



cnHeat 3 GHz nLOS / NLOS Daniel Sullivan / Seth Poche



3 GHz nLOS/NLOS



cnHeat 3 GHz nLOS/NLOS is a new feature to cnHeat subscription

3 GHz spectrum, especially CBRS and equivalent rules, allows for nLOS/NLOS to be realized at high rates of throughput

- Increased maximum EIRP for the AP (i.e. 50 dBm for 20 MHz channel for Part 96)
- Increased ability for RF to propagate through trees as opposed to 5 GHz

A cnHeat propagation model for nLOS/NLOS has been created with good mean and low standard deviation

That is, the predictions are pretty accurate

Access cnHeat the same way as in the past

https://cnheat.cambiumnetworks.com/

Account Name: cnheat

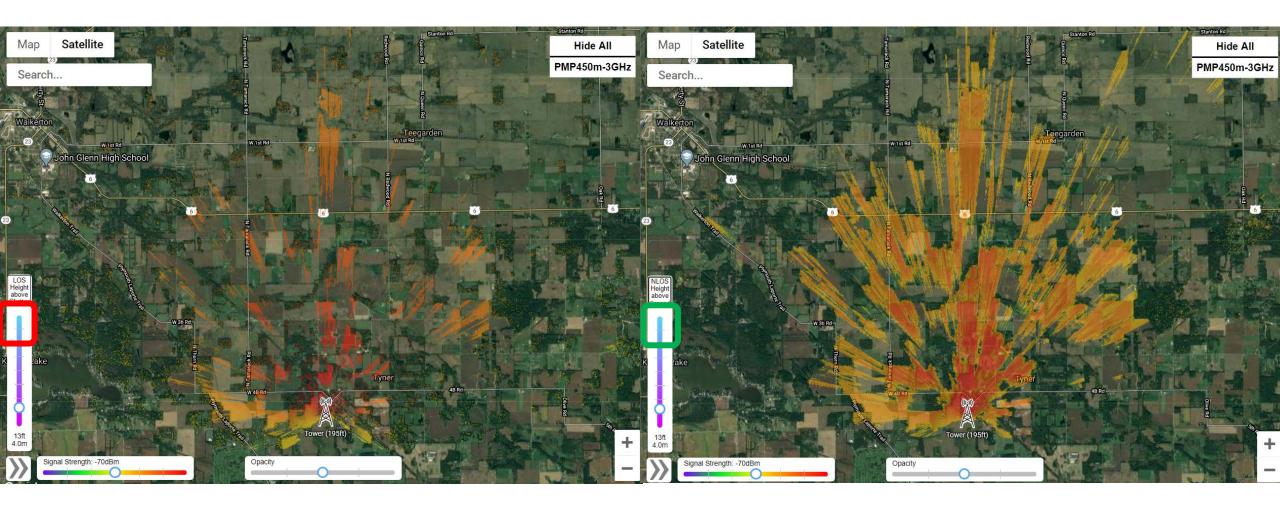
Password: demo



3 GHz nLOS/NLOS

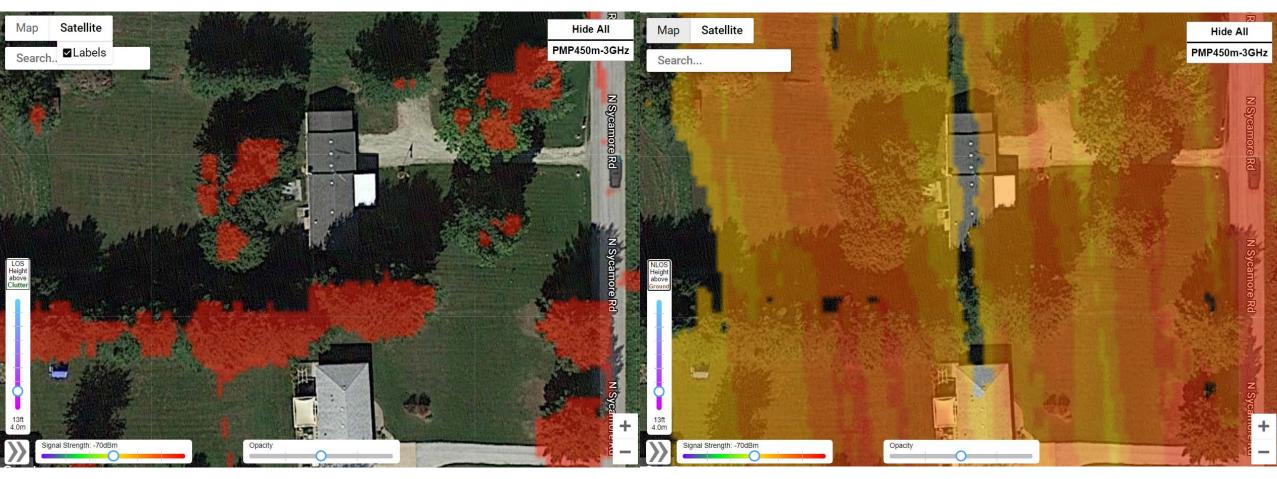


Coverage Comparison for Entire Site



3 GHz nLOS/NLOS

Coverage Comparison at Single Locations



cnHeat LOCATE

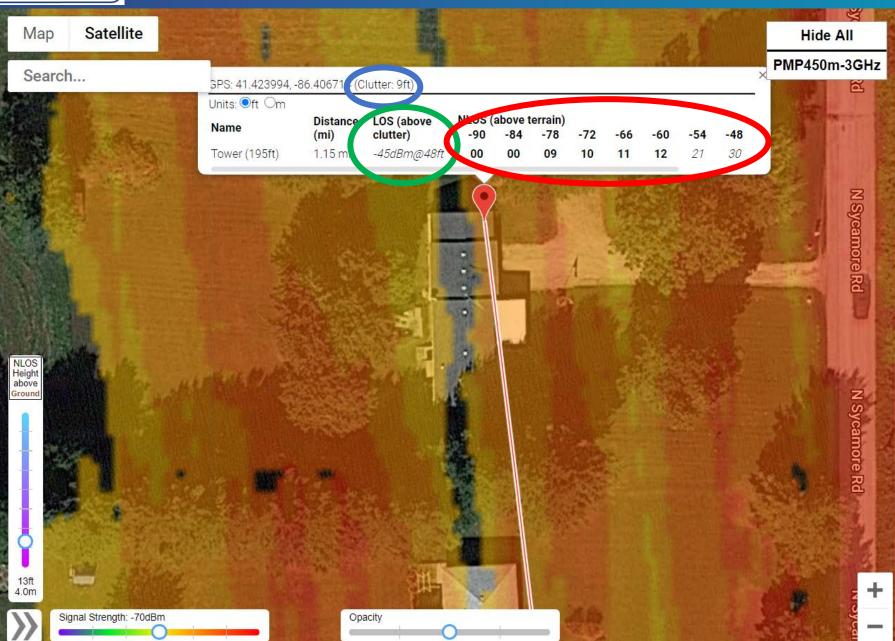


3 GHz nLOS/NLOS



Location Finder

- Clutter Height is provided 9'
- LOS Height is provided
 - 57' = 9' clutter plus 48' above clutter
- NLOS Heights provided
 - RSSI improves as SM height increases
 - RSSI height shared for 6 dB increments
 - -78 dBm at 9'
 - -72 dBm at 10'
 - -66 dBm at 11'
 - -60 dBm at 12'
 - Roof height is 9' (clutter height)
 - Install 3' above roof increases RSSI by 18 dB

