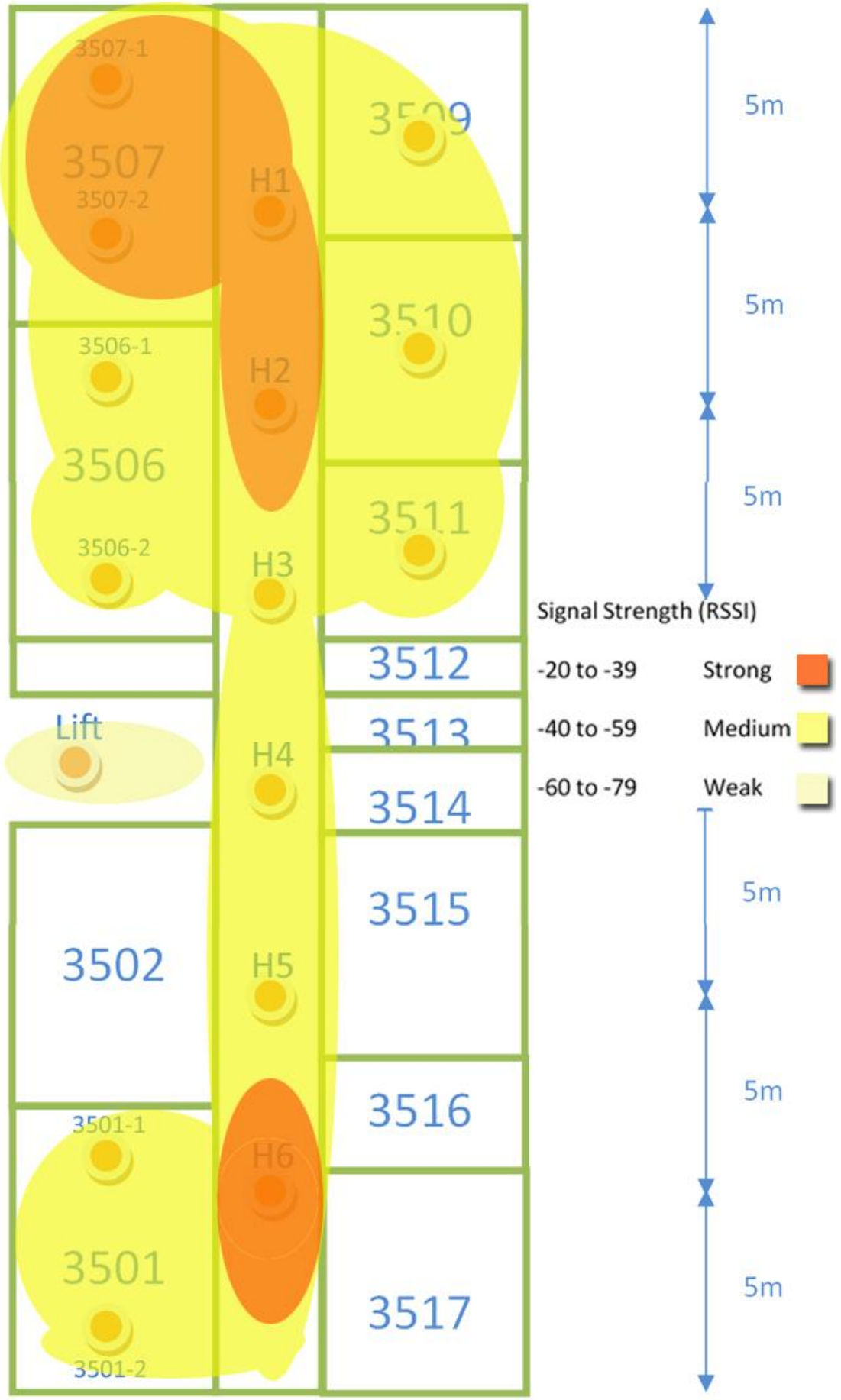
# Coverage Map of 5th Floor of Sirindhralai Bldg. (Bangkadi Campus)



