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| 3GPP TR 38.859 V18.0.0 (2022-12) | |
| Technical Report | |
| 3rd Generation Partnership Project;  Technical Specification Group Radio Access Network;  Study on Expanded and Improved NR Positioning;  (Release 18) | |
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# B.5 Evaluation results for low power high accuracy positioning

## B.5.1 Results from source [92]

### B.5.1.1 Description of evaluation scenarios

For Rel-17 evaluated cases as shown in Table B.5.1.1-1, UL-TDOA, UE-assisted DL-TDOA, UE-based DL-TDOA with three combination of positioning periodicity/DRX periodicity are evaluated.

For Rel-18 evaluated cases as shown in Table B.5.1.1-2

- UL-TDOA positioning is evaluated with 4 cases

- UE-assisted DL positioning is evaluated with 1 case of ultra-deep sleep Option 1

- UE-based DL positioning is evaluated with 2 cases.

Throughout the evaluation

- LPHAP UE type A with 800mAh battery volume is evaluated and the battery life can be extended to 6.25 times if LPHAP UE type B is considered.

- Implementation factor K = 1 is evaluated and the battery life can be scaled for other K values.

The following timelines of each power states are assumed:

- Figure B.5.1.1-1 shows the UL positioning timeline with paging reception

- Figure B.5.1.1-2 shows the DL positioning timeline with paging reception

- Figure B.5.1.1-3 shows the UL and UE based DL positioning timeline without paging reception



Figure B.5.1.1-1: UL positioning timeline with paging (SRS+Paging and paging only) from [92]



Figure B.5.1.1-2: DL positioning timeline with paging (PRS+Paging, PRS+Paging+SDT, and paging only) from [92]

(Ultra-)Deep sleep

Ramp down

SRS [23dBm]

SSB

Micro sleep

Ramp up

(Ultra-)Deep sleep

2ms

1.5ms

0.5ms

(Ultra-)Deep sleep

Ramp down

Ramp up

(Ultra-)Deep sleep

PRS

Light sleep

19.5ms

(Ultra-)Deep sleep

Ramp down

SRS [23dBm]

Ramp up

(Ultra-)Deep sleep

1ms

TRS

Figure B.5.1.1-3: UL and DL positioning timeline without paging

For the evaluation of ultra-deep sleep, the following assumptions are assumed.

- Figure B.5.1.1-4 shows the ramp-up/ramp-down associated with its capability for ultra-deep sleep Option 1 (UDS1) and ultra-deep sleep Option 2 (UDS2)

- Figure B.5.1.1-5 shows the switching between UDS1 and UDS2 when the paging periodicity is a multiple of positioning interval.

Wake-up state for Option 2 UDS: Positioning capable

Wake-up state for Option 1 UDS: Communication capable

Transition period to be positioning capable

Transition period to be communication capable

Ramp down

Ramp down

Ultra-deep sleep state

Ultra-deep sleep state

UE capability

Figure B.5.1.1-4: UE ramp-up capability illustration

UDS1 cycle

UDS2 cycle

UDS2 cycle

UDS2 cycle

UDS2 cycle

UDS1 cycle

Paging

Positioning

Positioning

Positioning

Paging

DRX periodicity

Positioning interval

UDS2 ramp-up

UDS1 ramp-up

Figure B.5.1.1-5: UE TDM between positioning mode and communication mode (e.g. receive paging)

Evaluation cases and corresponding assumptions for UE power consumption analysis for Rel-17 are provided in Table B.5.1.1-1.

Evaluation cases and corresponding assumptions for UE power consumption analysis for Rel-18 UL positioning enhancement without ultra-deep sleep Option 2 are provided in Table B.5.1.1-2.

Evaluation cases and corresponding assumptions for UE power consumption analysis for Rel-18 UL positioning enhancement with ultra-deep sleep Option 2 are provided in Table B.5.1.1-3.

Evaluation cases and corresponding assumptions for UE power consumption analysis for Rel-18 DL positioning enhancement without ultra-deep sleep Option 2 are provided in Table B.5.1.1-4.

Evaluation cases and corresponding assumptions for UE power consumption analysis for Rel-18 DL positioning enhancement with ultra-deep sleep Option 2 are provided in Table B.5.1.1-5.

Table B.5.1.1-1: Low Power High Accuracy Positioning - Evaluation cases and assumptions for Rel-17 baseline from [92]

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 1, FR1, UL-TDOA, Type A, 1.28/1.28** | **Case 2: FR1, UL-TDOA, Type A, 10.24/1.28** | **Case 3: FR1, UL-TDOA, Type A, 10.24/10.24** | **Case 11: FR1, UE-A DL-TDOA, Type A, 1.28/1.28** | **Case 12: FR1, UE-A DL-TDOA, Type A, 10.24/1.28** | **Case 13: FR1, UE-A DL-TDOA, Type A, 10.24/10.24** | **Case 21: FR1, UE-B DL-TDOA, Type A, 1.28/1.28** | **Case 22: FR1, UE-B DL-TDOA, Type A, 10.24/1.28** | **Case 23: FR1, UE-B DL-TDOA, Type A, 10.24/10.24** |
| Sleep state | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep |
| DRX cycle | 1.28s | 1.28s | 10.24 | 1.28s | 1.28s | 10.24 | 1.28s | 1.28s | 10.24 |
| paging reception | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RS periodicity | 1.28s | 10.24s | 10.24s | 1.28s | 10.24s | 10.24s | 1.28s | 10.24s | 10.24s |
| M-sample | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RRM measurement | No | No | No | No | No | No | No | No | No |
| BWP switching | No | No | No | No | No | No | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No | CG-SDT 1.28s | CG-SDT 10.24s | CG-SDT 10.24s | No | No | No |
| Implementation factor K | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Other assumptions | Cell access rate is once per 61.44s with state transition power consumption under deep sleep being 4300 power units. | | | | | | | | |

Table B.5.1.1-2: Low Power High Accuracy Positioning - Evaluation cases and assumptions for Rel-18 UL positioning enhancements without UDS2 from [92]

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 101: FR1, UL-TDOA, Type A, 10.24/10.24, UDS1** | **Case 102: FR1, UL-TDOA, Type A, 10.24/20.48, UDS1** | **Case 103: FR1, UL-TDOA, Type A, 10.24/40.96, UDS1** | **Case 104: FR1, UL-TDOA, Type A, 10.24/81.92, UDS1** | **Case 105: FR1, UL-TDOA, Type A, 10.24/no paging, UDS1** |
| Sleep state | Ultra-deep sleep option 1 | Ultra-deep sleep option 1 | Ultra-deep sleep option 1 | Ultra-deep sleep option 1 | Ultra-deep sleep option 1 |
| DRX cycle | 10.24s | 20.48s | 40.96s | 81.92s | Inf |
| paging reception | Yes | Yes | Yes | Yes | No |
| RS periodicity | 10.24s | 10.24s | 10.24s | 10.24s | 10.24s |
| M-sample | 1 | 1 | 1 | 1 | 1 |
| RRM measurement | No | No | No | No | No |
| BWP switching | No | No | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No | No | No |
| Implementation factor K | 1 | 1 | 1 | 1 | 1 |

Table B.5.1.1-3: Low Power High Accuracy Positioning - Evaluation cases and assumptions for Rel-18 UL positioning enhancements with UDS2 from [92]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 102a: FR1, UL-TDOA, Type A, 10.24/20.48, UDS1+UDS2** | **Case 103a: FR1, UL-TDOA, Type A, 10.24/40.96, UDS1+UDS2** | **Case 104a: FR1, UL-TDOA, Type A, 10.24/81.92, UDS1+UDS2** | **Case 105a: FR1, UL-TDOA, Type A, 10.24/no paging, UDS1** | **Case 106a: FR1, UL-TDOA, Type A, 10.24/no paging, UDS2** | **Case 107a: FR1, UL-TDOA, Type A, 10.24/no paging, UDS1** |
| Sleep state | Ultra-deep sleep option 1+option 2 | Ultra-deep sleep option 1+option 2 | Ultra-deep sleep option 1+option 2 | Ultra-deep sleep option 2 | Ultra-deep sleep option 2 | Ultra-deep sleep option 2 |
| DRX cycle | 20.48s | 40.96s | 81.92s | Inf | 81.92s | Inf |
| paging reception | Yes | Yes | Yes | No | Yes | No |
| RS periodicity | 10.24s | 10.24s | 10.24s | 10.24s | 10.24s | 10.24s |
| M-sample | 1 | 1 | 1 | 1 | 1 | 1 |
| RRM measurement | No | No | No | No | No | No |
| BWP switching | No | No | No | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No | No | No | No |
| Implementation factor K | 1 | 1 | 1 | 1 | 1 | 1 |
| Other assumptions |  |  |  |  | Note 1 | Synchronization based on TRS |
| Note 1: Cell access rate is once per 61.44s with state transition power consumption under ultra- deep sleep Option 1 being 13850 power units. | | | | | | |

Table B.5.1.1-4: Low Power High Accuracy Positioning - Evaluation cases and assumptions for Rel-18 DL positioning enhancements without UDS2 from [92]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 111: FR1, UE-A DL-TDOA, Type A, 10.24/10.24, UDS1** | **Case 121: FR1, UE-B DL-TDOA, Type A, 10.24/10.24, UDS1** | **Case 122: FR1, UE-B DL-TDOA, Type A, 10.24/20.48, UDS1** | **Case 123: FR1, UE-B DL-TDOA, Type A, 10.24/40.96, UDS1** | **Case 124: FR1, UE-B DL-TDOA, Type A, 10.24/81.92, UDS1** | **Case 125, FR1, UE-B DL-TDOA, Type A, 10.24/no paging, UDS1** |
| Sleep state | Ultra-deep sleep option 1 | Ultra-deep sleep option 1 | Ultra-deep sleep option 1 | Ultra-deep sleep option 1 | Ultra-deep sleep option 1 | Ultra-deep sleep option 1 |
| DRX cycle | 10.24s | 10.24s | 20.48s | 40.96s | 81.92s | Inf |
| paging reception | Yes | Yes | Yes | Yes | Yes | No |
| RS periodicity | 10.24s | 10.24s | 10.24s | 10.24s | 10.24s | 10.24s |
| M-sample | 1 | 1 | 1 | 1 | 1 | 1 |
| RRM measurement | No | No | No | No | No | No |
| BWP switching | No | No | No | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT 10.24s | No | No | No | No | No |
| Implementation factor K | 1 | 1 | 1 | 1 | 1 | 1 |

Table B.5.1.1-5: Low Power High Accuracy Positioning - Evaluation cases and assumptions for Rel-18 DL positioning enhancements with UDS2 from [92]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 122a: FR1, UE-B DL-TDOA, Type A, 10.24/20.48, UDS1+UDS2** | **Case 123a: FR1, UE-B DL-TDOA, Type A, 10.24/40.96, UDS1** | **Case 124a: FR1, UE-B DL-TDOA, Type A, 10.24/81.92, UDS1** | **Case 125a, FR1, UE-B DL-TDOA, Type A, 10.24/no paging, UDS2** |
| Sleep state | Ultra-deep sleep option 1+option 2 | Ultra-deep sleep option 1+option 2 | Ultra-deep sleep option 1+option 2 | Ultra-deep sleep option 2 |
| DRX cycle | 20.48s | 40.96s | 81.92s | Inf |
| paging reception | Yes | Yes | Yes | No |
| RS periodicity | 10.24s | 10.24s | 10.24s | 10.24s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | No | No | No | No |
| BWP switching | No | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No | No |
| Implementation factor K | 1 | 1 | 1 | 1 |

### B.5.1.2 Evaluation results for Low Power High Accuracy Positioning

Table B.5.1.2-1 provides detailed UE power consumption results for each evaluated case for Rel-17.

Table B.5.1.2-2 provides detailed UE power consumption results for each evaluated case for Rel-18.

In the two tables,

- SRS Tx includes synchronization to the closest SSB.

- Paging includes synchronization to the closest SSB, with the group paging rate being 10%, but no match in the paging message.

- SRS Tx TRS includes synchronization to a TRS that is one slot before the SRS.

Table B.5.1.2-3 provides summary of UE power consumption results for each evaluated case.

Table B.5.1.2-1: UE power consumption results for each evaluation case from [92]

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in msec)** | **Instances** | **Sum Durations (in msec)** | **Relative power** | **Power ratio** |
| **Case 1, FR1, UL-TDOA, Type A, 1.28/1.28** | Ramp up + down | 450 | 20 | 8 | 160.0 | 3600.00 | 11.4817% |
| SRS Tx + Paging | 877 | 7.5 | 8 | 60.0 | 7016.00 | 22.3765% |
| Cell access (including ramp up) | 4300 | 55 | 0.166666667 | 9.2 | 716.67 | 2.2857% |
| Deep sleep | 2 | 1 | 10010.8 | 10010.8 | 20021.60 | 63.8561% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **31354.27** | **100.0000%** |
| **Slot-averaged power unit** | | | | **1.53** | | |
| **Battery life (in month)** | | | | **0.48** | | |
| **Case 2: FR1, UL-TDOA, Type A, 10.24/1.28** | Ramp up + down | 450 | 20 | 8 | 160.0 | 3600.00 | 11.9208% |
| SRS Tx + paging | 877 | 7.5 | 1 | 7.5 | 877.00 | 2.9040% |
| Paging | 712 | 7.5 | 7 | 52.5 | 4984.00 | 16.5037% |
| Cell access (including ramp up) | 4300 | 55 | 0.166666667 | 9.2 | 716.67 | 2.3731% |
| Deep sleep | 2 | 1 | 10010.8 | 10010.8 | 20021.60 | 66.2983% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **30199.27** | **100.0000%** |
| **Slot-averaged power unit** | | | | **1.47** | | |
| **Battery life (in month)** | | | | **0.50** | | |
| **Case 3: FR1, UL-TDOA, Type A, 10.24/10.24** | Ramp up + down | 450 | 20 | 1 | 20.0 | 450.00 | 2.0044% |
| SRS Tx + Paging | 877 | 7.5 | 1 | 7.5 | 877.00 | 3.9064% |
| Cell access (including ramp up) | 4300 | 55 | 0.166666667 | 9.2 | 716.67 | 3.1922% |
| Deep sleep | 2 | 1 | 10203.3 | 10203.3 | 20406.60 | 90.8969% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **22450.27** | **100.0000%** |
| **Slot-averaged power unit** | | | | **1.10** | | |
| **Battery life (in month)** | | | | **0.68** | | |
| **Case 11: FR1, UE-A DL-TDOA, Type A, 1.28/1.28** | Ramp up + down | 450 | 20 | 8 | 160.0 | 3600.00 | 9.3784% |
| PRS Rx + Paging + SDT | 1797 | 28 | 8 | 224.0 | 14376.00 | 37.4509% |
| Cell access (including ramp up) | 4300 | 55 | 0.166666667 | 9.2 | 716.67 | 1.8670% |
| Deep sleep | 2 | 1 | 9846.8 | 9846.8 | 19693.60 | 51.3038% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **38386.27** | **100.0000%** |
| **Slot-averaged power unit** | | | | **1.87** | | |
| **Battery life (in month)** | | | | **0.40** | | |
| **Case 12: FR1, UE-A DL-TDOA, Type A, 10.24/1.28** | Ramp up + down | 450 | 20 | 8 | 3600.00 | 160.0 | 11.5837% |
| PRS Rx + paging + SDT | 1797 | 28 | 1 | 1797.00 | 28.0 | 5.7822% |
| Paging | 712 | 7.5 | 7 | 4984.00 | 52.5 | 16.0369% |
| Cell access (including ramp up) | 4300 | 55 | 0.166666667 | 716.67 | 9.2 | 2.3060% |
| Deep sleep | 2 | 1 | 9990.3 | 19980.60 | 9990.3 | 64.2912% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **31078.27** | **100.0000%** |
| **Slot-averaged power unit** | | | | **1.52** | | |
| **Battery life (in month)** | | | | **0.49** | | |
| **Case 13: FR1, UE-A DL-TDOA, Type A, 10.24/10.24** | Ramp up + down | 450 | 20 | 1 | 20.0 | 450.00 | 1.9289% |
| PRS Rx + Paging + SDT | 1797 | 28 | 1 | 28.0 | 1797.00 | 7.7028% |
| Cell access (including ramp up) | 4300 | 55 | 0.166666667 | 9.2 | 716.67 | 3.0720% |
| Deep sleep | 2 | 1 | 10182.8 | 10182.8 | 20365.60 | 87.2964% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **23329.27** | **100.0000%** |
| **Slot-averaged power unit** | | | | **1.14** | | |
| **Battery life (in month)** | | | | **0.65** | | |
| **Case 21: FR1, UE-B DL-TDOA, Type A, 1.28/1.28** | Ramp up + down | 450 | 20 | 8 | 160.0 | 3600.00 | 10.2576% |
| PRS Rx + Paging | 1472 | 27.5 | 8 | 220.0 | 11776.00 | 33.5537% |
| Deep sleep | 2 | 1 | 9860 | 9860.0 | 19720.00 | 56.1887% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **35096.00** | **100.0000%** |
| **Slot-averaged power unit** | | | | **1.71** | | |
| **Battery life (in month)** | | | | **0.43** | | |
| **Case 22: FR1, UE-B DL-TDOA, Type A, 10.24/1.28** | Ramp up + down | 450 | 20 | 8 | 160.0 | 3600.00 | 11.9776% |
| PRS Rx + paging | 1472 | 27.5 | 1 | 27.5 | 1472.00 | 4.8975% |
| Paging | 712 | 7.5 | 7 | 52.5 | 4984.00 | 16.5824% |
| Deep sleep | 2 | 1 | 10000 | 10000.0 | 20000.00 | 66.5425% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **30056.00** | **100.0000%** |
| **Slot-averaged power unit** | | | | **1.47** | | |
| **Battery life (in month)** | | | | **0.50** | | |
| **Case 23: FR1, UE-B DL-TDOA, Type A, 10.24/10.24** | Ramp up + down | 450 | 20 | 1 | 20.0 | 450.00 | 2.0173% |
| PRS Rx + Paging | 1472 | 27.5 | 1 | 27.5 | 1472.00 | 6.5988% |
| Deep sleep | 2 | 1 | 10192.5 | 10192.5 | 20385.00 | 91.3839% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **22307.00** | **100.0000%** |
| **Slot-averaged power unit** | | | | **1.09** | | |
| **Battery life (in month)** | | | | **0.68** | | |

Table B.5.1.2-2: UE power consumption results for each evaluation case from [92]

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in msec)** | **Instances** | **Sum Durations (in msec)** | **Relative power** | **Power ratio** |
| **Case 101: FR1, UL-TDOA, Type A, 10.24/10.24, UDS1** | Ramp up + down option 1 | 10000 | 400 | 1 | 400.0 | 10000.00 | 89.5097% |
| SRS Tx + Paging | 877 | 7.5 | 1 | 7.5 | 877.00 | 7.8500% |
| Ultra-deep sleep Option 1 | 0.03 | 1 | 9832.5 | 9832.5 | 294.98 | 2.6403% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **11171.98** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.55** | | |
| **Battery life (in month)** | | | | **1.36** | | |
| **Case 102: FR1, UL-TDOA, Type A, 10.24/20.48, UDS1** | Ramp up + down option 1 | 10000 | 400 | 1 | 400.0 | 10000.00 | 90.8593% |
| SRS Tx + Paging | 877 | 7.5 | 0.5 | 3.8 | 438.50 | 3.9842% |
| SRS Tx | 545 | 4 | 0.5 | 2.0 | 272.50 | 2.4759% |
| Ultra-deep sleep Option 1 | 0.03 | 1 | 9834.2 | 9834.2 | 295.03 | 2.6806% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **11006.03** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.54** | | |
| **Battery life (in month)** | | | | **1.38** | | |
| **Case 103: FR1, UL-TDOA, Type A, 10.24/40.96, UDS1** | Ramp up + down option 1 | 10000 | 400 | 1 | 400.0 | 10000.00 | 91.5495% |
| SRS Tx + Paging | 877 | 7.5 | 0.25 | 1.9 | 219.25 | 2.0072% |
| SRS Tx | 545 | 4 | 0.75 | 3.0 | 408.75 | 3.7421% |
| Ultra-deep sleep Option 1 | 0.03 | 1 | 9835.1 | 9835.1 | 295.05 | 2.7012% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **10923.05** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.53** | | |
| **Battery life (in month)** | | | | **1.39** | | |
| **Case 104: FR1, UL-TDOA, Type A, 10.24/81.92, UDS1** | Ramp up + down option 1 | 10000 | 400 | 1 | 400.0 | 10000.00 | 91.8985% |
| SRS Tx + Paging | 877 | 7.5 | 0.125 | 0.9 | 109.63 | 1.0074% |
| SRS Tx | 545 | 4 | 0.875 | 3.5 | 476.88 | 4.3824% |
| Ultra-deep sleep Option 1 | 0.03 | 1 | 9835.6 | 9835.6 | 295.07 | 2.7116% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **10881.57** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.53** | | |
| **Battery life (in month)** | | | | **1.39** | | |
| **Case 105: FR1, UL-TDOA, Type A, 10.24/no paging, UDS1** | Ramp up + down Option 1 | 10000 | 400 | 1 | 400.0 | 10000.00 | 93.0950% |
| SRS Tx | 545 | 4 | 1 | 4.0 | 545.00 | 5.0737% |
| Ultra-deep sleep Option 1 | 0.02 | 1 | 9836 | 9836.0 | 196.72 | 1.8314% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **10741.72** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.52** | | |
| **Battery life (in month)** | | | | **1.41** | | |
| **Case 102a: FR1, UL-TDOA, Type A, 10.24/20.48, UDS1+UDS2** | Ramp up + down Option 1 | 10000 | 400 | 0.5 | 200.0 | 5000.00 | 80.6372% |
| SRS Tx + Paging | 877 | 7.5 | 0.5 | 3.8 | 438.50 | 7.0719% |
| Ultra-deep sleep Option 1 | 0.03 | 1 | 4918 | 4918.0 | 147.54 | 2.3794% |
| Ramp up + down Option 2 | 480 | 25 | 0.5 | 12.5 | 240.00 | 3.8706% |
| SRS Tx | 545 | 4 | 0.5 | 2.0 | 272.50 | 4.3947% |
| Ultra-deep sleep Option 2 | 0.02 | 1 | 5103.75 | 5103.8 | 102.08 | 1.6462% |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **6200.62** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.30** | | |
| **Battery life (in month)** | | | | **2.45** | | |
| **Case 103a: FR1, UL-TDOA, Type A, 10.24/40.96, UDS1+UDS2** | Ramp up + down Option 1 | 10000 | 400 | 0.25 | 100.0 | 2500.00 | 67.2962% |
| SRS Tx + Paging | 877 | 7.5 | 0.25 | 1.9 | 219.25 | 5.9019% |
| Ultra-deep sleep Option 1 | 0.03 | 1 | 2459 | 2459.0 | 73.77 | 1.9858% |
| Ramp up + down Option 2 | 480 | 25 | 0.75 | 18.8 | 360.00 | 9.6907% |
| SRS Tx | 545 | 4 | 0.75 | 3.0 | 408.75 | 11.0029% |
| Ultra-deep sleep Option 2 | 0.02 | 1 | 7657.375 | 7657.4 | 153.15 | 4.1225% |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **3714.92** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.18** | | |
| **Battery life (in month)** | | | | **4.08** | | |
| **Case 104a: FR1, UL-TDOA, Type A, 10.24/81.92, UDS1+UDS2** | Ramp up + down Option 1 | 10000 | 400 | 0.125 | 50.0 | 1250.00 | 50.5649% |
| SRS Tx + Paging | 877 | 7.5 | 0.125 | 0.9 | 109.63 | 4.4345% |
| Ultra-deep sleep Option 1 | 0.03 | 1 | 1229.5 | 1229.5 | 36.89 | 1.4921% |
| Ramp up + down Option 2 | 480 | 25 | 0.875 | 21.9 | 420.00 | 16.9898% |
| SRS Tx | 545 | 4 | 0.875 | 3.5 | 476.88 | 19.2905% |
| Ultra-deep sleep Option 2 | 0.02 | 1 | 8934.1875 | 8934.2 | 178.68 | 7.2281% |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **2472.07** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.12** | | |
| **Battery life (in month)** | | | | **6.14** | | |
| **Case 105a: FR1, UL-TDOA, Type A, 10.24/no paging, UDS2** | Ramp up + down Option 2 | 480 | 25 | 1 | 25.0 | 480.00 | 39.0492% |
| SRS Tx | 545 | 4 | 1 | 4.0 | 545.00 | 44.3371% |
| Ultra-deep sleep Option 2 | 0.02 | 1 | 10211 | 10211.0 | 204.22 | 16.6138% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **1229.22** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.06** | | |
| **Battery life (in month)** | | | | **12.34** | | |
| **Case 106a: FR1, UL-TDOA, Type A, 10.24/no paging, cell access every 61.44s, UDS2** | Ramp up + down Option 2 | 480 | 25 | 1 | 25.0 | 480.00 | 13.5743% |
| SRS Tx | 545 | 4 | 1 | 4.0 | 545.00 | 15.4124% |
| Cell access (including ramp up) | 13850 | 435 | 0.166666667 | 72.5 | 2308.33 | 65.2790% |
| Ultra-deep sleep Option 2 | 0.02 | 1 | 10138.5 | 10138.5 | 202.77 | 5.7343% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **3536.10** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.17** | | |
| **Battery life (in month)** | | | | **4.29** | | |
| **Case 107a: FR1, UL-TDOA, Type A, 10.24/no paging, TRS sync, UDS2** | Ramp up + down Option 2 | 480 | 25 | 1 | 25.0 | 480.00 | 50.8324% |
| SRS Tx TRS | 260 | 1 | 1 | 1.0 | 260.00 | 27.5342% |
| Ultra-deep sleep Option 2 | 0.02 | 1 | 10214 | 10214.0 | 204.28 | 21.6334% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **944.28** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.05** | | |
| **Battery life (in month)** | | | | **16.07** | | |
| **Case 111: FR1, UE-A DL-TDOA, Type A, 10.24/10.24, UDS1** | Ramp up + down Option 1 | 10000 | 400 | 1 | 400.0 | 10000.00 | 83.3803% |
| PRS Rx + Paging + SDT | 1797 | 28 | 1 | 28.0 | 1797.00 | 14.9834% |
| Ultra-deep sleep Option 1 | 0.02 | 1 | 9812 | 9812.0 | 196.24 | 1.6363% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **11993.24** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.59** | | |
| **Battery life (in month)** | | | | **1.26** | | |
| **Case 121: FR1, UE-B DL-TDOA, Type A, 10.24/10.24, UDS1** | Ramp up + down Option 1 | 10000 | 400 | 1 | 400.0 | 10000.00 | 85.7027% |
| PRS Rx + Paging | 1472 | 27.5 | 1 | 27.5 | 1472.00 | 12.6154% |
| Ultra-deep sleep Option 1 | 0.02 | 1 | 9812.5 | 9812.5 | 196.25 | 1.6819% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **11668.25** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.57** | | |
| **Battery life (in month)** | | | | **1.30** | | |
| **Case 122: FR1, UE-B DL-TDOA, Type A, 10.24/20.48, UDS1** | Ramp up + down Option 1 | 10000 | 400 | 1 | 400.0 | 10000.00 | 87.8555% |
| PRS Rx + Paging | 1472 | 27.5 | 0.5 | 13.8 | 736.00 | 6.4662% |
| PRS Rx | 900 | 20 | 0.5 | 10.0 | 450.00 | 3.9535% |
| Ultra-deep sleep Option 1 | 0.02 | 1 | 9816.2 | 9816.2 | 196.32 | 1.7248% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **11382.32** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.56** | | |
| **Battery life (in month)** | | | | **1.33** | | |
| **Case 123: FR1, UE-B DL-TDOA, Type A, 10.24/40.96, UDS1** | Ramp up + down Option 1 | 10000 | 400 | 1 | 400.0 | 10000.00 | 88.9730% |
| PRS Rx + Paging | 1472 | 27.5 | 0.25 | 6.9 | 368.00 | 3.2742% |
| PRS Rx | 900 | 20 | 0.75 | 15.0 | 675.00 | 6.0057% |
| Ultra-deep sleep Option 1 | 0.02 | 1 | 9818.1 | 9818.1 | 196.36 | 1.7471% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **11239.36** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.55** | | |
| **Battery life (in month)** | | | | **1.35** | | |
| **Case 124: FR1, UL-TDOA, Type A, 10.24/81.92, UDS1** | Ramp up + down Option 1 | 10000 | 400 | 1 | 400.0 | 10000.00 | 89.5425% |
| PRS Rx + Paging | 1472 | 27.5 | 0.125 | 3.4 | 184.00 | 1.6476% |
| PRS Rx | 900 | 20 | 0.875 | 17.5 | 787.50 | 7.0515% |
| Ultra-deep sleep Option 1 | 0.02 | 1 | 9819.1 | 9819.1 | 196.38 | 1.7585% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **11167.88** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.55** | | |
| **Battery life (in month)** | | | | **1.36** | | |
| **Case 125: FR1, UL-TDOA, Type A, 10.24/no paging, UDS1** | Ramp up + down Option 1 | 10000 | 400 | 1 | 400.0 | 10000.00 | 90.1193% |
| PRS Rx | 900 | 20 | 1 | 20.0 | 900.00 | 8.1107% |
| Ultra-deep sleep Option 1 | 0.02 | 1 | 9820 | 9820.0 | 196.40 | 1.7699% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **11096.40** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.54** | | |
| **Battery life (in month)** | | | | **1.37** | | |
| **Case 122a: FR1, UE-B DL-TDOA, Type A, 10.24/20.48, UDS1+UDS2** | Ramp up + down Option 1 | 10000 | 400 | 0.5 | 200.0 | 5000.00 | 74.9044% |
| PRS Rx + Paging | 1472 | 27.5 | 0.5 | 13.8 | 736.00 | 11.0259% |
| Ultra-deep sleep Option 1 | 0.03 | 1 | 4910 | 4910.0 | 147.30 | 2.2067% |
| Ramp up + down Option 2 | 480 | 25 | 0.5 | 12.5 | 240.00 | 3.5954% |
| PRS Rx | 900 | 20 | 0.5 | 10.0 | 450.00 | 6.7414% |
| Ultra-deep sleep Option 2 | 0.02 | 1 | 5093.75 | 5093.8 | 101.88 | 1.5262% |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **6675.18** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.33** | | |
| **Battery life (in month)** | | | | **2.27** | | |
| **Case 123a: FR1, UE-B DL-TDOA, Type A, 10.24/40.96, UDS1+UDS2** | Ramp up + down Option 1 | 10000 | 400 | 0.25 | 100.0 | 2500.00 | 60.5395% |
| PRS Rx + Paging | 1472 | 27.5 | 0.25 | 6.9 | 368.00 | 8.9114% |
| Ultra-deep sleep Option 1 | 0.03 | 1 | 2455 | 2455.0 | 73.65 | 1.7835% |
| Ramp up + down Option 2 | 480 | 25 | 0.75 | 18.8 | 360.00 | 8.7177% |
| PRS Rx | 900 | 20 | 0.75 | 15.0 | 675.00 | 16.3457% |
| Ultra-deep sleep Option 2 | 0.02 | 1 | 7644.375 | 7644.4 | 152.89 | 3.7023% |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **4129.54** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.20** | | |
| **Battery life (in month)** | | | | **3.67** | | |
| **Case 124a: FR1, UL-TDOA, Type A, 10.24/81.92, UDS1+UDS2** | Ramp up + down Option 1 | 10000 | 400 | 0.125 | 50.0 | 1250.00 | 43.7565% |
| PRS Rx + Paging | 1472 | 27.5 | 0.125 | 3.4 | 184.00 | 6.4410% |
| Ultra-deep sleep Option 1 | 0.03 | 1 | 1227.5 | 1227.5 | 36.83 | 1.2891% |
| Ramp up + down Option 2 | 480 | 25 | 0.875 | 21.9 | 420.00 | 14.7022% |
| PRS Rx | 900 | 20 | 0.875 | 17.5 | 787.50 | 27.5666% |
| Ultra-deep sleep Option 2 | 0.02 | 1 | 8919.6875 | 8919.7 | 178.39 | 6.2447% |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **2856.72** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.14** | | |
| **Battery life (in month)** | | | | **5.31** | | |
| **Case 125a: FR1, UL-TDOA, Type A, 10.24/no paging, UDS2** | Ramp up + down Option 2 | 480 | 25 | 1 | 25.0 | 480.00 | 30.3049% |
| PRS Rx | 900 | 20 | 1 | 20.0 | 900.00 | 56.8218% |
| Ultra-deep sleep Option 2 | 0.02 | 1 | 10195 | 10195.0 | 203.90 | 12.8733% |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | **10240.0** | **1583.90** | **100.0000%** |
| **Slot-averaged power unit** | | | | **0.08** | | |
| **Battery life (in month)** | | | | **9.58** | | |

Table B.5.1.2-3: Summary for UE power consumption results from [92]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirements met? (Yes/No); If no, provide gaps** | |
| **6 months** | **12 months** |
| **Case 1, FR1, UL-TDOA, Type A, 1.28/1.28** | 1.53 | 0.48 | No | No |
| **Case 2: FR1, UL-TDOA, Type A, 10.24/1.28** | 1.47 | 0.50 | No | No |
| **Case 3: FR1, UL-TDOA, Type A, 10.24/10.24** | 1.10 | 0.68 | No | No |
| **Case 11: FR1, UE-A DL-TDOA, Type A, 1.28/1.28** | 1.87 | 0.40 | No | No |
| **Case 12: FR1, UE-A DL-TDOA, Type A, 10.24/1.28** | 1.52 | 0.49 | No | No |
| **Case 13: FR1, UE-A DL-TDOA, Type A, 10.24/10.24** | 1.14 | 0.65 | No | No |
| **Case 21: FR1, UE-B DL-TDOA, Type A, 1.28/1.28** | 1.71 | 0.43 | No | No |
| **Case 22: FR1, UE-B DL-TDOA, Type A, 10.24/1.28** | 1.47 | 0.50 | No | No |
| **Case 23: FR1, UE-B DL-TDOA, Type A, 10.24/10.24** | 1.09 | 0.68 | No | No |
| **Case 101: FR1, UL-TDOA, Type A, 10.24/10.24, UDS1** | 0.55 | 1.36 | No | No |
| **Case 102: FR1, UL-TDOA, Type A, 10.24/20.48, UDS1** | 0.54 | 1.38 | No | No |
| **Case 103: FR1, UL-TDOA, Type A, 10.24/40.96, UDS1** | 0.53 | 1.39 | No | No |
| **Case 104: FR1, UL-TDOA, Type A, 10.24/81.92, UDS1** | 0.53 | 1.39 | No | No |
| **Case 105: FR1, UL-TDOA, Type A, 10.24/no paging, UDS1** | 0.52 | 1.41 | No | No |
| **Case 102a: FR1, UL-TDOA, Type A, 10.24/20.48, UDS1+UDS2** | 0.30 | 2.45 | No | No |
| **Case 103a: FR1, UL-TDOA, Type A, 10.24/40.96, UDS1+UDS2** | 0.18 | 4.08 | No | No |
| **Case 104a: FR1, UL-TDOA, Type A, 10.24/81.92, UDS1+UDS2** | 0.12 | 6.14 | Yes | No |
| **Case 105a: FR1, UL-TDOA, Type A, 10.24/no paging, UDS2** | 0.06 | 12.34 | Yes | Yes |
| **Case 106a: FR1, UL-TDOA, Type A, 10.24/no paging, cell access every 61.44s, UDS2** | 0.17 | 4.29 | No | No |
| **Case 107a: FR1, UL-TDOA, Type A, 10.24/no paging, TRS sync, UDS2** | 0.05 | 16.07 | Yes | Yes |
| **Case 111: FR1, UE-A DL-TDOA, Type A, 10.24/10.24, UDS1** | 0.59 | 1.26 | No | No |
| **Case 121: FR1, UE-B DL-TDOA, Type A, 10.24/10.24, UDS1** | 0.57 | 1.30 | No | No |
| **Case 122: FR1, UE-B DL-TDOA, Type A, 10.24/20.48, UDS1** | 0.56 | 1.33 | No | No |
| **Case 123: FR1, UE-B DL-TDOA, Type A, 10.24/40.96, UDS1** | 0.55 | 1.35 | No | No |
| **Case 124: FR1, UL-TDOA, Type A, 10.24/81.92, UDS1** | 0.55 | 1.36 | No | No |
| **Case 125: FR1, UL-TDOA, Type A, 10.24/no paging, UDS1** | 0.54 | 1.37 | No | No |
| **Case 122a: FR1, UE-B DL-TDOA, Type A, 10.24/20.48, UDS1+UDS2** | 0.33 | 2.27 | No | No |
| **Case 123a: FR1, UE-B DL-TDOA, Type A, 10.24/40.96, UDS1+UDS2** | 0.20 | 3.67 | No | No |
| **Case 124a: FR1, UL-TDOA, Type A, 10.24/81.92, UDS1+UDS2** | 0.14 | 5.31 | No | No |
| **Case 125a: FR1, UL-TDOA, Type A, 10.24/no paging, UDS2** | 0.08 | 9.58 | Yes | No |

## B.5.2 Results from source [93]

### B.5.2.1 Description of evaluation scenarios

For Rel-17 positioning for UEs in RRC\_INACTIVE state, evaluation cases and corresponding assumptions are shown in Table B.5.2.1-1 with corresponding Figure B.5.2.1-1~8, including evaluations with different DRX cycles, RS periodicities and SINR conditions for UE-assisted DL positioning, UE-based DL positioning, and/or UL positioning.

For Rel-18 potential enhancements, the following cases are considered for UE-assisted DL positioning, UE-based DL positioning, and/or UL positioning:

- UL positioning with SRS configuration obtaining/update procedures under high SINR is shown in Table B.5.2.1-2 with corresponding Figure B.5.2.1-9

- Overall enhancements including ultra-deep sleep state, DRX cycle beyond 10.24s, evaluations cases and corresponding assumptions are shown in Table B.5.2.1-3~5, focusing on the enhanced evaluation assumptions based on the Rel-17 baseline case.

Throughout the evaluations:

- The battery life for both LPHAP Type A and Type B devices with implementation factor K = 1,2,4 is considered.



Figure B.5.2.1-1 (Rel-17 baseline) Case 1: UE-based DL positioning under high SINR



Figure B.5.2.1-2 (Rel-17 optional) Case 2: UE-based DL positioning under low SINR



Figure B.5.2.1-3 (Rel-17 baseline): Case 3: UE assisted DL positioning under high SINR with CG-SDT



Figure B.5.2.1-4 (Rel-17 optional): Case 4: UE assisted DL positioning under low SINR with CG-SDT



Figure B.5.2.1-5 (Rel-17 optional): Case 5: UE-assisted DL positioning under high SINR with RA-SDT



Figure B.5.2.1-6 (Rel-17 optional): Case 6: UE-assisted DL positioning under low SINR with RA-SDT



Figure B.5.2.1-7 (Rel-17 baseline): Case 7: UL positioning under high SINR



Figure B.5.2.1-8 (Rel-17 optional): Case 8: UL positioning under low SINR

Table B.5.2.1-1: Evaluation cases and assumptions for each Rel-17 positioning

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption**  **(Rel-17 baseline)** | **[Case 1-1], [FR1], [UE-based DL positioning], [High SINR], [LPHAP device type A]** | **[Case 1-2], [FR1], [UE-based DL positioning], [High SINR], [LPHAP device type A]** | **[Case 1-3], [FR1], [UE-based DL positioning], [High SINR], [LPHAP device type B]** | **[Case 1-4], [FR1], [UE-based DL positioning], [High SINR], [LPHAP device type B]** |
| Sleep state | Same as TR38.840 | Same as TR38.840 | Same as TR38.840 | Same as TR38.840 |
| DRX cycle | 1.28s | 10.24s | 1.28s | 10.24s |
| Paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 1.28s  (1 PRS occasion per I-DRX cycle) | 10.24s  (1 PRS occasion per I-DRX cycle) | 1.28s  (1 PRS occasion per I-DRX cycle) | 10.24s  (1 PRS occasion per I-DRX cycle) |
| M-sample | 1 | 1 | 1 | 1 |
| SSB Proc. | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | Yes | Yes | Yes | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | N/A | N/A | N/A |
| implementation factor K | 1/2/4 | 1/2/4 | 1/2/4 | 1/2/4 |
| **Evaluation assumption**  **(Rel-17 optional)** | **[Case 2-1], [FR1], [UE-based DL positioning], [Low SINR], [LPHAP device type A]** | **[Case 2-2], [FR1], [UE-based DL positioning], [Low SINR], [LPHAP device type A]** | **[Case 2-3], [FR1], [UE-based DL positioning], [Low SINR], [LPHAP device type B]** | **[Case 2-4], [FR1], [UE-based DL positioning], [Low SINR], [LPHAP device type B]** |
| Sleep state | Same as TR38.840 | Same as TR38.840 | Same as TR38.840 | Same as TR38.840 |
| DRX cycle | 1.28s | 10.24s | 1.28s | 10.24s |
| Paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 1.28s  (1 PRS occasion per I-DRX cycle) | 10.24s  (1 PRS occasion per I-DRX cycle) | 1.28s  (1 PRS occasion per I-DRX cycle) | 10.24s  (1 PRS occasion per I-DRX cycle) |
| M-sample | 1 | 1 | 1 | 1 |
| SSB Proc. | 3 SSB bursts with 2ms duration before paging occasion | 3 SSB bursts with 2ms duration before paging occasion | 3 SSB bursts with 2ms duration before paging occasion | 3 SSB bursts with 2ms duration before paging occasion |
| RRM measurement | One of 3 SSB bursts for proc. reused for intra-frequency RRM;  1 additional SSB burst for inter-frequency RRM | One of 3 SSB bursts for proc. reused for intra-frequency RRM;  1 additional SSB burst for inter-frequency RRM | One of 3 SSB bursts for proc. reused for intra-frequency RRM;  1 additional SSB burst for inter-frequency RRM | One of 3 SSB bursts for proc. reused for intra-frequency RRM;  1 additional SSB burst for inter-frequency RRM |
| BWP switching | Yes | Yes | Yes | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | N/A | N/A | N/A |
| implementation factor K | 1/2/4 | 1/2/4 | 1/2/4 | 1/2/4 |
| **Evaluation assumption**  **(Rel-17 baseline)** | **[Case 3-1], [FR1], [UE-assisted DL positioning], [High SINR, CG-SDT report], [LPHAP device type A]** | **[Case 3-2], [FR1], [UE-assisted DL positioning], [High SINR, CG-SDT report], [LPHAP device type A]** | **[Case 3-3], [FR1], [UE-assisted DL positioning], [High SINR, CG-SDT report], [LPHAP device type B]** | **[Case 3-4], [FR1], [UE-assisted DL positioning], [High SINR, CG-SDT report], [LPHAP device type B]** |
| Sleep state | Same as TR38.840 | Same as TR38.840 | Same as TR38.840 | Same as TR38.840 |
| DRX cycle | 1.28s | 10.24s | 1.28s | 10.24s |
| Paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 1.28s  (1 PRS occasion per I-DRX cycle) | 10.24s  (1 PRS occasion per I-DRX cycle) | 1.28s  (1 PRS occasion per I-DRX cycle) | 10.24s  (1 PRS occasion per I-DRX cycle) |
| M-sample | 1 | 1 | 1 | 1 |
| SSB Proc. | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | Yes | Yes | Yes | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT  (with RRC release) | CG-SDT  (with RRC release) | CG-SDT  (with RRC release) | CG-SDT  (with RRC release) |
| implementation factor K | 1/2/4 | 1/2/4 | 1/2/4 | 1/2/4 |
| **Evaluation assumption**  **(Rel-17 optional)** | **[Case 4-1], [FR1], [UE-assisted DL positioning], [Low SINR, CG-SDT report], [LPHAP device type A]** | **[Case 4-2], [FR1], [UE-assisted DL positioning], [Low SINR, CG-SDT report], [LPHAP device type A]** | **[Case 4-3], [FR1], [UE-assisted DL positioning], [Low SINR, CG-SDT report], [LPHAP device type B]** | **[Case 4-4], [FR1], [UE-assisted DL positioning], [Low SINR, CG-SDT report], [LPHAP device type B]** |
| Sleep state | Same as TR38.840 | Same as TR38.840 | Same as TR38.840 | Same as TR38.840 |
| DRX cycle | 1.28s | 10.24s | 1.28s | 10.24s |
| Paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 1.28s  (1 PRS occasion per I-DRX cycle) | 10.24s  (1 PRS occasion per I-DRX cycle) | 1.28s  (1 PRS occasion per I-DRX cycle) | 10.24s  (1 PRS occasion per I-DRX cycle) |
| M-sample | 1 | 1 | 1 | 1 |
| SSB Proc. | 3 SSB bursts with 2ms duration before paging occasion | 3 SSB bursts with 2ms duration before paging occasion | 3 SSB bursts with 2ms duration before paging occasion | 3 SSB bursts with 2ms duration before paging occasion |
| RRM measurement | One of 3 SSB bursts for proc. reused for intra-frequency RRM;  1 additional SSB burst for inter-frequency RRM | One of 3 SSB bursts for proc. reused for intra-frequency RRM;  1 additional SSB burst for inter-frequency RRM | One of 3 SSB bursts for proc. reused for intra-frequency RRM;  1 additional SSB burst for inter-frequency RRM | One of 3 SSB bursts for proc. reused for intra-frequency RRM;  1 additional SSB burst for inter-frequency RRM |
| BWP switching | Yes | Yes | Yes | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT  (with RRC release) | CG-SDT  (with RRC release) | CG-SDT  (with RRC release) | CG-SDT  (with RRC release) |
| implementation factor K | 1/2/4 | 1/2/4 | 1/2/4 | 1/2/4 |
| **Evaluation assumption**  **(Rel-17 optional)** | **[Case 5-1], [FR1], [UE-assisted DL positioning], [High SINR, RA-SDT report], [LPHAP device type A]** | **[Case 5-2], [FR1], [UE-assisted DL positioning], [High SINR, RA-SDT report], [LPHAP device type A]** | **[Case 5-3], [FR1], [UE-assisted DL positioning], [High SINR, RA-SDT report], [LPHAP device type B]** | **[Case 5-4], [FR1], [UE-assisted DL positioning], [High SINR, RA-SDT report], [LPHAP device type B]** |
| Sleep state | Same as TR38.840 | Same as TR38.840 | Same as TR38.840 | Same as TR38.840 |
| DRX cycle | 1.28s | 10.24s | 1.28s | 10.24s |
| Paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 1.28s  (1 PRS occasion per I-DRX cycle) | 10.24s  (1 PRS occasion per I-DRX cycle) | 1.28s  (1 PRS occasion per I-DRX cycle) | 10.24s  (1 PRS occasion per I-DRX cycle) |
| M-sample | 1 | 1 | 1 | 1 |
| SSB Proc. | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | Yes | Yes | Yes | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | RA-SDT | RA-SDT | RA-SDT | RA-SDT |
| implementation factor K | 1/2/4 | 1/2/4 | 1/2/4 | 1/2/4 |
| **Evaluation assumption**  **(Rel-17 optional)** | **[Case 6-1], [FR1], [UE-assisted DL positioning], [Low SINR, RA-SDT report], [LPHAP device type A]** | **[Case 6-2], [FR1], [UE-assisted DL positioning], [Low SINR, RA-SDT report], [LPHAP device type A]** | **[Case 6-3], [FR1], [UE-assisted DL positioning], [Low SINR, RA-SDT report], [LPHAP device type B]** | **[Case 6-4], [FR1], [UE-assisted DL positioning], [Low SINR, RA-SDT report], [LPHAP device type B]** |
| Sleep state | Same as TR38.840 | Same as TR38.840 | Same as TR38.840 | Same as TR38.840 |
| DRX cycle | 1.28s | 10.24s | 1.28s | 10.24s |
| Paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 1.28s  (1 PRS occasion per I-DRX cycle) | 10.24s  (1 PRS occasion per I-DRX cycle) | 1.28s  (1 PRS occasion per I-DRX cycle) | 10.24s  (1 PRS occasion per I-DRX cycle) |
| M-sample | 1 | 1 | 1 | 1 |
| SSB Proc. | 3 SSB bursts with 2ms duration before paging occasion | 3 SSB bursts with 2ms duration before paging occasion | 3 SSB bursts with 2ms duration before paging occasion | 3 SSB bursts with 2ms duration before paging occasion |
| RRM measurement | One of 3 SSB bursts for proc. reused for intra-frequency RRM;  1 additional SSB burst for inter-frequency RRM | One of 3 SSB bursts for proc. reused for intra-frequency RRM;  1 additional SSB burst for inter-frequency RRM | One of 3 SSB bursts for proc. reused for intra-frequency RRM;  1 additional SSB burst for inter-frequency RRM | One of 3 SSB bursts for proc. reused for intra-frequency RRM;  1 additional SSB burst for inter-frequency RRM |
| BWP switching | Yes | Yes | Yes | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | RA-SDT | RA-SDT | RA-SDT | RA-SDT |
| implementation factor K | 1/2/4 | 1/2/4 | 1/2/4 | 1/2/4 |
| **Evaluation assumption**  **(Rel-17 baseline)** | **[Case 7-1], [FR1], [UL positioning], [High SINR], [LPHAP device type A]** | **[Case 7-2], [FR1], [UL positioning], [High SINR], [LPHAP device type A]** | **[Case 7-3], [FR1], [UL positioning], [High SINR], [LPHAP device type B]** | **[Case 7-4], [FR1], [UL positioning], [High SINR], [LPHAP device type B]** |
| Sleep state | Same as TR38.840 | Same as TR38.840 | Same as TR38.840 | Same as TR38.840 |
| DRX cycle | 1.28s | 10.24s | 1.28s | 10.24s |
| Paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 1.28s  (1 SRS occasion per I-DRX cycle) | 10.24s  (1 SRS occasion per I-DRX cycle) | 1.28s  (1 SRS occasion per I-DRX cycle) | 10.24s  (1 SRS occasion per I-DRX cycle) |
| M-sample | 1 | 1 | 1 | 1 |
| SSB Proc. | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | Yes | Yes | Yes | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | N/A | N/A | N/A |
| implementation factor K | 1/2/4 | 1/2/4 | 1/2/4 | 1/2/4 |
| **Evaluation assumption**  **(Rel-17 optional)** | **[Case 8-1], [FR1], [UL positioning], [Low SINR], [LPHAP device type A]** | **[Case 8-2], [FR1], [UL positioning], [Low SINR], [LPHAP device type A]** | **[Case 8-3], [FR1], [UL positioning], [Low SINR], [LPHAP device type B]** | **[Case 8-4], [FR1], [UL positioning], [Low SINR], [LPHAP device type B]** |
| Sleep state | Same as TR38.840 | Same as TR38.840 | Same as TR38.840 | Same as TR38.840 |
| DRX cycle | 1.28s | 10.24s | 1.28s | 10.24s |
| Paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 1.28s  (1 SRS occasion per I-DRX cycle) | 10.24s  (1 SRS occasion per I-DRX cycle) | 1.28s  (1 SRS occasion per I-DRX cycle) | 10.24s  (1 SRS occasion per I-DRX cycle) |
| M-sample | 1 | 1 | 1 | 1 |
| SSB Proc. | 3 SSB bursts with 2ms duration before paging occasion | 3 SSB bursts with 2ms duration before paging occasion | 3 SSB bursts with 2ms duration before paging occasion | 3 SSB bursts with 2ms duration before paging occasion |
| RRM measurement | One of 3 SSB bursts for proc. reused for intra-frequency RRM;  1 additional SSB burst for inter-frequency RRM | One of 3 SSB bursts for proc. reused for intra-frequency RRM;  1 additional SSB burst for inter-frequency RRM | One of 3 SSB bursts for proc. reused for intra-frequency RRM;  1 additional SSB burst for inter-frequency RRM | One of 3 SSB bursts for proc. reused for intra-frequency RRM;  1 additional SSB burst for inter-frequency RRM |
| BWP switching | Yes | Yes | Yes | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | N/A | N/A | N/A |
| implementation factor K | 1/2/4 | 1/2/4 | 1/2/4 | 1/2/4 |



Figure B.5.2.1-9: Case 9: UL positioning with SRS configuration obtaining/update under high SINR

Table B.5.2.1-2: Evaluation cases and assumptions for UL positioning with SRS configuration obtaining/update under high SINR condition (case 9-1, case 9-2…)

|  |  |  |
| --- | --- | --- |
| **Evaluation assumption** | **[Case 9-1], [FR1], [UL positioning], [LPHAP device type A]** | **[Case 9-2], [FR1], [UL positioning], [LPHAP device type A]** |
| Sleep state | Same as TR38.840 | Same as TR38.840 |
| DRX cycle | 1.28s | 10.24s |
| Paging reception | Yes | Yes |
| RS periodicity | 1.28s  (1 SRS occasion per I-DRX cycle) | 10.24s  (1 SRS occasion per I-DRX cycle) |
| M-sample | 1 | 1 |
| SSB Proc. | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion |
| RRM measurement | N/A | N/A |
| BWP switching | Yes | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | N/A |
| implementation factor K | 1 | 1 |
| Other assumptions | SRS configuration obtaining/update before SRS transmission is considered, with a period of 10.24s, 20.48s, 40.96s | |

Table B.5.2.1-3 (Rel-18 baseline): Evaluation cases and assumptions for UE-based DL positioning under high SINR condition (case 1e-1, case 1e-2…) with enhanced solutions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 1e-1], [FR1], [UE-based DL positioning], [LPHAP device type A]** | **[Case 1e-2], [FR1], [UE-based DL positioning], [LPHAP device type A]** | **[Case 1e-3], [FR1], [UE-based DL positioning], [LPHAP device type A]** | **[Case 1e-4], [FR1], [UE-based DL positioning], [LPHAP device type A]** |
| Sleep state | Ultra-deep sleep  Option 1: with additional transition energy of 10000 | Ultra-deep sleep  Option 1: with additional transition energy of 5000 | Ultra-deep sleep  Option 1: with additional transition energy of 10000 | Ultra-deep sleep  Option 1: with additional transition energy of 5000 |
| DRX cycle | 20.48s | 20.48s | 30.72s | 30.72s |
| Paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 20.48s  (1 PRS occasion per I-DRX cycle) | 20.48s  (1 PRS occasion per I-DRX cycle) | 30.72s  (1 PRS occasion per I-DRX cycle) | 30.72s  (1 PRS occasion per I-DRX cycle) |
| M-sample | 1 | 1 | 1 | 1 |
| SSB Proc. | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | Yes | Yes | Yes | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | N/A | N/A | N/A |
| implementation factor K | 1/2/4 | 1/2/4 | 1/2/4 | 1/2/4 |
| **Evaluation assumption** | **[Case 1e-5], [FR1], [UE-based DL positioning], [LPHAP device type B]** | **[Case 1e-6], [FR1], [UE-based DL positioning], [LPHAP device type B]** | **[Case 1e-7], [FR1], [UE-based DL positioning], [LPHAP device type B]** | **[Case 1e-8], [FR1], [UE-based DL positioning], [LPHAP device type B]** |
| Sleep state | Ultra-deep sleep  Option 1: with additional transition energy of 10000 | Ultra-deep sleep  Option 1: with additional transition energy of 5000 | Ultra-deep sleep  Option 1: with additional transition energy of 10000 | Ultra-deep sleep  Option 1: with additional transition energy of 5000 |
| DRX cycle | 20.48s | 20.48s | 30.72s | 30.72s |
| Paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 20.48s  (1 PRS occasion per I-DRX cycle) | 20.48s  (1 PRS occasion per I-DRX cycle) | 30.72s  (1 PRS occasion per I-DRX cycle) | 30.72s  (1 PRS occasion per I-DRX cycle) |
| M-sample | 1 | 1 | 1 | 1 |
| SSB Proc. | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | Yes | Yes | Yes | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | N/A | N/A | N/A |
| implementation factor K | 1/2/4 | 1/2/4 | 1/2/4 | 1/2/4 |

Table B.5.2.1-4 (Rel-18 baseline): Evaluation cases and assumptions for UE-assisted DL positioning under high SINR condition with CG-SDT (case 3e-1, case 3e-2…) with enhanced solutions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 3e-1], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** | **[Case 3e-2], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** | **[Case 3e-3], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** | **[Case 3e-4], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** |
| Sleep state | Ultra-deep sleep  Option 1: with additional transition energy of 10000 | Ultra-deep sleep  Option 1: with additional transition energy of 5000 | Ultra-deep sleep  Option 1: with additional transition energy of 10000 | Ultra-deep sleep  Option 1: with additional transition energy of 5000 |
| DRX cycle | 20.48s | 20.48s | 30.72s | 30.72s |
| Paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 20.48s  (1 PRS occasion per I-DRX cycle) | 20.48s  (1 PRS occasion per I-DRX cycle) | 30.72s  (1 PRS occasion per I-DRX cycle) | 30.72s  (1 PRS occasion per I-DRX cycle) |
| M-sample | 1 | 1 | 1 | 1 |
| SSB Proc. | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | Yes | Yes | Yes | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT  (with RRC release) | CG-SDT  (with RRC release) | CG-SDT  (with RRC release) | CG-SDT  (with RRC release) |
| implementation factor K | 1/2/4 | 1/2/4 | 1/2/4 | 1/2/4 |
| **Evaluation assumption** | **[Case 3e-5], [FR1], [UE-assisted DL positioning], [LPHAP device type B]** | **[Case 3e-6], [FR1], [UE-assisted DL positioning], [LPHAP device type B]** | **[Case 3e-7], [FR1], [UE-assisted DL positioning], [LPHAP device type B]** | **[Case 3e-8], [FR1], [UE-assisted DL positioning], [LPHAP device type B]** |
| Sleep state | Ultra-deep sleep  Option 1: with additional transition energy of 10000 | Ultra-deep sleep  Option 1: with additional transition energy of 5000 | Ultra-deep sleep  Option 1: with additional transition energy of 10000 | Ultra-deep sleep  Option 1: with additional transition energy of 5000 |
| DRX cycle | 20.48s | 20.48s | 30.72s | 30.72s |
| Paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 20.48s  (1 PRS occasion per I-DRX cycle) | 20.48s  (1 PRS occasion per I-DRX cycle) | 30.72s  (1 PRS occasion per I-DRX cycle) | 30.72s  (1 PRS occasion per I-DRX cycle) |
| M-sample | 1 | 1 | 1 | 1 |
| SSB Proc. | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | Yes | Yes | Yes | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT  (with RRC release) | CG-SDT  (with RRC release) | CG-SDT  (with RRC release) | CG-SDT  (with RRC release) |
| implementation factor K | 1/2/4 | 1/2/4 | 1/2/4 | 1/2/4 |

Table B.5.2.1-5 (Rel-18 baseline): Evaluation cases and assumptions for UL positioning under high SINR condition (case 7e-1, case 7e-2…) with enhanced solutions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 7e-1], [FR1], [UL positioning], [LPHAP device type A]** | **[Case 7e-2], [FR1], [UL positioning], [LPHAP device type A]** | **[Case 7e-3], [FR1], [UL positioning], [LPHAP device type A]** | **[Case 7e-4], [FR1], [UL positioning], [LPHAP device type A]** |
| Sleep state | Ultra-deep sleep  Option 1: with additional transition energy of 10000 | Ultra-deep sleep  Option 1: with additional transition energy of 5000 | Ultra-deep sleep  Option 1: with additional transition energy of 10000 | Ultra-deep sleep  Option 1: with additional transition energy of 5000 |
| DRX cycle | 20.48s | 20.48s | 30.72s | 30.72s |
| Paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 20.48s  (1 SRS occasion per I-DRX cycle) | 20.48s  (1 SRS occasion per I-DRX cycle) | 30.72s  (1 SRS occasion per I-DRX cycle) | 30.72s  (1 SRS occasion per I-DRX cycle) |
| M-sample | 1 | 1 | 1 | 1 |
| SSB Proc. | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | Yes | Yes | Yes | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | N/A | N/A | N/A |
| implementation factor K | 1/2/4 | 1/2/4 | 1/2/4 | 1/2/4 |
| **Evaluation assumption** | **[Case 7e-5], [FR1], [UL positioning g], [LPHAP device type B]** | **[Case 7e-6], [FR1], [UL positioning], [LPHAP device type B]** | **[Case 7e-7], [FR1], [UL positioning], [LPHAP device type B]** | **[Case 7e-8], [FR1], [UL positioning], [LPHAP device type B]** |
| Sleep state | Ultra-deep sleep  Option 1: with additional transition energy of 10000 | Ultra-deep sleep  Option 1: with additional transition energy of 5000 | Ultra-deep sleep  Option 1: with additional transition energy of 10000 | Ultra-deep sleep  Option 1: with additional transition energy of 5000 |
| DRX cycle | 20.48s | 20.48s | 30.72s | 30.72s |
| Paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 20.48s  (1 SRS occasion per I-DRX cycle) | 20.48s  (1 SRS occasion per I-DRX cycle) | 30.72s  (1 SRS occasion per I-DRX cycle) | 30.72s  (1 SRS occasion per I-DRX cycle) |
| M-sample | 1 | 1 | 1 | 1 |
| SSB Proc. | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion | 1 SSB burst with 2ms duration before paging occasion |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | Yes | Yes | Yes | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | N/A | N/A | N/A |
| implementation factor K | 1/2/4 | 1/2/4 | 1/2/4 | 1/2/4 |

### B.5.2.2 Evaluation results for Low Power High Accuracy Positioning

Table B.5.2.2-1 provides detailed UE power consumption results for each evaluated case for Rel-17. For each case (e.g., case 1, case 2, …case 8), there are 4 different sub-cases included corresponding to different assumptions of DRX cycle (1.28s, 10.24s) and/or LPHAP device type (type A, type B). For example, case 1-1 and case 1-2 are the cases with different DRX cycles for type A LPHAP device, and case 1-3 and case 1-4 are the cases with different DRX cycles for type B-LPHAP device.

Table B.5.2.2-2 provides summary of UE power consumption results for each evaluated case for Rel-17.

Table B.5.2.2-3 provides detailed UE power consumption results for UL positioning with SRS configuration obtaining/update procedures under high SINR.

Table B.5.2.2-4 provides detailed UE power consumption results for each enhanced evaluated case for Rel-18 (case 1e, case 3e, case 7e). For each enhanced evaluated case, it is divided into multiple sub-cases, e.g., case 1e-1, case 1e-2…case 1e-8 etc., where different sub-cases correspond to different eDRX cycles (20.48s, 30.72s), different ultra-deep sleep assumptions (ultra-deep sleep option 1 with 10000/5000 transition power) and/or different LPHAP device types (LPHAP device type A, LPHAP device type B).

Table B.5.2.2-5 provides summary of UE power consumption results for each enhanced evaluated case for Rel-18.

Table B.5.2.2-6 provides **t**he comparison of power consumption ultra-deep sleep vs regular deep sleep in different DRX cycles based on the case of UE-based DL positioning.

Table B.5.2.2-1: Detailed UE power consumption results for Rel-17 evaluation cases (case 1~case 8)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 1-1**  **and**  **case 1-3**  **(Rel-17 baseline)** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 2.79% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 2.09% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 4.65% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 5.3% |
| Deep sleep | 1 | / | / | 2493 | 2493 | 57.96% |
| Light sleep | 20 | / | / | 0 | 0 | 0 |
| Micro sleep | 45 | / | / | 16 | 720 | 16.74% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 10.46% |
| Light sleep transition | 100 | 12 | 0 | 0 | 0 | 0 |
| **Total (every 1.28s)** | | | | 2560 | 4301 | 100% |
| **Slot-averaged power unit** | | | | 1.6801 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 0.44/0.88/1.76 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 2.48/4.96/9.92 | | |

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| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 1-2**  **and**  **Case 1-4**  **(Rel-17 baseline)** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.54% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 0.41% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 0.9% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 1.03% |
| Deep sleep | 1 | / | / | 20413 | 20413 | 91.86% |
| Light sleep | 20 | / | / | 0 | 0 | 0 |
| Micro sleep | 45 | / | / | 16 | 720 | 3.24% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 2.03% |
| Light sleep transition | 100 | 12 | 0 | 0 | 0 | 0 |
| **Total (every 10.24s)** | | | | 20480 | 22221 | 100% |
| **Slot-averaged power unit** | | | | 1.0850 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 0.68/1.36/2.72 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 3.84/7.68/15.36 | | |

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| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 2-1**  **and**  **Case 2-3** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 1.84% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 1.38% |
| SSB Proc. | 50 | 4 | 2 | 8 | 400 | 6.14% |
| SSB for Intra-frequency RRM | 60 | 4 | 1 | 4 | 240 | 3.68% |
| SSB for Inter frequency RRM | 60 | 10 | 1 | 10 | 600 | 9.21% |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 3.50% |
| Deep sleep | 1 | / | / | 2390 | 2390 | 36.67% |
| Light sleep | 20 | / | / | 49 | 980 | 15.04% |
| Micro sleep | 45 | / | /1 | 16 | 720 | 11.05% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 6.90% |
| Light sleep transition | 100 | 12 | 3 | 36 | 300 | 4.60% |
| **Total (every 1.28s)** | | | | 2560 | 6518 | 100% |
| **Slot-averaged power unit** | | | | 2.5461 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 0.29/0.58/1.16 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 1.64/3.28/6.56 | | |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 2-2**  **and**  **case 2-4** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.49% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 0.37% |
| SSB Proc. | 50 | 4 | 2 | 8 | 400 | 1.64% |
| SSB for Intra-frequency RRM | 60 | 4 | 1 | 4 | 240 | 0.98% |
| SSB for Inter frequency RRM | 60 | 10 | 1 | 10 | 600 | 2.46% |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 0.93% |
| Deep sleep | 1 | / | / | 20310 | 20310 | 83.11% |
| Light sleep | 20 | / | / | 49 | 980 | 4.01% |
| Micro sleep | 45 | / | / | 16 | 720 | 2.95% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 1.84% |
| Light sleep transition | 100 | 12 | 3 | 36 | 300 | 1.23% |
| **Total (every 10.24s)** | | | | 20480 | 24438 | 100% |
| **Slot-averaged power unit** | | | | 1.1933 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 0.62/1.24/2.48 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 3.49/6.98/13.96 | | |

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| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 3-1**  **and**  **Case 3-3**  **(Rel-17 baseline)** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 2.27% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 1.70% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 3.78% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 4.31% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 9.45% |
| RRC-release | 120 | 2 | 1 | 2 | 240 | 4.54% |
| Deep sleep | 1 | / | / | 2461 | 2461 | 46.53% |
| Light sleep | 20 | / | / | 4 | 80 | 1.51% |
| Micro sleep | 45 | / | / | 16 | 720 | 13.61% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 8.51% |
| Light sleep transition | 100 | 12 | 2 | 24 | 200 | 3.78% |
| **Total (every 1.28s)** | | | | 2560 | 5289 | 100% |
| **Slot-averaged power unit** | | | | 2.0660 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 0.36/0.72/1.44 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 2.02/4.04/8.08 | | |

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| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 3-2 and case 3-4**  **(Rel-17 baseline)** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.52% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 0.39% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 0.86% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 0.98% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 2.15% |
| RRC-release | 120 | 2 | 1 | 2 | 240 | 1.03% |
| Deep sleep | 1 | / | / | 20381 | 20381 | 87.82% |
| Light sleep | 20 | / | / | 4 | 80 | 0.34% |
| Micro sleep | 45 | / | / | 16 | 720 | 3.10% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 1.94% |
| Light sleep transition | 100 | 12 | 2 | 24 | 200 | 0.86% |
| **Total (every 10.24s)** | | | | 20480 | 23209 | 100% |
| **Slot-averaged power unit** | | | | 1.1333 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 0.65/1.3/2.6 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 3.68/7.36/14.72 | | |

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| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 4-1**  **and**  **case 4-3** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 1.56% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 1.17% |
| SSB Proc. | 50 | 4 | 2 | 8 | 400 | 5.20% |
| SSB for Intra-frequency RRM | 60 | 4 | 1 | 4 | 240 | 3.12% |
| SSB for Inter frequency RRM | 60 | 10 | 1 | 10 | 600 | 7.80% |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 2.96% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 6.50% |
| RRC-release | 120 | 2 | 1 | 2 | 240 | 3.12% |
| Deep sleep | 1 | / | / | 2366 | 2366 | 30.75% |
| Light sleep | 20 | / | / | 49 | 980 | 12.74% |
| Micro sleep | 45 | / | / | 24 | 1080 | 14.04% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 5.85% |
| Light sleep transition | 100 | 12 | 4 | 48 | 400 | 5.20% |
| **Total (every 1.28s)** | | | | 2560 | 7694 | 100% |
| **Slot-averaged power unit** | | | | 3.0055 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 0.24/0.48/0.96 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 1.39/2.78/5.56 | | |

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| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 4-2 and case 4-4** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.47% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 0.35% |
| SSB Proc. | 50 | 4 | 2 | 8 | 400 | 1.56% |
| SSB for Intra-frequency RRM | 60 | 4 | 1 | 4 | 240 | 0.94% |
| SSB for Inter frequency RRM | 60 | 10 | 1 | 10 | 600 | 2.34% |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 0.89% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 1.95% |
| RRC-release | 120 | 2 | 1 | 2 | 240 | 0.94% |
| Deep sleep | 1 | / | / | 20286 | 20286 | 79.20% |
| Light sleep | 20 | / | / | 49 | 980 | 3.83% |
| Micro sleep | 45 | / | / | 24 | 1080 | 4.22% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 1.76% |
| Light sleep transition | 100 | 12 | 4 | 48 | 400 | 1.56% |
| **Total (every 10.24s)** | | | | 20480 | 25614 | 100% |
| **Slot-averaged power unit** | | | | 1.2507 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 0.59/1.18/2.36 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 3.33/6.66/13.32 | | |

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| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 5-1**  **and**  **case 5-3** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 1.73% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 1.30% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 2.88% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 3.29% |
| Coreset0+SIB1 | 120 | 2 | 1 | 2 | 240 | 3.46% |
| PRACH | 210 | 2 | 1 | 2 | 420 | 6.05% |
| RAR | 120 | 2 | 1 | 2 | 240 | 3.46% |
| Msg3 | 250 | 2 | 1 | 2 | 500 | 7.21% |
| Msg4 | 120 | 2 | 1 | 2 | 240 | 3.46% |
| Deep sleep | 1 | / | / | 2411 | 2411 | 34.75% |
| Light sleep | 20 | / | / | 16 | 320 | 4.61% |
| Micro sleep | 45 | / | / | 24 | 1080 | 15.56% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 6.49% |
| Light sleep transition | 100 | 12 | 4 | 48 | 400 | 5.76% |
| **Total (every 1.28s)** | | | | 2560 | 6939 | 100% |
| **Slot-averaged power unit** | | | | 2.7105 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 0.27/0.54/1.08 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 1.54/3.08/6.16 | | |

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| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 5-2**  **and**  **Case 5-4** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.48% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 0.36% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 0.80% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 0.92% |
| Coreset0+SIB1 | 120 | 2 | 1 | 2 | 240 | 0.97% |
| PRACH | 210 | 2 | 1 | 2 | 420 | 1.69% |
| RAR | 120 | 2 | 1 | 2 | 240 | 0.97% |
| Msg3 | 250 | 2 | 1 | 2 | 500 | 2.01% |
| Msg4 | 120 | 2 | 1 | 2 | 240 | 0.97% |
| Deep sleep | 1 | / | / | 20331 | 20331 | 81.79% |
| Light sleep | 20 | / | / | 16 | 320 | 1.29% |
| Micro sleep | 45 | / | / | 24 | 1080 | 4.34% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 1.81% |
| Light sleep transition | 100 | 12 | 4 | 48 | 400 | 1.61% |
| **Total (every 10.24s)** | | | | 20480 | 24859 | 100% |
| **Slot-averaged power unit** | | | | 1.2138 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 0.61/1.22/2.44 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 3.43/6.86/13.72 | | |

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| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 6-1**  **and**  **case 6-3** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 1.31% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 0.98% |
| SSB Proc. | 50 | 4 | 2 | 8 | 400 | 4.37% |
| SSB for Intra-frequency RRM | 60 | 4 | 1 | 4 | 240 | 2.62% |
| SSB for Inter frequency RRM | 60 | 10 | 1 | 10 | 600 | 6.55% |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 2.49% |
| Coreset0+SIB1 | 120 | 2 | 1 | 2 | 240 | 2.62% |
| PRACH | 210 | 2 | 1 | 2 | 420 | 4.59% |
| RAR | 120 | 2 | 1 | 2 | 240 | 2.62% |
| Msg3 | 250 | 2 | 1 | 2 | 500 | 5.46% |
| Msg4 | 120 | 2 | 1 | 2 | 240 | 2.62% |
| Deep sleep | 1 | / | / | 2308 | 2308 | 25.21% |
| Light sleep | 20 | / | / | 65 | 1300 | 14.20% |
| Micro sleep | 45 | / | / | 24 | 1080 | 11.805 |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 4.91% |
| Light sleep transition | 100 | 12 | 7 | 84 | 700 | 7.65% |
| **Total (every 1.28s)** | | | | 2560 | 9156 | 100% |
| **Slot-averaged power unit** | | | | 3.5766 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 0.21/0.42/0.84 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 1.16/2.32/4.64 | | |

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| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 6-2**  **and**  **case 6-4** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.44% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 0.33% |
| SSB Proc. | 50 | 4 | 2 | 8 | 400 | 1.48% |
| SSB for Intra-frequency RRM | 60 | 4 | 1 | 4 | 240 | 0.89% |
| SSB for Inter frequency RRM | 60 | 10 | 1 | 10 | 600 | 2.22% |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 0.84% |
| Coreset0+SIB1 | 120 | 2 | 1 | 2 | 240 | 0.89% |
| PRACH | 210 | 2 | 1 | 2 | 420 | 1.55% |
| RAR | 120 | 2 | 1 | 2 | 240 | 0.89% |
| Msg3 | 250 | 2 | 1 | 2 | 500 | 1.85% |
| Msg4 | 120 | 2 | 1 | 2 | 240 | 0.89% |
| Deep sleep | 1 | / | / | 20228 | 20228 | 74.71% |
| Light sleep | 20 | / | / | 65 | 1300 | 4.80% |
| Micro sleep | 45 | / | / | 24 | 1080 | 3.99% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 1.66% |
| Light sleep transition | 100 | 12 | 7 | 84 | 700 | 2.59% |
| **Total (every 10.24s)** | | | | 20480 | 27076 | 100% |
| **Slot-averaged power unit** | | | | 1.3221 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 0.56/1.12/2.24 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 3.15/6.3/12.6 | | |

