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Network Testing and Emulation Solutions

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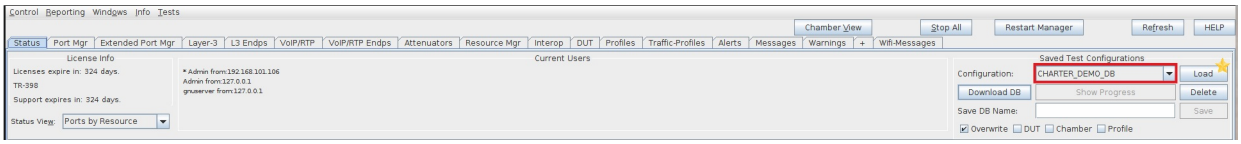
Mobile STA Mesh Test - TPUT/ROAM

Goal: Perform a Mobile Station Mest Test

Demonstrate that a station with the Interop app install can roam in the test environment. Requires LANforge 5.4.6.

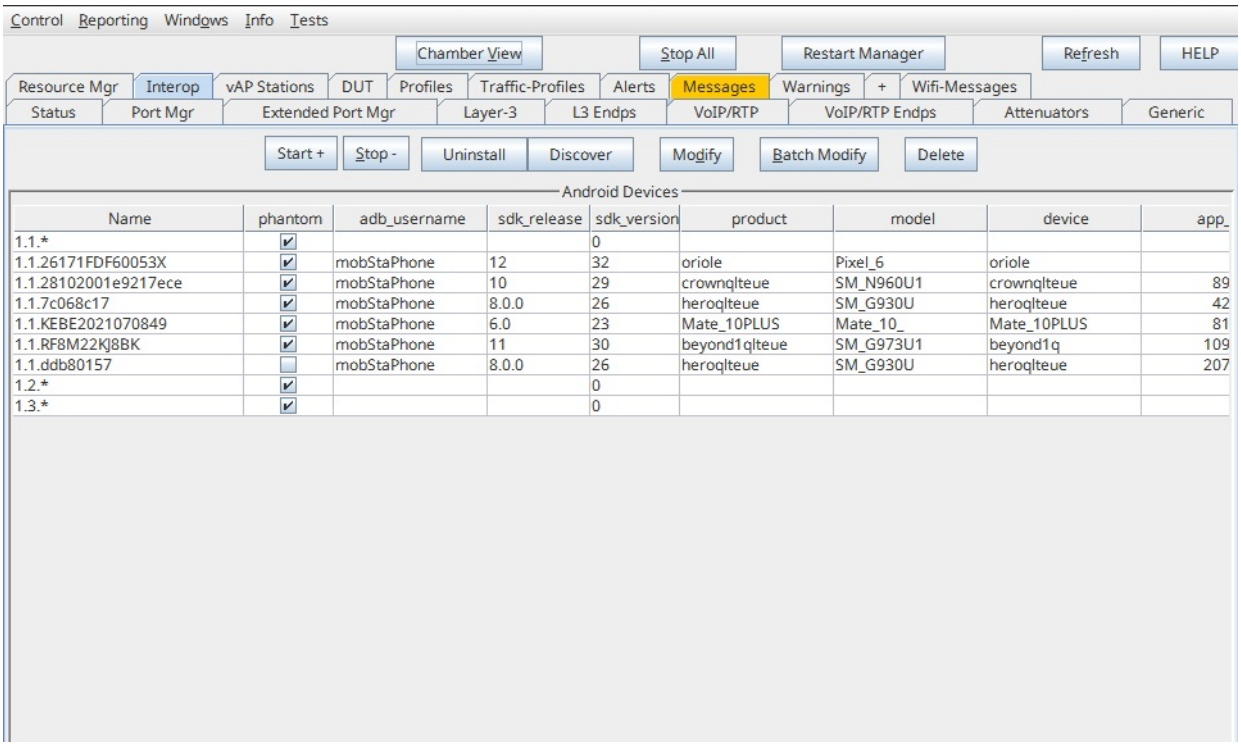
(February 10, 2023) Performed on: https://candelatech.atlassian.net/l/cp/f5CSRysM DUT: Samsung Galaxy S7

