K-MAX

Viasat

Exceptional throughput for a true **tactical advantage**

Superior ISR connectivity

where and when it's needed most

Viasat's K-MAX solution delivers super-high-speed connectivity to manned and unmanned aircraft flying in some of the most volatile regions of the world.

Viasat's private Ka-band leasing service provides governments with regional, on-demand connectivity that can deliver up to ten times the standard global return committed information rate (CIR). That's throughput you can count on to deliver real-time mission updates and transfer clear video from your ISR assets.

K-MAX is also unrivalled in its flexibility and consistency. Depending on lease plan, high-throughput services can be triggered either geographically or by mission-defined events. On the way to and from areas of operation, service can automatically switch to Viasat's global GX service, ensuring continuous connectivity, wherever and however long aircraft are flying.

You can rely on Viasat to deliver everything necessary for rapid rollout, including the airtime service itself, aircraft fit-out, ground segment technology, the control platform, and all the benefits that come from a managed service.

Benefits

- Managed, private service based on dedicated leased capacity.
- Regional CIR up to ten times the global CIR from the airframe
- Flexible service plans with industry leading SLAs
- Can support multiple aircraft under a single subscription or multiple simultaneous operation
- Seamless switching to global GX services for high-throughput failovers
- 24/7 premium-specialised support provided via the Government Technical Service Desk
- Network backhaul options via internet service providers (ISPs) or multiprotocol label switching (MPLS) service

Viasat

Control the skies
with confidence

When ISR missions take flight, there are countless factors to address. K-MAX simplifies planning and helps accelerate decision making.

High data rate

- ISR aircraft demand stable, always-on connectivity but with instances of higher bandwidth requirements.
- **K-MAX delivers up to ten times the global committed information when the mission demands it, and even faster speeds through maximum information rates (MIR) when available.**

Reliability

- With more operations conducted in contested and congested environments, reliable connectivity becomes all the more important for successful mission planning and execution.
- **K-MAX is a versatile, resilient communication solution that can contribute to PACE planning.**

Security

- Mission leaders need solutions that they can leverage to keep their assets safe and on mission, and their data secure.
- **Viasat's advanced defence technologies — including redundant satellite-as-a-service (SAS), cyber threat monitoring, and MPLS networking to multi-mission platforms — deliver the data instancy, security, and certainty each mission demands.**

Sovereign augmentation

- In an ever more dangerous world, there are increasing calls for indigenous capability development and solutions that boost — not replace — sovereign capabilities.
- **K-MAX can combine with Viasat's G2X Air Plus service, under the umbrella Air-IQ solution, to enable seamless access and switching to sovereign networks.**

Flexibility and price competitiveness

- With increasing pressure on defence spending, governments need more flexible solutions and pricing that can adapt to multiple use cases.
- **K-MAX is a flexible subscription-based service, with just a single cost per month and the potential to lower the overall cost of operations.**

