

ZCU106 Software Install and Board Setup

May 2019



XTP497

Revision History

Date	Version	Description
05/29/19	5.0	Updated for 2019.1.
12/10/18	4.0	Updated for 2018.3.
09/10/18	3.1	Updated with extra content.
06/18/18	3.0	Updated for 2018.2
05/04/18	2.0	Updated for 2018.1.
03/29/18	1.0	Initial version.

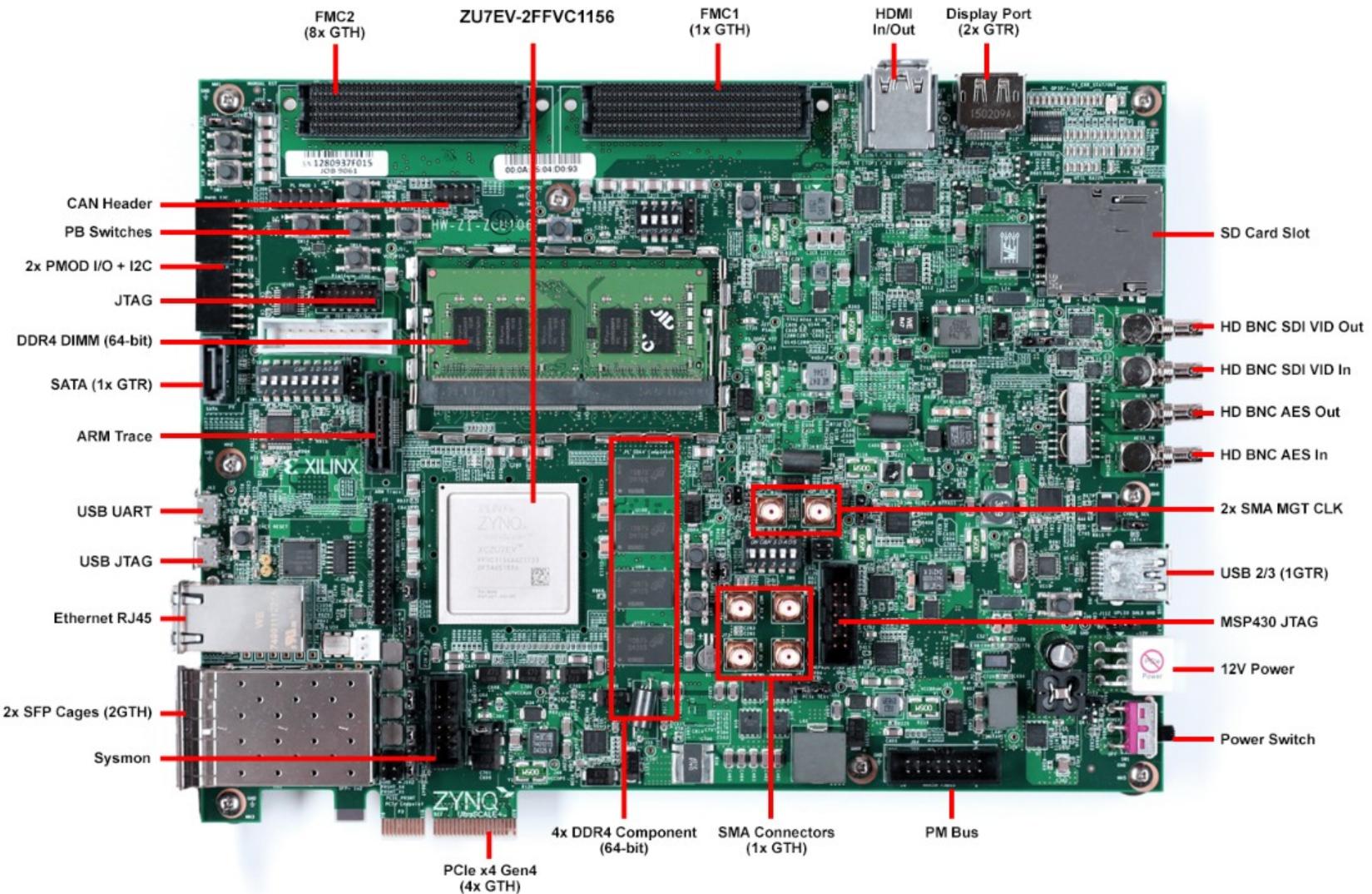
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ZCU106 Software Install and Board Setup

- > Xilinx ZCU106 Board
- > Software Requirements
- > ZCU106 Hardware Setup
- > UART Driver Install
- > Terminal Setup
- > Clock Setup
- > Ethernet Setup
- > Optional Hardware Setup
- > References

