

High RTWP Problem Solved with InterferenceAdvisor™

Two uplink (UL) bands were seriously affected by high received total wideband power (RTWP).

There were several reports from a Taiwan operator of high RTWP problems (high noise level in the uplink band) from several areas in city of Taipei. The Viavi team worked with the operator to resolve the problem by locating the interference source using InterferenceAdvisor, Viavi's new automated interference hunting solution.

The operator reported the following problems:

- Problem site with very high RTWP
- Issue was difficult to troubleshoot as it was intermittent
- Intermittent interference level was as high as -88 dBm to -78 dBm



Two UL Channels reported High RTWP

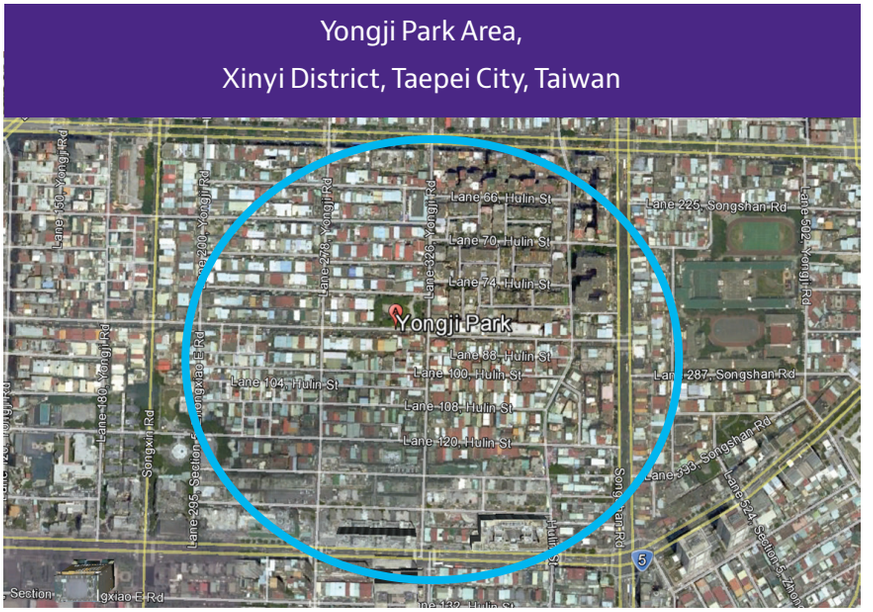


Multiple-peak interference observed in two UL Channels

The Challenge

Understanding the characteristics of the interferer (e.g., intermittent, single tone, multi peaks, oscillating, band noise, etc.) is critical for effectively tracking down the source with minimal time and effort.

The following map illustrates the problem area the Taiwan operator was experiencing. After driving the large area, including the site where the problem was initially reported, the team could observe multiple peaks of interference signals affecting 2 UL in-service channels. This was the interferer they needed to shut down

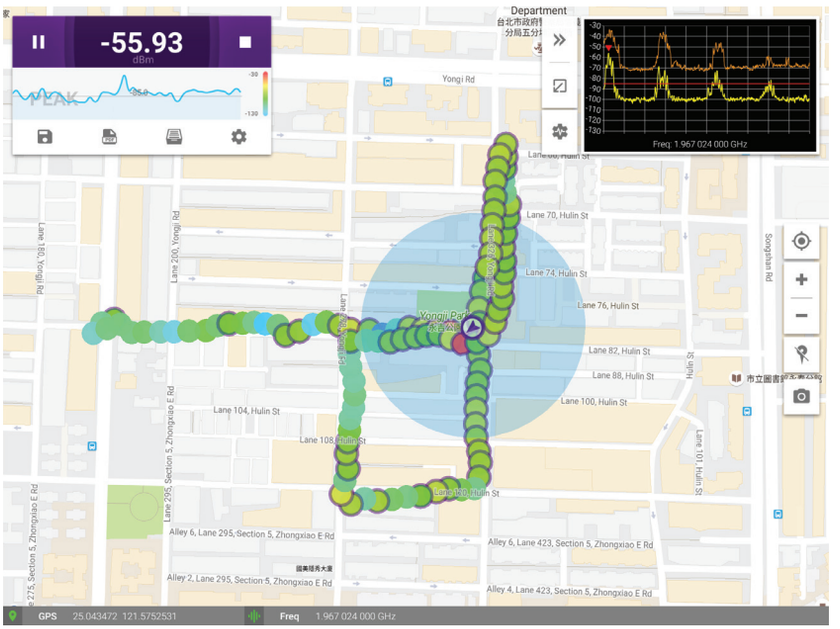


Problem area wiht high RTWP problem (Yongji Park Area)

Driving around to find the source area

The team hunted down the interference signal using InterferenceAdvisor, optimizing the setting to find the source, and searching for 5 peak signals using peak power mode.

After 30 minutes of drive testing around the strongest signal area, the EagleEye™ software indicated the most probable source area.



Most probable area found by EagleEye software (large blue circle)

Manually locating the source in the suspected area

The team conducted a brief manual interference hunt in the identified area using Viavi CellAdvisor™ in conjunction with Viavi AntennaAdvisor.

They successfully located the source of interference: an RF repeater hanging on a wall.

The team contacted the owner of the repeater, and as soon as it was turned off, the interference signature was gone. Problem solved.







Best Practices

- Start with the problem site
- Drive around a relatively large area to understand the problem details and the interferer's characteristics (e.g. intermittent, single-tone, multi-peak, oscillating, drifting, band-noise, etc.)
- Optimize EagleEye settings using three different tracking modes (RSSI, Channel Power and Peak Power)
- Drive in the direction of the strongest signal to estimate the most probable location of the source (circle indication, directions , and navigation)
- Manually pinpoint the source using AntennaAdvisor within the estimated area

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