Setting Up for the Test



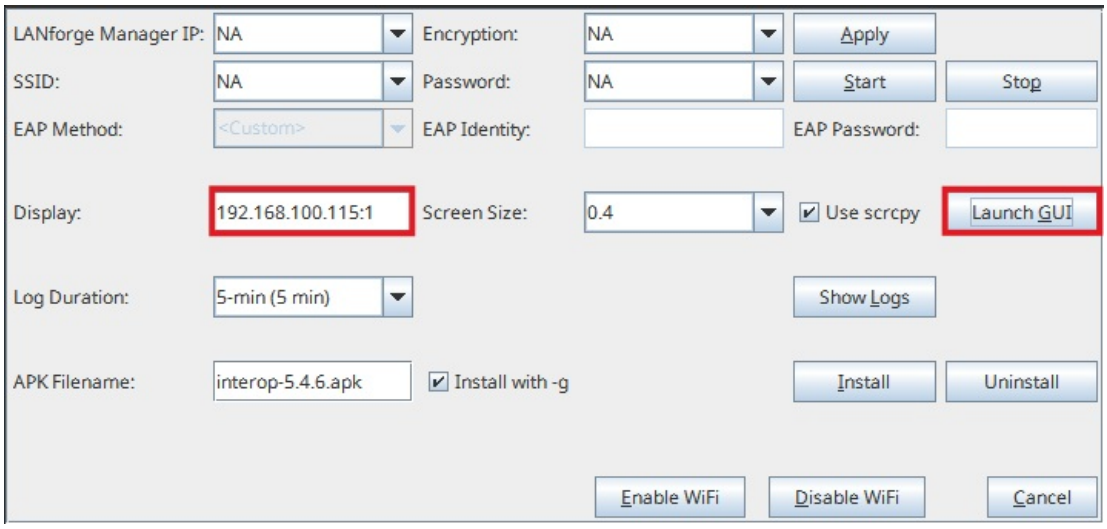
The Charter-Demo database was loaded, since this is the most recently saved stable state for the test.

First, ensure the DUT is on. *NOTE: This DUT has already been configured with the Interop app installed; as well as username/Mgmt IP set, and automatic WiFi connectivity to the test's generated SSIDs.



My device, "ddb80157" is on and recognized by forge. If yours isn't recognized, ensure that the device is on and USB debugging is enabled. Checking ADB connectivity can be troubleshooted from the command line on your LANforge machine.

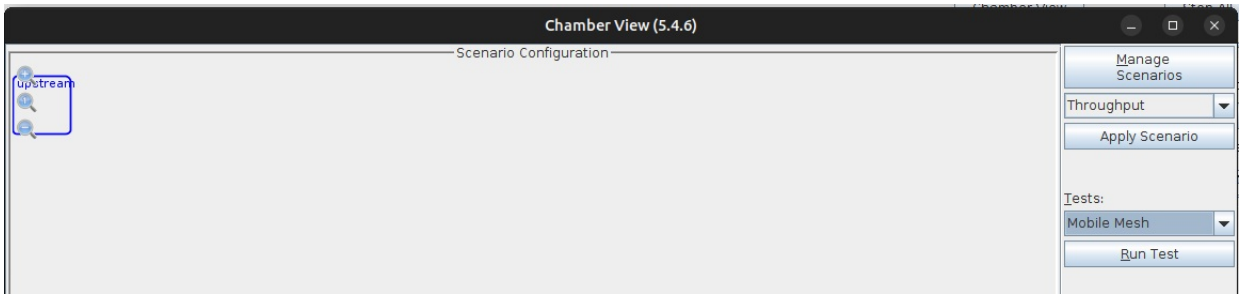
You will want to view the DUT's screen remotely in order to monitor traffic stats. To do this, select 'Batch Modify' from the Interop tab.



Fill in the IP of the display that you want the screen to appear on. This is likely the IP of your resource #1 LANforge machine.

In a few seconds, a window mirroring your device's screen should appear. Open the Interop app.