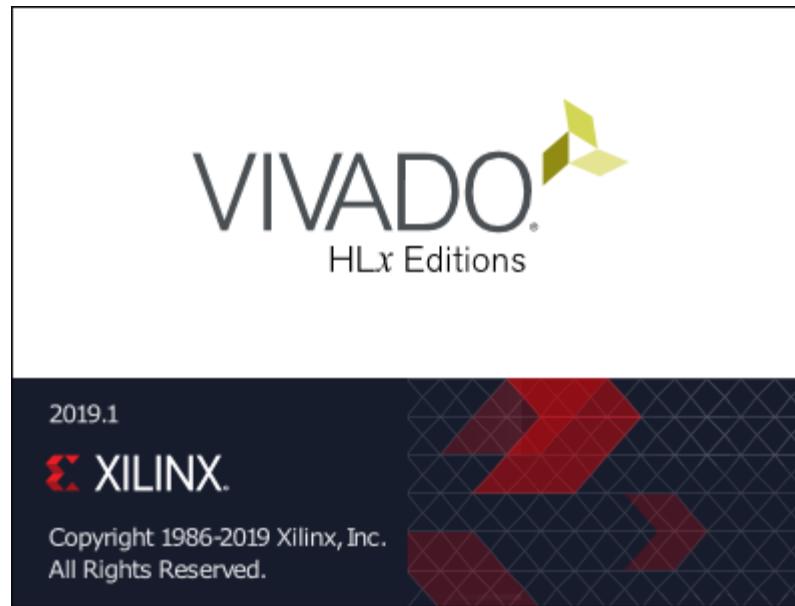
Xilinx ZCU106 Board



Note: Presentation applies to the ZCU106

Software Requirements

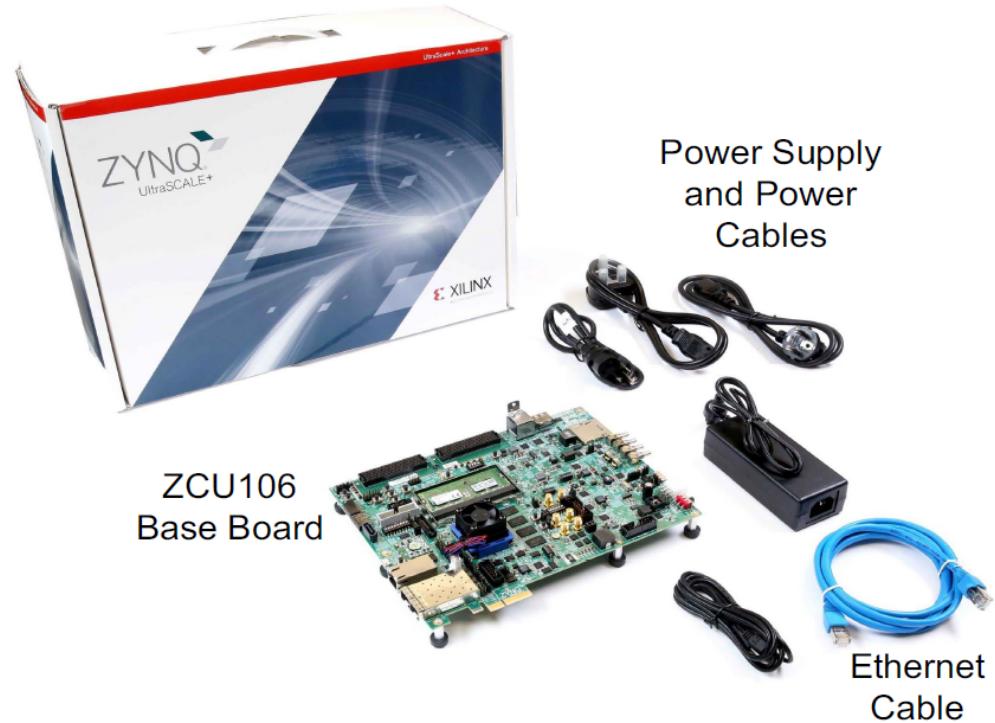
- > Xilinx Vivado Design Suite 2019.1, HL System Edition with SDK



ZCU106 Hardware Setup

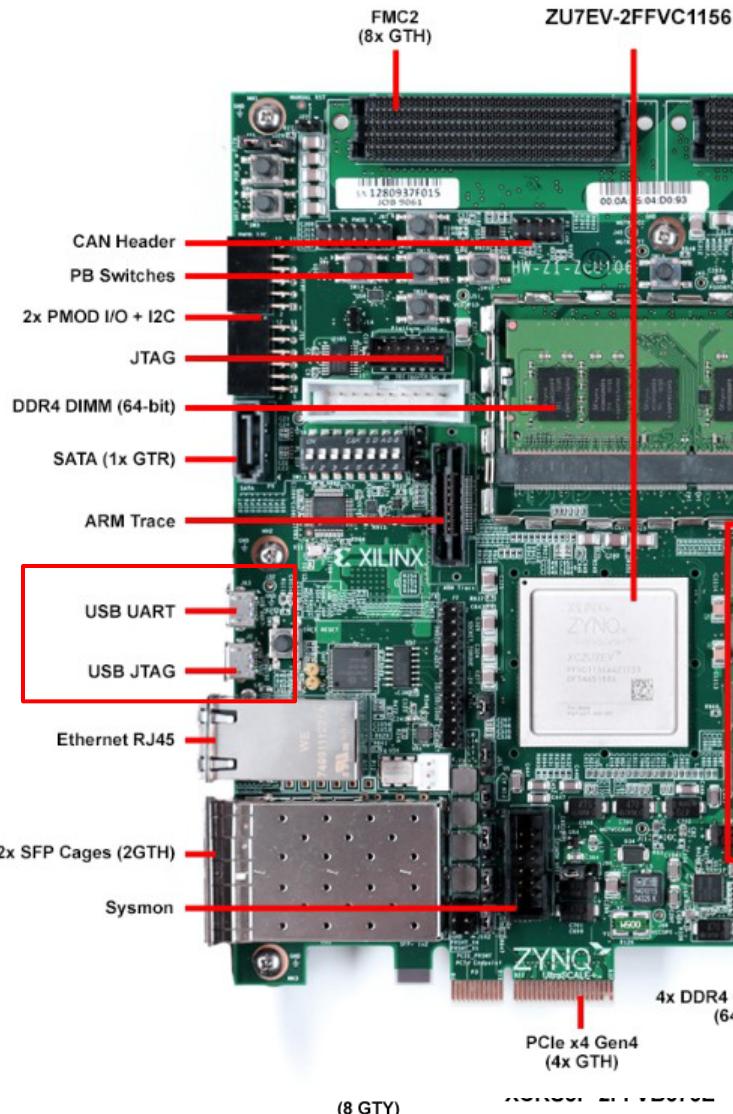
> Kit Hardware contents

- » ZCU106 Board
- » Ethernet cable
- » Micro USB cables
- » Power supply



ZCU106 Hardware Setup

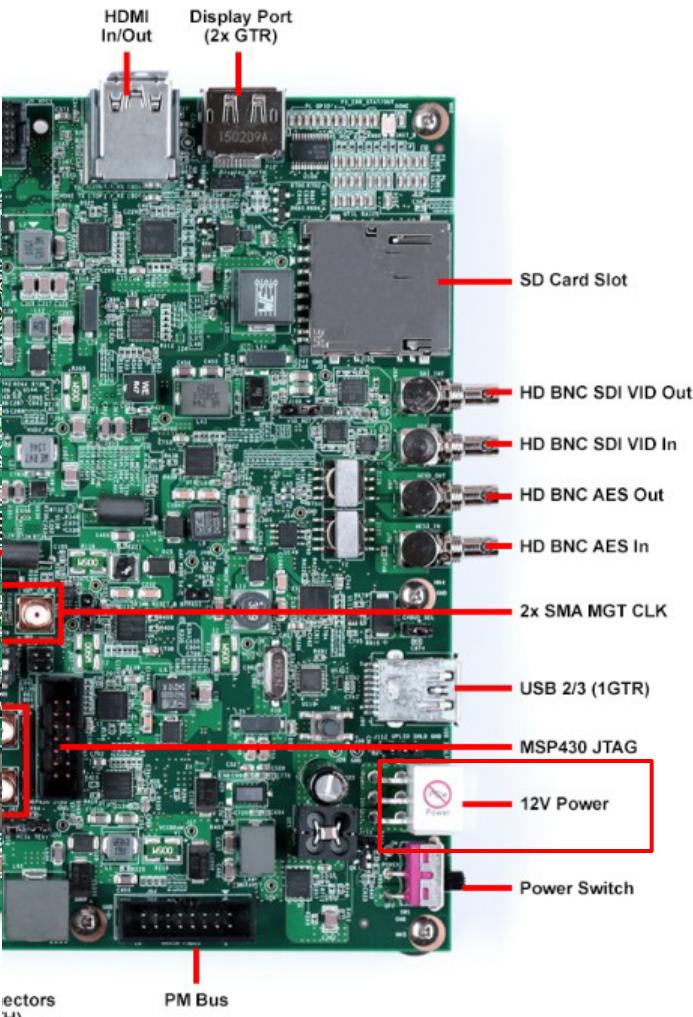
- > Connect a USB Type-A to Micro-B cable to the USB UART connector (J83) on the ZCU106 board
- > Connect a USB Type-A to Micro-B cable to the USB JTAG (Digilent) (J2) connector on the ZCU106 board
- > Connect these cables to your PC



