

Throughput Test

Test starttime:19/10 09:50:36 PM

Test Endtime:19/10 09:55:36 PM

Objective

The Candela Client Capacity test is designed to measure an Access Point's client capacity and performance when handling different amounts of Real clients like android, Linux, windows, and iOS. The test allows the user to increase the number of clients in user-defined steps for each test iteration and measure the per client and the overall throughput for each trial. Along with throughput other measurements made are client connection times, Station 4-Way Handshake time, DHCP times, and more. The expected behavior is for the AP to be able to handle several stations (within the limitations of the AP specs) and make sure all Clients get a fair amount of airtime both upstream and downstream. An AP that scales well will not show a significant overall throughput decrease as more Real clients are added.

Input Parameters

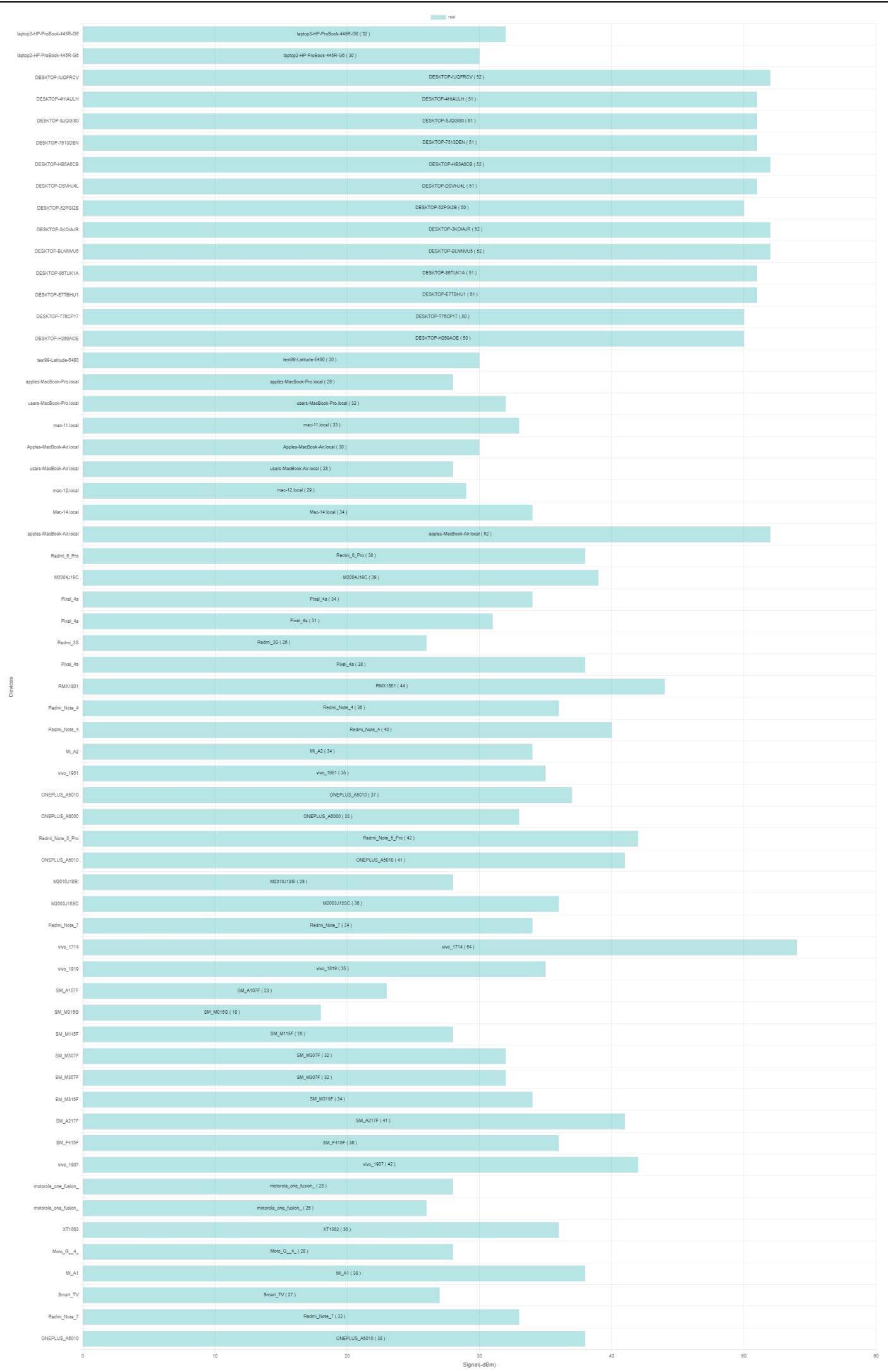
The below tables provides the input parameters for the test.

