



MISSION &
FIELD PROVEN

Orbit MPT Airborne SATCOM

High-Performance SATCOM for Mission Aircraft, UAVs & Helicopters

Modern airborne mission platforms require resilient Beyond-Line-of-Sight (BLOS) communications to sustain command, control, and mission continuity across extended operational ranges. Orbit's MPT (Multi-Purpose Terminal) Airborne solutions deliver high-performance SATCOM for mission aircraft, UAVs, and helicopters, sustaining reliable connectivity and peak RF performance throughout high-dynamic flight manoeuvres and demanding airborne environments.

Designed for Mission Success

- **High RF Performance**– Delivering superior SATCOM link performance and spectral efficiency for demanding airborne missions where connectivity and throughput cannot be compromised.
- **High-Dynamic Airborne Tracking**– Sustaining precise satellite tracking and reliable connectivity throughout aircraft manoeuvres, extreme vibrations and rapidly changing flight dynamics.
- **Combat Proven**– Field-proven MPT systems, with operationally deployed configurations at TRL 9.
- **GNSS interference Resilience**– 100% reliable operation under GNSS Jamming & Spoofing.
- **Optimized Two-LRU Architecture**– Terminal and KPSU architecture designed to simplify airborne integration while minimizing size, weight and installation complexity.
- **Airborne-Qualified Design**– Ruggedized architecture engineered for demanding airborne environments, with compliance to applicable DO160 and/or MIL-STD requirements.

Key Operational Capabilities



Multi-Orbit compatibility
(GEO, MEO, LEO, HEO)



Multi-Network interoperability



Network & Modem agnostic



Multi-Polarization support



Orbit Communication Systems delivers tailor-made, mission-critical SATCOM solutions for naval, airborne, and ground platforms. With decades of operational experience, Orbit ensures secure, resilient, and uninterrupted communications for defense forces worldwide.



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Typical Mission Applications



Manned Mission Aircraft Operations



Unmanned Aerial Missions (UAS/UAVs)



Rotary-Wing Mission Operations



ISR & Real-Time Mission Data Backhaul



BLOS Command, Control & Tactical Network Extension

Product Portfolio					
Parameter	Value/Notes	Airborne			
Product		MPT30 WGX	MPT46 WGX	MPT30	MPT87
Band		Ka	Ka	Ku	Ku
Tx Frequency	GHz	27.5 to 31.0	27.5.0 to 31.0	13.75 to 14.5	13.75 to 14.5
Rx Frequency	GHz	17.7 to 21.2	17.7 to 21.2	10.7 to 12.75	10.7 to 12.75
Polarization		Circular RHCP & LHCP Co/Cross-Pol (Electrically switchable)	Circular RHCP & LHCP Co/Cross-Pol (Electrically switchable)	Linear H/V Cross- Pol (electrically switchable)	Linear H/V Cross- Pol (electrically switchable)
EIRP (typical Psat at mid range w.o radome losses)	dBW	49.2	53.5	48	57.3
G/T (Ground, typical mid band, 30° elevation, clear sky w.o radome losses)	dB/K	11.2	13.8	8.4	14.1
G/T (35K feet, typical mid band, 30° elevation, clear sky w.o radome losses)	dB/K	13.2	15.8	9.4	15.5
BUC Power @Psat	W	20	25	60	80
Azimuth Coverage		360° continuous	360° continuous	360° continuous	360° continuous
Elevation Range		5° to 90°	0° to 90°	5° to 90°	-7° to +90°
Pointing Accuracy		≤0.2°	≤0.2°	≤0.2°	≤0.2°
Aperture effective Diameter	cm	30	46	30	87
Antenna Height	cm	36.7	49	36.7	100.4
Antenna Swept Volume (D)	cm	30.3	49.7	30.3	98
KPSU Dimentions (H x L x W)	cmxcmxcm	8.9x33x28	8.9x33x28	8.9x33x28	8.9 x 24.6 x 15.5
Antenna Weight (w.o radome)*	Kg	10	14.25	10.3	29
KPSU Weight*	Kg	4.5	4.5	4.5	1.8
Power Consumption (typ/Peak)	W	175/330	220/330	290/360	315/560
Operational Temperature (ambient)	C	-55° to +70°	-55° to +70°	-55° to +70°	-40° to +55°
Storage Temperature	C	-55° to +85°	-55° to +85°	-55° to +85°	-54° to +71°
Operating Altitude	Air	55000 ft	55000 ft	55000 ft	45000 ft
Environmental qualification	Air	RTCA DO-160G	RTCA DO-160G	RTCA DO-160G	MIL-STD-810G MIL-STD-461G MIL-STD-704A
Modem Compatibility		Agnostic	Agnostic	Agnostic	Agnostic

* Orbit can provide optimized lightweight configurations tailored to specific platform integration and mission requirements.

Orbit understands that no two missions are alike. If your operational requirements extend beyond the configurations shown, our team will work with you to develop the right solution for your mission.