ZCU106 Hardware Setup

> Connect the power supply to the ZCU106 (J52)

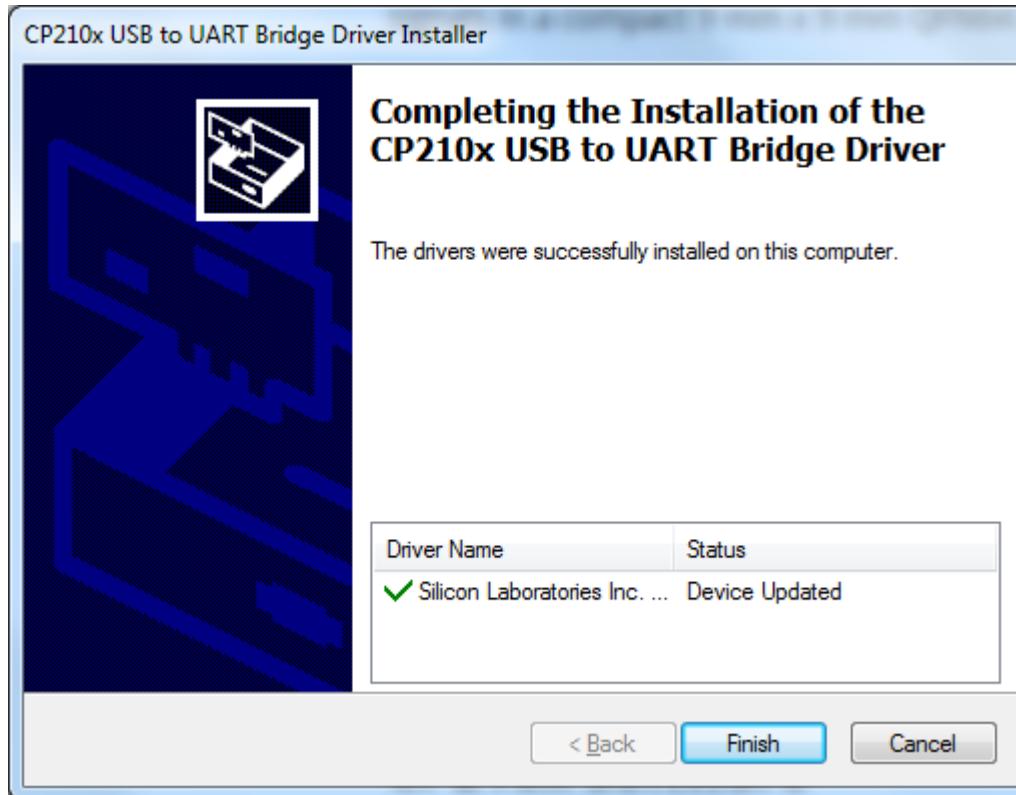
» Connect this power supply to a power outlet



