

3GPP TSG RAN#103
Maastricht, Netherlands
March 18-21, 2024

RP-240500

Views on 3GPP Milestones towards 6G

AI: 15 AOB

Qualcomm

3GPP Timeline for 6G

Qualcomm's views: outline

- Background: timeline decisions from TSG chairs input in Dec '23
- Views on RAN-P SI
 - Two stages:
 - 1st stage focusing on 3GPP input to ITU discussions
 - 2nd stage focusing on further RAN requirements, high-level technical aspects to set the direction of WGs on certain areas, and to devise a split of work in 3GPP/O-RAN in 6G
- Release duration:
 - Default 18 months
 - Issues with too long Releases for 5G-Advanced

RAN#102 TSG Chairs inputs [RP-233985]

Background

- **First TSG-wide 6G workshop** is expected to be in **March 2025**
 - Right before the planned Rel-19 RAN1 functional freeze (June 2025). Detailed information for the workshop is TBD
- Organization of a **3GPP Stage 1 workshop on IMT-2030 use cases** is being discussed separately
 - Refer to SP-231619
- **Studies for 6G** in 3GPP are expected to start from **Release 20**
 - **Requirements studies:**
 - SA1 SID is expected to be approved in **Sept'2024**.
 - RAN plenary SID (e.g., radio requirements and KPIs) is expected to be approved **TBD** (*to be decided at RAN#103*) -> **Next slide**
 - **Technology studies:**
 - SA2 SID is expected to be approved in **June'2025**. Other SA-WG SIDs (e.g., Security, etc.) are expected to be approved TBD
 - RAN-WG SIDs are expected to be approved in **June'2025**
 - CT-WG SIDs are expected to be approved TBD
- **IMT-2030 submission and normative work for 6G** in 3GPP are expected to start from **Release 21**
 - **Release 21** is expected to produce the 1st set of 3GPP **6G technical specifications**, and will be the release for **IMT-2030 submission** before 2030
 - **Release 21** is expected to be delivered with a **single drop** (i.e., a single code freeze)
- Target **TSG#103 (March'2024)** for the remaining detailed 6G timeline decisions

RAN-P SI on 6G

Qualcomm's views

- **Scope:**

- Central point of **coordination towards 3GPP's input to ITU work** on 6G: use cases, requirements
- **Top-down guidance** for certain technical areas:
 - RAN-requirements for 6G radio beyond ITU inputs
 - Interplay between 3GPP and O-RAN in 6G
 - Possibly other high-level technical guidance

- **Start date:**

- Bulk of the work: **March '25** following the 3GPP-wide 6G workshop
- ITU related work towards use cases, requirements before March '25 (1st stage) e.g., **Dec '24**

Rel-20 Duration

Qualcomm's views

- **Rel-20** will serve **two objectives**:
 - 3rd Release of 5G-Advanced
 - SI on 6G
- **eMBB / smartphone** industry has proven to work well on **18-months release** cadence
 - Extending Rel-20 duration beyond that will have a negative effect on the eMBB update cycle
- **SIs** do not need to align with Releases
 - If a SI requires more time, it can be extended beyond its original Release
 - 18-months is any ways broadly accepted to be sufficient time to carry on a study on 6G esp. if some top-down guidance is provided on high-level aspects such as architecture, migration
- **Proposal: Rel-20** duration is **18 months**.

Rel-21 Duration

Qualcomm's views

- **Rel-21** will primarily serve the objective of delivering the 1st 6G specifications
 - 5G-Advanced evolution in Rel-21 expected to be lightweight
- **Specification development** over a timespan of 18 months is typical
 - Longer release durations will artificially increase the scope of the release
 - An **extra Quarter** for **improving the spec quality** towards commercial deployment proven to be **useful**
- **Proposal: Rel-21 duration is 21 months.**

Thank you

Qualcomm

Follow us on: [in](#) [twitter](#) [instagram](#) [youtube](#) [facebook](#)

For more information, visit us at:

qualcomm.com & qualcomm.com/blog

All data and information contained in or disclosed by this document is confidential and proprietary information of Qualcomm Technologies, Inc. and/or its affiliated companies and all rights therein are expressly reserved. By accepting this material the recipient agrees that this material and the information contained therein will not be used, copied, reproduced in whole or in part, nor its contents revealed in any manner to others without the express written permission of Qualcomm Technologies, Inc. Nothing in these materials is an offer to sell any of the components or devices referenced herein.

©2018-2023 Qualcomm Technologies, Inc. and/or its affiliated companies.
All Rights Reserved.

Qualcomm is a trademark or registered trademark of Qualcomm Incorporated. Other products and brand names may be trademarks or registered trademarks of their respective owners.

References in this presentation to “Qualcomm” may mean Qualcomm Incorporated, Qualcomm Technologies, Inc., and/or other subsidiaries or business units within the Qualcomm corporate structure, as applicable. Qualcomm Incorporated includes our licensing business, QTL, and the vast majority of our patent portfolio. Qualcomm Technologies, Inc., a subsidiary of Qualcomm Incorporated, operates, along with its subsidiaries, substantially all of our engineering, research and development functions, and substantially all of our products and services businesses, including our QCT semiconductor business.

Snapdragon and Qualcomm branded products are products of Qualcomm Technologies, Inc. and/or its subsidiaries. Qualcomm patented technologies are licensed by Qualcomm Incorporated.