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.

BSAP 3040/3045 LED DESCRIPTIONS

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

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

FCC RADIO FREQUENCY INTERFERENCE

This device complies with Part 15 of the Federal Communications Commission (FCC) rules. The operation of this device 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.

> **NOTE** *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 the Bluesocket 3040/3045 contains copyrighted software that is licensed under the GNU General Public License (GPL). For a list of third-party software and their licenses, go to http://www.adtran.com/software/EULA. You can 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 by sending a money order or check for $5 to:

    ADTRAN, Inc, P.O. Box 933638, Atlanta, GA 31193-3638
    Please write *GPL Source for product Bluesocket 3040/3045* in the memo line of your payment.
This offer is valid to anyone in receipt of this information.

BLUESOCKET 3040/3045 ACCESS POINT

P/N 1700965F1, 1700966F1

HARDWARE

The following items are included in your shipment:
*   Bluesocket 3040 (no external antenna connectors)/3045 (external antenna connectors) Access Point (BSAP)
*   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 flush and recessed drop ceilings
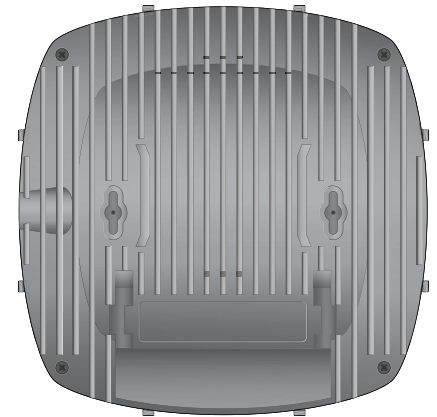
ANTENNAS

The Bluesocket 3040 AP 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 Bluesocket 3045 AP 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.

For a list of supported external antennas, refer to the *Bluesocket Compliance Notice* located online at https://supportforums.adtran.com.
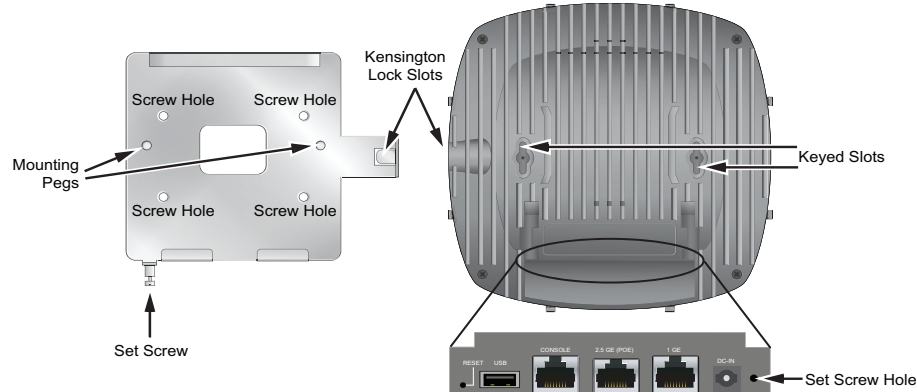
> **NOTE** *Make a note of the 12-character MAC address and serial number listed on the back of the BSAP 3040/3045 before mounting the BSAP to a wall or other surface. This information will be required during configuration.*

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. Follow these instructions to mount the BSAP on an interior hard ceiling, wall, or junction box using the appropriate enclosed mounting kit:
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 template, mark the locations of the four mounting holes on the sheetrock wall, hard ceiling, or over a junction box.
3. For sheetrock ceiling/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 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 wall.
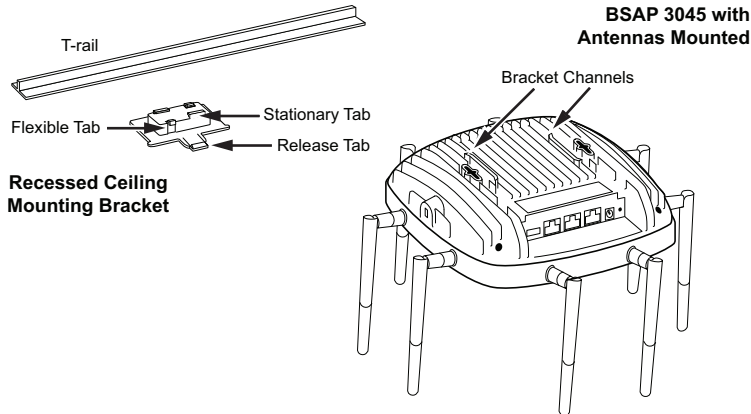
5. Drive the appropriate provided mounting screws through the metal bracket into the anchors until the bracket is secure against the wall.
6. Once the bracket is mounted on the wall, insert the mounting pegs into the keyed slots on the back of the unit.
7. Slide the unit downward until the pegs are fully 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.

