Rate vs Range Test

Tue Oct 26 23:01:45 PDT 2021

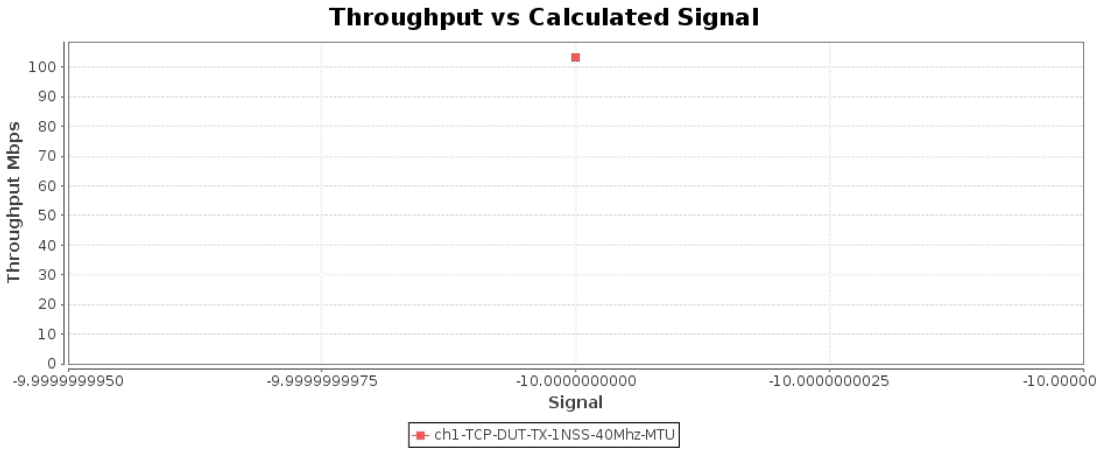
Test Setup Information				
Device Under Test	Name	advanced-02		
	Software Version	20210729-cig_wf194c-v2.0.0-rc2-02244b8-	Hardware Version	eap102
	Model Number	eap102	Serial Number	903cb39d6958
	SSIDs	ssid_wpa2_2g ssid_wpa2_5g		
	Passwords	something something		
	BSSIDs	90:3c:b3:9d:69:62 90:3c:b3:9d:69:5a		
	Notes	[BLANK]		

Objective

This test measures the performance over distance of the Device Under Test. Distance is emulated using programmable attenuation and a throughput test is run at each distance/RSSI step and plotted on a chart. The test allows the user to plot RSSI curves both upstream and downstream for different types of traffic and different station types.

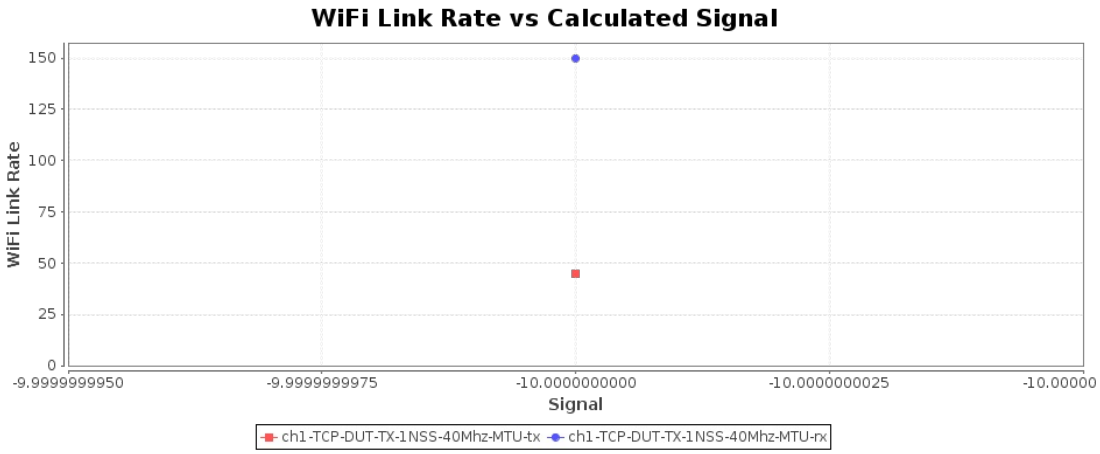
Throughput vs calculated RF Signal for each different traffic type. The signal is calculated based on the configured path-loss, transmit power, and attenuation.

