

**Exhibit 5 to
Intellectual Ventures I LLC's and Intellectual Ventures II LLC's
Preliminary Infringement Contentions**

**Infringement Claim Chart of
U.S. Patent No. 7,324,469 (“’469 Patent”)**

The Accused Systems and Services include without limitation American systems and services that provide onboard WiFi in its airplanes; all past, current, and future systems and services that operate in the same or substantially similar manner as the specifically identified systems and services; and all past, current, and future American systems and services that have the same or substantially similar features as the specifically identified systems and services (“Example American Count 5 Systems and Services” or “American Systems and Services”).^{1 2}

On information and belief, the American Systems and Services directly infringe the asserted claims of the ’469 Patent, either literally or under the doctrine of equivalents, through at least using satellite-based onboard WiFi in its airplanes. In addition, American directly infringes the ’469 Patent by testing the American Systems and Services. On information and belief, American, with knowledge at least since the time of filing the complaint, also indirectly infringes the ’469 Patent by inducing its employees and customers to use American Systems and Services, and provides documents that include instructions regarding how to use American Systems and Services in an infringing manner. On information and belief, American provides instructions on how to use the American Systems and Services in an infringing manner, the use of which results in infringement of the ’469 Patent claims through performance of the claimed methods. On information and belief, American also indirectly infringes by contributorily infringing the ’469 Patent by selling, offering to sell, or importing components used in the American Systems and Services that do not have substantial non-infringing uses.

Consistent with the local rules of this Court, IV identifies satellite-based onboard WiFi as used in the American Systems and Offerings as the Accused Instrumentality. Information regarding how specifically American implements WiFi, including for which products and

¹ Plaintiffs do not accuse the following American Systems and Services:

[REDACTED]

² The description of non-accused American Systems and Services reflects language in license agreement(s). The language of those agreement(s) controls, to the extent there are any inconsistencies between the language in this chart and such agreement(s).



offerings, is generally not public. IV intends to obtain discovery regarding how WiFi is used and implemented in American products and services and will update its infringement positions once this discovery is completed.

IV does not intend this exemplary claim chart to be limiting, and IV reserves its rights to pursue other accused instrumentalities, patent claims, evidence, and infringement arguments in this case. Discovery has yet to begin, and this case is still in its initial stages. Accordingly, IV reserves the right to amend and/or supplement these contentions to the full extent allowed by the Court, including but not limited to, incorporating additional information, claims, theories, and / or accused products.

On information and belief, the American Systems and Services provide onboard WiFi in its airplanes.

Wi-Fi and connectivity



Inflight Wi-Fi

Upgraded, high-speed Wi-Fi is available to buy on select domestic flights. Browse the internet, check emails and stream video services like Netflix, Hulu and HBO faster than ever before.

Source: <https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp>.³

³ All sources cited in this document were publicly accessible as of the filing date of the Complaint.

American Airlines Wi-Fi Subscription Plan

Live Chat

Air: Inflight Wi-Fi portal choose Contact Us

Ground: support.aainflight.com 

Phone:

1-844-994-4646

Email:

subscription.wifi@aa.com »

The inflight Wi-Fi portal will display "Wi-Fi Onboard (provided by Intelsat)"

Your credit card statement charges will appear as "AA WIFI"

Intelsat

Live Chat

Air: Inflight Wi-Fi portal choose Contact Us

Ground: <https://care.inflightinternet.com> 

Phone:

1-877-350-0038

Email:

support@wifionboard.com »

The inflight Wi-Fi portal will display "Wi-Fi Onboard (provided by Intelsat)"

Your credit card statement charges will appear as "WIFIONBOARD"

Source: <https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp>.

American has partnered with third parties, such as Intelsat, Viasat, GoGo, and Panasonic, to provide satellite-based WiFi to customers during American flights.

Our airline partners



Source: <https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf>.

Source: <https://www.satellitetoday.com/mobility/2023/12/01/intelsat-wins-american-airlines-ifc-deal-to-connect-500-regional-jets/>.

American has partnered with other third parties, such as Intelsat, Viasat, GoGo, and Panasonic, to provide WiFi to customers during American flights. On information and belief, such WiFi services include satellite-based WiFi services that work in a manner similar to Intelsat's satellite-based WiFi solution, as described below.

Viasat

Live Chat

Air: Inflight Wi-Fi portal choose Contact Us

Ground: <https://inflight.viasat.com/AAL> 

Phone:

1-888-649-6711

The inflight Wi-Fi portal will display "Connected by Viasat"

Your credit card statement charges will appear as "VIASAT IN-FLIGHT WIFI 888-649-6711 CA"

Panasonic

Phone:

1-866-924-3715

Email:

aawifihelp@panasonic.aero »

The inflight Wi-Fi portal will display "Service provided by Panasonic"

Your credit card statement charges will appear as "AA-WIFI BY PANASONIC"

Source: <https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp>.

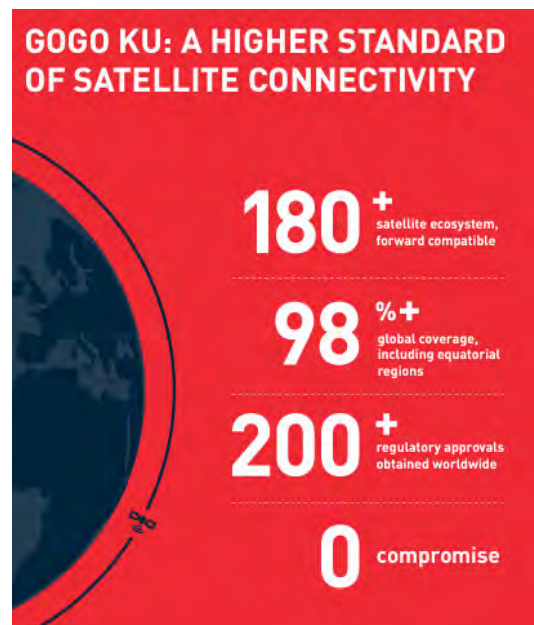
Source: <https://www.panasonic.aero/our-offerings/in-flight-connectivity>.

Source: https://www.viasat.com/content/dam/us-site/aviation/documents/565522_In-flight_Connectivity_011_aag.pdf.

How to connect

American's domestic narrowbody aircraft are equipped with either Gogo 2Ku or ViaSat Ka, both satellite Wi-Fi products that operate via satellites in the sky instead of towers on the ground. Once onboard, customers can connect to American's Wi-Fi signal on their personal device. From there, customers can log in to the provider's portal and choose to purchase internet, watch free live TV or stream hundreds of other complimentary entertainment options.

Source: <https://news.aa.com/news/news-details/2019/American-Airlines-Now-Offers-More-Aircraft-with-High-Speed-Wi-Fi-Than-Any-Other-Airline/default.aspx>.

