WCP52: Weekly Status Report
Week of Oct. 3, 2014.

Chris Pavlina

Hours spent: 3

1. Accomplishments
   (a) Introduced the project to the team
   (b) Scheduled meeting times
   (c) Selected EDA package: KiCad
   (d) Selected version control system: git
2. Problems and Suggestions
   (a) Recent versions of KiCad not available for Windows. *Solution:* I will build and provide the software for my team.
3. Plans
   (a) Finalize initial draft of specifications by Tuesday.
   (b) Finalize draft of formal PRS by Friday.
   (c) Build and distribute KiCad by next team meeting.

Harrison Owens

1. Accomplishments
   (a) Defined the finer details of the project and gained a better understanding of what needs to be done
      i. Intended purpose of the device
      ii. Brainstorming parts and different ideas as how to proceed with the project
   (b) Assigned roles of Leader and Scribe of the Group
   (c) Scheduled a meeting with the Faculty Adviser
2. Problems/Suggestions
   (a) The Groups unfamiliarity with KiCad, a necessary design tool became clear.
   Become familiar with said tool and undergo training in order to use it.
   (b) Amongst the Group there isnfit enough experience in order to design a proper Printed Circuit Board
   Meet with the Faculty Advisor in order to go over good Printed Circuit Board design
   (c) The group needs to finalize project requirements
3. Plans
   (a) To meet on Monday in order to finalize project requirements
   (b) Consider changing max frequency requirement from 100 Mhz to 200 Mhz
   (c) Must add spec requirement for at least 5V Amplitude
   (d) Change the requirement Detect signals down to 40 or 60 dB instead of 80
   (e) Change the requirement Amplitude Accuracy must be 3 dB instead of 2.5 dB
   (f) Need a max Voltage Standing Wave Ratio spec
   (g) Consider using sweeping Standing Wave Ratio
   (h) Review each Project Specification in order to be sure each one is testable
   (i) To research vector analyzers to get good ideas of how they are implemented
   (j) As a group familiarize ourselves with KiCad preferably by the week of 10/6

Ken Zach

Hours spent on project — 3

1. Accomplishments
   (a) Discussed details of the project and gained an understanding of what we are trying to accomplish.
      i. Purpose of the device
      ii. System requirements
      iii. Parts and how they work
   (b) Named scribe of the group
2. Problems/Suggestions
   (a) Not familiar with KiCad
   Become familiar with KiCad and create a simple PCB
   (b) Little familiarity with PCB design
   Receive a lesson from Professor Temkin on good PCB design and learn to use the school's resources to etch my own PCB
   (c) Project requirements must be solidified
3. Plans
   (a) Meeting on Tuesday in order to go over and solidify project requirements
      i. Consider changing max frequency from 100 Mhz to 200 Mhz.
      ii. Must add spec for Amplitude (at least 5V).
      iii. Detect signals down to 40 or 60 dB instead of 80.
      iv. Amplitude accuracy shall be within 3 dB instead of 2.5.
      v. Need a max VSWR spec.
      vi. Each spec needs to be carefully reviewed so that we can be sure that there is some way to test each one.
      vii. Consider using sweeping swr
   (b) Research vector analyzers to get good ideas of how they are implemented
   (c) Familiarize myself with KiCad by 10/10

Kaidi Xu

We have first meeting with Professor Kyle this Friday. First, we talked about this project and showed our teamfis opinion about the project.

We showed the project proposal form to Kyle, mainly about our project requirement. With Professor Kylefis suggest, we changed several requirements about project. First, change in dynamic range: 'shall' resolve to 40dB (not 50), 'should' to 60dB (not 80). Second, "Amplitude accuracy should be within 1dB, and phase accuracy within 1 degree, for frequencies less than 20MHz" we strike this requirement completely, because it is hard to achieve and unnecessary. Third, "The analyzer shall be capable of performing most analysis function directly, allowing the PC software to be simple" we could strike this requirement or change 'shall' to 'should'.

And we also have a problem need to solve, that is do we need use a microprocessor or an FPGA. Which one is better.