Viasat

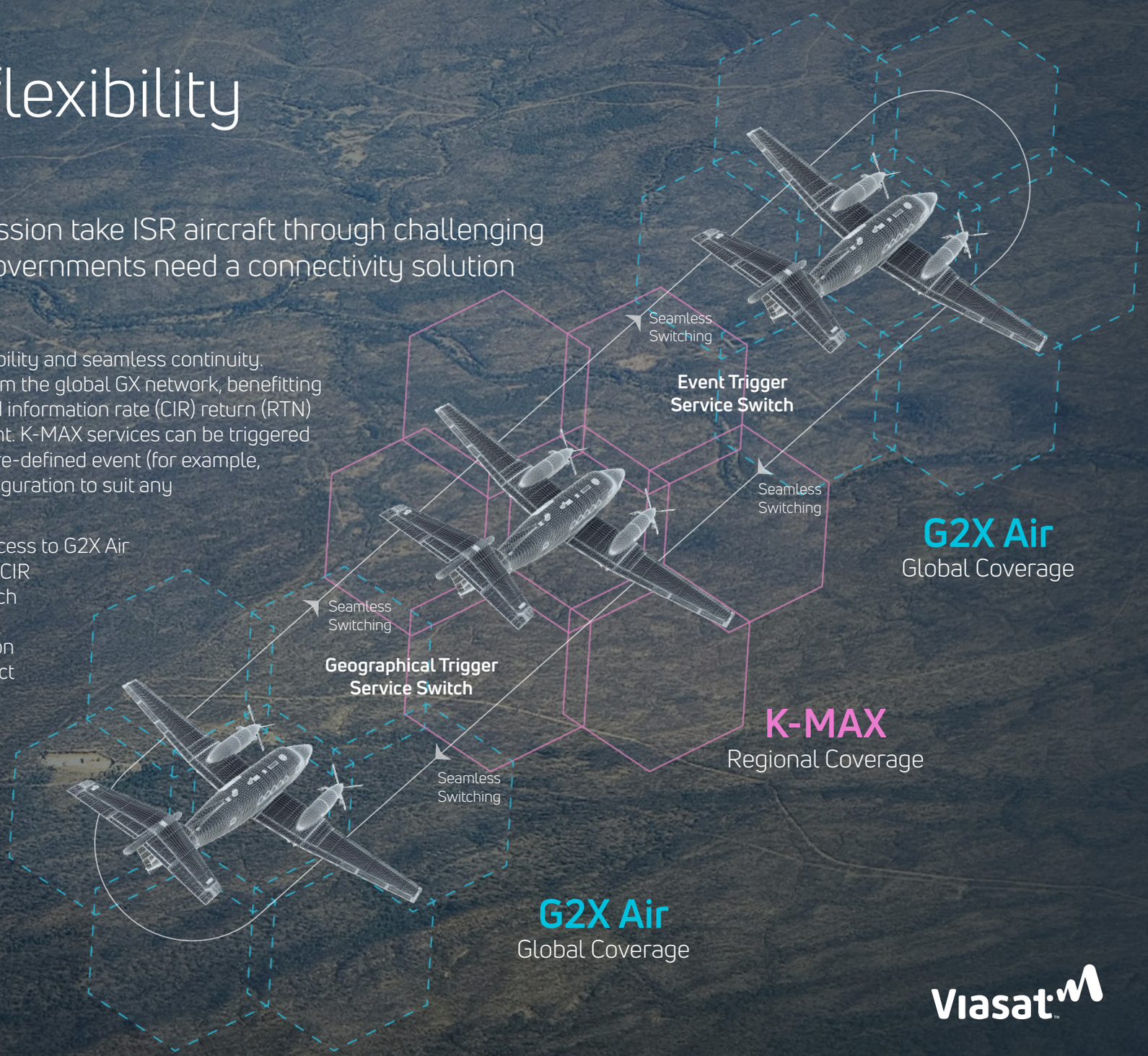
Unrivalled flexibility

for every mission

When the needs of the mission take ISR aircraft through challenging and contested airspace, governments need a connectivity solution that can be relied on.

K-MAX is designed for unrivalled flexibility and seamless continuity. Aircraft will be able to roam to and from the global GX network, benefitting from the super-high-speed committed information rate (CIR) return (RTN) of K-MAX while remaining cost efficient. K-MAX services can be triggered either geographically or based on a pre-defined event (for example, a specific point of time). There's a configuration to suit any mission or budget requirement.

In this example, the aircraft receive access to G2X Air global services with a global baseline CIR return (RTN) and can seamlessly switch to and from K-Max for up to ten times that CIR RTN when within the operation area. Alternatively, operators can select to just use K-MAX service within user-defined regions, if they do not require satellite connectivity outside of these areas.

