~~CLAIMS~~

~~**What is claimed is:**~~

CLAIMS

1. A method for wireless communications, comprising:

identifying a sequence length corresponding to a number of resource blocks;

selecting a modulation scheme based at least in part on the sequence length, wherein the modulation scheme comprises an 8 phase shift keying (8PSK) modulation scheme;

selecting, from a set of sequences associated with the modulation scheme, a sequence having the sequence length, wherein the set of sequences comprises at least one of a set of time domain phase shift keying computer-generated sequences or a set of frequency domain phase shift keying computer-generated sequences, wherein the set of time domain phase shift keying computer-generated sequence comprises time domain 8PSK sequences of length 6;

generating a reference signal for a data transmission based at least in part on the sequence; and

transmitting the reference signal within the number of resource blocks.

2. The method of claim 1, wherein the data transmission comprises a $\pi/2$ phase shift keying modulated data transmission.

3. The method of claim 1, wherein the data transmission comprises at least one of a physical uplink shared channel (PUSCH) transmission, a physical uplink control channel (PUCCH) transmission, a physical downlink shared channel (PDSCH) transmission, a physical downlink control channel (PDCCH) transmission, a physical sidelink shared channel (PSSCH) transmission, or a physical sidelink control channel (PSCCH) transmission.

4. The method of claim 1~~, wherein the modulation scheme comprises an 8 phase shift keying (8PSK) modulation scheme.~~

~~5. The method of claim 4, wherein the set of time domain phase shift keying computer-generated sequence comprises time domain 8PSK sequences of length 6.~~

~~6. The method of claim 4~~, wherein the set of time domain phase shift keying computer-generated sequence comprises at least one of time domain 8PSK sequences of length 12, time domain 8PSK sequences of length 18, or time domain 8PSK sequences of length 24.

~~7~~5. The method of claim ~~4~~1, wherein the set of frequency domain phase shift keying computer-generated sequence comprises at least one of frequency domain 8PSK sequences of length 6, frequency domain 8PSK sequences of length 12, frequency domain 8PSK sequences of length 18, or frequency domain 8PSK sequences of length 24.

~~8~~6. The method of claim 1, wherein selecting the modulation scheme comprises:

selecting a first modulation scheme when the sequence length is a first value or selecting a second modulation scheme when sequence length is a second value.

~~9. The method of claim 8, wherein the first modulation scheme comprises an 8PSK sequence when the sequence length is a length of 6 and the second modulation scheme comprises a π/2 sequence when the sequence length is greater than the length of 6.~~

~~10~~7. The method of claim 1, further comprising:

modulating the data transmission using π/2 binary phase shift keying (BPSK) modulation to generate a π/2 BPSK modulated data transmission; and

transmitting the π/2 BPSK modulated data transmission within the number of resource blocks, wherein a peak to average power ratio associated with the π/2 BPSK modulated data transmission is within a threshold of a peak to average power ratio associated with the reference signal.

~~11.~~ 8. The method of claim 1, further comprising:

generating a set of sequence tables that each comprise a set of sequences for a modulation scheme and for a different sequence length, wherein generating each sequence of the set of sequences is based at least in part on the equation:

~~$x(k) = e^{\frac{j\emptyset(k)\pi}{8}}$,~~

x(k)=e^(jØ(k)π/8),

wherein k is an integer value ranging from 0 to 5, and a sequence length of each sequence of the set of sequences is a length of 6, each number in each sequence having an integer value selected from a set of integer values comprising -7, -5, -3, -1, 1, 3, 5, and 7.

~~12~~9. The method of claim ~~11~~8, wherein one or more sequence tables of the set of sequence tables comprises sequences [-7 -3 -7 -3 7 -5], [-7 -3 1 -5 -1 -5], and [-7 -3 3 -3 -7 -5].

~~13~~10. The method of claim 1, further comprising:

identifying a set of sequence tables that each comprise a set of sequences for a modulation scheme and for a different sequence length; and

identifying, from the set of sequence tables, a sequence table comprising the set of sequences associated with the sequence length and the modulation scheme,

wherein selecting the sequence is further based at least in part on identifying the sequence table.

