Lab 10 Notes

CC3100 is the wireless board that we will be using

Proposal 3 is what we are doing; this is everyone is an open chat network. IE; ADhoc. We each have an IP address and we communicate with each other by opening separate channels with another IP address.

Our communication is going to be half duplex. This means that transmitting and receiving do not happen at the same exact time.

Question on the Exam:

How do you transmit communication?

Energy to transmit information from A to B. Not Current, Light or Voltage.   
You incode the information as energy packets to transmit from A to B. Then you decode those energy packets.

How do you store Data?

You incode the data as energy.

Bad things that can happen during the transmission

Energy can be lost over long distances of times.

it can distort due to the physics of the transmission

Or you can add extra noise which makes it harder to decode

(SSID) is Valvano on the Router.

We need to download the CC3100SDK SimpleLink Wifi CC3100 Sofrware Development Kit

PuTTy configuration. You can get to it in the hardware devices.

Right click on Stellaris Port to tell which COM41,COM42, blab la bla Port

There seems to be no hardware in Lab10

STEPS TO DO LAB 10:

#define SSID\_Name “Valvano”

Use Board\_Init() to intiate the LED and on board switches.

If you can connect to the router, and ping the router there is no hardware fault.

In the starter file Lines 66,67,68 you can program the EKG to be 1. That helps you simulate data.

All you are left to use is PA,PD, and PE

Watch the Putty Config, will help you see Errors and debugging.

Have a #define for your IP address, so you can configure the send address for the Debug

3 mains, One for the client, one for the server, and one for the interpreter. The interpreter looks for a carriage return to look from the UART.

Rom\_SysCtlDelay: A hardcoded Driver Library exists in this ROM on the chip.

You can use the Tivaware: ck-tm4c123gd-boost-cc33100\_basic\_wifi\_with\_UDP/cc31000\_starter.uvproj

Step2.

You have to change Line 20 so it says CRTNODE1.

To get to step 3, you want to change Line 63 to the Ip address of the server, which is what is going to be collecting the packets.

All of the main programs will print out the IP to the Putty after you connect to the Putty.

You can only have either the Sensor Node,DisplpayNode or the CTRNode on at the same time (Only 1 of them can be on)

SENSORNODE is the client based program, this one just sends a packet with no UART connected to it, it is the lightweight one.

DISPLAYNODE is the receiver based program. The IP Address, EKG and ADC don’t matter. All it does is just receive data (UART) and plots it onto the screen.

115200 is the baud rate

To download necessary starter code: go to tivaware, then download the impleLinkwifi cc3100 sofware development kit. Then you can go to Moduels , Socket, Sl\_SendTo.

Udp\_socket is the one used to start Lab10D.

Addrr.sin\_addr.s\_addr = (Addr.sin\_addr.s\_addr&0x00FFF ~ helps to get the bottom bits of the address so you can shift it and have the address of the IP

We cannot create a USB host without R17

When you calculate SNR in db you have to understand that you are working with singal power and noise power.

It does not compile because the relative pass for the files are messed up. So ask someone who got it to compile how they got it to compile.