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| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 7-1**  **and**  **case 7-3**  **(Rel-17 baseline)** | SRS transmission | 210 | 1 | 1 | 1 | 210 | 5.09% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 2.18% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 4.85% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 5.52% |
| Deep sleep | 1 | / | / | 2499 | 2499 | 60.55% |
| Light sleep | 20 | / | / | 0 | 0 | 0 |
| Micro sleep | 45 | / | / | 10 | 450 | 10.9% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 10.9% |
| Light sleep transition | 100 | 12 | 0 | 0 | 0 | 0 |
| **Total (every 1.28s)** | | | | 2560 | 4127 | 100% |
| **Slot-averaged power unit** | | | | 1.6121 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 0.46/0.92/1.84 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 2.58/5.16/10.32 | | |

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| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 7-2 and case 7-4**  **(Rel-17 baseline)** | SRS transmission | 210 | 1 | 1 | 1 | 210 | 0.95% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 0.41% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 0.91% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 1.03% |
| Deep sleep | 1 | / | / | 20419 | 20419 | 92.62% |
| Light sleep | 20 | / | / | 0 | 0 | 0 |
| Micro sleep | 45 | / | / | 10 | 450 | 2.04% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 2.04% |
| Light sleep transition | 100 | 12 | 0 | 0 | 0 | 0 |
| **Total (every 10.24s)** | | | | 20480 | 22047 | 100% |
| **Slot-averaged power unit** | | | | 1.0765 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 0.68/1.36/2.72 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 3.87/7.74/15.48 | | |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 8-1 and case 8-3** | SRS transmission | 210 | 1 | 1 | 1 | 210 | 3.23% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 1.39% |
| SSB Proc. | 50 | 4 | 2 | 8 | 400 | 6.16% |
| SSB for Intra-frequency RRM | 60 | 4 | 1 | 4 | 240 | 3.69% |
| SSB for Inter frequency RRM | 60 | 10 | 1 | 10 | 600 | 9.24% |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 3.51% |
| Deep sleep | 1 | / | / | 2388 | 2388 | 36.76% |
| Light sleep | 20 | / | / | 57 | 1140 | 17.55% |
| Micro sleep | 45 | / | / | 10 | 450 | 6.93% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 6.93% |
| Light sleep transition | 100 | 12 | 3 | 36 | 300 | 4.62% |
| **Total (every 1.28s)** | | | | 2560 | 6496 | 100% |
| **Slot-averaged power unit** | | | | 2.5375 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 0.29/0.58/1.16 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 1.64/3.28/6.56 | | |

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| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 8-2 and case 8-4** | SRS transmission | 210 | 1 | 1 | 1 | 210 | 0.86% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 0.37% |
| SSB Proc. | 50 | 4 | 2 | 8 | 400 | 1.64% |
| SSB for Intra-frequency RRM | 60 | 4 | 1 | 4 | 240 | 0.98% |
| SSB for Inter frequency RRM | 60 | 10 | 1 | 10 | 600 | 2.46% |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 0.93% |
| Deep sleep | 1 | / | / | 20308 | 20308 | 83.17% |
| Light sleep | 20 | / | / | 57 | 1140 | 4.67% |
| Micro sleep | 45 | / | / | 10 | 450 | 1.84% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 1.84% |
| Light sleep transition | 100 | 12 | 3 | 36 | 300 | 1.23% |
| **Total (every 10.24s)** | | | | 20480 | 24416 | 100% |
| **Slot-averaged power unit** | | | | 1.1922 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 0.62/1.24/2.48 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 3.49/6.98/13.96 | | |

Table B.5.2.2-2: Summary of UE power consumption results for Rel-17 evaluation cases (case 1~case 8)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirement are met – Yes/No; If no, provide gaps** | |
| **6 months** | **12 months** |
| **Case1 (Rel-17 baseline):** UE-based DL positioning under high SINR | | | | |
| **Type A LPHAP device** | | | | |
| **[Case 1-1], [Rel-17]** | 1.6801 | 0.44 (K=1) | No, 5.56 | No, 11.56 |
| 0.88 (K=2) | No, 5.12 | No, 11.12 |
| 1.76 (K=4) | No, 4.24 | No, 10.24 |
| **[Case 1-2], [Rel-17]** | 1.0850 | 0.68 (K=1) | No, 5.32 | No, 11.32 |
| 1.36 (K=2) | No, 4.64 | No, 10.64 |
| 2.72 (K=4) | No, 3.28 | No, 9.28 |
| **Type B LPHAP device** | | | | |
| **[Case 1-3], [Rel-17]** | 1.6801 | 2.48 (K=1) | No, 3.52 | No, 9.52 |
| 4.96 (K=2) | No, 1.04 | No, 7.04 |
| 9.92 (K=4) | **Yes** | No, 2.08 |
| **[Case 1-4], [Rel-17]** | 1.0850 | 3.84 (K=1) | No, 2.16 | No, 8.16 |
| 7.68 (K=2) | **Yes** | No, 4.32 |
| 15.36 (K=4) | **Yes** | **Yes** |
| **Case 2:** UE-based DL positioning under low SINR | | | | |
| **Type A LPHAP device** | | | | |
| **[Case 2-1], [Rel-17]** | 2.5461 | 0.29 (K=1) | No, 5.71 | No, 11.71 |
| 0.58 (K=2) | No, 5.42 | No, 11.42 |
| 1.16 (K=4) | No, 4.84 | No, 10.84 |
| **[Case 2-2], [Rel-17]** | 1.1933 | 0.62 (K=1) | No, 5.38 | No, 11.38 |
| 1.24 (K=2) | No, 4.76 | No, 10.76 |
| 2.48 (K=4) | No, 3.52 | No, 9.52 |
| **Type B LPHAP device** | | | | |
| **[Case 2-3], [Rel-17]** | 2.5461 | 1.64 (K=1) | No, 4.36 | No, 10.36 |
| 3.28 (K=2) | No, 2.72 | No, 8,72 |
| 6.56 (K=4) | **Yes** | No, 5.44 |
| **[Case 2-4], [Rel-17]** | 1.1933 | 3.49 (K=1) | No, 2.51 | No, 8.51 |
| 6.98 (K=2) | **Yes** | No, 5.02 |
| 13.96 (K=4) | **Yes** | **Yes** |
| **Case 3 (Rel-17 baseline):** UE-assisted DL positioning under high SINR with CG-SDT | | | | |
| **Type A LPHAP device** | | | | |
| **[Case 3-1], [Rel-17]** | 2.0660 | 0.36 (K=1) | No, 5.64 | No, 11.64 |
| 0.72 (K=2) | No, 5.28 | No, 11.28 |
| 1.44 (K=4) | No, 4.56 | No, 10.56 |
| **[Case 3-2], [Rel-17]** | 1.1333 | 0.65 (K=1) | No, 5.35 | No, 11.35 |
| 1.3 (K=2) | No, 4.7 | No, 10.7 |
| 2.6 (K=4) | No, 3.4 | No, 9.4 |
| **Type B LPHAP device** | | | | |
| **[Case 3-3], [Rel-17]** | 2.0660 | 2.02 (K=1) | No, 3.98 | No, 9.98 |
| 4.04 (K=2) | No, 1.96 | No, 7.96 |
| 8.08 (K=4) | **Yes** | No, 3.92 |
| **[Case 3-4], [Rel-17]** | 1.1333 | 3.68 (K=1) | No, 2.32 | No, 8.32 |
| 7.36 (K=2) | **Yes** | No, 4.64 |
| 14.72 (K=4) | **Yes** | **Yes** |
| **Case 4:** UE-assisted DL positioning under low SINR with CG-SDT | | | | |
| **Type A LPHAP device** | | | | |
| **[Case 4-1], [Rel-17]** | 3.0055 | 0.24 (K=1) | No, 5.76 | No, 11.76 |
| 0.48 (K=2) | No, 5.52 | No, 11.52 |
| 0.96 (K=4) | No, 5.04 | No, 11.04 |
| **[Case 4-2], [Rel-17]** | 1.2507 | 0.59 (K=1) | No, 5.41 | No, 11.41 |
| 1.08 (K=2) | No, 4.92 | No, 10.92 |
| 2.16 (K=4) | No, 3.84 | No, 9.84 |
| **Type B LPHAP device** | | | | |
| **[Case 4-3], [Rel-17]** | 3.0055 | 1.39 (K=1) | No, 4.61 | No, 10.61 |
| 2.78 (K=2) | No, 3.22 | No, 9.22 |
| 5.56 (K=4) | No, 0.44 | No, 6.44 |
| **[Case 4-4], [Rel-17]** | 1.2507 | 3.33 (K=1) | No, 2.67 | No, 8.67 |
| 6.66 (K=2) | **Yes** | No, 5.34 |
| 13.32 (K=4) | **Yes** | **Yes** |
| **Case 5:** UE-assisted DL positioning under high SINR with RA-SDT | | | | |
| **Type A LPHAP device** | | | | |
| **[Case 5-1], [Rel-17]** | 2.7105 | 0.27 (K=1) | No, 5.73 | No, 11.73 |
| 0.54 (K=2) | No, 5.46 | No, 11.46 |
| 1.08 (K=4) | No, 4.92 | No, 10.92 |
| **[Case 5-2], [Rel-17]** | 1.2138 | 0.61 (K=1) | No, 5.39 | No, 11.39 |
| 1.22 (K=2) | No, 4.78 | No, 10.78 |
| 2.44 (K=4) | No, 3.56 | No, 9.56 |
| **Type B LPHAP device** | | | | |
| **[Case 5-3], [Rel-17]** | 2.7105 | 1.54 (K=1) | No, 4.46 | No, 10.46 |
| 3.08 (K=2) | No, 2.92 | No, 8.92 |
| 6.16 (K=4) | **Yes** | No, 5.84 |
| **[Case 5-4], [Rel-17]** | 1.2138 | 3.43 (K=1) | No, 2.57 | No, 8.57 |
| 6.86 (K=2) | **Yes** | No, 5.14 |
| 13.72 (K=4) | **Yes** | **Yes** |
| **Case 6:** UE-assisted DL positioning under low SINR with RA-SDT | | | | |
| **Type A LPHAP device** | | | | |
| **[Case 6-1], [Rel-17]** | 3.5766 | 0.21 (K=1) | No, 5.79 | No, 11.79 |
| 0.42 (K=2) | No, 5.58 | No, 11.58 |
| 0.84 (K=4) | No, 5.16 | No, 11.16 |
| **[Case 6-2], [Rel-17]** | 1.3221 | 0.56 (K=1) | No, 5.44 | No, 11.44 |
| 1.12 (K=2) | No, 4.88 | No, 10.88 |
| 2.24 (K=4) | No, 3.76 | No, 9.76 |
| **Type B LPHAP device** | | | | |
| **[Case 6-3], [Rel-17]** | 3.5766 | 1.16 (K=1) | No, 4.84 | No, 10.84 |
| 2.32 (K=2) | No, 3.68 | No, 9.36 |
| 4.64 (K=4) | No, 1.36 | No, 7.36 |
| **[Case 6-4], [Rel-17]** | 1.3221 | 3.15 (K=1) | No, 2.85 | No, 8.85 |
| 6.3 (K=2) | **Yes** | No, 5.7 |
| 12.6 (K=4) | **Yes** | **Yes** |
| **Case 7 (Rel-17 baseline): UL positioning under high SINR** | | | | |
| **Type A LPHAP device** | | | | |
| **[Case 7-1], [Rel-17]** | 1.6121 | 0.46 (K=1) | No, 5.54 | No, 11.54 |
| 0.92 (K=2) | No, 5.08 | No, 11.08 |
| 1.84 (K=4) | No, 4.16 | No, 10.16 |
| **[Case 7-2], [Rel-17]** | 1.0765 | 0.68 (K=1) | No, 5.32 | No, 11.32 |
| 1.36 (K=2) | No, 4.64 | No, 10.64 |
| 2.72 (K=4) | No, 3.28 | No, 9.28 |
| **Type B LPHAP device** | | | | |
| **[Case 7-3], [Rel-17]** | 1.6121 | 2.58 (K=1) | No, 3.42 | No, 9.42 |
| 5.16 (K=2) | No, 0.84 | No, 6.84 |
| 10.32 (K=4) | **Yes** | No, 1.68 |
| **[Case 7-4], [Rel-17]** | 1.0765 | 3.87 (K=1) | No, 2.13 | No, 8.13 |
| 7.74 (K=2) | **Yes** | No, 4.26 |
| 15.48 (K=4) | **Yes** | **Yes** |
| **Case 8:** UL positioning under low SINR | | | | |
| **Type A LPHAP device** | | | | |
| **[Case 8-1], [Rel-17]** | 2.5375 | 0.29 (K=1) | No, 5.71 | No, 11.71 |
| 0.58 (K=2) | No, 5.42 | No, 11.42 |
| 1.16 (K=4) | No, 4.84 | No, 10.84 |
| **[Case 8-2], [Rel-17]** | 1.1922 | 0.62 (K=1) | No, 5.38 | No, 11.38 |
| 1.24 (K=2) | No, 4.76 | No, 10.76 |
| 2.48 (K=4) | No, 3.52 | No, 9.52 |
| **Type B LPHAP device** | | | | |
| **[Case 8-3], [Rel-17]** | 2.5375 | 1.64 (K=1) | No, 4.36 | No, 10.36 |
| 3.28 (K=2) | No, 2.72 | No, 8.72 |
| 6.56 (K=4) | Yes | No, 5.44 |
| **[Case 8-4], [Rel-17]** | 1.1922 | 3.49 (K=1) | No, 2.51 | No, 8.51 |
| 6.98 (K=2) | **Yes** | No, 5.02 |
| 13.96 (K=4) | **Yes** | **Yes** |

Table B.5.2.2-3: Detailed UE power consumption results for UL positioning with SRS configuration obtaining/update procedures under high SINR (case 9)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 9-1** | SRS transmission | 210 | 1 | 1 | 1 | 210 | 2.97% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 1.27% |
| SSB Proc. | 50 | 4 | 2 | 8 | 200 | 2.83% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0% |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0% |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 3.22% |
| Coreset0+SIB1 | 120 | 2 | 1 | 2 | 240 | 3.39% |
| PRACH | 210 | 2 | 1 | 2 | 420 | 5.93% |
| RAR | 120 | 2 | 1 | 2 | 240 | 3.39% |
| Msg3 | 250 | 2 | 1 | 2 | 500 | 7.07% |
| Msg4 | 120 | 2 | 1 | 2 | 240 | 3.39% |
| Deep sleep | 1 | / | / | 2389 | 2389 | 33.76% |
| Light sleep | 20 | / | / | 28 | 560 | 7.91% |
| Micro sleep | 45 | / | / | 18 | 810 | 11.45% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 6.36% |
| Light sleep transition | 100 | 12 | 5 | 60 | 500 | 7.07% |
| **Total (for IDRX cycle (1.28s) with SRS configuration obtaining/update)** | | | | 2560 | 7077 | 100% |
| **Slot-averaged power unit for IDRX cycle with SRS configuration obtaining/update** | | | | 2.7645 | | |
| **Slot-averaged power unit per SRS configuration obtaining/update period (every 10.24s)** | | | | 1.7526 (1.6121\*7/8+2.7645\*1/8)  Note: 1.6121 is slot average power without SRS configuration obtaining/update | | |
| **Slot-averaged power unit per SRS configuration obtaining/update period (every 20.48s)** | | | | 1.6841 (1.6121\*15/16+2.7645\*1/16) | | |
| **Slot-averaged power unit per SRS configuration obtaining/update period (every 40.96s)** | | | | 1.6481 (1.6121\*31/32+2.7645\*1/32) | | |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 9-2** | SRS transmission | 210 | 1 | 1 | 1 | 210 | 0.84% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 0.36% |
| SSB Proc. | 50 | 4 | 2 | 8 | 200 | 0.8% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 0.91% |
| Coreset0+SIB1 | 120 | 2 | 1 | 2 | 240 | 0.96% |
| PRACH | 210 | 2 | 1 | 2 | 420 | 1.68% |
| RAR | 120 | 2 | 1 | 2 | 240 | 0.96% |
| Msg3 | 250 | 2 | 1 | 2 | 500 | 2% |
| Msg4 | 120 | 2 | 1 | 2 | 240 | 0.96% |
| Deep sleep | 1 | / | / | 20309 | 20309 | 81.25% |
| Light sleep | 20 | / | / | 28 | 560 | 2.24% |
| Micro sleep | 45 | / | / | 18 | 810 | 3.24% |
| Deep sleep transition | 450 | 40 | 1 | 40 | 450 | 1.8% |
| Light sleep transition | 100 | 12 | 5 | 60 | 500 | 2% |
| **Total (for IDRX cycle (10.24s) with SRS configuration obtaining/update)** | | | | 20480 | 24997 | 100% |
| **Slot-averaged power unit of IDRX cycle with SRS configuration obtaining/update** | | | | 1.2205 | | |
| **Slot-averaged power unit per SRS configuration obtaining/update period (every 10.24s)** | | | | 1.2205 | | |
| **Slot-averaged power unit per SRS configuration obtaining/update period (every 20.48s)** | | | | 1.1485 (1.0765\*1/2+1.2205\*1/2)  Note: 1.0765 is slot average power without SRS configuration obtaining/update | | |
| **Slot-averaged power unit per SRS configuration obtaining/update period (every 40.96s)** | | | | 1.1125 (1.0765\*3/4+1.2205\*1/4) | | |

Table B.5.2.2-4: Detailed UE power consumption results for enhanced evaluation cases for Rel-18 (case 1e, 3e, 7e)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 1e-1**  **and**  **case 1e-5** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 1% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 0.75% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 1.67% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 1.91% |
| Ultra-deep sleep option 1 | 0.015 | / | / | 40133 | 602 | 5.03% |
| Deep sleep | 1 | / | / | 0 | 0 | 0 |
| Light sleep | 20 | / | / | 0 | 0 | 0 |
| Micro sleep | 45 | / | / | 16 | 720 | 6.02% |
| Ultra-deep sleep transition | [10000] | 800 | 1 | 800 | 10000 | 83.61% |
| Deep sleep transition | 450 | 40 | 0 | 0 | 0 | 0 |
| Light sleep transition | 100 | 12 | 0 | 0 | 0 | 0 |
| **Total (every 20.48s)** | | | | 40960 | 11960 | 100% |
| **Slot-averaged power unit** | | | | 0.2920 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 2.54/5.08/10.16 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 14.27/28.54/57.08 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 1e-2**  **and**  **case 1e-6** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 1.72% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 1.29% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 2.87% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 3.28% |
| Ultra-deep sleep option 1 | 0.015 | / | / | 40133 | 602 | 8.65% |
| Deep sleep | 1 | / | / | 0 | 0 | 0 |
| Light sleep | 20 | / | / | 0 | 0 | 0 |
| Micro sleep | 45 | / | / | 16 | 720 | 10.34% |
| Ultra-deep sleep transition | [5000] | 800 | 1 | 800 | 5000 | 71.84% |
| Deep sleep transition | 450 | 40 | 0 | 0 | 0 | 0 |
| Light sleep transition | 100 | 12 | 0 | 0 | 0 | 0 |
| **Total (every 20.48s)** | | | | 40960 | 6960 | 100% |
| **Slot-averaged power unit** | | | | 0.1699 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 4.36/8.72/17.44 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 24.52/49.04/98.08 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 1e-3**  **and**  **case 1e-7** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.98% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 0.73% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 1.63% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 1.86% |
| Ultra-deep sleep option 1 | 0.015 | / | / | 60613 | 909 | 7.41% |
| Deep sleep | 1 | / | / | 0 | 0 | 0 |
| Light sleep | 20 | / | / | 0 | 0 | 0 |
| Micro sleep | 45 | / | / | 16 | 720 | 5.87% |
| Ultra-deep sleep transition | [10000] | 800 | 1 | 800 | 10000 | 81.52% |
| Deep sleep transition | 450 | 40 | 0 | 0 | 0 | 0 |
| Light sleep transition | 100 | 12 | 0 | 0 | 0 | 0 |
| **Total (every 30.72s)** | | | | 61440 | 12267 | 100% |
| **Slot-averaged power unit** | | | | 0.1997 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 3.71/7.42/14.84 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 20.86/41.72/83.44 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 1e-4**  **and**  **case 1e-8** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 1.65% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 1.24% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 2.75% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 3.14% |
| Ultra-deep sleep option 1 | 0.015 | / | / | 60613 | 909 | 12.51% |
| Deep sleep | 1 | / | / | 0 | 0 | 0 |
| Light sleep | 20 | / | / | 0 | 0 | 0 |
| Micro sleep | 45 | / | / | 16 | 720 | 9.91% |
| Ultra-deep sleep transition | [5000] | 800 | 1 | 800 | 5000 | 68.80% |
| Deep sleep transition | 450 | 40 | 0 | 0 | 0 | 0 |
| Light sleep transition | 100 | 12 | 0 | 0 | 0 | 0 |
| **Total (every 30.72s)** | | | | 61440 | 7267 | 100% |
| **Slot-averaged power unit** | | | | 0.1183 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 6.26/12.52/25.04 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 35.22 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 3-1**  **and**  **Case 3e-5** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.92% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 0.69% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 1.54% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 1.76% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 3.85% |
| RRC-release | 120 | 2 | 1 | 2 | 240 | 1.85% |
| Ultra-deep sleep option 1 | 0.015 | / | / | 40101 | 602 | 4.64% |
| Deep sleep | 1 | / | / | 0 | 0 | 0 |
| Light sleep | 20 | / | / | 4 | 80 | 0.62% |
| Micro sleep | 45 | / | / | 16 | 720 | 5.55% |
| Ultra-deep sleep transition | [10000] | 800 | 1 | 800 | [10000] | 77.05% |
| Deep sleep transition | 450 | 40 | 0 | 0 | 0 | 0 |
| Light sleep transition | 100 | 12 | 2 | 24 | 200 | 1.54% |
| **Total (every 20.48s)** | | | | 40960 | 12979 | 100% |
| **Slot-averaged power unit** | | | | 0.3169 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 2.34/4.68/9.36 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 13.15/26.3/52.6 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 3-2**  **and**  **Case 3e-6** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 1.50% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 1.13% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 2.51% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 2.86% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 6.27% |
| RRC-release | 120 | 2 | 1 | 2 | 240 | 3.01% |
| Ultra-deep sleep option 1 | 0.015 | / | / | 40101 | 602 | 7.54% |
| Deep sleep | 1 | / | / | 0 | 0 | 0 |
| Light sleep | 20 | / | / | 4 | 80 | 1.00% |
| Micro sleep | 45 | / | / | 16 | 720 | 9.02% |
| Ultra-deep sleep transition | [5000] | 800 | 1 | 800 | [5000] | 62.66% |
| Deep sleep transition | 450 | 40 | 0 | 0 | 0 | 0 |
| Light sleep transition | 100 | 12 | 2 | 24 | 200 | 2.51% |
| **Total (every 20.48s)** | | | | 40960 | 7979 | 100% |
| **Slot-averaged power unit** | | | | 0.1948 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 3.80/7.60/15.2 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 21.39/42.78/85.56 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 3-3**  **and**  **Case 3e-7** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.90% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 0.68% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 1.51% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 1.72% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 3.76% |
| RRC-release | 120 | 2 | 1 | 2 | 240 | 1.81% |
| Ultra-deep sleep option 1 | 0.015 | / | / | 60581 | 909 | 6.84% |
| Deep sleep | 1 | / | / | 0 | 0 | 0 |
| Light sleep | 20 | / | / | 4 | 80 | 0.60% |
| Micro sleep | 45 | / | / | 16 | 720 | 5.42% |
| Ultra-deep sleep transition | [10000] | 800 | 1 | 800 | [10000] | 75.26% |
| Deep sleep transition | 450 | 40 | 0 | 0 | 0 | 0 |
| Light sleep transition | 100 | 12 | 2 | 24 | 200 | 1.51% |
| **Total (every 30.72s)** | | | | 61440 | 13287 | 100% |
| **Slot-averaged power unit** | | | | 0.2163 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 3.43/6.86/13.72 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 19.27/38.54/77.08 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 3-4**  **and**  **Case 3e-8** | PRS measurement | 120 | 1 | 1 | 1 | 120 | 1.45% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 1.09% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 2.41% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0 |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 2.75% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 6.03% |
| RRC-release | 120 | 2 | 1 | 2 | 240 | 2.90% |
| Ultra-deep sleep option 1 | 0.015 | / | / | 60581 | 909 | 10.97% |
| Deep sleep | 1 | / | / | 0 | 0 | 0 |
| Light sleep | 20 | / | / | 4 | 80 | 0.97% |
| Micro sleep | 45 | / | / | 16 | 720 | 8.69% |
| Ultra-deep sleep transition | [5000] | 800 | 1 | 800 | [5000] | 60.34% |
| Deep sleep transition | 450 | 40 | 0 | 0 | 0 | 0 |
| Light sleep transition | 100 | 12 | 2 | 24 | 200 | 2.41% |
| **Total (every 30.72s)** | | | | 61440 | 8287 | 100% |
| **Slot-averaged power unit** | | | | 0.1349 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 5.49/10.98/21.96 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 30.89/61.78/123.56 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 7e-1**  **and**  **case 7e-5** | SRS transmission | 210 | 1 | 1 | 1 | 210 | 1.78% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 0.76% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 1.70% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0.00% |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0.00% |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 1.94% |
| Ultra-deep sleep option 1 | 0.015 | / | / | 40139 | 602 | 5.11% |
| Deep sleep | 1 | / | / | 0 | 0 | 0.00% |
| Light sleep | 20 | / | / | 0 | 0 | 0.00% |
| Micro sleep | 45 | / | / | 10 | 450 | 3.82% |
| Ultra-deep sleep transition | [10000] | 800 | 1 | 800 | [10000] | 84.89% |
| Deep sleep transition | 450 | 40 | 0 | 0 | 0 | 0.00% |
| Light sleep transition | 100 | 12 | 0 | 0 | 0 | 0.00% |
| **Total (every 20.48s)** | | | | 40960 | 11780 | 100% |
| **Slot-averaged power unit** | | | | 0.2876 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 2.58/5.16/10.32 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 14.49/28.98/57.96 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 7e-2**  **and**  **case 7e-6** | SRS transmission | 210 | 1 | 1 | 1 | 210 | 3.10% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 1.33% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 2.95% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0.00% |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0.00% |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 3.36% |
| Ultra-deep sleep option 1 | 0.015 | / | / | 40139 | 602 | 8.88% |
| Deep sleep | 1 | / | / | 0 | 0 | 0.00% |
| Light sleep | 20 | / | / | 0 | 0 | 0.00% |
| Micro sleep | 45 | / | / | 10 | 450 | 6.64% |
| Ultra-deep sleep transition | [5000] | 800 | 1 | 800 | [5000] | 73.75% |
| Deep sleep transition | 450 | 40 | 0 | 0 | 0 | 0.00% |
| Light sleep transition | 100 | 12 | 0 | 0 | 0 | 0.00% |
| **Total (every 20.48s)** | | | | 40960 | 6780 | 100% |
| **Slot-averaged power unit** | | | | 0.1655 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 4.48/8.96/17.92 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 25.17/50.34/100.68 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 7e-3**  **and**  **case 7e-7** | SRS transmission | 210 | 1 | 1 | 1 | 210 | 1.74% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 0.74% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 1.65% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0.00% |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0.00% |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 1.89% |
| Ultra-deep sleep option 1 | 0.015 | / | / | 60619 | 909 | 7.52% |
| Deep sleep | 1 | / | / | 0 | 0 | 0.00% |
| Light sleep | 20 | / | / | 0 | 0 | 0.00% |
| Micro sleep | 45 | / | / | 10 | 450 | 3.72% |
| Ultra-deep sleep transition | [10000] | 800 | 1 | 800 | [10000] | 82.73% |
| Deep sleep transition | 450 | 40 | 0 | 0 | 0 | 0.00% |
| Light sleep transition | 100 | 12 | 0 | 0 | 0 | 0.00% |
| **Total (every 30.72s)** | | | | 61440 | 12087 | 100% |
| **Slot-averaged power unit** | | | | 0.1967 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 3.77/7.54/15.08 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 21.18/42.36/84.72 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 7e-4**  **and**  **case 7e-8** | SRS transmission | 210 | 1 | 1 | 1 | 210 | 2.96% |
| BWP switching | 45 | 2 | 1 | 2 | 90 | 1.27% |
| SSB Proc. | 50 | 4 | 1 | 4 | 200 | 2.82% |
| SSB for Intra-frequency RRM | 60 | 0 | 0 | 0 | 0 | 0.00% |
| SSB for Inter frequency RRM | 60 | 0 | 0 | 0 | 0 | 0.00% |
| Paging | 50\*0.9+120\*0.1=57 | 4 | 1 | 4 | 228 | 3.22% |
| Ultra-deep sleep option 1 | 0.015 | / | / | 60619 | 909 | 12.83% |
| Deep sleep | 1 | / | / | 0 | 0 | 0.00% |
| Light sleep | 20 | / | / | 0 | 0 | 0.00% |
| Micro sleep | 45 | / | / | 10 | 450 | 6.35% |
| Ultra-deep sleep transition | [5000] | 800 | 1 | 800 | [5000] | 70.55% |
| Deep sleep transition | 450 | 40 | 0 | 0 | 0 | 0.00% |
| Light sleep transition | 100 | 12 | 0 | 0 | 0 | 0.00% |
| **Total (every 30.72s)** | | | | 61440 | 7087 | 100% |
| **Slot-averaged power unit** | | | | 0.1154 | | |
| **Battery life (in month) (LPHAP device type A, with K=1/2/4)** | | | | 6.42/12.84/25.68 | | |
| **Battery life (in month) (LPHAP device type B, with K=1/2/4)** | | | | 36.12/72.24/144.48 | | |

Table B.5.2.2-5: Summary of UE power consumption results for enhanced evaluation cases for Rel-18 (case 1e, 3e, 7e)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirement are met – Yes/No; If no, provide gaps** | |
| **6 months** | **12 months** |
| **Type A LPHAP device** | | | | |
| **[Case 1e-1], [potential enhancement]** | 0.2920 | 2.54(K=1) | No, 3.46 | No, 9.46 |
| 5.08(K=2) | No, 0.92 | No,6.92 |
| 10.16(K=4) | **Yes** | No, 1.84 |
| **[Case 1e-2], [potential enhancement]** | 0.1699 | 4.36(K=1) | No, 1.64 | No, 7.64 |
| 8.72(K=2) | **Yes** | No, 3.28 |
| 17.44(K=4) | **Yes** | **Yes** |
| **[Case 1e-3], [potential enhancement]** | 0.1997 | 3.71(K=1) | No, 2.29 | No, 8.29 |
| 7.42(K=2) | **Yes** | No,4.58 |
| 14.84(K=4) | **Yes** | **Yes** |
| **[Case 1e-4], [potential enhancement]** | 0.1183 | 6.26(K=1) | **Yes** | No, 5.74 |
| 12.56(K=2) | **Yes** | **Yes** |
| 25.04(K=4) | **Yes** | **Yes** |
| **Type B LPHAP device** | | | | |
| **[Case 1e-5], [potential enhancement]** | 0.2920 | 14.27(K=1) | **Yes** | **Yes** |
| 28.54(K=2) | **Yes** | **Yes** |
| 57.08(K=4) | **Yes** | **Yes** |
| **[Case 1e-6], [potential enhancement]** | 0.1699 | 24.52(K=1) | **Yes** | **Yes** |
| 49.04(K=2) | **Yes** | **Yes** |
| 98.08(K=4) | **Yes** | **Yes** |
| **[Case 1e-7], [potential enhancement]** | 0.1997 | 20.86(K=1) | **Yes** | **Yes** |
| 41.72(K=2) | **Yes** | **Yes** |
| 83.44(K=4) | **Yes** | **Yes** |
| **[Case 1e-8], [potential enhancement]** | 0.1183 | 35.22(K=1) | **Yes** | **Yes** |
| 70.44(K=2) | **Yes** | **Yes** |
| 140.88(K=4) | **Yes** | **Yes** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirement are met – Yes/No; If no, provide gaps** | |
| **6 months** | **12 months** |
| **Type A LPHAP device** | | | | |
| **[Case 3e-1], [potential enhancement]** | 0.3169 | 2.34 (K=1) | No, 3.66 | No, 9.66 |
| 4.68 (K=2) | No, 1.32 | No, 7.32 |
| 9.36 (K=4) | **Yes** | No, 2.64 |
| **[Case 3e-2], [potential enhancement]** | 0.1948 | 3.80 (K=1) | No, 2.2 | No, 8.2 |
| 7.60 (K=2) | **Yes** | No, 4.4 |
| 15.2 (K=4) | **Yes** | **Yes** |
| **[Case 3e-3], [potential enhancement]** | 0.2163 | 3.43 (K=1) | No, 2.57 | No, 8.57 |
| 6.86 (K=2) | **Yes** | No, 5.14 |
| 13.72 (K=4) | **Yes** | **Yes** |
| **[Case 3e-4], [potential enhancement]** | 0.1349 | 5.49 (K=1) | No, 0.51 | No, 6.51 |
| 10.98 (K=2) | **Yes** | No, 1.02 |
| 21.96 (K=4) | **Yes** | **Yes** |
| **Type B LPHAP device** | | | | |
| **[Case 3e-5], [potential enhancement]** | 0.3169 | 13.15 (K=1) | **Yes** | **Yes** |
| 26.3 (K=2) | **Yes** | **Yes** |
| 52.6 (K=4) | **Yes** | **Yes** |
| **[Case 3e-6], [potential enhancement]** | 0.1948 | 21.39 (K=1) | **Yes** | **Yes** |
| 42.78 (K=2) | **Yes** | **Yes** |
| 85.56 (K=4) | **Yes** | **Yes** |
| **[Case 3e-7], [potential enhancement]** | 0.3163 | 19.27 (K=1) | **Yes** | **Yes** |
| 38.54 (K=2) | **Yes** | **Yes** |
| 77.08 (K=4) | **Yes** | **Yes** |
| **[Case 3e-8], [potential enhancement]** | 0.1349 | 30.89 (K=1) | **Yes** | **Yes** |
| 61.78 (K=2) | **Yes** | **Yes** |
| 123.56 (K=4) | **Yes** | **Yes** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirement are met – Yes/No; If no, provide gaps** | |
| **6 months** | **12 months** |
| **Type A LPHAP device** | | | | |
| **[Case 7e-1], [potential enhancement]** | 0.2876 | 2.58 (K=1) | No, 3.42 | No, 9.42 |
| 5.16 (K=2) | No, 0.84 | No, 6.84 |
| 10.32 (K=4) | **Yes** | No, 1.68 |
| **[Case 7e-2], [potential enhancement]** | 0.1655 | 4.48 (K=1) | No, 1.52 | No, 7.52 |
| 8.96 (K=2) | **Yes** | No, 3.04 |
| 17.92 (K=4) | **Yes** | **Yes** |
| **[Case 7e-3], [potential enhancement]** | 0.1967 | 3.77 (K=1) | No, 2.23 | No, 8.23 |
| 7.54 (K=2) | **Yes** | No, 4.46 |
| 15.08 (K=4) | **Yes** | **Yes** |
| **[Case 7e-4], [potential enhancement]** | 0.1154 | 6.42 (K=1) | **Yes** | No, 5.58 |
| 12.84 (K=2) | **Yes** | **Yes** |
| 25.68 (K=4) | **Yes** | **Yes** |
| **Type B LPHAP device** | | | | |
| **[Case 7e-5], [potential enhancement]** | 0.2876 | 14.49 (K=1) | **Yes** | **Yes** |
| 28.98 (K=2) | **Yes** | **Yes** |
| 57.96 (K=4) | **Yes** | **Yes** |
| **[Case 7e-6], [potential enhancement]** | 0.1655 | 25.17 (K=1) | **Yes** | **Yes** |
| 50.34 (K=2) | **Yes** | **Yes** |
| 100.68 (K=4) | **Yes** | **Yes** |
| **[Case 7e-7], [potential enhancement]** | 0.1967 | 21.18 (K=1) | **Yes** | **Yes** |
| 42.36 (K=2) | **Yes** | **Yes** |
| 84.72 (K=4) | **Yes** | **Yes** |
| **[Case 7e-8], [potential enhancement]** | 0.1154 | 36.12 (K=1) | **Yes** | **Yes** |
| 72.24 (K=2) | **Yes** | **Yes** |
| 144.48 (K=4) | **Yes** | **Yes** |

Table B.5.2.2-6: power consumption of ultra-deep sleep vs regular deep sleep in different DRX cycles

|  |  |
| --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** |
|
| **20.48s DRX cycle** | |
| [UE-based DL positioning under high SINR], [Rel-17], [20.48s DRX cycle], [deep sleep] | 1.0425 |
| [UE-based DL positioning under high SINR], [potential enhancement], [20.48s DRX cycle], [ultra-deep sleep with 10000 transition power] | 0.2920 |
| [UE-based DL positioning under high SINR], [potential enhancement], [20.48s DRX cycle], [ultra-deep sleep with 5000 transition power] | 0.1699 |
| **10.24s DRX cycle** | |
| [UE-based DL positioning under high SINR], [Rel-17], [10.24s DRX cycle], [deep sleep] | 1.0850 |
| [UE-based DL positioning under high SINR], [potential enhancement], [10.24s DRX cycle], [ultra-deep sleep with 10000 transition power] | 0.5690 |
| [UE-based DL positioning under high SINR], [potential enhancement], [10.24s DRX cycle], [ultra-deep sleep with 5000 transition power] | 0.3248 |
| **5.12s DRX cycle** | |
| [UE-based DL positioning under high SINR], [Rel-17], [5.12s DRX cycle], [deep sleep] | 1.1700 |
| [UE-based DL positioning under high SINR], [potential enhancement], [5.12s DRX cycle], [ultra-deep sleep with 10000 transition power] | 1.1230 |
| [UE-based DL positioning under high SINR], [potential enhancement], [5.12s DRX cycle], [ultra-deep sleep with 5000 transition power] | 0.6347 |
| **2.56s DRX cycle** | |
| [UE-based DL positioning under high SINR], [Rel-17], [2.56s DRX cycle], [deep sleep] | 1.3400 |
| [UE-based DL positioning under high SINR], [potential enhancement], [2.56s DRX cycle], [ultra-deep sleep with 10000 transition power] | 2.2309 |
| [UE-based DL positioning under high SINR], [potential enhancement], [2.56s DRX cycle], [ultra-deep sleep with 5000 transition power] | 1.2544 |
| **1.28s DRX cycle** | |
| [UE-based DL positioning under high SINR], [Rel-17], [1.28s DRX cycle], [deep sleep] | 1.6801 |
| [UE-based DL positioning under high SINR], [potential enhancement], [1.28s DRX cycle], [ultra-deep sleep with 10000 transition power] | 4.4469 |
| [UE-based DL positioning under high SINR], [potential enhancement], [1.28s DRX cycle], [ultra-deep sleep with 5000 transition power] | 2.4938 |

## B.5.3 Results from source [94]

### B.5.3.1 Description of evaluation scenarios

This section provides the evaluation of power consumption due to UE mobility. The following two cases are considered:

- Uplink positioning in RRC\_INACTIVE with RA-SDT

- UE-assisted downlink + uplink positioning in RRC\_INACTIVE with RA-SDT

We assume an InF deployment scenario with the ISD equals 20 m and the LPHAP device is moving at constant speed of 3 km/h. As such, the LPHAP UE will perform cell reselection once every 24 s. Associated with each cell reselection, the device requests new SRS configuration via the RA-SDT procedure. The resulting power transition model is as shown in Figure B.5.3.1-1 for uplink positioning in RRC\_INACTIVE with RA-SDT, and Figure B.5.3.1-2 for DL + UL positioning with RA-SDT for SRS reconfiguration and measurement reporting. For both cases, the eDRX cycle is assumed to be 20.48 s and one SRS positioning occasion in each eDRX cycle.

SSB Sync

Paging

SRS

Light

Sleep

Light

Sleep

RA-SDT

(SRS re-configuration)

Light

Sleep

2 ms

2 ms

0.5 ms

Time

4 ms

4 ms

2 ms

Deep Sleep

One eDRX cycle = 20.48 s

CORESET0+SIB1

PRACH

Micro

Sleep

RAR

Msg3 (PUSCH)

Msg4 (PDCCH+PSCH)

Msg4 ACK

PDCCH Monitoring

RRC Release

(PDCCH+PDSCH)

Micro

Sleep

Micro

Sleep

Micro

Sleep

Micro

Sleep

Micro

Sleep

Uplink

Downlink

2 ms

2 ms

2 ms

2 ms

2 ms

1 ms

1 ms

1 ms

1 ms

1 ms

0.5 ms

1 ms

116.5 ms

Figure B.5.3.1-1: UL positioning with RA-SDT for SRS reconfiguration

SSB Sync

Paging

PRS

Light

Sleep

Light

Sleep

RA-SDT

(SRS re-configuration)

Deep

Sleep

2 ms

2 ms

0.5 ms

Time

4 ms

4 ms

Deep

Sleep

One eDRX cycle = 20.48 s

Uplink

Downlink

116.5 ms

SRS

Micro

Sleep

5 ms

RA-SDT

(Measurement reporting)

Deep

Sleep

0.5 ms

18.5 ms

Figure B.5.3.1-2: DL + UL positioning with RA-SDT for SRS reconfiguration and measurement reporting

### B.5.3.2 Evaluation results for Low Power High Accuracy Positioning

Table B.5.3.2-1 and Table B.5.3.2-2 provide detailed UE power consumption results for the case of UL positioning in RRC\_INACTIVE with RA-SDT for the deep sleep and ultra-deep sleep, respectively.

Table B.5.3.2-4 and Table B.5.3.2-5 provide detailed UE power consumption results for the case of DL + UL positioning in RRC\_INACTIVE with RA-SDT for the deep sleep and ultra-deep sleep, respectively.

Table B.5.3.2-1: Power consumption for uplink positioning with RA-SDT for SRS reconfiguration - deep sleep

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Power Component | Relative Power  (Unit/Slot) | Duration  (Slot) | Power  (Unit) | Power Ratio  (Percentage) |
| SSB Sync | 50 | 4 | 200 | 0.36% |
| Paging Occasion | 57 | 4 | 228 | 0.41% |
| RA-SDT for SRS reconfiguration  (refer to Table B.5.3.2-3 for details) | 56.91 | 233 | 13260 | 23.81% |
| SRS | 210 | 1 | 210 | 0.38% |
| Light Sleep | 20 | 20 | 400 | 0.72% |
| Deep Sleep | 1 | 40622 | 40622 | 73% |
| Light Sleep State Transition | 100 | 36 | 300 | 0.54% |
| Deep Sleep State Transition | 450 | 40 | 450 | 0.81% |
| Total | | 40960 | 55670 | 100.00% |

Table B.5.3.2-2: Power consumption for uplink positioning with RA-SDT for SRS reconfiguration - ultra-deep sleep

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Power Component | Relative Power  (Unit/Slot) | Duration  (Slot) | Power  (Unit) | Power Ratio  (Percentage) |
| SSB Sync | 50 | 4 | 200 | 0.79% |
| Paging Occasion | 57 | 4 | 228 | 0.90% |
| RA-SDT for SRS reconfiguration  (refer to Table B.5.3.2-3 for details) | 56.91 | 233 | 13260 | 52.62% |
| SRS | 210 | 1 | 210 | 0.83% |
| Light Sleep | 20 | 20 | 400 | 1.59% |
| Ultra-Deep Sleep | 0.015 | 39862 | 597.93 | 2.37% |
| Light Sleep State Transition | 100 | 36 | 300 | 1.19% |
| Ultra-Deep Sleep State Transition | 10000 | 800 | 10000 | 39.69% |
| Total | | 40960 | 25195.93 | 100.00% |

Table B.5.3.2-3: Power consumption of RA-SDT for SRS reconfiguration

|  |  |  |  |
| --- | --- | --- | --- |
| Power Component | Relative Power  (Unit/Slot) | Duration  (Slot) | Power  (Unit) |
| CORESET0 + SIB1 | 120 | 2 | 240 |
| PRACH | 210 | 2 | 420 |
| RAR (PDCCH + PDSCH) | 120 | 2 | 240 |
| Msg3 (PUSCH) | 700 | 2 | 1400 |
| Msg4 (PDCCH + PDSCH) | 120 | 2 | 240 |
| Msg4 ACK (PUCCH) | 210 | 1 | 210 |
| RRC Release PDCCH Monitoring | 50 | 10 | 500 |
| RRC Release | 280 | 2 | 560 |
| Micro Sleep | 45 | 210 | 9450 |
| Total | | 233 | 13260 |

Table B.5.3.2-4: Power consumption for downlink + uplink positioning with RA-SDT for SRS reconfiguration and measurement reporting - deep sleep

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Power Component | Relative Power  (Unit/Slot) | Duration  (Slot) | Power  (Unit) | Power Ratio  (Percentage) |
| SSB Sync | 50 | 4 | 200 | 0.33% |
| Paging Occasion | 57 | 4 | 228 | 0.37% |
| RA-SDT for SRS reconfiguration  (refer to Table B.5.3.2-3 for details) | 56.91 | 233 | 13260 | 21.65% |
| PRS | 120 | 1 | 120 | 0.2% |
| SRS | 210 | 1 | 210 | 0.34% |
| RA-SDT for measurement reporting  (refer to Table B.5.3.2-6 for details) | 118.65 | 37 | 4390 | 7.16% |
| Micro Sleep | 45 | 10 | 450 | 0.73% |
| Light Sleep | 20 | 16 | 320 | 0.52% |
| Deep Sleep | 1 | 40510 | 40510 | 66.15% |
| Light Sleep State Transition | 100 | 24 | 200 | 0.33% |
| Deep Sleep State Transition | 450 | 120 | 1350 | 2.2% |
| Total | | 40960 | 61238 | 100.00% |

Table B.5.3.2-5: Power consumption for downlink + uplink positioning with RA-SDT for SRS reconfiguration and measurement reporting - ultra-deep sleep

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Power Component | Relative Power  (Unit/Slot) | Duration  (Slot) | Power  (Unit) | Power Ratio  (Percentage) |
| SSB Sync | 50 | 4 | 200 | 0.40% |
| Paging Occasion | 57 | 4 | 228 | 0.46% |
| RA-SDT for SRS reconfiguration  (refer to Table B.5.3.2-3 for details) | 56.91 | 233 | 13260 | 26.54% |
| PRS | 120 | 1 | 120 | 0.24% |
| SRS | 210 | 1 | 210 | 0.42% |
| RA-SDT for measurement reporting  (refer to Table B.5.3.2-6 for details) | 118.65 | 37 | 4390 | 8.79% |
| Micro Sleep | 45 | 10 | 450 | 0.90% |
| Light Sleep | 20 | 16 | 320 | 0.64% |
| Ultra-Deep Sleep | 0.015 | 38230 | 573.45 | 1.15% |
| Light Sleep State Transition | 100 | 24 | 200 | 0.40% |
| Ultra-Deep Sleep State Transition | 10000 | 2400 | 30000 | 60.06% |
| Total | | 40960 | 49951.45 | 100.00% |

Table B.5.3.2-6: Power consumption of RA-SDT for measurement reporting

|  |  |  |  |
| --- | --- | --- | --- |
| Power Component | Relative Power  (Unit/Slot) | Duration  (Slot) | Power  (Unit) |
| CORESET0 + SIB1 | 120 | 2 | 240 |
| PRACH | 210 | 2 | 420 |
| RAR (PDCCH + PDSCH) | 120 | 2 | 240 |
| Msg3 (PUSCH) | 700 | 2 | 1400 |
| Msg4 (PDCCH + PDSCH) | 120 | 2 | 240 |
| Msg4 ACK (PUCCH) | 210 | 1 | 210 |
| RRC Release | 280 | 2 | 560 |
| Micro Sleep | 45 | 24 | 1080 |
| Total | | 37 | 4390 |

## B.5.4 Results from source [95]

### B.5.4.1 Description of evaluation scenarios

We provide our evaluation results for ten cases, which include I-DRX and eDRX, DL and UL positioning, light sleep, deep sleep and ultra-deep sleep scenarios.

Evaluation cases and corresponding assumptions for UE power consumption analysis are provided in Table B.5.4.1-1.

Table B.5.4.1-1: Low Power High Accuracy Positioning - Evaluation cases and assumptions from [95]

|  |  |  |  |
| --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 1-1], [100M-30KHz], [UE-assisted DL positioning], [Type A]** | **[Case 1-2], [100M-30KHz], [UE-assisted DL positioning], [Type B]** | **[Case 2-1], [100M-30KHz], [UE-assisted DL positioning], [Type A]** |
| Sleep state | Deep Sleep/ Light Sleep | Deep Sleep/ Light Sleep | Deep Sleep/ Light Sleep |
| DRX cycle | N=1 I-DRX cycles with 1.28 sec | N=1 I-DRX cycles with 1.28 sec | N=8 I-DRX cycles with 1.28 sec |
| Paging reception | Yes | Yes | Yes |
| M-sample | 1 | 1 | 1 |
| RRM measurement | None | None | None |
| BWP switching | None | None | None |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | CG-SDT | CG-SDT |
| Implementation factor K | 1 | 1 | 1 |
| **Evaluation assumption** | **[Case 2-2], [100M-30KHz], [UE-assisted DL positioning], [Type B]** | **[Case 3-1], [100M-30KHz], [UE-based DL positioning], [Type A]** | **[Case 3-2], [100M-30KHz], [UE-based DL positioning], [Type B]** |
| Sleep state | Deep Sleep/ Light Sleep | Deep Sleep/ Light Sleep | Deep Sleep/ Light Sleep |
| DRX cycle | N=8 I-DRX cycles with 1.28 sec | N=1 I-DRX cycles with 1.28 sec | N=1 I-DRX cycles with 1.28 sec |
| Paging reception | Yes | Yes | Yes |
| M-sample | 1 | 1 | 1 |
| RRM measurement | None | None | None |
| BWP switching | None | None | None |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | None | None |
| Implementation factor K | 1 | 1 | 1 |
| **Evaluation assumption** | **[Case 4-1], [100M-30KHz], [UE-based DL positioning], [Type A]** | **[Case 4-2], [100M-30KHz], [UE-based DL positioning], [Type B]** | **[Case 5-1], [100M-30KHz], [UL Positioning], [Type A]** |
| Sleep state | Deep Sleep/ Light Sleep | Deep Sleep/ Light Sleep | Deep Sleep/ Light Sleep |
| DRX cycle | N=8 I-DRX cycles with 1.28 sec | N=8 I-DRX cycles with 1.28 sec | N=1 I-DRX cycles with 1.28 sec |
| Paging reception | Yes | Yes | Yes |
| M-sample | 1 | 1 | 1 |
| RRM measurement | None | None | None |
| BWP switching | None | None | None |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | None | None | None |
| Implementation factor K | 1 | 1 | 1 |
| **Evaluation assumption** | **[Case 5-2], [100M-30KHz], [UL Positioning], [Type B]** | **[Case 6-1], [100M-30KHz], [UE-based DL positioning], [Type A]** | **[Case6-2], [100M-30KHz], [UE-based DL positioning], [Type B]** |
| Sleep state | Deep Sleep/ Light Sleep | Deep Sleep/ Light Sleep | Deep Sleep/ Light Sleep |
| DRX cycle | N=1 I-DRX cycles with 1.28 sec | N=8 I-DRX cycles with 1.28 sec | N=8 I-DRX cycles with 1.28 sec |
| Paging reception | Yes | Yes | Yes |
| M-sample | 1 | 1 | 1 |
| RRM measurement | None | None | None |
| BWP switching | None | None | None |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | None | None | None |
| Implementation factor K | 1 | 1 | 1 |
| **Evaluation assumption** | **[Case 7-1], [100M-30KHz], [UE-assisted DL positioning], [Type A]** | **[Case 7-2], [100M-30KHz], [UE-assisted DL positioning], [Type B]** | **[Case8-1], [100M-30KHz], [UE-based DL positioning], [Type A]** |
| Sleep state | Deep Sleep/ Light Sleep | Deep Sleep/ Light Sleep | Deep Sleep/ Light Sleep |
| DRX cycle | N=1 eDRX cycles with 30.72 sec | N=1 eDRX cycles with 30.72 sec | N=1 eDRX cycles with 30.72 sec |
| Paging reception | Yes | Yes | Yes |
| M-sample | 1 | 1 | 1 |
| RRM measurement | None | None | None |
| BWP switching | None | None | None |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | CG-SDT | None |
| Implementation factor K | 1 | 1 | 1 |
| **Evaluation assumption** | **[Case 8-2], [100M-30KHz], [UE-based DL positioning], [Type B]** | **[Case 9-1], [100M-30KHz], [UL Positioning], [Type A]** | **[Case 9-2], [100M-30KHz], [UL Positioning], [Type B]** |
| Sleep state | Deep Sleep/ Light Sleep | Deep Sleep/ Light Sleep | Deep Sleep/ Light Sleep |
| DRX cycle | N=1 eDRX cycles with 30.72 sec | N=1 eDRX cycles with 30.72 sec | N=1 eDRX cycles with 30.72 sec |
| Paging reception | Yes | Yes | Yes |
| M-sample | 1 | 1 | 1 |
| RRM measurement | None | None | None |
| BWP switching | None | None | None |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | None | None | None |
| Implementation factor K | 1 | 1 | 1 |
| **Evaluation assumption** | **[Case 10-1], [100M-30KHz], [UE-based DL positioning], [Type A]** | **[Case 10-2], [100M-30KHz], [UE-based DL positioning], [Type B]** |
| Sleep state | Deep Sleep/ Light Sleep/ Ultra-deep Sleep | Deep Sleep/ Light Sleep/ Ultra-deep Sleep |
| DRX cycle | N=1 eDRX cycles with 30.72 sec | N=1 eDRX cycles with 30.72 sec |
| Paging reception | Yes | Yes |
| M-sample | 1 | 1 |
| RRM measurement | None | None |
| BWP switching | None | None |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | None | None |
| Implementation factor K | 1 | 1 |

### B.5.4.2 Evaluation results for Low Power High Accuracy Positioning

Table B.5.4.2-1 provides detailed UE power consumption results for each evaluated case.

Table B.5.4.2-1: UE power consumption results for each evaluation case from [95]

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 1-1,Case 1-2**:  UE-Assisted DL Positioning | Paging Occasion | 57 | 4 | 1 | 4 | 228 | 3.8326% |
| SSB serv. cell | 50 | 4 | 1 | 4 | 200 | 3.3619% |
| DL PRS measurement | 120 | 1 | 1 | 1 | 120 | 2.0171% |
| Light sleep | 20 | 12 | 2 | 24 | 480 | 8.0686% |
| Deep sleep | 1 | 1 | 2421 | 2421 | 2421 | 40.6959% |
| Deep State transit | 450 | 40 | 2 | 80 | 900 | 15.1286% |
| Light State transit | 100 | 12 | 2 | 24 | 200 | 3.3619% |
| CG-SDT | 700 | 2 | 1 | 2 | 1400 | 23.5334% |
| **Total (every power cycle)** | | | | 5949 | | |
| **Slot-averaged power unit** | | | | 2.3238 | | |
| **Battery life (in month) (LPHAP device type A)** | | | | 0.32 | | |
| **Battery life (in month) (LPHAP device type B)** | | | | 1.80 | | |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 2-1,Case 2-2**:  UE-Assisted DL Positioning | Paging Occasion | 57 | 4 | 8 | 32 | 1824 | 5.7195% |
| SSB serv. cell | 50 | 4 | 8 | 32 | 1600 | 5.0171% |
| DL PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.3763% |
| Light sleep | 20 | 12 | 9 | 108 | 2160 | 6.7731% |
| Deep sleep | 1 | 1 | 19837 | 19837 | 19837 | 62.2025% |
| Deep State transit | 450 | 40 | 9 | 360 | 4050 | 12.6995% |
| Light State transit | 100 | 12 | 9 | 108 | 900 | 2.8221% |
| CG-SDT | 700 | 2 | 1 | 2 | 1400 | 4.3900% |
| **Total (every power cycle)** | | | | 31891 | | |
| **Slot-averaged power unit** | | | | 1.5572 | | |
| **Battery life (in month) (LPHAP device type A)** | | | | 0.47 | | |
| **Battery life (in month) (LPHAP device type B)** | | | | 2.64 | | |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 3-1,Case 3-2**:  UE-based DL Positioning | Paging Occasion | 57 | 4 | 1 | 4 | 228 | 5.3837% |
| SSB serv. cell | 50 | 4 | 1 | 4 | 200 | 4.7226% |
| DL PRS measurement | 120 | 1 | 1 | 1 | 120 | 2.8335% |
| Light sleep | 20 | 12 | 1 | 12 | 240 | 5.6671% |
| Deep sleep | 1 | 1 | 2447 | 2447 | 2447 | 57.7804% |
| Deep State transit | 450 | 40 | 2 | 80 | 900 | 21.2515% |
| Light State transit | 100 | 12 | 1 | 12 | 100 | 2.3613% |
| **Total (every power cycle)** | | | | 4235 | | |
| **Slot-averaged power unit** | | | | 1.6543 | | |
| **Battery life (in month) (LPHAP device type A)** | | | | 0.44 | | |
| **Battery life (in month) (LPHAP device type B)** | | | | 2.48 | | |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 4-1,Case 4-2**:  UE-based DL Positioning | Paging Occasion | 57 | 4 | 8 | 32 | 1824 | 6.0443% |
| SSB serv. cell | 50 | 4 | 8 | 32 | 1600 | 5.3021% |
| DL PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.3977% |
| Light sleep | 20 | 12 | 8 | 96 | 1920 | 6.3625% |
| Deep sleep | 1 | 1 | 19863 | 19863 | 19863 | 65.8217% |
| Deep State transit | 450 | 40 | 9 | 360 | 4050 | 13.4208% |
| Light State transit | 100 | 12 | 8 | 96 | 800 | 2.6510% |
| **Total (every power cycle)** | | | | 30177 | | |
| **Slot-averaged power unit** | | | | 1.4735 | | |
| **Battery life (in month) (LPHAP device type A)** | | | | 0.49 | | |
| **Battery life (in month) (LPHAP device type B)** | | | | 2.76 | | |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 5-1,Case 5-2**:  UL Positioning | Paging Occasion | 57 | 4 | 1 | 4 | 228 | 5.2717% |
| SSB serv. cell | 50 | 4 | 1 | 4 | 200 | 4.6243% |
| UL SRS measurement | 210 | 1 | 1 | 1 | 210 | 4.8555% |
| Light sleep | 20 | 12 | 1 | 12 | 240 | 5.5491% |
| Deep sleep | 1 | 1 | 2447 | 2447 | 2447 | 56.5780% |
| Deep State transit | 450 | 40 | 2 | 80 | 900 | 20.8092% |
| Light State transit | 100 | 12 | 1 | 12 | 100 | 2.3121% |
| **Total (every power cycle)** | | | | 4325 | | |
| **Slot-averaged power unit** | | | | 1.6895 | | |
| **Battery life (in month) (LPHAP device type A)** | | | | 0.43 | | |
| **Battery life (in month) (LPHAP device type B)** | | | | 2.42 | | |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 6-1,Case 6-2**:  UL Positioning | Paging Occasion | 57 | 4 | 8 | 32 | 1824 | 6.0264% |
| SSB serv. cell | 50 | 4 | 8 | 32 | 1600 | 5.2863% |
| UL SRS measurement | 210 | 1 | 1 | 1 | 210 | 0.6938% |
| Light sleep | 20 | 12 | 8 | 96 | 1920 | 6.3435% |
| Deep sleep | 1 | 1 | 19863 | 19863 | 19863 | 65.6259% |
| Deep State transit | 450 | 40 | 9 | 360 | 4050 | 13.3809% |
| Light State transit | 100 | 12 | 8 | 96 | 800 | 2.6431% |
| **Total (every power cycle)** | | | | 30267 | | |
| **Slot-averaged power unit** | | | | 1.4779 | | |
| **Battery life (in month) (LPHAP device type A)** | | | | 0.49 | | |
| **Battery life (in month) (LPHAP device type B)** | | | | 2.75 | | |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 7-1,Case 7-2**:  UE-assisted DL Positioning | Paging Occasion | 57 | 4 | 1 | 4 | 228 | 0.3517% |
| SSB serv. cell | 50 | 4 | 1 | 4 | 200 | 0.3085% |
| DL PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.1851% |
| Light sleep | 20 | 12 | 2 | 24 | 480 | 0.7404% |
| Deep sleep | 1 | 1 | 61301 | 61301 | 61301 | 94.5580% |
| Deep State transit | 450 | 40 | 2 | 80 | 900 | 1.3883% |
| Light State transit | 100 | 12 | 2 | 24 | 200 | 0.3085% |
| CG-SDT | 700 | 2 | 1 | 2 | 1400 | 2.1595% |
| **Total (every power cycle)** | | | | 64829 | | |
| **Slot-averaged power unit** | | | | 1.0552 | | |
| **Battery life (in month) (LPHAP device type A)** | | | | 0.69 | | |
| **Battery life (in month) (LPHAP device type B)** | | | | 3.88 | | |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 8-1,Case 8-2**:  UE-based DL Positioning | Paging Occasion | 57 | 4 | 1 | 4 | 228 | 0.3612% |
| SSB serv. cell | 50 | 4 | 1 | 4 | 200 | 0.3169% |
| DL PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.1901% |
| Light sleep | 20 | 12 | 1 | 12 | 240 | 0.3803% |
| Deep sleep | 1 | 1 | 61327 | 61327 | 61327 | 97.1671% |
| Deep State transit | 450 | 40 | 2 | 80 | 900 | 1.4260% |
| Light State transit | 100 | 12 | 1 | 12 | 100 | 0.1584% |
| **Total (every power cycle)** | | | | 63115 | | |
| **Slot-averaged power unit** | | | | 1.0273 | | |
| **Battery life (in month) (LPHAP device type A)** | | | | 0.71 | | |
| **Battery life (in month) (LPHAP device type B)** | | | | 3.99 | | |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 9-1,Case 9-2**:  UL Positioning | Paging Occasion | 57 | 4 | 1 | 4 | 228 | 0.3607% |
| SSB serv. cell | 50 | 4 | 1 | 4 | 200 | 0.3164% |
| UL SRS measurement | 210 | 1 | 1 | 1 | 210 | 0.3323% |
| Light sleep | 20 | 12 | 1 | 12 | 240 | 0.3797% |
| Deep sleep | 1 | 1 | 61327 | 61327 | 61327 | 97.0287% |
| Deep State transit | 450 | 40 | 2 | 80 | 900 | 1.4239% |
| Light State transit | 100 | 12 | 1 | 12 | 100 | 0.1582% |
| **Total (every power cycle)** | | | | 63205 | | |
| **Slot-averaged power unit** | | | | 1.0287 | | |
| **Battery life (in month) (LPHAP device type A)** | | | | 0.71 | | |
| **Battery life (in month) (LPHAP device type B** | | | | 3.99 | | |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 10-1,Case 10-2**:  UE-based DL Positioning | Paging Occasion | 57 | 4 | 1 | 4 | 228 | 1.6495% |
| SSB serv. cell | 50 | 4 | 1 | 4 | 200 | 1.4469% |
| DL PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.8681% |
| Light sleep | 20 | 12 | 1 | 12 | 240 | 1.7363% |
| Deep sleep | 1 | 1 | 1600 | 1600 | 1600 | 11.5753% |
| Ultra Deep sleep | 0.015 | 1 | 58967 | 58967 | 884.505 | 6.3990% |
| Deep State transit | 450 | 40 | 1 | 40 | 450 | 3.2556% |
| Light State transit | 100 | 12 | 1 | 12 | 100 | 0.7235% |
| Ultra Deep sleep transit | 10000 | 800 | 1 | 800 | 10000 | 72.3458% |
| **Total (every power cycle)** | | | | 13822.505 | | |
| **Slot-averaged power unit** | | | | 0.2250 | | |
| **Battery life (in month) (LPHAP device type A)** | | | | 3.25 | | |
| **Battery life (in month) (LPHAP device type B)** | | | | 18.28 | | |

Table B.5.4.2-2 provides summary of UE power consumption results for each evaluated case.

Table B.5.4.2-2: Summary for UE power consumption results from [95]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirement are met – Yes/No; If no, provide gaps** | |
| **6 months** | **12 months** |
| [Case 1-1], [Rel-17 ] | 2.3238 | 0.32 | No,5.68 | No,11.68 |
| [Case 2-1], [Rel-17 ] | 1.5572 | 0.47 | No,5.53 | No,11.53 |
| [Case 3-1], [Rel-17 ] | 1.6543 | 0.44 | No,5.56 | No,11.56 |
| [Case 4-1], [Rel-17 ] | 1.4735 | 0.49 | No,5.51 | No,11.51 |
| [Case 5-1], [Rel-17 ] | 1.6895 | 0.43 | No,5.57 | No,11.57 |
| [Case 6-1], [Rel-17 ] | 1.4779 | 0.49 | No,5.51 | No,11.51 |
| [Case 7-1], [Rel-17 ] | 1.0552 | 0.69 | No,5.31 | No,11.31 |
| [Case 8-1], [Rel-17 ] | 1.0273 | 0.71 | No,5.29 | No,11.29 |
| [Case 9-1], [Rel-17 ] | 1.0287 | 0.71 | No,5.29 | No,11.29 |
| [Case 10-1], [Potential enhancement] | 0.2250 | 3.25 | No,2.75 | No,8.75 |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirement are met – Yes/No; If no, provide gaps** | |
| **6 months** | **12 months** |
| [Case 1-2], [Rel-17 ] | 2.3238 | 1.80 | No,4.20 | No,10.20 |
| [Case 2-2], [Rel-17 ] | 1.5572 | 2.64 | No,3.36 | No,9.36 |
| [Case 3-2], [Rel-17 ] | 1.6543 | 2.48 | No,3.52 | No,9.52 |
| [Case 4-2], [Rel-17 ] | 1.4735 | 2.76 | No,3.24 | No,9.24 |
| [Case 5-2], [Rel-17 ] | 1.6895 | 2.42 | No,3.58 | No,9.58 |
| [Case 6-2], [Rel-17 ] | 1.4779 | 2.75 | No,3.25 | No,9.25 |
| [Case 7-2], [Rel-17 ] | 1.0552 | 3.88 | No,2.12 | No,8.12 |
| [Case 8-2], [Rel-17 ] | 1.0273 | 3.99 | No,2.01 | No,8.01 |
| [Case 9-2], [Rel-17 ] | 1.0287 | 3.99 | No,2.01 | No,8.01 |
| [Case 10-2], [Potential enhancement] | 0.2250 | 18.28 | Yes | Yes |

## B.5.5 Results from source [96]

### B.5.5.1 Description of evaluation scenarios

For Rel-17 positioning for UEs in RRC\_INACTIVE state, we consider power consumption evaluation of the following positioning methods:

- UE based DL positioning

- UE assisted DL positioning

- UL positioning

The evaluation cases and corresponding assumptions are shown in Table B.5.5.1-1~4 with corresponding Figure B.5.5.1-1~3.

Throughout the evaluations:

- The battery life for both LPHAP Type A and Type B devices with implementation factor K = 1, 2, 4 is considered.

- For the power consumption model of the ultra-deep sleep type, Option 1 is adapted.

- The relative power unit: 0.015

- Additional transition energy: 10000

- Total transition time: 400ms

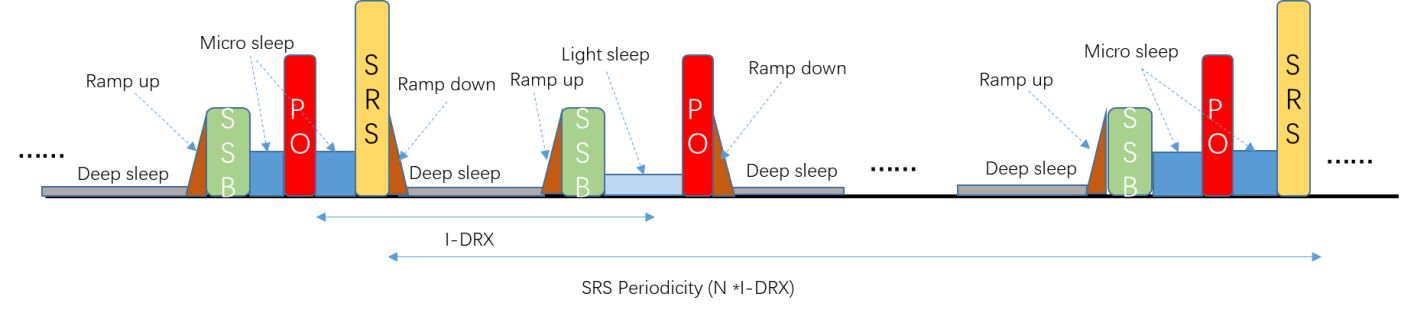


Figure B.5.5.1-1: The power model for UL positioning in RRC inactive mode.

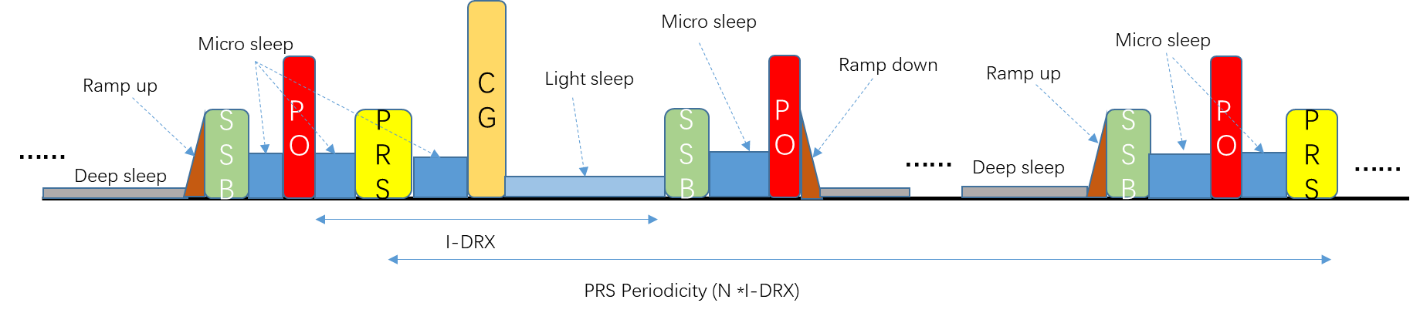


Figure B.5.5.1-2: The power model for UE-assisted DL positioning in RRC inactive mode.

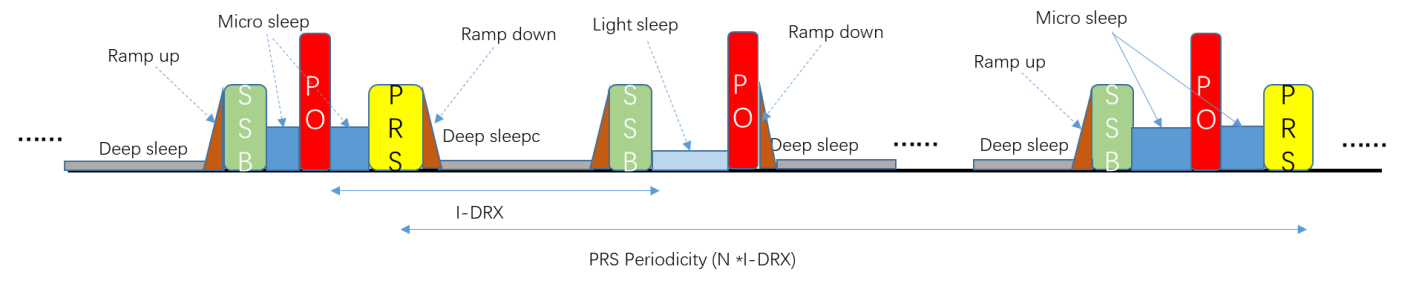


Figure B.5.5.1-3: The power model for UE-based DL positioning in RRC inactive mode.

Table B.5.5.1-1: Evaluation cases and assumptions

|  |  |  |  |
| --- | --- | --- | --- |
| Evaluation assumption | [Case 1], [FR1], [UL positioning], [Type A] | [Case 2], [FR1], [UL positioning], [Type B] | [Case 3], [FR1], [UE-assisted DL positioning], [Type A] |
| Sleep state | Deep sleep: 1 | Deep sleep: 1 | Deep sleep: 1 |
| DRX cycle | 10.24s | 10.24s | 10.24s |
| Paging reception | Y | Y | Y |
| RS periodicity | 10.24s | 10.24s | 10.24s |
| M-sample | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | N/A | CG-SDT |
| implementation factor K | 1, 2, 4 | 1, 2, 4 | 1, 2, 4 |

Table B.5.5.1-2: Evaluation cases and assumptions

|  |  |  |  |
| --- | --- | --- | --- |
| Evaluation assumption | [Case 4], [FR1], [UE-assisted DL positioning], [Type B] | [Case 5], [FR1], [UE-based DL positioning], [Type A] | [Case 6], [FR1], [UE-based DL positioning], [Type B] |
| Sleep state | Deep sleep: 1 | Deep sleep: 1 | Deep sleep: 1 |
| DRX cycle | 10.24s | 10.24s | 10.24s |
| Paging reception | Y | Y | Y |
| RS periodicity | 10.24s | 10.24s | 10.24s |
| M-sample | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | N/A | N/A |
| implementation factor K | 1, 2, 4 | 1, 2, 4 | 1, 2, 4 |

Table B.5.5.1-3: Evaluation cases and assumptions

|  |  |  |  |
| --- | --- | --- | --- |
| Evaluation assumption | [Case 7], [FR1], [UL positioning], [Type A] | [Case 8], [FR1], [UL positioning], [Type B] | [Case 9], [FR1], [UE-assisted DL positioning], [Type A] |
| Sleep state | ultra-deep sleep: 0.015 | ultra-deep sleep: 0.015 | ultra-deep sleep: 0.015 |
| DRX cycle | 10.24s | 10.24s | 10.24s |
| Paging reception | Y | Y | Y |
| RS periodicity | 10.24s | 10.24s | 10.24s |
| M-sample | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | N/A | N/A |
| implementation factor K | 1, 2, 4 | 1, 2, 4 | 1, 2, 4 |

Table B.5.5.1-4: Evaluation cases and assumptions

|  |  |  |  |
| --- | --- | --- | --- |
| Evaluation assumption | [Case 10], [FR1], [UE-assisted DL positioning], [Type B] | [Case 11], [FR1], [UE-based DL positioning], [Type A] | [Case 12], [FR1], [UE-based DL positioning], [Type B] |
| Sleep state | ultra-deep sleep: 0.015 | ultra-deep sleep: 0.015 | ultra-deep sleep: 0.015 |
| DRX cycle | 10.24s | 10.24s | 10.24s |
| Paging reception | Y | Y | Y |
| RS periodicity | 10.24s | 10.24s | 10.24s |
| M-sample | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | N/A | N/A |
| implementation factor K | 1, 2, 4 | 1, 2, 4 | 1, 2, 4 |

### B.5.5.2 Evaluation results for Low Power High Accuracy Positioning

Table B.5.5.2-1 provides detailed UE power consumption results for each evaluated case for Rel-17 with deep sleep. For each case (e.g., case 1, case 2, …, case 6), there are 3 different sub-cases included corresponding to different value of implementation factor K (1, 2, 4).