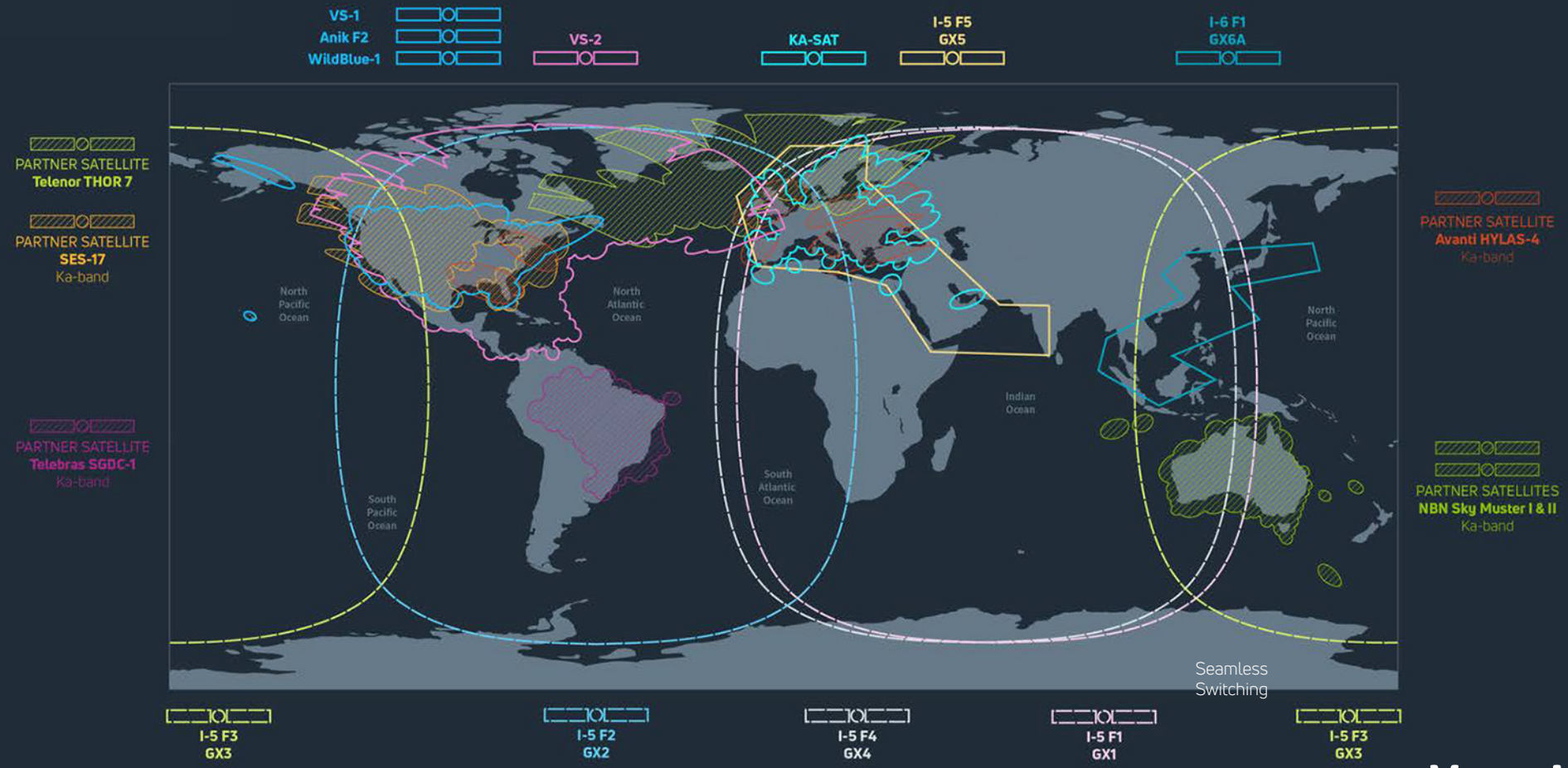


Viasat's global Ka-Band Network

Viasat Ka-Band network ensures reliable, resilient worldwide connectivity, and seamless switching to and from, all Air-IQ services, including K-MAX.

The constellation of Ka-band geostationary satellites is supported by an advanced ground infrastructure, providing high-throughput services. Viasat manages the allocation of capacity in each powerful spot beam to the terminal and seamlessly maintains the service, even as it moves between beams and hands over from satellite to satellite.

