KickFlip

Low Size, Weight, and Power Payload for Ultra-Wideband Survey, Processing, and Electronic Warfare

KickFlip is a size, weight, and power (SWaP)-optimized ultra-wideband passive receiver designed for ES, enabling detection, identification, and reporting (DIR) as well as collection of RF signals in the Area of Operations (AO). With a frequency range of 600MHz to 44GHz, KickFlip can capture signals from the bottom of cellular bands to the top of almost all existing electronic warfare (EW) bands. Featuring excellent phase noise, high dynamic range, and rapid frequency sweeping, KickFlip is ideally suited to intercept radar and communications from UHF to above Ka band.

KickFlip can automatically detect, process to provide real-time results, and record signals with minimal user intervention. Onboard data storage provides over an hour of recording at max bandwidth. The small 1U Mod Payload form factor enables integration with Group 1-3 UAS and Launched Effects (LE) platforms.

KickFlip provides a modular software architecture, allowing applications to be loaded and configured rapidly for a wide range of missions. This allows users to make use of CACI's extensive collection of survey, processing, and analysis applications, and to bring their own government off-the-shelf (GOTS) or third-party applications to quicky support new missions at the tactical edge. This approach reduces cost, schedule, and technical risk for integrating new capabilities on the airborne platform hosting KickFlip.

CACI's powerful, user-friendly mission planner GUI provides detailed mission planning and execution capabilities – allowing the end user to tailor their app selection and execute collaborative missions from a single platform. CACI's applications allow for quick triage of recorded data, and either blind or protocol-driven signal analysis. With additional development, swarmed LE platforms integrated with KickFlip payloads can support passive time difference of arrival (TDOA)- based geolocation capabilities.

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For more information about our expertise and technology visit:
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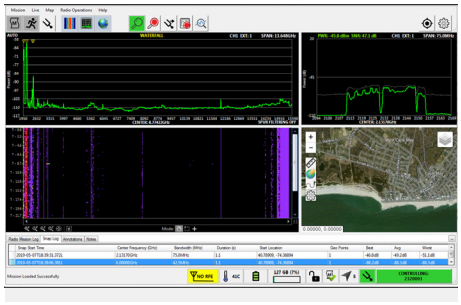
Features

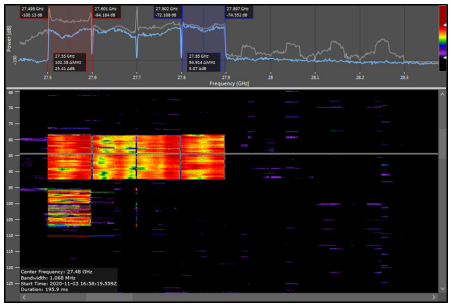
- Single channel.
- Extremely wideband: 600 MHz to 44GHz.
  - 5G sub-6GHz, 28GHz and 39GHz coverage with a single radio.
- Wide range of instantaneous bandwidths.
  - > 200 MHz over VITA-49 possible.
- Sensitive to low-level signals (low noise figure).
- Excellent dynamic range.
- Superior phase noise.
- Fast frequency-sweeping operation.
  - > 40 GHz/second sweep speed.
- Hours of data capture using solid state drives.
- SWaP optimized.
  - 1U modular payload-compliant form factor.
  - Less than 1.5lbs payload weight.
  - Adjustable power draw.
- Standalone operation.
- Advanced mission planning GUI for autonomous operation.
- Signal analysis and mapping features.
- Blind and protocol-driven signal identification.

Recommended Applications

- CACI's mission planning tools.
- CACI's SNARE multiprotocol COMINT survey tool.
- CACI's ELINT survey tools.
- GOTS or third-party applications via docker or x86 virtual machines.

Signal Analysis Suite: Spectrum, Waterfall, and Map Views





About KickFlip

KickFlip's high-performance general-purpose processor and software defined radio produce capability faster and help users adapt to modern threats more effectively. Its containerized software architecture enables rapid switching between mission software bundles.

As a component of a broader ecosystem, KickFlip acts as a force multiplier to better prosecute complex, multidomain communication networks. Each KickFlip payload can function independently or be networked together with other systems to tip and cue and aggregate results in a common operating picture.

KickFlip Specifications

General Specifications

Frequency Range (Receive)	600 MHz to 44 GHz
Noise Figure	8dB Typ, 11dB max up to 40GHz
Phase Noise (10kHz-40MHz)	< 0.6° RMS, up to 26.5 GHz < 1° RMS, up to 44 GHz
Recording bandwidths	105, 95, 85, 75, 65, 55, 42.5, 37.5, 32,5, 27.5, 21.5 MHz
CPU	Intel 11th generation 4C/8T, up to 4.4GHz
Application Memory	16GB RAM, 64GB SSD
Onboard Recording	2TB SSD (>1 hour @ 105 MHz BW)

SWaP Specifications

Payload Dimensions	1U MP-compliant (7.25"x4.29"x1.5")
Weight	Less than 1.5lbs
Power	20W to 56W*

Environmental Specifications

Ingress Protection Rating	IP54

Performance varies based on specific application and is adjustable to platform or mission requirements.
Preliminary information included; specifications subject to change without notice

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