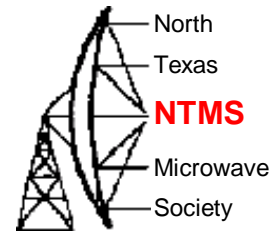


Beacon remote control components and design

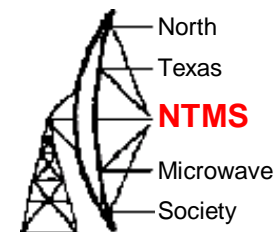
May 18, 2024

Remote commands



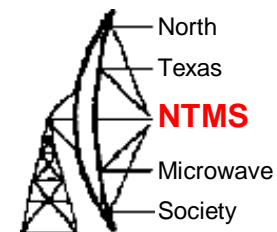
- Power is on all the time to the “listening system” which consists of Hologram network interface via cell signal/internet and the executing program waiting for commands
- BCNON – this command turns on all functions of the beacon (all ON commands are executed)
- BCNOFF – this command turns off all functions of the beacon (all OFF commands are executed). The listener stays on and active.
- STATUS – this command will return the beacon status along with all telemetry data. If the beacon is not running (has previously processed a BCNOFF command) then the response will be: LISTEN is ON

Remote commands



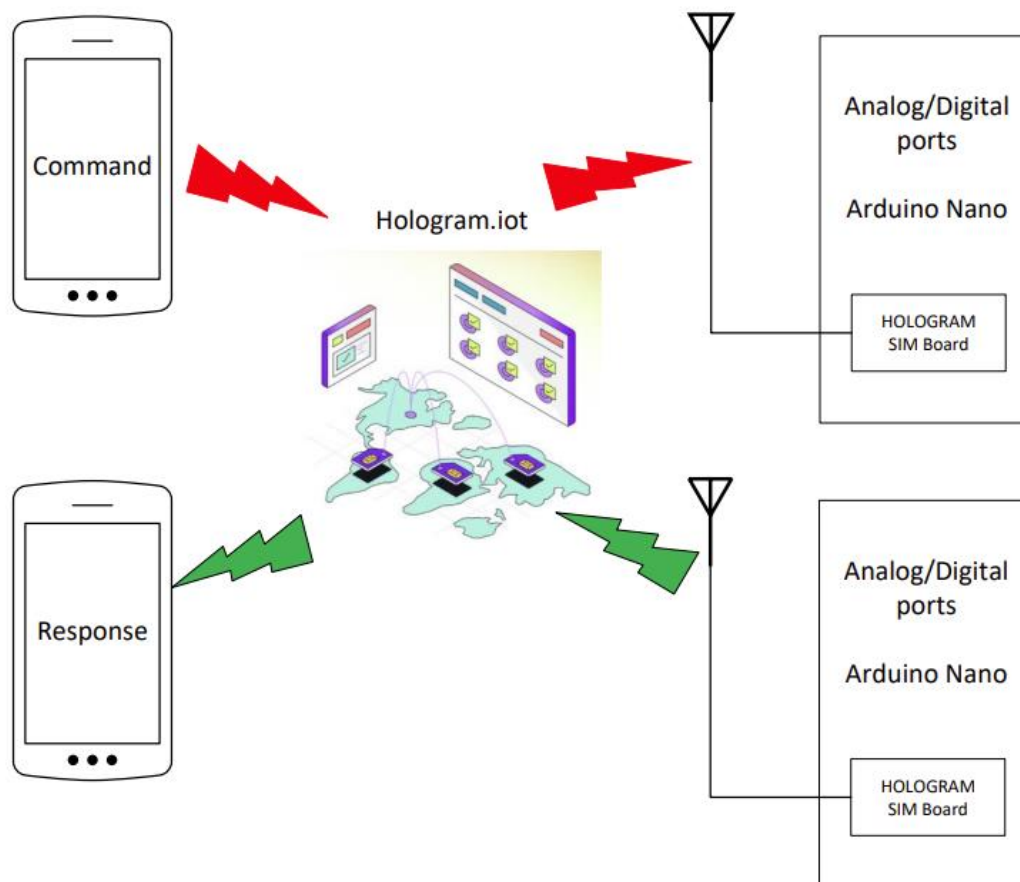
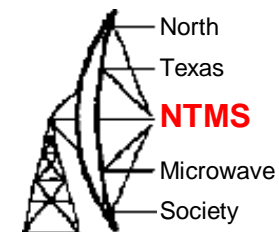
- GPSON/GPSOFF – turns on/off the GPS ref
- LOON/LOOFF – turns on/off the LO
- QUADON/QUADOFF – turns on/off the Quadrupler
- PAON/PAOFF – turns on/off the PA
- VARON/VAROFF – turns on/off the variable-configurable regulator LM317 channel (one extra source of 1-12v DC power)

