CLAIMS

1. ~~———~~ A method of wireless communication, comprising:

receiving a sounding reference signal (SRS) configuration from a network;

configuring at least four antennas of a scheduled entity based on the SRS configuration, wherein the SRS configuration configures at least one of the at least four antennas to simultaneously support SRS antenna switching and an uplink (UL) multiple-input multiple-output (MIMO) communication~~; and~~

~~transmitting an SRS communication according to the SRS configuration.~~

~~2. The method of claim 1, further comprising reporting to the network a user equipment (UE) capability of transmitting the SRS communication.~~

~~3. The method of claim 1, wherein the scheduled entity comprises four antennas configured to operate in a 1T4R mode, and wherein the configuring comprises configuring the scheduled entity according to an SRS 1T4R configuration in which one of the four antennas is configured to simultaneously support the SRS antenna switching and the UL MIMO communication.~~

~~4. The method of claim 3~~, wherein the configuring comprises configuring the scheduled entity to simultaneously support 1T4R SRS antenna switching and 1T2R antenna selection of the UL MIMO communication~~.~~; and transmitting an SRS communication according to the SRS configuration.

2. The method of claim 1, further comprising reporting to the network a user equipment (UE) capability of transmitting the SRS communication.

~~5.~~ 3. The method of claim 1, wherein the scheduled entity comprises four antennas configured to operate in a 2T4R mode, and wherein the configuring comprises configuring the scheduled entity according to an SRS 2T4R configuration in which two of the four antennas are configured to simultaneously support the SRS antenna switching and the UL MIMO communication.

~~6.~~ 4. The method of claim ~~5~~3, wherein the configuring comprises having an unequal number of antennas configured to support the SRS antenna switching in a first UL channel and the UL MIMO communication in a second UL channel.

~~7.~~ 5. The method of claim ~~6~~4, wherein the configuring comprises having the four antennas configured to support the SRS antenna switching, and a pair of the four antennas configured to simultaneously support the SRS antenna switching in a first UL channel and the UL MIMO communication in a second UL channel.

~~8.~~ 6. The method of claim ~~5~~3, wherein the configuring comprises having an equal number of antennas configured to support the SRS antenna switching in a first UL channel and the UL MIMO communication in a second UL channel.

~~9.~~ 7. The method of claim ~~8~~6, wherein the configuring comprises having the scheduled entity utilize a predetermined subset of all antenna pair combinations associated with the four antennas to simultaneously support the SRS antenna switching in a first UL channel and the UL MIMO communication in a second UL channel.

~~10.~~ 8. The method of claim ~~8~~6, wherein the configuring comprises having the scheduled entity utilize all antenna pair combinations associated with the four antennas based on

the SRS configuration to simultaneously support the SRS antenna switching in a first UL channel and the UL MIMO communication in a second UL channel.

~~11.~~ 9. The method of claim ~~8~~6, wherein the configuring comprises having the scheduled entity utilize a subset of antenna pair combinations associated with the four antennas to support the SRS antenna switching in a first UL channel.

~~12.~~ 10. The method of claim ~~11~~9, further comprising predefining antenna pairs {0,1} and {2,3} of the four antennas to support the SRS antenna switching in 2T4R.

~~13.~~ 11. The method of claim ~~11~~9, further comprising predefining antenna pairs {0,1}, {0,2}, and {0,3} of the four antennas to support the SRS antenna switching in 2T4R.

~~14.~~ 12. The method of claim 1, wherein the configuring comprises configuring the scheduled entity to implement an SRS pattern that is shifted based on a parameter associated with the scheduled entity.

~~15. The method of claim 14, wherein the SRS pattern for 2T4R SRS antenna switching is based on a number of configured antenna pairs.~~

~~16.~~ 13. A wireless communication device comprising:

~~a~~ means for receiving ~~circuitry configured to receive~~ a sounding reference signal (SRS) configuration from a network;

~~an antennae circuitry configured to configure~~ means for configuring at least four antennas of a scheduled entity based on the SRS configuration, wherein the SRS configuration configures at least one of the at least four antennas to simultaneously support SRS antenna

switching and an uplink (UL) multiple-input multiple-output (MIMO) communication~~;~~, wherein the configuring comprises configuring the scheduled entity to simultaneously support 1T4R SRS antenna switching and

~~a~~ 1T2R antenna selection of the UL MIMO communication; and means for transmitting ~~circuitry configured to transmit~~ an SRS communication according to the SRS configuration.

