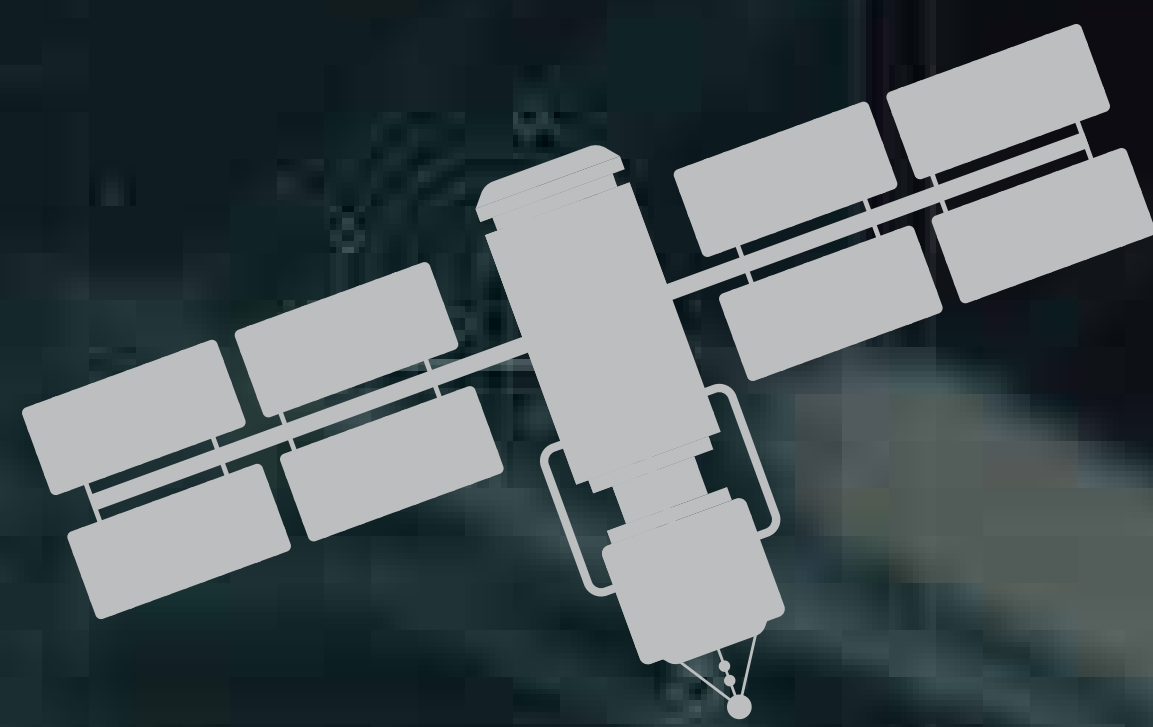


Accelerating MILSATCOM Interoperability



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SpectralNet Digitizer
RF/IF Converter (IFC)

