Infineon Linux FMAC Wi-Fi Driver (v2025_0602) release notes

About this document

Scope and purpose

This document provides an overview and updates for Infineon's AIROC™ Wi-Fi – Bluetooth® combo devices for the Infineon Linux FMAC Wi-Fi Driver (v2025_0602 release).

Intended audience

This document is intended for users configuring AIROC™ Wi-Fi – Bluetooth® combo device over a linux-based environment.

Table of contents

1 Overview

1.1 Brief summary

The Infineon Linux FMAC Wi-Fi Driver Release (v2025_0602) includes the following:

- **FMAC Wi-Fi driver**: ifx-backports GitHub page
- **Firmware and Clm blob**: ifx-Linux-firmware GitHub page
- **Supplicant and hostapd**: ifx-hostap GitHub page

All the above files are also available on the Infineon Developer community.

- This release also includes patch updates for Wi-Fi with FMAC bring-up on EA iMX8 Nano host for kernel 6.6.23. Download the patches from the Infineon Developer community.

This document is intended to provide information of the following in the Infineon Linux FMAC Wi-Fi Driver Release (v2025_0602)

- FMAC driver changes
- Hostapd/supplicant changes
- Firmware changes for Infineon's AIROC™ Wi-Fi – Bluetooth® combo devices
    1. New Features
    2. WFA certification Support and Fixes
    3. Bug Fixes
    4. Regulatory (CLM) and NVRAM updates

1.2 Device firmware revision details

Table 1 Firmware revision details

Note: Contact the local Infineon Technologies distribution channel (FAE or local sales representative) to get the latest hardware, NVRAM, and software files.

Note: Devices with firmware updated in this release are highlighted bold.

Device		**Wi-Fi firmware version**
CYW4373	PCIe	13.35.205.100
	SDIO	13.10.246.356
	Industrial	
	USB	
CYW43439	SDIO	7.95.98
CYW43455	SDIO	7.45.286
CYW43012	**SDIO**	**13.10.271.339**
CYW43022	**SDIO**	**13.34.107.148**
CYW55571	**PCIe**	**18.53.469.31**
CYW55572	**SDIO**	
CYW55573		
CYW54591	PCIe	13.35.369
	SDIO	
CYW55511	**SDIO**	**28.10.522.8**
CYW55512		
CYW55513		

2 Updates

This section explains the updated features, enhancements, and fixes along with known issues that may impact various devices.

2.1 Key FMAC Driver Updates

- Backport support from kernel version 4.14 to kernel version 6.1.110
- Fix for WPA3 CERT Test 9.2.1
- CLM blob and regulatory related fixes
- Fix for error observed when setting roam trigger threshold
- Support for SSID protection
- Fix for driver load issue with CYW5551x
- Support for ICMP Echo Request Offload Implementation
- Fix for Low WMM Tx Throughput
- Compilation error fixes

2.2 Hostapd/Supplicant Updates

- Support for SSID protection for STA and AP interfaces
- Fix for error upon adding more than 16 SSIDs
- Fix for incorrect 11ac connection status

2.3 Firmware Updates

2.3.1 CYW43022

New features

- Added support for SSID protection configuration in RSNXE - Fix for CVE-2023-52424
- Added ICMP ECHO Request Offload support

WFA certification

Chipset	Quick track CID	WFA program supported
CYW43022	WFA133143	11n, 11ac, WPA3, PMF, vulnerability and Forward Compatibililty

WFA certification support fixes

Test Plan	Supported Test Case	Description
Forward Compatibilty	5.2.3.3	STAUT forward compatibility to an AP with various AKMs in RSN IE

Bug fixes

- Fix for issues with entering Deep Sleep state despite configuration
- Fix for memory leak observed for frequent association-disassociation cycles

Known issues

N/A

Note: Deep Sleep state/feature is specific to CYW43022 which is an added state for improved low power performance.

