

For Wi-Fi 6E and Wi-Fi 7 RF and Network Evaluation

Wireless Connectivity Test Set MT8862A
Network Master Pro MT1000A



MT8862A



MT1000A

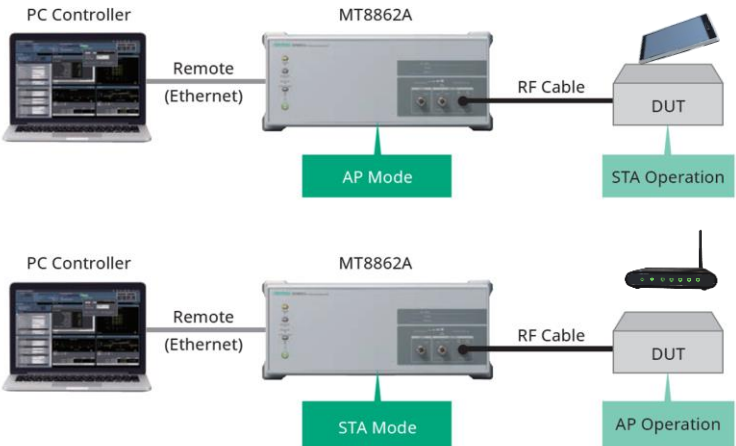
Wi-Fi6E, Wi-Fi7 technical evolution and the importance of quality evaluation

Wi-Fi 6E supports the 6 GHz band and 1kQAM, and Wi-Fi 7 has adopted advanced technologies such as 4kQAM, 320 MHz bandwidth, and MLO. As a result, the maximum throughput has significantly increased. To ensure that the actual product performs according to the specification, it is important to evaluate both the hardware quality, primarily the RF signal, and the software quality, which includes throughput performance.

Generation	Wi-Fi 4	Wi-Fi 5	Wi-Fi 6/6E	Wi-Fi 7
IEEE802.11	11n	11ac	11ax	11be
Clause Name	HT (High Throughput)	VHT (Very High Throughput)	HE (High Efficiency)	EHT (Extreme High Throughput)
Release	2009	2013	2021	2024
Freq.	2.4 GHz	✓	✓	✓
	5 GHz	✓	✓	✓
	6 GHz		✓	✓
Max bandwidth [MHz]	40	160	160	320
Max modulation scheme	64QAM	256QAM	1024QAM	4096QAM
Max throughput [bps]	540M	6.9G	9.6G	Over 30G

RF characteristics evaluation of transmitter and receiver

The MT8862A is an RF tester designed to measure TRx characteristics of WLAN equipment. It features a “Network Mode” function that enables evaluation of the wireless RF characteristics of WLAN devices as a finished product running under actual operating conditions. Supporting IEEE802.11a/b/g/n/ac/ax/be standards, the MT8862A can perform measurements of the latest technology that use 4kQAM and 320 MHz bandwidth measurements. It facilitates easy evaluation of the RF transmitter and receiver characteristics of access points (AP) and client stations (STA).



Transmitter evaluation

- Transmit power
- EVM (Modulation accuracy)
- Spectrum Mask

etc.