# Maximum Signal Strength of Each Access Point on 5Fl. of Sirindhralai Building

| Location | RSSI | Strength | MAC Address | SSID | Channel | Max Rate |
|---|---|---|---|---|---|---|
| 3509 | -47 | Medium | 00:A0:C5:73:62:56 | wsiit | 11 | 11 |
| 3510 | -41 | Medium | 00:A0:C5:73:62:56 | wsiit | 11 | 11 |
| 3511 | -42 | Medium | 00:A0:C5:73:62:56 | wsiit | 11 | 11 |
| 3501-1 | -44 | Medium | 00:A0:C5:D4:77:D9 | wsiit | 7 | 11 |
| 3501-2 | -52 | Medium | 00:A0:C5:D4:77:D9 | wsiit | 7 | 11 |
| 3506-1 | -48 | Medium | 00:A0:C5:73:62:56 | wsiit | 11 | 11 |
| 3506-2 | -44 | Medium | 00:A0:C5:73:62:56 | wsiit | 11 | 11 |
| 3507-1 | -36 | Strong | 00:A0:C5:73:62:56 | wsiit | 11 | 11 |
| 3507-2 | -38 | Strong | 00:A0:C5:73:62:56 | wsiit | 11 | 11 |
| H1 | -38 | Strong | 00:A0:C5:73:62:56 | wsiit | 11 | 11 |
| H2 | -21 | Strong | 00:A0:C5:73:62:56 | wsiit | 11 | 11 |
| H3 | -48 | Medium | 00:A0:C5:73:62:56 | wsiit | 11 | 11 |
| H4 | -59 | Medium | 00:A0:C5:73:62:56 | wsiit | 11 | 11 |
| H5 | -46 | Medium | 00:A0:C5:D4:77:D9 | wsiit | 7 | 11 |
| H6 | -37 | Strong | 00:A0:C5:D4:77:D9 | wsiit | 7 | 11 |
| Lift | -63 | Weak | 00:A0:C5:73:62:56 | wsiit | 11 | 11 |

# Information of Access Points Available on 5th Floor of Sirindhralai Building

| MAC Address | SSID | Channel | Bandwidth (Mbps) |
|---|---|---|---|
| 00:19:CB:4F:0A:0E | wsiit | 11 | 54 |
| 00:19:CB:4F:0A:14 | wsiit | 5 | 54 |
| 00:19:CB:7E:8F:FE | wsiit | 6 | 54 |
| 00:19:CB:4F:09:C3 | wsiit | 9 | 54 |
| 00:23:F8:6E:C0:CC | wsiit | 2 | 300 (N) |
| 00:23:69:3A:ED:29 | wsiit | 12 | 54 |
| 00:23:69:3A:EE:DC | wsiit | 9 | 54 |
| 00:23:69:3A:F5:CC | wsiit | 10 | 54 |
| 00:23:69:3A:F5:D2 | wsiit | 7 | 54 |
| 00:23:69:3A:F5:FC | wsiit | 11 | 54 |
| 00:23:69:3A:F6:92 | wsiit | 8 | 54 |
| 00:A0:C5:73:62:56 | wsiit | 11 | 11 |
| 00:A0:C5:D4:77:D0 | wsiit | 11 | 11 |
| 00:A0:C5:D4:77:D7 | wsiit | 7 | 11 |
| 00:A0:C5:D4:77:D9 | wsiit | 7 | 11 |
| 00:A0:C5:D4:77:DB | wsiit | 11 | 11 |
| 00:A0:C5:D4:77:DC | wsiit | 1 | 11 |
| 00:A0:C5:D4:77:DF | wsiit | 5 | 11 |

# Signal Strength of Access Points Available on 5th Floor of Sirindhralai Building (Categorized by MAC Address of Access Points)

00:19:CB:4F:0A:0E

| Location | RSSI | Strength |
|---|---|---|
| 3510 | -89 | Very Weak |
| 3509 | -86 | Very Weak |
| 3507-1 | -87 | Very Weak |

00:19:CB:4F:0A:14

| Location | RSSI | Strength |
|---|---|---|
| 3510 | -88 | Very Weak |

00:19:CB:7E:8F:FE

| Location | RSSI | Strength |
|---|---|---|
| 3507-1 | -84 | Very Weak |

00:19:CB:4F:09:C3

| Location | RSSI | Strength |
|---|---|---|
| H2 | -91 | Very Weak |

00:23:F8:6E:C0:CC

| Location | RSSI | Strength |
|---|---|---|
| H4 | -84 | Very Weak |
| 3501-1 | -84 | Very Weak |
| 3501-2 | -87 | Very Weak |

00:23:69:3A:ED:29

| Location | RSSI | Strength |
|---|---|---|
| H2 | -86 | Very Weak |
| H3 | -86 | Very Weak |
| H4 | -88 | Very Weak |
| 3511 | -90 | Very Weak |
| 3510 | -88 | Very Weak |

00:23:69:3A:EE:DC

| Location | RSSI | Strength |
|---|---|---|
| H1 | -87 | Very Weak |
| H2 | -86 | Very Weak |
| H3 | -86 | Very Weak |
| H4 | -87 | Very Weak |
| H5 | -89 | Very Weak |
| 3511 | -87 | Very Weak |
| 3510 | -87 | Very Weak |
| 3509 | -88 | Very Weak |