Updates

2.3.2 CYW43012

New features

- Added support for SSID protection configuration in RSNXE - Fix for CVE-2023-52424
- Support for WPA3 GTKOE
- Added support for External SAE Auth timer for WPA3 SAE Roaming

WFA certification

Chipset	Quick track CID	WFA program supported
CYW43012	WFA127567	11n, 11ac, WPA3, PMF, vulnerability and Forward Compatibility

WFA certification support fixes

Test Plan	Supported Test Case	Description
Forward Compatibilty	5.2.3.3	STAUT forward compatibility to an AP with various AKMs in RSN IE

Bug fixes

- Fix for firmware crash in APSTA configuration
- Fix for memory leak observed for frequent association-disassociation cycles

Known issues

N/A

Updates

2.3.3 CYW55571/CYW55572/CYW55573

- CYW55570 – Dual band 2.4/5 Ghz 1x1
- CYW55571 – Tri band 2.4/5/6 Ghz 1x1
- CYW55572 – Dual band 2.4/5 Ghz 2x2
- CYW55573 – Tri band 2.4/5/6 Ghz 2x2

New features

- Added support for SSID protection configuration in RSNXE - Fix for CVE-2023-52424
- Added SDIO cryptography operations
- Added support for WPA3 GTKOE
- Added support for External SAE Authentication timer for WPA3-SAE Roaming case
- Added ICMP ECHO Request Offload support

WFA certification

Chipset	Quick track CID	WFA program supported
CYW55572	WFA131807	11ax – R2, 6E
CYW55573	N/A	MBO, OCE, OWE WPA3 (192 bits, TLS 1.3, PSK, SCV) 11n, 11ac, PMF, P2P, and vulnerability Forward Compatibility

WFA certification support fixes

Test Plan	Supported Test Case	Description
FC	5.2.3.3	STAUT forward compatibility to an AP with various AKMs in RSN IE
FC	5.2.3.6	STAUT forward compatibility to an AP with various AKMs in RSN IE with WPA3-Enterprise
WPA3	9.2.1	STAUT Interop with CTT AP that has H2E disabled
MBO	5.2.3	STAUT Beacon report test
Wi-Fi 6	5.83.1	STAUT UL MU MIMO with HE Single Stream Pilot HE-LTF Mode test

Bug fix

- Fix for iLPO issues
- Fix for range issues
- Fix for missing channel flags for 5GHz during scan
- Fix for DHCP Lease Time Renewal Offload (DLTRO) functionality
- Fix for mismatch between CLM and PHY power values for HE modulation rates
- Fix for 6GHz SoftAP creation failure
- Fix for 2.4GHz/5GHz and 6GHz chanspec confusion for shared channel numbers
- Fix for accepting WNM transition request
- Fix for SoftAP Beacon Tx Drift issue after scan
- Fix for WPA2 IE check algorithm for DPP functionality
- Fix for DLTRO memory leak observed during frequent association-disassociation cycles

Updates

- IEEE-PS Current Optimization changes
- DTIM Optimization changes
- Fix for WPA3 Roaming Failure
- Fix for WL tool backward compatibility
- Fix for unexpected txstatus error while scanning
- Fix for beacon loss observed in 5GHz/6GHz 20MHz BW channels for PCIe interface
- Fix for MBSSID connection failure observed with private RSNIE

Regulatory changes

- CLM Blob Update
- Added check for Japan 5G regulatory

Note: Contact the module vendor or local Infineon distribution channel (FAE or local sales representative) for following considerations

a. NVRAM changes

b. Optimized throughput

Known issues

[SDIO] [Intermittent] Notice low Rx throughput during WLAN and ACL traffic co-ex senarios.

Updates

2.3.4 CYW55511/CYW55512/CYW55513

- CYW55511 – Single band 2.4 Ghz
- CYW55512 – Dual band 2.4/5 Ghz
- CYW55513 – Tri band 2.4/5/6 Ghz

New features

- Added support for SSID protection configuration in RSNXE - Fix for CVE-2023-52424
- Added SDIO cryptography operations
- Added ICMP ECHO Request Offload support
- Added support for Multiple BLE connection Co-existence with Wi-Fi
- Added WPA3 FT-SAE GTKOE Support

WFA certification

Chipset	WFA program supported
CYW55513	11ax – R2, 6E
	MBO, OCE, OWE
	WPA3 (192 bits, TLS 1.3, PSK, SCV)
	11n, 11ac, PMF, P2P, and vulnerability
	Forward Compatibility

WFA certification support fixes

Test Plan	Supported Test Case	Description
Forward Compatibilty	5.2.3.3	STAUT forward compatibility to an AP with various AKMs in RSN IE
WPA3	5.2.9	STAUT Interop with CTT AP that has H2E disabled
MBO	5.2.3_6G	STAUT Beacon report test

