

CLAIMS

What is claimed is:

- 1 1. A method for wireless communication, comprising:
2 receiving a directional synchronization subframe from a base station;
3 identifying a time period for transmitting a scheduling request to the base
4 station, wherein the time period for transmitting the scheduling request is based at least in
5 part on the directional synchronization subframe; and
6 transmitting the scheduling request to the base station during the time period.
- 1 2. The method of claim 1, further comprising:
2 receiving a grant for transmitting a buffer status report (BSR) in response to
3 the scheduling request; and
4 transmitting the BSR to the base station using resources indicated in the grant.
- 1 3. The method of claim 2, wherein
2 the resources indicated in the grant comprise physical uplink shared channel
3 (PUSCH) resources, physical uplink control channel (PUCCH) resources, or both.
- 1 4. The method of claim 1, wherein the directional synchronization
2 subframe comprises a set of directional synchronization signals.
- 1 5. The method of claim 4, further comprising:
2 identifying a directional signal from the set of directional synchronization
3 signals, wherein the time period for transmitting the scheduling request is based at least in
4 part on the identified directional signal.
- 1 6. The method of claim 4, wherein each set of directional synchronization
2 signals comprises a primary synchronization signal, a secondary synchronization signal, a
3 beam reference signal, or any combination thereof.
- 1 7. The method of claim 1, further comprising:
2 receiving an indication of at least one of a cyclic shift, a set of subcarriers, or a
3 sequence index from the base station, wherein the scheduling request is transmitted using the
4 cyclic shift, the set of subcarriers, the sequence index, or a combination thereof.

1 **8.** The method of claim 1, wherein
2 the scheduling request comprises a sequence repeated a plurality of times over
3 a plurality of symbol periods.

1 **9.** The method of claim 1, wherein
2 the time period for transmitting the scheduling request is associated with a
3 random access channel (RACH).

1 **10.** The method of claim 9, further comprising:
2 identifying a frequency region associated with the RACH and a frequency
3 region associated with scheduling requests that does not overlap with the frequency region
4 associated with the RACH, wherein the scheduling request is transmitted using resources
5 located within the frequency region associated with scheduling requests.

1 **11.** The method of claim 9, further comprising:
2 identifying a cyclic prefix length for the scheduling request, wherein the cyclic
3 prefix length comprises a long cyclic prefix length associated with the RACH or a short
4 cyclic prefix length associated with non-RACH transmissions.

1 **12.** A method for wireless communication, comprising:
2 transmitting a directional synchronization subframe to a user equipment (UE);
3 and
4 receiving a scheduling request from the UE during a time period selected by
5 the UE based at least in part on the directional synchronization subframe.

1 **13.** The method of claim 12, further comprising:
2 transmitting a grant for transmitting a buffer status report (BSR) in response to
3 the scheduling request; and
4 receiving the BSR from the UE using resources indicated in the grant.

1 **14.** The method of claim 13, wherein
2 the resources indicated in the grant comprises physical uplink shared channel
3 (PUSCH) resources, physical uplink control channel (PUCCH) resources, or both.

1 **15.** The method of claim 12, wherein

2 the time period for receiving the scheduling request is associated with a
3 random access channel (RACH).

1 **16.** The method of claim 15, further comprising:
2 identifying a frequency region associated with the RACH and a frequency
3 region associated with scheduling requests that does not overlap with the frequency region
4 associated with the RACH, wherein the scheduling request is received using resources
5 located within the frequency region associated with scheduling requests.

1 **17.** The method of claim 15, further comprising:
2 identifying a cyclic prefix length for the scheduling request, wherein the cyclic
3 prefix length comprises a long cyclic prefix length associated with the RACH or a short
4 cyclic prefix length associated with non-RACH transmissions.

1 **18.** The method of claim 12, further comprising:
2 transmitting an indication of at least one of a cyclic shift, a set of subcarriers,
3 or a sequence index to the UE, wherein the scheduling request is received using the cyclic
4 shift, the set of subcarriers, the sequence index, or combinations thereof.

1 **19.** The method of claim 12, wherein
2 the scheduling request comprises a sequence repeated a plurality of times over
3 a plurality of symbol periods.

1 **20.** An apparatus for wireless communication, comprising:
2 means for receiving a directional synchronization subframe from a base
3 station;
4 means for identifying a time period for transmitting a scheduling request to the
5 base station, wherein the time period for transmitting the scheduling request is based at least
6 in part on the directional synchronization subframe; and
7 means for transmitting the scheduling request to the base station during the
8 time period.

