

Dataplane Test



Mon Jun 14 02:52:45 PDT 2021

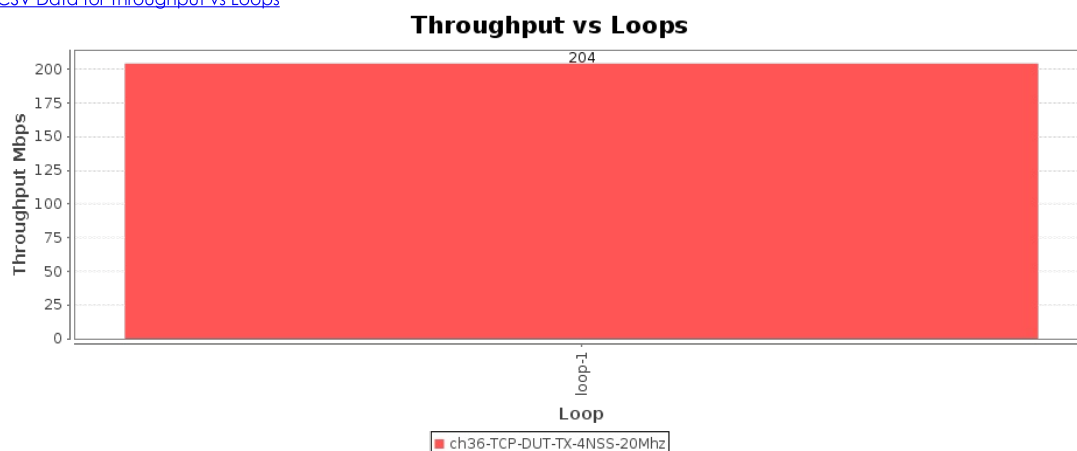
| Test Setup Information | | | | |
|------------------------|------------------|---|------------------|--------------|
| Device Under Test | Name | basic-01 | | |
| | Software Version | ecw5410-1.1.0.tar.gz | Hardware Version | ecw5410 |
| | Model Number | ecw5410 | Serial Number | 3c2c99f44e77 |
| | SSIDs | ssid_wpa2_5g [] [] ssid_wpa3_mixed_eap_2g ssid_wpa2_eap_2g ssid_wpa3_eap_2g | | |
| | Passwords | something [] [] mixed 2 3 | | |
| | BSSIDs | 3c:2c:99:f4:4e:79 [] [] 3c:2c:99:f4:4e:78 3a:2c:99:f4:4e:78 3e:2c:99:f4:4e:78 | | |
| | Notes | [BLANK] | | |

Objective

The Candela WiFi data plane test is designed to conduct an automatic testing of all combinations of station types, MIMO types, Channel Bandwidths, Traffic types, Traffic direction, Frame sizes etc... It will run a quick throughput test at every combination of these test variables and plot all the results in a set of charts to compare performance. The user is allowed to define an intended load as a percentage of the max theoretical PHY rate for every test combination. The expected behavior is that for every test combination the achieved throughput should be at least 70% of the theoretical max PHY rate under ideal test conditions. This test provides a way to go through hundreds of combinations in a fully automated fashion and very easily find patterns and problem areas which can be further debugged using more specific testing.

