

WHAT IS CLAIMED IS:

1. A method for sending a signal, performed by a network device, the method comprising:
sending a signal to a user equipment, wherein the signal comprises a plurality of bits, and
in a plurality of M bits that are sequentially arranged in the plurality of bits, each M bits
correspond to a time domain signal according to a mapping relationship; and

wherein the mapping relationship satisfies:

$2^M - 1$ different non-all-zero M bits correspond to $2^M - 1$ orthogonal frequency division
multiplexing (OFDM) time domain signals with different amplitudes on a one to one basis; or
 $2^M - 1$ different non-all-zero M bits correspond to $2^M - 1$ OFDM time domain signals with
different time domain signal energies on a one to one basis; and

one all-zero M-bit corresponds to one null time domain signal, M being a positive integer.

2. The method according to claim 1, wherein an amplitude is a maximum amplitude or an
average amplitude, and an energy is a cumulative energy in frequency domain.

3. The method according to claim 1 or 2, wherein,
a frequency domain region of an OFDM time domain signal comprises N subcarriers, the
frequency domain region comprises a low-frequency guard band and a high-frequency guard
band, the low-frequency guard band comprises X subcarriers, the high-frequency guard band
comprises Y subcarriers, the low-frequency guard band and the high-frequency guard band are
not used to transmit information, N is an integer greater than 1, X is a positive integer, and Y
is a positive integer.

4. The method according to claim 3, wherein a value of X is the same as a value of Y, or
the value of X differs from the value of Y by 1.

5. The method according to claim 3, wherein the frequency domain region comprises a
central subcarrier, and the central subcarrier is not used to transmit information.

6. The method according to any one of claims 3 to 5, wherein,
the N subcarriers comprise K subcarriers that are used to transmit at least one complex-
valued symbol, and the at least one complex-valued symbol is used to determine a maximum
amplitude or an average amplitude of the OFDM time domain signals, or is used to determine
a cumulative energy of the OFDM time domain signals in frequency domain.

7. The method according to claim 6, wherein the complex-valued symbol is one of the
following:

- a Binary Phase Shift Keying (BPSK) modulation symbol;
 - a Quadrature Phase Shift Keying (QPSK) modulation symbol; and
 - a Quadrature Amplitude Modulation (QAM) modulation symbol.
8. The method according to any one of claims 6 to 7, wherein the method further comprises:
sending configuration information to a user equipment, wherein the configuration information is used to configure a value of the complex-valued symbol.
9. The method according to any one of claims 6 to 8, wherein,
the OFDM time domain signal is a signal obtained by performing modulation process on the complex-valued symbol corresponding to the K subcarriers, and the modulation process comprises an inverse discrete Fourier transform (IDFT).
10. The method according to claim 9, wherein the modulation process further comprises at least one of the following:
adding a cyclic prefix (CP); or
symbol randomization process.
11. The method according to any one of claims 1 to 10, wherein the method further comprises:
repeatedly sending the M bits over a plurality of time domain symbols.
12. The method according to any one of claims 1 to 11, wherein the signal is a low power wake up signal (LP WUS).
13. A method for receiving a signal, performed by a user equipment, the method comprising:
receiving a signal sent by a network device, wherein the signal comprises a plurality of bits, and in a plurality of M bits that are sequentially arranged in the plurality of bits, each M bits correspond to a time domain signal according to a mapping relationship; and
wherein the mapping relationship satisfies:
 $2^M - 1$ different non-all-zero M bits correspond to $2^M - 1$ orthogonal frequency division multiplexing (OFDM) time domain signals with different amplitudes on a one to one basis; or
 $2^M - 1$ different non-all-zero M bits correspond to $2^M - 1$ OFDM time domain signals with different time domain signal energies on a one to one basis; and
one all-zero M-bit corresponds to one null time domain signal, M being a positive integer.
14. The method according to claim 13, wherein an amplitude is a maximum amplitude or

an average amplitude, and an energy is a cumulative energy in frequency domain.

15. The method according to claim 13 or 14, wherein,

a frequency domain region of an OFDM time domain signal comprises N subcarriers, the frequency domain region comprises a low-frequency guard band and a high-frequency guard band, the low-frequency guard band comprises X subcarriers, the high-frequency guard band comprises Y subcarriers, the low-frequency guard band and the high-frequency guard band are not used to transmit information, N is an integer greater than 1, X is a positive integer, and Y is a positive integer,

wherein a value of X is the same as a value of Y, or the value of X differs from the value of Y by 1, or

wherein the frequency domain region comprises a central subcarrier, and the central subcarrier is not used to transmit information.

16. The method according to claim 15, wherein,

the N subcarriers comprise K subcarriers that are used to transmit at least one complex-valued symbol, the at least one complex-valued symbol is used to determine a maximum amplitude or an average amplitude of the OFDM time domain signal, or is used to determine a cumulative energy of the OFDM time domain signal in frequency domain,

wherein the complex-valued symbol is one of the following:

a Binary Phase Shift Keying (BPSK) modulation symbol;

a Quadrature Phase Shift Keying (QPSK) modulation symbol; and

a Quadrature Amplitude Modulation (QAM) modulation symbol.

17. The method according to claim 15 or 16, wherein the method further comprises:

receiving configuration information sent by the network device, wherein the configuration information is used to configure a value of the complex-valued symbol.

18. The method according to any one of claims 14 to 17, wherein the method further comprises:

performing amplitude detection on the signal, and determining the plurality of M bits that are sequentially arranged and comprised in the signal according to an amplitude threshold; or

performing energy detection on the signal, and determining the plurality of M bits that are sequentially arranged and comprised in the signal according to an energy threshold.

19. A communication device, comprising a processor and a memory, wherein,

the memory is configured to store a computer program; and

the processor is configured to execute the computer program to implement the method according to any one of claims 1-12 or 13-18.

20. A computer-readable storage medium, having stored therein instructions, wherein the instructions, when being called and executed on a computer, cause the computer to perform the method according to any one of claims 1-12 or 13-18.