

CLAIMS

What is claimed is:

1. _____ A method for wireless communication at a user equipment (UE), comprising:
 identifying a failure of a serving beam in an active bandwidth part of a carrier utilized by the UE for wireless communication;

 determining, for the active bandwidth part ~~of the carrier~~, a level of support for a random access procedure;

 determining, based at least in part on the failure of the serving beam and the level of support, a contingency bandwidth part ~~of the carrier~~ supporting the random access procedure;
determining the contingency bandwidth part based at least in part on a prior random access procedure; and performing the random access procedure using the contingency bandwidth part in response to the failure.

~~performing the random access procedure using~~ 2. The method of claim 1, further comprising:
receiving, from a network device, an indication via radio resource control (RRC) signaling of the contingency bandwidth part ~~of the carrier~~.

2. _____ ~~The method of claim 1, further comprising:~~

 determining the contingency bandwidth part ~~of the carrier based at least in part on a prior random access procedure.~~

3. _____ ~~The method of claim 2, wherein determining the contingency bandwidth part of the carrier comprises:~~

 identifying an initial bandwidth part ~~of the carrier~~ as used for the prior random access procedure; and

 determining the contingency bandwidth part ~~of the carrier~~ as the initial bandwidth part ~~of the carrier~~.

4. _____ ~~The method of claim 1, further comprising:~~

 receiving, ~~from a base station, an indication of the contingency bandwidth part of the carrier.~~

5. _____ ~~The method of claim 4, further comprising:~~

 receiving the indication ~~of the contingency bandwidth part of the carrier via radio resource control (RRC) signaling.~~

6. ~~_____~~ The method of claim 1, further comprising:

~~_determining the contingency bandwidth part of the carrier based at least in part on a reference signal transmitted in the active bandwidth part of the carrier.~~

7. ~~_____~~ 5. The method of claim 6, ~~4~~, further comprising:

~~_identifying a mapping between the reference signal and a beam comprising a random access resource; and~~ determining the contingency bandwidth part based at least in part on the mapping.

~~determining the contingency bandwidth part of the carrier based at least in part on the mapping.~~

8. ~~_____~~ 6. The method of claim 7, ~~5~~, further comprising:

~~_receiving an indication of the mapping via radio resource control (RRC) signaling.~~

9. ~~_____~~ 7. The method of claim 7, ~~5~~, wherein the reference signal is quasi-colocated with the beam comprising the random access resource.

10. ~~_____~~ 8. The method of claim 6, ~~4~~, further comprising:

~~_identifying a candidate beam based at least in part on the reference signal.~~

11. ~~_____~~ 9. The method of claim 6, ~~4~~, wherein the reference signal comprises a synchronization signal, a channel state information reference signal (CSI-RS), or a combination thereof.

12. ~~_____~~ 10. The method of claim 1, wherein performing the random access procedure using the contingency bandwidth part ~~of the carrier~~ comprises:

~~determining a number of viable candidate beams for the active bandwidth part of the carrier; and~~

~~_selecting the random access procedure based at least in part on the number of viable candidate beams for the active bandwidth part of the carrier.~~

13. ~~_____~~ 11. The method of claim 12, ~~10~~, wherein selecting the random access procedure comprises:

~~selecting the random access procedure as a contention-free random access procedure if the number of viable candidate beams in the active bandwidth part of the carrier is at least one.~~

~~14.~~ ~~_____~~ ~~12.~~ The method of claim ~~12,~~10, wherein selecting the random access procedure comprises:

selecting the random access procedure as a contention-based random access procedure if the number of viable candidate beams in the active bandwidth part ~~of the carrier~~ is zero.

~~15.~~ ~~_____~~ ~~13.~~ The method of claim 1, wherein performing the random access procedure using the contingency bandwidth part ~~of the carrier~~ comprises:

 determining a number of viable candidate beams for the contingency bandwidth part ~~of the carrier~~; and

 selecting the random access procedure based at least in part on the number of viable candidate beams for the contingency bandwidth part ~~of the carrier~~.