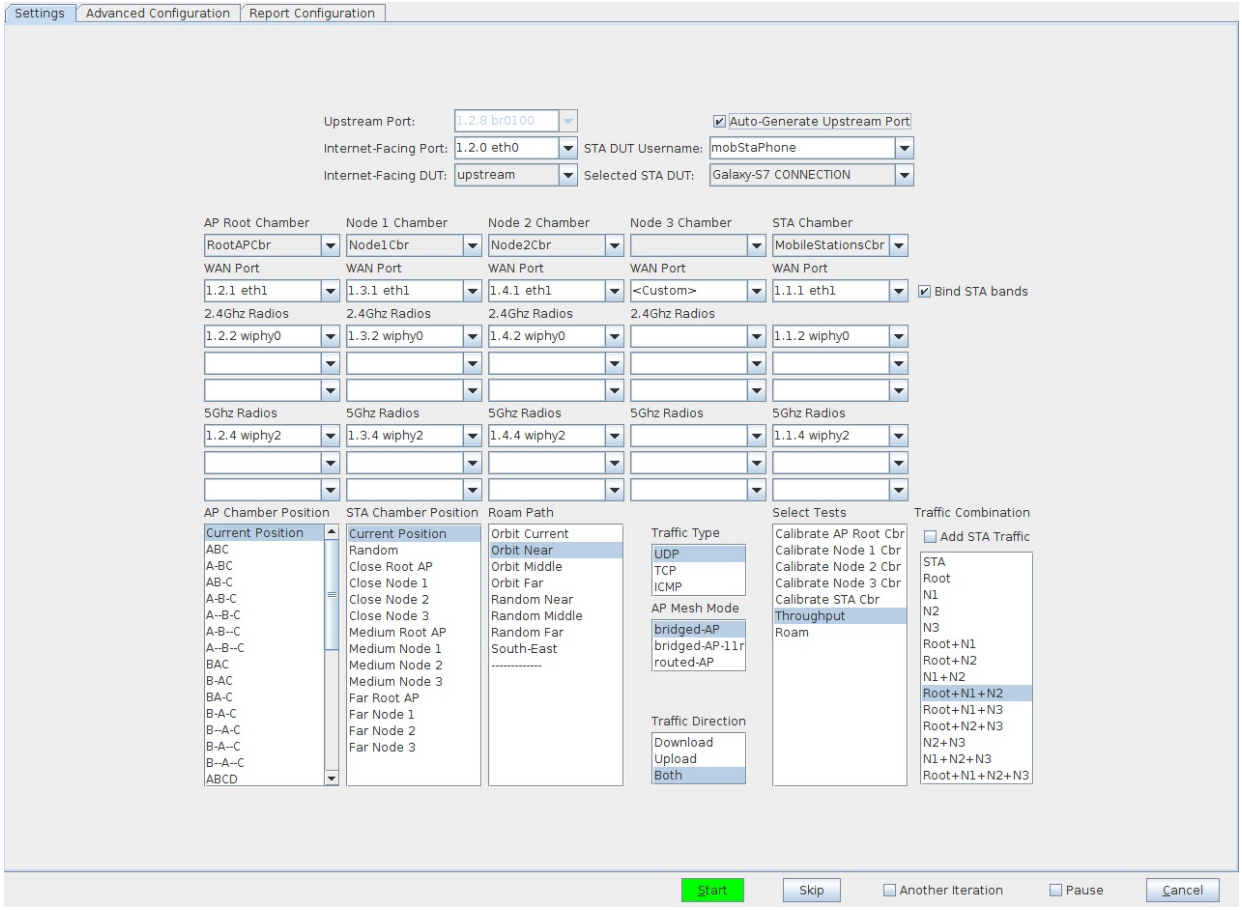
Alright, the DUT is ready for testing. Open Chamber View and select the Mobile Mesh test from the 'Tests' dropdown. Then 'Run Test'.

