

Generational Wi-Fi® User Guide



October 2018

The following document and the information contained herein regarding Wi-Fi Alliance programs and expected dates of launch are subject to revision or removal at any time without notice. THIS DOCUMENT IS PROVIDED ON AN "AS IS", "AS AVAILABLE" AND "WITH ALL FAULTS" BASIS. WI-FI ALLIANCE MAKES NO REPRESENTATIONS, WARRANTIES, CONDITIONS OR GUARANTEES AS TO THE USEFULNESS, QUALITY, SUITABILITY, TRUTH, ACCURACY OR COMPLETENESS OF THIS DOCUMENT AND THE INFORMATION CONTAINED IN THIS DOCUMENT.

Introduction

Generational Wi-Fi® is a marketing program introducing a new 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 3G, 4G, 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 and 5 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
802.11ax	Wi-Fi 6
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 logo

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**, and **Wi-Fi 6** 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, and Wi-Fi 6 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 802.11ax technology shall use the generation name Wi-Fi 6
- 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 802.11ax technology shall be referred to as Wi-Fi 6. Statements describing this may read as “Company ABC’s Smartphone D features Wi-Fi 6 technology.” or “Company ABC’s Smartphone D contains Wi-Fi 6 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 6 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 6 if the network has the capability to establish an 802.11ax connection. Example statement: “Provider G features Wi-Fi 6 connections.”
- 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 introduces new 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 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, much 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.

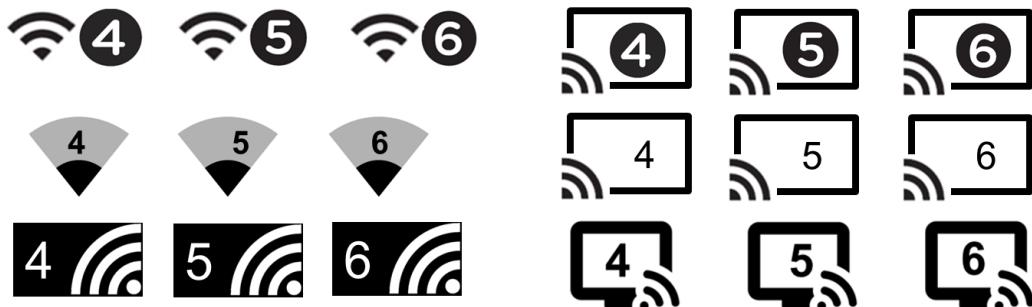
If customized UI visuals are developed, then these guidelines shall be followed:

- OS and device vendors shall combine numerals 4, 5, and 6 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 three custom icons shall be created for use with Wi-Fi 4, Wi-Fi 5 and Wi-Fi 6 connections
- 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, much 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™. 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 will be available for member products, packaging and marketing materials for devices that achieve Wi-Fi CERTIFIED 6 certification.

This logo shall not be reproduced or used in any products or materials until the certification program availability is announced, and it must be used in accordance with the [Wi-Fi Alliance Brand Style Guide](#). When Wi-Fi CERTIFIED 6 availability is announced, the



logo will become available for member download and usage guidelines will be included in the Wi-Fi Alliance Brand Style Guide. The logo will be produced in Black/White format only, in both positive and reverse signature.

Devices that are commercialized prior to the certification program shall be referred to as containing Wi-Fi 6 technology.

Summary

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

About Wi-Fi Alliance®

www.wi-fi.org

Wi-Fi Alliance® 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 40,000 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 Protected Access® (WPA), WiGig®, 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™, 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™, Wi-Fi CERTIFIED Vantage™, Wi-Fi Vantage™, Wi-Fi CERTIFIED TimeSync™, Wi-Fi TimeSync™, 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 CERTIFIED EasyMesh™, Wi-Fi EasyMesh™, Wi-Fi CERTIFIED Enhanced Open™, Wi-Fi Enhanced Open™, Wi-Fi CERTIFIED Easy Connect™, Wi-Fi Easy Connect™, Wi-Fi CERTIFIED 6™, and the Wi-Fi Alliance logo are trademarks of Wi-Fi Alliance.