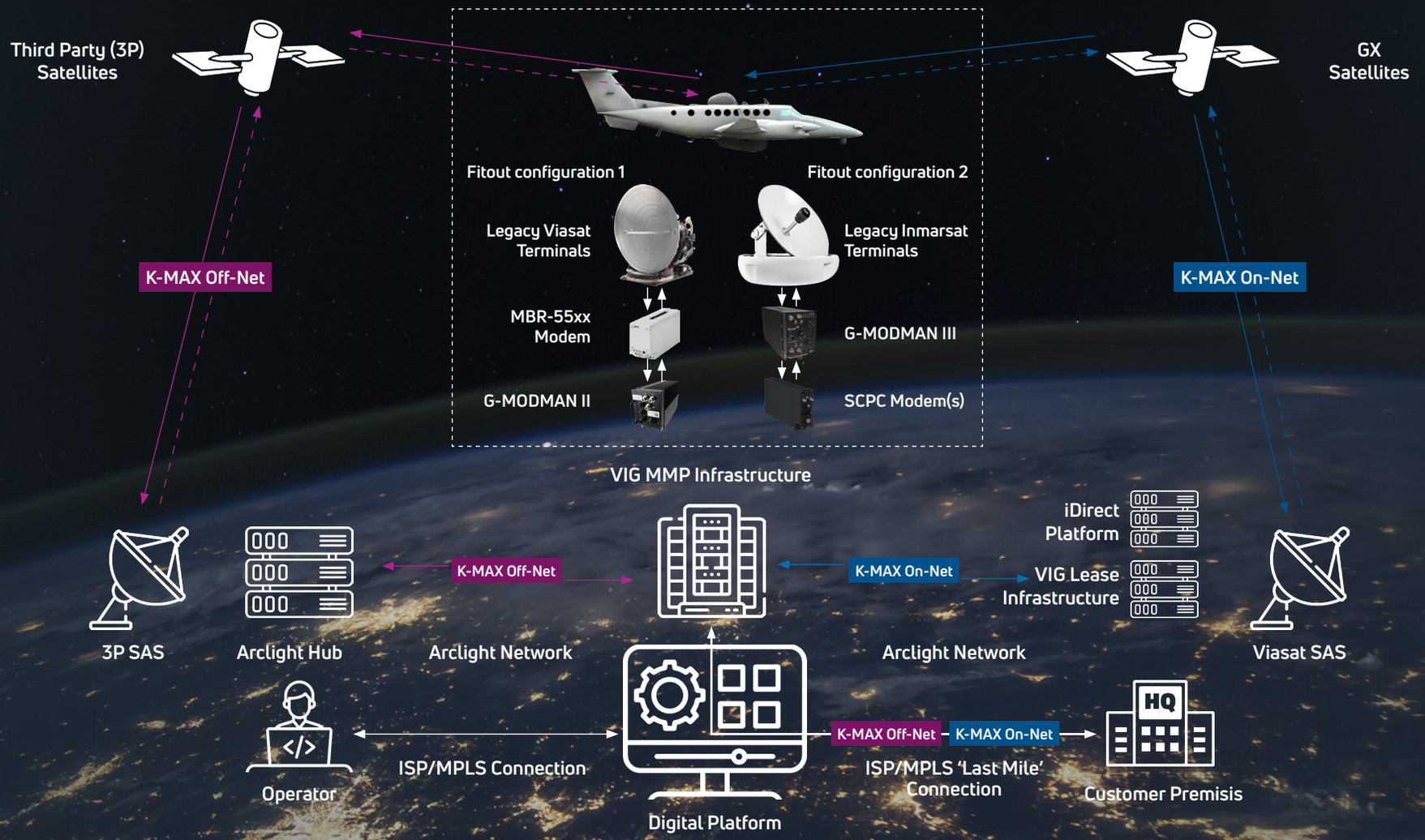
K-MAX service can be provided using either Viasat's own global Ka-band network or, if additional bandwidth is required in a specific region, complementary third-party satellites.



For illustrative purposes only. Coverage is approximate and subject to change. Not representative of any single product or service.

How K-MAX delivers

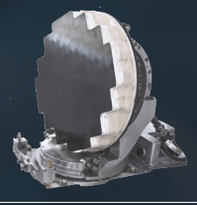
high-throughput connectivity



K-MAX hardware

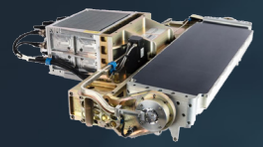
Choice and optionality - K-MAX supports a number of antenna options to suit differing aircraft and mission requirements.