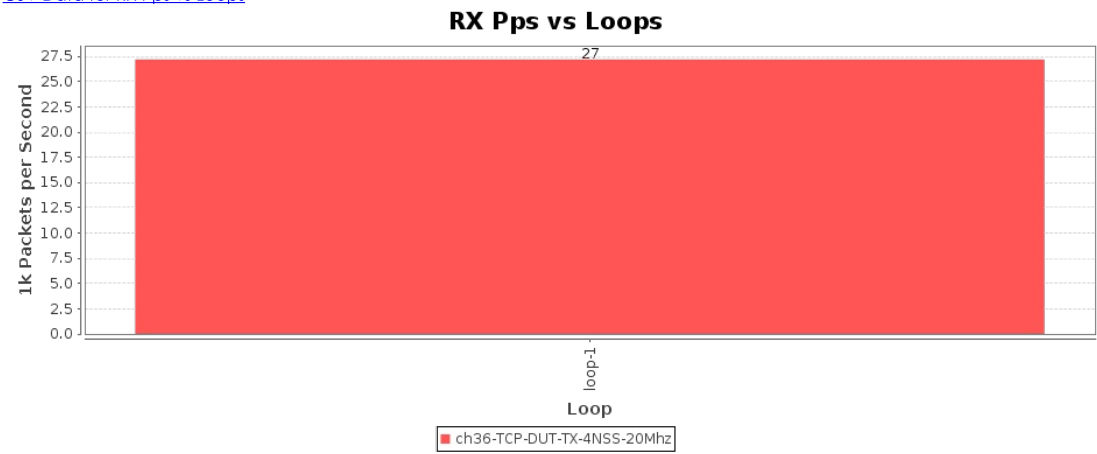
Throughput for each different traffic type. Datasets with names ending in '-LL' will include the IP, TCP, UDP and Ethernet header bytes in their calculation. For Armageddon traffic only, low-level throughput includes the Ethernet FCS and preamble. Other datasets report 'goodput' for the protocol.

[CSV Data for Throughput vs Loops](#)



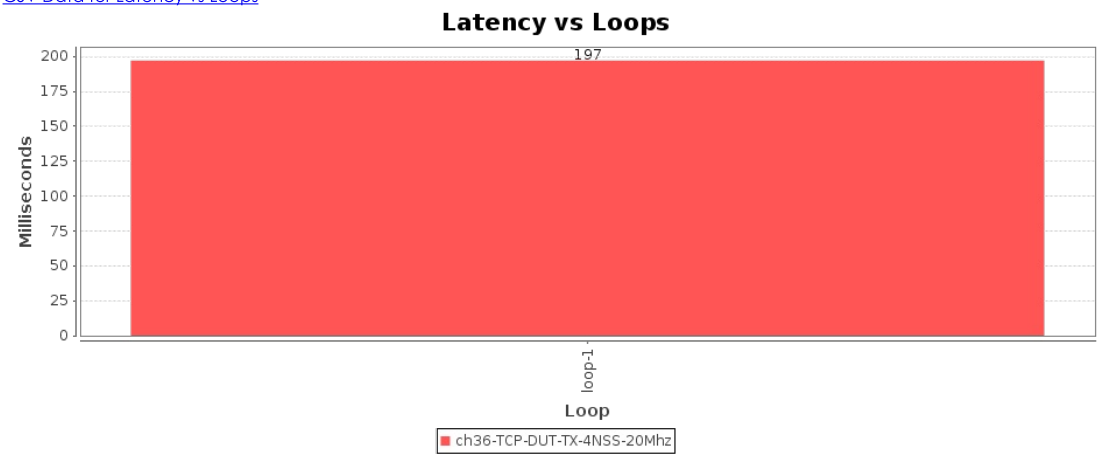
Pps throughput for each different traffic type. The values are estimated packets-per-second over the DUT, but some protocols such as TCP make this difficult to know for certain, so the value is extrapolated.

[CSV Data for RX Pps vs Loops](#)



