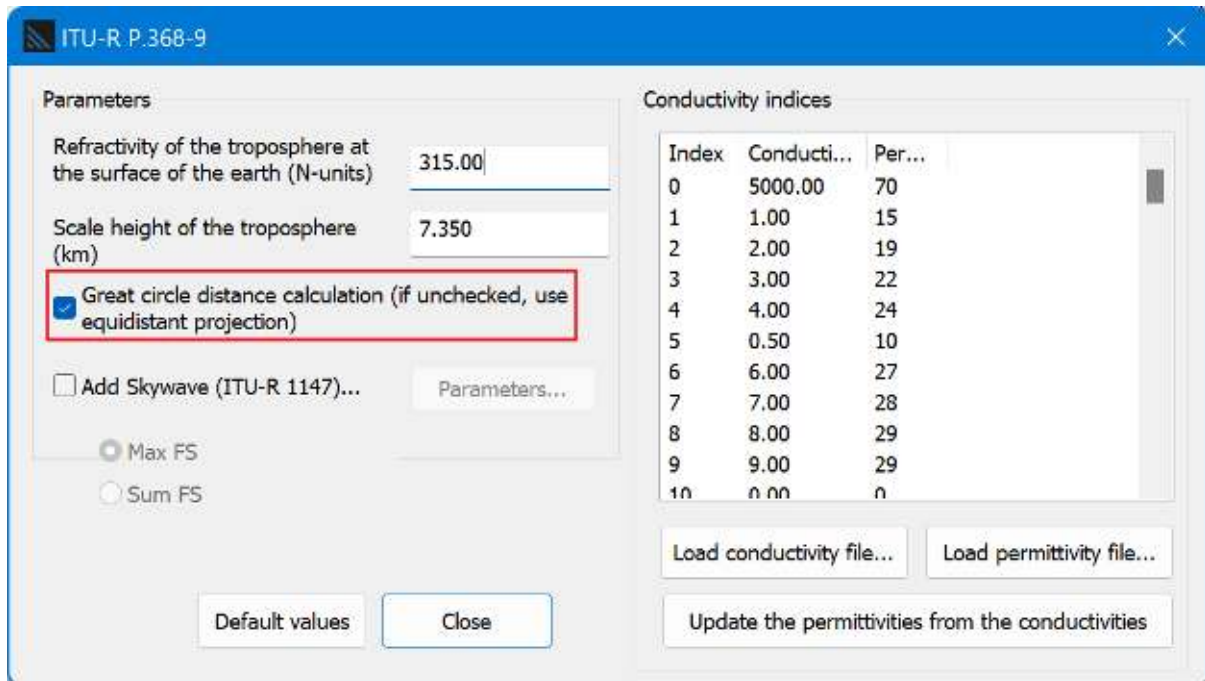


**MANAGING FCC BROADCAST  
CONTOURS IN HTZ**

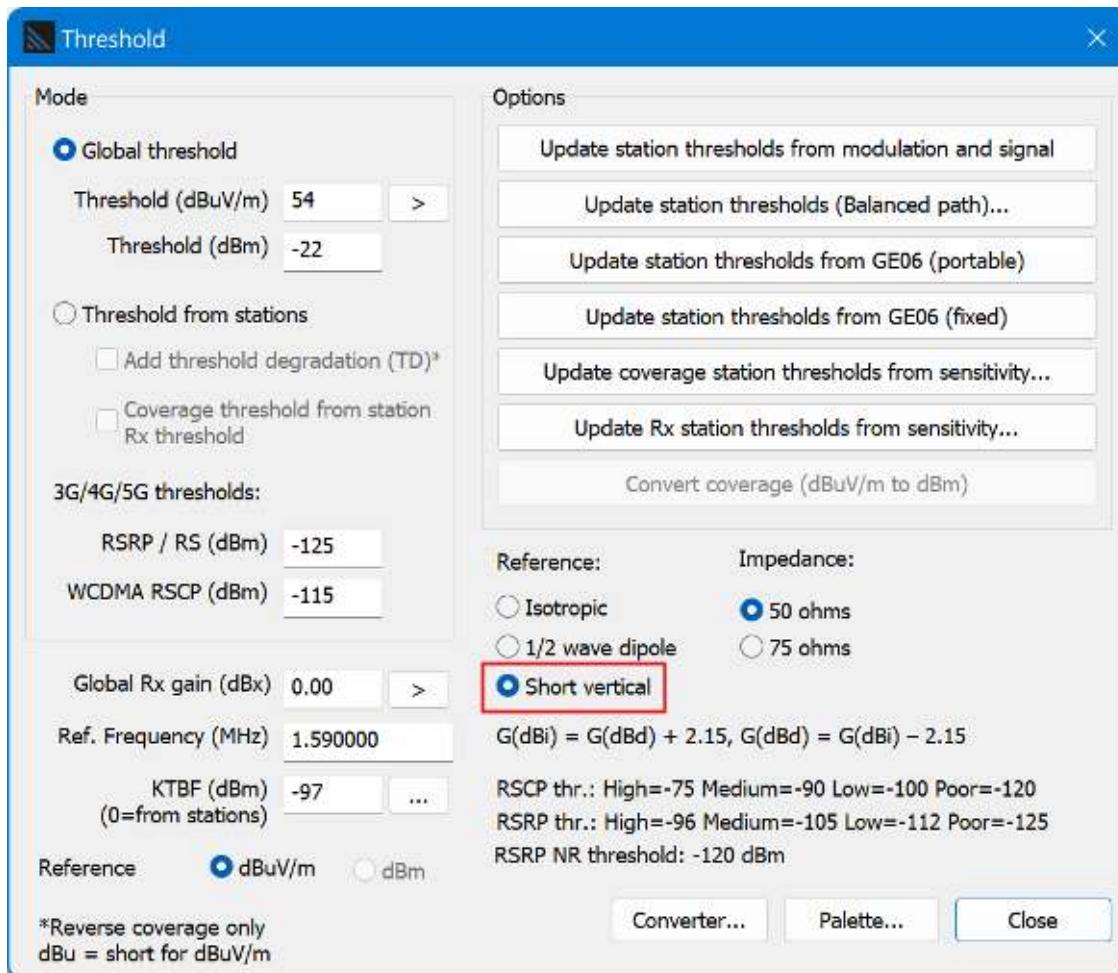
HTZ can generate contours according to FCC rules. These are applied for coverage of services for FM broadcast, TV and land mobile radio. This methodology gives an approximate coverage and interference and the contours use different reliability values in the curves. Each contour is represented as a contiguous polygon with areas with no coverage shown.

However, FCC contours do not apply for AM broadcast. HTZ encapsulates the groundwave model with a conductivity map loaded for the area. The coverage contours are extracted for 0.5mV/m (54dB $\mu$ V/m) and 2mV/m (66dB $\mu$ V/m). Alternatively, HTZ features a Threshold limited polygon, as illustrated below:



When using a WMAS projection (non-equidistant), this option must be checked in the propagation model.

For AM, the "Short vertical" reference antenna must also be selected:



Test show that a 400m resolution dataset may not be sufficiently accurate. Instead, ATDI have produced a dataset (DTM and conductivity) with a 90m resolution. This dataset is created from a 30m dataset of USA, available via the Map Download Manager for the DTM and from the FCC conductivity map (AM\_m3), now also available for download.

