

# Release Notes

## WB50NBT

Version 3.5.4.46

April 2018

This document provides release notes for version **wb50n-laird-3.5.4.46** of WB50NBT radio software as well as previously distributed release notes.

Release notes are a summary of new and enhanced features, resolved issues, and known issues that are not resolved in this version. Consult the User's Guide for details on the features of this software release.

- [Software Version wb50n-laird-3.5.4.46](#)
- [Software Version wb50n-laird-3.5.4.20](#)
- [Software Version wb50n-laird-3.5.3.11](#)
- [Software Version wb50n-laird-3.5.2.17](#)

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## SOFTWARE VERSION WB50N-LAIRD-3.5.4.46

Released April 2018

**Software part number:** WB50LXLT1-180418

**OS:** Linux

### New or Enhanced Features

- The Wi-Fi radio firmware has been updated to version 3.5.0.10019 (12490)
- Linux 4.4.x LTS series kernel has been upgraded to 4.4.97 to pick up bug-fixes and security updates
- Enhanced DCAS and DCAL security by defaulting to ssh key-based authentication. Using a password is now a configurable option. (10746)
- Added BlueZ as the Bluetooth protocol stack. (11792)

### Resolved Issues

#### Firmware

- The 50 radio now populates the bssid field in disassociation and deauth packets with the current bssid. (12462)
- Added support for UNII-1 and UNII-2 channels when the China country code is in effect. (11784)
- Operation on channels 120-128, when the Canada country code is in effect, is now disallowed. (12275)
- Fixed an issue that could cause incorrect weighting to be applied to roam candidates in some cases. (11875)
- Fixed an issue that caused the firmware to connect to the first AP found above the roam threshold at initial connect request instead of connect to the best AP available. (11509)
- Fixed an issue that prevented the 50 radio from joining an existing adhoc cell that had been created by a peer on a channel other than the one configured as the default adhoc channel. (11035)

#### General

- Resolved an issue which prevented disabling the console. (12732)

## DCAS

- The WEP128 key length check has been fixed. (12384)
- The capability to configure a user cert password has been added. (12457)
- The handling of WEP\_AUTO in get/set profiles has been corrected. (12465)
- Resolved an issue where DCAS may set values for the autoProfile configuration in the global settings and then overwrite them with previous values. (12596)
- DCAS will now correctly set and get the global CCX features values. (12684)
- Added the ability to configure advanced UAPSD support. (12704)
- Fixed a memory leak with DCAS which occurred when closing a session. (12725)
- Resolved an issue with DCAS which was preventing set and get of full length IPv6 addresses. (12747)

## Sdc\_cli

- The **sdc\_cli iface bridge enable** command no longer reports a failure when the command is successful. (10727)

## SDK

- The RadioDisable() routine no longer fails due to the supplicant not running. (12434)

## Supplicant

- The WPA2 KRACK vulnerability has been resolved. (12108)
- Resolved an issue where the PMK reauthentication timer was not being set correctly in some circumstances. (12518)

## Known Issues

### Firmware

- CCX features cannot be disabled. (4470)
- When the 50 radio receives a CCX radio measurement request from a Cisco AP that requests an off-channel scan on multiple channels, the 50 radio only returns a measurement report for the first channel in the list. (8446)

### General

- Error messages are seen when usb0 is stopped during a warm reboot. This does not affect the operation of the USB. (9213)
- It is impossible to configure a hidden SSID in AP mode via the Web LCM. (6438)
- When in WW regulatory mode with radio mode ABGN and in a 5Ghz-only environment, there may be a delay for initial connection. (5556)
- When configured for fast powersave mode, the WB enters into max powersave mode instead after a resume. (6605)
- If the radio is not in CAM mode, association, authentication, and DHCP interaction could take multiple attempts. (6733)
- The Scan DFS Time in the radio's Global settings is not configurable. (7304)
- FIPS mode is not currently operational on the WB50. (8876)
- The SDK is not thread safe. Making calls to the SDK from multiple separate threads concurrently may result in undefined behavior. Access to the SDK should be gated by a semaphore to serialize access in a multi-threaded environment. (8864)

