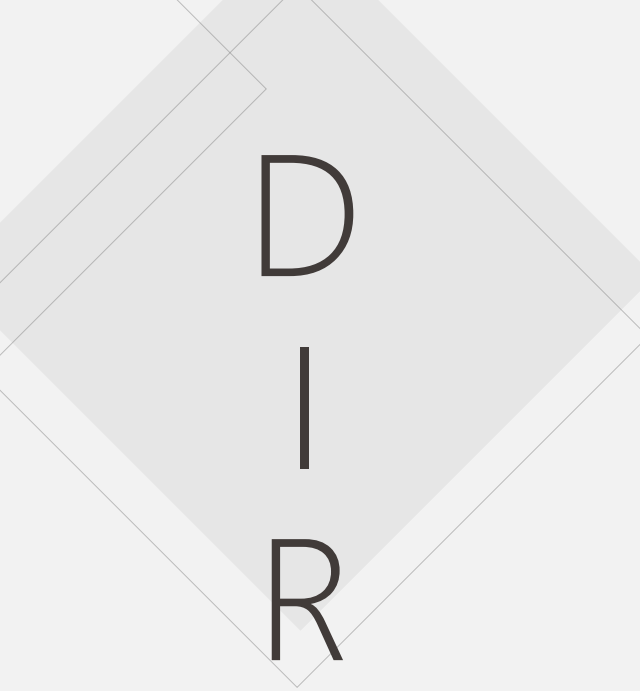


COMP4336/9336 Lab5

The background features a large, light gray diamond shape centered on the page. Two thin, dark gray wavy lines, resembling sine waves, cross the diamond horizontally. Scattered around the diamond and wavy lines are several small, light gray squares of varying sizes and orientations.

Rui
21T2 Week5



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R

01

Prerequisite Knowledge

02

Lab SPEC

03

General questions

Lab5 – SPEC

Prerequisite:

- What is Modulation Coding Scheme(MCS) Index?
..is a metric based on several parameters of a WiFi connection between two stations.
- How to use MSC index (<http://mcsindex.com/>)?
 - HT/VHT/HE
 - Spatial Stream
 - Modulation
 - Coding: $\frac{1}{2}$, $\frac{5}{6}$...
 - OFDM
 - Guard interval (GI)

Lab5 – SPEC

TASK 1

- 1. Data collection:** Start WiFi data transmissions between a phone and a laptop and then move the phone away from the laptop and then bring it closer again, slowly. (CSV file)
- 2. Analyse RSS, MCS as well as the data rates from the Wireshark traces and try to explain how change in **distance** affects MCS/data-rate.**
(Report: Graphs + Comment)



Lab5 – SPEC

TASK 2

- 1. Data collection:** Start WiFi data transmissions between a phone and a laptop and **then bring an obstacle**, such as a sofa between them and then remove it again, slowly. Keep capturing WiFi packets in Wireshark during this time. (CSV file)
- 2.** Analyse RSS, MCS as well as the data rates from the Wireshark traces and try to explain how change in **obstacle** affects MCS/data-rate.



Lab5 – SPEC

TASK 3

- 1. Data collection:** Start WiFi data transmissions between a phone and a laptop and keep capturing WiFi packets in Wireshark during this time. Also, turn on a smart TV and watch a video from the Internet. Now turn on a microwave oven nearby, which uses 2.4GHz (all microwave ovens do). (CSV file)
- 2.** Analyse RSS, MCS as well as the data rates from the Wireshark traces and try to explain how the **microwave operation** affects MCS/data-rate.



Other general questions

- **Feedback & mark for Lab available now**
 - Check your Moodle.
- **Can not observe the data rate change?**
 - Try different distance, if possible, try outdoor(you can have more distance)
- **Still not working?**
 - A sample is provided in [this link](#)



THANKS