WE CLAIM:

1. A method, comprising:

configuring a user equipment to send a power headroom report control element in an uplink, the power headroom report control element includes a bitmap indicating which power headroom reports are being reported;

receiving the power headroom report control element from the user equipment;

processing the received power headroom report control element based on the configuration of the user equipment; and

processing the received power headroom report control element by processing the bitmap to include bits for power headroom reports for a plurality of secondary cells.

2. The method of claim 1, wherein the bitmap is in one of: a MAC subheader and a payload.

3. The method of claim 1, wherein the power headroom report control element includes at least one of: a type 1 power headroom report for a primary serving cell and a type 2 power headroom report for the primary serving cell.

4. The method of claim 3, wherein the type 1 power headroom report is computed as P_cmax,c minus physical uplink shared channel (PUSCH) power, and the type 2 power headroom report is computed as P_cmax,c minus physical uplink control channel (PUCCH) power minus PUSCH power.

5. A method, comprising:

preparing a power headroom report control element, based

on a trigger configured by a base station, the trigger determining when the power headroom report control element is to be sent in an uplink, the preparing of the power headroom report control element includes incorporating a bitmap indicating which power headroom reports are being reported, the preparing of the power headroom report control element further includes preparing the bitmap to include bits for power headroom reports for a plurality of secondary cells; and

sending the prepared power headroom report control element to the base station.

6. The method of claim 5, wherein the preparing of the power headroom report control element includes preparing the bitmap in one of: a MAC subheader and a payload.

7. The method of claim 5, wherein the power headroom report control element includes at least one of: a type 1 power headroom report for a primary serving cell and a type 2 power headroom report for the primary serving cell.

8. The method of claim 7, wherein the type 1 power headroom report is computed as P_cmax,c minus physical uplink shared channel (PUSCH) power, and the type 2 power headroom report is computed as P_cmax,c minus physical uplink control channel (PUCCH) power minus PUSCH power.

9. A non-transitory computer readable medium encoded with a computer program that, when executed in hardware, causes the hardware to perform a process, the process comprising:

configuring a user equipment to send a power headroom report control element in an uplink, the power headroom report

control element includes a bitmap indicating which power headroom reports are being reported;

receiving the power headroom report control element from the user equipment;

processing the received power headroom report element based on the configuration of the user equipment; and

processing the received power headroom report control element by processing the bitmap to include bits for the power headroom reports for a plurality of secondary cells.

10. The non-transitory computer readable medium of claim 9, wherein the power headroom report control element includes the bitmap in one of: a MAC subheader and a payload.

11. The non-transitory computer readable medium of claim 9, wherein the power headroom report control element includes at least one of: a type 1 power headroom report for a primary serving cell and a type 2 power headroom report for the primary serving cell.

12. The non-transitory computer readable medium of claim 11, wherein the type 1 power headroom report is computed as P_cmax,c minus physical uplink shared channel (PUSCH) power, and the type 2 power headroom report is computed as P_cmax,c minus physical uplink control channel (PUCCH) power minus PUSCH power.

13. A non-transitory computer readable medium encoded with a computer program that, when executed in hardware, causes the hardware to perform a process, the process comprising:

preparing a power headroom report control element, based

on a trigger configured by a base station, the trigger determining when the power headroom report control element is to be sent in an uplink, the preparing of the power headroom report control element includes incorporating a bitmap indicating which power headroom reports are being reported, the preparing of the power headroom report control element further includes preparing the bitmap to include bits for power headroom reports for a plurality of secondary cells; and

sending the prepared power headroom report control element to the base station.

14. The non-transitory computer readable medium of claim 13, wherein the preparing of the power headroom report control element includes preparing the bitmap in one of: a MAC subheader and a payload.

15. The non-transitory computer readable medium of claim 13, wherein the power headroom report control element includes at least one of: a type 1 power headroom report for a primary serving cell and a type 2 power headroom report for the primary serving cell.

16. The non-transitory computer readable medium of claim 15, wherein the type 1 power headroom report is computed as P_cmax,c minus physical uplink shared channel (PUSCH) power, and the type 2 power headroom report is computed as P_cmax,c minus physical uplink control channel (PUCCH) power minus PUSCH power.

17. An apparatus, comprising:

at least one processor; and

at least one memory including computer program code, the at least one memory and the computer program code being configured to, with the at least one processor, cause the apparatus at least to:

configure a user equipment to send a power headroom report control element in an uplink, the power headroom report control element including a bitmap that indicates which power headroom reports are being reported;

receive the power headroom report control element from the user equipment;

process the power headroom report control element based on the configuration of the user equipment; and

process the power headroom report control element by processing the bitmap to include bits for power headroom reports for a plurality of secondary cells.

