**3GPP TSG-WG SA2 Meeting # 166 *S2-2412628***

**Orlando, USA, - (revision of S2-2411490)**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** | **5828** | **rev** | **1** | **Current version:** |  |  |
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| *For* [***HELP***](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 |  | Radio Access Network | **X** | Core Network | **X** |

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| ***Title:*** | MWAB BH PDU session clarificaiton | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
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| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***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 can be 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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
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| ***Reason for change:*** | | Clarification on the BH PDU session establishment by MWAB-UE based on different input information. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Clarify the BH PDU session establishment for MWAB in 5.49.1.X | | | | | | | | |
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| ***Consequences if not approved:*** | | Unclear on the triggering of BH PDU session establishment. | | | | | | | | |
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| ***Clauses affected:*** | | 5.49.1.x (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

\* \* \* \* First change \* \* \* \*

#### 5.49.1.1 Principles and functional entities

Mobile gNB with Wireless Access Backhauling (MWAB) provides an NR access link to UEs in proximity and connects to the 5GC serving the UE through an IP connectivity provided by a Backhaul PDU session(s), as illustrated in figure 5.49.1.1-1. The MWAB consists of a gNB component (MWAB-gNB) and a UE component (MWAB-UE). The MWAB-gNB is based on the gNB functionality specified in TS 38.300 [27] and TS 38.401 [42]. The MWAB may be mounted on a moving vehicle and may serve UEs inside or outside the vehicle.

The MWAB-UE establishes the IP connectivity for the backhaul links for the MWAB-gNB, via NR Uu, using the existing registration procedure and PDU session establishment procedure. The backhaul links are between the MWAB-gNB and entities of the network (e.g. AMF, UPF, other gNBs and OAM server) that a MWAB-gNB cell serves. The IP connectivity provided by the MWAB-UE may be either via the same PLMN/SNPN that the MWAB-gNB serves or a different PLMN/SNPN, depends on the MWAB-UE PLMN selection mechanism as specified in TS 23.122 [17]. Different possible deployment scenarios are presented in Annex S.

MWAB operation supports both PLMN and SNPN cases. When the MWAB-gNB is serving a PLMN, the UEs served by MWAB may be non-roaming or roaming in the MWAB Broadcasted PLMN. In case the MWAB-gNB is serving a SNPN, the subscribed SNPN of the UEs may be different from the MWAB Announced SNPN. The UEs served by the MWAB are not aware of the network serving the MWAB-UE.



Figure 5.49.1.1-1: MWAB architecture for 5GS

NOTE 1: In this Release, the CU/DU split of the MWAB-gNB is not supported.

NOTE 2: The interface between MWAB-UE and MWAB-gNB is implementation based and not in scope of this specification.

MWAB-UE has a single NR Uu hop to the NG-RAN, using either TN or NTN access technology. NR access is used for the radio link between a MWAB-gNB and the served UEs. The NR Uu access link between the MWAB-gNB and the served UE(s) does not use NTN access technology. 5G MOCN can be supported by the MWAB-gNB.

The details of the MWAB configuration/provisioning process are described in clause 5.49.2.

In order to operate as MWAB, the MWAB-gNB component and MWAB-UE component are authorized and controlled separately. The detailed procedures for the authorization of MWAB are described in clause 5.49.3.

Service continuity for the UE(s) served by the MWAB-gNB is supported, when the MWAB moves and the UE(s) move or do not move together with the MWAB. The detailed procedures for the support of mobility are described in clause 5.49.5.

The MWAB shall be able to serve UE(s) without any MWAB-specific enhancements. For some operations, the MWAB may be configured to provide access to only certain UEs. Existing access control mechanisms, e.g. CAG control, can be used to manage the UE(s)'s access to the MWAB-gNB. The details of the access control of the UEs served by MWAB are described in clause 5.49.6.

The LCS framework as defined in TS 23.273 [87] is used for providing the location service to the UE(s) served by MWAB. Details on supporting the LCS over MWAB are described in clause 5.49.7.

Regulatory services (e.g. emergency services, priority services) can be supported by the MWAB, and the details are provided in clause 5.49.8.

The backhaul PDU Session handling for MWAB is described in clause 5.49.1.x

\* \* \* \* Second change \* \* \* \*

### 5.49.1.x Backhaul PDU Session handling for MWAB

The use of multiple BH PDU Sessions for MWAB-gNB N2, N3, Xn interfaces and OAM access is based on configuration from OAM of the MWAB Broadcasted PLMN/SNPN.

The MWAB-gNB requests BH PDU Session(s) from the MWAB-UE by providing corresponding traffic descriptors specified in 23.503 [45] and TS 24.526 [110], via the implementation based internal communication between the MWAB-gNB and the MWAB-UE.

The MWAB-UE establishes, modifies BH PDU Sessions based on the received traffic descriptors from MWAB-gNB, configured URSP rules, and local configuration.

NOTE: The MWAB-gNB, acting as upper layer of the MWAB-UE described in TS 24.526 [110], can categorize the traffic in different ways (e.g. based on different interfaces Xn/N2/N3/OAM, or nature of the traffic (control signalling vs user plane traffic), or slices supported by the MWAB-gNB) and provides corresponding traffic descriptors to MWAB-UE. The internal communication details between MWAB-gNB and MWAB-UE is outside the scope of this specification. For slice information based categorization, see clause 5.49.1.x.2.

\* \* \* \* End of changes \* \* \* \*