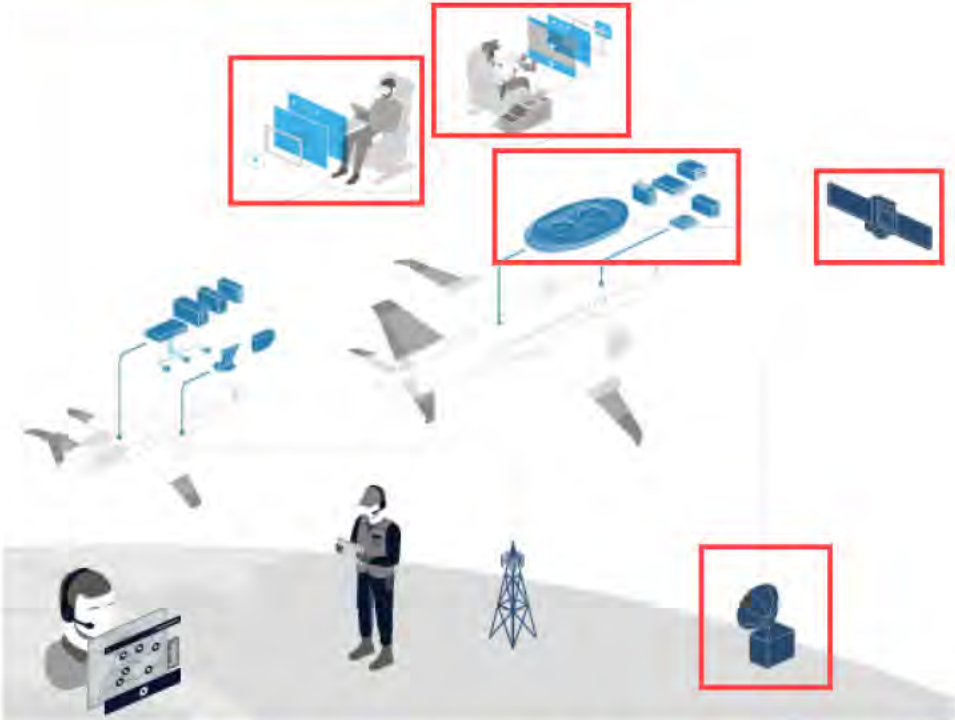


Source: <https://cdn.gogoair.com/medialibrary/gogo/media/public/pdfs/brochures/gogo-brochure-2ku.pdf>.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
[24.pre] An Internet Hotspot comprising:	To the extent this preamble is limiting, on information and belief, the American Count 5 Systems and Services include an Internet Hotspot. On information and belief, American has partnered with Intelsat, Viasat, GoGo, and Panasonic to provide its passengers with in-flight Wi-Fi connectivity.⁴ American's aircrafts are equipped with Intelsat, Viasat, GoGo, and Panasonic's In-Flight Connectivity system. Wi-Fi and connectivity  Inflight Wi-Fi Upgraded, high-speed Wi-Fi is available to buy on select domestic flights. Browse the internet, check emails and stream video services like Netflix, Hulu and HBO faster than ever before.

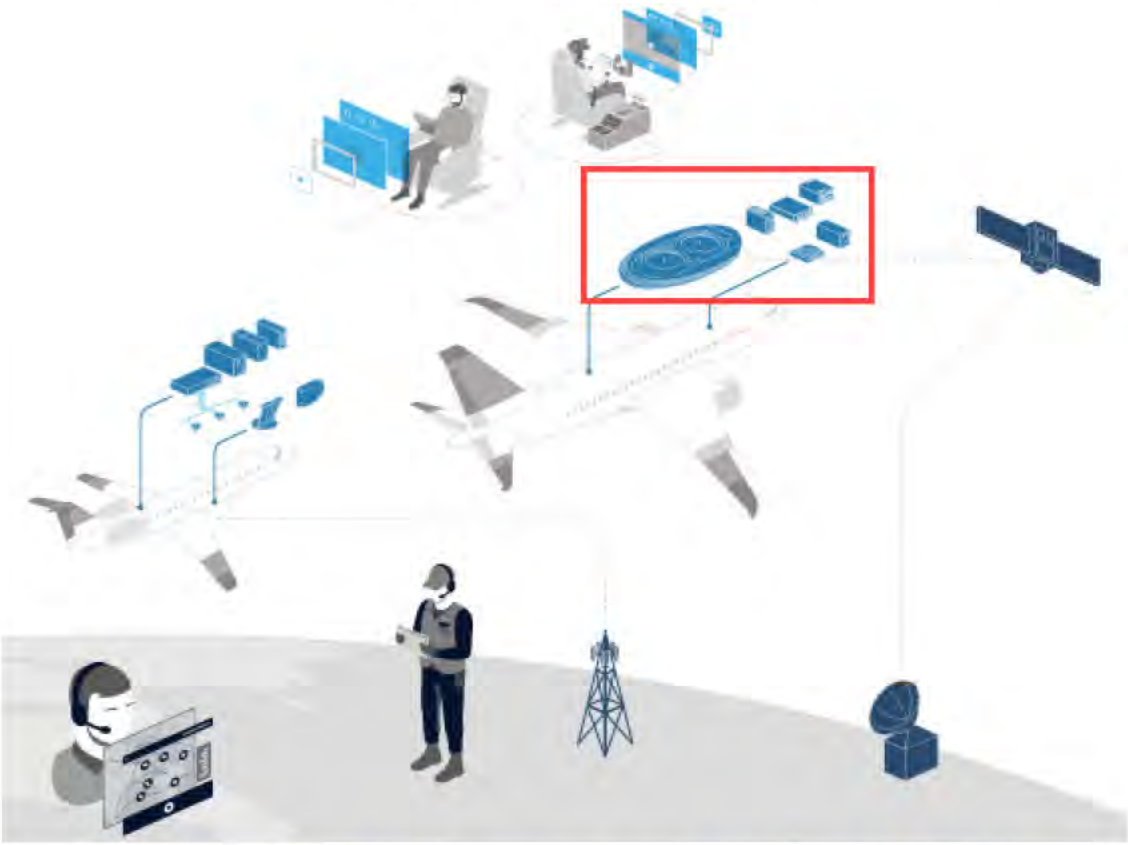
⁴ Plaintiffs' identification of In-Flight Connectivity (IFC) providers is based on publicly available information. To the extent American uses other satellite-based providers for IFC, Plaintiffs reserve the right to investigate such implementations of IFC. Further, on information and belief, American airplanes that offer Wi-Fi using those products infringe for at least the same reasons as described in this claim chart.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	Source: https://www.aa.com/il8n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp .
[24.a] a satellite dish communicating with the Internet via one or more data links with a satellite;	On information and belief, the American Count 5 Systems and Services include a satellite dish communicating with the Internet via one or more data links with a satellite. On information and belief, American's aircrafts are equipped for example with Intelsat's Global Connectivity system (GCS). Intelsat's GCS includes a satellite antenna mounted about the plane that communicates with the Internet using a satellite with a ground station. 🕒 What is Wi-Fi Onboard (part of Intelsat)? With high-speed satellite Wi-Fi service provided by Wi-Fi Onboard (part of Intelsat), you can connect wirelessly to the internet using your personal electronic device like a laptop, tablet or smartphone. Source: Support Home Page (aainflight.com). Intelsat Global Connectivity Solution The global coverage and scalable capacity of the Intelsat Global Network enables streaming-quality Wi-Fi and Live TV to the entire cabin. Our access technology features a unique dual-phased-array antenna and proprietary modem for unsurpassed performance and industry-leading system availability. Intelsat can also help you efficiently manage the bandwidth you need to provide the service you want so you get the most out of your investment. Intelsat's open architecture design leverages today's Ku-band satellites and offers future-ready performance with high-throughput satellites (HTS). This allows Intelsat Commercial Aviation to deliver on the coverage and capacity needs for commercial airlines with global flight routes today—and tomorrow. The Intelsat Commercial Aviation Portfolio delivers best-in-class inflight experiences through powerful, integrated onboard systems, aero networks, and support.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf.  The diagram illustrates an aircraft communication system. At the top, a satellite is shown in orbit. Below it, an aircraft is depicted in flight. On the ground, there are several ground stations and a person operating a control panel. The system is connected by a network of lines representing communication links. Several components are highlighted with red boxes: a ground station with a person, a satellite, a ground station with a large dish, and a ground station with a smaller dish. The diagram also shows a network of servers and a person operating a control panel. Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	GSO Satellite Access Technology Signal Transmission  2Ku Antenna • Two large aperture phased-array antennas • Advanced beam forming and steering  A791 (Taurus) MODMAN Hosts the next-generation modem which modulates and demodulates L-band signals  KANDU Provides power to the satellite antennas and uses aircraft navigational data to control its movement  KRFU Upconverts L-Band signals from the modem to Ku-band and amplifies them for transmission to the satellite Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	NGSO Satellite Access Technology Signal Transmission  ESA Antenna • Electronically-steered array • Multi-orbit (GEO/LEO) antenna solution • Coverage over every route A791 (Taurus) MODMAN Hosts the next-generation modem which modulates and demodulates L-band signals PSU Power supply unit. Supplies power to both the Rx and Tx antenna arrays ACMU Antenna-pointing and networking data unit Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf. Evidence to Intelsat is exemplary. On information and belief, satellite-based IFC solutions provided by Viasat, GoGo, and Panasonic practice this limitation for the same reasons that Intelsat does.
[24.b] at least one router operatively coupled to the satellite dish;	On information and belief, the American Count 5 Systems and Services include at least one router operatively coupled to the satellite dish. On information and belief, American's aircrafts are equipped with Intelsat's GCS that include a router that is connected to a satellite antenna mounted about the plane that communicates with the Internet using a satellite with a ground station.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	 The diagram illustrates a communication system for an aircraft. At the top, two ground stations with operators are shown. Below them, a central processing unit (CPU) is highlighted with a red box. To the right, a satellite is depicted. In the center, an aircraft is shown with a communication link to the ground stations. At the bottom, a ground station with a large dish antenna is shown. The diagram is labeled 'Example American Count 5 Systems and Services'. Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	02 In-cabin Network Configurations for any aircraft Our satellite IFC solutions are suitable for large commercial aircraft with global flight routes, regional narrow-body fleets, and cargo aircraft. Linefit, SB, and STC retrofit options are available. Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	In-cabin Network The In-cabin Network consists of the essential airborne hardware that interfaces with aircraft access technology to power the passenger experience. The Onboard Server enables wireless content access via any device, including seatback screens over the dedicated In-cabin Network.  A791 MODMAN The A791 MODMAN serves as both modem and onboard server in Service Bulletin (SB) and Liftfit (LF) configurations.  In-cabin axWAP Wireless Access Points provide the Wi-Fi signal to devices in the cabin and support the latest 802.11 standards, including 802.11ax. Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf On information and belief, Intelsat offers WiFi solutions, used on American airplanes, that support satellite-based WiFi, and are connected to satellite equipment.