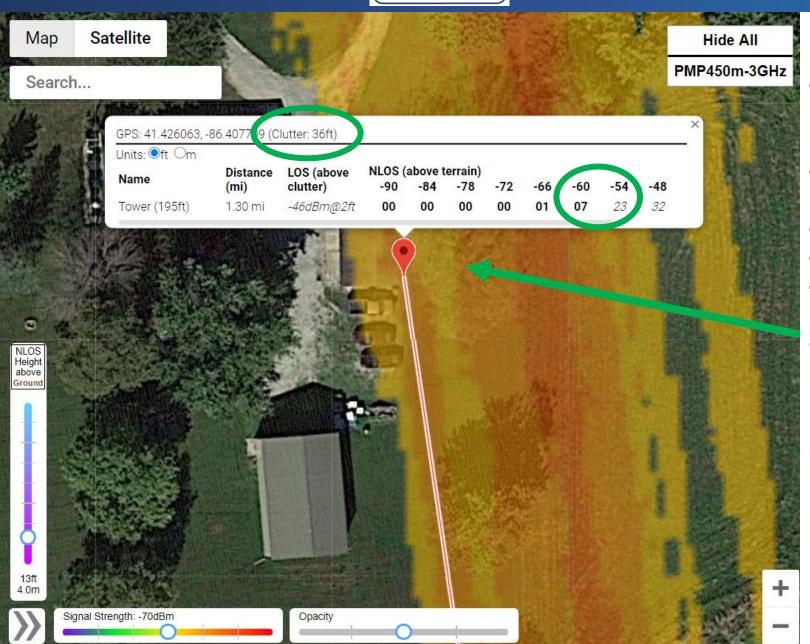


cnHeat LOCATE



3 GHz nLOS/NLOS





3 GHz nLOS/NLOS Benefits

- 3D coverage
 - Every square meter for 8-mile radius
 - Heights shown for varying RSSI
- Incredible amount of calculations available instantly
- 1-meter resolution
- Simple to use
- Unleash the nLOS/NLOS power of 450m (and any AP)
- Install under trees
 - 36' tree height
 - One story building
 - RSSI between -60 and -54 dBm

cnHeat LOCATE



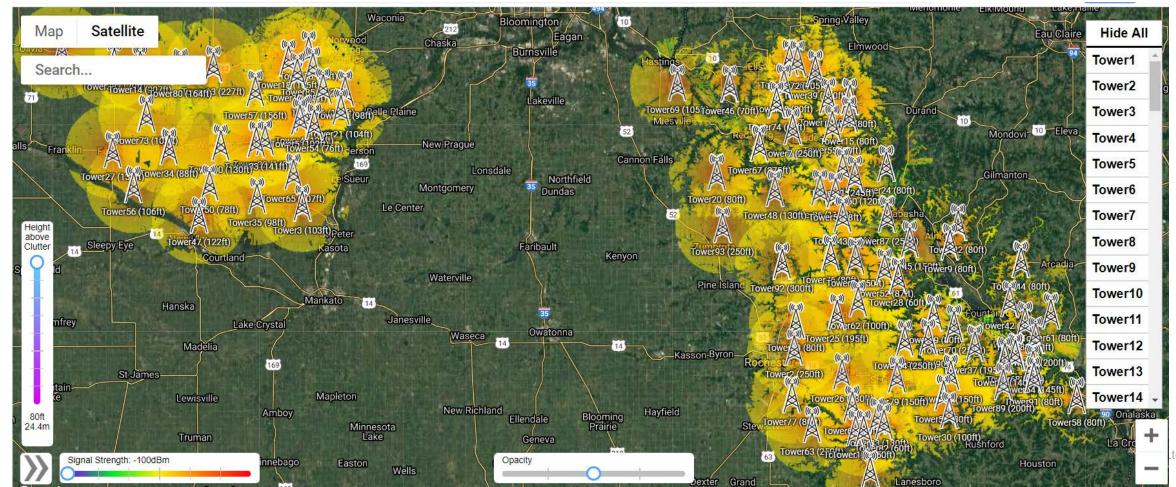
3 GHz nLOS/NLOS



Subscription Benefits

- Existing 3 GHz sites grandfathered into nLOS/NLOS
- New features => same price, no change in pricing
- Place as many APs as you want on a site
- Make a change to a site, no charge

- Existing features carried forward
- Existing pricing and part numbers remain the same



cnHeat Part Numbers and Pricing



• cnHeat LOCATE © Pricing per site

Part Number	Description
PS-MP3M3Y-RW	3-year subscription for only \$12.50 a month paid every 3 months (\$37.50), 12 payments
PS-MP3Y-RW	3-year subscription paid up-front for \$425.00
PS-MP3M1Y-RW	1-year subscription for only \$18.75 a month paid every 3 months (\$56.25), 4 payments
PS-MP1Y-RW	1-year subscription paid up-front for \$212.50
PS-MPSUP-RW	1-month access paid up-front for \$179.00

- **cnHeat IDENTIFY** Pricing United States Only
 - Requires 1-year or 3-year subscription

Part Number	Description
PS-ADSP-US	100 Addresses, Provided to Service Provider, \$25.00
PS-ADMF-US	100 Addresses, Provided to Marketing Firm, \$25.00

• cnHeat OPTIMIZE Pricing



Part Number	Description
PS-GFOPT-RW	Site Finder, Finds Optimal AP Greenfield Site Locations, \$250.00
PS-GFVER-RW	Verify Coverage, Verifies AP Site Coverage for \$80.00, Requires Purchase of PS-GFOPT-RW