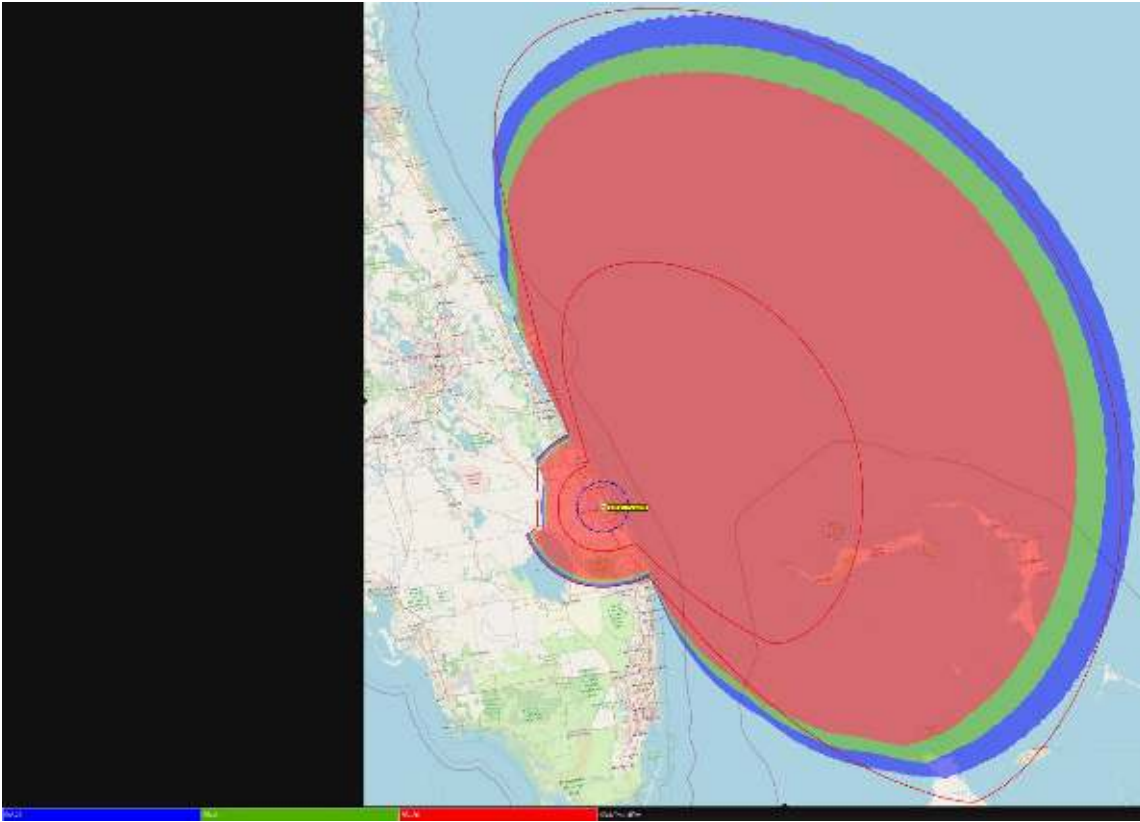


Fig. 1 "54 dBµV/m coverage" with 3 levels: 54/55/56dBµV/m

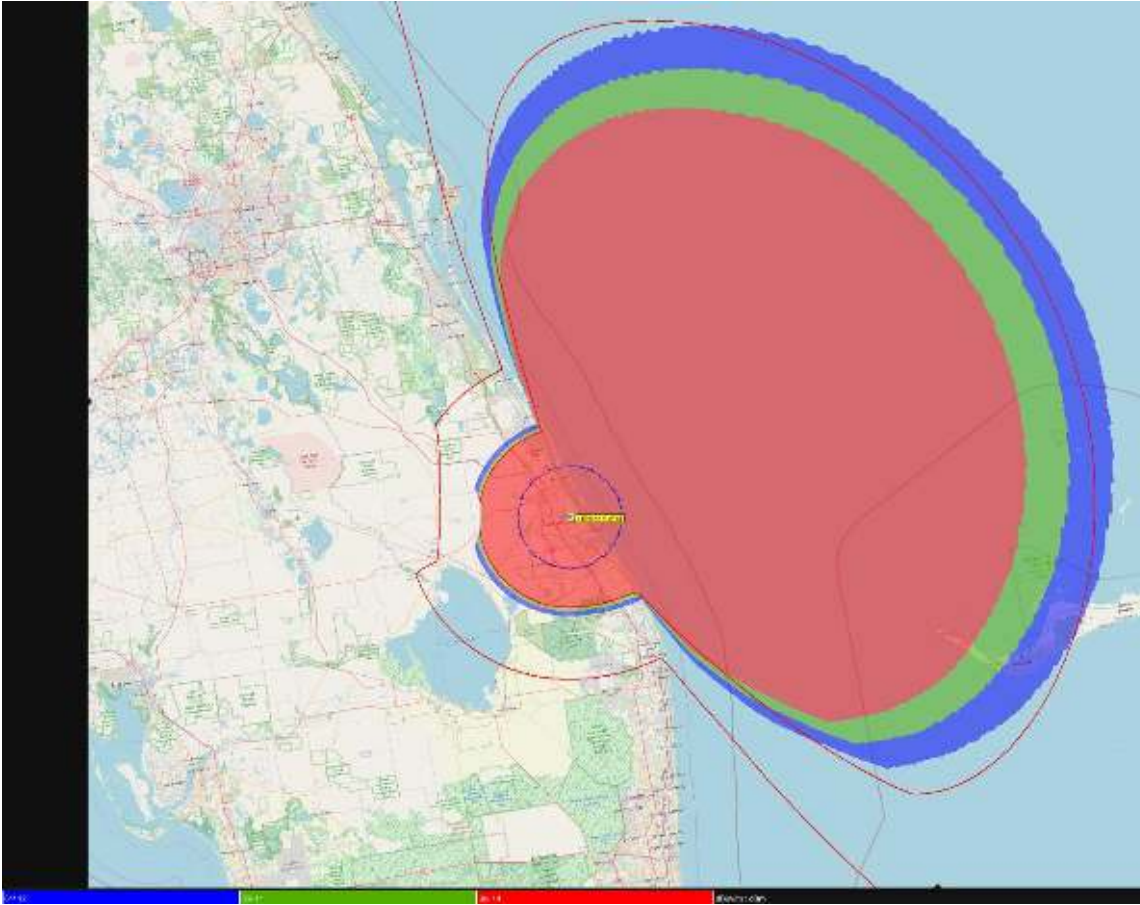


Fig. 2 "66dB $\mu$ V/m coverage": 3 levels 64/64/66dB $\mu$ V/m

As seen above, the contours in HTZ replicate the ones identified by FCC, with a difference of around  $\pm 1$ dB. These results were achieved with a transmitting antenna height of 29.22m and a receiving antenna height of 10m. If there is no information on the receiving antenna height considered by FCC, this may impact the results.

NB. the FCC conductivity map does not consider other countries (Bahamas Islands) which are considered as water.

It is also possible to directly build the polygon contour using the "Threshold limited polygon calculation" available in the station pop-up menu (for a given station):

