



# Generational Wi-Fi<sup>®</sup> User Guide

## April 2023

# Introduction

Generational Wi-Fi® is a marketing program for a consumer-friendly naming convention assigned to generations of Wi-Fi, based upon major Wi-Fi technology (PHY) releases. Wi-Fi generation names provide manufacturers, operators, and end users with an easy to understand description for both the Wi-Fi technology contained in a device and the connection that device makes with a Wi-Fi network. The goal is to allow consumers to easily recognize the type of Wi-Fi capability found in their devices and network connections, much as they recognize today through cellular identification of capabilities 4G, 5G, etc.

Goals of Generational Wi-Fi:

- Increase end user recognition of Wi-Fi technology advancements
- Differentiate and easily identify Wi-Fi technology contained in devices and network connections
- Increase user adoption of newer Wi-Fi technologies that deliver a better experience

Wi-Fi generations will be identified by a numerical sequence matched to major PHY advancements in the 2.4 GHz, 5 GHz, and 6 GHz frequency bands – the most common Wi-Fi experience consumers encounter. The table below outlines the numerical sequence.

If the most advanced technology a device supports is	Then it shall be identified as generation
802.11be	Wi-Fi 7
802.11ax	Wi-Fi 6 (includes Wi-Fi 6E operation)
802.11ac	Wi-Fi 5
802.11n	Wi-Fi 4

Generational Wi-Fi includes several elements for use by Wi-Fi Alliance® members and non-members, as well as elements exclusively for the use of Wi-Fi Alliance members:

- Wi-Fi generation names
- User Interface visuals
- Wi-Fi Alliance certification program names
- Wi-Fi Alliance certification program logos

Usage and requirements for each of the generation name elements are explained below.

## Wi-Fi generation names

Consumer-friendly generation names **Wi-Fi 4**, **Wi-Fi 5**, **Wi-Fi 6**, and **Wi-Fi 7** are intended to be used widely throughout the Wi-Fi ecosystem by Wi-Fi Alliance members, non-members, industry partners, media, and analysts. Generation names shall be used in text format to refer to the corresponding Wi-Fi technology for the generation. Adoption of generation names Wi-Fi 4, Wi-Fi 5, Wi-Fi 6, and Wi-Fi 7 as industry terminology is encouraged for use in marketing materials and promotion with consumers, media, and analysts. Generations of Wi-Fi prior to Wi-Fi 4 will not be assigned names.

If a company adopts Wi-Fi generation names, the following guidelines shall be followed:

- References to 802.11be technology shall use the generation name Wi-Fi 7
- References to 802.11ax technology shall use the generation name Wi-Fi 6
  - Wi-Fi 6 also covers 6 GHz operation identified as Wi-Fi 6E
- References to 802.11ac technology shall use the generation name Wi-Fi 5
- References to 802.11n technology shall use the generation name Wi-Fi 4
- Generation names do not affect previous certification program names. For previous certification programs (e.g. Wi-Fi CERTIFIED™ ac or earlier programs), continue to use the original certification program name.

- The format of generation names is simply “Wi-Fi” followed by a whole number. Generation names shall not contain additional text or description. Generation names shall not have versions identified. For example, Wi-Fi 5.1, Wi-Fi Version 5.2, or Advanced Wi-Fi 5 shall not be used.
- Generation names shall only be used as a text reference
- Generation names shall not be incorporated into any logo design

Wi-Fi generation names shall both refer to the most advanced technology available in devices and to the actual Wi-Fi connection devices establish with a Wi-Fi network.

