

Lab 5 rubric

Overview

- 100 points possible
- Grade basis: Completeness, clarity, and correctness
- Assign partial credit when appropriate.

Problem	Item	Points
1a	Data is presented for VCO output frequency versus input voltage	4
	Data is plotted in well-formatted and labeled plot	4
b	Student discusses the linearity of the data	2
	The value for f_d is correct	4
2b	Data and plot provided for amplitudes of carrier, 1 st sideband, 2 nd sideband versus beta	3
	- Includes three zeros of carrier, two of 1 st band, one of 2 nd band	6
	- Bessel functions are evident	3
3	Sinusoid	
	- Spectrum analyzer (SA) plot is included	4
	- Result is compared with Carson's Rule, Woodward's Theorem	4
	Square	
	- Spectrum analyzer (SA) plot is included	4
	- Result is compared with Carson's Rule, Woodward's Theorem	4
	Triangle	
	- Spectrum analyzer (SA) plot is included	4
	- Result is compared with Carson's Rule, Woodward's Theorem	4
4a	Frequency response of discriminator filter is plotted	5
	- Linear region is indicated	5
b	Carrier frequency and max deviation are recorded	4
c	CD music is demonstrated to TA	6
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Problem	Item	Points
5b	Oscilloscope printout showing phase lock is included in report	2
c	Lock range is recorded	4
	Capture range is recorded	4
6	N/A	
7a	Under-damped waveform is included	3
	Over-damped waveform is included	3
b	Data and plot of PLL frequency response are included	4
8a	Oscilloscope printout showing non-linear lock-capture is included	3
b	CD music is demonstrated to TA	7