1 **21.** The apparatus of claim 20, further comprising:
2 means for receiving a grant for transmitting a buffer status report (BSR) in
3 response to the scheduling request; and

4 means for transmitting the BSR to the base station using resources indicated in
5 the grant.

1 **22.** The apparatus of claim 21, wherein
2 the resources indicated in the grant comprise physical uplink shared channel
3 (PUSCH) resources, physical uplink control channel (PUCCH) resources, or both.

1 **23.** The apparatus of claim 20, wherein the directional synchronization
2 subframe comprises a set of directional synchronization signals.

1 **24.** The apparatus of claim 23, further comprising:
2 means for identifying a directional signal from the set of directional
3 synchronization signals, wherein the time period for transmitting the scheduling request is
4 based at least in part on the identified directional signal.

1 **25.** The apparatus of claim 23, wherein each set of directional
2 synchronization signals comprises a primary synchronization signal, a secondary
3 synchronization signal, a beam reference signal, or any combination thereof.

1 **26.** The apparatus of claim 20, further comprising:
2 means for receiving an indication of at least one of a cyclic shift, a set of
3 subcarriers, or a sequence index from the base station, wherein the scheduling request is
4 transmitted using the cyclic shift, the set of subcarriers, the sequence index, or a combination
5 thereof.

1 **27.** The apparatus of claim 20, wherein
2 the scheduling request comprises a sequence repeated a plurality of times over
3 a plurality of symbol periods.

1 **28.** The apparatus of claim 20, wherein
2 the time period for transmitting the scheduling request is associated with a
3 random access channel (RACH).

1 **29.** The apparatus of claim 28, further comprising:
2 means for identifying a frequency region associated with the RACH and a
3 frequency region associated with scheduling requests that does not overlap with the

4 frequency region associated with the RACH, wherein the scheduling request is transmitted
5 using resources located within the frequency region associated with scheduling requests.

1 **30.** The apparatus of claim 28, further comprising:
2 means for identifying a cyclic prefix length for the scheduling request,
3 wherein the cyclic prefix length comprises a long cyclic prefix length associated with the
4 RACH or a short cyclic prefix length associated with non-RACH transmissions.

1 **31.** An apparatus for wireless communication, comprising:
2 means for transmitting a directional synchronization subframe to a user
3 equipment (UE); and
4 means for receiving a scheduling request from the UE during a time period
5 selected by the UE based at least in part on the directional synchronization subframe.

1 **32.** The apparatus of claim 31, further comprising:
2 means for transmitting a grant for transmitting a buffer status report (BSR) in
3 response to the scheduling request; and
4 means for receiving the BSR from the UE using resources indicated in the
5 grant.

1 **33.** The apparatus of claim 32, wherein
2 the resources indicated in the grant comprises physical uplink shared channel
3 (PUSCH) resources, physical uplink control channel (PUCCH) resources, or both.

1 **34.** The apparatus of claim 31, wherein
2 the time period for receiving the scheduling request is associated with a
3 random access channel (RACH).

1 **35.** The apparatus of claim 34, further comprising:
2 means for identifying a frequency region associated with the RACH and a
3 frequency region associated with scheduling requests that does not overlap with the
4 frequency region associated with the RACH, wherein the scheduling request is received using
5 resources located within the frequency region associated with scheduling requests.

1 **36.** The apparatus of claim 34, further comprising:

2 means for identifying a cyclic prefix length for the scheduling request,
3 wherein the cyclic prefix length comprises a long cyclic prefix length associated with the
4 RACH or a short cyclic prefix length associated with non-RACH transmissions.

1 **37.** The apparatus of claim 31, further comprising:
2 means for transmitting an indication of at least one of a cyclic shift, a set of
3 subcarriers, or a sequence index to the UE, wherein the scheduling request is received using
4 the cyclic shift, the set of subcarriers, the sequence index, or combinations thereof.

1 **38.** The apparatus of claim 31, wherein
2 the scheduling request comprises a sequence repeated a plurality of times over
3 a plurality of symbol periods.

1 **39.** An apparatus for wireless communication, in a system comprising:
2 a processor;
3 memory in electronic communication with the processor; and
4 instructions stored in the memory and operable, when executed by the
5 processor, to cause the apparatus to:
6 receive a directional synchronization subframe from a base station;
7 identify a time period for transmitting a scheduling request to the base station,
8 wherein the time period for transmitting the scheduling request is based at least in part on the
9 directional synchronization subframe; and
10 transmit the scheduling request to the base station during the time period.

1 **40.** The apparatus of claim 39, wherein the instructions are further
2 executable by the processor to:
3 receive a grant for transmitting a buffer status report (BSR) in response to the
4 scheduling request; and
5 transmit the BSR to the base station using resources indicated in the grant.

