Morgan Lewis

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October 13, 2017

Via IBFS

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: ***Notice of Ex Parte Communication - Audacy Corporation, Application for Authority to Launch and Operate a Non-Geostationary Medium Earth Orbit Satellite System in the Fixed- and Inter-Satellite Services, IBFS File No. SAT-LOA-20161115-00117***

Dear Ms. Dortch:

On October 11, 2017, Ralph Ewig (Chief Executive Officer) and James Spicer (Chief Engineer) from Audacy Corporation ("Audacy"), accompanied by Tim Bransford of Morgan, Lewis & Bockius LLP, met separately with representatives from the Offices of Chairman Ajit Pai, Commissioner Brendan Carr and Commissioner Mignon Clyburn, as well as International Bureau staff to discuss the above-captioned Non-Geostationary ("NGSO") satellite license application of Audacy for a space-based data relay network pending before the Federal Communications Commission ("FCC" or "Commission"). A full list of attendees at each meeting is attached to this filing.

During the meetings, Audacy discussed the important public interest benefits of its proposed NGSO system, including how Audacy's relay satellites will help solve or alleviate:

- The increasing saturation of satellite downlink spectrum that makes the coordination of Low Earth Orbit ("LEO") satellites complicated, burdensome, and in some instances impossible, by eliminating the need for ground infrastructure and individual space-to-earth bands to support each new mission.

- The looming orbital debris crisis, particularly in the LEO protected region, by providing previously unavailable low-latency, continuous connectivity to commercial LEO spacecraft. Among other benefits, Audacy's relay network will allow spacecraft operators to continuously monitor both the health and trajectory of their spacecraft and take appropriate action in advance of a potentially mission-ending system failure or collision with another space object.

Audacy further elaborated that given the unique qualities of its proposed relay satellites (providing connectivity exclusively in space between Audacy relays and customer spacecraft), its network will be compatible with existing and planned spectrum uses. Moreover, Audacy discussed the successful resolution of Commission questions concerning its network.

To the extent you have questions or concerns, please feel free to contact the undersigned. Attached please also find a copy of the slide deck distributed during Audacy's meetings.

Very truly yours,

/s/

Timothy Bransford

Counsel for Audacy Corporation

cc (via email): See Attachment

ATTACHMENT

Oct. 11, 2017 Meeting with the Office of Chairman Ajit Pai

FCC Attendees
Rachael Bender

Audacy Corporation Attendees
Ralph Ewig
James Spicer
Tim Bransford

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Oct. 11, 2017 Meeting with the Office of Commissioner Brendan Carr

FCC Attendees
Kevin Holmes

Audacy Corporation Attendees
Ralph Ewig
James Spicer
Tim Bransford

-*-*-*-*-*-

Oct. 11, 2017 Meeting with the Office of Commissioner Mignon Clyburn

FCC Attendees
Louis Peraertz

Audacy Corporation Attendees
Ralph Ewig
James Spicer
Tim Bransford

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Oct. 11, 2017 Meeting with the International Bureau

FCC Attendees
Jose Albuquerque
Karl Kensinger
Kerry Murray
Stephen Duall
Cindy Spiers

Audacy Corporation Attendees
Ralph Ewig
James Spicer
Tim Bransford

AUDACY

SPACECONNECTED

Audacy delivers anytime & seamless space connectivity, advancing humanity to a new age of commerce, exploration, and discovery.

Audacy Space Station Application Progress

Audacy Overview:

- Concept & Architecture
- Public Interest Benefits

Status Updates:

- Major Milestones
- Industry Recognition

Application Progress:

