advantages, such as high-speed communication, backward compatibility, support for a centralized network architecture and beamforming.

[0006]

Common use of WiGig technology is to replace wired communication performed by using a cable in a wired digital interface with wireless communication. For example, by employing WiGig technology, a wireless USB (Universal Serial Bus) link for instant synchronization and a wireless HDMI (registered trademark) (High-Definition Multimedia Interface) link for video streaming can be provided between terminals, such as smartphones and tablets.

Citation List

Non Patent Literature

[0007]

NPL 1: IEEE 802.11ad-2012

Summary

[0008]

However, the most recent wired digital interfaces, such as USB 3.5 or HDMI (registered trademark) 1.3, enable data transmission of up to several tens of Gbps. Therefore, further evolution of WiGig technology is required so as to provide a data transmission rate comparable to the most recent wired digital interface in wireless communication.

[0009] According to an aspect, there is provided wireless communication device comprising: a receiver that receives, from a transmission apparatus, a physical layer protocol data unit including a legacy preamble, a legacy header, a non-legacy header, and a data field, the non-legacy header including a field regarding a channel bandwidth, wherein the legacy header and the non-legacy header are encoded by the transmission apparatus into a first codeword of the physical layer protocol data unit; and a decoder that performs error correction decoding on the first codeword of the received physical layer protocol data unit to detect the legacy header and the non-legacy header. According to an aspect, there is provided wireless communication method comprising: receiving, from a transmission apparatus, a physical layer protocol data unit including a legacy preamble, a legacy header, a non-legacy header, and a data field, the non-legacy header including a field regarding a channel bandwidth, wherein the legacy header and the non-legacy header are encoded by the transmission apparatus into a first codeword of the

physical layer protocol data unit; and

performing error correction decoding on the first codeword of the received physical layer protocol data unit to detect the legacy header and the non-legacy header.

Therefore, an embodiment of the present disclosure provides a wireless communication device and a wireless communication method capable of further increasing the data transmission rate in WiGig technology while maintaining backward compatibility with the IEEE 802.11 WLAN standard.

[0010]

According to an embodiment of the present disclosure, a wireless communication device includes a PPDU generator that generates a physical layer protocol data unit including a legacy preamble, a legacy header, a non-legacy header, a data field, and identification information indicating that the non-legacy header is included and a transmitter that transmits the generated physical layer protocol data unit.

[0011]

It should be noted that general or specific exemplary embodiments may be