

Product: LibTRF API

Part #: LibTRF Software Development Library

No: PB-20260824-1

Date: August 24, 2026

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Software Release 1.9.0 | LibTRF API – New Features & Enhancements

Revolutionizing RF Spectrum Management

Introduction

LibTRF is thinkRF's software development library and API for controlling and streaming from thinkRF real-time spectrum analyzers. It gives developers and system integrators direct, programmatic access to capture, spectrum reconstruction, and measurement functions across the thinkRF RTSA Product line.

LibTRF 1.9.0 introduces a significant set of new capabilities aimed at regulatory monitoring, interference hunting, and field-strength measurement alongside broad performance optimizations, defect fixes, and expanded, ready-to-use code examples. Together these changes make it faster and easier to build robust spectrum-monitoring applications on top of thinkRF hardware.

New Features

The following new features and capabilities were added. Refer to the Manual for full details:

- **Spur Mitigation (R5xx0):** A new Sweep stream flag parameter, `TRFSpurReject`, has been added. When asserted on a spectrum stream, a single spectrum reconstruction utilizes two sweeps with different start frequencies to eliminate systemic spurs.
- **Alarms Processor (Spectrum Masking):** A new alarms processor provides mechanisms for trapping spectrum excursions over defined or trained thresholds.
- **Multi-IQ Capture:** Added multi-IQ capture capability for concurrent acquisition workflows.
- **Field-Strength Units (V/m):** Added V/m to the available spectrum units (antenna table required).
- **Equalizer Tables:** Added equalizer table implementation for Field Strength Mode usage.

Code examples have been updated to include the new features and provide the best way to learn how to use them.

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Enhancements

The following additional changes were made:

- **Wider Resolution Bandwidth:** Maximum resolution bandwidth increased to 10 MHz.
- **Faster Capture & Reconstruction:** General optimization of capture and spectrum reconstruction across all platforms.
- **Optimized Antenna-Table Compensation:** Improved compensation for antenna tables, directly benefitting equalization tables.
- **Nanosecond GNSS Timestamps:** GNSS nanosecond timestamp (when available) is now applied to frames.
- **GNSS PLL Source Control:** Added `TRFPLLSource` control for GNSS.
- **Consistent Spectrum File Units:** Spectrum files are now written in mW units, allowing unit modification on file loading for playback.

Summary

This LibTRF release is a major step forward for spectrum-monitoring and regulatory applications built on thinkRF hardware. New spur mitigation, spectrum masking alarms, multi-IQ capture, and field-strength measurement (V/m with equalizer-table support) expand what developers can build.

Please [contact us](#) for more information.



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