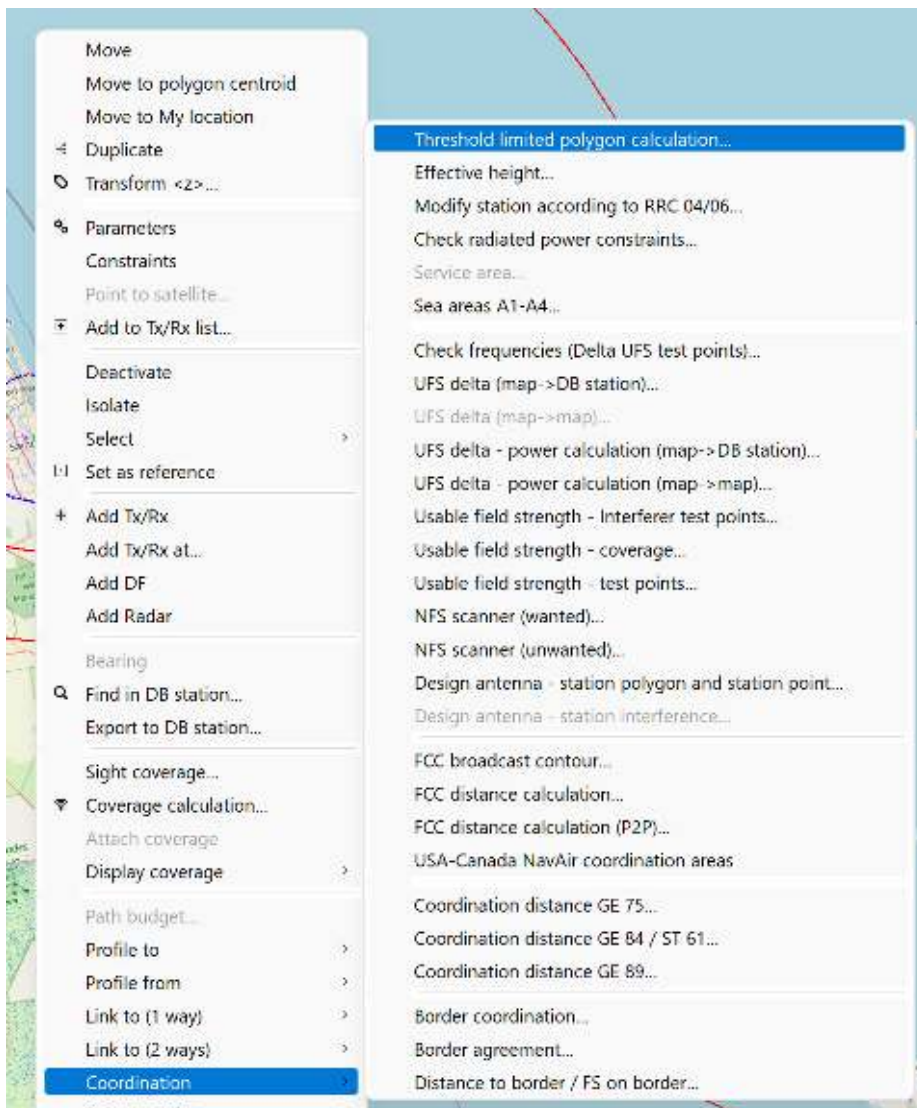


Fig.3 Station pop-up menu

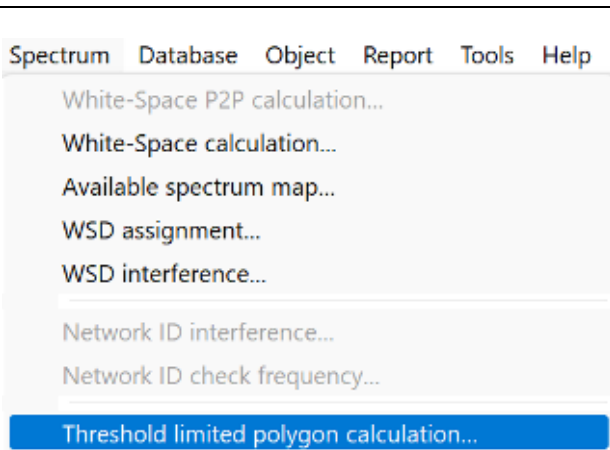


Fig. 4 This can also be access from the Spectrum menu (for all activated stations on the map)