18. The apparatus of claim 17, wherein the power headroom report control element includes the bitmap in one of: a MAC subheader and a payload.

19. The apparatus of claim 17, wherein the power headroom report control element includes at least one of: a type 1 power headroom report for a primary serving cell and a type 2 power headroom report for the primary serving cell.

20. The apparatus of claim 19, wherein the type 1 power headroom report is computed as P_cmax,c minus physical uplink shared channel (PUSCH) power, and the type 2 power headroom report is computed as P_cmax,c minus physical uplink control channel (PUCCH) power minus PUSCH power.

21. An apparatus, comprising:

at least one processor; and

at least one memory including computer program code, the at least one memory and the computer program code being configured to, with the at least one processor, cause the apparatus at least to:

prepare a power headroom report control element, based on a trigger configured by a base station, the trigger determines when the power headroom report control element is to be sent in an uplink; preparation of the power headroom report control element includes incorporating a bitmap indicating which power headroom reports are being reported, the preparation of the power headroom report control element further includes preparing the bitmap to include bits for power headroom reports for a plurality of secondary cells; and

send the power headroom report control element to the base station.

22. The apparatus of claim 21, wherein the at least one memory and the computer program code are configured to, with the at least one processor, cause the apparatus at least to prepare the power headroom report control element by preparing the bitmap in one of: a MAC subheader and a payload.

23. The apparatus of claim 21, wherein the at least one memory and the computer program code are configured to, with the at least one processor, cause the apparatus at least to prepare the power headroom report control element by including at least one of: a type 1 power headroom report for a primary serving cell and a type 2 power headroom report for the primary serving cell.

24. The apparatus of claim 23, wherein the type 1 power headroom report is computed as P_cmax,c minus physical uplink shared channel (PUSCH) power, and the type 2 power headroom report is computed as P_cmax,c minus physical uplink control channel (PUCCH) power minus PUSCH power.

WE CLAIM:

1. A method, comprising:

configuring a user equipment to send a power headroom report control element in uplink, wherein the power headroom report control element includes a bitmap indicating which power headroom reports are being reported;

receiving the power headroom report control element from the user equipment; and

processing the received power headroom report control element based on the configuration of the user equipment.

2. The method of claim 1, further comprising processing the received power headroom report control element, wherein the bitmap is in a MAC subheader or in a payload.

3. The method of claim 1 or claim 2, further comprising processing the received power headroom report control element, wherein the bitmap comprises at least one bit for a type 1 power headroom report for a primary serving cell or a type 2 power headroom report for the primary serving cell.

4. The method of any of claims 1-3, further comprising processing the received power headroom report control element, wherein the bitmap comprises bits for power headroom reports for a plurality of secondary cells.

5. A method, comprising:

preparing a power headroom report control element, based on a trigger configured by a base station, wherein the trigger determines when a power headroom report control element is to be sent in uplink, wherein preparing the control element includes incorporating a bitmap indicating which power headroom reports are being reported; and

sending the prepared power headroom report control element to the base station.

6. The method of claim 5, wherein the preparing the control element comprises preparing the bitmap in a MAC subheader or in a payload.

7. The method of claim 5 or claim 6, wherein the preparing the control element comprises preparing the bitmap to include at least one bit for a type 1 power headroom report for a primary serving cell or a type 2 power headroom report for the primary serving cell.

8. The method of any of claims 5-7, wherein the preparing the control element comprises preparing the bitmap to include bits for power headroom reports for a plurality of secondary cells.

9. A computer readable medium encoded with a computer program that, when executed in hardware, causes the hardware to perform a process, the process comprising:

providing configuring a user equipment to send a power headroom report control element in uplink, wherein the power headroom report control element includes a bitmap indicating which power headroom reports are being reported;

receiving the power headroom report control element from the user equipment; and

processing the received power headroom report control element based on the configuration of the user equipment.

10. The computer readable medium of claim 9, wherein the process includes processing the received power headroom report control element, wherein the control element includes the bitmap in a MAC subheader or in a payload.

11. The computer readable medium of claim 9 or claim 10, wherein the process includes processing the received power headroom report control element, wherein the bitmap comprises at least one bit for a type 1 power headroom report for a primary serving cell or a type 2 power headroom report for the primary serving cell.

12. The non-transitory computer readable medium of any of claims 9-11, wherein the process includes processing the received power headroom report control element, wherein the bitmap comprises bits for power headroom reports for a plurality of secondary cells.

13. A computer readable medium encoded with a computer program that, when executed in hardware, causes the hardware to perform a process, the process comprising:

preparing a power headroom report control element, based on a trigger configured by a base station, wherein the trigger determines when a power headroom report control element is to be sent in uplink, wherein preparing the control element includes incorporating a bitmap indicating which power headroom reports are being reported; and

sending the prepared power headroom report control element to the base station.

