

QA Portfolio – Telecom & CPE Testing

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Specialized in CPE, DOCSIS, GPON, Broadband & Web UI Testing

This portfolio presents real-world inspired test cases, bug reports, API validation, automation examples, and professional QA practices aligned with telecom router/modem testing.

TEST APPROACH – How I Think as a QA

- Start by understanding requirements, product behavior, and risks.
- Identify test scope based on functional, non-functional, UI, API, and network behavior.
- Combine exploratory testing with structured test design (equivalence partitioning, boundary testing).
- Validate device behavior using logs, Wi-Fi tools, protocol analyzers, and interface checks.
- Communicate clearly with developers and product owners to reduce defect leakage.
- Focus on reproducibility, traceability, and test coverage.

TOOLS & ENVIRONMENT

- Test Management: Jira, XRay, TestLink, Bugzilla
- API Testing: Postman, SOAPUI
- Network & Telecom Tools: Wireshark, IxNetwork, IxChariot, CD-Router, iPerf
- Automation: Selenium WebDriver, Robot Framework (Basics)
- Protocols: DOCSIS, GPON, TCP/IP, DHCP, SNMP, TR069
- OS & Scripting: Linux, Python, Shell Script

TEST CASES (Telecom CPE)

Test Case ID: TC_WIFI_001

Title: Validate Wi-Fi 2.4GHz Enable/Disable Functionality

Preconditions: User logged into Router UI as admin

Steps:

1. Navigate to Wireless Settings → Wi-Fi 2.4GHz.
2. Switch Wi-Fi OFF, apply changes.
3. Verify SSID disappearance using Wi-Fi scanner.
4. Switch Wi-Fi ON again and confirm SSID broadcast.

Expected Result: Wi-Fi toggle updates correctly and SSID visibility matches state.

Test Case ID: TC_INTERNET_003

Title: Validate WAN Connection Status Updates

Steps:

1. Open Status → Internet page.
2. Disconnect WAN and refresh UI.
3. Reconnect WAN and verify status values.

Expected Result: Correct connection state, IP address, DNS, and gateway updates.

BUG REPORTS

Bug ID: BUG_WIFI_017

Title: SSID does not update after renaming (5GHz)

Severity: Medium | Priority: High

Steps:

1. Change SSID name in Wi-Fi 5GHz settings.
2. Apply changes and scan networks.

Expected: New SSID visible.

Actual: Old SSID still broadcasted. Logs show mapping update failure.

Bug ID: BUG_LAN_022

Title: LAN Port 2 reports incorrect link speed

Severity: High | Priority: Medium

Steps:

1. Connect 1Gbps device to LAN2.
2. UI displays 100Mbps instead of 1Gbps.

Expected: Correct 1Gbps value.

Actual: Incorrect speed shown, mismatch with hardware negotiation.

API TESTING (TR-069 Example)

Example Request: GetParameterValues (Retrieve SSID)

```
<cwmp:GetParameterValues>
<ParameterNames>
<string>Device.WiFi.SSID.1.SSID</string>
</ParameterNames>
</cwmp:GetParameterValues>
```

Expected Response: ACS returns correct SSID value, valid XML schema, response time < 2s.

AUTOMATION EXAMPLE (Selenium Login Test)

```
@Test
public void testRouterLogin() {
    driver.get("192.168.0.1");
    driver.findElement(By.id("username")).sendKeys("admin");
    driver.findElement(By.id("password")).sendKeys("admin");
    driver.findElement(By.id("loginBtn")).click();
    Assert.assertTrue(driver.findElement(By.id("dashboard")).isDisplayed());
}
```