



EW APERTURE FIBER EXTENSION KIT: DISTRIBUTED WIDEBAND SENSING AND EMISSION FROM SMALL UNMANNED PLATFORMS IN CONTESTED ENVIRONMENTS

Secure Solutions for the Tactical Edge

Today's battlespace demands the ability to conduct software-defined wideband electromagnetic warfare functions at a safe distance from small, unmanned, and attritable platforms. Unfortunately, wideband EW capability and performance scale in proportion to size, weight, and power (SWaP), limiting the functionality of smaller platforms. Additionally, long range wireless command and control introduces vulnerabilities to detection and jamming, limiting effectiveness against capable adversaries.

The Critical Frequency Design Fiber Extension Kit delivers sophisticated multi-channel EW capability and performance with secure command and control from small attritable platforms by relaying both EW aperture and radio command and control signals of a single lightweight fiber.

Built on rugged components deployed and tested in recent conflicts, the Fiber Extension Kit supports EW-on-the-move (EW-OTM) operations and adds tremendous value to operators seeking to sense and affect the EW spectrum from platforms which would otherwise not support the associated SWaP.

**Contact CFD to see
how the Fiber
Extension Kit
integrates with
your system.**



CONTACT US

📍 650 Atlantis Rd, Melbourne, FL 32904
☎ (321) 343-5611
✉ info@criticalfrequency.com
🌐 www.criticalfrequency.com



KEY FEATURES AND CAPABILITIES:

- ▶ Low-SWaP-C design connects mobile platforms and remote EW operating centers
- ▶ Secure, jam-resilient EW aperture deployment
- ▶ Supports EW-OTM operations
- ▶ Modular architecture customizable for mission-specific range and platform needs

SPECIFICATION	VALUE
Operating Frequency Range (3 dB)	10 MHz - 18 GHz
Gain	0 dB
Noise Figure (NF)	< 7 dB
Input 1dB Compression Point (IP1dB)	> -24 dBm
Input Third Order Intercept (IIP3)	> -18.5 dBm
Compression Dynamic Range (CDR)	> 143 dBHz
Spurious Free Dynamic Range (SFDR)	> 99 dBHz ^{2/3}
Max RF Input Power	< -10 dBm
Gain Flatness	< 4 dB
Return Loss (RL, Input and Output)	< -10 dBm
Channel Count	Currently 4, more upon request
Optical Wavelength	C-Band, 1530-1565 nm
Optical Power	80 mW (10 mW per channel)

¹Please contact CFD regarding specific range and platform radio control requirements.

SOLUTIONS AT THE
SPEED OF LIGHT