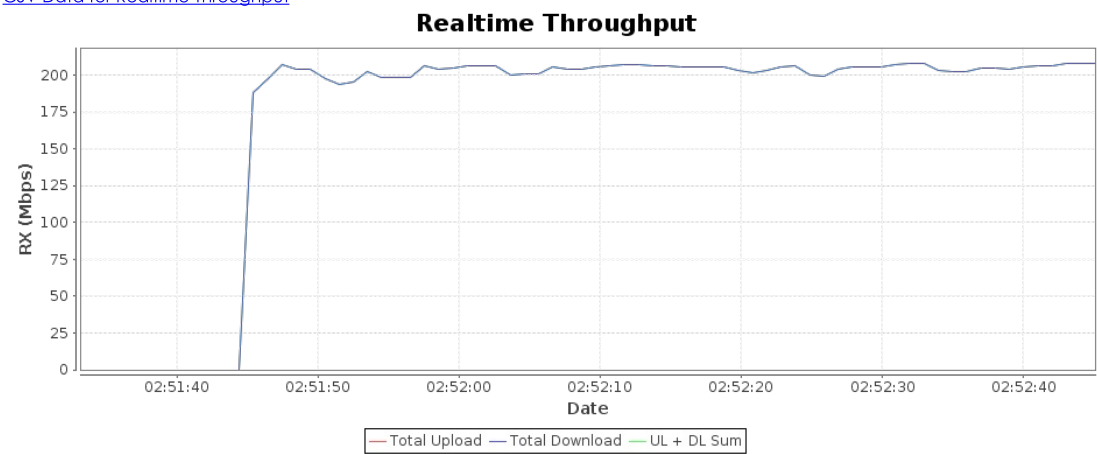
Latency for each different traffic type. If opposite-direction traffic is non-zero, then round-trip time will be reported. Otherwise, one-way latency will be reported.

[CSV Data for Latency vs Loops](#)



Realtime Graph shows summary download and upload RX Goodput rate of connections created by this test. Goodput does not include Ethernet, IP, UDP/TCP header overhead.

[CSV Data for Realtime Throughput](#)



Test Information

| Message |
|---|
| Starting dataplane test with: 1 iterations. |

| Channel | Frequency | Security | NSS | Cfg-Mode | Bandwidth | Pkt | Traffic-Type | Direction | Atten | Rotation | Duration | Offered-1m | Rx-Bps | Rx-Bps-1m | Rx-Bps-LL | Rx-Bps-3s | RSSI | Tx-Failed | Tx-Failed% | Tx-Rate | Rx-Rate | Rpt-Mode | Rpt-Mode-Brief |
|---------|-----------|----------|-----|----------|-----------|------|--------------|-----------|-------|----------|----------|--------------|-------------|--------------|--------------|--------------|------|-------------|------------|------------|----------|-------------|----------------|
| 36 | 5180 | WPA2 | 4 | AUTO | 20 | 1024 | TCP | DUT-TX | NA | NA | 60 | 204.193 Mbps | 204.15 Mbps | 204.218 Mbps | 215.974 Mbps | 207.397 Mbps | -53 | 0 / 1606521 | 0 | 346.7 Mbps | 289 Mbps | 802.11an-AC | 802.11ac |

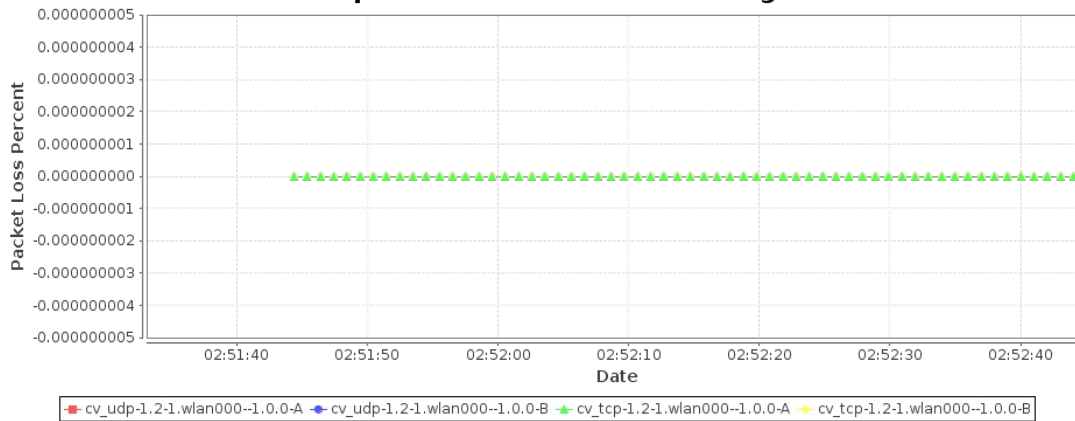
Brief csv report, may be imported into third-party tools.

| Step Index | Position [Deg] | Attenuation [dB] | Throughput [Mbps] | Beacon RSSI [dBm] | Data RSSI [dBm] |
|------------|----------------|------------------|-------------------|-------------------|-----------------|
| 0 | NA | 0 | 204.15 | -52 | -53 |

Packet Loss Percentage graph shows the percentage of lost packets as detected by the receiving endpoint due to packet gaps. If there is full packet loss, then this will not report any loss since there will be no gap to detect.