~~14~~11. The method of claim ~~13~~10, wherein each sequence table comprises at least one of a set of time domain phase shift keying computer-generated sequences or a set of frequency domain phase shift keying computer-generated sequences corresponding to a certain sequence length.

~~15~~12. The method of claim ~~13~~10, wherein each sequence in the set of sequences is unique.

~~16~~13. The method of claim ~~13~~10, wherein each sequence in the set of sequences satisfies a cyclic auto-correlation property.

~~17~~14. The method of claim ~~13~~10, wherein each sequence in the set of sequences satisfies a cross-correlation property within the set of sequences.

~~18~~15. The method of claim ~~13~~10, wherein the set of sequences comprises a level of correlation with a set of quadrature phase shift keying (QPSK) sequences.

~~19~~16. The method of claim ~~18~~15, wherein a cross-correlation between the set of sequences and the QPSK sequences is lower than a threshold, wherein the set of sequences is associated with a first radio access technology and the QPSK sequences are associated with

a second radio access technology different from the first radio access technology.

~~20~~17. The method of claim 1, wherein selecting the sequence comprises:

selecting a sequence that comprises a set of time domain phase shift keying computer-generated sequences or a set of frequency domain phase shift keying computer-generated sequences.

~~21~~18. The method of claim 1, further comprising:

modulating the sequence using the modulation scheme, wherein generating the reference signal for the data transmission is further based at least in part on the modulating.

~~22. The method of claim 1, wherein the sequence length comprises a sequence of length 6, a sequence of length 12, a sequence of length 18, or a sequence of length 24.~~

~~23. The method of claim 1, wherein the modulation scheme comprises at least one of an 8 phase shift keying (8PSK) modulation scheme, a 12 phase shift keying (12PSK) modulation scheme, or a π/4 quadrature phase shift keying (π/4 QPSK) modulation scheme, or a QPSK modulation scheme.~~

~~24. The method of claim 1, wherein selecting the sequence comprises:~~

~~selecting a time-domain sequence when the sequence length is a first value or selecting a frequency-domain sequence when the sequence length is a second value.~~

~~25~~19. A method for wireless communications, comprising:

identifying a sequence length corresponding to a number of resource blocks ~~associated with~~ ;

selecting a ~~reference signal~~modulation scheme based at least in part on the sequence length by selecting a ~~control message~~first modulation scheme when the sequence length is a first value or selecting a second modulation scheme when sequence length is a second value, wherein the ~~sequence is~~ first modulation scheme comprises an 8PSK sequence when the sequence length is a length of 6 and the second modulation scheme comprises a π/2 sequence when the sequence length is greater than the length of 6;

selecting, from a set of sequences ~~comprising~~associated with the modulation scheme, a sequence having the sequence length, wherein the set of sequences comprises at least one of a set of time domain phase shift keying computer-generated sequences or a set of

frequency domain phase shift keying computer-generated sequences;

~~receiving the~~generating a reference signal for a data transmission ~~within the number of resource blocks, wherein the reference signal is generated~~ based at least in part on ~~a~~the sequence ~~having the sequence length~~; and

~~demodulating~~transmitting the reference signal ~~based at least in part on a modulation scheme associated with~~within the ~~sequence length~~number of resource blocks.

~~26~~20. The method of claim ~~25~~19, wherein the ~~data transmission~~sequence length comprises a ~~π/2 binary phase shift keying modulated data transmission.~~

~~27. The method of claim 25, wherein the data transmission comprises at least one of a physical uplink shared channel (PUSCH) transmission, a physical uplink control channel (PUCCH) transmission, a physical downlink shared channel (PDSCH) transmission, a physical downlink control channel (PDCCH) transmission, a physical sidelink shared channel (PSSCH) transmission, or a physical sidelink control channel (PSCCH) transmission.~~

~~28. The method of claim 25, wherein the modulation scheme comprises an 8 phase shift keying (8PSK) modulation scheme.~~

~~29. The method of claim 28, wherein the set of time domain phase shift keying computer-generated sequence comprises time domain 8PSK sequences~~ sequence of length 6~~.~~

~~30. The method of claim 28, wherein the set of time domain phase shift keying computer-generated sequence comprises at least one of time domain 8PSK sequences~~ , a sequence of length 12, ~~time domain 8PSK sequences~~ a sequence of length 18, or ~~time domain 8PSK sequences~~ a sequence of length 24.

