



16 Nov 16

MEMORANDUM FOR RECORD

FROM: CHRISTOPHER ASKINGS  
FORREST GATES  
NATHAN RUPRECHT

SUBJECT: VLC Dev Kit Progress - Week 7

1. The purpose of this memorandum is to report our progress in accordance with our predetermined schedule.
2. The specific purpose of this memorandum is to review the objectives of week 7 and what we have accomplished.
3. Over the course of the week, we went off on our own time to accomplish what we could for the projected goals, then came back together to consolidate our efforts. This utilized our free time since our schedules usually conflict. We worked based off of the Week 7 Schedule:

<i>Week</i>	<i>Date</i>	<i>Projected Goals</i>	<i>Comments</i>
7	11/6/16	Revamp Proposal  Prototype 1  Code T0: Tx portion of source code using PWM  Code R0: Rx portion of source code using PWM	Rewrite proposal with TA Feedback  Build a Tx and Rx circuit. Run source code with separate Tx and Rx (vary Rx LED brightness depending on Tx LED)  Separate source code so 2 launch pads can be used. One as Rx, and the other as Tx.

4. Nathan messed with the MSP430FR2311 more. This will most likely be the Rx since it has a built in TIA. We understand the code and found out that if we remove jumpers J7, J8, and J9, we are disconnecting the on board photodiodes. Plugging in our own into I/O pins, we now have our own circuit. We'll have 3 photodiodes hooked in, with the crystal to separate the color

spectrum instead of making our own BPFs. The problem we ran into is loading the code to the board. As of right now, our CCS does not have the FR2311 as an option to build a project onto. This could be as simple as updating CCS, but we're contacting TI to check so we don't run into further problems using this launch pad. The source code is not completely split into a Tx and Rx code, but we're well on our way.

5. Chris worked on the constant current driver on the Tx side. He's been simulating signals using a function generator to characterize components for the Tx. He's been using Multisim to make schematics and simulate components without having to use money to make the circuit and test it real time.

6. If you have any questions, comments, or concerns, please feel free to contact us at:

- Chris Askings: (817) 367 – 8273 or via email at [chrisaskings@gmail.com](mailto:chrisaskings@gmail.com)
- Forrest Gates: (979) 733 – 2454 or via email at [forrestgates2016@gmail.com](mailto:forrestgates2016@gmail.com)
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//SIGNED//

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1 Attachment:  
Documentation

Documentation:

All materials can be found on the shared Google drive at:

<https://drive.google.com/drive/folders/0By7y3FFBUvR4SVNmVHlfZjVmZ0U>