

# GATEKEEPER™ MODULAR CORE TECHNOLOGY

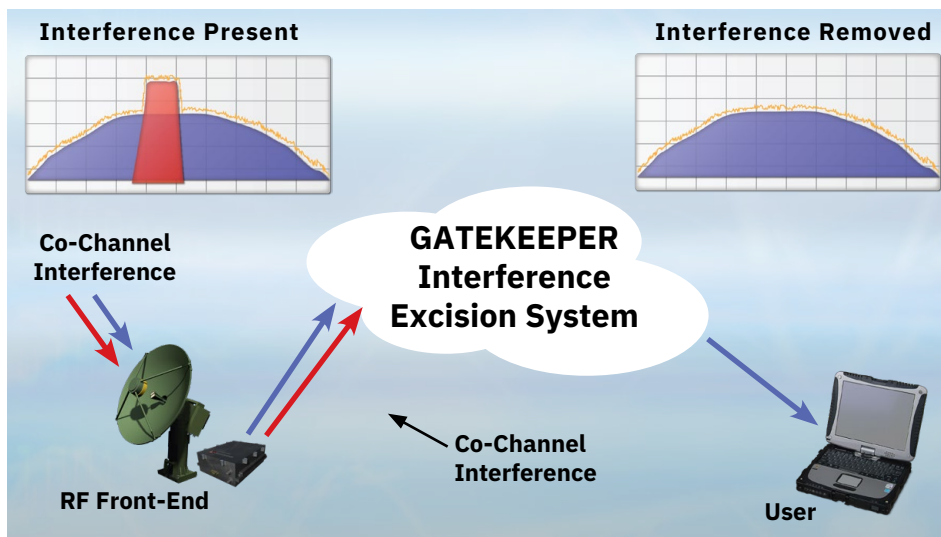
The GATEKEEPER Core is a portable Interference Excision System (IES) used to identify and suppress received interference.

L3Harris GATEKEEPER is an innovative product improving the performance of critical communications systems. GATEKEEPER is an Interference Excision System (IES) used to identify and suppress co-channel interference, static tones, dynamic frequency tones, and modulated signals that may be encountered in congested RF environments. GATEKEEPER is able reduce or remove the impact of such interference types and maintain the performance of the host system.

## PRODUCT DESCRIPTION

L3Harris' GATEKEEPER product family is based on the GATEKEEPER Modular Core. The Modular Core utilizes a combination of narrow and wideband techniques that leverage core L3Harris competencies and product development in digital signal processing and adaptive communication waveforms.

The GATEKEEPER Modular Core performs classification and excision as a basis of the host hardware. The RF band, minimum and maximum symbol rate of SOI that may be protected, and minimum and maximum symbol rate of Interferers that may be excised are all based on the host hardware characteristics such as clock rates. TGATEKEEPER Modular Core has been implemented into multiple hardware sets including the hardware products shown on the following page.



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## Portable Interference Excision Core Technology

