New Bluetooth standard copies best features of Apple, Qualcomm’s proprietary tech

Enlarge / Google’s Pixel Buds true wireless earphones, which use Bluetooth.

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Bluetooth SIG, the industry group that maintains the Bluetooth wireless communications standard used in numerous devices, announced a major update to the standard called Bluetooth LE Audio this week.

Bluetooth SIG previously introduced Bluetooth LE with a focus on power efficiency, but that emphasized improvements for low-bandwidth devices. Even though audio is one of the most common uses of Bluetooth, it still faces some frustrating bottlenecks and pitfalls. Bluetooth LE Audio brings improvements specifically oriented toward audio devices.

The previous audio solution isn’t going anywhere, though; companies making Bluetooth audio devices will be able to choose between the old tech and the new based on their goals.

Arguably the flagship improvement here is support for the Low Complexity Communication Codec (LC3). Currently, many of the millions of Bluetooth audio devices out there rely on the SBC codec (though some also use Qualcomm's AptX). But LC3 promises greater audio quality at lower bitrates and power consumption levels than SBC.

The Bluetooth SIG claims that LC3 can compress 1.5Mbps, 48KHz audio streams to 192Kbps, whereas SBC would achieve that at 345Kbps. The group also says that users preferred LC3 over SBC in blind tests even when the LC3 bitrate was significantly lower.

While some audiophiles might appreciate improvement in audio quality, the real pitch here concerns battery life. Since LC3 can achieve similar levels of quality at lower bitrates, streaming Bluetooth audio with this codec will take a lesser toll on your device's battery life.

Multi-stream and broadcast audio

Improved battery life and audio quality via LC3 are the big-ticket items, but there are a couple of other notable improvements, too. One of them makes standard a key improvement that Apple did with proprietary tech in its AirPods and similar headphones.

Bluetooth LE Audio will support multi-stream audio, meaning Bluetooth devices will be able to send audio to multiple wireless receivers simultaneously.

Typically, both the left and right units in true wireless earbuds aren't able to connect to the audio source device simultaneously. Rather, one connects to the source and then relays the audio data to the other one. With new support for multi-stream audio, source devices will be able to transmit audio simultaneously to both the left and right earbuds at the same time, reducing latency and increasing the quality of

stereo audio in some devices.

LE Audio will also include a broadcast audio feature. This will allow one device to transmit its audio to as many receiver devices as desired. There will be potential public uses—like, say, a theater in which everyone has headphones—as well as private ones: users will be able to create closed audio feeds protected via passcode.

Specifications will be released in the first half of 2020, but devices will come later. We don’t know when, exactly, but don’t be surprised if it takes until at least 2021 to see consumer tech using this standard taking up much store shelf space.

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