UART Driver Install

> Install Si Labs CP210x USB UART Drivers

» Refer to [UG1033](#) for details on installing the USB to UART Drivers

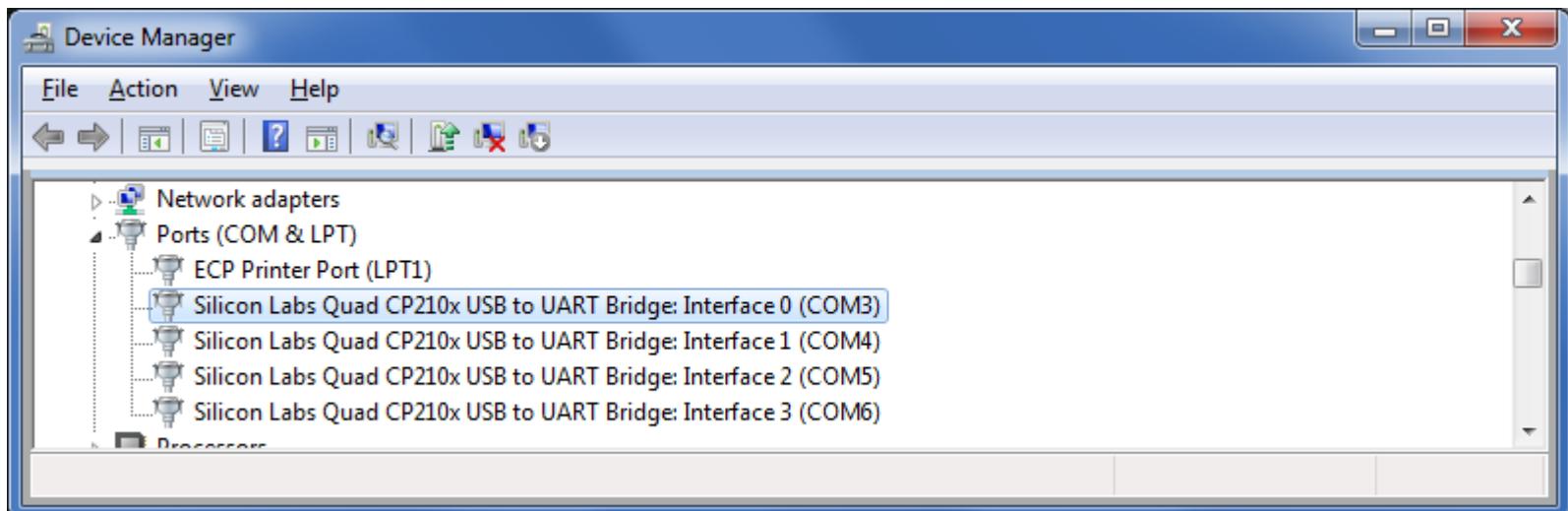


UART Driver Install

- > Determine the COM Port numbers for your system
- > Open the Device manager

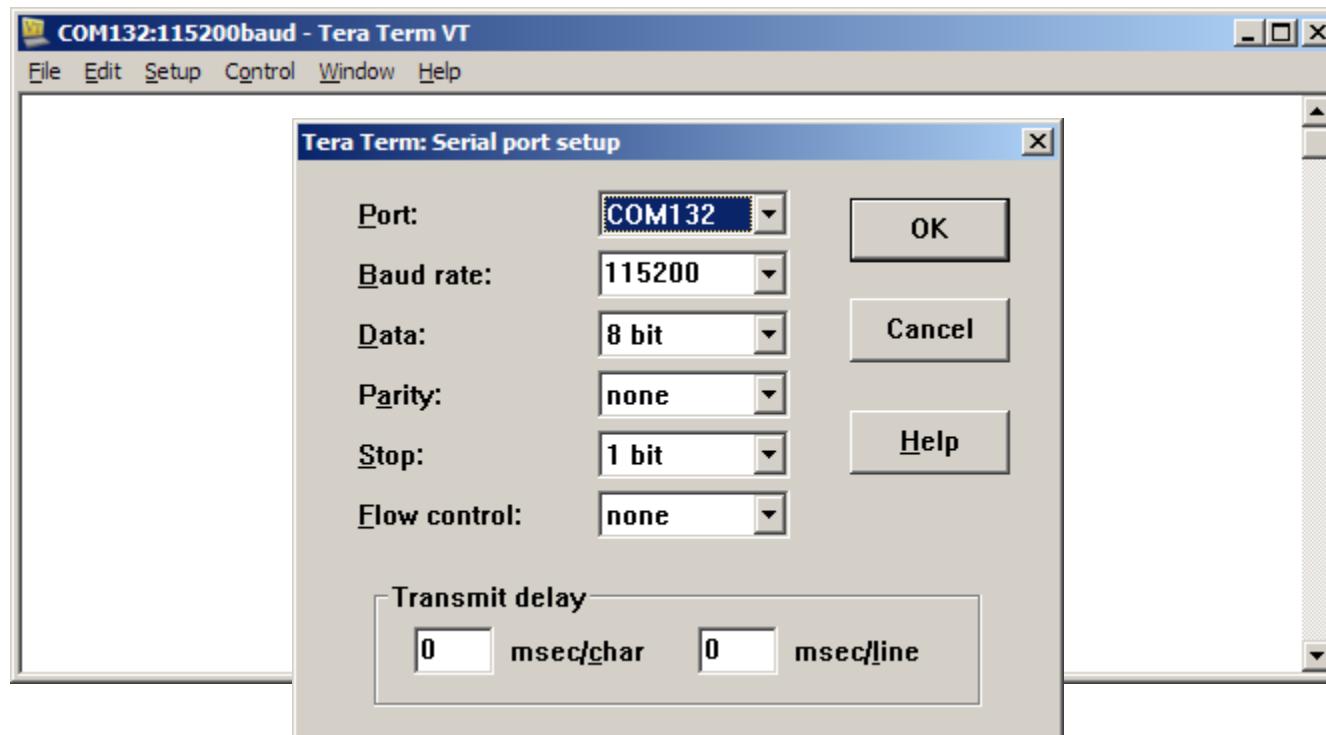
Control Panel → System → Device Manager

- » There will be four “Silicon Labs Quad CP210x” COM ports, 0 through 3
- » Interface 0 & 1 are for the ARM processor
- » Interface 2 is for PL Fabric (MicroBlaze) use
- » Interface 3 is for the MSP430
- » The COM Port numbers will vary from system to system



Terminal Setup

- > Refer to [UG1036](#) regarding Tera Term installation
- > Board Power must be on before starting Tera Term
- > Start the Terminal Program
 - » Select the desired COM Port
 - » Set the baud to 115200

