

CLAIMS

1. A method for wireless communication, comprising: identifying, at a first wireless device a first timing advance offset for communications with a second wireless device, wherein the first timing advance offset is a fixed offset that is based at least in part on a frequency range and a duplexing configuration for communications between the first wireless device and the second wireless device; determining a second timing advance offset, the second timing advance offset being adjustable; and transmitting or receiving a transmission based at least in part on the first timing advance offset and the second timing advance offset.
2. The method of claim 1, wherein the transmitting or receiving the transmission comprises communicating with the second wireless device by transmitting an uplink random access channel (RACH) transmission, and wherein the method further comprises: receiving a timing advance command from the second wireless device responsive to the uplink RACH transmission, the timing advance command including a timing advance value that is based on a propagation delay for transmissions between the first wireless device and the second wireless device; and transmitting a shared channel transmission to the second wireless device based at least in part on the first timing advance offset, the second timing advance offset, and the timing advance value.
3. The method of claim 1, wherein the determining the second timing advance offset comprises receiving the second timing advance offset from the second wireless device or from a different wireless device.
4. The method of claim 1, wherein the determining the second timing advance offset comprises receiving a first value for the second timing advance offset, and wherein the method further comprises: receiving a second value for the second timing advance offset; and determining, based on a priority order, which of the first value or the second value is to be used for the transmitting or receiving the transmission.
5. The method of claim 4, wherein the priority order is based at least in part on one or more of a type of signaling used to indicate the first value and the second value, or a time order of receiving the first value and the second value.
6. The method of claim 5, wherein the type of signaling used to indicate the first value and the second value comprises unicast signaling, multicast signaling, or broadcast signaling, and wherein second timing offset values received via unicast signaling have priority over values received via multicast signaling or broadcast signaling, and wherein second timing offset values received via multicast signaling have priority over values received via broadcast signaling.
7. The method of claim 5, wherein the type of signaling used to indicate the first value and the second value comprises medium access control (MAC) signaling, radio resource control (RRC) signaling, backhaul signaling, group common physical downlink control channel (PDCCH) signaling, remaining minimum system information (RMSI) signaling, or other system information (OSI) signaling.

8. The method of claim 1, wherein the second wireless device and the first wireless device are relay nodes in an integrated access and backhaul (IAB) network, and wherein the second timing advance offset is based at least in part on distance between relay nodes in the IAB network.
9. The method of claim 1, wherein the second timing advance offset is a cell-specific value associated with the second wireless device.
10. The method of claim 1, wherein the second timing advance offset is a network-wide value that applies to multiple nodes across a wireless network.
11. The method of claim 1, wherein the second timing advance offset is applied to uplink transmissions from the first wireless device to the second wireless device irrespective of a propagation delay of transmissions between the first wireless device and the second wireless device.
12. The method of claim 11, wherein the second wireless device is a relay node in an integrated access and backhaul (TAB) network, and wherein the second timing advance offset indicates a timing difference between receive timing and transmission timing at the relay node.
13. The method of claim 1, wherein the second wireless device is a relay node in an integrated access and backhaul (TAB) network, and wherein the second timing advance offset is based on a timing advance between the relay node and a parent node in the TAB network.
14. The method of claim 13, further comprising: receiving an updated second timing advance offset from the second wireless device, wherein the updated second timing advance offset is based at least in part on a change in the timing advance between the relay node and the parent node in the TAB network.
15. A method for wireless communication at a second wireless device, comprising: determining a first value for a second timing advance offset to be used by a first wireless device, wherein the second timing advance offset is adjustable and independent of a first timing advance offset that is a fixed offset based at least in part on a frequency range and a duplexing configuration for communications between the first wireless device and the second wireless device; and transmitting or receiving a transmission based at least in part on the first timing advance offset and the second timing advance offset.
16. The method of claim 15, further comprising: transmitting the second timing advance offset to the first wireless device.
17. The method of claim 15, wherein transmitting or receiving the transmission comprises communicating with the first wireless device by receiving an uplink random access channel (RACH) transmission, and wherein the method further comprises: determining a timing advance value for the first wireless device, the timing advance value based on a propagation delay for transmissions between the first wireless device and the second wireless device; transmitting a timing advance command to the first wireless device responsive to determining the timing advance value, the timing advance command including the timing advance value;

and receiving a shared channel transmission from the first wireless device that is based at least in part on the first timing advance offset, the second timing advance offset, and the timing advance value.

18. The method of claim 15, further comprising: determining a second value for the second timing advance offset, and wherein a priority order indicates which of the first value or the second value is to be used for an uplink transmission.

19. The method of claim 18, wherein the priority order is based at least in part on one or more of a type of signaling used to indicate the first value and the second value, or a time order of receiving the first value and the second value.

20. The method of claim 19, wherein the type of signaling used to indicate the first value and the second value comprises unicast signaling, multicast signaling, or broadcast signaling, and wherein second timing offset values received via unicast signaling have priority over values received via multicast signaling or broadcast signaling, and wherein second timing offset values received via multicast signaling have priority over values received via broadcast signaling.

21. The method of claim 19, wherein the type of signaling used to indicate the first value and the second value comprises medium access control (MAC) signaling, radio resource control (RRC) signaling, backhaul signaling, group common physical downlink control channel (PDCCH) signaling, remaining minimum system information (RMSI) signaling, or other system information (OSI) signaling.

22. The method of claim 15, wherein the second wireless device and the first wireless device are nodes in an integrated access and backhaul (IAB) network, and wherein the second timing advance offset is based at least in part on distance between relay nodes in the IAB network.

23. The method of claim 15, wherein the second timing advance offset is a cell-specific value associated with the second wireless device.

24. The method of claim 15, wherein the second timing advance offset is a network-wide value that applies to multiple nodes across a wireless network.

25. The method of claim 15, wherein the second timing advance offset is applied to communications with the first wireless device irrespective of a propagation delay of transmissions between the first wireless device and the second wireless device.

26. The method of claim 25, wherein the second wireless device is a relay node in an integrated access and backhaul (IAB) network, and wherein the second timing advance offset indicates a timing difference between receive timing and transmission timing at the relay node.

27. The method of claim 15, wherein the second wireless device is a relay node in an integrated access and backhaul (IAB) network, and wherein the second timing advance offset is based on a timing advance between the second wireless device and a parent node in the IAB network.

28. The method of claim 27, further comprising: receiving a change in the timing advance from the parent node; and transmitting an updated second timing advance offset to the first wireless device responsive to the change in the timing advance received from the parent node.

29. An apparatus for wireless communication, comprising: a processor, memory in electronic communication with the processor; and instructions stored in the memory and executable by the processor to cause the apparatus to: identify, at a first wireless device a first timing advance offset for communications with a second wireless device, wherein the first timing advance offset is a fixed offset that is based at least in part on a frequency range and a duplexing configuration for communications between the first wireless device and the second wireless device; determine a second timing advance offset, the second timing advance offset being adjustable; and transmit or receive a transmission based at least in part on the first timing advance offset and the second timing advance offset.

30. An apparatus for wireless communication at a second wireless device, comprising: a processor, memory in electronic communication with the processor; and instructions stored in the memory and executable by the processor to cause the apparatus to: determine a first value for a second timing advance offset to be used by a first wireless device, wherein the second timing advance offset is adjustable and independent of a first timing advance offset that is a fixed offset based at least in part on a frequency range and a duplexing configuration for communications between the first wireless device and the second wireless device; and transmit or receive a transmission based at least in part on the first timing advance offset and the second timing advance offset.