3GPP RELEASE 20

Completing the 5G Advanced evolution and preparing for the next-generation wireless

@QCOMResearch | June 2025

The need for continued wireless evolution

Mobile data consumption continues to grow

Global mobile data usage predicted to grow **4x** by 2030

Key drivers fueling mobile traffic increase:

- Broad 5G use
- Enhancements in streaming video quality
- The rise of XR
- Cloud gaming

AI is bringing new data traffic for mobile

AI poised to transform global wide-area network (WAN) traffic with consumer AI traffic dominating

Global WAN traffic projected to grow **5x** to **9x** from 2023 to 2033, with AI accounting for **33%** of all traffic

Sources: GSMA The Mobile Economy 2024, Nokia Bell Labs Global Network Traffic Report 2024

Services available globally

354+
Operators in 133 countries/territories deployed 5G services

169+
Operators in 74 countries/territories deployed 5G FWA

163+
Operators investing in 5G Standalone (SA), with 73 operator launches

26+
Operators in 15 countries/territories investing in 5G Advanced

633+
Operators in 188 countries/territories investing in 5G

3.2B
5G smartphones shipped globally

Sources: GSA 5G Advanced – May 2025, GSA 5G-Market Snapshot – April 2025. Cumulative 5G smartphone shipments: Global 5G Mobile Smartphone Vendor Market Share at end of 2024, February 2025, TecInsights

Driving 5G forward

Faster 4G→5G transition

Superior performance

5G smartphones

Fixed wireless access

5G Non-Standalone

Network slicing

Extreme capacity (NR-DC)