Kensington Lock Slots
Screw Hole   Screw Hole
Mounting Pegs
Screw Hole   Screw Hole
Set Screw
Keyed Slots
CONSOLE   2.5 GE (POE)   1 GE   DC-IN
RESET   USB
Set Screw Hole

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 3040/3045 ships with two drop ceiling mounting brackets (9/16 and 15/16) to mount the BSAP on the ceiling tile separators of flush and recessed dropped ceilings. Follow these instructions to mount the BSAP to a dropped ceiling:

1. For the BASP 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**.

T-rail
Flexible Tab
Stationary Tab
Release Tab

Recessed Ceiling Mounting Bracket

BSAP 3045 with Antennas Mounted
Bracket Channels

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

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, an optional external 802.3at PoE+ injector (P/N 1700926F1), or an optional 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.

CAUTION	• *To reduce potential safety issues, use only the AC adapter listed above or an ADTRAN approved equivalent.* • *If the BSAP is used in a medical environment, it must use an IEC/EN 60601-1 compliant power adapter.* • *Ethernet and PoE cables are intended for intrabuilding use only. Connecting this device directly to cables that run outside the building in which the unit is housed will void the user's warranty and could create a fire or shock hazard.*

If the BSAP is to be powered using a network device such as a switch, connect the **2.5 GE (POE)** Ethernet port of the BSAP to the appropriate switchport. 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. You can then use a Secure Shell (SSH) client to connect to the BSAP based on the instructions below.

If the BSAP is powered using a PoE injector, connect the **2.5 GE (POE)** Ethernet port of the BSAP to the **OUT** port of the PoE injector and connect the Ethernet port of the switch to the **IN** port on the PoE injector. Then proceed to SSH to the default IP address of the BSAP as instructed below.

If the BSAP is powered using the optional DC power adapter, connect the Ethernet port of the BSAP to the Ethernet port of the computer. The proceed to SSH to the default IP address of the BSAP as instructed below.

CONFIGURING THE BSAP WITH VWLAN AND AP DISCOVERY

The BSAP 3040/3045 can be configured for use with the Bluesocket virtual wireless local area network (vWLAN). If you have installed vWLAN, and want to use AP discovery to configure the BSAP, follow these steps. For more information on the vWLAN and AP discover, refer to the *vWLAN AP Discovery* configuration guide available online at https://supportforums.adtran.com.

1. After powering the BSAP and connecting it to the network, allow the BSAP to discover the vWLAN appliance to receive its configuration information. This AP 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, and cached vWLAN information. If no response to the discovery request is received, the algorithm moves to the next method in the list (except when using static configuration, which never queries the other discovery methods).
2. There are two additional network components that can be configured to facilitate AP discovery. First, an external DHCP server can be configured to assign IP addresses to APs associated with the vWLAN. When configuring the DHCP server, make sure to configure the Bluesocket DHCP Vendor option (**43**) on the server. Second, you can configure an external DNS server to resolve the name **apdiscovery** to the IP address of the vWLAN in the network environment.

CONFIGURING THE BSAP'S IP ADDRESS USING THE CLI

By default, DHCP is enabled on the BSAP 3040/3045. However, if you need to statically configure the IP address or statically configure AP discovery for the BSAP, you can access the AP's CLI using either a VT100 terminal emulation program or an SSH client.

To access the AP CLI using a VT100 terminal emulation program, follow these steps:

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, **8** data bits, no parity bits, and **1** stop bit (no flow control). Select **<Enter>** to access the CLI.
3. At the prompt, enter the user name **adm1n** and the password **blue1socket**.

To access the AP CLI using an SSH client, follow 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** > **Network Connections** and double-clicking the connection of your network interface card. Select **Internet Protocol (TCP/IP)** and select **Properties**. Then specify that the TCP/IP setting is enabled.
3. Set your PC to a static IP address of **192.168.190.2** with a subnet mask of **255.255.255.0**.
4. Next, access the BSAP's command line interface (CLI) using an SSH client. 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 BSAP. To access the unit using vWLAN, and for more instructions about CLI configuration, refer to the *Bluesocket vWLAN Administrator's Guide*, available online at https://supportforums.adtran.com.