

CLAIMS

WHAT IS CLAIMED IS:

1. A method of wireless communication for a user equipment (UE), the method comprising:
 - detecting a set of beams from a base station;
 - selecting a beam of the set of beams;
 - determining at least one resource based on the selected beam, the at least one resource including at least one of a radio frame index, a subframe index, a symbol index, or a subcarrier region; and
 - transmitting, to the base station on the at least one determined resource, a beam adjustment request, wherein the at least one determined resource indicates an index associated with the selected beam.
2. The method of claim 1, wherein the beam adjustment request to the base station comprises a request for a beam refinement reference signal (BRRS).
3. The method of claim 1, wherein the at least one resource is included in subframe associated with a random access channel (RACH).
4. The method of claim 3, wherein the at least one resource is included in a bandwidth reserved for RACH transmission.
5. The method of claim 3, wherein the at least one resource is included in a bandwidth that is unreserved for RACH transmission.
6. The method of claim 5, wherein the bandwidth is reserved for scheduling request transmission.
7. The method of claim 1, wherein the at least one resource is included in a physical uplink control channel (PUCCH).
8. The method of claim 1, further comprising:

receiving, from the base station, an instruction to perform beam refinement at a receiver of the UE based on the request; and
performing beam refinement based on the instruction.

9. The method of claim 8, wherein the performance of beam refinement at the UE receiver is further based on the selected beam.
10. A method of wireless communication for a base station, the method comprising:
transmitting a first set of beams;
receiving a beam adjustment request on at least one resource, the at least one resource including at least one of a radio frame index, a subframe index, a symbol index, or a subcarrier region; and
determining a beam index of a beam in the first set of beams based on the at least one resource.
11. The method of claim 10, wherein the beam adjustment request comprises a request to transmit a beam refinement reference signal (BRRS).
12. The method of claim 10, further comprising:
transmitting an instruction to perform beam tracking based on the beam adjustment request and determined beam index; and
performing beam tracking with the UE.
13. The method of claim 12, further comprising:
transmitting a second set of beams based on the determined beam index to perform the beam tracking.
14. The method of claim 10, wherein the at least one resource is included on a physical uplink control channel (PUCCH).
15. The method of claim 10, wherein the at least one resource is included on subframe associated with a random access channel (RACH).

16. The method of claim 10, wherein the at least one resource is included in a bandwidth associated with RACH transmission.
17. The method of claim 10, wherein the at least one resource is included in a bandwidth that is unreserved for RACH transmission.
18. The method of claim 17, wherein the bandwidth is reserved for scheduling request transmission.
19. The method of claim 10, wherein the at least one resource indicates a range of indexes and a subcarrier of the at least one resource indicates the beam index within the range.
20. The method of claim 19, wherein a subframe of the at least one resource indicates a range of indexes, and the method further comprises:
 - determining, from within the range, the beam index based on a strength of a signal in different receive chains of the base station through which the beam adjustment request is received.
21. A user equipment (UE), the UE comprising:
 - means for detecting a set of beams from a base station;
 - means for selecting a beam of the set of beams;
 - means for determining at least one resource based on the selected beam, the at least one resource including at least one of a radio frame index, a subframe index, a symbol index, or a subcarrier region; and
 - means for transmitting, to the base station on the at least one determined resource, a beam adjustment request, wherein the at least one determined resource indicates an index associated with the selected beam.
22. The UE of claim 21, wherein the beam adjustment request comprises a request for a beam refinement reference signal (BRRS).
23. The UE of claim 21, wherein the at least one resource is included in subframe associated with a random access channel (RACH).

24. The UE of claim 21, wherein the at least one resource is included in a physical uplink control channel (PUCCH).
25. The UE of claim 21, further comprising:
means for receiving, from the base station, an instruction to perform beam refinement at a receiver of the UE based on the beam adjustment request; and
means for performing beam refinement based on the instruction.
26. A base station, the base station comprising:
means for transmitting a first set of beams;
means for receiving a beam adjustment request on at least one resource, the at least one resource including at least one of a radio frame index, a subframe index, a symbol index, or a subcarrier region; and
means for determining a beam index of a beam in the first set of beams based on the at least one resource.
27. The base station of claim 26, wherein the beam adjustment request comprises a request to transmit a beam refinement reference signal (BRRS).
28. The base station of claim 26, wherein the at least one resource is included on a physical uplink control channel (PUCCH).
29. The base station of claim 26, wherein the at least one resource is included on subframe associated with a random access channel (RACH).
30. The base station of claim 26, wherein the at least one resource indicates a range of indexes and a subcarrier of the at least one resource indicates the beam index within the range, and wherein a subframe of the at least one resource indicates a range of indexes, and the method further comprises:
determining, from within the range, the beam index based on a strength of a signal in different receive chains of the base station through which the beam adjustment request is received.