Table B.5.5.2-1: Evaluation results for Rel-17 with deep sleep

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Evaluation case description | Slot-averaged relative power unit (P2) | Battery life (in month) | Target requirement are met – Yes/No; If no, provide gaps | |
| 6 months | 12 months |
| Case 1 (K=1) | 1.1 | 0.5 | No (Gap=5.5) | No (Gap=11.5) |
| Case 1 (K=2) | 1.1 | 1 | No (Gap=5) | No (Gap=5) |
| Case 1 (K=4) | 1.1 | 2 | No (Gap=4) | No(Gap=10) |
| Case 2 (K=1) | 1.1 | 2.8 | No(Gap=3.2) | No(Gap=9.2) |
| Case 2 (K=2) | 1.1 | 5.6 | No(Gap=0.4) | No(Gap=6.4) |
| Case 2 (K=4) | 1.1 | 11.2 | Yes | No (Gap=0.8) |
| Case 3 (K=1) | 1.09 | 0.5 | No (Gap=5.5) | No (Gap=11.5) |
| Case 3(K=2) | 1.09 | 1 | No (Gap=5) | No (Gap=5) |
| Case 3 (K=4) | 1.09 | 2 | No (Gap=4) | No(Gap=10) |
| Case 4 (K=1) | 1.09 | 2.8 | No(Gap=3.2) | No(Gap=9.2) |
| Case 4 (K=2) | 1.09 | 5.6 | No(Gap=0.4) | No(Gap=6.4) |
| Case 4 (K=4) | 1.09 | 11.2 | Yes | No (Gap=0.8) |
| Case 5 (K=1) | 1.08 | 0.52 | No (Gap=5.48) | No (Gap=11.48) |
| Case 5 (K=2) | 1.08 | 1.04 | No (Gap=4.96) | No (Gap=10.96) |
| Case 5 (K=4) | 1.08 | 2.08 | No (Gap=3.92) | No (Gap=9.92) |
| Case 6 (K=1) | 1.08 | 2.92 | N (Gap=3.08) | N (Gap=9.08) |
| Case 6 (K=2) | 1.08 | 5.85 | No (Gap=0.15) | No (Gap=6.15) |
| Case 6 (K=4) | 1.08 | 11.7 | Yes | No (Gap=0.3) |

Table B.5.5.2-2 provides detailed UE power consumption results for each evaluated case for Rel-18 with the ultra-deep sleep type. For each case (e.g., case 7, case 8, …, case 12), there are 3 different sub-cases included corresponding to different value of implementation factor K (1, 2, 4).

Table B.5.5.2-2: Evaluation results for Rel-18 with the ultra-deep sleep type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Evaluation case description | Slot-averaged relative power unit (P2) | Battery life (in month) | Target requirement are met – Yes/No; If no, provide gaps | |
| 6 months | 12 months |
| Case 7 (K=1) | 0.59 | 0.93 | No (Gap=5.07) | No (Gap=11.07) |
| Case 7 (K=2) | 0.59 | 1.83 | No (Gap=4.17) | No (Gap=10.17) |
| Case 7 (K=4) | 0.59 | 3.66 | No (Gap=2.34) | No (Gap=8.34) |
| Case 8 (K=1) | 0.59 | 5.23 | No (Gap=0.77) | No (Gap=6.77) |
| Case 8 (K=2) | 0.59 | 10.46 | Yes | No (Gap=1.54) |
| Case 8 (K=4) | 0.59 | 20.92 | Yes | Yes |
| Case 9 (K=1) | 0.58 | 0.94 | No (Gap=5.06) | No (Gap=11.06) |
| Case 9 (K=2) | 0.58 | 1.88 | No (Gap=4.12) | No (Gap=10.12) |
| Case 9 (K=4) | 0.58 | 2.76 | No (Gap=3.24) | No (Gap=9.24) |
| Case 10 (K=1) | 0.58 | 5.28 | No (Gap=0.72) | No (Gap=6.72) |
| Case 10 (K=2) | 0.58 | 10.56 | Yes | No (Gap=0.44) |
| Case 10 (K=4) | 0.58 | 21.12 | Yes | Yes |
| Case 11 (K=1) | 0.57 | 0.98 | No (Gap=5.02) | No (Gap=11.02) |
| Case 11 (K=2) | 0.57 | 1.96 | No (Gap=4.04) | No (Gap=10.04) |
| Case 11 (K=4) | 0.57 | 3.92 | No (Gap=2.08) | No (Gap=8.08) |
| Case 12 (K=1) | 0.57 | 5.5 | No (Gap=0.5) | No (Gap=6.5) |
| Case 12 (K=2) | 0.57 | 11 | Yes | No (Gap=1) |
| Case 12 (K=4) | 0.57 | 22 | Yes | Yes |

## B.5.6 Results from source [97]

### B.5.6.1 Description of evaluation scenarios

We consider the following cases:

- Figure B.5.6.1-1 shows UE-based DL-only positioning for low SINR assumption,

- Figure B.5.6.1-2 shows UE-based DL-only positioning for high SINR assumption

- Figure B.5.6.1-3 shows UE-assisted DL-only positioning for low SINR assumption

- Figure B.5.6.1-4 shows UE-assisted DL-only positioning for high SINR assumption

- Figure B.5.6.1-5 shows UL-only positioning for low SINR assumption

- Figure B.5.6.1-6 shows UL-only positioning for high SINR assumption

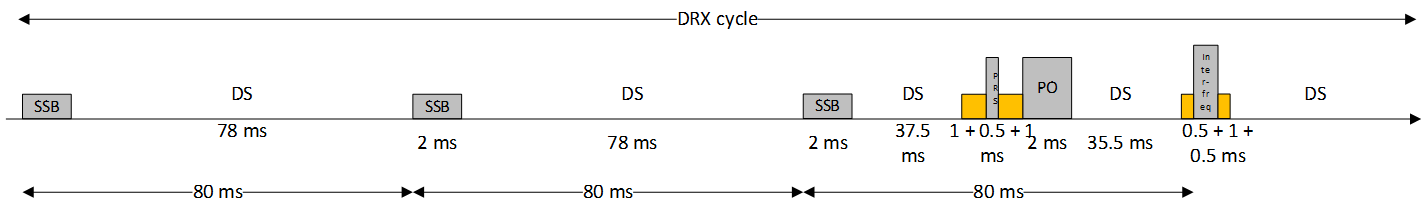


Figure B.5.6.1-1. UE-based DL-only positioning for low SINR assumption

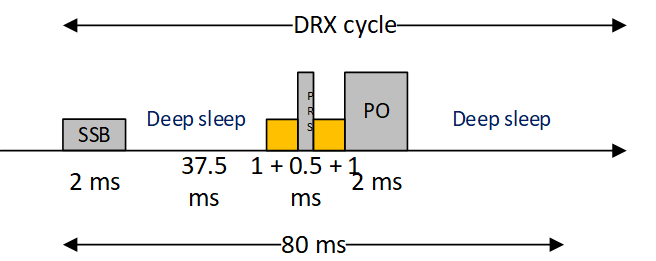


Figure B.5.6.1-2. UE-based DL-only positioning for high SINR assumption

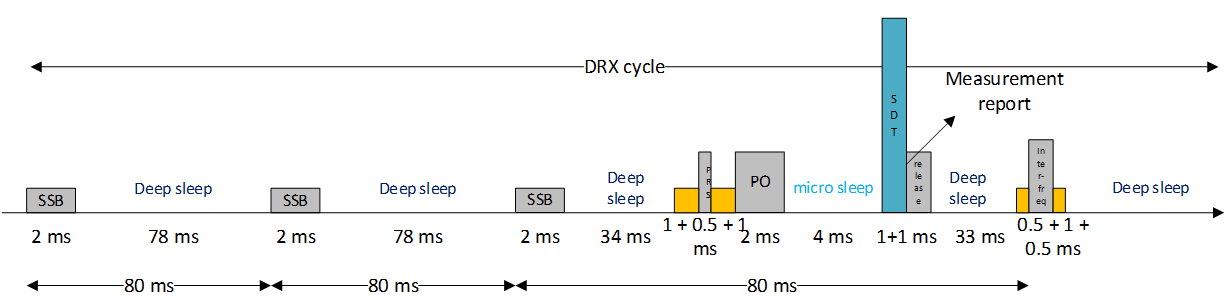


Figure B.5.6.1-3. UE-assisted DL-only positioning for low SINR assumption

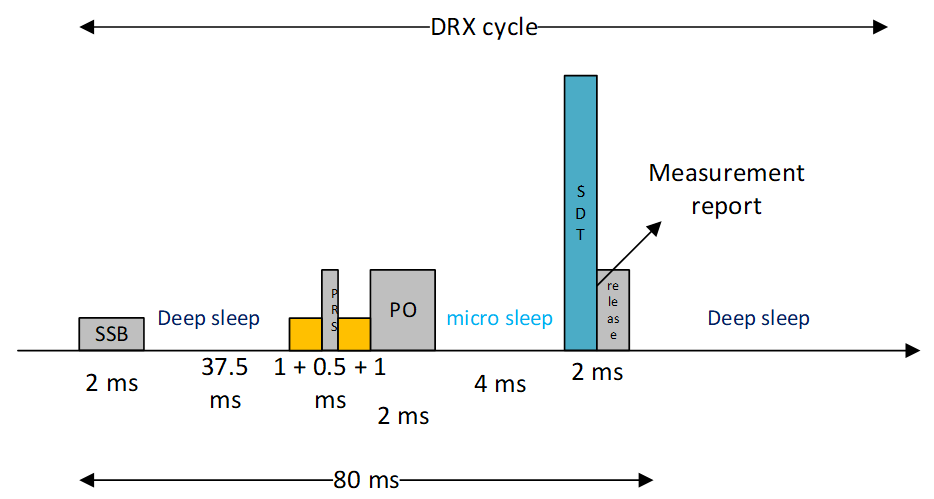


Figure B.5.6.1-4. UE-assisted DL-only positioning for high SINR assumption

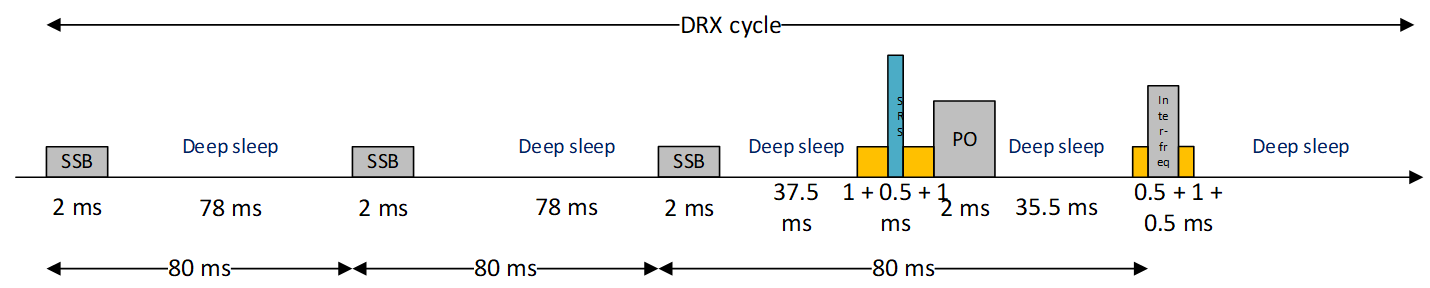


Figure B.5.6.1-5. UL-only positioning for low SINR assumption

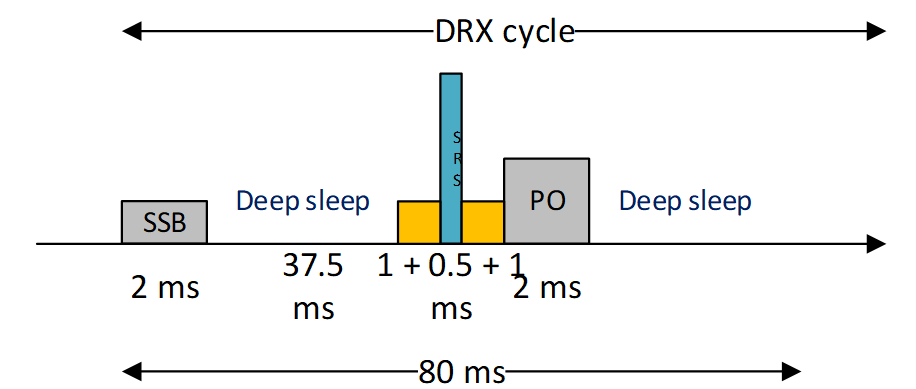


Figure B.5.6.1-6. UL-only positioning for high SINR assumption

Table B.5.6.1-1: Evaluation cases and assumption for the UE-based DL positioning (Low/ High SINR)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 1: [FR1], [UE-based DL positioning], [Type A]** | **Case 2: [FR1], [UE-based DL positioning], [Type A]** | **Case 3: [FR1], [UE-based DL positioning], [Type A]** | **Case 4: [FR1], [UE-based DL positioning], [Type B]** | **Case 5: [FR1], [UE-based DL positioning], [Type B]** | **Case 6: [FR1], [UE-based DL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | Yes | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| Evaluation assumption | **Case 7: [FR1], [UE-based DL positioning], [Type A]** | **Case 8: [FR1], [UE-based DL positioning], [Type A]** | **Case 9: [FR1], [UE-based DL positioning], [Type A]** | **Case 10: [FR1], [UE-based DL positioning], [Type B]** | **Case 11: [FR1], [UE-based DL positioning], [Type B]** | **Case 12: [FR1], [UE-based DL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | No | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **Case 13: [FR1], [UE-based DL positioning], [Type A]** | **Case 14: [FR1], [UE-based DL positioning], [Type A]** | **Case 15: [FR1], [UE-based DL positioning], [Type A]** | **Case 16: [FR1], [UE-based DL positioning], [Type B]** | **Case 17: [FR1], [UE-based DL positioning], [Type B]** | **Case 18: [FR1], [UE-based DL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 10.24s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | Yes | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| Evaluation assumption | **Case 19: [FR1], [UE-based DL positioning], [Type A]** | **Case 20: [FR1], [UE-based DL positioning], [Type A]** | **Case 21: [FR1], [UE-based DL positioning], [Type A]** | **Case 22: [FR1], [UE-based DL positioning], [Type B]** | **Case 23: [FR1], [UE-based DL positioning], [Type B]** | **Case 24: [FR1], [UE-based DL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 10.24s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | No | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **Case 25: [FR1], [UE-based DL positioning], [Type A]** | **Case 26: [FR1], [UE-based DL positioning], [Type A]** | **Case 27: [FR1], [UE-based DL positioning], [Type A]** | **Case 28: [FR1], [UE-based DL positioning], [Type B]** | **Case 29: [FR1], [UE-based DL positioning], [Type B]** | **Case 30: [FR1], [UE-based DL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 20.48s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | Yes | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| Evaluation assumption | **Case 31: [FR1], [UE-based DL positioning], [Type A]** | **Case 32: [FR1], [UE-based DL positioning], [Type A]** | **Case 33: [FR1], [UE-based DL positioning], [Type A]** | **Case 34: [FR1], [UE-based DL positioning], [Type B]** | **Case 35: [FR1], [UE-based DL positioning], [Type B]** | **Case 36: [FR1], [UE-based DL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 20.48s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | No | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **Case 37: [FR1], [UE-based DL positioning], [Type A]** | **Case 38: [FR1], [UE-based DL positioning], [Type A]** | **Case 39: [FR1], [UE-based DL positioning], [Type A]** | **Case 40: [FR1], [UE-based DL positioning], [Type B]** | **Case 41: [FR1], [UE-based DL positioning], [Type B]** | **Case 42: [FR1], [UE-based DL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 30.72s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 30.72s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | Yes | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| Evaluation assumption | **Case 43: [FR1], [UE-based DL positioning], [Type A]** | **Case 44: [FR1], [UE-based DL positioning], [Type A]** | **Case 45: [FR1], [UE-based DL positioning], [Type A]** | **Case 46: [FR1], [UE-based DL positioning], [Type B]** | **Case 47: [FR1], [UE-based DL positioning], [Type B]** | **Case 48: [FR1], [UE-based DL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 30.72s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 30.72s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | No | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |

Table B.5.6.1-2: Evaluation cases and assumption for the UE-assisted DL positioning (Low/High SINR)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 49: [FR1], [UE-assisted DL positioning], [Type A]** | **Case 50: [FR1], [UE-assisted DL positioning], [Type A]** | **Case 51: [FR1], [UE-assisted DL positioning], [Type A]** | **Case 52: [FR1], [UE-assisted DL positioning], [Type B]** | **Case 53: [FR1], [UE-assisted DL positioning], [Type B]** | **Case 54: [FR1], [UE-assisted DL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | Yes | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CD-SDT | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| Evaluation assumption | **Case 55: [FR1], [UE-assisted DL positioning],** **[Type A]** | **Case 56: [FR1], [UE-assisted DL positioning],** **[Type A]** | **Case 57: [FR1], [UE-assisted DL positioning],** **[Type A]** | **Case 58: [FR1], [UE-assisted DL positioning],** **[Type B]** | **Case 59: [FR1], [UE-assisted DL positioning],** **[Type B]** | **Case 60: [FR1], [UE-assisted DL positioning],** **[Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | No | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CD-SDT | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **Case 61: [FR1], [UE-assisted DL positioning], [Type A]** | **Case 62: [FR1], [UE-assisted DL positioning], [Type A]** | **Case 63: [FR1], [UE-assisted DL positioning], [Type A]** | **Case 64: [FR1], [UE-assisted DL positioning], [Type B]** | **Case 65: [FR1], [UE-assisted DL positioning], [Type B]** | **Case 66: [FR1], [UE-assisted DL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 10.24s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | Yes | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CD-SDT | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| Evaluation assumption | **Case 67: [FR1], [UE-assisted DL positioning],** **[Type A]** | **Case 68: [FR1], [UE-assisted DL positioning],** **[Type A]** | **Case 69: [FR1], [UE-assisted DL positioning],** **[Type A]** | **Case 70: [FR1], [UE-assisted DL positioning],** **[Type B]** | **Case 71: [FR1], [UE-assisted DL positioning],** **[Type B]** | **Case 72: [FR1], [UE-assisted DL positioning],** **[Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 10.24s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | No | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CD-SDT | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **Case 73: [FR1], [UE-assisted DL positioning], [Type A]** | **Case 74: [FR1], [UE-assisted DL positioning], [Type A]** | **Case 75: [FR1], [UE-assisted DL positioning], [Type A]** | **Case 76: [FR1], [UE-assisted DL positioning], [Type B]** | **Case 77: [FR1], [UE-assisted DL positioning], [Type B]** | **Case 78: [FR1], [UE-assisted DL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 20.48s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | Yes | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| Evaluation assumption | **Case 79: [FR1], [UE-assisted DL positioning],** **[Type A]** | **Case 80: [FR1], [UE-assisted DL positioning],** **[Type A]** | **Case 81: [FR1], [UE-assisted DL positioning],** **[Type A]** | **Case 82: [FR1], [UE-assisted DL positioning],** **[Type B]** | **Case 83: [FR1], [UE-assisted DL positioning],** **[Type B]** | **Case 84: [FR1], [UE-assisted DL positioning],** **[Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 20.48s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | No | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **Case 85: [FR1], [UE-assisted DL positioning], [Type A]** | **Case 86: [FR1], [UE-assisted DL positioning], [Type A]** | **Case 87: [FR1], [UE-assisted DL positioning], [Type A]** | **Case 88: [FR1], [UE-assisted DL positioning], [Type B]** | **Case 89: [FR1], [UE-assisted DL positioning], [Type B]** | **Case 90: [FR1], [UE-assisted DL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 30.72s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 30.72s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | Yes | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| Evaluation assumption | **Case 91: [FR1], [UE-assisted DL positioning],** **[Type A]** | **Case 92: [FR1], [UE-assisted DL positioning],** **[Type A]** | **Case 93: [FR1], [UE-assisted DL positioning],** **[Type A]** | **Case 94: [FR1], [UE-assisted DL positioning],** **[Type B]** | **Case 95: [FR1], [UE-assisted DL positioning],** **[Type B]** | **Case 96: [FR1], [UE-assisted DL positioning],** **[Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 30.72s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 30.72s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | No | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |

Table B.5.6.1-3: Evaluation cases and assumption for the UL-only positioning (Low/High SINR)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 97: [FR1], [UL positioning], [Type A]** | **Case 98: [FR1], [UL positioning], [Type A]** | **Case 99: [FR1], [UL positioning], [Type A]** | **Case 100: [FR1], [UL positioning], [Type B]** | **Case 101: [FR1], [UL positioning], [Type B]** | **Case 102: [FR1], [UL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | Yes | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| Evaluation assumption | **Case 103: [FR1], [UL positioning], [Type A]** | **Case 104: [FR1], [UL positioning], [Type A]** | **Case 105: [FR1], [UL positioning], [Type A]** | **Case 106: [FR1], [UL positioning], [Type B]** | **Case 107: [FR1], [UL positioning], [Type B]** | **Case 108: [FR1], [UL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | No | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **Case 109: [FR1], [UL positioning], [Type A]** | **Case 110: [FR1], [UL positioning], [Type A]** | **Case 111: [FR1], [UL positioning], [Type A]** | **Case 112: [FR1], [UL positioning], [Type B]** | **Case 113: [FR1], [UL positioning], [Type B]** | **Case 114: [FR1], [UL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 10.24s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | Yes | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| Evaluation assumption | **Case 115: [FR1], [UL positioning], [Type A]** | **Case 116: [FR1], [UL positioning], [Type A]** | **Case 117: [FR1], [UL positioning], [Type A]** | **Case 118: [FR1], [UL positioning], [Type B]** | **Case 119: [FR1], [UL positioning], [Type B]** | **Case 120: [FR1], [UL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 10.24s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | No | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **Case 121: [FR1], [UL positioning], [Type A]** | **Case 122: [FR1], [UL positioning], [Type A]** | **Case 123: [FR1], [UL positioning], [Type A]** | **Case 124: [FR1], [UL positioning], [Type B]** | **Case 125: [FR1], [UL positioning], [Type B]** | **Case 126: [FR1], [UL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 20.48s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | Yes | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| Evaluation assumption | **Case 127: [FR1], [UL positioning], [Type A]** | **Case 128: [FR1], [UL positioning], [Type A]** | **Case 129: [FR1], [UL positioning], [Type A]** | **Case 130: [FR1], [UL positioning], [Type B]** | **Case 131: [FR1], [UL positioning], [Type B]** | **Case 132: [FR1], [UL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 20.48s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | No | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **Case 133: [FR1], [UL positioning], [Type A]** | **Case 134: [FR1], [UL positioning], [Type A]** | **Case 135: [FR1], [UL positioning], [Type A]** | **Case 136: [FR1], [UL positioning], [Type B]** | **Case 137: [FR1], [UL positioning], [Type B]** | **Case 138: [FR1], [UL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 30.72s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 30.72s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | Yes | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| Evaluation assumption | **Case 139: [FR1], [UL positioning], [Type A]** | **Case 140: [FR1], [UL positioning], [Type A]** | **Case 141: [FR1], [UL positioning], [Type A]** | **Case 142: [FR1], [UL positioning], [Type B]** | **Case 143: [FR1], [UL positioning], [Type B]** | **Case 144: [FR1], [UL positioning], [Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 30.72s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 30.72s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | No | | | | | |
| BWP switching | Yes | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |

### B.5.6.2 Evaluation results for Low Power High Accuracy Positioning

In this section, we show detailed description on the power consumption for each case described in section B.5.6.1 and provides evaluation results.

Table B.5.6.2-1: LPHAP evaluation for UE-based DL positioning for DRX cycle of 1.28 s (Low SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 1** | SSB1 | 50 | 4 |  | 4 | 200 |  |
| Sleep1 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB2 | 50 | 4 |  | 4 | 200 |  |
| Sleep2 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB3 | 50 | 4 |  | 4 | 200 |  |
| Sleep3 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into PRS | 50 | 2 |  | 2 | 100 |  |
| PRS reception | 120 | 1 |  | 1 | 120 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 128 |  |
| Sleep4 (DS) | 1 | 71 |  | 71 | 521 |  |
| Switch in to another freq layer | 45 | 1 |  | 1 | 45 |  |
| Inter-freq RRM measurements | 150 | 2 |  | 2 | 300 |  |
| Switch back to serving freq layer | 45 | 1 |  | 1 | 45 |  |
| Sleep6 (DS) | 1 | 2077 |  | 2077 | 2527 |  |
| **Total (every 1.28s)** | | | | **2560** | 6323 |  |
| **Slot-averaged power unit** | | | | 2.470 | | |
| **Battery life (in month)** | | | | 0.300 | | |
| **Case 2** | **Battery life (in month)** | | | | 0.630 | | |
| **Case 3** | **Battery life (in month)** | | | | 1.199 | | |
| **Case 4** | **Battery life (in month)** | | | | 1.687 | | |
| **Case 5** | **Battery life (in month)** | | | | 3.373 | | |
| **Case 6** | **Battery life (in month)** | | | | 6.747 | | |

Table B.5.6.2-2: LPHAP evaluation for UE-based DL positioning for DRX cycle of 1.28 s (High SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 7** | SSB | 50 | 4 |  | 4 | 200 |  |
| Sleep 1 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into PRS | 50 | 2 |  | 2 | 100 |  |
| PRS | 120 | 1 |  | 1 | 120 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep 2 (DS) | 1 | 2472 |  | 2472 | 2922 |  |
| **Total (every 1.28s)** | | | | 2560 | 4195 |  |
| **Slot-averaged power unit** | | | | 1.639 | | |
| **Battery life (in month)** | | | | 0.452 | | |
| **Case 8** | **Battery life (in month)** | | | | 0.903 | | |
| **Case 9** | **Battery life (in month)** | | | | 1.808 | | |
| **Case 10** | **Battery life (in month)** | | | | 2.542 | | |
| **Case 11** | **Battery life (in month)** | | | | 5.084 | | |
| **Case 12** | **Battery life (in month)** | | | | 10.169 | | |

Table B.5.6.2-3: LPHAP evaluation for UE-based DL positioning for DRX cycle of 10.24 s (Low SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 13** | SSB1 | 50 | 4 |  | 4 | 200 |  |
| Sleep1 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB2 | 50 | 4 |  | 4 | 200 |  |
| Sleep2 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB3 | 50 | 4 |  | 4 | 200 |  |
| Sleep3 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into PRS | 50 | 2 |  | 2 | 100 |  |
| PRS reception | 120 | 1 |  | 1 | 120 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 128 |  |
| Sleep4 (DS) | 1 | 71 |  | 71 | 521 |  |
| Switch in to another freq layer | 45 | 1 |  | 1 | 45 |  |
| Inter-freq RRM measurements | 150 | 2 |  | 2 | 300 |  |
| Switch back to serving freq layer | 45 | 1 |  | 1 | 45 |  |
| Sleep6 (DS) | 1 | 19997 |  | 1997 | 20447 |  |
| **Total (every 10.24 s)** | | | | **20480** | 24243 |  |
| **Slot-averaged power unit** | | | | **1.184** | | |
| **Battery life (in month)** | | | | 0.625 | | |
| **Case 14** | **Battery life (in month)** | | | | 1.251 | | |
| **Case 15** | **Battery life (in month)** | | | | 2.502 | | |
| **Case 16** | **Battery life (in month)** | | | | 3.519 | | |
| **Case 17** | **Battery life (in month)** | | | | 7.038 | | |
| **Case 18** | **Battery life (in month)** | | | | 14.076 | | |

Table B.5.6.2-4: UE power consumptions for UE-based DL positioning for DRX cycle of 10.24 s

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 19** | SSB | 50 | 4 |  | 4 | 200 |  |
| Sleep 1 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into PRS | 50 | 2 |  | 2 | 100 |  |
| PRS | 120 | 1 |  | 1 | 120 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep 2 (DS) | 1 | 20392 |  | 20392 | 20842 |  |
| **Total (every 10.24s)** | | | | 20480 | 22115 |  |
| **Slot-averaged power unit** | | | | 1.080 | | |
| **Battery life (in month)** | | | | 0.686 | | |
| **Case 20** | **Battery life (in month)** | | | | 1.372 | | |
| **Case 21** | **Battery life (in month)** | | | | 2.743 | | |
| **Case 22** | **Battery life (in month)** | | | | 3.858 | | |
| **Case 23** | **Battery life (in month)** | | | | 7.716 | | |
| **Case 24** | **Battery life (in month)** | | | | 15.432 | | |

Table B.5.6.2-5: LPHAP evaluation for UE-based DL positioning for DRX cycle of 20.48 s (Low SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 25** | SSB1 | 50 | 4 |  | 4 | 200 |  |
| Sleep1 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB2 | 50 | 4 |  | 4 | 200 |  |
| Sleep2 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB3 | 50 | 4 |  | 4 | 200 |  |
| Sleep3 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into PRS | 50 | 2 |  | 2 | 100 |  |
| PRS reception | 120 | 1 |  | 1 | 120 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 128 |  |
| Sleep4 (DS) | 1 | 71 |  | 71 | 521 |  |
| Switch in to another freq layer | 45 | 1 |  | 1 | 45 |  |
| Inter-freq RRM measurements | 150 | 2 |  | 2 | 300 |  |
| Switch back to serving freq layer | 45 | 1 |  | 1 | 45 |  |
| Sleep6 (DS) | 1 | 40477 |  | 40477 | 40927 |  |
| **Total (every 20.48 s)** | | | | **40960** | 44723 |  |
| **Slot-averaged power unit** | | | | **1.092** | | |
| **Battery life (in month)** | | | | 0.678 | | |
| **Case 26** | **Battery life (in month)** | | | | 1.357 | | |
| **Case 27** | **Battery life (in month)** | | | | 2.713 | | |
| **Case 28** | **Battery life (in month)** | | | | 3.815 | | |
| **Case 29** | **Battery life (in month)** | | | | 7.631 | | |
| **Case 30** | **Battery life (in month)** | | | | 15.262 | | |

Table B.5.6.2-6: LPHAP evaluation for UE-based DL positioning for DRX cycle of 20.48 s (High SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 31** | SSB | 50 | 4 |  | 4 | 200 |  |
| Sleep 1 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into PRS | 50 | 2 |  | 2 | 100 |  |
| PRS | 120 | 1 |  | 1 | 120 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep 2 (DS) | 1 | 40872 |  | 40872 | 41322 |  |
| **Total (every 20.48s)** | | | | 40960 | 42595 |  |
| **Slot-averaged power unit** | | | | 1.040 | | |
| **Battery life (in month)** | | | | 0.712 | | |
| **Case 32** | **Battery life (in month)** | | | | 1.424 | | |
| **Case 33** | **Battery life (in month)** | | | | 2.849 | | |
| **Case 34** | **Battery life (in month)** | | | | 3.815 | | |
| **Case 35** | **Battery life (in month)** | | | | 7.631 | | |
| **Case 36** | **Battery life (in month)** | | | | 15.262 | | |

Table B.5.X.2-7: LPHAP evaluation for UE-based DL positioning for DRX cycle of 30.72 s (Low SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 37** | SSB1 | 50 | 4 |  | 4 | 200 |  |
| Sleep1 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB2 | 50 | 4 |  | 4 | 200 |  |
| Sleep2 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB3 | 50 | 4 |  | 4 | 200 |  |
| Sleep3 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into PRS | 50 | 2 |  | 2 | 100 |  |
| PRS reception | 120 | 1 |  | 1 | 120 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 128 |  |
| Sleep4 (DS) | 1 | 71 |  | 71 | 521 |  |
| Switch in to another freq layer | 45 | 1 |  | 1 | 45 |  |
| Inter-freq RRM measurements | 150 | 2 |  | 2 | 300 |  |
| Switch back to serving freq layer | 45 | 1 |  | 1 | 45 |  |
| Sleep6 (DS) | 1 | 60957 |  | 60957 | 61407 |  |
| **Total (every 20.48 s)** | | | | **61440** | 65203 |  |
| **Slot-averaged power unit** | | | | **1.061** | | |
| **Battery life (in month)** | | | | 0.698 | | |
| **Case 38** | **Battery life (in month)** | | | | 1.400 | | |
| **Case 39** | **Battery life (in month)** | | | | 2.792 | | |
| **Case 40** | **Battery life (in month)** | | | | 3.927 | | |
| **Case 41** | **Battery life (in month)** | | | | 7.854 | | |
| **Case 42** | **Battery life (in month)** | | | | 15.708 | | |

Table B.5.X.2-8: LPHAP evaluation for UE-based DL positioning for DRX cycle of 30.72 s (High SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 43** | SSB | 50 | 4 |  | 4 | 200 |  |
| Sleep 1 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into PRS | 50 | 2 |  | 2 | 100 |  |
| PRS | 120 | 1 |  | 1 | 120 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep 2 (DS) | 1 | 61352 |  | 61352 | 61802 |  |
| **Total (every 30.72 s)** | | | | 61440 | 63075 |  |
| **Slot-averaged power unit** | | | | 1.027 | | |
| **Battery life (in month)** | | | | 0.721 | | |
| **Case 44** | **Battery life (in month)** | | | | 1.442 | | |
| **Case 45** | **Battery life (in month)** | | | | 2.885 | | |
| **Case 46** | **Battery life (in month)** | | | | 4.057 | | |
| **Case 47** | **Battery life (in month)** | | | | 8.114 | | |
| **Case 48** | **Battery life (in month)** | | | | 16.228 | | |

Table B.5.X.2-9: Summary of the evaluated battery lifetime for the UE-based DL positioning

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirement are met – Yes/No; If no, provide gaps** | |
| **6 months** | **12 months** |
| **Case 1** | 2.470 | 0.300 |  |  |
| **Case 2** | 0.630 |  |  |
| **Case 3** | 1.199 |  |  |
| **Case 4** | 1.687 |  |  |
| **Case 5** | 3.373 |  |  |
| **Case 6** | 6.747 | Yes |  |
| **Case 7** | 1.639 | 0.452 |  |  |
| **Case 8** | 0.903 |  |  |
| **Case 9** | 1.808 |  |  |
| **Case 10** | 2.542 |  |  |
| **Case 11** | 5.084 |  |  |
| **Case 12** | 10.169 | Yes |  |
| **Case 13** | 1.184 | 0.625 |  |  |
| **Case 14** | 1.251 |  |  |
| **Case 15** | 2.502 |  |  |
| **Case 16** | 3.519 |  |  |
| **Case 17** | 7.038 | Yes |  |
| **Case 18** | 14.076 | Yes | Yes |
| **Case 19** | 1.080 | 0.686 |  |  |
| **Case 20** | 1.372 |  |  |
| **Case 21** | 2.743 |  |  |
| **Case 22** | 3.858 |  |  |
| **Case 23** | 7.716 | Yes |  |
| **Case 24** | 15.432 | Yes | Yes |
| **Case 25** | 1.092 | 0.678 |  |  |
| **Case 26** | 1.357 |  |  |
| **Case 27** | 2.713 |  |  |
| **Case 28** | 3.815 |  |  |
| **Case 29** | 7.631 | Yes |  |
| **Case 30** | 15.262 | Yes | Yes |
| **Case 31** | 1.040 | 0.712 |  |  |
| **Case 32** | 1.424 |  |  |
| **Case 33** | 2.849 |  |  |
| **Case 34** | 3.815 |  |  |
| **Case 35** | 7.631 | Yes |  |
| **Case 36** | 15.262 | Yes | Yes |
| **Case 37** | 1.061 | 0.698 |  |  |
| **Case 38** | 1.400 |  |  |
| **Case 39** | 2.792 |  |  |
| **Case 40** | 3.927 |  |  |
| **Case 41** | 7.854 | Yes |  |
| **Case 42** | 15.708 | Yes | Yes |
| **Case 43** | 1.027 | 0.721 |  |  |
| **Case 44** | 1.442 |  |  |
| **Case 45** | 2.885 |  |  |
| **Case 46** | 4.057 |  |  |
| **Case 47** | 8.114 | Yes |  |
| **Case 48** | 16.228 | Yes | Yes |

Table B.5.6.2-10: LPHAP evaluation for UE-assisted DL positioning for DRX cycle of 1.28 s (Low SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 49** | SSB1 | 50 | 4 |  | 4 | 200 |  |
| Sleep1 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB2 | 50 | 4 |  | 4 | 200 |  |
| Sleep2 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB3 | 50 | 4 |  | 4 | 200 |  |
| Sleep3 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into PRS | 50 | 2 |  | 2 | 100 |  |
| PRS | 120 | 1 |  | 1 | 120 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep 4 (MS) | 45 | 8 |  | 8 | 360 |  |
| CG-SDT | 700 | 2 |  | 2 | 1400 |  |
| RRC release | 120 | 2 |  | 2 | 240 |  |
| Sleep 5 (DS) | 1 | 67 |  | 67 | 517 |  |
| Switch in to another freq layer | 45 | 1 |  | 1 | 45 |  |
| Inter-freq RRM measurements | 150 | 2 |  | 2 | 300 |  |
| Switch back to serving freq layer | 45 | 1 |  | 1 | 45 |  |
| Sleep 6 (DS) | 1 | 2069 |  | 2069 | 2519 |  |
| **Total (every 1.28s)** | | | | **2560** | 8311 |  |
| **Slot-averaged power unit** | | | | 3.246 | | |
| **Battery life (in month)** | | | | 0.228 | | |
| **Case 50** | **Battery life (in month)** | | | | 0.456 | | |
| **Case 51** | **Battery life (in month)** | | | | 0.913 | | |
| **Case 52** | **Battery life (in month)** | | | | 1.284 | | |
| **Case 53** | **Battery life (in month)** | | | | 2.567 | | |
| **Case 54** | **Battery life (in month)** | | | | 5.134 | | |

Table B.5.6.2-11: LPHAP evaluation for UE-assisted DL positioning for DRX cycle of 1.28 s (High SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 55** | SSB | 50 | 4 |  | 4 | 200 |  |
| Sleep 1 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into PRS | 50 | 2 |  | 2 | 100 |  |
| PRS | 120 | 1 |  | 1 | 120 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep 2 (MS) | 45 | 8 |  | 8 | 360 |  |
| CG-SDT | 250 | 2 |  | 2 | 500 |  |
| RRC release | 120 | 2 |  | 2 | 240 |  |
| Sleep 3 (DS) | 1 | 2460 |  | 2460 | 2910 |  |
| **Total (every 1.28s)** | | | | 2560 | 5283 |  |
| **Slot-averaged power unit** | | | | **2.064** | | |
| **Battery life (in month)** | | | | 0.359 | | |
| **Case 56** | **Battery life (in month)** | | | | 0.718 | | |
| **Case 57** | **Battery life (in month)** | | | | 1.435 | | |
| **Case 58** | **Battery life (in month)** | | | | 2.019 | | |
| **Case 59** | **Battery life (in month)** | | | | 4.037 | | |
| **Case 60** | **Battery life (in month)** | | | | 8.075 | | |

Table B.5.6.2-12: LPHAP evaluation for UE-assisted DL positioning for DRX cycle of 10.24 s (low SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 61** | SSB1 | 50 | 4 |  | 4 | 200 |  |
| Sleep1 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB2 | 50 | 4 |  | 4 | 200 |  |
| Sleep2 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB3 | 50 | 4 |  | 4 | 200 |  |
| Sleep3 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into PRS | 50 | 2 |  | 2 | 100 |  |
| PRS | 120 | 1 |  | 1 | 120 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep 4 (MS) | 45 | 8 |  | 8 | 360 |  |
| CG-SDT | 700 | 2 |  | 2 | 1400 |  |
| RRC release | 120 | 2 |  | 2 | 240 |  |
| Sleep 5 (DS) | 1 | 67 |  | 67 | 517 |  |
| Switch in to another freq layer | 45 | 1 |  | 1 | 45 |  |
| Inter-freq RRM measurements | 150 | 2 |  | 2 | 300 |  |
| Switch back to serving freq layer | 45 | 1 |  | 1 | 45 |  |
| Sleep 6 (DS) | 1 | 19989 |  | 19989 | 20439 |  |
| **Total (every 10.24s)** | | | | **20480** | 26231 |  |
| **Slot-averaged power unit** | | | | 1.281 | | |
| **Battery life (in month)** | | | | 0.578 | | |
| **Case 62** | **Battery life (in month)** | | | | 1.156 | | |
| **Case 63** | **Battery life (in month)** | | | | 2.313 | | |
| **Case 64** | **Battery life (in month)** | | | | 3.253 | | |
| **Case 65** | **Battery life (in month)** | | | | 6.172 | | |
| **Case 66** | **Battery life (in month)** | | | | 13.011 | | |

Table B.5.6.2-13:LPHAP evaluation for UE-assisted DL positioning for DRX cycle of 10.24 s (high SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 67** | SSB | 50 | 4 |  | 4 | 200 |  |
| Sleep 1 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into PRS | 50 | 2 |  | 2 | 100 |  |
| PRS | 120 | 1 |  | 1 | 120 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep 2 (MS) | 45 | 8 |  | 8 | 360 |  |
| CG-SDT | 250 | 2 |  | 2 | 500 |  |
| RRC release | 120 | 2 |  | 2 | 240 |  |
| Sleep 3 (DS) | 1 | 20380 |  | 20380 | 20830 |  |
| **Total (every 10.24s)** | | | | 20480 | 23203 |  |
| **Slot-averaged power unit** | | | | **1.133** | | |
| **Battery life (in month)** | | | | 0.654 | | |
| **Case 68** | **Battery life (in month)** | | | | 1.307 | | |
| **Case 69** | **Battery life (in month)** | | | | 2.615 | | |
| **Case 70** | **Battery life (in month)** | | | | 3.677 | | |
| **Case 71** | **Battery life (in month)** | | | | 7.355 | | |
| **Case 72** | **Battery life (in month)** | | | | 14.710 | | |

Table B.5.6.2-14:LPHAP evaluation for UE-assisted DL positioning for DRX cycle of 20.48 s (Low SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 73** | SSB1 | 50 | 4 |  | 4 | 200 |  |
| Sleep1 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB2 | 50 | 4 |  | 4 | 200 |  |
| Sleep2 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB3 | 50 | 4 |  | 4 | 200 |  |
| Sleep3 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into PRS | 50 | 2 |  | 2 | 100 |  |
| PRS | 120 | 1 |  | 1 | 120 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep 4 (MS) | 45 | 8 |  | 8 | 360 |  |
| CG-SDT | 700 | 2 |  | 2 | 1400 |  |
| RRC release | 120 | 2 |  | 2 | 240 |  |
| Sleep 5 (DS) | 1 | 67 |  | 67 | 517 |  |
| Switch in to another freq layer | 45 | 1 |  | 1 | 45 |  |
| Inter-freq RRM measurements | 150 | 2 |  | 2 | 300 |  |
| Switch back to serving freq layer | 45 | 1 |  | 1 | 45 |  |
| Sleep 6 (DS) | 1 | 40469 |  | 40469 | 40919 |  |
| **Total (every 20.48s)** | | | | **40960** | 46711 |  |
| **Slot-averaged power unit** | | | | **1.140** | | |
| **Battery life (in month)** | | | | 0.650 | | |
| **Case 74** | **Battery life (in month)** | | | | 1.300 | | |
| **Case 75** | **Battery life (in month)** | | | | 2.599 | | |
| **Case 76** | **Battery life (in month)** | | | | 3.655 | | |
| **Case 77** | **Battery life (in month)** | | | | 7.308 | | |
| **Case 78** | **Battery life (in month)** | | | | 14.620 | | |

Table B.5.6.2-15:LPHAP evaluation for UE-assisted DL positioning for DRX cycle of 20.48 s (high SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 79** | SSB | 50 | 4 |  | 4 | 200 |  |
| Sleep 1 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into PRS | 50 | 2 |  | 2 | 100 |  |
| PRS | 120 | 1 |  | 1 | 120 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep 2 (MS) | 45 | 8 |  | 8 | 360 |  |
| CG-SDT | 250 | 2 |  | 2 | 500 |  |
| RRC release | 120 | 2 |  | 2 | 240 |  |
| Sleep 3 (DS) | 1 | 40860 |  | 40860 | 41310 |  |
| **Total (every 20.48s)** | | | | 40960 | 43683 |  |
| **Slot-averaged power unit** | | | | **1.066** | | |
| **Battery life (in month)** | | | | 0.695 | | |
| **Case 80** | **Battery life (in month)** | | | | 1.387 | | |
| **Case 81** | **Battery life (in month)** | | | | 2.779 | | |
| **Case 82** | **Battery life (in month)** | | | | 3.909 | | |
| **Case 83** | **Battery life (in month)** | | | | 7.817 | | |
| **Case 84** | **Battery life (in month)** | | | | 15.635 | | |

Table B.5.6.2-16: LPHAP evaluation for UE-assisted DL positioning for DRX cycle of 30.72 s (Low SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 85** | SSB1 | 50 | 4 |  | 4 | 200 |  |
| Sleep1 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB2 | 50 | 4 |  | 4 | 200 |  |
| Sleep2 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB3 | 50 | 4 |  | 4 | 200 |  |
| Sleep3 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into PRS | 50 | 2 |  | 2 | 100 |  |
| PRS | 120 | 1 |  | 1 | 120 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep 4 (MS) | 45 | 8 |  | 8 | 360 |  |
| CG-SDT | 700 | 2 |  | 2 | 1400 |  |
| RRC release | 120 | 2 |  | 2 | 240 |  |
| Sleep 5 (DS) | 1 | 67 |  | 67 | 517 |  |
| Switch in to another freq layer | 45 | 1 |  | 1 | 45 |  |
| Inter-freq RRM measurements | 150 | 2 |  | 2 | 300 |  |
| Switch back to serving freq layer | 45 | 1 |  | 1 | 45 |  |
| Sleep 6 (DS) | 1 | 60949 |  | 60949 | 61399 |  |
| **Total (every 20.48s)** | | | | **61440** | 67191 |  |
| **Slot-averaged power unit** | | | | **1.094** | | |
| **Battery life (in month)** | | | | 0.677 | | |
| **Case 86** | **Battery life (in month)** | | | | 1.354 | | |
| **Case 87** | **Battery life (in month)** | | | | 2.708 | | |
| **Case 88** | **Battery life (in month)** | | | | 3.809 | | |
| **Case 89** | **Battery life (in month)** | | | | 7.617 | | |
| **Case 90** | **Battery life (in month)** | | | | 15.234 | | |

Table B.5.6.2-17: LPHAP evaluation for UE-assisted DL positioning for DRX cycle of 30.72 s (high SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 91** | SSB | 50 | 4 |  | 4 | 200 |  |
| Sleep 1 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into PRS | 50 | 2 |  | 2 | 100 |  |
| PRS | 120 | 1 |  | 1 | 120 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep 2 (MS) | 45 | 8 |  | 8 | 360 |  |
| CG-SDT | 250 | 2 |  | 2 | 500 |  |
| RRC release | 120 | 2 |  | 2 | 240 |  |
| Sleep 3 (DS) | 1 | 61340 |  | 61340 | 61790 |  |
| **Total (every 20.48s)** | | | | 61440 | 64163 |  |
| **Slot-averaged power unit** | | | | **1.044** | | |
| **Battery life (in month)** | | | | 0.709 | | |
| **Case 92** | **Battery life (in month)** | | | | 1.420 | | |
| **Case 93** | **Battery life (in month)** | | | | 2.838 | | |
| **Case 94** | **Battery life (in month)** | | | | 3.991 | | |
| **Case 95** | **Battery life (in month)** | | | | 7.980 | | |
| **Case 96** | **Battery life (in month)** | | | | 15.962 | | |

Table B.5.6.2-18: Summary of the evaluated battery life time for the UE-assisted DL positioning (Low SINR and High SINR scenario)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirement are met – Yes/No; If no, provide gaps** | |
| **6 months** | **12 months** |
| **Case 49** | 3.246 | 0.228 |  |  |
| **Case 50** | 0.456 |  |  |
| **Case 51** | 0.913 |  |  |
| **Case 52** | 1.284 |  |  |
| **Case 53** | 2.567 |  |  |
| **Case 54** | 5.134 |  |  |
| **Case 55** | 2.064 | 0.359 |  |  |
| **Case 56** | 0.718 |  |  |
| **Case 57** | 1.435 |  |  |
| **Case 58** | 2.019 |  |  |
| **Case 59** | 4.037 |  |  |
| **Case 60** | 8.075 | Yes |  |
| **Case 61** | 1.281 | 0.578 |  |  |
| **Case 62** | 1.156 |  |  |
| **Case 63** | 2.313 |  |  |
| **Case 64** | 3.253 |  |  |
| **Case 65** | 6.172 | Yes |  |
| **Case 66** | 13.011 | Yes | Yes |
| **Case 67** | 1.133 | 0.654 |  |  |
| **Case 68** | 1.307 |  |  |
| **Case 69** | 2.615 |  |  |
| **Case 70** | 3.677 |  |  |
| **Case 71** | 7.355 | Yes |  |
| **Case 72** | 14.710 | Yes | Yes |
| **Case 73** | 1.140 | 0.650 |  |  |
| **Case 74** | 1.300 |  |  |
| **Case 75** | 2.599 |  |  |
| **Case 76** | 3.655 |  |  |
| **Case 77** | 7.308 | Yes |  |
| **Case 78** | 14.620 | Yes | Yes |
| **Case 79** | 1.066 | 0.695 |  |  |
| **Case 80** | 1.387 |  |  |
| **Case 81** | 2.779 |  |  |
| **Case 82** | 3.909 |  |  |
| **Case 83** | 7.817 |  |  |
| **Case 84** | 15.635 | Yes | Yes |
| **Case 85** | 1.094 | 0.677 |  |  |
| **Case 86** | 1.354 |  |  |
| **Case 87** | 2.708 |  |  |
| **Case 88** | 3.809 |  |  |
| **Case 89** | 7.617 |  |  |
| **Case 90** | 15.234 | Yes | Yes |
| **Case 91** | 1.044 | 0.709 |  |  |
| **Case 92** | 1.420 |  |  |
| **Case 93** | 2.838 |  |  |
| **Case 94** | 3.991 |  |  |
| **Case 95** | 7.980 | Yes |  |
| **Case 96** | 15.962 | Yes | Yes |

Table B.5.6.2-19: LPHAP evaluation for UL positioning for DRX cycle of 1.28 s (Low SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 97** | SSB1 | 50 | 4 |  | 4 | 200 |  |
| Sleep1 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB2 | 50 | 4 |  | 4 | 200 |  |
| Sleep2 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB3 | 50 | 4 |  | 4 | 200 |  |
| Sleep3 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into SRS | 50 | 2 |  | 2 | 100 |  |
| SRS | 700 | 1 |  | 1 | 700 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep4 (DS) | 1 | 71 |  | 71 | 521 |  |
| Switch in to another freq layer | 45 | 1 |  | 1 | 45 |  |
| Inter-freq RRM measurements | 150 | 2 |  | 2 | 300 |  |
| Switch back to serving freq layer | 45 | 1 |  | 1 | 45 |  |
| Sleep6 (DS) | 1 | 2077 |  | 2077 | 2527 |  |
| **Total (every 1.28s)** | | | | **2560** | 6903 |  |
| **Slot-averaged power unit** | | | | 2.696 | | |
| **Battery life (in month)** | | | | 0.275 | | |
| **Case 98** | **Battery life (in month)** | | | | 0.549 | | |
| **Case 99** | **Battery life (in month)** | | | | 1.099 | | |
| **Case 100** | **Battery life (in month)** | | | | 1.545 | | |
| **Case 101** | **Battery life (in month)** | | | | 3.091 | | |
| **Case 102** | **Battery life (in month)** | | | | 6.182 | | |

Table B.5.6.2-20: LPHAP evaluation for UL positioning for DRX cycle of 1.28 s (High SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 103** | SSB1 | 50 | 4 |  | 4 | 200 |  |
| Sleep1 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into SRS | 50 | 2 |  | 2 | 100 |  |
| SRS | 210 | 1 |  | 1 | 210 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep2 (DS) | 1 | 2472 |  | 2472 | 2922 |  |
| **Total (every 1.28s)** | | | | **2560** | 4285 |  |
| **Slot-averaged power unit** | | | | 1.674 | | |
| **Battery life (in month)** | | | | 0.442 | | |
| **Case 104** | **Battery life (in month)** | | | | 0.885 | | |
| **Case 105** | **Battery life (in month)** | | | | 1.770 | | |
| **Case 106** | **Battery life (in month)** | | | | 2.489 | | |
| **Case 107** | **Battery life (in month)** | | | | 4.978 | | |
| **Case 108** | **Battery life (in month)** | | | | 9.956 | | |

Table B.5.6.2-21: LPHAP evaluation for UL positioning for DRX cycle of 10.24 s (Low SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 109** | SSB1 | 50 | 4 |  | 4 | 200 |  |
| Sleep1 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB2 | 50 | 4 |  | 4 | 200 |  |
| Sleep2 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB3 | 50 | 4 |  | 4 | 200 |  |
| Sleep3 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into SRS | 50 | 2 |  | 2 | 100 |  |
| SRS | 700 | 1 |  | 1 | 700 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep4 (DS) | 1 | 71 |  | 71 | 521 |  |
| Switch in to another frequency layer | 45 | 1 |  | 1 | 45 |  |
| Inter-frequency RRM measurements | 150 | 2 |  | 2 | 300 |  |
| Switch back to serving frequency layer | 45 | 1 |  | 1 | 45 |  |
| Sleep6 (DS) | 1 | 19997 |  | 19997 | 20447 |  |
| **Total (every 10.24 s)** | | | | **20480** | 24823 |  |
| **Slot-averaged power unit** | | | | 1.212 | | |
| **Battery life (in month)** | | | | 0.611 | | |
| **Case 110** | **Battery life (in month)** | | | | 1.222 | | |
| **Case 111** | **Battery life (in month)** | | | | 2.445 | | |
| **Case 112** | **Battery life (in month)** | | | | 3.438 | | |
| **Case 113** | **Battery life (in month)** | | | | 6.875 | | |
| **Case 114** | **Battery life (in month)** | | | | 13.751 | | |

Table B.5.X.2-22: LPHAP evaluation for UL positioning for DRX cycle of 10.24 s (high SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 115** | SSB1 | 50 | 4 |  | 4 | 200 |  |
| Sleep1 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into SRS | 50 | 2 |  | 2 | 100 |  |
| SRS | 210 | 1 |  | 1 | 210 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep2 (DS) | 1 | 20392 |  | 20392 | 20842 |  |
| **Total (every 10.24s)** | | | | 20480 | 22205 |  |
| **Slot-averaged power unit** | | | | 1.084 | | |
| **Battery life (in month)** | | | | 0.683 | | |
| **Case 116** | **Battery life (in month)** | | | | 1.367 | | |
| **Case 117** | **Battery life (in month)** | | | | 2.733 | | |
| **Case 118** | **Battery life (in month)** | | | | 3.844 | | |
| **Case 119** | **Battery life (in month)** | | | | 7.687 | | |
| **Case 120** | **Battery life (in month)** | | | | 15.375 | | |

Table B.5.6.2-23: LPHAP evaluation for UL positioning for DRX cycle of 20.48 s (low SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 121** | SSB1 | 50 | 4 |  | 4 | 200 |  |
| Sleep1 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB2 | 50 | 4 |  | 4 | 200 |  |
| Sleep2 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB3 | 50 | 4 |  | 4 | 200 |  |
| Sleep3 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into SRS | 50 | 2 |  | 2 | 100 |  |
| SRS | 700 | 1 |  | 1 | 700 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep4 (DS) | 1 | 71 |  | 71 | 521 |  |
| Switch in to another frequency layer | 45 | 1 |  | 1 | 45 |  |
| Inter-frequency RRM measurements | 150 | 2 |  | 2 | 300 |  |
| Switch back to serving frequency layer | 45 | 1 |  | 1 | 45 |  |
| Sleep6 (DS) | 1 | 40477 |  | 40477 | 40977 |  |
| **Total (every 20.48 s)** | | | | 40960 | 45303 |  |
| **Slot-averaged power unit** | | | | 1.106 | | |
| **Battery life (in month)** | | | | 0.670 | | |
| **Case 122** | **Battery life (in month)** | | | | 1.339 | | |
| **Case 123** | **Battery life (in month)** | | | | 2.679 | | |
| **Case 124** | **Battery life (in month)** | | | | 3.767 | | |
| **Case 125** | **Battery life (in month)** | | | | 7.534 | | |
| **Case 126** | **Battery life (in month)** | | | | 15.069 | | |

Table B.5.6.2-24: LPHAP evaluation for UL positioning for DRX cycle of 20.48 s (High SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 127** | SSB1 | 50 | 4 |  | 4 | 200 |  |
| Sleep1 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into SRS | 50 | 2 |  | 2 | 100 |  |
| SRS | 210 | 1 |  | 1 | 210 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep2 (DS) | 1 | 40872 |  | 40872 | 41322 |  |
| **Total (every 20.48s)** | | | | 40960 | 42685 |  |
| **Slot-averaged power unit** | | | | 1.042 | | |
| **Battery life (in month)** | | | |  | | |
| **Case 128** | **Battery life (in month)** | | | |  | | |
| **Case 129** | **Battery life (in month)** | | | |  | | |
| **Case 130** | **Battery life (in month)** | | | |  | | |
| **Case 131** | **Battery life (in month)** | | | |  | | |
| **Case 132** | **Battery life (in month)** | | | |  | | |

Table B.5.6.2-25: LPHAP evaluation for UL positioning for DRX cycle of 30.72 s (Low SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 133** | SSB1 | 50 | 4 |  | 4 | 200 |  |
| Sleep1 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB2 | 50 | 4 |  | 4 | 200 |  |
| Sleep2 (DS) | 1 | 156 |  | 156 | 606 |  |
| SSB3 | 50 | 4 |  | 4 | 200 |  |
| Sleep3 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into SRS | 50 | 2 |  | 2 | 100 |  |
| SRS | 700 | 1 |  | 1 | 700 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep4 (DS) | 1 | 71 |  | 71 | 521 |  |
| Switch in to another frequency layer | 45 | 1 |  | 1 | 45 |  |
| Inter-frequency RRM measurements | 150 | 2 |  | 2 | 300 |  |
| Switch back to serving frequency layer | 45 | 1 |  | 1 | 45 |  |
| Sleep6 (DS) | 1 | 60957 |  | 60957 | 61407 |  |
| **Total (every 20.48 s)** | | | | 61440 | 65783 |  |
| **Slot-averaged power unit** | | | | 1.071 | | |
| **Battery life (in month)** | | | | 0.691 | | |
| **Case 134** | **Battery life (in month)** | | | | 1.383 | | |
| **Case 135** | **Battery life (in month)** | | | | 2.766 | | |
| **Case 136** | **Battery life (in month)** | | | | 3.890 | | |
| **Case 137** | **Battery life (in month)** | | | | 7.781 | | |
| **Case 138** | **Battery life (in month)** | | | | 15.562 | | |

Table B.5.6.2-26: LPHAP evaluation for UL positioning for DRX cycle of 30.72 s (High SINR)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 139** | SSB1 | 50 | 4 |  | 4 | 200 |  |
| Sleep1 (DS) | 1 | 75 |  | 75 | 525 |  |
| switch into SRS | 50 | 2 |  | 2 | 100 |  |
| SRS | 210 | 1 |  | 1 | 210 |  |
| switch back | 50 | 2 |  | 2 | 100 |  |
| PO reception | 57 | 4 |  | 4 | 228 |  |
| Sleep2 (DS) | 1 | 61352 |  | 61352 | 61802 |  |
| **Total (every 30.72s)** | | | | 61440 | 63165 |  |
| **Slot-averaged power unit** | | | | 1.028 | | |
| **Battery life (in month)** | | | |  | | |
| **Case 140** | **Battery life (in month)** | | | |  | | |
| **Case 141** | **Battery life (in month)** | | | |  | | |
| **Case 142** | **Battery life (in month)** | | | |  | | |
| **Case 143** | **Battery life (in month)** | | | |  | | |
| **Case 144** | **Battery life (in month)** | | | |  | | |

Table B.5.6.2-27: Summary of the evaluated battery life time for the UL-only positioning (Low SINR and High SINR scenario)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation case description** |  | **Battery life (in month)** | **Target requirement are met – Yes/No; If no, provide gaps** | |
| **6 months** | **12 months** |
| **Case 97** | 2.696 | 0.275 |  |  |
| **Case 98** | 0.549 |  |  |
| **Case 99** | 1.099 |  |  |
| **Case 100** | 1.545 |  |  |
| **Case 101** | 3.091 |  |  |
| **Case 102** | 6.182 | Yes |  |
| **Case 103** | 1.674 | 0.442 |  |  |
| **Case 104** | 0.885 |  |  |
| **Case 105** | 1.770 |  |  |
| **Case 106** | 2.489 |  |  |
| **Case 107** | 4.978 |  |  |
| **Case 108** | 9.956 | Yes |  |
| **Case 109** | 1.212 | 0.611 |  |  |
| **Case 110** | 1.222 |  |  |
| **Case 111** | 2.445 |  |  |
| **Case 112** | 3.438 |  |  |
| **Case 113** | 6.875 | Yes |  |
| **Case 114** | 13.751 | Yes | Yes |
| **Case 115** | 1.084 | 0.683 |  |  |
| **Case 116** | 1.367 |  |  |
| **Case 117** | 2.733 |  |  |
| **Case 118** | 3.844 |  |  |
| **Case 119** | 7.687 | Yes |  |
| **Case 120** | 15.375 | Yes | Yes |
| **Case 121** | 1.106 | 0.670 |  |  |
| **Case 122** | 1.339 |  |  |
| **Case 123** | 2.679 |  |  |
| **Case 124** | 3.767 |  |  |
| **Case 125** | 7.534 | Yes |  |
| **Case 126** | 15.069 | Yes | Yes |
| **Case 127** | 1.042 | 0.711 |  |  |
| **Case 128** | 1.421 |  |  |
| **Case 129** | 2.843 |  |  |
| **Case 130** | 3.999 |  |  |
| **Case 131** | 7.967 | Yes |  |
| **Case 132** | 15.995 | Yes | Yes |
| **Case 133** | 1.071 | 0.691 |  |  |
| **Case 134** | 1.383 |  |  |
| **Case 135** | 2.766 |  |  |
| **Case 136** | 3.890 |  |  |
| **Case 137** | 7.781 | Yes |  |
| **Case 138** | 15.562 | Yes | Yes |
| **Case 139** | 1.028 | 0.720 |  |  |
| **Case 140** | 1.441 |  |  |
| **Case 141** | 2.882 |  |  |
| **Case 142** | 4.053 |  |  |
| **Case 143** | 8.106 | Yes |  |
| **Case 144** | 16.213 | Yes | Yes |

## B.5.7 Results from source [98]

### B.5.7.1 Description of evaluation scenarios

We consider UE-based DL positioning, UE-assisted DL positioning and UL based positioning.

For UE-based DL positioning, the timeline for Rel-17 baseline are shown in Figure B.5.7.1-1. And we assume there is no gap between SSB, PRS and paging. The evaluation cases and assumptions for UE-based DL positioning are shown in Table B.5.7.1-1. In all cases, we assume no RRM measurement and no BWP switching. While case ID#1-1 to case ID#1-15 are defined for LPHAP device type A, and others are defined for LPHAP device type B. Only case ID#1-1 to case ID#1-4 and case ID# 1-16 are defined for Rel-17 positioning, and others are defined for positioning with potential enhancements.

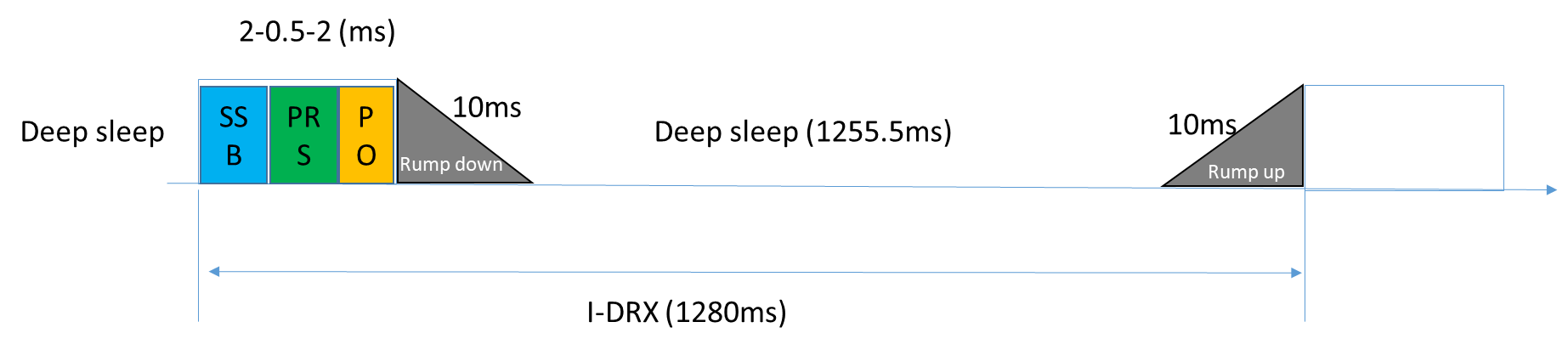


Figure B.5.7.1-1, the procedure of PRS measurement

For the UE-assisted DL positioning, the timeline for Rel-17 baseline are shown in Figure B.5.7.1-2. And we assume there is no gap between SSB, PRS, paging and positioning measurement report. The evaluation cases and assumptions for UE-assisted DL positioning are shown in Table B.5.7.1-2. In all cases, we assume no RRM measurement and no BWP switching. While case ID#2-1 to case ID#2-13 are defined for LPHAP device type A, and others are defined for LPHAP device type B. Only case ID#2-1 to case ID#2-4 and case ID# 2-14 are defined for Rel-17 positioning, and others are defined for positioning with potential enhancements.

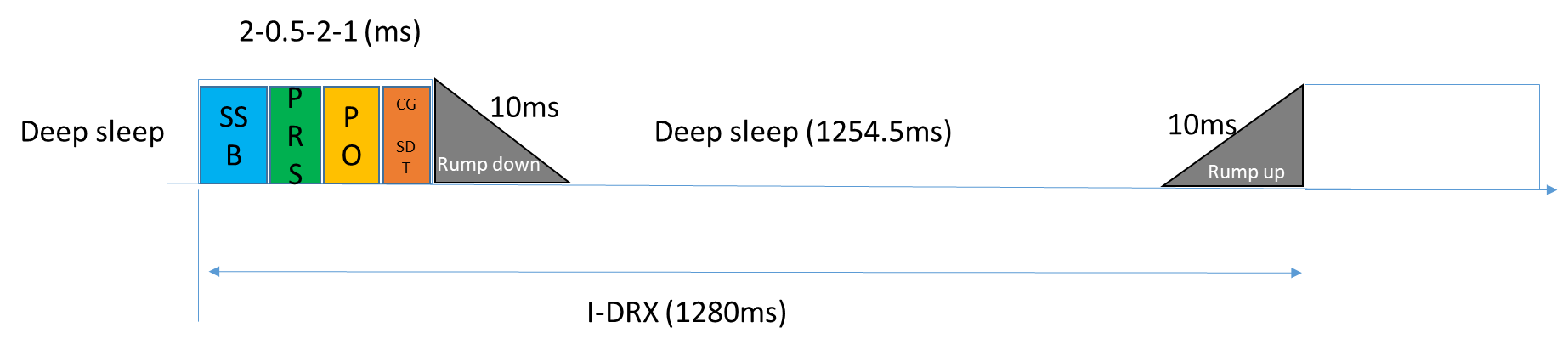


Figure B.5.7.1-2, the procedure of PRS measurement and report

For the UL based positioning, the timeline for Rel-17 baseline are shown in Figure B.5.7.1-3. And we assume there is no gap between SSB, SRS and paging. The evaluation cases and assumptions for UE-based DL positioning are shown in Table B.5.7.1-3. In all cases, we assume no RRM measurement and no BWP switching. While case ID#3-1 to case ID#3-13 are defined for LPHAP device type A, and others are defined for LPHAP device type B. Only case ID#3-1 to case ID#3-4 and case ID# 3-14 are defined for Rel-17 positioning, and others are defined for positioning with potential enhancements.

