Location Sensing Measurements

Agilent Technologies and SkyMark

Add location data to your measurements without GPS

The ability to add location data to your measurements can be essential and, in some cases, for safety reasons, critical. When surveying your wireless networking coverage, location sensing is essential to ensure reliable communications throughout your organization. In hazardous environments the ability to align measurements such as gas levels, temperature, noise and airflow with location data is critical to avoid the development of potentially catastrophic situations.

When outdoors, location sensing measurements typically involve the use of GPS in drive test or handheld 'walk around' systems. However these location sensing systems may be too imprecise, unavailable or impractical when indoors, underground or in heavily shielded environments. In these cases an alternative approach is required. SkyMark has created this alternative with the introduction of the TrailMapper location sensing cart.

The TrailMapper system comprises an easily transportable cart, instrumentation and a laptop or tablet computer. As the cart is wheeled around an area, rotary encoders and an optional inertial measurement unit (IMU) track the distance and direction of travel. This information is sent to the TrailMapper software, where it is processed and stored.

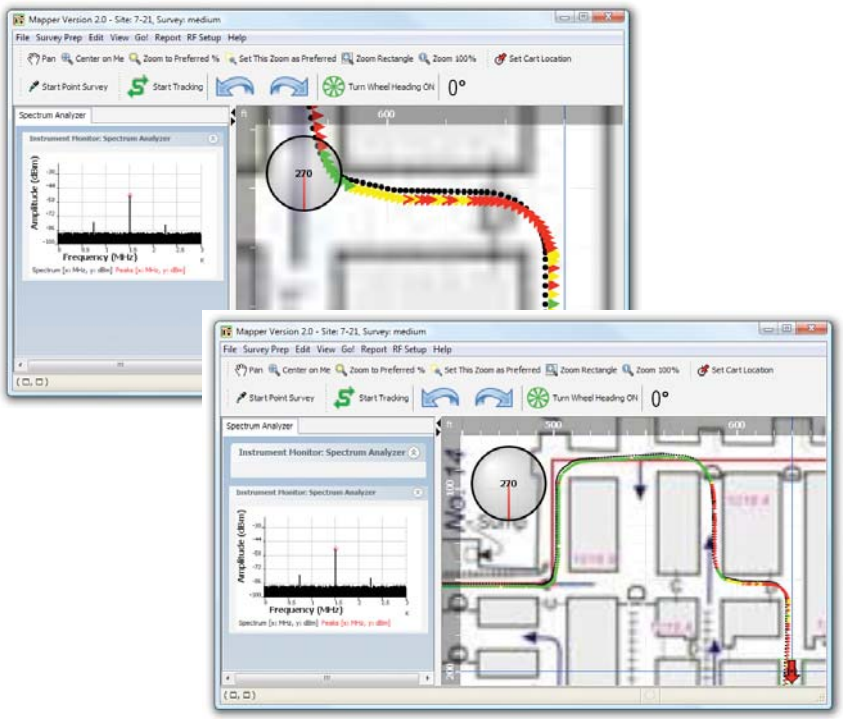
The TrailMapper system can be interfaced to a wide range of Agilent Technologies instrumentation. For surveying a wireless network an Agilent N9342C handheld spectrum analyzer can be mounted on the cart and connected, via a bi-directional interface, to a laptop computer running the TrailMapper software. The interface allows the laptop to configure the N9342C directly or alternatively to read in the settings from the analyzer.

The spectrum analyzer can be configured to make continuous RF sweeps, and as the measurements are made, the sweep data is time stamped and stored with the location data. This allows a complete profile of the wireless network to be captured. The data can be viewed on the floor plan in real time with color codes set for different threshold levels.

With the TrailMapper system from SkyMark interfaced to Agilent instruments you have a viable and practical alternative for adding location data to your critical environmental measurements.

- ***Location sensing without GPS***
- ***Used in shielded environments, indoors or underground***
- ***Instrument cart with rotary encoders and IMU***
- ***Encoders track distance and direction of travel***
- ***TrailMapper software adds location data to measurements***
- ***Results viewed on floor plan with color coded thresholds***
- ***Used with Agilent instrumentation***
- ***Adds location data to environmental measurements***

Location Sensing Measurements



The path traveled by the cart is traced on the plan of a coal mine, in SkyMark's TrailMapper™ software. Signal strengths are shown in color coding.

System Components

Agilent Technologies

N9340B Handheld spectrum analyzer

SkyMark

TMCL30 TrailMapper software and position encoding cart

To learn how this solution can address your specific needs please contact Agilent's solutions partner, SkyMark.

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SkyMark provides systems for mobile data collection via carts, computers and smartphones, and software to support process improvement and benchmarking.
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