

1.02 4NEC2/SDR HF Antenna

Our project is the use of free open source software to design, construct, and verify a multi-band HF antenna which receives via Software Defined Radio on a laptop. The software simulation is important because it is open source software which allows us to model relevant design aspects of our antenna in order to receive the amateur radio bands using a specific geometry. HF antennas are important because they require no satellites, internet, or undersea/landlines to transmit to a receiving station over the horizon. This project will facilitate the simulation of electromagnetic structures by future TX State students at no cost.



Fig. 1: Jorge

Drew

Roberto

Dennis

Function	Deliverables	DRI
Simulate Antenna	Geometry, Impedance, Radiation Pattern, Antenna Coding, Simulation output	Jorge
	SWR, Smith Charts, S11	Drew
Setup/Confirm SDR	HF Operation Confirmation	Roberto
	SDR software setup, HF unlock, Software operations	Dennis
HF Antenna Setup	Materials, Fabrication, Assembly, Characterization with VNA	Roberto