

AKCELL Analyzer

4G/5G post-processing and root cause analysis software

REFERENCE

FT-AKC-ANALYZER

VERSION

2026.10

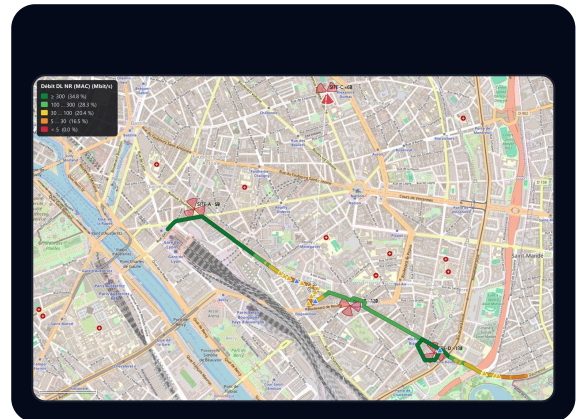
DATE

October 31, 2026

OVERVIEW

AKCELL Analyzer processes test-device traces and AKCELL Mobile sessions. Radio measurements, RRC and NAS signaling, IMS sessions and IP flows are decoded, then replayed on a single timeline, together with the map, the cell database and the line to the serving cell.

The analysis is tool-assisted: more than forty event types detected against adjustable thresholds, a cause assigned to each second of degraded throughput, correlation between parameters and before/after comparison. Reports and exports are generated from the session, on the user's workstation.



KEY POINTS

01 Synchronized replay

Map, charts, signaling, events and cursor values share the same timeline.

03 Root cause analysis

Each second of low throughput receives the first verified cause, according to eight ordered and documented rules.

05 Benchmarking and before/after

Campaigns, devices and operators compared with the same method, file against file.

02 End-to-end decoding

Radio measurements, RRC and NAS signaling, IMS and SIP sessions, IP flows: from the radio to the service.

04 Event engine

More than forty event types, adjustable thresholds, linked to their position, their measurements and their message.

06 Local processing

Traces stay on the user's workstation; no data is sent to a server.

APPLICATIONS

Radio optimization

Separate coverage, interference, rank and allocation; quantify the gain of a tilt, azimuth or parameter change.

Indoor acceptance testing

Replay on the floor plan, indoor cell dominance, margin over the best neighbor, floor by floor.

Troubleshooting and customer complaints

Link each degradation to its position, its measurements and the messages that explain it.

Benchmarking and audits

Distributions, time series and signaling KPIs compared, report ready for distribution.

01 Input data

Test-device traces	Chipset diagnostic traces (.dlf, .qmdl, .qmdl2), including compressed archives
Drive test files	.trp measurement files: measurements, signaling, indoor plan and waypoints
Open-format logs	Diagnostic logs in .mi2log format
IP captures	.pcap and .pcapng, opened alone or combined with a trace
AKCELL Mobile	Exported sessions (CSV)
Dual-SIM devices	Traces split by subscription
Cell database	CSV, TXT or XLSX; WGS84 coordinates (decimal or DMS) or Lambert 93

02 Technologies and protocols

Radio access	GSM, UMTS, LTE, 5G NR (NSA EN-DC and SA)
Signaling	LTE, 5G NR and UMTS RRC (ASN.1 decoding); NAS EMM, ESM, 5GMM, 5GSM
Services	IMS (SIP), VoLTE calls, SMS over IMS
IP	TCP, UDP, DNS, ICMP: throughput, retransmissions, round-trip time

03 Replay and mapping

Synchronized views	Map, charts, signaling, events and cursor values; replay at adjustable speed
Map	Route colored by KPI, sites and sectors from the cell database, line to the serving cell
Indoor	Floor plans and timestamped waypoints
Base map	Online or from the disk cache
Multi-file	Several traces opened and replayed together

04 Analysis

Events	More than forty types, adjustable thresholds: coverage, quality, BLER, pilot pollution, dominant neighbor without handover, uplink power limitation, radio link failures, SCG failures, calls
Low-throughput causes	Second-by-second attribution according to eight ordered rules: mobility, coverage, radio quality, BLER, slots, resource blocks, rank, MCS
Correlation	Pearson and Spearman coefficients, linear regression, binned values
Calculated parameters	Formulas on decoded parameters, usable on the map and in charts
Signaling	Resolved measurement configuration (events A1 to A6, B1, B2), sequence diagram, timed NAS procedures
Voice	Call setup and termination, release causes, estimated MOS (E-model, ITU-T G.107)
Comparison	Cumulative distributions, aligned time series, statistics and KPIs per file

05 Deliverables

Reports	HTML and PDF: summary, KPIs, maps, events
Spreadsheet	XLSX workbook
Map exports	CSV, KML, MIF/MID

SYSTEM REQUIREMENTS

Operating system	Windows 10 or 11, 64-bit
Installation	Portable version, no installation or dependencies
Processing	Local, on the user's workstation
Network	Optional Internet connection (online base map)
Language	French

AVAILABILITY

Availability and terms subject to quotation. Demo on your own traces, training and support on request.

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Decoded KPIs depend on the test device and its trace configuration.
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