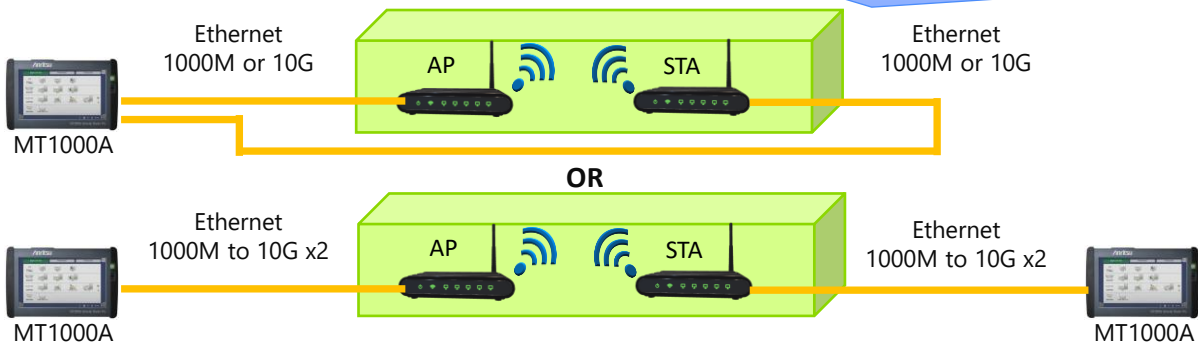
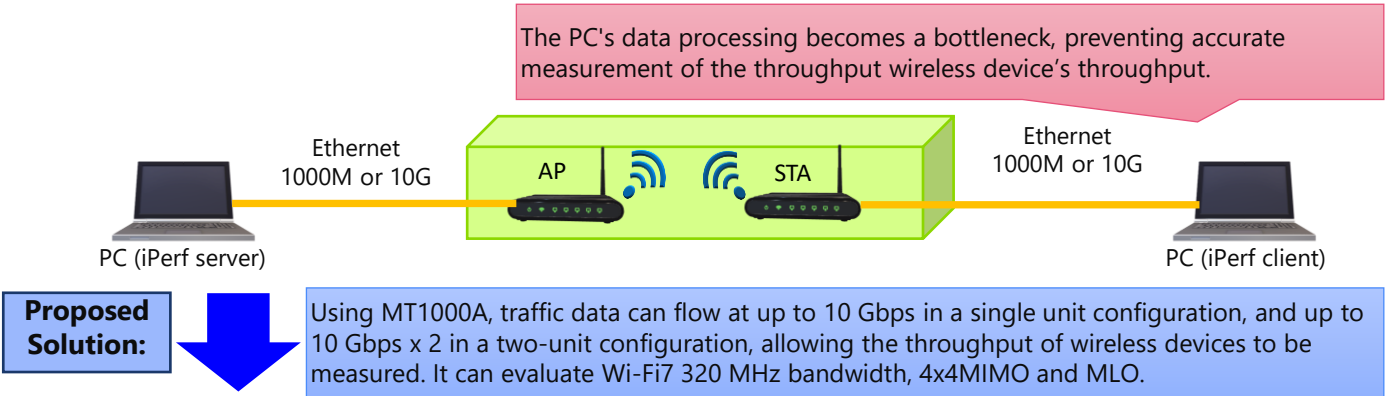
Receiver evaluation

- Packet Error Rate (PER)
- Receiver sensitivity measurement

etc.

Throughput evaluation issues and our proposal

The throughput measurement was initially conducted using two PCs with the iPerf application installed on them. This measurement process depends on the CPU performance of the PCs. When evaluating bit rates exceeding 1 Gbps, processing limitations are encountered, making it impossible to measure the performance of Wi-Fi devices.



Measurement Item	PC		MT1000A
	iPerf	Ping	
UDP Throughput	✓ (*1)		✓
UDP Packet Loss	✓ (*1)		✓
UDP Packet Jitter	✓ (*1)		✓
UDP Latency			✓
RTT (Round Trip Time)		✓	✓
TCP Throughput	✓ (*1)		✓

(*1): Items affected by the PC's data processing bottleneck

The MT1000A is a dedicated Ethernet measuring instrument that performs measurements using hardware processing. It can accurately measure the network performance (throughput, packet loss rate, packet jitter, etc.) of WLAN devices. In addition, using the MT1000A makes it possible to measure latency which allows for the evaluation of reliability.

Wireless Connectivity Test Set MT8862A



Ideal for RF TRx Tests of WLAN Devices

- Network mode support
No need to control chipset and can measure realistic operation conditions.
- Support the latest standard IEEE802.11be measurement
Supports three frequency bands, 320 MHz bandwidth and 4096QAM measurement.
- Wide connectivity support
Supports IEEE 802.11a/b/g/n/ac/ax/be AP and STA mode connections.

Network Master Pro

Mainframe MT1000A
10G Multirate Module MU100010A1



All-in-One Transport Tester for Metro and Backhaul Network Installation and Maintenance

- Supports testing from 10 Mbps to 10 Gbps
- Remote operation & scripting
- Remote control over cloud and automated tests for standalone
- Compact, lightweight design for maximum field portability