3GPP TSG-RAN WG4 Meeting #112 R4-2414320

Maastricht, Netherlands, August 19th – 23rd, 2024

**Agenda item:** 8.4.4

**Source:** Intel Corporation

**Title:** WF on UE RF requirements for Rel-19 NR channel BW less than 5MHz for FR1 Phase 2

**Document for:** Approval

# Topic #2: UE RF requirements for inter-band NR CA/DC with less than 5MHz CBW

### Issue 2-1: Support of 5MHz CBW in band n100

* Agreement (online session)
  + 5MHz channel bandwidth in band n100 included in CRs but with square brackets, and brackets can be removed after the update is approved in the revised WID

### Issue 2-2: UE capability signaling

* Options for further discussion
  + Option 1: Request RAN2 to introduce UE capability signaling to enable less than 5MHz CBW operation for CA/DC
    - The following Rel-18 capabilities for NR less than 5MHz CBW operation need to be extended or new capabilities defined to enable CA/DC operation scenario with one or more component carriers with less than 5MHz CBW
      * [support12PRB-CORESET0-r18]
      * [support3MHz-ChannelBW-Asymmetric-r18]
      * [support3MHz-ChannelBW-Symmetric-r18]
      * [support5MHz-ChannelBW-20PRB-CORESET0-r18]
      * [support12PRB-CORESET0-GSCN-41637-r18]
    - UE capability signalling granularity is FFS
    - The respective UE capabilities shall be early-implementable from Rel-18
    - The details including whether to update existing Rel-18 capabilities or introduce new Rel-19 capabilities are up to RAN2
  + Option 2: Do not introduce new UE capability signaling to enable less than 5MHz CBW operation for CA/DC
    - RAN4 to define BCSs for band combination CA\_n100A-n101A or combinations with other band where 3 MHz is supported as usual where 3MHz / 5MHz channel bandwidths are listed for each band. BCS5 with supportedMinBandwidthUL-r17 set to 5 MHz can be used to indicate that a UE supports CA channel BWs other than 3 MHz for a given band.
    - RAN2 specs need to remove “This feature is only applicable to single-carrier operation. RAN2 to confirm no NBC issues.
    - No new RAN2 UE capability signaling is required.”
  + Other options are not precluded

### Issue 2-3: Network signaling on Scell transmission bandiwdth

* Agreement (online session)
  + No new signalling from network to inform UE the number of PRB transmission is required in the RF scope of this item

### Issue 2-4: Sync raster applicability

* Agreement (for check)
  + For band n100
    - SCell with 12 PRB transmission bandwidth configuration within 3 MHz channel can be configured only with SS Block frequency position same as defined in TS 38.101-1 Table 5.4.3.1-3
    - SCell with 20 PRB transmission bandwidth configuration within 5 MHz channel can be configured only with SS Block frequency position same as defined in TS 38.101-1 Table 5.4.3.1-3