**3GPP TSG-RAN WG4 Meeting #116bis R4-2513001**

**Prague, Czech Republic, Oct. 13-17, 2025**

**Agenda Item: 2**

**Source: RAN4 Chair**

**Title:** **Agenda for RAN4 #116bis**

**Document for:** **Approval**

1. Opening of the meeting

**Intellectual Property Rights Declaration**

<https://www.3gpp.org/about-us/legal-matters/call-for-ipr>

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| The attention of the delegates to the meeting of this Technical Specification Group is drawn to the fact that 3GPP Individual Members have the obligation under the IPR Policies of their respective Organizational Partners to inform their respective Organizational Partners of Essential IPRs they become aware of.  The delegates are asked to take note that they are thereby invited:   * to investigate whether their organization or any other organization owns IPRs which are, or are likely to become Essential in respect of the work of 3GPP. * to notify their respective Organizational Partners of all potential IPRs, e.g., for ETSI, by means of the IPR Statement and the Licensing declaration forms |

**Statement regarding competition law**

<https://www.3gpp.org/about-us/legal-matters/statement-regarding-competition-law>

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| The attention of the delegates to the meeting was drawn to the fact that 3GPP activities were subject to all applicable antitrust and competition laws and that compliance with said laws was therefore required by any participant of the meeting, including the Chair and Vice-Chairs and were invited to seek any clarification needed with their legal counsel. The leadership would conduct the present meeting with impartiality and in the interests of 3GPP. Delegates were reminded that timely submission of work items in advance of TSG/WG/SWG meetings was important to allow for full and fair consideration of such matters. |

**Consensus principles reminder**

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| The attention of the delegates to the meeting is drawn to the fact that 3GPP endeavours to reach consensus on all decisions and therefore depends on a cooperative spirit of the Individual Members. In particular, Individual Members are encouraged to seek a consensus-based solution and only to sustain objections as a very last resort, and where absolutely necessary and well justified. The leadership will conduct the present meeting in a manner whereby informal methods of reaching consensus are encouraged, whilst ensuring that well justified concerns are taken into account. |

**Working Principles for 6G**

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| 3GPP to create lean and streamlined standards for 6G, e.g., by dimensioning an appropriate set of functionalities, minimizing the adoption of multiple options for the same functionality, avoiding excessive configurations, etc. Any exception to the above shall be well justified. |

**Guidance for maintenance agendas (AI 4, AI 10)**

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| The following guidance are provided for maintenance work under AI 4, AI 5.2, AI 5.3.3, 5.28, 5.29 and 5.30:   * For maintenance agenda AI 4, draft CRs are expected and multiple CRs per company in the lowest agenda are allowed. For tracking the changes easily, it expected that one batch of CRs (Cat-F/A/…) will just cover a single topic/WI rather than multiple topics/WIs and Cat-F CR with corresponding Cat-A CRs needs be submitted under the same agenda. * When reserving the tdoc number, please use the correct WI code rather than simply using TEI and fill the column of “Related WIs” in your reservation spreadsheet. If you submit a CR with TEI as WI code, please inform session chair. * For all the endorsed draft CRs from the previous bis meeting, please re-submit them as formal CRs in this meeting.   The following guidance are provided for tdocs related to incoming LS under AI 10:   * The contributions corresponding to incoming LS for Rel-15/16/17 are expected to be submitted in sub-AIs under AI 10.4. * The contributions corresponding to incoming LS for Rel-19/Rel-18 are expected to be submitted to (sub-) agenda dedicated to the individual WIs. If there is no dedicated agenda, please submit to AI 10.2 and 10.3 respectively. |

1. Meeting agenda, arrangement and meeting report
2. Incoming LS
3. Rel-19 maintenance for LTE and NR and TEI19
   1. Moderator summary and conclusions (for Agenda 4)
      1. Main session (for moderator submission only)
      2. RRM session (for moderator submission only)
      3. BDaT session (for moderator submission only)

-------------------------------------- Rel-19 Spectrum related ----------------------------------------------------------------------------------

* 1. Rel-19 spectrum related WI maintenance [WI code]
     1. Introduction of the 1.4 GHz Band [NR\_FDD\_1400MHz-Core]
     2. Introduction of NR band n68 [NR\_band\_n68-Core]
     3. Introduction of NR-NTN S-band (MSS band 2000-2020 MHz UL and 2180-2200 MHz DL) [NR\_NTN\_Sband-Core/Perf]
     4. Introduction of IoT-NTN S-band (MSS band 2000-2020 MHz UL and 2180-2200 MHz DL) [IoT\_NTN\_FDD\_S\_band-Core/Perf]
     5. mmWave in NR: UE spurious emissions and EESS (Earth Exploration Satellite Service) protection [NR\_mmWave\_protect-Core/Perf]
     6. New bands for LTE based 5G terrestrial broadcast for early deployments [LTE\_terr\_bcast\_bands\_sub\_108-Core]
     7. Introduction of Ku Band for NR NTN [NR\_NTN\_Ku\_bands-Core]
        1. System parameters [NR\_NTN\_Ku\_bands-Core]
        2. UE RF requirements [NR\_NTN\_Ku\_bands-Core]
        3. SAN RF core requirements [NR\_NTN\_Ku\_bands-Core]
        4. RRM core requirements [NR\_NTN\_Ku\_bands-Core]
     8. Others

---------------------------------------- Rel-19 RAN4-led non-spectrum related ----------------------------------------------------------------------------------------