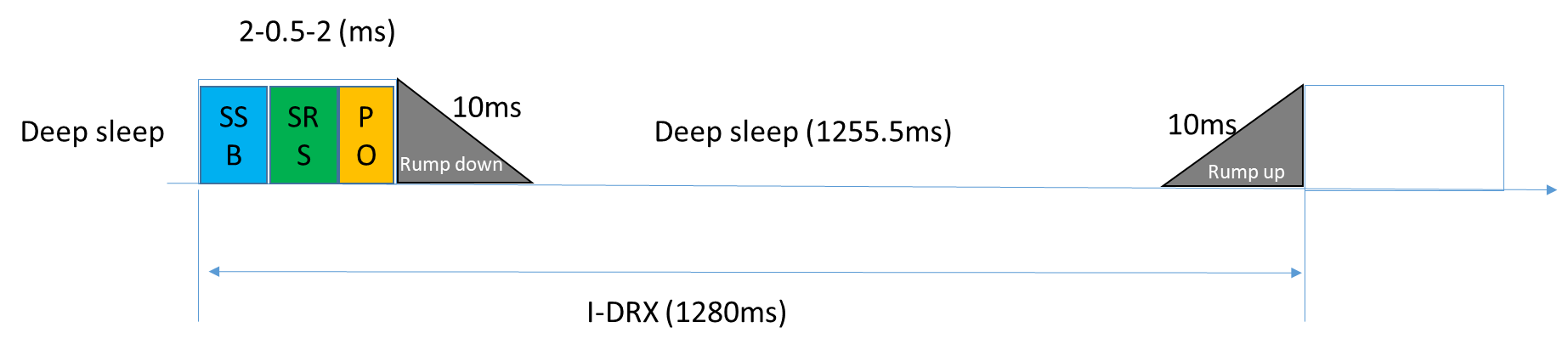


Figure B.5.7.1-3, the procedure of SRS transmission

Table B.5.7.1-1: Evaluation cases and assumptions for UE-based DL positioning

|  |  |  |  |
| --- | --- | --- | --- |
| **Evaluation assumption** | **[Case ID#1-1], [FR1], [UE-based DL positioning], [LPHAP device type A]** | **[Case ID#1-2], [FR1], [UE-based DL positioning], [LPHAP device type A]** | **[Case ID#1-3], [FR1], [UE-based DL positioning], [LPHAP device type A]** |
| Sleep state | Deep sleep state | Deep sleep state | Deep sleep state |
| DRX cycle | 1 I-DRX cycle: 1280ms | 1 I-DRX cycle: 1280ms | 1 I-DRX cycle: 1280ms |
| paging reception | Without paging | Without paging | Without paging |
| RS periodicity | 1 I-DRX cycle | 1 I-DRX cycle | 8 I-DRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No |
| implementation factor K | 1 | 4 | 1 |
| **Evaluation assumption** | **[Case ID#1-4], [FR1], [UE-based DL positioning], [LPHAP device type A]** | **[Case ID#1-5], [FR1], [UE-based DL positioning], [LPHAP device type A]** | **[Case ID#1-6], [FR1], [UE-based DL positioning], [LPHAP device type A]** |
| Sleep state | Deep sleep state | Deep sleep state | Deep sleep state |
| DRX cycle | 1 I-DRX cycle: 1280ms | 1 eDRX cycle: 20.48s | 1 eDRX cycle: 20.48s |
| paging reception | Without paging | Without paging | Without paging |
| RS periodicity | 8 I-DRX cycle | 1 eDRX cycle | 1 eDRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No |
| implementation factor K | 4 | 1 | 4 |
| **Evaluation assumption** | **[Case ID#1-7], [FR1], [UE-based DL positioning], [LPHAP device type A]** | **[Case ID#1-8], [FR1], [UE-based DL positioning], [LPHAP device type A]** | **[Case ID#1-9], [FR1], [UE-based DL positioning], [LPHAP device type A]** |
| Sleep state | Deep sleep state | Deep sleep state | Ultra sleep state (option 2) |
| DRX cycle | 1 eDRX cycle: 30.72s | 1 eDRX cycle: 30.72s | 1 eDRX cycle: 20.48s |
| paging reception | Without paging | Without paging | Without paging |
| RS periodicity | 1 eDRX cycle | 1 eDRX cycle | 1 eDRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No |
| implementation factor K | 1 | 4 | 1 |
| **Evaluation assumption** | **[Case ID#1-10], [FR1], [UE-based DL positioning], [LPHAP device type A]** | **[Case ID#1-11], [FR1], [UE-based DL positioning], [LPHAP device type A]** | **[Case ID#1-12], [FR1], [UE-based DL positioning], [LPHAP device type A]** |
| Sleep state | Ultra sleep state (option 1) | Ultra sleep state (option 1) | Ultra sleep state (option 1) |
| DRX cycle | 1 eDRX cycle: 20.48s | 1 eDRX cycle: 20.48s | 1 eDRX cycle: 20.48s |
| paging reception | without paging | without paging | without paging |
| RS periodicity | 1 eDRX cycle | 1 eDRX cycle | 1 eDRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No |
| implementation factor K | 1 | 2 | 4 |
| **Evaluation assumption** | **[Case ID#1-13], [FR1], [UE-based DL positioning], [LPHAP device type A]** | **[Case ID#1-14], [FR1], [UE-based DL positioning], [LPHAP device type A]** | **[Case ID#1-15], [FR1], [UE-based DL positioning], [LPHAP device type A]** |
| Sleep state | Ultra sleep state (option 1) | Ultra sleep state (option 1) | Ultra sleep state (option 1) |
| DRX cycle | 1 eDRX cycle: 30.72s | 1 eDRX cycle: 30.72s | 1 eDRX cycle: 30.72s |
| paging reception | without paging | without paging | without paging |
| RS periodicity | 1 eDRX cycle | 1 eDRX cycle | 1 eDRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No |
| implementation factor K | 1 | 2 | 4 |
| **Evaluation assumption** | **[Case ID#1-16], [FR1], [UE-based DL positioning], [LPHAP device type B]** | **[Case ID#1-17], [FR1], [UE-based DL positioning], [LPHAP device type B]** | **[Case ID#1-18], [FR1], [UE-based DL positioning], [LPHAP device type B]** |
| Sleep state | Deep sleep state | Deep sleep state | Deep sleep state |
| DRX cycle | 1 I-DRX cycle: 1280ms | 1 eDRX cycle: 20.48s | 1 eDRX cycle: 20.48s |
| paging reception | Without paging | Without paging | Without paging |
| RS periodicity | 1 I-DRX cycle | 1 eDRX cycle | 1 eDRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No |
| implementation factor K | 4 | 1 | 2 |
| **Evaluation assumption** | **[Case ID#1-19], [FR1], [UE-based DL positioning], [LPHAP device type B]** | **[Case ID#1-20], [FR1], [UE-based DL positioning], [LPHAP device type B]** | **[Case ID#1-21], [FR1], [UE-based DL positioning], [LPHAP device type B]** |
| Sleep state | Deep sleep state | Deep sleep state | Ultra sleep state (option 1) |
| DRX cycle | 1 eDRX cycle: 30.72s | 1 eDRX cycle: 30.72s | 1 eDRX cycle: 20.48s |
| paging reception | Without paging | Without paging | without paging |
| RS periodicity | 1 eDRX cycle | 1 eDRX cycle | 1 eDRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No |
| implementation factor K | 1 | 2 | 1 |

Table B.5.7.1-2: Evaluation cases and assumptions for UE-assisted DL positioning

| **Evaluation assumption** | **[Case ID#2-1], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** | **[Case ID#2-2], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** | **[Case ID#2-3], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** |
| --- | --- | --- | --- |
| Sleep state | Deep sleep state | Deep sleep state | Deep sleep state |
| DRX cycle | 1 I-DRX cycle: 1280ms | 1 I-DRX cycle: 1280ms | 1 I-DRX cycle: 1280ms |
| paging reception | Without paging | Without paging | Without paging |
| RS periodicity | 1 I-DRX cycle | 1 I-DRX cycle | 8 I-DRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT per I-DRX cycle | CG-SDT per I-DRX cycle | CG-SDT per 8 I-DRX cycle |
| implementation factor K | 1 | 4 | 1 |
| **Evaluation assumption** | **[Case ID#2-4], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** | **[Case ID#2-5], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** | **[Case ID#2-6], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** |
| Sleep state | Deep sleep state | Deep sleep state | Deep sleep state |
| DRX cycle | 1 I-DRX cycle: 1280ms | 1 eDRX cycle: 20.48s | 1 eDRX cycle: 20.48s |
| paging reception | Without paging | Without paging | Without paging |
| RS periodicity | 8 I-DRX cycle | 1 eDRX cycle | 1 eDRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT per 8 I-DRX cycle | CG-SDT per eDRX cycle | CG-SDT per eDRX cycle |
| implementation factor K | 4 | 1 | 4 |
| **Evaluation assumption** | **[Case ID#2-7], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** | **[Case ID#2-8], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** | **[Case ID#2-9], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** |
| Sleep state | Ultra sleep state (option 2) | Ultra sleep state (option 1) | Ultra sleep state (option 1) |
| DRX cycle | 1 eDRX cycle: 20.48s | 1 eDRX cycle: 20.48s | 1 eDRX cycle: 20.48s |
| paging reception | Without paging | without paging | without paging |
| RS periodicity | 1 eDRX cycle | 1 eDRX cycle | 1 eDRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT per eDRX cycle | CG-SDT per eDRX cycle | CG-SDT per eDRX cycle |
| implementation factor K | 1 | 1 | 2 |
| **Evaluation assumption** | **[Case ID#2-10], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** | **[Case ID#2-11], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** | **[Case ID#2-12], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** |
| Sleep state | Ultra sleep state (option 1) | Ultra sleep state (option 1) | Ultra sleep state (option 1) |
| DRX cycle | 1 eDRX cycle: 20.48s | 1 eDRX cycle: 30.72s | 1 eDRX cycle: 30.72s |
| paging reception | without paging | without paging | without paging |
| RS periodicity | 1 eDRX cycle | 1 eDRX cycle | 1 eDRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT per eDRX cycle | CG-SDT per eDRX cycle | CG-SDT per eDRX cycle |
| implementation factor K | 4 | 1 | 2 |
| **Evaluation assumption** | **[Case ID#2-13], [FR1], [UE-assisted DL positioning], [LPHAP device type A]** | **[Case ID#2-14], [FR1], [UE-assisted DL positioning], [LPHAP device type B]** | **[Case ID#2-15], [FR1], [UE-assisted DL positioning], [LPHAP device type B]** |
| Sleep state | Ultra sleep state (option 1) | Deep sleep state | Deep sleep state |
| DRX cycle | 1 eDRX cycle: 30.72s | 1 I-DRX cycle: 1280ms | 1 eDRX cycle: 20.48s |
| paging reception | without paging | Without paging | Without paging |
| RS periodicity | 1 eDRX cycle | 1 I-DRX cycle | 1 eDRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT per eDRX cycle | CG-SDT per I-DRX cycle | CG-SDT per eDRX cycle |
| implementation factor K | 4 | 4 | 1 |
| **Evaluation assumption** | **[Case ID#2-16], [FR1], [UE-assisted DL positioning], [LPHAP device type B]** | **[Case ID#2-17], [FR1], [UE-assisted DL positioning], [LPHAP device type B]** |
| Sleep state | Deep sleep state | Ultra sleep state (option 1) |
| DRX cycle | 1 eDRX cycle: 20.48s | 1 eDRX cycle: 20.48s |
| paging reception | Without paging | without paging |
| RS periodicity | 1 eDRX cycle | 1 eDRX cycle |
| M-sample | 1 | 1 |
| RRM measurement | No | No |
| BWP switching | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT per eDRX cycle | CG-SDT per eDRX cycle |
| implementation factor K | 2 | 1 |

Table B.5.7.1-3: Evaluation cases and assumptions for UL based positioning

|  |  |  |  |
| --- | --- | --- | --- |
| **Evaluation assumption** | **[Case ID#3-1], [FR1], [UL based positioning], [LPHAP device type A]** | **[Case ID#3-2], [FR1], [UL based positioning], [LPHAP device type A]** | **[Case ID#3-3], [FR1], [UL based positioning], [LPHAP device type A]** |
| Sleep state | Deep sleep state | Deep sleep state | Deep sleep state |
| DRX cycle | 1 I-DRX cycle: 1280ms | 1 I-DRX cycle: 1280ms | 1 I-DRX cycle: 1280ms |
| paging reception | Without paging | Without paging | Without paging |
| RS periodicity | 1 I-DRX cycle | 1 I-DRX cycle | 8 I-DRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No |
| implementation factor K | 1 | 4 | 1 |
| **Evaluation assumption** | **[Case ID#3-4], [FR1], [UL based positioning], [LPHAP device type A]** | **[Case ID#3-5], [FR1], [UL based positioning], [LPHAP device type A]** | **[Case ID#3-6], [FR1], [UL based positioning], [LPHAP device type A]** |
| Sleep state | Deep sleep state | Deep sleep state | Deep sleep state |
| DRX cycle | 1 I-DRX cycle: 1280ms | 1 eDRX cycle: 20.48s | 1 eDRX cycle: 20.48s |
| paging reception | Without paging | Without paging | Without paging |
| RS periodicity | 8 I-DRX cycle | 1 eDRX cycle | 1 eDRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No |
| implementation factor K | 4 | 1 | 4 |
| **Evaluation assumption** | **[Case ID#3-7], [FR1], [UL based positioning], [LPHAP device type A]** | **[Case ID#3-8], [FR1], [UL based positioning], [LPHAP device type A]** | **[Case ID#3-9], [FR1], [UL based positioning], [LPHAP device type A]** |
| Sleep state | Ultra sleep state (option 2) | Ultra sleep state (option 1) | Ultra sleep state (option 1) |
| DRX cycle | 1 eDRX cycle: 20.48s | 1 eDRX cycle: 20.48s | 1 eDRX cycle: 20.48s |
| paging reception | Without paging | without paging | without paging |
| RS periodicity | 1 eDRX cycle | 1 eDRX cycle | 1 eDRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No |
| implementation factor K | 1 | 1 | 2 |
| **Evaluation assumption** | **[Case ID#3-10], [FR1], [UL based positioning], [LPHAP device type A]** | **[Case ID#3-11], [FR1], [UL based positioning], [LPHAP device type A]** | **[Case ID#3-12], [FR1], [UL based positioning], [LPHAP device type A]** |
| Sleep state | Ultra sleep state (option 1) | Ultra sleep state (option 1) | Ultra sleep state (option 1) |
| DRX cycle | 1 eDRX cycle: 20.48s | 1 eDRX cycle: 30.72s | 1 eDRX cycle: 30.72s |
| paging reception | without paging | without paging | without paging |
| RS periodicity | 1 eDRX cycle | 1 eDRX cycle | 1 eDRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No |
| implementation factor K | 4 | 1 | 2 |
| **Evaluation assumption** | **[Case ID#3-13], [FR1], [UL based positioning], [LPHAP device type A]** | **[Case ID#3-14], [FR1], [UL based positioning], [LPHAP device type B]** | **[Case ID#3-15], [FR1], [UL based positioning], [LPHAP device type B]** |
| Sleep state | Ultra sleep state (option 1) | Deep sleep state | Deep sleep state |
| DRX cycle | 1 eDRX cycle: 30.72s | 1 I-DRX cycle: 1280ms | 1 eDRX cycle: 20.48s |
| paging reception | without paging | Without paging | Without paging |
| RS periodicity | 1 eDRX cycle | 1 I-DRX cycle | 1 eDRX cycle |
| M-sample | 1 | 1 | 1 |
| RRM measurement | No | No | No |
| BWP switching | No | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No |
| implementation factor K | 4 | 4 | 1 |
| **Evaluation assumption** | **[Case ID#3-16], [FR1], [UL based positioning], [LPHAP device type B]** | **[Case ID#3-17], [FR1], [UL based positioning], [LPHAP device type B]** |
| Sleep state | Deep sleep state | Ultra sleep state (option 1) |
| DRX cycle | 1 eDRX cycle: 20.48s | 1 eDRX cycle: 20.48s |
| paging reception | Without paging | without paging |
| RS periodicity | 1 eDRX cycle | 1 eDRX cycle |
| M-sample | 1 | 1 |
| RRM measurement | No | No |
| BWP switching | No | No |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No |
| implementation factor K | 2 | 1 |

### B.5.7.2 Evaluation results for Low Power High Accuracy Positioning

In this section, we show detailed UE power consumption results and summary of UE power consumption results for each evaluated case.

- Table B.5.7.2-1 provides detailed UE power consumption results for each evaluated case for UE-based DL positioning.

- Table B.5.7.2-2 provides detailed UE power consumption results for each evaluated case for UE-assisted DL positioning.

- Table B.5.7.2-3 provides detailed UE power consumption results for each evaluated case for UL-based positioning.

- Table B.5.7.2-4 provides summary of UE power consumption results for each evaluated case for UE-based DL positioning.

- Table B.5.7.2-5 provides summary of UE power consumption results for each evaluated case for UE-assisted DL positioning.

- Table B.5.7.2-6 provides summary of UE power consumption results for each evaluated case for UL-based positioning.

Table B.5.7.2-1: UE power consumption result for each evaluation case for UE-based DL positioning

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#1-1  &ID#1-2 | SSB | 50 | | 4 | 1 | 4 | | 200 | 5.74 |
| PRS measurement | 120 | | 1 | 1 | 1 | | 120 | 3.45 |
| paging | 50 | | 4 | 1 | 4 | | 200 | 5.74 |
| Deep sleep transition | 450 | | 40 | 1 | 40 | | 450 | 12.93 |
| Deep sleep | 1 | |  | 1 | 2511 | | 2511 | 72.13 |
| Total (every power cycle) |  | |  |  | 2560 | | 3481 |  |
| Slot-averaged power unit | | | | |  | | 1.36 |  |
| Battery life (in month) | | Case ID#1-1 | | | 0.5 months | | | |
| Case ID#1-2 | | | 2.2 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#1-3 &ID1-4 | SSB | 50 | | 4 | 8 | 32 | | 1600 | 5.9 |
| PRS measurement | 120 | | 1 | 1 | 1 | | 120 | 0.40 |
| paging | 50 | | 4 | 8 | 32 | | 1600 | 5.9 |
| Deep sleep transition | 450 | | 40 | 8 | 320 | | 3600 | 13.33 |
| Deep sleep | 1 | |  | 8 | 20095 | | 20095 | 74.38 |
| Total (every power cycle) |  | |  |  | 20480 | | 27015 |  |
| Slot-averaged power unit | | | | |  | | 1.32 |  |
| Battery life (in month) | | Case ID#1-3 | | | 0.56 months | | | |
| Case ID#1-4 | | | 2.24 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#1-5  &ID#1-6 | SSB | 50 | | 4 | 1 | 4 | | 200 | 0.48 |
| PRS measurement | 120 | | 1 | 1 | 1 | | 120 | 0.29 |
| paging | 50 | | 4 | 1 | 4 | | 200 | 0.48 |
| Deep sleep transition | 450 | | 40 | 1 | 40 | | 450 | 1.07 |
| Deep sleep | 1 | |  | 1 | 40911 | | 40911 | 97.68 |
| Total (every power cycle) |  | |  |  | 40960 | | 41881 |  |
| Slot-averaged power unit | | | | |  | | 1.02 |  |
| Battery life (in month) | | Case ID#1-5 | | | 0.8 months | | | |
| Case ID#1-6 | | | 3.1 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#1-7  &ID#1-8 | SSB | 50 | | 4 | 1 | 4 | | 200 | 0.32 |
| PRS measurement | 120 | | 1 | 1 | 1 | | 120 | 0.19 |
| paging | 50 | | 4 | 1 | 4 | | 200 | 0.32 |
| Deep sleep transition | 450 | | 40 | 1 | 40 | | 450 | 0.72 |
| Deep sleep | 1 | |  | 1 | 61391 | | 61391 | 98.44 |
| Total (every power cycle) |  | |  |  | 61440 | | 62361 |  |
| Slot-averaged power unit | | | | |  | | 1.01 |  |
| Battery life (in month) | | Case ID#1-7 | | | 0.8 months | | | |
| Case ID#1-8 | | | 3.1 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | Relative power | | Power ratio |
| Case ID#1-9 | SSB | 50 | | 4 | 1 | 4 | 200 | | 14.19 |
| PRS measurement | 120 | | 1 | 1 | 1 | 120 | | 8.52 |
| paging | 50 | | 4 | 1 | 4 | 200 | | 14.19 |
| Ultra sleep transition | 480 | | 50 | 1 | 50 | 480 | | 34.07 |
| ultra sleep | 0.01 | |  | 1 | 40901 | 409.01 | | 29.03 |
| Total (every power cycle) |  | |  |  | 40960 | 1409.01 | |  |
| Slot-averaged power unit | | | | |  | 0.034 | |  |
| Battery life (in month) | | | | | 21.7 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | Relative power | | Power ratio |
| Case ID#1-10, #1-11 &ID#1-12 | SSB | 50 | | 4 | 1 | 4 | 200 | | 1.8 |
| PRS measurement | 120 | | 1 | 1 | 1 | 120 | | 1.08 |
| paging | 50 | | 4 | 1 | 4 | 200 | | 1.8 |
| Ultra sleep transition | 10000 | | 800 | 1 | 800 | 10000 | | 89.9 |
| ultra sleep | 0.015 | |  | 1 | 40151 | 602.27 | | 5.41 |
| Total (every power cycle) |  | |  |  | 40960 | 11122.27 | |  |
| Slot-averaged power unit | | | | |  | 0.272 | |  |
| Battery life (in month) | | Case ID#1-10 | | | 2.72 months | | | |
| Case ID#1-11 | | | 5.44 months | | | |
| Case ID#1-12 | | | 10.89 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | Relative power | | Power ratio |
| Case ID#1-13, #1-14 &ID#1-15 | SSB | 50 | | 4 | 1 | 4 | 200 | | 1.75 |
| PRS measurement | 120 | | 1 | 1 | 1 | 120 | | 1.05 |
| paging | 50 | | 4 | 1 | 4 | 200 | | 1.75 |
| Ultra sleep transition | 10000 | | 800 | 1 | 800 | 10000 | | 87.5 |
| ultra sleep | 0.015 | |  | 1 | 60631 | 909.47 | | 7.95 |
| Total (every power cycle) |  | |  |  | 61440 | 11429.47 | |  |
| Slot-averaged power unit | | | | |  | 0.186 | |  |
| Battery life (in month) | | Case ID#1-13 | | | 3.98 months | | | |
| Case ID#1-14 | | | 7.96 months | | | |
| Case ID#1-15 | | | 15.92 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#1-16 | SSB | 50 | | 4 | 1 | 4 | | 200 | 5.74 |
| PRS measurement | 120 | | 1 | 1 | 1 | | 120 | 3.45 |
| paging | 50 | | 4 | 1 | 4 | | 200 | 5.74 |
| Deep sleep transition | 450 | | 40 | 1 | 40 | | 450 | 12.93 |
| Deep sleep | 1 | |  | 1 | 2511 | | 2511 | 72.13 |
| Total (every power cycle) |  | |  |  | 2560 | | 3481 |  |
| Slot-averaged power unit | | | | |  | | 1.36 |  |
| Battery life (in month) | | Case ID#1-16 | | | 11.25 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#1-17 & 1-18 | SSB | 50 | | 4 | 1 | 4 | | 200 | 0.48 |
| PRS measurement | 120 | | 1 | 1 | 1 | | 120 | 0.29 |
| paging | 50 | | 4 | 1 | 4 | | 200 | 0.48 |
| Deep sleep transition | 450 | | 40 | 1 | 40 | | 450 | 1.07 |
| Deep sleep | 1 | |  | 1 | 40911 | | 40911 | 97.68 |
| Total (every power cycle) |  | |  |  | 40960 | | 41881 |  |
| Slot-averaged power unit | | | | |  | | 1.02 |  |
| Battery life (in month) | | Case ID#1-17 | | | 4.5 months | | | |
| Case ID#1-18 | | | 9 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#1-19  &ID#1-20 | SSB | 50 | | 4 | 1 | 4 | | 200 | 0.32 |
| PRS measurement | 120 | | 1 | 1 | 1 | | 120 | 0.19 |
| paging | 50 | | 4 | 1 | 4 | | 200 | 0.32 |
| Deep sleep transition | 450 | | 40 | 1 | 40 | | 450 | 0.72 |
| Deep sleep | 1 | |  | 1 | 61391 | | 61391 | 98.44 |
| Total (every power cycle) |  | |  |  | 61440 | | 62361 |  |
| Slot-averaged power unit | | | | |  | | 1.01 |  |
| Battery life (in month) | | Case ID#1-19 | | | 4.5 months | | | |
| Case ID#1-20 | | | 9 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | Relative power | | Power ratio |
| Case ID#1-21 | SSB | 50 | | 4 | 1 | 4 | 200 | | 1.8 |
| PRS measurement | 120 | | 1 | 1 | 1 | 120 | | 1.08 |
| paging | 50 | | 4 | 1 | 4 | 200 | | 1.8 |
| Ultra sleep transition | 10000 | | 800 | 1 | 800 | 10000 | | 89.9 |
| ultra sleep | 0.015 | |  | 1 | 40151 | 602.27 | | 5.41 |
| Total (every power cycle) |  | |  |  | 40960 | 11122.27 | |  |
| Slot-averaged power unit | | | | |  | 0.272 | |  |
| Battery life (in month) | | Case ID#1-21 | | | 15.3 months | | | |

Table B.5.7.2-2: UE power consumption result for each evaluation case for UE-assisted DL positioning

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#2-1& ID#2-2 | SSB | 50 | | 4 | 1 | 4 | | 200 | 5.4 |
| PRS measurement | 120 | | 1 | 1 | 1 | | 120 | 3.2 |
| paging | 50 | | 4 | 1 | 4 | | 200 | 5.4 |
| CG-SDT | 250 | | 2 | 1 | 2 | | 250 | 6.7 |
| Deep sleep transition | 450 | | 40 | 1 | 40 | | 450 | 12.1 |
| Deep sleep | 1 | |  | 1 | 2509 | | 2509 | 67.3 |
| Total (every power cycle) |  | |  |  | 2560 | | 3729 |  |
| Slot-averaged power unit | | | | |  | | 1.46 |  |
| Battery life (in month) | | Case ID#2-1 | | | 0.51 months | | | |
| Case ID#2-2 | | | 2 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#2-3& ID#2-4 | SSB | 50 | | 4 | 8 | 32 | | 1600 | 5.9 |
| PRS measurement | 120 | | 1 | 1 | 1 | | 120 | 0.44 |
| paging | 50 | | 4 | 8 | 32 | | 1600 | 5.9 |
| CG-SDT | 250 | | 2 | 1 | 2 | | 250 | 0.9 |
| Deep sleep transition | 450 | | 40 | 8 | 320 | | 3600 | 13.2 |
| Deep sleep | 1 | |  | 8 | 20093 | | 20093 | 73.7 |
| Total (every power cycle) |  | |  |  | 20480 | | 27263 |  |
| Slot-averaged power unit | | | | |  | | 1.33 |  |
| Battery life (in month) | | Case ID#2-3 | | | 0.6 months | | | |
| Case ID#2-4 | | | 2.2 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID# 2-5& #2-6 | SSB | 50 | | 4 | 1 | 4 | | 200 | 0.47 |
| PRS measurement | 120 | | 1 | 1 | 1 | | 120 | 0.28 |
| paging | 50 | | 4 | 1 | 4 | | 200 | 0.47 |
| CG-SDT | 250 | | 2 | 1 | 2 | | 250 | 0.59 |
| Deep sleep transition | 450 | | 40 | 1 | 40 | | 450 | 2.12 |
| Deep sleep | 1 | |  | 1 | 40909 | | 40909 | 96.07 |
| Total (every power cycle) |  | |  |  | 40960 | | 42129 |  |
| Slot-averaged power unit | | | | |  | | 1.03 |  |
| Battery life (in month) | | Case ID# 2-5 | | | 0.7 months | | | |
| Case ID# 2-6 | | | 2.9 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#2-7 | SSB | 50 | | 4 | 1 | 4 | | 200 | 12.1 |
| PRS measurement | 120 | | 1 | 1 | 1 | | 120 | 7.2 |
| paging | 50 | | 4 | 1 | 4 | | 200 | 12.1 |
| CG-SDT | 250 | | 2 | 1 | 2 | | 250 | 15.1 |
| Ultra sleep transition | 480 | | 50 | 1 | 50 | | 480 | 28.9 |
| ultra sleep | 0.01 | |  | 1 | 40899 | | 408.99 | 24.7 |
| Total (every power cycle) |  | |  |  | 40960 | | 1659 |  |
| Slot-averaged power unit | | | | |  | | 0.041 |  |
| Battery life (in month) | | | | | 18 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | Relative power | | Power ratio |
| Case ID#2-8&#2-9&#2-10 | SSB | 50 | | 4 | 1 | 4 | 200 | | 1.8 |
| PRS measurement | 120 | | 1 | 1 | 1 | 120 | | 1.1 |
| paging | 50 | | 4 | 1 | 4 | 200 | | 1.8 |
| CG-SDT | 250 | | 2 | 1 | 2 | 250 | | 2.2 |
| Ultra sleep transition | 10000 | | 800 | 1 | 800 | 10000 | | 87.9 |
| ultra sleep | 0.015 | |  | 1 | 40149 | 602 | | 5.3 |
| Total (every power cycle) |  | |  |  | 40960 | 11372 | |  |
| Slot-averaged power unit | | | | |  | 0.28 | |  |
| Battery life (in month) | | Case ID#2-8 | | | 2.6 months | | | |
| Case ID#2-9 | | | 5.3 months | | | |
| Case ID#2-10 | | | 10.6 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | Relative power | | Power ratio |
| Case ID#2-11&2-12&2-13 | SSB | 50 | | 4 | 1 | 4 | 200 | | 1.7 |
| PRS measurement | 120 | | 1 | 1 | 1 | 120 | | 1 |
| paging | 50 | | 4 | 1 | 4 | 200 | | 1.7 |
| CG-SDT | 250 | | 2 | 1 | 2 | 250 | | 2.1 |
| Ultra sleep transition | 10000 | | 800 | 1 | 800 | 10000 | | 85.6 |
| ultra sleep | 0.015 | |  | 1 | 60629 | 909 | | 7.8 |
| Total (every power cycle) |  | |  |  | 61440 | 11679 | |  |
| Slot-averaged power unit | | | | |  | 0.19 | |  |
| Battery life (in month) | | Case ID#2-11 | | | 3.8 months | | | |
| Case ID#2-12 | | | 7.6 months | | | |
| Case ID#2-13 | | | 15 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#2-14 | SSB | 50 | | 4 | 1 | 4 | | 200 | 5.4 |
| PRS measurement | 120 | | 1 | 1 | 1 | | 120 | 3.2 |
| paging | 50 | | 4 | 1 | 4 | | 200 | 5.4 |
| CG-SDT | 250 | | 2 | 1 | 2 | | 250 | 6.7 |
| Deep sleep transition | 450 | | 40 | 1 | 40 | | 450 | 12.1 |
| Deep sleep | 1 | |  | 1 | 2509 | | 2509 | 67.3 |
| Total (every power cycle) |  | |  |  | 2560 | | 3729 |  |
| Slot-averaged power unit | | | | |  | | 1.46 |  |
| Battery life (in month) | | Case ID#2-14 | | | 11 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID# 2-15& #2-16 | SSB | 50 | | 4 | 1 | 4 | | 200 | 0.47 |
| PRS measurement | 120 | | 1 | 1 | 1 | | 120 | 0.28 |
| paging | 50 | | 4 | 1 | 4 | | 200 | 0.47 |
| CG-SDT | 250 | | 2 | 1 | 2 | | 250 | 0.59 |
| Deep sleep transition | 450 | | 40 | 1 | 40 | | 450 | 2.12 |
| Deep sleep | 1 | |  | 1 | 40909 | | 40909 | 96.07 |
| Total (every power cycle) |  | |  |  | 40960 | | 42129 |  |
| Slot-averaged power unit | | | | |  | | 1.03 |  |
| Battery life (in month) | | Case ID# 2-15 | | | 3.9 months | | | |
| Case ID# 2-16 | | | 7.9 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | Relative power | | Power ratio |
| Case ID#2-17 | SSB | 50 | | 4 | 1 | 4 | 200 | | 1.8 |
| PRS measurement | 120 | | 1 | 1 | 1 | 120 | | 1.1 |
| paging | 50 | | 4 | 1 | 4 | 200 | | 1.8 |
| CG-SDT | 250 | | 2 | 1 | 2 | 250 | | 2.2 |
| Ultra sleep transition | 10000 | | 800 | 1 | 800 | 10000 | | 87.9 |
| ultra sleep | 0.015 | |  | 1 | 40149 | 602 | | 5.3 |
| Total (every power cycle) |  | |  |  | 40960 | 11372 | |  |
| Slot-averaged power unit | | | | |  | 0.28 | |  |
| Battery life (in month) | | Case ID#2-17 | | | 15 months | | | |

Table B.5.7.2-3: UE power consumption result for each evaluation case for UL positioning

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#3-1&#3-2 | SSB | 50 | | 4 | 1 | 4 | | 200 | 5.6 |
| SRS transmission | 210 | | 1 | 1 | 1 | | 210 | 5.9 |
| paging | 50 | | 4 | 1 | 4 | | 200 | 5.6 |
| Deep sleep transition | 450 | | 40 | 1 | 40 | | 450 | 12.6 |
| Deep sleep | 1 | |  | 1 | 2511 | | 2511 | 70.3 |
| Total (every power cycle) |  | |  |  | 2560 | | 3571 |  |
| Slot-averaged power unit | | | | |  | | 1.39 |  |
| Battery life (in month) | | Case ID#3-1 | | | 0.5 months | | | |
| Case ID#3-2 | | | 2.1 | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#3-3&#3-4 | SSB | 50 | | 4 | 8 | 32 | | 1600 | 5.9 |
| SRS transmission | 210 | | 1 | 1 | 1 | | 210 | 0.77 |
| paging | 50 | | 4 | 8 | 32 | | 1600 | 5.9 |
| Deep sleep transition | 450 | | 40 | 8 | 320 | | 3600 | 13.3 |
| Deep sleep | 1 | |  | 8 | 20095 | | 20095 | 74.1 |
| Total (every power cycle) |  | |  |  | 20480 | | 27105 |  |
| Slot-averaged power unit | | | | |  | | 1.32 |  |
| Battery life (in month) | | Case ID#3-3 | | | 0.6 months | | | |
| Case ID#3-4 | | | 2.2 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#3-5&#3-6 | SSB | 50 | | 4 | 1 | 4 | | 200 | 0.48 |
| SRS transmission | 210 | | 1 | 1 | 1 | | 210 | 0.5 |
| paging | 50 | | 4 | 1 | 4 | | 200 | 0.48 |
| Deep sleep transition | 450 | | 40 | 1 | 40 | | 450 | 1.1 |
| Deep sleep | 1 | |  | 1 | 40911 | | 40911 | 97.5 |
| Total (every power cycle) |  | |  |  | 40960 | | 41971 |  |
| Slot-averaged power unit | | | | |  | | 1.02 |  |
| Battery life (in month) | | Case ID#3-5 | | | 0.7 months | | | |
| Case ID#3-6 | | | 2.8 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#3-7 | SSB | 50 | | 4 | 1 | 4 | | 200 | 13.3 |
| SRS transmission | 210 | | 1 | 1 | 1 | | 210 | 14 |
| paging | 50 | | 4 | 1 | 4 | | 200 | 13.3 |
| Ultra sleep transition | 480 | | 50 | 1 | 50 | | 480 | 32 |
| ultra sleep | 0.01 | |  | 1 | 40901 | | 409 | 27.3 |
| Total (every power cycle) |  | |  |  | 40960 | | 1499 |  |
| Slot-averaged power unit | | | | |  | | 0.037 |  |
| Battery life (in month) | | | | | 20 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | Relative power | | Power ratio |
| Case ID#3-8&#3-9&#3-10 | SSB | 50 | | 4 | 1 | 4 | 200 | | 1.8 |
| SRS transmission | 210 | | 1 | 1 | 1 | 210 | | 1.9 |
| paging | 50 | | 4 | 1 | 4 | 200 | | 1.8 |
| Ultra sleep transition | 10000 | | 800 | 1 | 800 | 10000 | | 89.2 |
| ultra sleep | 0.015 | |  | 1 | 40151 | 602 | | 5.4 |
| Total (every power cycle) |  | |  |  | 40960 | 11212 | |  |
| Slot-averaged power unit | | | | |  | 0.27 | |  |
| Battery life (in month) | | Case ID#3-8 | | | 2.7 months | | | |
| Case ID#3-9 | | | 5.5 months | | | |
| Case ID#3-10 | | | 11 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | Relative power | | Power ratio |
| Case ID#3-11&#3-12&#3-13 | SSB | 50 | | 4 | 1 | 4 | 200 | | 1.7 |
| SRS transmission | 210 | | 1 | 1 | 1 | 210 | | 1.8 |
| paging | 50 | | 4 | 1 | 4 | 200 | | 1.7 |
| Ultra sleep transition | 10000 | | 800 | 1 | 800 | 10000 | | 86.8 |
| ultra sleep | 0.015 | |  | 1 | 60631 | 909 | | 7.9 |
| Total (every power cycle) |  | |  |  | 61440 | 11519 | |  |
| Slot-averaged power unit | | | | |  | 0.19 | |  |
| Battery life (in month) | | Case ID#3-11 | | | 3.9 months | | | |
| Case ID#3-12 | | | 7.8 months | | | |
| Case ID#3-13 | | | 16 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#3-14 | SSB | 50 | | 4 | 1 | 4 | | 200 | 5.6 |
| SRS transmission | 210 | | 1 | 1 | 1 | | 210 | 5.9 |
| paging | 50 | | 4 | 1 | 4 | | 200 | 5.6 |
| Deep sleep transition | 450 | | 40 | 1 | 40 | | 450 | 12.6 |
| Deep sleep | 1 | |  | 1 | 2511 | | 2511 | 70.3 |
| Total (every power cycle) |  | |  |  | 2560 | | 3571 |  |
| Slot-averaged power unit | | | | |  | | 1.39 |  |
| Battery life (in month) | | Case ID#3-14 | | | 11 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | | Relative power | Power ratio |
| Case ID#3-15&#3-16 | SSB | 50 | | 4 | 1 | 4 | | 200 | 0.48 |
| SRS transmission | 210 | | 1 | 1 | 1 | | 210 | 0.5 |
| paging | 50 | | 4 | 1 | 4 | | 200 | 0.48 |
| Deep sleep transition | 450 | | 40 | 1 | 40 | | 450 | 1.1 |
| Deep sleep | 1 | |  | 1 | 40911 | | 40911 | 97.5 |
| Total (every power cycle) |  | |  |  | 40960 | | 41971 |  |
| Slot-averaged power unit | | | | |  | | 1.02 |  |
| Battery life (in month) | | Case ID#3-15 | | | 3.9 months | | | |
| Case ID#3-16 | | | 7.9 months | | | |
| Evaluation case | Power states | Relative power unit | | Duration (in slots) | Instances | Sum Durations (in slots) | Relative power | | Power ratio |
| Case ID#3-17 | SSB | 50 | | 4 | 1 | 4 | 200 | | 1.8 |
| SRS transmission | 210 | | 1 | 1 | 1 | 210 | | 1.9 |
| paging | 50 | | 4 | 1 | 4 | 200 | | 1.8 |
| Ultra sleep transition | 10000 | | 800 | 1 | 800 | 10000 | | 89.2 |
| ultra sleep | 0.015 | |  | 1 | 40151 | 602 | | 5.4 |
| Total (every power cycle) |  | |  |  | 40960 | 11212 | |  |
| Slot-averaged power unit | | | | |  | 0.27 | |  |
| Battery life (in month) | | Case ID#3-17 | | | 15 months | | | |

Table B.5.7.2-4: Summary for UE power consumption results for UE-based DL positioning

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Evaluation case description | Slot-averaged relative power unit (P2) | Battery life (in month) | Target requirement are met – Yes/No; If no, provide gaps | |
| 6 months | 12 months |
| [Case ID#1-1], [Rel-17 ] | 1.36 | 0.5 | No (5.5 months) | No (11.5 months) |
| [Case ID#1-2], [Rel-17 ] | 1.36 | 2.2 | No (3.8 months) | No (9.8 months) |
| [Case ID#1-3], [Rel-17 ] | 1.32 | 0.6 | No (5.4 months) | No (11.4 months) |
| [Case ID#1-4], [Rel-17 ] | 1.32 | 2.2 | No (3.8 months) | No (9.8 months) |
| [Case ID#1-5], [potential enhancements ] | 1.02 | 0.8 | No (5.2 months) | No (11.2 months) |
| [Case ID#1-6], [potential enhancements ] | 1.02 | 3.1 | No (2.9 months) | No (8.9 months) |
| [Case ID#1-7], [potential enhancements ] | 1.01 | 0.8 | No (5.2 months) | No (11.2 months) |
| [Case ID#1-8], [potential enhancements ] | 1.01 | 3.1 | No (2.9 months) | No (8.9 months) |
| [Case ID#1-9], [potential enhancements ] | 0.034 | 22 | Yes | Yes |
| [Case ID#1-10], [potential enhancements ] | 0.272 | 2.7 | No (3.3 months) | No (9.3 months) |
| [Case ID#1-11], [potential enhancements ] | 0.272 | 5.4 | No (0.6 months) | No (6.6 months) |
| [Case ID#1-12], [potential enhancements ] | 0.272 | 10.9 | Yes | No (1.1 months) |
| [Case ID#1-13], [potential enhancements ] | 0.186 | 4 | No (2 months) | No (8 months) |
| [Case ID#1-14], [potential enhancements ] | 0.186 | 8 | Yes | No (4 months) |
| [Case ID#1-15], [potential enhancements ] | 0.186 | 16 | Yes | Yes |
| [Case ID#1-16], [Rel-17] | 1.36 | 11 | Yes | No (1 month) |
| [Case ID#1-17], [potential enhancements ] | 1.02 | 4.5 | No (1.5 months) | No (7.5 months) |
| [Case ID#1-18], [potential enhancements ] | 1.02 | 9 | Yes | No (3 months) |
| [Case ID#1-19], [potential enhancements ] | 1.01 | 4.5 | No (1.5 months) | No (7.5 months) |
| [Case ID#1-20], [potential enhancements ] | 1.01 | 9 | Yes | No (3 months) |
| [Case ID#1-21], [potential enhancements ] | 0.272 | 15 | Yes | Yes |

Table B.5.7.2-5: Summary for UE power consumption results for UE-assisted DL positioning

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Evaluation case description | Slot-averaged relative power unit (P2) | Battery life (in month) | Target requirement are met – Yes/No; If no, provide gaps | |
| 6 months | 12 months |
| [Case ID#2-1], [Rel-17 ] | 1.46 | 0.5 | No (5.5 months) | No (11.5 months) |
| [Case ID#2-2], [Rel-17 ] | 1.46 | 2 | No (4 months) | No (8 months) |
| [Case ID#2-3], [Rel-17 ] | 1.33 | 0.6 | No (5.4 months) | No (11.4 months) |
| [Case ID#2-4], [Rel-17 ] | 1.33 | 2.2 | No (3.8 months) | No (9.8 months) |
| [Case ID#2-5], [potential enhancements ] | 1.03 | 0.7 | No (5.3 months) | No (11.3 months) |
| [Case ID#2-6], [potential enhancements ] | 1.03 | 2.9 | No (3.1 months) | No (9.1 months) |
| [Case ID#2-7], [potential enhancements ] | 0.041 | 18 | Yes | Yes |
| [Case ID#2-8], [potential enhancements ] | 0.28 | 2.6 | No (3.4 months) | No (9.4 months) |
| [Case ID#2-9], [potential enhancements ] | 0.28 | 5.3 | No (0.7 months) | No (6.7 months) |
| [Case ID#2-10], [potential enhancements ] | 0.28 | 10.6 | Yes | No (1.4 months) |
| [Case ID#2-11], [potential enhancements ] | 0.19 | 3.8 | No (2.2 months) | No (8.2 months) |
| [Case ID#2-12], [potential enhancements ] | 0.19 | 7.6 | Yes | No (4.4 months) |
| [Case ID#2-13], [potential enhancements ] | 0.19 | 15 | Yes | Yes |
| [Case ID#2-14], [Rel-17 ] | 1.46 | 11 | Yes | No (1 month) |
| [Case ID#2-15], [potential enhancements ] | 1.03 | 3.9 | No (2.1 months) | No (8.1 months) |
| [Case ID#2-16], [potential enhancements ] | 1.03 | 7.9 | Yes | No (4.1 months) |
| [Case ID#2-17], [potential enhancements ] | 0.28 | 15 | Yes | Yes |

Table B.5.7.2-6: Summary for UE power consumption results for UL positioning

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Evaluation case description | Slot-averaged relative power unit (P2) | Battery life (in month) | Target requirement are met – Yes/No; If no, provide gaps | |
| 6 months | 12 months |
| [Case ID#3-1], [Rel-17 ] | 1.39 | 0.5 | No (5.5 months) | No (11.5 months) |
| [Case ID#3-2], [Rel-17 ] | 1.39 | 2.1 | No (3.9 months) | No (9.9 months) |
| [Case ID#3-3], [Rel-17 ] | 1.32 | 0.6 | No (5.4 months) | No (11.4 months) |
| [Case ID#3-4], [Rel-17 ] | 1.32 | 2.2 | No (3.8 months) | No (9.8 months) |
| [Case ID#3-5], [potential enhancements ] | 1.02 | 0.7 | No (5.3 months) | No (11.3 months) |
| [Case ID#3-6], [potential enhancements ] | 1.02 | 2.8 | No (3.2 months) | No (9.2 months) |
| [Case ID#3-7], [potential enhancements ] | 0.037 | 20 | Yes | Yes |
| [Case ID#3-8], [potential enhancements ] | 0.27 | 2.7 | No (3.3 months) | No (9.3 months) |
| [Case ID#3-9], [potential enhancements ] | 0.27 | 5.5 | No (0.5 months) | No (6.5 months) |
| [Case ID#3-10], [potential enhancements ] | 0.27 | 11 | Yes | No (1 month) |
| [Case ID#3-11], [potential enhancements ] | 0.19 | 3.9 | No (2.1 months) | No (8.1 months) |
| [Case ID#3-12], [potential enhancements ] | 0.19 | 7.8 | Yes | No (4.2 months) |
| [Case ID#3-13], [potential enhancements ] | 0.19 | 16 | Yes | Yes |
| [Case ID#3-14], [Rel-17 ] | 1.39 | 11 | Yes | No (1 month) |
| [Case ID#3-15], [potential enhancements ] | 1.02 | 3.9 | No (2.1 months) | No (8.1 months) |
| [Case ID#3-16], [potential enhancements ] | 1.02 | 7.9 | Yes | No (4.1 months) |
| [Case ID#3-17], [potential enhancements ] | 0.27 | 15 | Yes | Yes |

## B.5.8 Results from source [99]

### B.5.8.1 Description of evaluation scenarios

We consider power consumption evaluation of the following positioning methods:

- UE based DL positioning

- UE assisted DL positioning, with CG-SDT for reporting

- UL positioning

- UL positioning with SRS update

In particular, we assumed the following timeline for evaluation purposes shown in Fig. 5.8.1-1. 1 SSB transmission before PO is assumed considering high SINR scenario. Note that larger number of SSB processing before PO can also be assumed, such as when link condition is poor, and this will increase P2 further and reduce battery life.

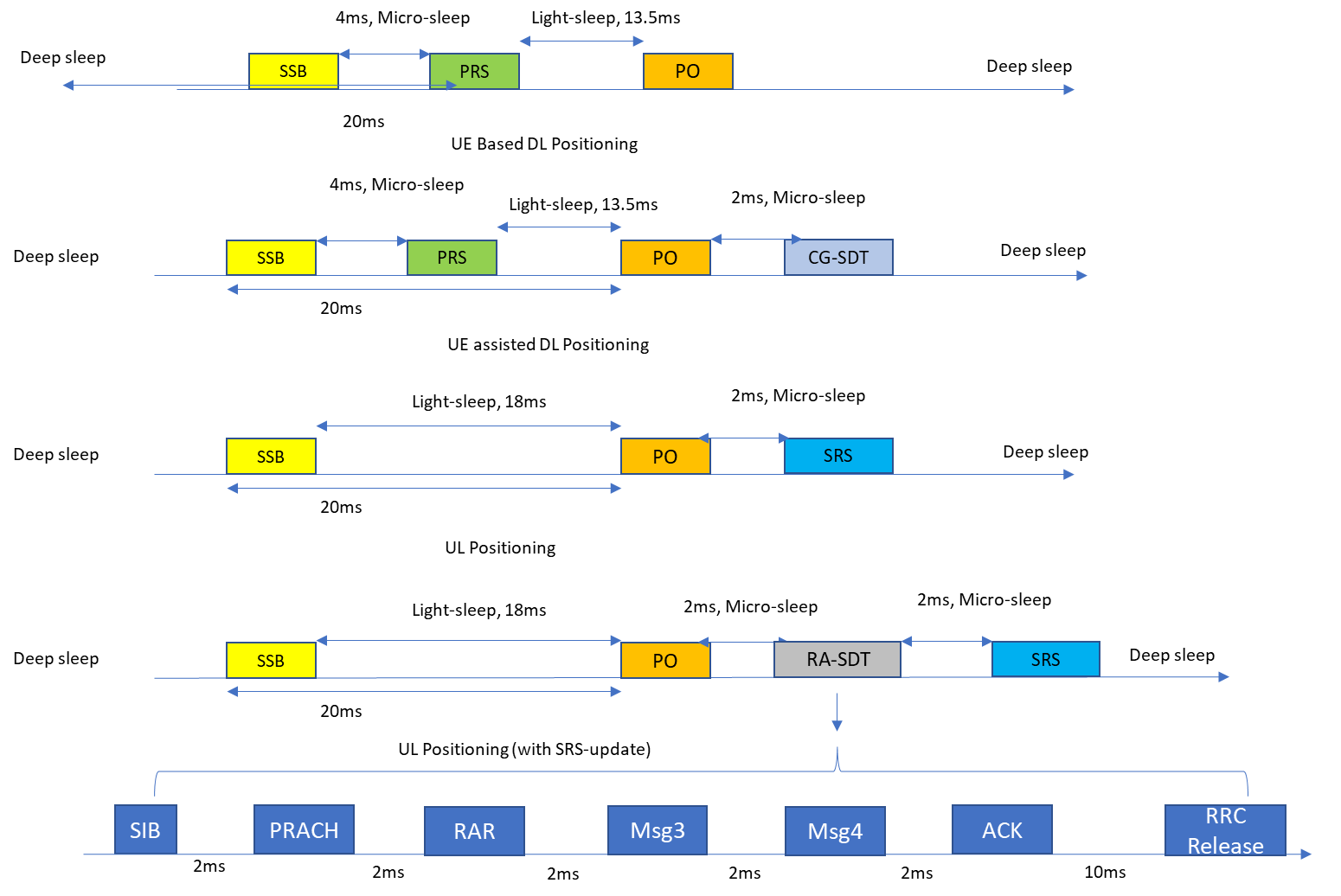


Figure 5.8.1-1: Operation timeline for different DL positioning methods in a cycle.

The evaluation assumptions are presented in Tables 5.8.1-1 to 5.8.1-16. Note that for UL positioning with SRS update, we assume SRS is reconfigured every 8 cycles.

Table 5.8.1-1: Sleep State (As per TR 38.840), K = 1, DRX cycle 10.24s

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 1A], UE assisted DL positioning, Type A, FR1** | **[Case 1B], UE based DL positioning, Type A, FR1** | **[Case 1C], UL Positioning, Type A, FR1** | **[Case 1D], UL Positioning with SRS update, Type A, FR1** |
| Sleep state | 38.840 | 38.840 | 38.840 | 38.840 |
| DRX cycle | 10.24s | 10.24s | 10.24s | 10.24s |
| paging reception | 10.24s | 10.24s | 10.24s | 10.24s |
| RS periodicity | 10.24s | 10.24s | 10.24s | 10.24s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval), SRS config | CG-SDT, 10.24s |  |  | RA-SDT for SRS configuration (every 8 cycles) |
| implementation factor K | 1 | 1 | 1 | 1 |

Table 5.8.1-2: Sleep State (As per TR 38.840), K = 4, DRX cycle 10.24s

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 2A], UE assisted DL positioning, Type A, FR1** | **[Case 2B], UE based DL positioning, Type A, FR1** | **[Case 2C], UL Positioning, Type A, FR1** | **[Case 2D], UL Positioning with SRS update, Type A, FR1** |
| Sleep state | 38.840 | 38.840 | 38.840 | 38.840 |
| DRX cycle | 10.24s | 10.24s | 10.24s | 10.24s |
| paging reception | 10.24s | 10.24s | 10.24s | 10.24s |
| RS periodicity | 10.24s | 10.24s | 10.24s | 10.24s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval), SRS config | CG-SDT, 10.24s |  |  | RA-SDT for SRS configuration (every 8 cycles) |
| implementation factor K | 4 | 4 | 4 | 4 |

Table 5.8.1-3: Ultra-deep Sleep (TE 5000), K = 1, DRX cycle 10.24s

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 3A], UE assisted DL positioning, Type A, FR1** | **[Case 3B], UE based DL positioning, Type A, FR1** | **[Case 3C], UL Positioning, Type A, FR1** | **[Case 3D], UL Positioning with SRS update, Type A, FR1** |
| Sleep state | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 |
| DRX cycle | 10.24s | 10.24s | 10.24s | 10.24s |
| paging reception | 10.24s | 10.24s | 10.24s | 10.24s |
| RS periodicity | 10.24s | 10.24s | 10.24s | 10.24s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval), SRS config | CG-SDT, 10.24s |  |  | RA-SDT for SRS configuration (every 8 cycles) |
| implementation factor K | 1 | 1 | 1 | 1 |

Table 5.8.1-4: Ultra-deep Sleep (TE 5000), K = 4, DRX cycle 10.24s

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 4A], UE assisted DL positioning, Type A, FR1** | **[Case 4B], UE based DL positioning, Type A, FR1** | **[Case 4C], UL Positioning, Type A, FR1** | **[Case 4D], UL Positioning with SRS update, Type A, FR1** |
| Sleep state | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 |
| DRX cycle | 10.24s | 10.24s | 10.24s | 10.24s |
| paging reception | 10.24s | 10.24s | 10.24s | 10.24s |
| RS periodicity | 10.24s | 10.24s | 10.24s | 10.24s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT, 10.24s |  |  | RA-SDT for SRS configuration (every 8 cycles) |
| implementation factor K | 4 | 4 | 4 | 4 |

Table 5.8.1-5: Ultra-deep Sleep (TE 10000), K = 1, DRX cycle 10.24s

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 5A], UE assisted DL positioning, Type A, FR1** | **[Case 5B], UE based DL positioning, Type A, FR1** | **[Case 5C], UL Positioning, Type A, FR1** | **[Case 5D], UL Positioning with SRS update, Type A, FR1** |
| Sleep state | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 |
| DRX cycle | 10.24s | 10.24s | 10.24s | 10.24s |
| paging reception | 10.24s | 10.24s | 10.24s | 10.24s |
| RS periodicity | 10.24s | 10.24s | 10.24s | 10.24s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT, 10.24s |  |  | RA-SDT for SRS configuration (every 8 cycles) |
| implementation factor K | 1 | 1 | 1 | 1 |

Table 5.8.1-6: Ultra-deep Sleep (TE 10000), K = 4, DRX cycle 10.24s

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 6A], UE assisted DL positioning, Type A, FR1** | **[Case 6B], UE based DL positioning, Type A, FR1** | **[Case 6C], UL Positioning, Type A, FR1** | **[Case 6D], UL Positioning with SRS update, Type A, FR1** |
| Sleep state | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 |
| DRX cycle | 10.24s | 10.24s | 10.24s | 10.24s |
| paging reception | 10.24s | 10.24s | 10.24s | 10.24s |
| RS periodicity | 10.24s | 10.24s | 10.24s | 10.24s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT, 10.24s |  |  | RA-SDT for SRS configuration (every 8 cycles) |
| implementation factor K | 4 | 4 | 4 | 4 |

Table 5.8.1-7: Sleep State (As per TR 38.840), K = 1, DRX cycle 20.48s

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 7A], UE assisted DL positioning, Type A, FR1** | **[Case 7B], UE based DL positioning, Type A, FR1** | **[Case 7C], UL Positioning, Type A, FR1** | **[Case 7D], UL Positioning with SRS update, Type A, FR1** |
| Sleep state | 38.840 | 38.840 | 38.840 | 38.840 |
| DRX cycle | 20.48s | 20.48s | 20.48s | 20.48s |
| paging reception | 20.48s | 20.48s | 20.48s | 20.48s |
| RS periodicity | 20.48s | 20.48s | 20.48s | 20.48s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval), SRS config | CG-SDT, 20.48s |  |  | RA-SDT for SRS configuration (every 8 cycles) |
| implementation factor K | 1 | 1 | 1 | 1 |

Table 5.8.1-8: Sleep State (As per TR 38.840), K = 4, DRX cycle 20.48s

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 8A], UE assisted DL positioning, Type A, FR1** | **[Case 8B], UE based DL positioning, Type A, FR1** | **[Case 8C], UL Positioning, Type A, FR1** | **[Case 8D], UL Positioning with SRS update, Type A, FR1** |
| Sleep state | 38.840 | 38.840 | 38.840 | 38.840 |
| DRX cycle | 20.48s | 20.48s | 20.48s | 20.48s |
| paging reception | 20.48s | 20.48s | 20.48s | 20.48s |
| RS periodicity | 20.48s | 20.48s | 20.48s | 20.48s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT, 20.48s |  |  | RA-SDT for SRS configuration (every 8 cycles) |
| implementation factor K | 4 | 4 | 4 | 4 |

Table 5.8.1-9: Ultra-deep Sleep (TE 5000), K = 1, DRX cycle 20.48s

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 9A], UE assisted DL positioning, Type A, FR1** | **[Case 9B], UE based DL positioning, Type A, FR1** | **[Case 9C], UL Positioning, Type A, FR1** | **[Case 9D], UL Positioning with SRS update, Type A, FR1** |
| Sleep state | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 |
| DRX cycle | 20.48s | 20.48s | 20.48s | 20.48s |
| paging reception | 20.48s | 20.48s | 20.48s | 20.48s |
| RS periodicity | 20.48s | 20.48s | 20.48s | 20.48s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval), SRS config | CG-SDT, 20.48s |  |  | RA-SDT for SRS configuration (every 8 cycles) |
| implementation factor K | 1 | 1 | 1 | 1 |

Table 5.8.1-10: Ultra-deep Sleep (TE 5000), K = 4, DRX cycle 20.48s

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 10A], UE assisted DL positioning, Type A, FR1** | **[Case 10B], UE based DL positioning, Type A, FR1** | **[Case 10C], UL Positioning, Type A, FR1** | **[Case 10D], UL Positioning with SRS update, Type A, FR1** |
| Sleep state | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 |
| DRX cycle | 20.48s | 20.48s | 20.48s | 20.48s |
| paging reception | 20.48s | 20.48s | 20.48s | 20.48s |
| RS periodicity | 20.48s | 20.48s | 20.48s | 20.48s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT, 20.48s |  |  | RA-SDT for SRS configuration (every 8 cycles) |
| implementation factor K | 4 | 4 | 4 | 4 |

Table 5.8.1-11: Ultra-deep Sleep (TE 10000), K = 1, DRX cycle 20.48s

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 11A], UE assisted DL positioning, Type A, FR1** | **[Case 11B], UE based DL positioning, Type A, FR1** | **[Case 11C], UL Positioning, Type A, FR1** | **[Case 11D], UL Positioning with SRS update, Type A, FR1** |
| Sleep state | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 |
| DRX cycle | 20.48s | 20.48s | 20.48s | 20.48s |
| paging reception | 20.48s | 20.48s | 20.48s | 20.48s |
| RS periodicity | 20.48s | 20.48s | 20.48s | 20.48s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT, 20.48s |  |  | RA-SDT for SRS configuration (every 8 cycles) |
| implementation factor K | 1 | 1 | 1 | 1 |

Table 5.8.1-12: Ultra-deep Sleep (TE 10000), K = 4, DRX cycle 20.48s

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 12A], UE assisted DL positioning, Type A, FR1** | **[Case 12B], UE based DL positioning, Type A, FR1** | **[Case 12C], UL Positioning, Type A, FR1** | **[Case 12D], UL Positioning with SRS update, Type A, FR1** |
| Sleep state | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 |
| DRX cycle | 20.48s | 20.48s | 20.48s | 20.48s |
| paging reception | 20.48s | 20.48s | 20.48s | 20.48s |
| RS periodicity | 20.48s | 20.48s | 20.48s | 20.48s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT, 20.48s |  |  | RA-SDT for SRS configuration (every 8 cycles) |
| implementation factor K | 4 | 4 | 4 | 4 |

Table 5.8.1-13: Ultra-deep Sleep (TE 5000), K = 1, DRX cycle 30.72s

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 13A], UE assisted DL positioning, Type A, FR1** | **[Case 13B], UE based DL positioning, Type A, FR1** | **[Case 13C], UL Positioning, Type A, FR1** | **[Case 13D], UL Positioning with SRS update, Type A, FR1** |
| Sleep state | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 |
| DRX cycle | 30.72s | 30.72s | 30.72s | 30.72s |
| paging reception | 30.72s | 30.72s | 30.72s | 30.72s |
| RS periodicity | 30.72s | 30.72s | 30.72s | 30.72s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval), SRS config | CG-SDT, 30.72s |  |  | RA-SDT for SRS configuration (every 8 cycles) |
| implementation factor K | 1 | 1 | 1 | 1 |

Table 5.8.1-14: Ultra-deep Sleep (TE 5000), K = 4, DRX cycle 30.72s

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 14A], UE assisted DL positioning, Type A, FR1** | **[Case 14B], UE based DL positioning, Type A, FR1** | **[Case 14C], UL Positioning, Type A, FR1** | **[Case 14D], UL Positioning with SRS update, Type A, FR1** |
| Sleep state | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 | Ultra-deep with add. Transition energy 5000 |
| DRX cycle | 30.72s | 30.72s | 30.72s | 30.72s |
| paging reception | 30.72s | 30.72s | 30.72s | 30.72s |
| RS periodicity | 30.72s | 30.72s | 30.72s | 30.72s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT, 30.72s |  |  | RA-SDT for SRS configuration (every 8 cycles) |
| implementation factor K | 4 | 4 | 4 | 4 |

Table 5.8.1-15: Ultra-deep Sleep (TE 10000), K = 1, DRX cycle 30.72s

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 15A], UE assisted DL positioning, Type A, FR1** | **[Case 15B], UE based DL positioning, Type A, FR1** | **[Case 15C], UL Positioning, Type A, FR1** | **[Case 15D], UL Positioning with SRS update, Type A, FR1** |
| Sleep state | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 |
| DRX cycle | 30.72s | 30.72s | 30.72s | 30.72s |
| paging reception | 30.72s | 30.72s | 30.72s | 30.72s |
| RS periodicity | 30.72s | 30.72s | 30.72s | 30.72s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT, 30.72s |  |  | RA-SDT for SRS configuration (every 8 cycles) |
| implementation factor K | 1 | 1 | 1 | 1 |

Table 5.8.1-16: Ultra-deep Sleep (TE 10000), K = 4, DRX cycle 30.72s

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 16A], UE assisted DL positioning, Type A, FR1** | **[Case 16B], UE based DL positioning, Type A, FR1** | **[Case 16C], UL Positioning, Type A, FR1** | **[Case 16D], UL Positioning with SRS update, Type A, FR1** |
| Sleep state | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 | Ultra-deep with add. Transition energy 10000 |
| DRX cycle | 30.72s | 30.72s | 30.72s | 30.72s |
| paging reception | 30.72s | 30.72s | 30.72s | 30.72s |
| RS periodicity | 30.72s | 30.72s | 30.72s | 30.72s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | N/A | N/A | N/A | N/A |
| BWP switching | N/A | N/A | N/A | N/A |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT, 30.72s |  |  | RA-SDT for SRS configuration (every 8 cycles) |
| implementation factor K | 4 | 4 | 4 | 4 |

### B.5.8.2 Evaluation results for Low Power High Accuracy Positioning

In Table 5.8.2-1, we summarized the power consumption results and identify whether battery life requirements can be met or not for each of the evaluation cases.

Table 5.8.2-1: Summary for UE power consumption results

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in months)** | **Target requirements are met – Yes/No;** | |
| **6 months** | **12 months** |
| 1A | 1.1723 | 0.6319 | No | No |
| 1B | 1.1638 | 0.6365 | No | No |
| 1C | 1.0996 | 0.6737 | No | No |
| 1D | 1.1278 | 0.6568 | No | No |
| 2A | 1.1723 | 2.5276 | No | No |
| 2B | 1.1638 | 2.5460 | No | No |
| 2C | 1.0996 | 2.6947 | No | No |
| 2D | 1.1278 | 2.6272 | No | No |
| 3A | 0.4118 | 1.7986 | No | No |
| 3B | 0.4031 | 1.8378 | No | No |
| 3C | 0.3391 | 2.1845 | No | No |
| 3D | 0.3676 | 2.0148 | No | No |
| 4A | 0.4118 | 7.1945 | **Yes** | No |
| 4B | 0.4031 | 7.3513 | **Yes** | No |
| 4C | 0.3391 | 8.7381 | **Yes** | No |
| 4D | 0.3676 | 8.0593 | **Yes** | No |
| 5A | 0.6560 | 1.1292 | No | No |
| 5B | 0.6472 | 1.1445 | No | No |
| 5C | 0.5832 | 1.2701 | No | No |
| 5D | 0.6118 | 1.2108 | No | No |
| 6A | 0.6560 | 4.5169 | No | No |
| 6B | 0.6472 | 4.5782 | No | No |
| 6C | 0.5832 | 5.0803 | No | No |
| 6D | 0.6118 | 4.8431 | No | No |
| 7A | 1.0861 | 0.6820 | No | No |
| 7B | 1.0819 | 0.6847 | No | No |
| 7C | 1.0498 | 0.7056 | No | No |
| 7D | 1.0639 | 0.6963 | No | No |
| 8A | 1.0861 | 2.7280 | No | No |
| 8B | 1.0819 | 2.7387 | No | No |
| 8C | 1.0498 | 2.8225 | No | No |
| 8D | 1.0639 | 2.7850 | No | No |
| 9A | 0.2134 | 3.4708 | No | No |
| 9B | 0.2090 | 3.5438 | No | No |
| 9C | 0.1770 | 4.1840 | No | No |
| 9D | 0.1913 | 3.8717 | No | No |
| 10A | 0.2134 | 13.8833 | **Yes** | **Yes** |
| 10B | 0.2090 | 14.175 | **Yes** | **Yes** |
| 10C | 0.1770 | 16.7359 | **Yes** | **Yes** |
| 10D | 0.1913 | 15.4868 | **Yes** | **Yes** |
| 11A | 0.3355 | 2.2079 | No | No |
| 11B | 0.3311 | 2.2372 | No | No |
| 11C | 0.2991 | 2.4765 | No | No |
| 11D | 0.3134 | 2.3636 | No | No |
| 12A | 0.3355 | 8.8318 | **Yes** | No |
| 12B | 0.3311 | 8.9489 | **Yes** | No |
| 12C | 0.2991 | 9.9058 | **Yes** | No |
| 12D | 0.3134 | 9.4545 | **Yes** | No |
| 13A | 0.1473 | 5.0295 | No | No |
| 13B | 0.1444 | 5.1315 | No | No |
| 13C | 0.1230 | 6.0209 | **Yes** | No |
| 13D | 0.1325 | 5.5885 | No | No |
| 14A | 0.1473 | 20.1180 | **Yes** | **Yes** |
| 14B | 0.1444 | 20.5261 | **Yes** | **Yes** |
| 14C | 0.1230 | 24.0836 | **Yes** | **Yes** |
| 14D | 0.1325 | 22.3538 | **Yes** | **Yes** |
| 15A | 0.2287 | 3.2395 | No | No |
| 15B | 0.2257 | 3.2815 | No | No |
| 15C | 0.2044 | 3.6238 | No | No |
| 15D | 0.2139 | 3.4626 | No | No |
| 16A | 0.2287 | 12.9580 | **Yes** | **Yes** |
| 16B | 0.2257 | 13.1261 | **Yes** | **Yes** |
| 16C | 0.2044 | 14.4953 | **Yes** | **Yes** |
| 16D | 0.2139 | 13.8503 | **Yes** | **Yes** |

## B.5.9 Results from source [101]

### B.5.9.1 Description of evaluation scenarios

Positioning power models for Rel-17 are provided in Figure B.5.9.1-1 to Figure B.5.9.1-3.

Positioning power models for Rel-18 is provided in Figure B.5.9.1-4 to Figure B.5.9.1-7.

Positioning power model for different monitoring pattern is provided in Figure B.5.9.1-8.

Positioning power model for 1-symbol supported PRS configuration is provided in Figure B.5.9.1-9.

Evaluation cases and corresponding assumptions for UE power consumption analysis for Rel-17 are provided in Table B.5.9.1-1 to Table B.5.9.1-3.

Evaluation cases and corresponding assumptions for UE power consumption analysis for Rel-18 UE-based DL positioning are provided in Table B.5.9.1-4 to Table B.5.9.1-6.

Evaluation cases and corresponding assumptions for UE power consumption analysis for Rel-18 UE-assisted DL positioning are provided in Table B.5.9.1-7 to Table B.5.9.1-9.

Evaluation cases and corresponding assumptions for UE power consumption analysis for Rel-18 UL positioning are provided in Table B.5.9.1-10 to Table B.5.9.1-12.

Evaluation cases and corresponding assumptions for UE power consumption analysis for Rel-18 Multi-RTT positioning are provided in Table B.5.9.1-13 to Table B.5.9.1-15.

Evaluation cases and corresponding assumptions for UE power consumption analysis for Rel-18 different monitoring patterns are provided in Table B.5.9.1-16.

Evaluation cases and corresponding assumptions for UE power consumption analysis for Rel-18 with enhanced PRS configuration are provided in Table B.5.9.1-17.

Evaluation cases and corresponding assumptions for UE power consumption analysis for Rel-18 with less SRS configuration are provided in Table B.5.9.1-18 to Table B.5.9.1-20.

