Team 13 Progress Report (Rohde and Schwarz)

Jan 24th to Jan 31st, 2020

Collective Team Progress

Presented Rough Project Proposal to professors Greenberg and Faust

We were asked about intellectual property and NDA's, we need to confirm the lisencing of the models we will be creating for this project. We need to more clearly define what it is they expect in terms of Deliverables and try to push for a simple prototype to be included in order to avoid problems with being unsure about simulation accuracy. We are scheduled to present a project proposal to Mr. Beck and Mr. Fetche on *Wednesday, Feb 12*. We can try to clear up any confusion at that time. We are planning to bring a draft of this proposal to you, our advisor on this next monday, Feb 10 to get your thoughts.

Began reading and taking notes on the following Articles/Papers for background

- Varactor-Loaded Transmission-Line Phase shifter at C-Band Using Lumped Elements
- Ultra Compact, Low Loss, Varactor Tuned Phase Shifter MMIC at C-Band
- Distributed Analog Phase Shifters with Low Insertion Loss
- Design Technique for Varactor Analog Phase Shifters with Equalized Losses

Individual Member Tasks (To complete before next meeting with Industry Sponsors)

Eric Aki

- [x] Complete Microsoft Project Schedule (Gantt Chart)
- [x] Research Digikey Varactors as specified by Industry Sponsors.
  We have found a few diode models but so far they seem quite limited in bandwidth. The varactor of promise at this moment in time is the SMV1429. Spice models are available direct from the manufacturer (Skyworks Solutions)
- [ ] Search for Varactor SPICE models
- [ ] Help Juan with modeling of varactor CV curves
- [ ] Complete informal project proposal presentation for industry sponsors

Juan Rivera

- [ ] Begin Modeling of varactors CV curves as specified by industry sponsors (Matlab or ADS)
- [ ] Complete informal project proposal presentation for industry sponsors
- [ ] Inquire with Dr. Branomir about TeraHertz Lab access
- [x] Found resources which present a straightforward way to go about characterizing/measuring our chosen varactor.

Jianyu Hao

- [x] Begin Bill of Materials for project including modeling/simulation software and prototyping materials
- [ ] Help Eric Research Varactors on Digikey
- [ ] Complete informal project proposal presentation for industry sponsors
- [x] Help Eric with Gantt Chart.

Blocked

-[] Inquire about signing Intellectual Property forms at next Industry Sponsor Meeting