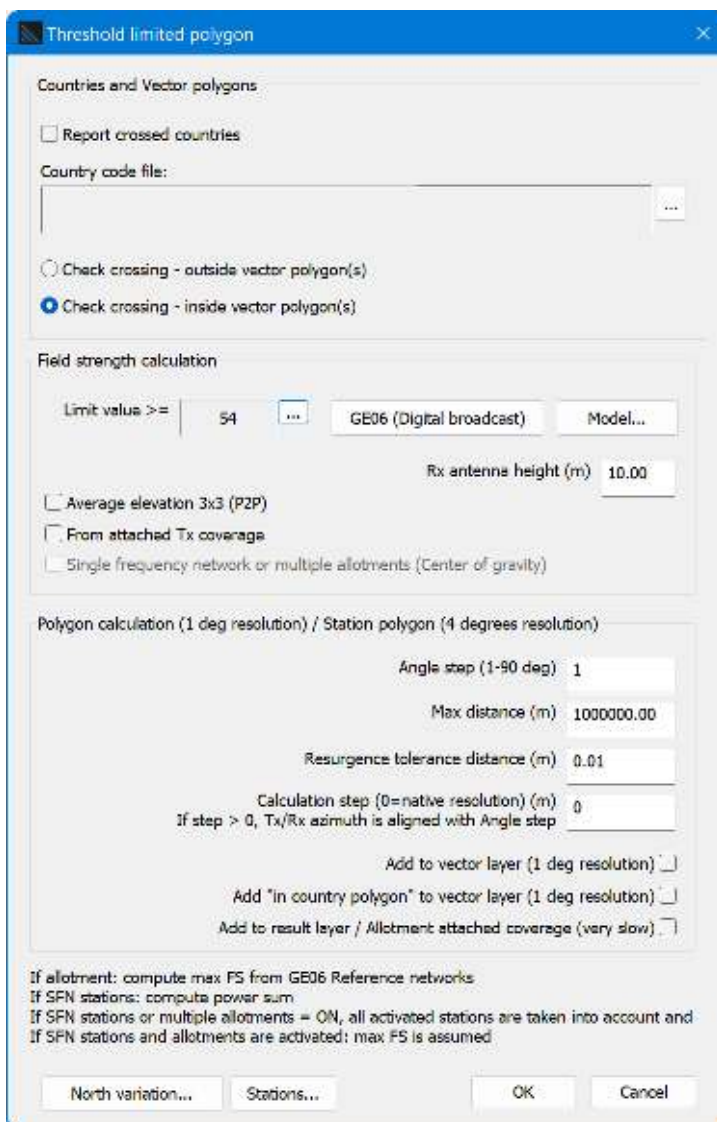


Fig. 5 Threshold Limited polygon

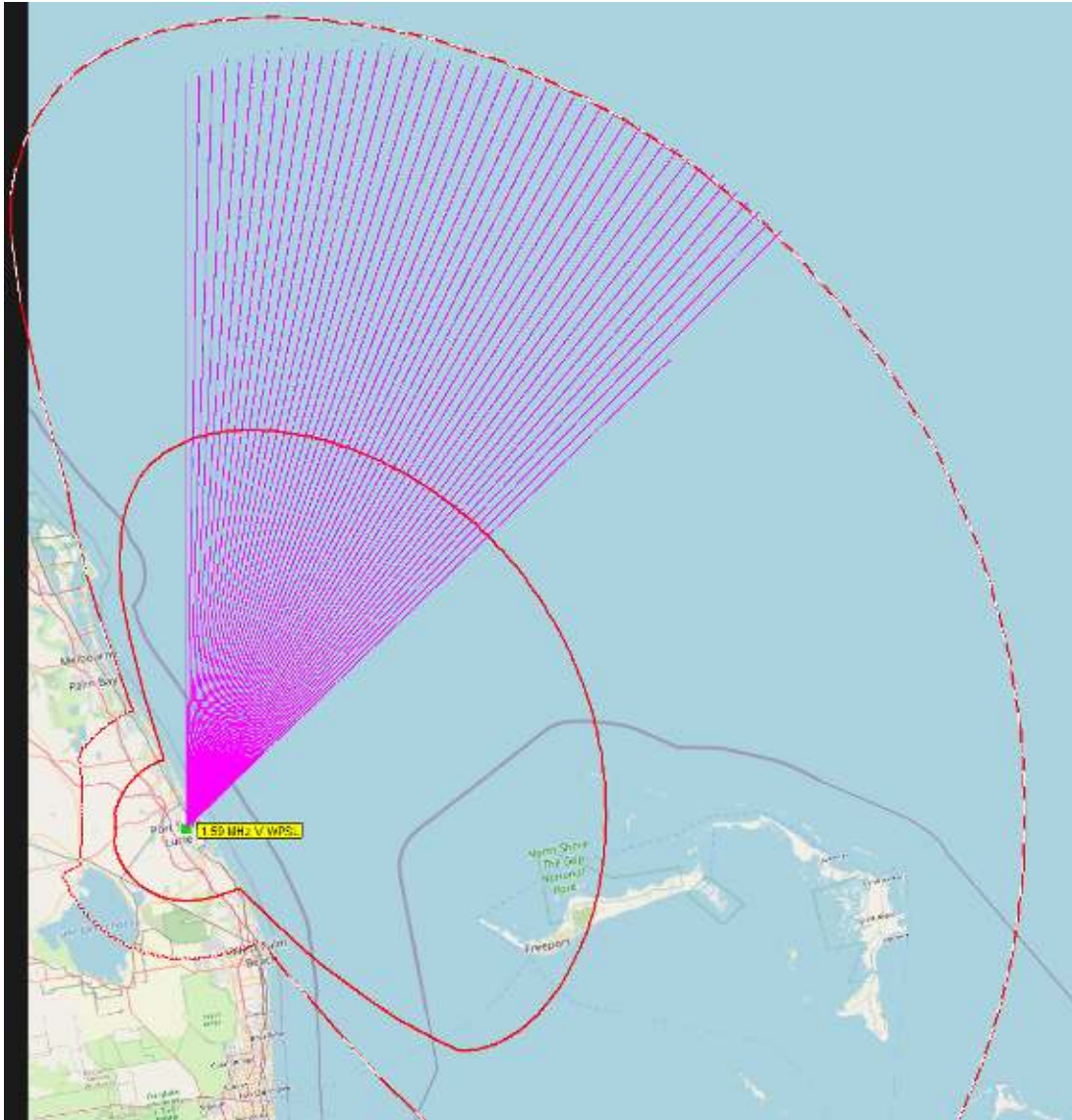


Fig. 6 This example shows calculations ongoing for  $54\text{dB}\mu\text{V}/\text{m}$