

# Testing O-RAN Equipment

Network Master Pro MT1000A

Signal Analyzer MS2850A

Vector Signal Generator MG3710E

Traditionally, the radio access network (RAN) has been built in compliance with 3GPP standards and mobile network operators have introduced RAN equipment sets with the various network elements from specific vendors. Network equipment vendors have long optimized performance by combining and tuning the multiple elements. As a result, mobile operators have had no opportunity to configure and procure RAN equipment from multi-vendors. In order to meet the challenge of providing wider coverage and more services at lower cost using 5G, mobile operators and their eco-system are organizing open specifications supplementing the 3GPP standards.

The O-RAN ALLIANCE is one global organization with more than 250 members and contributors (at May 2021) and Anritsu is one contributor. The O-RAN ALLIANCE mission is “to re-shape the RAN industry towards more intelligent, open, virtualized, and fully interoperable mobile networks” by publishing standards and specified authorized interfaces and functions to support a more competitive and vibrant RAN supplier ecosystem.

Anritsu provides the following test solutions for O-RAN fronthaul (O-FH) equipment configured as an O-DU (O-RAN Distributed Unit) and O-RU (O-RAN Radio Unit) with a lower functional “Split 7-2x”.

- Network Master Pro MT1000A
- Signal Analyzer MS2850A
- Vector Signal Generator MG3710E

The Network Master Pro MT1000A is an all-in-one transport network tester for speeds from 1.5 Mbps to 100 Gbps using various technologies and supports PTP/SyncE tests in the Synchronization plane (S-plane). The Signal Analyzer MS2850A covering 9 kHz to 32 or 44.5 GHz is a high-performance RF signal analyzer supporting an analysis bandwidth up to 1 GHz with excellent flatness and spurious-free dynamic range. The Vector Signal Generator MG3710E is a standard signal source with dual-RF port and dual arbitrary waveform memory options. The MS2850A and MG3710E support the fundamental RF parametric tests for O-RU specified in 3GPP TS38.141 Chapters 6 and 7.



Network Master Pro MT1000A

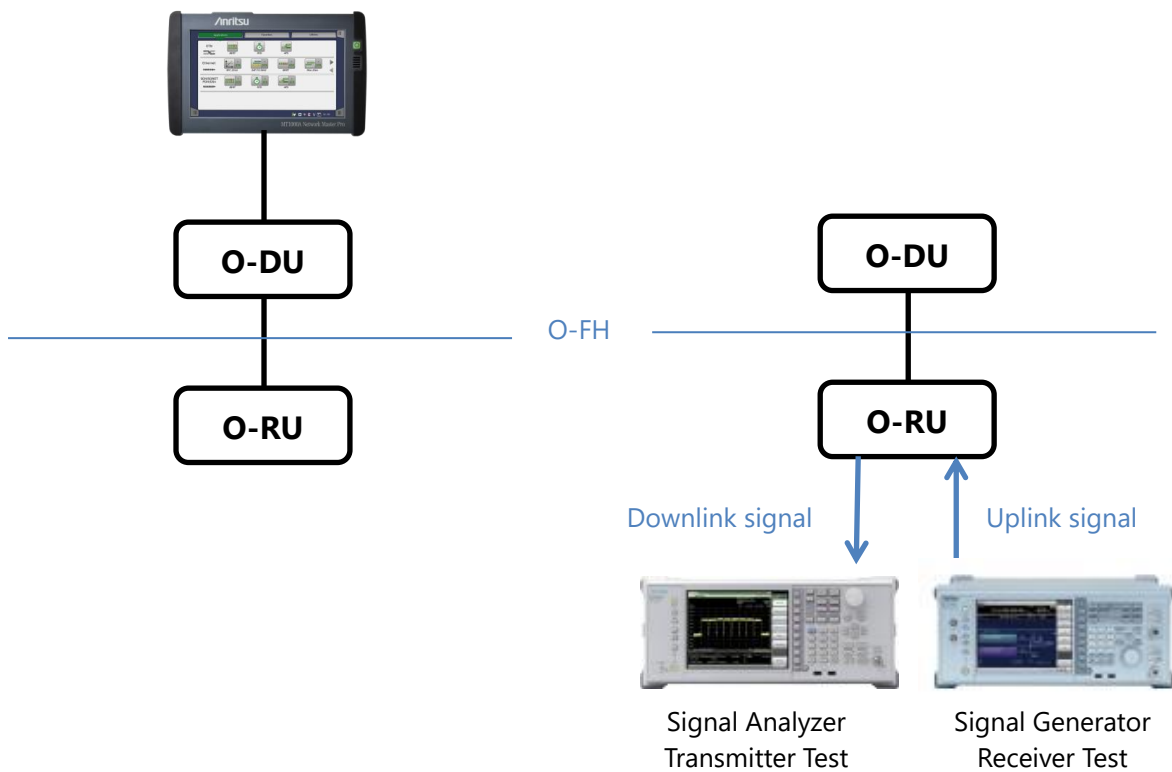


Signal Analyzer MS2850A



Vector Signal Generator MG3710E

IEEE1588v2(PTP)/SyncE Master/Slave Emulation  
S-plane Test



Summary of O-RAN Fronthaul Test

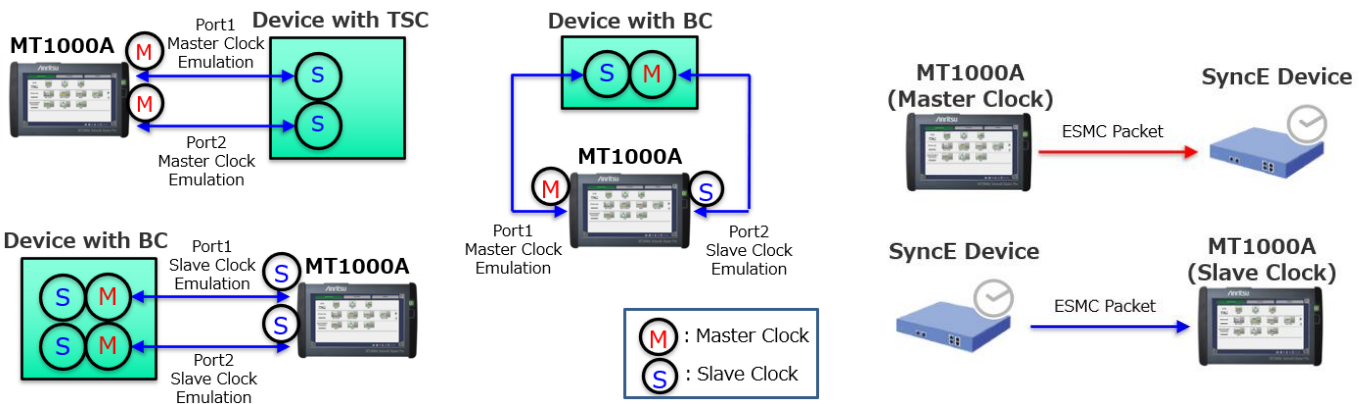
**Test Cases**

IEEE1588v2 (PTP) Master/Slave Emulation

The MT1000A can emulate IEEE 1588v2 Master and Slave clocks independently at each port with a dual-port measurement interface, and supports the G8275.1 and G.8275.2 profiles.

SyncE

The MT1000A can evaluate SyncE with the following functions: Ethernet Sync Message Channel (ESMC) Packet Sending, SSM/QL Monitoring, SSM/QL Statistics Monitoring, and Clock Frequency Deviation and Wander Measurement.



For more information about these products, visit <https://www.anritsu.com>