Remote commands

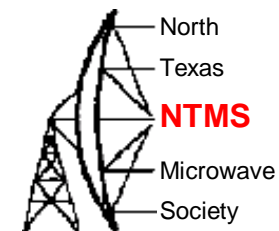


- STATUS – the normal response of telemetry data when the beacon is running is (nominal values):
 - LISTEN is ON
 - PA nominal output = 5
 - QUAD temp = 30 C
 - LO lock = true
 - GPS sat lock = true
 - Ambient temp = 28 C
 - Ambient hum = 65 %
 - 5v GPS cur = 180 ma
 - 6v QUAD cur = 195 ma
 - Var Reg cur = 0 ma
 - 12v LO cur = 75 ma
 - 12v PA LO cur = 1025 ma
 - 12v mains = 12.9 v
 - Extra volts mon = nn.n v
 - Extra volts mon = nn.n v

Communications



Communications



← ↻ 🔒 https://dashboard.hologram.io/org/80335/device/2952230/status?page=1

Hologram

< All Active 47 GHz beacon manager (34040) 🔍 Search... Ctrl+K

NAME: 47 GHz beacon manager TAGS: Add a tag +

CONNECTED LTE HYPER SIM ACTIVE SIM NUMBER (ICCID): 8944501211215034040 ACTIVE LINK ID: 3023997 IMEI: 355767628131588 DEVICE ID: 2952230 || Pause

Status Usage Profiles Messaging Data plan Device tunneling Webhooks

Status

SIM LOCAL TOWER GLOBAL NETWORK INTERNET ACCESS

Connected

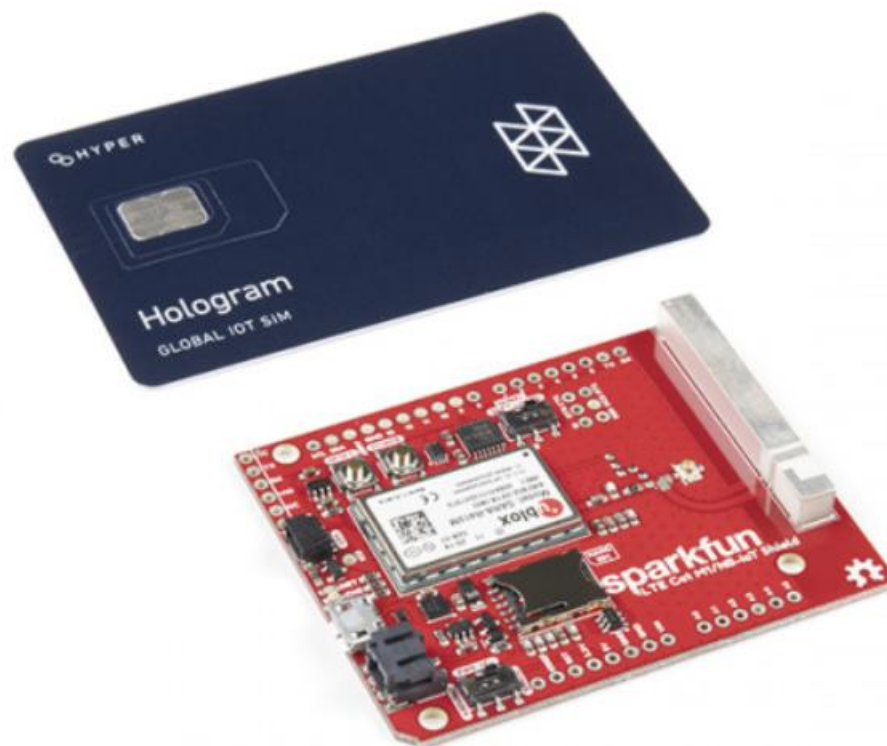
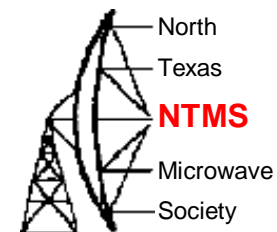
Your device is currently connected to our network, or has connected recently to our network and has an open data session.