[CSV Data for Endpoint RX Packet Loss Percentage](#)

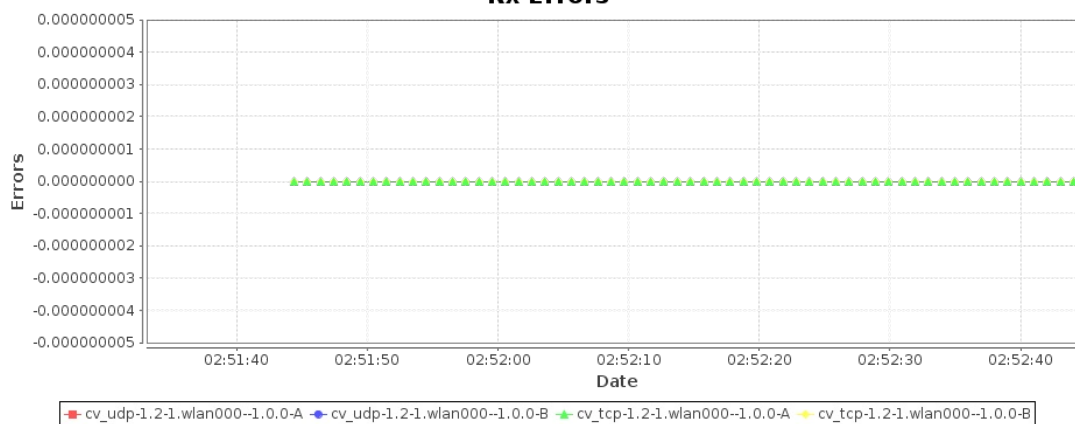
Endpoint RX Packet Loss Percentage



Error Graph shows occurrences of packet errors.

[CSV Data for Rx Errors](#)

Rx Errors



| Test configuration and LANforge software version | |
|--|-------------|
| Path Loss | 10 |
| Requested Speed | 85% |
| Requested Opposite Speed | 0kbps |
| Multi-Conn | 1 |
| Armageddon Multi-Pkt | 1000 |
| ToS | 0 |
| Duration: | 1 min (1 m) |
| Settle Time: | 1 sec (1 s) |

| | |
|---------------------------|--|
| Send Buffer Size: | OS Default |
| Receive Buffer Size: | OS Default |
| Channels | AUTO |
| Spatial Streams | AUTO |
| Bandwidth | AUTO |
| Attenuator-1 | 0 |
| Attenuation-1 | 0..+50..950 |
| Attenuator-2 | 0 |
| Attenuation-2 | 0..+50..950 |
| Turntable Chamber | 0 |
| Turntable Angles | 0..+45..359 |
| Modes | Auto |
| Packet Size | 1024 |
| Security | AUTO |
| Traffic Type | TCP |
| Direction | DUT Transmit |
| Upstream Port | 1.1.eth2 Firmware: 0x80000aef, 1.1876.0 Resource: ct523c-0b67 |
| WiFi Port | 1.1.wlan000 Firmware: 10.4b-ct-9984-xtH-13-774502ee5 Resource: ct523c-0b67 |
| Outer Loop is Attenuation | false |
| Show Events | true |
| Auto Save Report | true |
| Build Date | Fri 28 May 2021 09:54:57 AM PDT |
| Build Version | 5.4.3 |
| Git Version | e6a6e20f12a47cefe6de9acbad2570cea4adf844 |

[Key Performance Indicators CSV](#)