CLAIMS

1. A wireless transmit/receive unit (WTRU) comprising circuitry including any of a processor, a transmitter, a receiver and a memory, the circuitry being configured to:

receive configuration information indicating (i) a set of positioning reference signal (PRS) resources, (ii) a time window to be used for phase measurement with the set of PRS resources, (iii) a starting frame number of the time window, (iv) a duration of the time window and (v) a periodicity of the time window;

receive a first plurality of PRS in the set of PRS resources from a reference transmit and receive point (TRP);

receive a second plurality of PRS in the set of PRS resources from another TRP;

determine a phase difference measurement based on a first PRS of the first plurality of PRS and a second PRS of the second plurality of PRS, wherein the first PRS and the second PRS are received in the time window;

determine a reference signal time difference (RSTD) measurement based on the first PRS and a third PRS of the second plurality of PRS; and

transmit reporting information indicating the phase difference measurement and the RSTD measurement, whereby the phase difference measurement and the RSTD measurement are reported for the same reference TRP.

2. The WTRU of claim 1, wherein the phase difference measurement is indicated in degrees.

3. The WTRU of claim 1, wherein being configured to determine the phase difference measurement comprises being configured to determine a phase difference between the first PRS received from the reference TRP and the second PRS received from the other TRP.

4. The WTRU of claim 1, wherein the phase difference measurement is for a first of a plurality of paths.

5. The WTRU of claim 4, wherein each path of the plurality of paths introduces a delayed version of a transmitted PRS.

6. The WTRU of claim 1, wherein the reporting information indicates the reference TRP.

7. The WTRU of claim 1, wherein the reporting information indicates a phase difference uncertainty associated with the phase difference measurement.

8. The WTRU of claim 7, wherein the phase difference uncertainty is indicated in degrees.

9. The WTRU of claim 1, wherein the third PRS is received in the time window.

10. The WTRU of claim 1, wherein the third PRS is received outside of the time window.

11. A method implemented in a wireless transmit/receive unit (WTRU), wherein the method comprises:

receiving configuration information indicating (i) a set of positioning reference signal (PRS) resources and (ii) a time window to be used for phase measurement with the set of PRS resources, (iii) a starting frame number of the time window, (iv) a duration of the time window and (v) a periodicity of the time window;

receiving a first plurality of PRS in the set of PRS resources from a reference transmit and receive point (TRP);

receiving a second plurality of PRS in the set of PRS resources from another TRP;

determining a phase difference measurement based on a first PRS of the first plurality of PRS and a second PRS of the second plurality of PRS, wherein the first PRS and the second PRS are received in the time window;

determining a reference signal time difference (RSTD) measurement based on the first PRS and a third PRS of the second plurality of PRS; and

transmitting reporting information indicating the phase difference measurement and the RSTD measurement, whereby the phase difference measurement and the RSTD measurement are reported for the same reference TRP.

12. The method of claim 11, wherein the phase difference measurement is indicated in degrees.

13. The method of claim 11, wherein determining the phase difference measurement comprises determining a phase difference between the first PRS received from the reference TRP and the second PRS received from the other TRP.

14. The method of claim 11, wherein the phase difference measurement is for a first path of a plurality of paths.

15. The method of claim 14, wherein each path of the plurality of paths introduces a delayed version of a transmitted PRS.

16. The method of claim 11, wherein the reporting information indicates the reference TRP.

17. The method of claim 11, wherein the reporting information indicates a phase difference uncertainty associated with the phase difference measurement.

18. The method of claim 17, wherein the phase difference uncertainty is indicated in degrees.

19. The method of claim 11, wherein the third PRS is received in the time window.

20. The method of claim 11, wherein the third PRS is received outside of the time window.