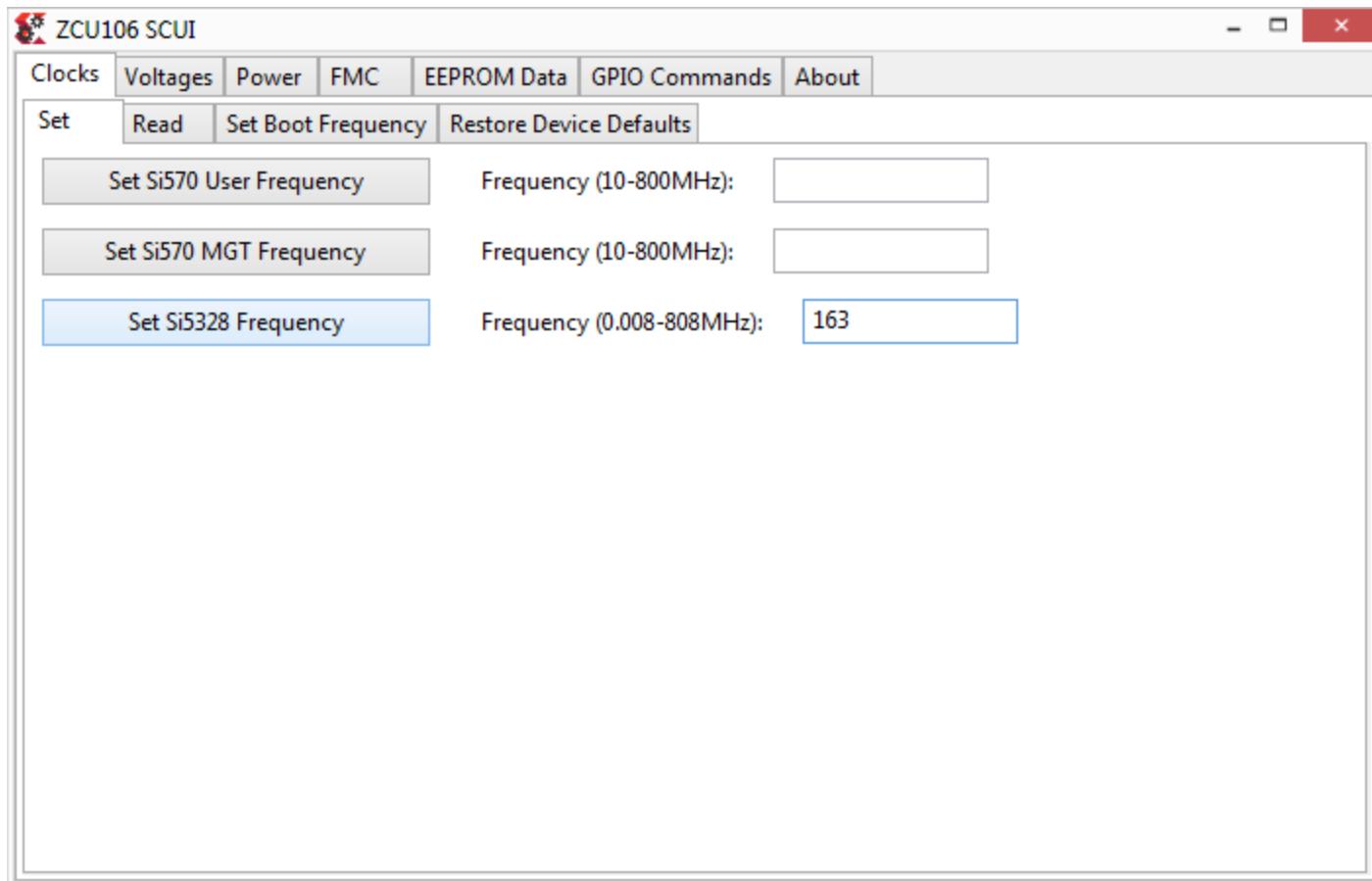


Note: Close Tera Term while using System Controller GUI

Clock Setup

> Set the Si5328 Clock for IBERT/IPI testing

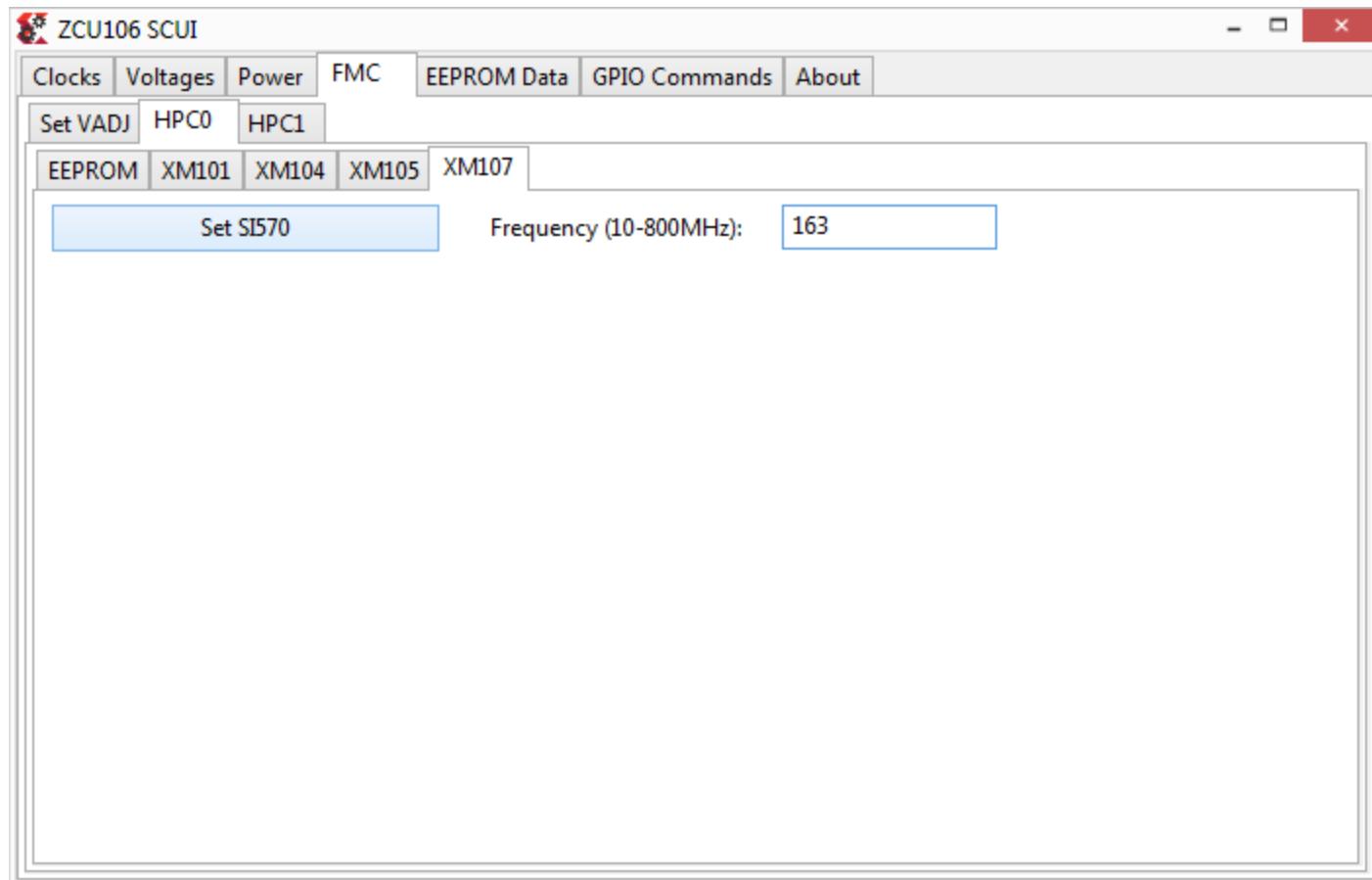
- » See XTP495 for details on using the System Controller GUI
- » Select the **Set** tab underneath the **Clocks** tab
- » Enter **163** for the Si5328 and click the **Set Si5328 Frequency** button



Clock Setup

> Setting the FMC HPC0 Clock for IBERT/IPI testing

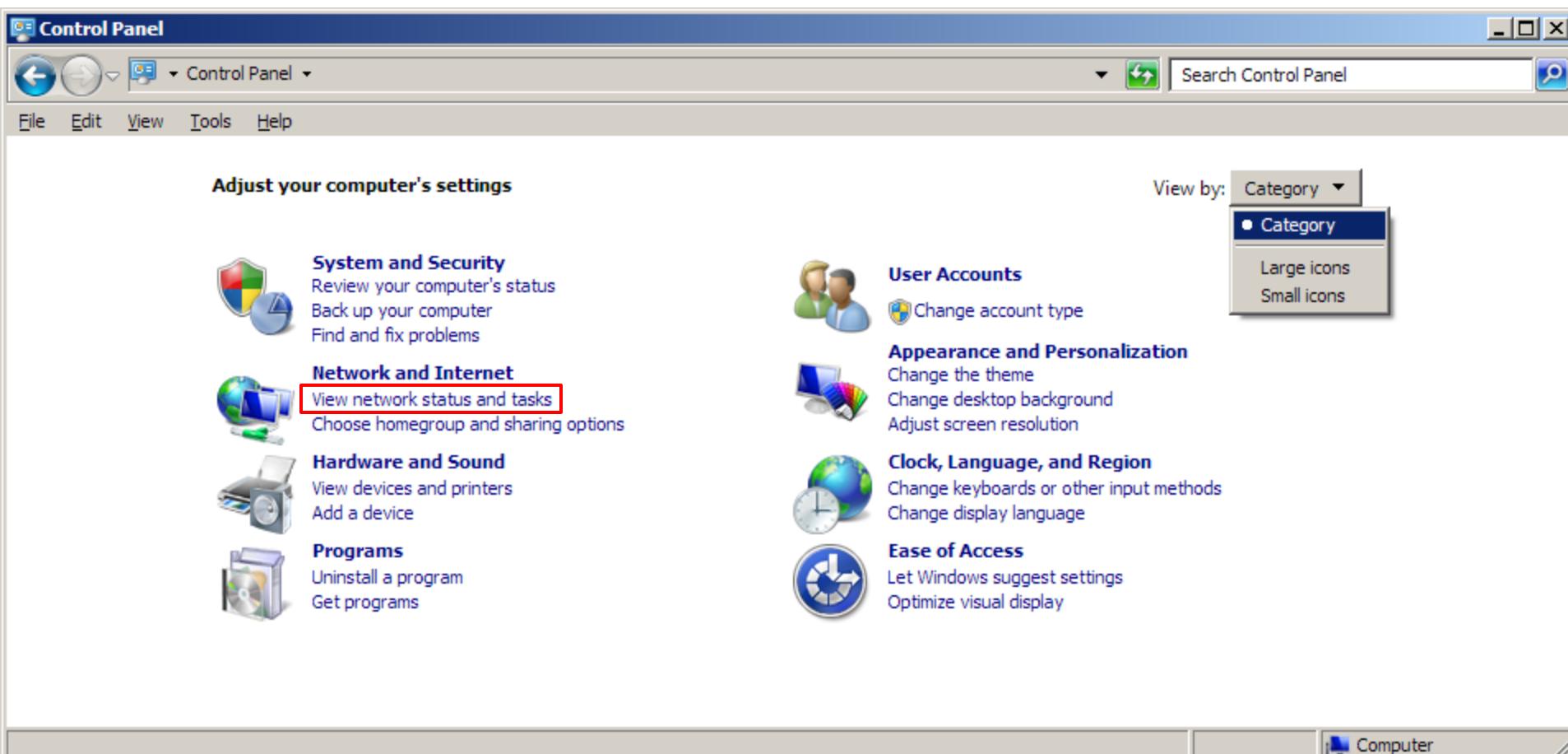
- » Under the **HPC0** tab, select the **XM107** tab
- » Enter **163**, and click the **Set SI570** button