CSV Data for Throughput vs Calculated Signal



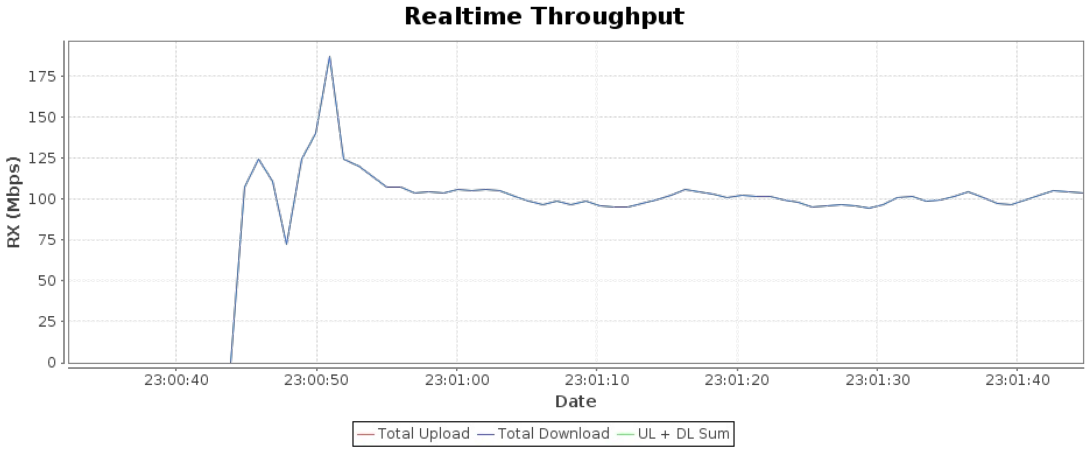
WiFi Link Rate (MCS) vs calculated RF Signal for each different traffic type. The signal is calculated based on the configured path-loss, transmit power, and attenuation.

CSV Data for WiFi Link Rate vs Calculated Signal



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

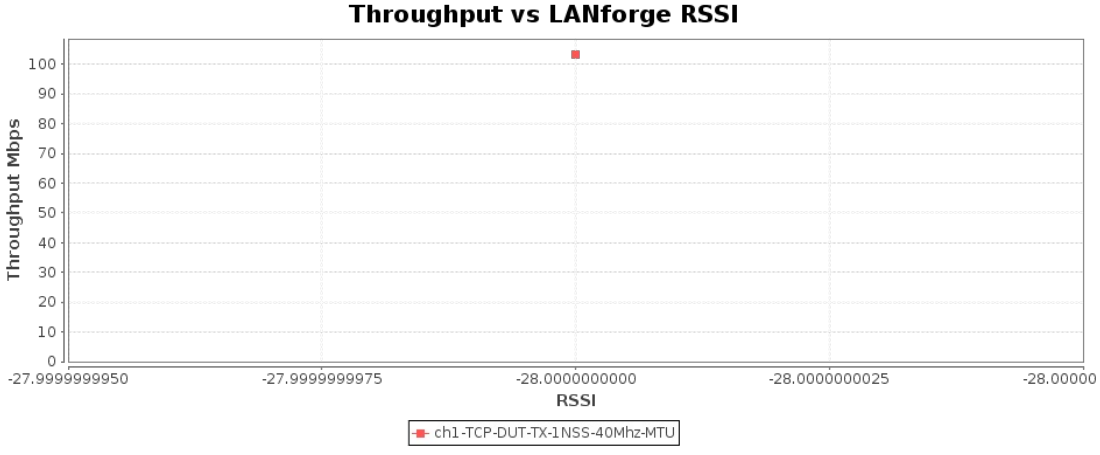


Test Information

Message
Starting Rate vs Range test with: 1 iterations.