- FCC Questions
- Regulatory

October 11, 2017 | Audacy | http://audacy.space | info@audacy.space

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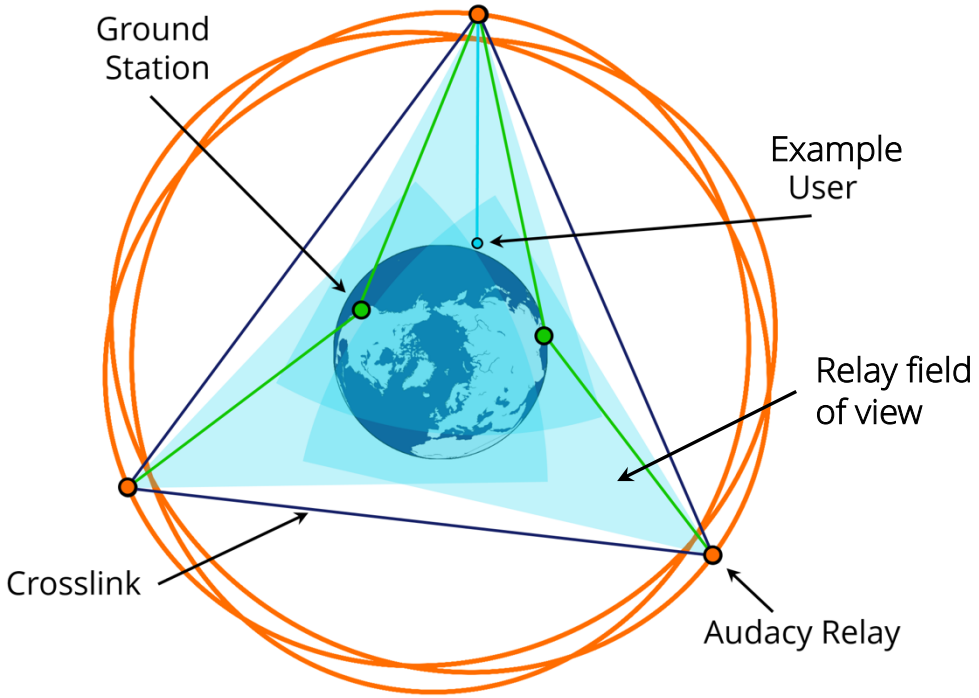
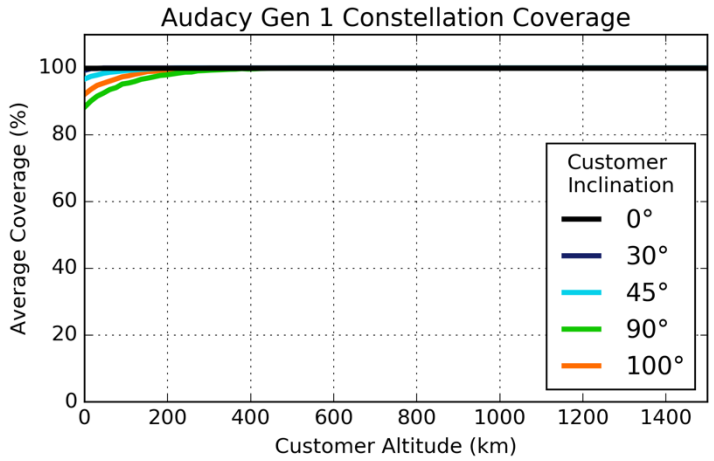
AUDACY