Lower complexity devices & networks

Ultra-low latency

New services & business models

5G coverage

5G Standalone

AI/ML for devices & networks

R18+ performance enhancements

Satellite communications

5G RedCap

Segment enhancements – XR, drones

Higher order modulation

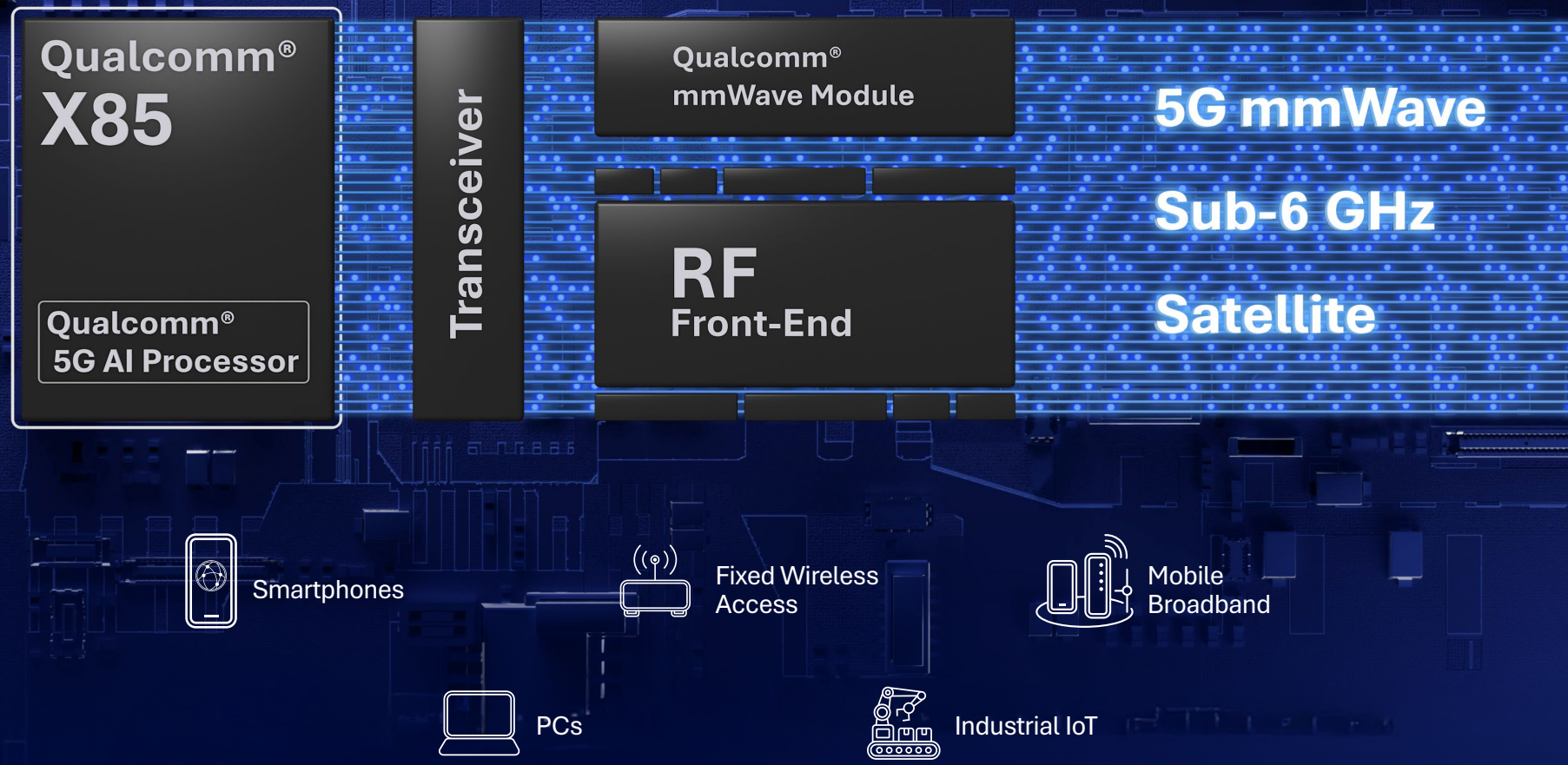
5G Advanced

Qualcomm
X85 5G Modem-RF

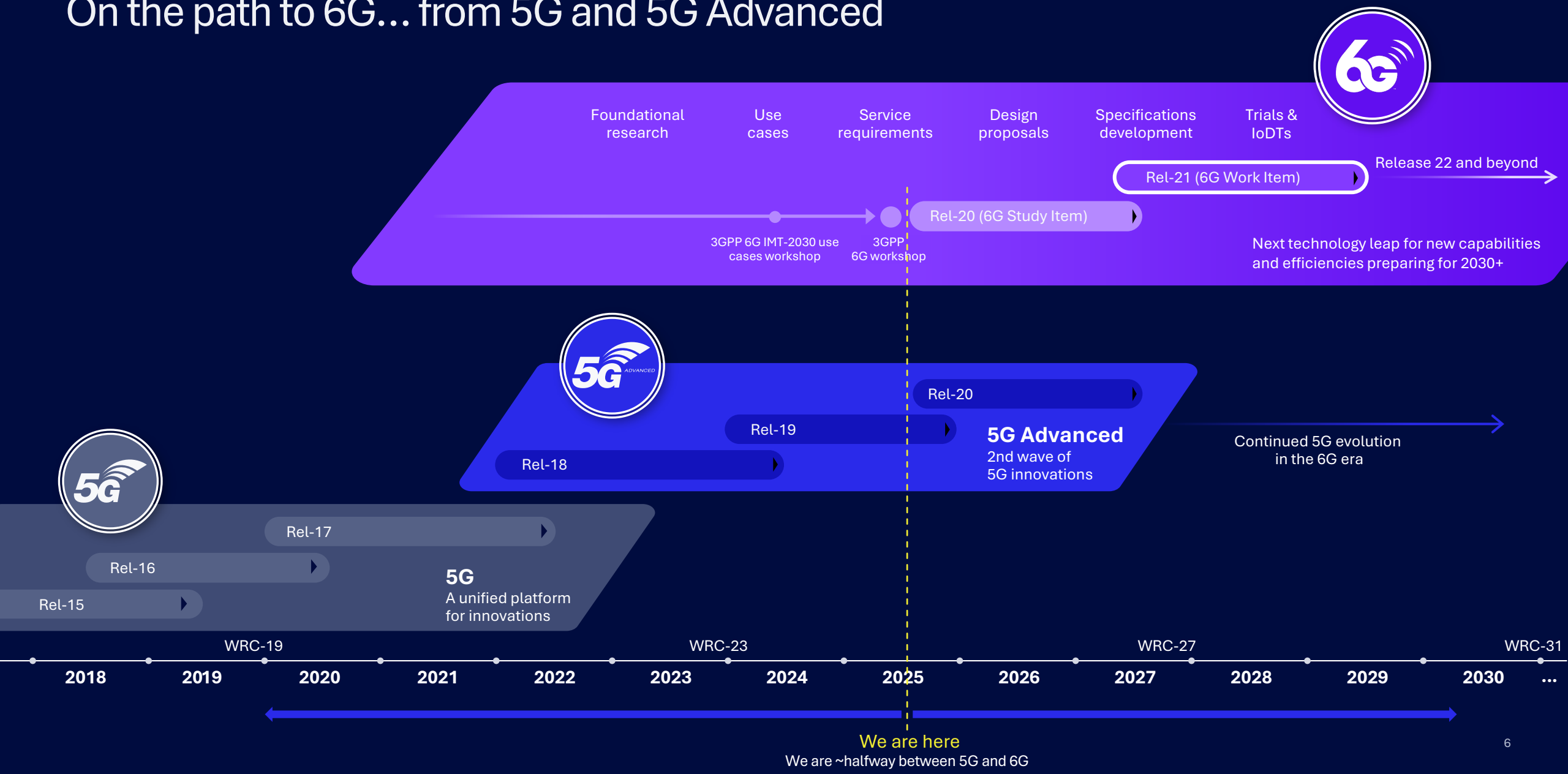
AI-powered 5G Advanced across device segments