## SOFTWARE VERSION WB50N-LAIRD-3.5.4.20

Released May 2017

**Software part number:** WB50LXLT1-170531

**OS:** Linux

### New or Enhanced Features

- The Wi-Fi radio firmware is updated to version 3.5.0.10012. (10536)
- Linux 4.4.x LTS series kernel upgraded to 4.4.39 to pick up bug-fixes and security updates. (10533)
- Added support for IPv6 to the WB - IPv6 support added to the WB system scripts, CLI, SDK and WebLCM. (9745, 9744, 9743, 9576)
- lighttpd has been upgraded to version 1.4.43. (10473)
- Redesigned WebLCM for enhanced usability, security and speed. (10363)
- Enhanced UAPSD support (10536)

### Resolved Issues

#### Firmware

- Enhanced UAPSD and CAC to prevent sending action from when disabled and pstream is created for AP with ACM bit set. Prevent re-enabling of UAPSD when pstream is deleted. (10536)

#### General

- Login passwords are no longer limited to 8 characters. (9661)
- ifrc will now run multiple pre-cfg-do and post-dcfg-do tasks. (10256)
- Removed the eth0 gateway address configuration from the default /etc/network/interfaces file, as it is invalid in most cases, and will prevent Wi-Fi NAT from functioning properly if enabled on the eth0 interface. (10322)
- Resolved an issue where DHCP would frequently not occur following a profile switch. (10741)

#### Sdc\_cli

- The sdc\_cli agent start/stop commands are now only available if /etc/init.d/opt/S99agent exists. (10422)
- Added new sdc\_cli iface commands for configuration of IPv6 interfaces and addressing methods. (9743)
- Enhanced the UAPSD configuration to allow for the selection of specific access classes. (10536)

#### SDK

- Resolved a buffer overflow issue with the SDK when attempting to set credential strings longer than the maximum length of 31 characters. (10420)
- Corrected the channel set for Russia (RU). (10427)
- Added IPv6 support. (9744)
- Enhanced UAPSD support. The sdk, in conjunction with the radio driver, will handle adding and deleting pstreams as needed. (10536)

#### Supplicant

- Supplicant scanning is now used for initial connections. (10567)
- Cloak user password storage in memory to reduce the chance of disclosure due to buffer overruns or core dumps. (9747)

## WebLCM

- Added the ability to enable driver and supplicant debugging through the WebLCM. (5188, 5261, 5484)
- Added the capability to generate and download a log file via the WebLCM. (5991)
- fw\_update, when started from the WebLCM, is now logged to syslog. (7614)
- WebLCM now enforces strong passwords, requiring at least 8 characters, one capital, one lower case and one number. (10544)
- Added WebLCM support for the addition and configuration of IPv6 interfaces and addressing methods. (9576)
- Enhanced the UAPSD configuration to allow for the selection of specific access classes. (10536)
- Added WebLCM support for enabling Desktop Notifications. (10674)
- Support for UTF-8 characters has been added for the SSID and PSK configuration fields. (10547, 10841)
- If a firmware upgrade is interrupted, WebLCM now allows the firmware upgrade to be restarted. (10811)
- When configuring a profile, WebLCM now allows a currently installed certificate to be selected. (10750)
- Help text has been added to the WebLCM for the profile and global settings. (10748)
- WebLCM now allows WEP keys to be set as hex or ASCII characters when configuring a profile. (10481)
- WebLCM now dynamically updates to display valid credential or key options when Security or EAP types are modified while editing a profile. (10359)

## Known Issues

### Firmware

- CCX features cannot be disabled. (4470)
- When the 50 radio receives a CCX radio measurement request from a Cisco AP that requests an off-channel scan on multiple channels, the 50 radio only returns a measurement report for the first channel in the list. (8446)