Testname	testing_tcp_test
Device List	laptop3-HP-ProBook-445R-G6(Linux),laptop2-HP-ProBook-445R-G6(Linux),DESKTOP-IUQFRCV(Windows),DESKTOP-4HIAULH(Windows),DESKTOP-SJQQG180(Windows),DESKTOP-7513DEN(Windows),DESKTOP-HB5A6CB(Windows),DESKTOP-DSVHJ4L(Windows),DESKTOP-52PGI2B(Windows),DESKTOP-3KOIAJR(Windows),DESKTOP-BLNNUVUS(Windows),DESKTOP-86TUK1A(Windows),DESKTOP-E7TBHU1(Windows),DESKTOP-T76CP17(Windows),DESKTOP-H269AOE(Windows),test99-Latitude-5480(Linux),apple-MacBook-Pro.local(Mac),users-MacBook-Pro.local(Mac),mac-11.local(Mac),Apple-MacBook-Air.local(Mac),users-MacBook-Air.local(Mac),mac-12.local(Mac),Mac-14.local(Mac),apple-MacBook-Air.local(Mac),Redmi_6_Pro(Android),M2004J19C(Android),Pixel_4a(Android),Pixel_4a(Android),Redmi_3S(Android),Pixel_4a(Android),RMX1801(Android),Redmi_Note_4(Android),Redmi_Note_4(Android),Mi_A2(Android),vivo_1951(Android),ONEPLUS_A5010(Android),ONEPLUS_A6000(Android),Redmi_Note_5_Pro(Android),ONEPLUS_A5010(Android),M2010J19SI(Android),M2003J15SC(Android),Redmi_Note_7(Android),vivo_1714(Android),vivo_1819(Android),SM_A107F(Android),SM_M015G(Android),SM_M115F(Android),SM_M307F(Android),SM_M307F(Android),SM_M315F(Android),SM_A217F(Android),SM_F415F(Android),vivo_1907(Android),motorola_one_fusion_(Android),motorola_one_fusion_(Android),XT1562(Android),Moto_G_4_(Android),Mi_A1(Android),Smart_TV(Android),Redmi_Note_7(Android),ONEPLUS_A5010(Android)
No of Devices	61
Upstream Port	eth2
Increment	1,2,5,10,15,20,30,40,50,60
Duration(min)	5
Traffic Type	TCP
Traffic Direction	DOWNLOAD
Upload Rate(Mbps)	0.00256
Download Rate(Mbps)	10
SSID	-
Encryption	-
Password	-

