**3GPP TSG RAN Meeting #106 (DRAFT) RP-243272**

**Madrid, Spain, 9th – 12th December, 2024**

**Title:** DRAFT LTI Response to LS on Minimum requirements related to technical performance for IMT-2030 radio interface(s) (ITUR\_WP5D\_TEMP\_167

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**To:**  ITU-R WP5D

**Cc:**

**Source:** Nokia

**Contact Person:**

#### Name: Matthew Baker

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**This ITU input will become part of ITU deliverable(s): no**

**Responsible 3GPP group for final output to ITU: 3GPP PCG**

**deadline for the final output to ITU: January 23rd, 2025 (16:00 hours UTC)**

**way to make this document available for ITU (see Art.51 of 3GPP working procedures):**

**[√] a. via OPs as a deliverable from their organizations (for PCG review only)**

**[ ]** **b.** **via Individual Members (for PCG or TSG review) coordinated by ITU sector convener**

**[.] c. via 3GPP LS coordinator (for TSG or WG review)**

**Attachments:** KPI definition

*------------ [remove upper part before submission to ITU in case a. and b. (Art.51)] -----------------*

**For 3GPP review:**

**in:** 3GPP TSG RAN **feedback LS before:** December 12, 2024 **to:** 3GPP SA

**in:** 3GPP TSG SA **feedback LS before:** December 13, 2024 **to:** 3GPP PCG

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**Overall description:**

<additional text to highlight aspects of the review, e.g. some specific actions>

*----------------- [remove 3GPP review part before submission to ITU] -----------------*

**[Alliance for Telecommunications Industry Solutions][[1]](#footnote-2)**

LS response on Minimum requirements related to technical performance for IMT-2030 radio interface(s)

3GPP TSG RAN would like to thank ITU-R WP5D for their LS (5D/TEMP/167) on Minimum Requirements Related to Technical Performance for IMT-2030 Radio Interface(s), and for the opportunity to provide input.

3GPP TSG RAN is glad to inform ITU-R WP5D that their meeting #106 in December 2024 has initiated a Study on 6G Scenarios and Requirements, which is planned to be completed by their meeting #108, 9th – 13th June 2025.

3GPP TSG RAN would hereby like to provide some initial input on aspects related to technical performance requirements and evaluations for IMT-2030.

**Technical Performance Requirements (TPRs)**

3GPP TSG RAN has held initial discussions of possible TPRs and proposes the following for consideration. 3GPP TSG RAN may provide further inputs to WP5D in the future. The list below should be seen as an initial view, and additional candidates will be considered in the future. The definitions of these items will be further discussed, e.g. considering commercial relevance.

1. Peak Data Rate
2. Peak Spectral Efficiency
3. User Experienced Data Rate
4. 5th percentile user Spectral Efficiency
5. Average Spectral Efficiency
6. Sustainability / Energy Efficiency
7. Area Traffic Capacity
8. User Plane Latency
9. Control Plane Latency
10. Connection Density
11. Reliability
12. Mobility
13. Mobility Interruption Time
14. Bandwidth

**Evaluations**

In addition, 3GPP TSG RAN would also like to mention that the TPRs will clearly be closely related to the evaluation scenarios. While the exact evaluation assumptions will of course require more discussion, 3GPP TSG RAN believes it is helpful to identify some of the elementary aspects early, to facilitate work on detailed TPRs and associated values.

The single most important evaluation assumption is carrier frequency. A wide range of frequency bands will be applicable for IMT-2030, among which are bands located around 7 GHz (e.g. frequency ranges 6.425-7.125 and 7.125-8.4 GHz) and bands located around 15 GHz (e.g. frequency range 12.75-13.25GHz and 14.8-15.35 GHz ). Therefore, among others, a 7 GHz carrier frequency and a 15 GHz carrier frequency would be valuable to include in the set of evaluation assumptions for IMT-2030 in addition to the existing set of IMT-2020 frequency bands. For the 7 GHz carrier frequency, 3GPP TSG RAN recommends to use up to four times as many base station antenna elements as used for 4GHz for IMT-2020.

A closely associated evaluation assumption is the bandwidth, for which 3GPP TSG RAN believes that 400 MHz and 200 MHz channel bandwidths should be considered in some evaluation scenarios.

**Study Plan**

Furthermore, 3GPP TSG RAN adopted the study plan as below and will provide further inputs to WP5D accordingly.

* RAN#107 (March 2025)
  + Aim to finalize the candidate set of TPRs
  + Discussion on the associated definitions and values of the identified TPRs
* RAN#108 (June 2025)
  + Aim to finalize 3GPP’s views on the associated definitions and values of the identified TPRs.
* After RAN#108
  + Continued discussion and input on remaining 6G aspects relevant to ITU-R as needed.

3GPP TSG RAN will keep ITU-R WP5D proactively apprised of further developments, including the outcomes of 3GPP TSG RAN’s study, and very much looks forward to future co-operation with ITU-R WP5D on the TPRs and evaluation assumptions for IMT-2030.

1. Submitted on behalf of the 3GPP 5G-SRIT GCS Proponent (The *GCS Proponent* is collectively the 3GPP Organizational Partners (OPs) [http://www.3gpp.org/partners](http://www.3gpp.org/partners))). (Source PCG54\_yy) [↑](#footnote-ref-2)