~~31~~21. The method of claim ~~28~~19, wherein selecting the ~~set of frequency domain phase shift keying computer-generated~~ sequence comprises ~~at least one of frequency domain 8PSK sequences of length 6, frequency domain 8PSK sequences of length 12, frequency domain 8PSK sequences of length 18, or frequency domain 8PSK sequences of length 24.~~:

~~32. The method of claim 25, further comprising:~~

demodulating the data transmission usingselecting a π/2 binary phase shift keying modulation scheme to generate a π/2 binary phase shift keying demodulated data transmission, wherein a peak to average power ratio associated with the π/2 binary phase shift keying demodulated data transmission is within a threshold of a peak to average power ratio associated with the reference signal.

33. The method of claim 25, further comprising:

identifying a set of time-domain sequence tables that each comprise a set of sequences for a modulation scheme and for a different when the sequence length; and

identifying, from the set of is a first value or selecting a frequency-domain sequence tables, awhen the sequence table comprising the set of sequences associated with the sequence length and the modulation scheme, wherein demodulating the reference signal length is further based at least in part on identifying the sequence table.

34. The method of claim 33, wherein each sequence table comprises at least one of a set of time domain phase shift keying computer-generated sequences or a set of frequency-domain phase shift keying computer-generated sequences corresponding to a certain sequence length.

35. The method of claim 33, wherein each sequence in the set of sequences is unique.

36. The method of claim 33, wherein each sequence in the set of sequences satisfies a cyclic auto-correlation property.

37. The method of claim 33, wherein each sequence in the set of sequences satisfies a cross-correlation property within the set of sequences.

38. The method of claim 33, wherein the set of sequences comprises a level of correlation with a set of quadrature phase shift keying (QPSK) sequences.

39. The method of claim 38, wherein a cross-correlation between the set of sequences and the QPSK sequences is lower than a threshold, wherein the set of sequences is associated with a first radio access technology and the QPSK sequences are associated with a second radio access technology different from the first radio access technologyvalue.

40. The method of claim 25, wherein identifying the sequence comprises:

~~identifying a sequence that comprises a set of time domain phase shift keying computer-generated sequences or a set of frequency domain phase shift keying computer-generated sequences.~~

~~41. The method of claim 25, wherein the sequence length comprises a sequence of length 6, a sequence of length 12, a sequence of length 18, or a sequence of length 24.~~

~~42. The method of claim 25, wherein the modulation scheme comprises at least one of an 8 phase shift keying (8PSK) modulation scheme, a 12 phase shift keying (12PSK) modulation scheme, or a π/4 quadrature phase shift keying (π/4 QPSK) modulation scheme, or a QPSK modulation scheme.~~

~~43~~22. An apparatus for wireless communications, 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 a sequence length corresponding to a number of resource blocks;

select a modulation scheme based at least in part on the sequence length, wherein the modulation scheme comprises an 8 phase shift keying (8PSK) modulation scheme;

select, from a set of sequences associated with the modulation scheme, a sequence having the sequence length, wherein the set of sequences comprises at least one of a set of time domain phase shift keying computer-generated sequences or a set of frequency domain phase shift keying computer-generated sequences, wherein the set of time domain phase shift keying computer generated sequence comprises time domain 8PSK sequences of length 6;

generate a reference signal for a data transmission based at least in part on the sequence; and

transmit the reference signal within the number of resource blocks.

~~44~~23. The apparatus of claim ~~43, wherein the modulation scheme comprises an 8 phase shift keying (8PSK) modulation scheme.~~

~~45. The apparatus of claim 43, wherein the set of time domain phase shift keying computer-generated sequence comprises time domain 8 phase shift keying (8PSK) sequences of length 6.~~

~~46. The apparatus of claim 43~~22, wherein the instructions to select the modulation scheme are further executable by the processor to cause the apparatus to:

select a first modulation scheme when the sequence length is a first value or select a second modulation scheme when sequence length is a second value.