Connection overview

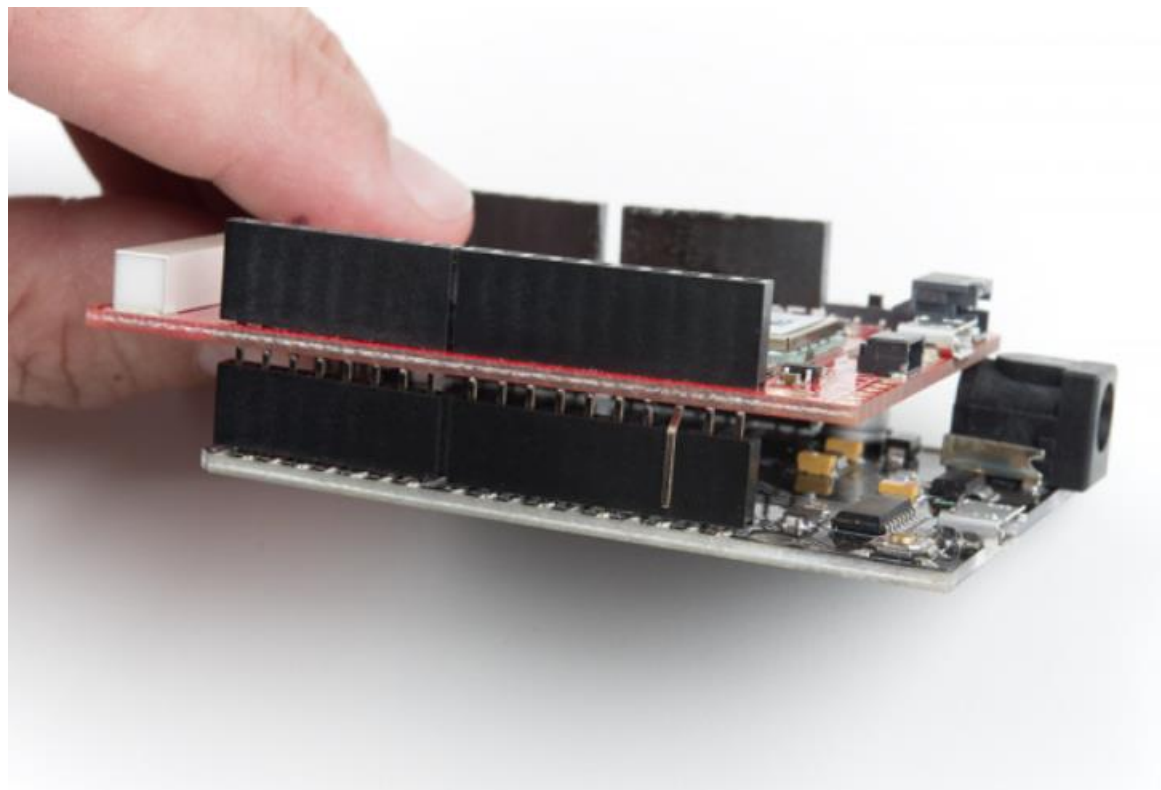
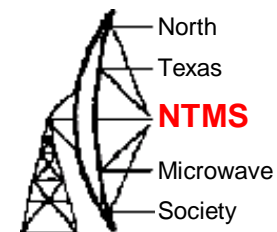
CARRIER	REQUIRED APN
AT&T Mobility	hologram ⓘ
LAST CONNECTED	DATA USAGE THIS BILLING PERIOD
—	59.42 KB
SESSION START	DATA USAGE THIS SESSION
05-18-24 11:40 am UTC	3.79 KB
SESSION END	

There is no location data to display for this device right now.