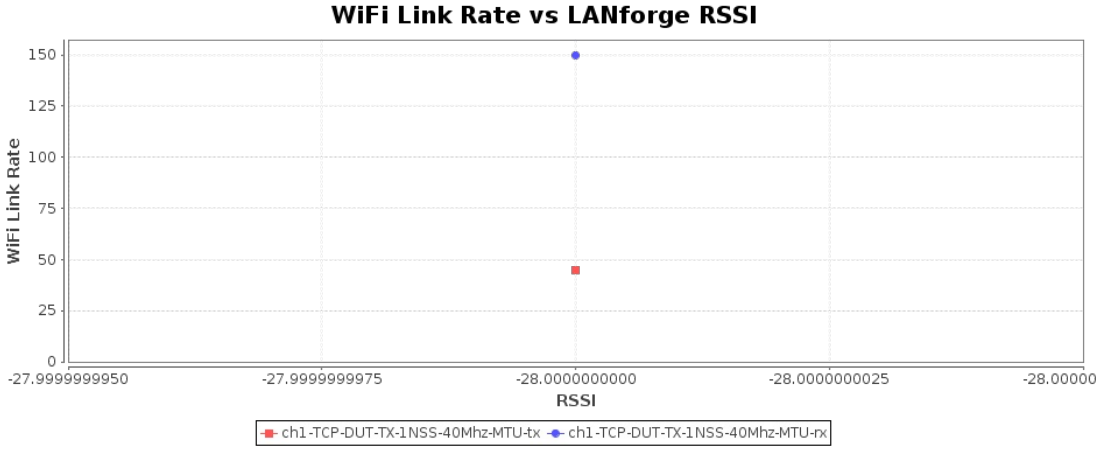
Throughput vs reported RSSI for each different traffic type. Please note that the LANforge RSSI may be similar to the remote Device Under Test RSSI but there is no guarantee of this. Differences in tx-power and RF splitter/combiners can cause different RSSI as reported by LANforge and the remote peer device.

CSV Data for Throughput vs LANforge RSSI



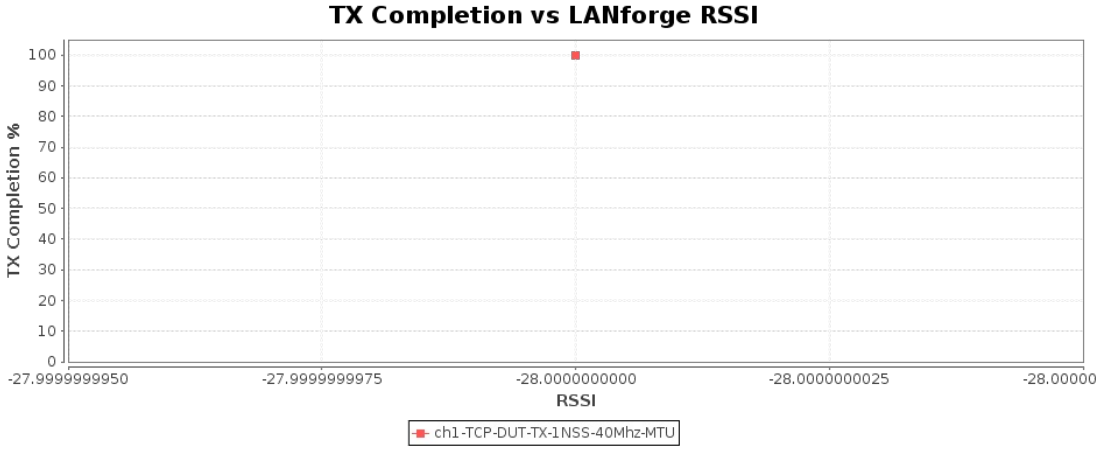
WiFi Link Rate (MCS) vs reported RSSI for each different traffic type. Please note that the LANforge RSSI may be similar to the remote Device Under Test RSSI but there is no guarantee of this. Differences in tx-power and RF splitter/combiners can cause different RSSI as reported by LANforge and the remote peer device.

