



# **G-Series Technical Report (GSTR-TN5G) “Transport network support of IMT-2020/5G”**

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# Motivation and history

- **Motivation/Background**
  - Many contributions and liaisons received regarding transport for IMT-2020/5G (2016 and onward)
  - G.Sup56 (02/2016) - OTN transport of CPRI signals
  - 3GPP release 15 documents being published in 2017
  - NGMN Alliance – 5G white paper (2015) and architecture framework (2017)
  - ONF – TR-526 on SDN for 5G slicing
- **Feb 2018 GSTR-TN5G “Transport network support of IMT-2020/5G”**
  - Initiated at June 2017 SG15 plenary
  - Provides a reference model for the IMT 2020/5G transport network
  - Captures requirements on transport networks in order to support IMT 2020/5G networks
  - Network slicing and management and control
  - Feedback from 3GPP
  - Individual Questions to work independently on work to support IMT-2020/5G
- **Oct 2028 GSTR-TN5G version 2**
  - Updates to management and control, and slicing

# Contents

- **3GPP 5G architecture**

- Fronthaul link capacity requirements

Number of Antenna Ports	Radio Channel Bandwidth			
	10 MHz	20 MHz	200 MHz	1GHz
2	1 Gbps	2 Gbps	20 Gbps	100 Gbps
8	4 Gbps	8 Gbps	80 Gbps	400 Gbps
64	32 Gbps	64 Gbps	640 Gbps	3,200 Gbps
256	128 Gbps	256 Gbps	2,560 Gbps	12,800 Gbps

- Functional-split architecture options that affect transport requirements for C-RAN
- Synchronization requirements for time and frequency
- **Interfaces to the transport network from 5G/IMT2020 networks**
  - Capacity, latency and reach for F1, Fx, Xn, NG, Fronthaul, Midhaul, Backhaul
- **Management and Control**
  - Requirement for network slicing in the transport network for 3GPP services (5G slicing)
  - Slices are supported by virtual networks

# GSTR-TN5G and related Recommendations Timeline

