CLAIMS

1. A method of wireless communication at a first wireless communication device, comprising:

identifying a beam failure (BF) event at the first wireless communication device that impacts at least one beam pair link (BPL), wherein identifying the BF event comprises detecting and predicting a BF caused by an event initiated by the first wireless communication device, the event causing a configuration change of one or more impacted antenna panels of the first wireless communication device; and

communicating a request to a second wireless communication device to stop communicating on the at least one BPL, the at least one BPL associated with the one or more impacted antenna panels.

2. The method of claim 1, further comprising:

receiving a confirmation from the second wireless communication device in response to the request.

3. The method of claim 2, wherein the request indicates a time for the first wireless communication device to stop monitoring the at least one BPL and/or a time when the first wireless communication device does not expect any further transmission scheduled on the at least one BPL.

4. The method of claim 2, further comprising

ceasing monitoring the at least one BPL in response to the confirmation from the second wireless communication device.

5. The method of claim 3, wherein identifying the BF event comprises

determining an identifier (ID) of an antenna panel associated with the at least one impacted BPL.

6. The method of claim 5, further comprising:

ceasing monitoring a second BPL associated with the ID of the antenna panel.

7. The method of claim 1, wherein identifying the BF event comprises detecting a relative position change of first wireless communication device's components using a sensor of the first wireless communication device.

8. The method of claim 5, wherein the request comprises

an identifier for the beam failure event,

an identifier of the at least one BPL,

an identifier of the antenna panel,

an indication of a time,

a predicted time period for which that the impacted BPL remains available,

an indication of which of a transmission function and a receiving function of the impacted BPL is impacted by the BF event,

a recommended BPL in place of the impacted BPL, or a combination thereof.

9. The method of claim 8, wherein the time comprises a predicted BF time or a time beyond which the first wireless communication device will cease using the BPL for receiving or transmitting a signal.

10. The method of claim 1, wherein the request is carried on a different carrier on a same or different frequency band and/or in a physical uplink control channel (PUCCH) or a schedule request sent to the second wireless communication device.

11. The method of claim 8, wherein the identifier of the at least one BPL is associated with a transmission configuration indicator (TCI) state, an antenna panel ID, an ID of an SRS resource, a RS resource, and/or an assigned target RS resource or wherein the identifier of the BPL is associated with a configuration of a RS.

12. The method of claim 11, wherein the configuration of the RS indicates spatial relationship information linking the RS resource with an RS resource or an antenna panel ID.

13. The method of claim 1, wherein the BFD process comprises at least a minimum number of beam failure occurrences, a timer between two beam failures, and a delay of signaling message exchange between the first wireless communication device and the

second wireless communication device , and/or wherein the BFD process comprises at least measuring at least one of a reference signal received power (RSRP)/ signal to noise ratio (SNR) / signal to interference noise ratio (SINR) of a BFD reference signal (RS) received from the second wireless communication device.

14. The method of claim 1, further comprising

communicating the request only after a timer expires since a previous request has been sent to the second wireless communication device; and/or

refraining from using the impacted BPL before a second timer has expired;

wherein one of the first wireless communication device and the second wireless communication device comprise one of a user equipment, a base station, and a backhaul network node.

15. A method of wireless communication at a first wireless communication device, comprising:

receiving a request from a second wireless communication device , the request reporting a beam failure (BF) event that impacts at least one beam pair link (BPL), the BF event being identified by detecting and predicting a BF caused by an event initiated by the first wireless communication device, the event causing a configuration change of one or more impacted antenna panels of the first wireless communication device, the at least one BPL associated with the one or more impacted antenna panels; and

refraining from communicating with and scheduling the at least one BPL and/or ceasing monitoring the at least one BPL in response to the request.

16. The method of claim 15, further comprising

communicating a confirmation to the second wireless communication device in response to the request.

17. The method of claim 15, wherein ceasing monitoring the at least one BPL comprises ceasing monitoring all of BPLs associated with an identifier (ID) of an antenna panel associated with the BPL.