~~17.~~ 14. The wireless communication device of claim ~~16~~13, wherein the ~~antennae circuitry~~means for configuring is configured to configure the at least four antennas to implement an SRS pattern that is shifted based on a parameter associated with the scheduled entity.

~~18.~~ 15. The wireless communication device of claim ~~17~~14, wherein the parameter is a total number of antennas included in the scheduled entity.

~~19.~~ 16. The wireless communication device of claim ~~17~~14, wherein the parameter is a total number of antenna pairs included in the scheduled entity.

~~20.~~ 17. The wireless communication device of claim ~~17~~14, wherein the parameter is whether the scheduled entity is enabled for frequency hopping.

~~21.~~ 18. A method of wireless communication, comprising:

receiving a transmission capability reporting from a scheduled entity, wherein the scheduled entity comprises at least four antennas;

performing a determination based on the transmission capability reporting of whether the scheduled entity may simultaneously support sounding reference signal (SRS) antenna switching and an uplink (UL) multiple-input multiple-output (MIMO) communication; and

generating an SRS configuration for the scheduled entity based on the determination, wherein a default SRS configuration comprises configuring at least one of the at least four antennas to simultaneously support the SRS antenna switching and the UL MIMO communication.

~~22. The method of claim 21~~, wherein the ~~scheduled entity comprises four antennas configured to operate in a 1T4R mode, and wherein the~~ generating comprises generating ~~an SRS 1T4R configuration in which one of the four antennas is configured to simultaneously support the SRS antenna switching and the UL MIMO communication.~~

~~23. The method of claim 22, wherein the generating comprises generating the SRS 1T4R~~the SRS configuration to simultaneously support 1T4R SRS antenna switching and 1T2R antenna selection of the UL MIMO communication.

~~24.~~ 19. The method of claim ~~21~~18, wherein the scheduled entity comprises four antennas configured to operate in a 2T4R mode, and wherein the generating comprises generating an SRS 2T4R configuration in which two of the four antennas are configured to simultaneously support the SRS antenna switching and the UL MIMO communication.

~~25.~~ 20. The method of claim ~~24~~19, wherein the generating comprises generating the SRS configuration to include having an unequal number of antennas configured to support the SRS antenna switching in a first UL channel and the UL MIMO communication in a second UL channel.

~~26.~~ 21. The method of claim ~~25~~20, wherein the generating comprises generating the SRS configuration to include having the four antennas configured to support the SRS antenna

switching, and a pair of the four antennas configured to simultaneously support the SRS antenna switching in a first UL channel and the UL MIMO communication in a second UL channel.

~~27.~~ 22. The method of claim ~~24~~19, wherein the generating comprises generating the SRS configuration to include having an equal number of antennas configured to support the SRS antenna switching in a first UL channel and the UL MIMO communication in a second UL channel.

~~28.~~ 23. The method of claim ~~27~~22, wherein the generating comprises generating the SRS configuration to include having the scheduled entity utilize a predetermined subset of all antenna pair combinations associated with the four antennas to simultaneously support the SRS antenna switching in a first UL channel and the UL MIMO communication in a second UL channel.

~~29.~~ 24. The method of claim ~~27~~22, wherein the generating comprises generating the SRS configuration to include having the scheduled entity utilize all antenna pair combinations associated with the four antennas based on the SRS configuration to simultaneously support the SRS antenna switching in a first UL channel and the UL MIMO communication in a second UL channel.

~~30.~~ 25. The method of claim ~~27~~22, wherein the generating comprises generating the SRS configuration to include having the scheduled entity utilize a subset of antenna pair combinations associated with the four antennas to support the SRS antenna switching in a first UL channel.

