WILKINSON) BARKER) KNAUER) LLP

1800 M STREET, NW
SUITE 800N
WASHINGTON, DC 20036
TEL 202.783.4141
FAX 202.783.5851
WWW.WBKLAW.COM
BRYAN N. TRAMONT
202.383.3331
BTRAMONT@WBKLAW.COM

February 22, 2017

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW, Room TW-A325
Washington, DC 20554

Re: *Notice of Ex Parte Presentation in IB Docket Nos. 11-109 and 12-340; IBFS File Nos. SES-MOD-20151231-00981, SAT-MOD-20151231-00090, and SAT-MOD-20151231-00091*

Dear Sir or Madam:

Pursuant to Section 1.1206 of the Commission's rules, this letter provides notice that Iridium Communications Inc. (Iridium), represented by Maureen C. McLaughlin, Vice President, Public Policy, along with Robert M. McDowell, Partner, Cooley LLP and the undersigned held separate meetings with 1) Chairman Ajit Pai and Rachael Bender, Legal Advisor to Chairman Pai, on February 17, 2017; 2) Commissioner Michael O'Rielly and Erin McGrath, Legal Advisor to Commissioner O'Rielly, on February 21, 2017; and 3) Commissioner Mignon Clyburn and Daudeline Meme, Legal Advisor to Commissioner Clyburn, on February 21, 2017. The purpose of the meeting was to discuss the attached presentation, which was distributed to attendees.

Please direct any questions concerning this submission to the undersigned.

Respectfully submitted,

/s/ Bryan N. Tramont
Bryan N. Tramont

cc: Chairman Ajit Pai
Commissioner Michael O'Rielly

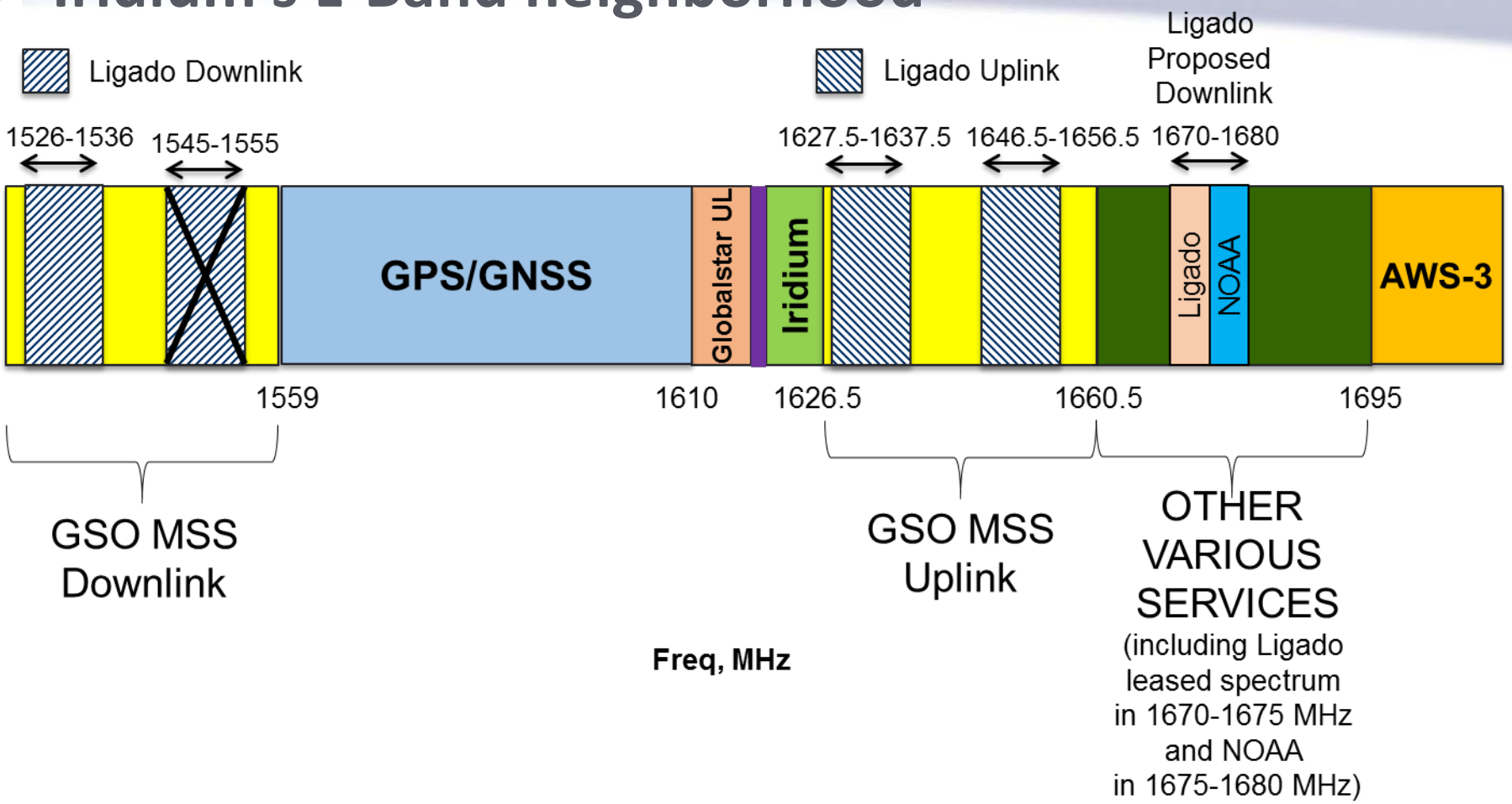
Commissioner Mignon Clyburn
Rachael Bender
Erin McGrath
Daudeline Meme

