Bluetooth Core Specification 5.0 FAQ

What is Bluetooth 5.0?

With up to 4x the range, 2x the speed and 8x the broadcasting message capacity, the enhancements of Bluetooth 5.0 focus on increasing functionality for the Internet of Things (IoT). Advertising extensions allow more efficient use of broadcasting channels on the increasingly crowded 2.4 GHz band, enabling richer connectionless solutions. Slot availability masks can detect and prevent interference on neighboring bands to improve coexistence and interoperability in a global environment.

Key features and benefits of using Bluetooth 5.0

Increased bandwidth for *Bluetooth*® technology with low energy

Key Feature:
Up to 2x bandwidth of Bluetooth 4.2 with low energy.

Bluetooth 5.0 introduces a new capability to increase the bandwidth to 2 Mbps. By doubling the amount of data that devices can transfer, Bluetooth 5.0 reduces the time required for transmitting and receiving data, facilitating rapid and reliable over-the-air firmware updates for mobile devices and fast upload of days' worth of collected data from a sensor when a mobile device is turned on.

Increased range for low energy enables whole-home, building, or location coverage

Key Feature:
Up to 4x range of Bluetooth 4.2 with low energy.

Bandwidth can be decreased to achieve up to 4x longer range while maintaining similar power requirements. With quadruple the range over which their devices can transmit and receive data, product designers creating home automation and security solutions can provide coverage of an entire home, building, or locality.

The range can be tuned for a variety of environments. Not every application requires the same range, speed or broadcasting capability. Bluetooth 5.0 provides the flexibility for a developer to make the best choice for their implementation.

general FAQ

Is Bluetooth 5.0 replacing Bluetooth 4.2, 4.1 or 4.0?

No, Bluetooth 5.0 extends the functionality set already provided by previous versions of the Bluetooth Core Specification.

What is the benefit of using Bluetooth 5.0?

In addition to the new features, using Bluetooth 5.0 allows manufacturers to take advantage of important interoperability and performance improvements incorporated in the Bluetooth Core Specification since the release of Bluetooth 4.2.

Is the low energy feature of Bluetooth a part of Bluetooth 5.0?

Yes, Bluetooth with low energy functionality, introduced in Bluetooth 4.0, is a feature within Bluetooth Core Specification version 5.0. In fact, the new features and benefits of Bluetooth 5.0 are designed specifically for Bluetooth with low energy functionality.

Are there any mandatory features that need to be implemented to claim compliance to Bluetooth 5.0?

No, as was the case with Bluetooth 4.2, there are no mandatory features that must be claimed to use the Bluetooth 5.0 specification. However, manufacturers are required to implement all interoperability improvements and errata applied to Bluetooth 5 in order to comply with the specification.

Broadcasting channel improvements power the beacon revolution

Key Features:

Up to 8x the broadcasting message capacity over Bluetooth 4.2, with support for larger data packets: 31-octet to 255-octet packages.

Ability to offload advertising date from the 3 advertising channels to up to 37 broadcasting channels.

More efficient use of broadcasting channels on the increasingly crowded 2.4 GHz band, with less broadcast time required for completion of tasks, opens the way for richer connectionless, beacon-based Bluetooth solutions. These broadcasting channel improvements will enable developers to create experience-based apps that can bridge the physical and virtual worlds.

Advertising extensions in Bluetooth 5.0 provide the capability to offload advertising data from the 3 traditional advertising channels to the full set of data channels for more frequency diversity. A larger data packet of up to 255 octets enables new threshold features such as asset tracking while maintaining backward compatibility with products developed for an earlier Bluetooth specification.

Slot availability masks detect and prevent interference on neighboring bands

Key Feature:

Detect and prevent interference at the edges of the 2.4 GHz ISM band and the neighboring LTE band.

For mobile phone developers creating the next generation of devices, slot availability masks can be used to detect interference on neighboring bands and automatically prevent the interference. A Bluetooth 5.0 device can indicate transmission and reception availability of its slots when working with Mobile Wireless Standard (MWS) systems.

For complete information on Bluetooth 5.0 features and benefits, technical details, tools and more, please visit:
www.bluetooth.com/specifications/adopted-specifications

Qualification

Does Bluetooth 5.0 change the qualification process?
No, the qualification process remains the same for all Bluetooth specifications.

