**3GPP TSG RAN meeting #106**  **RP-24xxxx**

**Madrid, Spain, December 9-12, 2024**

## Status Report to TSG

**Agenda item:** 9.3.2.5

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **WI / SI Name** | Work Item on expanded and improved NR positioning | | | | |
| included in this status report | Study Item:  No | Core part:  Yes | Performance part:  Yes | | Testing part:  No |
| **Acronym** | LCS\_BDS\_B2b\_LTE\_NR | | | | |
| **Unique ID** | 1050121 | | | | |
| **TSG Tdoc of latest approved WI/SI description (if any)** | RP-242413 | | | | |
| **Target Completion Date**  **(indicate if changed)** | Study Item:  N/A | Core part:  2025-09-09 | Performance part:  2025-09-09 | Testing part:  N/A | |
| **Overall** **Completion level** | Study Item:  N/A | Core part:  Overall:  RAN2: 70% | Performance Part:  0% | Testing part:  N/A | |

Note: Overall completion level percentage numbers should use one of the colors below:

* xx%: Normal progress, no RAN plenary action needed
* xx%: Progress behind schedule, may need RAN plenary intervention. If so, SR should clearly define requested action
* xx%: Progress critically behind, RAN plenary shall intervene. SR should define requested action

**Source:**

|  |  |  |
| --- | --- | --- |
| **Leading WG** | | RAN2 |
| **Rapporteur** | **Name** | Sidong Li (Stone) |
| **Company** | CAICT |
| **Email** | lisidong@caict.ac.cn |

## 1 Work plan related evaluation

|  |  |
| --- | --- |
| **Do you want to modify the time budget for this WI/SI compared to what was endorsed at the last RAN meeting?** | No |

*If you answered No: Then please remove the Excel file from the zip file of this status report.*

*If you answered Yes: Then please fill out the attached Excel template to request a modification of the time budgets for your WI /SI. The Excel table has to be filled out for all affected RAN WGs and up to the target date of the WI/SI. The basis are the endorsed time budgets of the last RAN meeting. Please highlight all changes of the values.  
 One time unit (TU) corresponds to ~ 2 hours in the meeting.  
 If this status report covers a WI with Core and Performance part, then please have one line for each in the attached Excel table.  
 Note: If no Excel table is attached, then this means no time budget change.*

**Additional explanations/motivations for the time budget changes in the attached Excel table:**

## 2. Detailed progress in RAN WGs since last TSG meeting (for all involved WGs)

NOTE: Agreements and Open issues impacted cross-TSG aspects shall be explicitly highlighted

## 2.1 RAN2

#### 2.1.1 Agreements

##### 2.2.1.1 Decisions during RAN2#127bis

R[2-2409209](file:///E:\\WORK\\1%203GPP\\Meeting\\RAN2%20127bis-Hefei\\2%20During\\Docs\\R2-2409209.zip) Introduction of BDS B2b signal in A-GNSS for BDS system CAICT,CATT discussion Rel-19

Agreements:

Introduce new parameters for B2b signal in the following affected IEs:

­ AlmanacReducedKeplerianSet: Add one bit to indicate health state of B2b\_I signal.

­ AlmanacMidiAlmanacSet: Add one bit to indicate health state of B2b\_I signal.

­ BDS-ClockModel2: Add one bit to indicate group delay differential between BDS B2b and B3I signal.

­ GNSS-SignalID: Use one value to indicate the B2b I signal.

­ GNSS-SignalIDs: Use one value to indicate the B2b I signal.

­FFS: Iod: Add one bit B2b signal in ‘GNSS to iod Bit String(11) relation’ table.

##### 2.2.1.2 Decisions during RAN2#128

[R2-2410160](file:///C:\\Users\\mtk16923\\Documents\\3GPP%20Meetings\\202411%20-%20RAN2_128,%20Orlando\\Extracts\\R2-2410160%20Discussion%20on%20the%20remaining%20issues%20for%20BDS%20B2b.docx" \o "C:Usersmtk16923Documents3GPP Meetings202411 - RAN2_128, OrlandoExtractsR2-2410160 Discussion on the remaining issues for BDS B2b.docx) Discussion on the remaining issues for BDS B2b Huawei, HiSilicon discussion Rel-19 LCS\_BDS\_B2b\_LTE\_NR

Agreements:

In UTC-ModelSet2, clarify in the field description that only the 3 bits from LSB are used.

