

## TR-398 WiFi Testing with LANforge

### i TR-398 Issue 3 available.

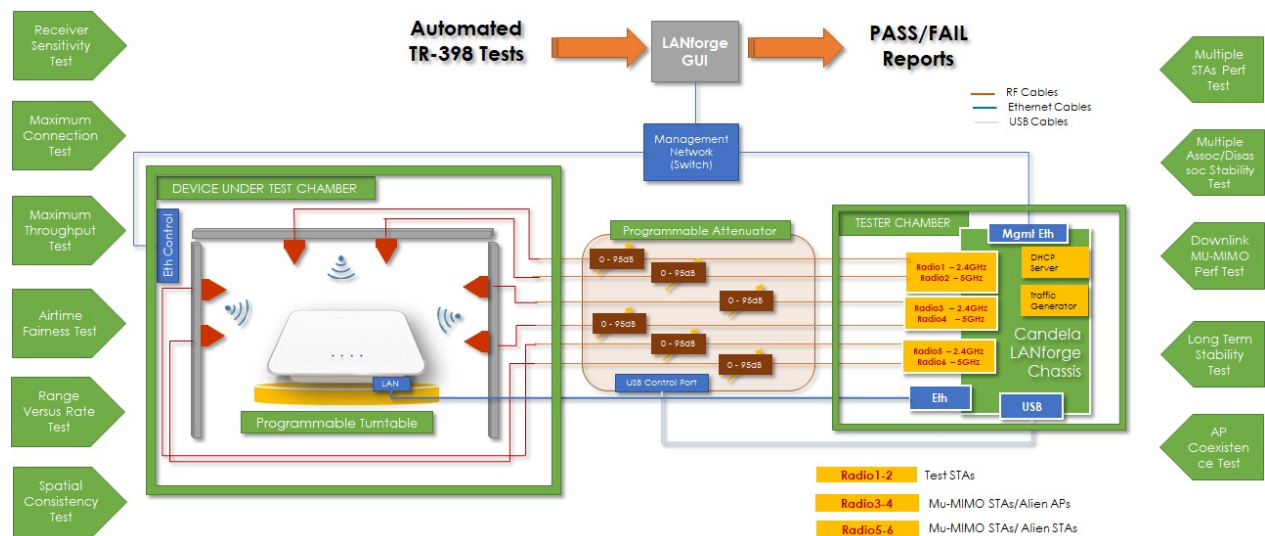
Candela Technologies has **TR-398 Issue 3** support in LANforge 5.4.6 and higher.

The **TR-398 WiFi Performance test plan** by the Broadband forum provides a comprehensive set of tests to qualify the performance of **WiFi access points** (APs) to be deployed in residential and small office indoor environments. Radio performance, throughput, connection stability, airtime fairness and long-term stability are some of the test areas covered in this test plan. The test plan is designed for **service providers** deploying in home WiFi APs to qualify the APs in the lab before deployment and for equipment makers to test during the development of the APs.

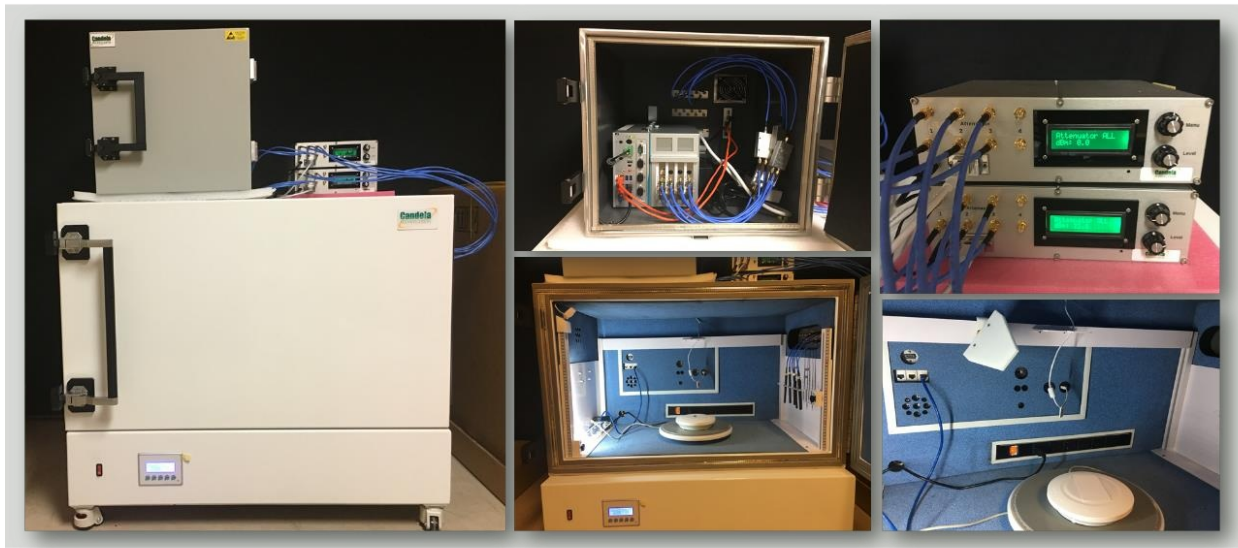
See an example report auto-generated by Candela's LANforge test suite: [HTML](#) | [PDF](#)