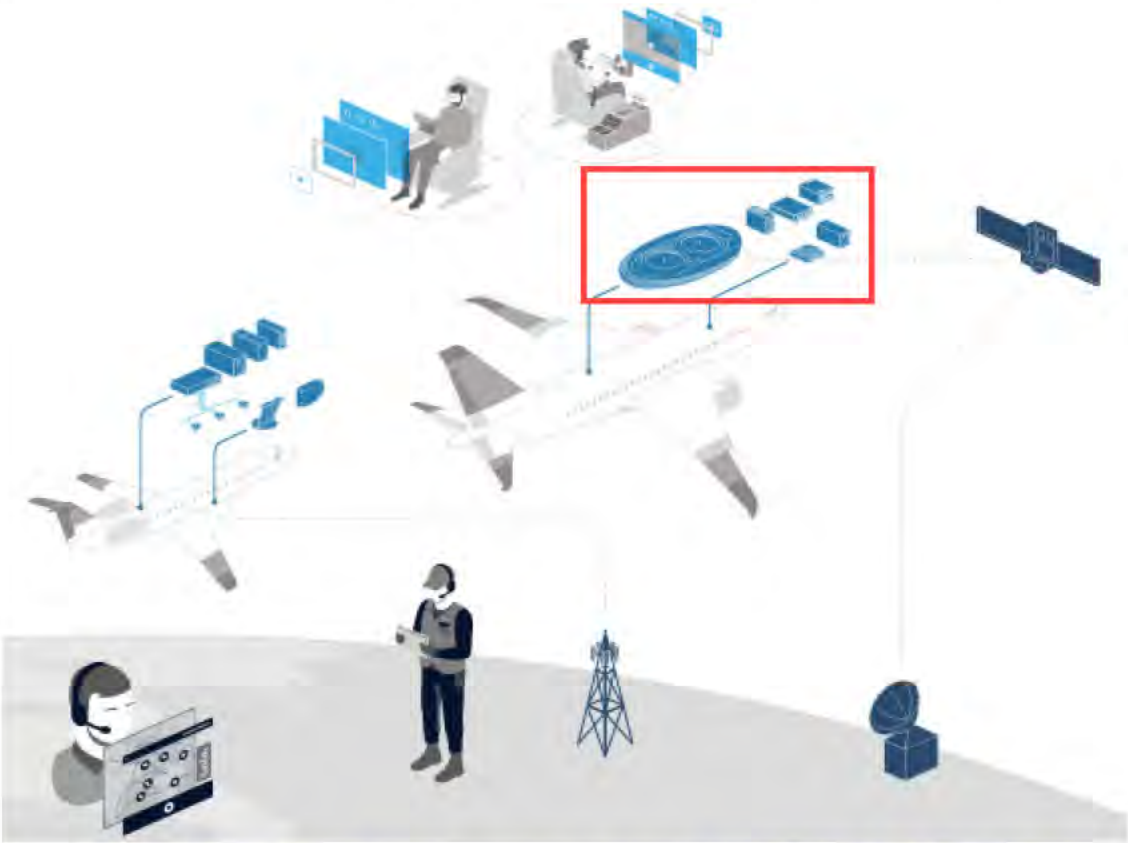
U.S. Patent No. 7,324,469 (Claim 24)	
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[24.c] a subscriber access unit operatively coupled between the satellite dish and the at least one router, the subscriber access unit being capable of authenticating a subscription account associated with a user prior to allowing the user access to the Internet; and	On information and belief, the American Count 5 Systems and Services include a subscriber access unit operatively coupled between the satellite dish and the at least one router, the subscriber access unit being capable of authenticating a subscription account associated with a user prior to allowing the user access to the Internet. On information and belief, Intelsat's GCS includes a satellite antenna, multiple WAPs, and an onboard server that hosts information passenger-focused services.

U.S. Patent No. 7,324,469 (Claim 24)	
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U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	The diagram illustrates a system for providing in-flight Wi-Fi services. It features a central aircraft in flight, connected via lines to various components. On the left, a ground station with a large parabolic dish is shown. On the right, a satellite in orbit is depicted. Below the aircraft, a person is shown using a laptop, and another person is shown using a mobile device. A red box highlights a specific component of the system, which appears to be a server or a database. The diagram also shows a person at a desk with a computer monitor, and another person at a desk with a laptop. The overall system is designed to provide seamless connectivity for passengers during their flight.
	Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf. On information and belief, American passengers attempting to access Wi-Fi services are authenticated through the american.com web portal to access in-flight Wi-Fi for example through a subscriber access unit. The authentication completes when the user enters their login credentials on the portal and