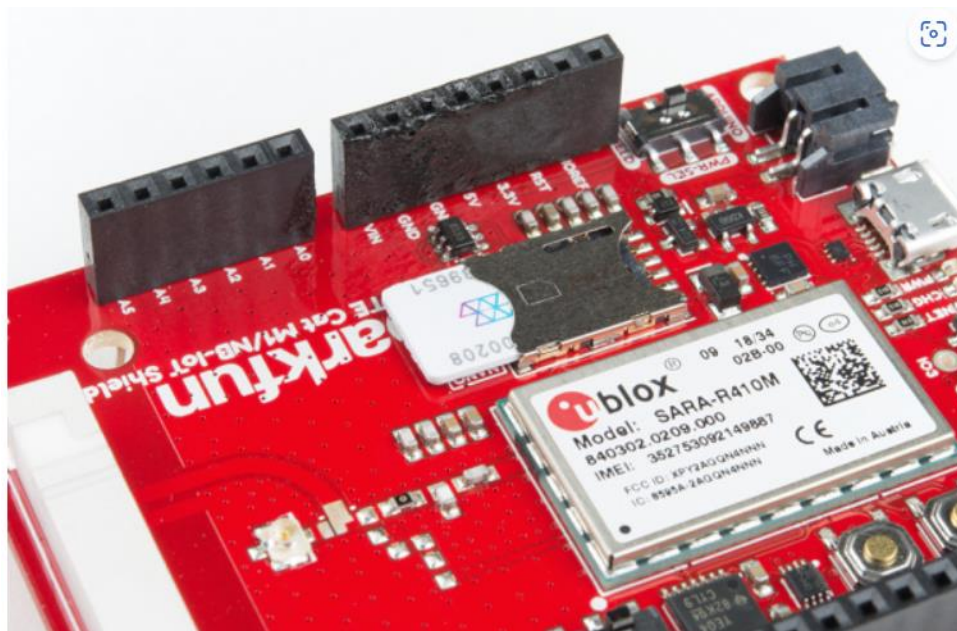
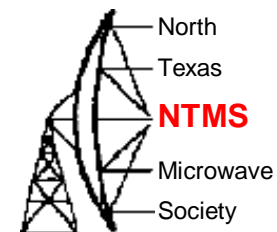
Communications



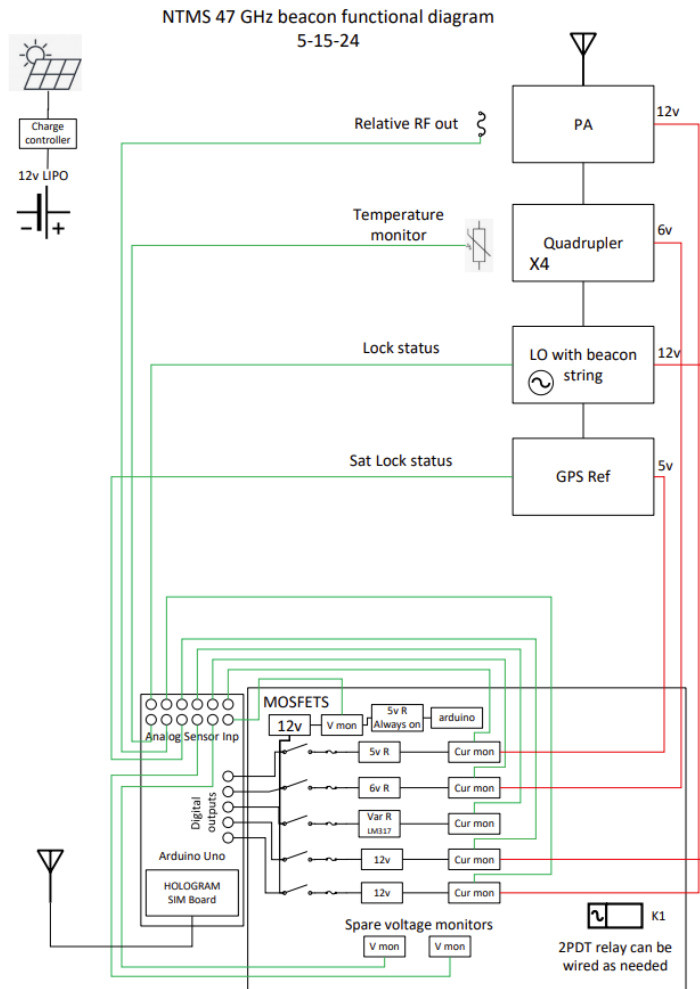
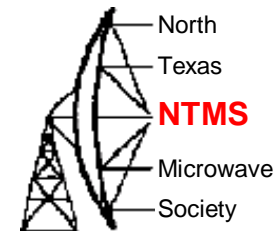
Communications



