ZEBRA Voice Deployment with Aruba WLAN Infrastructure User Guide

Contents

ZEBRA

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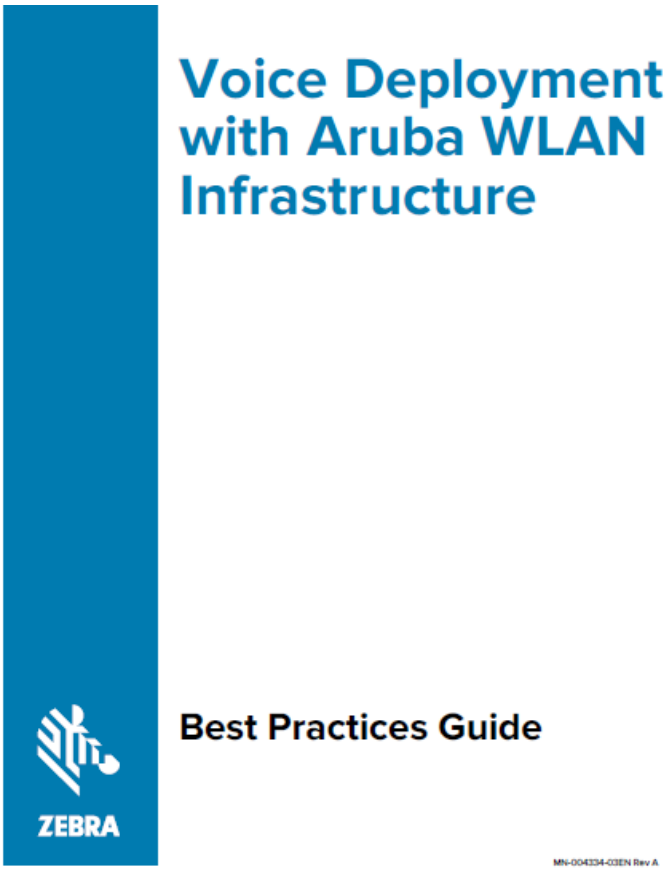

Product Information

Specifications

- Manufacturer: Zebra Technologies Corporation
- Model: MN-004334-03EN Rev A
- Copyright Date: 2024/08/26
- Wireless Network Compatibility: Dual-band (2.4GHz, 5GHz)

Product Usage Instructions

Device Settings

To ensure optimal performance when deploying voice with Aruba WLAN Infrastructure, it is crucial to configure the device settings correctly. Follow the below steps:

1. Access the device settings menu on your Zebra mobile device.
2. Set the appropriate parameters for voice deployment as recommended in the manual.
3. Ensure that the Wi-Fi Quality of Service (QoS) tagging and mapping is configured according to the guidelines provided.

Default, Supported, and Recommended for Voice Device Settings

The manual provides detailed information on the default, supported, and recommended device settings for voice deployment. Make sure to review and apply these settings accordingly to optimize voice performance.

Device Wi-Fi Quality of Service (QoS) Tagging and Mapping

Properly configuring the Wi-Fi Quality of Service (QoS) tagging and mapping is essential for prioritizing voice traffic on the network. Refer to the manual for specific instructions on how to set up QoS for voice applications.

FAQ

- **Q: Can devices supporting WiFi6 operate seamlessly in a WLAN of dual-band APs?**

  A: Yes, devices listed in the WiFi6 column can operate and connect as a WiFi6 device in a WLAN of dual-band APs.

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About This Guide

This guide is jointly authored by Zebra Technologies and Aruba Networks.
This guide provides recommendations for voice deployment using the following mobile computers, where the WLAN network employs access point hardware of up to dual-band (2.4GHz, 5GHz).
If the WLAN network employs access point hardware that supports and enables 6GHz (tri-band), refer to Best Practices for Wi-Fi 6E (Tri-Band) including Voice, with Aruba WLAN Infrastructure.

NOTE: Mobile devices listed in the WiFi6E column in the following table seamlessly operate and connect as a WiFi6 device in a WLAN of dual-band APs.
Table 1 Zebra Mobile Devices Supporting Aruba WLAN Voice Deployment

Device Type	Devices with dual-band radio (2.4GHz, 5GHz) supporting WiFi5 (11ac)	Devices with dual-band radio (2.4GHz, 5GHz) supporting WiFi6 (11ax)	Devices with tri- band radio (2.4GHz, 5GHz, 6GHz) supporting WiFi6E (11ax with 6GHz)
Handhelds	**2×2 MU-MIMO with DBS**: TC52, TC52x, TC72, TC57, TC57x, TC77, TC83, EC30, EC50, EC55, MC3300x, MC9300, PS20 **1×1 MU-MIMO**: *TC21, *TC26, *MC27, *MC22, *MC20, RZ-H271	**2×2 MU-MIMO**: TC52ax, MC3300ax	**2×2 MU-MIMO with DBS**: TC53, TC53e, TC53e-RFID, TC73, TC58, TC58e, TC78, MC3400, MC9400, MC9450, PS30, *TC22, *TC27
Handhelds for Healthcare	**2×2 MU-MIMO with DBS**: TC52-HC, TC52x- HC **1×1 MU-MIMO**: *TC21- HC, *TC26-HC	**2×2 MU-MIMO**: TC52ax-HC	**2×2 MU-MIMO with DBS**: HC50, *HC20
Wearables	**2×2 MU-MIMO with DBS**: WT6300		**2×2 MU-MIMO with DBS**: WT6400, WT5400
Tablets	**2×2 MU-MIMO with DBS**: ET51, ET56, L10A	**2×2 MU-MIMO**: *ET40, *ET45 *ET40-HC, *ET45-HC.	**2×2 MU-MIMO with DBS**: ET60, ET65
Vehicle Mounted and Concierge	**2×2 MU-MIMO with DBS**: VC8300, CC600, CC6000		