* 1. NR sidelink Intra-band Carrier Aggregation in ITS band [NR\_SL\_intraB\_CA\_ITS]
  2. NR channel BW less than 5MHz for FR1 Phase 2 [NR\_FR1\_lessthan\_5MHz\_BW\_Ph2]
     1. UE RF requirements maintenance for inter-band NR CA/DC with 3MHz CBW [NR\_FR1\_lessthan\_5MHz\_BW\_Ph2-Core]
     2. RRM core requirements [NR\_FR1\_lessthan\_5MHz\_BW\_Ph2-Core]
     3. RRM performance requirements [NR\_FR1\_lessthan\_5MHz\_BW\_Ph2-Perf]
     4. UE demodulation performance requirements [NR\_FR1\_lessthan\_5MHz\_BW\_Ph2-Perf]
  3. NR power class 2 RedCap (Reduced Capability) UE in FR1 [NR\_PC2\_RedCap\_UE-Core]
  4. UE RF enhancements for NR FR1/FR2 and EN-DC, Phase 4 [NR\_ENDC\_RF\_Ph4]
     1. UE RF requirements [NR\_ENDC\_RF\_Ph4-Core]
        1. High power UE (HPUE) for CA in terrestrial network (TN) [NR\_ENDC\_RF\_Ph4-Core]
        2. Power domain enhancement for NR single carrier and NR intra-band UL CA for PC2 and PC3 [NR\_ENDC\_RF\_Ph4-Core]
        3. 6Rx UE [NR\_ENDC\_RF\_Ph4-Core/Perf]
     2. RRM core and performance requirements for 6Rx [NR\_ENDC\_RF\_Ph4-Core/Perf]
  5. Support of intra-band non-collocated EN-DC/NR-CA deployment Phase2: new receiver type(s) [NonCol\_intraB\_ENDC\_NR\_CA\_Ph2]
     1. UE RF requirements [NonCol\_intraB\_ENDC\_NR\_CA\_Ph2-Core]
     2. RRM core requirements [NonCol\_intraB\_ENDC\_NR\_CA\_Ph2-Core]
  6. Low band carrier aggregation via switching [NR\_LBCA\_Sw]
     1. UE RF requirements [NR\_LBCA\_Sw-Core]
     2. RRM core requirements [NR\_LBCA\_Sw-Core]
  7. NR FR1 7 MHz Channel Bandwidth [NR\_FR1\_7MHz\_BW]
     1. UE RF requirements and system parameters [NR\_FR1\_7MHz\_BW-Core]
     2. BS RF core requirements [NR\_FR1\_7MHz\_BW-Core/]
  8. New LTE band for 5G broadcast for region 3 utilizing a geosynchronous satellite [LTE\_band\_5G\_bcast\_GSO]
     1. Band definition and system parameters [LTE\_band\_5G\_bcast\_GSO-Core]
     2. UE RF core requirements [LTE\_band\_5G\_bcast\_GSO-Core]
     3. SAN RF core requirements [LTE\_band\_5G\_bcast\_GSO-Core]
  9. Enhanced requirements and conductive test methodology for NR NTN and IoT NTN [NR\_IoT\_NTN\_req\_test\_enh]
     1. UE RF requirements for NTN HPUE [NR\_IoT\_NTN\_req\_test\_enh-Core]
     2. Less than 5MHz for NTN [NR\_IoT\_NTN\_req\_test\_enh-Core]
        1. UE RF requirements and the system parameters [NR\_IoT\_NTN\_req\_test\_enh-Core]
        2. SAN RF core and conformance requirements [NR\_IoT\_NTN\_req\_test\_enh-Core/Perf]
        3. RRM core requirements [NR\_IoT\_NTN\_req\_test\_enh-Core]
  10. Enhancements for Air-to-ground network for NR [NR\_ATG\_enh]
      1. UE RF requirements [NR\_ATG\_enh-Core]
      2. BS RF requirements [NR\_ATG\_enh-Core]
      3. RRM core requirements for CA [NR\_ATG\_enh-Core]
  11. TRP (Total Radiated Power), TRS (Total Radiated Sensitivity) and MIMO OTA (Over the Air) testing enhancement Phase 3 [TRP\_TRS\_MIMO\_OTA\_Ph3]
      1. Core requirements [TRP\_TRS\_MIMO\_OTA\_Ph3-Core]
         1. Test methodology for FR1 non-RedCap headworn XR devices [TRP\_TRS\_MIMO\_OTA\_Ph3-Core]
         2. Test methodology and radiated performance metric for FR1 NTN devices [TRP\_TRS\_MIMO\_OTA\_Ph3-Core]
         3. FR1 dynamic MIMO OTA test methodology [TRP\_TRS\_MIMO\_OTA\_Ph3-Core]
  12. NR demodulation performance Phase 5 [NR\_demod\_Ph5-Perf]