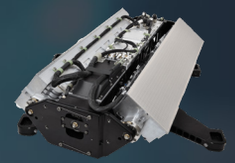


Antenna	Tail Mount Antenna Options	Orbit GX30	Orbit GX46	JETWAVE MCS 8000	SD Plane Simple Ka
Primary Modem		G-MODMAN III	G-MODMAN III	Honeywell MODMAN	SD SMU
Secondary Modem		Teledyne Axiom/Viasat MBR	Teledyne Axiom/Viasat MBR	-	-
Description		Ka-band, 30cm parabolic antenna.	Ka-band, 46cm parabolic antenna.	Ka-band, 30cm parabolic antenna.	Ka-band, electronic steerable array.
G2X Air Plus		Yes	Yes	Yes	Yes
K-Max		Yes (Ka only)	Yes (Ka only)	No	No
VS-3		No (VS-3)	No (VS-3)	No (VS-3)	No (VS-3)
Modem Type		1RU and ARINC enclosures	1RU and ARINC enclosures	ARINC enclosures	ARINC enclosures
Form Factor		307mm x 328mm (W x H)	500mm x 490mm (W x H)	8.12" x 11.7" x 13.75"	376mm x 337mm (L x H)
Block Up Converter (BUC)		56dBW EIRP typical	56dBW EIRP typical	46dBW EIRP typical	
RF Bands		Com Ka (Rx 19.2-20.2GHz, Tx 29-30GHz) & MIL-Ka (RX x 20.2-21.2GHz, Tx 30-31GHz)	Com Ka (Rx 19.2-20.2GHz, Tx 29-30GHz) & MIL-Ka (RX x 20.2-21.2GHz, Tx 30-31GHz)	Com Ka (Rx 19.2-20.2GHz, Tx 29-30GHz)	Com Ka(Rx: 17.7 - 20.2 GHz, Tx: 27.5 – 30 GHz)
Power Source		+28VDC	+28VDC	115 V / 400Hz AC Power	115 V / 400Hz AC Power
Equipment Interface		Multi Ethernet data; ARINC 429 from aircraft navigation bus	Multi Ethernet data; ARINC 429 from aircraft navigation bus	Multi Ethernet data; ARINC 429 from aircraft navigation bus	Multi Ethernet data; ARINC 429 from aircraft navigation bus
Weight		Antenna: 10kg (22lbs); KPSU 5kg (11lbs)	Antenna: 14.25kg (31.5lbs); KPSU 5kg (11lbs)	Antenna: 4.5kg (10 lbs); MODMAN: 6.4kg (14.1 lbs); KRFU: 5.1kg (11.3lbs);	+28VDC
Management User Interface		Yes	Yes	KANDU: 4kg (8.7 lbs)	Antenna: 12kg (25.6lbs)
Equipment Interface		Multi Ethernet data; ARINC 429 from aircraft navigation bus	Multi Ethernet data; ARINC 429 from aircraft navigation bus	SMU: 5.89kg (13lbs)	Multi Ethernet data; ARINC 429 from aircraft navigation bus
Weight		Antenna: 10kg (22lbs); KPSU 5kg (11lbs)	Antenna: 14.25kg (31.5lbs); KPSU 5kg (11lbs)	Antenna: 47kg (104lbs); KRFU 7.3kg (16lbs); KANDU 7.7kg (17lbs)	Awaiting Thales confirmation

K-MAX hardware continued





Antenna	Fuselage Mount Antenna Options	**JETWAVE MCS 8200**	**JETWAVE MCX**	**GAT-5530 KuKa**
Primary Modem		Honeywell MODMAN	Honeywell MODMAN	Viasat M3
Secondary Modem		-	-	G-MODMAN II
Description		Ka-band, FMA array	Ka-band, FMA array	Dual band (Ku/Ka) FMA mechanical steer- able array.
G2X Air Plus		Yes	Yes	Yes (Limited*)
K-Max		No	No	Yes (Ka only)
VS-3		No (VS-3)	No (VS-3)	Yes (VS-3)
Modem Type		ARINC enclosures	ARINC enclosures	ARINC enclosures
Form Factor		Antenna 36" swept volume x 9.5" high	Antenna 36" swept volume x 9.5" high	997mm x 287m (W x H)
Block Up Converter (BUC)		46dBW EIRP typical	48.6dBW EIRP typical	47dBW EIRP
RF Bands		Com Ka (Rx 19.2-20.2GHz, Tx 29-30GHz)	Com Ka (Rx 19.2-20.2GHz, Tx 29-30GHz) & MIL-Ka (RX x 20.2-21.2GHz, Tx 30-31GHz)	Ku (Rx 10.95-12.75GHz, Tx 14.0 - 14.5 GHz), Com Ka (Rx 17.7-20.2GHz, Tx 27.5-30GHz) & MIL-Ka (RX x 20.2-21.2GHz, Tx 30-31GHz)
Power Source		115 V / 400Hz AC Power	115 V / 400Hz AC Power	115 VAC, 360 Hz – 800 Hz single phase, or 28 VDC
Equipment Interface		Multi Ethernet data; ARINC 429 from aircraft navigation bus	Multi Ethernet data; ARINC 429 from aircraft navigation bus	Multi Ethernet data; ARINC 429 from air- craft navigation bus
Weight		Antenna: 37.5kg (82.6 lbs); MODMAN: 6.4kg (14.1 lbs); KRFU: 5.1kg (11.3lbs);	Antenna: 14.25kg (31.5lbs); KPSU 5kg (11lbs)	Antenna: 4.5kg (10 lbs); MODMAN: 6.4kg (14.1 lbs); KRFU: 5.1kg (11.3lbs);
Management User Interface		KANDU: 4kg (8.7 lbs)	Antenna = 88lbs; Modem manager = 14lbs; APM = 0.75lbs: BUC = 11.5Lbs: KANDU = 8.8lbs	Antenna = 163lbs; Modem manager = 17lbs; APS = 7.9lbs
Equipment Interface			Multi Ethernet data; ARINC 429 from aircraft navigation bus	SMU: 5.89kg (13lbs)
Weight		Antenna: 10kg (22lbs); KPSU 5kg (11lbs)	Antenna: 14.25kg (31.5lbs); KPSU 5kg (11lbs)	Antenna: 47kg (104lbs); KRFU 7.3kg (16lbs); KANDU 7.7kg (17lbs)