12.5+ Gbps
Download peak speed

Driving the ecosystem for global 5G Advanced commercialization

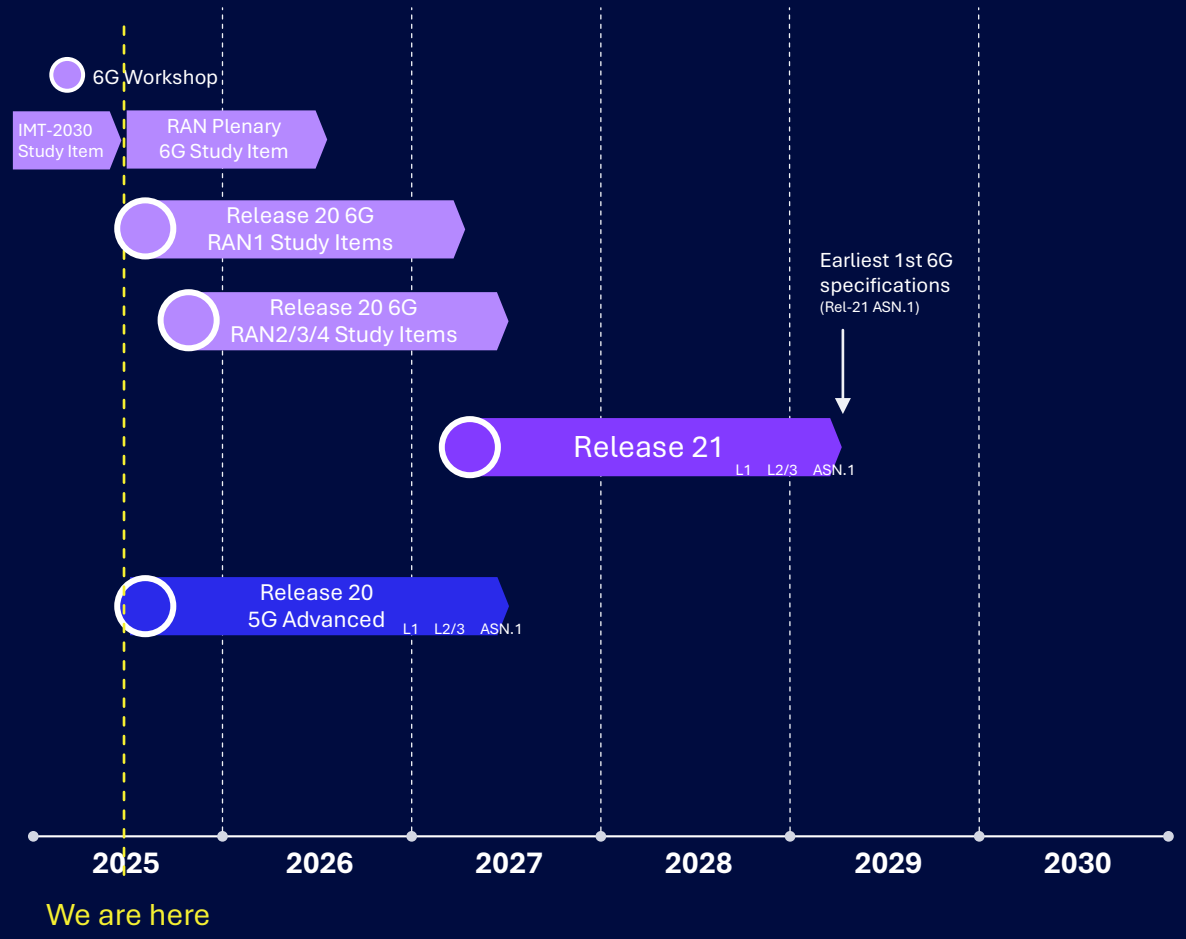


On the path to 6G… from 5G and 5G Advanced



3GPP Release 20 to begin now and expected to complete by June 2027*

A closer look at the Release 20 timeline



* Now = June 2025, ASN.1 milestone expected in June 2027

Laying the foundation for next-generation wireless system

- First release with 6G Study Items
- Focusing on the foundational aspects of the wireless system
- Sufficient time to be allocated to 6G study

Completing the 5G Advanced evolution for its full potential

- Last release with 5G-only projects (6th release of 5G, 3rd release of 5G Advanced)
- Reasonable time to be allocated for 5G Advanced
- No approval of any 5G Advanced Study Items targeting the entire release duration
- Must consider commercial uptake of previous releases and focus on critical needs only

"…an overall principle in 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."

Endorsed by:

Apple, AT&T, BT, CMCC, DT, Ericsson, Huawei, Intel, KT, MediaTek, Nokia, NTT Docomo, Qualcomm, Reliance Jio, Samsung, Spark NZ, T-Mobile USA, Telstra, Verizon, Vodafone, ZTE

Source: RP-250766 (Lean and Streamlined 6G Standards)

6G RAN Plenary Study

Initially approved in December 2024, revised in March and June 2025

Investigate a candidate set of minimum technical performance requirements (TPRs) based on the Recommendation ITU-R M.2160, as well as the associated target values and key assumptions for the identified minimum TPRs

Identify typical and practical deployment scenarios defined by attributes e.g., carrier frequency, inter-site distance, user density, maximum mobility speed, and others

Develop 3GPP requirements for 6G Radio for improvement of existing and new services

Determine the applicability of legacy services to 6G Radio, and define radio requirements

Develop 3GPP requirements for 6G Radio for these practical deployment scenarios to ensure substantial gains in all relevant bands (e.g., overall performance, user experience, TCO reduction) for:

- Ensure appropriate set of functionalities, minimize the adoption of multiple options for the same functionality, avoid excessive configurations, excessive device capabilities and device capabilities reporting
- Energy efficiency and energy saving for network and device
- Enhanced spectral efficiency
- Enhanced overall coverage, focus on cell-edge performance and uplink coverage
- Wider channel BW (at least 200MHz) support for 6G deployments at least > 2 GHz, around 7 GHz
- Re-use of existing 5G mid-band (~3.5GHz) site grid for 6G deployments in at least around 7 GHz and targeting comparable coverage to 5G mid-band
- Target scalable and forward compatible design for diverse device types
- Improved spectrum utilization and operations taking into account diverse spectrum allocations
- Aim at using common 6G Radio design, which meets mobile broadband service requirements as high priority, to also meet vertical needs
- Aim at a harmonized 6G Radio design for TN and NTN, including their integration
- System simplification, including reducing configuration complexity, enabling more efficient Cell/device management, etc.

Define a time plan & steer work as appropriate for the RAN WGs during the 6G WG SI to deliver high-level decisions for:

- Fundamental 6G radio design aspects: waveform, numerology, channel coding, etc.
- Overall high-level aspects of 5G to 6G migration
- RAN architecture and interfaces, including RAN-Core interface
- Coordination of 6G AI/ML framework

Source: RP-251873 & RP-251395 (Study on 6G Scenarios and requirements)

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5G Advanced Projects

Evolving 5G to its fullest potential – new and enhanced system capabilities building on the strong 5G foundation

Our advanced innovations lead the path to 6G

FOUNDATIONAL QUALCOMM INNOVATIONS LEAD ALL 3GPP RELEASES

Enhancing mobile broadband

Enabling new verticals

Boundless extended reality

IoT expansion

Smartphones and laptops

Automotive

Fixed Wireless and enterprise

Industrial IoT

6G

5G Advanced
Release 19/20

5G Advanced
Release 18

IoT Advancement and Expansion

Broadband Evolution

Efficient System Design

Enhanced Uplink

Wireless AI Foundation

Release 16
- Advanced power saving & mobility
- Mission-critical design
- Precise positioning
- Sidelink
- Unlicensed spectrum
- New deployment models

Release 15
- Flexible slot-based framework
- Scalable numerology
- Advanced channel coding
- Massive MIMO
- Mobile mmWave

Release 17
- Reduced capability devices (RedCap)
- Non-terrestrial networks (NTN)
- Device enhancements
- Topology expansion
- mmWave expansion

4G
Foundations

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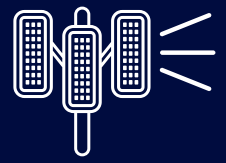
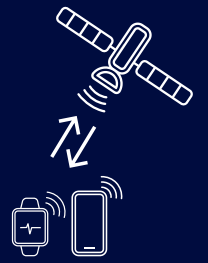
Continued 5G Advanced technology evolution

Further evolving 5G system foundation



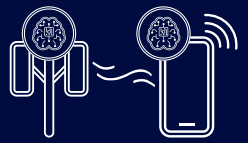
MIMO evolution

Device mobility improvement



Satellite communication enhancement

Coverage extension



AI-enhanced air interface

SON / MDT and other enhancement

Exploring new devices and use cases

Ambient IoT

Integrating sensing and communication

Extended reality (XR) optimization

Advancing 5G MIMO design for extended coverage and capacity

Release 20 scope

UPLINK CAPACITY AND COVERAGE ENHANCEMENTS

Multiple frequency-domain starting positions for SRS[1] repetition symbols within each SRS frequency hop for RB[2]-level partial frequency sounding

