

# Beacons should be shut down!

Disrupt beacons - use reverse beacons

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# Why do we use beacons

- Checking conds for DX – is it worth calling CQ?
- Does my RX and antenna work as usual?
- Tune your preamp and RX
- Calibrate RX frequency
- What else?

# How do we use beacons

- Listen for weak beacons in all the relevant directions
- Stronger or weaker than usual?

# Usual range of a 144 MHz beacon

- 10-25 W to an omnidirectional antenna < 6 dB
- => 40-100 W ERP = QRP
- CW or PI4
- From the best or highest QTH available
- => 400+- km range due to QRP

# Usual range of a 144 MHz DX-station

- 100 – 1.000 W to a 16+- dBd beam
- => 4-40 kW ERP
- 7-800 km range on SSB any time
  
- If you can hear a beacon at 7-800 km there is good conds, but you can work 7-800 km anyway
- The beacons tells you about the DX you worked before you heard the beacon...

# How are conds at HF judged?

- <http://reversebeacon.net/>
- <https://pskreporter.info/>
- <http://wsprnet.org/drupal/>

<http://reversebeacon.net/>

- Reverse beacon: you are the beacon:
- You call CQ or TEST on CW or a digital mode
- Many other hams listen for you
- What they copy is send to at central database and shown on a map on www
- => you can see where you are heard instantly

<https://pskreporter.info/>

- Digital QSO's are uploaded instantly to a website so all can see what and where the 'action' is

<http://wsprnet.org/drupal/>

- WSPR mode in WSJT-X:  $\sim -28$  dB < noise
- Many hams shows what they RX on a website map
- Many run a private beacon: Who can hear my 200 mW? max 5 W
- Many has both WSPR RX and TX
- Reception reports are uploaded instantly to a database and website so all can see what and where the 'action' is

# WSPR products for HF

- [www.zachtek.com/product-page/wspr-receiver](http://www.zachtek.com/product-page/wspr-receiver)
- [www.sotabeams.co.uk/wsprlite-classic](http://www.sotabeams.co.uk/wsprlite-classic)

# Why not on VHF

- The reverse beacon systems can be used on 6 and 2 m
- Not used much on VHF
- Antenna gain and power more important on VHF
- Antenna direction important

# Proposal for a VHF reverse beacon net

- One frequency where all RX when not in QSO
- What is received is send to a database and a website with QTH, **antenna gain, present beam direction** and signal strength
- What is recieved is presented on a map
- You send a test message or a CQ
- Now you know who can hear you and his antenna gain and direction

# Proposal for a VHF reverse beacon net

- A weak signal mode should be agreed
- WSPR takes 2 min to TX
- FT8 takes 15 sec to TX
- A full PI4 sequence wastes time for carrier+CW
- The mode should be robust to QSB and doppler
- The software should be available free
- Best if most hams already have the software

# Proposal for a VHF reverse beacon net

- antenna gain and present beam direction should be added to the database and what is presented on the map

# VHF reverse beacon net

- A VHF reverse beacon net will tell you conditions and range with your station and from your QTH
- Power usage is cut:
  - Only needs 24/7 power for RX
  - Only need power for your PA for a short transmission
- Your ERP is used

# VHF reverse beacon net

- Questions ?