Note: One additional Clock Setup in Optional Hardware Setup

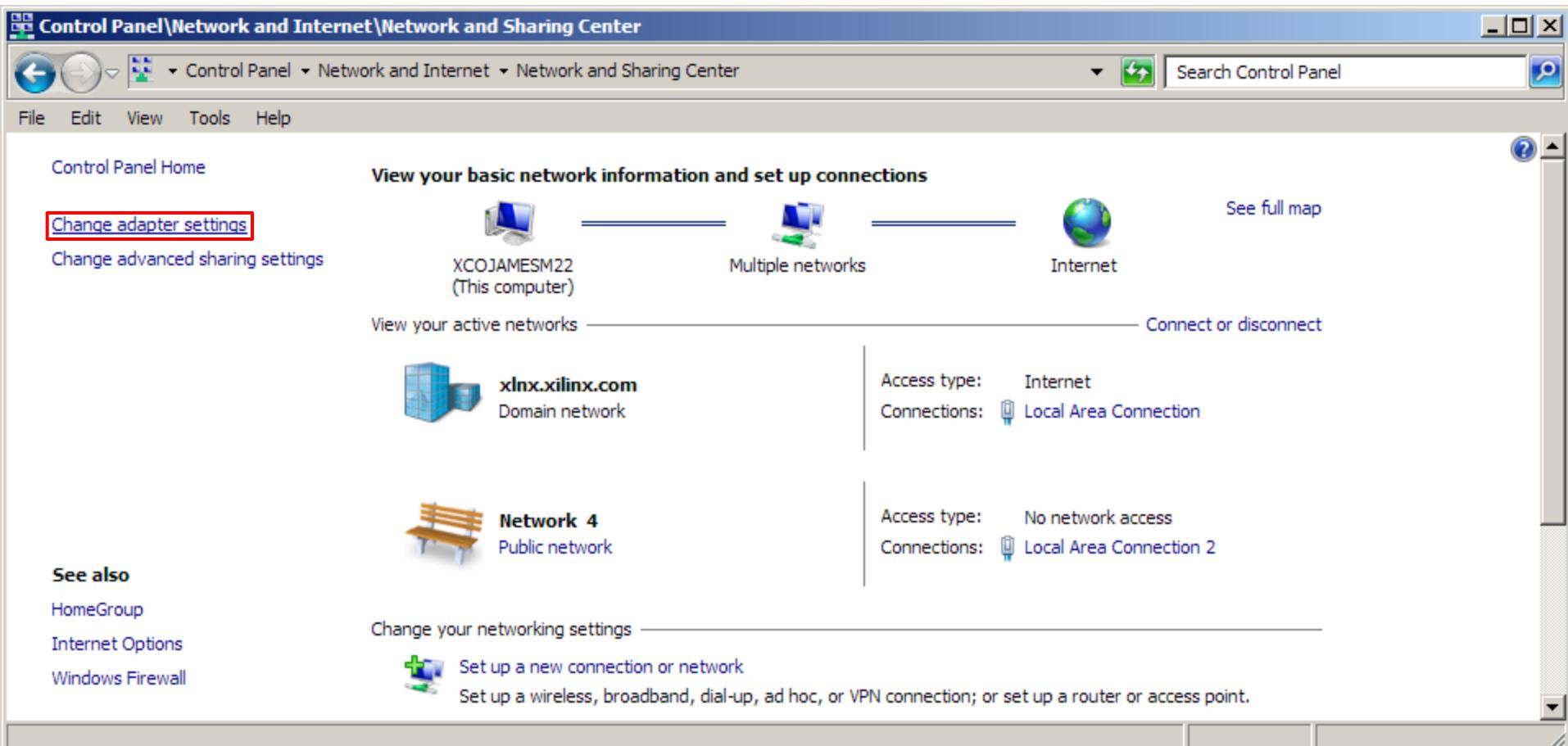
Ethernet Setup

- > Open the Windows Control Panel
 - » Set to View by Category
- > Click on “View network status and tasks”