Bug fix

- Fix for firmware crash observed in APSTA configuration
  Fix for memory leak observed in WPA3 FT-SAE configuration
- Fix for firmware crash observed in P2P configuration
- Fix for driver crash observed on setting phy_forcecal to 1 for UNII-8 channels
- Fix for TPC error for HE Power value change in CLM blob
- Fix for RSNXE bit set in fast BSS transition IE in reassociation request
- Fix for WL tool backward compatibility
- iLPO improvements
- Fix for DLTRO memory leak observed during frequent association-disassociation cycles
- Fix for intermittent wakes observed in power-save mode
- Fix for TCP keepalive offload failures
- Fix for disconnection in 6GHz STA mode with Asus Aps\
- Fix for ICMP ECHO request offload IPv6 checksum
- Fix for GTKOE offload failure
- Fixes for failures in FTM sessions

Updates

Regulatory changes

- CLM blob update

NVRAM updates

- 6G enhancements for low power mode
- desense, switch table, and WLAN Tx power NVRAM updates.
- 2G and 5G enhancements for high temperature conditions
- 6GHz eLNA related parameters added

Note: Contact the module vendor or local Infineon distribution channel (FAE or local sales representative) to get the NVRAM changes.

Known issues

- Combo COEX - notice UDP low throughput during BLE CIS and Wi-Fi co-ex scenario
- Third party COEX - low Zigbee performance noticed Wi-Fi Rx throughput scenario

3 Further Reading

For more details on features and integration, please refer the following documents:

- **Getting started with Wi-Fi & Bluetooth® combo chip on iMX8 Nano Developer's Kit V3 in Linux**

  This guide provides step-by-step instructions to configure the AIROC™ CYW5557x Wi-Fi & Bluetooth® combo chip on the host, to load the FMAC driver, and to establish a Wi-Fi connection between an AP/SoftAP and STA.
- **Wireless Connectivity Technical Brief for Linux Ecosystem**

  Infineon's Wi-Fi & Bluetooth® or Bluetooth® Low Energy connectivity solutions are integrated into the Linux open-source ecosystem. The supported hardware and software are described in this document, including their features, modes, and limitations.

Glossary

Abbreviation	Extended Form
AKM	Authentication Key Management
APSTA	Access Point and Station
BSS	Basic Service Set
CLM	Country Locale Matrix
DLTRO	DHCP Lease Time Request Offload
DTIM	Delivery Traffic Indication Message
EA	Embedded Artists
GTKOE	Group Temporal Key Offload
H2E	Hash-to-Element
ICMP	Internal Control Message Protocol
iLPO	Internal Low Power Oscillator
MBO	Multi-band Operation
P2P	Peer-to-Peer
PMF	Protected Management Frame
RPI	Raspberry Pi
RSNXE	Robust Security Network X Element
SAE	Simultaneous Authentication of Equals
SSID	Service Set Identifier
STAUT	Station Under Test
WFA	Wi-Fi Alliance
WMM	Wireless Multimedia
WNM	Wireless Network Management (802.11v)

Trademarks
All referenced product or service names and trademarks are the property of their respective owners.
The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc., and any use of such marks by Infineon is under license.

Edition 2025-07-10
Published by

Infineon Technologies AG
81726 Munich, Germany

Do you have a question about this document?
Email: erratum@infineon.com

Document reference
002-41770 Rev. **

Important notice
The information contained in this document is given as a hint for the implementation of the product only and shall in no event be regarded as a description or warranty of a certain functionality, condition or quality of the product. Before implementation of the product, the recipient of this document must verify any function and other technical information given herein in the real application. Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind (including without limitation warranties of non-infringement of intellectual property rights of any third party) with respect to any and all information given in this document.

The data contained in this document is exclusively intended for technically trained staff. It is the responsibility of customer's technical departments to evaluate the suitability of the product for the intended application and the completeness of the product information given in this document with respect to such application.

Warnings
Due to technical requirements products may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by Infineon Technologies in a written document signed by authorized representatives of Infineon Technologies, Infineon Technologies' products may not be used in any applications where a failure of the product or any consequences of the use thereof can reasonably be expected to result in personal injury.