SOOTHSAYER™

RF planning at the edge for busy humans and machines.

Accurate

Field tested models with multi-obstacle diffraction, LiDAR, Tree canopy data, Buildings, user defined clutter, 3D antennas and live noise data.

Powerful

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

Scalable

Containers with a mature published API. Cross-platform interfaces, public code examples and enterprise sign-on.

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Technologies

HF NVIS & Skywave, VHF LMR/DMR, UHF, LPWAN, LoRa, LTE, MANET, 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 P.1525, P.1812, 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: 120,000m, Radius: 500km, Resolution: 1 to 300m Up to 64 Megapixel images (2D) and 100 Megavoxels (3D)

APIs

Area, HF, Path, Points, Interference, Merge, Multilink, Multisite, Network, Noise database, Best Site, Satellite, Trilateration, 3D, Archive, Clutter, Template management.

Tools

ERP calculator, Custom antenna tool, Path Profile Analysis, Best Server, Super Layer, Best Site, Route Analysis, Drive test CSV import, Coverage analysis, MANET, Satellite visibility, Noise database. Interference analysis.

Interfaces

Cross platform web interface, 3D Phase Tracing interface, ATAK plugin, Developer's API.
Public code examples for HTML, Javascript, Leaflet, Mapbox, OpenLayers, Python, Rust, ADS-B, AIS, DMR.

Templates

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

System requirements

Linux or Windows host (x86-64 / arm64) with container software (Docker, Podman) and minimum 4 CPU cores, 4GB memory and 10GB disk space.
Recommended specification: 8 CPU cores, 8GB memory, 512GB disk space with 8GB NVIDIA GPU.

Platforms: AWS, Azure, ESXi, Proxmox, Ubuntu laptop, NVIDIA Jetson Orin/NX/AGX/Thor

Security

SBOM available, TLS 1.3, LEPP stack with configurable ports. RBAC accounts with LDAP support, password requirements. Build-it-yourself containers and pre-built images available. Container root access and code visibility.
User data isolated in a mapped folder on host.
Internet access optional.

Accuracy

Field tested to < 5dB RMSE error in diverse environments. Model calibration utility with sub-contexts and tuning margin Configurable land cover types including trees and buildings Custom obstacle import and drawing for adhoc clutter. Ray tracing engine with configurable 3D rays, reflection and material attenuation.

Standards

Import: CSV, GeoJSON, KML, KMZ, glTF
Export: GeoTIFF, HTTP, JSON, KMZ, SHP, glTF
Projections: EPSG 3857, 4326
Coordinates: MGRS, Decimal, DMS
LLM ready OpenAPI specification:
https://cloudrf.com/documentation/developer

CloudRF

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.

CloudRF
Unit 2 Ambrose House
Barnett Way
Gloucester
GL4 3GG

+44.1452 234048
sales@cloudrf.com
https://cloudrf.com