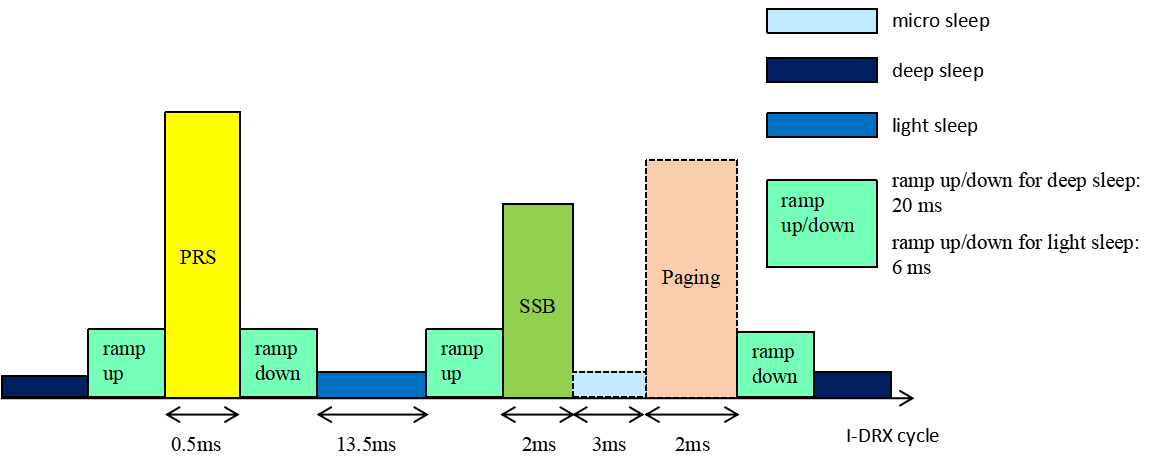


Figure B.5.9.1-1: UE based DL positioning power model for cases [R17-1] to [R17-3]

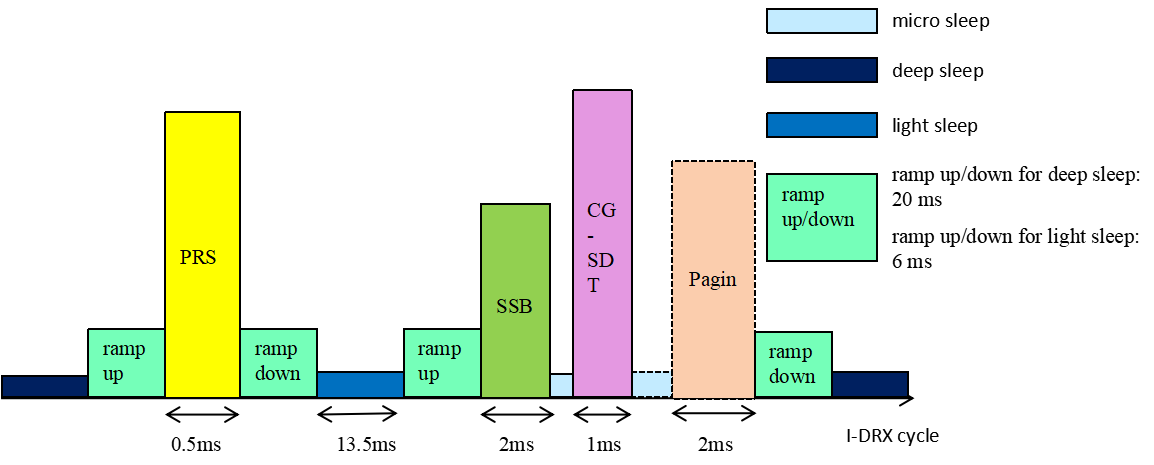


Figure B.5.9.1-2: UE assisted DL positioning power model for cases [R17-4] to [R17-6]

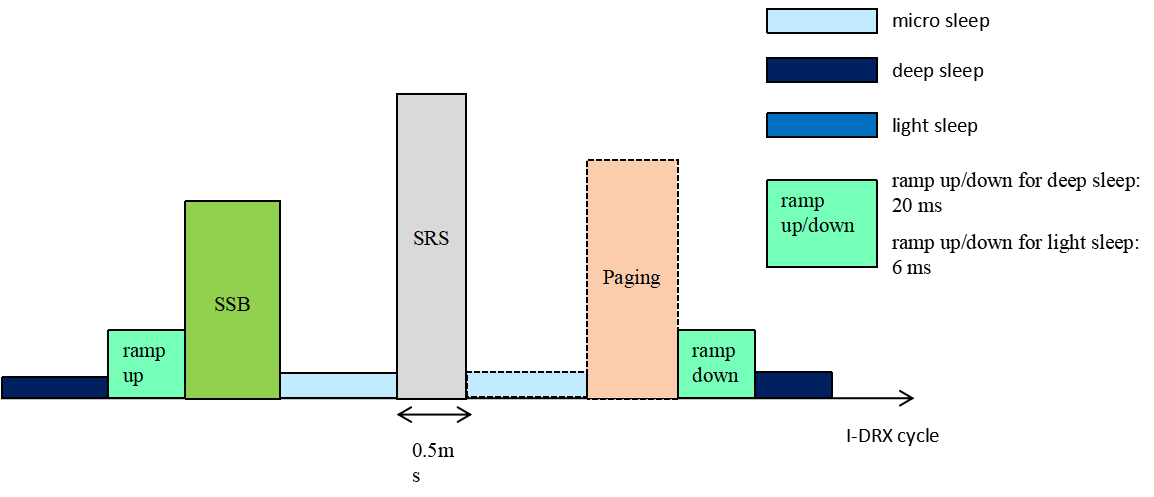


Figure B.5.9.1-3: UL positioning power model for cases [R17-7] to [R17-9]

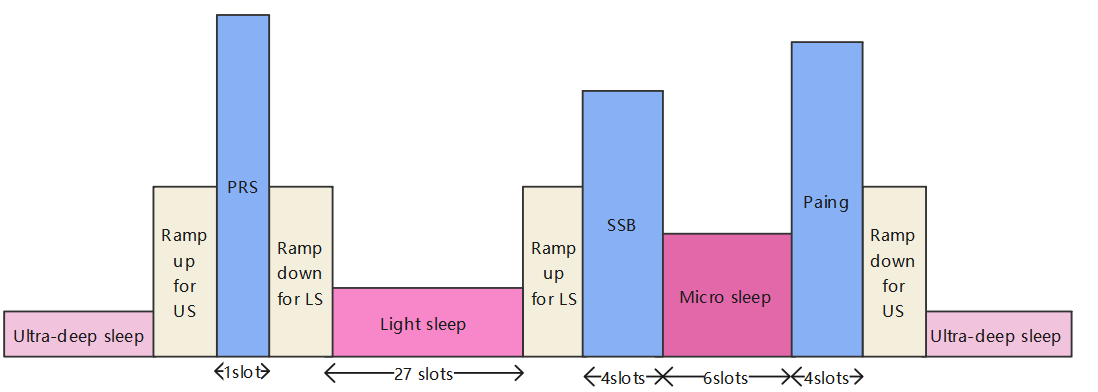


Figure B.5.9.1-4: UE-based DL positioning power model for cases [1-1] to [1-20]

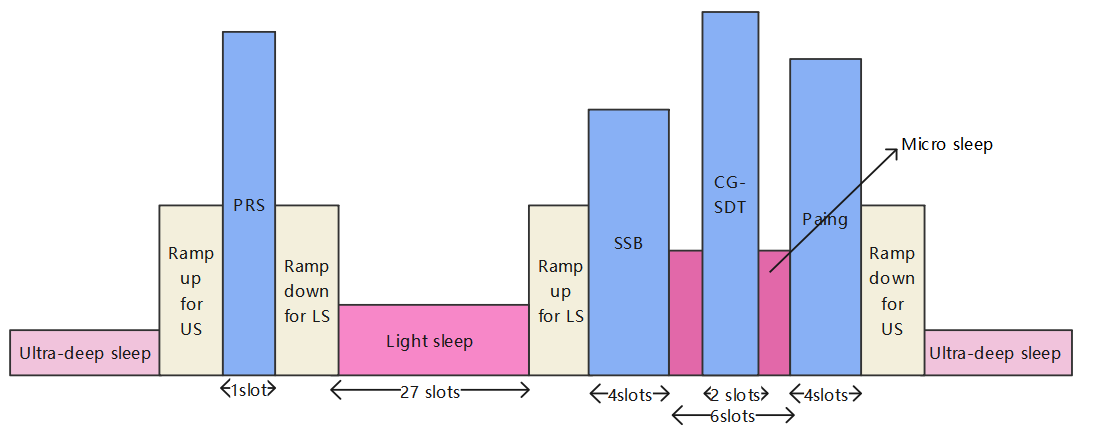


Figure B.5.9.1-5: UE assisted DL positioning power model for cases [2-1] to [2-20]

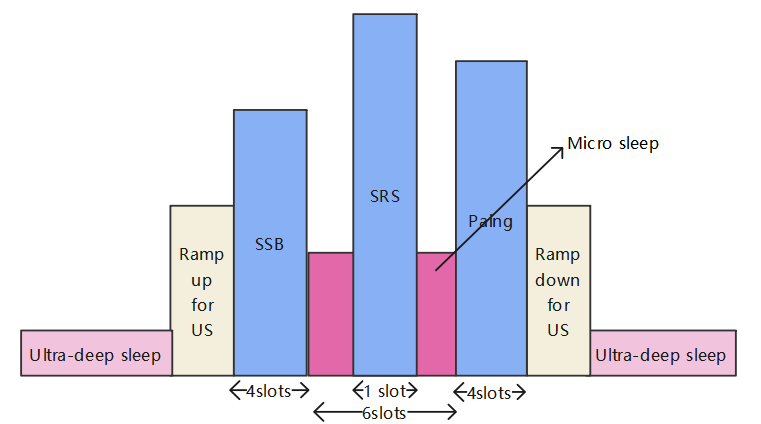


Figure B.5.9.1-6: UL positioning power model for cases [3-1] to [3-20]

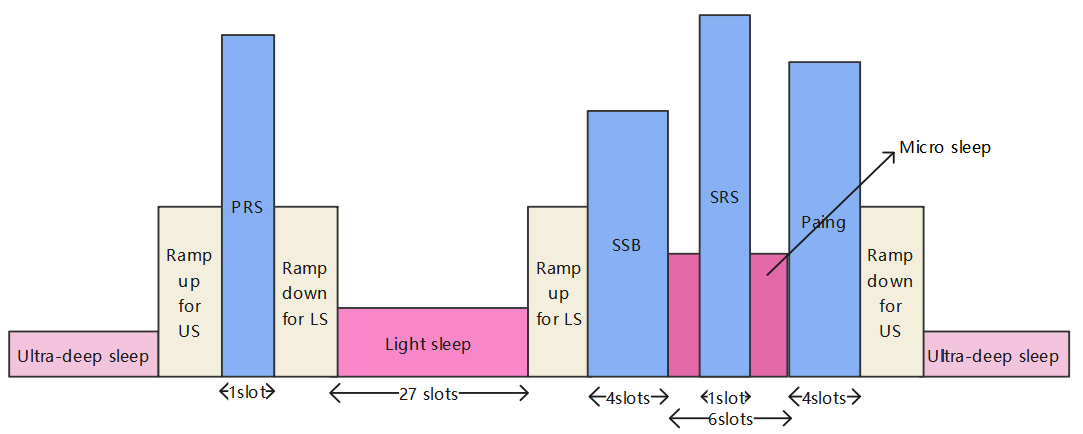
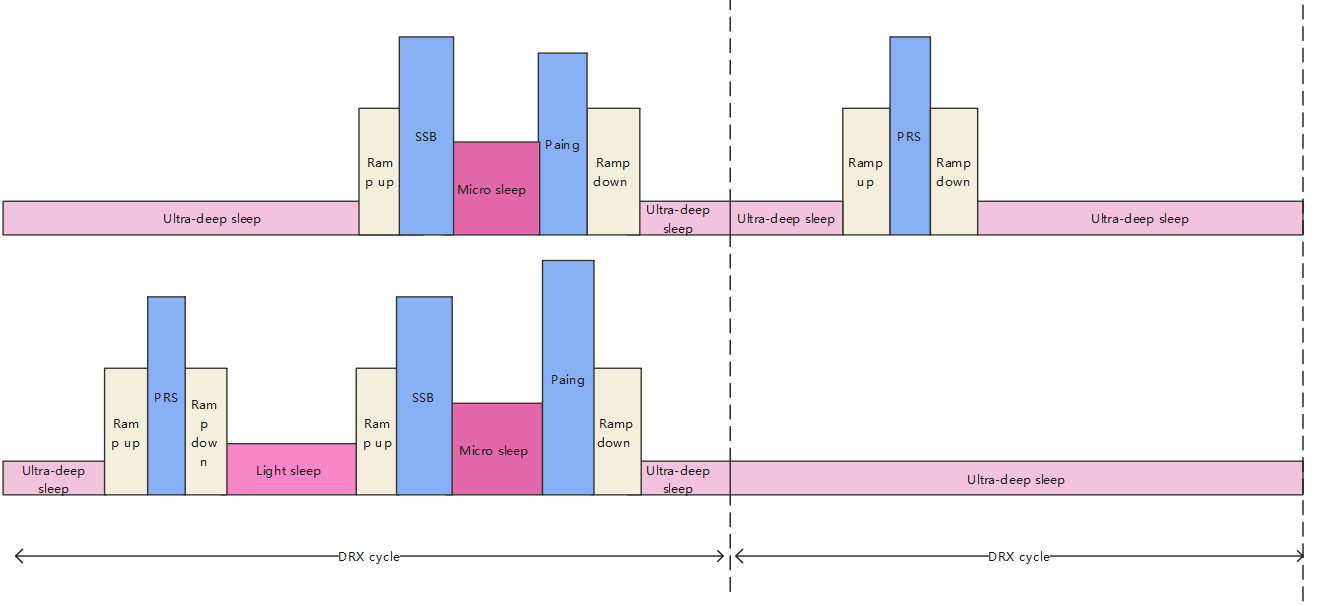


Figure B.5.9.1-7: Multi-RTT positioning power model for cases [4-1] to [4-20]



Alt A

Alt B

Figure B.5.9.1-8: Power model for different monitoring pattern A) monitor PO only, B)monitor PO together with PRS

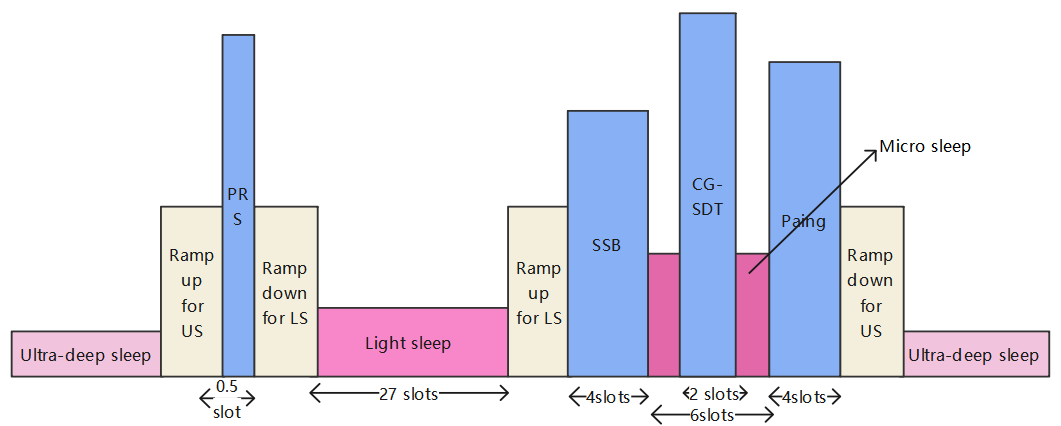


Figure B.5.9.1-9: UE assisted DL positioning power model for 1-symbol supported assumption

Table B.5.9.1-1: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UE based DL positioning (Rel-17)

|  |  |  |  |
| --- | --- | --- | --- |
| **Evaluation assumption** | **Caser R17-1, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** | **Caser R17-2, 3.5GHz,**  **UE-based DL positioning,**  **Device Type B** | **Caser R17-3, 3.5GHz,**  **UE-based DL positioning,**  **Device Type B** |
| Sleep state | TR 38.840 | TR 38.840 | TR 38.840 |
| DRX cycle | 10.24s | 10.24s | 10.24s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / |
| Implementation factor K | 4 | 2 | 4 |

Table B.5.9.1-2: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UE assisted DL positioning (Rel-17)

|  |  |  |  |
| --- | --- | --- | --- |
| **Evaluation assumption** | **Caser R17-4, 3.5GHz,**  **UE assisted DL positioning,**  **Device Type A** | **Caser R17-5, 3.5GHz,**  **UE assisted DL positioning,**  **Device Type B** | **Caser R17-6, 3.5GHz,**  **UE assisted DL positioning,**  **Device Type B** |
| Sleep state | TR 38.840 | TR 38.840 | TR 38.840 |
| DRX cycle | 10.24s | 10.24s | 10.24s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | CG-SDT | CG-SDT |
| Implementation factor K | 4 | 2 | 4 |

Table B.5.9.1-3: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UL positioning (Rel-17)

|  |  |  |  |
| --- | --- | --- | --- |
| **Evaluation assumption** | **Caser R17-7, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** | **Caser R17-8, 3.5GHz,**  **UE-based DL positioning,**  **Device Type B** | **Caser R17-9, 3.5GHz,**  **UE-based DL positioning,**  **Device Type B** |
| Sleep state | TR 38.840 | TR 38.840 | TR 38.840 |
| DRX cycle | 10.24s | 10.24s | 10.24s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / |
| Implementation factor K | 4 | 2 | 4 |

Table B.5.9.1-4: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UE-based DL positioning for Option 1 with 10000 additional transition energy (Rel-18)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 1-1, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** | **Case 1-2, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** | **Case 1-3, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** | **Case 1-4, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** |
| Sleep state | Option 1 | Option 1 | Option 1 | Option 1 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / | / |
| Implementation factor K | 1 | 1 | 4 | 4 |
| **Evaluation assumption** | **Case 1-5, 3.5GHz,**  **UE-based DL positioning,**  **Device Type B** | **Case 1-6, 3.5GHz,**  **UE-based DL positioning,**  **Device Type B** | **Case 1-7, 3.5GHz,**  **UE-based DL positioning,**  **Device Type B** | **Case 1-8, 3.5GHz,**  **UE-based DL positioning,**  **Device Type B** |
| Sleep state | Option 1 | Option 1 | Option 1 | Option 1 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / | / |
| Implementation factor K | 1 | 1 | 0.5 | 0.5 |

Table B.5.9.1-5: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UE-based DL positioning for Option 1 with 5000 additional transition energy (Rel-18)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 1-9, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** | **Case 1-10, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** | **Case 1-11, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** | **Case 1-12, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** |
| Sleep state | Option 1 | Option 1 | Option 1 | Option 1 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / | / |
| Implementation factor K | 1 | 1 | 4 | 4 |
| **Evaluation assumption** | **Case 1-13, 3.5GHz,**  **UE-based DL positioning,**  **Device Type B** | **Case 1-14, 3.5GHz,**  **UE-based DL positioning,**  **Device Type B** | **Case 1-15, 3.5GHz,**  **UE-based DL positioning,**  **Device Type B** | **Case 1-16, 3.5GHz,**  **UE-based DL positioning,**  **Device Type B** |
| Sleep state | Option 1 | Option 1 | Option 1 | Option 1 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / | / |
| Implementation factor K | 1 | 1 | 0.5 | 0.5 |

Table B.5.9.1-6: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UE-based DL positioning for Option 2 (Rel-18)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 1-17, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** | **Case 1-18, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** | **Case 1-19, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** | **Case 1-20, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** |
| Sleep state | Option 2 | Option 2 | Option 2 | Option 2 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / | / |
| Implementation factor K | 1 | 1 | 0.5 | 0.5 |

Table B.5.9.1-7: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UE-assisted DL positioning for Option 1 with 10000 additional transition energy (Rel-18)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 2-1, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type A** | **Case 2-2, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type A** | **Case 2-3, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type A** | **Case 2-4, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type A** |
| Sleep state | Option 1 | Option 1 | Option 1 | Option 1 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | CG-SDT | CG-SDT | CG-SDT |
| Implementation factor K | 1 | 1 | 4 | 4 |
| **Evaluation assumption** | **Case 2-5, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type B** | **Case 2-6, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type B** | **Case 2-7, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type B** | **Case 1-8, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type B** |
| Sleep state | Option 1 | Option 1 | Option 1 | Option 1 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | CG-SDT | CG-SDT | CG-SDT |
| Implementation factor K | 1 | 1 | 0.5 | 0.5 |

Table B.5.9.1-8: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UE-assisted DL positioning for Option 1 with 5000 additional transition energy (Rel-18)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 2-9, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type A** | **Case 2-10, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type A** | **Case 2-11, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type A** | **Case 2-12, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type A** |
| Sleep state | Option 1 | Option 1 | Option 1 | Option 1 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | CG-SDT | CG-SDT | CG-SDT |
| Implementation factor K | 1 | 1 | 4 | 4 |
| **Evaluation assumption** | **Case 2-13, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type B** | **Case 2-14, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type B** | **Case 2-15, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type B** | **Case 2-16, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type B** |
| Sleep state | Option 1 | Option 1 | Option 1 | Option 1 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | CG-SDT | CG-SDT | CG-SDT |
| Implementation factor K | 1 | 1 | 0.5 | 0.5 |

Table B.5.9.1-9: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UE-assisted DL positioning for Option 2 (Rel-18)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 2-17, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type A** | **Case 2-18, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type A** | **Case 2-19, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type A** | **Case 2-20, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type A** |
| Sleep state | Option 2 | Option 2 | Option 2 | Option 2 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | CG-SDT | CG-SDT | CG-SDT |
| Implementation factor K | 1 | 1 | 0.5 | 0.5 |

Table B.5.9.1-10: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UL positioning for Option 1 with 10000 additional transition energy (Rel-18)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 3-1, 3.5GHz,**  **UL positioning,**  **Device Type A** | **Case 3-2, 3.5GHz,**  **UL positioning,**  **Device Type A** | **Case 3-3, 3.5GHz,**  **UL positioning,**  **Device Type A** | **Case 3-4, 3.5GHz,**  **UL positioning,**  **Device Type A** |
| Sleep state | Option 1 | Option 1 | Option 1 | Option 1 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / | / |
| Implementation factor K | 1 | 1 | 4 | 4 |
| **Evaluation assumption** | **Case 3-5, 3.5GHz,**  **UL positioning,**  **Device Type B** | **Case 3-6, 3.5GHz,**  **UL positioning,**  **Device Type B** | **Case 3-7, 3.5GHz,**  **UL positioning,**  **Device Type B** | **Case 3-8, 3.5GHz,**  **UL positioning,**  **Device Type B** |
| Sleep state | Option 1 | Option 1 | Option 1 | Option 1 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / | / |
| Implementation factor K | 1 | 1 | 0.5 | 0.5 |

Table B.5.9.1-11: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UL positioning for Option 1 with 5000 additional transition energy (Rel-18)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 3-9, 3.5GHz,**  **UL positioning,**  **Device Type A** | **Case 3-10, 3.5GHz,**  **UL positioning,**  **Device Type A** | **Case 3-11, 3.5GHz,**  **UL positioning,**  **Device Type A** | **Case 3-12, 3.5GHz,**  **UL positioning,**  **Device Type A** |
| Sleep state | Option 1 | Option 1 | Option 1 | Option 1 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / | / |
| Implementation factor K | 1 | 1 | 4 | 4 |
| **Evaluation assumption** | **Case 3-13, 3.5GHz,**  **UL positioning,**  **Device Type B** | **Case 3-14, 3.5GHz,**  **UL positioning,**  **Device Type B** | **Case 3-15, 3.5GHz,**  **UL positioning,**  **Device Type B** | **Case 3-16, 3.5GHz,**  **UL positioning,**  **Device Type B** |
| Sleep state | Option 1 | Option 1 | Option 1 | Option 1 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / | / |
| Implementation factor K | 1 | 1 | 0.5 | 0.5 |

Table B.5.9.1-12: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UL positioning for Option 2 (Rel-18)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 3-17, 3.5GHz,**  **UL positioning,**  **Device Type A** | **Case 3-18, 3.5GHz,**  **UL positioning,**  **Device Type A** | **Case 3-19, 3.5GHz,**  **UL positioning,**  **Device Type A** | **Case 3-20, 3.5GHz,**  **UL positioning,**  **Device Type A** |
| Sleep state | Option 2 | Option 2 | Option 2 | Option 2 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / | / |
| Implementation factor K | 1 | 1 | 0.5 | 0.5 |

Table B.5.9.1-13: Low Power High Accuracy Positioning-Evaluation cases and assumptions in Multi-RTT positioning for Option 1 with 10000 additional transition energy (Rel-18)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 4-1, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type A** | **Case 4-2, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type A** | **Case 4-3, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type A** | **Case 4-4, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type A** |
| Sleep state | Option 1 | Option 1 | Option 1 | Option 1 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / | / |
| Implementation factor K | 1 | 1 | 4 | 4 |
| **Evaluation assumption** | **Case 4-5, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type B** | **Case 4-6, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type B** | **Case 4-7, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type B** | **Case 4-8, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type B** |
| Sleep state | Option 1 | Option 1 | Option 1 | Option 1 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / | / |
| Implementation factor K | 1 | 1 | 0.5 | 0.5 |

Table B.5.9.1-14: Low Power High Accuracy Positioning-Evaluation cases and assumptions in Multi-RTT positioning for Option 1 with 5000 additional transition energy (Rel-18)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 4-9, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type A** | **Case 4-10, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type A** | **Case 4-11, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type A** | **Case 4-12, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type A** |
| Sleep state | Option 1 | Option 1 | Option 1 | Option 1 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / | / |
| Implementation factor K | 1 | 1 | 4 | 4 |
| **Evaluation assumption** | **Case 4-13, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type B** | **Case 4-14, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type B** | **Case 4-15, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type B** | **Case 4-16, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type B** |
| Sleep state | Option 1 | Option 1 | Option 1 | Option 1 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / | / |
| Implementation factor K | 1 | 1 | 0.5 | 0.5 |

Table B.5.9.1-15: Low Power High Accuracy Positioning-Evaluation cases and assumptions in Multi-RTT positioning for Option 2 (Rel-18)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 4-17, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type A** | **Case 4-18, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type A** | **Case 4-19, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type A** | **Case 4-20, 3.5GHz,**  **Multi-RTT positioning,**  **Device Type A** |
| Sleep state | Option 2 | Option 2 | Option 2 | Option 2 |
| DRX cycle | 10.24s | 20.48s | 10.24s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / | / |
| Implementation factor K | 1 | 1 | 0.5 | 0.5 |

Table B.5.9.1-16: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UE-based DL positioning for different monitoring patterns

|  |  |  |  |
| --- | --- | --- | --- |
| **Evaluation assumption** | **Case M-1, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** | **Case M-2, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** | **Case M-3, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** |
| Sleep state | Option 1  [additional transition power =10000] | Option 1  [additional transition power =5000] | Option 2 |
| DRX cycle | 10.24s | 10.24s | 10.24s |
| paging reception | 1 paging every 2 DRX cycle | 1 paging every 2 DRX cycle | 1 paging every 2 DRX cycle |
| Time/slots between PRS and SSB | / | / | / |
| T1 (hour) | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / |
| Implementation factor K | 1 | 1 | 1 |
| Monitoring pattern | Alt A | Alt A | Alt A |
| **Evaluation assumption** | **Case M-4, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** | **Case M-5, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** | **Case M-6, 3.5GHz,**  **UE-based DL positioning,**  **Device Type A** |
| Sleep state | Option 1  [additional transition power =10000] | Option 1  [additional transition power =5000] | Option 2 |
| DRX cycle | 10.24s | 10.24s | 10.24s |
| paging reception | 1 paging every 2 DRX cycle | 1 paging every 2 DRX cycle | 1 paging every 2 DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / |
| Implementation factor K | 1 | 1 | 1 |
| Monitoring pattern | Alt B | Alt B | Alt B |

Table B.5.9.1-17: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UE-assisted DL positioning for enhanced PRS configuration (Rel-18)

|  |  |  |  |
| --- | --- | --- | --- |
| **Evaluation assumption** | **Case P-1, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type A** | **Case P-2, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type A** | **Case P-3, 3.5GHz,**  **UE-assisted DL positioning,**  **Device Type A** |
| Sleep state | Option 1  [additional transition power =10000] | Option 1  [additional transition power =5000] | Option 2 |
| DRX cycle | 10.24s | 10.24s | 10.24s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | CG-SDT | CG-SDT |
| Implementation factor K | 1 | 1 | 1 |

Table B.5.9.1-18: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UL positioning for Option 1 with 10000 additional transition energy (Rel-18)

|  |  |  |  |
| --- | --- | --- | --- |
| **Evaluation assumption** | **Case S-1, 3.5GHz,**  **UL positioning,**  **Device Type A** | **Case S-2, 3.5GHz,**  **UL positioning,**  **Device Type A** | **Case S-3, 3.5GHz,**  **UL positioning,**  **Device Type A** |
| Sleep state | Option 1  [additional transition power =10000] | Option 1  [additional transition power =10000] | Option 1  [additional transition power =10000] |
| DRX cycle | 20.48s | 20.48s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / |
| Implementation factor K | 1 | 1 | 1 |
| **SRS reconfiguration** | **Every 1 DRX cycle** | **Every 2 DRX cycle** | **Every 4 DRX cycle** |

Table B.5.9.1-19: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UL positioning for Option 1 with 5000 additional transition energy (Rel-18)

|  |  |  |  |
| --- | --- | --- | --- |
| **Evaluation assumption** | **Case S-4, 3.5GHz,**  **UL positioning,**  **Device Type A** | **Case S-5, 3.5GHz,**  **UL positioning,**  **Device Type A** | **Case S-6, 3.5GHz,**  **UL positioning,**  **Device Type A** |
| Sleep state | Option 1  [additional transition power =5000] | Option 1  [additional transition power =5000] | Option 1  [additional transition power =5000] |
| DRX cycle | 20.48s | 20.48s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / |
| Implementation factor K | 1 | 1 | 1 |
| **SRS reconfiguration** | **Every 1 DRX cycle** | **Every 2 DRX cycle** | **Every 4 DRX cycle** |

Table B.5.9.1-20: Low Power High Accuracy Positioning-Evaluation cases and assumptions in UL positioning for Option 2 (Rel-18)

|  |  |  |  |
| --- | --- | --- | --- |
| **Evaluation assumption** | **Case S-7, 3.5GHz,**  **UL positioning,**  **Device Type A** | **Case S-8, 3.5GHz,**  **UL positioning,**  **Device Type A** | **Case S-9, 3.5GHz,**  **UL positioning,**  **Device Type A** |
| Sleep state | Option 2 | Option 2 | Option 2 |
| DRX cycle | 20.48s | 20.48s | 20.48s |
| paging reception | 1 paging per DRX cycle | 1 paging per DRX cycle | 1 paging per DRX cycle |
| Time/slots between PRS and SSB | 13.5ms/27slots | 13.5ms/27slots | 13.5ms/27slots |
| T1 (hour) | 12 | 12 | 12 |
| C1 (mAh) | 4500 | 4500 | 4500 |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | / | / | / |
| Implementation factor K | 1 | 1 | 1 |
| **SRS reconfiguration** | **Every 1 DRX cycle** | **Every 2 DRX cycle** | **Every 4 DRX cycle** |

### B.5.9.2 Evaluation results for Low Power High Accuracy Positioning

Table B.5.9.2-1 to Table B.5.9.2-3 provide detailed UE power consumption results for each evaluated case in Rel-17.

Table B.5.9.2-4 to Table B.5.9.2-6 provide detailed UE power consumption results for each evaluated case in Rel-18 UE-based DL positioning.

Table B.5.9.2-7 to Table B.5.9.2-9 provide detailed UE power consumption results for each evaluated case in Rel-18 UE-assisted DL positioning.

Table B.5.9.2-10 to Table B.5.9.2-12 provide detailed UE power consumption results for each evaluated case in Rel-18 UL positioning.

Table B.5.9.2-13 to Table B.5.9.2-15 provide detailed UE power consumption results for each evaluated case in Rel-18 Multi-RTT positioning.

Table B.5.9.2-16 to Table B.5.9.2-17 provide detailed UE power consumption results for each evaluated case in Rel-18 with different monitoring pattern.

Table B.5.9.2-18 provides detailed UE power consumption results for each evaluated case in Rel-18 with 1-symbol supported PRS configuration.

Table B.5.9.2-19 to Table B.5.9.2-21 provides detailed UE power consumption results for each evaluated case in Rel-18 with less SRS configuration.

Table B.5.9.2-1: Power consumption of UE based DL positioning (cases [R17-1] to [R17-3])

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case R17-1**  [K=4,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 0.9% |
| PRS | 120 | 1 | 1 | 1 | 120 | 0.5% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.0% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 2.4% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 1.2% |
| Deep sleep | 1 | 1 | 20386 | 20386 | 20386 | 91.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.4% |
| Ramp up and down for deep sleep | 450 | 40 | 1 | 40 | 450 | 2.0% |
| **Total (every power cycle)** | | | | 20480 | 22294 | 100.0% |
| **Slot-averaged power unit** | | | | 1.088574219 | | |
| **Battery life (in month)** | | | | 2.72187501 | | |
| **Case R17-2**  [K=2,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 0.9% |
| PRS | 120 | 1 | 1 | 1 | 120 | 0.5% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.0% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 2.4% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 1.2% |
| Deep sleep | 1 | 1 | 20386 | 20386 | 20386 | 91.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.4% |
| Ramp up and down for deep sleep | 450 | 40 | 1 | 40 | 450 | 2.0% |
| **Total (every power cycle)** | | | | 20480 | 22294 | 100.0% |
| **Slot-averaged power unit** | | | | 1.088574219 | | |
| **Battery life (in month)** | | | | 7.655273467 | | |
| **Case R17-3**  [K=4,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 0.9% |
| PRS | 120 | 1 | 1 | 1 | 120 | 0.5% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.0% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 2.4% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 1.2% |
| Deep sleep | 1 | 1 | 20386 | 20386 | 20386 | 91.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.4% |
| Ramp up and down for deep sleep | 450 | 40 | 1 | 40 | 450 | 2.0% |
| **Total (every power cycle)** | | | | 20480 | 22294 | 100.0% |
| **Slot-averaged power unit** | | | | 1.088574219 | | |
| **Battery life (in month)** | | | | 15.31054693 | | |

Table B.5.9.2-2: Power consumption of UE assisted DL positioning (cases [R17-4] to [R17-6])

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case R17-4**  [K=4,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 0.9% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 0.5% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.0% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 2.2% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 2.4% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 0.8% |
| Deep sleep | 1 | 1 | 20386 | 20386 | 20386 | 89.8% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.4% |
| Ramp up and down for deep sleep | 450 | 40 | 1 | 40 | 450 | 2.0% |
| **Total (every power cycle)** | | | | 20480 | 22704 | 100.0% |
| **Slot-averaged power unit** | | | | 1.10859375 | | |
| **Battery life (in month)** | | | | 2.672722053 | | |
| **Case R17-5**  [K=2,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 0.9% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 0.5% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.0% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 2.2% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 2.4% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 0.8% |
| Deep sleep | 1 | 1 | 20386 | 20386 | 20386 | 89.8% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.4% |
| Ramp up and down for deep sleep | 450 | 40 | 1 | 40 | 450 | 2.0% |
| **Total (every power cycle)** | | | | 20480 | 22704 | 100.0% |
| **Slot-averaged power unit** | | | | 1.10859375 | | |
| **Battery life (in month)** | | | | 7.517030773 | | |
| **Case R17-6**  [K=4,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 0.9% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 0.5% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.0% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 2.2% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 2.4% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 0.8% |
| Deep sleep | 1 | 1 | 20386 | 20386 | 20386 | 89.8% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.4% |
| Ramp up and down for deep sleep | 450 | 40 | 1 | 40 | 450 | 2.0% |
| **Total (every power cycle)** | | | | 20480 | 22704 | 100.0% |
| **Slot-averaged power unit** | | | | 1.10859375 | | |
| **Battery life (in month)** | | | | 15.03406155 | | |

Table B.5.9.2-3: Power consumption of UL positioning (cases [R17-7] to [R17-9])

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | | | **Duration (in slots)** | | | **Instances** | **Sum Durations (in slots)** | **Relative power** | | **Power ratio** |
| **Case R17-7**  [K=4,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | | | 4 | | | 1 | 4 | 200 | | 0.9% |
| SRS | 210 | | | 1 | | | 1 | 1 | 210 | | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | | | 4 | | | 1 | 4 | 228 | | 1.0% |
| Light sleep | 20 | | | 0 | | | 0 | 0 | 0 | | 0.0% |
| Micro sleep | 45 | | | 5 | | | 1 | 5 | 225 | | 1.0% |
| Deep sleep | 1 | | | 2 | | | 20426 | 20426 | 20426 | | 94.0% |
| Ramp up and down for light sleep | 0 | | | 0 | | | 1 | 0 | 0 | | 0.0% |
| Ramp up and down for deep sleep | 450 | | | 40 | | | 1 | 40 | 450 | | 2.1% |
| **Total (every power cycle)** | | | | | | | | 20480 | 21739 | | 100.0% |
| **Slot-averaged power unit** | | | | | | | | 1.061474609 | | | |
| **Battery life (in month)** | | | | | | | | 2.791364896 | | | |
| **Case R17-8**  [K=2,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | | | 1 | | | 4 | 200 | | 0.9% |
| SRS | 210 | 1 | | | 1 | | | 1 | 210 | | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | | | 1 | | | 4 | 228 | | 1.0% |
| Light sleep | 20 | 0 | | | 0 | | | 0 | 0 | | 0.0% |
| Micro sleep | 45 | 5 | | | 1 | | | 5 | 225 | | 1.0% |
| Deep sleep | 1 | 2 | | | 20426 | | | 20426 | 20426 | | 94.0% |
| Ramp up and down for light sleep | 0 | 0 | | | 1 | | | 0 | 0 | | 0.0% |
| Ramp up and down for deep sleep | 450 | 40 | | | 1 | | | 40 | 450 | | 2.1% |
| **Total (every power cycle)** | | | | | | | | 20480 | 21739 | | 100.0% |
| **Slot-averaged power unit** | | | | | | | | 1.061474609 | | | |
| **Battery life (in month)** | | | | | | | | 7.850713771 | | | |
| **Case R17-9**  [K=4,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | | 4 | | | 1 | | 4 | | 200 | 0.9% |
| SRS | 210 | | 1 | | | 1 | | 1 | | 210 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | | 4 | | | 1 | | 4 | | 228 | 1.0% |
| Light sleep | 20 | | 0 | | | 0 | | 0 | | 0 | 0.0% |
| Micro sleep | 45 | | 5 | | | 1 | | 5 | | 225 | 1.0% |
| Deep sleep | 1 | | 2 | | | 20426 | | 20426 | | 20426 | 94.0% |
| Ramp up and down for light sleep | 0 | | 0 | | | 1 | | 0 | | 0 | 0.0% |
| Ramp up and down for deep sleep | 450 | | 40 | | | 1 | | 40 | | 450 | 2.1% |
| **Total (every power cycle)** | | | | | | | | 20480 | | 21739 | 100.0% |
| **Slot-averaged power unit** | | | | | | | | 1.061474609 | | | |
| **Battery life (in month)** | | | | | | | | 15.70142754 | | | |

Table B.5.9.2-4: Power consumption for cases [1-1] to [1-8] (Option 1 with 10000 additional transition energy)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 1-1**  [K=1,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.6% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 2.3% |
| Ultra-deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 2.5% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.9% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 85.1% |
| **Total (every power cycle)** | | | | 20480 | 11752.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.573847168 | | |
| **Battery life (in month)** | | | | 1.29083279 | | |
| **Case 1-2**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.5% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 2.2% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 5.0% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 82.9% |
| **Total (every power cycle)** | | | | 40960 | 12059.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.294423584 | | |
| **Battery life (in month)** | | | | 2.515901514 | | |
| **Case 1-3**  [K=4,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.6% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 2.3% |
| Ultra-deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 2.5% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.9% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 85.1% |
| **Total (every power cycle)** | | | | 20480 | 11752.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.573847168 | | |
| **Battery life (in month)** | | | | 5.163331159 | | |
| **Case 1-4**  [K=4,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.5% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 2.2% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 5.0% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 82.9% |
| **Total (every power cycle)** | | | | 40960 | 12059.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.294423584 | | |
| **Battery life (in month)** | | | | 10.06360606 | | |
| **Case 1-5**  [K=1,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.6% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 2.3% |
| Ultra-deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 2.5% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.9% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 85.1% |
| **Total (every power cycle)** | | | | 20480 | 11752.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.573847168 | | |
| **Battery life (in month)** | | | | 7.260934443 | | |
| **Case 1-6**  [K=1,  C2=4500,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.5% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 2.2% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 5.0% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 82.9% |
| **Total (every power cycle)** | | | | 40960 | 12059.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.294423584 | | |
| **Battery life (in month)** | | | | 14.15194602 | | |
| **Case 1-7**  [K=0.5,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.6% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 2.3% |
| Ultra-deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 2.5% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.9% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 85.1% |
| **Total (every power cycle)** | | | | 20480 | 11752.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.573847168 | | |
| **Battery life (in month)** | | | | 3.630467221 | | |
| **Case 1-8**  [K=0.5,  C2=4500,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.5% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 2.2% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 5.0% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 82.9% |
| **Total (every power cycle)** | | | | 40960 | 12059.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.294423584 | | |
| **Battery life (in month)** | | | | 7.075973008 | | |

Table B.5.9.2-5: Power consumption for cases [1-9] to [1-16] (Option 1 with 5000 additional transition energy)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 1-9**  [K=1,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 3.0% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.8% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.4% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 8.0% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 4.0% |
| Ultra-deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 4.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.5% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 74.0% |
| **Total (every power cycle)** | | | | 20480 | 6752.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.329706543 | | |
| **Battery life (in month)** | | | | 2.246666791 | | |
| **Case 1-10**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.8% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.2% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.6% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 3.8% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 8.5% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 70.8% |
| **Total (every power cycle)** | | | | 40960 | 7059.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.172353271 | | |
| **Battery life (in month)** | | | | 4.297804935 | | |
| **Case 1-11**  [K=4,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 3.0% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.8% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.4% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 8.0% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 4.0% |
| Ultra-deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 4.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.5% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 74.0% |
| **Total (every power cycle)** | | | | 20480 | 6752.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.329706543 | | |
| **Battery life (in month)** | | | | 8.986667163 | | |
| **Case 1-12**  [K=4,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.8% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.2% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.6% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 3.8% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 8.5% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 70.8% |
| **Total (every power cycle)** | | | | 40960 | 7059.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.172353271 | | |
| **Battery life (in month)** | | | | 17.19121974 | | |
| **Case 1-13**  [K=1,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 3.0% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.8% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.4% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 8.0% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 4.0% |
| Ultra-deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 4.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.5% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 74.0% |
| **Total (every power cycle)** | | | | 20480 | 6752.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.329706543 | | |
| **Battery life (in month)** | | | | 12.6375007 | | |
| **Case 1-14**  [K=1,  C2=4500,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.8% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.2% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.6% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 3.8% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 8.5% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 70.8% |
| **Total (every power cycle)** | | | | 40960 | 7059.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.172353271 | | |
| **Battery life (in month)** | | | | 24.17515276 | | |
| **Case 1-15**  [K=0.5,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 3.0% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.8% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.4% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 8.0% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 4.0% |
| Ultra-deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 4.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.5% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 74.0% |
| **Total (every power cycle)** | | | | 20480 | 6752.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.329706543 | | |
| **Battery life (in month)** | | | | 6.318750349 | | |
| **Case 1-16**  [K=0.5,  C2=4500,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.8% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.2% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.6% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 3.8% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 8.5% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 70.8% |
| **Total (every power cycle)** | | | | 40960 | 7059.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.172353271 | | |
| **Battery life (in month)** | | | | 12.08757638 | | |

Table B.5.9.2-6: Power consumption for cases [1-17] to [1-20] (Option 2)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 1-17**  [K=1,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 9.3% |
| PRS | 120 | 1 | 1 | 1 | 120 | 5.6% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 10.6% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 25.2% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 12.6% |
| Ultra-deep sleep | 0.01 | 1 | 20376 | 20376 | 203.76 | 9.5% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 4.7% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 22.4% |
| **Total (every power cycle)** | | | | 20480 | 2141.76 | 100.0% |
| **Slot-averaged power unit** | | | | 0.104578125 | | |
| **Battery life (in month)** | | | | 7.083132737 | | |
| **Case 1-18**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 8.5% |
| PRS | 120 | 1 | 1 | 1 | 120 | 5.1% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 9.7% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 23.0% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 11.5% |
| Ultra-deep sleep | 0.01 | 1 | 40856 | 40856 | 408.56 | 17.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 4.3% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 20.5% |
| **Total (every power cycle)** | | | | 40960 | 2346.56 | 100.0% |
| **Slot-averaged power unit** | | | | 0.057289063 | | |
| **Battery life (in month)** | | | | 12.92988065 | | |
| **Case 1-19**  [K=0.5,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 9.3% |
| PRS | 120 | 1 | 1 | 1 | 120 | 5.6% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 10.6% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 25.2% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 12.6% |
| Ultra-deep sleep | 0.01 | 1 | 20376 | 20376 | 203.76 | 9.5% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 4.7% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 22.4% |
| **Total (every power cycle)** | | | | 20480 | 2141.76 | 100.0% |
| **Slot-averaged power unit** | | | | 0.104578125 | | |
| **Battery life (in month)** | | | | 3.541566368 | | |
| **Case 1-20**  [K=0.5,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 8.5% |
| PRS | 120 | 1 | 1 | 1 | 120 | 5.1% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 9.7% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 23.0% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 11.5% |
| Ultra-deep sleep | 0.01 | 1 | 40856 | 40856 | 408.56 | 17.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 4.3% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 20.5% |
| **Total (every power cycle)** | | | | 40960 | 2346.56 | 100.0% |
| **Slot-averaged power unit** | | | | 0.057289063 | | |
| **Battery life (in month)** | | | | 6.464940326 | | |

Table B.5.9.2-7: Power consumption for cases [2-1] to [2-8] (Option 1 with 10000 additional transition energy)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 2-1**  [K=1,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.6% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 4.1% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.4% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.5% |
| Ultra-deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 2.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 82.2% |
| **Total (every power cycle)** | | | | 20480 | 12162.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.593866699 | | |
| **Battery life (in month)** | | | | 1.247318197 | | |
| **Case 2-2**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.6% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.8% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 4.0% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.3% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.4% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 4.8% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 80.2% |
| **Total (every power cycle)** | | | | 40960 | 12469.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.30443335 | | |
| **Battery life (in month)** | | | | 2.433178696 | | |
| **Case 2-3**  [K=4,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.6% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 4.1% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.4% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.5% |
| Ultra-deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 2.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 82.2% |
| **Total (every power cycle)** | | | | 20480 | 12162.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.593866699 | | |
| **Battery life (in month)** | | | | 4.989272789 | | |
| **Case 2-4**  [K=4,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.6% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.8% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 4.0% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.3% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.4% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 4.8% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 80.2% |
| **Total (every power cycle)** | | | | 40960 | 12469.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.30443335 | | |
| **Battery life (in month)** | | | | 9.732714786 | | |
| **Case 2-5**  [K=1,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.6% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 4.1% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.4% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.5% |
| Ultra-deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 2.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 82.2% |
| **Total (every power cycle)** | | | | 20480 | 12162.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.593866699 | | |
| **Battery life (in month)** | | | | 7.01616486 | | |
| **Case 2-6**  [K=1,  C2=4500,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.6% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.8% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 4.0% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.3% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.4% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 4.8% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 80.2% |
| **Total (every power cycle)** | | | | 40960 | 12469.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.30443335 | | |
| **Battery life (in month)** | | | | 13.68663017 | | |
| **Case 2-7**  [K=0.5,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.6% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 4.1% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.4% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.5% |
| Ultra-deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 2.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 82.2% |
| **Total (every power cycle)** | | | | 20480 | 12162.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.593866699 | | |
| **Battery life (in month)** | | | | 3.50808243 | | |
| **Case 2-8**  [K=0.5,  C2=4500,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.6% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.8% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 4.0% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.3% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.4% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 4.8% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 80.2% |
| **Total (every power cycle)** | | | | 40960 | 12469.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.30443335 | | |
| **Battery life (in month)** | | | | 6.843315084 | | |

Table B.5.9.2-8: Power consumption for cases [2-9] to [2-16] (Option 1 with 5000 additional transition energy)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 2-9**  [K=1,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.8% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.2% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 7.0% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.5% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.5% |
| Ultra-deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 4.1% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 69.8% |
| **Total (every power cycle)** | | | | 20480 | 7162.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.349726074 | | |
| **Battery life (in month)** | | | | 2.118059806 | | |
| **Case 2-10**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.7% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.6% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.1% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 6.7% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.2% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.4% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 8.1% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.3% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 66.9% |
| **Total (every power cycle)** | | | | 40960 | 7469.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.182363037 | | |
| **Battery life (in month)** | | | | 4.061901756 | | |
| **Case 2-11**  [K=4,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.8% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.2% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 7.0% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.5% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.5% |
| Ultra-deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 4.1% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 69.8% |
| **Total (every power cycle)** | | | | 20480 | 7162.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.349726074 | | |
| **Battery life (in month)** | | | | 8.472239222 | | |
| **Case 2-12**  [K=4,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.7% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.6% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.1% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 6.7% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.2% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.4% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 8.1% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.3% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 66.9% |
| **Total (every power cycle)** | | | | 40960 | 7469.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.182363037 | | |
| **Battery life (in month)** | | | | 16.24760703 | | |
| **Case 2-13**  [K=1,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.8% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.2% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 7.0% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.5% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.5% |
| Ultra-deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 4.1% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 69.8% |
| **Total (every power cycle)** | | | | 20480 | 7162.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.349726074 | | |
| **Battery life (in month)** | | | | 11.91408641 | | |
| **Case 2-14**  [K=1,  C2=4500,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.7% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.6% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.1% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 6.7% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.2% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.4% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 8.1% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.3% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 66.9% |
| **Total (every power cycle)** | | | | 40960 | 7469.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.182363037 | | |
| **Battery life (in month)** | | | | 22.84819738 | | |
| **Case 2-15**  [K=0.5,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.8% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.2% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 7.0% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.5% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.5% |
| Ultra-deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 4.1% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 69.8% |
| **Total (every power cycle)** | | | | 20480 | 7162.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.349726074 | | |
| **Battery life (in month)** | | | | 5.957043203 | | |
| **Case 2-16**  [K=0.5,  C2=4500,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.7% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.6% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.1% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 6.7% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.2% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.4% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 8.1% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.3% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 66.9% |
| **Total (every power cycle)** | | | | 40960 | 7469.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.182363037 | | |
| **Battery life (in month)** | | | | 11.42409869 | | |

Table B.5.9.2-9: Power consumption for cases [1-17] to [1-20] (Option 2)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 2-17**  [K=1,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 7.8% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 4.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 8.9% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 19.6% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 21.2% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 7.1% |
| Ultra-deep sleep | 0.01 | 1 | 20376 | 20376 | 203.76 | 8.0% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 3.9% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 18.8% |
| **Total (every power cycle)** | | | | 20480 | 2551.76 | 100.0% |
| **Slot-averaged power unit** | | | | 0.124597656 | | |
| **Battery life (in month)** | | | | 5.945061593 | | |
| **Case 2-18**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 7.3% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 4.4% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 8.3% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 18.1% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 19.6% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 6.5% |
| Ultra-deep sleep | 0.01 | 1 | 40856 | 40856 | 408.56 | 14.8% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 3.6% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 17.4% |
| **Total (every power cycle)** | | | | 40960 | 2756.56 | 100.0% |
| **Slot-averaged power unit** | | | | 0.067298828 | | |
| **Battery life (in month)** | | | | 11.00674055 | | |
| **Case 2-19**  [K=0.5,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 7.8% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 4.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 8.9% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 19.6% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 21.2% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 7.1% |
| Ultra-deep sleep | 0.01 | 1 | 20376 | 20376 | 203.76 | 8.0% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 3.9% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 18.8% |
| **Total (every power cycle)** | | | | 20480 | 2551.76 | 100.0% |
| **Slot-averaged power unit** | | | | 0.124597656 | | |
| **Battery life (in month)** | | | | 2.972530796 | | |
| **Case 2-20**  [K=0.5,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 7.3% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 4.4% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 8.3% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 18.1% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 19.6% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 6.5% |
| Ultra-deep sleep | 0.01 | 1 | 40856 | 40856 | 408.56 | 14.8% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 3.6% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 17.4% |
| **Total (every power cycle)** | | | | 40960 | 2756.56 | 100.0% |
| **Slot-averaged power unit** | | | | 0.067298828 | | |
| **Battery life (in month)** | | | | 5.503370277 | | |

Table B.5.9.2-10: Power consumption for cases [3-1] to [3-8] (Option 1 with 10000 additional transition energy)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 3-1**  [K=1,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.8% |
| SRS | 210 | 1 | 1 | 1 | 210 | 1.9% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 2.0% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 2.0% |
| Ultra-deep sleep | 0.015 | 2 | 19666 | 19666 | 294.99 | 2.6% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 89.6% |
| **Total (every power cycle)** | | | | 20480 | 11157.99 | 100.0% |
| **Slot-averaged power unit** | | | | 0.54482373 | | |
| **Battery life (in month)** | | | | 1.359597057 | | |
| **Case 3-2**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| SRS | 210 | 1 | 1 | 1 | 210 | 1.8% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 2.0% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 2.0% |
| Ultra-deep sleep | 0.015 | 2 | 40146 | 40146 | 602.19 | 5.3% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 87.2% |
| **Total (every power cycle)** | | | | 40960 | 11465.19 | 100.0% |
| **Slot-averaged power unit** | | | | 0.279911865 | | |
| **Battery life (in month)** | | | | 2.646335625 | | |
| **Case 3-3**  [K=4,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.8% |
| SRS | 210 | 1 | 1 | 1 | 210 | 1.9% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 2.0% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 2.0% |
| Ultra-deep sleep | 0.015 | 2 | 19666 | 19666 | 294.99 | 2.6% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 89.6% |
| **Total (every power cycle)** | | | | 20480 | 11157.99 | 100.0% |
| **Slot-averaged power unit** | | | | 0.54482373 | | |
| **Battery life (in month)** | | | | 5.43838823 | | |
| **Case 3-4**  [K=4,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| SRS | 210 | 1 | 1 | 1 | 210 | 1.8% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 2.0% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 2.0% |
| Ultra-deep sleep | 0.015 | 2 | 40146 | 40146 | 602.19 | 5.3% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 87.2% |
| **Total (every power cycle)** | | | | 40960 | 11465.19 | 100.0% |
| **Slot-averaged power unit** | | | | 0.279911865 | | |
| **Battery life (in month)** | | | | 10.5853425 | | |
| **Case 3-5**  [K=1,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.8% |
| SRS | 210 | 1 | 1 | 1 | 210 | 1.9% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 2.0% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 2.0% |
| Ultra-deep sleep | 0.015 | 2 | 19666 | 19666 | 294.99 | 2.6% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 89.6% |
| **Total (every power cycle)** | | | | 20480 | 11157.99 | 100.0% |
| **Slot-averaged power unit** | | | | 0.54482373 | | |
| **Battery life (in month)** | | | | 7.647733448 | | |
| **Case 3-6**  [K=1,  C2=4500,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| SRS | 210 | 1 | 1 | 1 | 210 | 1.8% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 2.0% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 2.0% |
| Ultra-deep sleep | 0.015 | 2 | 40146 | 40146 | 602.19 | 5.3% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 87.2% |
| **Total (every power cycle)** | | | | 40960 | 11465.19 | 100.0% |
| **Slot-averaged power unit** | | | | 0.279911865 | | |
| **Battery life (in month)** | | | | 14.88563789 | | |
| **Case 3-7**  [K=0.5,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.8% |
| SRS | 210 | 1 | 1 | 1 | 210 | 1.9% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 2.0% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 2.0% |
| Ultra-deep sleep | 0.015 | 2 | 19666 | 19666 | 294.99 | 2.6% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 89.6% |
| **Total (every power cycle)** | | | | 20480 | 11157.99 | 100.0% |
| **Slot-averaged power unit** | | | | 0.54482373 | | |
| **Battery life (in month)** | | | | 3.823866724 | | |
| **Case 3-8**  [K=0.5,  C2=4500,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| SRS | 210 | 1 | 1 | 1 | 210 | 1.8% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 2.0% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 2.0% |
| Ultra-deep sleep | 0.015 | 2 | 40146 | 40146 | 602.19 | 5.3% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 87.2% |
| **Total (every power cycle)** | | | | 40960 | 11465.19 | 100.0% |
| **Slot-averaged power unit** | | | | 0.279911865 | | |
| **Battery life (in month)** | | | | 7.442818944 | | |

Table B.5.9.2-11: Power consumption for cases [3-9] to [3-16] (Option 1 with 5000 additional transition energy)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 3-9**  [K=1,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 3.2% |
| SRS | 210 | 1 | 1 | 1 | 210 | 3.4% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.7% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 3.7% |
| Ultra-deep sleep | 0.015 | 2 | 19666 | 19666 | 294.99 | 4.8% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 81.2% |
| **Total (every power cycle)** | | | | 20480 | 6157.99 | 100.0% |
| **Slot-averaged power unit** | | | | 0.300683105 | | |
| **Battery life (in month)** | | | | 2.463526308 | | |
| **Case 3-10**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 3.1% |
| SRS | 210 | 1 | 1 | 1 | 210 | 3.2% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.5% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 3.5% |
| Ultra-deep sleep | 0.015 | 2 | 40146 | 40146 | 602.19 | 9.3% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 77.3% |
| **Total (every power cycle)** | | | | 40960 | 6465.19 | 100.0% |
| **Slot-averaged power unit** | | | | 0.157841553 | | |
| **Battery life (in month)** | | | | 4.69293876 | | |
| **Case 3-11**  [K=4,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 3.2% |
| SRS | 210 | 1 | 1 | 1 | 210 | 3.4% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.7% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 3.7% |
| Ultra-deep sleep | 0.015 | 2 | 19666 | 19666 | 294.99 | 4.8% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 81.2% |
| **Total (every power cycle)** | | | | 20480 | 6157.99 | 100.0% |
| **Slot-averaged power unit** | | | | 0.300683105 | | |
| **Battery life (in month)** | | | | 9.854105233 | | |
| **Case 3-12**  [K=4,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 3.1% |
| SRS | 210 | 1 | 1 | 1 | 210 | 3.2% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.5% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 3.5% |
| Ultra-deep sleep | 0.015 | 2 | 40146 | 40146 | 602.19 | 9.3% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 77.3% |
| **Total (every power cycle)** | | | | 40960 | 6465.19 | 100.0% |
| **Slot-averaged power unit** | | | | 0.157841553 | | |
| **Battery life (in month)** | | | | 18.77175504 | | |
| **Case 3-13**  [K=1,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 3.2% |
| SRS | 210 | 1 | 1 | 1 | 210 | 3.4% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.7% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 3.7% |
| Ultra-deep sleep | 0.015 | 2 | 19666 | 19666 | 294.99 | 4.8% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 81.2% |
| **Total (every power cycle)** | | | | 20480 | 6157.99 | 100.0% |
| **Slot-averaged power unit** | | | | 0.300683105 | | |
| **Battery life (in month)** | | | | 13.85733548 | | |
| **Case 3-14**  [K=1,  C2=4500,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 3.1% |
| SRS | 210 | 1 | 1 | 1 | 210 | 3.2% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.5% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 3.5% |
| Ultra-deep sleep | 0.015 | 2 | 40146 | 40146 | 602.19 | 9.3% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 77.3% |
| **Total (every power cycle)** | | | | 40960 | 6465.19 | 100.0% |
| **Slot-averaged power unit** | | | | 0.157841553 | | |
| **Battery life (in month)** | | | | 26.39778052 | | |
| **Case 3-15**  [K=0.5,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 3.2% |
| SRS | 210 | 1 | 1 | 1 | 210 | 3.4% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.7% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 3.7% |
| Ultra-deep sleep | 0.015 | 2 | 19666 | 19666 | 294.99 | 4.8% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 81.2% |
| **Total (every power cycle)** | | | | 20480 | 6157.99 | 100.0% |
| **Slot-averaged power unit** | | | | 0.300683105 | | |
| **Battery life (in month)** | | | | 6.928667742 | | |
| **Case 3-16**  [K=0.5,  C2=4500,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 3.1% |
| SRS | 210 | 1 | 1 | 1 | 210 | 3.2% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.5% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 3.5% |
| Ultra-deep sleep | 0.015 | 2 | 40146 | 40146 | 602.19 | 9.3% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 77.3% |
| **Total (every power cycle)** | | | | 40960 | 6465.19 | 100.0% |
| **Slot-averaged power unit** | | | | 0.157841553 | | |
| **Battery life (in month)** | | | | 13.19889026 | | |

Table B.5.9.2-12: Power consumption for cases [3-17] to [3-20] (Option 2)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 3-17**  [K=1,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 12.9% |
| SRS | 210 | 1 | 1 | 1 | 210 | 13.6% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 14.7% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 14.5% |
| Ultra-deep sleep | 0.01 | 2 | 20416 | 20416 | 204.16 | 13.2% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 31.0% |
| **Total (every power cycle)** | | | | 20480 | 1547.16 | 100.0% |
| **Slot-averaged power unit** | | | | 0.075544922 | | |
| **Battery life (in month)** | | | | 9.805301566 | | |
| **Case 3-18**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 11.4% |
| SRS | 210 | 1 | 1 | 1 | 210 | 12.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 13.0% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 12.8% |
| Ultra-deep sleep | 0.01 | 2 | 40896 | 40896 | 408.96 | 23.3% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 27.4% |
| **Total (every power cycle)** | | | | 40960 | 1751.96 | 100.0% |
| **Slot-averaged power unit** | | | | 0.042772461 | | |
| **Battery life (in month)** | | | | 17.31816979 | | |
| **Case 3-19**  [K=0.5,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 12.9% |
| SRS | 210 | 1 | 1 | 1 | 210 | 13.6% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 14.7% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 14.5% |
| Ultra-deep sleep | 0.01 | 2 | 20416 | 20416 | 204.16 | 13.2% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 31.0% |
| **Total (every power cycle)** | | | | 20480 | 1547.16 | 100.0% |
| **Slot-averaged power unit** | | | | 0.075544922 | | |
| **Battery life (in month)** | | | | 4.902650783 | | |
| **Case 3-20**  [K=0.5,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 11.4% |
| SRS | 210 | 1 | 1 | 1 | 210 | 12.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 13.0% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 12.8% |
| Ultra-deep sleep | 0.01 | 2 | 40896 | 40896 | 408.96 | 23.3% |
| Ramp up and down for light sleep | 0 | 0 | 1 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 27.4% |
| **Total (every power cycle)** | | | | 40960 | 1751.96 | 100.0% |
| **Slot-averaged power unit** | | | | 0.042772461 | | |
| **Battery life (in month)** | | | | 8.659084894 | | |

Table B.5.9.2-13: Power consumption for cases [4-1] to [4-8] (Option 1 with 10000 additional transition energy)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 4-1**  [K=1,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| SRS | 210 | 1 | 1 | 2 | 420 | 3.5% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.5% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.5% |
| Ultra-Deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 2.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 82.8% |
| **Total (every power cycle)** | | | | 20480 | 12082.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.589960449 | | |
| **Battery life (in month)** | | | | 1.255576949 | | |
| **Case 4-2**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.6% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.8% |
| SRS | 210 | 1 | 1 | 2 | 420 | 3.4% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.4% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.5% |
| Ultra-Deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 4.9% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 80.7% |
| **Total (every power cycle)** | | | | 40960 | 12389.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.302480225 | | |
| **Battery life (in month)** | | | | 2.448889813 | | |
| **Case 4-3**  [K=4,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| SRS | 210 | 1 | 1 | 2 | 420 | 3.5% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.5% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.5% |
| Ultra-Deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 2.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 82.8% |
| **Total (every power cycle)** | | | | 20480 | 12082.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.589960449 | | |
| **Battery life (in month)** | | | | 5.022307795 | | |
| **Case 4-4**  [K=4,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.6% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.8% |
| SRS | 210 | 1 | 1 | 2 | 420 | 3.4% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.4% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.5% |
| Ultra-Deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 4.9% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 80.7% |
| **Total (every power cycle)** | | | | 40960 | 12389.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.302480225 | | |
| **Battery life (in month)** | | | | 9.795559253 | | |
| **Case 4-5**  [K=1,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| SRS | 210 | 1 | 1 | 2 | 420 | 3.5% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.5% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.5% |
| Ultra-Deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 2.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 82.8% |
| **Total (every power cycle)** | | | | 20480 | 12082.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.589960449 | | |
| **Battery life (in month)** | | | | 7.062620337 | | |
| **Case 4-6**  [K=1,  C2=4500,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.6% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.8% |
| SRS | 210 | 1 | 1 | 2 | 420 | 3.4% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.4% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.5% |
| Ultra-Deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 4.9% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 80.7% |
| **Total (every power cycle)** | | | | 40960 | 12389.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.302480225 | | |
| **Battery life (in month)** | | | | 13.7750052 | | |
| **Case 4-7**  [K=0.5,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| SRS | 210 | 1 | 1 | 2 | 420 | 3.5% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.5% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.5% |
| Ultra-Deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 2.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 82.8% |
| **Total (every power cycle)** | | | | 20480 | 12082.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.589960449 | | |
| **Battery life (in month)** | | | | 3.531310168 | | |
| **Case 4-8**  [K=0.5,  C2=4500,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.6% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.8% |
| SRS | 210 | 1 | 1 | 2 | 420 | 3.4% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.4% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.5% |
| Ultra-Deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 4.9% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 80.7% |
| **Total (every power cycle)** | | | | 40960 | 12389.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.302480225 | | |
| **Battery life (in month)** | | | | 6.8875026 | | |

Table B.5.9.2-14: Power consumption for cases [4-9] to [4-16] (Option 1 with 5000 additional transition energy)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 4-9**  [K=1,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.8% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.2% |
| SRS | 210 | 1 | 1 | 2 | 420 | 5.9% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.6% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.5% |
| Ultra-Deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 4.2% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 70.6% |
| **Total (every power cycle)** | | | | 20480 | 7082.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.345819824 | | |
| **Battery life (in month)** | | | | 2.141984608 | | |
| **Case 4-10**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.7% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.6% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.1% |
| SRS | 210 | 1 | 1 | 2 | 420 | 5.7% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.3% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.4% |
| Ultra-Deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 8.1% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 67.7% |
| **Total (every power cycle)** | | | | 40960 | 7389.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.180409912 | | |
| **Battery life (in month)** | | | | 4.105876069 | | |
| **Case 4-11**  [K=4,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.8% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.2% |
| SRS | 210 | 1 | 1 | 2 | 420 | 5.9% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.6% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.5% |
| Ultra-Deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 4.2% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 70.6% |
| **Total (every power cycle)** | | | | 20480 | 7082.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.345819824 | | |
| **Battery life (in month)** | | | | 8.567938433 | | |
| **Case 4-12**  [K=4,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.7% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.6% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.1% |
| SRS | 210 | 1 | 1 | 2 | 420 | 5.7% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.3% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.4% |
| Ultra-Deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 8.1% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 67.7% |
| **Total (every power cycle)** | | | | 40960 | 7389.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.180409912 | | |
| **Battery life (in month)** | | | | 16.42350428 | | |
| **Case 4-13**  [K=1,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.8% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.2% |
| SRS | 210 | 1 | 1 | 2 | 420 | 5.9% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.6% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.5% |
| Ultra-Deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 4.2% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 70.6% |
| **Total (every power cycle)** | | | | 20480 | 7082.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.345819824 | | |
| **Battery life (in month)** | | | | 12.04866342 | | |
| **Case 4-14**  [K=1,  C2=4500,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.7% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.6% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.1% |
| SRS | 210 | 1 | 1 | 2 | 420 | 5.7% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.3% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.4% |
| Ultra-Deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 8.1% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 67.7% |
| **Total (every power cycle)** | | | | 40960 | 7389.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.180409912 | | |
| **Battery life (in month)** | | | | 23.09555289 | | |
| **Case 4-15**  [K=0.5,  C2=4500,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.8% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.2% |
| SRS | 210 | 1 | 1 | 2 | 420 | 5.9% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.6% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.5% |
| Ultra-Deep sleep | 0.015 | 1 | 19626 | 19626 | 294.39 | 4.2% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 70.6% |
| **Total (every power cycle)** | | | | 20480 | 7082.39 | 100.0% |
| **Slot-averaged power unit** | | | | 0.345819824 | | |
| **Battery life (in month)** | | | | 6.024331711 | | |
| **Case 4-16**  [K=0.5,  C2=4500,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.7% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 1.6% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.1% |
| SRS | 210 | 1 | 1 | 2 | 420 | 5.7% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.3% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.4% |
| Ultra-Deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 8.1% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 67.7% |
| **Total (every power cycle)** | | | | 40960 | 7389.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.180409912 | | |
| **Battery life (in month)** | | | | 11.54777644 | | |

Table B.5.9.2-15: Power consumption for cases [4-17] to [4-20] (Option 2)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 4-17**  [K=1,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 8.1% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 4.9% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 9.2% |
| SRS | 210 | 1 | 1 | 2 | 420 | 17.0% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 21.8% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 7.3% |
| Ultra-Deep sleep | 0.01 | 1 | 20376 | 20376 | 203.76 | 8.2% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 4.0% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 19.4% |
| **Total (every power cycle)** | | | | 20480 | 2471.76 | 100.0% |
| **Slot-averaged power unit** | | | | 0.120691406 | | |
| **Battery life (in month)** | | | | 6.137477089 | | |
| **Case 4-18**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 7.5% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 4.5% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 8.5% |
| SRS | 210 | 1 | 1 | 2 | 420 | 15.7% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 20.2% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 6.7% |
| Ultra-Deep sleep | 0.01 | 1 | 40856 | 40856 | 408.56 | 15.3% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 3.7% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 17.9% |
| **Total (every power cycle)** | | | | 40960 | 2676.56 | 100.0% |
| **Slot-averaged power unit** | | | | 0.065345703 | | |
| **Battery life (in month)** | | | | 11.33572225 | | |
| **Case 4-19**  [K=0.5,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 8.1% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 4.9% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 9.2% |
| SRS | 210 | 1 | 1 | 2 | 420 | 17.0% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 21.8% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 7.3% |
| Ultra-Deep sleep | 0.01 | 1 | 20376 | 20376 | 203.76 | 8.2% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 4.0% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 19.4% |
| **Total (every power cycle)** | | | | 20480 | 2471.76 | 100.0% |
| **Slot-averaged power unit** | | | | 0.120691406 | | |
| **Battery life (in month)** | | | | 3.068738545 | | |
| **Case 4-20**  [K=0.5,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 7.5% |
| PRS reception | 120 | 1 | 1 | 1 | 120 | 4.5% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 8.5% |
| SRS | 210 | 1 | 1 | 2 | 420 | 15.7% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 20.2% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 6.7% |
| Ultra-Deep sleep | 0.01 | 1 | 40856 | 40856 | 408.56 | 15.3% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 3.7% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 17.9% |
| **Total (every power cycle)** | | | | 40960 | 2676.56 | 100.0% |
| **Slot-averaged power unit** | | | | 0.065345703 | | |
| **Battery life (in month)** | | | | 5.667861124 | | |

Table B.5.9.2-16: Power consumption for cases [M-1] to [M-3] (Alt A)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case M-1**  [K=1,  C2=800,  DRX cycle=10.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 0.9% |
| PRS | 120 | 1 | 1 | 1 | 120 | 0.6% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.1% |
| Light sleep | 20 | 0 | 1 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 1.3% |
| Ultra-deep sleep | 0.015 | 1 | 39345 | 39345 | 590.175 | 2.8% |
| Ramp up and down for light sleep | 100 | 0 | 0 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 20000 | 1600 | 1 | 1600 | 20000 | 93.4% |
| **Total (every 2 cycles)** | | | | 40960 | 21408.175 | 100.0% |
| **Slot-averaged power unit** | | | | 0.522660522 | | |
| **Battery life (in month)** | | | | 1.417250221 | | |
| **Case M-2**  [K=1,  C2=800,  DRX cycle=10.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.8% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.1% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 2.0% |
| Light sleep | 20 | 0 | 1 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 2.4% |
| Ultra-deep sleep | 0.015 | 1 | 39345 | 39345 | 590.175 | 5.2% |
| Ramp up and down for light sleep | 100 | 0 | 0 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 10000 | 1600 | 1 | 1600 | 10000 | 87.7% |
| **Total (every 2 cycles)** | | | | 40960 | 11408.175 | 100.0% |
| **Slot-averaged power unit** | | | | 0.278519897 | | |
| **Battery life (in month)** | | | | 2.659561301 | | |
| **Case M-3**  [K=1,  C2=800,  DRX cycle=10.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 8.4% |
| PRS | 120 | 1 | 1 | 1 | 120 | 5.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 9.5% |
| Light sleep | 20 | 0 | 1 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 11.3% |
| Ultra-deep sleep | 0.015 | 1 | 40845 | 40845 | 612.675 | 25.6% |
| Ramp up and down for light sleep | 100 | 0 | 0 | 0 | 0 | 0.0% |
| Ramp up and down for ultra-deep sleep | 960 | 100 | 1 | 100 | 960 | 40.2% |
| **Total (every 2 cycles)** | | | | 40960 | 2390.675 | 100.0% |
| **Slot-averaged power unit** | | | | 0.058366089 | | |
| **Battery life (in month)** | | | | 12.69128624 | | |

Table B.5.9.2-17: Power consumption for cases [M-4] to [M-6] (Alt B)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case M-4**  [K=1,  C2=800,  DRX cycle=10.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.7% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.0% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.5% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 2.2% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 5.0% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 82.9% |
| **Total (every 2 cycles)** | | | | 40960 | 12059.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.294423584 | | |
| **Battery life (in month)** | | | | 2.515901514 | | |
| **Case M-5**  [K=1,  C2=800,  DRX cycle=10.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.8% |
| PRS | 120 | 1 | 1 | 1 | 120 | 1.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.2% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.6% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 3.8% |
| Ultra-deep sleep | 0.015 | 1 | 40106 | 40106 | 601.59 | 8.5% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 70.8% |
| **Total (every 2 cycles)** | | | | 40960 | 7059.59 | 100.0% |
| **Slot-averaged power unit** | | | | 0.172353271 | | |
| **Battery life (in month)** | | | | 4.297804935 | | |
| **Case M-6**  [K=1,  C2=800,  DRX cycle=10.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 8.5% |
| PRS | 120 | 1 | 1 | 1 | 120 | 5.1% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 9.7% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 23.0% |
| Micro sleep | 45 | 6 | 1 | 6 | 270 | 11.5% |
| Ultra-deep sleep | 0.01 | 1 | 40856 | 40856 | 408.56 | 17.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 4.3% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 20.5% |
| **Total (every 2 cycles)** | | | | 40960 | 2346.56 | 100.0% |
| **Slot-averaged power unit** | | | | 0.057289063 | | |
| **Battery life (in month)** | | | | 12.92988065 | | |

Table B.5.9.2-18: Power consumption for cases [P-1] to [P-3]

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case P-1**  [K=1,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.6% |
| PRS reception | 120 | 0.25 | 1 | 0.25 | 90 | 0.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.9% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 4.1% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 4.5% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 1.5% |
| Ultra-deep sleep | 0.015 | 1 | 19626.75 | 19626.75 | 294.40125 | 2.4% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 0.8% |
| Ramp up and down for ulra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 82.4% |
| **Total (every power cycle)** | | | | 20480 | 12132.40125 | 100.0% |
| **Slot-averaged power unit** | | | | 0.592402405 | | |
| **Battery life (in month)** | | | | 1.250401306 | | |
| **Case P-2**  [K=1,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.8% |
| PRS reception | 120 | 0.25 | 1 | 0.25 | 90 | 1.3% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 3.2% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 7.0% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 7.6% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 2.5% |
| Ultra-deep sleep | 0.015 | 1 | 19626.75 | 19626.75 | 294.40125 | 4.1% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 1.4% |
| Ramp up and down for ulra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 70.1% |
| **Total (every power cycle)** | | | | 20480 | 7132.40125 | 100.0% |
| **Slot-averaged power unit** | | | | 0.34826178 | | |
| **Battery life (in month)** | | | | 2.126965357 | | |
| **Case P-3**  [K=1,  C2=800,  DRX cycle=10.24s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 7.9% |
| PRS reception | 120 | 0.25 | 1 | 0.25 | 90 | 3.6% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 9.0% |
| CG-SDT | 250 | 2 | 1 | 2 | 500 | 19.8% |
| Light sleep | 20 | 27 | 1 | 27 | 540 | 21.4% |
| Micro sleep | 45 | 4 | 1 | 4 | 180 | 7.1% |
| Ultra-deep sleep | 0.01 | 1 | 20376.75 | 20376.75 | 203.7675 | 8.1% |
| Ramp up and down for light sleep | 100 | 12 | 1 | 12 | 100 | 4.0% |
| Ramp up and down for ulra-deep sleep | 480 | 50 | 1 | 50 | 480 | 19.0% |
| **Total (every power cycle)** | | | | 20480 | 2521.7675 | 100.0% |
| **Slot-averaged power unit** | | | | 0.123133179 | | |
| **Battery life (in month)** | | | | 6.015768849 | | |

Table B.5.9.2-19: Power consumption for cases [S-1] to [S-3] (Option 1with 10000 additional transition energy)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case S-1**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.1% |
| SRS | 210 | 1 | 1 | 1 | 210 | 1.2% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.3% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 1.3% |
| Ultra-deep sleep | 0.015 | 2 | 40098 | 40098 | 601.47 | 3.4% |
| Cell re-selection per cycle | 6020 | 48 | 1 | 48 | 6020 | 34.4% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 57.2% |
| **Total (every power cycle)** | | | | 40960 | 17484.47 | 100.0% |
| **Slot-averaged power unit** | | | | 0.426866943 | | |
| **Battery life (in month)** | | | | 1.735296566 | | |
| **Case S-2**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.4% |
| SRS | 210 | 1 | 1 | 1 | 210 | 1.5% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.6% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 1.6% |
| Ultra-deep sleep | 0.015 | 2 | 40098 | 40098 | 601.47 | 4.2% |
| Cell re-selection per cycle | 3010 | 48 | 1 | 48 | 3010 | 20.8% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 69.1% |
| **Total (every power cycle)** | | | | 40960 | 14474.47 | 100.0% |
| **Slot-averaged power unit** | | | | 0.353380615 | | |
| **Battery life (in month)** | | | | 2.096155558 | | |
| **Case S-3**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.5% |
| SRS | 210 | 1 | 1 | 1 | 210 | 1.6% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.8% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 1.7% |
| Ultra-deep sleep | 0.015 | 2 | 40098 | 40098 | 601.47 | 4.6% |
| Cell re-selection per cycle | 1505 | 48 | 1 | 48 | 1505 | 11.6% |
| Ramp up and down for ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 77.1% |
| **Total (every power cycle)** | | | | 40960 | 12969.47 | 100.0% |
| **Slot-averaged power unit** | | | | 0.316637451 | | |
| **Battery life (in month)** | | | | 2.339397118 | | |

Table B.5.9.2-20: Power consumption for cases [S-4] to [S-6] (Option 1with 5000 additional transition energy)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case S-4**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 1.6% |
| SRS | 210 | 1 | 1 | 1 | 210 | 1.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 1.8% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 1.8% |
| Ultra-deep sleep | 0.015 | 2 | 40098 | 40098 | 601.47 | 4.8% |
| Cell re-selection per cycle | 6020 | 48 | 1 | 48 | 6020 | 48.2% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 40.0% |
| **Total (every power cycle)** | | | | 40960 | 12484.47 | 100.0% |
| **Slot-averaged power unit** | | | | 0.304796631 | | |
| **Battery life (in month)** | | | | 2.430278637 | | |
| **Case S-5**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.1% |
| SRS | 210 | 1 | 1 | 1 | 210 | 2.2% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 2.4% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 2.4% |
| Ultra-deep sleep | 0.015 | 2 | 40098 | 40098 | 601.47 | 6.3% |
| Cell re-selection per cycle | 3010 | 48 | 1 | 48 | 3010 | 31.8% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 52.8% |
| **Total (every power cycle)** | | | | 40960 | 9474.47 | 100.0% |
| **Slot-averaged power unit** | | | | 0.231310303 | | |
| **Battery life (in month)** | | | | 3.202368126 | | |
| **Case S-6**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.5% |
| SRS | 210 | 1 | 1 | 1 | 210 | 2.6% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 2.9% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 2.8% |
| Ultra-deep sleep | 0.015 | 2 | 40098 | 40098 | 601.47 | 7.5% |
| Cell re-selection per cycle | 1505 | 48 | 1 | 48 | 1505 | 18.9% |
| Ramp up and down for ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 62.7% |
| **Total (every power cycle)** | | | | 40960 | 7969.47 | 100.0% |
| **Slot-averaged power unit** | | | | 0.194567139 | | |
| **Battery life (in month)** | | | | 3.80712152 | | |

Table B.5.9.2-21: Power consumption for cases [S-7] to [S-9] (Option 2)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case S-7**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 2.6% |
| SRS | 210 | 1 | 1 | 1 | 210 | 2.7% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 2.9% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 2.9% |
| Ultra-deep sleep | 0.01 | 2 | 40848 | 40848 | 408.48 | 5.3% |
| Cell re-selection per cycle | 6020 | 48 | 1 | 48 | 6020 | 77.5% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 6.2% |
| **Total (every power cycle)** | | | | 40960 | 7771.48 | 100.0% |
| **Slot-averaged power unit** | | | | 0.189733398 | | |
| **Battery life (in month)** | | | | 3.904113598 | | |
| **Case S-8**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 4.2% |
| SRS | 210 | 1 | 1 | 1 | 210 | 4.4% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 4.8% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 4.7% |
| Ultra-deep sleep | 0.01 | 2 | 40848 | 40848 | 408.48 | 8.6% |
| Cell re-selection per cycle | 3010 | 48 | 1 | 48 | 3010 | 63.2% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 10.1% |
| **Total (every power cycle)** | | | | 40960 | 4761.48 | 100.0% |
| **Slot-averaged power unit** | | | | 0.11624707 | | |
| **Battery life (in month)** | | | | 6.372123949 | | |
| **Case S-9**  [K=1,  C2=800,  DRX cycle=20.48s] | SSB sync | 50 | 4 | 1 | 4 | 200 | 6.1% |
| SRS | 210 | 1 | 1 | 1 | 210 | 6.4% |
| Paging | 50 (PPDCCH) 120(PPDCCH+PDSCH) | 4 | 1 | 4 | 228 | 7.0% |
| Light sleep | 20 | 0 | 0 | 0 | 0 | 0.0% |
| Micro sleep | 45 | 5 | 1 | 5 | 225 | 6.9% |
| Ultra-deep sleep | 0.01 | 2 | 40848 | 40848 | 408.48 | 12.5% |
| Cell re-selection per cycle | 1505 | 48 | 1 | 48 | 1505 | 46.2% |
| Ramp up and down for ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 14.7% |
| **Total (every power cycle)** | | | | 40960 | 3256.48 | 100.0% |
| **Slot-averaged power unit** | | | | 0.079503906 | | |
| **Battery life (in month)** | | | | 9.3170358 | | |

Table B.5.9.2-22 provides summary of UE power consumption results for each evaluated case in Rel-17.

