

RasPi_WxSat Project Notes (AG1A)

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Antenna: David P. Finell, N7LRY – “Build a 2-Meter Quadrifilar Helix Antenna” - QST, May 2018

Hardware / Software:

RTL-SDR.COM: <https://www.rtl-sdr.com/automatically-receiving-decoding-and-tweeting-noaa-weather-satellite-images-with-a-raspberry-pi-and-rtl-sdr/>

mrthenarwhal (@BarronWeather): https://www.reddit.com/r/RTLSDR/comments/8b1u3w/i_set_up_my_qfh_with_a_raspberry_pi_on_the_roof/

Jim Haslett: <https://www.instructables.com/id/Raspberry-Pi-NOAA-Weather-Satellite-Receiver/>

WXTOIMG Source: <https://web.archive.org/web/20171209052450/http://www.wxtoimg.com:80/downloads/>

NOAA Frequencies:

Satellite	Frequency (APT Mode)	Frequency (HRPT Mode)
NOAA-15	137.620 MHz	1702.5 MHz
NOAA-18	137.9125 MHz	1707.0 MHz
NOAA-19	137.100 MHz	1698.0 MHz

Tools:

- Hacksaw for cutting metal stock
- File for sharp edges
- ¼" die cutter for threads
- Drill & ¼" drill bit
- Crimper for lugs
- Solder gun/iron
- Razor/knife for cable prep and scraping off pipe labels
- Wrench for nuts
- Needle-nose pliers

Billing of Materials (BOM):

Qty	Material	Notes / Variances
4 feet	6061 ¼" aluminum rod	
12 feet	½" x 1/8" aluminum bar/strap	Used ½" x 1/16"
20	¼" – 28 pitch stainless steel nuts	20-pitch cheaper
8	¼" – 28 pitch stainless steel lock nuts	20-pitch cheaper
4	¼" ring terminals	Yellow ones
1	1" PVC end cap	
1	2" PVC coupler	
1	2" PVC end cap	

Qty	Material	Notes / Variances
3 feet	2" PVC schedule 40 pipe	
6"	1" PVC schedule 40 pipe	Optional (didn't use)
~6 feet	RG-58, solid core dielectric	Used foam core
1	Antenna connector	Used PL-259
-	Dielectric Grease or No-Ox™	
-	Epoxy	
-	PVC Cement	
-	Heat-shrink tubing	Various small sizes