Realtime Throughput

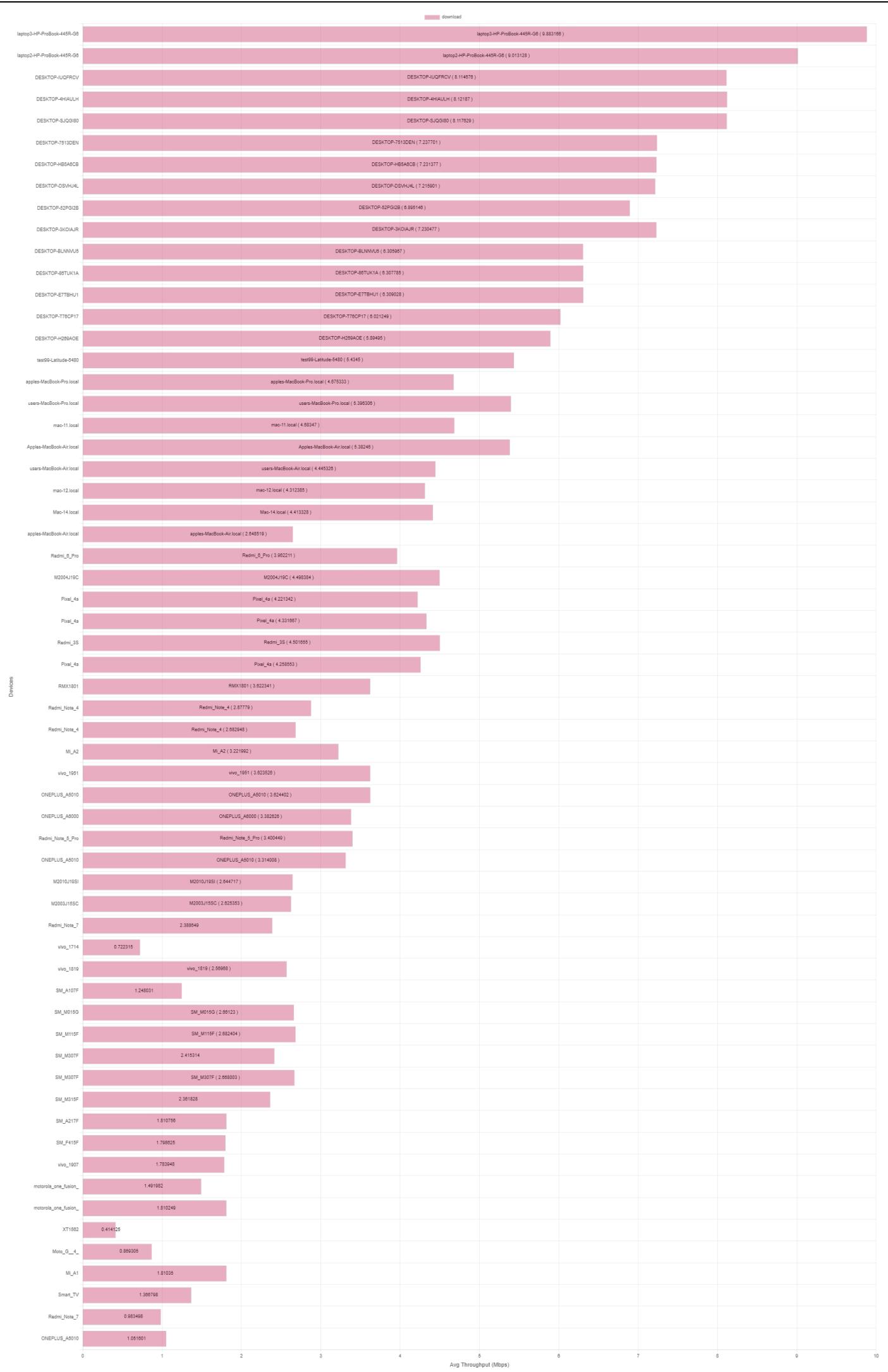


RSSI of Clients Connected



Per Client Avg-Throughput





Detailed Result Table

The below tables provides detailed information for the throughput test on each device.