Cross-slot SRS between one “U” slot and one adjacent “S” slot within a single SRS resource set

DOWNLINK CSI[3] ACQUISITION (FR1) ENHANCEMENTS

Early SRS / CSI / CSI-RS[4] triggering for devices transitioning from IDLE / INACTIVE to CONNECTED mode, and SCell[5] activation in CONNECTED mode

For 48, 64, and 128 CSI-RS ports aggregated over multiple CSI-RS resources per legacy specification, support CSI-RS density of 1/3, 1/4, 1/6, and 1/8 RE[6] / RB / port while fully reusing legacy mapping

Source: RP-25156 (NR MIMO Phase 6)

1 Sounding Reference Signal; 2 Resource Block; 3 Channel State Information; 4 Reference Signal; 5 Secondary Cell; 6 Resource Element

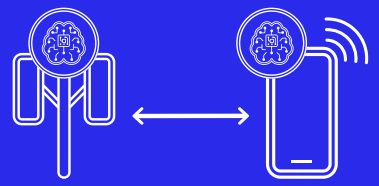
Driving towards seamless device mobility

Release 20 Scope

Continued mobility enhancement

Specify improvements for lower-layer triggered mobility (LTM) Scell[1] activation to further reduce cell switching delays

Specify configuration and procedure changes to improve dynamic L1 measurement and reporting



Wireless AI-enabled mobility

Specify support for RRM[2] measurement prediction, in time & frequency domain, for device and network-side models

Specify support for measurement event prediction for device-side models

Specify signaling & protocol to enable LCM[3] functionality management for device-side (RRM management prediction & measurement event prediction) and network-side models (RRM measurement prediction), based on the Release 19 AI/ML framework

Source: RP-251864 (AI/ML for mobility in NR); RP-251865 (NR mobility enhancements Phase 5)

1 Secondary Cell; 2 Radio Resource Management; 3 Lifecycle Management

Expanding network coverage enhancements

Release 20 Scope

Support multiple PRACH[1] transmissions with different Tx beams for 4-step RACH[2] procedure, with device receiving uplink beam information to assist with beam selection

Specify enhancements to support PUSCH[3] repetition scheduled by DCI[4] 0_0 with C-RNTI[5]

Enhance to improve PUSCH coverage for higher uplink data rate by extending pi/2-BPSK[6] to more MCS[7] entries in MCS tables

Source: RP-251862 (Coverage enhancements for NR Phase 3)

1 Physical Random Access Channel; 2 Random Access Channel; 3 Physical Uplink Shared Channel; 4 Downlink Control Information; 5 Cell Radio Network Temporary Identifier; 6 Binary Phase-Shift Keying; 7 Modulation and Coding Scheme

Continued wireless AI evolution preparing for an AI-native air interface

Release 20 projects on AI for air interface and next-gen RAN

Wireless AI for air interface design

Define framework for two-sided AI/ML models for CSI[1] feedback enhancements

- Include signaling and protocol aspects of LCM[2] enabling functionality and model selection, activation, deactivation, switching, fallback, including ID related signaling
- Support model training, inference, and performance monitoring

Enhance CSI feedback, encompassing two-sided models

- Include spatial/frequency compression without temporal aspects
- Support signaling and mechanism for model pairing procedure including ID and applicability reporting, as well as inference aspects including target CSI type, measurement and report configuration, CQI[3] RI[4] determination, payload determination, quantization configuration codebook, UCI[5] mapping, CSI processing criteria and timeline, priority rules for CSI reports

Support inter-vendor training collaboration for two-sided AI/ML models

- Include fully defined/specified reference model considering scalability study outcome
- Specify standardized encoder model structure plus parameter exchange, leveraging defined/reference model and considering scalability study outcome
- Specify standardized dataset format/content plus dataset exchange

Support standards-based device data collection for device-side model training

Define interoperability and RRM[6] requirement for the encoder

Wireless AI for next-generation RAN

Study AI/ML-based mobility use case based on the principles of AI/ML for next-generation RAN with existing interfaces and architecture, including the following scenarios:

- Multi-hop device trajectory across gNodeBs
- Intra-CU[7] LTM[8]
- Handover enhancements, e.g., inter-CU LTM

Source: RP-251870 (AI/ML for NR air interface enhancements), RP-251868 (Study on AI/(ML for NG-RAN Phase 3)

1 Channel State Information; 2 Lifecycle Management; 3 Channel Quality Indicator; 4 Rank Indicator; 5 Uplink Control Information; 6 Radio Resource Management; 7 Central Unit; 8 Low-layer Triggered Mobility

Further enhancing 5G system design for non-terrestrial networking (NTN)

3GPP Release 20 scope

5G NTN for broadband connectivity (NR-NTN)

Study enhancements to enable GNSS[1] resilient operation, assessing impact on initial access and connected mode procedures for NR-NTN, where GNSS information in device may be temporarily unavailable, available but with GNSS position accuracy degradation, or available but with increased GNSS measurement period for power saving purpose

Aiming to minimize physical layer procedure impact, avoid physical layer channel/signal changes, and prevent backward compatibility issue with legacy NTN devices

Specify enhancements and necessary RRM requirements to support 3G (E-UTRA[2]) to 5G NR NTN handover in RRC[3] connected mode

5G NTN for IoT connectivity (IoT-NTN)

Study to support voice over narrowband (NB) IoT-NTN via GEO[4] satellites

- Down-selecting between control and user plane-based approach
- Supporting semi-persistent scheduling for UL/DL voice
- Supporting necessary modifications to RRC connection setup procedure and for emergency call
- Study and if feasible, specify device transmit power higher than PC1 (e.g., up to 37dBm)

Source: RP-251863 (Study on GNSS resilient NR-NTN operation), RP-251867 (NTN for IoT Phase 4); RP-251878 (E-UTRA TN to NR NTN handover enhancements)

1 Global Navigation Satellite System; 2 Evolved Universal Terrestrial Radio Access; 3 Radio Resource Control; 4 Geostationary

Evolving ambient IoT to support broader use cases

Release 20 projects specify support for:
Device 1 *(~1μW peak power with energy storage, backscattered uplink on a carrier wave provided externally)*
Device 2b[1] (≤100's μW peak power with energy storage, uplink generated internally by the device)
Device C[1] (≤1mW to ≤10mW peak power with energy storage, uplink generated internally by the device)