Audacy Architecture

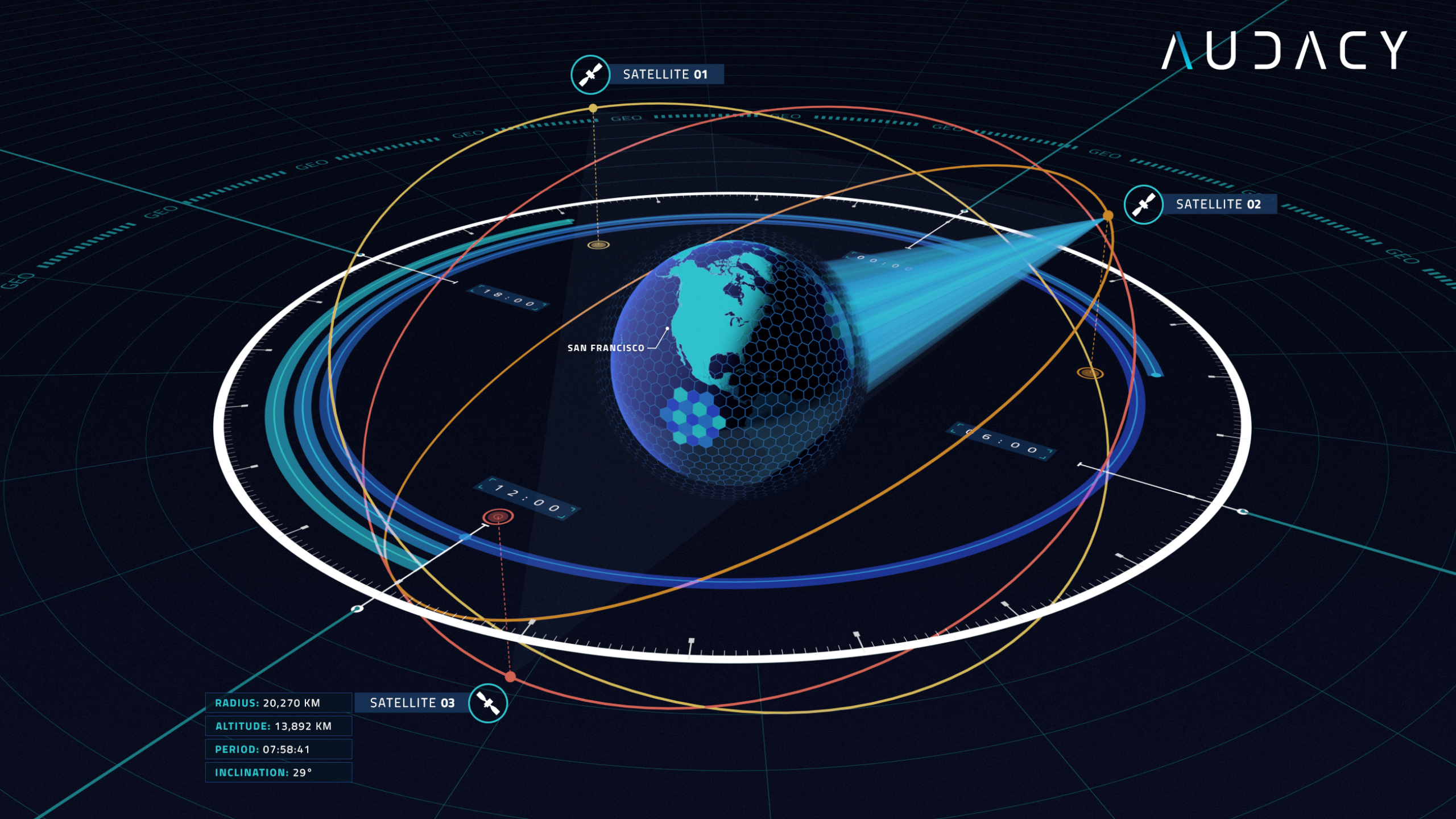
AUDACY ARCHITECTURE

- Seamless, on-demand connectivity anywhere in LEO.
- Continuous LEO coverage with only 3 Relays. Reduces space segment build & launch costs.
- MEO orbit gives 8.3 dB path loss advantage over GEO data relay networks in Ka-band. User terminals can be 5× smaller.
- Relay-Relay crosslinks give signal path diversity, Network redundancy, and allow Audacy to locate ground facilities at business hubs.

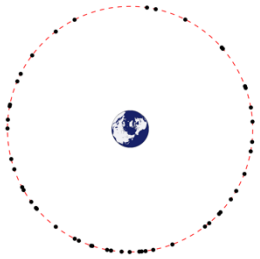
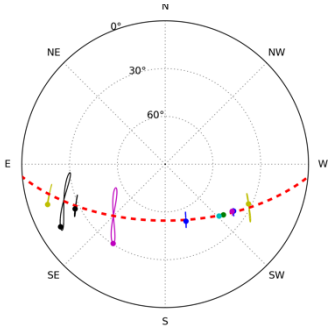
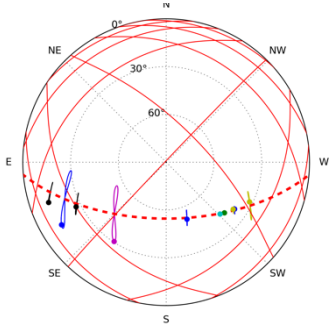
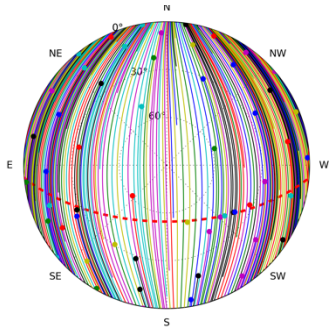




Audacy's Network provides 100% coverage to Users above 350 km – anytime, anywhere.

