The difference between Bluetooth 4.0 and 5.0

What is Bluetooth?

Bluetooth is a wireless technology standard used for exchanging data between fixed and mobile devices over short distances using short-wavelength UHF radio waves in the industrial, scientific and medical radio bands, from 2.402 GHz to 2.480 GHz, and building personal area networks (PANs).

Bluetooth 5.0 is the latest version of the Bluetooth wireless communication standard. It's commonly used for wireless headphones and other audio hardware, as well as wireless keyboards, mice, and game controllers.

The comparisons

Bluetooth 4.0 and 5.0 do almost all the same things, but they have their own features and differences.

Speed

Bluetooth 5.0 is faster than Bluetooth 4.0. The speed of Bluetooth 5.0 is 2Mbps, twice the speed of the Bluetooth 4.0 of about 1Mbps.

Range

Bluetooth 4.0 supports 50m in outdoor range and 10m in the indoor range, while Bluetooth 5.0 supports 200m in Line Of Sight path in the outdoor environment and 40m in the indoor environment.

Power requirement

With the low energy designed, Bluetooth 5.0 uses less power on your device compared to the Bluetooth 4.0.

Message capacity

The Bluetooth 4.0 has a small message capacity of about 31bytes, which gives just 17 to 20 bytes for actual data payload. While the Bluetooth 5.0 with a large capacity of 255bytes gives more bytes for actual data payload.

Bluetooth beacon

With Bluetooth 5.0, beacons have become more popular due to the speed and range increase while with Bluetooth 4, they are less popular due to the less speed and range as well as low message capacity of 31bytes.

Support for IoT devices

Bluetooth 5 easily meets the requirements for IoT devices with its good range and increase in speed while Bluetooth 4 does not due to its low speed and short working range. That means IoT devices will work well with Bluetooth 5 and utilize all its features properly.

Compatibility

Bluetooth 4 works best with devices that are compatible with

version 4 series but will not work with devices that have Bluetooth 5 while Bluetooth 5 is backward compatible with v1, v2, v3, v4, v4.1 and version 4.2 but will not utilize all the features of Bluetooth 5.

All in all, the car radios with Bluetooth 5.0 can meet the more requirements and work better. Besides, [Pumpkin 12.8" Tesla Style Universal Car Stereo](#) posses the Bluetooth 5.0 feature.