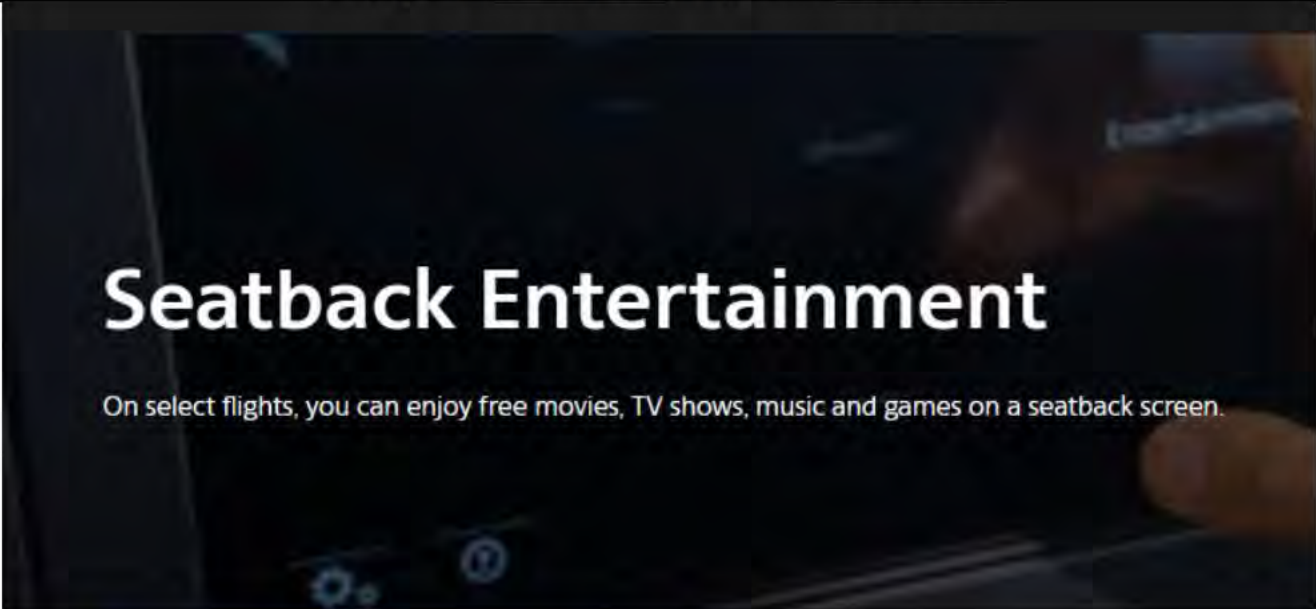
U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	American authenticates the user. Limited free Wi-Fi is available to passengers, and upgraded high-speed WiFi is available to certain American members or can be purchased. Wi-Fi and connectivity  Inflight Wi-Fi Upgraded, high-speed Wi-Fi is available to buy on select domestic flights. Browse the internet, check emails and stream video services like Netflix, Hulu and HBO faster than ever before. Source: https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp. Pricing You can always access aa.com for free during your flight. Source: https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp.

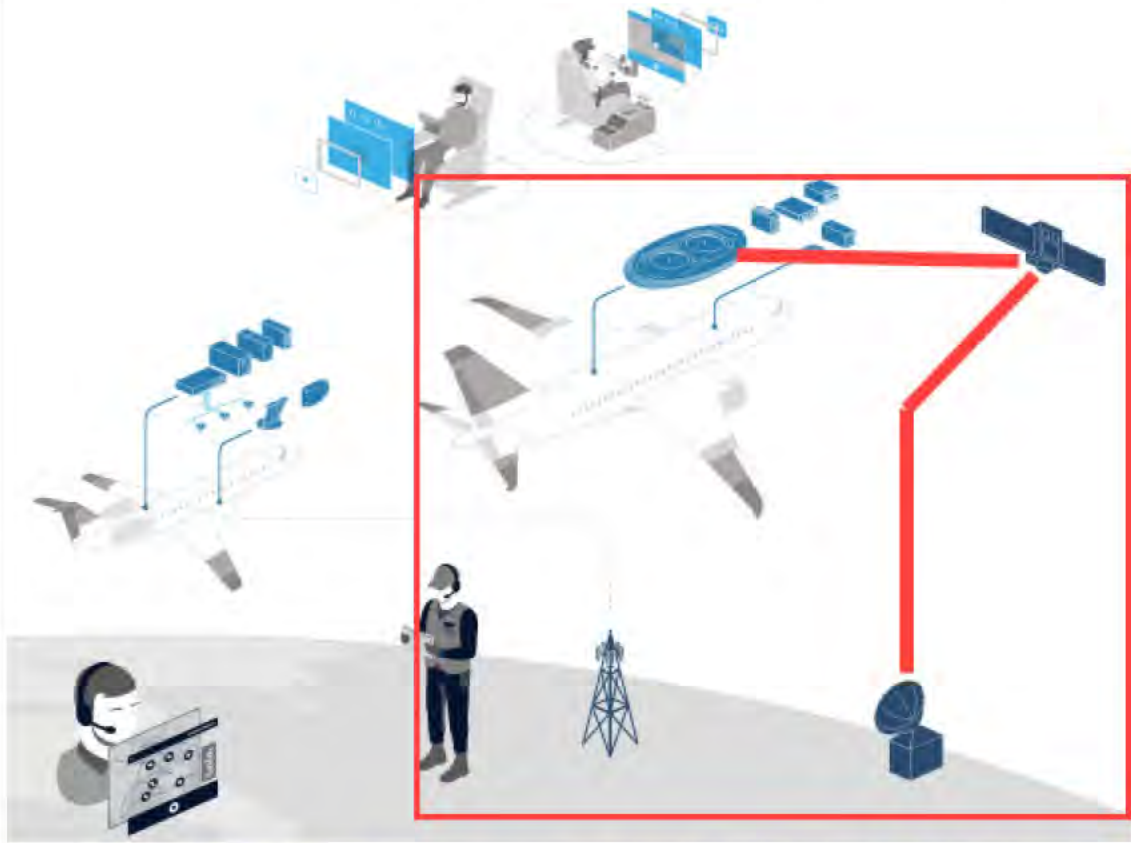
U.S. Patent No. 7,324,469 (Claim 24)	
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	⌚ How do I connect to Wi-Fi Onboard (part of Intelsat) in flight? Use your Wi-Fi-enabled device to search and connect to the 'aainflight.com' Wi-Fi signal. If you're not redirected, open a browser and enter aainflight.com. Source: https://support.aainflight.com/. ⌚ How do I connect to my American Airlines Wi-Fi Subscription Plan in flight? 1. Enable Wi-Fi on your device 2. Search and connect to the 'aainflight.com' Wi-Fi signal 3. Launch your web browser and go to aainflight.com and select 'Log in' 4. Enter your AAdvantage number or username and password Source: https://support.aainflight.com/.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	In-cabin Network The In-cabin Network consists of the essential airborne hardware that interfaces with aircraft access technology to power the passenger experience. The Onboard Server enables wireless content access via any device, including seatback screens over the dedicated In-cabin Network.  A791 MODMAN The A791 MODMAN serves as both modem and onboard server in Service Bulletin (SB) and Linefit (LF) configurations.  In-cabin axWAP Wireless Access Points provide the Wi-Fi signal to devices in the cabin and support the latest 802.11 standards, including 802.11ax. Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf. Evidence to Intelsat is exemplary. On information and belief, satellite-based IFC solutions provided by Viasat, GoGo, and Panasonic practice this limitation for the same reasons that Intelsat does.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
[24.d] a web-ready device operatively coupled to the at least one router, the web-ready device having a browser application operating thereon for accessing the Internet;	On information and belief, the American Count 5 Systems and Services include a web-ready device operatively coupled to the at least one router, the web-read device having a browser application operating thereon for accessing the Internet. On information and belief, American enables access to onboard WiFi through seatback and/or user devices that include a browser application for Internet accessibility.  What devices can I use to access free entertainment? You can access free entertainment on Apple iOS, Android, macOS and Windows. The browsers we support are Chrome, Safari and Edge. Source: https://support.aainflight.com/.