      1. UE demodulation performance requirements for 8Rx with MMSE-IRC [NR\_demod\_Ph5-Perf]
      2. BS demodulation performance requirements for MMSE-IRC [NR\_demod\_Ph5-Perf]
  13. NR Radio Resource Management (RRM) Phase 5 [NR\_RRM\_Ph5]
      1. RRM core requirements [NR\_RRM\_Ph5-Core]
  14. Performance part for Minimum requirements for BDS B2b Signal in A-GNSS [LCS\_BDS\_B2b\_LTE\_NR-Perf]
      1. General aspects [LCS\_BDS\_B2b\_LTE\_NR-Perf]
      2. RRM performance requirements [LCS\_BDS\_B2b\_LTE\_NR-Perf]
  15. Performance part for Introduction of NavIC L1 SPS AGNSS support in NR & LTE [LCS\_NAVIC\_L1\_SPS\_NR\_LTE-Perf]
      1. General aspects [LCS\_NAVIC\_L1\_SPS\_NR\_LTE-Perf]
      2. RRM performance requirements maintenance [LCS\_NAVIC\_L1\_SPS\_NR\_LTE-Perf]
  16. NR MIMO Phase 5 [NR\_MIMO\_Ph5]
      1. UE RF requirements [NR\_MIMO\_Ph5-Core]
      2. RRM core requirements [NR\_MIMO\_Ph5-Core]
  17. Evolution of NR duplex operation: Sub-band full duplex (SBFD) [NR\_duplex\_evo-Core]
      1. General aspects (including RAN4 aspects for SBFD system parameters) [NR\_duplex\_evo-Core]
      2. BS RF requirements [NR\_duplex\_evo-Core]
      3. RRM core requirements [NR\_duplex\_evo-Core]
  18. Solutions for Ambient IoT (Internet of Things) in NR [Ambient\_IoT\_Solutions]
      1. RF requirements for A-IoT [Ambient\_IoT\_Solutions-Core]
         1. RF requirements for A-IoT device [Ambient\_IoT\_Solutions-Core]
         2. RF requirements for A-IoT BS and CW [Ambient\_IoT\_Solutions-Core]
      2. RRM core requirements [Ambient\_IoT\_Solutions-Core]
      3. OTA test method for A-IoT device 1 [Ambient\_IoT\_Solutions-Core]
  19. Enhancements of network energy savings for NR [Netw\_Energy\_NR\_enh]
      1. RRM core requirements [Netw\_Energy\_NR\_enh-Core]
  20. Low-power wake-up signal and receiver for NR (LP-WUS/WUR) [NR\_LPWUS]
      1. UE RF requirements for LP-WUS/WUR [NR\_LPWUS-Core]
      2. BS RF requirements for LP-WUS/WUR [NR\_LPWUS-Core]
      3. RRM core requirements for LP-WUS/WUR [NR\_LPWUS-Core]
  21. NR mobility enhancements Phase 4 [NR\_Mob\_Ph4]
      1. RRM core requirements [NR\_Mob\_Ph4-Core]
  22. XR for NR Phase 3 [NR\_XR\_Ph3]
      1. RRM core requirements [NR\_XR\_Ph3-Core]
  23. Non-Terrestrial Networks (NTN) for NR Phase 3 [NR\_NTN\_Ph3]
      1. UE RF requirements [NR\_NTN\_Ph3-Core]
      2. SAN RF requirements [NR\_NTN\_Ph3-Core]
      3. RRM core requirements [NR\_NTN\_Ph3-Core]
  24. Non-Terrestrial Networks (NTN) for Internet of Things (IoT) Phase 3 [IoT\_NTN\_Ph3]
      1. RF core requirements [IoT\_NTN\_Ph3-Core]
      2. RRM core requirements [IoT\_NTN\_Ph3-Core]
  25. Introduction of IoT-NTN TDD mode [IoT\_NTN\_TDD]
      1. Band and system parameters (DL and UL channelization, channel bandwidth) [IoT\_NTN\_TDD-Core]
      2. SAN RF requirements [IoT\_NTN\_TDD-Core]
      3. UE RF requirements [IoT\_NTN\_TDD-Core]
      4. RRM core requirements [IoT\_NTN\_TDD-Core]
  26. NR base station (BS) RF requirement evolution for FR1/FR2 and testing [NR\_BS\_RF\_req\_evo]
      1. BS core requirements [NR\_BS\_RF\_req\_evo-Core]
         1. Expected EIRP mask for upper 6GHz [NR\_BS\_RF\_req\_evo-Core]
         2. OTA test enhancement (co-location reference antenna) [NR\_BS\_RF\_req\_evo-Core]

