What is claimed is:

1. A user equipment for performing vehicle to everything (V2X) communication, comprising:

a memory;

a transceiver; and

a processor coupled to the memory and the transceiver,

wherein the processor is configured to:

control the transceiver to receive a network configuration of a plurality of configured grant-free (GF) resources within a network scheduled sidelink resource from a base station; and

after receiving the configuration, upon an arrival of a sidelink data packet from an upper layer of the user equipment for transmission, perform the V2X communication using the received configured grant-free resources;

wherein upon the arrival of the sidelink data packet from the upper layer of the user equipment for transmission, the transceiver performs a sidelink transmission of a data transport block (TB) using the configured grant-free resources within a latency time period requirement which is according to a proximity service (ProSe) per packet priority (PPPP) level of the sidelink data packet.

2. The user equipment of claim 1, wherein the sidelink transmission of the data TB using the configured GF resources comprises an initial transmission and a re-transmission of a same data TB.

3. The user equipment of claim 2, wherein the initial transmission and the re-transmission of the same data TB are in different subframes of the network scheduled sidelink resource.

4. The user equipment of claim 1, wherein the processor is configured to perform the V2X communication using the configured GF resources according to a plurality of sidelink control information (SCI) parameters in a physical sidelink control channel (PSCCH).

5. The user equipment of claim 4, wherein the SCI parameters comprises at least one of a resource reservation field, a priority field, a time gap, or a frequency resource location.

6. The user equipment of claim 5, wherein the resource reservation field is set

according to a number of data TB transmissions within a predetermined period.

7. The user equipment of claim 5, wherein the priority field is set based on a PPPP level associated with a latency requirement of a data TB.

8. The user equipment of claim 5, wherein the time gap is according to a resource availability within a sidelink transmission of the data TB, and the frequency resource location is according to a frequency hopping rule.

9. A method for performing vehicle to everything (V2X) communication of a user equipment, comprising:

receiving a network configuration of a plurality of configured grant-free (GF) resources within a network scheduled sidelink resource from a base station; and

after receiving the configuration, upon an arrival of a sidelink data packet from an upper layer of the user equipment for transmission, performing the V2X communication using the received configured grant-free resources;

wherein upon the arrival of the sidelink data packet from the upper layer of the user equipment for transmission, the method comprises performing a sidelink transmission of a data transport block (TB) using the configured grant-free resources within a latency time period requirement which is according to a proximity service (ProSe) per packet priority (PPPP) level of the sidelink data packet..

10. The method of claim 9, wherein the sidelink transmission of the data TB using the configured GF resources comprises an initial transmission and a re-transmission of a same data TB.

11. The method of claim 10, wherein the initial transmission and the re-transmission of the same data TB are in different subframes of the network scheduled sidelink resource.

12. The method of claim 9, further comprising performing the V2X communication using the configured GF resources according to a plurality of sidelink control information (SCI) parameters in a physical sidelink control channel (PSCCH).

13. The method of claim 12, wherein the SCI parameters comprise at least one of a resource reservation field, a priority field, a time gap, or a frequency resource location.

14. The method of claim 13, wherein the resource reservation field is set according to a number of data TB transmissions within a predetermined period.

15. The method of claim 13, wherein the priority field is set based on a PPPP level associated with a latency requirement of a data TB.

16. The method of claim 13, wherein the time gap is according to a resource availability within a sidelink transmission of the data TB, and the frequency resource location is according to a frequency hopping rule.

5