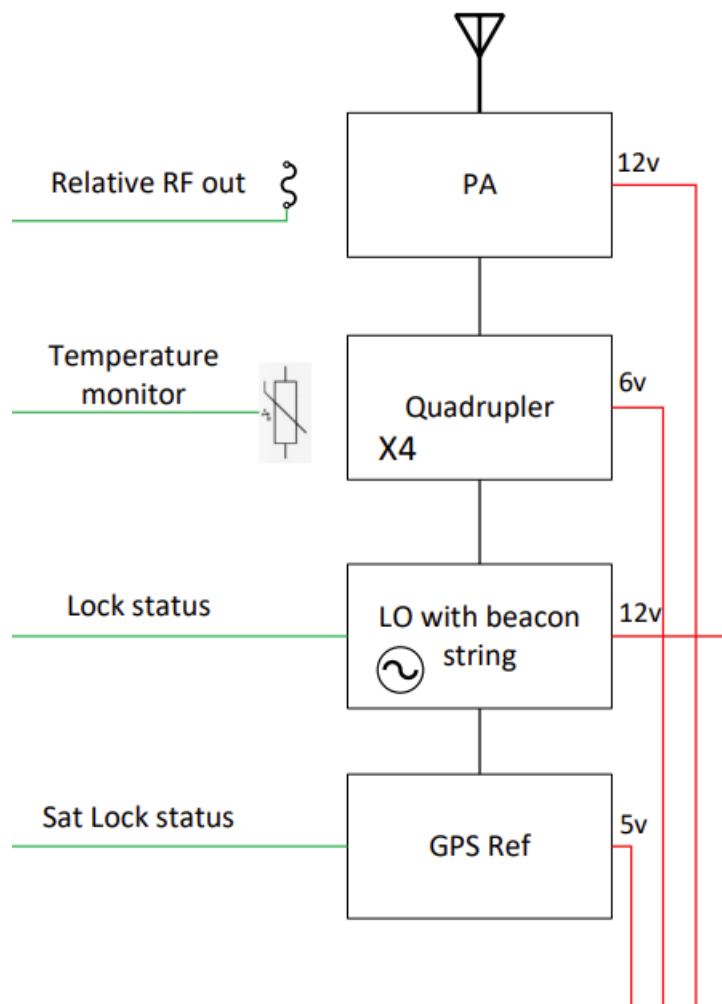
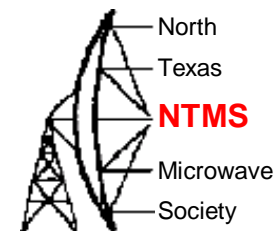
Communications



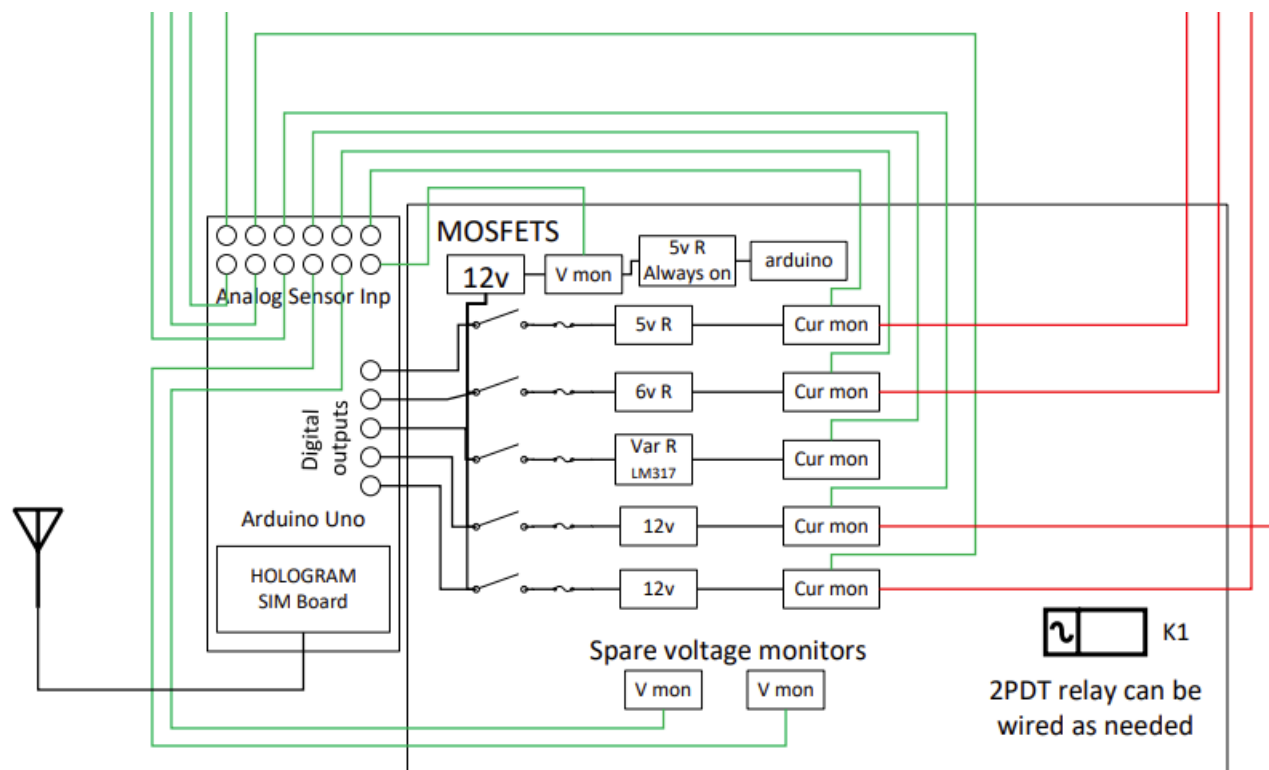
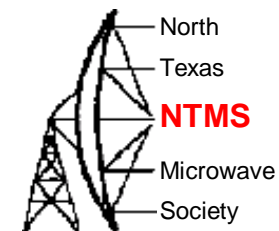
Beacon functional diagram