---------------------------------------- Other topics ----------------------------------------------------------------------------------------

* 1. Other Rel-19 non-spectrum related WIs
     1. UE RF requirements [WI code]
     2. BS/SAN/non-UE RF requirements [WI code]
     3. RRM requirements [WI code]
     4. Demodulation performance and CSI requirements [WI code]
     5. OTA aspects [WI code]
  2. Rel-19 TEI [TEI19]

\* Please note that only TEI topics are treated in this agenda. The tdocs for any closed Rel-19/18/17/16/15 WIs won’t be treated in this agenda.

* + 1. UE RF related topics [TEI19]
    2. RRM related topics
    3. BS RF, demodulation performance and other topics

1. Rel-19 and Rel-20 on-going spectrum related work items for NR and LTE
   1. Moderator summary and conclusions (for Agenda5)

-------------------------------------- MR-DC, NR-CA and LTE-CA Basket WIs-------------------------------------------

* 1. Rel-19 DC of x LTE band(s), y NR band(s) (x<=6) and single or two NR SUL bands [DC\_R19\_xBLTE\_yBNR-Core]
     1. Rapporteur input (WID/TR/big CR) [DC\_R19\_xBLTE\_yBNR-Core]
     2. UE RF requirements for EN-DC and NE-DC of 2 DL with 2 UL (DC\_R19\_1BLTE\_1BNR\_2DL2UL) [DC\_R19\_xBLTE\_yBNR-Core]
     3. UE RF requirements for EN-DC and NE-DC of 2 LTE and 1 NR, or of 1 LTE and 2 NR (DC\_R19\_xBLTE\_yBNR\_3DL2UL) [DC\_R19\_xBLTE\_yBNR-Core]
     4. UE RF requirements for EN-DC and NE-DC of x LTE and y NR with total z DL bands and q UL bands (DC\_R19\_xBLTE\_yBNR\_zDLqUL) [DC\_R19\_xBLTE\_yBNR-Core]
     5. UE RF requirements for EN-DC and NE-DC with one SUL and two SULs (DC\_R19\_LTE\_NR\_SUL\_combos) [DC\_R19\_xBLTE\_yBNR-Core]
     6. RAN4 PRD
  2. Rel-19 NR CA/DC for x bands DL with y bands UL (x<7, y<3) and SUL/CA band combinations with a single SUL or two SUL cells [NR\_CADC\_SUL\_R19-Core]
     1. Rapporteur input (WID/TR/big CR) [NR\_CADC\_SUL\_R19-Core]
     2. UE RF requirements for NR intra-band CA combinations for x CC DL/y CC UL (NR\_CA\_R19\_Intra with/without UL-MIMO) [NR\_CADC\_SUL\_R19-Core]
     3. UE RF requirements for NR inter-band CA/DC configurations including inter band CA for 2 DL with up to 2UL (NR\_CADC\_R19\_2BDL\_xBUL) [NR\_CADC\_SUL\_R19-Core]
     4. UE RF requirements for NR inter-band CA/DC configurations including inter band CA for 3 DL with x UL (NR\_CADC\_R19\_3BDL\_xBUL) [NR\_CADC\_SUL\_R19-Core]
     5. UE RF requirements for NR inter-band CA/DC configurations including inter band CA for y DL with x UL (NR\_CADC\_R19\_yBDL\_xBUL) [NR\_CADC\_SUL\_R19-Core]
     6. UE RF requirements for SUL and CA band combinations with SULs (NR\_SUL\_combos\_R19) [NR\_CADC\_SUL\_R19-Core]
  3. Rel-19 LTE-Advanced Carrier Aggregation for x bands (1<=x<= 6) DL with y bands (y=1, 2) UL [LTE\_CA\_R19\_xBDL\_yBUL-Core]
     1. Rapporteur input (WID/TR/big CR) [LTE\_CA\_R19\_xBDL\_yBUL-Core]
     2. UE RF requirements [LTE\_CA\_R19\_xBDL\_yBUL-Core]

-------------------------------------- HPUE basket WIs -------------------------------------------------------------------------

* 1. Rel-19 HPUE for NR FR1 TDD/FDD single band [HPUE\_NR\_FR1\_bands\_R19-Core]
     1. Rapporteur input (WID/TR/big CR) [HPUE\_NR\_FR1\_bands\_R19-Core]
     2. HPUE in a single TDD band [HPUE\_NR\_FR1\_bands\_R19-Core]
     3. HPUE in a single FDD band [HPUE\_NR\_FR1\_bands\_R19-Core]
  2. Rel-19 HPUE for DC combinations of LTE band(s) and NR band(s) [HPUE\_DC\_LTE\_NR\_R19-Core]
     1. Rapporteur input (WID/TR/big CR) [HPUE\_DC\_LTE\_NR\_R19-Core]
     2. UE RF requirements [HPUE\_DC\_LTE\_NR\_R19-Core]
  3. Rel-19 HPUE for NR intra-band CA and inter-band CA/DC with/without NR SUL [HPUE\_NR\_CADC\_SUL\_R19]
     1. Rapporteur input (WID/TR/big CR) [HPUE\_NR\_CADC\_SUL\_R19-Core]
     2. UE RF requirements for intra-band CA [HPUE\_NR\_CADC\_SUL\_R19-Core]
     3. UE RF requirements for inter-band CA/DC with high power on TDD band(s) [HPUE\_NR\_CADC\_SUL\_R19-Core]
     4. UE RF requirements for inter-band CA/DC with high power on FDD band(s) [HPUE\_NR\_CADC\_SUL\_R19-Core]
     5. UE RF requirements for inter-band CA/DC with high power on both FDD and TDD bands [HPUE\_NR\_CADC\_SUL\_R19-Core]

-------------------------------------- Other basket WIs --------------------------------------------------------------------------

* 1. Rel-19 Additional NR bands for NR features [NR\_bands\_xFeature\_R19-Core]
     1. Rapporteur input (WID/TR/big CR) [NR\_bands\_xFeature\_R19-Core]
     2. UE RF requirements for UL-MIMO in a single band [NR\_bands\_xFeature\_R19-Core]
     3. UE RF requirements for 4Rx and 8Rx [NR\_bands\_xFeature\_R19-Core]
  2. Simultaneous Rx/Tx band combinations for NR CA/DC, NR SUL and LTE/NR DC in Rel-19 [LTE\_NR\_R19\_Simult\_RxTx-Core]
     1. Rapporteur input (WID/TR/big CR) [LTE\_NR\_R19\_Simult\_RxTx-Core]
     2. UE RF requirements [LTE\_NR\_R19\_Simult\_RxTx-Core]
     3. CA\_n5-n8 related RRM impacts [LTE\_NR\_R19\_Simult\_RxTx-Core]

-------------------------------------- Other spectrum WIs --------------------------------------------------------------------------

* 1. Introduction of Ku Band for NR NTN [NR\_NTN\_Ku\_bands-Core]
     1. Moderator summary and conclusions [NR\_NTN\_Ku\_bands-Core]
     2. RRM performance requirements [NR\_NTN\_Ku\_bands-Perf]
     3. UE and SAN demodulation performance requirements [NR\_NTN\_Ku\_bands-Perf]
     4. Satellite access node conformance tests [NR\_NTN\_Ku\_bands-Perf]

-------------------------------------- R20 New bands ----------------------------------------------------------------------------------