Table B.5.9.2-23 provides summary of UE power consumption results for each evaluated case in Rel-18 UE-based DL positioning.

Table B.5.9.2-24 provides summary of UE power consumption results for each evaluated case in Rel-18 UE-assisted DL positioning.

Table B.5.9.2-25 provides summary of UE power consumption results for each evaluated case in Rel-18 UL positioning.

Table B.5.9.2-26 provides summary of UE power consumption results for each evaluated case in Rel-18 Multi-RTT positioning.

Table B.5.9.2-27 provides summary of UE power consumption results for each evaluated case in Rel-18 with different monitoring pattern.

Table B.5.9.2-28 provides summary of UE power consumption results for each evaluated case in Rel-18 with 1-symbol supported PRS configuration.

Table B.5.9.2-29 provides summary of UE power consumption results for each evaluated case in Rel-18 with less SRS configuration.

Table B.5.9.2-22: Summary for UE power consumption results (Rel-17)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirements met? (Yes/No); If no, provide gaps** | |
| **6 months** | **12 months** |
| Case R17-1  [Rel-17, UE based DL-TDOA/AOD,  K=4,C2=800,DRX cycle=10.24s] | 1.089 | 2.722 | No[3.278] | No[9.278] |
| Case R17-2  [Rel-17, UE based DL-TDOA/AOD,  K=2,C2=4500,DRX cycle=10.24s] | 1.089 | 7.655 | Yes | No[4.345] |
| Case R17-3  [Rel-17, UE based DL-TDOA/AOD,  K=4,C2=4500,DRX cycle=10.24] | 1.089 | 15.311 | Yes | Yes |
| Case R17-4  [Rel-17, UE assisted DL-TDOA/AOD,  K=4,C2=800,DRX cycle=10.24s] | 1.109 | 2.673 | No[3.327] | No[3.927] |
| Case R17-5  [Rel-17, UE assisted DL-TDOA/AOD,  K=2,C2=4500,DRX cycle=10.24s] | 1.109 | 7.517 | Yes | No[4.483] |
| Case R17-6  [Rel-17, UE assisted DL-TDOA/AOD,  K=4,C2=4500,DRX cycle=10.24] | 1.109 | 15.034 | Yes | Yes |
| Case R17-7  [Rel-17, UE assisted UL-TDOA/AOD,  K=4,C2=800,DRX cycle=10.24s] | 1.061 | 2.791 | No[3.209] | No[9.209] |
| Case R17-8  [Rel-17, UE assisted UL-TDOA/AOD,  K=2,C2=4500,DRX cycle=10.24s] | 1.061 | 7.851 | Yes | No[4.149] |
| Case R17-9  [Rel-17, UE assisted UL-TDOA/AOD,  K=4,C2=4500,DRX cycle=10.24] | 1.061 | 15.701 | Yes | Yes |

Table B.5.9.2-23: UE power consumption results for UE-based DL positioning (Rel-18)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Evaluation case description** | | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirements met? (Yes/No); If no, provide gaps** | |
| **6 months** | **12 months** |
| Rel-18,  UE-based  DL positioning,  option 1  [additional transition energy = 10000] | Case 1-1  [K=1, C2=800, DRX cycle=10.24s] | 0.57 | 1.29 | No, 4.71 | No, 10.71 |
| Case 1-2  [K=1, C2=800, DRX cycle=20.48s] | 0.29 | 2.52 | No, 3.48 | No, 9.48 |
| Case 1-3  [K=4, C2=800, DRX cycle=10.24s] | 0.57 | 5.16 | No, 0.84 | No, 6.84 |
| Case 1-4  [K=4, C2=800, DRX cycle=20.48s] | 0.29 | 10.06 | Yes | No, 1.94 |
| Case 1-5  [K=1, C2=4500, DRX cycle=10.24s] | 0.57 | 7.26 | Yes | No, 4.74 |
| Case 1-6  [K=1, C2=4500, DRX cycle=20.48s] | 0.29 | 14.15 | Yes | Yes |
| Case 1-7  [K=0.5, C2=4500, DRX cycle=10.24s] | 0.57 | 3.63 | No, 2.37 | No, 8.37 |
| Case 1-8  [K=0.5, C2=4500, DRX cycle=20.48s] | 0.29 | 7.08 | Yes | No, 4.92 |
| Rel-18,  UE-based  DL positioning,  option 1  [additional transition energy = 5000] | Case 1-9  [K=1, C2=800, DRX cycle=10.24s] | 0.33 | 2.25 | No, 3.75 | No, 9.75 |
| Case 1-10  [K=1, C2=800, DRX cycle=20.48s] | 0.17 | 4.30 | No, 1.7 | No, 7.7 |
| Case 1-11  [K=4, C2=800, DRX cycle=10.24s] | 0.33 | 8.99 | Yes | No, 3.01 |
| Case 1-12  [K=4, C2=800, DRX cycle=20.48s] | 0.17 | 17.19 | Yes | Yes |
| Case 1-13  [K=1, C2=4500, DRX cycle=10.24s] | 0.33 | 12.64 | Yes | Yes |
| Case 1-14  [K=1, C2=4500, DRX cycle=20.48s] | 0.17 | 24.18 | Yes | Yes |
| Case 1-15  [K=0.5, C2=4500, DRX cycle=10.24s] | 0.33 | 6.32 | Yes | No, 5.68 |
| Case 1-16  [K=0.5, C2=4500, DRX cycle=20.48s] | 0.17 | 12.09 | Yes | Yes |
| Rel-18,  UE-based  DL positioning,  option 2 | Case 1-17  [K=1, C2=800, DRX cycle=10.24s] | 0.10 | 7.08 | Yes | No, 4.92 |
| Case 1-18  [K=1, C2=800, DRX cycle=20.48s] | 0.06 | 12.93 | Yes | Yes |
| Case 1-19  [K=0.5, C2=800, DRX cycle=10.24s] | 0.10 | 3.54 | No, 2.46 | No, 8.46 |
| Case 1-20  [K=0.5, C2=800, DRX cycle=20.48s] | 0.06 | 6.46 | Yes | No, 5.54 |

Table B.5.9.2-24: UE power consumption results for UE-assisted DL positioning (Rel-18)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Evaluation case description** | | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirements met? (Yes/No); If no, provide gaps** | |
| **6 months** | **12 months** |
| Rel-18,  UE-assisted  DL positioning,  option 1  [additional transition energy = 10000] | Case 2-1  [K=1, C2=800, DRX cycle=10.24s] | 0.59 | 1.25 | No, 4.75 | No, 10.75 |
| Case 2-2  [K=1, C2=800, DRX cycle=20.48s] | 0.30 | 2.43 | No, 3.57 | No, 9.57 |
| Case 2-3  [K=4, C2=800, DRX cycle=10.24s] | 0.59 | 4.99 | No, 1.01 | No, 7.01 |
| Case 2-4  [K=4, C2=800, DRX cycle=20.48s] | 0.30 | 9.73 | Yes | No, 2.27 |
| Case 2-5  [K=1, C2=4500, DRX cycle=10.24s] | 0.59 | 7.02 | Yes | No, 4.98 |
| Case 2-6  [K=1, C2=4500, DRX cycle=20.48s] | 0.30 | 13.69 | Yes | Yes |
| Case 2-7  [K=0.5, C2=4500, DRX cycle=10.24s] | 0.59 | 3.51 | No, 2.49 | No, 8.49 |
| Case 2-8  [K=0.5, C2=4500, DRX cycle=20.48s] | 0.30 | 6.84 | Yes | No, 5.16 |
| Rel-18,  UE-assisted  DL positioning,  option 1  [additional transition energy = 5000] | Case 2-9  [K=1, C2=800, DRX cycle=10.24s] | 0.35 | 2.12 | No, 3.88 | No, 9.88 |
| Case 2-10  [K=1, C2=800, DRX cycle=20.48s] | 0.18 | 4.06 | No, 1.94 | No, 7.94 |
| Case 2-11  [K=4, C2=800, DRX cycle=10.24s] | 0.35 | 8.47 | Yes | No, 3.53 |
| Case 2-12  [K=4, C2=800, DRX cycle=20.48s] | 0.18 | 16.25 | Yes | Yes |
| Case 2-13  [K=1, C2=4500, DRX cycle=10.24s] | 0.35 | 11.91 | Yes | No, 0.09 |
| Case 2-14  [K=1, C2=4500, DRX cycle=20.48s] | 0.18 | 22.85 | Yes | Yes |
| Case 2-15  [K=0.5, C2=4500, DRX cycle=10.24s] | 0.35 | 5.96 | No, 0.04 | No, 6.04 |
| Case 2-16  [K=0.5, C2=4500, DRX cycle=20.48s] | 0.18 | 11.42 | Yes | No, 0.58 |
| Rel-18,  UE-assisted  DL positioning,  option 2 | Case 2-17  [K=1, C2=800, DRX cycle=10.24s] | 0.12 | 5.95 | No, 0.05 | No, 6.05 |
| Case 2-18  [K=1, C2=800, DRX cycle=20.48s] | 0.07 | 11.01 | Yes | No, 0.99 |
| Case 2-19  [K=0.5, C2=800, DRX cycle=10.24s] | 0.12 | 2.97 | No, 3.03 | No, 9.03 |
| Case 2-20  [K=0.5, C2=800, DRX cycle=20.48s] | 0.07 | 5.50 | No, 0.5 | No, 6.5 |

Table B.5.9.2-25: UE power consumption results for UL positioning (Rel-18)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Evaluation case description** | | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirements met? (Yes/No); If no, provide gaps** | |
| **6 months** | **12 months** |
| Rel-18,  UL positioning,  option 1  [additional transition energy = 10000] | Case 3-1  [K=1, C2=800, DRX cycle=10.24s] | 0.54 | 1.36 | No, 4.64 | No, 10.64 |
| Case 3-2  [K=1, C2=800, DRX cycle=20.48s] | 0.28 | 2.65 | No, 3.35 | No, 9.35 |
| Case 3-3  [K=4, C2=800, DRX cycle=10.24s] | 0.54 | 5.44 | No, 0.56 | No, 6.56 |
| Case 3-4  [K=4, C2=800, DRX cycle=20.48s] | 0.28 | 10.59 | Yes | No, 1.41 |
| Case 3-5  [K=1, C2=4500, DRX cycle=10.24s] | 0.54 | 7.65 | Yes | No, 4.35 |
| Case 3-6  [K=1, C2=4500, DRX cycle=20.48s] | 0.28 | 14.89 | Yes | Yes |
| Case 3-7  [K=0.5, C2=4500, DRX cycle=10.24s] | 0.54 | 3.82 | No, 2.18 | No, 8.18 |
| Case 3-8  [K=0.5, C2=4500, DRX cycle=20.48s] | 0.28 | 7.44 | Yes | No, 4.56 |
| Rel-18,  UL positioning,  option 1  [additional transition energy = 5000] | Case 3-9  [K=1, C2=800, DRX cycle=10.24s] | 0.30 | 2.46 | No, 3.54 | No, 9.54 |
| Case 3-10  [K=1, C2=800, DRX cycle=20.48s] | 0.16 | 4.69 | No, 1.31 | No, 7.31 |
| Case 3-11  [K=4, C2=800, DRX cycle=10.24s] | 0.30 | 9.85 | Yes | No, 2.15 |
| Case 3-12  [K=4, C2=800, DRX cycle=20.48s] | 0.16 | 18.77 | Yes | Yes |
| Case 3-13  [K=1, C2=4500, DRX cycle=10.24s] | 0.30 | 13.86 | Yes | Yes |
| Case 3-14  [K=1, C2=4500, DRX cycle=20.48s] | 0.16 | 26.40 | Yes | Yes |
| Case 3-15  [K=0.5, C2=4500, DRX cycle=10.24s] | 0.30 | 6.93 | Yes | No, 5.07 |
| Case 3-16  [K=0.5, C2=4500, DRX cycle=20.48s] | 0.16 | 13.20 | Yes | Yes |
| Rel-18,  UL positioning,  option 2 | Case 3-17  [K=1, C2=800, DRX cycle=10.24s] | 0.08 | 9.81 | Yes | No, 2.19 |
| Case 3-18  [K=1, C2=800, DRX cycle=20.48s] | 0.04 | 17.32 | Yes | Yes |
| Case 3-19  [K=0.5, C2=800, DRX cycle=10.24s] | 0.08 | 4.90 | No, 1.1 | No, 7.1 |
| Case 3-20  [K=0.5, C2=800, DRX cycle=20.48s] | 0.04 | 8.66 | Yes | No, 3.34 |

Table B.5.9.2-26: UE power consumption results for Multi-RTT positioning (Rel-18)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Evaluation case description** | | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirements met? (Yes/No); If no, provide gaps** | |
| **6 months** | **12 months** |
| Rel-18,  Multi-RTT positioning,  option 1  [additional transition energy = 10000] | Case 4-1  [K=1, C2=800, DRX cycle=10.24s] | 0.59 | 1.26 | No, 4.74 | No, 10.74 |
| Case 4-2  [K=1, C2=800, DRX cycle=20.48s] | 0.30 | 2.45 | No, 3.55 | No, 9.55 |
| Case 4-3  [K=4, C2=800, DRX cycle=10.24s] | 0.59 | 5.02 | No, 0.98 | No, 6.98 |
| Case 4-4  [K=4, C2=800, DRX cycle=20.48s] | 0.30 | 9.80 | Yes | No, 2.2 |
| Case 4-5  [K=1, C2=4500, DRX cycle=10.24s] | 0.59 | 7.06 | Yes | No, 4.94 |
| Case 4-6  [K=1, C2=4500, DRX cycle=20.48s] | 0.30 | 13.78 | Yes | Yes |
| Case 4-7  [K=0.5, C2=4500, DRX cycle=10.24s] | 0.59 | 3.53 | No, 2.47 | No, 8.47 |
| Case 4-8  [K=0.5, C2=4500, DRX cycle=20.48s] | 0.30 | 6.89 | Yes | No, 5.11 |
| Rel-18,  Multi-RTT positioning,  option 1  [additional transition energy = 5000] | Case 4-9  [K=1, C2=800, DRX cycle=10.24s] | 0.35 | 2.14 | No, 3.86 | No, 9.86 |
| Case 4-10  [K=1, C2=800, DRX cycle=20.48s] | 0.18 | 4.11 | No, 1.89 | No, 7.89 |
| Case 4-11  [K=4, C2=800, DRX cycle=10.24s] | 0.35 | 8.57 | Yes | No, 3.43 |
| Case 4-12  [K=4, C2=800, DRX cycle=20.48s] | 0.18 | 16.42 | Yes | Yes |
| Case 4-13  [K=1, C2=4500, DRX cycle=10.24s] | 0.35 | 12.05 | Yes | Yes |
| Case 4-14  [K=1, C2=4500, DRX cycle=20.48s] | 0.18 | 23.10 | Yes | Yes |
| Case 4-15  [K=0.5, C2=4500, DRX cycle=10.24s] | 0.35 | 6.02 | Yes | No, 5.98 |
| Case 4-16  [K=0.5, C2=4500, DRX cycle=20.48s] | 0.18 | 11.55 | Yes | No, 0.45 |
| Rel-18,  Multi-RTT positioning,  option 2 | Case 4-17  [K=1, C2=800, DRX cycle=10.24s] | 0.12 | 6.14 | Yes | No, 5.86 |
| Case 4-18  [K=1, C2=800, DRX cycle=20.48s] | 0.07 | 11.34 | Yes | No, 0.66 |
| Case 4-19  [K=0.5, C2=800, DRX cycle=10.24s] | 0.12 | 3.07 | No, 2.93 | No, 8.93 |
| Case 4-20  [K=0.5, C2=800, DRX cycle=20.48s] | 0.07 | 5.67 | No, 0.33 | No, 6.33 |

Table B.5.9.2-27: UE power consumption results for different monitoring patterns in UE-based DL positioning (Rel-18)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Evaluation case description** | | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirements met? (Yes/No); If no, provide gaps** | |
| **6 months** | **12 months** |
| Monitoring pattern Alt A  [K=1, C2=800, DRX cycle=10.24s] | Case M-1  Option 1, additional transition energy=10000 | 0.52 | 1.42 | No, 4.58 | No, 10.58 |
| Case M-2  Option 1, additional transition energy=5000 | 0.28 | 2.66 | No, 3.34 | No, 9.34 |
| Case M-3  Option 2 | 0.06 | 12.69 | Yes | Yes |
| Monitoring pattern Alt B  [K=1, C2=800, DRX cycle=10.24s] | Case M-4  Option 1, additional transition energy=10000 | 0.29 | 2.52 | No, 3.48 | No, 9.48 |
| Case M-5  Option 1, additional transition energy=5000 | 0.17 | 4.30 | No, 1.70 | No, 7.70 |
| Case M-6  Option 2 | 0.06 | 12.93 | Yes | Yes |

Table B.5.9.2-28: UE power consumption results for 1-symbol PRS supported UE in UE-assisted DL positioning (Rel-18)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Evaluation case description** | | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirements met? (Yes/No); If no, provide gaps** | |
| **6 months** | **12 months** |
| Regular PRS  [K=1, C2=800, DRX cycle=10.24s] | Case 2-1  Option 1, additional transition energy=10000 | 0.59 | 1.25 | No, 4.75 | No, 10.75 |
| Case 2-9  Option 1, additional transition energy=5000 | 0.35 | 2.12 | No, 3.88 | No, 9.88 |
| Case 2-17  Option 2 | 0.12 | 5.95 | No, 0.05 | No, 6.05 |
| 1-symbol PRS supported  [K=1, C2=800, DRX cycle=10.24s] | Case P-1  Option 1, additional transition energy=10000 | 0.59 | 1.25 | No, 4.75 | No, 10.75 |
| Case P-2  Option 1, additional transition energy=5000 | 0.34 | 2.13 | No, 3.87 | No, 9.87 |
| Case P-3  Option 2 | 0.12 | 6.02 | Yes | No, 5.98 |

Table B.5.9.2-29: UE power consumption results for SRS reconfiguration in UL positioning (Rel-18)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Evaluation case description** | | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirements met? (Yes/No); If no, provide gaps** | |
| **6 months** | **12 months** |
| Option 1, additional transition energy=10000  [K=1, C2=800, DRX cycle=20.48s] | Case S-1  [SRS re-configuration every 1 DRX cycle] | 0.43 | 1.74 | No, 4.26 | No, 10.26 |
| Case S-2  [SRS re-configuration every 2 DRX cycles] | 0.35 | 2.10 | No, 3.90 | No, 9.90 |
| Case S-3  [SRS re-configuration every 4 DRX cycles] | 0.32 | 2.34 | No, 3.66 | No, 9.66 |
| Option 1, additional transition energy=5000  [K=1, C2=800, DRX cycle=20.48s] | Case S-4  [SRS re-configuration every 1 DRX cycle] | 0.30 | 2.43 | No, 3.57 | No, 9.57 |
| Case S-5  [SRS re-configuration every 2 DRX cycles] | 0.23 | 3.20 | No, 2.80 | No, 8.80 |
| Case S-6  [SRS re-configuration every 4 DRX cycles] | 0.19 | 3.81 | No, 2.19 | No, 9.19 |
| Option 2  [K=1, C2=800, DRX cycle=20.48s] | Case S-7  [SRS re-configuration every 1 DRX cycle] | 0.19 | 3.90 | No, 2.10 | No, 8.10 |
| Case S-8  [SRS re-configuration every 2 DRX cycles] | 0.11 | 6.37 | Yes | No, 5.63 |
| Case S-9  [SRS re-configuration every 4 DRX cycles] | 0.08 | 7.32 | Yes | No, 4.68 |

## B.5.10 Results from source [102]

### B.5.10.1 Description of evaluation scenarios

Evaluation cases and corresponding assumptions for UE power consumption analysis are provided in Table B.5.10.1-1.

We study and evaluate DL assisted positioning by performing power consumption calculation for different combinations of DRX cycles and positioning periodicity. We assume the following power model and time duration when calculating the total energy/power consumption of the LPHAP device.

Table B.5.10.1-1: Relative power consumption for UE in different radio status

|  |  |  |
| --- | --- | --- |
| **Power State** | **Relative power** | **Notes** |
| Ultra-deep sleep | 0.015 | transition energy: 10000 transition time: 400ms |
| Deep sleep | 1 | Transition energy: 450 /480 Transition time: 20ms |
| Light sleep | 20 | Transition energy: 100 Transition time: 6ms |
| Micro-sleep | 45 |  |
| PDCCH-only (PPDCCH) | 50 |  |
| PDCCH + PDSCH (PPDCCH+PDSCH) | 120 |  |
| SSB proc. (PSSB) | 50 |  |
| UL | 700 (23 dBm) |  |

Other key parameters used in our power consumption calculations are as follows:

- Length of DRX cycles (I-DRX): 1.28 sec and 10.24 sec,

- Periodicity of DL PRS for positioning occasion every N DRX cycle: N= 1, 8

- Durations of SSB proc, paging, DL PRS measurement, and CG-SDT: 2 msec, 2 msec, 0.5 msec, and 1 msec (CG-SDT has the same periodicity as positioning interval).

We also use the Alt1 to calculate the battery life

where X is set to 20%, P1 to 50, and C1 to 4500 mhA and C2 to 800 mhA and 4500 mAh. K is an implementation factor, K = 1 (baseline) and 4.

### B.5.10.2 Evaluation results for Low Power High Accuracy Positioning

Tables B.5.10.2-1 and B.5.10.2-2 show the summary of the result of power consumption calculation for different combinations of DRX cycles and positioning periodicity, for and , respectively.

Table B.5.10.2-1: Summary of power consumption and device battery lifetime, for

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Avg. power consumption P2 (mW) | | | Battery lifetime T2 (days) | | | |
| Type A (C2=800 mAh) | | Type B (C2=4500 mAh) | |
| Deep sleep | Ultra-deep sleep | | Deep sleep | Ultra-deep sleep | Deep sleep | Ultra-deep sleep |
| I-DRX = 1.28 sec, N=1 | 4.15 | 3.37 | | 4.3 | 5.3 | 24.1 | 29.6 |
| I-DRX = 1.28 sec, N=8 | 2.2 | | 1.5 | 7.8 | 12 | 43.7 | 67.7 |
| I-DRX = 10.24 sec, N=1 | 1.4 | | 0.55 | 12.7 | 32.16 | 71.7 | **180.9** |

Table B.5.10.2-2: Summary of power consumption and device battery lifetime, for

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Avg. power consumption P2 (mW) | | | Battery lifetime T2 (days) | | | |
| Type A (C2=800 mAh) | | Type B (C2=4500 mAh) | |
| Deep sleep | Ultra-deep sleep | | Deep sleep | Ultra-deep sleep | Deep sleep | Ultra-deep sleep |
| I-DRX = 1.28 sec, N=1 | 4.15 | 3.37 | | 17.2 | 21.2 | 86.4 | 118.6 |
| I-DRX = 1.28 sec, N=8 | 2.2 | | 1.5 | 31 | 48 | 174.8 | 270.8 |
| I-DRX = 10.24 sec, N=1 | 1.4 | | 0.55 | 51 | 128.6 | 286.8 | **723.6** |

Table B.5.10.2-3 and B.5.10.2-4 show the summary of the result of power consumption calculation for different combinations of DRX cycles and positioning periodicity, for and , respectively, when aligning DRX on duration and DL assisted PRS procedure (i.e., enhanced mechanism).

Table B.5.10.2-3: Summary of power consumption and device battery lifetime, enhanced mechanism, for K= 1.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Average power consumption P2 (mW) | | Power saving gain | | Battery lifetime T2 (days) | | | |
| Type A  (C2=800 mAh) | | Type B  (C2=4500 mAh) | |
| Deep sleep | Ultra-deep sleep | Deep sleep | Ultra-deep sleep | Deep sleep | Ultra-deep sleep | Deep sleep | Ultra-deep sleep |
| I-DRX = 1.28 sec, N=1 | 2.68 | 1.87 | 35% | 44.5% | 6.6 | 9.5 | 37.2 | 53.46 |
| I-DRX = 1.28 sec, N=8 | 2.1 | 1.28 | 8% | 12.7% | 8.4 | 13.8 | 47.5 | 77.5 |
| I-DRX = 10.24 sec, N=1 | 1.2 | 0.36 | 13.2% | 34% | 14.7 | 48.7 | 82.6 | 273.9 |

Table B.5.10.2-4: Summary of power consumption and device battery lifetime, enhanced mechanism, for K= 4.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Average power consumption P2 (mW) | | Power saving gain | | Battery lifetime T2 (days) | | | |
| Type A  (C2=800 mAh) | | Type B  (C2=4500 mAh) | |
| Deep sleep | Ultra-deep sleep | Deep sleep | Ultra-deep sleep | Deep sleep | Ultra-deep sleep | Deep sleep | Ultra-deep sleep |
| I-DRX = 1.28 sec, N=1 | 2.68 | 1.87 | 35% | 44.5% | 26.5 | 38 | 149 | 213.9 |
| I-DRX = 1.28 sec, N=8 | 2.1 | 1.28 | 8% | 12.7% | 33.8 | 55.15 | 190 | 270.8 |
| I-DRX = 10.24 sec, N=1 | 1.2 | 0.36 | 13.2% | 34% | 58.7 | 195 | 330.4 | 1095.7 |

## B.5.11 Results from source [103]

### B.5.11.1 Description of evaluation scenarios

For Rel-17 positioning for UEs in RRC\_INACTIVE state, evaluation cases and corresponding assumptions are shown in Table B.5.11.1-1, including evaluations with different combinations of DRX cycles and RS periodicities for UE-assisted DL positioning, UE-based DL positioning, and/or UL positioning.

For Rel-18 potential enhancements, the following cases are considered for UE-assisted DL positioning, UE-based DL positioning, and/or UL positioning:

- Extending DRX cycles, evaluations cases and corresponding assumptions are shown in Table B.5.11.1-2

- UE with and without entering RRC\_CONNECTED state to obtain SRS (re)configurations, evaluations cases and corresponding assumptions are shown in Table B.5.11.1-3

- Minimizing gaps between PRS/SRS/paging/reporting/synchronization, evaluations cases and corresponding assumptions are shown in Table B.5.11.1-4

- Overall enhancements including ultra-deep sleep state, DRX cycle beyond 10.24s, SRS enhancements and minimized gaps between PRS/SRS/paging/reporting/synchronization, evaluations cases and corresponding assumptions are shown in Table B.5.11.1-5.

Throughout the evaluations:

- The battery life for both LPHAP Type A and Type B devices with implementation factor K = 1,2,4 is considered.

- The following TDD pattern of 7D1S2U with the periodicity of 5ms is assumed.



- For overall enhancement with ultra-deep sleep option 1, paging reception is considered; for overall enhancement with ultra-deep sleep option 2, UE only wakes up to perform synchronization, PRS measurement, SRS transmission, and/or reporting, no paging reception is considered.

Table B.5.11.1-1: Evaluation cases and assumptions for Rel-17 RRC\_INACTIVE positioning

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[101], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[102], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[103], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[104], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[105], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[106], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s (1 RS occasion per 1 I-DRX cycle) | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT; Reporting interval = 1.28s | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[111], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[112], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[113], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[114], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[115], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[116], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s (1 RS occasion per 8 I-DRX cycle) | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT; Reporting interval = 10.24s | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[121], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[122], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[123], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[124], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[125], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[126], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s (1 RS occasion per 1 I-DRX cycle) | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | RA-SDT; Reporting interval = 1.28s | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[131], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[132], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[133], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[134], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[135], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[136], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s (1 RS occasion per 8 I-DRX cycle) | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | RA-SDT; Reporting interval = 10.24s | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[201], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[202], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[203], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[204], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[205], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[206], [FR1], [UE-based DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s (1 RS occasion per 1 I-DRX cycle) | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[211], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[212], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[213], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[214], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[215], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[216], [FR1], [UE-based DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s (1 RS occasion per 8 I-DRX cycle) | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[301], [FR1], [UL positioning], [LPHAP Type A]** | **[302], [FR1], [UL positioning], [LPHAP Type A]** | **[303], [FR1], [UL positioning], [LPHAP Type A]** | **[304], [FR1], [UL positioning], [LPHAP Type B]** | **[305], [FR1], [UL positioning], [LPHAP Type B]** | **[306], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s (1 RS occasion per 1 I-DRX cycle) | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[311], [FR1], [UL positioning], [LPHAP Type A]** | **[312], [FR1], [UL positioning], [LPHAP Type A]** | **[313], [FR1], [UL positioning], [LPHAP Type A]** | **[314], [FR1], [UL positioning], [LPHAP Type B]** | **[315], [FR1], [UL positioning], [LPHAP Type B]** | **[316], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s (1 RS occasion per 8 I-DRX cycle) | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[321], [FR1], [UL positioning], [LPHAP Type A]** | **[322], [FR1], [UL positioning], [LPHAP Type A]** | **[323], [FR1], [UL positioning], [LPHAP Type A]** | **[324], [FR1], [UL positioning], [LPHAP Type B]** | **[325], [FR1], [UL positioning], [LPHAP Type B]** | **[326], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s (1 RS occasion per 1 I-DRX cycle) | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | RA-SDT for SRS configuration (per power cycle) | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[331], [FR1], [UL positioning], [LPHAP Type A]** | **[332], [FR1], [UL positioning], [LPHAP Type A]** | **[333], [FR1], [UL positioning], [LPHAP Type A]** | **[334], [FR1], [UL positioning], [LPHAP Type B]** | **[335], [FR1], [UL positioning], [LPHAP Type B]** | **[336], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s (1 RS occasion per 8 I-DRX cycle) | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | RA-SDT for SRS configuration (per power cycle) | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |

Table B.5.11.1-2: Evaluation cases and assumptions for extended DRX cycle

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[A101], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[A102], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[A103], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[A104], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[A105], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[A106], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT; Reporting interval = 1.28s | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[A111], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[A112], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[A113], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[A114], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[A115], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[A116], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 10.24s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT; Reporting interval = 10.24s | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[A121], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[A122], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[A123], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[A124], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[A125], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[A126], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 20.48s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT; Reporting interval = 20.48s | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[A201], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[A202], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[A203], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[A204], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[A205], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[A206], [FR1], [UE-based DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[A211], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[A212], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[A213], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[A214], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[A215], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[A216], [FR1], [UE-based DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 10.24s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[A221], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[A222], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[A223], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[A224], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[A225], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[A226], [FR1], [UE-based DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 20.48s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[A301], [FR1], [UL positioning], [LPHAP Type A]** | **[A302], [FR1], [UL positioning], [LPHAP Type A]** | **[A303], [FR1], [UL positioning], [LPHAP Type A]** | **[A304], [FR1], [UL positioning], [LPHAP Type B]** | **[A305], [FR1], [UL positioning], [LPHAP Type B]** | **[A306], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[A311], [FR1], [UL positioning], [LPHAP Type A]** | **[A312], [FR1], [UL positioning], [LPHAP Type A]** | **[A313], [FR1], [UL positioning], [LPHAP Type A]** | **[A314], [FR1], [UL positioning], [LPHAP Type B]** | **[A315], [FR1], [UL positioning], [LPHAP Type B]** | **[A316], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 10.24s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[A321], [FR1], [UL positioning], [LPHAP Type A]** | **[A322], [FR1], [UL positioning], [LPHAP Type A]** | **[A323], [FR1], [UL positioning], [LPHAP Type A]** | **[A324], [FR1], [UL positioning], [LPHAP Type B]** | **[A325], [FR1], [UL positioning], [LPHAP Type B]** | **[A326], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 20.48s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |

Table B.5.11.1-3: Evaluation cases and assumptions for SRS enhancements

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[B101], [FR1], [UL positioning], [LPHAP Type A]** | **[B102], [FR1], [UL positioning], [LPHAP Type A]** | **[B103], [FR1], [UL positioning], [LPHAP Type A]** | **[B104], [FR1], [UL positioning], [LPHAP Type B]** | **[B105], [FR1], [UL positioning], [LPHAP Type B]** | **[B106], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | RA-SDT procedure to enter RRC\_CONNECTED mode to obtain SRS configuration every power cycle | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[B111], [FR1], [UL positioning], [LPHAP Type A]** | **[B112], [FR1], [UL positioning], [LPHAP Type A]** | **[B113], [FR1], [UL positioning], [LPHAP Type A]** | **[B114], [FR1], [UL positioning], [LPHAP Type B]** | **[B115], [FR1], [UL positioning], [LPHAP Type B]** | **[B116], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 10.24s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | RA-SDT procedure to enter RRC\_CONNECTED mode to obtain SRS configuration every power cycle | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[B121], [FR1], [UL positioning], [LPHAP Type A]** | **[B122], [FR1], [UL positioning], [LPHAP Type A]** | **[B123], [FR1], [UL positioning], [LPHAP Type A]** | **[B124], [FR1], [UL positioning], [LPHAP Type B]** | **[B125], [FR1], [UL positioning], [LPHAP Type B]** | **[B126], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 20.48s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | RA-SDT procedure to enter RRC\_CONNECTED mode to obtain SRS configuration every power cycle | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[B131], [FR1], [UL positioning], [LPHAP Type A]** | **[B132], [FR1], [UL positioning], [LPHAP Type A]** | **[B133], [FR1], [UL positioning], [LPHAP Type A]** | **[B134], [FR1], [UL positioning], [LPHAP Type B]** | **[B135], [FR1], [UL positioning], [LPHAP Type B]** | **[B136], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[B141], [FR1], [UL positioning], [LPHAP Type A]** | **[B142], [FR1], [UL positioning], [LPHAP Type A]** | **[B143], [FR1], [UL positioning], [LPHAP Type A]** | **[B144], [FR1], [UL positioning], [LPHAP Type B]** | **[B145], [FR1], [UL positioning], [LPHAP Type B]** | **[B146], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 10.24s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[B151], [FR1], [UL positioning], [LPHAP Type A]** | **[B152], [FR1], [UL positioning], [LPHAP Type A]** | **[B153], [FR1], [UL positioning], [LPHAP Type A]** | **[B154], [FR1], [UL positioning], [LPHAP Type B]** | **[B155], [FR1], [UL positioning], [LPHAP Type B]** | **[B156], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 20.48s | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |

Table B.5.11.1-4: Evaluation cases and assumptions for minimized gaps

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[C101], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[C102], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[C103], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[C104], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[C105], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[C106], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT; Reporting interval = 1.28s | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[C111], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[C112], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[C113], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[C114], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[C115], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[C116], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 10.24s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT; Reporting interval = 10.24s | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[C121], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[C122], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[C123], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[C124], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[C125], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[C126], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 20.48s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | N/A | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT; Reporting interval = 20.48s | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[C201], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[C202], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[C203], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[C204], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[C205], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[C206], [FR1], [UE-based DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[C211], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[C212], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[C213], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[C214], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[C215], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[C216], [FR1], [UE-based DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 10.24s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[C221], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[C222], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[C223], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[C224], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[C225], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[C226], [FR1], [UE-based DL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 20.48s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[C301], [FR1], [UL positioning], [LPHAP Type A]** | **[C302], [FR1], [UL positioning], [LPHAP Type A]** | **[C303], [FR1], [UL positioning], [LPHAP Type A]** | **[C304], [FR1], [UL positioning], [LPHAP Type B]** | **[C305], [FR1], [UL positioning], [LPHAP Type B]** | **[C306], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 1.28s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 1.28s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[C311], [FR1], [UL positioning], [LPHAP Type A]** | **[C312], [FR1], [UL positioning], [LPHAP Type A]** | **[C313], [FR1], [UL positioning], [LPHAP Type A]** | **[C314], [FR1], [UL positioning], [LPHAP Type B]** | **[C315], [FR1], [UL positioning], [LPHAP Type B]** | **[C316], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 10.24s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 10.24s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[C321], [FR1], [UL positioning], [LPHAP Type A]** | **[C322], [FR1], [UL positioning], [LPHAP Type A]** | **[C323], [FR1], [UL positioning], [LPHAP Type A]** | **[C324], [FR1], [UL positioning], [LPHAP Type B]** | **[C325], [FR1], [UL positioning], [LPHAP Type B]** | **[C326], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | 38.840 | | | | | |
| DRX cycle | 20.48s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |

Table B.5.11.1-5: Evaluation cases and assumptions for overall enhancements

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[D101], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[D102], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[D103], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[D104], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[D105], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[D106], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** |
| Sleep state | Ultra-deep sleep Option 1 with additional energy 10000 | | | | | |
| DRX cycle | 20.48s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT; Reporting interval = 20.48s | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[D111], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[D112], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[D113], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[D114], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[D115], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[D116], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** |
| Sleep state | Ultra-deep sleep Option 1 with additional energy 5000 | | | | | |
| DRX cycle | 20.48s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT; Reporting interval = 20.48s | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[D121], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[D122], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[D123], [FR1], [UE-assisted DL positioning], [LPHAP Type A]** | **[D124], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[D125], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** | **[D126], [FR1], [UE-assisted DL positioning], [LPHAP Type B]** |
| Sleep state | Ultra-deep sleep Option 2 | | | | | |
| DRX cycle | 20.48s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | N/A | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT; Reporting interval = 20.48s | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[D201], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[D202], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[D203], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[D204], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[D205], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[D206], [FR1], [UE-based DL positioning], [LPHAP Type B]** |
| Sleep state | Ultra-deep sleep Option 1 with additional energy 10000 | | | | | |
| DRX cycle | 20.48s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[D211], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[D212], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[D213], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[D214], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[D215], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[D216], [FR1], [UE-based DL positioning], [LPHAP Type B]** |
| Sleep state | Ultra-deep sleep Option 1 with additional energy 5000 | | | | | |
| DRX cycle | 20.48s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[D221], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[D222], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[D223], [FR1], [UE-based DL positioning], [LPHAP Type A]** | **[D224], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[D225], [FR1], [UE-based DL positioning], [LPHAP Type B]** | **[D226], [FR1], [UE-based DL positioning], [LPHAP Type B]** |
| Sleep state | Ultra-deep sleep Option 2 | | | | | |
| DRX cycle | 20.48s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | N/A | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[D301], [FR1], [UL positioning], [LPHAP Type A]** | **[D302], [FR1], [UL positioning], [LPHAP Type A]** | **[D303], [FR1], [UL positioning], [LPHAP Type A]** | **[D304], [FR1], [UL positioning], [LPHAP Type B]** | **[D305], [FR1], [UL positioning], [LPHAP Type B]** | **[D306], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | Ultra-deep sleep Option 1 with additional energy 10000 | | | | | |
| DRX cycle | 20.48s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[D311], [FR1], [UL positioning], [LPHAP Type A]** | **[D312], [FR1], [UL positioning], [LPHAP Type A]** | **[D313], [FR1], [UL positioning], [LPHAP Type A]** | **[D314], [FR1], [UL positioning], [LPHAP Type B]** | **[D315], [FR1], [UL positioning], [LPHAP Type B]** | **[D316], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | Ultra-deep sleep Option 1 with additional energy 5000 | | | | | |
| DRX cycle | 20.48s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | Yes | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |
| **Evaluation assumption** | **[D321], [FR1], [UL positioning], [LPHAP Type A]** | **[D322], [FR1], [UL positioning], [LPHAP Type A]** | **[D323], [FR1], [UL positioning], [LPHAP Type A]** | **[D324], [FR1], [UL positioning], [LPHAP Type B]** | **[D325], [FR1], [UL positioning], [LPHAP Type B]** | **[D326], [FR1], [UL positioning], [LPHAP Type B]** |
| Sleep state | Ultra-deep sleep Option 2 | | | | | |
| DRX cycle | 20.48s (Minimized gaps between paging/RS/sync) | | | | | |
| paging reception | N/A | | | | | |
| RS periodicity | 20.48s | | | | | |
| M-sample | 1 | | | | | |
| RRM measurement | N/A | | | | | |
| BWP switching | N/A | | | | | |
| SRS configuration | N/A | | | | | |
| implementation factor K | 1 | 2 | 4 | 1 | 2 | 4 |

### B.5.11.2 Evaluation results for Low Power High Accuracy Positioning

Table B.5.11.2-1 provides detailed UE power consumption results for Rel-17 RRC\_INACTIVE positioning.

Table B.5.11.2-2 ~ Table B.5.11.5 provides detailed UE power consumption results for Rel-18 potential enhancements:

- Table B.5.11.2-2 provides detailed UE power consumption results for extending DRX cycles

- Table B.5.11.2-3 provides detailed UE power consumption results for UE with and without entering RRC\_CONNECTED state to obtain SRS (re)configurations

- Table B.5.11.2-4 provides detailed UE power consumption results for minimizing gaps between PRS/SRS/paging/reporting/synchronization

- Table B.5.11.2-5 provides detailed UE power consumption results for overall enhancements including ultra-deep sleep state, DRX cycle beyond 10.24s, SRS enhancements and minimized gaps between PRS/SRS/paging/reporting/synchronization.

- Table B.5.11.2-6 provides summary of UE power consumption results for Rel-17 RRC\_INACTIVE positioning.

- Table B.5.11.2-7 provides summary of UE power consumption results for Rel-18 potential enhancements.

Table B.5.11.2-1: UE power consumptions for Rel-17 RRC\_INACTIVE positioning

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **101** | SSB synchronization | 50 | 4 | 2 | 8 | 400 | 6.04% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 3.44% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 1.81% |
| UL | 700 | 2 | 1 | 2 | 1400 | 21.13% |
| Deep sleep | 1 |  |  | 2409 | 2409 | 36.35% |
| Micro sleep | 45 |  |  | 16 | 720 | 10.86% |
| Transition energy  - Deep sleep | 450 | 40 | 3 | 120 | 1350 | 20.37% |
| **Total (every 1.28s)** | | | | **2560** | **6627** | **100%** |
| **Slot-averaged power unit** | | | | 2.59 | | |
| **Battery life (in month)** | | | | 0.29 | | |
| **102** | **Battery life (in month)** | | | | 0.57 | | |
| **103** | **Battery life (in month)** | | | | 1.14 | | |
| **104** | **Battery life (in month)** | | | | 1.61 | | |
| **105** | **Battery life (in month)** | | | | 3.22 | | |
| **106** | **Battery life (in month)** | | | | 6.44 | | |
| **111** | SSB synchronization | 50 | 4 | 9 | 36 | 1800 | 5.48% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 8 | 32 | 1824 | 5.56% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.37% |
| UL | 700 | 2 | 1 | 2 | 1400 | 4.27% |
| Deep sleep | 1 |  |  | 19937 | 19937 | 60.74% |
| Micro sleep | 45 |  |  | 72 | 3240 | 9.87% |
| Transition energy  - Deep sleep | 450 | 40 | 10 | 400 | 4500 | 13.71% |
| **Total (every 10.24s)** | | | | **20480** | **32821** | **100%** |
| **Slot-averaged power unit** | | | | 1.60 | | |
| **Battery life (in month)** | | | | 0.46 | | |
| **112** | **Battery life (in month)** | | | | 0.93 | | |
| **113** | **Battery life (in month)** | | | | 1.85 | | |
| **114** | **Battery life (in month)** | | | | 2.60 | | |
| **115** | **Battery life (in month)** | | | | 5.21 | | |
| **116** | **Battery life (in month)** | | | | 10.42 | | |
| **121** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 1.97% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 2.25% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 1.18% |
| RA-SDT | | | | 72 | 5520 | 54.50% |
| 1) SSB | 50 | 4 | 2 | 8 |  |  |
| 2) CORESET0+SIB1 (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 3) PRACH | 210 | 2 | 1 | 2 |  |  |
| 4) RAR (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 5) Msg3 (UL) | 700 | 2 | 1 | 2 |  |  |
| 6) Msg4 (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 7) RRCRelease (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 8) Micro sleep | 45 |  |  | 52 |  |  |
| Deep sleep | 1 |  |  | 2351 | 2351 | 23.21% |
| Micro sleep | 45 |  |  | 8 | 360 | 3.55% |
| Transition energy  - Deep sleep | 450 | 40 | 3 | 120 | 1350 | 13.33% |
| **Total (every 1.28s)** | | | | **20480** | **32821** | **100%** |
| **Slot-averaged power unit** | | | | 3.96 | | |
| **Battery life (in month)** | | | | 0.19 | | |
| **122** | **Battery life (in month)** | | | | 0.37 | | |
| **123** | **Battery life (in month)** | | | | 0.75 | | |
| **124** | **Battery life (in month)** | | | | 1.05 | | |
| **125** | **Battery life (in month)** | | | | 2.10 | | |
| **126** | **Battery life (in month)** | | | | 4.21 | | |
| **131** | SSB synchronization | 50 | 4 | 8 | 32 | 1600 | 4.40% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 8 | 32 | 1824 | 5.02% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.33% |
| RA-SDT | | | | 72 | 5520 | 15.20% |
| 1) SSB | 50 | 4 | 2 | 8 |  |  |
| 2) CORESET0+SIB1 (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 3) PRACH | 210 | 2 | 1 | 2 |  |  |
| 4) RAR (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 5) Msg3 (UL) | 700 | 2 | 1 | 2 |  |  |
| 6) Msg4 (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 7) RRCRelease (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 8) Micro sleep | 45 |  |  | 52 |  |  |
| Deep sleep | 1 |  |  | 19879 | 19879 | 54.73% |
| Micro sleep | 45 |  |  | 64 | 2880 | 7.93% |
| Transition energy  - Deep sleep | 450 | 40 | 10 | 400 | 4500 | 12.39% |
| **Total (every 10.24s)** | | | | **20480** | **36323** | **100%** |
| **Slot-averaged power unit** | | | | 1.77 | | |
| **Battery life (in month)** | | | | 0.42 | | |
| **132** | **Battery life (in month)** | | | | 0.84 | | |
| **133** | **Battery life (in month)** | | | | 1.67 | | |
| **134** | **Battery life (in month)** | | | | 2.35 | | |
| **135** | **Battery life (in month)** | | | | 4.71 | | |
| **136** | **Battery life (in month)** | | | | 9.42 | | |
| **201** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 4.68% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 5.34% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 2.81% |
| Deep sleep | 1 |  |  | 2463 | 2463 | 57.67% |
| Micro sleep | 45 |  |  | 8 | 360 | 8.43% |
| Transition energy  - Deep sleep | 450 | 40 | 2 | 80 | 900 | 21.07% |
| **Total (every 1.28s)** | | | | **2560** | **4271** | **100%** |
| **Slot-averaged power unit** | | | | 1.67 | | |
| **Battery life (in month)** | | | | 0.44 | | |
| **202** | **Battery life (in month)** | | | | 0.89 | | |
| **203** | **Battery life (in month)** | | | | 1.77 | | |
| **204** | **Battery life (in month)** | | | | 2.50 | | |
| **205** | **Battery life (in month)** | | | | 4.99 | | |
| **206** | **Battery life (in month)** | | | | 9.98 | | |
| **211** | SSB synchronization | 50 | 4 | 8 | 32 | 1600 | 5.25% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 8 | 32 | 1824 | 5.99% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.39% |
| Deep sleep | 1 |  |  | 19991 | 19991 | 65.62% |
| Micro sleep | 45 |  |  | 64 | 2880 | 9.45% |
| Transition energy  - Deep sleep | 450 | 40 | 9 | 360 | 4050 | 13.29% |
| **Total (every 10.24s)** | | | | **20480** | **30465** | **100%** |
| **Slot-averaged power unit** | | | | 1.49 | | |
| **Battery life (in month)** | | | | 0.50 | | |
| **212** | **Battery life (in month)** | | | | 0.99 | | |
| **213** | **Battery life (in month)** | | | | 1.99 | | |
| **214** | **Battery life (in month)** | | | | 2.80 | | |
| **215** | **Battery life (in month)** | | | | 5.59 | | |
| **216** | **Battery life (in month)** | | | | 11.19 | | |
| **301** | SSB synchronization | 50 | 4 | 2 | 8 | 400 | 8.45% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 4.82% |
| SRS | 210 | 1 | 1 | 1 | 210 | 4.44% |
| Deep sleep | 1 |  |  | 2463 | 2463 | 51.87% |
| Micro sleep | 45 |  |  | 12 | 540 | 11.41% |
| Transition energy  - Deep sleep | 450 | 40 | 2 | 80 | 900 | 19.02% |
| **Total (every 1.28s)** | | | | **2560** | **4733** | **100%** |
| **Slot-averaged power unit** | | | | 1.85 | | |
| **Battery life (in month)** | | | | 0.40 | | |
| **302** | **Battery life (in month)** | | | | 0.80 | | |
| **303** | **Battery life (in month)** | | | | 1.60 | | |
| **304** | **Battery life (in month)** | | | | 2.25 | | |
| **305** | **Battery life (in month)** | | | | 4.50 | | |
| **306** | **Battery life (in month)** | | | | 9.01 | | |
| **311** | SSB synchronization | 50 | 4 | 9 | 8 | 1800 | 5.82% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 8 | 4 | 1824 | 5.90% |
| SRS | 210 | 1 | 1 | 1 | 210 | 0.68% |
| Deep sleep | 1 |  |  |  |  | 64.61% |
| Micro sleep | 45 |  |  | 68 | 3060 | 9.89% |
| Transition energy  - Deep sleep | 450 | 40 | 9 | 360 | 4050 | 13.10% |
| **Total (every 10.24s)** | | | | **20480** | **30927** | **100%** |
| **Slot-averaged power unit** | | | | 1.51 | | |
| **Battery life (in month)** | | | | 0.49 | | |
| **312** | **Battery life (in month)** | | | | 0.98 | | |
| **313** | **Battery life (in month)** | | | | 1.96 | | |
| **314** | **Battery life (in month)** | | | | 2.76 | | |
| **315** | **Battery life (in month)** | | | | 5.52 | | |
| **316** | **Battery life (in month)** | | | | 11.04 | | |
| **321** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 3.80% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 2.16% |
| SRS | 210 | 1 | 1 | 1 | 210 | 2.00% |
| RA-SDT | | | | 72 | 5520 | 52.41% |
| 1) SSB | 50 | 4 | 2 | 8 |  |  |
| 2) CORESET0+SIB1 (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 3) PRACH | 210 | 2 | 1 | 2 |  |  |
| 4) RAR (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 5) Msg3 (UL) | 700 | 2 | 1 | 2 |  |  |
| 6) Msg4 (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 7) RRCRelease (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 8) Micro sleep | 45 |  |  | 52 |  |  |
| Deep sleep | 1 |  |  | 2357 | 2357 | 22.55% |
| Micro sleep | 45 |  |  | 20 | 900 | 8.54% |
| Transition energy  - Deep sleep | 450 | 40 | 2 | 80 | 900 | 8.54% |
| **Total (every 1.28s)** | | | | **2560** | **10533** | **100%** |
| **Slot-averaged power unit** | | | | 4.11 | | |
| **Battery life (in month)** | | | | 0.18 | | |
| **322** | **Battery life (in month)** | | | | 0.36 | | |
| **323** | **Battery life (in month)** | | | | 0.72 | | |
| **324** | **Battery life (in month)** | | | | 1.01 | | |
| **325** | **Battery life (in month)** | | | | 2.03 | | |
| **326** | **Battery life (in month)** | | | | 4.06 | | |
| **331** | SSB synchronization | 50 | 4 | 9 | 36 | 1800 | 4.90% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 8 | 32 | 1824 | 4.97% |
| SRS | 210 | 1 | 1 | 1 | 210 | 0.57% |
| RA-SDT | | | | 72 | 5520 | 15.03% |
| 1) SSB | 50 | 4 | 2 | 8 |  |  |
| 2) CORESET0+SIB1 (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 3) PRACH | 210 | 2 | 1 | 2 |  |  |
| 4) RAR (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 5) Msg3 (UL) | 700 | 2 | 1 | 2 |  |  |
| 6) Msg4 (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 7) RRCRelease (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 8) Micro sleep | 45 |  |  | 52 |  |  |
| Deep sleep | 1 |  |  | 19903 | 19903 | 54.19% |
| Micro sleep | 45 |  |  | 76 | 3420 | 9.31% |
| Transition energy  - Deep sleep | 450 | 40 | 9 | 360 | 4050 | 11.03% |
| **Total (every 10.24s)** | | | | **20480** | **36727** | **100%** |
| **Slot-averaged power unit** | | | | 1.79 | | |
| **Battery life (in month)** | | | | 0.41 | | |
| **332** | **Battery life (in month)** | | | | 0.83 | | |
| **333** | **Battery life (in month)** | | | | 1.66 | | |
| **334** | **Battery life (in month)** | | | | 2.33 | | |
| **335** | **Battery life (in month)** | | | | 4.66 | | |
| **336** | **Battery life (in month)** | | | | 9.31 | | |

Table B.5.11.2-2: UE power consumptions for extending DRX cycle

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **A101, DRX = 1.28s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 2 | 8 | 400 | 6.04% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 3.44% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 1.81% |
| UL | 700 | 2 | 1 | 2 | 1400 | 21.13% |
| Deep sleep | 1 |  |  | 2409 | 2409 | 36.35% |
| Micro sleep | 45 |  |  | 16 | 720 | 10.86% |
| Transition energy  - Deep sleep | 450 | 40 | 3 | 120 | 1350 | 20.37% |
| **Total (every 1.28s)** | | | | **2560** | **6627** | **100%** |
| **Slot-averaged power unit** | | | | 2.59 | | |
| **Battery life (in month)** | | | | 0.29 | | |
| **A102, K=2, Type A** | **Battery life (in month)** | | | | 0.57 | | |
| **A103, K=4, Type A** | **Battery life (in month)** | | | | 1.14 | | |
| **A104, K=1, Type B** | **Battery life (in month)** | | | | 1.61 | | |
| **A105, K=2, Type B** | **Battery life (in month)** | | | | 3.22 | | |
| **A106, K=4, Type B** | **Battery life (in month)** | | | | 6.44 | | |
| **A111, DRX = 10.24s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 2 | 8 | 400 | 1.63% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 0.93% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.49% |
| UL | 700 | 2 | 1 | 2 | 1400 | 5.70% |
| Deep sleep | 1 |  |  | 20329 | 20329 | 82.82% |
| Micro sleep | 45 |  |  | 16 | 720 | 2.93% |
| Transition energy  - Deep sleep | 450 | 40 | 3 | 120 | 1350 | 5.50% |
| **Total (every 10.24s)** | | | | **20480** | **24547** | **100%** |
| **Slot-averaged power unit** | | | | 1.20 | | |
| **Battery life (in month)** | | | | 0.62 | | |
| **A112, K=2, Type A** | **Battery life (in month)** | | | | 1.24 | | |
| **A113, K=4, Type A** | **Battery life (in month)** | | | | 2.47 | | |
| **A114, K=1, Type B** | **Battery life (in month)** | | | | 3.48 | | |
| **A115, K=2, Type B** | **Battery life (in month)** | | | | 6.95 | | |
| **A116, K=4, Type B** | **Battery life (in month)** | | | | 13.91 | | |
| **A121, DRX = 20.48s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 2 | 8 | 400 | 0.89% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 0.51% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.27% |
| UL | 700 | 2 | 1 | 2 | 1400 | 3.11% |
| Deep sleep | 1 |  |  | 40809 | 40809 | 90.63% |
| Micro sleep | 45 |  |  | 16 | 720 | 1.60% |
| Transition energy  - Deep sleep | 450 | 40 | 3 | 120 | 1350 | 3.00% |
| **Total (every 20.48s)** | | | | **40960** | **45027** | **100%** |
| **Slot-averaged power unit** | | | | 1.10 | | |
| **Battery life (in month)** | | | | 0.67 | | |
| **A122, K=2, Type A** | **Battery life (in month)** | | | | 1.35 | | |
| **A123, K=4, Type A** | **Battery life (in month)** | | | | 2.70 | | |
| **A124, K=1, Type B** | **Battery life (in month)** | | | | 3.79 | | |
| **A125, K=2, Type B** | **Battery life (in month)** | | | | 7.58 | | |
| **A126, K=4, Type B** | **Battery life (in month)** | | | | 15.16 | | |
| **A201, DRX = 1.28s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 4.68% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 5.34% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 2.81% |
| Deep sleep | 1 |  |  | 2463 | 2463 | 57.67% |
| Micro sleep | 45 |  |  | 8 | 360 | 8.43% |
| Transition energy  - Deep sleep | 450 | 40 | 2 | 80 | 900 | 21.07% |
| **Total (every 1.28s)** | | | | **2560** | **4271** | **100%** |
| **Slot-averaged power unit** | | | | 1.67 | | |
| **Battery life (in month)** | | | | 0.44 | | |
| **A202, K=2, Type A** | **Battery life (in month)** | | | | 0.89 | | |
| **A203, K=4, Type A** | **Battery life (in month)** | | | | 1.77 | | |
| **A204, K=1, Type B** | **Battery life (in month)** | | | | 2.50 | | |
| **A205, K=2, Type B** | **Battery life (in month)** | | | | 4.99 | | |
| **A206, K=4, Type B** | **Battery life (in month)** | | | | 9.98 | | |
| **A221, DRX = 20.48s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 0.47% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 0.53% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.28% |
| Deep sleep | 1 |  |  | 40863 | 40863 | 95.76% |
| Micro sleep | 45 |  |  | 8 | 360 | 0.84% |
| Transition energy  - Deep sleep | 450 | 40 | 2 | 80 | 900 | 2.11% |
| **Total (every 10.24s)** | | | | **40960** | **42671** | **100%** |
| **Slot-averaged power unit** | | | | 1.04 | | |
| **Battery life (in month)** | | | | 0.71 | | |
| **A222, K=2, Type A** | **Battery life (in month)** | | | | 1.42 | | |
| **A223, K=4, Type A** | **Battery life (in month)** | | | | 2.84 | | |
| **A224, K=1, Type B** | **Battery life (in month)** | | | | 4.00 | | |
| **A225, K=2, Type B** | **Battery life (in month)** | | | | 8.00 | | |
| **A226, K=4, Type B** | **Battery life (in month)** | | | | 16.00 | | |
| **A301, DRX = 1.28s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 2 | 8 | 400 | 8.45% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 4.82% |
| SRS | 210 | 1 | 1 | 1 | 210 | 4.44% |
| Deep sleep | 1 |  |  | 2463 | 2463 | 51.87% |
| Micro sleep | 45 |  |  | 12 | 540 | 11.41% |
| Transition energy  - Deep sleep | 450 | 40 | 2 | 80 | 900 | 19.02% |
| **Total (every 1.28s)** | | | | **2560** | **4733** | **100%** |
| **Slot-averaged power unit** | | | | 1.85 | | |
| **Battery life (in month)** | | | | 0.40 | | |
| **A302, K=2, Type A** | **Battery life (in month)** | | | | 0.80 | | |
| **A303, K=4, Type A** | **Battery life (in month)** | | | | 1.60 | | |
| **A304, K=1, Type B** | **Battery life (in month)** | | | | 2.25 | | |
| **A305, K=2, Type B** | **Battery life (in month)** | | | | 4.50 | | |
| **A306, K=4, Type B** | **Battery life (in month)** | | | | 9.01 | | |
| **A311, DRX = 10.24s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 2 | 8 | 400 | 1.77% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 1.01% |
| SRS | 210 | 1 | 1 | 1 | 210 | 0.93% |
| Deep sleep | 1 |  |  | 20375 | 20375 | 89.94% |
| Micro sleep | 45 |  |  | 12 | 540 | 2.38% |
| Transition energy  - Deep sleep | 450 | 40 | 2 | 80 | 900 | 3.97% |
| **Total (every 10.24s)** | | | | **20480** | **22653** | **100%** |
| **Slot-averaged power unit** | | | | 1.11 | | |
| **Battery life (in month)** | | | | 0.67 | | |
| **A312, K=2, Type A** | **Battery life (in month)** | | | | 1.34 | | |
| **A313, K=4, Type A** | **Battery life (in month)** | | | | 2.68 | | |
| **A314, K=1, Type B** | **Battery life (in month)** | | | | 3.77 | | |
| **A315, K=2, Type B** | **Battery life (in month)** | | | | 7.53 | | |
| **A316, K=4, Type B** | **Battery life (in month)** | | | | 15.07 | | |
| **A321, DRX = 20.48s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 2 | 8 | 400 | 0.93% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 0.53% |
| SRS | 210 | 1 | 1 | 1 | 210 | 0.49% |
| Deep sleep | 1 |  |  | 40855 | 40855 | 94.72% |
| Micro sleep | 45 |  |  | 12 | 540 | 1.25% |
| Transition energy  - Deep sleep | 450 | 40 | 2 | 80 | 900 | 2.09% |
| **Total (every 20.48s)** | | | | **40960** | **43133** | **100%** |
| **Slot-averaged power unit** | | | | 1.05 | | |
| **Battery life (in month)** | | | | 0.70 | | |
| **A322, K=2, Type A** | **Battery life (in month)** | | | | 1.41 | | |
| **A323, K=4, Type A** | **Battery life (in month)** | | | | 2.81 | | |
| **A324, K=1, Type B** | **Battery life (in month)** | | | | 3.96 | | |
| **A325, K=2, Type B** | **Battery life (in month)** | | | | 7.91 | | |
| **A326, K=2, Type B** | **Battery life (in month)** | | | | 15.83 | | |

Table B.5.11.2-3: UE power consumptions for UE with and without entering RRC\_CONNECTED state to obtain SRS (re)configurations;

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **B101, DRX=1.28s, RA-SDT for SRS (re)configuration, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 2 | 8 | 400 | 3.80% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 2.16% |
| SRS | 210 | 1 | 1 | 1 | 210 | 2.00% |
| RA-SDT | | | | 72 | 5520 | 52.41% |
| 1) SSB | 50 | 4 | 2 | 8 |  |  |
| 2) CORESET0+SIB1 (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 3) PRACH | 210 | 2 | 1 | 2 |  |  |
| 4) RAR (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 5) Msg3 (UL) | 700 | 2 | 1 | 2 |  |  |
| 6) Msg4 (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 7) RRCRelease (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 8) Micro sleep | 45 |  |  | 52 |  |  |
| Deep sleep | 1 |  |  | 2357 | 2357 | 22.55% |
| Micro sleep | 45 |  |  | 20 | 900 | 8.54% |
| Transition energy  - Deep sleep | 450 | 40 | 2 | 80 | 900 | 8.54% |
| **Total (every 1.28s)** | | | | **2560** | **10533** | **100%** |
| **Slot-averaged power unit** | | | | 4.11 | | |
| **Battery life (in month)** | | | | 0.18 | | |
| **B102, K=2, Type A** | **Battery life (in month)** | | | | 0.36 | | |
| **B103, K=4, Type A** | **Battery life (in month)** | | | | 0.72 | | |
| **B104, K=1, Type B** | **Battery life (in month)** | | | | 1.01 | | |
| **B105, K=2, Type B** | **Battery life (in month)** | | | | 2.03 | | |
| **B106, K=4, Type B** | **Battery life (in month)** | | | | 4.06 | | |
| **B111, DRX=10.24s, RA-SDT for SRS (re)configuration, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 2 | 8 | 400 | 1.41% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 0.80% |
| SRS | 210 | 1 | 1 | 1 | 210 | 0.43% |
| RA-SDT | | | | 72 | 5520 | 19.40% |
| 1) SSB | 50 | 4 | 2 | 8 |  |  |
| 2) CORESET0+SIB1 (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 3) PRACH | 210 | 2 | 1 | 2 |  |  |
| 4) RAR (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 5) Msg3 (UL) | 700 | 2 | 1 | 2 |  |  |
| 6) Msg4 (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 7) RRCRelease (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 8) Micro sleep | 45 |  |  | 52 |  |  |
| Deep sleep | 1 |  |  | 20295 | 20295 | 71.33% |
| Micro sleep | 45 |  |  | 20 | 900 | 3.16% |
| Transition energy  - Deep sleep | 450 | 40 | 2 | 80 | 900 | 3.16% |
| **Total (every 10.24s)** | | | | **20480** | **28453** | **100%** |
| **Slot-averaged power unit** | | | | 1.39 | | |
| **Battery life (in month)** | | | | 0.53 | | |
| **B112, K=2, Type A** | **Battery life (in month)** | | | | 1.07 | | |
| **B113, K=4, Type A** | **Battery life (in month)** | | | | 2.13 | | |
| **B114, K=1, Type B** | **Battery life (in month)** | | | | 3.00 | | |
| **B115, K=2, Type B** | **Battery life (in month)** | | | | 6.00 | | |
| **B116, K=4, Type B** | **Battery life (in month)** | | | | 12.00 | | |
| **B121, DRX=20.48s, RA-SDT for SRS (re)configuration, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 2 | 8 | 400 | 0.82% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 0.47% |
| SRS | 210 | 1 | 1 | 1 | 210 | 0.43% |
| RA-SDT | | | | 72 | 5520 | 11.28% |
| 1) SSB | 50 | 4 | 2 | 8 |  |  |
| 2) CORESET0+SIB1 (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 3) PRACH | 210 | 2 | 1 | 2 |  |  |
| 4) RAR (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 5) Msg3 (UL) | 700 | 2 | 1 | 2 |  |  |
| 6) Msg4 (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 7) RRCRelease (PDCCH + PDSCH) | 120 | 2 | 1 | 2 |  |  |
| 8) Micro sleep | 45 |  |  | 52 |  |  |
| Deep sleep | 1 |  |  | 40775 | 40775 | 83.33% |
| Micro sleep | 45 |  |  | 20 | 900 | 1.84% |
| Transition energy  - Deep sleep | 450 | 40 | 2 | 80 | 900 | 1.84% |
| **Total (every 20.48s)** | | | | **40960** | **48933** | **100%** |
| **Slot-averaged power unit** | | | | 1.19 | | |
| **Battery life (in month)** | | | | 0.62 | | |
| **B122, K=2, Type A** | **Battery life (in month)** | | | | 1.24 | | |
| **B123**, **K=4, Type A** | **Battery life (in month)** | | | | 2.48 | | |
| **B124, K=1, Type B** | **Battery life (in month)** | | | | 3.49 | | |
| **B125, K=2, Type B** | **Battery life (in month)** | | | | 6.98 | | |
| **B126, K=4, Type B** | **Battery life (in month)** | | | | 13.95 | | |
| **B131, DRX=1.28s, no SRS (re)configuration, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 2 | 8 | 400 | 8.45% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 4.82% |
| SRS | 210 | 1 | 1 | 1 | 210 | 4.44% |
| Deep sleep | 1 |  |  | 2463 | 2463 | 51.87% |
| Micro sleep | 45 |  |  | 12 | 540 | 11.41% |
| Transition energy  - Deep sleep | 450 | 40 | 2 | 80 | 900 | 19.02% |
| **Total (every 1.28s)** | | | | **2560** | **4733** | **100%** |
| **Slot-averaged power unit** | | | | 1.85 | | |
| **Battery life (in month)** | | | | 0.40 | | |
| **B132, K=2, Type A** | **Battery life (in month)** | | | | 0.80 | | |
| **B133, K=4, Type A** | **Battery life (in month)** | | | | 1.60 | | |
| **B134, K=1, Type B** | **Battery life (in month)** | | | | 2.25 | | |
| **B135, K=2, Type B** | **Battery life (in month)** | | | | 4.50 | | |
| **B136, K=4, Type B** | **Battery life (in month)** | | | | 9.01 | | |
| **B141, DRX=10.24s, no SRS (re)configuration, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 2 | 8 | 400 | 8.45% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 4.82% |
| SRS | 210 | 1 | 1 | 1 | 210 | 4.44% |
| Deep sleep | 1 |  |  | 20375 | 20375 | 51.87% |
| Micro sleep | 45 |  |  | 12 | 540 | 11.41% |
| Transition energy  - Deep sleep | 450 | 40 | 2 | 80 | 900 | 19.02% |
| **Total (every 10.24s)** | | | | **20480** | **22653** | **100%** |
| **Slot-averaged power unit** | | | | 1.11 | | |
| **Battery life (in month)** | | | | 0.67 | | |
| **B142, K=2, Type A** | **Battery life (in month)** | | | | 1.34 | | |
| **B143, K=4, Type A** | **Battery life (in month)** | | | | 2.68 | | |
| **B144, K=1, Type B** | **Battery life (in month)** | | | | 3.77 | | |
| **B145, K=2, Type B** | **Battery life (in month)** | | | | 7.53 | | |
| **B146, K=4, Type B** | **Battery life (in month)** | | | | 15.07 | | |
| **B151, DRX=20.48s, no SRS (re)configuration, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 2 | 8 | 400 | 8.45% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 4.82% |
| SRS | 210 | 1 | 1 | 1 | 210 | 4.44% |
| Deep sleep | 1 |  |  | 40855 | 40855 | 51.87% |
| Micro sleep | 45 |  |  | 12 | 540 | 11.41% |
| Transition energy  - Deep sleep | 450 | 40 | 2 | 80 | 900 | 19.02% |
| **Total (every 20.48s)** | | | | **40960** | **43133** | **100%** |
| **Slot-averaged power unit** | | | | 1.05 | | |
| **Battery life (in month)** | | | | 0.70 | | |
| **B152, K=2, Type A** | **Battery life (in month)** | | | | 1.41 | | |
| **B153, K=4, Type A** | **Battery life (in month)** | | | | 2.81 | | |
| **B154, K=1, Type B** | **Battery life (in month)** | | | | 3.96 | | |
| **B155, K=2, Type B** | **Battery life (in month)** | | | | 7.91 | | |
| **B156, K=4, Type B** | **Battery life (in month)** | | | | 15.83 | | |

Table B.5.11.2-4: UE power consumptions for minimizing gaps between PRS/SRS/paging/reporting/synchronization;

