Dataplane Test

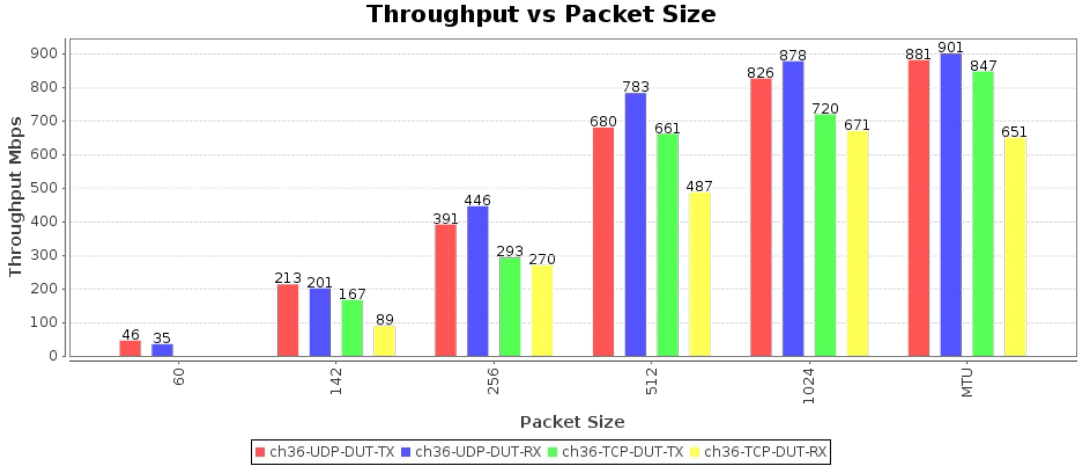
Thu Aug 27 13:12:00 PDT 2020

Test Setup Information		
Device Under Test	Name	AsusRTAX88U
	Software Version	3.0.0.4.384_7968
	Model Number	RTAX88U
	SSIDs	asus11ax
	BSSIDs	0c:9d:92:02:42:e4

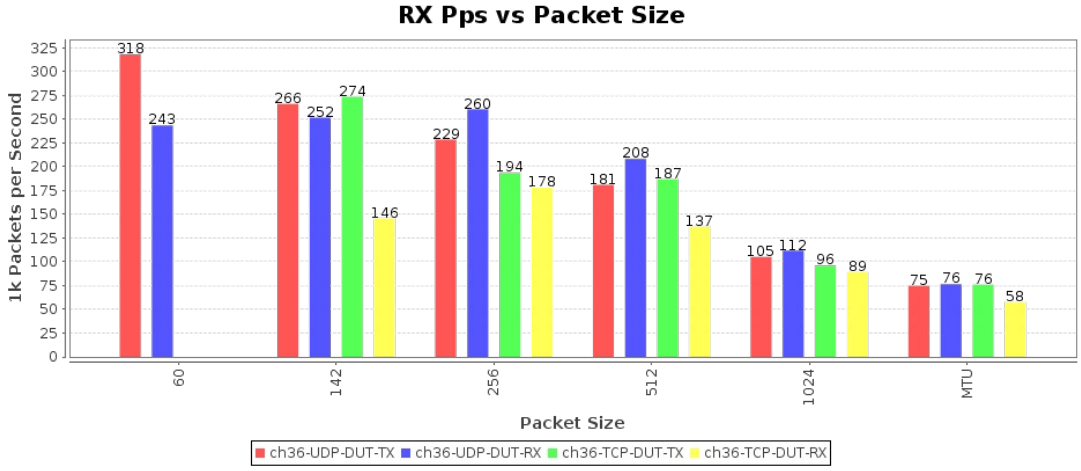
Objective

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.