Work Item to enhance active devices for indoor deployments

1. Specify support for D1[2] deployment scenario with T1[3] topology, with DO-DTT[4], DT[5], DO-A[6] traffic, addressing indoor inventory (rUC1), indoor sensor (rUC2), and indoor command (rUC4) use cases, assuming readers are deployed on the same site as existing 5G NR base stations in FR1 FDD spectrum
2. Specify support for D2[7] deployment scenario with T2[8] topology, for both passive (Device 1) and active (Device 2b/C) devices, addressing rUC1 and rUC4 use cases, in FR1 FDD spectrum
3. Specify active device (un)availability via Direction 2, where the reader can provide information to a device based on which the device may become available/unavailable

Study Item to support active devices for outdoor deployments

1. Specify necessary and feasible changes to support D4[9] deployment scenarios with T1 topology, with DO-DTT, DT, DO-A traffic, addressing outdoor inventory (rUC5) outdoor sensor (rUC6) and outdoor command (rUC8) use cases, assuming readers are deployed on the same site as existing outdoor 5G NR base stations in FR1 FDD spectrum, with study assuming:
   - Maximum distance between reader & device: 50-500m
   - Maximum Tx power: -20dBm to -10 dBm (Device 2b), -3dBm to 5dBm (Device C)
2. Decide whether to support additional features, such as positioning and proximity detection

Source: RP-251884 (Enhancements for solutions for Ambient IoT in NR outdoor for active devices), RP-251885 (Solutions for Ambient IoT in NR Phase 2)

1: New Release 20 device classes with better Sampling Frequency Offset (SFO) than any Release 19 Device 1; 2 Deployment scenario 1 with indoor IoT device and base station; 3 Topology 1 with base station and IoT device communication; 4 Device-originated device-terminated-triggered traffic, where the Ambient IoT device initiates communication in response to a previous inbound message or trigger from the network; 5 Device-terminated traffic; 6 Device-originated-autonomous traffic; 7 Deployment scenario 2 with indoor IoT device and outdoor base station; 8 Topology 2 with base station IoT device communicating via an intermediate node; 9 Deployment scenario 4 with outdoor IoT device and base station

Enhancing 5G system for better extended reality (XR) user experience

Release 20 scope

Study the transmission characteristics of mobile AI traffic and specify potential enhancements (e.g., mobile AI awareness, PDU[1] set for mobile AI data) for uplink traffic, considering transmission characteristics of uplink mobile AI traffic

Specify coordination between gNodeB and core network to enable / disable N3 interface delay measurement from core network to gNodeB, for better latency guarantee

Source: RP-251866 (XR for NR Phase 4)

1 Packet Data Unit

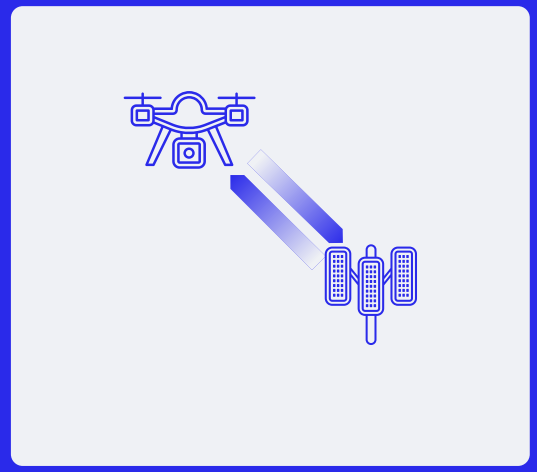
Studying integrated sensing and communication (ISAC) for drone use cases

Release 20 scope

Evaluate the performance of monostatic gNodeB sensing for drones, utilizing 5G NR waveform and reference signal, and to identify metrics, measurements, and relevant measurement quantization, as well as deployment scenario and assumptions for channel model calibration

Study procedures and signaling between radio access network (RAN) and core network (CN)

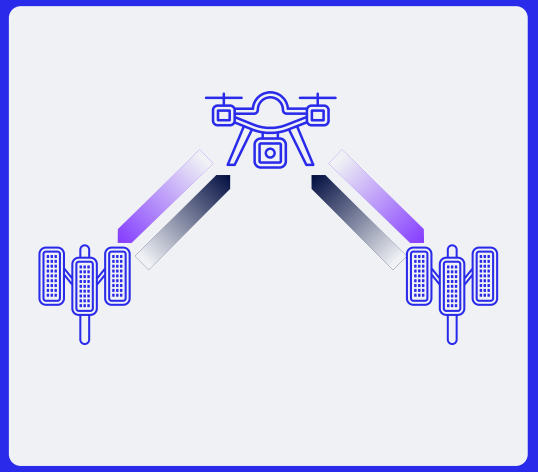
Study network architecture of monostatic gNodeB sensing, including applicability for bistatic mode using this network architecture without additional impact



Monostatic

NETWORK-ONLY

Sensing transmitter and receiver are co-located in the same entity



Bistatic

NETWORK-ONLY

Sensing transmitter and receiver are located in different entities

Source: RP-251861 (Study on Integrated Sensing And Communication (ISAC) for NR)

Other system enhancements to 5G Advanced

Data collection for SON[1] / MDT[2]

Enhance MRO[3] for Release 19 mobility mechanisms, including inter-CU[4] LTM[5], and intra-CU conditional LTM, specifying inter-node information exchange, including possible enhancements on the existing interfaces and necessary device reporting to enhance the mobility parameter tuning

5G drone communications

Specify drone-specific IDLE / INACTIVE mode mobility, including mechanism prioritizing frequencies/cells for cell reselection and altitude-based SSB[6] for device measurements

Specify height-based conditional handover trigger events for drone services

Source: RP-251869 (Data collection for SON/MDT in NR Phase 5), RP-251828 (Moderator's summary for RAN2 led Other REL-20 topics)

1 Self-organizing Network; 2 Minimization of Drive Testing; 3 Mobility Robustness Optimization; 4 Central Unit; 5 Low-layer Triggered Mobility; 6 Synchronization Signal Block

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6G Projects

First set of Study Items for 6G, establishing the wireless platform foundation and potential “Day-1” features

Next-generation wireless and intelligent computing are the backbone of society

Fueling economic growth, enabling new opportunities, and bridging the digital divide

