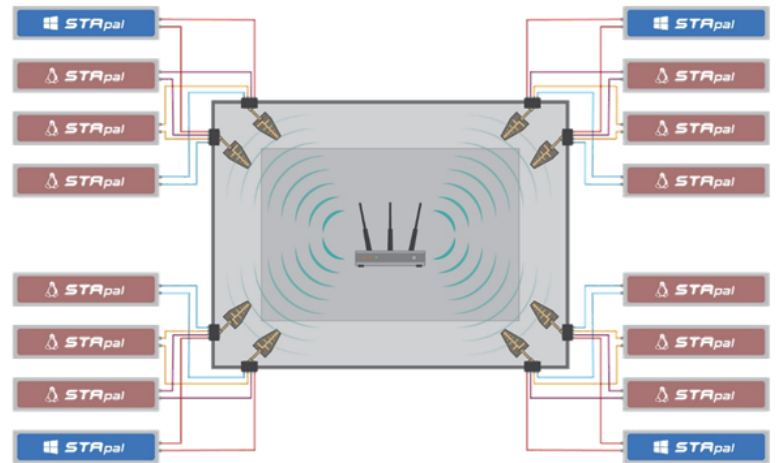


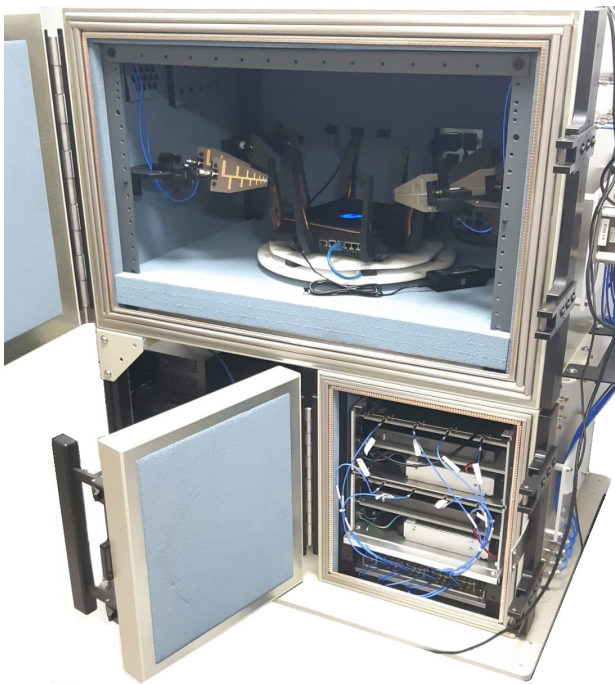
WiFi Test Plan: Netmetrix-Octoscope

Netmetrix offers a set of performance test cases with pass/fail requirements for 802.11n/ac/ax implementations according to the IEEE 802.11 specification.

The corresponding interoperability certification programmes are "Wi-Fi 4", "Wi-Fi 5" and "Wi-Fi 6" for 802.11n, 802.11ac and 802.11ax in the Wi-Fi Alliance, respectively.



The main objective is to provide a set of test scenarios and a framework to verify the performance between the AP and one or more STAs.



The test scenarios are defined for a device under test (DUT - AP only), tested against one or a set of STAs. The DUT must not be a baseline design and must contain the system functionality required to execute this test plan.

RF capability

- **Receiver sensitivity test**

This test provides a simplified measurement of the receiver sensitivity, relative to the total attenuation inserted between the DUT and the STA.

Baseline performance

- **Maximum Connection test**

The Maximum connection test intends to verify that the Wi-Fi AP can support 32 STAs simultaneously connected with minimal packet loss and no disassociations taking place.

- **Maximum Throughput test**

This test intends to measure the maximum throughput performance of the DUT, this test case will be conducted through a short distance connection.

Coverage

- **Range vs Rate test**

This test intends to measure the baseband and RF chain performance of Wi-Fi device.

- **Spatial consistency test**

This test intends to verify the Wi-Fi signal consistency in spatial domain.

- **Airtime Fairness Test**

This test intends to verify the capability of Wi-Fi device to guarantee the fairness of airtime usage.

Multiple STAs Performance

- **Multiple STA performance Test**

This test intends to measure the performance of Wi-Fi devices connected with multiple STA's simultaneously. To simulate a circumstance of real environment, various level of signals reflecting various distances between Wi-Fi device and STA are considered in the test.

- **Multiple Associations/Dissociations Stability Test**

This test intends to measure the stability of Wi-Fi device under a dynamic environment with frequent change of connections status.

Stability/Robustness

- **Long Term Stability Test**

This test intends to measure the stability performance of Wi-Fi device under stress. Throughput and connection availability are continuously monitored in a 24 hours period.

- **AP coexistence test**

This test intends to verify Wi-Fi device performance with existence of alien AP. The alien AP in the test shall support the same Wi-Fi standard (802.11n/ac).

- **Downlink MU-MIMO Performance Test**

Intends to verify the performance of Wi-Fi device when Downlink MU-MIMO is applied. This best represents a typical deployment, where stations may only support 1x1 or 2x2 RF chains configurations. Downlink MU-MIMO capability, also referred to as 802.11ac Wave 2. The DUT shall support 802.11ac MU-MIMO and at least 4 spatial streams.