1 **41.** The apparatus of claim 40, wherein
2 the resources indicated in the grant comprise physical uplink shared channel
3 (PUSCH) resources, physical uplink control channel (PUCCH) resources, or both.

1 **42.** The apparatus of claim 39, wherein the directional synchronization
2 subframe comprises a set of directional synchronization signals.

1 **43.** The apparatus of claim 42, wherein the instructions are further
2 executable by the processor to:
3 identify a directional signal from the set of directional synchronization signals,
4 wherein the time period for transmitting the scheduling request is based at least in part on the
5 identified directional signal.

1 **44.** The apparatus of claim 42, wherein each set of directional
2 synchronization signals comprises a primary synchronization signal, a secondary
3 synchronization signal, a beam reference signal, or any combination thereof.

1 **45.** The apparatus of claim 39, wherein the instructions are further
2 executable by the processor to:
3 receive an indication of at least one of a cyclic shift, a set of subcarriers, or a
4 sequence index from the base station, wherein the scheduling request is transmitted using the
5 cyclic shift, the set of subcarriers, the sequence index, or a combination thereof.

1 **46.** The apparatus of claim 39, wherein
2 the scheduling request comprises a sequence repeated a plurality of times over
3 a plurality of symbol periods.

1 **47.** The apparatus of claim 39, wherein
2 the time period for transmitting the scheduling request is associated with a
3 random access channel (RACH).

1 **48.** The apparatus of claim 47, wherein the instructions are further
2 executable by the processor to:
3 identify a frequency region associated with the RACH and a frequency region
4 associated with scheduling requests that does not overlap with the frequency region
5 associated with the RACH, wherein the scheduling request is transmitted using resources
6 located within the frequency region associated with scheduling requests.

1 **49.** The apparatus of claim 47, wherein the instructions are further
2 executable by the processor to:

3 identify a cyclic prefix length for the scheduling request, wherein the cyclic
4 prefix length comprises a long cyclic prefix length associated with the RACH or a short
5 cyclic prefix length associated with non-RACH transmissions.

1 **50.** An apparatus for wireless communication, in a system comprising:
2 a processor;
3 memory in electronic communication with the processor; and
4 instructions stored in the memory and operable, when executed by the
5 processor, to cause the apparatus to:
6 transmit a directional synchronization subframe to a user equipment (UE); and
7 receive a scheduling request from the UE during a time period selected by the
8 UE based at least in part on the directional synchronization subframe.

1 **51.** The apparatus of claim 50, wherein the instructions are further
2 executable by the processor to:
3 transmit a grant for transmitting a buffer status report (BSR) in response to the
4 scheduling request; and
5 receive the BSR from the UE using resources indicated in the grant.

1 **52.** The apparatus of claim 51, wherein
2 the resources indicated in the grant comprises physical uplink shared channel
3 (PUSCH) resources, physical uplink control channel (PUCCH) resources, or both.

1 **53.** The apparatus of claim 50, wherein
2 the time period for receiving the scheduling request is associated with a
3 random access channel (RACH).

1 **54.** The apparatus of claim 53, wherein the instructions are further
2 executable by the processor to:
3 identify a frequency region associated with the RACH and a frequency region
4 associated with scheduling requests that does not overlap with the frequency region
5 associated with the RACH, wherein the scheduling request is received using resources
6 located within the frequency region associated with scheduling requests.

1 **55.** The apparatus of claim 53, wherein the instructions are further
2 executable by the processor to:

3 identify a cyclic prefix length for the scheduling request, wherein the cyclic
4 prefix length comprises a long cyclic prefix length associated with the RACH or a short
5 cyclic prefix length associated with non-RACH transmissions.

1 **56.** The apparatus of claim 50, wherein the instructions are further
2 executable by the processor to:
3 transmit an indication of at least one of a cyclic shift, a set of subcarriers, or a
4 sequence index to the UE, wherein the scheduling request is received using the cyclic shift,
5 the set of subcarriers, the sequence index, or combinations thereof.

1 **57.** The apparatus of claim 50, wherein
2 the scheduling request comprises a sequence repeated a plurality of times over
3 a plurality of symbol periods.

1 **58.** A non-transitory computer readable medium storing code for wireless
2 communication, the code comprising instructions executable by a processor to:
3 receive a directional synchronization subframe from a base station;
4 identify a time period for transmitting a scheduling request to the base station,
5 wherein the time period for transmitting the scheduling request is based at least in part on the
6 directional synchronization subframe; and
7 transmit the scheduling request to the base station during the time period.

