outside the U.S. +1 256.963.8716

PRICING AND AVAILABILITY 1.800.827.0807

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