00:23:69:3A:F5:CC

| Location | RSSI | Strength |
|---|---|---|
| H1 | -88 | Very Weak |
| H2 | -82 | Very Weak |
| H3 | -88 | Very Weak |
| H4 | -83 | Very Weak |
| 3511 | -87 | Very Weak |
| 3510 | -83 | Very Weak |
| 3509 | -88 | Very Weak |

00:23:69:3A:F5:D2

| Location | RSSI | Strength |
|---|---|---|
| H1 | -87 | Very Weak |
| H2 | -86 | Very Weak |
| H4 | -90 | Very Weak |
| 3511 | -89 | Very Weak |
| 3510 | -88 | Very Weak |

00:23:69:3A:F5:FC

| Location | RSSI | Strength |
|---|---|---|
| H1 | -90 | Very Weak |
| H2 | -84 | Very Weak |
| H3 | -88 | Very Weak |
| H4 | -83 | Very Weak |
| Lift | -90 | Very Weak |
| 3511 | -87 | Very Weak |
| 3510 | -83 | Very Weak |
| 3509 | -90 | Very Weak |

00:23:69:3A:F6:92

| Location | RSSI | Strength |
|---|---|---|
| H1 | -87 | Very Weak |

00:A0:C5:73:62:56

| Location | RSSI | Strength |
|---|---|---|
| H1 | -38 | Strong |
| H2 | -21 | Strong |
| H3 | -48 | Medium |
| H4 | -59 | Medium |
| H5 | -62 | Weak |
| H6 | -60 | Weak |
| 3507-1 | -36 | Strong |
| 3507-2 | -38 | Strong |
| Lift | -63 | Weak |
| 3511 | -42 | Medium |
| 3510 | -41 | Medium |
| 3509 | -47 | Medium |
| 3501-1 | -87 | Very Weak |
| 3501-2 | -79 | Weak |
| 3506-1 | -48 | Medium |
| 3506-2 | -44 | Medium |

00:A0:C5:D4:77:D0

| Location | RSSI | Strength |
|---|---|---|
| H1 | -88 | Very Weak |
| H2 | -87 | Very Weak |
| H3 | -83 | Very Weak |
| H4 | -70 | Weak |
| H5 | -56 | Medium |
| H6 | -63 | Weak |
| 3511 | -90 | Very Weak |
| 3510 | -86 | Very Weak |
| 3501-1 | -60 | Weak |
| 3501-2 | -71 | Weak |

00:A0:C5:D4:77:D7

| Location | RSSI | Strength |
|---|---|---|
| H4 | -90 | Very Weak |
| H5 | -83 | Very Weak |
| H6 | -83 | Very Weak |
| 3501-1 | -84 | Very Weak |
| 3501-2 | -84 | Very Weak |

00:A0:C5:D4:77:D9

| Location | RSSI | Strength |
|---|---|---|
| H1 | -69 | Weak |
| H2 | -66 | Weak |
| H3 | -67 | Weak |
| H4 | -67 | Weak |
| H5 | -46 | Medium |
| H6 | -37 | Strong |
| 3507-1 | -84 | Very Weak |
| 3507-2 | -87 | Very Weak |
| Lift | -80 | Very Weak |
| 3511 | -73 | Weak |
| 3510 | -79 | Weak |
| 3509 | -76 | Weak |
| 3501-1 | -44 | Medium |
| 3501-2 | -52 | Medium |
| 3506-1 | -86 | Very Weak |
| 3506-2 | -83 | Very Weak |

00:A0:C5:D4:77:DB

| Location | RSSI | Strength |
|---|---|---|
| H1 | -61 | Weak |
| H2 | -52 | Medium |
| H3 | -58 | Medium |
| H4 | -72 | Weak |
| H5 | -75 | Weak |
| H6 | -76 | Weak |
| 3507-1 | -63 | Weak |
| 3507-2 | -61 | Weak |

| | | |
|---|---|---|
| Lift | -80 | Very Weak |
| 3511 | -63 | Weak |
| 3510 | -58 | Medium |
| 3509 | -67 | Weak |
| 3506-1 | -57 | Medium |
| 3506-2 | -63 | Weak |

00:A0:C5:D4:77:DC

| Location | RSSI | Strength |
|---|---|---|
| H4 | -77 | Weak |
| H5 | -86 | Very Weak |
| H6 | -89 | Very Weak |
| Lift | -83 | Very Weak |
| 3501-1 | -83 | Very Weak |
| 3501-2 | -88 | Very Weak |

00:A0:C5:D4:77:DF

| Location | RSSI | Strength |
|---|---|---|
| H1 | -84 | Very Weak |
| H2 | -89 | Very Weak |
| 3507-1 | -86 | Very Weak |
| 3507-2 | -88 | Very Weak |
| 3510 | -89 | Very Weak |
| 3506-1 | -87 | Very Weak |

# Test Setup

There are several steps in test setup for finding the maximum throughput of using IEEE 802.11b only, IEEE 802.11g only, and the mixture of the two standards. All steps are divided into two sections which are **"Preparation"** and **"Performing Test"**. The former part regards how to configure the router to use IEEE 802.11b, IEEE 802.11g, or the mixture and how to prepare the environment for performing test; and the latter part states how to find the maximum throughput by using **iperf** and **Command Prompt** of Windows.