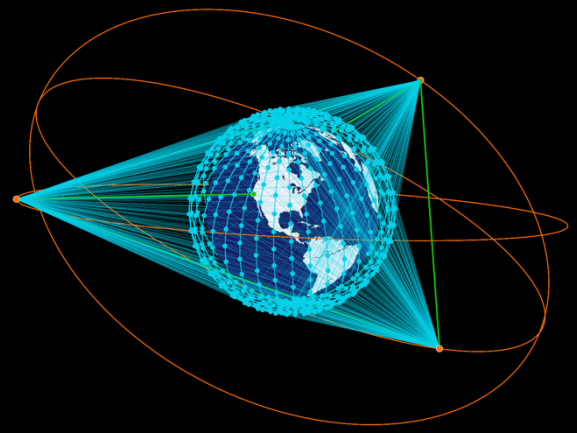

AUDACY
SATELLITE 01
SATELLITE 02
SATELLITE 03
GEO
SAN FRANCISCO
18:00
00:00
06:00
12:00
RADIUS: 20,270 KM
ALTITUDE: 13,892 KM
PERIOD: 07:58:41
INCLINATION: 29°

AUDACY EASES SPECTRUM CRUNCH

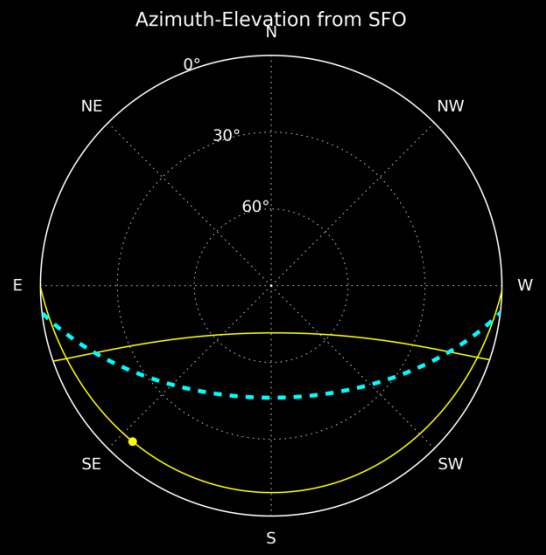
1970 - 2010	2010 - 2017	2018+
		
1 MONTH	**1 DAY**	**1 HOUR**
		

Coordination of ground-space spectrum for non-geostationary satellites is increasingly expensive, takes years, and is continually contested.

AUDACY



Audacy's orbit design consolidates spectrum in a **repeating track** at **only 3 global** locations.



AUDACY OFFERS TURNKEY SIMPLICITY

Satellite communications streamlined and simplified

Step 1

Install an Audacy-certified customer terminal on your spacecraft.

Step 2

Reserve Audacy network capacity using Audacy's online customer scheduling portal.

Step 3

Command, monitor, and downlink from your spacecraft anytime via any internet-enabled device.

AUDACY

Status Updates

COMPANY UPDATES

SpaceNews
Cover Story
Dec '16

Paris Air Show
Presenter
Jun '17

Series A
1st Closing
Sep '17

NewSpace Europe '17
Presenter
Nov '17

Customers
1st Contract
Mar '17

Cleanroom
Construction
May '17

ISS R&D Conference
Presenter
Jul '17

NASA iTech
Top 10
Aug '17

Customers
100+
Sep '17

Singapore
First 2 Hires
Oct '17

Business
Operations
Engineering

2016

2017

Quindar
Beta
Apr '17

Audacy Zero
Integration
Aug '17

Audacy Zero
FCC Expm'l License
Oct '17

Customers
Breakeven
Feb '17

Audacy Lynq
CASIS Grant
Jun '17

Client Terminal
Eng Test Unit
Sep '17

INDUSTRY RECOGNITION

Descartes Labs

"**Audacy's** real-time relay network is the future. We hope to see all satellite imagery providers on such a network and will favor providers that are."

- Adam Smith | Descartes Labs Co-Founder, Head of BD and Sales

NASA iTech

Douglas Terrier, Acting Chief Technologist, NASA presents Ralph Ewig with a certificate recognizing **Audacy** as a top 10 finalist of NASA iTech's Cycle 2 on July 13, 2017.