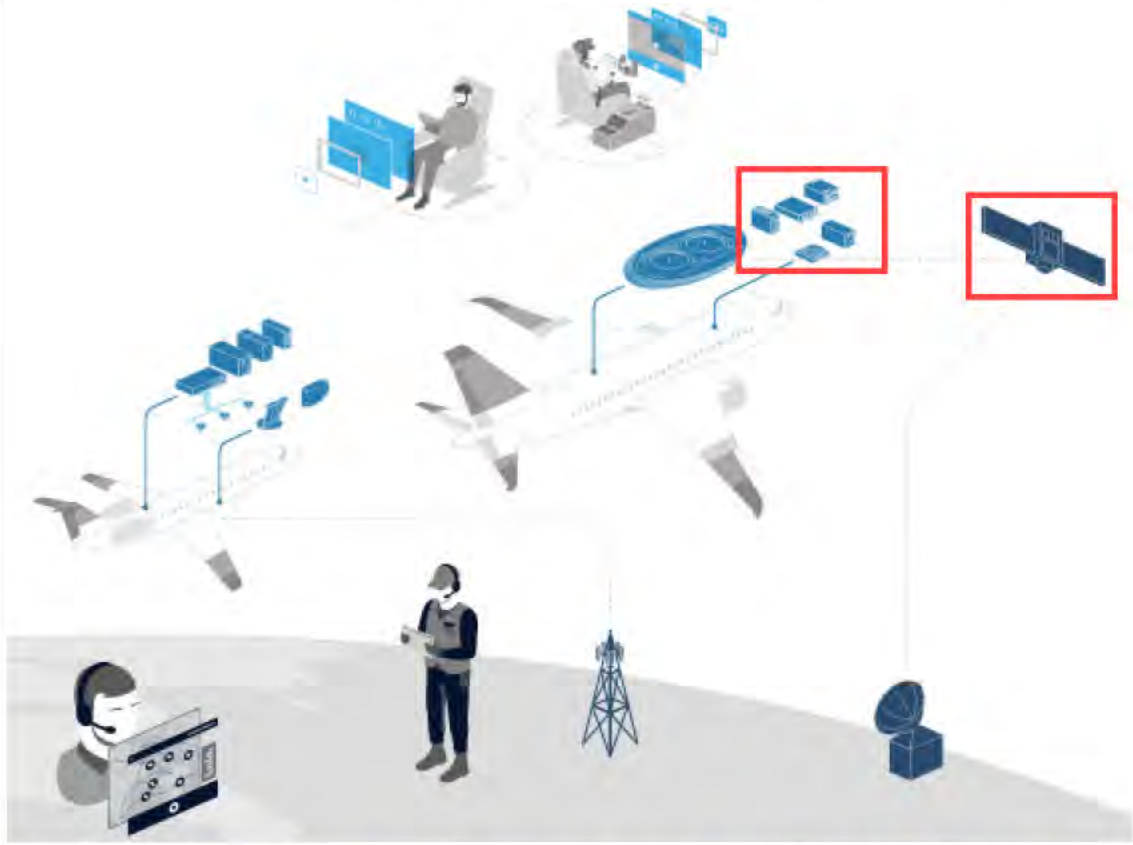
U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	Common Topics ⌵ How do I connect to Wi-Fi Onboard (part of Intelsat) in flight? Use your Wi-Fi-enabled device to search and connect to the 'aainflight.com' Wi-Fi signal. If you're not redirected, open a browser and enter aainflight.com. ⌵ How do I cancel my American Airlines Wi-Fi Subscription Plan? ⌵ Do I need to pay for Wi-Fi service to view free entertainment? ⌵ What is free entertainment? ⌶ What devices can I use to access free entertainment? You can access free entertainment on Apple iOS, Android, macOS and Windows. The browsers we support are Chrome, Safari and Edge. Source: https://support.aainflight.com/.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	 Source: https://entertainment.aa.com/en/how-to-watch.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	 The diagram illustrates a satellite communication system. A central aircraft is shown in flight, connected by a red line to a satellite in orbit. The satellite is also connected by a red line to a ground station on the ground, which includes a large parabolic dish antenna. The ground station is connected to a network of servers and other ground-based equipment. The entire system is enclosed in a red rectangular box. Other elements in the diagram include a person at a computer, a person at a control panel, and a person at a radio console, all connected to the system via blue lines. Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	Intelsat Global Connectivity Solution The global coverage and scalable capacity of the Intelsat Global Network enables streaming-quality Wi-Fi and Live TV to the entire cabin. Our access technology features a unique dual-phased-array antenna and proprietary modem for unsurpassed performance and industry-leading system availability. Intelsat can also help you efficiently manage the bandwidth you need to provide the service you want so you get the most out of your investment. Intelsat's open architecture design leverages today's Ku-band satellites and offers future-ready performance with high-throughput satellites (HTS). This allows Intelsat Commercial Aviation to deliver on the coverage and capacity needs for commercial airlines with global flight routes today—and tomorrow. The Intelsat Commercial Aviation Portfolio delivers best-in-class inflight experiences through powerful, integrated onboard systems, aero networks, and support. Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf. Evidence to Intelsat is exemplary. On information and belief, satellite-based IFC solutions provided by Viasat, GoGo, and Panasonic practice this limitation for the same reasons that Intelsat does.
[24.e] wherein the satellite dish, at least one router and the subscriber access unit are located in a remote location a experiencing a relatively high volume of transient traffic;	On information and belief, the American Count 5 Systems and Services include a satellite dish, at least one router, and a subscriber access unit, where the satellite dish, at least one router and the subscriber access unit are located in a remote location a experiencing a relatively high volume of transient traffic.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	Intelsat Global Connectivity Solution The global coverage and scalable capacity of the Intelsat Global Network enables streaming-quality Wi-Fi and Live TV to the entire cabin. Our access technology features a unique dual-phased-array antenna and proprietary modem for unsurpassed performance and industry-leading system availability. Intelsat can also help you efficiently manage the bandwidth you need to provide the service you want so you get the most out of your investment. Intelsat's open architecture design leverages today's Ku-band satellites and offers future-ready performance with high-throughput satellites (HTS). This allows Intelsat Commercial Aviation to deliver on the coverage and capacity needs for commercial airlines with global flight routes today—and tomorrow. The Intelsat Commercial Aviation Portfolio delivers best-in-class inflight experiences through powerful, integrated onboard systems, aero networks, and support. Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf.

