



**RP-190858**

**Views on release 17**

**TCL Communication**

TCL Communication Technology Holdings Ltd.



# Release 17 completion date

## Given

- the timing of last releases & TUs under-estimation
- the need for the market to adopt initial 5G releases

The recommended Release 17 completion date is: Stage 3 freeze in September 2021 (18 months release)

	TSG RAN
Package approval	December/2019
RAN1 freeze	June 2021
Stage 3 freeze	September 2021
ASN.1 freeze	December 2021
RAN4 performance completion	March 2022

# Release 17 Context and Market assumptions

R17 will start to deploy in 2022/2023 when :

- i) 5G accounts for 10% of mobile connections (GSMA<sup>1</sup>)
  - Large scale sub 6GHz deployments in Asia and EU
  - Sub-6GHz and mmWave deployed in NAR
  - mmWave spectrum available more broadly
- ii) Regulation and technology allow access to more shared and unlicensed spectrum
- iii) IP TV taking a dominant role over broadcast in most advanced markets (Ovum<sup>2</sup>)
- iv) Intelligent Transport Systems deploy with DSRC/ITS-G5 in the US and Europe. China leads C-V2X deployments.
- v) 2.2b cellular IoT devices connected in 2022 (Ericsson<sup>3</sup>)

1 - <https://www.gsma.com/newsroom/press-release/new-gsma-study-5g-to-account-for-15-of-global-mobile-industry-by-2025/>

2 - <https://www.rapidtvnews.com/2019051456048/ovum-traditional-tv-must-change-radically-to-thrive.html#axzz5oeCz8KWX>

3 - <https://www.ericsson.com/en/mobility-report/internet-of-things-forecast>

# Release 17 Market expectations

Market expectations on R17 will be on :

- i) Securing on-going 5G deployments (performance, UE power, FWA, IAB , new spectrum & re-use)
- ii) Accelerating acceptance by vertical markets: automotive, factories, smart-cities... Opening to new stakeholders and business models, ensuring co-existence w/ legacy.
- iii) Generalize unlicensed/shared access procedures in existing and new use cases (eMBB, IoT, UrLLC, V2X)

# Release 17 selected priorities

- New Frequency Ranges >52.6GHz
  - Priority on 66-76 and 81-86 up to 114GHz, both licensed and unlicensed
- WF Design shall take into account:
  - new RF constraints for UEs (PAs eff./linearity)
  - beam management overhead reduction for denser beam grids
  - Implication of larger BW on NR-U for media access

# Release 17 selected priorities

- **eMBB enhancements**
  - Higher spectral efficiency
  - Higher peak TP
  - Optimizations for Fixed Wireless Access (MIMO layers & feedback, MCS, ...)
- **UrLLC enhancements**
  - NR-U support with optimized delay & QoS
  - cell-edge performance
  - Mobility

# Release 17 selected priorities

- Extension of NR-U to new use cases and FRs

Note: may be studied between core eNR-U WI and use-case specific WIs

- FR2 and new FRs support
- Coordinated access: optimized LBT intra NR-U networks, inter-networks COT sharing
- Optimized NR-U access without interferer as hybrid-LBT / synchronized channel access design
- Directional channel access design
- Low latency study: differentiated eMBB/UrLLC access
- R16 leftovers

# Release 17 selected priorities

- Enhancements to NR-V2X for WW adoption
  - Ensure all scenario support on NR-V2X, incl. V2P, V2I
  - Out of coverage co-ordinated scheduling
  - NR-sidelink enhancements: CBG support, feedback
  - Validate co-existence on ITS frequency
  - Potential R16 leftovers: efficient groupcast, etc...

# Release 17 selected priorities

- **NR-IoT profiles**
  - Related to vertical industries requirements
  - Specify NR-IoT profiles in the 1MHz-5MHz range incl. NB-IoT legacy capabilities: CE, PSM, WU sig.
  - Native support of NR-U
- **New vertical use cases: e-IIoT (R2/R3)**
  - Depending on Industry engagement with 3GPP
  - New QoS and security requirements
  - New interfaces/mapping to private networks

Thank you  
谢谢

TCL Communication