Note that in this test, **Linksys WRT54GL** wireless router is used. One PC is used as a server and two laptops are used as clients. The server-side PC is connected to the router via Ethernet cable and the client-side laptops associate the router through wireless connection. The PC and both laptops run iperf on Windows. Each client-side laptop and the router are situated 0.5 meter apart and Channel 9 is used.

## Preparation

1. Download iperf from internet to both client laptops and a server PC.
2. Put the client laptops half meter away from the router.
3. Connect Ethernet cable from the router to the server PC.
4. Wait for the server PC to automatically connect to the router.
5. Using the server PC, open web browser and go to 192.168.1.1.
    a. Remember "Starting IP Address" (192.168.1.100)


**Figure 1: Linksys WRT54GL Wireless Router Configuration (Network Setup Page)**

    b. Click at "Wireless" tab and change "Wireless Network Mode" to G-only
    c. Change SSID to your desirable name (in this case "ABC")
    d. Change "Wireless Channel" to the channel not used by nearby nodes
    e. Click "Save Settings" and then click "Continue" button

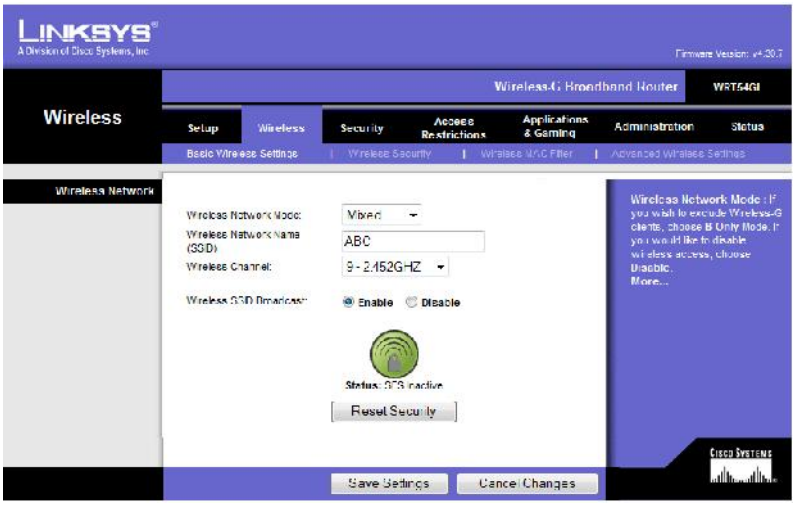



**Figure 2: Linksys WRT54GL Wireless Router Configuration (Wireless Tab)**

6. Using the client computer, connect to "ABC" network via a wireless connection.

## Performing Test for One Source (Client)

1. For PC and laptop, open "Command Prompt" by going to Start > All Programs > Accessories > Command Prompt


**Figure 3: Command Prompt of Windows**

2. For the server PC, type in the following command line into the command prompt and press "Enter" on keyboard to execute the command,

   *iperf.exe –s –u*

   , where *–s* denotes using this computer as a server and *–u* denotes using UDP.
   This command makes the PC starts listening to the transmission of data to its ports.
3. For one of the client laptop, type in the following command line into the command prompt and press "Enter" on keyboard to execute the command,

   *iperf.exe –c Starting_IP_Address –u –b 5m*

   where *–c* denotes using this computer as a client ,
   *–u* denotes using UDP,
   *–b* denotes bandwidth or sending rate,
   *Starting_IP_Address* is an IP address of the access point,
   *5m* is a value of bandwidth (in Mbps) which will be changed during the test.

4. After ten seconds, look at the value displayed on Command Prompt window. Note down the measured throughput which is displayed as "Bandwidth" in Command Prompt window.
5. Repeat step 3 and step 4 but change the sending rate from 5 Mbps to the multiples of five by changing 5m to 10m, 15m, 20m, 25m, 30m, … respectively until the outstanding value of throughput appears.
   For example, the results of measured throughput are as follow:

| *Sending Rate* | *Measured Throughput (Mbps)* |
|---|---|
| *5m* | *11* |
| *10m* | *15* |
| *15m* | *12* |
| *20m* | *13* |

   15 Mbytes Transfer of bandwidth of 15 Mbps is the outstanding value and we run more tests for the value around 10 Mbps, i.e. 8, 9, 10, 11, 12, to confirm that it yields the maximum throughput.