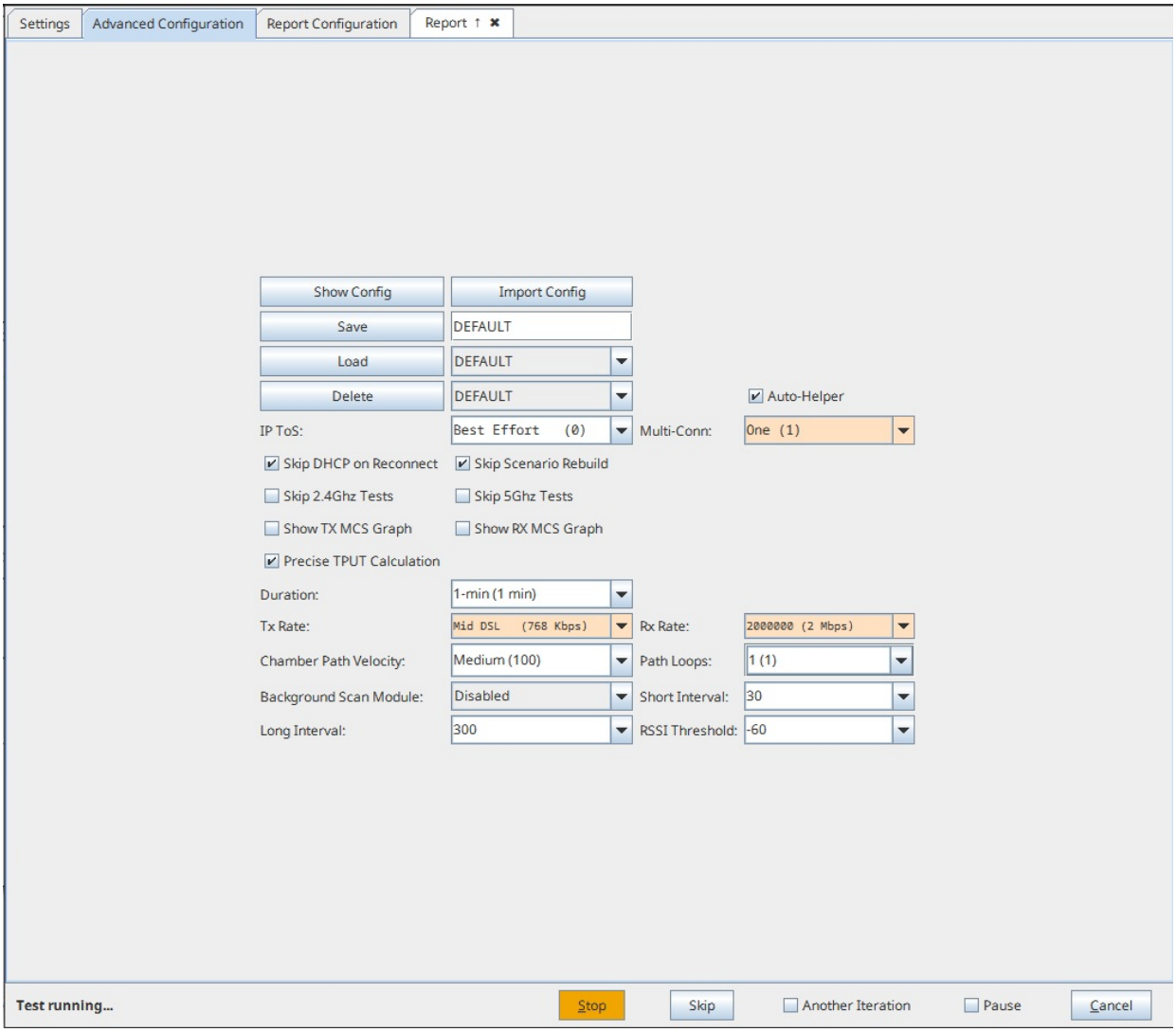


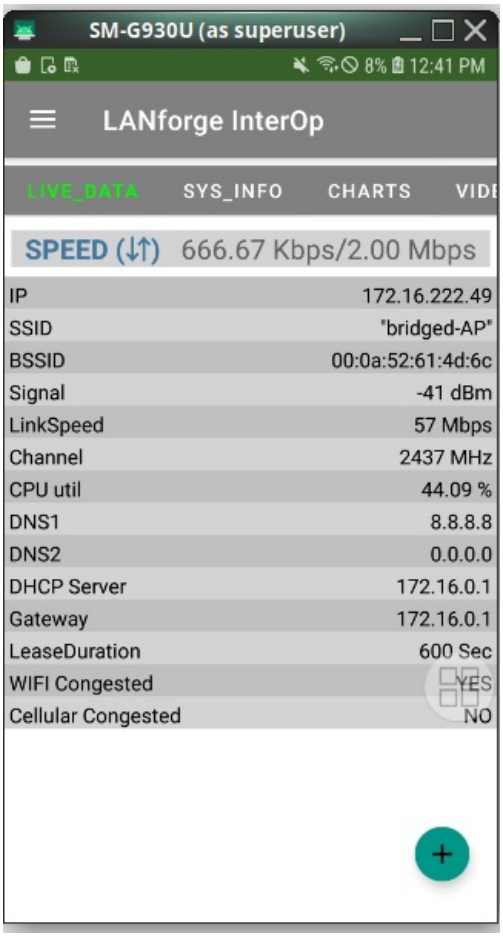
Below are some example test configurations, along with their generated reports.

