North Texas NTMS Microwave Society

New Wavelab 24 GHz Rovers

NTMS meeting
June 14, 2025
KM5PO

Items in common

- PA0MHE Wavelab control board.
  - From NTMS #10 PCB build.
  - Note, NTMS #11 PCB build is in progress but regulator shortage plus higher $
- XP Wavelab module.
- Radiowaves HPCPE 23DW2 12” dish
- SMA relay (12v latching or standard)
- WR42 to SMA transition centered over circular waveguide
- DC to DC converter 7.5 v
- 10 MHz reference (Mats uses GPSDO)

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Radiowaves

- Circular waveguide
- Monster mounting brackets – cast aluminum

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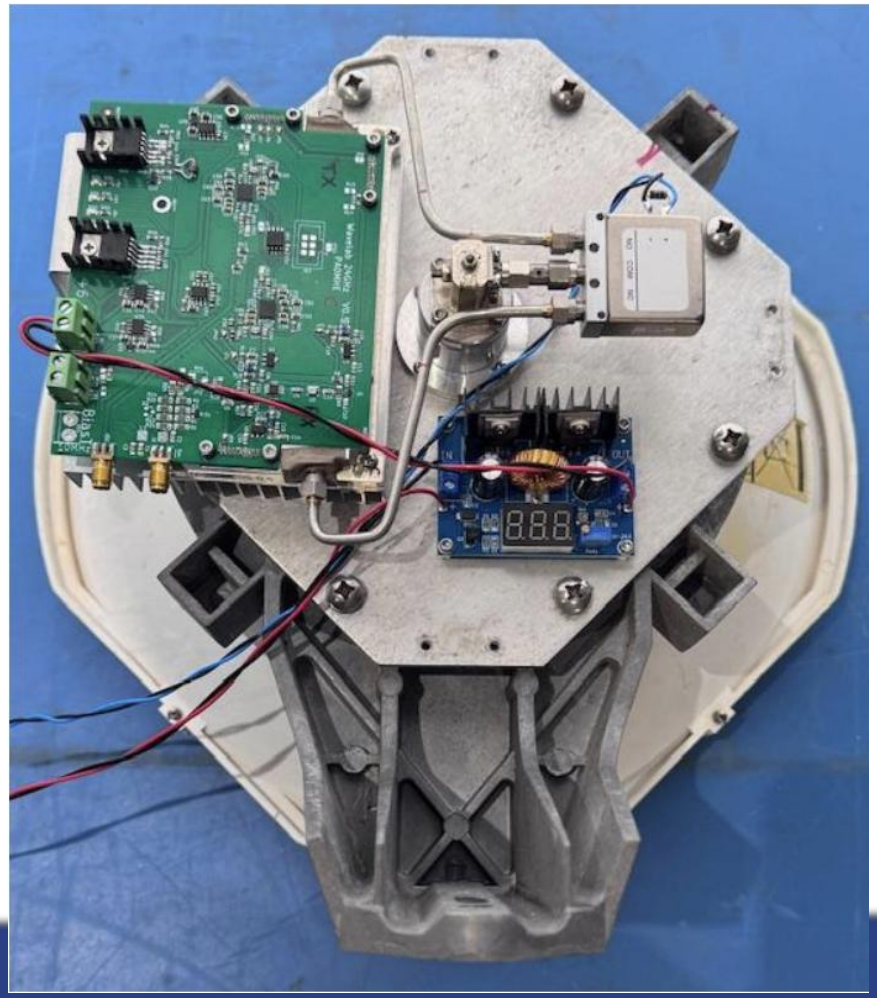
Radiowaves

- Good gain, not too hard to point

Frequency Band, GHz	Dish Size (ft)	Mid Band Gain, dBi	Beam width, degrees	Front/Back, dB	ETSI 302 217 Class	FCC Part 101	Dragonwave Antenna PN*	Radiowaves Antenna PN
23GHz 21.200-23.600	1	35.1	2.7	62	Class 3	Cat A	A-ANT-23G-12-C-R	HPCPE-23DW2
	2	40.2	1.7	68	Class 3	Cat A	A-ANT-23G-24-C-R	HP2-23DW2
	3	43.7	1.1	71	Class 3	Cat A	A-ANT-23G-36-C-R	HP3-23DW2
	4	46.2	0.8	72	Class 3	Cat A	A-ANT-23G-48-C-R	HP4-23DW2
	6	49.2	0.6	N/A	Class 3	Cat A	A-ANT-23G-72-C-R	HP6-23DW2

VE3KH - Kevin

- Heat sinks on two regulators



WB5ZDP - Keith

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- DEMI sequencer, latching relay driver, Bob Stricklin 3D printed enclosure for 10 MHz reference.

