What is claimed is:

1. A first user equipment (UE) for transmission power control, 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 send a trigger signaling to a second UE to request the second UE to report a sidelink – reference signal received power (SL-RSRP) measurement result;

control the transceiver to receive, from the second UE, the SL-RSRP measurement report; and

estimate a pathloss between the first UE and the second UE according to the reported SL-RSRP measurement result;

wherein the pathloss between the first UE and the second UE is estimated according to a reference SL transmission power level used for transmitting physical sidelink shared channel (PSSCH) from the first UE to the second UE.

2. The first user equipment of claim 1, wherein the trigger signaling indicates a SL-RSRP measurement reporting interval.

3. The first user equipment of claim 1 or 2, wherein the trigger signaling for the SL-RSRP measurement reporting is part of a radio resource control (RRC) signaling.

4. The first user equipment of any one of claims 1 to 3, wherein the transceiver is further configured to transmit, to the second UE, a de-modulation reference signal (DMRS) of ~~physical sidelink shared channel~~ the ~~(~~PSSCH~~)~~ for the purpose of SL-RSRP measurement at the second UE.

5. The first user equipment of any one of claims 1 to 4, wherein the transceiver is further configured to receive, from the second UE, the SL-RSRP measurement report via the PSSCH.

~~6. The first user equipment of any one of claims 1 to 5, wherein the pathloss between the first UE and the second UE is estimated according to a reference SL transmission power level used for transmitting the PSSCH from the first UE to the second UE.~~

~~7~~6. The first user equipment of any one of claims 1 to 5, wherein the pathloss between the first UE and the second UE is estimated by calculating the following: the pathloss between the first UE and the second UE is equal to a reference SL transmission power level used for transmitting the PSSCH from the first UE to the second UE minus the reported SL-RSRP measurement result.

~~8~~7. The first user equipment of any one of claims 1 to ~~7~~6, wherein the processor is further configured to determine a new SL transmission power level used for transmitting the PSSCH from the first UE to the second UE according to the estimated pathloss value.

~~9~~8. The first user equipment of any one of claims 1 to ~~8~~7, wherein the reported SL-RSRP measurement result comprises measured SL-RSRP levels, and the measured SL-RSRP levels are averaged via layer 3 filtering.

~~10~~9. A method for transmission power control of a first user equipment, comprising:

sending a trigger signaling to a second UE to request the second UE to report a sidelink – reference signal received power (SL-RSRP) measurement result;

receiving, from the second UE, the SL-RSRP measurement report; and

estimating a pathloss between the first UE and the second UE according to the reported SL-RSRP measurement result;

wherein the pathloss between the first UE and the second UE is estimated according to a reference SL transmission power level used for transmitting physical sidelink shared channel (PSSCH) from the first UE to the second UE.

~~11~~10. The method of claim ~~10~~9, wherein the trigger signaling indicates a SL-RSRP measurement reporting interval.

~~12~~11. The method of claim ~~10~~9 or ~~11~~10, wherein the trigger signaling for the SL-RSRP measurement reporting is part of a radio resource control (RRC) signaling.

~~13~~12. The method of any one of claims ~~10~~9 to ~~12~~11, further comprising transmitting, to the second UE, a de-modulation reference signal (DMRS) of the ~~physical sidelink shared channel (~~PSSCH~~)~~ for the purpose of SL-RSRP measurement at the second UE.

~~14~~13. The method of any one of claims ~~10~~9 to ~~13~~12, further comprising receiving, from the second UE, the SL-RSRP measurement report via the PSSCH.

~~15. The method of any one of claims 10 to 14, wherein the pathloss between the first UE and the second UE is estimated according to a reference SL transmission power level used for transmitting the PSSCH from the first UE to the second UE.~~

~~16~~14. The method of any one of claims ~~10~~9 to ~~14~~13, wherein the pathloss between the first UE and the second UE is estimated by calculating the following: the pathloss between the first UE and the second UE is equal to a reference SL transmission power level used for transmitting the PSSCH from the first UE to the second UE minus the reported SL-RSRP measurement result.

~~17~~15. The method of any one of claims ~~10~~9 to ~~16~~14, further comprising determining a new SL transmission power level used for transmitting the PSSCH from the first UE to the second UE according to the estimated pathloss value.

~~18~~16. The method of any one of claims ~~10~~9 to ~~17~~15, wherein the reported SL-RSRP measurement result comprises measured SL-RSRP levels, and the measured SL-RSRP levels are averaged via layer 3 filtering.

~~19~~17. A computer readable storage medium, in which a computer program is stored, wherein the computer program causes a computer to execute the method of any one of claims ~~10~~9 to ~~18~~16.