- Photo Credit: NASA

SPACENEWS

NEWS OPINION VIDEO

LAUNCH BUSINESS MISSIONS POLICY & POLITICS

Teleports groaning under the strain of proliferating satellites

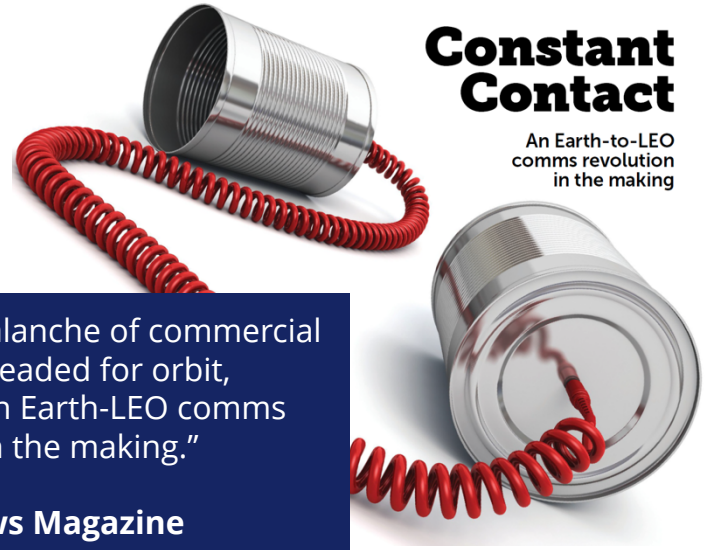
by **Debra Werner** — March 6, 2017

"Firms building the new constellations are not interested in investing in the associated ground infrastructure."

- Satellite 2017 DC Conference

SPACENEWS

BUSINESS | POLITICS | PERSPECTIVE DECEMBER 5, 2016



"With an avalanche of commercial spacecraft headed for orbit, **Audacy** is an Earth-LEO comms revolution in the making."

- Space News Magazine

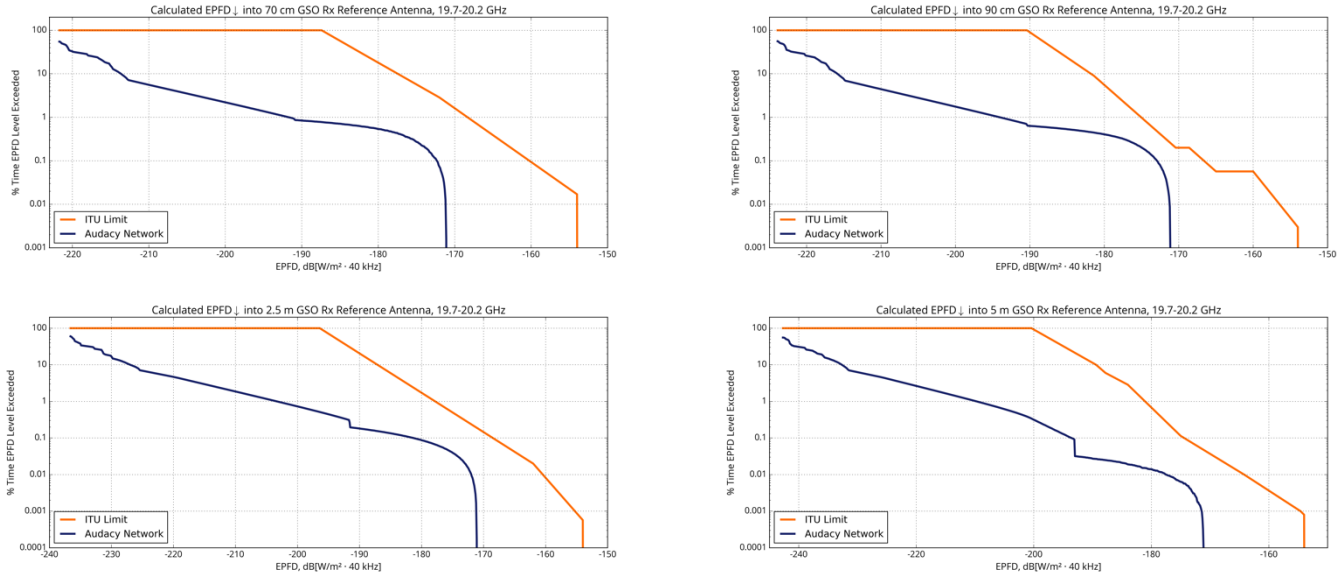
AUDACY

Application Progress

03.2017: FCC CLARIFICATIONS

EPFD Compliance & Stationkeeping

- Audacy's Network is compliant with all current ITU/FCC EPFD limits.