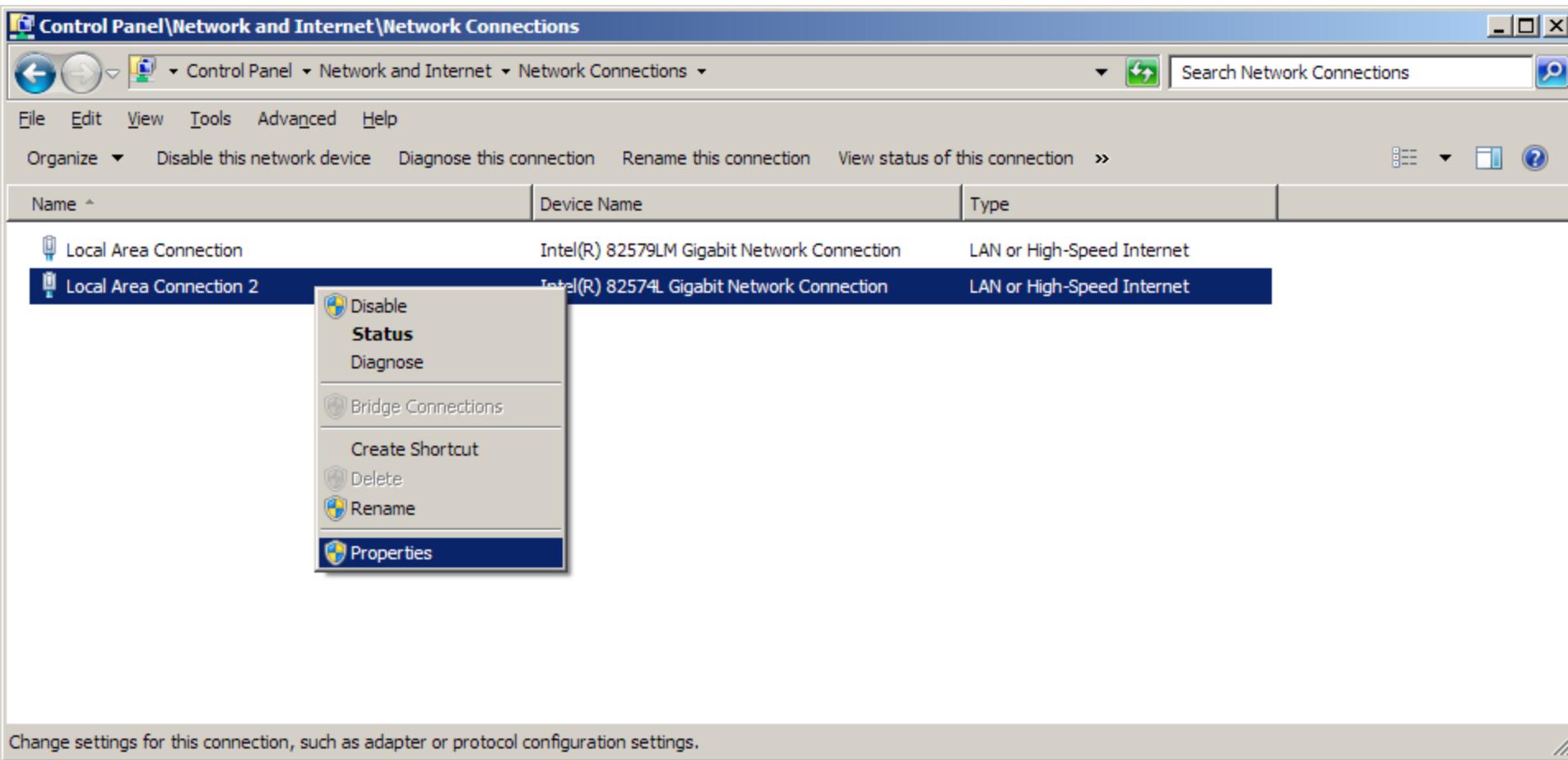
Ethernet Setup

- > Click on “Change adapter settings”



Ethernet Setup

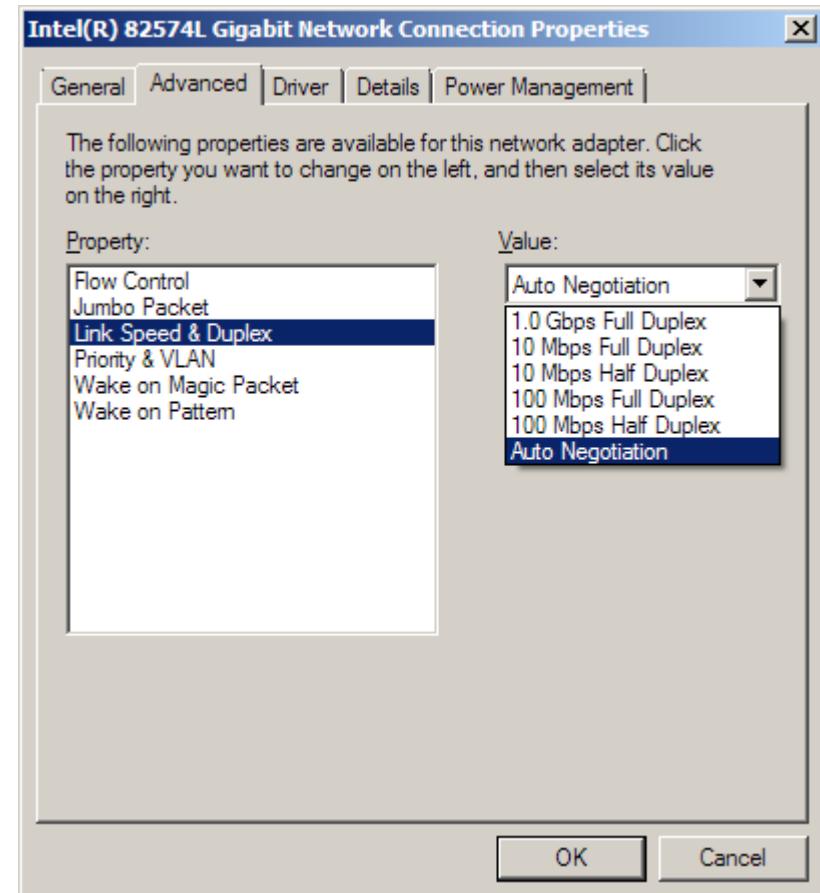
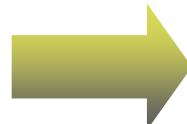
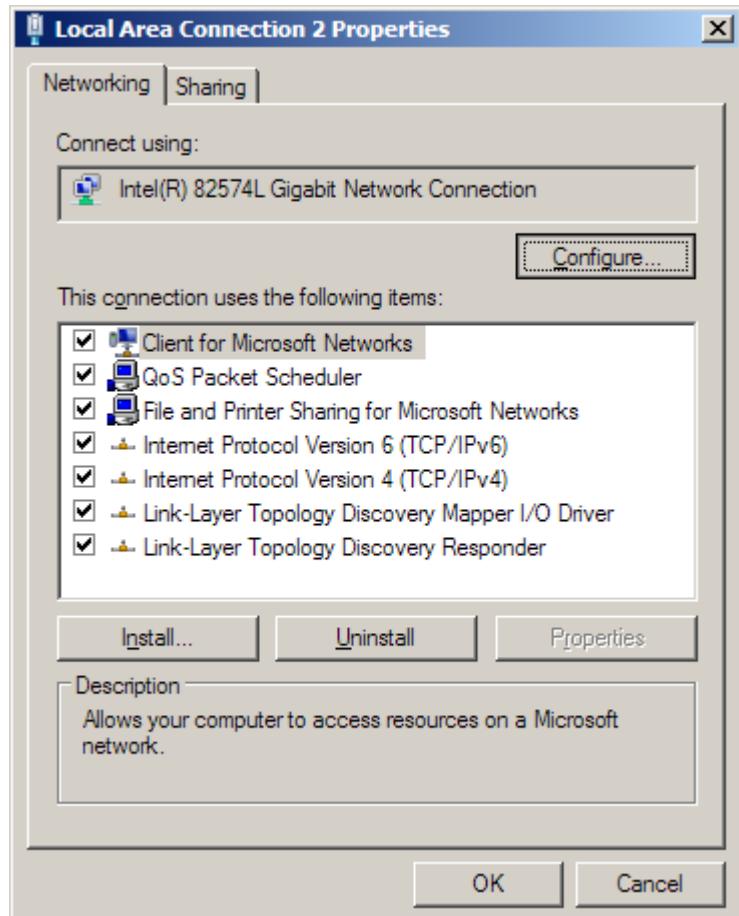
- > Right-click on the Gigabit Ethernet Adapter that you will be using for this test and select Properties