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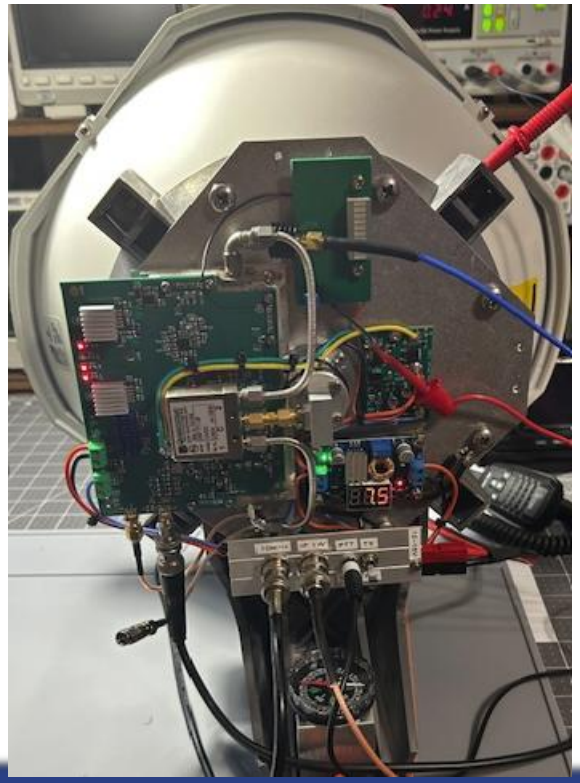
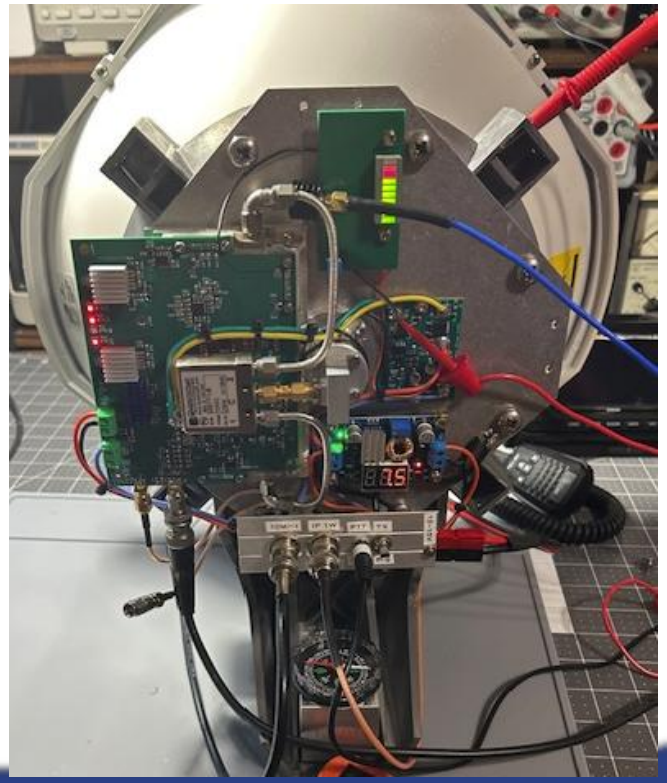
KD5FZX - Mats

- Tapped monitor port to drive LED bar graph
- Controls/jacks-cabling front center
- Heat sinking on top of regulators and bottom of PCB board