6G Radio (6GR) Study Objectives

1. Develop a non-backward compatible radio access technology to meet a broad range of use cases

2. Strive at dimensioning an appropriate set of functionalities, minimizing the adoption of multiple options for the same functionality, focusing on practical user experience

3. Identify principles to ensure extensibility and deliver superior performance

4. Address frequency ranges up to 52.6GHz, including FR1 (up to 7.125GHz), FR2-1 (24.25–52.6GHz), and FR3 (7.125–25.25 GHz)

Source: RP-251881 (Study on 6G Radio)

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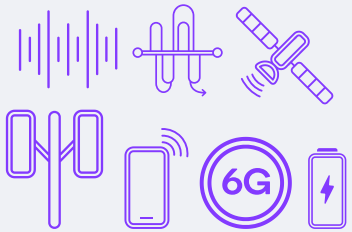
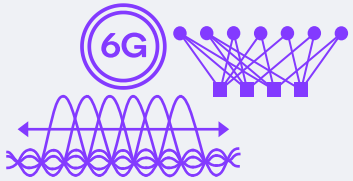
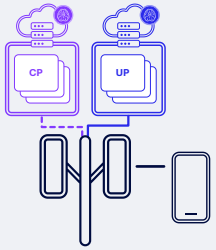
Study Item scope for 6G Radio



Technology Framework

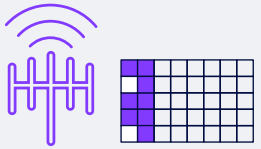


Physical Layer Structure



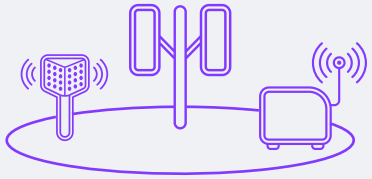
Radio Interface Protocol Architecture and Procedures

Mobility



Core and Performance Requirements

Base Station and Device RF



RAN Architecture, Interface Protocols and Procedures

5G/6G Migration, Interworking, Mobility

Wireless AI

RF Sensing

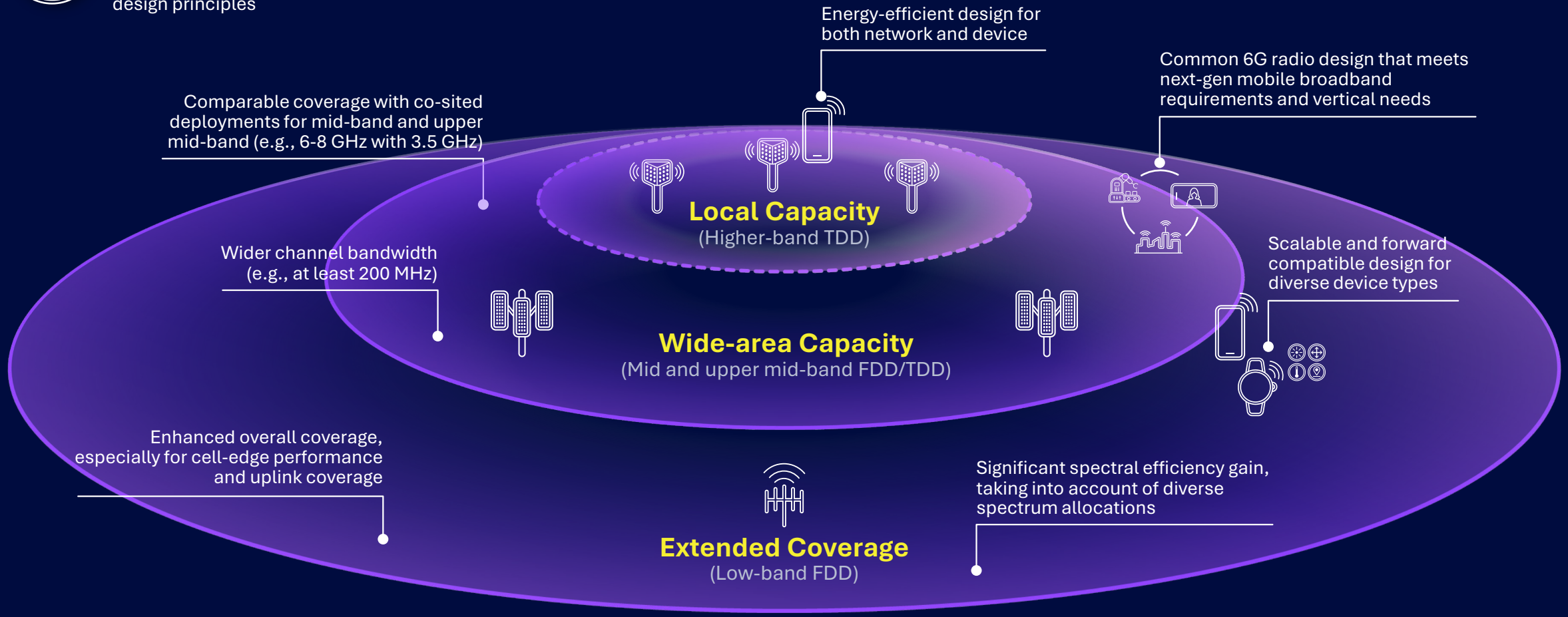
Source: RP-251881 (Study on 6G Radio)

Establishing a unified technology framework leveraging past generation learnings

6GR standalone (SA) architecture supporting existing & new services, meeting diverse usage scenarios, requirements, deployments and design principles

Simplified system design with reduced configurations, device capabilities and more efficiency management

Satellite Coverage
Harmonized 6G radio design that integrates terrestrial and non-terrestrial (NTN) networks



Source: RP-251881 (Study on 6G Radio)

A new 6GR foundational physical layer structure

Enhanced 6GR OFDM[1]-based waveforms and modulations, building on 5G NR design

Unified frame structure with 5G NR compatibility to allow for efficient 5G-6G multi-RAT Spectrum Sharing (MRSS)

Evolved channel coding design based on LDPC[2] and Polar code to satisfy new requirements with acceptable trade-offs

Numerology to support wider channel bandwidth

Physical layer control, data scheduling and HARQ[3] operation

MIMO operation including support for Giga-MIMO

Duplexing improvements e.g., SBFD[4]