If a device vendor adopts Wi-Fi generation names, then they shall:

- Identify the Wi-Fi technology contained in a device by the correct generation name
  - Example: A device containing 802.11be technology shall be referred to as Wi-Fi 7. Statements describing this may read as “Company ABC’s Smartphone D features Wi-Fi 7 technology.” or “Company ABC’s Smartphone D contains Wi-Fi 7 technology.”
  - If technology representing more than one generation exists in a device, the device shall be identified as the most advanced technology it contains. For example, if the device contains 802.11n 2.4 GHz and 802.11ac 5 GHz technology, it shall be referred to as Wi-Fi 5.
- Use generation names for product packaging, collateral, media, and analyst outreach
- Use generation names as part of a product name, for example “Company ABC Wi-Fi 7 Access Point”

If OS vendors adopt generation names, then they shall:

- Identify the generation of a Wi-Fi connection between the device and a network
- Example: Tablet E may be connecting to Network F through an 802.11ac connection. The device interface may display “Wi-Fi 5” or “5” to indicate connectivity. This display shall adjust and refer to a different generation name as a device moves to a different Wi-Fi connection.

If service providers adopt generation names, then they shall:

- Identify the capability of the Wi-Fi network as Wi-Fi 7 if the network has the capability to establish an 802.11be connection. Example statement: “Provider G features Wi-Fi 7 connections.”
- Identify the capability of the Wi-Fi network as Wi-Fi 6 if the network has the capability to establish an 802.11ax connection
- Identify the capability of the Wi-Fi network as Wi-Fi 5 if the network has the capability to establish an 802.11ac connection
- Identify the capability of the Wi-Fi network as Wi-Fi 4 if the network has the capability to establish an 802.11n connection

## User Interface visuals

The experience a user perceives with Wi-Fi is often dominated by the speed and latency of the connection a device is making to a network. Consumers mistakenly equate the expected quality of their Wi-Fi experience with a displayed Wi-Fi signal strength indicator. In their minds, stronger signal should equate to a better user experience. To change that perception and map user experience to Wi-Fi generations, Wi-Fi Alliance provides User Interface (UI) visuals to identify Wi-Fi generations for network connections. UI visuals are intended for use by device manufacturers and OS vendors, whether members or non-members of Wi-Fi Alliance.

If a device manufacturer or OS vendor chooses to implement Generational Wi-Fi UI visuals, then they shall:

- Use the UI visual to indicate the connection that a device is making to a Wi-Fi network
- Use a UI visual associated with Wi-Fi 7 to indicate a device is connecting to a network on an 802.11be connection
- Use a UI visual associated with Wi-Fi 6 to indicate a device is connecting to a network on an 802.11ax connection

- Use a UI visual associated with Wi-Fi 5 to indicate a device is connecting to a network on an 802.11ac connection
- Use a UI visual associated with Wi-Fi 4 to indicate a device is connecting to a network on an 802.11n connection
- Implement UI visuals as dynamic symbols in a field that will adjust if/when a device moves to a connection with a different Wi-Fi generation connection, such as Wi-Fi signal strength indicators display and adjust in many devices today. As an example, if a device is connecting to a network over an 802.11ac connection, the device UI shall display a Wi-Fi 5 visual. If the connection switches to 802.11ax, the UI display will change to a Wi-Fi 6 visual.
- Use a UI visual only on a device display screen, not as a visual indication on packaging, marketing materials, or on the device itself

Device manufacturers and OS vendors may choose to implement UI visuals through a set of icons provided by Wi-Fi Alliance or by customizing to fit their design style as described below.

### Wi-Fi Alliance-provided UI visuals

Wi-Fi Alliance provides a set of UI visuals for use in device UI by OS or device vendors to identify the type of Wi-Fi connection a device is making at a given time on a network connection. Wi-Fi Alliance UI visuals are available at <https://www.wi-fi.org/who-we-are/our-brands>.



UI visuals shall only be used on a device UI to indicate a network connection status. UI visuals shall NOT be used for product packaging or on-product production, or to identify the technology contained in a device.

### Customizable UI visuals

Where possible, the use of common UI visuals provided by Wi-Fi Alliance will assist consumer recognition of Wi-Fi generations across device types. Cases may arise where standardized font or design constraints on devices or OS require an adjustment of these visuals to conform to device-specific or OS-specific needs and design styles.