~~47~~24. The apparatus of claim ~~46~~23, wherein the first modulation scheme comprises an 8PSK sequence when the sequence length is a length of 6 and the second modulation scheme comprises a $\pi/2$ sequence when the sequence length is greater than the length of 6.

~~48. An apparatus for wireless communications, 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 a sequence length corresponding to a number of resource blocks associated with a reference signal based at least in part on a control message, wherein the sequence is from a set of sequences comprising at least one of a set of time domain phase shift keying computer-generated sequences or a set of frequency domain phase shift keying computer-generated sequences;~~

~~receive the reference signal for a data transmission within the number of resource blocks, wherein the reference signal is generated based at least in part on a sequence having the sequence length; and~~

~~demodulate the reference signal based at least in part on a modulation scheme associated with the sequence length.~~

~~49. The apparatus of claim 48, wherein the modulation scheme comprises an 8 phase shift keying (8PSK) modulation scheme.~~

~~50. The apparatus of claim 49, wherein the set of time domain phase shift keying computer-generated sequence comprises time domain 8PSK sequences of length 6.~~

51. The apparatus of claim 48, wherein the instructions to demodulate the reference signal are further executable by the processor to cause the apparatus to:

demodulate the reference signal based at least in part on a first modulation scheme when the sequence length is a first value or demodulate the reference signal based at least in part on a second modulation scheme when sequence length is a second value.

52. The apparatus of claim 51, wherein the first modulation scheme comprises an 8PSK sequence when the sequence length is a length of 6 and the second modulation scheme comprises a $\pi/2$ sequence when the sequence length is greater than the length of 6.

53. An apparatus for wireless communications, comprising:

means for identifying a sequence length corresponding to a number of resource blocks;

means for selecting a modulation scheme based at least in part on the sequence length;

means for selecting, from a set of sequences associated with the modulation scheme, a sequence having the sequence length, wherein the set of sequences comprises at least one of a set of time domain phase shift keying computer-generated sequences or a set of frequency domain phase shift keying computer-generated sequences;

means for generating a reference signal for a data transmission based at least in part on the sequence; and

means for transmitting the reference signal within the number of resource blocks.

54. The apparatus of claim 53, wherein the modulation scheme comprises an 8 phase shift keying (8PSK) modulation scheme.

55. The apparatus of claim 53, wherein the set of time domain phase shift keying computer-generated sequence comprises time domain 8 phase shift keying (8PSK) sequences of length 6.

56. The apparatus of claim 53, wherein the means for selecting the modulation scheme comprise:

means for selecting a first modulation scheme when the sequence length is a first value or selecting a second modulation scheme when sequence length is a second value.

57. The apparatus of claim 56, wherein the first modulation scheme comprises an 8PSK sequence when the sequence length is a length of 6 and the second modulation scheme comprises a π/2 sequence when the sequence length is greater than the length of 6.

58. An apparatus for wireless communications, comprising:

means for identifying a sequence length corresponding to a number of resource blocks associated with a reference signal based at least in part on a control message, wherein the sequence is from a set of sequences comprising at least one of a set of time-domain phase shift keying computer-generated sequences or a set of frequency domain phase shift keying computer-generated sequences;

means for receiving the reference signal for a data transmission within the number of resource blocks, wherein the reference signal is generated based at least in part on a sequence having the sequence length; and

means for demodulating the reference signal based at least in part on a modulation scheme associated with the sequence length.

59. The apparatus of claim 58, wherein the modulation scheme comprises an 8 phase shift keying (8PSK) modulation scheme.

60. The apparatus of claim 59, wherein the set of time domain phase shift keying computer-generated sequence comprises time domain 8PSK sequences of length 6.

61. The apparatus of claim 58, wherein the means for demodulating the reference signal comprise:

means for demodulating the reference signal based at least in part on a first modulation scheme when the sequence length is a first value or demodulating the reference signal based at least in part on a second modulation scheme when sequence length is a second value.

62. The apparatus of claim 61, wherein the first modulation scheme comprises an 8PSK sequence when the sequence length is a length of 6 and the second

~~modulation scheme comprises a π/2 sequence when the sequence length is greater than the length of 6.~~