Device Type	Username	SSID	Mac	Channel	Mode	Protocol	Direction	Dl Avg Throughput	Ul Avg Throughput	Dl Expected Throughput	Ul Expected Throughput	RSSI	Link Speed
Linux	laptop3-HP-ProBook-445R-G6	VINTROP_wpa2	d8:12:65:f5:fc:59	-1	802.11bgn-AC 80 2x2	tcp	download	9.883166064327487 Mbps	0.0025337836257309943 Mbps	10 Mbps	0.00256 Mbps	-32 dBm	866.7 Mbps
Linux	laptop2-HP-ProBook-445R-G6	VINTROP_wpa2	28:cd:c4:21:39:bb	-1	802.11bgn-AC 80 2x2	tcp	download	9.013128087719299 Mbps	0.002305880116959064 Mbps	10 Mbps	0.00256 Mbps	-30 dBm	866.7 Mbps
Windows	DESKTOP-IUQFRVC	VINTROP_wpa2	24:ee:9a:39:2e:61	48	AUTO 20 1x1	tcp	download	8.114676994152047 Mbps	0.002067941520467836 Mbps	10 Mbps	0.00256 Mbps	-52 dBm	866 Mbps
Windows	DESKTOP-4HIAULH	VINTROP_wpa2	00:bb:60:37:87:af	136	AUTO 20 1x1	tcp	download	8.121870111111111 Mbps	0.0020704269005847953 Mbps	10 Mbps	0.00256 Mbps	-51 dBm	866 Mbps
Windows	DESKTOP-SJQGI80	VINTROP_wpa2	74:e5:f9:f6:d1:f0	136	AUTO 20 1x1	tcp	download	8.117629728070176 Mbps	0.0020679181286549705 Mbps	10 Mbps	0.00256 Mbps	-51 dBm	866 Mbps
Windows	DESKTOP-7513DEN	VINTROP_wpa2	b8:08:cf:59:2f:c8	48	AUTO 20 1x1	tcp	download	7.237701997076023 Mbps	0.0018415994152046783 Mbps	10 Mbps	0.00256 Mbps	-51 dBm	866 Mbps
Windows	DESKTOP-HB5A6CB	VINTROP_wpa2	dc:8b:28:28:d7:64	48	AUTO 20 1x1	tcp	download	7.231377248538012 Mbps	0.0018404736842105261 Mbps	10 Mbps	0.00256 Mbps	-52 dBm	866 Mbps
Windows	DESKTOP-DSVHJ4L	VINTROP_wpa2	34:f3:9a:eb:46:b4	48	AUTO 20 1x1	tcp	download	7.215901295321638 Mbps	0.0018418070175438598 Mbps	10 Mbps	0.00256 Mbps	-51 dBm	866 Mbps
Windows	DESKTOP-52PGI2B	VINTROP_wpa2	28:cd:c4:ca:b5:a3	48	AUTO 20 1x1	tcp	download	6.895146233918129 Mbps	0.0018196666666666667 Mbps	10 Mbps	0.00256 Mbps	-50 dBm	866 Mbps
Windows	DESKTOP-3KOIAJR	VINTROP_wpa2	f4:8c:50:e2:01:67	48	AUTO 20 1x1	tcp	download	7.230477076023392 Mbps	0.0018400350877192983 Mbps	10 Mbps	0.00256 Mbps	-52 dBm	866 Mbps
Windows	DESKTOP-BLNNVU5	VINTROP_wpa2	34:41:5d:51:d1:96	48	AUTO 20 1x1	tcp	download	6.305967643274854 Mbps	0.0016066491228070177 Mbps	10 Mbps	0.00256 Mbps	-52 dBm	866 Mbps