- Given Audacy's few satellites (3) and gateways (3), we are confident of compliance with future EPFD limits in Q- or V-bands.

- Stationkeeping Accuracy

Orbital Parameter	Maintenance Accuracy (±)
Inclination	1°
Apogee	15 km
Perigee	15 km
RAAN	1°

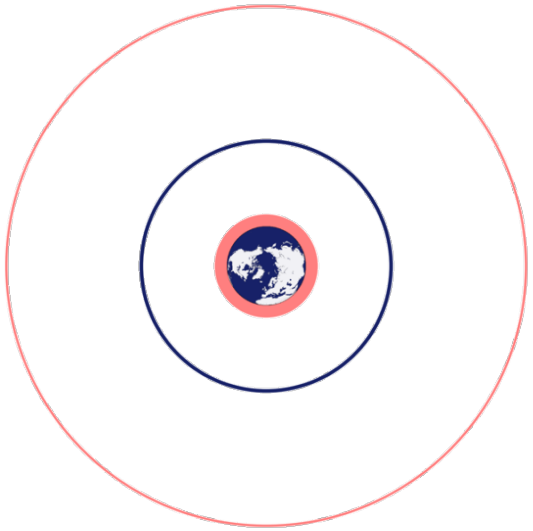
03.2017: FCC CLARIFICATIONS

Orbital Debris Mitigation

Audacy's Network will not generate debris:

- Audacy's 3 Relays do not have enough orbital energy to reach GEO from their MEO orbit.
- Relays' stable post-mission graveyard orbit will keep them far from both LEO and GEO.

Audacy's orbit (blue) is well separated from both GEO and LEO protected regions (red).