Can I still qualify to Bluetooth 2.0, 2.1, 3.0, 4.0, 4.1 and 4.2?
Yes, Bluetooth Core Specification versions 2.0 +EDR, 2.1+EDR, 3.0+HS, 4.0, 4.1 and 4.2 are still available for use and qualification.

general FAQ

Will Bluetooth 5.0 devices be backward compatible with current Bluetooth devices in the marketplace?

Devices implementing only the low energy feature of Bluetooth 5 will be backward compatible with Bluetooth 4.2, 4.1 and 4.0 devices that also implement the low energy feature.

Devices implementing the Basic Rate/Enhanced Data Rate (BR/EDR) Core Configuration will be backward compatible with all adopted Bluetooth Core Specification versions beginning with 1.1 that also implement Bluetooth BR/EDR.

Should I just be using the Bluetooth 5.0 specification moving forward for my devices?

The SIG recommends that manufacturers begin immediately implementing the Bluetooth 5.0 specification in their devices in order to provide an optimal user experience and enjoy the benefits incorporated in the new Bluetooth Core Specification.

What specification name do I use for a 4.2 or earlier subsystem combined with a 5.0 subsystem?

The standard naming convention introduced in Bluetooth 4.1 defaults to the lowest Bluetooth Core Specification version being used. For example, if combining a 2.1+EDR controller subsystem with a 5.0 host subsystem, the resulting specification name would be 2.1+EDR. For additional details, see the "Product Naming Conventions" section in the Bluetooth Brand Guide at: www.bluetooth.com/brand-guide

My product is already qualified to an earlier Bluetooth version. Do I need to do anything for the Bluetooth 5.0 release?

No, products are qualified in perpetuity without requalification.

My product is already qualified, and I want to qualify it as Bluetooth 5.0. Do I need to do anything?

Yes, to update a previously qualified product to the Bluetooth 5.0 specification, you will need to requalify.

Where can I read the technical details of the updates in Bluetooth 5.0?

You can find all of the technical details by reviewing Bluetooth Core Specification version 5.0, posted on this page: www.bluetooth.com/specifications/adopted-specifications

When can I start qualifying my product to Bluetooth Core Specification 5.0?

Qualification will be enabled for the new Bluetooth Core Specification on 13 December 2016.

Development

Will my application that's currently running on the Bluetooth 4.2 stack still work on the Bluetooth 5.0 stack?

Yes, all of the Bluetooth 4.2 features are supported in the Bluetooth 5.0 specification. If the updated stack implementation complies with Bluetooth 5.0, all the Bluetooth 4.2 features will remain unchanged. Please consult with your stack provider for further details.

Brand

Should I brand my product with the specification version number, such as "Bluetooth 5"?

No, branding a Bluetooth enabled product with the Bluetooth Core Specification number can be confusing for your customers. Because the Bluetooth brand spans future Bluetooth Core Specification versions, by just using the Bluetooth brand without specifying a specification number, you can be confident that you are communicating device compatibility to your customers for the long term. When talking about the specification version from a marketing perspective, you should always use "Bluetooth 5." When referring to the specification version in reference to technical features, it is okay to specify the specific version, which is 5.0.

It's important to use the Bluetooth brand to quickly communicate device compatibility to your customers and eliminate "Is Bluetooth 5 compatible with my Bluetooth 4.1 device?" type questions.

Should I use Bluetooth Smart and Bluetooth Smart Ready branding on my product?

No, the Bluetooth SIG phased out the use of the Bluetooth Smart and Smart Ready marks in March 2016 and members should stop using the marks entirely as of 1 January 2017. As such, all qualified Bluetooth products should use the Bluetooth combination mark and/or figure mark if they wish.

Where can I find the brand guidelines and Bluetooth logo files?

The Bluetooth brand guide and registered trademarks files are available for download at: www.bluetooth.com/brand-guide

Does the SIG have tools or programs that can help me with marketing my Bluetooth products?

Yes, the Bluetooth SIG offers a wide range of tools and programs to help with promoting your Bluetooth enabled product. To learn more about all of the marketing programs you can leverage, visit: www.bluetooth.com/marketing-branding/how-the-sig-promotes-the-brand

Questions

Search our Knowledge Base: www.bluetooth.service-now.com/ess/

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