Windows	DESKTOP-86TUK1A	VINTROP_wpa2	ac:ed:5c:36:a6:1e	136	AUTO 20 1x1	tcp	download	6.307785245614035 Mbps	0.001606529239766082 Mbps	10 Mbps	0.00256 Mbps	-51 dBm	866 Mbps
Windows	DESKTOP-E7TBHU1	VINTROP_wpa2	b4:69:21:62:bf:3d	136	AUTO 20 1x1	tcp	download	6.309028728070175 Mbps	0.0016067368421052632 Mbps	10 Mbps	0.00256 Mbps	-51 dBm	866 Mbps
Windows	DESKTOP-T76CP17	VINTROP_wpa2	28:cd:c4:9a:80:33	48	AUTO 20 1x1	tcp	download	6.021249043859649 Mbps	0.001605859649122807 Mbps	10 Mbps	0.00256 Mbps	-50 dBm	866 Mbps
Windows	DESKTOP-H269AOE	VINTROP_wpa2	d8:12:65:b7:82:eb	48	AUTO 20 1x1	tcp	download	5.894950856725146 Mbps	0.0016056198830409357 Mbps	10 Mbps	0.00256 Mbps	-50 dBm	866 Mbps
Linux	test99-Latitude-5480	VINTROP_wpa2	00:24:d6:df:e7:f1	-1	802.11bgn-AC 80 2x2	tcp	download	5.434500321637427 Mbps	0.001383046783625731 Mbps	10 Mbps	0.00256 Mbps	-30 dBm	866.7 Mbps
Mac	apples-MacBook-Pro.local	VINTROP_wpa2	98:01:a7:b6:7f:91	48	802.11abgn-AC 80 3x3	tcp	download	4.67533049707603 Mbps	0.0013718567251461988 Mbps	10 Mbps	0.00256 Mbps	-28 dBm	1300 Mbps
Mac	users-MacBook-Pro.local	VINTROP_wpa2	60:f8:1d:b6:71:70	48	802.11abgn-AC 80 3x3	tcp	download	5.3963067456140354 Mbps	0.0013716023391812866 Mbps	10 Mbps	0.00256 Mbps	-32 dBm	1170 Mbps
Mac	mac-11.local	VINTROP_wpa2	ac:bc:32:77:dc:99	48	802.11abg_80	tcp	download	4.683470894736843 Mbps	0.001371690058479532 Mbps	10 Mbps	0.00256 Mbps	-33 dBm	176 Mbps
Mac	Apples-MacBook-Air.local	VINTROP_wpa2	64:76:ba:9e:71:08	48	802.11abgn-AC 80 2x2	tcp	download	5.382460459064327 Mbps	0.001372514619883041 Mbps	10 Mbps	0.00256 Mbps	-30 dBm	867 Mbps
Mac	users-MacBook-Air.local	VINTROP_wpa2	48:bf:6b:d4:60:5a	48	802.11abgn_80 2x2	tcp	download	4.445326002923976 Mbps	0.001134108187134503 Mbps	10 Mbps	0.00256 Mbps	-28 dBm	702 Mbps
Mac	mac-12.local	VINTROP_wpa2	84:38:35:55:58:3c	48	802.11abgn-AC 80 2x2	tcp	download	4.312385862573099 Mbps	0.0011375175438596492 Mbps	10 Mbps	0.00256 Mbps	-29 dBm	867 Mbps
Mac	Mac-14.local	VINTROP_wpa2	a0:99:9b:1c:ff:69	48	802.11abgn-AC 80 3x3	tcp	download	4.413328157894737 Mbps	0.0011375994152046784 Mbps	10 Mbps	0.00256 Mbps	-34 dBm	1300 Mbps
Mac	apples-MacBook-Air.local	VINTROP_wpa2	94:f6:d6:1d:0f:12	48	802.11abgn-AC 80	tcp	download	2.64851901754386 Mbps	0.001135950292397661 Mbps	10 Mbps	0.00256 Mbps	-52 dBm	434 Mbps
