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FAST. FORWARD.

KU KATANA ANTENNA

Unmatched Performance and Reliability in Dynamic Airborne Missions

The Ku Katana antenna from L3Harris is designed for dynamic airborne platforms, delivering reliable and precise tracking. It maintains stable Eb/N_0 over altitude, temperature, shock and vibration. It incorporates advanced technology including high-performance Gallium Nitride (GaN) Solid State Power Amplifiers (SSPAs) and an L-Band IF interface to enhance RF performance and interoperability.

PRODUCT DESCRIPTION

L3Harris SATCOM airborne products have a legacy of proven, reliable performance. The Ku Katana shares a common technological foundation, including common components and graphical user interface, with the other products in the L3Harris SATCOM On the Move (SOTM) family.

The Ku Katana is L3Harris' next advancement in antenna performance. This antenna has high G/T and Effective Isotropic Radiated Power (EIRP) relative to its 28" aperture. It also boasts advanced gyro stabilization, and Attitude and Heading Reference System (AHRS) with a cutting-edge tracking algorithm. These features ensure a link stays intact and within +/- 1dB of target over 24+ hour flights. Capabilities have been proven through flight testing and motion table testing.

The Ku Katana accepts L-Band frequency signals and transmits/receives at Ku-Band. This allows this antenna to be connected directly with a modem, eliminating the need for separate Radio Frequency Equipment.

This Ku Katana is meant to be used anywhere. AHRS support GPS denied scenarios. This antenna is built to survive adverse conditions including temperatures as low as -55C and as high as 71C and extreme vibration and shock conditions. Ku Katana's pointing and tracking algorithms keep up with flight maneuvers to keep links intact.





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L3Harris SATCOM airborne products have a long-standing legacy of proven reliability

KEY FEATURES

- **Supports GPS-denied scenarios using a CONSCAN-tracking technique with an onboard beacon receiver and hybrid pointing-tracking algorithm**
- **Tested ability to track GEO/MEO/LEO satellite constellations**
- **Protocols: SNMP v3 (encrypted), SAMS/URP (L3Harris)[1], OpenAMIP[1]**
- **Rugged and survivable**

1. Future option

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SPECIFICATIONS

RF/OPTICAL

> Receive RF frequency Ku-band:	10.95–12.75 GHz
> Transmit RF frequency Ku-band:	13.75–14.50 GHz
> L-band IF frequency range:	950–1750 MHz
> Transmit linear EIRP:	55.7 dBW at 14.13GHz
> Max on-axis ESD:	26.1 dBW/40kHz
> Off-axis ESD limits:	FCC CFR para. 25.218(f)
> Receive G/T at 10° EL:	14.7 dBi/K at 11.85GHz
> Polarization sense:	0.22°

SATELLITE INTEROPERABILITY

> Satellite certs and approval:	FCC adherence (Ku Com)
> Satellite standards:	FCC CFR para. 25.218, 25.228 (Ku Com)
> Satellite with beacon:	RF track satellite beacon using hybrid pointing and tracking mode
> Satellite without beacon:	1. Track data signal, 2. Open-loop point
> Tracking error/loss:	0.30° 0.21/0.54dB Rx/Tx

SIZE, WEIGHT AND POWER (SWAP)

> Swept volume:	30.5" (diameter) x 32.25" (height)
> Weight:	<62.5 lbs.
> Supply voltage:	28 VDC aircraft power (21.0-32.0 VDC)
> DC power consumption:	536 W typical flight, 573 W tarmac, 741 W max

ENVIRONMENTAL

> Operating temperature:	-55 °C to +71 °C, but cold boot at -40 °C
> Operating altitude:	-2,000 to +25,000 feet (objective: +50,000 ft)
> Operating shock:	20 g, 11ms sawtooth pulse, each orthogonal axis
> EMI/EMC:	CE101/102/106, CS101/103/104/105/ 114/115/116, RE101/102, RS101/103, DO-160G Sect 22

INTERFACES AND PROTOCOLS

> Supported protocols:	SNMP v3 (encrypted); future options: OpenAMIP, KAMP (L3Harris), or SAMS/URP (L3Harris)
> Support interfaces:	Cmd/Sts and INS/EGI: Ethernet IPv4/IPv6, RS-422/485;

RELIABILITY

> Reliability/MTBF:	11,230 hrs (RIAC 217Plus)
> Fault detection/isolation:	99% FD-C, 95% FD-A, 90% FI to LRU level



Ku Katana Antenna

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