RF Interference Troubleshooting

Agilent Technologies and X-COM Systems

Troubleshoot your RF interference and jamming problems with advanced RF editor and playback solutions
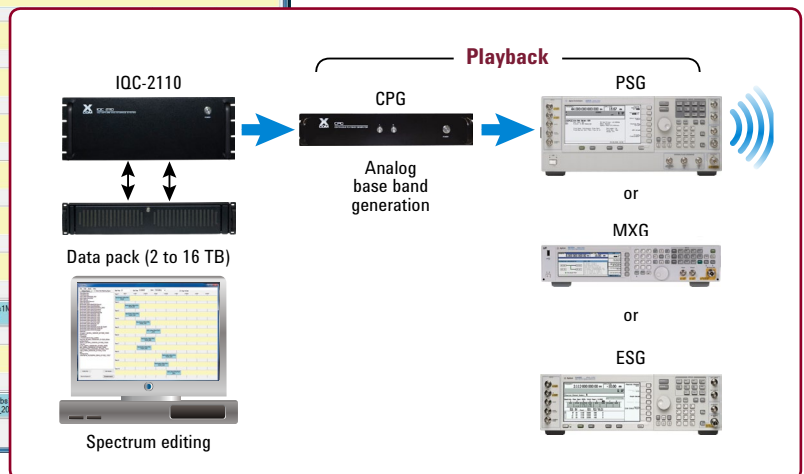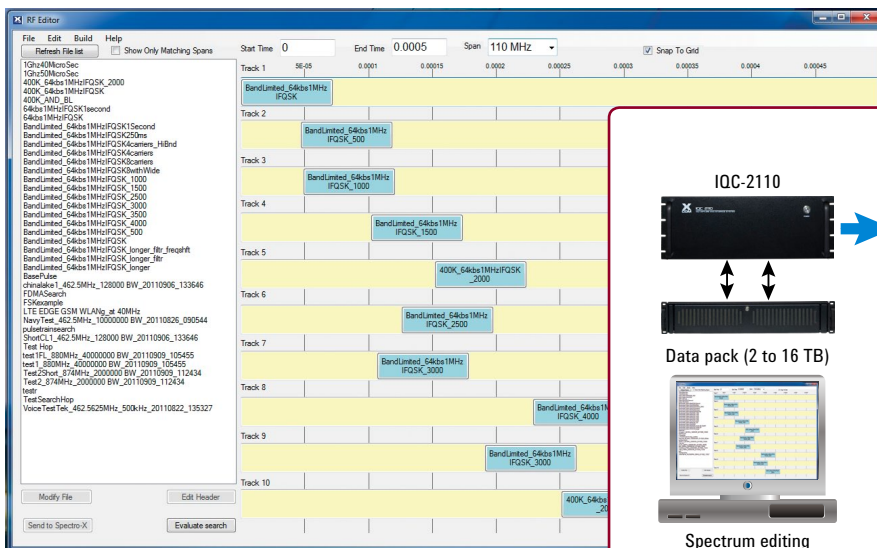
Troubleshooting RF interference or jamming is complicated by the intermittent and transient nature of the offending RF signals. To stress test your products for susceptibility to RF interference or jamming you need to be able to re-create the RF signals in a controlled and deterministic way.

The RF Editor software from X-COM Systems allows you to edit and create an RF spectrum to test the susceptibility of your products to RF interference and jamming during design or evaluation. Once you have created the spectrum on your PC it is transferred to a data pack where it is stored and then to an X-COM

CPG-2110 continuous playback generator. Analog I&Q outputs from the CPG-2110 are directly connected to an Agilent vector signal generator, such as a PSG, MXG or ESG, to allow over-the-air (OTA) playback to test your products.

X-COM's RF Editor includes a highly intuitive, graphical user interface. Recorded or created spectrum and waveforms are available by name in a file list for manipulation in the frequency and time domains. Once a file is selected, you can filter, increase or decrease span, or shift the spectrum center frequency within the file span. Ten time tracks are used to position each spectrum in the

- *Test susceptibility to RF interference or jamming before deployment*

- *X-COM RF Editor software allows you to create RF interference or jamming spectra*

- *Spectrum can be compiled from in-situ recordings or created waveforms*

- *Data pack and X-COM CPG-2110 store and playback analog I & Q signals*

- *Agilent PSG, MXG or ESG vector signal generators provide OTA playback*

- *Optimizes your products' performance to minimize troubleshooting in the field*

Spectrum editing

Agilent Technologies

time domain, with a single mouse command, before the individual spectra are combined into one. The resulting spectrum can be viewed and then exported in XIQ, .bin, .mat, or .txt formats.

The X-COM RF Editor when used with the CPG-2110 and an Agilent vector signal generator allows you to compile and playback RF spectra that are combinations of created and recorded waveforms. By testing your products' susceptibility to RF interference or jamming during design or evaluation you can understand better how a device or system will function in the actual channel environment. As a result you can optimize their performance when deployed and minimize the cost of troubleshooting in the field.

System Components

Agilent Technologies

PSG	vector signal generator, or
MXG	vector signal generator, or
ESG	vector signal generator

X-COM Systems

RF Editor	RF Spectrum editor software
CPG-2110	Continuous playback generator
DP-HDD-2TB	2 TBytes data pack (4, 8, 12, 16 TBytes also available)

RF Interference signals

RF signals that cause interference or intentional jamming are often transient in time. A spectrum recording taken in-situ can provide an exact replica of the communications environment in which a system is designed to operate. However, the recording may not necessarily contain an interfering waveform which is transmitted only under specific circumstances, nor may it have recorded channel anomalies that are caused by dynamic multipath conditions or storms. There may also be other pieces of the complete spectral picture; other files that contain recordings of a jammer or waveforms created in MATLABthat replicate an errant channel user. In addition, in order to simulate a multipath environment phase shifted copies of an information frame with synchronization header may be required.

To correctly simulate the operating environment all of these have to be combined in order to test your product's susceptibility to RF interference or jamming. The RF Editor from X-COM allows you to compile RF spectra that are combinations of created and recorded waveforms.

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