CLAIMS

1. A User Equipment (UE), comprising:

a memory; and

a processor coupled with the memory, and configured to cause the UE to:

receive a configuration for an uplink transmission;

process a reference signal by applying a first multiplexing sequence associated with a first spreading factor; and

transmit the uplink transmission and the processed reference signal based on the configuration.

2. The UE of claim 1, wherein the processor is configured to process the reference signal by:

spreading the reference signal based on a set of reference signal sequences, wherein the set of reference signal sequences is determined at least based on a binary sequence and the first multiplexing sequence.

3. The UE of claim 2, wherein a length of the first multiplexing sequence is determined based on the first spreading factor.

4. The UE of claim 2, wherein a length of the binary sequence is determined based on at least one of the following: a repetition number for the uplink transmission, number of slots in a resource unit, number of resource units, or the first spreading factor.

5. The UE of any preceding claim, wherein the processor is configured to cause the UE to process the reference signal by:

determining a second set of time domain positions for the reference signal based on at least one of the first spreading factor or an index of the first multiplexing sequence; and

muting the reference signal in the second set of time domain positions.

6. A method for wireless communication by a User Equipment (UE), the method comprising:

receiving a configuration for an uplink transmission;

processing a reference signal by applying a first multiplexing sequence associated with a first spreading factor; and

transmitting the uplink transmission and the processed reference signal based on the configuration.

7. The method of claim 6, wherein processing the reference signal comprises:

spreading the reference signal based on a set of reference signal sequences, and wherein the set of reference signal sequences is determined at least based on a binary sequence and the first multiplexing sequence.

8. The method of claim 7, wherein a length of the first multiplexing sequence is determined based on the first spreading factor.

9. The method of claim 7, wherein a length of the binary sequence is determined based on at least one of the following: a repetition number for the uplink transmission, number of slots in a resource unit, number of resource units, or the first spreading factor.

10. The method of any of claims 6 to 9, wherein processing the reference signal comprises:

determining a second set of time domain positions for the reference signal based on at least one of the first spreading factor or an index of the first multiplexing sequence; and

muting the reference signal in the second set of time domain positions.

11. A base station, comprising:

a memory; and

a processor coupled with the memory, and configured to cause the base station to:

transmit a configuration for an uplink transmission;

process a reference signal by applying a first multiplexing sequence associated with a first spreading factor; and

receive the uplink transmission based on the processed reference signal and the configuration.

12. The base station of claim 11, wherein, to process the reference signal, the processor is configured to cause the base station to:

spreading the reference signal based on a set of reference signal sequences,

wherein the set of reference signal sequences is determined at least based on a binary sequence and the first multiplexing sequence.

13. The base station of claim 12, wherein a length of the first multiplexing sequence is determined based on the first spreading factor.

14. The base station of claim 12, wherein a length of the binary sequence is determined based on at least one of the following: a repetition number for the uplink transmission, number of slots in a resource unit, number of resource units, or the first spreading factor.

15. A method performed by a base station, the method comprising:

transmitting a configuration for an uplink transmission;

processing a reference signal by applying a first multiplexing sequence associated with a first spreading factor; and

receiving the uplink transmission based on the processed reference signal and the configuration.