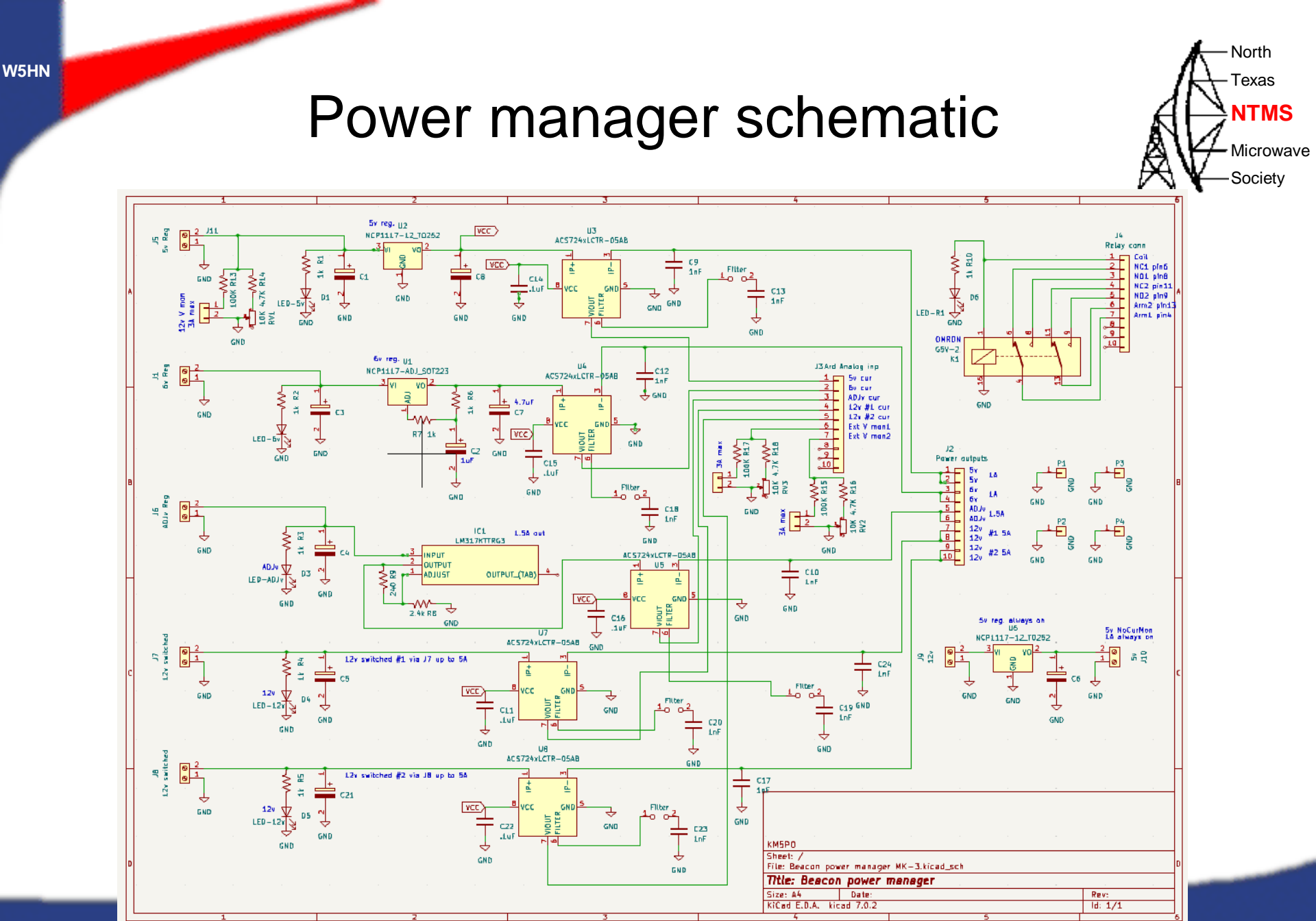
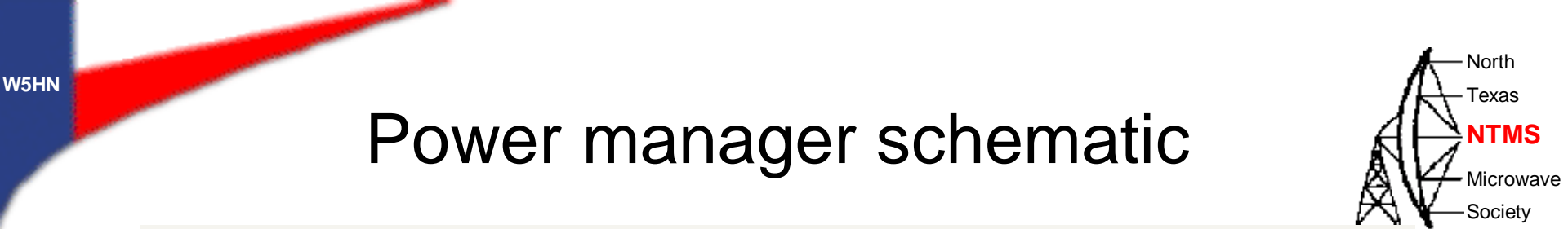
RF section