* 1. Introduction of NR TDD 4.9GHz Band for US Operation [NR\_TDD\_band\_4900MHz\_US]
     1. General aspects and work plan [NR\_TDD\_band\_4900MHz\_US]
     2. Band numbering, system parameters and RF characteristics [NR\_TDD\_band\_4900MHz\_US]
     3. BS RF requirements. [NR\_TDD\_band\_4900MHz\_US]
     4. UE RF requirements. [NR\_TDD\_band\_4900MHz\_US]

-------------------------------------- Other spectrum related items ----------------------------------------------------------------------------------

1. Rel-19 on-going non-spectrum related work/study items

-------------------------------------- Items led by RAN4 ----------------------------------------------------------------------------------

* 1. UE RF enhancements for NR FR1/FR2 and EN-DC, Phase 4 [NR\_ENDC\_RF\_Ph4-Perf]
     1. Moderator summary and conclusions [NR\_ENDC\_RF\_Ph4-Perf]
     2. UE demodulation performance requirements for 6Rx [NR\_ENDC\_RF\_Ph4-Perf]
  2. Support of intra-band non-collocated EN-DC/NR-CA deployment Phase2: new receiver type(s) [NonCol\_intraB\_ENDC\_NR\_CA\_Ph2-Perf]
     1. Moderator summary and conclusions [NonCol\_intraB\_ENDC\_NR\_CA\_Ph2-Perf]
     2. RRM performance requirements [NonCol\_intraB\_ENDC\_NR\_CA\_Ph2-Perf]
     3. PDSCH demodulation performance requirements [NonCol\_intraB\_ENDC\_NR\_CA\_Ph2-Perf]
  3. Low band carrier aggregation via switching [NR\_LBCA\_Sw]
     1. Moderator summary and conclusions [NR\_LBCA\_Sw-Perf]
     2. RRM performance requirement [NR\_LBCA\_Sw-Perf]
  4. NR FR1 7 MHz Channel Bandwidth [NR\_FR1\_7MHz\_BW]
     1. Moderator summary and conclusions [NR\_FR1\_7MHz\_BW-Perf]
     2. BS RF conformance requirements [NR\_FR1\_7MHz\_BW-Perf]
     3. UE and BS demodulation and CSI performance requirements [NR\_FR1\_7MHz\_BW-Perf]
  5. New LTE band for 5G broadcast for region 3 utilizing a geosynchronous satellite [LTE\_band\_5G\_bcast\_GSO-Perf]
     1. Moderator summary and conclusions [LTE\_band\_5G\_bcast\_GSO-Perf]
     2. UE demodulation performance requirements [LTE\_band\_5G\_bcast\_GSO-Perf]
  6. Enhanced requirements and conductive test methodology for NR NTN and IoT NTN [NR\_IoT\_NTN\_req\_test\_enh-Perf]
     1. Moderator summary and conclusions [NR\_IoT\_NTN\_req\_test\_enh-Perf]
     2. Less than 5MHz for NTN [NR\_IoT\_NTN\_req\_test\_enh-Perf]
        1. RRM performance requirements [NR\_IoT\_NTN\_req\_test\_enh-Perf]
        2. SAN conformance requirements [NR\_IoT\_NTN\_req\_test\_enh-Perf]
        3. Demodulation performance requirements [NR\_IoT\_NTN\_req\_test\_enh-Perf]
     3. NTN testing for NGSO [NR\_IoT\_NTN\_req\_test\_enh-Perf]
        1. Channel modeling [NR\_IoT\_NTN\_req\_test\_enh-Perf]
        2. RRM performance requirements [NR\_IoT\_NTN\_req\_test\_enh-Perf]
        3. Demodulation performance requirements [NR\_IoT\_NTN\_req\_test\_enh-Perf]
  7. Enhancements for Air-to-ground network for NR [NR\_ATG\_enh-Perf]
     1. Moderator summary and conclusions [NR\_ATG\_enh-Perf]
     2. BS RF conformance requirements [NR\_ATG\_enh-Perf]
     3. RRM performance requirements [NR\_ATG\_enh-Perf]
     4. Demodulation performance requirements [NR\_ATG\_enh-Perf]
  8. NR base station (BS) RF requirement evolution for FR1/FR2 and testing [NR\_BS\_RF\_req\_evo]
     1. Moderator summary and conclusions [NR\_BS\_RF\_req\_evo]
     2. General aspects [NR\_BS\_RF\_req\_evo-Core]
     3. BS core requirements [NR\_BS\_RF\_req\_evo-Core]
        1. Transmitter co-existence spurious emission requirements [NR\_BS\_RF\_req\_evo-Core]
     4. BS conformance testing [NR\_BS\_RF\_req\_evo-Perf]
        1. Expected EIRP mask for upper 6GHz [NR\_BS\_RF\_req\_evo-Perf]
        2. OTA test enhancement [NR\_BS\_RF\_req\_evo-Perf]
           1. Identification and reduction of BS OTA test scope (TxIM, RX OoB blocking) [NR\_BS\_RF\_req\_evo-Perf]
           2. Simplification of BS TRP test methods [NR\_BS\_RF\_req\_evo-Perf]
        3. Transmitter co-existence spurious emission requirements [NR\_BS\_RF\_req\_evo-Perf]
  9. TRP (Total Radiated Power), TRS (Total Radiated Sensitivity) and MIMO OTA (Over the Air) testing enhancement Phase 3 [TRP\_TRS\_MIMO\_OTA\_Ph3-Perf]
     1. Moderator summary and conclusions [TRP\_TRS\_MIMO\_OTA\_Ph3-Perf]
     2. Performance requirements [TRP\_TRS\_MIMO\_OTA\_Ph3-Perf]
        1. TRP TRS requirements [TRP\_TRS\_MIMO\_OTA\_Ph3-Perf]
        2. MIMO OTA requirements [TRP\_TRS\_MIMO\_OTA\_Ph3-Perf]
  10. NR Radio Resource Management (RRM) Phase 5 [NR\_RRM\_Ph5]
      1. Moderator summary and conclusions [NR\_RRM\_Ph5-Perf]
      2. RRM performance requirements of FR2-1 SSB based L3 measurement delay reduction for connected mode [NR\_RRM\_Ph5-Perf]
         1. FR2-1 L3 measurement delay by optimizing Rx beam sweeping factor [NR\_RRM\_Ph5-Perf]
         2. FR2-1 L3 measurement delay by optimizing CSSF outside gap in CA/DC [NR\_RRM\_Ph5-Perf]
      3. RRM performance requirements of Fast SCell activation for UE supporting Rel-18 EMR [NR\_RRM\_Ph5-Perf]