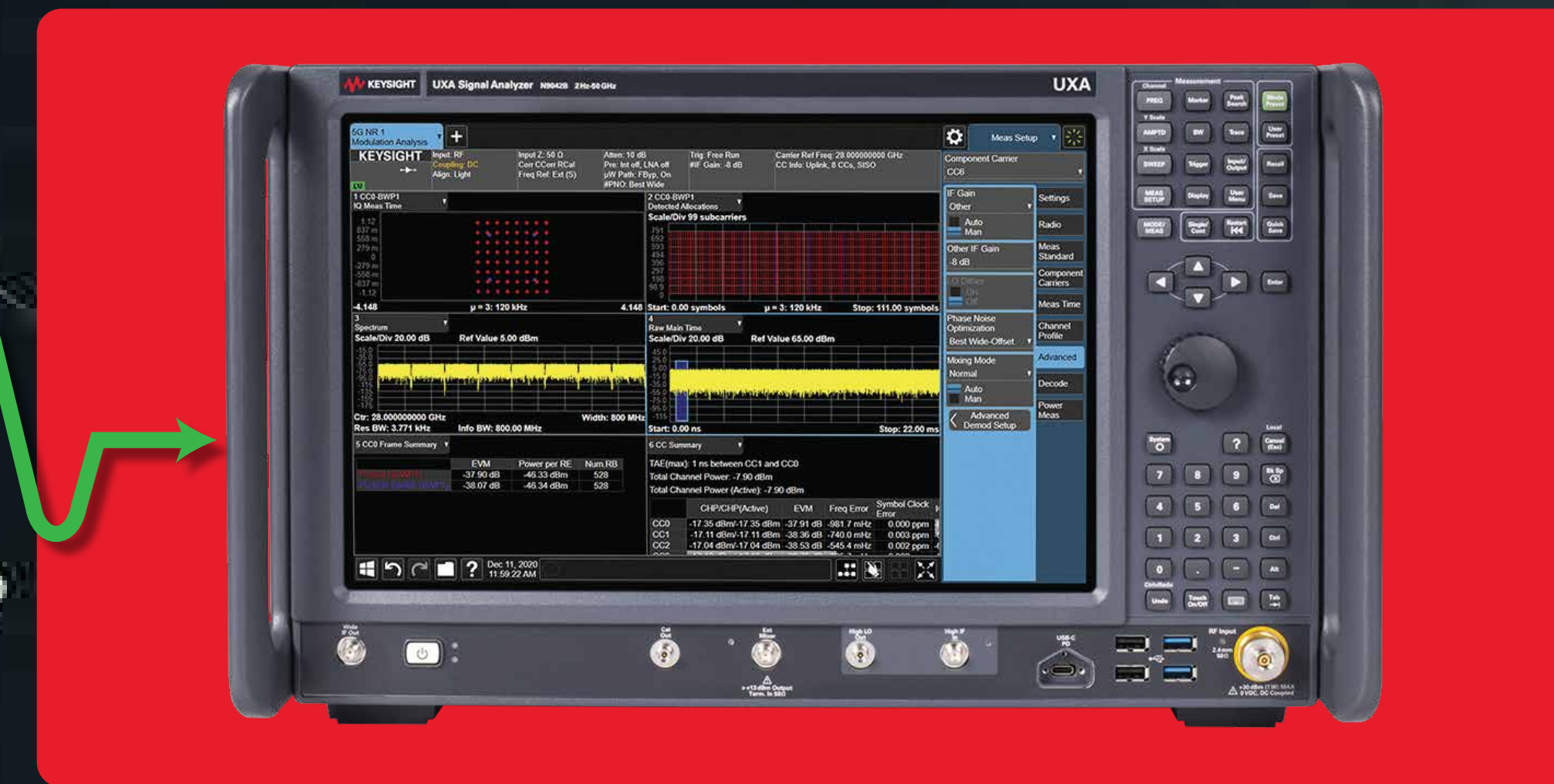


VXG Vector Signal
Generator "Golden"
RF Signal Source

RF
Downlink



RF
Uplink



UXA Signal Analyzer



DIFI Stream



Packet Broker



quantum RX

quantum TX

quantum virtual receiver
(modem) & transmitter
running on PC or server



PathWave Vector Signal Analysis
software running on PC or server



BreakingPoint (BPS)

Legend

- Keysight
- Kratos
- qTX DIFI Stream
- IFC DIFI Stream
- BPS DIFI Stream

BACKGROUND

Typical MILSATCOM system deployments rely on single vendor solutions that involve complicated and time-consuming integration work to include any other vendors.

METHODS

Leverage DIFI to interconnect a MILSATCOM system using equipment from two different vendors to demonstrate "plug & play" interoperability.

RESULTS

Digitized an RF signal into a DIFI stream using the Kratos IFC and seamlessly transported the spectrum to a Keysight VSA for accurate demodulation. Generated a DVB-S2x high-rate waveform with the Kratos virtual receiver, transported the spectrum through a network switch, and demodulated the waveform in the Keysight VSA.

CONCLUSION

DIFI establishes a robust interoperability framework, enabling rapid, seamless integration of multi-vendor systems with minimal engineering overhead. This capability accelerates operational readiness and adaptability in dynamic environments.