Ethernet Setup

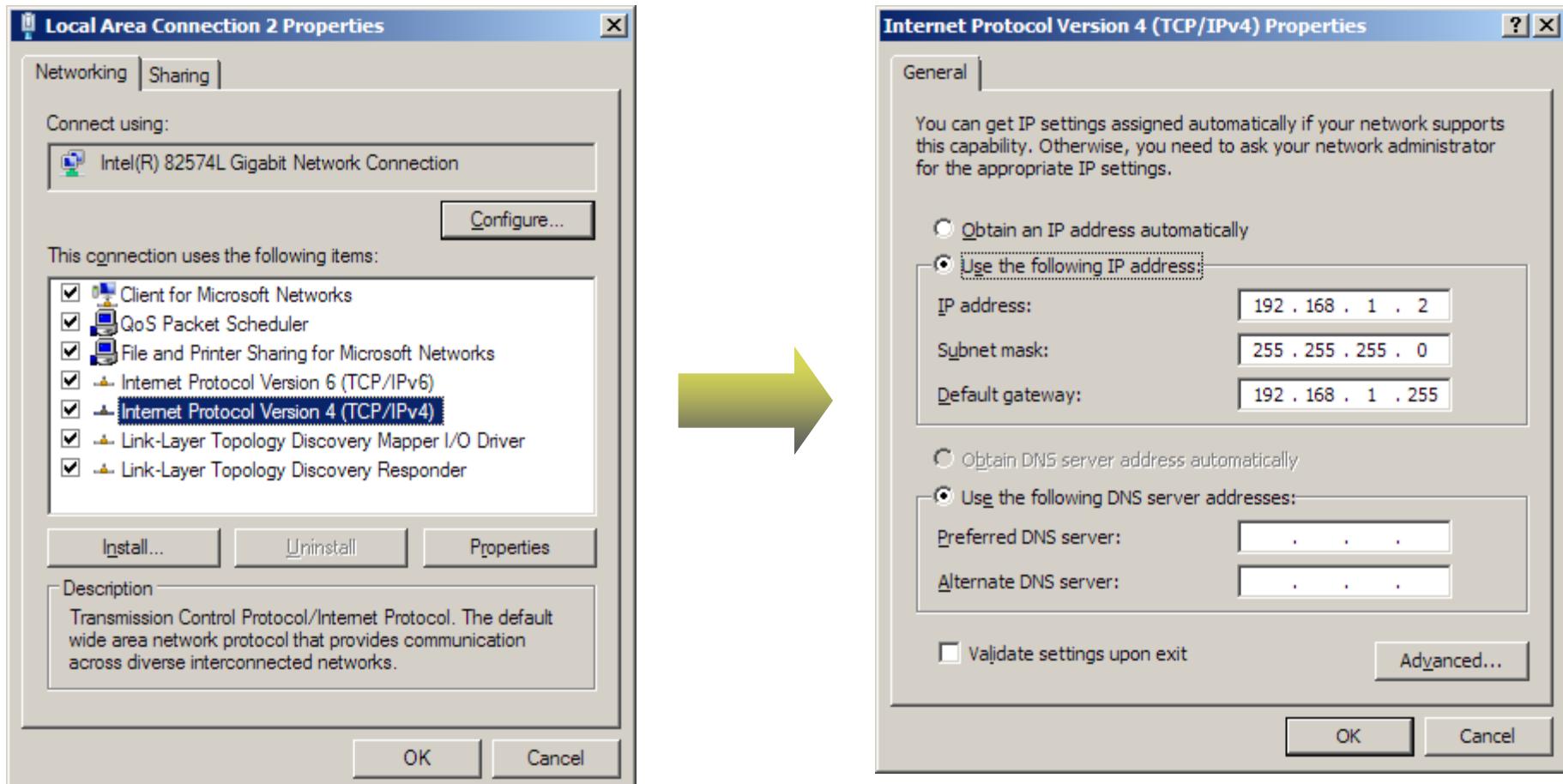
> Click Configure

- » Set the Link Speed & Duplex to Auto Negotiation then click OK



Ethernet Setup

- > Reopen the properties after the last step
- > Double-click the Internet Protocol Version 4
- > Set your host to this IP Address:



Optional Hardware Setup

> Four SMA Cables

- » www.rosenbergerna.com
- » Part number:
72D-32S1-32S1-00610A



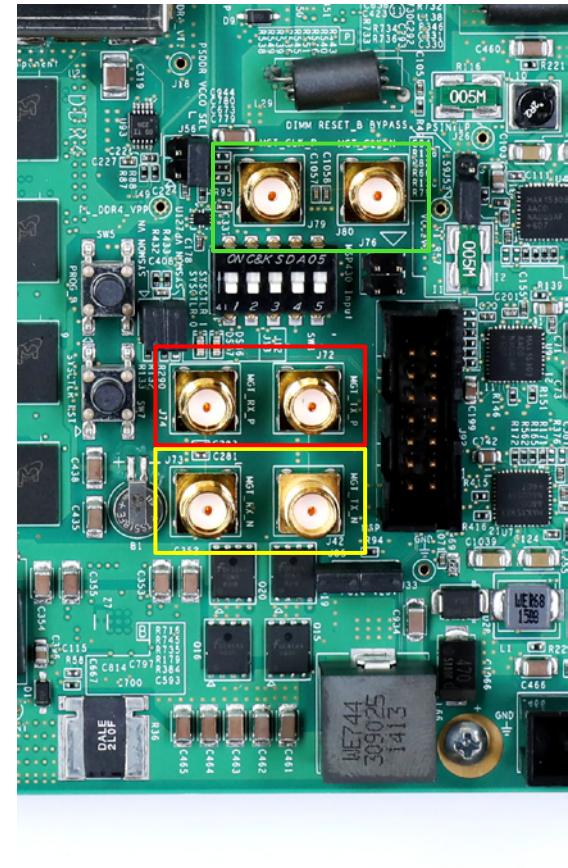
> Optional: SMA Quick connects

- » RADIALL
- » Part number: R125791501
- » Available [here](#) or [here](#)



Optional Hardware Setup

- > Hook up the SMA cables as shown
- > IBERT Test:
 - » J74 to J72 (Red)
 - » J73 to J42 (Yellow)
- > IPI Clocking Test
 - » Connect J79 and J80 (Green) to a 148.5 MHz clock source



References



References

> Vivado Release Notes

- » Vivado Design Suite User Guide - Release Notes – UG973
 - https://www.xilinx.com/support/documentation/sw_manuals/xilinx2019_1/ug973-vivado-release-notes-install-license.pdf
- » Vivado Design Suite 2019 - Vivado Known Issues
 - <https://www.xilinx.com/support/answers/72162.html>

> Vivado Programming and Debugging

- » Vivado Design Suite Programming and Debugging User Guide – UG908
 - https://www.xilinx.com/support/documentation/sw_manuals/xilinx2019_1/ug908-vivado-programming-debugging.pdf

Documentation



Documentation

> Zynq UltraScale+

- » Zynq UltraScale+ MPSoC
 - <http://www.xilinx.com/products/silicon-devices/soc/zynq-ultrascale-mpsoc.html>

> ZCU106 Documentation

- » Xilinx Zynq UltraScale+ MPSoC ZCU106 Evaluation Kit
 - <https://www.xilinx.com/products/boards-and-kits/zcu106.html>
- » ZCU106 Board User Guide – UG1244
 - https://www.xilinx.com/support/documentation/boards_and_kits/zcu106/ug1244-zcu106-eval-bd.pdf
- » ZCU106 Evaluation Kit Quick Start Guide User Guide – XTP472
 - https://www.xilinx.com/support/documentation/boards_and_kits/zcu106/xtp472-zcu106-quickstart.pdf