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **C101, DRX = 1.28s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 3.48% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 3.97% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 2.09% |
| UL | 700 | 2 | 1 | 2 | 1400 | 24.38% |
| Deep sleep | 1 |  |  | 2490 | 2490 | 43.36% |
| Micro sleep | 45 |  |  | 19 | 855 | 14.89% |
| Transition energy  - Deep sleep | 450 | 40 | 1 | 40 | 450 | 7.83% |
| **Total (every 1.28s)** | | | | **2560** | **5743** | **100%** |
| **Slot-averaged power unit** | | | | 2.24 | | |
| **Battery life (in month)** | | | | 0.33 | | |
| **C102, K=2, Type A** | **Battery life (in month)** | | | | 0.66 | | |
| **C103, K=4, Type A** | **Battery life (in month)** | | | | 1.32 | | |
| **C104, K=1, Type B** | **Battery life (in month)** | | | | 1.86 | | |
| **C105, K=2, Type B** | **Battery life (in month)** | | | | 3.71 | | |
| **C106, K=4, Type B** | **Battery life (in month)** | | | | 7.43 | | |
| **C111, DRX = 10.24s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 0.85% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 0.96% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.51% |
| UL | 700 | 2 | 1 | 2 | 1400 | 5.92% |
| Deep sleep | 1 |  |  | 20410 | 20410 | 86.25% |
| Micro sleep | 45 |  |  | 19 | 855 | 3.61% |
| Transition energy  - Deep sleep | 450 | 40 | 1 | 40 | 450 | 1.90% |
| **Total (every 10.24s)** | | | | **20480** | **23663** | **100%** |
| **Slot-averaged power unit** | | | | 1.16 | | |
| **Battery life (in month)** | | | | 0.64 | | |
| **C112, K=2, Type A** | **Battery life (in month)** | | | | 1.28 | | |
| **C113, K=4, Type A** | **Battery life (in month)** | | | | 2.56 | | |
| **C114, K=1, Type B** | **Battery life (in month)** | | | | 3.61 | | |
| **C115, K=2, Type B** | **Battery life (in month)** | | | | 7.21 | | |
| **C116, K=4, Type B** | **Battery life (in month)** | | | | 14.42 | | |
| **C121, DRX = 20.48s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 0.45% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 0.52% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.27% |
| UL | 700 | 2 | 1 | 2 | 1400 | 3.17% |
| Deep sleep | 1 |  |  | 40890 | 40890 | 92.63% |
| Micro sleep | 45 |  |  | 19 | 855 | 1.94% |
| Transition energy  - Deep sleep | 450 | 40 | 1 | 40 | 450 | 1.02% |
| **Total (every 20.48s)** | | | | **40960** | **44143** | **100%** |
| **Slot-averaged power unit** | | | | 1.08 | | |
| **Battery life (in month)** | | | | 0.68 | | |
| **C122, K=2, Type A** | **Battery life (in month)** | | | | 1.37 | | |
| **C123, K=4, Type A** | **Battery life (in month)** | | | | 2.75 | | |
| **C124, K=1, Type B** | **Battery life (in month)** | | | | 3.87 | | |
| **C125, K=2, Type B** | **Battery life (in month)** | | | | 7.73 | | |
| **C126, K=4, Type B** | **Battery life (in month)** | | | | 15.46 | | |
| **C201, DRX = 1.28s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 4.95% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 5.65% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 2.97% |
| Deep sleep | 1 |  |  | 2499 | 2499 | 61.90% |
| Micro sleep | 45 |  |  | 12 | 540 | 13.38% |
| Transition energy  - Deep sleep | 450 | 40 | 1 | 40 | 450 | 11.15% |
| **Total (every 1.28s)** | | | | **2560** | **4037** | **100%** |
| **Slot-averaged power unit** | | | | 1.58 | | |
| **Battery life (in month)** | | | | 0.47 | | |
| **C202, K=2, Type A** | **Battery life (in month)** | | | | 0.94 | | |
| **C203, K=4, Type A** | **Battery life (in month)** | | | | 1.88 | | |
| **C204, K=1, Type B** | **Battery life (in month)** | | | | 2.64 | | |
| **C205, K=2, Type B** | **Battery life (in month)** | | | | 5.28 | | |
| **C206, K=4, Type B** | **Battery life (in month)** | | | | 10.57 | | |
| **C211, DRX = 1.28s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 0.91% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 1.04% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.55% |
| Deep sleep | 1 |  |  | 20419 | 20419 | 93.00% |
| Micro sleep | 45 |  |  | 12 | 540 | 2.46% |
| Transition energy  - Deep sleep | 450 | 40 | 1 | 40 | 450 | 2.05% |
| **Total (every 10.24s)** | | | | **20480** | **21957** | **100%** |
| **Slot-averaged power unit** | | | | 1.07 | | |
| **Battery life (in month)** | | | | 0.69 | | |
| **C212, K=2, Type A** | **Battery life (in month)** | | | | 1.38 | | |
| **C213, K=4, Type A** | **Battery life (in month)** | | | | 2.76 | | |
| **C214, K=1, Type B** | **Battery life (in month)** | | | | 3.87 | | |
| **C215, K=2, Type B** | **Battery life (in month)** | | | | 7.77 | | |
| **C216, K=4, Type B** | **Battery life (in month)** | | | | 15.55 | | |
| **C221, DRX = 1.28s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 0.47% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 0.54% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.28% |
| Deep sleep | 1 |  |  | 40899 | 40899 | 96.37% |
| Micro sleep | 45 |  |  | 12 | 540 | 1.27% |
| Transition energy  - Deep sleep | 450 | 40 | 1 | 40 | 450 | 1.06% |
| **Total (every 10.24s)** | | | | **40960** | **42437** | **100%** |
| **Slot-averaged power unit** | | | | 1.04 | | |
| **Battery life (in month)** | | | | 0.72 | | |
| **C222, K=2, Type A** | **Battery life (in month)** | | | | 1.43 | | |
| **C223, K=4, Type A** | **Battery life (in month)** | | | | 2.86 | | |
| **C224, K=1, Type B** | **Battery life (in month)** | | | | 4.02 | | |
| **C225, K=2, Type B** | **Battery life (in month)** | | | | 8.04 | | |
| **C226, K=4, Type B** | **Battery life (in month)** | | | | 16.09 | | |
| **C301, DRX = 1.28s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 5.00% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 5.71% |
| SRS | 210 | 1 | 1 | 1 | 210 | 5.26% |
| Deep sleep | 1 |  |  | 2502 | 2502 | 62.63% |
| Micro sleep | 45 |  |  | 9 | 405 | 10.14% |
| Transition energy  - Deep sleep | 450 | 40 | 1 | 40 | 450 | 11.26% |
| **Total (every 1.28s)** | | | | **2560** | **3995** | **100%** |
| **Slot-averaged power unit** | | | | 1.56 | | |
| **Battery life (in month)** | | | | 0.47 | | |
| **C302, K=2, Type A** | **Battery life (in month)** | | | | 0.95 | | |
| **C303, K=4, Type A** | **Battery life (in month)** | | | | 1.90 | | |
| **C304, K=1, Type B** | **Battery life (in month)** | | | | 2.67 | | |
| **C305, K=2, Type B** | **Battery life (in month)** | | | | 5.34 | | |
| **C306, K=4, Type B** | **Battery life (in month)** | | | | 10.68 | | |
| **C311, DRX = 10.24s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 0.91% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 1.04% |
| SRS | 210 | 1 | 1 | 1 | 210 | 0.96% |
| Deep sleep | 1 |  |  | 20422 | 20422 | 93.19% |
| Micro sleep | 45 |  |  | 9 | 405 | 1.85% |
| Transition energy  - Deep sleep | 450 | 40 | 1 | 40 | 450 | 2.05% |
| **Total (every 10.24s)** | | | | **20480** | **21915** | **100%** |
| **Slot-averaged power unit** | | | | 1.07 | | |
| **Battery life (in month)** | | | | 0.69 | | |
| **C312, K=2, Type A** | **Battery life (in month)** | | | | 1.38 | | |
| **C313, K=4, Type A** | **Battery life (in month)** | | | | 2.77 | | |
| **C314, K=1, Type B** | **Battery life (in month)** | | | | 3.89 | | |
| **C315, K=2, Type B** | **Battery life (in month)** | | | | 7.79 | | |
| **C316, K=4, Type B** | **Battery life (in month)** | | | | 15.58 | | |
| **C321, DRX = 10.24s, Deep sleep, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 0.47% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 0.54% |
| SRS | 210 | 1 | 1 | 1 | 210 | 0.50% |
| Deep sleep | 1 |  |  | 40902 | 40902 | 96.48% |
| Micro sleep | 45 |  |  | 9 | 405 | 0.96% |
| Transition energy  - Deep sleep | 450 | 40 | 1 | 40 | 450 | 1.06% |
| **Total (every 10.24s)** | | | | **40960** | **42935** | **100%** |
| **Slot-averaged power unit** | | | | 1.04 | | |
| **Battery life (in month)** | | | | 0.72 | | |
| **C322, K=2, Type A** | **Battery life (in month)** | | | | 1.43 | | |
| **C323, K=4, Type A** | **Battery life (in month)** | | | | 2.86 | | |
| **C324, K=1, Type B** | **Battery life (in month)** | | | | 4.03 | | |
| **C325, K=2, Type B** | **Battery life (in month)** | | | | 8.05 | | |
| **C326, K=4, Type B** | **Battery life (in month)** | | | | 16.10 | | |

Table B.5.11.2-5: UE power consumptions for overall enhancements

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **D101, DRX = 20.48s, Gaps not minimized, Ultra-deep sleep Option 1 w/ 10000, K=1, Type A** | SSB synchronization | 50 | 4 | 2 | 8 | 400 | 2.38% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 1.36% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.72% |
| UL | 700 | 2 | 1 | 2 | 1400 | 8.34% |
| Ultra-deep sleep | 0.015 |  |  | 37600 | 564 | 3.36% |
| Deep sleep | 1 |  |  | 2449 | 2449 | 14.59% |
| Micro sleep | 45 |  |  | 16 | 720 | 4.29% |
| Transition energy |  |  |  |  |  |  |
| - Ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 59.59% |
| - Deep sleep | 450 | 40 | 2 | 80 | 900 | 5.36% |
| **Total (every 20.48s)** | | | | **40960** | **16781** | **100%** |
| **Slot-averaged power unit** | | | | 0.41 | | |
| **Battery life (in month)** | | | | 1.81 | | |
| **D102, K=2, Type A** | **Battery life (in month)** | | | | 3.62 | | |
| **D103, K=4, Type A** | **Battery life (in month)** | | | | 7.23 | | |
| **D104, K=1, Type B** | **Battery life (in month)** | | | | 10.17 | | |
| **D105, K=2, Type B** | **Battery life (in month)** | | | | 20.34 | | |
| **D106, K=4, Type B** | **Battery life (in month)** | | | | 40.68 | | |
| **D111, DRX = 20.48s, Gaps not minimized, Ultra-deep sleep Option 1 w/ 5000, K=1, Type A** | SSB synchronization | 50 | 4 | 2 | 8 | 400 | 3.40% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 1.94% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 1.02% |
| UL | 700 | 2 | 1 | 2 | 1400 | 11.88% |
| Ultra-deep sleep | 0.015 |  |  | 37600 | 564 | 4.79% |
| Deep sleep | 1 |  |  | 2409 | 2409 | 20.79% |
| Micro sleep | 45 |  |  | 16 | 720 | 6.11% |
| Transition energy |  |  |  |  |  |  |
| - Ultra-deep sleep | 10000 | 800 | 1 | 800 | 5000 | 42.44% |
| - Deep sleep | 450 | 40 | 2 | 80 | 900 | 7.64% |
| **Total (every 20.48s)** | | | | **40960** | **11781** | **100%** |
| **Slot-averaged power unit** | | | | 0.29 | | |
| **Battery life (in month)** | | | | 2.58 | | |
| **D112, K=2, Type A** | **Battery life (in month)** | | | | 5.15 | | |
| **D113, K=4, Type A** | **Battery life (in month)** | | | | 10.30 | | |
| **D114, K=1, Type B** | **Battery life (in month)** | | | | 14.49 | | |
| **D115, K=2, Type B** | **Battery life (in month)** | | | | 28.97 | | |
| **D116, K=4, Type B** | **Battery life (in month)** | | | | 57.95 | | |
| **D121, DRX = 20.48s, Gaps not minimized, Ultra-deep sleep Option 2, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 6.12% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 3.67% |
| UL | 700 | 2 | 1 | 2 | 1400 | 42.83% |
| Ultra-deep sleep | 0.01 |  |  | 40849 | 408.49 | 5.51% |
| Micro sleep | 45 |  |  | 4 | 180 | 12.50% |
| Transition energy |  |  |  |  |  |  |
| - Ultra-deep sleep | 480 | 50 | 2 | 100 | 960 | 29.37% |
| **Total (every 20.48s)** | | | | **40960** | **3268.49** | **100%** |
| **Slot-averaged power unit** | | | | 0.08 | | |
| **Battery life (in month)** | | | | 9.28 | | |
| **D122, K=2, Type A** | **Battery life (in month)** | | | | 18.57 | | |
| **D123, K=4, Type A** | **Battery life (in month)** | | | | 37.14 | | |
| **D124, K=1, Type B** | **Battery life (in month)** | | | | 52.22 | | |
| **D125, K=2, Type B** | **Battery life (in month)** | | | | 104.43 | | |
| **D126, K=4, Type B** | **Battery life (in month)** | | | | 208.86 | | |
| **D131, DRX = 20.48s, Gaps minimized, Ultra-deep sleep Option 1 w/ 10000, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 1.49% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 1.70% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.09% |
| UL | 700 | 2 | 1 | 2 | 1400 | 10.44% |
| Ultra-deep sleep | 0.015 |  |  | 40130 | 601.95 | 4.49% |
| Micro sleep | 45 |  |  | 19 | 855 | 6.38% |
| Transition energy |  |  |  |  |  |  |
| - Ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 74.60% |
| **Total (every 20.48s)** | | | | **40960** | **13404.95** | **100%** |
| **Slot-averaged power unit** | | | | 0.33 | | |
| **Battery life (in month)** | | | | 2.26 | | |
| **D132, K=2, Type A** | **Battery life (in month)** | | | | 4.53 | | |
| **D133, K=4, Type A** | **Battery life (in month)** | | | | 9.05 | | |
| **D134, K=1, Type B** | **Battery life (in month)** | | | | 12.73 | | |
| **D135, K=2, Type B** | **Battery life (in month)** | | | | 25.46 | | |
| **D136, K=4, Type B** | **Battery life (in month)** | | | | 50.93 | | |
| **D141, DRX = 20.48s, Gaps minimized, Ultra-deep sleep Option 1 w/ 5000, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 2.38% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 2.71% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 1.43% |
| UL | 700 | 2 | 1 | 2 | 1400 | 16.66% |
| Ultra-deep sleep | 0.015 |  |  | 40130 | 601.95 | 7.16% |
| Micro sleep | 45 |  |  | 19 | 855 | 10.17% |
| Transition energy |  |  |  |  |  |  |
| - Ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 59.49% |
| **Total (every 20.48s)** | | | | **40960** | **8404.95** | **100%** |
| **Slot-averaged power unit** | | | | 0.21 | | |
| **Battery life (in month)** | | | | 3.61 | | |
| **D142, K=2, Type A** | **Battery life (in month)** | | | | 7.22 | | |
| **D143, K=4, Type A** | **Battery life (in month)** | | | | 14.44 | | |
| **D144, K=1, Type B** | **Battery life (in month)** | | | | 20.31 | | |
| **D145, K=2, Type B** | **Battery life (in month)** | | | | 40.61 | | |
| **D146, K=4, Type B** | **Battery life (in month)** | | | | 81.22 | | |
| **D151, DRX = 20.48s, Gaps minimized, Ultra-deep sleep Option 2, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 6.26% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 3.76% |
| UL | 700 | 2 | 1 | 2 | 1400 | 43.83% |
| Ultra-deep sleep | 0.01 |  |  | 40890 | 408.90 | 12.80% |
| Micro sleep | 45 |  |  | 13 | 585 | 18.32% |
| Transition energy |  |  |  |  |  |  |
| - Ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 15.03% |
| **Total (every 20.48s)** | | | | **40960** | **3193.90** | **100%** |
| **Slot-averaged power unit** | | | | 0.08 | | |
| **Battery life (in month)** | | | | 9.50 | | |
| **D152, K=2, Type A** | **Battery life (in month)** | | | | 19.00 | | |
| **D153, K=4, Type A** | **Battery life (in month)** | | | | 38.00 | | |
| **D154, K=1, Type B** | **Battery life (in month)** | | | | 53.44 | | |
| **D155, K=2, Type B** | **Battery life (in month)** | | | | 106.87 | | |
| **D156, K=4, Type B** | **Battery life (in month)** | | | | 213.74 | | |
| **D201, DRX = 20.48s, Gaps not minimized, Ultra-deep sleep Option 1 w/ 10000, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 1.39% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 1.58% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 0.83% |
| Ultra-deep sleep | 0.015 |  |  | 37600 | 564 | 3.91% |
| Deep sleep | 1 |  |  | 2503 | 2503 | 17.35% |
| Micro sleep | 45 |  |  | 8 | 360 | 2.50% |
| Transition energy |  |  |  |  |  |  |
| - Ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 69.32% |
| - Deep sleep | 450 | 40 | 1 | 40 | 450 | 3.12% |
| **Total (every 10.24s)** | | | | **40960** | **14425** | **100%** |
| **Slot-averaged power unit** | | | | 0.35 | | |
| **Battery life (in month)** | | | | 2.10 | | |
| **D202, K=2, Type A** | **Battery life (in month)** | | | | 4.21 | | |
| **D203, K=4, Type A** | **Battery life (in month)** | | | | 8.41 | | |
| **D204, K=1, Type B** | **Battery life (in month)** | | | | 11.83 | | |
| **D205, K=2, Type B** | **Battery life (in month)** | | | | 23.66 | | |
| **D206, K=4, Type B** | **Battery life (in month)** | | | | 47.33 | | |
| **D211, DRX = 20.48s, Gaps not minimized, Ultra-deep sleep Option 1 w/ 5000, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 2.12% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 2.42% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 1.27% |
| Ultra-deep sleep | 0.015 |  |  | 37600 | 564 | 5.98% |
| Deep sleep | 1 |  |  | 2503 | 2503 | 26.56% |
| Micro sleep | 45 |  |  | 8 | 360 | 3.82% |
| Transition energy |  |  |  |  |  |  |
| - Ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 53.05% |
| - Deep sleep | 450 | 40 | 1 | 40 | 450 | 4.77% |
| **Total (every 10.24s)** | | | | **40960** | **9425** | **100%** |
| **Slot-averaged power unit** | | | | 0.23 | | |
| **Battery life (in month)** | | | | 3.22 | | |
| **D212, K=2, Type A** | **Battery life (in month)** | | | | 6.44 | | |
| **D213, K=4, Type A** | **Battery life (in month)** | | | | 12.88 | | |
| **D204, K=1, Type B** | **Battery life (in month)** | | | | 18.11 | | |
| **D215, K=2, Type B** | **Battery life (in month)** | | | | 36.22 | | |
| **D216, K=4, Type B** | **Battery life (in month)** | | | | 72.43 | | |
| **D221, DRX = 20.48s, Gaps not minimized, Ultra-deep sleep Option 2, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 14.40% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 8.64% |
| Ultra-deep sleep | 0.015 |  |  | 40901 | 409.01 | 29.45% |
| Micro sleep | 45 |  |  | 4 | 180 | 12.96% |
| Transition energy |  |  |  |  |  |  |
| - Ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 34.56% |
| **Total (every 10.24s)** | | | | **40960** | **1389.01** | **100%** |
| **Slot-averaged power unit** | | | | 0.05 | | |
| **Battery life (in month)** | | | | 16.24 | | |
| **D222, K=2, Type A** | **Battery life (in month)** | | | | 32.47 | | |
| **D223, K=4, Type A** | **Battery life (in month)** | | | | 64.94 | | |
| **D224, K=1, Type B** | **Battery life (in month)** | | | | 91.31 | | |
| **D225, K=2, Type B** | **Battery life (in month)** | | | | 182.63 | | |
| **D226, K=4, Type B** | **Battery life (in month)** | | | | 365.26 | | |
| **D231, DRX = 20.48s, Gaps minimized, Ultra-deep sleep Option 1 w/ 10000, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 1.71% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 1.95% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 1.03% |
| Ultra-deep sleep | 0.015 |  |  | 40139 | 602.19 | 5.15% |
| Micro sleep | 45 |  |  | 12 | 540 | 4.62% |
| Transition energy |  |  |  |  |  |  |
| - Ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 85.54% |
| **Total (every 10.24s)** | | | | **40960** | **11690.09** | **100%** |
| **Slot-averaged power unit** | | | | 0.29 | | |
| **Battery life (in month)** | | | | 2.60 | | |
| **D232, K=2, Type A** | **Battery life (in month)** | | | | 5.19 | | |
| **D233, K=4, Type A** | **Battery life (in month)** | | | | 10.38 | | |
| **D234, K=1, Type B** | **Battery life (in month)** | | | | 14.60 | | |
| **D235, K=2, Type B** | **Battery life (in month)** | | | | 29.20 | | |
| **D236, K=4, Type B** | **Battery life (in month)** | | | | 58.40 | | |
| **D241, DRX = 20.48s, Gaps minimized, Ultra-deep sleep Option 1 w/ 5000, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 2.99% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 3.41% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 1.79% |
| Ultra-deep sleep | 0.015 |  |  | 40139 | 602.19 | 8.90% |
| Micro sleep | 45 |  |  | 12 | 540 | 8.07% |
| Transition energy |  |  |  |  |  |  |
| - Ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 74.74% |
| **Total (every 10.24s)** | | | | **40960** | **6690.09** | **100%** |
| **Slot-averaged power unit** | | | | 0.16 | | |
| **Battery life (in month)** | | | | 4.54 | | |
| **D242, K=2, Type A** | **Battery life (in month)** | | | | 9.07 | | |
| **D243, K=4, Type A** | **Battery life (in month)** | | | | 18.14 | | |
| **D244, K=1, Type B** | **Battery life (in month)** | | | | 25.51 | | |
| **D245, K=2, Type B** | **Battery life (in month)** | | | | 51.02 | | |
| **D246, K=4, Type B** | **Battery life (in month)** | | | | 102.04 | | |
| **D251, DRX = 20.48s, Gaps minimized, Ultra-deep sleep Option 2, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 13.52% |
| PRS measurement | 120 | 1 | 1 | 1 | 120 | 8.11% |
| Ultra-deep sleep | 0.015 |  |  | 40899 | 408.99 | 27.65% |
| Micro sleep | 45 |  |  | 6 | 270 | 18.26% |
| Transition energy |  |  |  |  |  |  |
| - Ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 32.45% |
| **Total (every 10.24s)** | | | | **40960** | **1478.99** | **100%** |
| **Slot-averaged power unit** | | | | 0.04 | | |
| **Battery life (in month)** | | | | 20.52 | | |
| **D252, K=2, Type A** | **Battery life (in month)** | | | | 41.03 | | |
| **D253, K=4, Type A** | **Battery life (in month)** | | | | 82.07 | | |
| **D254, K=1, Type B** | **Battery life (in month)** | | | | 115.39 | | |
| **D255, K=2, Type B** | **Battery life (in month)** | | | | 230.79 | | |
| **D256, K=4, Type B** | **Battery life (in month)** | | | | 461.58 | | |
| **D321, DRX = 20.48s, Gaps minimized, Ultra-deep sleep Option 1 w/ 10000, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 1.72% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 1.96% |
| SRS | 210 | 1 | 1 | 1 | 210 | 1.80% |
| Ultra-deep sleep | 0.015 |  |  | 40149 | 602.24 | 5.17% |
| Micro sleep | 45 |  |  | 12 | 540 | 3.48% |
| Transition energy |  |  |  |  |  |  |
| - Ultra-deep sleep | 10000 | 800 | 1 | 800 | 10000 | 85.87% |
| **Total (every 20.48s)** | | | | **40960** | **11645.24** | **100%** |
| **Slot-averaged power unit** | | | | 0.28 | | |
| **Battery life (in month)** | | | | 2.61 | | |
| **D322, K=2, Type A** | **Battery life (in month)** | | | | 5.21 | | |
| **D323, K=4, Type A** | **Battery life (in month)** | | | | 10.42 | | |
| **D324, K=1, Type B** | **Battery life (in month)** | | | | 14.66 | | |
| **D325, K=2, Type B** | **Battery life (in month)** | | | | 29.31 | | |
| **D326, K=2, Type B** | **Battery life (in month)** | | | | 58.62 | | |
| **D331, DRX = 20.48s, Gaps minimized, Ultra-deep sleep Option 1 w/ 10000, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 3.01% |
| Paging | 0.1\*120 + 0.9\*50 = 57 | 4 | 1 | 4 | 228 | 3.43% |
| SRS | 210 | 1 | 1 | 1 | 210 | 3.16% |
| Ultra-deep sleep | 0.015 |  |  | 40149 | 602.24 | 9.06% |
| Micro sleep | 45 |  |  | 12 | 540 | 6.09% |
| Transition energy |  |  |  |  |  |  |
| - Ultra-deep sleep | 5000 | 800 | 1 | 800 | 5000 | 75.24% |
| **Total (every 20.48s)** | | | | **40960** | **6645.24** | **100%** |
| **Slot-averaged power unit** | | | | 0.16 | | |
| **Battery life (in month)** | | | | 4.57 | | |
| **D332, K=2, Type A** | **Battery life (in month)** | | | | 9.13 | | |
| **D333, K=4, Type A** | **Battery life (in month)** | | | | 18.27 | | |
| **D334, K=1, Type B** | **Battery life (in month)** | | | | 25.68 | | |
| **D335, K=2, Type B** | **Battery life (in month)** | | | | 51.37 | | |
| **D336, K=2, Type B** | **Battery life (in month)** | | | | 102.73 | | |
| **D341, DRX = 20.48s, Gaps minimized, Ultra-deep sleep Option 2, K=1, Type A** | SSB synchronization | 50 | 4 | 1 | 4 | 200 | 13.52% |
| SRS | 210 | 1 | 1 | 1 | 210 | 14.20% |
| Ultra-deep sleep | 0.01 |  |  | 40911 | 409.01 | 27.65% |
| Micro sleep | 45 |  |  | 4 | 180 | 12.17% |
| Transition energy |  |  |  |  |  |  |
| - Ultra-deep sleep | 480 | 50 | 1 | 50 | 480 | 32.45% |
| **Total (every 20.48s)** | | | | **40960** | **1479.01** | **100%** |
| **Slot-averaged power unit** | | | | 0.04 | | |
| **Battery life (in month)** | | | | 20.52 | | |
| **D342, K=2, Type A** | **Battery life (in month)** | | | | 41.03 | | |
| **D343, K=4, Type A** | **Battery life (in month)** | | | | 82.07 | | |
| **D344, K=1, Type B** | **Battery life (in month)** | | | | 115.39 | | |
| **D345, K=2, Type B** | **Battery life (in month)** | | | | 230.79 | | |
| **D346, K=2, Type B** | **Battery life (in month)** | | | | 461.57 | | |

Table B.5.11.2-6: Summary of UE power consumption results for Rel-17 RRC\_INACTIVE positioning

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirement are met – Yes/No; If no, provide gaps** | |
| **6 months** | **12 months** |
| **[101], [baseline assumption]** | 2.59 | 0.29 | No; 5.71 | No; 11.71 |
| **[102]** | 0.57 | No; 5.43 | No; 11.43 |
| **[103]** | 1.14 | No; 4.86 | No; 10.86 |
| **[104]** | 1.61 | No; 4.39 | No; 10.39 |
| **[105]** | 3.22 | No; 2.78 | No; 8.78 |
| **[106]** | 6.44 | Yes | No; 5.56 |
| **[111]** | 1.60 | 0.46 | No; 5.54 | No; 11.54 |
| **[112]** | 0.93 | No; 5.07 | No; 11.07 |
| **[113]** | 1.85 | No; 4.15 | No; 10.15 |
| **[114]** | 2.60 | No; 3.40 | No; 9.40 |
| **[115]** | 5.21 | No; 0.79 | No; 6.79 |
| **[116]** | 10.42 | Yes | No; 1.58 |
| **[121]** | 3.96 | 0.19 | No; 5.81 | No; 11.81 |
| **[122]** | 0.37 | No; 5.63 | No; 11.63 |
| **[123]** | 0.75 | No; 5.25 | No; 11.25 |
| **[124]** | 1.05 | No; 4.95 | No; 10.95 |
| **[125]** | 2.10 | No; 3.90 | No; 9.90 |
| **[126]** | 4.21 | No; 1.79 | No; 7.79 |
| **[131]** | 1.77 | 0.42 | No; 5.58 | No; 11.58 |
| **[132]** | 0.84 | No; 5.16 | No; 11.16 |
| **[133]** | 1.67 | No; 4.33 | No; 10.33 |
| **[134]** | 2.35 | No; 3.65 | No; 9.65 |
| **[135]** | 4.71 | No; 1.29 | No; 7.29 |
| **[136]** | 9.42 | Yes | No; 2.58 |
| **[201], [baseline assumption]** | 1.67 | 0.44 | No; 5.56 | No; 11.56 |
| **[202]** | 0.89 | No; 5.11 | No; 11.11 |
| **[203]** | 1.77 | No; 4.23 | No; 10.23 |
| **[304]** | 2.50 | No; 3.50 | No; 9.50 |
| **[305]** | 4.99 | No; 1.01 | No; 7.01 |
| **[306]** | 9.98 | Yes | No; 2.02 |
| **[211]** | 1.49 | 0.50 | No; 5.50 | No; 11.50 |
| **[212]** | 0.99 | No; 5.01 | No; 11.01 |
| **[213]** | 1.99 | No; 4.01 | No; 10.01 |
| **[214]** | 2.80 | No; 3.20 | No; 9.20 |
| **[215]** | 5.59 | No; 0.41 | No; 6.41 |
| **[216]** | 11.19 | Yes | No; 0.81 |
| **[301], [baseline assumption]** | 1.85 | 0.40 | No; 5.60 | No; 11.60 |
| **[302]** | 0.80 | No; 5.20 | No; 11.20 |
| **[303]** | 1.60 | No; 4.40 | No; 10.40 |
| **[304]** | 2.25 | No; 3.75 | No; 9.75 |
| **[305]** | 4.50 | No; 1.50 | No; 7.50 |
| **[306]** | 9.01 | Yes | No; 2.99 |
| **[311]** | 1.51 | 0.49 | No; 5.51 | No; 11.51 |
| **[312]** | 0.98 | No; 5.02 | No; 11.02 |
| **[313]** | 1.96 | No; 4.04 | No; 10.04 |
| **[314]** | 2.76 | No; 3.24 | No; 9.24 |
| **[315]** | 5.52 | No; 0.48 | No; 6.48 |
| **[316]** | 11.04 | Yes | No; 0.96 |
| **[321]** | 4.11 | 0.18 | No; 5.82 | No; 11.82 |
| **[322]** | 0.36 | No; 5.64 | No; 11.64 |
| **[323]** | 0.72 | No; 5.28 | No; 11.28 |
| **[324]** | 1.01 | No; 4.99 | No; 10.99 |
| **[325]** | 2.03 | No; 3.97 | No; 9.97 |
| **[326]** | 4.06 | No; 1.94 | No; 7.94 |
| **[331]** | 1.79 | 0.41 | No; 5.59 | No; 11.59 |
| **[332]** | 0.83 | No; 5.17 | No; 11.17 |
| **[333]** | 1.66 | No; 4.34 | No; 10.34 |
| **[334]** | 2.33 | No; 3.67 | No; 9.67 |
| **[335]** | 4.66 | No; 1.34 | No; 7.34 |
| **[336]** | 9.31 | Yes | No; 2.69 |

Table B.5.11.2-7: Summary of UE power consumption results for Rel-18 potential enhancements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirement are met – Yes/No; If no, provide gaps** | |
| **6 months** | **12 months** |
| **A101, UE-A DL, DRX = 1.28s, Deep sleep, K=1, Type A** | 2.59 | 0.29 | No; 5.71 | No; 11.71 |
| **A102, K=2, Type A** | 0.57 | No; 5.43 | No; 11.42 |
| **A103, K=4, Type A** | 1.14 | No; 4.86 | No; 11.86 |
| **A104, K=1, Type B** | 1.61 | No; 4.39 | No; 10.39 |
| **A105, K=2, Type B** | 3.22 | No; 2.78 | No; 8.78 |
| **A106, K=4, Type B** | 6.44 | Yes | No; 5.56 |
| **A111, UE-A DL, DRX = 10.24s, Deep sleep, K=1, Type A** | 1.20 | 0.62 | No; 5.38 | No; 11.38 |
| **A112, K=2, Type A** | 1.24 | No; 4.76 | No; 10.76 |
| **A113, K=4, Type A** | 2.47 | No; 3.53 | No; 9.53 |
| **A114, K=1, Type B** | 3.48 | No; 2.52 | No; 8.52 |
| **A115, K=2, Type B** | 6.95 | Yes | No; 5.05 |
| **A116, K=4, Type B** | 13.91 | Yes | Yes |
| **A121, UE-A DL, DRX = 20.48s, Deep sleep, K=1, Type A** | 1.10 | 0.67 | No; 5.33 | No; 11.33 |
| **A122, K=2, Type A** | 1.35 | No; 4.65 | No; 10.65 |
| **A123, K=4, Type A** | 2.70 | No; 3.30 | No; 9.30 |
| **A124, K=1, Type B** | 3.79 | No; 2.21 | No; 8.21 |
| **A125, K=2, Type B** | 7.58 | Yes | No; 4.42 |
| **A126, K=4, Type B** | 15.16 | Yes | Yes |
| **A201, UE-B DL, DRX = 1.28s, Deep sleep, K=1, Type A** | 1.67 | 0.44 | No; 5.56 | No; 11.56 |
| **A202, K=2, Type A** | 0.89 | No; 5.11 | No; 11.11 |
| **A203, K=4, Type A** | 1.78 | No; 4.22 | No; 10.22 |
| **A204, K=1, Type B** | 2.50 | No; 3.50 | No; 8.50 |
| **A205, K=2, Type B** | 4.99 | No; 1.01 | No; 7.01 |
| **A206, K=4, Type B** | 9.99 | Yes | No; 2.01 |
| **A211, UE-B DL, DRX = 10.24s, Deep sleep, K=1, Type A** | 1.08 | 0.68 | No; 5.32 | No; 11.32 |
| **A212, K=2, Type A** | 1.37 | No; 4.63 | No; 10.63 |
| **A213, K=4, Type A** | 2.73 | No; 3.27 | No; 10.27 |
| **A214, K=1, Type B** | 3.85 | No; 2.15 | No; 8.15 |
| **A215, K=2, Type B** | 7.69 | Yes | No; 4.31 |
| **A216, K=4, Type B** | 15.38 | Yes | Yes |
| **A221, UE-B DL, DRX = 20.48s, Deep sleep, K=1, Type A** | 1.04 | 0.71 | No; 5.29 | No; 11.29 |
| **A222, K=2, Type A** | 1.42 | No; 4.58 | No; 10.58 |
| **A223, K=4, Type A** | 2.84 | No; 3.16 | No; 9.16 |
| **A224, K=1, Type B** | 4.00 | No; 2.00 | No; 8.00 |
| **A225, K=2, Type B** | 8.00 | Yes | No; 4.00 |
| **A226, K=4, Type B** | 16.00 | Yes | Yes |
| **A301, UL, DRX = 1.28s, Deep sleep, K=1, Type A** | 1.85 | 0.40 | No; 5.60 | No; 11.60 |
| **A302, K=2, Type A** | 0.80 | No; 5.20 | No; 11.20 |
| **A303, K=4, Type A** | 1.60 | No; 4.40 | No; 10.40 |
| **A304, K=1, Type B** | 2.25 | No; 3.75 | No; 9.75 |
| **A305, K=2, Type B** | 4.51 | No; 1.49 | No; 7.49 |
| **A306, K=4, Type B** | 9.01 | Yes | No; 2.99 |
| **A311, UL, DRX = 10.24s, Deep sleep, K=1, Type A** | 1.11 | 0.67 | No; 5.33 | No; 11.33 |
| **A312, K=2, Type A** | 1.34 | No; 4.66 | No; 10.66 |
| **A313, K=4, Type A** | 2.68 | No; 3.32 | No; 9.32 |
| **A314, K=1, Type B** | 3.77 | No; 2.23 | No; 8.23 |
| **A315, K=2, Type B** | 7.53 | Yes | No;4.67 |
| **A316, K=4, Type B** | 15.07 | Yes | Yes |
| **A321, UL, DRX = 20.48s, Deep sleep, K=1, Type A** | 1.05 | 0.70 | No; 5.30 | No; 11.30 |
| **A322, K=2, Type A** | 1.41 | No; 4.59 | No; 10.59 |
| **A323, K=4, Type A** | 2.81 | No; 3.19 | No; |
| **A324, K=1, Type B** | 3.96 | No; 2.04 | No; 8.04 |
| **A325, K=2, Type B** | 7.91 | Yes | No; 4.09 |
| **A326, K=2, Type B** | 15.83 | Yes | Yes |
| **B101, UL, DRX = 1.28s, RA-SDT for SRS (re)configuration, Deep sleep, K=1, Type A** | 4.11 | 0.18 | No; 5.82 | No; 11.82 |
| **B102, K=2, Type A** | 0.36 | No; 5.64 | No; 11.64 |
| **B103, K=4, Type A** | 0.72 | No; 5.28 | No; 11.28 |
| **B104, K=1, Type B** | 1.01 | No; 4.98 | No; 10.98 |
| **B105, K=2, Type B** | 2.03 | No; 3.97 | No; 9.97 |
| **B106, K=4, Type B** | 4.05 | No; 1.95 | No; 7.95 |
| **B111, UL, DRX = 10.24s, RA-SDT for SRS (re)configuration, Deep sleep, K=1, Type A** | 1.39 | 0.63 | No; 5.47 | No; 11.47 |
| **B112, K=2, Type A** | 1.07 | No; 4.93 | No; 10.93 |
| **B113, K=4, Type A** | 2.13 | No; 3.87 | No; 9.87 |
| **B114, K=1, Type B** | 3.00 | No; 3.00 | No; 9.00 |
| **B115, K=2, Type B** | 6.00 | Yes | No; 6.00 |
| **B116, K=4, Type B** | 12.00 | Yes | Yes |
| **B121, UL, DRX = 20.48s, RA-SDT for SRS (re)configuration, Deep sleep, K=1, Type A** | 1.19 | 0.62 | No; 5.38 | No; 11.28 |
| **B122, K=2, Type A** | 1.24 | No; 4.76 | No; 10.76 |
| **B123, K=4, Type A** | 2.48 | No; 3.52 | No; 9.52 |
| **B124, K=1, Type B** | 3.49 | No; 2.51 | No; 8.51 |
| **B125, K=2, Type B** | 6.98 | Yes | No; 5.02 |
| **B126, K=4, Type B** | 13.95 | Yes | Yes |
| **B131, UL, DRX = 1.28s, no SRS (re)configuration, Deep sleep, K=1, Type A** | 1.85 | 0.40 | No; 5.60 | No; 11.60 |
| **B132, K=2, Type A** | 0.80 | No; 5.20 | No; 11.20 |
| **B133, K=4, Type A** | 1.60 | No; 4.40 | No; 10.40 |
| **B134, K=1, Type B** | 2.25 | No; 3.75 | No; 9.75 |
| **B135, K=2, Type B** | 4.51 | No; 1.49 | No; 7.49 |
| **B136, K=4, Type B** | 9.01 | Yes | No; 2.99 |
| **B141, UL, DRX = 10.24s, no SRS (re)configuration, Deep sleep, K=1, Type A** | 1.11 | 0.67 | No; 5.33 | No; 11.33 |
| **B142, K=2, Type A** | 1.34 | No; 4.66 | No; 10.66 |
| **B143, K=4, Type A** | 2.68 | No; 3.32 | No; 9.32 |
| **B144, K=1, Type B** | 3.77 | No; 2.23 | No; 8.23 |
| **B145, K=2, Type B** | 7.53 | Yes | No; 4.47 |
| **B146, K=4, Type B** | 15.07 | Yes | Yes |
| **B151, UL, DRX = 20.48s, no SRS (re)configuration, Deep sleep, K=1, Type A** | 1,05 | 0.70 | No; 5.30 | No; 11.30 |
| **B152, K=2, Type A** | 1.41 | No; 4.59 | No; 10.59 |
| **B153, K=4, Type A** | 2.81 | No; 3.19 | No; 9.19 |
| **B154, K=1, Type B** | 3.96 | No; 2.04 | No; 8.04 |
| **B155, K=2, Type B** | 7.91 | Yes | No; 4.09 |
| **B156, K=4, Type B** | 15.83 | Yes | Yes |
| **C101, UE-A DL, DRX = 1.28s, Minimized gap, Deep sleep, K=1, Type A** | 2.24 | 0.33 | No; 5.67 | No; 11.67 |
| **C102, K=2, Type A** | 0.66 | No; 5.34 | No; 11.34 |
| **C103, K=4, Type A** | 1.32 | No; 4.68 | No; 10.68 |
| **C104, K=1, Type B** | 1.86 | No; 4.14 | No; 10.14 |
| **C105, K=2, Type B** | 3.71 | No; 2.28 | No; 8.28 |
| **C106, K=4, Type B** | 7.43 | Yes | No; 4.57 |
| **C111, UE-A DL, DRX = 10.24s, Minimized gaps, Deep sleep, K=1, Type A** | 1.16 | 0.64 | No; 5.36 | No; 11.36 |
| **C112, K=2, Type A** | 1.28 | No; 4.72 | No; 10.72 |
| **C113, K=4, Type A** | 2.56 | No; 3.44 | No; 9.44 |
| **C114, K=1, Type B** | 3.61 | No; 2.39 | No; 8.29 |
| **C115, K=2, Type B** | 7.21 | Yes | No; 4.79 |
| **C116, K=4, Type B** | 14.42 | Yes | Yes |
| **C121, UE-A DL, DRX = 20.48s, Minimized gaps, Deep sleep, K=1, Type A** | 1.08 | 0.69 | No; 5.31 | No; 11.31 |
| **C122, K=2, Type A** | 1.37 | No; 4.63 | No; 10.63 |
| **C123, K=4, Type A** | 2.75 | No; 3.25 | No; 9.25 |
| **C124, K=1, Type B** | 3.87 | No; 2.13 | No; 8.13 |
| **C125, K=2, Type B** | 7.73 | Yes | No; 4.27 |
| **C126, K=4, Type B** | 15.46 | Yes | Yes |
| **C201, UE-B DL, DRX = 1.28s, Minimized gap, Deep sleep, K=1, Type A** | 1.58 | 0.47 | No; 5.53 | No; 11.53 |
| **C202, K=2, Type A** | 0.94 | No; 5.06 | No; 11.06 |
| **C203, K=4, Type A** | 1.88 | No; 4.12 | No; 10.12 |
| **C204, K=1, Type B** | 2.64 | No; 3.36 | No; 9.36 |
| **C205, K=2, Type B** | 5.28 | No; 0.72 | No; 6.72 |
| **C206, K=4, Type B** | 10.57 | Yes | No; 1.43 |
| **C211, UE-B DL, DRX = 10.24s, Minimized gaps, Deep sleep, K=1, Type A** | 1.07 | 0.69 | No; 5.31 | No; 11.31 |
| **C212, K=2, Type A** | 1.38 | No; 4.62 | No; 10.62 |
| **C213, K=4, Type A** | 2.76 | No; 3.24 | No; 9.24 |
| **C214, K=1, Type B** | 3.89 | No; 2.11 | No; 8.11 |
| **C215, K=2, Type B** | 7.77 | Yes | No; 4.23 |
| **C216, K=4, Type B** | 15.54 | Yes | Yes |
| **C221, UE-B DL, DRX = 20.48s, Minimized gaps, Deep sleep, K=1, Type A** | 1.04 | 0.72 | No; 5.28 | No; 11.28 |
| **C222, K=2, Type A** | 1.43 | No; 4.57 | No; 10.57 |
| **C223, K=4, Type A** | 2.86 | No; 3.14 | No; 9.14 |
| **C224, K=1, Type B** | 4.02 | No; 1.98 | No; 7.98 |
| **C225, K=2, Type B** | 8.04 | Yes | No; 3.96 |
| **C226, K=4, Type B** | 16.09 | Yes | Yes |
| **C301, UL, DRX = 1.28s, Minimized gap, Deep sleep, K=1, Type A** | 1.56 | 0.47 | No; 5.53 | No; 11.53 |
| **C302, K=2, Type A** | 0.95 | No; 5.05 | No; 11.05 |
| **C303, K=4, Type A** | 1.90 | No; 4.10 | No; 10.10 |
| **C304, K=1, Type B** | 2.67 | No; 3.33 | No; 9.33 |
| **C305, K=2, Type B** | 5.34 | No; 0.66 | No; 6.66 |
| **C306, K=4, Type B** | 10.68 | Yes | No; 1.32 |
| **C311, UL, DRX = 10.24s, Minimized gaps, Deep sleep, K=1, Type A** | 1.07 | 0.69 | No; 5.31 | No; 11.31 |
| **C312, K=2, Type A** | 1.28 | No; 4.62 | No; 10.62 |
| **C313, K=4, Type A** | 2.77 | No; 3.24 | No; 9.24 |
| **C314, K=1, Type B** | 3.89 | No; 2.11 | No; 8.11 |
| **C315, K=2, Type B** | 7.79 | Yes | No; 4.21 |
| **C316, K=4, Type B** | 15.57 | Yes | Yes |
| **C321, UL, DRX = 20.48s, Minimized gaps, Deep sleep, K=1, Type A** | 1.04 | 0.72 | No; 5.28 | No; 11.28 |
| **C322, K=2, Type A** | 1.43 | No; 4.57 | No; 10.57 |
| **C323, K=4, Type A** | 2.86 | No; 3.14 | No; 9.14 |
| **C324, K=1, Type B** | 4.03 | No; 1.97 | No; 7.97 |
| **C325, K=2, Type B** | 8.05 | Yes | No; 3.95 |
| **C326, K=4, Type B** | 16.10 | Yes | Yes |
| **D101, UE-A DL, DRX = 20.48s, Minimized gaps, Ultra-deep sleep option 1 w/ 10000, K=1, Type A** | 0.33 | 2.26 | No; 3.74 | No; 9.74 |
| **D102, K=2, Type A** | 4.53 | No; 1.47 | No; 7.47 |
| **D103, K=4, Type A** | 9.05 | Yes | No; 2.95 |
| **D104, K=1, Type B** | 12.73 | Yes | Yes |
| **D105, K=2, Type B** | 25.46 | Yes | Yes |
| **D106, K=4, Type B** | 50.93 | Yes | Yes |
| **D111, UE-A DL, DRX = 20.48s, Minimized gaps, Ultra-deep sleep option 1 w/ 5000, K=1, Type A** | 0.21 | 3.61 | No; 2.39 | No; 8.39 |
| **D112, K=2, Type A** | 7.22 | Yes | No; 4.78 |
| **D113, K=4, Type A** | 14.44 | Yes | Yes |
| **D114, K=1, Type B** | 20.31 | Yes | Yes |
| **D115, K=2, Type B** | 40.61 | Yes | Yes |
| **D116, K=4, Type B** | 81.22 | Yes | Yes |
| **D121, UE-A DL, DRX = 20.48s, Minimized gaps, Ultra-deep sleep option 2, K=1, Type A** | 0.08 | 9.50 | Yes | No; 2.50 |
| **D122, K=2, Type A** | 19.00 | Yes | Yes |
| **D123, K=4, Type A** | 38.00 | Yes | Yes |
| **D124, K=1, Type B** | 53.44 | Yes | Yes |
| **D125, K=2, Type B** | 106.87 | Yes | Yes |
| **D126, K=4, Type B** | 213.74 | Yes | Yes |
| **D201, UE-B DL, DRX = 20.48s, Minimized gaps, Ultra-deep sleep option 1 w/ 10000, K=1, Type A** | 0.29 | 2.60 | No; 3.40 | No; 9.40 |
| **D202, K=2, Type A** | 5.19 | No; 0.81 | No; 6.81 |
| **D203, K=4, Type A** | 10.38 | Yes | No; 1.62 |
| **D204, K=1, Type B** | 14.60 | Yes | Yes |
| **D205, K=2, Type B** | 29.20 | Yes | Yes |
| **D206, K=4, Type B** | 58.40 | Yes | Yes |
| **D211, UE-B DL, DRX = 20.48s, Minimized gaps, Ultra-deep sleep option 1 w/ 5000, K=1, Type A** | 0.16 | 4.54 | No; 1.46 | No; 7.46 |
| **D212, K=2, Type A** | 9.07 | Yes | No; 2.93 |
| **D213, K=4, Type A** | 18.14 | Yes | Yes |
| **D214, K=1, Type B** | 25.51 | Yes | Yes |
| **D215, K=2, Type B** | 51.02 | Yes | Yes |
| **D216, K=4, Type B** | 102.04 | Yes | Yes |
| **D221, UE-B DL, DRX = 20.48s, Minimized gaps, Ultra-deep sleep option 2, K=1, Type A** | 0.04 | 20.52 | Yes | Yes |
| **D222, K=2, Type A** | 41.03 | Yes | Yes |
| **D223, K=4, Type A** | 82.07 | Yes | Yes |
| **D224, K=1, Type B** | 115.39 | Yes | Yes |
| **D225, K=2, Type B** | 230.79 | Yes | Yes |
| **D226, K=4, Type B** | 461.58 | Yes | Yes |
| **D301, UL, DRX = 20.48s, Minimized gaps, Ultra-deep sleep option 1 w/ 10000, K=1, Type A** | 0.28 | 2.61 | No; 3.39 | No; 9.39 |
| **D302, K=2, Type A** | 5.21 | No; 0.79 | No; 6.79 |
| **D303, K=4, Type A** | 10.43 | Yes | No; 1.58 |
| **D304, K=1, Type B** | 14.66 | Yes | Yes |
| **D305, K=2, Type B** | 29.31 | Yes | Yes |
| **D306, K=4, Type B** | 58.62 | Yes | Yes |
| **D311, UL, DRX = 20.48s, Minimized gaps, Ultra-deep sleep option 1 w/ 5000, K=1, Type A** | 0.16 | 4.57 | No; 1.43 | No; 7.43 |
| **D312, K=2, Type A** | 9.13 | Yes | No; 2.87 |
| **D313, K=4, Type A** | 18.27 | Yes | Yes |
| **D314, K=1, Type B** | 25.68 | Yes | Yes |
| **D315, K=2, Type B** | 51.37 | Yes | Yes |
| **D316, K=4, Type B** | 102.73 | Yes | Yes |
| **D321, UL, DRX = 20.48s, Minimized gaps, Ultra-deep sleep option 2, K=1, Type A** | 0.04 | 20.52 | Yes | Yes |
| **D322, K=2, Type A** | 41.03 | Yes | Yes |
| **D323, K=4, Type A** | 82.07 | Yes | Yes |
| **D324, K=1, Type B** | 115.39 | Yes | Yes |
| **D325, K=2, Type B** | 230.79 | Yes | Yes |
| **D326, K=4, Type B** | 461.57 | Yes | Yes |

## B.5.12 Results from source [106]

### B.5.12.1 Description of evaluation scenarios

We consider two optional cases such as BWP switching and inter frequency RRM measurement to analyze power consumption more precisely. Figure B.5.12-1 and B.5.12-2 show that procedures for UE-based DL positioning measurement in RRC inactive state in accordance with SINR. Additionally, we consider an additional scenario (e.g. Figure B.5.12-1.C) to evaluate how the sleep transition energy impacts on power consumption significantly.

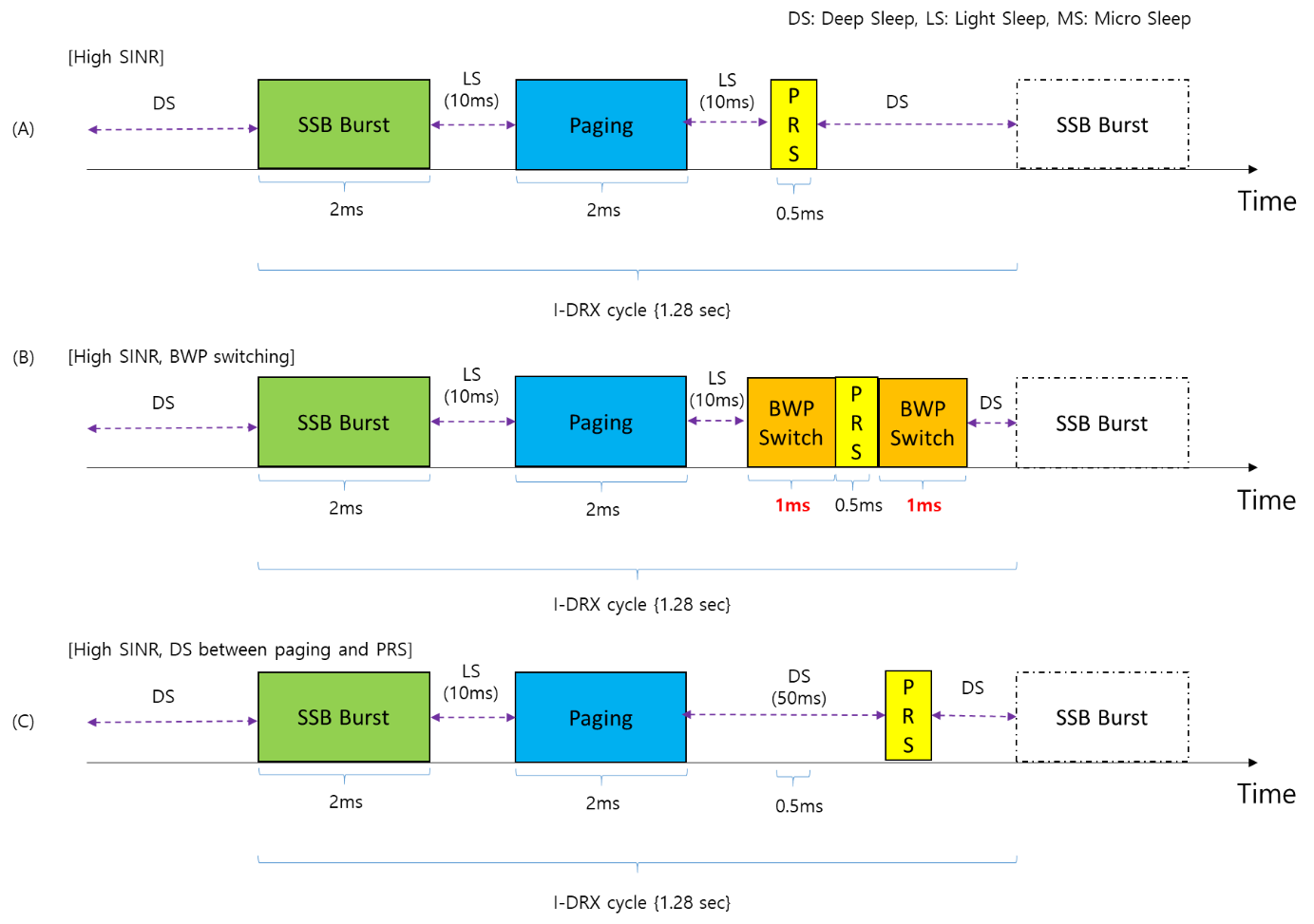


Figure B.5.12-1: UE-based DL positioning measurement in RRC inactive state in high SINR

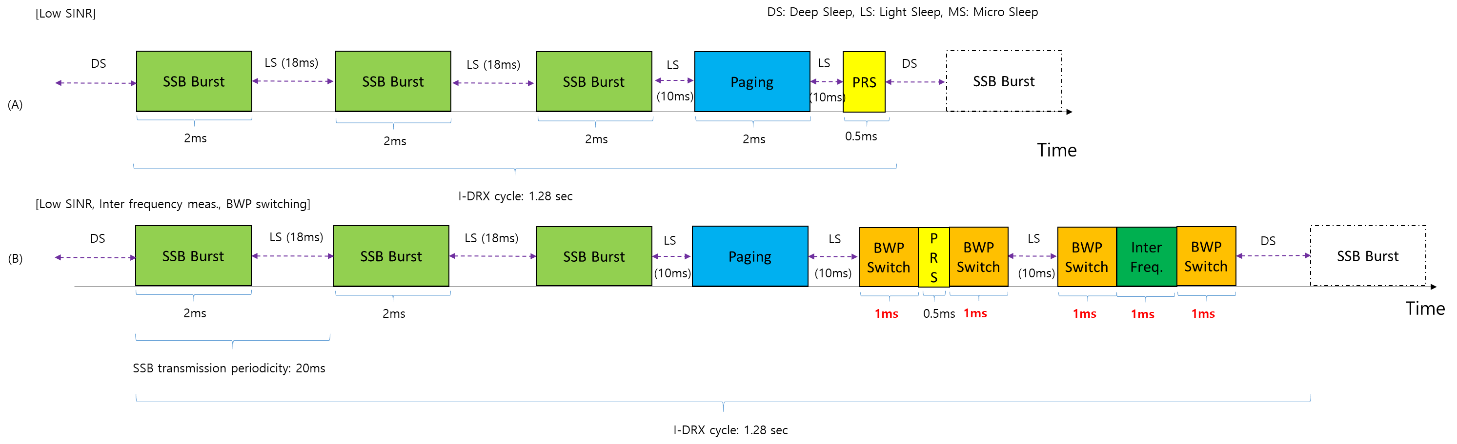


Figure B.5.12-2: UE-based DL positioning measurement in RRC inactive state in low SINR.

For UE-assisted DL positioning measurement in RRC inactive state, we consider two types of small data transmission such as CG-SDT and RA-SDT to report measurement results. Since the differences between UE-based and UE-assisted positioning is the procedures that are related with measurement report, we use the block marked with “positioning measurement” to avoid duplicated descriptions as shown in Figure B.5.12-3 and B.5.12-4 and then the detail procedures of “positioning measurement” is same with above descriptions in Figure B.5.12-1 and B.5.12-2. Furthermore, considering that CG-SDT is normally used in the high SINR, we assume that CG-SDT and RA-SDT are applied for high SINR and low SINR respectively. The procedures for UE-assisted DL positioning measurement in RRC inactive state are shown in Figure B.5.12-3 and B.5.12-4.

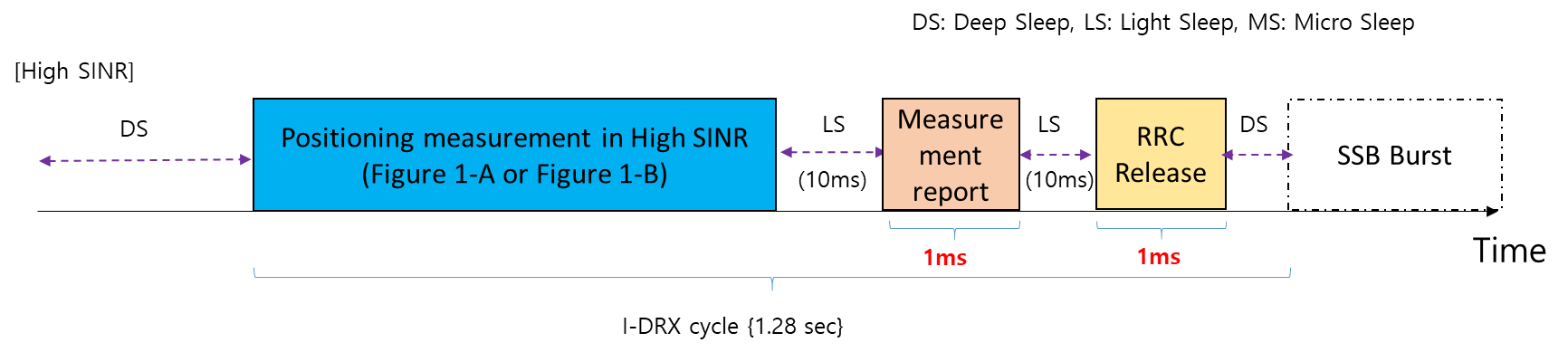


Figure B.5.12-3: UE-assisted DL positioning measurement via CG-SDT in RRC inactive state in high SINR

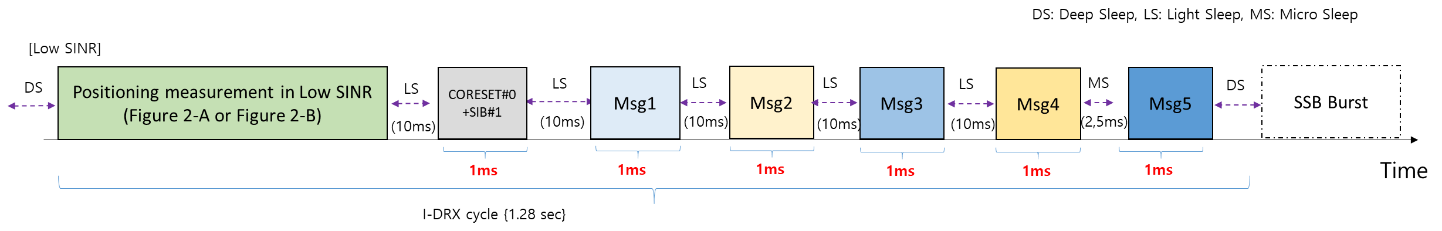


Figure B.5.12-4: UE-assisted DL positioning measurement via RA-SDT in RRC inactive state in low SINR

The procedures for UL positioning measurement in RRC inactive state can be shown in Figure B.5.12-5 and B.5.12-6.

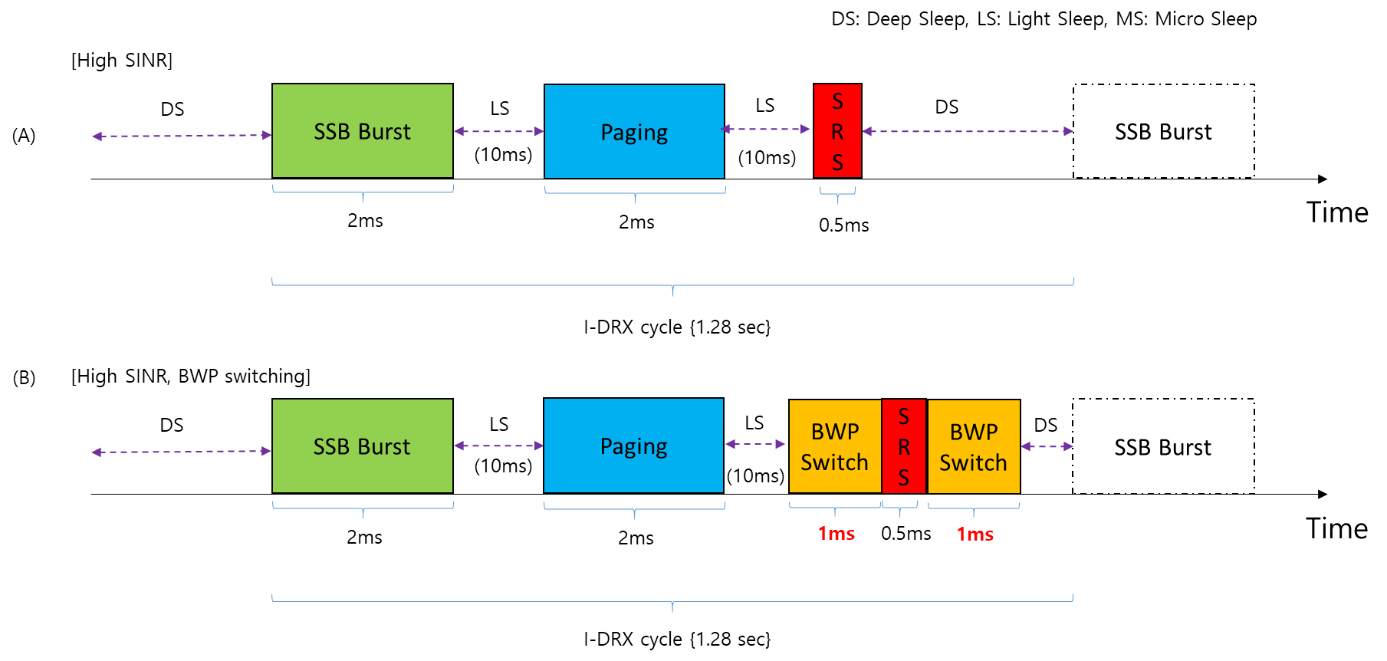


Figure B.5.12-5: UL positioning measurement in RRC inactive state in high SINR

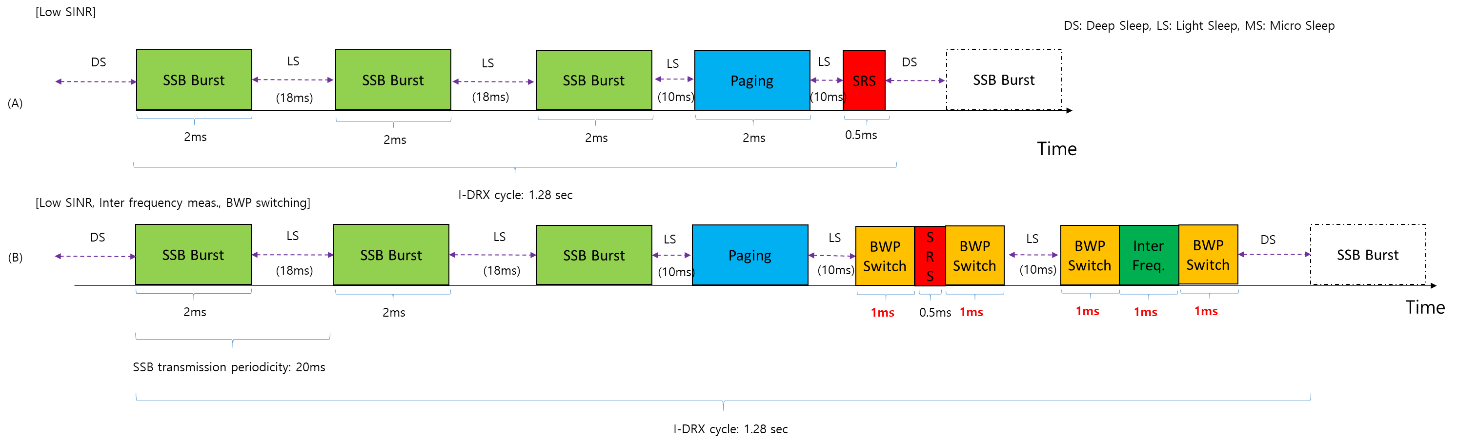


Figure B.5.12-6: UL positioning measurement in RRC inactive state in low SINR

### B.5.12.2 Evaluation results for Low Power High Accuracy Positioning

Table B.5.12.2-1 and B.5.12.2-2 provides detailed UE power consumption results for each evaluated case.