-------------------------------------- Items led by other WGs ----------------------------------------------------------------------------------

* 1. Artificial Intelligence (AI)/Machine Learning (ML) for NR Air Interface [NR\_AIML\_air]
     1. Moderator summary and conclusions [NR\_AIML\_air-Core]
     2. General aspects [NR\_AIML\_air-Core]
     3. CSI reporting requirement and testing framework for CSI prediction [NR\_AIML\_air-Core]
     4. RRM core requirement and testing framework for beam management [NR\_AIML\_air-Core]
     5. RRM core requirement and testing framework for Positioning accuracy enhancement [NR\_AIML\_air-Core]
     6. RRM performance requirements for beam management and positioning accuracy [NR\_AIML\_air-Perf]
     7. Demodulation and/or CSI reporting requirements for CSI prediction [NR\_AIML\_air-Perf]
  2. NR MIMO Phase 5 [NR\_MIMO\_Ph5-Perf]
     1. Moderator summary and conclusions [NR\_MIMO\_Ph5-Perf]
     2. RRM performance requirements [NR\_MIMO\_Ph5-Perf]
        1. Enhancement for UE-initiated/event-driven beam management [NR\_MIMO\_Ph5-Perf]
        2. Other RRM requirements [NR\_MIMO\_Ph5-Perf]
     3. Demodulation performance and CSI reporting requirements [NR\_MIMO\_Ph5-Perf]
  3. Evolution of NR duplex operation: Sub-band full duplex (SBFD) [NR\_duplex\_evo-Perf]
     1. Moderator summary and conclusions [NR\_duplex\_evo-Perf]
     2. BS conformance requirements [NR\_duplex\_evo-Perf]
        1. Potentially new requirements for SBFD operation for FR1 and FR2-1 [NR\_duplex\_evo-Perf]
        2. Modification of existing Tx requirements for FR1 and FR2-1 [NR\_duplex\_evo-Perf]
        3. Modification of existing Rx requirements for FR1 and FR2-1 [NR\_duplex\_evo-Perf]
     3. RRM performance requirements [NR\_duplex\_evo-Perf]
        1. RRM requirements for UE-to-UE CLI handling [NR\_duplex\_evo-Perf]
        2. RRM impacts for SBFD operation [NR\_duplex\_evo-Perf]
     4. UE and BS Demodulation performance requirements [NR\_duplex\_evo-Perf]
  4. Solutions for Ambient IoT (Internet of Things) in NR [Ambient\_IoT\_Solutions]
     1. Moderator summary and conclusions [Ambient\_IoT\_Solutions-Perf]
     2. Conformance testing for Ambient-IoT BS and CW [Ambient\_IoT\_Solutions-Perf]
     3. RRM performance requirements for device 1 [Ambient\_IoT\_Solutions-Perf]
     4. Demodulation performance requirements for device 1 [Ambient\_IoT\_Solutions-Perf]
     5. Demodulation performance requirements for Ambient-IoT BS [Ambient\_IoT\_Solutions-Perf]
  5. Enhancements of network energy savings for NR [Netw\_Energy\_NR\_enh-Perf]
     1. Moderator summary and conclusions [Netw\_Energy\_NR\_enh-Perf]
     2. RRM performance requirements [Netw\_Energy\_NR\_enh-Perf]
        1. On-demand SSB SCell operation [Netw\_Energy\_NR\_enh-Perf]
        2. Adaptation of common signal/channel transmission [Netw\_Energy\_NR\_enh-Perf]
        3. On-demand SIB1 [Netw\_Energy\_NR\_enh-Perf]
     3. UE and BS demodulation performance requirements [Netw\_Energy\_NR\_enh-Perf]
  6. Low-power wake-up signal and receiver for NR (LP-WUS/WUR) [NR\_LPWUS-Perf]
     1. Moderator summary and conclusions [NR\_LPWUS-Perf]
     2. BS conformance testing for LP-WUS/WUR [NR\_LPWUS-Perf]
     3. RRM performance requirements for LP-WUS/WUR [NR\_LPWUS-Perf]
     4. Demodulation performance requirements [NR\_LPWUS-Perf]
  7. NR mobility enhancements Phase 4 [NR\_Mob\_Ph4]
     1. Moderator summary and conclusions [NR\_Mob\_Ph4-Perf]
     2. RRM performance requirements [NR\_Mob\_Ph4-Perf]
        1. Event triggered L1 measurement reporting [NR\_Mob\_Ph4-Perf]
        2. CSI-RS based L1 measurement [NR\_Mob\_Ph4-Perf]
        3. Conditional Intra-CU LTM [NR\_Mob\_Ph4-Perf]
  8. XR for NR Phase 3 [NR\_XR\_Ph3-Perf]
     1. Moderator summary and conclusions [NR\_XR\_Ph3-Perf]
     2. RRM performance requirements [NR\_XR\_Ph3-Perf]
  9. Non-Terrestrial Networks (NTN) for NR Phase 3 [NR\_NTN\_Ph3-Perf]
     1. Moderator summary and conclusions [NR\_NTN\_Ph3-Perf]
     2. SAN conformance requirements [NR\_NTN\_Ph3-Perf]
     3. RRM performance requirements [NR\_NTN\_Ph3-Perf]
        1. (e)RedCap RRM requirements [NR\_NTN\_Ph3-Perf]
        2. Other RRM requirements [NR\_NTN\_Ph3-Perf]
     4. UE and SAN demodulation performance requirements [NR\_NTN\_Ph3-Perf]
  10. Non-Terrestrial Networks (NTN) for Internet of Things (IoT) Phase 3 [IoT\_NTN\_Ph3]
      1. Moderator summary and conclusions [IoT\_NTN\_Ph3-Perf]
      2. SAN conformance requirements [IoT\_NTN\_Ph3-Perf]
      3. RRM performance requirements [IoT\_NTN\_Ph3-Perf]
      4. SAN demodulation performance requirements [IoT\_NTN\_Ph3-Perf]
  11. Introduction of IoT-NTN TDD mode [IoT\_NTN\_TDD-Perf]
      1. Moderator summary and conclusions [IoT\_NTN\_TDD-Perf]
      2. RRM performance requirements [IoT\_NTN\_TDD-Perf]
      3. SAN and UE demodulation requirements [IoT\_NTN\_TDD-Perf]
      4. SAN conformance testing requirements [IoT\_NTN\_TDD-Perf]
  12. Performance part for LTE-based 5G Broadcast Phase 2 [LTE\_terr\_bcast\_Ph2-Perf]
      1. Moderator summary and conclusions [LTE\_terr\_bcast\_Ph2-Perf]
      2. UE demodulation for time/frequency interleaving
  13. Moderator summary and conclusions (for mixed sub-agendas in Agenda 6)