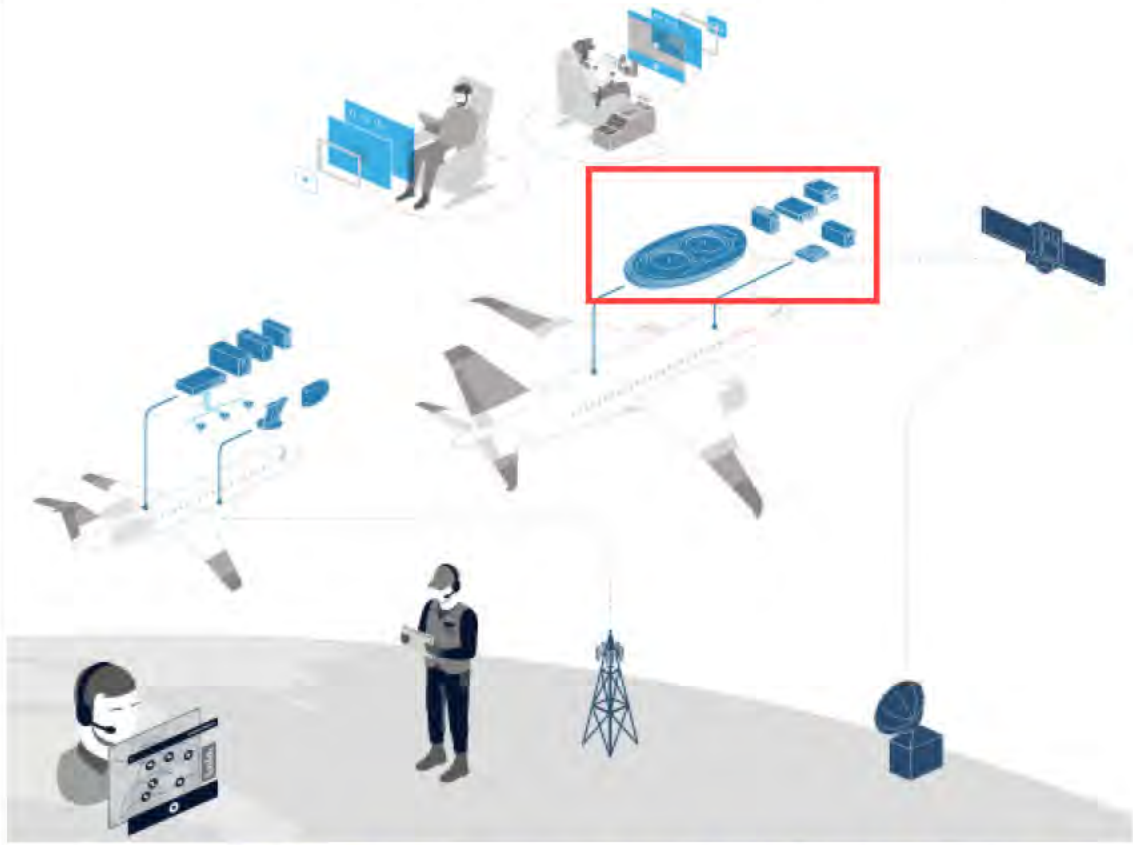
U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	 The diagram illustrates a communication system for an aircraft. At the top, two ground stations are shown with operators. Below them, a group of server racks is highlighted with a red box. To the right, a satellite in orbit is also highlighted with a red box. In the center, an aircraft is shown with a communication link to the satellite. On the ground, a person is shown using a handheld device, and a radio tower is visible. A curved line represents the signal path from the ground station, through the satellite, to the aircraft, and then to the ground-based radio tower and user. Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	Reliable, High-speed Inflight Internet — Everywhere, All the Time The Intelsat 2Ku Onboard System includes all the onboard hardware and software needed to deliver inflight internet access to passengers around the globe. The heart of the system is the satellite access technology that includes two antennas—one for the forward link, which transmits data to the aircraft, and one for the return link, which receives data. Built to deliver significantly more bandwidth to aircraft, our high-throughput modem minimizes service disruptions associated with beam switching, allowing faster satellite handoffs and a more consistent passenger experience. Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf. Enable unique inflight experiences Connectivity and Entertainment Services • Wi-Fi internet packages for messaging, browsing, and streaming • Live TV: With the high bandwidth delivered by Intelsat 2Ku access technology, your passengers can watch live sports, news, or other live broadcasts on their own devices or the seatback • Seatback integration with existing third-party IFE systems: Integrate connectivity with existing seatback IFE systems to enhance the passenger experience Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf. Evidence to Intelsat is exemplary. On information and belief, satellite-based IFC solutions provided by Viasat, GoGo, and Panasonic practice this limitation for the same reasons that Intelsat does.
[24.f] wherein the user may authenticate the subscription account and access the Internet at the remote location by establishing a data connection between the web-ready device and the router.	On information and belief, the American Count 5 Systems and Services include WiFi where the user may authenticate the subscription account and access the Internet at the remote location by establishing a data connection between the web-ready device and the router. On information and belief, American passengers authenticate themselves on the american.com web portal to access in-flight Wi-Fi. The authentication completes when the user enters their login credentials on the portal. Limited free Wi-Fi is available to passengers, and upgraded high-speed WiFi is available to certain American members or can be purchased. Wi-Fi and connectivity  Inflight Wi-Fi Upgraded, high-speed Wi-Fi is available to buy on select domestic flights. Browse the internet, check emails and stream video services like Netflix, Hulu and HBO faster than ever before.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	Source: https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp. Pricing You can always access aa.com for free during your flight. Source: https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp. ⌕ How do I connect to Wi-Fi Onboard (part of Intelsat) in flight? Use your Wi-Fi-enabled device to search and connect to the 'aainflight.com' Wi-Fi signal. If you're not redirected, open a browser and enter aainflight.com. Source: https://support.aainflight.com/. ⌕ How do I connect to my American Airlines Wi-Fi Subscription Plan in flight? 1. Enable Wi-Fi on your device 2. Search and connect to the 'aainflight.com' Wi-Fi signal 3. Launch your web browser and go to aainflight.com and select 'Log in' 4. Enter your AAdvantage number or username and password Source: https://support.aainflight.com/. On information and belief, upon authentication the user may access the Internet through onboard WiFi, where a connection is established with onboard software and/or hardware including a router.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	Reliable, High-speed Inflight Internet — Everywhere, All the Time The Intelsat 2Ku Onboard System includes all the onboard hardware and software needed to deliver inflight internet access to passengers around the globe. The heart of the system is the satellite access technology that includes two antennas—one for the forward link, which transmits data to the aircraft, and one for the return link, which receives data. Built to deliver significantly more bandwidth to aircraft, our high-throughput modem minimizes service disruptions associated with beam switching, allowing faster satellite handoffs and a more consistent passenger experience. Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	 The diagram illustrates a satellite-based communication system for an aircraft. At the top, two ground stations with operators are shown. A satellite in orbit is connected to the aircraft via a communication link. The aircraft is depicted with a red box highlighting a data processing unit. Below the aircraft, a ground station with a large parabolic dish is shown, connected to the aircraft. A person is also shown at a control console. The diagram is a 3D isometric illustration. Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	In-cabin Network The In-cabin Network consists of the essential airborne hardware that interfaces with aircraft access technology to power the passenger experience. The Onboard Server enables wireless content access via any device, including seatback screens over the dedicated In-cabin Network.  A791 MODMAN The A791 MODMAN serves as both modem and onboard server in Service Bulletin (SB) and Linefit (LF) configurations.  In-cabin axWAP Wireless Access Points provide the Wi-Fi signal to devices in the cabin and support the latest 802.11 standards, including 802.11ax. Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf On information and belief, Intelsat offers WiFi solutions, used on American airplanes, that support satellite-based WiFi.

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	GSO Satellite Access Technology Signal Transmission  2Ku Antenna • Two large aperture phased-array antennas • Advanced beam forming and steering A791 (Taurus) MODMAN Hosts the next-generation modem which modulates and demodulates L-band signals KANDU Provides power to the satellite antennas and uses aircraft navigational data to control its movement KRFU Upconverts L-Band signals from the modem to Ku-band and amplifies them for transmission to the satellite Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf

U.S. Patent No. 7,324,469 (Claim 24)	
Claim 24	Example American Count 5 Systems and Services
	NGSO Satellite Access Technology Signal Transmission  ESA Antenna • Electronically-steered array • Multi-orbit (GEO/LEO) antenna solution • Coverage over every route A791 (Taurus) MODMAN Hosts the next-generation modem which modulates and demodulates L-band signals PSU Power supply unit. Supplies power to both the Rx and Tx antenna arrays ACMU Antenna-pointing and networking data unit Source: https://www.intelsat.com/wp-content/uploads/2023/06/SatelliteConnectivitySolutions2KuESA.pdf. Evidence to Intelsat is exemplary. On information and belief, satellite-based IFC solutions provided by Viasat, GoGo, and Panasonic practice this limitation for the same reasons that Intelsat does.

