

WHAT IS CLAIMED IS:

1. A first device for communication, comprising:
 - at least one processor; and
 - at least one memory storing instructions that, when executed by the at least one processor, cause the first device at least to:
 - receive, from a fourth device, first configuration information for maintaining or establishing a positioning session associated with the first device; and
 - perform, based on the first configuration information and with positioning assistance of a second device, positioning of the first device while being in an out-of-coverage status with respect to the fourth device.
2. The first device of claim 1, wherein the first device is further caused to:
 - transmit, to the second device, a request for establishing a relay link between the first device and the second device for the positioning assistance based on the first configuration information;or
 - transmit, to a third device that is in an in-coverage status with respect to the fourth device, a notification of transmitting the request to the fourth device.
3. The first device of claim 2, wherein the first device is caused to transmit the request or the notification based on determining at least one of the following:
 - a time duration after a radio link failure, RLF, is declared is above a first time threshold,
 - a distance between the first device and the fourth device or a fifth device after the RLF is declared is below a first distance threshold,
 - received powers of positioning reference signals are above a first power threshold, or
 - the first number of transmission reception points, TRPs, is above a first number threshold.
4. The first device of claim 3, wherein the first time threshold is associated with at least one of the following:
 - a T310 timer,
 - a time alignment timer associated with a random access procedure, or

a counter of beam failure instance.

5. The first device of claim 3, wherein the first configuration information comprises at least one of the following:

the first time threshold,
the first distance threshold,
the first power threshold,
the first number threshold, or
positioning assistance data.

6. The first device of claim 1, wherein the first device is further caused to:
determine whether the first device is in an out-of-coverage status.

7. A fourth device for communication, comprising:
at least one processor; and
at least one memory storing instructions that, when executed by the at least one processor,
cause the fourth device at least to:

transmit, to a first device, first configuration information for maintaining or establishing a
positioning session associated with the first device which is in an out-of-coverage status with
respect to the fourth device; and

receive, from the first device via a second device, a positioning measurement report
associated with the first device.

8. The fourth device of claim 7, wherein the fourth device is further caused to:
transmit, to the second device, second configuration information for establishing a relay
link between the first device and the second device for positioning assistance for the first device
which is in an out-of-coverage status with respect to the fourth device.

9. The fourth device of claim 8, wherein the fourth device is caused to transmit the second
configuration information for establishing the relay link based on determining:
the first device experiences an unexpected coverage interruption, or

the first device experiences an expected coverage interruption.

10. A second device for communication, comprising:

at least one processor; and

at least one memory storing instructions that, when executed by the at least one processor, cause the second device at least to:

receive second configuration information for establishing a relay link for positioning assistance for a first device which is in an out-of-coverage status, the relay link being between the first device and the second device;

establish the relay link based on the second configuration information; and

forward a positioning measurement report from the first device.

11. The second device of claim 10, wherein the second device is further caused to:

receive, from a first device, a request for establishing the relay link; and

wherein the second device is caused to establish the relay link based on the second configuration information and the request.

12. The second device of claim 10, wherein the second device is further caused to:

receive, from the first device, a request for update of positioning assistance data for the first device;

transmit, to a fourth device, the request for the update of positioning assistance data;

receive, from the fourth device, updated positioning assistance data; and

transmit, to the first device, the updated positioning assistance data.

13. The second device of claim 10, wherein the second device is further caused to:

transmit, to the first device, a notification that the second device is configured for the positioning assistance.

14. The second device of claim 10, wherein the second device is in an in-coverage status with respect to the fourth device.

15. A method for communication, comprising:

receiving, at a first device from a fourth device, first configuration information for maintaining or establishing a positioning session associated with the first device; and

performing, based on the first configuration information and with positioning assistance of a second device, positioning of the first device while being in an out-of-coverage status with respect to the fourth device.

16. The method of claim 15, further comprising:

transmitting, to the second device, a request for establishing a relay link between the first device and the second device for the positioning assistance based on the first configuration information; or

transmitting, to a third device that is in an in-coverage status with respect to the fourth device, a notification of transmitting the request to the fourth device.

17. The method of claim 16, further comprising:

determining whether the first device is in an out-of-coverage status.

18. A method for communication, comprising:

receiving, at a second device, second configuration information for establishing a relay link for positioning assistance for a first device which is in an out-of-coverage status, the relay link being between the first device and the second device;

establishing the relay link based on the second configuration information; and

forwarding a positioning measurement report from the first device.

19. The method of claim 18, further comprising:

receiving, from a first device, a request for establishing the relay link; and

wherein the second device is caused to establish the relay link based on the second configuration information and the request.

20. The method of claim 18, further comprising:

receiving, from the first device, a request for update of positioning assistance data for the

first device;

transmitting, to a fourth device, the request for the update of positioning assistance data;
receiving, from the fourth device, updated positioning assistance data; and
transmitting, to the first device, the updated positioning assistance data.

21. The method of claim 18, further comprising:

transmitting, to the first device, a notification that the second device is configured for the positioning assistance.

22. A computer program comprising instructions executed by at least one processor to cause an apparatus to perform the method of any one of claims 15 to 21.

23. A non-transitory computer readable medium comprising the computer program of claim 22.