## Performing Test for Two Sources (Clients)

Test for two sources is performed after the test for one source since the objective is to find the maximum throughput and realize how using two sources differs from using one source. Note that two laptops are used in this section.

1. For PC and both laptops, open "Command Prompt" by going to Start > All Programs > Accessories > Command Prompt
   However, for PC, two Command Prompt windows are opened.
2. For the server PC, type in the following command line into *the first command prompt window* and press "Enter" on keyboard to execute the command,

   *iperf.exe –s –u –p 1111*

   , where *–s* denotes using this computer as a server, *–u* denotes using UDP, and –p denotes the port number for sending packet
   This command makes the PC starts listening to the transmission of data on port with port number 1111.
3. For the server PC, type in the following command line into *the second command prompt window* and press "Enter" on keyboard,

   *iperf.exe –s –u –p 2222*

   This command makes the PC starts listening to the transmission of data on port with number 2222.

   ** Step 4 and Step 5 are performed simultaneously.

4. For one of the client laptop, type in the following command line into the command prompt and press "Enter" on keyboard to execute the command,

   *iperf.exe –c Starting_IP_Address –u –b 5m –p 1111*

   where *–c* denotes using this computer as a client ,
   *–u* denotes using UDP,

*–b* denotes bandwidth or sending rate,
*Starting_IP_Address* is an IP address of the access point,
*5m* is a value of bandwidth (in Mbps) which will be changed during the test,
*-p* denotes port number which the packet is sent to.

5. For another client laptop, type in the following command line into the command prompt and press "Enter" on keyboard at the same time as Step 4,

   *iperf.exe –c Starting_IP_Address –u –b 5m –p 2222*

6. After ten seconds, look at the value displayed on both Command Prompt windows shown in server PC. Note down the values of measured throughput which are displayed as "Bandwidth" in both Command Prompt windows.
7. Repeat step 4 through step 6 but change the sending rate from 5 Mbps to the multiples of five by changing 5m to 10m, 15m, 20m, 25m, 30m, … respectively until the outstanding value of throughput appears.
   For example, the results of measured throughput are as follow:

| *Sending Rate* | *Measured Throughput (Mbps)* |
|---|---|
| *5m* | *11* |
| *10m* | *15* |
| *15m* | *12* |
| *20m* | *13* |

   15 Mbytes Transfer of bandwidth of 15 Mbps is the outstanding value and we run more tests for the value around 10 Mbps, i.e. 8, 9, 10, 11, 12, to confirm that it yields the maximum throughput.

## Final Note

For the test using two sources, the value of maximum throughput at each sending rate is calculated from average of the two maximum throughput values collected from the test at that particular sending rate.

After the maximum throughput of IEEE 802.11g (G-only) is found for both using one source and using two sources, we switch to find the maximum throughput for IEEE 802.11b (B-only) by repeating step 5 of **Preparation** section but changing "Wireless Network Mode" from "G-only" to "B-only"; and repeating all steps of **Performing Test for One Source** section and **Performing Test for Two Sources** section.

After the maximum throughput of IEEE 802.11b (B-only) is found for both using one source and using two sources, we switch to find the maximum throughput for the mixture of IEEE 802.11b and IEEE 802.11g by repeating step 5 of **Preparation** section but changing "Wireless Network Mode" from "B-only" to "mixed"; and repeating all steps of **Performing Test for One Source** section and **Performing Test for Two Sources** section.