Table B.5.12.2-1: Evaluation cases and assumptions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 1], [FR1], [UE-based DL], [High SINR], [Type A]** | **[Case 2], [FR1], [UE-based DL], [High SINR], [Type A]** | **[Case 3], [FR1], [UE-based DL], [High SINR], [Type A]** | **[Case 4], [FR1], [UE-based DL], [Low SINR], [Type A]** | **[Case 5], [FR1], [UE-based DL], [Low SINR], [Type A]** |
| Sleep state | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep |
| DRX cycle | 1.28s | 1.28s | 1.28s | 1.28s | 1.28s |
| paging reception | Yes | Yes | Yes | Yes | Yes |
| RS periodicity | 1.28s | 1.28s | 1.28s | 1.28s | 1.28s |
| M-sample | 1 | 1 | 1 | 1 | 1 |
| RRM measurement | No | No | No | Yes | Yes |
| BWP switching | No | Yes | Yes | No | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No | No | No |
| implementation factor K | 0.5/1/2/4 | 0.5/1/2/4 | 0.5/1/2/4 | 0.5/1/2/4 | 0.5/1/2/4 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 6], [FR1], [UE-assisted DL], [High SINR], [Type A]** | **[Case 7], [FR1], [UE- assisted DL], [High SINR], [Type A]** | **[Case 8], [FR1], [UE- assisted DL], [Low SINR], [Type A]** | **[Case 9], [FR1], [UE- assisted DL], [Low SINR], [Type A]** |
| Sleep state | Deep sleep | Deep sleep | Deep sleep | Deep sleep |
| DRX cycle | 1.28s | 1.28s | 1.28s | 1.28s |
| paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 1.28s | 1.28s | 1.28s | 1.28s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | No | No | Yes | Yes |
| BWP switching | No | Yes | No | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | CG-SDT | RA-SDT | RA-SDT |
| implementation factor K | 0.5/1/2/4 | 0.5/1/2/4 | 0.5/1/2/4 | 0.5/1/2/4 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 10], [FR1], [UL], [High SINR], [Type A]** | **[Case 11], [FR1], [UL], [High SINR], [Type A]** | **[Case 12], [FR1], [UL], [Low SINR], [Type A]** | **[Case 13], [FR1], [UL], [Low SINR], [Type A]** |
| Sleep state | Deep sleep | Deep sleep | Deep sleep | Deep sleep |
| DRX cycle | 1.28s | 1.28s | 1.28s | 1.28s |
| paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 1.28s | 1.28s | 1.28s | 1.28s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | No | No | Yes | Yes |
| BWP switching | No | Yes | No | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | CG-SDT | RA-SDT | RA-SDT |
| implementation factor K | 0.5/1/2/4 | 0.5/1/2/4 | 0.5/1/2/4 | 0.5/1/2/4 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 14], [FR1], [UE-based DL], [High SINR], [Type B]** | **[Case 15], [FR1], [UE-based DL], [High SINR], [Type B]** | **[Case 16], [FR1], [UE-based DL], [High SINR], [Type B]** | **[Case 17], [FR1], [UE-based DL], [Low SINR], [Type B]** | **[Case 18], [FR1], [UE-based DL], [Low SINR], [Type B]** |
| Sleep state | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep |
| DRX cycle | 1.28s | 1.28s | 1.28s | 1.28s | 1.28s |
| paging reception | Yes | Yes | Yes | Yes | Yes |
| RS periodicity | 1.28s | 1.28s | 1.28s | 1.28s | 1.28s |
| M-sample | 1 | 1 | 1 | 1 | 1 |
| RRM measurement | No | No | No | Yes | Yes |
| BWP switching | No | Yes | Yes | No | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | No | No | No | No | No |
| implementation factor K | 0.5/1/2/4 | 0.5/1/2/4 | 0.5/1/2/4 | 0.5/1/2/4 | 0.5/1/2/4 |
| Note |  | **Case1 + BWP switching** | **Case1 + Deep sleep between paging and PRS** |  | **Case4 + BWP switching** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 19], [FR1], [UE-assisted DL], [High SINR], [Type B]** | **[Case 20], [FR1], [UE- assisted DL], [High SINR], [Type B]** | **[Case 21], [FR1], [UE- assisted DL], [Low SINR], [Type B]** | **[Case 22], [FR1], [UE- assisted DL], [Low SINR], [Type B]** |
| Sleep state | Deep sleep | Deep sleep | Deep sleep | Deep sleep |
| DRX cycle | 1.28s | 1.28s | 1.28s | 1.28s |
| paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 1.28s | 1.28s | 1.28s | 1.28s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | No | No | Yes | Yes |
| BWP switching | No | Yes | No | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | CG-SDT | RA-SDT | RA-SDT |
| implementation factor K | 0.5/1/2/4 | 0.5/1/2/4 | 0.5/1/2/4 | 0.5/1/2/4 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation assumption** | **[Case 23], [FR1], [UL], [High SINR], [Type B]** | **[Case 24], [FR1], [UL], [High SINR], [Type B]** | **[Case 25], [FR1], [UL], [Low SINR], [Type B]** | **[Case 26], [FR1], [UL], [Low SINR], [Type B]** |
| Sleep state | Deep sleep | Deep sleep | Deep sleep | Deep sleep |
| DRX cycle | 1.28s | 1.28s | 1.28s | 1.28s |
| paging reception | Yes | Yes | Yes | Yes |
| RS periodicity | 1.28s | 1.28s | 1.28s | 1.28s |
| M-sample | 1 | 1 | 1 | 1 |
| RRM measurement | No | No | Yes | Yes |
| BWP switching | No | Yes | No | Yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | CG-SDT | CG-SDT | RA-SDT | RA-SDT |
| implementation factor K | 0.5/1/2/4 | 0.5/1/2/4 | 0.5/1/2/4 | 0.5/1/2/4 |

Table B.5.12.2-2: UE power consumption result for each evaluation case

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 1** | SSB | 50 | 2 | 1 | 2 | 100 | 3% |
| Inter frequency measurement | 60 | 0 | 0 | 0 | 0 | 0% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 5% |
| BWP switching | 50 | 0 | 0 | 0 | 0 | 0% |
| Paging | 57 | 2 | 1 | 2 | 114 | 3% |
| Deep Sleep | 1 | - | - | 1255.5 | 1255.5 | 38% |
| Light Sleep | 20 | - | - | 20 | 400 | 12% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 27% |
| Light Sleep Trans. | 100 | 4 | - | 4 | 400 | 12% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 3319.5 | 100% |
| **Slot-averaged power unit** | | | | 2.5934 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.14 / 0.29 / 0.57 / 1.14 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 2** | SSB | 50 | 2 | 1 | 2 | 100 | 3% |
| Inter frequency measurement | 60 | 0 | 0 | 0 | 0 | 0% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 4% |
| BWP switching | 50 | 1 | 2 | 2 | 100 | 3% |
| Paging | 57 | 2 | 1 | 2 | 114 | 3% |
| Deep Sleep | 1 | - | - | 1253.5 | 1253.5 | 37% |
| Light Sleep | 20 | - | - | 20 | 400 | 12% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 26% |
| Light Sleep Trans. | 100 | 4 | - | 4 | 400 | 12% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 3417.5 | 100% |
| **Slot-averaged power unit** | | | | 2.6699 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.14 / 0.2 / 0.55 / 1.11 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 3** | SSB | 50 | 2 | 1 | 2 | 100 | 3% |
| Inter frequency measurement | 60 | 0 | 0 | 0 | 0 | 0% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 4% |
| BWP switching | 50 | 1 | 0 | 0 | 0 | 0% |
| Paging | 57 | 2 | 1 | 2 | 114 | 3% |
| Deep Sleep | 1 | - | - | 1265.5 | 1265.5 | 33% |
| Light Sleep | 20 | - | - | 10 | 200 | 5% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 4 | 1800 | 47% |
| Light Sleep Trans. | 100 | 4 | - | 2 | 200 | 5% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 3829.5 | 100% |
| **Slot-averaged power unit** | | | | 2.9918 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.12 / 0.25 / 0.50 / 0.99 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 4** | SSB | 50 | 2 | 3 | 6 | 100 | 3% |
| Inter frequency measurement | 60 | 0 | 0 | 0 | 0 | 0% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 4% |
| BWP switching | 50 | 1 | 2 | 2 | 0 | 0% |
| Paging | 57 | 2 | 1 | 2 | 114 | 3% |
| Deep Sleep | 1 | - | - | 1213.5 | 1265.5 | 33% |
| Light Sleep | 20 | - | - | 56 | 200 | 5% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 1800 | 47% |
| Light Sleep Trans. | 100 | 4 | - | 8 | 200 | 5% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 3829.5 | 100% |
| **Slot-averaged power unit** | | | | 3.6699 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.10 / 0.20 / 0.40 / 0.81 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 5** | SSB | 50 | 2 | 3 | 6 | 300 | 6% |
| Inter frequency measurement | 60 | 1 | 1 | 1 | 60 | 1% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 3% |
| BWP switching | 50 | 1 | 4 | 4 | 200 | 4% |
| Paging | 57 | 2 | 1 | 2 | 114 | 2% |
| Deep Sleep | 1 | - | - | 1200.5 | 1200.5 | 23% |
| Light Sleep | 20 | - | - | 66 | 1320 | 25% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 17% |
| Light Sleep Trans. | 100 | 4 | - | 8 | 1000 | 19% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 5244.5 | 100% |
| **Slot-averaged power unit** | | | | 4.0973 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.09 / 0.18 / 0.36 / 0.72 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 6** | SSB | 50 | 2 | 3 | 2 | 100 | 2% |
| Inter frequency measurement | 60 | 1 | 1 | 0 | 0 | 0% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 3% |
| BWP switching | 50 | 1 | 4 | 0 | 0 | 0% |
| Paging | 57 | 2 | 1 | 2 | 114 | 3% |
| PUSCH | 250 | 1 | 1 | 1 | 250 | 6% |
| PDCCH+PDSCH | 120 | 1 | 1 | 1 | 120 | 3% |
| Deep Sleep | 1 | - | - | 1233.5 | 1233.5 | 28% |
| Light Sleep | 20 | - | - | 40 | 800 | 18% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 20% |
| Light Sleep Trans. | 100 | 4 | - | 8 | 800 | 18% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 4467.5 | 100% |
| **Slot-averaged power unit** | | | | 3.4902 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.11 / 0.21 / 0.42 / 0.85 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 7** | SSB | 50 | 2 | 3 | 2 | 100 | 2% |
| Inter frequency measurement | 60 | 1 | 1 | 0 | 0 | 0% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 3% |
| BWP switching | 50 | 1 | 4 | 2 | 100 | 2% |
| Paging | 57 | 2 | 1 | 2 | 114 | 2% |
| PUSCH | 250 | 1 | 1 | 1 | 250 | 5% |
| PDCCH+PDSCH | 120 | 1 | 1 | 1 | 120 | 3% |
| Deep Sleep | 1 | - | - | 1231.5 | 1231.5 | 27% |
| Light Sleep | 20 | - | - | 40 | 800 | 18% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 20% |
| Light Sleep Trans. | 100 | 4 | - | 8 | 800 | 18% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 4565.5 | 100% |
| **Slot-averaged power unit** | | | | 3.5668 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.10 / 0.21 / 0.42 / 0.83 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 8** | SSB | 50 | 2 | 3 | 6 | 300 | 2% |
| Inter frequency measurement | 60 | 1 | 0 | 0 | 0 | 0% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 3% |
| BWP switching | 50 | 1 | 0 | 0 | 0 | 2% |
| Paging | 57 | 2 | 1 | 2 | 114 | 2% |
| CORESET0+SIB1 | 120 | 1 | 1 | 1 | 120 | 5% |
| Msg1 | 210 | 1 | 1 | 1 | 210 | 3% |
| Msg2 | 120 | 1 | 1 | 1 | 120 | 27% |
| Msg3 | 250 | 1 | 1 | 1 | 250 | 18% |
| Msg4 | 120 | 1 | 1 | 1 | 120 | 0% |
| Msg5 | 250 | 1 | 1 | 1 | 250 | 20% |
| Deep Sleep | 1 | - | - | 1154.5 | 1154.5 |  |
| Light Sleep | 20 | - | - | 108.5 | 2170 |  |
| Micro Sleep | 45 | - | - | 2.5 | 112.5 |  |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 |  |
| Light Sleep Trans. | 100 | 4 | - | 18 | 1800 | 18% |
| Micro Sleep Trans. | 0 | 0 | - | 2 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 7771 | 100% |
| **Slot-averaged power unit** | | | | 6.0711 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.06 / 0.12 / 0.24 / 0.49 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 9** | SSB | 50 | 2 | 3 | 6 | 300 | 2% |
| Inter frequency measurement | 60 | 1 | 0 | 1 | 60 | 0% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 3% |
| BWP switching | 50 | 1 | 0 | 4 | 200 | 2% |
| Paging | 57 | 2 | 1 | 2 | 114 | 2% |
| CORESET0+SIB1 | 120 | 1 | 1 | 1 | 120 | 5% |
| Msg1 | 210 | 1 | 1 | 1 | 210 | 3% |
| Msg2 | 120 | 1 | 1 | 1 | 120 | 27% |
| Msg3 | 250 | 1 | 1 | 1 | 250 | 18% |
| Msg4 | 120 | 1 | 1 | 1 | 120 | 0% |
| Msg5 | 250 | 1 | 1 | 1 | 250 | 20% |
| Deep Sleep | 1 | - | - | 1142 | 1142 |  |
| Light Sleep | 20 | - | - | 116 | 2320 |  |
| Micro Sleep | 45 | - | - | 2.5 | 112.5 |  |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 |  |
| Light Sleep Trans. | 100 | 4 | - | 20 | 2000 | 18% |
| Micro Sleep Trans. | 0 | 0 | - | 2 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 8368.5 | 100% |
| **Slot-averaged power unit** | | | | 6.5379 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.06 / 0.11 / 0.23 / 0.45 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 10** | SSB | 50 | 2 | 1 | 2 | 100 | 3% |
| Inter frequency measurement | 60 | 1 | 0 | 0 | 0 | 0% |
| PRS | 210 | 0.5 | 1 | 0.5 | 210 | 6% |
| BWP switching | 50 | 1 | 0 | 0 | 0 | 0% |
| Paging | 57 | 2 | 1 | 2 | 114 | 3% |
| Deep Sleep | 1 | - | - | 1255.5 | 1255.5 | 37% |
| Light Sleep | 20 | - | - | 20 | 400 | 12% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 27% |
| Light Sleep Trans. | 100 | 4 | - | 4 | 400 | 12% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 3379.5 | 100% |
| **Slot-averaged power unit** | | | | 2.6402 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.14 / 0.28 / 0.56 / 1.12 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 11** | SSB | 50 | 2 | 1 | 2 | 100 | 3% |
| Inter frequency measurement | 60 | 1 | 0 | 0 | 0 | 0% |
| PRS | 210 | 0.5 | 1 | 0.5 | 210 | 6% |
| BWP switching | 50 | 1 | 2 | 2 | 100 | 3% |
| Paging | 57 | 2 | 1 | 2 | 114 | 3% |
| Deep Sleep | 1 | - | - | 1253.5 | 1253.5 | 36% |
| Light Sleep | 20 | - | - | 20 | 400 | 12% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 26% |
| Light Sleep Trans. | 100 | 4 | - | 4 | 400 | 12% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 3477.5 | 100% |
| **Slot-averaged power unit** | | | | 2.7168 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.14 / 0.27 / 0.55 / 1.09 | | |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 12** | SSB | 50 | 2 | 3 | 6 | 300 | 6% |
| Inter frequency measurement | 60 | 1 | 0 | 0 | 0 | 0% |
| PRS | 210 | 0.5 | 1 | 0.5 | 210 | 4% |
| BWP switching | 50 | 1 | 2 | 2 | 100 | 2% |
| Paging | 57 | 2 | 1 | 2 | 114 | 2% |
| Deep Sleep | 1 | - | - | 1213.5 | 1213.5 | 26% |
| Light Sleep | 20 | - | - | 56 | 1120 | 24% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 19% |
| Light Sleep Trans. | 100 | 4 | - | 8 | 800 | 17% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 4757.5 | 100% |
| **Slot-averaged power unit** | | | | 3.7168 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.10 / 0.20 / 0.40 / 0.80 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 13** | SSB | 50 | 2 | 3 | 6 | 300 | 6% |
| Inter frequency measurement | 60 | 1 | 0 | 1 | 60 | 1% |
| PRS | 210 | 0.5 | 1 | 0.5 | 210 | 4% |
| BWP switching | 50 | 1 | 2 | 4 | 200 | 4% |
| Paging | 57 | 2 | 1 | 2 | 114 | 2% |
| Deep Sleep | 1 | - | - | 1200.5 | 1200.5 | 23% |
| Light Sleep | 20 | - | - | 66 | 1320 | 25% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 17% |
| Light Sleep Trans. | 100 | 4 | - | 10 | 1000 | 19% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 5304.5 | 100% |
| **Slot-averaged power unit** | | | | 4.1441 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.09 / 0.18 / 0.36 / 0.71 | | |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 14** | SSB | 50 | 2 | 1 | 2 | 100 | 3% |
| Inter frequency measurement | 60 | 0 | 0 | 0 | 0 | 0% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 5% |
| BWP switching | 50 | 0 | 0 | 0 | 0 | 0% |
| Paging | 57 | 2 | 1 | 2 | 114 | 3% |
| Deep Sleep | 1 | - | - | 1255.5 | 1255.5 | 38% |
| Light Sleep | 20 | - | - | 20 | 400 | 12% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 27% |
| Light Sleep Trans. | 100 | 4 | - | 4 | 400 | 12% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 3319.5 | 100% |
| **Slot-averaged power unit** | | | | 2.5934 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.80 / 1.61 / 3.21 / 6.43 | | |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 15** | SSB | 50 | 2 | 1 | 2 | 100 | 3% |
| Inter frequency measurement | 60 | 0 | 0 | 0 | 0 | 0% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 4% |
| BWP switching | 50 | 1 | 2 | 2 | 100 | 3% |
| Paging | 57 | 2 | 1 | 2 | 114 | 3% |
| Deep Sleep | 1 | - | - | 1253.5 | 1253.5 | 37% |
| Light Sleep | 20 | - | - | 20 | 400 | 12% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 26% |
| Light Sleep Trans. | 100 | 4 | - | 4 | 400 | 12% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 3417.5 | 100% |
| **Slot-averaged power unit** | | | | 2.6699 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.78 / 1.56 / 3.12 / 6.24 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 16** | SSB | 50 | 2 | 1 | 2 | 100 | 3% |
| Inter frequency measurement | 60 | 0 | 0 | 0 | 0 | 0% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 4% |
| BWP switching | 50 | 1 | 0 | 0 | 0 | 0% |
| Paging | 57 | 2 | 1 | 2 | 114 | 3% |
| Deep Sleep | 1 | - | - | 1265.5 | 1265.5 | 33% |
| Light Sleep | 20 | - | - | 10 | 200 | 5% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 4 | 1800 | 47% |
| Light Sleep Trans. | 100 | 4 | - | 2 | 200 | 5% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 3829.5 | 100% |
| **Slot-averaged power unit** | | | | 2.9918 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.70 / 1.39 / 2.79 / 5.57 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 17** | SSB | 50 | 2 | 3 | 6 | 100 | 3% |
| Inter frequency measurement | 60 | 0 | 0 | 0 | 0 | 0% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 4% |
| BWP switching | 50 | 1 | 2 | 2 | 0 | 0% |
| Paging | 57 | 2 | 1 | 2 | 114 | 3% |
| Deep Sleep | 1 | - | - | 1213.5 | 1265.5 | 33% |
| Light Sleep | 20 | - | - | 56 | 200 | 5% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 1800 | 47% |
| Light Sleep Trans. | 100 | 4 | - | 8 | 200 | 5% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 3829.5 | 100% |
| **Slot-averaged power unit** | | | | 3.6699 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.57 / 1.14 / 2.27 / 4.54 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 18** | SSB | 50 | 2 | 3 | 6 | 300 | 6% |
| Inter frequency measurement | 60 | 1 | 1 | 1 | 60 | 1% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 3% |
| BWP switching | 50 | 1 | 4 | 4 | 200 | 4% |
| Paging | 57 | 2 | 1 | 2 | 114 | 2% |
| Deep Sleep | 1 | - | - | 1200.5 | 1200.5 | 23% |
| Light Sleep | 20 | - | - | 66 | 1320 | 25% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 17% |
| Light Sleep Trans. | 100 | 4 | - | 8 | 1000 | 19% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 5244.5 | 100% |
| **Slot-averaged power unit** | | | | 4.0973 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.51 / 1.02 / 2.03 / 4.07 | | |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 19** | SSB | 50 | 2 | 3 | 2 | 100 | 2% |
| Inter frequency measurement | 60 | 1 | 1 | 0 | 0 | 0% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 3% |
| BWP switching | 50 | 1 | 4 | 0 | 0 | 0% |
| Paging | 57 | 2 | 1 | 2 | 114 | 3% |
| PUSCH | 250 | 1 | 1 | 1 | 250 | 6% |
| PDCCH+PDSCH | 120 | 1 | 1 | 1 | 120 | 3% |
| Deep Sleep | 1 | - | - | 1233.5 | 1233.5 | 28% |
| Light Sleep | 20 | - | - | 40 | 800 | 18% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 20% |
| Light Sleep Trans. | 100 | 4 | - | 8 | 800 | 18% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 4467.5 | 100% |
| **Slot-averaged power unit** | | | | 3.4902 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.60 / 1.19 / 2.39 / 4.78 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 20** | SSB | 50 | 2 | 3 | 2 | 100 | 2% |
| Inter frequency measurement | 60 | 1 | 1 | 0 | 0 | 0% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 3% |
| BWP switching | 50 | 1 | 4 | 2 | 100 | 2% |
| Paging | 57 | 2 | 1 | 2 | 114 | 2% |
| PUSCH | 250 | 1 | 1 | 1 | 250 | 5% |
| PDCCH+PDSCH | 120 | 1 | 1 | 1 | 120 | 3% |
| Deep Sleep | 1 | - | - | 1231.5 | 1231.5 | 27% |
| Light Sleep | 20 | - | - | 40 | 800 | 18% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 20% |
| Light Sleep Trans. | 100 | 4 | - | 8 | 800 | 18% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 4565.5 | 100% |
| **Slot-averaged power unit** | | | | 3.5668 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.58 / 1.17 / 2.34 / 4.67 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 21** | SSB | 50 | 2 | 3 | 6 | 300 | 2% |
| Inter frequency measurement | 60 | 1 | 0 | 0 | 0 | 0% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 3% |
| BWP switching | 50 | 1 | 0 | 0 | 0 | 2% |
| Paging | 57 | 2 | 1 | 2 | 114 | 2% |
| CORESET0+SIB1 | 120 | 1 | 1 | 1 | 120 | 5% |
| Msg1 | 210 | 1 | 1 | 1 | 210 | 3% |
| Msg2 | 120 | 1 | 1 | 1 | 120 | 27% |
| Msg3 | 250 | 1 | 1 | 1 | 250 | 18% |
| Msg4 | 120 | 1 | 1 | 1 | 120 | 0% |
| Msg5 | 250 | 1 | 1 | 1 | 250 | 20% |
| Deep Sleep | 1 | - | - | 1154.5 | 1154.5 |  |
| Light Sleep | 20 | - | - | 108.5 | 2170 |  |
| Micro Sleep | 45 | - | - | 2.5 | 112.5 |  |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 |  |
| Light Sleep Trans. | 100 | 4 | - | 18 | 1800 | 18% |
| Micro Sleep Trans. | 0 | 0 | - | 2 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 7771 | 100% |
| **Slot-averaged power unit** | | | | 6.0711 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.34 / 0.69 / 1.37 / 2.75 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 22** | SSB | 50 | 2 | 3 | 6 | 300 | 2% |
| Inter frequency measurement | 60 | 1 | 0 | 1 | 60 | 0% |
| PRS | 300 | 0.5 | 1 | 0.5 | 150 | 3% |
| BWP switching | 50 | 1 | 0 | 4 | 200 | 2% |
| Paging | 57 | 2 | 1 | 2 | 114 | 2% |
| CORESET0+SIB1 | 120 | 1 | 1 | 1 | 120 | 5% |
| Msg1 | 210 | 1 | 1 | 1 | 210 | 3% |
| Msg2 | 120 | 1 | 1 | 1 | 120 | 27% |
| Msg3 | 250 | 1 | 1 | 1 | 250 | 18% |
| Msg4 | 120 | 1 | 1 | 1 | 120 | 0% |
| Msg5 | 250 | 1 | 1 | 1 | 250 | 20% |
| Deep Sleep | 1 | - | - | 1142 | 1142 |  |
| Light Sleep | 20 | - | - | 116 | 2320 |  |
| Micro Sleep | 45 | - | - | 2.5 | 112.5 |  |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 |  |
| Light Sleep Trans. | 100 | 4 | - | 20 | 2000 | 18% |
| Micro Sleep Trans. | 0 | 0 | - | 2 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 8368.5 | 100% |
| **Slot-averaged power unit** | | | | 6.5379 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.32 / 0.64 / 1.27 / 2.55 | | |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 23** | SSB | 50 | 2 | 1 | 2 | 100 | 3% |
| Inter frequency measurement | 60 | 1 | 0 | 0 | 0 | 0% |
| PRS | 210 | 0.5 | 1 | 0.5 | 210 | 6% |
| BWP switching | 50 | 1 | 0 | 0 | 0 | 0% |
| Paging | 57 | 2 | 1 | 2 | 114 | 3% |
| Deep Sleep | 1 | - | - | 1255.5 | 1255.5 | 37% |
| Light Sleep | 20 | - | - | 20 | 400 | 12% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 27% |
| Light Sleep Trans. | 100 | 4 | - | 4 | 400 | 12% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 3379.5 | 100% |
| **Slot-averaged power unit** | | | | 2.6402 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.79 / 1.58 / 3.16 / 6.31 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 24** | SSB | 50 | 2 | 1 | 2 | 100 | 3% |
| Inter frequency measurement | 60 | 1 | 0 | 0 | 0 | 0% |
| PRS | 210 | 0.5 | 1 | 0.5 | 210 | 6% |
| BWP switching | 50 | 1 | 2 | 2 | 100 | 3% |
| Paging | 57 | 2 | 1 | 2 | 114 | 3% |
| Deep Sleep | 1 | - | - | 1253.5 | 1253.5 | 36% |
| Light Sleep | 20 | - | - | 20 | 400 | 12% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 26% |
| Light Sleep Trans. | 100 | 4 | - | 4 | 400 | 12% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 3477.5 | 100% |
| **Slot-averaged power unit** | | | | 2.7168 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.77 / 1.53 / 3.07 / 6.13 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 25** | SSB | 50 | 2 | 3 | 6 | 300 | 6% |
| Inter frequency measurement | 60 | 1 | 0 | 0 | 0 | 0% |
| PRS | 210 | 0.5 | 1 | 0.5 | 210 | 4% |
| BWP switching | 50 | 1 | 2 | 2 | 100 | 2% |
| Paging | 57 | 2 | 1 | 2 | 114 | 2% |
| Deep Sleep | 1 | - | - | 1213.5 | 1213.5 | 26% |
| Light Sleep | 20 | - | - | 56 | 1120 | 24% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 19% |
| Light Sleep Trans. | 100 | 4 | - | 8 | 800 | 17% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 4757.5 | 100% |
| **Slot-averaged power unit** | | | | 3.7168 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.56 / 1.12 / 2.24 / 4.48 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 26** | SSB | 50 | 2 | 3 | 6 | 300 | 6% |
| Inter frequency measurement | 60 | 1 | 0 | 1 | 60 | 1% |
| PRS | 210 | 0.5 | 1 | 0.5 | 210 | 4% |
| BWP switching | 50 | 1 | 2 | 4 | 200 | 4% |
| Paging | 57 | 2 | 1 | 2 | 114 | 2% |
| Deep Sleep | 1 | - | - | 1200.5 | 1200.5 | 23% |
| Light Sleep | 20 | - | - | 66 | 1320 | 25% |
| Micro Sleep | 45 | - | - | 0 | 0 | 0% |
| Deep Sleep Trans. | 450 | 2 | - | 2 | 900 | 17% |
| Light Sleep Trans. | 100 | 4 | - | 10 | 1000 | 19% |
| Micro Sleep Trans. | 0 | 0 | - | 0 | 0 | 0% |
| **Total (every power cycle)** | | | | 1280 | 5304.5 | 100% |
| **Slot-averaged power unit** | | | | 4.1441 | | |
| **Battery life (in month) (K=0.5/1/2/4)** | | | | 0.50 / 1.01 / 2.01 / 4.02 | | |

Table B.5.12.2-3: Summary for UE power consumption results

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | | **Target requirement are met – Yes/No; If no, provide gaps** | |
| **6 months** | **12 months** |
| **[Case 1], [Rel-17]** | 4.1441 | K=0.5 | 0.14 | 5.86 | 11.86 |
| K=1 | 0.29 | 5.71 | 11.71 |
| K=2 | 0.57 | 5.43 | 11.43 |
| K=4 | 1.14 | 4.86 | 10.86 |
| **[Case 2], [Rel-17]** | 4.1441 | K=0.5 | 0.14 | 5.86 | 11.86 |
| K=1 | 0.28 | 5.72 | 11.72 |
| K=2 | 0.55 | 5.45 | 11.45 |
| K=4 | 1.11 | 4.89 | 10.89 |
| **[Case 3], [Rel-17]** | 4.1441 | K=0.5 | 0.12 | 5.88 | 11.88 |
| K=1 | 0.25 | 5.75 | 11.75 |
| K=2 | 0.5 | 5.5 | 11.5 |
| K=4 | 1.11 | 4.89 | 10.89 |
| **[Case 4], [Rel-17]** | 4.1441 | K=0.5 | 0.1 | 5.9 | 11.9 |
| K=1 | 0.2 | 5.8 | 11.8 |
| K=2 | 0.4 | 5.6 | 11.6 |
| K=4 | 0.81 | 5.19 | 11.19 |
| **[Case 5], [Rel-17]** | 4.1441 | K=0.5 | 0.09 | 5.91 | 11.91 |
| K=1 | 0.18 | 5.82 | 11.82 |
| K=2 | 0.36 | 5.64 | 11.64 |
| K=4 | 0.72 | 5.28 | 11.28 |
| **[Case 6], [Rel-17]** | 4.1441 | K=0.5 | 0.11 | 5.89 | 11.89 |
| K=1 | 0.21 | 5.79 | 11.79 |
| K=2 | 0.42 | 5.58 | 11.58 |
| K=4 | 0.85 | 5.15 | 11.15 |
| **[Case 7], [Rel-17]** | 4.1441 | K=0.5 | 0.1 | 5.9 | 11.9 |
| K=1 | 0.21 | 5.79 | 11.79 |
| K=2 | 0.42 | 5.58 | 11.58 |
| K=4 | 0.83 | 5.17 | 11.17 |
| **[Case 8], [Rel-17]** | 4.1441 | K=0.5 | 0.06 | 5.94 | 11.94 |
| K=1 | 0.12 | 5.88 | 11.88 |
| K=2 | 0.24 | 5.76 | 11.76 |
| K=4 | 0.49 | 5.51 | 11.51 |
| **[Case 9], [Rel-17]** | 4.1441 | K=0.5 | 0.06 | 0.11 | 0.23 |
| K=1 | 0.06 | 0.11 | 0.23 |
| K=2 | 0.06 | 0.11 | 0.23 |
| K=4 | 0.06 | 0.11 | 0.23 |
| **[Case 10], [Rel-17]** | 4.1441 | K=0.5 | 0.06 | 0.14 | 5.86 |
| K=1 | 0.12 | 0.28 | 5.72 |
| K=2 | 0.24 | 0.56 | 5.44 |
| K=4 | 0.49 | 1.12 | 4.88 |
| **[Case 11], [Rel-17]** | 4.1441 | K=0.5 | 0.14 | 5.86 | 11.86 |
| K=1 | 0.27 | 5.73 | 11.73 |
| K=2 | 0.55 | 5.45 | 11.45 |
| K=4 | 1.09 | 4.91 | 10.91 |
| **[Case 12], [Rel-17]** | 4.1441 | K=0.5 | 0.1 | 5.9 | 11.9 |
| K=1 | 0.2 | 5.8 | 11.8 |
| K=2 | 0.4 | 5.6 | 11.6 |
| K=4 | 0.8 | 5.2 | 11.2 |
| **[Case 13], [Rel-17]** | 4.1441 | K=0.5 | 0.09 | 5.91 | 11.91 |
| K=1 | 0.18 | 5.82 | 11.82 |
| K=2 | 0.36 | 5.64 | 11.64 |
| K=4 | 0.71 | 5.29 | 11.29 |
| **[Case 14], [Rel-17]** | 4.1441 | K=0.5 | 0.8 | 5.2 | 11.2 |
| K=1 | 1.61 | 4.39 | 10.39 |
| K=2 | 3.21 | 2.79 | 8.79 |
| K=4 | 6.43 | Yes | 5.57 |
| **[Case 15], [Rel-17]** | 4.1441 | K=0.5 | 0.78 | 5.22 | 11.22 |
| K=1 | 1.56 | 4.44 | 10.44 |
| K=2 | 3.12 | 2.88 | 8.88 |
| K=4 | 6.24 | Yes | 5.76 |
| **[Case 16], [Rel-17]** | 4.1441 | K=0.5 | 0.7 | 5.3 | 11.3 |
| K=1 | 1.39 | 4.61 | 10.61 |
| K=2 | 2.79 | 3.21 | 9.21 |
| K=4 | 5.57 | 0.43 | 6.43 |
| **[Case 17], [Rel-17]** | 4.1441 | K=0.5 | 0.57 | 5.43 | 11.43 |
| K=1 | 1.14 | 4.86 | 10.86 |
| K=2 | 2.27 | 3.73 | 9.73 |
| K=4 | 4.54 | 1.46 | 7.46 |
| **[Case 18], [Rel-17]** | 4.1441 | K=0.5 | 0.51 | 5.49 | 11.49 |
| K=1 | 1.02 | 4.98 | 10.98 |
| K=2 | 2.03 | 3.97 | 9.97 |
| K=4 | 4.07 | 1.93 | 7.93 |
| **[Case 19], [Rel-17]** | 4.1441 | K=0.5 | 0.6 | 5.4 | 11.4 |
| K=1 | 1.19 | 4.81 | 10.81 |
| K=2 | 2.39 | 3.61 | 9.61 |
| K=4 | 4.78 | 1.22 | 7.22 |
| **[Case 20], [Rel-17]** | 4.1441 | K=0.5 | 0.58 | 5.42 | 11.42 |
| K=1 | 1.17 | 4.83 | 10.83 |
| K=2 | 2.34 | 3.66 | 9.66 |
| K=4 | 4.67 | 1.33 | 7.33 |
| **[Case 21], [Rel-17]** | 4.1441 | K=0.5 | 0.34 | 5.66 | 11.66 |
| K=1 | 0.69 | 5.31 | 11.31 |
| K=2 | 1.37 | 4.63 | 10.63 |
| K=4 | 2.75 | 3.25 | 9.25 |
| **[Case 22], [Rel-17]** | 4.1441 | K=0.5 | 0.32 | 5.68 | 11.68 |
| K=1 | 0.64 | 5.36 | 11.36 |
| K=2 | 1.27 | 4.73 | 10.73 |
| K=4 | 2.55 | 3.45 | 9.45 |
| **[Case 23], [Rel-17]** | 4.1441 | K=0.5 | 0.79 | 5.21 | 11.21 |
| K=1 | 1.58 | 4.42 | 10.42 |
| K=2 | 3.16 | 2.84 | 8.84 |
| K=4 | 6.31 | Yes | 5.69 |
| **[Case 24], [Rel-17]** | 4.1441 | K=0.5 | 0.77 | 5.23 | 11.23 |
| K=1 | 1.53 | 4.47 | 10.47 |
| K=2 | 3.07 | 2.93 | 8.93 |
| K=4 | 6.13 | Yes | 5.87 |
| **[Case 25], [Rel-17]** | 4.1441 | K=0.5 | 0.56 | 5.44 | 11.44 |
| K=1 | 1.12 | 4.88 | 10.88 |
| K=2 | 2.24 | 3.76 | 9.76 |
| K=4 | 4.48 | 1.52 | 7.52 |
| **[Case 26], [Rel-17]** | 4.1441 | K=0.5 | 0.5 | 5.5 | 11.5 |
| K=1 | 1.01 | 4.99 | 10.99 |
| K=2 | 2.01 | 3.99 | 9.99 |
| K=4 | 4.02 | 1.98 | 7.98 |

## B.5.13 Void

## B.5.14 Results from source [109]

### B.5.14.1 Description of evaluation scenarios

Evaluation cases and corresponding assumptions for UE power consumption analysis are provided in Table B.5.14.1-1.

Table B.5.14.1: Evaluation cases and assumptions

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 1, FR1, DL-only, 1.28 s I-DRX, N=1, UE-B** | **Case 2, FR1, DL-only, 1.28 s I-DRX, N=8, UE-B** | **Case 3, FR1, DL-only, 10.24 s I-DRX, N=1, UE-B** | **Case 4, FR1, DL-only, 1.28 s I-DRX, N=1** | **Case 5, FR1, DL-only, 1.28 s I-DRX, N=8** | **Case 6, FR1, DL-only, 10.24 s I-DRX, N=1** | **Case 7, FR1, UL-only, 1.28 s I-DRX, N=1, No SDT** | **Case 8, FR1, UL-only, 1.28 s I-DRX, N=1. w SDT** | **Case 9, FR1, UL-only, 1.28 s I-DRX, N=8, No SDT** | **Case 10, FR1, UL-only, 1.28 s I-DRX, N=8, w SDT** | **Case 11, FR1, UL-only, 10.24 s I-DRX, N=1, no SDT** |
| Sleep state | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep |
| DRX cycle | 1.28 s | 1.28 s | 10.24 s | 1.28 s | 1.28 s | 10.24 s | 1.28 s | 1.28 s | 1.28 s | 1.28 s | 10.24 s |
| paging reception | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate |
| RS periodicity | 1.28 s | 1.28 s | 10.24 s | 1.28 s | 1.28 s | 10.24 s | 1.28 s | 1.28 s | 1.28 s | 1.28 s | 10.24 s |
| M-sample | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RRM measurement | - | - | - | - | - | - | - | - | - | - | - |
| BWP switching | - | - | - | - | - | - | - | - | - | - | - |
| Measurement reporting | No(UE-B) | No(UE-B) | No(UE-B) | CG-UL | CG-UL | CG-UL | No | No | No | No | No |
| implementation factor K | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 12, FR1, UL-only, 10.24 s I-DRX, N=1, w SDT** | **Case 13, FR1,DL+ UL, 1.28 s I-DRX, N=1, No SDT** | **Case 14, FR1, DL+UL, 1.28 s I-DRX, N=1, w SDT** | **Case 15, FR1, DL+UL, 1.28 s I-DRX, N=8, No SDT** | **Case 16, FR1, DL+UL, 1.28 s I-DRX, N=8, w SDT** | **Case 17, FR1, DL+UL, 10.24 s I-DRX, N=1, no SDT** | **Case 18, FR1, DL+UL, 10.24 s I-DRX, N=1, w SDT** | **Case 19, FR1, DL-only, 10.24 s I-DRX, N=1, UE-B, Ultra deep sleep** | **Case 20, FR1, DL-only, 20.48 s I-DRX, N=1, UE-B, Ultra deep sleep** | **Case 21, FR1, DL-only, 30.72 s I-DRX, N=1, UE-B, Ultra deep sleep** |
| Sleep state | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Deep sleep | Ultra Deep sleep | Ultra Deep sleep | Ultra Deep sleep |
| DRX cycle | 10.24 s | 1.28 s | 1.28 s | 1.28 s | 1.28 s | 10.24 s | 10.24 s | 10.24 s | 20.48 s | 30.72 s |
| paging reception | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate |
| RS periodicity | 10.24 s | 1.28 s | 1.28 s | 1.28 s | 1.28 s | 10.24 s | 10.24 s | 10.24 s | 20.48 s | 30.72 s |
| M-sample | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RRM measurement | - | - | - | - | - | - | - | - | - | - |
| BWP switching | - | - | - | - | - | - | - | - | - | - |
| Measurement reporting | No | No | No | No | No | No | No | No(UE-B) | No(UE-B) | No(UE-B) |
| implementation factor K | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 22, FR1, DL-only, 10.24 s I-DRX, N=1, Ultra deep sleep** | **Case 23, FR1, DL-only, 20.48 s I-DRX, N=1, Ultra deep sleep** | **Case 24, FR1, DL-only, 30.72 s I-DRX, N=1, Ultra deep sleep** | **Case 25, FR1, UL-only, 10.24 s I-DRX, N=1, Ultra deep sleep** | **Case 26, FR1, UL-only, 20.48 s I-DRX, N=1, Ultra deep sleep** | **Case 27, FR1, UL-only, 30.72 s I-DRX, N=1, Ultra deep sleep** | **Case 28, FR1, DL+UL, 10.24 s I-DRX, N=1, Ultra deep sleep** | **Case 29, FR1, DL+UL, 20.48 s I-DRX, N=1, Ultra deep sleep** | **Case 30, FR1, DL+UL, 30.72 s I-DRX, N=1, Ultra deep sleep** | **Case 31, FR1, UL-only, 10.24 s I-DRX, N=1, SRS preconfig.** | **Case 18, FR1, DL+UL, 10.24 s I-DRX, N=1, SRS preconfig** |
| Sleep state | Ultra Deep sleep | Ultra Deep sleep | Ultra Deep sleep | Ultra Deep sleep | Ultra Deep sleep | Ultra Deep sleep | Ultra Deep sleep | Ultra Deep sleep | Ultra Deep sleep | Deep sleep | Deep sleep |
| DRX cycle | 10.24 s | 20.48 s | 30.72 s | 10.24 s | 20.48 s | 30.72 s | 10.24 s | 20.48 s | 30.72 s | 10.24 s | 10.24 s |
| paging reception | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate | 2ms, I-DRX periodicity, 10% paging rate |
| RS periodicity | 10.24 s | 20.48 s | 30.72 s | 10.24 s | 20.48 s | 30.72 s | 10.24 s | 20.48 s | 30.72 s | 10.24 s | 10.24 s |
| M-sample | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RRM measurement | - | - | - | - | - | - | - | - | - | - | - |
| BWP switching | - | - | - | - | - | - | - | - | - | - | - |
| Measurement reporting | CG-UL | CG-UL | CG-UL | No | No | No | No | No | No | No | No |
| implementation factor K | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} | K={1,4} |

### B.5.14.2 Evaluation results for Low Power High Accuracy Positioning

Table B.5.14.2-1 provides detailed UE power consumption results for each evaluated case.

Table B.5.14.2-1: UE power consumption results for evaluated cases

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirements are met – Yes/No; If no, provide gaps** | |
| **6 months** | **12 months** |
| **Case 1, Rel-17** | 1.72 | K=1: 0.43 (Type A), 2.42 (Type B)  K=4: 1.72 (Type A), 9.69 (Type B) | Yes (Type B with K=4), No for the rest | No (min gap: 2.21) |
| **Case 2, Rel-17** | 1.53 | K=1: 0.48 (Type A), 2.72 (Type B)  K=4: 1.93 (Type A), 10.89 (Type B) | Yes (Type B with K=4), No for the rest | No (min gap: 1.11) |
| **Case 3, Rel-17** | 1.09 | K=1: 0.68 (Type A), 3.82 (Type B)  K=4: 2.72 (Type A), 15.29 (Type B) | Yes (Type B with K=4), No for the rest | Yes (Type B with K=4), No for the rest |
| **Case 4, Rel-17** | 2.44 | K=1: 0.3 (Type A), 1.71 (Type B)  K=4: 1.21 (Type A), 6.83 (Type B) | Yes (Type B with K=4), No for the rest | No (min gap: 5.17) |
| **Case 5, Rel-17** | 1.62 | K=1: 0.45 (Type A), 2.57 (Type B)  K=4: 1.82 (Type A), 10.29 (Type B) | Yes (Type B with K=4), No for the rest | No (min gap: 1.71) |
| **Case 6, Rel-17** | 1.14 | K=1: 0.65 (Type A), 3.66 (Type B)  K=4: 2.6 (Type A), 14.62 (Type B) | Yes (Type B with K=4), No for the rest | Yes (Type B with K=4) |
| **Case 7, Rel-17** | 1.76 | K=1: 0.42 (Type A), 2.37 (Type B)  K=4: 1.68 (Type A), 9.47 (Type B) | Yes (Type B with K=4), No for the rest | No (min gap: 2.53) |
| **Case 8, Rel-17** | 6.99 | K=1: 0.1 (Type A), 0.6 (Type B)  K=4: 0.42 (Type A), 2.39 (Type B) | No (min gap: 3.61) | No (min gap: 9.61) |
| **Case 9, Rel-17** | 1.53 | K=1: 0.48 (Type A), 2.72 (Type B)  K=4: 1.94 (Type A), 10.89 (Type B) | Yes (Type B with K=4), No for the rest | No (min gap: 1.11) |
| **Case 10, Rel-17** | 2.18 | K=1: 0.34 (Type A), 1.36 (Type B)  K=4: 1.36 (Type A), 7.64 (Type B) | Yes (Type B with K=4), No for the rest | No (min gap: 4.36) |
| **Case 11, Rel-17** | 1.09 | K=1: 0.68 (Type A), 3.82 (Type B)  K=4: 2.72 (Type A), 15.29 (Type B) | Yes (Type B with K=4), No for the rest | Yes (Type B with K=4) |
| **Case 12, Rel-17** | 1.75 | K=1: 0.42 (Type A), 2.38 (Type B)  K=4: 2.38 (Type A), 9.52 (Type B) | Yes (Type B with K=4), No for the rest | No (min gap: 4.36) |
| **Case 13, Rel-17** | 2.70 | K=1: 0.27 (Type A), 1.54 (Type B)  K=4: 1.09 (Type A), 6.17 (Type B) | Yes (Type B with K=4), No for the rest | No (min gap: 5.83) |
| **Case 14, Rel-17** | 7.76 | K=1: 0.09 (Type A), 0.54 (Type B)  K=4: 0.38 (Type A), 2.14 (Type B) | No (min gap: 3.86) | No (min gap: 9.86) |
| **Case 15, Rel-17** | 1.63 | K=1: 0.45 (Type A), 2.55 (Type B)  K=4: 1.88 (Type A), 10.22 (Type B) | Yes (Type B with K=4), No for the rest | No (min gap: 1.78) |
| **Case 16, Rel-17** | 2.26 | K=1: 0.33 (Type A), 1.86 (Type B)  K=4: 1.32 (Type A), 7.47 (Type B) | Yes (Type B with K=4), No for the rest | Yes (Type B with K=4), No for the rest |
| **Case 17, Rel-17** | 1.19 | K=1: 0.62 (Type A), 3.5 (Type B)  K=4: 2.49 (Type A), 14 (Type B) | Yes (Type B with K=4), No for the rest | Yes (Type B with K=4), No for the rest |
| **Case 18, Rel-17** | 1.85 | K=1: 0.4 (Type A), 2.25 (Type B)  K=4: 1.60 (Type A), 9 (Type B) | Yes (Type B with K=4), No for the rest | Yes (Type B with K=4), No for the rest |
| **Case 19, Rel-17** | 0.57 | K=1: 1.3 (Type A), 7.3 (Type B)  K=4: 5.1 (Type A), 29.2 (Type B) | Yes (Type B with K=4), No for the rest | Yes (Type B with K=4), No for the rest |
| **Case 20, eDRX enhancement** | 0.29 | K=1: 2.55 (Type A), 14.37 (Type B)  K=4: 10.21 (Type A), 57.47 (Type B) | Yes (Type B with K=1 or 4), type A with K=4), No for the rest | Yes (Type B with K=1 or 4), No for the rest |
| **Case 21, eDRX enhancement** | 0.2 | K=1: 3.7 (Type A), 20.83 (Type B)  K=4: 14.91 (Type A), 83.33 (Type B) | Yes (Type B with K=1 or 4), type A with K=4), No for the rest | Yes (Type B with K=1 or 4, Type A with K=4), No for the rest |
| **Case 22, Rel-17** | 0.64 | K=1: 1.15 (Type A), 6.51 (Type B)  K=4: 4.62 (Type A), 26.1 (Type B) | Yes (Type B with K=1 or 4), No for the rest | Yes (Type B with K=4), No for the rest |
| **Case 23, eDRX enhancement** | 0.33 | K=1: 2.24 (Type A), 12.62 (Type B)  K=4: 8.97 (Type A), 50.5 (Type B) | Yes (Type B with K=1 or 4), type A with K=4), No for the rest | Yes (Type B with K=4, Type A with K=4), No for the rest |
| **Case 24, eDRX enhancement** | 0.22 | K=1: 3.36 (Type A),18.94 (Type B)  K=4: 13.46 (Type A), 75.75 (Type B) | Yes (Type B with K=1 or 4, or Type A with K=4)), No for the rest | Yes (Type B with K=1 or 4, Type A with K=4), No for the rest |
| **Case 25, Rel-17** | 0.57 | K=1: 1.3 (Type A), 7.3 (Type B)  K=4: 5.2 (Type A), 29.23 (Type B) | Yes (Type B with K=1 or 4), No for the rest | Yes (Type B with K=4), No for the rest |
| **Case 26, eDRX enhancement** | 0.29 | K=1: 2.57 (Type A), 14.36 (Type B)  K=4: 10.21 (Type A), 57.47 (Type B) | Yes (Type B with K=1 or 4), type A with K=4), No for the rest | Yes (Type B with K=4, Type A with K=4), No for the rest |
| **Case 27, eDRX enhancement** | 0.2 | K=1: 3.7 (Type A), 20.83 (Type B)  K=4: 14.82 (Type A), 83.33 (Type B) | Yes (Type B with K=1 or 4), type A with K=4), No for the rest | Yes (Type B with K=1 or 4, Type A with K=4), No for the rest |
| **Case 28, Rel-17** | 0.67 | K=1: 1.1 (Type A), 6.21 (Type B)  K=4: 4.4 (Type A), 24.87 (Type B) | Yes (Type B with K=1 or 4), No for the rest | Yes (Type B with K=4), No for the rest |
| **Case 29, eDRX enhancement** | 0.34 | K=1: 2.17 (Type A), 12.2 (Type B)  K=4: 8.7 (Type A), 49 (Type B) | Yes (Type B with K=1 or 4), type A with K=4), No for the rest | Yes (Type B with K=1 or 4), No for the rest |
| **Case 30, eDRX enhancement** | 0.23 | K=1: 3.2 (Type A), 18.1 (Type B)  K=4: 12.8 (Type A), 72.46 (Type B) | Yes (Type B with K=1 or 4), type A with K=4), No for the rest | Yes (Type B with K=1 or 4, Type A with K=4), No for the rest |
| **Case 31, SRS preconfiguration** | 1.33 | K=1: 0.56 (Type A), 3.13 (Type B)  K=4: 2.23 (Type A), 12.53 (Type B) | Yes (Type B with K=4), No for the rest | Yes (Type B with K=4), No for the rest |
| **Case 32, SRS preconfiguration** | 1.42 | K=1: 0.52 (Type A), 2.93 (Type B)  K=4: 2.08 (Type A), 11.73 (Type B) | Yes (Type B with K=4), No for the rest | Yes (Type B with K=4), No for the rest |

## B.5.15 Results from source [110]

### B.5.15.1 Description of evaluation scenarios

We evaluated DL TDOA and UL TDOA for the cases in table B.5.15.1-1 and table B.5.15.1-2.

For DL TDOA the power consumption profile is given in figure B.5.15.1-1 We also evaluated potential gains with optimized reception of SSB, paging, and PRS to maximize time spent in deep or ultra-deep sleep, with the pattern shown in Figure B.5.15.1-2. These are documented as case 1-b, 2-c, 3b and 4-c.



Figure B.5.15.1-1: Power consumption profile for reception of DL PRS



Figure B.5.15.1-2: Power consumption profile for reception of DL PRS with optimized gaps between SSB, PRS and paging

For UL TDOA the power consumption profile is given in figure B.5.15.1-3 We also evaluated potential gains with optimized reception of SSB, paging, and SRS transmission to maximize time spent in deep or ultra-deep sleep. These are documented as case 5-b, 6-c, 7b and 8-c. The power consumption profile for transmission of UL SRS is shown in figure B.5.15.1-3, and the optimized profile is shown in figure B.5.15.1-4.



Figure B.5.15.1-3: Power consumption profile for transmission of UL SRS



Figure B.5.18.1-4: Power consumption profile for transmission of UL SRS with minimized gaps between SSB, paging and SRS

Table B.5.15.1-1: Evaluation cases and assumptions

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 1,FR1, UE-A DL pos, Type A UE** | **Case 2,FR1, UE-A DL pos, Type A UE** | **Case 3,FR1, UE-A DL pos, Type A UE** | **Case 4,FR1, UE-A DL pos, Type A UE** | **Case 5,FR1, UL pos, Type A UE** | **Case 6,FR1, UL pos, Type A UE** | **Case 7,FR1, UL pos, Type A UE** | **Case 8,FR1, UL pos, Type A UE** |
| Sleep state | deep sleep | Ultra deep sleep opt 1 | deep sleep | Ultra deep sleep opt 1 | deep sleep | Ultra deep sleep opt 1 | deep sleep | Ultra deep sleep opt 1 |
| DRX cycle | 1.28s | 1.28s | 10.24s | 10.24s | 10.24s | 10.24s | 30.72s | 30.72s |
| paging reception | yes | yes | yes | yes | yes | yes | yes | yes |
| RS periodicity | 1 PRS occ per DRX | 1 PRS occ per DRX | 1 PRS occ per DRX | 1 PRS occ per DRX | 1 SRS occ per DRX | 1 SRS occ per DRX | 1 SRS occ per DRX | 1 SRS occ per DRX |
| M-sample | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RRM measurement | no | No | no | No | no | no | no | no |
| BWP switching | yes | Yes | yes | Yes | yes | yes | yes | yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | 1per 30s | 1per 30s | 1per 30s | 1per 30s | No | No | No | No |
| implementation factor K | baseline | Baseline | baseline | Baseline | baseline | baseline | baseline | baseline |
| Note |  |  |  |  |  |  |  |  |

Table 5.15.1-2: Evaluation cases and assumptions for revised ultra deep sleep opt1

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation assumption** | **Case 1b,FR1, UE-A DL pos, Type A UE** | **Case 2b,FR1, UE-A DL pos, Type A UE** | **Case 2c,FR1, UE-A DL pos, Type A UE** | **Case 3b,FR1, UE-A DL pos, Type A UE** | **Case 4b,FR1, UE-A DL pos, Type A UE** | **Case 4c,FR1, UE-A DL pos, Type A UE** | **Case 5b,FR1, UL pos, Type A UE** | **Case 6b,FR1, UL pos, Type A UE** | **Case 6c,FR1, UL pos, Type A UE** | **Case 7b,FR1, UL pos, Type A UE** | **Case 8b,FR1, UL pos, Type A UE** | **Case 8c,FR1, UL pos, Type A UE** |
| Sleep state | deep sleep | Revised Ultra deep sleep opt 1 | Revised Ultra deep sleep opt 1 | deep sleep | Revised Ultra deep sleep opt 1 | Revised Ultra deep sleep opt 1 | deep sleep | Revised Ultra deep sleep opt 1 | Revised Ultra deep sleep opt 1 | deep sleep | Revised Ultra deep sleep opt 1 | Revised Ultra deep sleep opt 1 |
| DRX cycle | 1.28s | 1.28s | 1.28s | 10.24s | 10.24s | 10.24s | 10.24s | 10.24s | 10.24s | 30.72s | 30.72s | 30.72s |
| paging reception | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| RS periodicity | 1 PRS occ per DRX | 1 PRS occ per DRX | 1 PRS occ per DRX | 1 PRS occ per DRX | 1 PRS occ per DRX | 1 PRS occ per DRX | 1 SRS occ per DRX | 1 SRS occ per DRX | 1 SRS occ per DRX | 1 SRS occ per DRX | 1 SRS occ per DRX | 1 SRS occ per DRX |
| M-sample | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| RRM measurement | no | No | No | no | No | No | no | no | no | no | no | no |
| BWP switching | yes | Yes | Yes | yes | Yes | Yes | yes | yes | yes | yes | yes | yes |
| Measurement reporting (e.g., RA/CG-SDT, reporting interval) | 1per 30s | 1per 30s | 1per 30s | 1per 30s | 1per 30s | 1per 30s | No | No | No | No | No | No |
| implementation factor K | baseline | Baseline | Baseline | baseline | Baseline | Baseline | baseline | baseline | baseline | baseline | baseline | baseline |
| Note | Optimized PRS configuration |  | Optimized PRS configuration | Optimized PRS configuration |  | Optimized PRS configuration | Optimized PRS configuration |  | Optimized PRS configuration | Optimized PRS configuration |  | Optimized PRS configuration |

### B.5.15.2 Evaluation results for Low Power High Accuracy Positioning

In Table 5.15.2-1, 5.15.2-2, we summarized the power consumption results and in 5.15.2-3 identify whether battery life requirements can be met or not for each of the evaluation cases.

Table B.5.15.2-1: UE power consumption result for PRS based positioning (DL-TDOA)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 1** | e.g., Deep/light/micro sleep, SSB, paging, PRS measurement, UL, SRS, etc |  |  |  |  |  |  |
| SSB |  | 4 | 24 | 96 | 0.0781 | 4% |
| Light sleep | 20+100 transition | 20 | 24 | 480 | 0.1758+0.0879 | 10%+5% |
| Paging | 57 | 4 | 24 | 96 | 0.0445 | 2% |
| Deep sleep | 1+ 450 transition | 60 | 3 | 180 | See below | See below |
| BWP switching for PRS |  | 2\*2 | 3 | 4 | 0.0098 | 1% |
| PRS meas. |  | 1 | 3 | 3 | 0.0073 | <1% |
| Light sleep | 20+100 transition | 20 | 1 | 20 | See above | See above |
| CG SDT (PUSCH+RRCrelease) | 700+120 | 4 | 1 | 4 | 0.0267 | 1% |
| Deep Sleep | 1+450 transition | Remaining slots | 1 | Remaining slots | 0.9817 | 55%+22% transition |
| **Total (every power cycle)** |  |  |  | 61440 | 110395 |  |
| **Slot-averaged power unit** | | | |  | 1.7986 |  |
| **Battery life (in month)** | | | |  | | |
|  | | | |  | | |
| **Case 2** | e.g., Deep/light/micro sleep, SSB, paging, PRS measurement, UL, SRS, etc |  |  |  |  |  |  |
| SSB |  | 4 | 24 | 96 | 0.0781 | 9% |
| Light sleep | 20+100 transition | 20 | 24 | 480 | 0.1758+0.0879 | 21%+11% |
| Paging | 57 | 4 | 24 | 96 | 0.0445 | 5% |
| Deep sleep | 1+ 450 transition | 60 | 3 | 180 | 0.0234+0.3516 | 3+42% |
| BWP switching for PRS |  | 2\*2 | 3 | 4 | 0.0098 | 1% |
| PRS meas. |  | 1 | 3 | 3 | 0.0073 | <1% |
| Light sleep | 20+100 transition | 20 | 1 | 20 | See above | See above |
| CG SDT (PUSCH+RRCrelease) | 700+120 | 4 | 1 | 4 | 0.0267 | 3% |
| Ultra deep Sleep | 0.015 + 2000 transition | Remaining slots | 1 | Remaining slots | 0.0143+0.0078 | 2%+1% transition |
| **Total (every power cycle)** |  |  |  | 61440 | 50829 |  |
| **Slot-averaged power unit** | | | |  | 0.8273 |  |
| **Battery life (in month)** | | | |  | | |
|  | | | |  | | |
| **Case 3** | e.g., Deep/light/micro sleep, SSB, paging, PRS measurement, UL, SRS, etc |  |  |  |  |  |  |
| SSB |  | 4 | 3 | 12 | 0.0098 | 4% |
| Light sleep | 20+100 transition | 20 | 3 | 60 | 0.0260+0.0130 | 2%+1% |
| Paging | 57 | 4 | 3 | 12 | 0.0056 | <1% |
| Deep sleep | 1+ 450 transition | 60 | 3 | 180 | See below | See below |
| BWP switching for PRS |  | 2\*2 | 3 | 4 | 0.0098 | 1% |
| PRS meas. |  | 1 | 3 | 3 | 0.0073 | <1% |
| Light sleep | 20+100 transition | 20 | 1 | 20 | See above | See above |
| CG SDT (PUSCH+RRCrelease) | 700+120 | 4 | 1 | 4 | 0.0267 | 2% |
| Deep Sleep | 1+450 transition | Remaining slots | 1 | Remaining slots | 0.9974+0.0483 | 87%+4% transition |
| **Total (every power cycle)** |  |  |  | 61440 | 70287 |  |
| **Slot-averaged power unit** | | | |  | 1.1440 |  |
| **Battery life (in month)** | | | |  | | |
|  | | | |  | | |
| **Case 4** | e.g., Deep/light/micro sleep, SSB, paging, PRS measurement, UL, SRS, etc |  |  |  |  |  |  |
| SSB |  | 4 | 3 | 12 | 0.0098 | 6% |
| Light sleep | 20+100 transition | 20 | 3 | 60 | 0.0260+0.0130 | 16%+8% |
| Paging | 57 | 4 | 3 | 12 | 0.0056 | <3% |
| Deep sleep | 1+ 450 transition | 60 | 3 | 180 | 0.0029+0.0439 | 2%+27% |
| BWP switching for PRS |  | 2\*2 | 3 | 4 | 0.0098 | 6% |
| PRS meas. |  | 1 | 3 | 3 | 0.0073 | <5% |
| Light sleep | 20+100 transition | 20 | 1 | 20 | See above | See above |
| CG SDT (PUSCH+RRCrelease) | 700+120 | 4 | 1 | 4 | 0.0267 | 17% |
| Ultra Deep Sleep opt 1 | 0.015+2000 transition | Remaining slots | 1 | Remaining slots | 0.0149+0.00097656 | 8%+4% transition |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | | | | 61440 | 9885 |  |
| **Slot-averaged power unit** | | | | 0.1609 | | |
| **Battery life (in month)** | | | |  | | |

Table B.5.15.2-1b: UE power consumption result for PRS based positioning (DL-TDOA)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 1b** | e.g., Deep/light/micro sleep, SSB, paging, PRS measurement, UL, SRS, etc |  |  |  |  |  |  |
| SSB |  | 4 | 24 | 96 | 0.0781 | 5% |
| Light sleep | 20+100 transition | 20 | 24 | 480 | 0.1562+0.0781 | 10%+5% |
| BWP switching for PRS |  | 2\*2 | 3 | 4 | 0.0098 | 1% |
| PRS meas. |  | 1 | 3 | 3 | 0.0073 | <1% |
| Paging | 57 | 4 | 24 | 96 | 0.0445 | 2% |
| Micro sleep | 45+0 transition | 4 | 1 | 4 | 0.1406 | 9% |
| CG SDT (PUSCH+RRCrelease) | 700+120 | 4 | 1 | 4 | 0.0267 | 2% |
| Deep Sleep | 1+450 transition | Remaining slots | 1 | Remaining slots | 0.9800 | 63%+2% transition |
| **Total (every power cycle)** |  |  |  | 61440 | 93573 |  |
| **Slot-averaged power unit** |  |  |  |  | 1.5630 |  |
| **Battery life (in month)** | | | |  |  |  |
|  | | | |  | | |
| **Case 2b** | SSB |  | 4 | 24 | 96 | 0.0781 | 9% |
| Light sleep | 20+100 transition | 20 | 24 | 480 | 0.1758+0.0879 | 20%+10% |
| Paging | 57 | 4 | 24 | 96 | 0.0445 | 5% |
| Deep sleep | 1+ 450 transition | 60 | 3 | 180 | 0.0234+0.3516 | 3+42% |
| BWP switching for PRS |  | 2\*2 | 3 | 4 | 0.0098 | 1% |
| PRS meas. |  | 1 | 3 | 3 | 0.0073 | <1% |
| Light sleep | 20+100 transition | 20 | 1 | 20 | See above | See above |
| CG SDT (PUSCH+RRCrelease) | 700+120 | 4 | 1 | 4 | 0.0267 | 3% |
| Ultra deep Sleep (revised option 1) | 0.015 + 10000 transition | Remaining slots | 1 | Remaining slots | 0.0144+0.0391 | 3%+5% transition |
| **Total (every power cycle)** |  |  |  | 61440 | 52746 |  |
| **Slot-averaged power unit** |  |  |  |  | 0.8585 |  |
| **Battery life (in month)** | | | |  |  |  |
| **Case 2c** | SSB |  | 4 | 24 | 96 | 0.0781 | 13% |
| Light sleep | 20+100 transition | 20 | 24 | 480 | 0.1758+0.0879 | 26%+13% |
| Paging | 57 | 4 | 24 | 96 | 0.0445 | 5% |
| Micro sleep | 45+0 transition | 4 | 1 | 4 | 0.1406 | 24% |
| BWP switching for PRS |  | 2\*2 | 3 | 4 | 0.0098 | 2% |
| PRS meas. |  | 1 | 3 | 3 | 0.0073 | <1% |
| Light sleep | 20+100 transition | 20 | 1 | 20 | See above | See above |
| CG SDT (PUSCH+RRCrelease) | 700+120 | 4 | 1 | 4 | 0.0267 | 4% |
| Ultra deep Sleep (revised option 1) | 0.015 + 10000 transition | Remaining slots | 1 | Remaining slots | 0.0144+0.0391 | 2%+7% transition |
| **Total (every power cycle)** |  |  |  | 61440 | 36575 |  |
| **Slot-averaged power unit** |  |  |  |  | 0.5953 |  |
| **Battery life (in month)** | | | |  |  |  |
| **Case 3b** | SSB |  | 4 | 3 | 12 | 0.0098 | <1% |
| Light sleep | 20+100 transition | 20 | 3 | 60 | 0.0195+0.0098 | 2%+1% |
| Paging | 57 | 4 | 3 | 12 | 0.0056 | <1% |
| Micro sleep | 45+ 0 transition | 4 | 3 | 12 | 0.1760 | 2% |
| BWP switching for PRS |  | 2\*2 | 3 | 4 | 0.0098 | <1% |
| PRS meas. |  | 1 | 3 | 3 | 0.0073 | <1% |
|  |  |  |  |  |  |  |
| CG SDT (PUSCH+RRCrelease) | 700+120 | 4 | 1 | 4 | 0.0267 | 2% |
| Deep Sleep | 1+450 transition | Remaining slots | 1 | Remaining slots | 0.9980+0.0044 | 90%+1% transition |
| **Total (every power cycle)** |  |  |  | 61440 | 68100 |  |
| **Slot-averaged power unit** |  |  |  |  | 1.1084 |  |
| **Battery life (in month)** | | | |  |  |  |
| **Case 4b** | e.g., Deep/light/micro sleep, SSB, paging, PRS measurement, UL, SRS, etc | | | |  | | |
| SSB |  | 4 | 3 | 12 | 0.0098 | 6% |
| Light sleep | 20+100 transition | 20 | 3 | 60 | 0.0260+0.0130 | 16%+8% |
| Paging | 57 | 4 | 3 | 12 | 0.0056 | <3% |
| Deep sleep | 1+ 450 transition | 60 | 3 | 180 | 0.0029+0.0439 | 2%+27% |
| BWP switching for PRS |  | 2\*2 | 3 | 4 | 0.0098 | 6% |
| PRS meas. |  | 1 | 3 | 3 | 0.0073 | <4% |
| Light sleep | 20+100 transition | 20 | 1 | 20 | See above | See above |
| CG SDT (PUSCH+RRCrelease) | 700+120 | 4 | 1 | 4 | 0.0267 | 16% |
| Ultra Deep Sleep opt 1 | 0.015+2000 transition | Remaining slots | 1 | Remaining slots | 0.0149+0.0049 | 8%+3% transition |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | 61440 | 9885 |  |  |  |  |
| **Slot-averaged power unit** | | | |  | 0.1649 |  |
| **Battery life (in month)** | | | |  | | |
|  | | | |  | | |
| **Case 4c** | SSB |  | 4 | 3 | 12 | 0.0098 | 8% |
| Light sleep | 20+100 transition | 20 | 3 | 60 | 0.0195+0.0098 | 16%+8% |
| Paging | 57 | 4 | 3 | 12 | 0.0056 | 4% |
| micro sleep | 45+ 0 transition | 4 | 3 | 12 | 0.0176+0 | 14% |
| BWP switching for PRS |  | 2\*2 | 3 | 4 | 0.0098 | 8% |
| PRS meas. |  | 1 | 3 | 3 | 0.0073 | 6% |
| Light sleep | 20+100 transition | 20 | 1 | 20 | See above | See above |
| CG SDT (PUSCH+RRCrelease) | 700+120 | 4 | 1 | 4 | 0.0267 | 21% |
| Ultra Deep Sleep opt 1 | 0.015+2000 transition | Remaining slots | 1 | Remaining slots | 0.0150+0.0049 | 12%+4% transition |
|  |  |  |  |  |  |  |
| **Total (every power cycle)** | 61440 |  |  |  | 77292 |  |
| **Slot-averaged power unit** | | | |  | 0.1258 |  |

Table B.5.15.2-2: UE power consumption result for SRS based positioning (UL-TDOA)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 5** | e.g., Deep/light/micro sleep, SSB, paging, PRS measurement, UL, SRS, etc |  |  |  |  |  |  |
| SSB |  | 4 | 3 | 12 | 0.0098 | <1% |
| Light sleep | 20+100 transition | 20 | 3 | 60 | 0.0391+0. 0195 | 4%+2% |
| Paging | 57 | 4 | 3 | 12 | 0.0056 | <1% |
| Light sleep | 20+100 transition | 20 | 3 | 60 | See above | See above |
| BWP switching for PRS |  | 2\*2 | 3 | 12 | 0.0098 | <1% |
| SRS Transmission |  | 1 | 3 | 3 | 0.0103 | <1% |
| Deep Sleep | 1+450 transition | Remaining slots | 1 | Remaining slots | 0.9975+ 0.0044 | 91%+1% transition |
| **Total (every power cycle)** | | | | 61440 | 67326 |  |
| **Slot-averaged power unit** | | | | 1.0958 | | |
| **Battery life (in month)** | | | |  | | |
| **Case 6** | e.g., Deep/light/micro sleep, SSB, paging, PRS measurement, UL, SRS, etc |  |  |  |  |  |  |
| SSB |  | 4 | 3 | 12 | 0.0098 | 9% |
| Light sleep | 20+100 transition | 20 | 3 | 60 | 0.0391+0. 0195 | 36%+18% |
| Paging | 57 | 4 | 3 | 12 | 0.0056 | 5% |
| Light sleep | 20+100 transition | 20 | 3 | 60 | See above | See above |
| BWP switching for PRS |  | 2\*2 | 3 | 12 | 0.0098 | 9% |
| SRS Transmission |  | 1 | 3 | 3 | 0.0103 | 9% |
| Ultra Deep Sleep opt 1 | 0.015+2000 transition | Remaining slots | 1 | Remaining slots | 0.0150+ 9.7656e-04 | 14%+1% transition |
| **Total (every power cycle)** | | | | 61440 | 6752 |  |
| **Slot-averaged power unit** | | | | 0.1099 | | |
| **Battery life (in month)** | | | |  | | |
| **Case 7** | e.g., Deep/light/micro sleep, SSB, paging, PRS measurement, UL, SRS, etc |  |  |  |  |  |  |
| SSB |  | 4 | 1 | 4 | 0.0033 | <1% |
| Light sleep | 20+100 transition | 20 | 1 | 20 | 0.0130+0. 065 | 1%+<1% |
| Paging | 57 | 4 | 1 | 4 | 0.0019 | <1% |
| Light sleep | 20+100 transition | 20 | 1 | 20 | See above | See above |
| BWP switching for PRS |  | 2\*2 | 1 | 4 | 0.0033 | <1% |
| SRS Transmission |  | 1 | 1 | 1 | 0.0034 | <1% |
| Deep Sleep | 1+450 transition | Remaining slots | 1 | Remaining slots | 0.9992+ 0.0015 | 97%+1% transition |
| **Total (every power cycle)** | | | | 61440 | 63400 |  |
| **Slot-averaged power unit** | | | | 1. 0319 | | |
| **Battery life (in month)** | | | |  | | |
| **Case 8** | e.g., Deep/light/micro sleep, SSB, paging, PRS measurement, UL, SRS, etc |  |  |  |  |  |  |
| SSB |  | 4 | 1 | 4 | 0.0033 | 7% |
| Light sleep | 20+100 transition | 20 | 1 | 20 | 0.0130+0. 065 | 28%+14% |
| Paging | 57 | 4 | 1 | 4 | 0.0019 | 4% |
| Light sleep | 20+100 transition | 20 | 1 | 20 | See above | See above |
| BWP switching for PRS |  | 2\*2 | 1 | 4 | 0.0033 | 7% |
| SRS Transmission |  | 1 | 1 | 1 | 0.0034 | 7% |
| Ultra Deep Sleep opt 1 | 0.015+20000 transition | Remaining slots | 1 | Remaining slots | 0.0150+ 3.2552e-4 | 32%+1% transition |
| **Total (every power cycle)** | | | | 61440 | 2863.1 |  |
| **Slot-averaged power unit** | | | | 0. 0466 | | |
| **Battery life (in month)** | | | |  | | |

Table B.5.15.2-2b: UE power consumption result for SRS based positioning (UL-TDOA)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluation case** | **Power states** | **Relative power unit** | **Duration (in slots)** | **Instances** | **Sum Durations (in slots)** | **Relative power** | **Power ratio** |
| **Case 5b** | e.g., Deep/light/micro sleep, SSB, paging, PRS measurement, UL, SRS, etc |  |  |  |  |  |  |
| SSB |  | 4 | 3 | 12 | 0.0098 | <1% |
| Micro sleep | 45+0 transition | 4 | 3 | 12 | 0. 0176+0. 0195 | 2% |
| Paging | 57 | 4 | 3 | 12 | 0.0056 | <1% |
| Micro sleep | 45+0 transition | 4 | 3 | 12 | See above | See above |
| BWP switching for PRS |  | 2\*2 | 3 | 12 | 0.0098 | <1% |
| SRS Transmission |  | 1 | 3 | 3 | 0.0103 | <1% |
| Deep Sleep | 1+450 transition | Remaining slots | 1 | Remaining slots | 0. 9991+ 0.0044 | 95%+1% transition |
| **Total (every power cycle)** | | | | 61440 | 64905 |  |
| **Slot-averaged power unit** | | | | 1. 0564 | | |
| **Battery life (in month)** | | | |  | | |
| **Case 6b** | e.g., Deep/light/micro sleep, SSB, paging, PRS measurement, UL, SRS, etc |  |  |  |  |  |  |
| SSB |  | 4 | 3 | 12 | 0.0098 | 9% |
| Light sleep | 20+100 transition | 20 | 3 | 60 | 0.0391+0. 0195 | 34%+17% |
| Paging | 57 | 4 | 3 | 12 | 0.0056 | 5% |
| Light sleep | 20+100 transition | 20 | 3 | 60 | See above | See above |
| BWP switching for PRS |  | 2\*2 | 3 | 12 | 0.0098 | 9% |
| SRS Transmission |  | 1 | 3 | 3 | 0.0103 | 9% |
| Ultra Deep Sleep opt 1 | 0.015+10000 transition | Remaining slots | 1 | Remaining slots | 0.0150+ 0.0049 | 13%+4% transition |
| **Total (every power cycle)** | | | | 61440 | 6752 |  |
| **Slot-averaged power unit** | | | | 0. 1138 | | |
| **Battery life (in month)** | | | |  | | |
| **Case 6c** | e.g., Deep/light/micro sleep, SSB, paging, PRS measurement, UL, SRS, etc |  |  |  |  |  |  |
| SSB |  | 4 | 3 | 12 | 0.0098 | 13% |
| Micro sleep | 45+0 transition | 4 | 3 | 12 | 0. 0176+0. 0195 | 24% |
| Paging | 57 | 4 | 3 | 12 | 0.0056 | 8% |
| Micro sleep | 45+0 transition | 4 | 3 | 12 | See above | See above |
| BWP switching for PRS |  | 2\*2 | 3 | 12 | 0.0098 | 9% |
| SRS Transmission |  | 1 | 3 | 3 | 0.0103 | 14% |
| Ultra Deep Sleep opt 1 | 0.015+10000 transition | Remaining slots | 1 | Remaining slots | 0.0150+ 9.7656e-04 | 21%+7% transition |
| **Total (every power cycle)** | | | | 61440 | 4472.8 |  |
| **Slot-averaged power unit** | | | | 0. 0728 | | |
| **Battery life (in month)** | | | |  | | |
|  |  |  |  |  |  |  |  |
| **Case 7b** | e.g., Deep/light/micro sleep, SSB, paging, PRS measurement, UL, SRS, etc |  |  |  |  |  |  |
| SSB |  | 4 | 1 | 4 | 0.0033 | <1% |
| Micro sleep | 45+0 transition | 4 | 3 | 12 | 0.0059 | 1%+<1% |
| Paging | 57 | 4 | 1 | 4 | 0.0019 | <1% |
| Micro sleep | 45+0 transition | 4 | 3 | 12 | See above | See above |
| BWP switching for PRS |  | 2\*2 | 1 | 4 | 0.0033 | <1% |
| SRS Transmission |  | 1 | 1 | 1 | 0.0034 | <1% |
| Deep Sleep | 1+450 transition | Remaining slots | 1 | Remaining slots | 0.9997+ 0.0015 | 97%+1% transition |
| **Total (every power cycle)** | | | | 61440 | 62595 |  |
| **Slot-averaged power unit** | | | | 1. 0188 | | |
| **Battery life (in month)** | | | |  | | |
| **Case 8b** | e.g., Deep/light/micro sleep, SSB, paging, PRS measurement, UL, SRS, etc |  |  |  |  |  |  |
| SSB |  | 4 | 1 | 4 | 0.0033 | 7% |
| Light sleep | 20+100 transition | 20 | 1 | 20 | 0.0130+0. 065 | 27%+14% |
| Paging | 57 | 4 | 1 | 4 | 0.0019 | 4% |
| Light sleep | 20+100 transition | 20 | 1 | 20 | See above | See above |
| BWP switching for PRS |  | 2\*2 | 1 | 4 | 0.0033 | 7% |
| SRS Transmission |  | 1 | 1 | 1 | 0.0034 | 7% |
| Ultra Deep Sleep opt 1 | 0.015+10000 transition | Remaining slots | 1 | Remaining slots | 0.0150+0.0016 | 31%+3% transition |
| **Total (every power cycle)** | | | | 61440 | 2943 |  |
| **Slot-averaged power unit** | | | | 0. 0479 | | |
| **Battery life (in month)** | | | |  | | |
| **Case 8c** | e.g., Deep/light/micro sleep, SSB, paging, PRS measurement, UL, SRS, etc |  |  |  |  |  |  |
| SSB |  | 4 | 1 | 4 | 0.0033 | 7% |
| Micro sleep | 45+0 transition | 4 | 3 | 12 | 0.0059 | 17% |
| Paging | 57 | 4 | 1 | 4 | 0.0019 | 5% |
| Micro sleep | 45+0 transition | 4 | 3 | 12 | See above | See above |
| BWP switching for PRS |  | 2\*2 | 1 | 4 | 0.0033 | 9% |
| SRS Transmission |  | 1 | 1 | 1 | 0.0034 | 10% |
| Ultra Deep Sleep opt 1 | 0.015+10000 transition | Remaining slots | 1 | Remaining slots | 0.0150+ 3.2552e-4 | 44%+5% transition |
| **Total (every power cycle)** | | | | 61440 | 2107.4 |  |
| **Slot-averaged power unit** | | | | 0. 0343 | | |
| **Battery life (in month)** | | | |  | | |

Table B.5.15.2-3: Summary for UE power consumption results

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirements are met – Yes/No; If no, provide gaps** | |
| **6 months** | **12 months** |
| **Case 1: 8 TRP receptions, DRX period of 1.28s, N=8, 23dBm PUSCH for CG based reporting,**  **Deep sleep** | 1,7978 | 0.4 | No (5.6) | No (11.6) |
| **Case 2: 8 TRP receptions, DRX period of 1.28s, N=8, 23dBm PUSCH for CG based reporting,**  **Deep sleep+ultra deep sleep** | 0.8273 | 0.9 | No (5.1) | No (11.1) |
| **Case 3: 8 TRP receptions, DRX period of 10.24s, N=1, 23dBm PUSCH for CG based reporting**  **Deep sleep** | 1.1440 | 0.6 | No (5.4) | No (11.4) |
| **Case 4: 8 TRP receptions, DRX period of 10.24s, N=1, 23dBm PUSCH for CG based reporting**  **Deep sleep+ultra deep sleep** | 0.1609 | 4.5 | No (5.5) | No (11.5) |
| **Case 5, DRX period of 10.24s, N=1, short SRS transmission, 3 DRX with SRS per 30s period**  **Deep Sleep** | 1.0958 | 0.66 | No (5.3) | No (11.3) |
| **Case 6, DRX period of 10.24s, N=1, short SRS transmission, 3 DRX with SRS per 30s period**  **Ultra Deep Sleep** | 0.1099 | 6.63 | yes | No (5.4) |
| **Case 7, DRX period of 30.72s, N=1, short SRS transmission, 1 DRX with SRS per 30s period**  **Deep Sleep** | 1. 0319 | 0.7 | No (5.3) | No (11.3) |
| **Case 8, DRX period of 30.72s, N=1, short SRS transmission, 1 DRX with SRS per 30s period**  **Ultra Deep Sleep** | 0.0466 | 15.7 | yes | Yes |

Table B.5.15.2-3b: Summary for UE power consumption results (updated opt1 in RAN1#110b)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation case description** | **Slot-averaged relative power unit (P2)** | **Battery life (in month)** | **Target requirements are met – Yes/No; If no, provide gaps** | |
| **6 months** | **12 months** |
| **Case 1b: 8 TRP receptions, DRX period of 1.28s, N=8, 23dBm PUSCH for CG based reporting,**  **Deep sleep (optimized configuration)** | 1.5630 | 0.46 | No – 5.53mo | No – 11.53mo |
| **Case 2b: 8 TRP receptions, DRX period of 1.28s, N=8, 23dBm PUSCH for CG based reporting,**  **Deep sleep+ultra deep sleep (revised option 1)** | 0.8585 | 0.85 | No – 5.15mo | No – 11.15mo |
| **Case 2c: 8 TRP receptions, DRX period of 1.28s, N=8, 23dBm PUSCH for CG based reporting,**  **Deep sleep+ultra deep sleep (revised option 1, optimized configuration)** | 0.5953 | 1.22 | No – 4.77mo | No – 10.77mo |
| **Case 3b: 8 TRP receptions, DRX period of 10.24s, N=1, 23dBm PUSCH for CG based reporting**  **Deep sleep (optimized configuration)** | 1.1084 | 0.65 | No – 5.34mo | No – 11.34mo |
| **Case 4b: 8 TRP receptions, DRX period of 10.24s, N=1, 23dBm PUSCH for CG based reporting**  **Deep sleep+ultra deep sleep ( revised option1)** | 0.1649 | 4.42 | No – 1.57mo | No – 7.57mo |
| **Case 4c: 8 TRP receptions, DRX period of 10.24s, N=1, 23dBm PUSCH for CG based reporting**  **Deep sleep+ultra deep sleep (revised option1, optimized configuration)** | 0.1258 | 5.79 | No, -0,2mo | No, -6.2mo |
| **Case 5b, DRX period of 10.24s, N=1, short SRS transmission, 3 DRX with SRS per 30s period**  **Deep Sleep (optimized configuration)** | 1. 0564 | 0.6906 | No, -5.3094mo | No, -11.3mo |
| **Case 6b, DRX period of 10.24s, N=1, short SRS transmission, 3 DRX with SRS per 30s period**  **Ultra Deep Sleep (revised option 1)** | 0. 1138 | 6.4 | Yes | No, -5.58mo |
| **Case 6c, DRX period of 10.24s, N=1, short SRS transmission, 3 DRX with SRS per 30s period**  **Ultra Deep Sleep** **(revised option1, optimized configuration)** | 0.0728 | 10 | Yes | No, -1.9mo |
| **Case 7b, DRX period of 30.72s, N=1, short SRS transmission, 1 DRX with SRS per 30s period**  **Deep Sleep (optimized configuration)** | 1. 0188 | 0.7 | No, -5.2839mo | No, 11.2839mo |
| **Case 8b, DRX period of 30.72s, N=1, short SRS transmission, 1 DRX with SRS per 30s period**  **Ultra Deep Sleep** **(revised option 1)** | 0. 0479 | 15.2 | Yes | Yes |
| **Case 8c, DRX period of 30.72s, N=1, short SRS transmission, 1 DRX with SRS per 30s period**  **Ultra Deep Sleep** **(revised option 1, optimized configuration)** | 0. 0343 | 21.2 | Yes | Yes |