Efficiency initial access design (e.g., synchronization signal and raster, broadcast signals / channel, physical random-access channel, system information and paging)

6GR spectrum utilization and aggregation

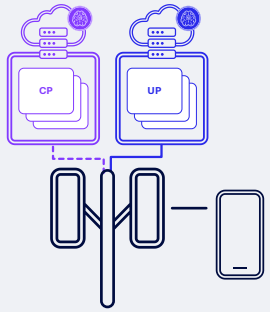
Other physical layer signals, channels and procedures

Also evaluating performance of at least energy efficiency, spectrum efficiency, and coverage vs. 5G NR

Source: RP-251881 (Study on 6G Radio)

1 Orthogonal Frequency-Division Multiplexing; 2 Low-Density Parity-Check; 3 Hybrid ARQ; 4 Subband Full Duplex

Studying to define a new 6G air interface design



Radio interface protocol architecture and procedures

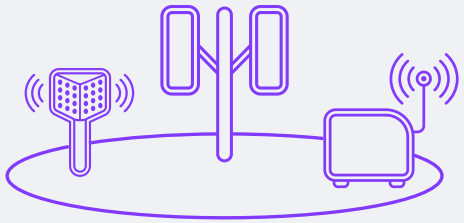
User plane architecture and protocol design

Control Plane architecture, e.g., RRC[1] states, and protocol design

Access stratum security aspects

Signaling framework for device capabilities, aiming at improvements and simplification vs. 5G NR

Data transfer design to support various type of data



RAN[2] architecture, interface protocols and procedures

Overall RAN architecture aspects

RAN-CN[3] functional split, interface, protocol stack and procedures

RAN internal functional split, interfaces, protocol stacks and procedures

Mobility management

Mobility for all RRC[4] states, including related RRM[5]

Source: RP-251881 (New SID: Study on 6G Radio)

1 Radio Resource Control; 2 Radio Access Network; 3 Core Network; 4 Radio Resource Control; 5 Radio Resource Management

Preparing for a new end-to-end 6G RF design

General scope

Study intra-3GPP co-existence

Study RF-related system parameters and requirements, including, channel raster, synchronization raster, etc.

Base station RF requirements

Improve and/or simplify vs. 5G NR base station RF requirements and testing framework, including multi-standard radio (MSR) and active antenna system (AAS) operation

Improve base station core, conformance specifications, including structure and drafting principles

Device RF requirements

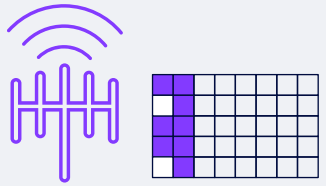
Improve and/or simplify vs. 5G NR device RF requirement framework

Improve 6G device RF specifications, including structure, drafting principles, and database for band combinations

Study device RF capabilities considering different device types and implementations

Source: RP-251881 (Study on 6G Radio)

6G core and performance requirements



Radio resource management (RRM)

RRM requirement and procedure aspects aiming at improvements and/or simplifications vs. 5G NR

Study how to improve 6G requirement specification, including structure and drafting principles

Demodulations and performance

Demodulation and performance requirement framework and key assumptions, aiming at improvements and/or simplification vs. 5G NR for device and base station

Study how to improve 6G demodulation and performance specifications, including structure and drafting principles for device and base station

Testability

Study methodology framework and key assumptions, aiming to ensure that requirements can be properly tested considering the applicability and feasibility of conductive and/or over-the-air testing with reasonable complexity

Other aspects

Handling irregular channel bandwidths including the definition

Definition of frequency ranges

Source: RP-251881 (Study on 6G Radio)

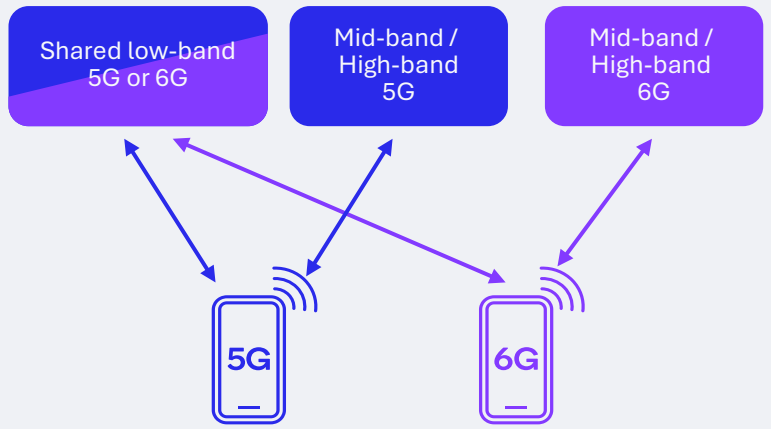
5G NR to 6GR migration, interworking, and mobility

Scope of study

5G to 6G multi-RAT spectrum sharing (MRSS) for migration

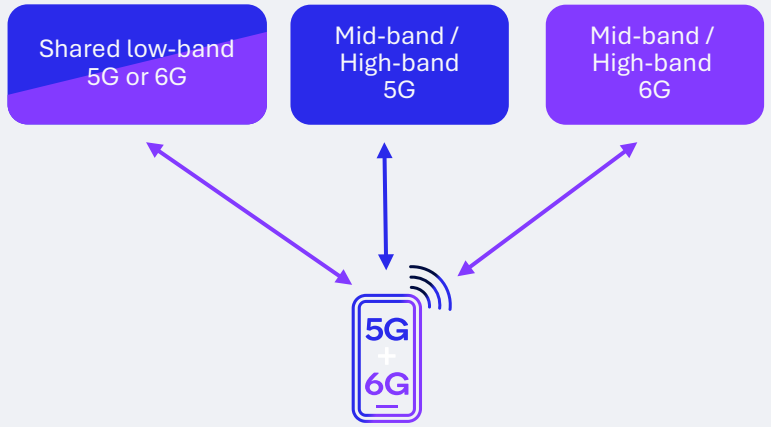
Study if any additional aggregation mechanism is necessary

Mobility between 5G NR and 6GR



5G/6G Multi-RAT spectrum sharing (MRSS)

6G carriers can be deployed in 5G frequencies using CP-OFDMA-compatible waveforms



Dual-Connectivity

Device operates concurrently on 5G and 6G with aggregation supported in the RAN

OR

Dual-Stack

Device operates concurrently on 5G and 6G with aggregation supported in the Core

Source: RP-251881 (Study on 6G Radio)