Throughput Example:

(Bridged Scenario) (1 - 2.4GHz, 1 - 5GHz vAP per chamber) (UDP UL/DL) (Throughput)

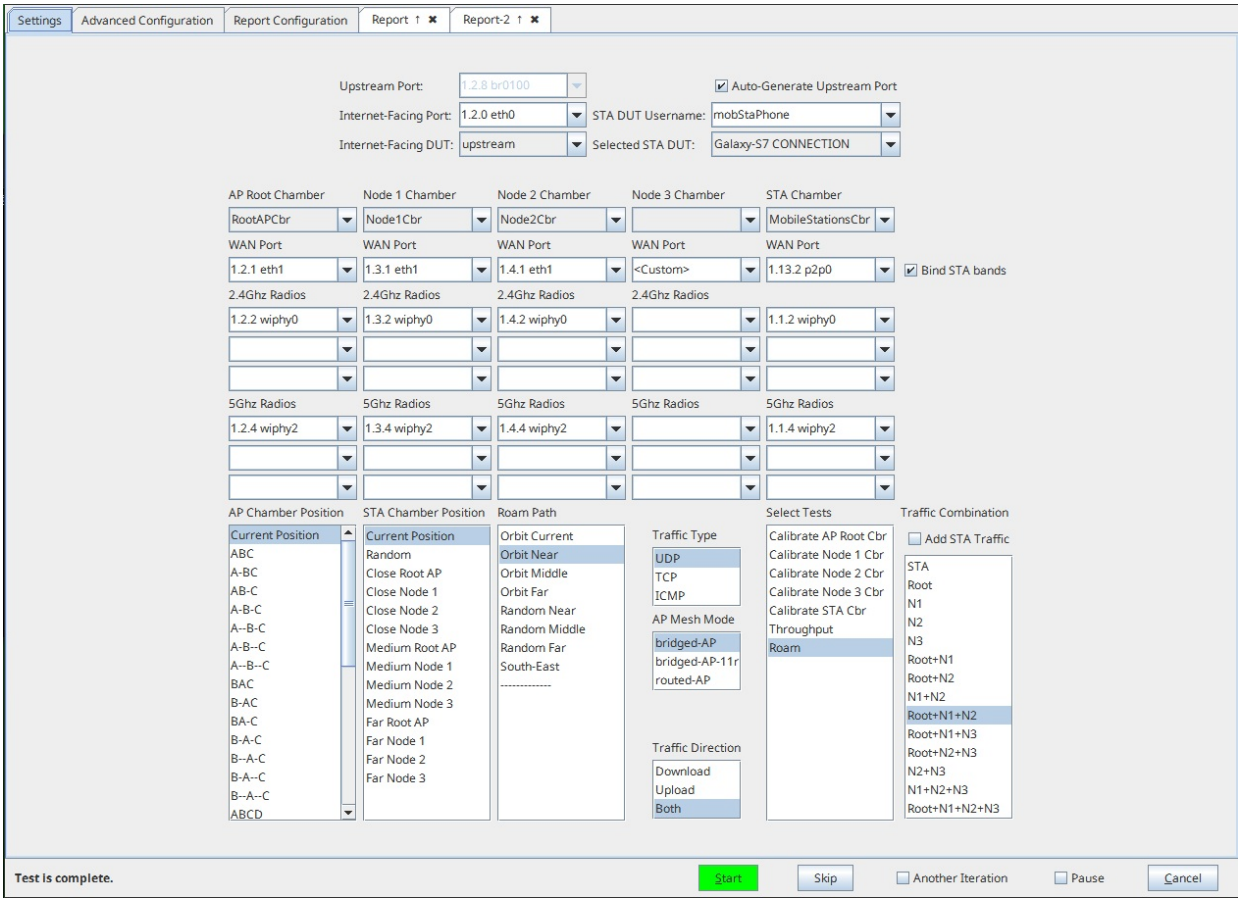


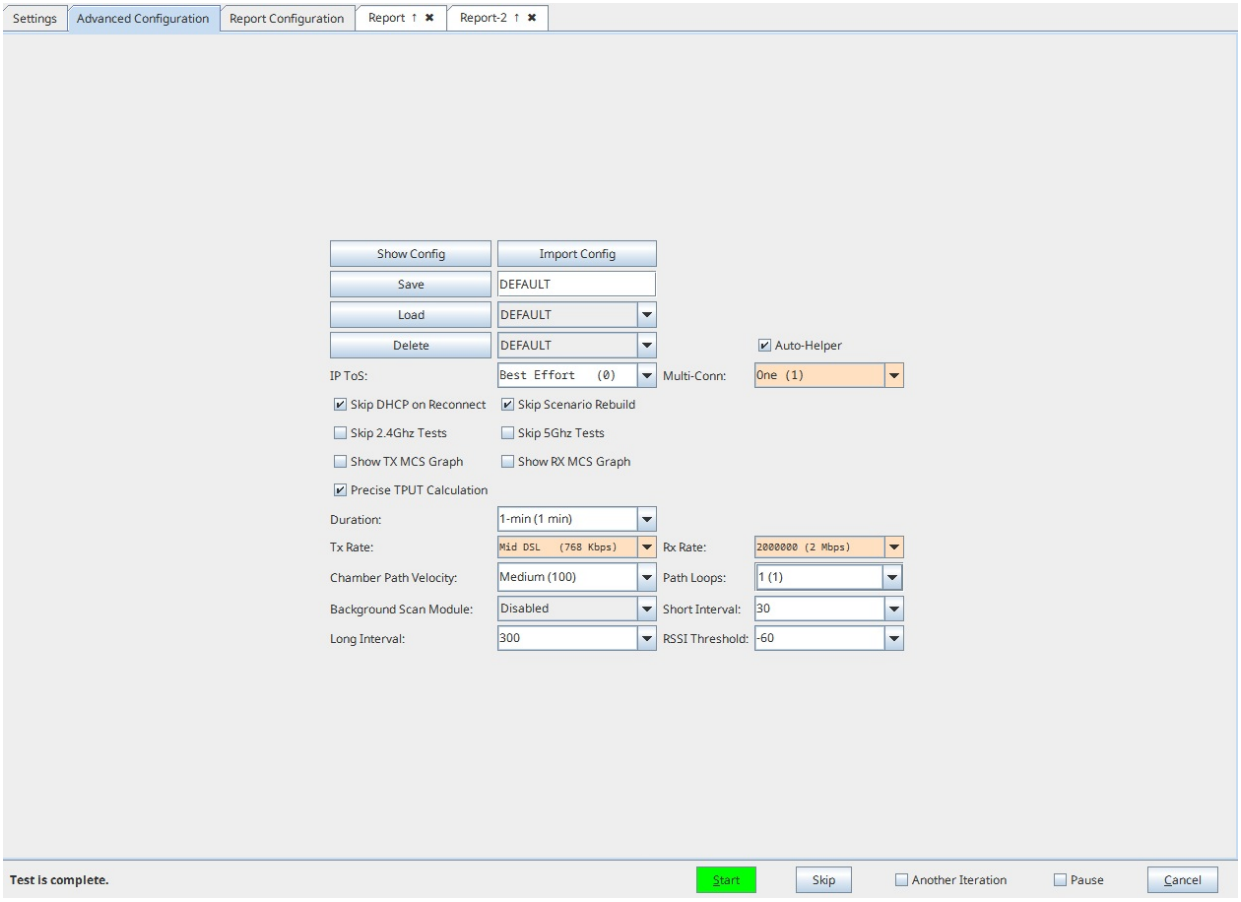

Settings
Advanced Configuration
Report Configuration
Report
Show Config
Import Config
Save
DEFAULT
Load
DEFAULT
Delete
DEFAULT
Auto-Helper
IP ToS:
Best Effort (0)
Multi-Conn:
One (1)
Skip DHCP on Reconnect
Skip Scenario Rebuild
Skip 2.4Ghz Tests
Skip 5Ghz Tests
Show TX MCS Graph
Show RX MCS Graph
Precise TPUT Calculation
Duration:
1-min (1 min)
Tx Rate:
Mid DSL (768 Kbps)
Rx Rate:
2000000 (2 Mbps)
Chamber Path Velocity:
Medium (100)
Path Loops:
1 (1)
Background Scan Module:
Disabled
Short Interval:
30
Long Interval:
300
RSSI Threshold:
-60
Test running...
Stop
Skip
Another Iteration
Pause
Cancel