# Test Results and Discussions

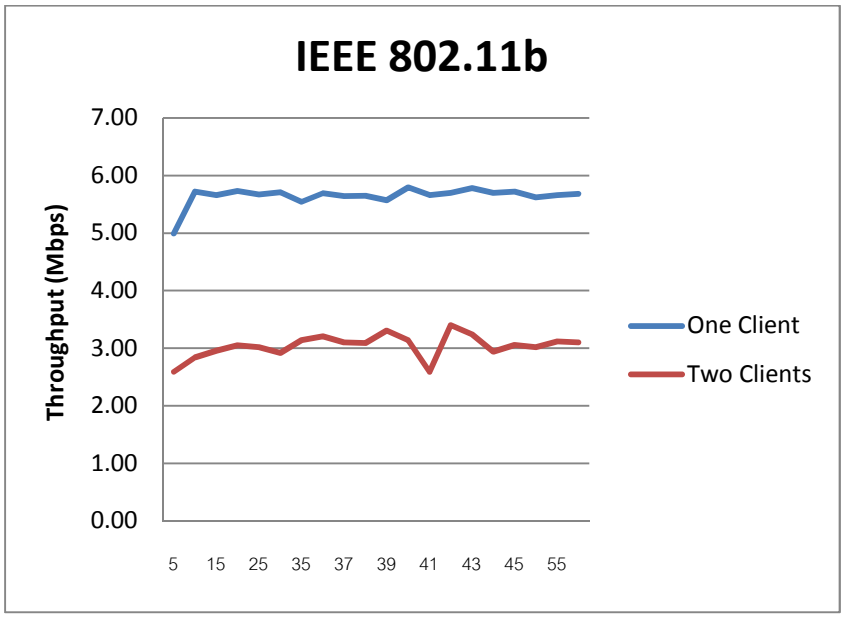



**Figure 4: Sending Rate vs. Throughput for IEEE 802.11b only**

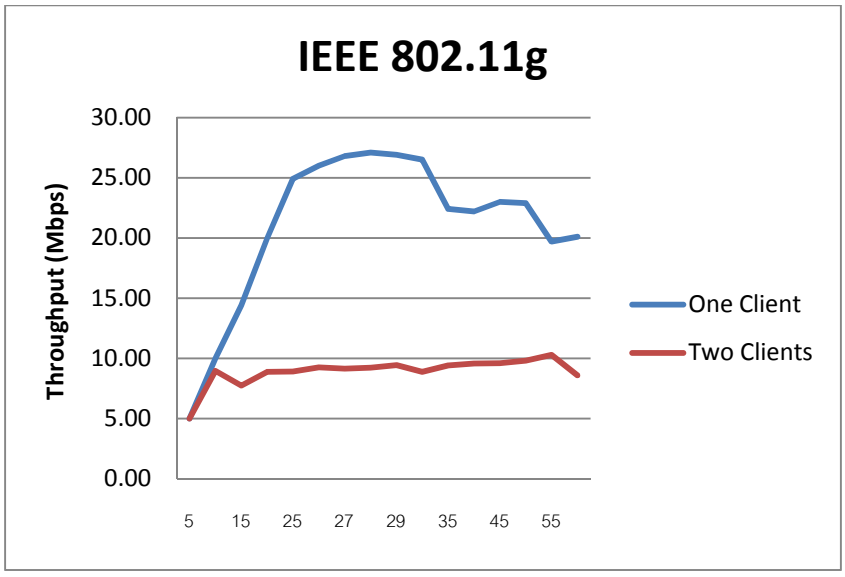



**Figure 5: Sending Rate vs. Throughput for IEEE 802.11g only**

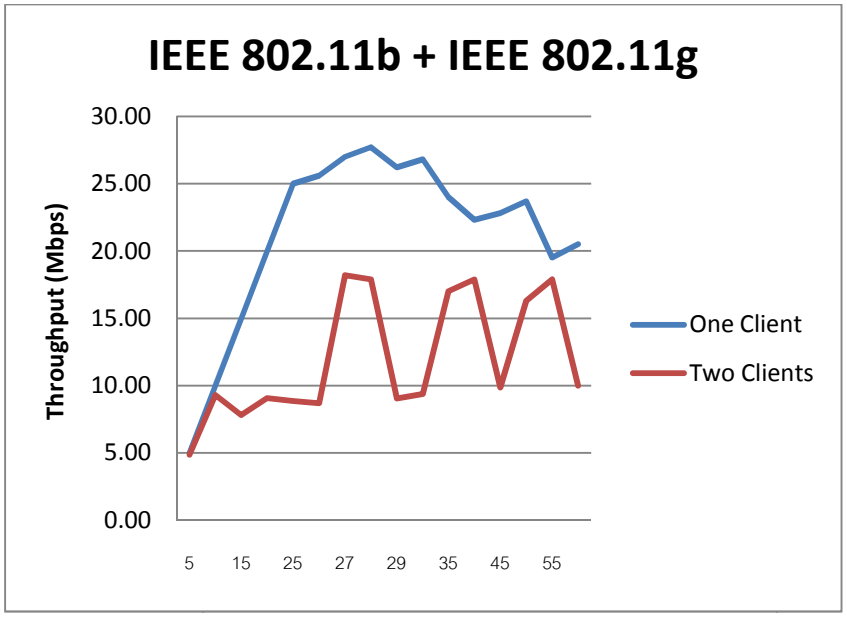



**Figure 6: Sending Rate vs. Throughput for Mixture of IEEE 802.11b and IEEE 802.11g**

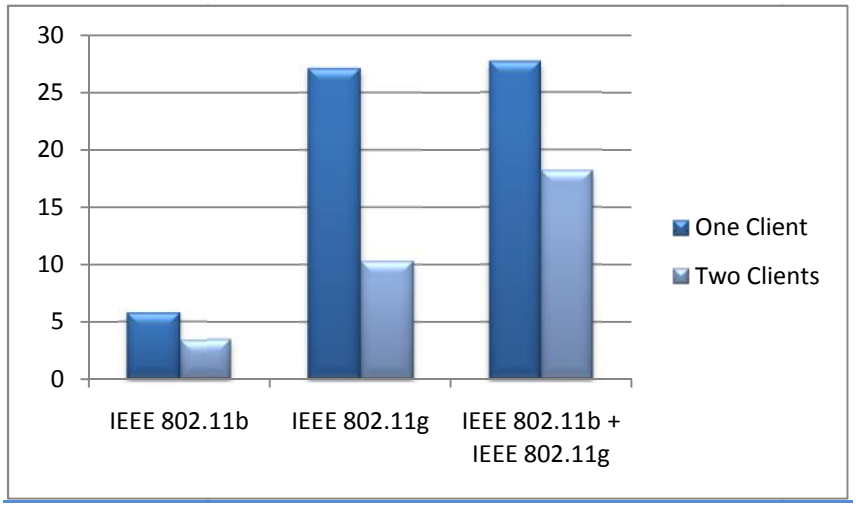



**Figure 7: Maximum Throughput vs. Number of Clients Used**

## Discussion

All three plots of sending rate vs. throughput for different standards (i.e. IEEE 802.11b, IEEE 802.11g, and the mixture of the two standards) share the same trend which is the measured throughput increases along with increasing sending rate until reaching a maximum value of throughput. At the maximum value of throughput, value of throughput remains constant.

In each plot, there are two lines of plots shown. The upper blue line denotes the value of throughput in the situation where one client associates with the router through a wireless connection. The lower green line denotes the value of throughput in the situation where two clients associate with the router through a wireless connection.

All three plots of sending rate vs. throughput for different standards also share the same difference between the blue line and the green line. This difference points out that the values of throughput of when two clients associate with the router is approximately the half of those of when only one client associates with the router. This is because, when two clients simultaneously request the server to send packets to them, the throughput is shared between two of them.