### General

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- When configured for fast powersave mode, the WB enters into max powersave mode instead after a resume. (6605)
- If the radio is not in CAM mode, association, authentication, and DHCP interaction could take multiple attempts. (6733)
- The Scan DFS Time in the radio's Global settings is not configurable. (7304)
- FIPS mode is not currently operational on the WB50. (8876)
- The default operation of the WB prevents Android devices from making a connection to the WB over BLE. *smartBASIC* commands exist which configure the WB to generate a random BLE address and this allows an Android device to connect. Consult the *smartBASIC* documentation for the WB. (8742)
- The SDK is not thread safe. Making calls to the SDK from multiple separate threads concurrently may result in undefined behavior. Access to the SDK should be gated by a semaphore to serialize access in a multi-threaded environment. (8864)

### Bluetooth

- *smartBASIC* application compile time errors are not displayed on the console when *smartBASIC* is running as a daemon and compiling an app from the command line (e.g. *smartBASIC -d -c hw.helloworld.sb*). (8518)

## SOFTWARE VERSION WB50N-LAIRD-3.5.3.11

Released December 2016

**Software part number:** WB50LXLT1-161215

**OS:** Linux

### New or Enhanced Features

- The Wi-Fi radio firmware is updated to version 3.5.0.10011. (10398)
- The Wi-Fi radio board data file is updated to version 0xc02. (9557)
- The Linux kernel is updated to version 4.4
- The OpenSSL FIPS module is updated to version 2.0.10 (10407)
- Added support for DCAL/DCAS (9198) – DCAL (Device Control API Library)/DCAS (Device Control API Service) provides an API for the host to programmatically configure the WB via SSH for radio provisioning.
- WB now supports Micrel phy chips for eth0. (9292)
- The WB used to disable bringup of eth0 if the Generic Phy driver was found. In order to support alternate Ethernet phy chips, this restriction is removed. (9291)
- Added the sdc\_cli command **iface clear** to enable clearing of an individual property from an interface stanza. (9222)

### Resolved Issues

#### Firmware

- Radio is no longer slow to connect on DFS channels. (9177)
- Corrected .11h power constraint handling and removal. (9036, 9260)
- Regulatory updates for FCC. (9465, 9541)
- Modified the noise floor update algorithm to consistently pass the ETSI EN300 328 v1.9.1 requirement for short control signalling transmissions during the adaptivity tests. (9540)
- Corrected issues with CCX RM request handling that could cause the firmware to become unresponsive. (7542, 10325)

#### General

- When a USB device is unplugged and then re-plugged into the interface, the USB interface now functions correctly. (8621)
- DHCP no longer sends multiple leasefail messages to syslog when the device is disconnected. (8675)
- After waking from standby, the Wi-Fi radio now successfully reconnects to the network to which it was connected prior to being suspended. (9085, 6050)
- Updated the default event\_mon bitmask to include hostapd events. (9224)
- Previously, with wireless bridging enabled, some L2 rules were not applied if the wlan0 interface was configured as the first bridge port. This issue has been resolved. (9320)
- Modified the default file transfer list in fw.txt to include the path /etc/ssl rather than limiting it to /etc/ssl/certs. (9397)

#### Sdc\_cli

- Sdc\_cli scan capability is now disabled when in AP mode. (5773)
- The BT Coexist option has been removed from the sdc\_cli global settings since BT coexistence is enabled at driver load time. (9163)

- Attempting to add a 21st profile via the sdc\_cli application now results in an error message indicating that the maximum number of profiles is already present rather than a message that the profile already exists. (9174)
- Added help text for sdc\_cli **iface** commands. (9220)
- Removed the **iface init** command from sdc\_cli. (9221)
- The sdc\_cli scan output now displays the security type for a WPA2/AES PSK network as WPA2-PSK rather than WPA2-PSK-AES to be consistent with the sdc\_cli profile configuration options. (9454)

## SDK

- Profiles found in /etc/summit/defaults.conf are now copied over into a new profiles.conf. Previously only template defaults were copied over. (9176)
- A connected device will no longer disconnect and reconnect to the wireless network when a non-active network profile is deleted, if auto-profile is not enabled. (9180)
- LRD\_WF\_GetSuppLevel() now validates the input parameter to prevent a segfault if called with a NULL pointer. (9233)
- Resolved an issue where profiles exist, but are not displayed when using the sdc\_cli profile list command. (9390)

## smartBASIC

- Bluetooth init script is now run in the background to prevent it from blocking the WB startup. (8908)