### TR-398 Demonstration Video

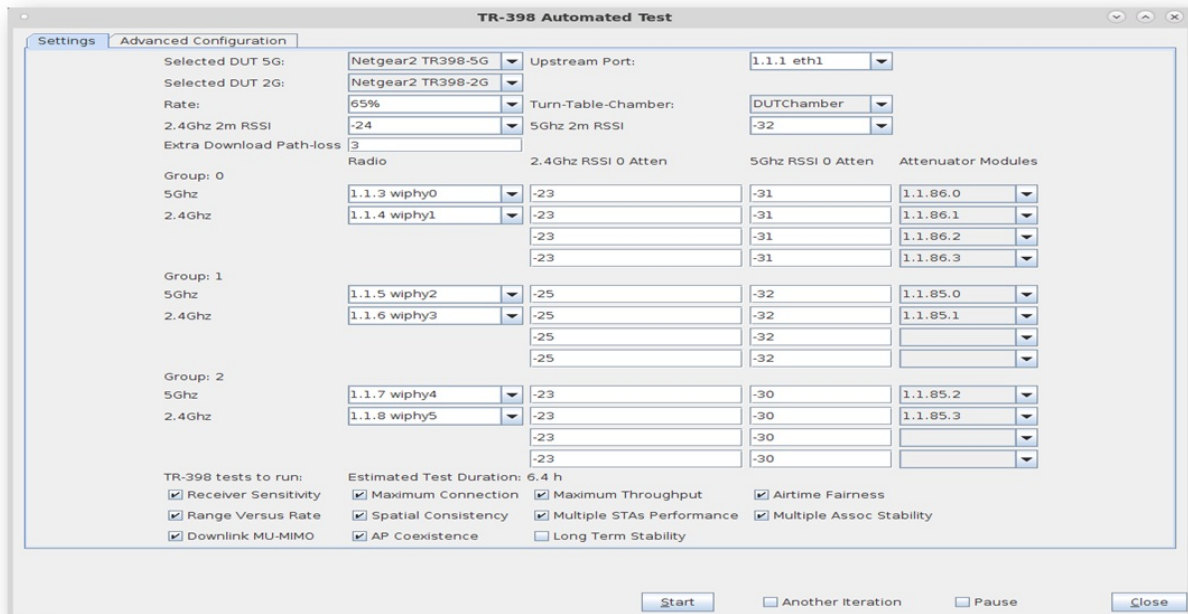
Candela Technologies offers a fully automated TR-398 test system. All the required test hardware including multi station emulator, traffic generator, RF enclosures, turntable, programmable attenuators and fully automated test software along with PASS/FAIL results are provided in a fully packaged, easy to use and affordable solution.



The test setup, testbed components and environment are all created as per the requirements in Section 5 of the TR-398 test plan document. Some of the components may be different than pictured depending on the options purchased. Please ask your sales representative for details.



The LANforge GUI provides integrated configuration and automation control for all the components of the testbed including the station emulators, traffic generator, attenuators and turntables. The entire set of TR-398 tests, or optionally a subset of these tests, can be run with a single push of a button. An HTML and PDF report can be generated with a second button click when the test completes.



