CLAIMS

1. A method of wireless communication at a user equipment (UE), comprising:

segmenting, at the UE, an uplink duration in each frame into multiple transmission units for the UE, each transmission unit comprising at least one on period and at least one off period at a single frequency of a plurality of frequencies, wherein a frame comprises an integer number of the transmission units; and

transmitting uplink communication based on the multiple transmission units, wherein for each given transmission unit of the multiple transmission units during an on period of the transmission unit the UE transmits uplink communication and during an off period of the transmission unit the UE refrains from transmitting uplink communication.

2. The method of claim 1, wherein each transmission unit comprises multiple on periods and multiple off periods.

3. The method of claim 1, wherein the on period and the off period are configured by a base station or specified for each frame type.

4. The method of claim 1, wherein each on period is smaller than each off period.

5. The method of claim 1, wherein each on period has a same length as each off period.

6. The method of claim 1, wherein each on period comprises a length of 5 ms and each off period comprises a length of 5 ms.

7. The method of claim 1, wherein the transmission units of the UE are multiplexed with a second transmission units of a second UE, wherein the on period of the transmission units of the UE corresponds to a second off period for the second transmission units of the second UE and the off period of the transmission units of the UE correspond to a second on period for the second transmission units of the second UE.

8. The method of claim 1, wherein the UE transmits the communication without performing a listen before talk (LBT) procedure.

9. The method of claim 1, wherein the UE transmits the uplink communication subject to a listen before talk (LBT) in each transmission unit or in each on period.

10. The method of claim 1, further comprising:

receiving uplink scheduling from a base station in scheduling units based on the transmission units.

11. The method of claim 1, further comprising:

receiving an uplink start delay in scheduling units based on the transmission units.

12. The method of claim 1, wherein demodulation reference signal (DMRS) transmissions and physical uplink shared channel (PUSCH) transmissions within a same transmission unit are based on a same redundancy version (RV) and a same scrambling sequence.

13. The method of claim 1, wherein the wireless communication comprises enhanced machine type communication (eMTC).

14. An apparatus for wireless communication at a user equipment (UE), comprising:

means for segmenting, at the UE, an uplink duration in each frame into multiple transmission units for the UE, each transmission unit comprising at least one on period and at least one off period at a single frequency of a plurality of frequencies, wherein a frame comprises an integer number of the transmission units; and

means for transmitting uplink communication based on the multiple transmission units, wherein for each given transmission unit of the multiple transmission units during an on period of the transmission unit the UE transmits uplink communication and during an off period of the transmission unit the UE refrains from transmitting uplink communication.

15. The apparatus of claim 14, wherein each transmission unit comprises multiple on periods and multiple off periods.

16. The apparatus of claim 14, wherein the on period and the off period are configured by a base station or specified for each frame type.

17. The apparatus of claim 14, wherein each on period is smaller than each off period.

18. The apparatus of claim 14, wherein each on period has a same length as each off period.

19. The apparatus of claim 14, wherein each on period comprises a length of 5 ms and each off period comprises a length of 5 ms.

20. The apparatus of claim 14, wherein the transmission units of the UE are multiplexed with a second transmission units of a second UE, wherein the on period of the transmission units of the UE corresponds to a second off period for the second transmission units of the second UE and the off period of the transmission units of the UE corresponds to a second on period for the second transmission units of the second UE.

21. The apparatus of claim 14, wherein the means for transmitting transmit the uplink communication subject to a listen before talk (LBT) in each transmission unit or in each on period.

22. The apparatus of claim 14, wherein the UE transmits the communication without performing a listen before talk (LBT) procedure.

23. The apparatus of claim 14, further comprising:

means for receiving uplink scheduling from a base station in scheduling units based on the transmission units.

24. The apparatus of claim 14, further comprising:

means for receiving an uplink start delay in scheduling units based on the transmission units.

25. The apparatus of claim 14, wherein demodulation reference signal (DMRS) transmissions and physical uplink shared channel (PUSCH) transmissions within a same transmission unit are based on a same redundancy version (RV) and a same scrambling sequence.