U.S. Patent No. 7,324,469 (Claim 25)	
Claim 25	Example American Count 5 Systems and Services
[25] The Internet Hotspot of claim 24, wherein the data connection is one of a wired data connection and a wireless data connection.	On information and belief, the American Count 5 Systems and Services include an Internet Hotspot as recited in claim 24. <i>See</i> claim 24. On information and belief, the American Count 5 Systems and Services further include the data connection that is one of a wired data connection and a wireless data connection.

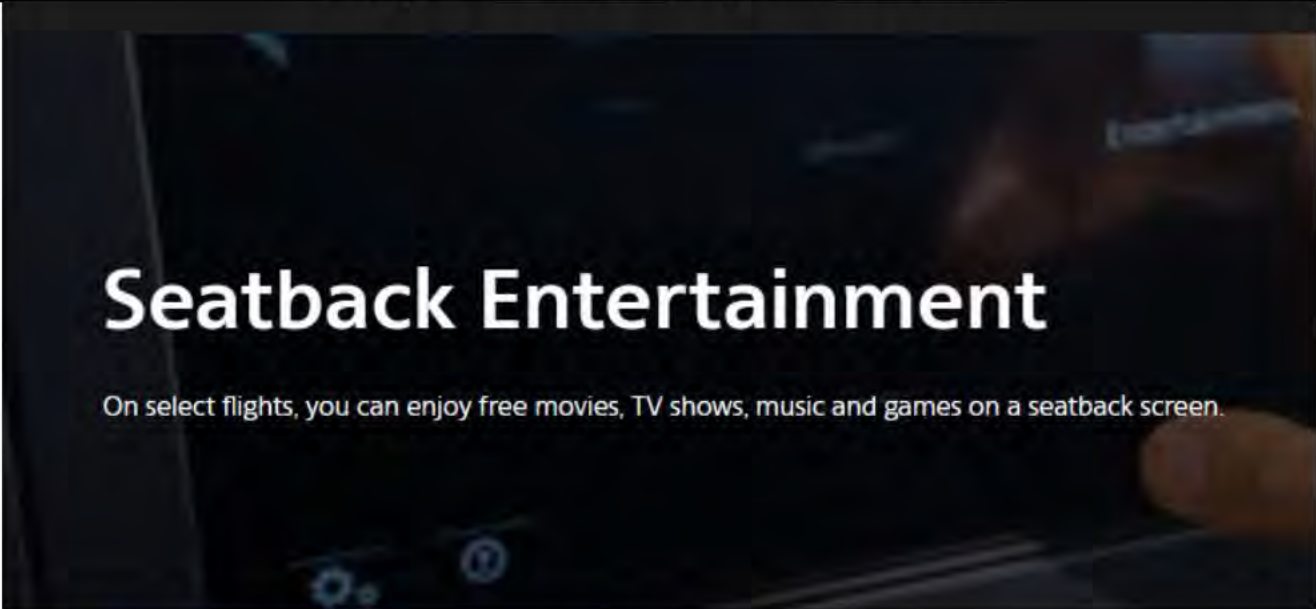
U.S. Patent No. 7,324,469 (Claim 25)	
Claim 25	Example American Count 5 Systems and Services
	For example, for WiFi-enabled aircraft, American offers Internet service that enables its customers to access data including flight tracker, text, video, and other content that is available over a wireless connection. Wi-Fi and connectivity  Inflight Wi-Fi Upgraded, high-speed Wi-Fi is available to buy on select domestic flights. Browse the internet, check emails and stream video services like Netflix, faster than ever before. Source: https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp.⁵

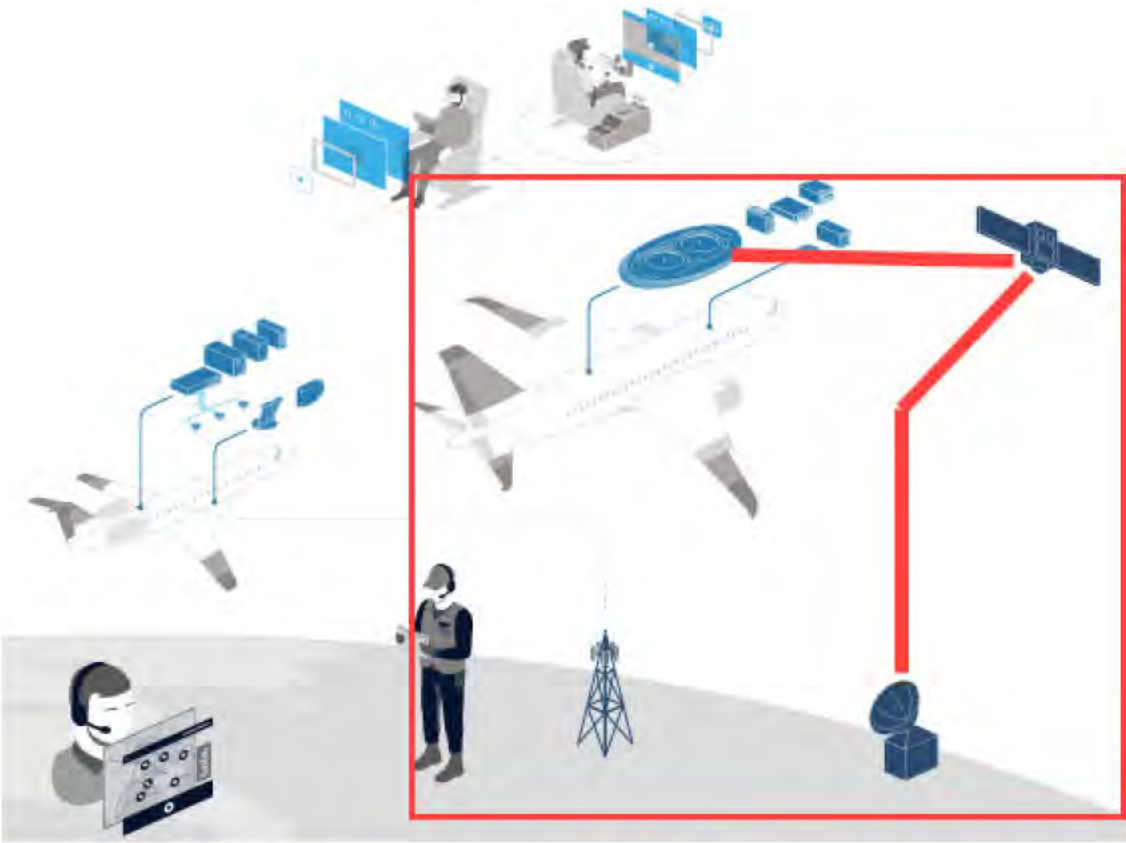
⁵ All sources cited in this document were publicly accessible as of the filing date of the Complaint.

U.S. Patent No. 7,324,469 (Claim 25)	
Claim 25	Example American Count 5 Systems and Services
	American Airlines Wi-Fi Subscription Plan Live Chat Air: Inflight Wi-Fi portal choose Contact Us Ground: support.aaflight.com  Phone: 1-844-994-4646 Email: subscription.wifi@aa.com » The inflight Wi-Fi portal will display "Wi-Fi Onboard (provided by Intelsat)" Your credit card statement charges will appear as "AA WIFI" Intelsat Live Chat Air: Inflight Wi-Fi portal choose Contact Us Ground: https://care.inflightinternet.com  Phone: 1-877-350-0038 Email: support@wifionboard.com » The inflight Wi-Fi portal will display "Wi-Fi Onboard (provided by Intelsat)" Your credit card statement charges will appear as "WIFIONBOARD" Source: https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp. See also claim 24.

