

Lec 21 -- Referred noise, LNA, quantization, spectrum analyzer

Write an expression for noise at the output of a receive chain comprised of cascaded amplifiers and attenuators

Does amplification help or harm signal to noise ratio?

What is system temperature?

How do you calculate cascaded noise factor? (i.e.: write the Friis noise equation)

Where does quantization noise come from?

What is an expression for the voltage noise variance caused by quantization noise?

How many dB of SNR do you get per bit of resolution?

Draw a block diagram of a spectrum analyzer and indicate which components are responsible for the resolution bandwidth and video bandwidth

What does the resolution bandwidth do? What does the video bandwidth do?

What is a mixer? What equations describe its function?

What is a VCO?