~~16.~~ ~~_____~~ ~~14.~~ The method of claim ~~15,~~13, wherein selecting the random access procedure comprises:

selecting the random access procedure as a contention-free random access procedure if the number of viable candidate beams in the contingency bandwidth part ~~of the carrier~~ is at least one.

~~17.~~ ~~_____~~ ~~15.~~ The method of claim ~~15,~~13, wherein selecting the random access procedure comprises:

selecting the random access procedure as a contention-based random access procedure if the number of viable candidate beams in the contingency bandwidth part ~~of the carrier~~ is zero.

~~18.~~ ~~_____~~ ~~16.~~ The method of claim 1, wherein the contingency bandwidth part ~~of the carrier~~ is the active bandwidth part ~~of the carrier~~.

~~19.~~ ~~_____~~ ~~17.~~ The method of claim 1, wherein:

 the active bandwidth part ~~of the carrier~~ is a first bandwidth part; and

 the contingency bandwidth part ~~of the carrier~~ is a second bandwidth part.

~~20.~~ ~~_____~~ ~~18.~~ A method for wireless communication, comprising:

 configuring a user equipment (UE) to utilize a first bandwidth part ~~of a carrier~~ as an active bandwidth part ~~of the carrier~~ for wireless communication; and

 transmitting, to the UE, an indication of a contingency bandwidth part ~~of the carrier~~ in which to use for perform beam recovery as part of a subsequent random access procedure. ~~in~~

response to a failure of a serving beam in an active bandwidth part utilized by the UE for wireless communication, wherein the contingency bandwidth part is based at least in part on a prior random access procedure.

~~21. ———— 19.~~ The method of claim ~~20, 18,~~ wherein transmitting the indication of the contingency bandwidth part ~~of the carrier~~ comprises:

~~transmitting, to the UE, a reference signal in the active bandwidth part of the carrier;~~

~~;~~ transmitting, to the UE, a beam comprising a random access resource; and

~~transmitting, to the UE, an indication of a mapping between the reference signal and the beam comprising the random access resource.~~

~~22. ———— 20.~~ The method of claim ~~21, 19,~~ wherein transmitting the indication of the mapping comprises:

~~transmitting the indication of the mapping via radio resource control (RRC) signaling.~~

~~23. ———— 21.~~ The method of claim ~~20, 18,~~ wherein transmitting the indication of the contingency bandwidth part ~~of the carrier~~ comprises:

~~transmitting an explicit indication of the contingency bandwidth part of the carrier via radio resource control (RRC) signaling.~~

~~24. — 22.~~ The method of claim ~~20, 18,~~ wherein ~~transmitting the indication of the the~~ contingency bandwidth part ~~of is the carrier comprises:~~ active bandwidth part.

~~configuring the UE to determine the contingency bandwidth part of the carrier based at least in part on a prior random access procedure by the UE.~~

~~25. ———— 23.~~ The method of claim ~~20, 18,~~ wherein the contingency bandwidth part ~~of the carrier is the active bandwidth part of the carrier.~~

~~26. — The method of claim 20, wherein the contingency bandwidth part of the carrier is a second bandwidth part.~~

~~27. ———— 24.~~ An apparatus for wireless communication at a user equipment (UE), comprising:

~~means for identifying a failure of a serving beam in an active bandwidth part of a carrier utilized by the UE for wireless communication;~~

~~_means for determining, for the active bandwidth part of the carrier, a level of support for a random access procedure;~~

~~_means for determining, based at least in part on the failure of the serving beam and the level of support, a contingency bandwidth part of the carrier supporting the random access procedure, wherein the contingency bandwidth part is based at least in part on a prior random access procedure; and means for performing the random access procedure using the contingency bandwidth part in response to the failure.~~

~~means for performing the random access procedure using the contingency bandwidth part of the carrier.~~

28. ———— 25. An apparatus for wireless communication, comprising:

~~_means for configuring a user equipment (UE) to utilize a first bandwidth part of a carrier as an active bandwidth part of the carrier for wireless communication; and~~