26. The apparatus of claim 14, wherein the wireless communication comprises enhanced machine type communication (eMTC).

27. An apparatus for wireless communication at a user equipment (UE) comprising:

a memory; and

at least one processor coupled to the memory and configured to:

segment, at the UE, an uplink duration in each frame into multiple transmission units for the UE, each transmission unit comprising at least one on period and at least one off period at a single frequency of a plurality of frequencies, wherein a frame comprises an integer number of the transmission units; and

transmit uplink communication based on the multiple transmission units, wherein for each given transmission unit of the multiple transmission units during an on period of the transmission unit the UE transmits uplink communication and during an off period of the transmission unit the UE refrains from transmitting uplink communication.

28. The apparatus of claim 27, wherein each transmission unit comprises multiple on periods and multiple off periods.

29. The apparatus of claim 27, wherein the on period and the off period are configured by a base station or specified for each frame type.

30. The apparatus of claim 27, wherein each on period is smaller than each off period.

31. The apparatus of claim 27, wherein each on period has a same length as each off period.

32. The apparatus of claim 27, wherein each on period comprises a length of 5 ms and each off period comprises a length of 5 ms.

33. The apparatus of claim 27, wherein the transmission units of the UE are multiplexed with a second transmission units of a second UE, wherein the on period of the transmission units of the UE corresponds to a second off period for the second transmission units of the second UE and the off period of the transmission units of the UE corresponds to a second on period for the second transmission units of the second UE.

34. The apparatus of claim 27, wherein the UE transmits the uplink communication subject to a listen before talk (LBT) in each transmission unit or in each on period.

35. The apparatus of claim 27, wherein the UE transmits the communication without performing a listen before talk (LBT) procedure.

36. The apparatus of claim 27, wherein the at least one processor is further configured to:

receive uplink scheduling from a base station in scheduling units based on the transmission units.

37. The apparatus of claim 27, wherein the at least one processor is further configured to:

receive an uplink start delay in scheduling units based on the transmission units.

38. The apparatus of claim 27, wherein demodulation reference signal (DMRS) transmissions and physical uplink shared channel (PUSCH) transmissions within a same transmission unit are based on a same redundancy version (RV) and a same scrambling sequence.

39. The apparatus of claim 27, wherein the wireless communication comprises enhanced machine type communication (eMTC).

40. A non-transitory computer-readable medium storing computer executable code for wireless communication at a user equipment (UE), comprising code to:

segment, at the UE, an uplink duration in each frame into multiple transmission units for the UE, each transmission unit comprising at least one on period and at least one off period at a single frequency of a plurality of frequencies, wherein a frame comprises an integer number of the transmission units; and

transmit uplink communication based on the multiple transmission units, wherein for each given transmission unit of the multiple transmission units during an on period of the transmission unit the UE transmits uplink communication and during an off period of the transmission unit the UE refrains from transmitting uplink communication.

41. The non-transitory computer-readable medium of claim 40, wherein each transmission unit comprises multiple on periods and multiple off periods.

42. The non-transitory computer-readable medium of claim 40, wherein the on period and the off period are configured by a base station or specified for each frame type.

43. The non-transitory computer-readable medium of claim 40, wherein each on period is smaller than each off period.

44. The non-transitory computer-readable medium of claim 40, wherein each on period has a same length as each off period.

45. The non-transitory computer-readable medium of claim 40, wherein each on period comprises a length of 5 ms and each off period comprises a length of 5 ms.

46. The non-transitory computer-readable medium of claim 40, wherein the transmission units of the UE are multiplexed with a second transmission units of a second UE, wherein the on period of the transmission units of the UE corresponds to a second off period for the second transmission units of the second UE and the off period of the transmission units of the UE corresponds to a second on period for the second transmission units of the second UE.

47. The non-transitory computer-readable medium of claim 40, wherein the UE transmits the uplink communication subject to a listen before talk (LBT) in each transmission unit or in each on period.

48. The non-transitory computer-readable medium of claim 40, wherein the UE transmits the communication without performing a listen before talk (LBT) procedure.

49. The non-transitory computer-readable medium of claim 40, further comprising code to:

receive uplink scheduling from a base station in scheduling units based on the transmission units.

50. The non-transitory computer-readable medium of claim 40, further comprising code to:

receive an uplink start delay in scheduling units based on the transmission units.

51. The non-transitory computer-readable medium of claim 40, wherein demodulation reference signal (DMRS) transmissions and physical uplink shared channel (PUSCH) transmissions within a same transmission unit are based on a same redundancy version (RV) and a same scrambling sequence.

52. The non-transitory computer-readable medium of claim 40, wherein the wireless communication comprises enhanced machine type communication (eMTC).