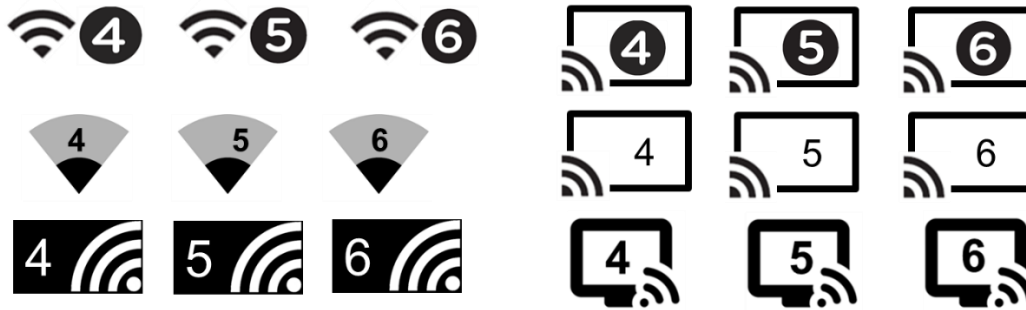
If customized UI visuals are developed, then these guidelines shall be followed:

- OS and device vendors shall combine numerals 4, 5, 6, and 7 with their preferred Wi-Fi indicator and font/color selection
- The numerical representation may be placed next to, above or below the Wi-Fi indicator, or used as a background, inlay or overlay element
- Gotham font shall be used where possible
- A set of custom icons shall be created for use with Wi-Fi 4, Wi-Fi 5, Wi-Fi 6, and Wi-Fi 7 connections
- A custom icon with the numeral 7 shall be displayed when a device is connected to a network through an 802.11be connection
- A custom icon with the numeral 6 shall be displayed when a device is connected to a network through an 802.11ax connection
- A custom icon with the numeral 5 shall be displayed when a device is connected to a network through an 802.11ac connection
- A custom icon with the numeral 4 shall be displayed when a device is connected to a network through an 802.11n connection
- Custom UI visuals shall be implemented as dynamic symbols in a field that will adjust if/when a device moves to a connection with a different Wi-Fi generation connection, such as Wi-Fi signal strength indicators display and adjust in many devices today. As an example, if a device is connecting to a network over an

802.11ac connection, the device UI display a Wi-Fi 5 visual. If the connection switches to 802.11ax, the UI display will change to a Wi-Fi 6 visual.

Samples of how customized UI visuals may be implemented are shown below, based upon a selection of Wi-Fi indicators found in current devices on the market.

Sample Generational Wi-Fi incorporation into current UI visuals



## Wi-Fi Alliance certification program names

Beginning with the Wi-Fi 6 generation, Wi-Fi Alliance certification programs for major PHY releases in the 2.4 GHz and 5 GHz frequency bands will use a Wi-Fi generation name. The certification program associated with 802.11ax, or Wi-Fi 6 technology, will be marketed as Wi-Fi CERTIFIED 6<sup>®</sup>. Previous certification program names will not be adjusted, but will continue as Wi-Fi CERTIFIED ac, Wi-Fi CERTIFIED n, etc.

Wi-Fi Alliance members may identify that they plan to submit devices for certification testing for Wi-Fi 6. Once a device has been tested and successfully completed certification, it may be identified as Wi-Fi CERTIFIED 6.

Only Wi-Fi Alliance member devices that have successfully completed certification may be described as Wi-Fi CERTIFIED 6.

## Wi-Fi Alliance certification program logo

Wi-Fi CERTIFIED 6 is the certification name used for the program based upon the 802.11ax standard. A Wi-Fi CERTIFIED 6 logo is available for member products, packaging, and marketing materials for devices that achieve Wi-Fi CERTIFIED 6 certification, including any testing for Wi-Fi 6E operation.



This logo must be used in accordance with guidelines the [Wi-Fi Alliance Brand Style Guide](#). The logo is available for member download in black/white format only, in both positive and reverse signature.

Devices that are commercialized prior to a certification program for 802.11be shall be referred to as containing Wi-Fi 7 technology.

