SOOTHSAYER™

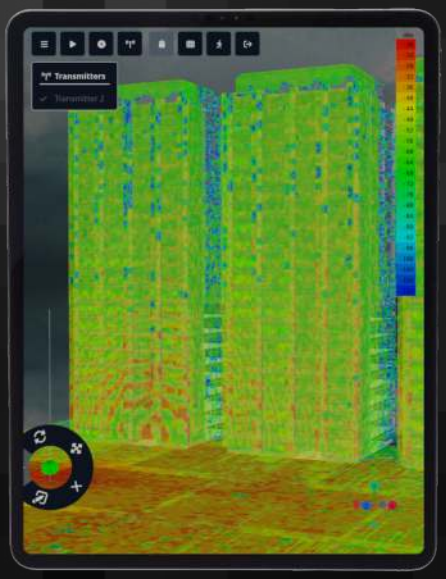
Scalable self-hosted RF planning for operators and engineers.

Accurate

Field tested, mature models for HF, VHF, UHF, SHF with multi-obstacle diffraction, LiDAR support, configurable soft clutter and 3D antenna patterns. 12 year maturity.

Powerful

GPU accelerated APIs for whole network simulation, Monte Carlo "Best Site" analysis and 3D phase tracing with configurable reflections and building materials.



Scalable

Container architecture with a mature published API, cross-platform web-native interfaces, ATAK plugin, public code examples and Active Directory support.

SOOTHSAYER™

Technologies
HF NVIS & Skywave, VHF LMR/DMR, UHF, LPWAN, LTE, Wi-Fi, 5G, Microwave, GS/LEO Satellite, Optical

Antennas
TIA-804-B / NSMA 3D patterns, custom polar plots with beamwidth, gain, front-to-back, azimuth, downtilt and multi-azimuth arrays.

Models
ITU-R 1525, 1546, ITM / Longley Rice, Hata, COST-231, Ericsson 9999, SUI, Egli, RADAR, LOS, General Purpose. Single knife edge diffraction. Bullington, Giovanelli, Deygout 94, Epstein-Peterson complex diffraction models.

Units
Path Loss (dB), Received Power (dBm), Field Strength (dBuv), Signal to Noise (dB), Bit Error Rate, RSRP (dBm)
Imperial (f) / Metric (m), Height AGL / AMSL, Mi / Km

Limits
Height: 60,000m, Radius: 500km, Resolution: 1 to 300m
Up to 64 Megapixel images (2D) and 100 Megavoxels (3D)

APIs & Automation
Area, HF, Path, Points, Interference, Merge, Multisite, Network, Noise database, Best Site, Satellite, Trilateration 3D, Archive, Clutter and Template management.
OpenAPI 3 compliant with public examples:
https://cloudrf.com/documentation/developer

Standards
CSV, GeoJSON, GeoTIFF, HTTP, JSON, KML, KMZ, OpenAPI, SHP. Open GIS raster and vector formats.

Interfaces
Cross platform web interface, ATAK plugin, Developer's API
Public code examples for HTML, Javascript, Leaflet, Mapbox, OpenLayers, Python, Rust, live ADS-B tracking

Templates
JSON templates with saved settings to reduce error, speed up planning and scale knowledge across an organisation

System requirements
Linux host (x86-64 or arm64) running container software (Docker, Podman) with minimum 4 CPU cores, 4GB memory and 10GB disk space.
Recommended specification: 8 CPU cores, 8GB memory and 1TB disk space with NVIDIA GPU.
Platforms: AWS, Azure, ESXi, Proxmox, Ubuntu laptop, NVIDIA Jetson.

Security
SBOM available, TLS 1.3, LEPP stack with configurable ports.
RBAC accounts with AD support and password requirement
Build-it-yourself containers available via support portal
Containers with root access and code visibility
User data isolated in a mapped folder on host

Accuracy
Field tested to < 5dB RMSE error
Model calibration utility with sub-contexts and tuning margin
9 configurable land cover types including trees and buildings
9 custom obstacle types for DIY clutter

Analysis Tools
ERP calculator, Custom antenna tool, Path Profile Analysis, Best Server, Super Layer, Best Site (Monte Carlo), Route Analysis, Drive test CSV import, Coverage analysis, MANET, Satellite visibility, Noise database

Contact
CloudRF has been redefining RF planning since 2012. The public system, **CloudRF.com**, is one of the most popular RF planning SaaS platforms on the web, serving hundreds of users every day for an unmatched level of system testing.

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