Lab #9 EE 361

- Actual values

- 150.2 MHz classical station

Gain: 19.7 dB

Sample Rate: 2.9 $\frac{\text{M samples}}{\text{sec}}$

Tuner AGC: off

Task 2: Tuned in to KUGS
see screenshot

Observations:

- Pretty hard to tune into specific frequencies
- A lot of little spikes of noise in the 80's (at 86.4M, most FM in 88 M

Noise floor: -57dB

How to measure recievet:

1) set up own transmitter with known power
2) Look up FCC values & compare with recievet
3)

- measure recievet area from width & motion height
* Turning SP decay down gives you memory, which shows you average shape, & we can divide by time to get power

* S-decay = 0
* S-attack = 3

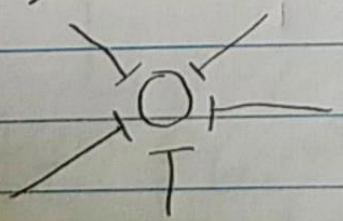
Estimate of relative recieved power: -29dB

* Turn S-decay up & back down again to reset

Noise floor: -55dB

$SNR_{(dB)} = -29-(-55) = 26\ dB$

Can minimize side lobes depending on elevation angle of antenna



- We see noise in band
- Touching antenna raises everything, & finds new signals

- Only touching with Tristars right hand seemes to help

- changing length of antenna changes recieve power, but does not chan the noise much
  - implies that we seeing a lot of thermal noise

Task 4. Turned down: 19.7 → 19.7

noise floor decreases by 3dB when we drop gain down to 0

tray:0

	(dB) Gain	(dB) noise floor	(dB) Peak	dB) SNR
@ 88.1 MHz	19.7	-56	-25	31
	0	-56	-42	14
	49.6	-35	5 (clipping)	40
	29.7	-50	-12	38

- At 96.9 MHz: we could barely make out the audio when we set the gain to 0dB

- Anything above 20dB was good for CBC Radio 1: under the influence with Terry O'Reilly

5)

Table 2:

Eff. rad pwr	Meas rel. rec. pwr	MHz Freq	Str/weak	call letters	(miles) distance from transmitters
	-22dB	88.1	relatively peaky	CBW2	46.8
	-30dB	89.3		KUGS	1.0
	-45dB	91.7		KZAZ	3.8

We were near the steam building

6) freq @ 92.9 MHz call sign KISM

16.7 miles away

Freq (MHz)	call sign	dist (miles)	(W is dB in this unit) recieved power	ERP
92.9	KISM	16.7	-35W x 0.025W	
103.5	CHQM	46.9	-38.5 x 0.125	
104.1	KAFE	16.7	-54 x 0.070	

7)

Freq: 953.225 MHz (Police)
Peak: -5 dB
gain: 12.7 dB

Freq 953.55 MHz

Peak: N/A
gain: 12.5 dB
*relatively stronger

EE 433 Lab 5 Theory Questions

1) NUM_TAPS
//(technically not a varia
// but a define is c

2) firCoeff F32

3) Its a declaration