~~31.~~ 26. The method of claim ~~30~~25, further comprising predefining antenna pairs {0,1} and {2,3} of the four antennas to support the SRS antenna switching in 2T4R.

~~32.~~ 27. The method of claim ~~30~~25, further comprising predefining antenna pairs {0,1}, {0,2}, and {0,3} of the four antennas to support the SRS antenna switching in 2T4R.

~~33.~~ 28. The method of claim ~~21~~18, wherein the generating comprises generating the SRS configuration to include an SRS pattern that is shifted based on a parameter associated with the scheduled entity.

~~34. The method of claim 33, wherein the SRS pattern for 2T4R SRS antenna switching is based on a number of configured antenna pairs.~~

~~35. A wireless communication device comprising:~~

~~a receiving circuitry configured to receive a transmission capability reporting from a scheduled entity, wherein the scheduled entity comprises at least four antennas;~~

~~a determination circuitry configured to~~

29. A wireless communication device comprising: means for receiving a transmission capability reporting from a scheduled entity, wherein the scheduled entity comprises at least four antennas; means for performing a determination based on the transmission capability reporting of whether the scheduled entity may simultaneously support sounding reference signal (SRS) antenna switching and an uplink (UL) multiple-input multiple-output (MIMO) communication; and means for generating an SRS configuration for the scheduled entity based on the determination, wherein a default SRS configuration comprises configuring at least one of the at least four antennas to simultaneously support the SRS antenna switching and the UL MIMO communication, wherein the generating comprises generating the SRS configuration to simultaneously support 1T4R SRS antenna switching and 1T2R antenna selection of the UL MIMO communication.

30. The wireless communication device of claim 29, wherein the means for generating is configured to generate the SRS configuration to include an SRS pattern that is shifted based on a parameter associated with the scheduled entity.

31. The wireless communication device of claim 30, wherein the parameter is a total number of antennas included in the scheduled entity.

32. The wireless communication device of claim 30, wherein the parameter is a total number of antenna pairs included in the scheduled entity.

33. The wireless communication device of claim 30, wherein the parameter is whether the scheduled entity is enabled for frequency hopping.

34. A wireless communication device comprising: a processor; and memory; the processor and memory configured to: receive a sounding reference signal (SRS) configuration from a network; configure at least four antennas of a scheduled entity based on the SRS configuration, wherein the SRS configuration configures at least one of the at least four antennas to simultaneously support SRS antenna switching and an uplink (UL) multiple-input multiple-output (MIMO) communication, wherein the configuring comprises configuring the scheduled entity to simultaneously support 1T4R SRS antenna switching and 1T2R antenna selection of the UL MIMO communication; and transmit an SRS communication according to the SRS configuration.

35. A wireless communication device comprising: a processor; and memory; the processor and memory configured to: receive a transmission capability reporting from a scheduled entity, wherein the scheduled entity comprises at least four antennas; perform a determination based on the transmission capability reporting of whether the scheduled entity may simultaneously

support sounding reference signal (SRS) antenna switching and an uplink (UL) multiple-input multiple-output (MIMO) communication; and

~~a generating circuitry configured to~~ generate an SRS configuration for the scheduled entity based on the determination, wherein a default SRS configuration comprises configuring at least one of the at least four antennas to simultaneously support the SRS antenna switching and the UL MIMO communication~~.~~

~~36. The wireless communication device of claim 35~~, wherein the generating ~~circuitry is configured to generate~~comprises generating the SRS configuration to ~~include an~~simultaneously support 1T4R SRS ~~pattern that is shifted based on a parameter associated with the scheduled entity.~~

~~37. The wireless communication device of claim 36, wherein the parameter is a total number of antennas included in the scheduled entity.~~

~~38. The wireless communication device of claim 36, wherein the parameter is a total number of~~ antenna ~~pairs included in~~ switching and 1T2R antenna selection of the ~~scheduled entity.~~

~~39. The wireless~~UL MIMO communication ~~device of claim 36, wherein the parameter is whether the scheduled entity is enabled for frequency hopping~~.