Building on the 5G Advanced wireless AI foundation for 6G

Study focus 1

Identify existing and new interesting use cases with compelling trade-offs (e.g., performance & complexity), and ensure coordinated discussions across working groups for related design areas (e.g., MIMO, mobility)

Study focus 2

Design an extensible AI/ML framework for identified use cases, including lifecycle management (LCM) procedures, as well as data collection and data management

6GR and RAN design shall ensure that the 6G system can also operate without AI/ML

Source: RP-251881 (Study on 6G Radio)

Enabling integrated sensing and communication (ISAC) in 6GR

Study physical layer (PHY) functions and procedures for sensing technology (e.g., waveforms, reference signals, measurement feedback)

Evaluate sensing performance and if necessary, extend channel modelling, for the selected use cases

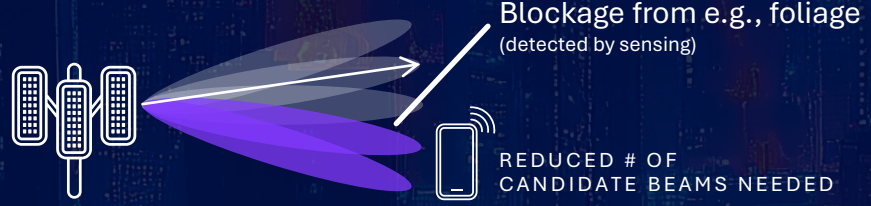
Study aspects of integration with communication services

Evaluate higher layer procedures, and protocols

Study RF, coexistence, and testability

SENSING-ASSISTED COMMUNICATIONS

Sensing can tangibly improve wireless communications performance (e.g., latency, power consumption)



COMMUNICATIONS-ASSISTED SENSING

Wireless communications can efficiently scale sensor footprint and enable new use cases

Source: RP-251881 (Study on 6G Radio)

Study on 6G system architecture

Working towards a lean and streamlined standards for 6G

Overall 6G access architecture

Study the support for control signaling, focusing on identifying new and a minimal set of NAS[1] functionalities without affecting existing ones, as well as developing generic mechanisms for device to core network interaction to support operator services

Study the support and enhancement of different non-3GPP access (e.g., Wi-Fi, wireline) in 6G, and multi-access data connections between 3GPP and non-3GPP access

Study the support and enhancement of essential/regulatory services (i.e., voice, messaging, location services, emergency services, MPS[2], mission-critical services, PWS[3]) in 6G

Identify other 5G features that will be supported in 6G

Migration and interworking

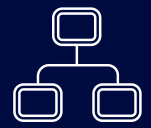
Study the support for 6G migration, 5G interworking, interworking between 6G and 4G/5G NTN/satellite access that use EPS[4]/5GS, and whether to support interworking with 4G EPS

Wireless AI

Study how to support and enable use of AI in 6G (e.g., AI agent, framework)

Integrated sensing

Study the integration of sensing and communication over 3GPP access, considering the sensing modes to be supported and other sources of sensing data



Data framework

Study all aspects related to efficient and scalable data handling (e.g., data collection, distribution, processing, storage, data access and data exposure), with consideration of access control/user consent and privacy where relevant

Distributed compute

Study aspects on support of computing for device, core network and application server in 6G (e.g., coordination between device, core network and application server, exposure of computing service in the core network, etc.)

Non-terrestrial networking (NTN)

Study how to support 6G RAT for NTN, based on RAN decision, and support service continuity aspects

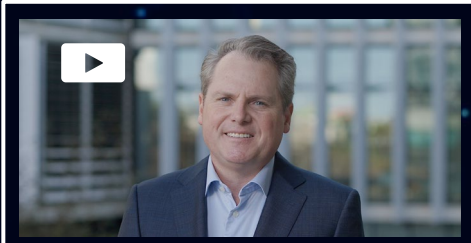
Internet of Things (IoT)

Study whether and how to support cellular IoT enablers in 6G, based on RAN decision for 6G IoT

Source: S2-2506090 - New Study on Architecture for 6G System

1 Non-access stratum; 2 Multimedia Priority Service; 3 Public Warning System; 4 Evolved Packet Core

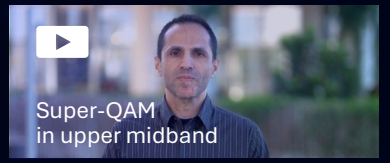
Leading wireless technology innovation

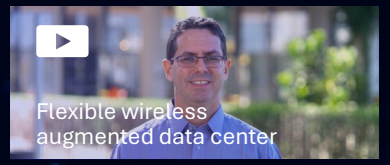


Qualcomm
Wireless Research Directions & Priorities

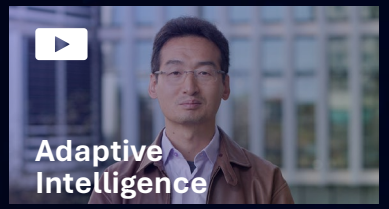
6G 5G Advanced Wi-Fi Bluetooth UWB

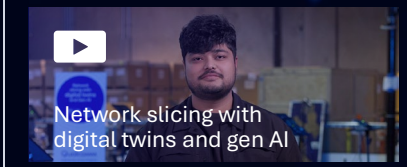
FOUNDATIONAL EVOLUTION

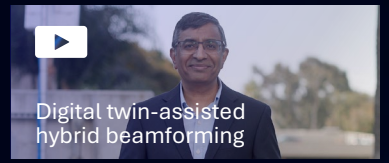


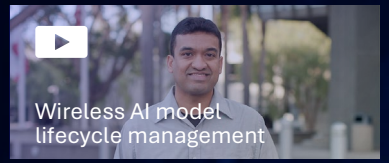


OPERATIONAL OPTIMIZATION

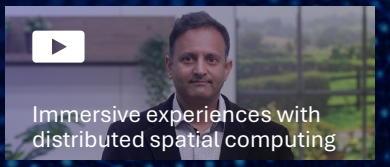


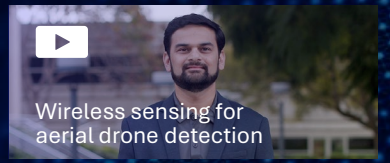






EMERGING SERVICES





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