## Supplicant

- The supplicant now uses "sdcsupp" to prefix syslog entries. (8792)
- Added work-arounds for APs which send WPA2/TKIP EAPOL-Key packets with the key field un-encapsulated or with incorrect AES-WRAP padding in the key data field. (9475)
- Disabled TLSv1.2 for EAP-TTLS due to incorrect operation by some authentication servers. Specifically this addresses incorrect operation with freeradius version 2.2.8 and earlier versions that also support TLSv1.2. (9554)
- Resolved an issue that would cause TLS middle certificate validation to fail. (9598)

## WebLCM

- WebLCM now checks that the profile name is unique before attempting to add a new profile. (9741)
- WebLCM no longer accepts multiple words for the profile name when creating a new profile. (9742)

## Known Issues

### Firmware

- CCX features cannot be disabled. (4470)
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- If the radio is not in CAM mode, association, authentication, and DHCP interaction could take multiple attempts. (6733)
- The Scan DFS Time in the radio's Global settings is not configurable. (7304)
- FIPS mode is not currently operational on the WB50. (8876)
- The default operation of the WB prevents Android devices from making a connection to the WB over BLE. *smartBASIC* commands exist which configure the WB to generate a random BLE address and this allows an Android device to connect. Consult the *smartBASIC* documentation for the WB. (8742)
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## Bluetooth

- *smartBASIC* application compile time errors are not displayed on the console when *smartBASIC* is running as a daemon and compiling an app from the command line (e.g. *smartBASIC* -d -c hw.helloworld.sb). (8518)

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## SOFTWARE VERSION WB50N-LAIRD-3.5.2.17

Released April 2016

**Software part number:** WB50LXLT1-160405

**OS:** Linux

## New or Enhanced Features

- Initial WB50 release

## Known Issues

### Firmware

- Radio is sometimes slow to connect on DFS channels. This is seen predominantly at first boot when operating with APs with a beacon period configured to be approximately 100ms. (9177)
- CCX features cannot be disabled. (4470)
- When the 50 radio receives a CCX radio measurement request from a Cisco AP that requests an off-channel scan on multiple channels, the 50 radio only returns a measurement report for the first channel in the list. (8446)

### General

- Error messages are seen when usb0 is stopped during a warm reboot. This does not affect the operation of the USB. (9213)
- When a USB device is unplugged and then re-plugged into the interface, the USB interface does not function correctly. (8621)
- It is impossible to configure a hidden SSID in AP mode via the Web LCM. (6438)
- When in WW regulatory mode with radio mode ABGN and in a 5Ghz-only environment, there may be a delay for initial connection. (5556)
- When configured for fast powersave mode, the WB enters into max powersave mode instead after a resume. (6605)
- If the radio is not in CAM mode, association, authentication, and DHCP interaction could take multiple attempts. (6733)
- The Scan DFS Time in the radio's Global settings is not configurable. (7304)

- FIPS mode is not currently operational on the WB50. (8876)
- The default operation of the WB prevents Android devices from making a connection to the WB over BLE. *smartBASIC* commands exist which configure the WB to generate a random BLE address and this allows an Android device to connect. Consult the *smartBASIC* documentation for the WB. (8742)
- The SDK is not thread safe. Making calls to the SDK from multiple separate threads concurrently may result in undefined behavior. Access to the SDK should be gated by a semaphore to serialize access in a multi-threaded environment. (8864)
- After waking from standby, the Wi-Fi radio does not currently reconnect to the access point to which it had been associated prior to being suspended. The current workaround is to send enable command to the radio after a resume. (9085)

## sdcli

- The *sdcli* commands ***iface***, ***iface add***, and ***iface init*** currently have no help available. (9220)
- Attempting to add a 21st profile via the *sdcli* application results in an error indicating the profile exists. This is the wrong error message. No profile is added in this case. (9174)

## Bluetooth

- *smartBASIC* application compile time errors are not displayed on the console when *smartBASIC* is running as a daemon and compiling an app from the command line (e.g. *smartBASIC -d -c hw.helloworld.sb*). (8518)