~~_means for transmitting, to the UE, an indication of a contingency bandwidth part of the carrier in which to use for a perform beam recovery as part of a subsequent random access procedure in response to a failure of a serving beam in an active bandwidth part utilized by the UE for wireless communication, wherein the contingency bandwidth part is based at least in part on a prior random access procedure.~~

29. ———— 26. An apparatus for wireless communication at a user equipment (UE), comprising:

——— a processor;

——— memory in electronic communication with the processor; and

——— instructions stored in the memory and executable by the processor to cause the apparatus to:

~~_identify a failure of a serving beam in an active bandwidth part of a carrier utilized by the UE for wireless communication;~~

~~_determine, for the active bandwidth part of the carrier, a level of support for a random access procedure;~~

~~_determine, based at least in part on the failure of the serving beam and the level of support, a contingency bandwidth part of the carrier supporting the random access procedure; and~~

~~perform the random access procedure using, wherein the contingency bandwidth part of the carrier is based at least in part on a prior random access procedure; and perform the random access procedure using the contingency bandwidth part in response to the failure.~~

30. ~~27.~~ The apparatus of claim ~~29,26,~~ further comprising:

~~_a receiver;~~

~~a transmitter; and~~

~~_instructions stored in the memory and executable by the processor to cause the apparatus to:~~

~~_receive, via the receiver, configuration information from a base station/network device; and~~

~~_configure, based at least in part on the configuration information, the receiver or the transmitter to use the active bandwidth part of the carrier.~~

31. ~~28.~~ The apparatus of claim ~~29,26,~~ further comprising:

~~_a receiver;~~

~~a transmitter; and~~

~~_instructions stored in the memory and executable by the processor to cause the apparatus to:~~

~~_configure, based at least in part on determining the contingency bandwidth part of the carrier, the receiver or the transmitter to use the contingency bandwidth part of the carrier.~~

32. ~~29.~~ An apparatus for wireless communication, comprising:

~~_____a processor;~~

~~_____memory in electronic communication with the processor; and~~

~~_____instructions stored in the memory and executable by the processor to cause the apparatus to:~~

~~_configure a user equipment (UE) to utilize a first bandwidth part of a carrier as an active bandwidth part of the carrier for wireless communication; and~~

~~_transmit, to the UE, an indication of a contingency bandwidth part of the carrier in which to use for perform beam recovery as part of a subsequent random access procedure; in response to a failure of a serving beam in an active bandwidth part utilized by the UE for wireless communication, wherein the contingency bandwidth part is based at least in part on a prior random access procedure.~~

~~33.~~—~~30.~~ A non-transitory computer-readable medium storing code for wireless communication at a user equipment (UE), the code comprising instructions executable by a processor to:

~~_identify a failure of a serving beam in an active bandwidth part of a carrier~~
utilized by the UE for wireless communication;

~~_determine, for the active bandwidth part of the carrier, a level of support for a~~
random access procedure;

~~_determine, based at least in part on the failure of the serving beam and the level of support, a~~
contingency bandwidth part ~~of the carrier~~ supporting the random access procedure, wherein
the contingency bandwidth part based at least in part on a prior random access procedure; and
perform the random access procedure using the contingency bandwidth part in response to
the failure.

~~perform the random access procedure using the contingency bandwidth part of~~
~~the carrier.~~

~~34.~~—~~31.~~ A non-transitory computer-readable medium storing code for wireless communication, the code comprising instructions executable by a processor to:

~~_configure a user equipment (UE) to utilize a first bandwidth part of a carrier~~
as an active bandwidth part ~~of the carrier~~ for wireless communication; and

~~_transmit, to the UE, an indication of a contingency bandwidth part of the carrier~~
in which to
use for perform beam recovery as part of a subsequent random access procedure in response
to a failure of a serving beam in an active bandwidth part utilized by the UE for wireless
communication, wherein the contingency bandwidth part is based at least in part on a prior
random access procedure.