**3GPP TSG- Meeting #-bis-e**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  | **38.305** | **CR** |  | **rev** |  | **Current version:** | **16.8.0** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:***  | Zero Yaw clarification for SSR positioning |
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| ***Source to WG:*** |  |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** | NR\_pos-Core |  | ***Date:*** | 2023-04-1x |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** |  |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | LPP inherited the ‘zero-yaw condition’ from CLAS such that the NW must pre-correct for yaw, however this behaviour is not explicitly stated in the R16 specification. The zero-yaw condition is not valid for all corrections vendors and without clarification that the zero-yaw condition exists in LPP it could be a source of interoperability issues. |
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| ***Summary of change:*** | **Yaw:** Add NOTE 3 to explicitly describe the zero-yaw condition in the SSR Phase Bias IEImpacted functionalitySSR Phase BiasInter-operability:This is to correct an ambiguity in the specification which could lead to different implementations which cannot inter-operate. |
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| ***Consequences if not approved:*** | **Yaw:** If the UE incorrectly assumes the yaw has not been corrected at the NW then the UE will experience degraded fix rates and potential increases in postioning error. |
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| ***Clauses affected:*** | 8.1.2.1.24 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ... |
| ***affected:*** |  | **x** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **x** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

START OF CHANGE

**/\*\*Skip unmodified parts\*\*/**

##### 8.1.2.1.24 SSR Phase Bias

SSR Phase Bias provides the GNSS receiver with the GNSS signal phase bias that are added to the carrier phase measurements of the corresponding signal to get corrected phase ranges. An indicator used to count events when phase bias is discontinuous is provided. An optional indicator is also provided to indicate whether fixed, widelane fixed or float PPP-RTK positioning modes are supported on a per signal basis.

NOTE 1: On the UE side, phase bias corrections of appropriate type are needed to restore the integer nature of the phase ambiguities in PPP-RTK. Their absence will affect the quality of the positioning solution and prevent a fast convergence time.

NOTE 2: PPP-RTK Fixed position mode corresponds to the UE fixing the carrier phase ambiguity to an integer value. The PPP-RTK Widelane Fixed positioning mode corresponds to forming the widelane combination of carrier phase measurements and fixing the resulting ambiguity as an integer value. In PPP-RTK Float positioning mode the carrier phase ambiguity is not treated as an integer value.

NOTE 3: The SSR Phase Bias values must be consistent with a satellite yaw angle of zero as per [43].

For integrity purposes, SSR Phase Bias also provides the mean and standard deviation that bounds the residual Phase Bias Error and its associated error rate.

**/\*\*Skip unmodified parts\*\*/**

*END OF CHANGE*