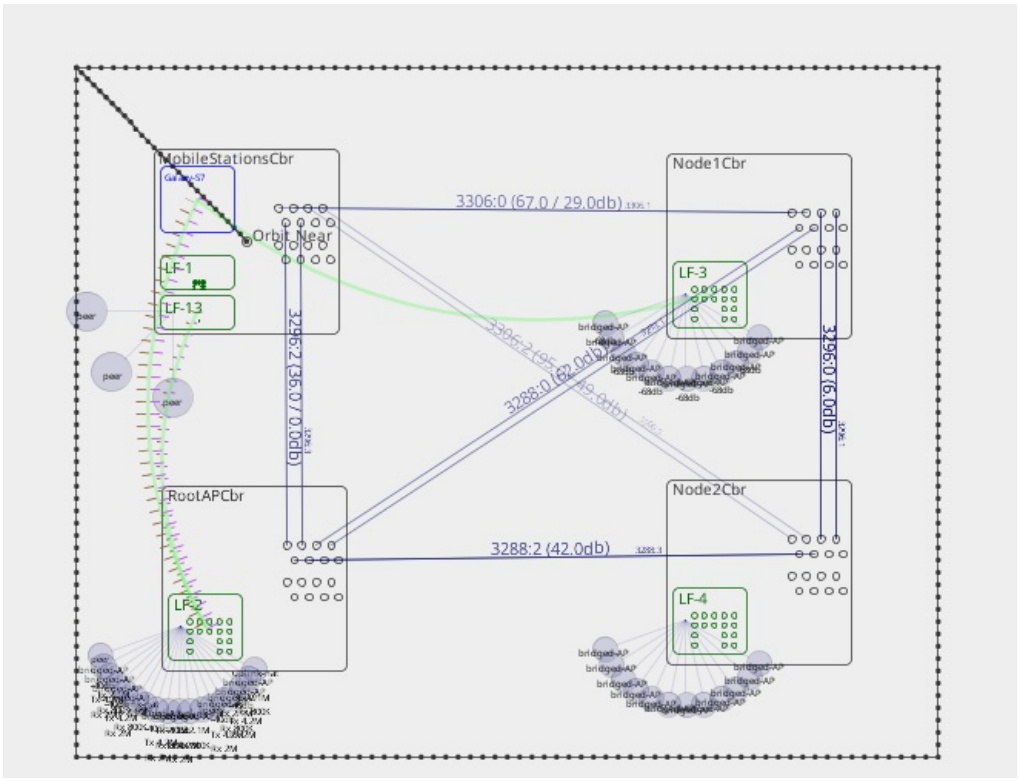

SM-G930U (as superuser)
8% 12:41 PM
LANforge InterOp
LIVE_DATA
SYS_INFO
CHARTS
VIDE
SPEED (↓↑) 666.67 Kbps/2.00 Mbps
IP 172.16.222.49
SSID "bridged-AP"
BSSID 00:0a:52:61:4d:6c
Signal -41 dBm
LinkSpeed 57 Mbps
Channel 2437 MHz
CPU util 44.09 %
DNS1 8.8.8.8
DNS2 0.0.0.0
DHCP Server 172.16.0.1
Gateway 172.16.0.1
LeaseDuration 600 Sec
WIFI Congested YES
Cellular Congested NO

Roam Example:

(Bridged Scenario) (1 - 2.4GHz, 1 - 5GHz vAP per chamber) (UDP UL/DL) (Roam)




Settings
Advanced Configuration
Report Configuration
Report ↑
Report-2 ↑
Show Config
Import Config
Save
DEFAULT
Load
DEFAULT
Delete
DEFAULT
Auto-Helper
IP ToS:
Best Effort (0)
Multi-Conn:
One (1)
Skip DHCP on Reconnect
Skip Scenario Rebuild
Skip 2.4Ghz Tests
Skip 5Ghz Tests
Show TX MCS Graph
Show RX MCS Graph
Precise TPUT Calculation
Duration:
1-min (1 min)
Tx Rate:
Mid DSL (768 Kbps)
Rx Rate:
2000000 (2 Mbps)
Chamber Path Velocity:
Medium (100)
Path Loops:
1 (1)
Background Scan Module:
Disabled
Short Interval:
30
Long Interval:
300
RSSI Threshold:
-60
Test is complete.
Start
Skip
Another Iteration
Pause
Cancel


MobileStationsCbr
Orbit_Near
LF-1
LF-13
Node1Cbr
LF-3
3306:0 (67.0 / 29.0db)
3296:2 (36.0 / 0.0db)
3296:0 (67.0db)
3288:0 (69.0db)
RootAPCbr
LF-2
Node2Cbr
LF-4
3288:2 (42.0db)