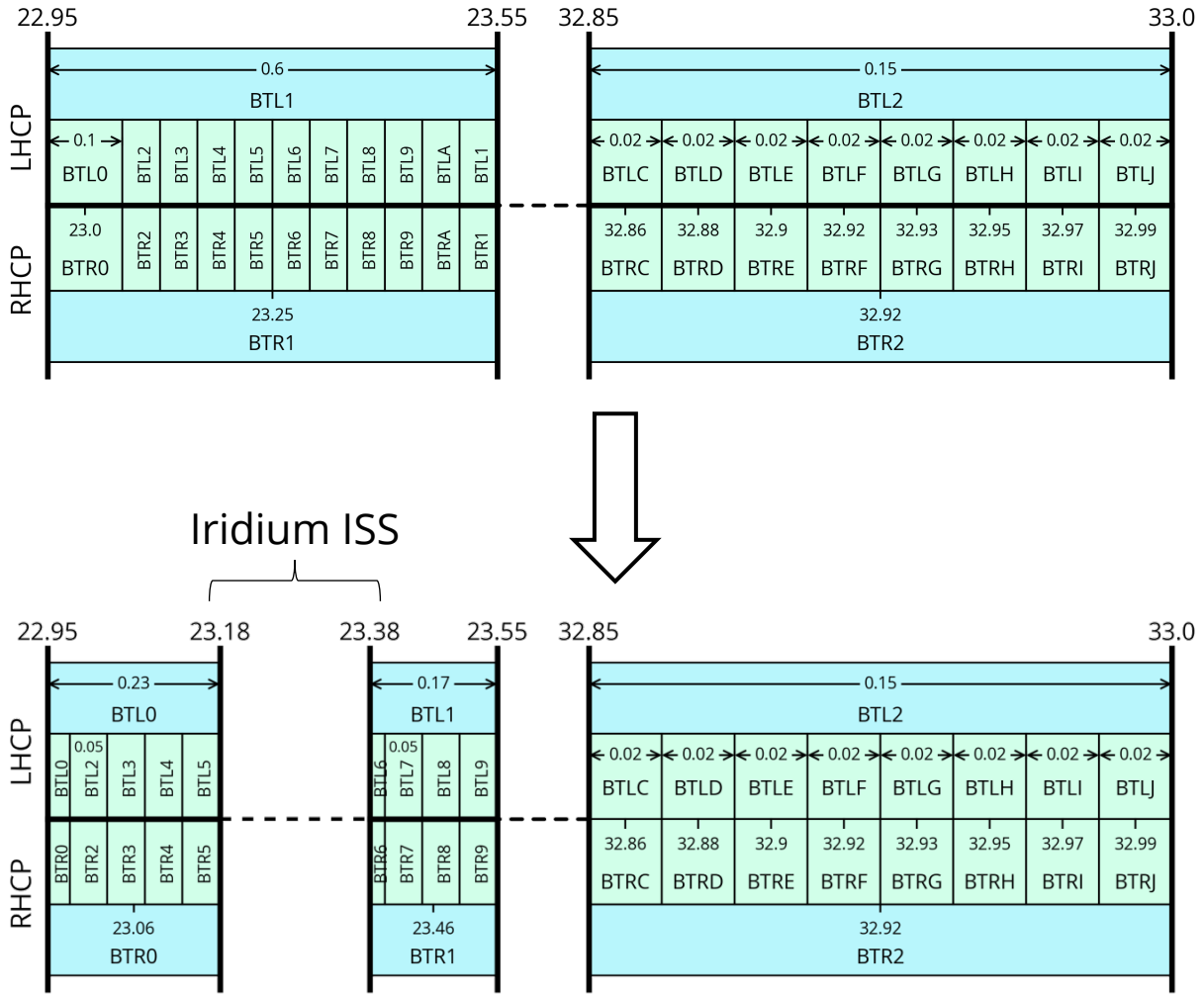


Audacy's Network will decrease overall debris:

- Audacy's real-time, anywhere TT&C:
  - Reduces likelihood of mission-ending anomaly.
  - Enables more accurate satellite positioning and situational awareness – lowers risk of catastrophic debris-causing collisions.
- Audacy's low-latency capability enables in-orbit telerobotics & satellite servicing:
  - Debris removal and deorbit by service satellite.
  - Lifetime extension and refueling by service satellite – fewer satellites need to be launched.

REGULATORY

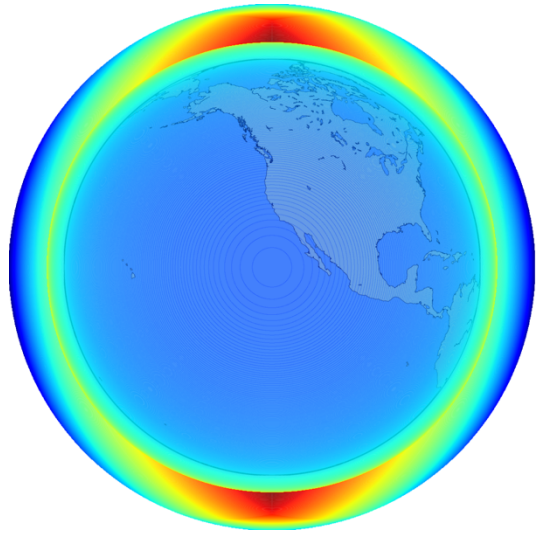
- Audacy is coordinating with established and future operators including Iridium to ensure spectrum compatibility and eliminate any possibility of harmful interference.
- Audacy also corrected minor errors in its Schedule S.



REGULATORY

Audacy's Network will coexist with Fixed services

- Audacy's proposed use of ISS bands for MEO-LEO links is consistent with FCC/ITU regulation. Providing ISS using other frequencies is impermissible.
- Audacy appreciates existing co-primary allocations for Fixed (including HAPS) and Mobile services in proposed ISS bands.
- Audacy will not interfere with these Fixed and Mobile services.
  - Low Relay PFD and atmospheric attenuation provide protection.
  - Audacy Relays will *not* continuously radiate Earth's surface.