Do not introduce the reserved bit for svHealth for the B2b signal.

[R2-2409627](file:///C:\\Users\\mtk16923\\Documents\\3GPP%20Meetings\\202411%20-%20RAN2_128,%20Orlando\\Extracts\\R2-2409627%2037.355_(Rel-19).docx" \o "C:Usersmtk16923Documents3GPP Meetings202411 - RAN2_128, OrlandoExtractsR2-2409627 37.355_(Rel-19).docx) Introduction of B2b signal in BDS system in A-GNSS CATT, CAICT, Ericsson, Huawei, HiSilicon draftCR Rel-19 37.355 18.3.0 B LCS\_BDS\_B2b\_LTE\_NR-Core

* [Post128][402][POS] BDS B2b stage 3 CR check (CATT)

Scope: Check and update the CR in R2-2409627.

Intended outcome: Agreeable CR

Deadline: Long

[R2-2410158](file:///C:\\Users\\mtk16923\\Documents\\3GPP%20Meetings\\202411%20-%20RAN2_128,%20Orlando\\Extracts\\R2-2410158%20Introduction%20of%20BDS%20B2b%20in%20A-GNSS%20for%20TS%2036305.docx" \o "C:Usersmtk16923Documents3GPP Meetings202411 - RAN2_128, OrlandoExtractsR2-2410158 Introduction of BDS B2b in A-GNSS for TS 36305.docx) Introduction of BDS B2b in A-GNSS for TS 36305 Huawei, HiSilicon, CAICT, CATT, Ericsson CR Rel-19 36.305 18.0.0 0121 - B LCS\_BDS\_B2b\_LTE\_NR

* Agreed in principle

[R2-2410159](file:///C:\\Users\\mtk16923\\Documents\\3GPP%20Meetings\\202411%20-%20RAN2_128,%20Orlando\\Extracts\\R2-2410159%20Introduction%20of%20BDS%20B2b%20in%20A-GNSS%20for%20TS%2038305.docx" \o "C:Usersmtk16923Documents3GPP Meetings202411 - RAN2_128, OrlandoExtractsR2-2410159 Introduction of BDS B2b in A-GNSS for TS 38305.docx) Introduction of BDS B2b in A-GNSS for TS 38305 Huawei, HiSilicon, CAICT, CATT, Ericsson CR Rel-19 38.305 18.3.0 0180 - B LCS\_BDS\_B2b\_LTE\_NR

* Agreed in principle

#### 2.1.2 Remaining Open issues

The following open issues need to be addressed in RAN2:

* Check and update the LPP CR in R2-2409627 for LPP impact.

## 2.2 RAN5

#### 2.2.1 Agreements

#### 2.2.2 Remaining Open issues

#### 2.2.3 Remaining Open issues with cross-WG dependencies

## 3. Detailed progress in SA/CT WGs since last TSG meeting (for all involved WGs)

NOTE: This section only needs to be filled in for WI/SIs where there is a corresponding relevant WI/SI in SA/CT.

## 3.1 SAx/CTs

#### 3.1.1 Agreements with cross-TSG impacts

#### 3.1.2 Remaining Open issues with cross-TSG impacts

NOTE: This section should also flag any critical dependencies that need TSG attention.

## 4. References

NOTE: This can be e.g. a list of all related Tdocs in the affected WGs since last TSG, references to LSs, produced TRs/TSs, the work/study item description or status reports of previous TSGs.