1. Rel-20 on-going non-spectrum related work/study items

-------------------------------------- Items led by RAN4 ----------------------------------------------------------------------------------

* 1. UE RF enhancements for NR FR1/FR2 and EN-DC, Phase 5 [NR\_UE\_RF\_Ph5]
     1. Moderator summary and conclusions [NR\_UE\_RF\_Ph5-Core]
     2. General aspects and work plan [NR\_UE\_RF\_Ph5-Core]
     3. HPUE coexistence study [NR\_UE\_RF\_Ph5-Core]
     4. HPUE requirements [NR\_UE\_RF\_Ph5-Core]
     5. 6MHz [NR\_UE\_RF\_Ph5-Core]
        1. BS RF [NR\_UE\_RF\_Ph5-Core]
        2. UE RF [NR\_UE\_RF\_Ph5-Core]
  2. NR base station (BS) RF requirement evolution for FR1 and testing phase 2 [NR\_BS\_RF\_req\_evo\_Ph2]
     1. Moderator summary and conclusions [NR\_BS\_RF\_req\_evo\_Ph2-Core]
     2. General aspects and work plan [NR\_BS\_RF\_req\_evo\_Ph2-Core]
     3. Enhancement of co-location requirements [NR\_BS\_RF\_req\_evo\_Ph2-Core]
     4. SBFD BS to SBFD BS adjacent channel coexistence [NR\_BS\_RF\_req\_evo\_Ph2-Core]
  3. Enhancement of UE OTA test method and requirements for NR [NR\_UE\_OTA\_Enh]
     1. Moderator summary and conclusions [NR\_UE\_OTA\_Enh-Core]
     2. General aspects and work plan [NR\_UE\_OTA\_Enh-Core]
     3. Enhanced test methodologies to cover NTN Ka and Ku bands [NR\_UE\_OTA\_Enh-Core]
  4. NR Radio Resource Management (RRM) Phase 6 [NR\_RRM\_Ph6]
     1. Moderator summary and conclusions [NR\_RRM\_Ph6-Core]
     2. General aspects and work plan [NR\_RRM\_Ph6-Core]
     3. (e)RedCap UE enhancement [NR\_RRM\_Ph6-Core]
        1. UE RF requirements [NR\_RRM\_Ph6-Core]
        2. RRM core requirements [NR\_RRM\_Ph6-Core]
  5. NR demodulation performance: Phase 6 [NR\_demod\_Ph6]
     1. Moderator summary and conclusions [NR\_demod\_Ph6-Perf]
     2. General aspects and work plan [NR\_demod\_Ph6-Perf]
     3. Performance requirements for FR1 SU-MIMO with spatial channel model [NR\_demod\_Ph6-Perf]
     4. Performance requirements for 6Rx UE with interference [NR\_demod\_Ph6-Perf]
  6. Enhanced requirements for NR NTN and IoT NTN Phase 2 [NR\_IoT\_NTN\_req\_Ph2-Core]
     1. Moderator summary and conclusions [NR\_IoT\_NTN\_req\_Ph2-Core]
     2. General aspects and work plan [NR\_IoT\_NTN\_req\_Ph2-Core]
     3. IoT-NTN PC1.5 single Tx [NR\_IoT\_NTN\_req\_Ph2-Core]
     4. HD-FDD for Ku band with FR1 numerology [NR\_IoT\_NTN\_req\_Ph2-Core]
        1. UE RF requirements [NR\_IoT\_NTN\_req\_Ph2-Core]
        2. RRM core requirements [NR\_IoT\_NTN\_req\_Ph2-Core]
  7. Enhancement of NR RF and RRM requirements for uncrewed aerial vehicle (UAV) [NR\_UAV\_req]
     1. Moderator summary and conclusions [NR\_UAV\_req-Core]
     2. General aspects and work plan [NR\_UAV\_req-Core]
     3. Coexistence [NR\_UAV\_req-Core]
     4. UE RF requirements [NR\_UAV\_req-Core]
  8. Enhancement of low NR band carrier aggregation via switching [NR\_LBCA\_Sw\_enh]
     1. Moderator summary and conclusions [NR\_LBCA\_Sw\_enh-Core]
     2. General aspects and work plan [NR\_LBCA\_Sw\_enh-Core]
     3. UE RF requirements [NR\_LBCA\_Sw\_enh-Core]
     4. RRM core requirements [NR\_LBCA\_Sw\_enh-Core]

