

CLAIMS**WHAT IS CLAIMED IS:**

1. A method for wireless communications from a user equipment (UE), comprising:
 - determining resources to monitor for radio link monitoring (RLM) prior to being configured with resources to monitor for RLM after establishing a radio resource control (RRC) connection with a network; and
 - performing RLM based on the determined resources.
2. The method of claim 1, wherein the determined resources comprise one or more beams measured and reported during a random access channel (RACH) procedure.
3. The method of claim 2, wherein the one or more beams are reported in a first uplink message after a random access preamble transmission, wherein the first uplink message is a RRC Connection Request message.
4. The method of claim 2, wherein the one or more beams comprise one or more beams used during a random access response (RAR) message transmission.
5. The method of claim 4, wherein:
 - the UE reports, in a first uplink message after the RAR message, one more preferred beams of the one or more beams used for the RAR message; and
 - a subsequent downlink message, after the RAR message, is transmitted using one of the reported beams.
6. The method of claim 2, wherein:
 - the beam determined during initial access is used for a random access response (RAR) transmission and is used as the determined resource if beam reporting in a RRC Connection Request) message is not present.
7. The method of claim 1, wherein:
 - the UE determines the resources to monitor for RLM while the UE is in

RRC-CONNECTED mode and configured with one or more control resource sets (CORESETs) and search spaces, but before being configured with RLM reference signals (RSs).

8. The method of claim 7, wherein the resources to monitor for RLM comprise reference signal (RS) resources associated with spatial quasi-colocation (QCL) parameters in a transmission configuration indication (TCI) state associated with the one or more configured CORESETs.

9. The method of claim 8, wherein:
when the UE is configured with M CORESETs after a random access channel (RACH) procedure, the UE uses M RLM-RSs to replace a previous N RLM-RSs that were measured and reported during the RACH procedure.

10. The method of claim 9, wherein:
N is greater than M; and
M RLM-RS replace only a subset of N RLM-RSs based on one or more criteria.

11. The method of claim 1, further comprising:
determining an RS is a default RLM-RS; and
transmitting, using a network (NW), the RLM-RS with a known pattern periodically in response to the determination.

12. The method of claim 1, further comprising:
utilizing a first set of parameters for RLM and Radio Link Failure (RLF) process prior to being configured with resources to monitor for RLM after establishing a radio resource control (RRC) connection with a network; and
updating one or more of the first set of parameters for RLM and RLF process after establishing a radio resource control (RRC) connection with a network.

13. The method of claim 12, wherein updating one or more of the first parameters comprises increasing or decreasing one or more of the first parameters by a fixed amount.

14. An apparatus for wireless communications from a user equipment (UE), comprising:
 - means for determining resources to monitor for radio link monitoring (RLM) prior to being configured with resources to monitor for RLM after establishing a radio resource control (RRC) connection with a network; and
 - means for performing RLM based on the determined resources.
15. The apparatus of claim 14, wherein the determined resources comprise one or more beams measured and reported during a random access channel (RACH) procedure.
16. The apparatus of claim 15, wherein the one or more beams are reported in a first uplink message after a random access preamble transmission, wherein the first uplink message is a RRC Connection Request message.
17. The apparatus of claim 15, wherein the one or more beams comprise one or more beams used during a random access response (RAR) message transmission.
18. The apparatus of claim 17, wherein:
 - the UE reports, in a first uplink message after the RAR message, one more preferred beams of the one or more beams used for the RAR message; and
 - a subsequent downlink message, after the RAR message, is transmitted using one of the reported beams.
19. The apparatus of claim 15, wherein:
 - the beam determined during initial access is used for a random access response (RAR) transmission and is used as the determined resource if beam reporting in a RRC Connection Request message is not present.
20. The apparatus of claim 14, wherein:
 - the UE determines the resources to monitor for RLM while the UE is in RRC-CONNECTED mode and configured with one or more control resource sets (CORESETs) and search spaces, but before being configured with RLM reference signals (RSs).

21. The apparatus of claim 20, wherein the resources to monitor for RLM comprise reference signal (RS) resources associated with spatial quasi-colocation (QCL) parameters in a transmission configuration indication (TCI) state associated with the one or more configured CORESETs.
22. The apparatus of claim 21, wherein:
when the UE is configured with M CORESETs after a random access channel (RACH) procedure, the UE uses M RLM-RSs to replace a previous N RLM-RSs that were measured and reported during the RACH procedure.
23. The apparatus of claim 22, wherein:
N is greater than M; and
M RLM-RS replace only a subset of N RLM-RSs based on one or more criteria.
24. The apparatus of claim 14, further comprising:
means for determining an RS is a default RLM-RS; and
means for transmitting, using a network (NW), the RLM-RS with a known pattern periodically in response to the determination.
25. The apparatus of claim 14, further comprising:
means for utilizing a first set of parameters for RLM and Radio Link Failure (RLF) process prior to being configured with resources to monitor for RLM after establishing a radio resource control (RRC) connection with a network; and
means for updating one or more of the first set of parameters for RLM and RLF process after establishing a radio resource control (RRC) connection with a network.
26. The apparatus of claim 25, wherein means for updating one or more of the first parameters comprises means for increasing or decreasing one or more of the first parameters by a fixed amount.
27. An apparatus for wireless communications from a user equipment (UE), comprising:
at least one processor configured to determine resources to monitor for radio link monitoring (RLM) prior to being configured with resources to monitor for RLM after

establishing a radio resource control (RRC) connection with a network and to perform RLM based on the determined resources; and
a memory coupled with the at least one processor.

28. A computer readable medium having instructions stored thereon for:
determining resources to monitor for radio link monitoring (RLM) prior to being configured with resources to monitor for RLM after establishing a radio resource control (RRC) connection with a network; and
performing RLM based on the determined resources.