CSV Data for WiFi Link Rate vs LANforge RSSI



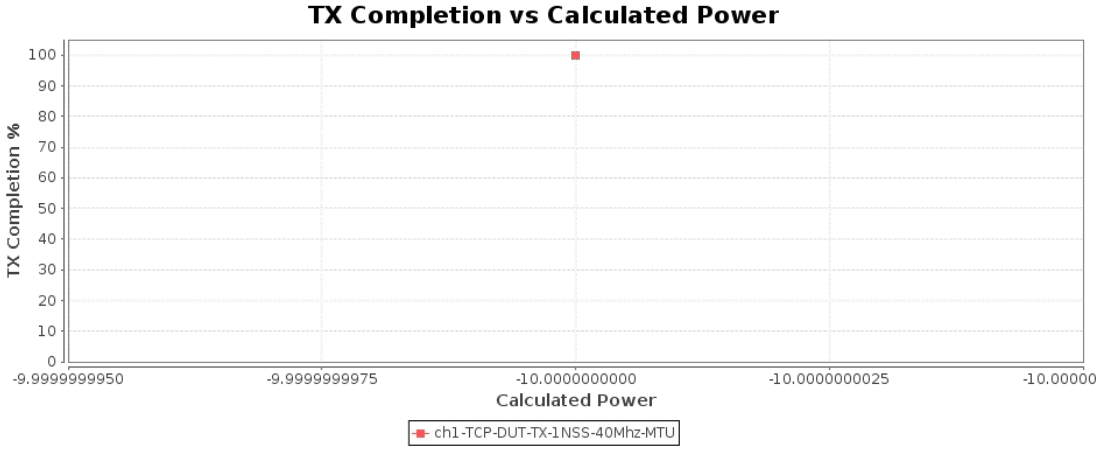
TX Completion vs LANforge RSSI for each MCS Encoding Rate. Please note that the LANforge RSSI may be similar to the remote Device Under Test RSSI but there is no guarantee of this. Differences in tx-power and RF splitter/combiners can cause different RSSI as reported by LANforge and the remote peer device.

CSV Data for TX Completion vs LANforge RSSI



TX Completion vs Calculated Signal Power for each MCS Encoding Rate.

CSV Data for TX Completion vs Calculated Power



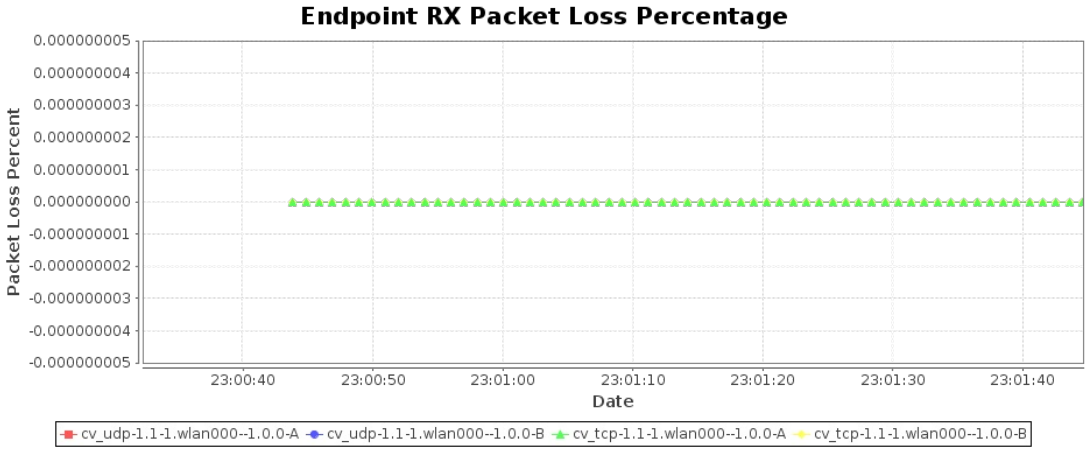
Channel	Frequency	Security	NSS	Cfg-Mode	Bandwidth	Pkt	Traffic-Type	Direction	Atten	Rotation	Duration	Offered-1m	Rx-Bps	Rx-Bps-1m	Rx-Bps-LL	Rx-Bps-3s	RSSI	Tx-Failed	Tx-Failed%	Tx-Rate	Rx-Rate	Rpt-Mode	Rpt-Mode-Brief
1	2412	WPA2	1	AUTO	40	MTU	TCP	DUT-TX	NA	NA	60	106.561 Mbps	103.554 Mbps	103.448 Mbps	107.425 Mbps	102.382 Mbps	-28	0 / 547427	0	45 Mbps	150 Mbps	802.11bgn	802.11n

