3GPP TSG-RAN WG4 Meeting #116 R4-25xxxxx

Bengaluru, IN, August 25th – 29th 2025

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | 38.104 | **CR** | draftCR | **rev** | -- | **Current version:** | 19.1.0 |  |
|  | | | | | | | | |
| *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 |  |

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| ***Title:*** | Draft CR to 38.104 on adding SBFD BS Types and Configuration Constraints | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_duplex\_evo-Core | | | | |  | ***Date:*** | | | 2025-08-29 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Adding SBFD BS type and configuration constraints | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Clause 12.1.2, 12.1.3 are introduced to capture General SBFD Base Station Operating Requirements and SBFD Base Station Types and Configuration Constraints. | | | | | | | | |
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| ***Consequences if not approved:*** | | The RF requirements for SBFD-capable BS are not completed. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 12.1.2, 12.1.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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-----------------------------------------------------

12.1.2 General SBFD Base Station Operating Requirements

A SBFD-capable BS shall operate only SBFD subband configurations (i.e., DL/UL subbands) that have been declared in accordance with the provisions in this specification.

12.1.3 SBFD Base Station Types and Configuration Constraints

12.1.3.1 General

SBFD-capable BSs are categorized as either Type-A or Type-B according to the classification defined in Table 12.1.3-1. The classification is based on BS class and rated output power specified in clause 12.5.2.

**Table 12.1.3.1-1: SBFD-capable BS classification**

|  |  |  |
| --- | --- | --- |
| **BS Class** | **Rated Output Power (Prated,c,sys)** | **SBFD BS type** |
| FR1 WA BS | -- | Type-A |
| FR1 MR BS | ≥ 36 dBm | Type-A |
| FR1 MR BS | < 36 dBm | Type-B |
| FR1 LA BS | -- | Type-B |
| FR2 WA BS | -- | Type-B |
| FR2 LA BS | -- | Type-B |
| NOTE 1: A power level threshold of Prated,c,sys = 36 dBm is used to distinguish between Type-A and Type-B SBFD-capable BSs in the FR1 MR BS class. | | |

12.1.3.2 Type-A SBFD-Capable BS (Configuration-Limited)

For Type-A SBFD-capable BSs, the following requirements apply:

* For each channel bandwidth supported for SBFD operation, a maximum of three SBFD subband configurations may be declared.
  + The three configurations shall cover all supported SBFD patterns, including both DUD and DU/UD cases.
  + A single UL subband size used in both DU and UD configurations shall be counted as two configurations. For example, a UD 20-80 MHz and a DU 80-20 MHz configuration shall be counted as two SBFD subband configurations.
* For each supported channel bandwidth and for each supported UL subband size:
  + Only one DL subband size may be declared and tested for the DU/UD pattern.
  + Only one DL subband size may be declared and tested for the DUD pattern.
* A Type-A SBFD-capable BS shall not operate in any declared SBFD configuration (i.e., DL/UL subband) unless it has been tested.

12.1.3.3 Type-B SBFD-Capable BS (Configuration-Flexible)

For Type-B SBFD-capable BSs, the following requirements apply:

* There is no restriction on the number of UL subband sizes that may be declared.
* There is no restriction on the number of DL subband sizes that may be declared.
* For each declared channel bandwidth and for each declared SBFD pattern (i.e., DUD or DU/UD), the following configurations shall be tested:
  + The configuration with the narrowest UL subband size, and the corresponding worst-case SBFD DL transmission bandwidth:
    - For DU/UD: the configuration with the largest NRB,SBFD,DL.
    - For DUD: the configuration with the largest NRB,SBFD,DL,1.
  + The configuration with the widest UL subband size, and the corresponding worst-case SBFD DL transmission bandwidth:
    - For DU/UD: the configuration with the largest NRB,SBFD,DL.
    - For DUD: the configuration with the largest NRB,SBFD,DL,1.

------------------------------------------End of change------------------------------------------------------