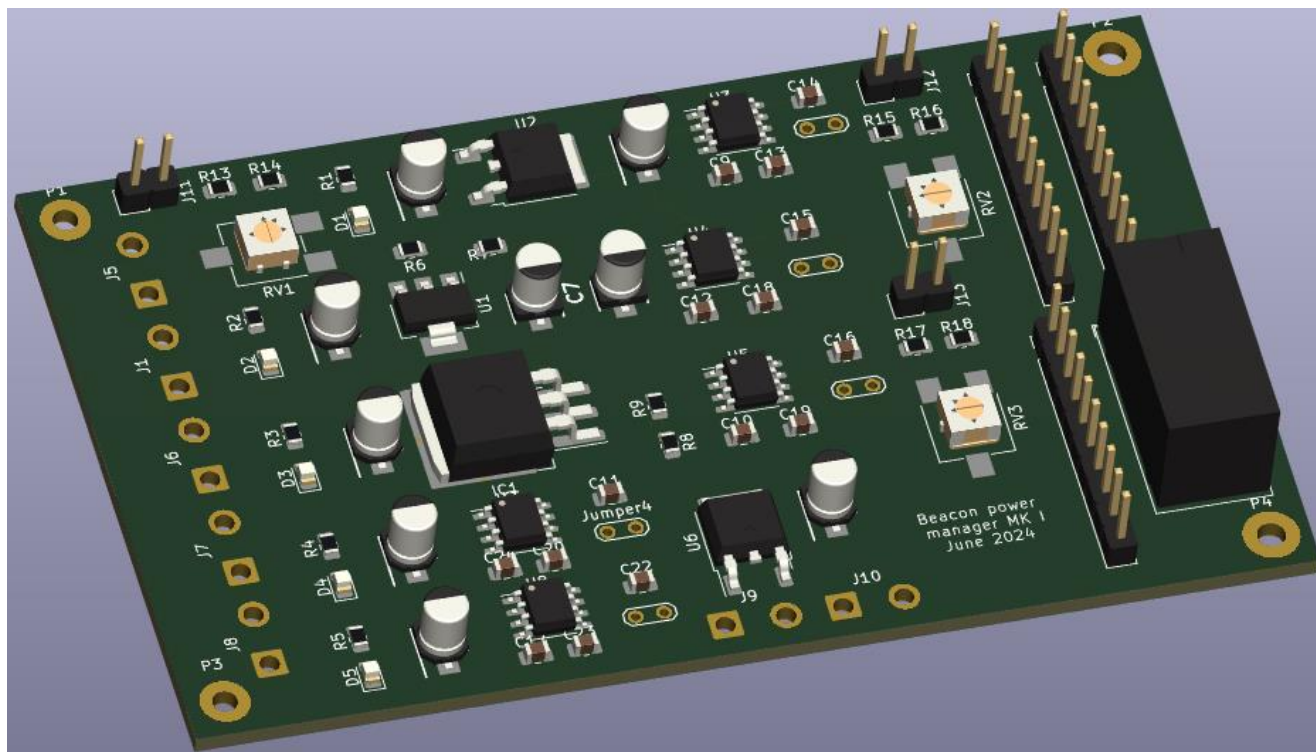
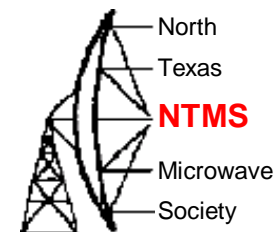
Power management



