

RF Interference Analysis

provide a compact cost effective solution for the streaming of RF spectrum with bandwidths up to 100 MHz and center frequencies up to 26.5 GHz. This economical, high performance capability, when combined with JMR Electronics' BlueStor PCIe RAID0 storage arrays can provide more than 13 hours of spectrum memory allowing long sequences of RF data to be captured under operational conditions.

An RF bandwidth of 100 MHz requires 500 MB/s to be streamed to the disk array and the resulting files can be terabytes in length. The X-COM Spectro-X signal analysis toolkit provides a comprehensive set of tools to search through the data in order to tag the location in time, frequency, duration and power of all carriers present. Using this data, an engineer can quickly parse the recording into time segments containing unknown carriers that may warrant further investigation.

There are three specific tools available in Spectro-X that facilitate this process. The first eliminates found carriers by applying user selected criteria such as power levels, center frequencies or time durations in combination with Boolean operators. This process can swiftly reduce the carrier list by discarding those far from the desired carrier in frequency or too low in power to cause interference. Some of the remaining carriers can be identified by comparing their training sequences to those of known wireless standards or by correlating them to arbitrary waveforms that the user has either created in, for example MATLAB, or that the engineer has "clipped" and saved from the RF

spectrum capture. The remaining time segments containing unknown carriers of interest can then be further investigated, and their effects quantified, using the Agilent 89600B VSA software.

The combination of extended RF spectrum capture with the ability to search for, parse and demodulate carriers of interest provides a very powerful toolkit to diagnose communication system anomalies and identify potential sources of RF interference. The complementary features of the Agilent PXIe data streaming solution and VSA software together with X-COM's Spectro-X signal

analysis toolkit speeds the investigative process to help you determine rapidly the best path to a reliable, deployable system.

System Components

Agilent Technologies

- M9392A** PXI vector signal analyzer
- M9202A-V10** 100 MHz streaming option to the M9202A PXIe IF digitizer
- 89600B** VSA software
- M9018A** PXIe chassis
- M9036A** PXIe embedded controller
- M9021A** PCIe cabled interface
- Y1202A** PCIe cable X8, 2.0 m

X-COM Systems

- Spectro-X** Signal analysis toolkit

JMR Electronics

- AGIL-G4-8T** BlueStor 8 TB HDD RAID0
- AGIL-G4-16T** BlueStor 16 TB HDD RAID0
- AGIL-G4-32T** BlueStor 32 TB HDD RAID0
- AGIL-G4-0.4T** BlueStor 400 GB SLC SSD RAID0

To learn how this solution can address your specific needs please contact Agilent's solutions partner, X-COM

www.agilent.com/find/xcom



Agilent Solutions Partner Program
Agilent and its Solutions Partners work together to help customers meet their unique challenges, in design, manufacturing, installation or support. To learn more about the program, our partners and solutions go to www.agilent.com/find/solutionspartner

X-COM Systems designs RF signal recording, analysis and playback solutions for system design, signal simulation and test applications..
www.xcomsystems.com

For information on Agilent Technologies' products, applications and services, go to www.agilent.com

Product specifications and descriptions in this document subject to change without notice.

© Agilent Technologies, Inc. 2011
Printed in USA, October 6, 2011
5990-9243EN



Agilent Technologies