## Includes these Building Blocks

### • Hardware

- LANforge Multi station Emulation and Traffic Generation Hardware – minimum 6 wave-2 radios (3x 2.4GHz, 3x 5GHz NICs), 2-eth ports (optional 10gE Ports).
- CT820a-Medium RF Chamber.
- CT840a or CT850a Large RF Chamber with Programmable Turntable.
- CT704b or CT714 4 Port Programmable Attenuators.
- RF Splitters/Combiners.
- Directional Antennas (optional).
- RF Cables.

### • Software

- TR-398 Automation Software

## TR-398 Test System Pricing

| Test Case                               | LANforge Radio 1-2 | Attenuator Unit 1 | Tester Chamber | DUT Chamber | LANforge Radio 3-4 | Attenuator Unit 2 | LANforge Radio 5-6 | Turntable in DUT Chamber |
|---|--------------------|-------------------|----------------|-------------|--------------------|-------------------|--------------------|--------------------------|
| 6.2.1 Maximum Connection Test           | ✓                  | ✓                 | ✓              | ✓           |                    |                   |                    |                          |
| 6.2.2 Maximum Throughput Test           | ✓                  | ✓                 | ✓              | ✓           |                    |                   |                    |                          |
| 6.3.1 Range Versus Rate Test            | ✓                  | ✓                 | ✓              | ✓           |                    |                   |                    |                          |
| 6.4.2 Multiple Assoc/Disassoc Stability | ✓                  | ✓                 | ✓              | ✓           |                    |                   |                    |                          |
| 6.5.1 Long Term Stability               | ✓                  | ✓                 | ✓              | ✓           |                    |                   |                    |                          |
| 6.2.3 Airtime Fairness Test             | ✓                  | ✓                 | ✓              | ✓           | ✓                  | ✓                 |                    |                          |
| 6.4.3 Downlink MU-MIMO Performance      | ✓                  | ✓                 | ✓              | ✓           | ✓                  | ✓                 | ✓                  |                          |
| 6.5.2 AP Coexistence                    | ✓                  | ✓                 | ✓              | ✓           | ✓                  | ✓                 | ✓                  |                          |
| 6.1.1 Receiver Sensitivity Test         | ✓                  | ✓                 | ✓              | ✓           |                    |                   |                    | ✓                        |
| 6.3.2 Spatial consistency test          | ✓                  | ✓                 | ✓              | ✓           | ✓                  | ✓                 | ✓                  | ✓                        |
| 6.4.1 Multiple STAs Performance Test    | ✓                  | ✓                 | ✓              | ✓           | ✓                  | ✓                 | ✓                  | ✓                        |

All system prices are approximate and include H/W, S/W, all accessories including RF cables, splitters etc... and 1 year customer support

|   |
|---|
| <ul style="list-style-type: none"> <li>➤ Covers only 5 tests</li> <li>➤ Needs single LANforge system with 2 radios, 1 4-port attenuator and 2 medium RF chambers</li> <li>➤ <b>System Price: \$60K</b></li> </ul> |
| <ul style="list-style-type: none"> <li>➤ Covers 8 tests</li> <li>➤ Add 4 more LANforge radios and second attenuator</li> <li>➤ <b>System Price: \$80K</b></li> </ul>  |
| <ul style="list-style-type: none"> <li>➤ Covers all 11 tests</li> <li>➤ Change DUT chamber to a large chamber with Turntable</li> <li>➤ <b>System Price: \$100K</b></li> </ul>                                    |

Received your test-bed and need to put it together? Here are some [TR-398 Wiring Diagrams and Installation notes](#). Please contact [support@candelatech.com](mailto:support@candelatech.com) if you need any assistance.

**Lead Times:** Most LANforge systems can generally be shipped within a couple of days of customer PO. RF chambers and attenuators may need 2 or more weeks of lead time. Direct-from-the-factory shipping is available for the RF chambers to decrease shipping costs and lead times.

**TaaS/Onsite Support:** Customers with only occasional test needs can use our Test as a Service option. Candela engineers can do the testing for you in our fully equipped test lab and provide a detailed test report with recommendations.

For more information, please contact [sales@candelatech.com](mailto:sales@candelatech.com) or give us a call at: 1-360-380-1618

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