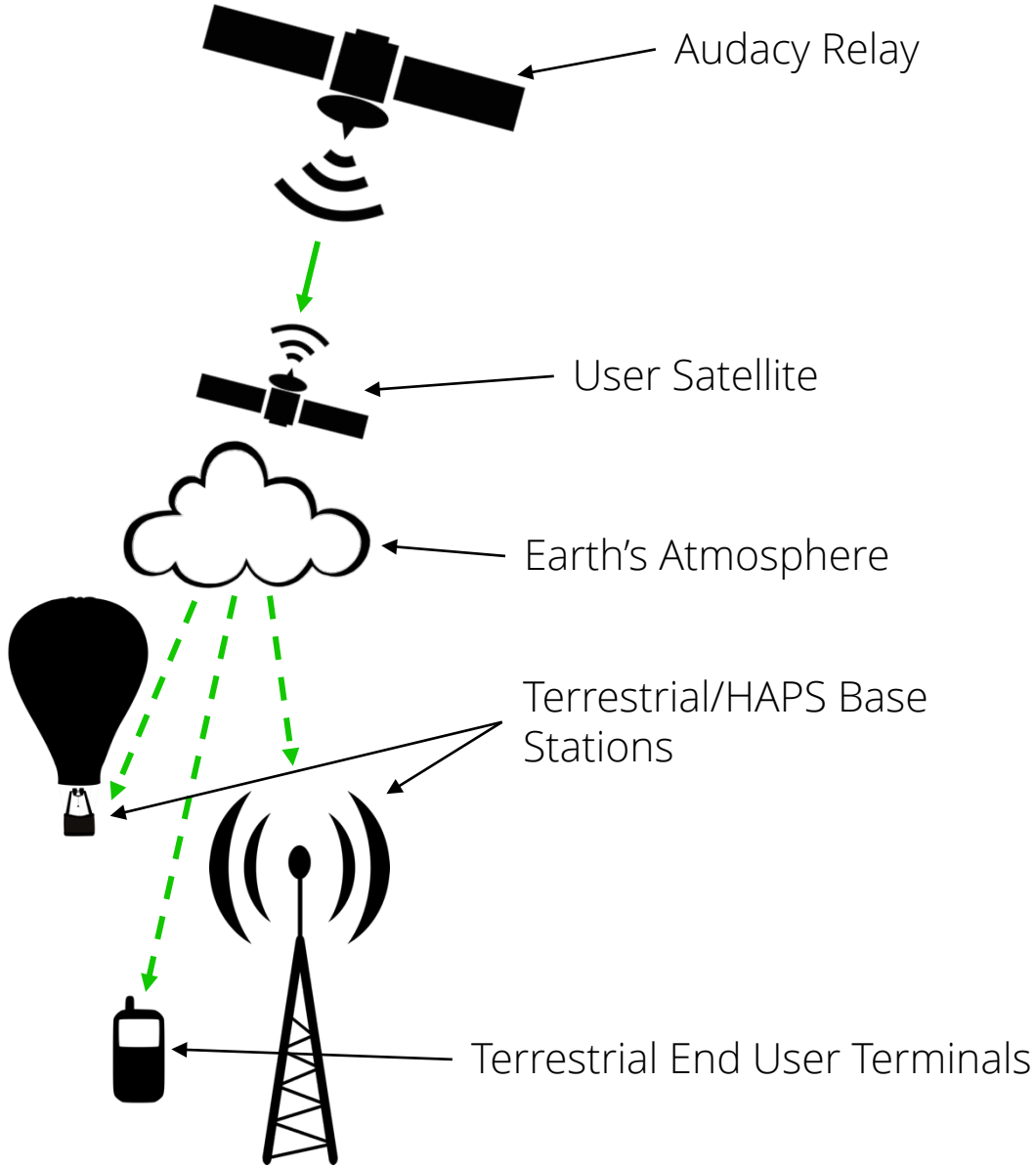
Heatmap showing statistical User distribution.

- Relays will *not* continuously radiate Earth's surface.
  - Statistically, most Network user satellites are at the poles and around the edge of the Earth: most Relay-User beams will not intersect Earth.
  - Relay beams *only* transmit/receive when User present.

REGULATORY

Audacy's Network will coexist with Fixed services

- Relay signals will *not* interfere with Fixed/Mobile systems:
  - In-line geometries are rare and extremely transient.
  - Interference into un-isolated terrestrial user terminal: Relay signal not powerful enough, Interference degradation <4.5% (0.2 dB).
  - Interference into high-gain Base Station: with reasonable isolation against overhead satellite signals, Interference degradation <4.5% (0.2 dB).
  - Analysis assumes worst-case Relay PFD, worst-case terrestrial isolation, and no atmospheric attenuation of Relay signal.



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http://audacy.space