* G2X Air Plus is limited, based on current limited type approval on the Global Xpress network.

Viasat

K-MAX is part of the
ultimate connectivity platform

K-MAX is the highest-throughput service within the Air-IQ platform, able to seamlessly integrate with other services for reliable connectivity, wherever and whenever its most needed.

Throughput dynamically adjusts to meet mission demands, optimising efficiency and reducing costs. Designed as a flexible, modular solution, Air-IQ adapts to your specific operational requirements, ensuring a seamless, reliable, highly secure experience at all times.

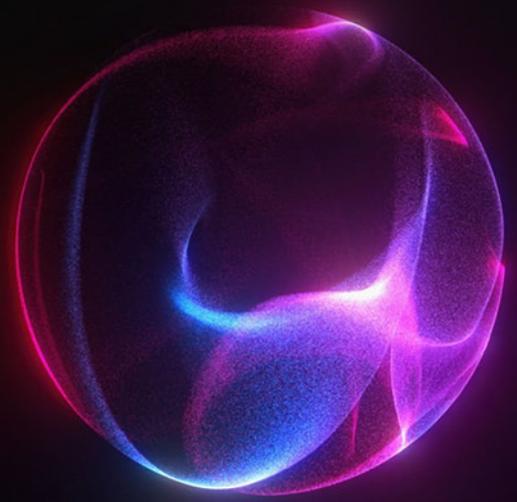
Air-IQ is composed of a number of connectivity services, designed for different airframe and mission needs, including K-MAX.

Air-IQ service	Market segments			
	Group 2 UAS	Group 3 UAS	Group 4/5 UAS	Fixed Wing
K-MAX On and Off Net Managed, private Ka-Band regional lease service, enabling high throughputs with seamless roaming to and from our global GX network (Ka-Band)		✓	✓	✓
G2X Air Plus Optimised GX service, enabling high speeds on a regional basis · Up to 6 Mbps CIR within predefined regions · Seamless switching between global and enhanced regional beams · In-route group carriers (IGC) can be leveraged in designated operational beams Fallback to the global GX service when operating outside region		✓	✓	✓
L-MAX Managed, private L-Band regional leasing, enabling high-performance beyond line of sight	✓	✓	✓	✓
G2X Air Global Xpress (GX) global services · Up to 2 Mbps CIR on a global basis		✓	✓	✓

Viasat

The power of knowing

Viasat builds solutions for today's complex missions.



Increasing your intelligence

Being prepared is no longer enough. In today's disrupted environment — where data has become as important as firepower, and strategies are quickly outpaced by changing circumstances — you need to be able to make split-second decisions.

In this new, digitalised field of operations, Viasat delivers a smart and secure inter-connected communications architecture for rapid, reliable intelligence — intelligence your teams require to confidently take the right actions at the tactical edge.

Working together at the speed of thought

From space and air to ground and sea, Viasat helps decision-makers act and communicate with cohesion and confidence throughout the chain of command.

Our global, multi-orbit, multi-dimensional satcom network, combined with advanced defence technologies, deliver the data instancy, security, and certainty the mission demands. Like a neural command and control system, our solutions flow real-time data throughout the field of operations.

Connectivity that empowers the right decisions

Viasat is the indispensable, trusted partner that governments need, seamlessly connecting your teams via a fully integrated platform. We empower commanders to make better-informed decisions, faster, and more effectively than ever before.

Viasat