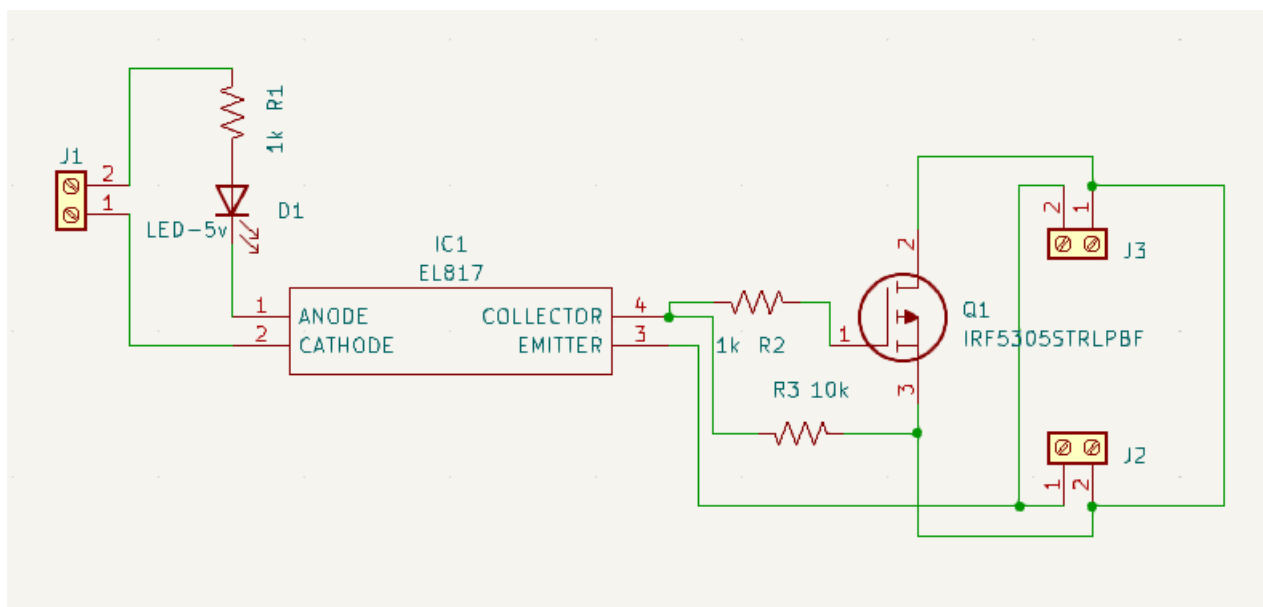
Power manager schematic



Power manager board



Opto-isolated MOSFET drivers



Questions?