KD5FZX - Mats

- Use hose clamp to center WR42 transition over circular waveguide

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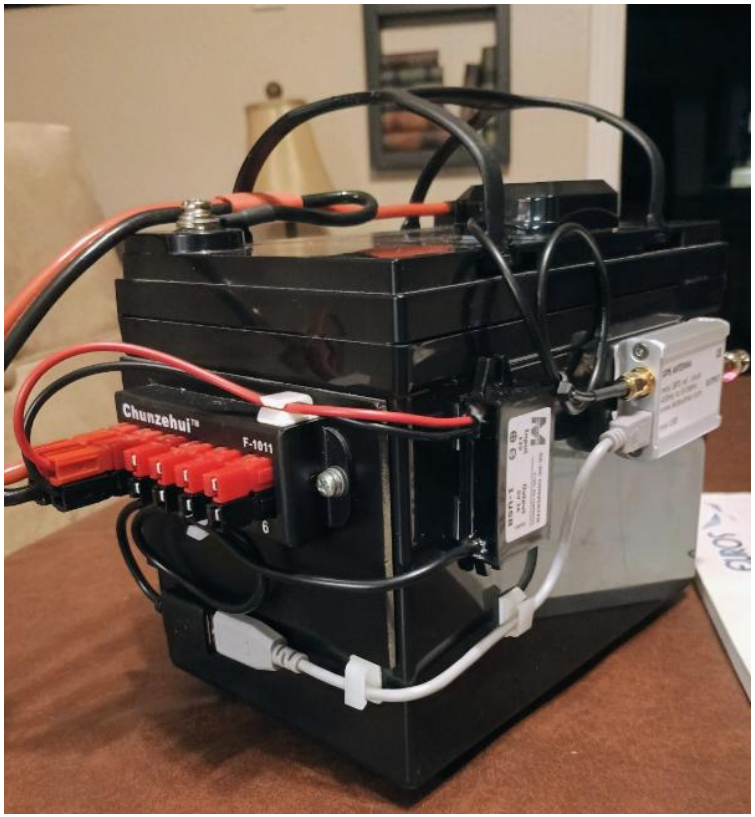
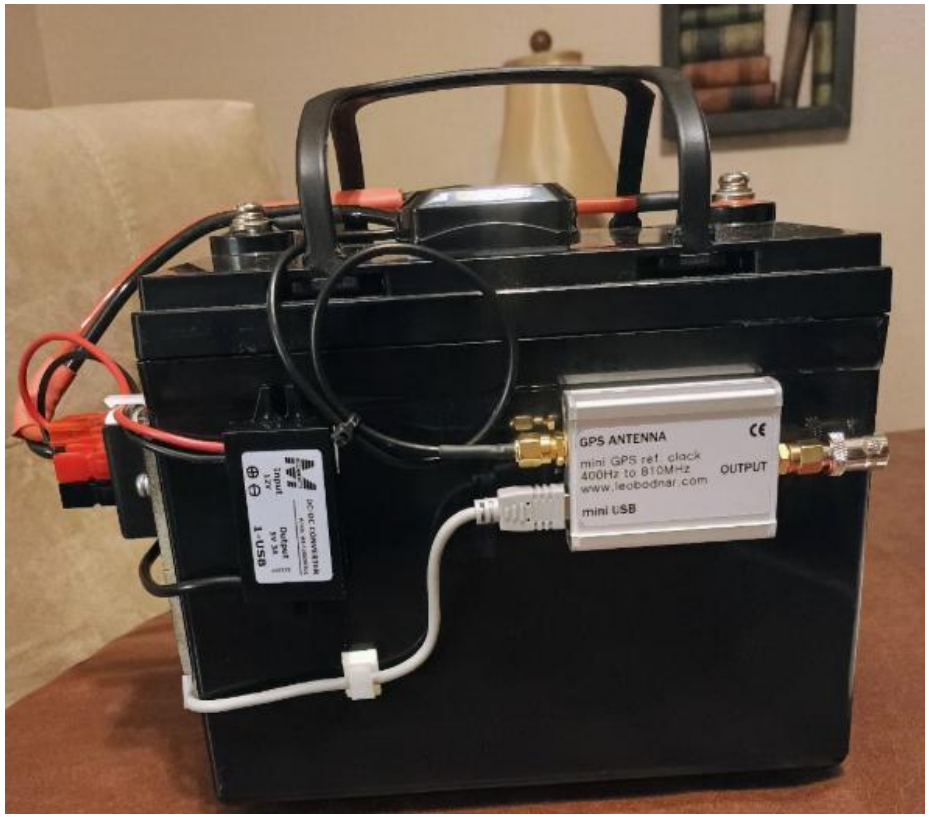
KD5FZX - Mats

- GPSDO attached to 50 Amp power supply for rover work





Successful contact! 599/599 @ 81km

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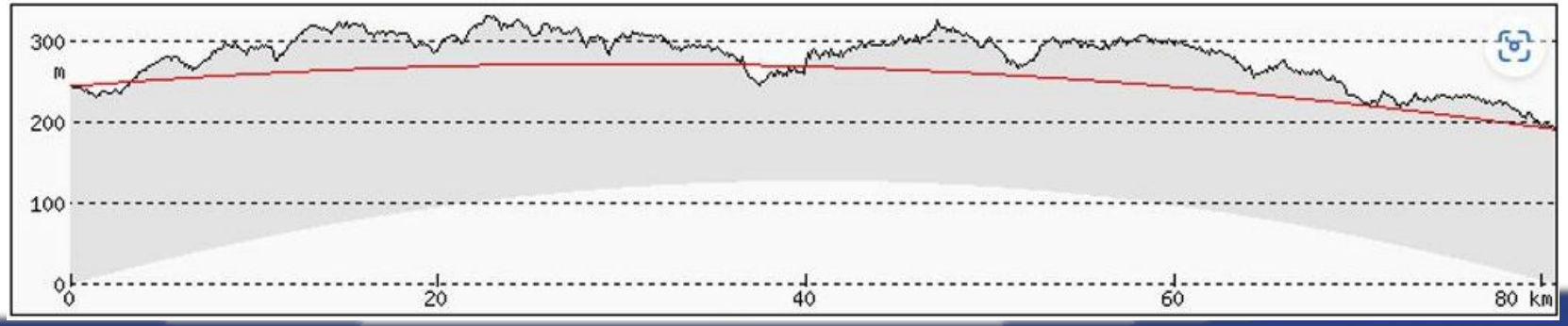
WB5ZDP Rover

Midloathian
EM12ML02UE

W5LUA
EM13QC68IL



Questions?

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