1 **59.** The non-transitory computer-readable medium of claim 58, wherein
2 the instructions are further executable by the processor to:
3 receive a grant for transmitting a buffer status report (BSR) in response to the
4 scheduling request; and
5 transmit the BSR to the base station using resources indicated in the grant.

1 **60.** The non-transitory computer-readable medium of claim 59, wherein
2 the resources indicated in the grant comprise physical uplink shared channel
3 (PUSCH) resources, physical uplink control channel (PUCCH) resources, or both.

1 **61.** The non-transitory computer-readable medium of claim 58, wherein
2 the directional synchronization subframe comprises a set of directional synchronization
3 signals.

1 **62.** The non-transitory computer-readable medium of claim 61, wherein
2 the instructions are further executable by the processor to:
3 identifying a directional signal from the set of directional synchronization
4 signals, wherein the time period for transmitting the scheduling request is based at least in
5 part on the identified directional signal.

1 **63.** The non-transitory computer-readable medium of claim 61, wherein
2 each set of directional synchronization signals comprises a primary synchronization signal, a
3 secondary synchronization signal, a beam reference signal, or any combination thereof.

1 **64.** The non-transitory computer-readable medium of claim 58, wherein
2 the instructions are further executable by the processor to:
3 receive an indication of at least one of a cyclic shift, a set of subcarriers, or a
4 sequence index from the base station, wherein the scheduling request is transmitted using the
5 cyclic shift, the set of subcarriers, the sequence index, or a combination thereof.

1 **65.** The non-transitory computer-readable medium of claim 58, wherein
2 the scheduling request comprises a sequence repeated a plurality of times over
3 a plurality of symbol periods.

1 **66.** The non-transitory computer-readable medium of claim 58, wherein
2 the time period for transmitting the scheduling request is associated with a
3 random access channel (RACH).

1 **67.** The non-transitory computer-readable medium of claim 66, wherein
2 the instructions are further executable by the processor to:
3 identify a frequency region associated with the RACH and a frequency region
4 associated with scheduling requests that does not overlap with the frequency region
5 associated with the RACH, wherein the scheduling request is transmitted using resources
6 located within the frequency region associated with scheduling requests.

1 **68.** The non-transitory computer-readable medium of claim 66, wherein
2 the instructions are further executable by the processor to:

3 identify a cyclic prefix length for the scheduling request, wherein the cyclic
4 prefix length comprises a long cyclic prefix length associated with the RACH or a short
5 cyclic prefix length associated with non-RACH transmissions.

1 **69.** A non-transitory computer readable medium storing code for wireless
2 communication, the code comprising instructions executable by a processor to:

3 transmit a directional synchronization subframe to a user equipment (UE); and
4 receive a scheduling request from the UE during a time period selected by the
5 UE based at least in part on the directional synchronization subframe.

1 **70.** The non-transitory computer-readable medium of claim 69, wherein
2 the instructions are further executable by the processor to:

3 transmit a grant for transmitting a buffer status report (BSR) in response to the
4 scheduling request; and
5 receive the BSR from the UE using resources indicated in the grant.

1 **71.** The non-transitory computer-readable medium of claim 70, wherein
2 the resources indicated in the grant comprises physical uplink shared channel
3 (PUSCH) resources, physical uplink control channel (PUCCH) resources, or both.

1 **72.** The non-transitory computer-readable medium of claim 69, wherein
2 the time period for receiving the scheduling request is associated with a
3 random access channel (RACH).

1 **73.** The non-transitory computer-readable medium of claim 72, wherein
2 the instructions are further executable by the processor to:

3 identify a frequency region associated with the RACH and a frequency region
4 associated with scheduling requests that does not overlap with the frequency region
5 associated with the RACH, wherein the scheduling request is received using resources
6 located within the frequency region associated with scheduling requests.

1 **74.** The non-transitory computer-readable medium of claim 72, wherein
2 the instructions are further executable by the processor to:

3 identify a cyclic prefix length for the scheduling request, wherein the cyclic
4 prefix length comprises a long cyclic prefix length associated with the RACH or a short
5 cyclic prefix length associated with non-RACH transmissions.

1 **75.** The non-transitory computer-readable medium of claim 69, wherein
2 the instructions are further executable by the processor to:
3 transmit an indication of at least one of a cyclic shift, a set of subcarriers, or a
4 sequence index to the UE, wherein the scheduling request is received using the cyclic shift,
5 the set of subcarriers, the sequence index, or combinations thereof.

1 **76.** The non-transitory computer-readable medium of claim 69, wherein
2 the scheduling request comprises a sequence repeated a plurality of times over
3 a plurality of symbol periods.