-------------------------------------- Items led by other WGs ----------------------------------------------------------------------------------

* 1. Artificial Intelligence (AI)/Machine Learning (ML) for NR Air Interface [NR\_AIML\_air\_Ph2]
     1. Moderator summary and conclusions [NR\_AIML\_air\_Ph2-Core]
     2. General aspects and workplan [NR\_AIML\_air\_Ph2-Core]
     3. Inter-vendor training collaboration and interoperability for two-sided AI/ML models [NR\_AIML\_air\_Ph2-Core]
     4. RRM core requirement [NR\_AIML\_air\_Ph2-Core]
  2. NR MIMO Phase 6 [NR\_MIMO\_Ph6]
     1. Moderator summary and conclusions [NR\_MIMO\_Ph6-Core]
     2. General aspects and workplan [NR\_MIMO\_Ph6-Core]
     3. RRM core requirement [NR\_MIMO\_Ph6-Core]
  3. Study on enhancements for solutions for Ambient IoT (Internet of Things) in NR outdoor for active devices [FS\_Ambient\_IoT\_Outdoor\_Active]
     1. Moderator summary and conclusions [FS\_Ambient\_IoT\_Outdoor\_Active]
     2. General aspects and workplan [FS\_Ambient\_IoT\_Outdoor\_Active]
     3. Coexistence between Device 2b/Device C and NR/LTE in the above outdoor scenarios [FS\_Ambient\_IoT\_Outdoor\_Active]
  4. Artificial Intelligence (AI)/Machine Learning (ML) for mobility [NR\_AIML\_Mob]
     1. Moderator summary and conclusions [NR\_AIML\_Mob-Core]
     2. General aspects and workplan [NR\_AIML\_Mob-Core]
     3. RRM measurement prediction (UE sided model) [NR\_AIML\_Mob-Core]
     4. Measurement event prediction (UE sided model) [NR\_AIML\_Mob-Core]

1. 6G study item

\*Single contribution per company is allowed per sub-agenda.

* 1. Feature lead summary and conclusions [FS\_6G\_Radio]
  2. General aspects and others [FS\_6G\_Radio]

NOTE: Companies can use this agenda to share their general view on 6G from RAN4 perspective and any aspects which are not covered in AI8.3-8.13.

* 1. System parameters [FS\_6G\_Radio]

NOTE: The scope includes waveform, modulation, CBW, FFT, numerology, #Rx, #Tx, synchronization signal and raster, spectrum utilization, irregular channel bandwidth, device types. The aspects related to the interim milestone should be prioritized

* 1. General RF and UE RF [FS\_6G\_Radio]

NOTE: The scope includes non-spectrum and non-AI UE RF, spectrum aggregation framework, UE RF related coverage and energy efficiency, and other joint UE-BS RF issues

* 1. BS RF and coexistence [FS\_6G\_Radio]

NOTE: The scope includes non-spectrum and non-AI BS RF, MSR, BS RF related coverage and efficiency, and the coexistence study.

* 1. Spectrum [FS\_6G\_Radio]

NOTE: The scope includes band/band combination definition and simplification, the definition of frequency ranges, 6G spectrum related other aspects, including the regulatory status survey.

* 1. RRM [FS\_6G\_Radio]

NOTE: The scope includes RAN4 driven non-AI RRM topics.

* 1. Demodulation [FS\_6G\_Radio]

NOTE: The scope includes RAN4 driven non-AI demod topics.

* 1. AI [FS\_6G\_Radio]

NOTE: The scope includes RAN4 driven use cases only except the testability and OTA related AI.

* 1. Spectrum sharing [FS\_6G\_Radio]

NOTE: The scope includes multi-RAT spectrum sharing for migration, mobility between 5G NR and 6G.

* 1. Sensing [FS\_6G\_Radio]

NOTE: The scope includes RAN4 related PHY functions and procedure, RF, coexistence and testability

* 1. Testability and OTA [FS\_6G\_Radio]

NOTE: The scope includes testability methodology framework and key assumptions, including both AI and non-AI features

* 1. RAN4 operation efficiency [FS\_6G\_Radio]

NOTE: The scope includes spec improvement and modernization in general, new tools for band/band combinations, CR operation improvement and other RAN4 operation related aspects

1. R19 feature list

\* Single contribution per company is allowed in this agenda with the summary of proposed RAN4 related feature list. UE feature list will not be discussed under the agenda of the individual WI.

1. Liaison output to other groups and related issues
   1. Moderator summary and conclusions
   2. R19 related (LS which cannot be submitted to any dedicated agenda under AI 6)
   3. R18 related
   4. R17, R16 and R15 related
2. RAN task and other topics
   1. Framework simplification for co-location/co-existence requirements (RP-243288)
3. New or revised WID/SID
4. Any other business
5. Close of the meeting