For Figure 7, the blue bar denotes the maximum throughput of using one client; and the cyan bar denotes the maximum throughput of using two clients. For each standard (i.e. IEEE 802.11b, IEEE 802.11g, and mixed), the height of the cyan bar is approximately the half of the height of the blue bar since the throughput is shared between two clients when two clients send the packet simultaneously. Moreover, according to Figure 7, maximum throughput of using IEEE 802.11b + IEEE 802.11g are relatively close to those of using IEEE 802.11g since the using IEEE 802.11b + IEEE 802.11g can reach the higher maximum throughput between the two standards, i.e. the maximum throughput of IEEE 802.11g.

Results of Measured Throughput and Maximum Throughput (Bold Number)
for Both Using One Source (Blue Table) and Two Sources (Orange Table)
at Different Bandwidth Specified by Server Computer

IEEE 802.11b (One Client)

| Sending Rate (Mbps) | Throughput (Mbps) | Lost Datagrams | Total Datagrams |
|---|---|---|---|
| 5 | 4.99 | 0 | 4253 |
| 10 | 5.72 | 0 | 4865 |
| 15 | 5.66 | 0 | 4825 |
| 20 | 5.73 | 0 | 4871 |
| 25 | 5.67 | 0 | 4848 |
| 30 | 5.71 | 0 | 4874 |
| 35 | 5.54 | 0 | 4728 |
| 36 | 5.69 | 0 | 4880 |
| 37 | 5.64 | 0 | 4834 |
| 38 | 5.65 | 0 | 4832 |
| 39 | 5.57 | 0 | 4759 |
| 40 | **5.79** | 0 | 4959 |
| 41 | 5.66 | 0 | 4857 |
| 42 | 5.70 | 0 | 4873 |
| 43 | 5.78 | 0 | 4941 |
| 44 | 5.70 | 0 | 4886 |
| 45 | 5.72 | 0 | 4912 |
| 50 | 5.62 | 0 | 4792 |
| 55 | 5.66 | 0 | 4818 |
| 60 | 5.68 | 0 | 4833 |

IEEE 802.11b (Two Clients)

| Sending Rate (Mbps) | Throughput (Mbps) | Lost Datagrams | Total Datagrams |
|---|---|---|---|
| 5 | 2.59 | 0 | 2213 |
| 10 | 2.84 | 0 | 2426 |
| 15 | 2.96 | 0 | 2518 |
| 20 | 3.05 | 0 | 2596 |
| 25 | 3.02 | 0 | 2572 |
| 30 | 2.92 | 0 | 2490 |
| 35 | 3.14 | 0 | 2732 |
| 36 | 3.21 | 0 | 2760 |
| 37 | 3.10 | 0 | 2636 |
| 38 | 3.09 | 0 | 2632 |
| 39 | 3.31 | 0 | 2851 |
| 40 | 3.14 | 0 | 2669 |
| 41 | 2.59 | 0 | 2224 |
| 42 | **3.40** | 0 | 2905 |
| 43 | 3.24 | 0 | 2788 |
| 44 | 2.94 | 0 | 2507 |
| 45 | 3.06 | 0 | 2603 |

| | | | |
|---|---|---|---|
| 50 | 3.02 | 0 | 2574 |
| 55 | 3.12 | 0 | 2655 |
| 60 | 3.10 | 0 | 2638 |

