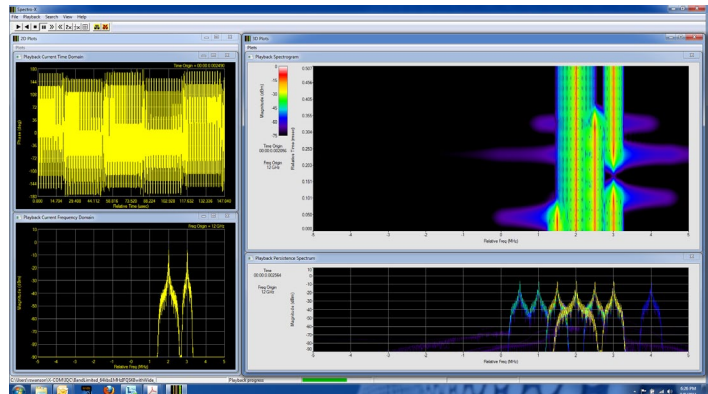


# Spectrum Management Solutions

## Agilent Technologies and X-COM Systems

Maximize your return on investment with efficient bandwidth allocation using advanced spectrum management.



Bandwidth is the currency of data and voice communications and to maximize ROI network operators must use spectrum management tools to allocate their bandwidth efficiently. Users must adhere to strict spectral masks so that the network operator can predict usage and allocate and charge correctly.

A spectrum management tool that uses a signal analyzer with limited memory can only record network activity over a very short period of time. The random snapshot that results can easily miss users that are violating the bandwidth rules. These can include users whose transmitted spectrum does not roll off steeply enough, whose power levels are causing adjacent channel interference, who are unauthorized or who are accessing a bandwidth slot at the wrong time.

A new spectrum management solution from X-COM and Agilent Technologies allows network opera-

tors to monitor and record bandwidth allocation over an extended period of time, up to days. The solution combines an Agilent PXA signal analyzer with an X-COM IQC-2110 RF signal recorder. When used in conjunction with the X-COM suite of software analysis tools, network operators can search for carriers of interest and identify bandwidth allocation or power level violations that can lead to loss of revenue.

The Agilent PXA signal analyzer acts as the microwave or RF front end, pre-selector and down converter, presenting digital I & Q sample streams to the X-COM IQC-2110. The signal analyzer's superior noise floor, SFDR, amplitude and phase flatness over the span bandwidth ensures a very high fidelity signal, which the IQC-2110 then stores in a RAID5 disk array. The result is a high fidelity, gap-free recording of the spectrum.

The X-COM IQC-2110 can capture and record across a 40 MHz band-

width. In addition, the X-COM IQC control software can implement step-and-stare functionality. Here, a center frequency is set by the IQC software and the spectrum is recorded across the 40 MHz span for a user defined period of time. The signal analyzer is then set to the next frequency and the capture continues.

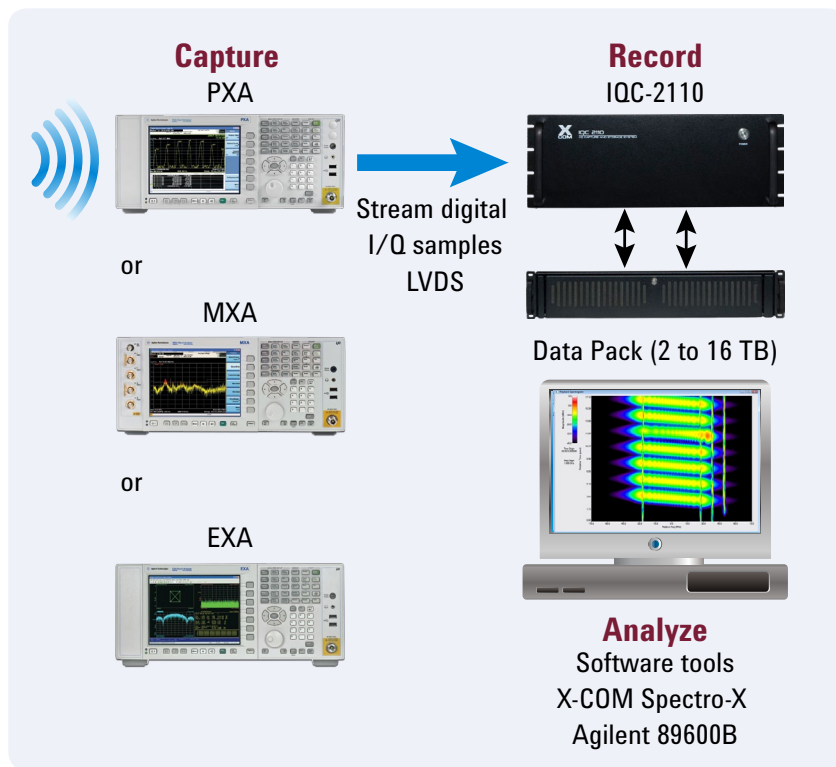
The time period over which the capture bandwidth is recorded is only dependent on the size of the disk array connected to the IQC-2110. Using a 12TB disk array, 60 hours of

- ***Spectrum management solution***
- ***Allows efficient bandwidth allocation***
- ***Network operators can maximize their bandwidth ROI***
- ***Long duration storage of network data, up to days***
- ***Interfaces to Agilent PXA, MXA and EXA signal analyzers***



**Agilent Technologies**

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capture time is possible at a 10 MHz bandwidth and over 15 hours at the full 40 MHz capture bandwidth. Captured files can be transferred to an X-COM SigAnalyst workstation with a comparable amount of RAID5 disk storage for post processing.

The spectrum management solution from Agilent and X-COM allows network operators to record network activity over an extended period of time allowing the identification of errant users who are violating the bandwidth allocation rules and causing loss of revenue to the operator.

## System Components

### Agilent Technologies

- N9030A** PXA signal analyzer or
- N9020A** MXA signal analyzer, or
- N9010A** EXA signal analyzer

### X-COM Systems

- IQC-2110** RF capture and storage
- Spectro-X** Signal analysis toolkit
- DP-HDD-2TB** 2TB data pack (4, 8, 12, 16 TBytes also available)

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

[www.agilent.com/find/xcom](http://www.agilent.com/find/xcom)



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

[www.xcomsystems.com](http://www.xcomsystems.com)

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