



NIGHTHAWK MULTI-CARRIER WAVEFORM

SCALABLE, SURVIVABLE AND LOW OBSERVABLE

Providing reliable communications for mission success

Secure and dynamic communication is essential for mission success in today's complex battlespace. Collins Aerospace Nighthawk, a multi-carrier mobile ad-hoc networking waveform, offers a scalable and portable solution.

Developed on Collins Secure CDL ISR (SCISR) Radio, Nighthawk waveform is capable of integration with other low size, weight and power (SWAP) hardware. It can be configured as a ground, ground mobile or airborne terminal.

Collins Nighthawk provides low-cost, lightweight, wide-band data link capability compatible with a variety of antenna and power amplifier options to meet customer needs. Nighthawk waveform provides the low observability and high resiliency in contested environments required by warfighters.



KEY FEATURES & BENEFITS

- Portable
- Scalable
- Low cost
- Lightweight
- High resiliency
- Low observability
- Ground or airborne

NIGHTHAWK KEY CAPABILITIES

- NSA Type-1 Ready
- Resilient
- Dynamic slot structure
- Dynamic Tactical Base Station (TBS) managed MANET networking

SPECIFICATIONS AND CHARACTERISTICS

| | |
|--------------------------|---|
| Length | 5.05 inches |
| Width | 2.25 inches |
| Height | 0.6 inches |
| Weight | Less than 8 oz. |
| Input power | 10 - 32 VDC |
| Temp | -40° C to 70° C (operating) -67° C to 160° C (storage) |
| Environmental compliance | MIL-STD-810G and MIL-STD-461F |

NIGHTHAWK WAVEFORM

| | |
|------------------------|---|
| Survivability | Contested environment operation Dynamic interference rejection Adaptable spreading factor |
| Scalability | Highly configurable/adaptable 20 user data rate modes |
| Mode 0 | ~10's kbps throughput, highest resilience |
| Mode 19 | ~10's Mbps throughput, lowest resilience |
| Carrier | Suppressed-feature Orthogonal Frequency Division Multiplexing (OFDM) |
| Modulation | QPSK |
| Multiple Access Method | TDMA Mesh Network |

PERFORMANCE

| | |
|------------------------|---|
| Frequency | L-band: 1350 MHz - 1390 MHz L-band: 1755 MHz - 1850 MHz S-band: 2025 MHz - 2500 MHz |
| Typical output power | Up to 2W peak (all bands) |
| Power consumption | ~ 14 watts |
| Target application | Ground and airborne |
| Demonstrated LOS range | 70 nm |

Constraints: L and S band only on current hardware. Not yet NSA Type-1 certified. Waveform capabilities are currently in development and not complete. GPS denied capabilities are yet to be implemented.

Specifications subject to change without notice.



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