### KEY FEATURES

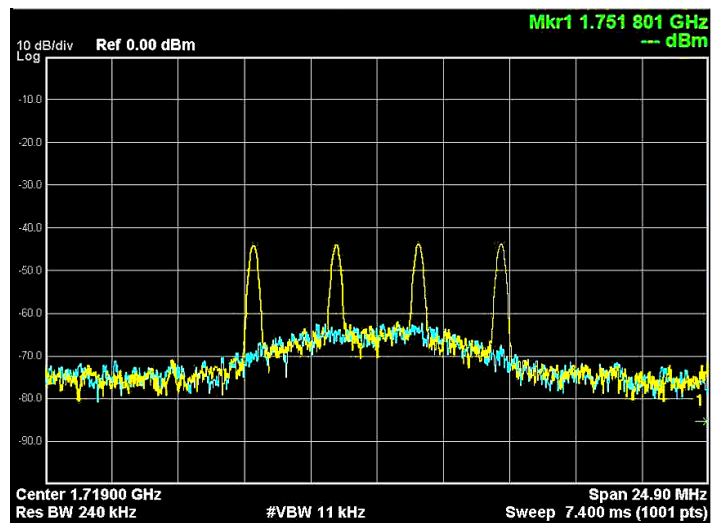
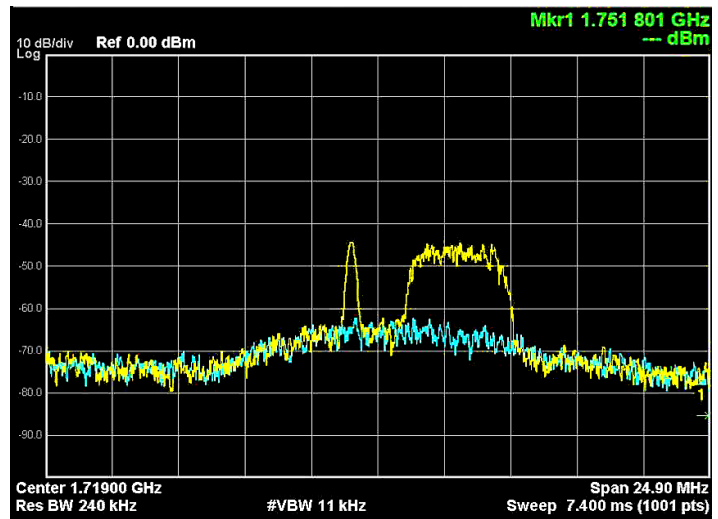
- > Excises a wide variety of interfering waveforms commonly encountered by RF systems worldwide: tones, combs, LTE, out-of-band radars, etc.
- > Broadly applicable to many hosts that must suppress cooperative and non-cooperative interference: SATCOM and terrestrial/LOS downlinks, full-duplex same-bandwidth data links and other platforms with multiple RF systems operated simultaneously
- > Compliments advanced waveforms increasing data throughput and reliability
- > Improves performance of legacy and fielded waveforms with increased reliable data transfer
- > Software-based modular core easily ported to different hardware hosts
- > Successful integration into multiple sets of hardware
- > Web-based GUI operates stand-alone or seamlessly integrated with existing system GUIs

## PRODUCT DESCRIPTION (CONTINUED)

GATEKEEPER Modular Core utilizes an interference mitigation technique especially suited to identify and remove wideband signals. This capability is tuned to produce high headroom. The capability also features an emphasis on dead zone performance. This tool also reports interferer information to the user, improving situational awareness, and has the added benefit of reducing operator reaction times to link outages. This technique also includes the ability to remove signals both less and more powerful than the Signal of Interest (SOI), as well as wider than the SOI, all while maintaining the integrity of the SOI.

GATEKEEPER Modular Core also utilizes a narrowband interference removal technique to filter interfering signals. The tool has been designed to have high headroom. An emphasis has also been placed on dead zone performance of the tool. This tool is the preferred method of excising tones and dynamic signals including FM, AM, sweeping, pulsing, FSK, and LTE signals. GATEKEEPER Modular Core web-based GUI allows access to a multitude of controls for the GATEKEEPER excision tool.

The GATEKEEPER Modular Core web-based GUI allows access to a multitude of controls for the GATEKEEPER excision tool. This includes spectral display, monitoring and control, interference reporting and a beacon control for applicable solutions.



Excision Examples  
Yellow = Input Signal  
Blue = After Excision

FEDERATED SYSTEMS	
1U Multi-Link GATEKEEPER	L-Band 1U 19-inch Rackmount LRU Configurable to protect up to 4 links

INTEGRATED SYSTEMS	
WPM-1000 Modem	L-Band 1U 19-inch Rackmount LRU High-Rate, multi-waveform modem Included in multiple software version
CMDL2	Quad-Band, Low SWAP Modem Included in select software
Other Modems	Integrated with other program specific modems

VSAT SYSTEMS	
Panther™ II	Ku-, X- and Ka-Band 60 cm and 96 cm apertures
Shadow™	Ku-band, flat-panel
Hawkeye™ III Lite	Ku-, X- and Ka-Band 1.2 M auto-acquire
Hawkeye™ III	C-, Ku-, X- and Ka-Band 1.6 M, 2.0 M and 2.4 M auto-acquire
Hawkeye™ 4 Lite	Ku-, X- and Ka-Band 1.3 M auto-acquire
Other Terminals	External stand-alone module

### GATEKEEPER Modular Core Technology

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