Table 1 Zebra Mobile Devices Supporting Aruba WLAN Voice Deployment (Continued)

Device Type	Devices with dual-band radio (2.4GHz, 5GHz) supporting WiFi5 (11ac)	Devices with dual-band radio (2.4GHz, 5GHz) supporting WiFi6 (11ax)	Devices with tri- band radio (2.4GHz, 5GHz, 6GHz) supporting WiFi6E (11ax with 6GHz)
The terms **MU-MIMO** (Multi-User Multi-Input-Multi-Output) and **DBS** (Dual Band Simultaneous) are detailed in **Device RF Capabilities**. Devices without "*" support full Enterprise quality experience out of the box and include all device WiFi configurability options. Devices with "*" require a Zebra mDNA license for full Enterprise quality experience and configurability.			

Notational Conventions

The following notational conventions make the content of this document easy to navigate.

- **Bold** text is used to highlight the following:
  - Dialog box, window, and screen names

    - Dropdown list and list box names
    - Checkbox and radio button names
    - Icons on a screen
    - Key names on a keypad
    - Button names on a screen
- Bullets (•) indicate:
    - Action items
    - List of alternatives
    - Lists of required steps that are not necessarily sequential.
- Sequential lists (for example, those that describe step-by-step procedures) appear as numbered lists.

Icon Conventions
The documentation set is designed to give the reader more visual clues. The following graphic icons are used throughout the documentation set. These icons and their associated meanings are described below.

NOTE: The text here indicates information that is supplemental for the user to know and that is not required to complete a task.The text here indicates information that is important for the user to know.

Related Documents For the latest version of this guide and all documentation sets for the respective devices, go to: **zebra.com/support**.
Refer to the Aruba's RF and Roaming Optimization documentation for more details about Aruba infrastructure.

Device Settings

This chapter includes device settings for default, supported, and voice traffic recommendations.

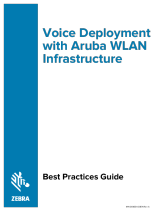
Default, Supported, and Recommended for Voice Device Settings

Note the following:

• Pairwise master key identifier (PMKID) is disabled on the device by default. If your infrastructure configuration is configured for PMKID, enable PMKID and disable the opportunistic key caching (OKC) configuration.
• The Subnet Roam feature allows you to change the network IP of the WLAN interface when the network is configured for a different subnet on the same extended service set identification (ESSID).
• In execution of default fast transition (FT) (also known as FT Over-the-Air), in case that other non-FT Fast Roaming Methods might be available on the same SSID, see Fast Roam Methods in Table 5 and relevant notes in General WLAN Recommendations.
• Use mobile device management (MDM) agents to change settings. Use the user interface (UI) to change parameter subsets.
• For voice applications, and for any highly-dependent client-server communication apps, it is not recommended to use the Android battery optimization feature (also known as Doze Mode) in device management tools. Battery optimization interrupts communication between dependent endpoints and servers.
• Media access control (MAC) randomization:
• From Android Oreo onwards, Zebra devices support the MAC randomization feature, which is enabled by default. Disable or enable this via MDM or via Android privacy setting Use Device MAC:
• When enabled in Android 10 versions and earlier, the randomized MAC value is used only for Wi-Fi scanning of new networks prior to association with the intended network (prior to new connection), however, it is not used as the associated device MAC address. The associated MAC address is always the physical MAC address.
• When enabled in Android 11 onwards, the randomized MAC value is also used for association with the intended network. The randomized value is specific for each network name (SSID). It remains the same when the device roams from one AP of the connected network to different AP(s) of the same network, and/or when it has to fully re-connect to the specific network after being out of coverage.

• The MAC randomization feature does not affect voice performance and it is not necessary to disable this feature for general troubleshooting purposes. However, in some specific situations, disabling it may be helpful during the troubleshooting data collection.

Documents / Resources

	ZEBRA Voice Deployment with Aruba WLAN Infrastructure [pdf] User Guide MN-004334-03EN Rev A, Voice Deployment with Aruba WLAN Infrastructure, Deployment with Aruba WLAN Infrastructure, Aruba WLAN Infrastructure, WLAN Infrastructure, Infrastructure

References

- User Manual