###### RAN2 #127bis

1. R2-2408299 Introduction of BDS B2b signal in A-GNSS for BDS system CAICT,CATT discussion Rel-19 Revised in R2-2409209
2. R2-2409209 Introduction of BDS B2b signal in A-GNSS for BDS system CAICT,CATT discussion Rel-19
3. R2-2408792 Introduction of BDS B2b in A-GNSS for TS 38305 Huawei, HiSilicon draftCR Rel-19 38.305 18.3.0 F LCS\_BDS\_B2b\_LTE\_NR
4. R2-2408793 Introduction of BDS B2b in A-GNSS for TS 36305 Huawei, HiSilicon draftCR Rel-19 36.305 18.0.0 F LCS\_BDS\_B2b\_LTE\_NR
5. R2-2408036 Introduction of B2b signal in BDS system in A-GNSS CATT, CAICT draftCR Rel-19 37.355 18.3.0 B LCS\_BDS\_B2b\_LTE\_NR-Core
6. R2-2408221 Introduction of BDS B2b in A-GNSS positioning ZTE Corporation discussion Rel-19 LCS\_BDS\_B2b\_LTE\_NR-Core
7. R2-2408660 Discussion on BDS B2b in A-GNSS NEC discussion Rel-19 LCS\_BDS\_B2b\_LTE\_NR-Core
8. R2-2408791 Discussion on support of BDS B2b in A-GNSS Huawei, HiSilicon discussion Rel-19 LCS\_BDS\_B2b\_LTE\_NR
9. R2-2409199 LPP Impacts for B2b Signal addition Ericsson discussion Rel-19 LCS\_BDS\_B2b\_LTE\_NR-Core Late

###### RAN2 #128

1. R2-2409574 Introduction of BDS B2b in A-GNSS positioning ZTE Corporation discussion Rel-19 LCS\_BDS\_B2b\_LTE\_NR-Core
2. R2-2409627 Introduction of B2b signal in BDS system in A-GNSS CATT, CAICT, Ericsson, Huawei, HiSilicon draftCR Rel-19 37.355 18.3.0 B LCS\_BDS\_B2b\_LTE\_NR-Core
3. R2-2410158 Introduction of BDS B2b in A-GNSS for TS 36305 Huawei, HiSilicon, CAICT, CATT, Ericsson CR Rel-19 36.305 18.0.0 0121 - B LCS\_BDS\_B2b\_LTE\_NR
4. R2-2410159 Introduction of BDS B2b in A-GNSS for TS 38305 Huawei, HiSilicon, CAICT, CATT, Ericsson CR Rel-19 38.305 18.3.0 0180 - B LCS\_BDS\_B2b\_LTE\_NR
5. R2-2410160 Discussion on the remaining issues for BDS B2b Huawei, HiSilicon discussion Rel-19 LCS\_BDS\_B2b\_LTE\_NR

10.01.2022 minor adaptations for RAN #95e

04.10.2021 minor adaptations for RAN #94e

08.08.2021 minor adaptations for RAN #93e

17.05.2021 minor adaptations for RAN #92e

28.01.2021 minor adaptations for RAN #91e

09.11.2020 minor adaptations for RAN #90e

31.08.2020 minor adaptations for RAN #89e

20.04.2020 minor adaptations for RAN #88e

18.02.2020 minor adaptations for RAN #87e

14.11.2019 minor adaptations for RAN #86

18.08.2019 minor adaptations for RAN #85

12.05.2019 minor adaptations for RAN #84

27.02.2019 minor adaptations for RAN #83

21.11.2018 completion levels with colours added (for RAN #82)

v04.81 31.07.2018 simplification of template and addition of cross-TSG aspects (for RAN #81)

v04.80 21.05.2018 minor adaptations for RAN #80

v04.79 26.02.2018 minor adaptations for RAN #79

v04.78 18.11.2017 minor adaptations for RAN #78

v04.77 06.08.2017 minor adaptations for RAN #77

v04.76 15.05.2017 minor adaptations for RAN #76

v04.75 31.01.2017 minor adaptations for RAN #75

v04.74 28.10.2016 minor adaptations for RAN #74

v04.73 01.09.2016 adaptations for RAN #73 (time units in extra Excel table, RAN6 reporting included)

v04.72 26.05.2016 adaptations for RAN #72 (introduction of NR & GERAN TUs)

v04.71 10.02.2016 minor adaptations for RAN #71

v04.70 30.10.2015 minor adaptations for RAN #70

v04.69 12.08.2015 minor adaptations for RAN #69

v04.68 21.05.2015 minor adaptations for RAN #68

v04.67 01.02.2015 minor adaptations for RAN #67

v04.66 16.11.2014 minor adaptations for RAN #66

v04.65 16.08.2014 minor adaptations for RAN #65

v04.64 22.05.2014 minor adaptations for RAN #64

v04.63 24.01.2014 restructuring for RAN #63 to cover Core & Perf. in one doc file

v03.62 11.11.2013 section 1.2.3 adapted for RAN #62

v03 11.08.2013 section 1.2.3 added on time budget

v02 07.05.2010 history added, some spelling corrections

v01 13.11.2009 First version of the template