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	103.55	-29	-28

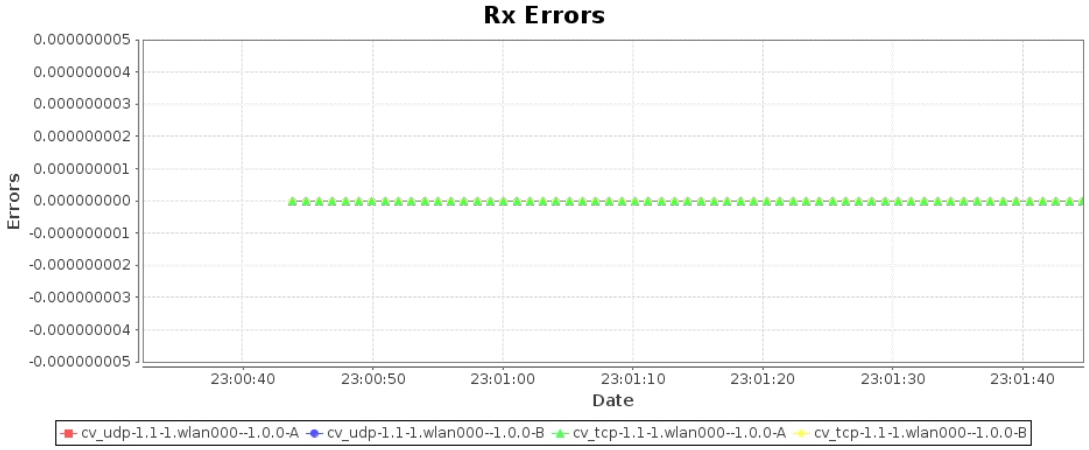
Packet Loss Percentage graph shows the percentage of lost packets as detected by the receiving endpoint due to packet gaps. If there is full packet loss, then this will not report any loss since there will be no gap to detect.

CSV Data for Endpoint RX Packet Loss Percentage



Error Graph shows occurances of packet errors.

CSV Data for Rx Errors



Test configuration and LANforge software version	
Path Loss	10
Requested Speed	85%
Requested Opposite Speed	0
Multi-Conn	1
Armageddon Multi-Pkt	1000
ToS	0
Station Bringup Wait:	30 sec (30 s)
First Byte Wait:	30 sec (30 s)
Duration:	1 min (1 m)

Settle Time:	1 sec (1 s)
Send Buffer Size:	OS Default
Receive Buffer Size:	OS Default
RvR Helper Script:	
Channels	AUTO
Spatial Streams	1
Bandwidth	AUTO
Attenuator-1	1.1.3034
Attenuation-1	0..+0..0
Attenuator-2	1.1.3059
Attenuation-2	0..+100..100
Turntable Chamber	0
Turntable Angles	0..+0..0
Modes	Auto
Packet Size	MTU
Security	AUTO
Traffic Type	TCP
Direction	DUT Transmit
Upstream Port	1.1.eth1 Firmware: 0. 6-1 Resource: ct523c-ccb0
WiFi Port	1.1.wlan000 Firmware: 10.4b-ct-9984-xtH-13-774502ee5 Resource: ct523c-ccb0
Outer Loop is Attenuation	false
Show Events	true
Auto Save Report	true
Pass-Fail Tput Criteria	
Build Date	Tue 12 Oct 2021 01:32:11 PM PDT
Build Version	5.4.4
Git Version	d5e69bdfd45f56fd51bdc0393f4cb35526d9b74e

Key Performance Indicators CSV

META Information for Rate vs Range Test