Android	Redmi_6_Pro	VINTROP_wpa2	20:a6:0c:bd:3c:38	48	AUTO 20	tcp	download	3.96221166666666667 Mbps	0.0011488859649122808 Mbps	10 Mbps	0.00256 Mbps	-38 dBm	
Android	M2004J19C	VINTROP_wpa2	dc:b7:2e:21:d7:fc	48	AUTO 20	tcp	download	4.4983846052631575 Mbps	0.0011491491228070177 Mbps	10 Mbps	0.00256 Mbps	-39 dBm	433 Mbps
Android	Pixel_4a	VINTROP_wpa2	02:00:00:00:00:00	136	802.11abgn-AC 80	tcp	download	4.221342766081872 Mbps	0.0011486666666666668 Mbps	10 Mbps	0.00256 Mbps	-34 dBm	780 Mbps
Android	Pixel_4a	VINTROP_wpa2	02:00:00:00:00:00	48	802.11abgn-AC 80	tcp	download	4.33166798245614 Mbps	0.0011486812865497077 Mbps	10 Mbps	0.00256 Mbps	-31 dBm	866 Mbps
Android	Redmi_3S	VINTROP_wpa2	74:23:44:40:e7:93	1	AUTO 20	tcp	download	4.501655157894737 Mbps	0.0011490497076023392 Mbps	10 Mbps	0.00256 Mbps	-26 dBm	
Android	Pixel_4a	VINTROP_wpa2	02:00:00:00:00:00	48	802.11abgn-AC 80	tcp	download	4.258553874269006 Mbps	0.001149154970760234 Mbps	10 Mbps	0.00256 Mbps	-38 dBm	866 Mbps
Android	RMX1801	VINTROP_wpa2	b6:77:75:64:9a:20	48	AUTO 20	tcp	download	3.6223417426900584 Mbps	0.000922891812865497 Mbps	10 Mbps	0.00256 Mbps	-44 dBm	433 Mbps
Android	Redmi_Note_4	VINTROP_wpa2	f4:f5:db:a2:93:8b	48	AUTO 20	tcp	download	2.8777904298245613 Mbps	0.0009229970760233918 Mbps	10 Mbps	0.00256 Mbps	-36 dBm	
Android	Redmi_Note_4	VINTROP_wpa2	e4:46:da:16:78:5b	48	AUTO 20	tcp	download	2.6829481900584797 Mbps	0.0009233771929824562 Mbps	10 Mbps	0.00256 Mbps	-40 dBm	
Android	Mi_A2	VINTROP_wpa2	16:16:76:b2:61:e3	136	AUTO 20	tcp	download	3.221992628654971 Mbps	0.0009236286549707602 Mbps	10 Mbps	0.00256 Mbps	-34 dBm	433 Mbps
Android	vivo_1951	VINTROP_wpa2	f2:39:2c:aa:d9:dd	136	802.11abgn-AC 80	tcp	download	3.6235261315789473 Mbps	0.0009230672514619883 Mbps	10 Mbps	0.00256 Mbps	-35 dBm	433 Mbps
Android	ONEPLUS_A5010	VINTROP_wpa2	6e:26:77:b0:58:fd	136	AUTO 20	tcp	download	3.624402865497076 Mbps	0.000923201754385965 Mbps	10 Mbps	0.00256 Mbps	-37 dBm	866 Mbps
Android	ONEPLUS_A6000	VINTROP_wpa2	a6:c9:9c:9d:b9:c8	48	802.11abgn-AC 80	tcp	download	3.3826269356725147 Mbps	0.0009235526315789474 Mbps	10 Mbps	0.00256 Mbps	-33 dBm	866 Mbps

