

Open Circuit AC Signal Test (6/3/2023)

Purpose: This test quantifies the maximum frequency and voltage of the AC signals coming of the generator for analysis and component specifying.

Description: The generator is run with no load connected to the rectifier, with the engine set to full throttle. The voltage across each parallel set of generator excitation capacitors is measured with an oscilloscope. This measures the voltage of each phase.

Results:

Phase	Measured Peak Voltage(V)	RMS Voltage (V)	Frequency (Hz)
Phase 1	384	271.5	54.35
Phase 2	384	271.5	53.76
Phase 3	364	257.4	53.76

Analysis: Wiring and connectors that are used to couple these signals should be rated for at least 280VAC.

Attached Oscilloscope Captures:



Figure 1: Phase 1

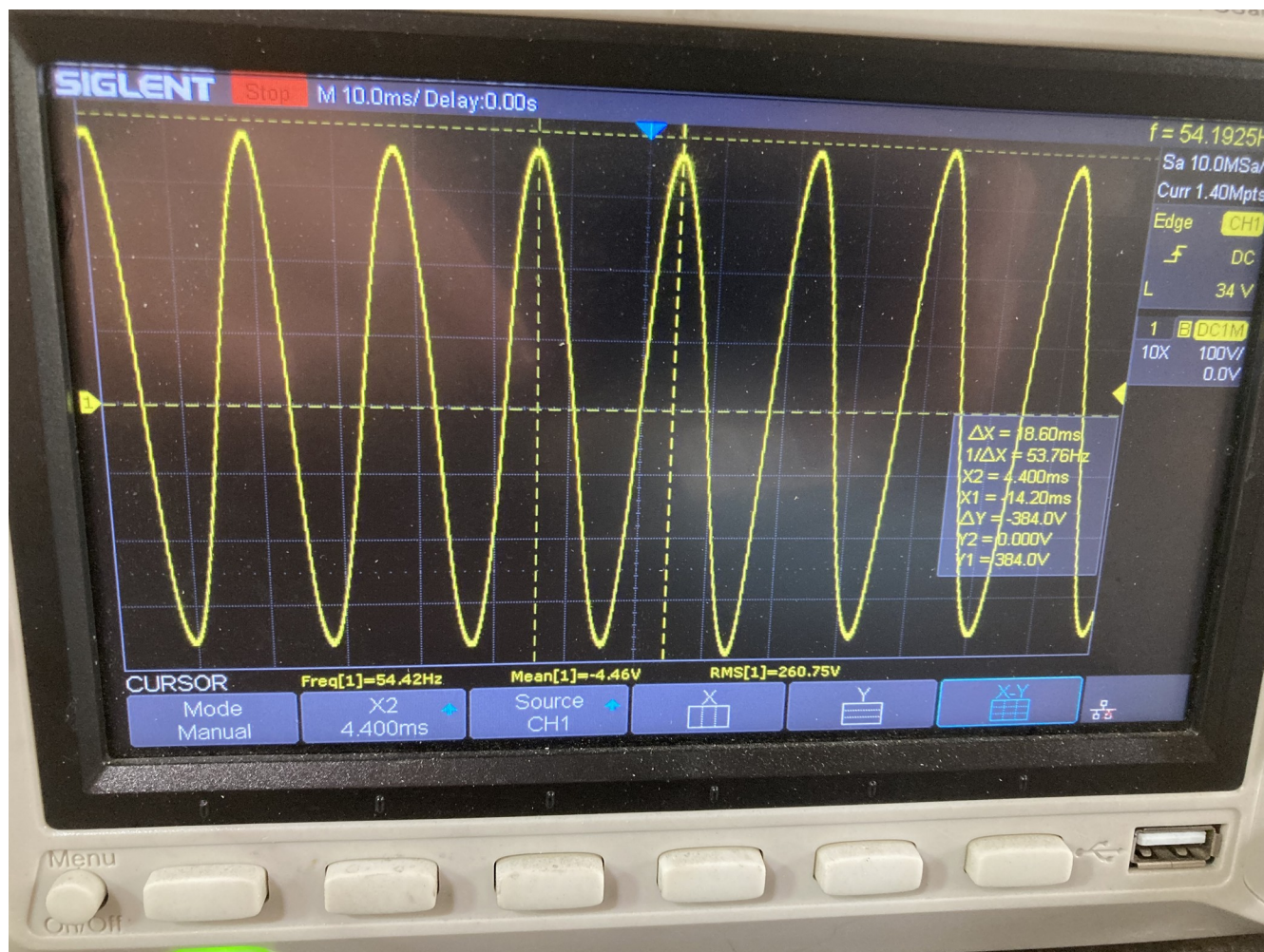


Figure 2: Phase2

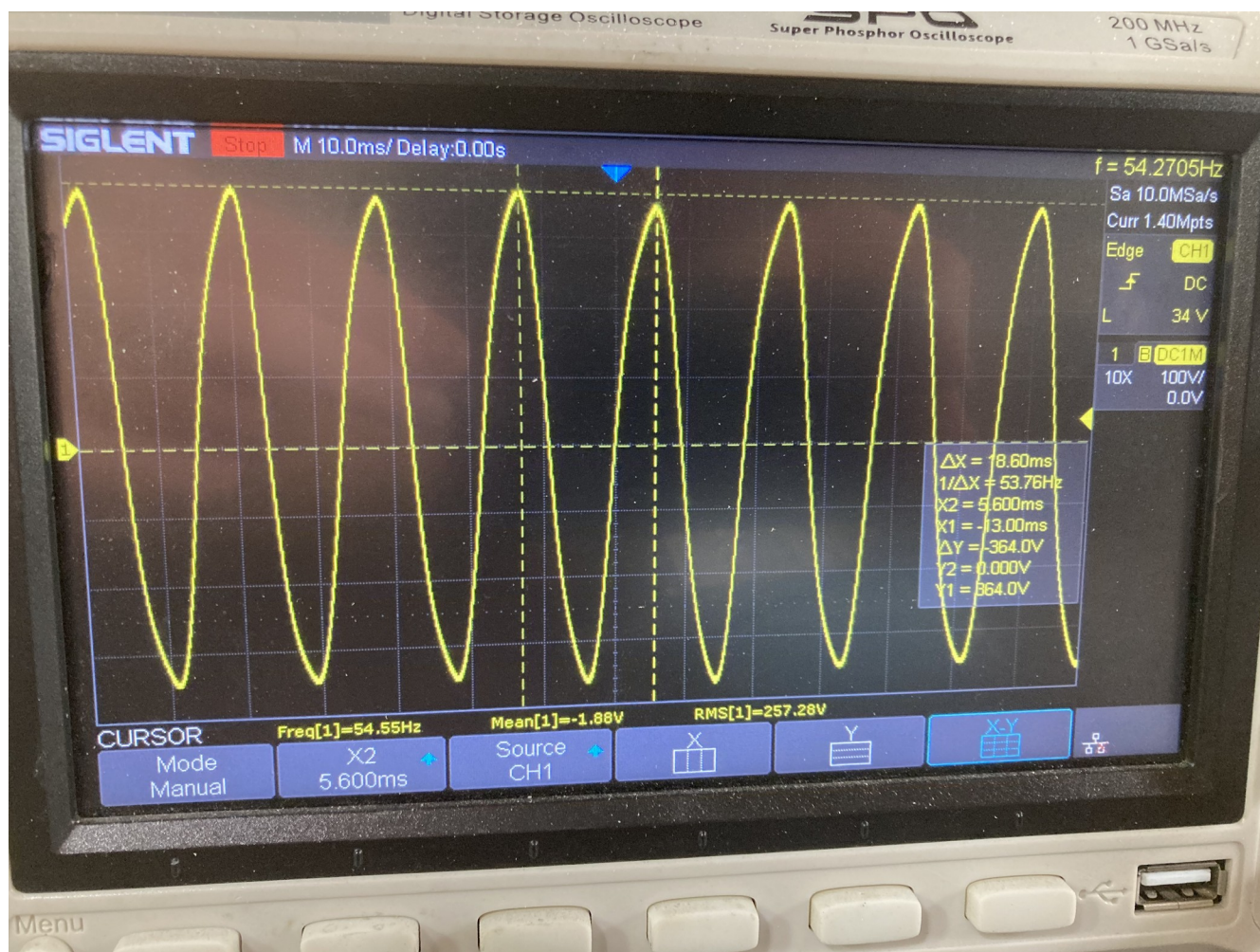


Figure 3: Phase3