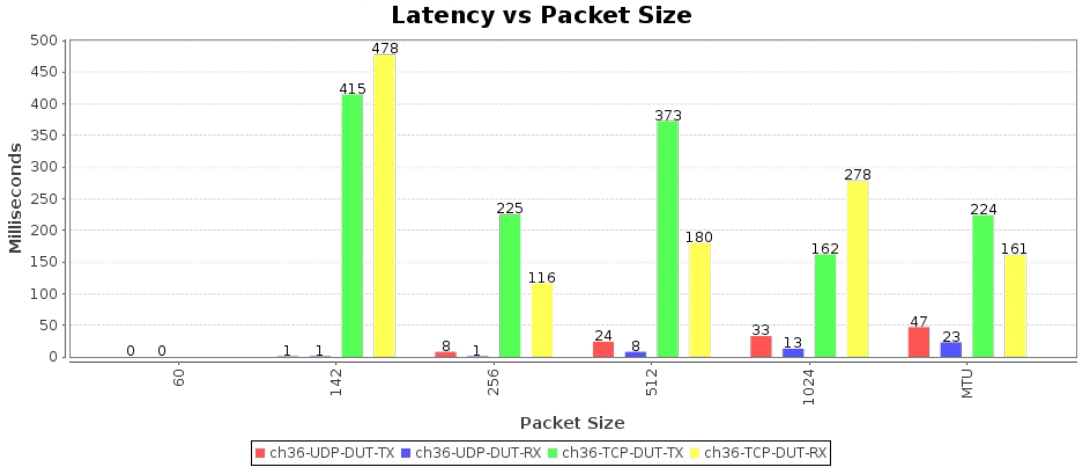
Throughput for each different traffic type. Datasets with names ending in '-LL' will include the IP, TCP, UDP and Ethernet header bytes in their calculation. For Armageddon traffic only, low-level throughput includes the Ethernet FCS and preamble. Other datasets report 'goodput' for the protocol.



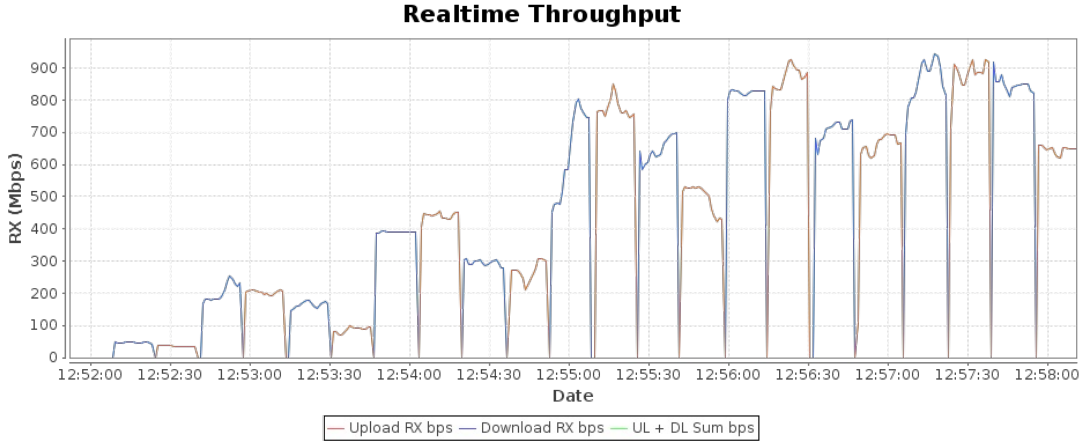
Pps throughput for each different traffic type. The values are estimated packets-per-second over the DUT, but some protocols such as TCP make this difficult to know for certain, so the value is extrapolated.



Latency in micro-seconds 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.



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.

