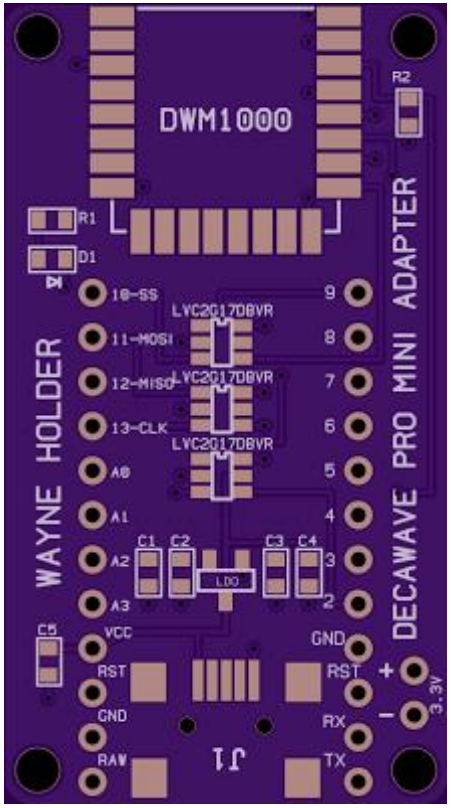
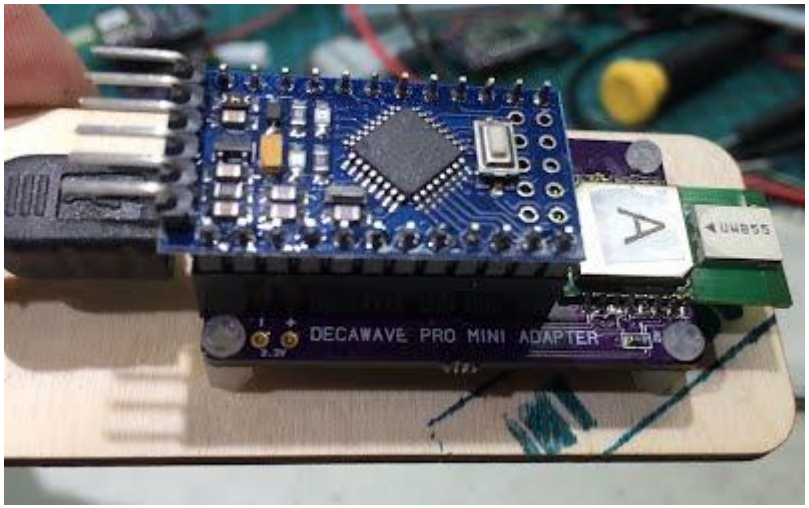
Original Source:
https://sites.google.com/site/wayneholder/uwb-ranging-with-the-decawave-dwm1000---part-ii

Hardware Description Video :
https://www.youtube.com/watch?v=Qr50_zqAINY

This article is a continuation of this one, which described my initial experiments with the DecaWave DWM1000 module. After experimenting with a two PCB solution, one as a breakout board for the DWM1000 and the other as a mother board for both the breakout board and an Arduino Pro Mini, I decided to create a single boar solution, as I had trouble finding sockets and headers for the Arduino Pro Mini that were low profile enough to fit under the breakout board. My new design puts the Arduino Pro Mini and the DWM100 module on the same PCB and looks like this:



Click for large view



Click for larger view

The PCB board for this design can be ordered here from OSH Park and will cost you $9 for three boards. The parts needed to build this board are listed below along with links to Mouser and/or Digi-Key to simplify ordering:

Description	Quan	Mouser Part #	Digi-Key Part #	Designation
Dual Schmitt Trigger - Buffer	3	595-74LVC2G17DBVRG4	296-13012-2-ND	On PCB
DWM1000 Module	1	n/a	1479-1002-1-ND	On PCB
.1uf 10 volt 0603 ceramic cap	2	710-885012206071	732-7989-1-ND	C1,C3
1uF 10 volt 0603 ceramic cap	3	603-CC603ZRY5V7BB105	311-1372-1-ND	C2,C4,C5
1K 0603 Resistor	1	71-CRCW0603-1.0K-E3	541-1.00KHCT-ND	R1
10K 0603 Resistor	1	71-CRCW0603-10K-E3	541-10.0KHCT-ND	R2
XC6206P332MR 3.3 Volt LDO Regulator	1	621-AP7333-33SRG-7	AP7333-33SRG-7DICT-ND	LDO
Green 0603 LED	1	859-LTST-C191KGKT	160-1446-1-ND	D1

Mini USB R/A SMT B Type 17500	1	571-1734035-4	A121554CT-ND	J1

The signal connections are the same as the original 2 PCB design so you can use the same Arduino code, unchanged.

Putting the Pieces Together

To finish everything off, I laser cut a backboard for the PCB that includes a hole for a 1/4 inch T-Nut so the backing board can screw into a cheap tripod mount so I can position the anchors stably on the ground. Here's what the finished result looks like:

Click for larger view

Soldering the SMD Parts on the PCB
Video at: https://www.youtube.com/watch?v=TTATzkQbZiE