18. The method of claim 15, wherein the request comprises

an identifier for the beam failure event,

an identifier of the at least one BPL,

an identifier of an associated antenna panel,

an indication of a time,

a predicted time period for which that the BPL remains available,

an indication of whether a transmission function, a receiving function, or both on the impacted BPL is impacted by the BF event,

a recommended BPL in place of the impacted BPL, or a combination thereof.

19. The method of claim 18, wherein the time comprises a predicted BF time or a time beyond which the second wireless communication device will cease using the BPL for receiving or transmitting a signal.

20. The method of claim 19, wherein refraining from communicating with and scheduling and/or ceasing monitoring comprises refraining from communicating with and scheduling the at least one BPL and/or ceasing monitoring the at least one BPL based on the indication of the time.

21. The method of claim 15, wherein the request is carried on a different carrier on a same or different frequency band and/or in a physical uplink control channel (PUCCH) or a schedule request sent to the first wireless communication device.

22. The method of claim 18, wherein the identifier of the at least one BPL is associated with a transmission configuration indicator (TCI) state, an ID of an SRS resource, a RS resource, and/or an assigned target RS resource or wherein the identifier of the BPL is associated with a configuration of a RS.

23. The method of claim 22, wherein the configuration of the RS comprises spatial relationship information linking the RS resource with a RS resource.

24. The method of claim 15, wherein the BFD process comprises at least a minimum number of beam failure occurrences, a timer between two beam failures, and a delay of signaling message exchange between the first wireless communication device and the second wireless communication device, and/or wherein the BFD process comprises at least measuring at least one of a reference signal received power (RSRP)/ signal to noise

ratio (SNR) / signal to interference noise ratio (SINR) of a BFD reference signal (RS) received from the first wireless communication device.

25. The method of claim 15, further comprising scheduling transmission or reception on the impacted BPL based on the indication of whether a transmission function, a receiving function, or both on the impacted BPL is impacted by the BF event, wherein one of the first wireless communication device and the second wireless communication device comprise one of a user equipment, a base station, and a backhaul network node.

26. An apparatus for wireless communications implemented at a first wireless communication device, comprising

a transceiver;

a memory; and

at least one processor coupled to the memory and configured to: identify a beam failure (BF) event at the first wireless communication device that impacts at least one beam pair link (BPL), wherein identifying the BF event comprises detecting and predicting a BF caused by an event initiated by the first wireless communication device, the event causing a configuration change of one or more impacted antenna panels of the first wireless communication device; and

communicate a request to a second wireless communication device to stop communicating on the at least one BPL, the at least one BPL associated with the one or more impacted antenna panels.

27. The apparatus of claim 26, wherein the at least one processor is further configured to:

receive a confirmation from the second wireless communication device in response to the request;

cease monitoring the at least one BPL in response to the confirmation from the second wireless communication device; or

a combination thereof.

28. The apparatus of claim 26, wherein the request indicates a time for the first wireless communication device to stop monitoring the at least one BPL and/or a time when the first wireless communication device does not expect any further transmission scheduled on the at least one BPL.

29. An apparatus for wireless communications implemented at a first wireless communication device, comprising

a transceiver;

a memory; and

at least one processor coupled to the memory and configured to:

receive a request from a second wireless communication device , the request reporting a beam failure (BF) event that impacts at least one beam pair link (BPL) without going through a BF detection (BFD) process, the BF event being identified by detecting and predicting a BF caused by an event initiated by the first wireless communication device, the event causing a configuration change of one or more impacted antenna panels of the first wireless communication device, the at least one BPL associated with the one or more impacted antenna panels; and

refrain from communicating with and scheduling the at least one BPL and/or ceasing monitoring the at least one BPL in response to the request.

30. The apparatus of claim 29, wherein the request comprises one or more of:

an identifier for the beam failure event;

an identifier of the at least one BPL;

an identifier of an associated antenna panel;

an indication of a time;

a predicted time period for which that the BPL remains available;

an indication of whether a transmission function, a receiving function, or both on the impacted BPL is impacted by the BF event; and

a recommended BPL in place of the impacted BPL.