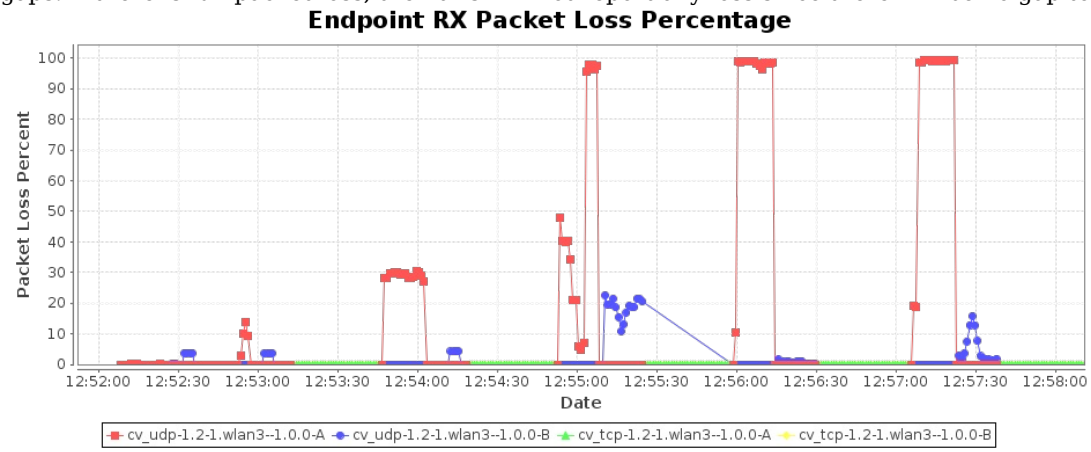


Test Information

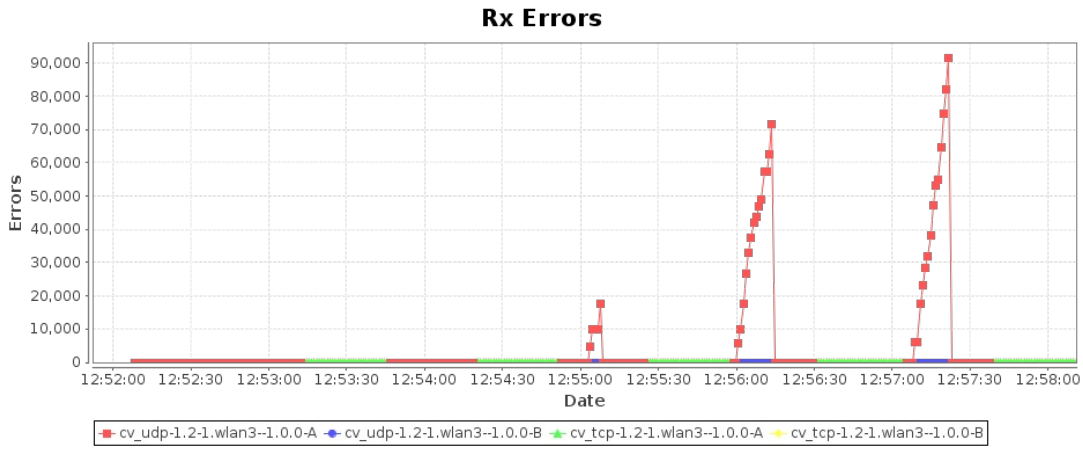
Message
Starting dataplane test with: 24 iterations.
Skipping packet size not supported by TCP: 60
Skipping packet size not supported by TCP: 60