## Summary

Generational Wi-Fi is a consumer-friendly naming convention for Wi-Fi generations associated with major PHY releases. Elements of the program are introduced for market use by Wi-Fi Alliance members, non-members, media, and analysts. The following table summarizes the use of Generational Wi-Fi elements.

Generational Wi-Fi Element	Element use	Wi-Fi Alliance member use	Non-member use
<b>Wi-Fi generation names</b>	Wi-Fi 4, Wi-Fi 5, Wi-Fi 6, and Wi-Fi 7 text usage on device marketing materials, packaging, media promotion, and to identify network connection capability	✓	✓
<b>User Interface visuals identifying generation</b>	Provided or customized icons utilizing 4, 5, 6, and 7 to display on device UI identifying generation of network connection between device and network	✓	✓
<b>Wi-Fi Alliance certification program name</b>	Program certifications, such as Wi-Fi CERTIFIED 6, identify devices that have achieved Wi-Fi Alliance certification	✓	
<b>Wi-Fi Alliance certification program logo</b>	Wi-Fi CERTIFIED 6 and Wi-Fi CERTIFIED logos identify devices that have achieved Wi-Fi Alliance certification	✓	

Please direct questions about Generational Wi-Fi element use to [brandusage@wi-fi.org](mailto:brandusage@wi-fi.org).

## About Wi-Fi Alliance®

[www.wi-fi.org](http://www.wi-fi.org)

[Wi-Fi Alliance®](http://www.wi-fi.org) is the worldwide network of companies that brings you Wi-Fi®. Members of our collaboration forum come together from across the Wi-Fi ecosystem with the shared vision to connect everyone and everything, everywhere, while providing the best possible user experience. Since 2000, Wi-Fi Alliance has [completed more than 75,000 Wi-Fi certifications](#). The Wi-Fi CERTIFIED™ seal of approval designates products with proven interoperability, backward compatibility, and the highest industry-standard security protections in place. Today, Wi-Fi carries more than half of the internet's traffic in an ever-expanding variety of applications. Wi-Fi Alliance continues to drive the adoption and evolution of Wi-Fi, which billions of people rely on every day.

Wi-Fi®, the Wi-Fi logo, the Wi-Fi CERTIFIED logo, Wi-Fi CERTIFIED 6®, the Wi-Fi CERTIFIED 6 logo, Wi-Fi CERTIFIED EasyMesh®, Wi-Fi Protected Access® (WPA), the Wi-Fi Protected Setup logo, Wi-Fi Direct®, Wi-Fi Alliance®, WMM®, Miracast®, Wi-Fi CERTIFIED Passpoint®, and Passpoint® are registered trademarks of Wi-Fi Alliance. Wi-Fi CERTIFIED™, Wi-Fi Protected Setup™, Wi-Fi Multimedia™, WPA2™, Wi-Fi CERTIFIED WPA3™, WPA3™, Wi-Fi CERTIFIED Miracast™, Wi-Fi ZONE™, the Wi-Fi ZONE logo, Wi-Fi Aware™, Wi-Fi CERTIFIED HaLow™, Wi-Fi HaLow™, Wi-Fi CERTIFIED WiGig™, WiGig™, Wi-Fi CERTIFIED Vantage™, Wi-Fi Vantage™, Wi-Fi CERTIFIED Location™, Wi-Fi Location™, Wi-Fi CERTIFIED Home Design™, Wi-Fi Home Design™, Wi-Fi CERTIFIED Agile Multiband™, Wi-Fi Agile Multiband™, Wi-Fi CERTIFIED Optimized Connectivity™, Wi-Fi Optimized Connectivity™, Wi-Fi EasyMesh™, Wi-Fi CERTIFIED Enhanced Open™, Wi-Fi Enhanced Open™, Wi-Fi CERTIFIED Easy Connect™, Wi-Fi Easy Connect™, Wi-Fi CERTIFIED Data Elements™, Wi-Fi Data Elements™, Wi-Fi CERTIFIED QoS Management™, Wi-Fi QoS Management™, and the Wi-Fi Alliance logo are trademarks of Wi-Fi Alliance.