Android	Redmi_Note_5_Pro	VINTROP_wpa2	d8:32:e3:4d:57:ce	48	AUTO 20	tcp	download	3.40044900877193 Mbps	0.0009223538011695906 Mbps	10 Mbps	0.00256 Mbps	-42 dBm
Android	ONEPLUS_A5010	VINTROP_wpa2	e6:47:0a:32:bb:cc	48	AUTO 20	tcp	download	3.3140081315789476 Mbps	0.0009229210526315789 Mbps	10 Mbps	0.00256 Mbps	-41 dBm
Android	M2010J19SI	VINTROP_wpa2	8c:d9:d6:78:d3:d8	48	802.11abgn-AC 80	tcp	download	2.6447171608187134 Mbps	0.0008405730994152046 Mbps	10 Mbps	0.00256 Mbps	-28 dBm
Android	M2003J155C	VINTROP_wpa2	9c:28:f7:b4:4d:05	48	AUTO 20	tcp	download	2.6253538888888889 Mbps	0.0006848245614035089 Mbps	10 Mbps	0.00256 Mbps	-36 dBm
Android	Redmi_Note_7	VINTROP_wpa2	20:34:fb:41:3f:a5	136	AUTO 20	tcp	download	2.3886499707602336 Mbps	0.0006846929824561404 Mbps	10 Mbps	0.00256 Mbps	-34 dBm
Android	vivo_1714	VINTROP_wpa2	94:14:7a:a0:3e:03	48	AUTO 20	tcp	download	0.7223150584795321 Mbps	0.0006838684210526316 Mbps	10 Mbps	0.00256 Mbps	-54 dBm
Android	vivo_1819	VINTROP_wpa2	8a:84:d1:f8:44:90	48	802.11abgn-AC 80	tcp	download	2.569680125730994 Mbps	0.000683733918128655 Mbps	10 Mbps	0.00256 Mbps	-35 dBm
Android	SM_A107F	VINTROP_wpa2	a2:64:8e:a3:62:91	1	802.11abgn 20	tcp	download	1.2480315906432748 Mbps	0.0006831754385964912 Mbps	10 Mbps	0.00256 Mbps	-23 dBm
Android	SM_M015G	VINTROP_wpa2	a6:ca:6c:00:db:b6	1	802.11abgn 20	tcp	download	2.6612305350877192 Mbps	0.000683953216374269 Mbps	10 Mbps	0.00256 Mbps	-18 dBm
Android	SM_M115F	VINTROP_wpa2	88:a3:03:da:a4:4a	1	802.11abgn 20	tcp	download	2.68240466666666663 Mbps	0.0006839795321637427 Mbps	10 Mbps	0.00256 Mbps	-28 dBm
Android	SM_M307F	VINTROP_wpa2	76:85:75:13:cd:f8	48	802.11abgn-AC 80	tcp	download	2.4153142514619885 Mbps	0.0006167631578947369 Mbps	10 Mbps	0.00256 Mbps	-32 dBm
Android	SM_M307F	VINTROP_wpa2	ba:aa:a5:21:96:04	48	802.11abgn-AC 80	tcp	download	2.6680037660818714 Mbps	0.0006840994152046784 Mbps	10 Mbps	0.00256 Mbps	-32 dBm
Android	SM_M315F	VINTROP_wpa2	8e:5a:0b:9b:b1:47	48	AUTO 20	tcp	download	2.361828067251462 Mbps	0.0006823099415204679 Mbps	10 Mbps	0.00256 Mbps	-34 dBm
Android	SM_A217F	VINTROP_wpa2	04:bd:bf:17:2e:b6	136	802.11abgn-AC 80	tcp	download	1.8107565497076021 Mbps	0.00045955555555555555 Mbps	10 Mbps	0.00256 Mbps	-41 dBm
Android	SM_F415F	VINTROP_wpa2	56:5d:95:3f:99:4b	48	802.11abgn-AC 80	tcp	download	1.798625970760234 Mbps	0.000458078947368421 Mbps	10 Mbps	0.00256 Mbps	-36 dBm
Android	vivo_1907	VINTROP_wpa2	08:7f:98:a4:68:fb	48	802.11abgn-AC 80	tcp	download	1.7839488011695905 Mbps	0.0004591812865497076 Mbps	10 Mbps	0.00256 Mbps	-42 dBm
Android	motorola_one_fusion_	VINTROP_wpa2	58:d9:c3:87:d8:04	48	802.11abgn-AC 80	tcp	download	1.491982245614035 Mbps	0.00045749415204678366 Mbps	10 Mbps	0.00256 Mbps	-28 dBm
Android	motorola_one_fusion_	VINTROP_wpa2	90:73:5a:d2:f2:f6	136	802.11abgn-AC 80	tcp	download	1.8102498450292397 Mbps	0.0004578830409356725 Mbps	10 Mbps	0.00256 Mbps	-26 dBm
Android	XT1562	VINTROP_wpa2	88:79:7e:bd:bc:f6	48	AUTO 20	tcp	download	0.41412509356725147 Mbps	0.000458219298245614 Mbps	10 Mbps	0.00256 Mbps	-36 dBm
Android	Moto_G_4_	VINTROP_wpa2	88:79:7e:72:7d:82	48	AUTO 20	tcp	download	0.8693051228070175 Mbps	0.0004586198830409357 Mbps	10 Mbps	0.00256 Mbps	-28 dBm
Android	Mi_A1	VINTROP_wpa2	38:e6:0a:d1:22:ba	136	AUTO 20	tcp	download	1.8103505321637428 Mbps	0.0004589298245614035 Mbps	10 Mbps	0.00256 Mbps	-38 dBm
Android	Smart_TV	VINTROP_wpa2	38:c8:04:57:c2:ef	48	802.11abg 20	tcp	download	1.3667989005847954 Mbps	0.0004589327485380117 Mbps	10 Mbps	0.00256 Mbps	-27 dBm
Android	Redmi_Note_7	VINTROP_wpa2	20:34:fb:72:46:c5	136	AUTO 20	tcp	download	0.9834988070175438 Mbps	0.0004593187134502924 Mbps	10 Mbps	0.00256 Mbps	-33 dBm
Android	ONEPLUS_A5010	VINTROP_wpa2	06:25:b4:f4:97:0b	48	AUTO 20	tcp	download	1.051601081871345 Mbps	0.0003616695906432748 Mbps	10 Mbps	0.00256 Mbps	-38 dBm
												866 Mbps

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