14. The computer readable medium of claim 13, wherein the preparing the control element comprises preparing the bitmap in a MAC subheader or in a payload.

15. The computer readable medium of claim 13 or claim 14, wherein the preparing the control element can include preparing the bitmap to include at least one bit for a type 1 power headroom report for a primary serving cell or a type 2 power headroom report for the primary serving cell.

16. The computer readable medium of any of claims 13-15, wherein the preparing the control element can include preparing the bitmap to include bits for power headroom reports for a plurality of secondary cells.

17. An apparatus, comprising:

at least one processor; and

at least one memory including computer program code,

wherein the at least one memory and computer program code are configured to, with the at least one processor, cause the apparatus at least to

configure a user equipment to send a power headroom report control element in uplink, wherein the power headroom report control element includes a bitmap indicating which power headroom reports are being reported,

receive the power headroom report control element from the user equipment, and

processing the received power headroom report control element based on the configuration of the user equipment.

18. The apparatus of claim 17, wherein the at least one memory and the computer program code are configured to, with the at least one processor, cause the apparatus at least to process the received power headroom report control element, wherein the control element includes the bitmap in a MAC subheader or in a payload.

19. The apparatus of claim 17 or claim 18, wherein the at least one memory and the computer program code are configured to, with the at least one processor, cause the apparatus at least to process the received power headroom report control element, wherein the bitmap includes comprises at least one

bit for a type 1 power headroom report for a primary serving cell or a type 2 power headroom report for the primary serving cell.

20. The apparatus of any of claims 17-19, wherein the at least one memory and the computer program code are configured to, with the at least one processor, cause the apparatus at least to process the received power headroom report control element, wherein the bitmap comprises bits for power headroom reports for a plurality of secondary cells.

21. An apparatus, comprising:

at least one processor; and

at least one memory including computer program code,

wherein the at least one memory and computer program code are configured to, with the at least one processor, cause the apparatus at least to

prepare a power headroom report control element, based on a trigger configured by a base station, wherein the trigger determines when a power headroom report control element is to be sent in uplink; wherein preparing the control element includes incorporating a bitmap indicating which power headroom reports are being reported, and

send the prepared power headroom report control element to the base station.

22. The apparatus of claim 21, wherein the at least one memory and the computer program code are configured to, with the at least one processor, cause the apparatus at least to prepare the control element by preparing the bitmap in a MAC subheader or in a payload.

23. The apparatus of claim 21 or claim 22, wherein the at least one memory and the computer program code are configured to, with the at least one processor, cause the apparatus at least to prepare the control element by preparing the bitmap to include at least one bit for a type 1 power headroom report for a primary serving cell or a type 2 power headroom report for the primary serving cell.

24. The apparatus of any of claims 21-23, wherein the at least one memory and the computer program code are configured to, with the at least one processor, cause the apparatus at least to prepare the control element by preparing the bitmap to include bits for power headroom reports for a plurality of secondary cells.

25. An apparatus, comprising:

configuring means for configuring a user equipment to send a power headroom report control element in uplink, wherein the power headroom report control element includes a bitmap indicating which power headroom reports are being reported;

receiving means for receiving the power headroom report control element from the user equipment; and

processing means for processing the received power headroom report control element based on the configuration of the user equipment.

26. The apparatus of claim 25, wherein the processing means are configured to process the received power headroom report control element, wherein the bitmap is in a MAC subheader or in a payload.

27. The apparatus of claim 25 or claim 26, wherein the processing means are configured to process the received power

headroom report control element, wherein the bitmap comprises at least one bit for a type 1 power headroom report for a primary serving cell or a type 2 power headroom report for the primary serving cell.

28. The apparatus of any of claims 25-27, wherein the processing means are configured to process the received power headroom report control element, wherein the bitmap comprises bits for power headroom reports for a plurality of secondary cells.

29. An apparatus, comprising:

preparing means for preparing a power headroom report control element, based on a trigger configured by a base station, wherein the trigger determines when a power headroom report control element is to be sent in uplink, wherein preparing the control element includes incorporating a bitmap indicating which power headroom reports are being reported; and

sending means for sending the prepared power headroom report control element to the base station.

30. The apparatus of claim 29, wherein the preparing means are configured to prepare the bitmap in a MAC subheader or in a payload.

31. The apparatus of claim 29 or claim 30, wherein the preparing means are configured to prepare the control element comprises preparing the bitmap to include at least one bit for a type 1 power headroom report for a primary serving cell or a type 2 power headroom report for the primary serving cell.

32. The apparatus of any of claims 29-31, wherein the preparing means are configured to prepare the control element

comprises preparing the bitmap to include bits for power headroom reports for a plurality of secondary cells.