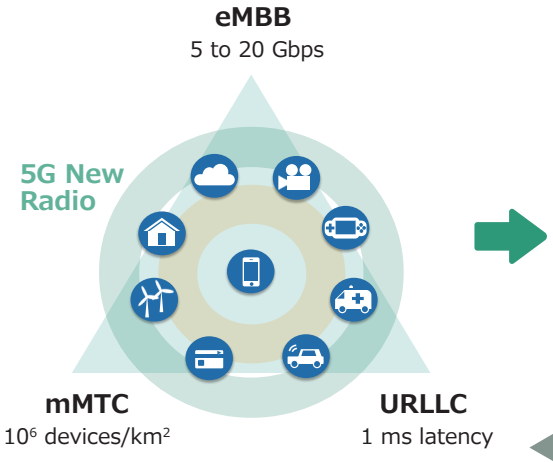
Anritsu envision:ensure

Configuring Efficient IP Throughput Test Environment for 5G Devices

SmartStudio NR	MX800070A
Radio Communication Test Station	MT8000A
Signalling Tester	MD8475B

Importance of IP Throughput Test

The future of 5G is not limited to today's applications, such as entertainment and navigation, but will instead offer new uses, including remote operation of construction equipment, and provision of services leveraging virtual/augmented reality (VR/AR), based on the three 5G key enhancements: eMBB (enhanced Mobile Broadband), mMTC (massive Machine Type Communications), and URLLC (Ultra Reliable Low Latency Communications). 5G Phase 1 (Rel 15) aim to enhance eMBB and provide implementation of faster IP throughput at every network layer compared to 4G.



Function enhancement by 5G

Diversified services using 5G

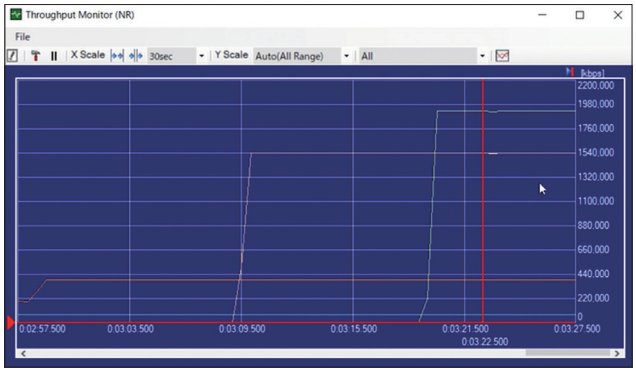
Because of this situation, sending/receiving data volumes will be huger and evaluation of mobile-terminal stability factors, such as battery consumption, heat generation, etc., will be more important. Moreover, evaluation of maximum throughput is a key index for confirming mobile-terminal specifications. However, despite the high demand for IP throughput evaluation, measurement methods suffer from the following problems.

- Incomplete 5G network infrastructure
- Dynamic changes in throughput with actual network server loads and radio environment
- Increased IP throughput requires more MIMO/CA/MCS network parameter settings and higher workloads

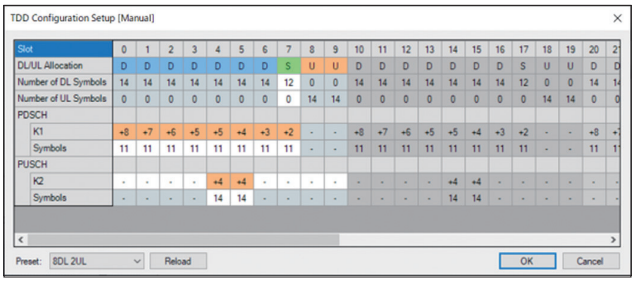
SmartStudio NR (SSNR) solves these problems to assure efficient mobile-terminal evaluations.

Flexible Parameter Settings and High-Reproducibility Test Environment

SmartStudio NR provides IP throughput test environment with flexible parameter settings and high measurement reproducibility. Throughput-related parameter settings and results (for confirming terminal performance) as well as operator-specific settings (for confirming throughput matches operator's settings) are all easy to make.



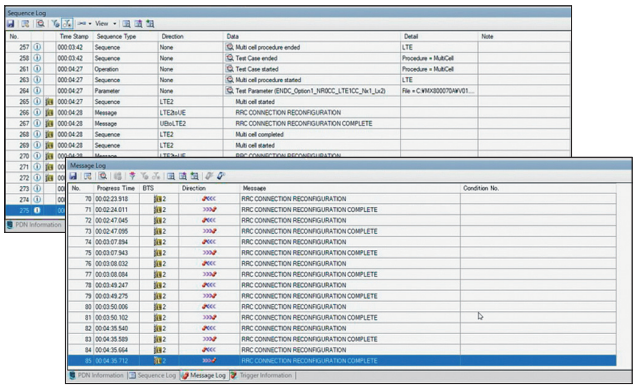
Real-time confirmation of actual output value at Throughput monitor



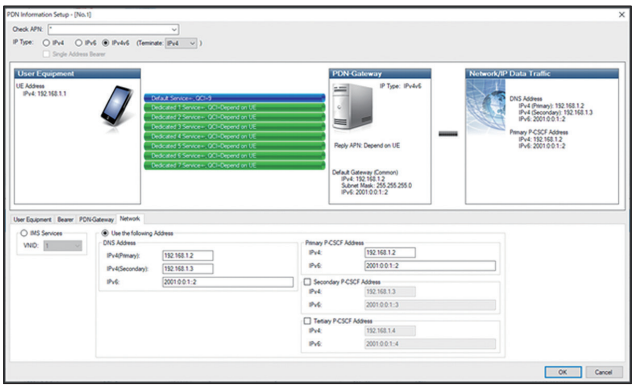
Easy-to-use GUI for setting operator-specific settings such as TDD configuration

Troubleshooting Functions and Applied Testing

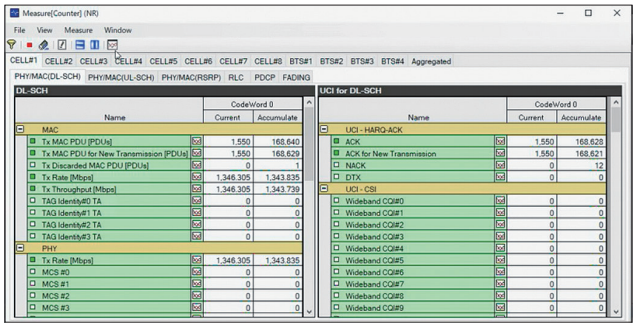
SmartStudio NR provides applied tests such as connection to an external server and the function which helps troubleshoot problems. User can investigate the cause by log analysis when Throughput is not output correctly or when the state transition does not go well. It is also possible to carry out various tests such as verification of actual applications using an external server or internet connection.



It is possible to investigate the cause of some filure by Message/ Sequence Log.



Easy external server or internet connection setup



ACKs/NACKs is displayed to monitor the communication environment status.