Channel	Security	NSS	Mode	Bandwidth	Pkt	Traffic-Type	Direction	Atten	Rotation	Duration	Offered-1m	Rx-Bps	Rx-Bps-1m	Rx-Bps-LL	Rx-Bps-3s	Theoretical	RSSI	Tx-Failed	Tx-Failed%	Tx-Rate	Rx-Rate	Mode
36	AUTO	AUTO	AUTO	AUTO	60	UDP	DUT-TX	NA	NA	15	45823766	45786060	45807590	152691969	42395512	1201000000	0	0 / 4668161	0	6 Mbps	1.081 Gbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	60	UDP	DUT-RX	NA	NA	15	35282716	35028218	35055094	116850314	34462893	1201000000	0	26907 / 3708939	0.725	6 Mbps	1.081 Gbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	142	UDP	DUT-TX	NA	NA	15	219776498	211905364	212899526	302317326	236138104	1201000000	0	0 / 3935350	0	6 Mbps	576.4 Mbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	142	UDP	DUT-RX	NA	NA	15	204291261	200237241	201344636	285909384	188589898	1201000000	0	57296 / 3855876	1.486	6 Mbps	600.4 Mbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	142	TCP	DUT-TX	NA	NA	15	166715580	165675081	166722655	284966670	164460024	1201000000	0	0 / 3999467	0	6 Mbps	600.4 Mbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	142	TCP	DUT-RX	NA	NA	15	88677478	88124358	88810166	151770223	92529285	1201000000	0	260 / 2186743	0.012	6 Mbps	600.4 Mbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	256	UDP	DUT-TX	NA	NA	15	551172825	391163845	391424960	468246682	391687216	1201000000	0	0 / 4660103	0	6 Mbps	600.4 Mbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	256	UDP	DUT-RX	NA	NA	15	449505693	444741384	445910331	533425443	450274437	1201000000	0	32918 / 3951047	0.833	6 Mbps	600.4 Mbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	256	TCP	DUT-TX	NA	NA	15	293088891	292195328	293200158	376814404	279391810	1201000000	0	0 / 2787851	0	6 Mbps	600.4 Mbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	256	TCP	DUT-RX	NA	NA	15	270005455	268786901	270056333	346957792	296150469	1201000000	0	151 / 2666666	0.006	6 Mbps	600.4 Mbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	512	UDP	DUT-TX	NA	NA	15	828287844	677194477	680323966	741118874	737308944	1201000000	0	0 / 3124847	0	6 Mbps	1.081 Gbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	512	UDP	DUT-RX	NA	NA	15	955166933	777973897	782892236	852852819	754741744	1201000000	0	686774 / 3806892	18.04	6 Mbps	1.081 Gbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	512	TCP	DUT-TX	NA	NA	15	661206855	656233516	661239910	741999249	700834168	1201000000	0	0 / 2648728	0	6 Mbps	1.081 Gbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	512	TCP	DUT-RX	NA	NA	15	487452982	486938429	487344549	546634675	430605941	1201000000	0	362 / 2063802	0.018	6 Mbps	960.7 Mbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	1024	UDP	DUT-TX	NA	NA	15	937550491	824594469	826274560	861614205	829562573	1201000000	0	0 / 1724203	0	6 Mbps	960.7 Mbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	1024	UDP	DUT-RX	NA	NA	15	882347829	875077969	877696430	915235381	869814952	1201000000	0	5726 / 1688271	0.339	6 Mbps	960.7 Mbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	1024	TCP	DUT-TX	NA	NA	15	719632207	716316674	719699261	761231994	741676008	1201000000	0	0 / 1421434	0	6 Mbps	960.7 Mbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	1024	TCP	DUT-RX	NA	NA	15	676687567	666918318	670885895	709438809	668470824	1201000000	0	0 / 1486288	0	6 Mbps	1.081 Gbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	MTU	UDP	DUT-TX	NA	NA	15	963237708	875862940	881147961	906289411	816083125	1201000000	0	0 / 1180820	0	6 Mbps	960.7 Mbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	MTU	UDP	DUT-RX	NA	NA	15	951402071	894567561	900742071	926442592	919864925	1201000000	0	66663 / 1223180	5.45	6 Mbps	960.7 Mbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	MTU	TCP	DUT-TX	NA	NA	15	852492402	840989950	847302352	880179501	822005765	1201000000	0	0 / 1057912	0	6 Mbps	1.081 Gbps	802.11an-AX
36	AUTO	AUTO	AUTO	AUTO	MTU	TCP	DUT-RX	NA	NA	15	653145337	645138924	650527459	675390698	653313602	1201000000	0	0 / 845102	0	6 Mbps	960.7 Mbps	802.11an-AX

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.



Error Graph shows occurances of packet 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:	15 sec (15 s)
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	60, 142, 256, 512, 1024, MTU
Security	AUTO
Traffic Type	UDP, TCP
Direction	DUT Transmit, DUT Receive
Upstream Port	1.1.2 eth2 Firmware: 0x80000aef, 1.1876.0 Resource: ct523c-0b29
WiFi Port	1.1.15 wlan3 Firmware: N/A Resource: ct523c-0b29
Show Events	true
Auto Save Report	false
Build Date	Fri 21 Aug 2020 04:59:20 PM PDT
Build Version	5.4.3
Git Version	f21ac1b31a92d0a7506f4b7867656eccab00bb46