U.S. Patent No. 7,324,469 (Claim 25)	
Claim 26	Example American Count 5 Systems and Services
[26] The Internet Hotspot of claim 24, wherein a plurality of users may access the Internet simultaneously at the remote location by respectively establishing data connections with the router via their web-ready devices.	On information and belief, the American Count 5 Systems and Services include an Internet Hotspot as recited in claim 24. <i>See</i> claim 24. On information and belief, the American Count 5 Systems and Services further provide that a plurality of users may access the Internet simultaneously at the remote location by respectively establishing data connections with the router via their web-ready devices. For example, for WiFi-enabled aircraft, American offers Internet service that enables its customers to access data including flight tracker, text, video, and other content that is available over a wireless connection. On information and belief, multiple customers can access the Internet simultaneously during a flight, in part through a router.  What devices can I use to access free entertainment? You can access free entertainment on Apple iOS, Android, macOS and Windows. The browsers we support are Chrome, Safari and Edge. Source: https://support.aainflight.com/.

U.S. Patent No. 7,324,469 (Claim 25)	
Claim 26	Example American Count 5 Systems and Services
	Common Topics ⌵ How do I connect to Wi-Fi Onboard (part of Intelsat) in flight? Use your Wi-Fi-enabled device to search and connect to the 'aainflight.com' Wi-Fi signal. If you're not redirected, open a browser and enter aainflight.com. ⌵ How do I cancel my American Airlines Wi-Fi Subscription Plan? ⌵ Do I need to pay for Wi-Fi service to view free entertainment? ⌵ What is free entertainment? ⌶ What devices can I use to access free entertainment? You can access free entertainment on Apple iOS, Android, macOS and Windows. The browsers we support are Chrome, Safari and Edge. Source: https://support.aainflight.com/.

U.S. Patent No. 7,324,469 (Claim 25)	
Claim 26	Example American Count 5 Systems and Services
	 Source: https://entertainment.aa.com/en/how-to-watch.

U.S. Patent No. 7,324,469 (Claim 25)	
Claim 26	Example American Count 5 Systems and Services
	 The diagram illustrates a satellite communication system. A central aircraft is shown in flight, connected by a red line to a satellite in orbit. The satellite is also connected by a red line to a ground station on the ground, which includes a large parabolic dish antenna. The ground station is connected to a network of servers and other ground-based equipment. A person is shown at a control console, interacting with the system. The entire system is enclosed in a red rectangular box. The background shows a stylized landscape with a person standing near a radio tower. Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf.



U.S. Patent No. 7,324,469 (Claim 25)	
Claim 26	Example American Count 5 Systems and Services
	Intelsat Global Connectivity Solution The global coverage and scalable capacity of the Intelsat Global Network enables streaming-quality Wi-Fi and Live TV to the entire cabin. Our access technology features a unique dual-phased-array antenna and proprietary modem for unsurpassed performance and industry-leading system availability. Intelsat can also help you efficiently manage the bandwidth you need to provide the service you want so you get the most out of your investment. Intelsat's open architecture design leverages today's Ku-band satellites and offers future-ready performance with high-throughput satellites (HTS). This allows Intelsat Commercial Aviation to deliver on the coverage and capacity needs for commercial airlines with global flight routes today—and tomorrow. The Intelsat Commercial Aviation Portfolio delivers best-in-class inflight experiences through powerful, integrated onboard systems, aero networks, and support. Source: https://www.intelsat.com/wp-content/uploads/2021/07/21GO-055-Rebrand-PassengerExperience-v4.2.pdf. Evidence to Intelsat is exemplary. On information and belief, satellite-based IFC solutions provided by Viasat, GoGo, and Panasonic practice this limitation for the same reasons that Intelsat does. <i>See also</i> claim 24.

U.S. Patent No. 7,324,469 (Claim 28)	
Claim 28	Example American Count 5 Systems and Services
[28] The Internet Hotspot of claim 26, wherein the data connections include wireless data connections.	On information and belief, the American Count 5 Systems and Services include an Internet Hotspot as recited in claim 26. <i>See</i> claim 26. On information and belief, the American Count 5 Systems and Services further include the data connections that include wireless data connections.

U.S. Patent No. 7,324,469 (Claim 28)	
Claim 28	Example American Count 5 Systems and Services
	For example, WiFi-enabled aircraft, American offers Internet service that enables its customers to access data including flight tracker, text, video, and other content that is available over a wireless connection. Wi-Fi and connectivity  Inflight Wi-Fi Upgraded, high-speed Wi-Fi is available to buy on select domestic flights. Browse the internet, check emails and stream video services like Netflix, faster than ever before. Source: https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp.⁶

⁶ All sources cited in this document were publicly accessible as of the filing date of the Complaint.

U.S. Patent No. 7,324,469 (Claim 28)	
Claim 28	Example American Count 5 Systems and Services
	American Airlines Wi-Fi Subscription Plan Live Chat Air: Inflight Wi-Fi portal choose Contact Us Ground: support.aainflight.com  Phone: 1-844-994-4646 Email: subscription.wifi@aa.com » The inflight Wi-Fi portal will display "Wi-Fi Onboard (provided by Intelsat)" Your credit card statement charges will appear as "AA WIFI" Intelsat Live Chat Air: Inflight Wi-Fi portal choose Contact Us Ground: https://care.inflightinternet.com  Phone: 1-877-350-0038 Email: support@wifionboard.com » The inflight Wi-Fi portal will display "Wi-Fi Onboard (provided by Intelsat)" Your credit card statement charges will appear as "WIFIONBOARD" Source: https://www.aa.com/i18n/travel-info/experience/entertainment/wi-fi-and-connectivity.jsp. See also claim 24.

U.S. Patent No. 7,324,469 (Claim 32)	
Claim 32	Example American Count 5 Systems and Services
[32] The Internet Hotspot of claim 25, wherein the wireless connection is one of an 802.11a wireless area network, an 802.11b wireless area network, an 802.11g wireless area network, and an 802.11n wireless area network.	On information and belief, the American Count 5 Systems and Services include an Internet Hotspot as recited in claim 32. <i>See</i> claim 32. On information and belief, the American Count 5 Systems and Services further include the wireless connection that is one of an 802.11a wireless area network, an 802.11b wireless area network, an 802.11g wireless area network, and an 802.11n wireless area network. For example, on information and belief, the specification for version 802.11n was released in approximately 2009. Source: https://www.techtarget.com/searchmobilecomputing/definition/80211n. On information and belief, devices that support newer WiFi standards are backwards compatible with earlier standards, such as version 802.11n. Wi-Fi 6 Compatibility When you are considering upgrading your routers, it's a good idea to factor in Wi-Fi 6 compatibility with your older equipment and devices. Wi-Fi 6-compatible devices must work with other equipment. Is Wi-Fi 6 backward compatible, and will current devices work with it? The good news: Wi-Fi 6 routers are completely backward compatible with all older Wi-Fi devices that support earlier versions, including 802.11 ac/n/g/b/a. Source: https://www.digi.com/blog/post/wi-fi-6-compatible-devices-and-their-use-cases. On information and belief, American offers Internet service include wireless connections. <i>See</i> claims 25, 28. On information and belief, American's Internet service including wireless connections support 802.11n wireless networks, including end user devices that are compatible with 802.11n and use that network for Internet connectivity. <i>See</i> claim 34. <i>See also</i>: Source: https://www.techtarget.com/searchmobilecomputing/definition/80211n. Source: https://www.digi.com/blog/post/wi-fi-6-compatible-devices-and-their-use-cases.