IEEE 802.11g (One Client)

| Sending Rate (Mbps) | Throughput (Mbps) | Lost Datagrams | Total Datagrams |
|---|---|---|---|
| 5 | 5.00 | 0 | 4253 |
| 10 | 9.99 | 0 | 8505 |
| 15 | 14.40 | 0 | 12285 |
| 20 | 20.00 | 0 | 17008 |
| 25 | 24.90 | 0 | 21213 |
| 26 | 26.00 | 0 | 22125 |
| 27 | 26.80 | 0 | 22815 |
| 28 | **27.10** | 0 | 23005 |
| 29 | 26.90 | 0 | 22870 |
| 30 | 26.50 | 7 | 22393 |
| 35 | 22.40 | 0 | 19078 |
| 40 | 22.20 | 0 | 18999 |
| 45 | 23.00 | 0 | 19589 |
| 50 | 22.90 | 0 | 19477 |
| 55 | 19.70 | 0 | 16813 |
| 60 | 20.10 | 0 | 17040 |

IEEE 802.11g (Two Clients)

| Sending Rate (Mbps) | Throughput (Mbps) | Lost Datagrams | Total Datagrams |
|---|---|---|---|
| 5 | 4.99 | 0 | 4157 |
| 10 | 8.95 | 0 | 7624 |
| 15 | 7.74 | 0 | 6588 |
| 20 | 8.87 | 1 | 7551 |
| 25 | 8.91 | 0 | 7589 |
| 26 | 9.25 | 0 | 7888 |
| 27 | 9.15 | 0 | 7802 |
| 28 | 9.23 | 0 | 7859 |
| 29 | 9.45 | 0 | 8038 |
| 30 | 8.87 | 0 | 7539 |
| 35 | 9.40 | 0 | 7991 |
| 40 | 9.58 | 0 | 8186 |
| 45 | 9.61 | 0 | 8184 |
| 50 | 9.80 | 0 | 8349 |
| 55 | **10.30** | 0 | 8787 |
| 60 | 8.60 | 0 | 7312 |

IEEE 802.11b & IEEE 802.11g (One Client)

| Sending Rate (Mbps) | Throughput (Mbps) | Lost Datagrams | Total Datagrams |
|---|---|---|---|
| 5 | 5.00 | 0 | 4253 |
| 10 | 10.00 | 0 | 8505 |
| 15 | 15.00 | 0 | 12757 |
| 20 | 20.00 | 0 | 17008 |

| | | | |
|---|---|---|---|
| 25 | 25.00 | 0 | 21278 |
| 26 | 25.60 | 0 | 21821 |
| 27 | 27.00 | 0 | 22955 |
| 28 | **27.70** | 0 | 23557 |
| 29 | 26.20 | 0 | 22274 |
| 30 | 26.80 | 0 | 22784 |
| 35 | 24.00 | 0 | 20420 |
| 40 | 22.30 | 0 | 18935 |
| 45 | 22.80 | 0 | 19416 |
| 50 | 23.70 | 0 | 20195 |
| 55 | 19.50 | 0 | 16552 |
| 60 | 20.50 | 0 | 17470 |

IEEE 802.11b & IEEE 802.11g (Two Clients)

| Sending Rate (Mbps) | Throughput (Mbps) | Lost Datagrams | Total Datagrams |
|---|---|---|---|
| 5 | 4.87 | 0 | 4137 |
| 10 | 9.31 | 0 | 7919 |
| 15 | 7.81 | 0 | 6643 |
| 20 | 9.07 | 0 | 7725 |
| 25 | 8.85 | 0 | 7537 |
| 26 | 8.69 | 0 | 7398 |
| 27 | **18.20** | 0 | 15527 |
| 28 | 17.90 | 0 | 15329 |
| 29 | 9.05 | 0 | 7705 |
| 30 | 9.37 | 0 | 7966 |
| 35 | 17.00 | 0 | 14379 |
| 40 | 17.90 | 0 | 15205 |
| 45 | 9.85 | 0 | 8389 |
| 50 | 16.30 | 0 | 13867 |
| 55 | 17.90 | 0 | 15211 |
| 60 | 10.00 | 0 | 8507 |

Member of Group 3

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3. Ms.Araya Kinbuangam ID 5122791171