

# MANET Planning

Quick Reference, May 2026



## Step 1: Prepare a Template

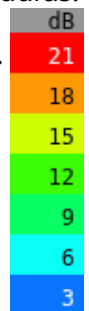
- Enter your hardware settings carefully from a data-sheet or equivalent.
- For ground radios **keep the heights low eg. 1.5m**
- Gain for whip antennas should be between 1 and 4dBi. **Use 2 dBi as a default**
- For units use Signal to Noise Ratio (dB) with sensitivity set to 3dB
- The noise floor must match your environment and **bandwidth**.

For 1.2MHz use -110dBm

For 10MHz use -100dBm

For 20MHz use -97dBm

- Use the **ITU-R P.1812 model** with 60% reliability and Bullington diffraction
- For the environment; use DTM with buildings and land cover (trees) set to ON and a minimal clutter profile.
- For the output; Set the resolution and radius so combined they do not exceed 4MP. *For example, 5m resolution at 5km radius or 10m resolution at 10km radius.*
- Use a colour schema with a range from 21dB (Video) down to 3dB (PLI) i.e. SNR21.dB
- Save the template using the Save Template button and give it a name



### Conservative or Optimistic?

The defaults presented are intended to be conservative (low gain, high noise etc) for factory templates. As conditions vary by location, you will need to tweak templates to make them tuned to an environment. For example, in the mountains, the noise floor will be lower and in a forest, trees are more dense than a suburb.

CloudRF has calibration utilities to help tune templates. For a video explanation see here: <https://www.youtube.com/watch?v=Ru12zgsjNjE>

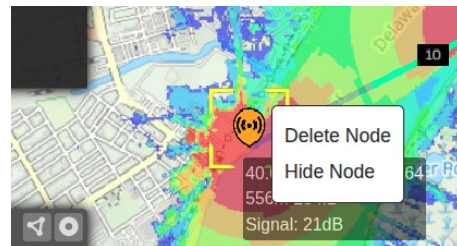
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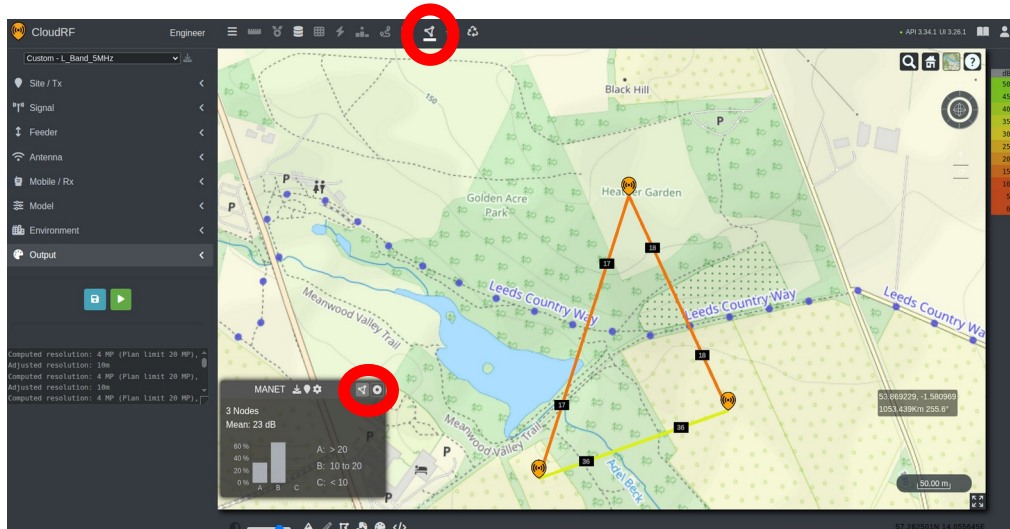
## Step 2: Design a MANET network

- Select the template from the drop-down in the top left
- Activate the MANET tool from the top bar
- Click on the map to place a node
- Nodes can be dragged to move them
- Nodes can be clicked on see details.
- Right click them to hide them or to delete them.
- Links will be shown on the map between nodes.
- Coverage and links can be toggled within the MANET tool window.



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## Step 3: Exporting a Network

- **Option 1** – Press the map pin button in the MANET tool window in the corner
- **Option 2** – Open the Archive, then choose the MANET network.
- Check the checkbox next to the row you want to export.
- Click the map pin icon at the top of the archive to download in your desired GIS format e.g. **KMZ**