iridium®
Everywhere

RISKS TO IRIDIUM SERVICES FROM LATEST LIGADO PROPOSAL

2.17.2017

Iridium's L-Band neighborhood



- Iridium currently licensed to operate in 1617.775-1626.5 MHz
- 8.725 MHz total spectrum to provide uplink and downlink service links

The burden is on Ligado to resolve Iridium's interference concerns

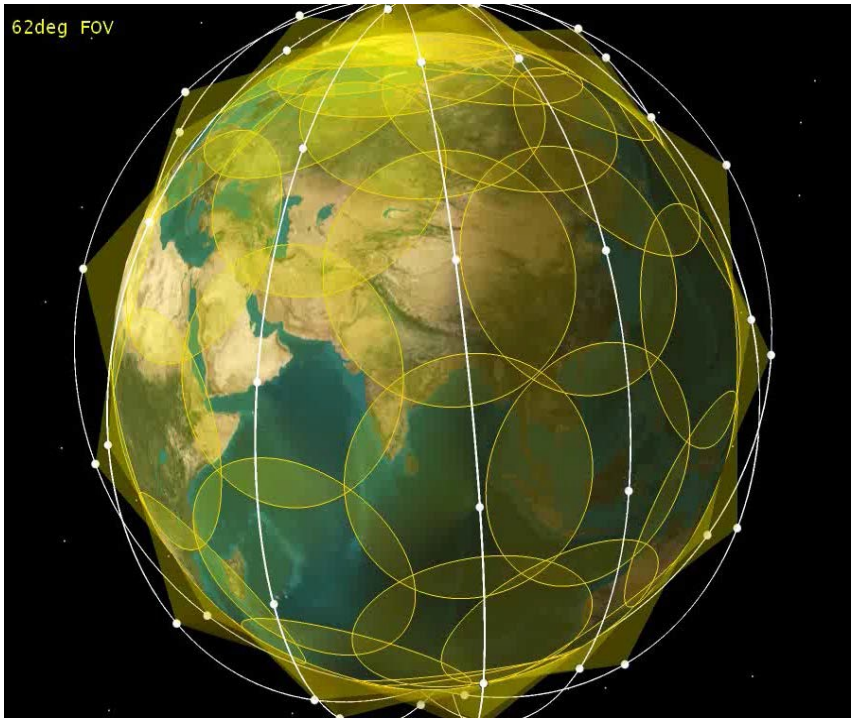
- Iridium has and will continue to work with Ligado to find a technical solution to the interference concerns if possible
- Iridium does not oppose Ligado's plans per se and we express no view on the other 30 MHz of spectrum Ligado proposes for terrestrial use
- However, absent agreement between Ligado and Iridium, the FCC must impose conditions on any grant of Ligado's applications to ensure sufficient interference protection of Iridium services
  - Reduced out-of-band emissions from Ligado's mobile terminals into Iridium's spectrum
  - Exclusion zones around airport facilities where operation of Ligado user terminals would be prohibited to protect vital aviation SATCOM services

iridium Everywhere

Iridium - unique global network

- 66 cross-linked, low earth orbit (LEO) satellites
- Only ***fully global*** voice and data provider; over 840,000 subscribers
- Efficient operations using only 8.725 MHz of spectrum worldwide for uplink and downlink
- Messages are routed from satellite to satellite and grounded at teleports around the world
- Added redundancy and exceptional network availability

Iridium constellation with 100% global service area



Architecture of 6 orbital planes of 11 satellites each at 780 km altitude

iridium Everywhere

Iridium NEXT positions us for the future

- $3 billion, fully funded plan for next-generation system
- 66 new mission satellites, 6 in-orbit spares plus 9 ground spares
- Backward compatible with existing network and devices
- Expanded capacity and higher speeds through Iridium Certus℠ broadband services
- Successful first SpaceX Falcon 9 launch of 10 satellites January 14, 2017
- Remaining SpaceX Falcon 9 launches scheduled 2017-2018

iridium Everywhere

A growing and robust product portfolio

iridium Everywhere

Iridium's Many Vertical Markets

Well positioned to address global MSS market needs

	Market Position	Iridium Advantages
Land/Mobile	Market leader with premium product offering	• True mobility • Global coverage • Reliability
M2M	Premium provider with rapid subscriber growth	• Global coverage • Low latency • Throughput • Uniform global service
Maritime	Value provider; large addressable market	• Global coverage • Low cost • Small antenna
Aviation	Market leader in GA; broadband opportunity	• Global coverage • Low cost • Small device

iridium Everywhere

Strong U.S. Government Relationship

While Iridium's current subscriber base is ~90% commercial, USG was our first customer and remains our largest today

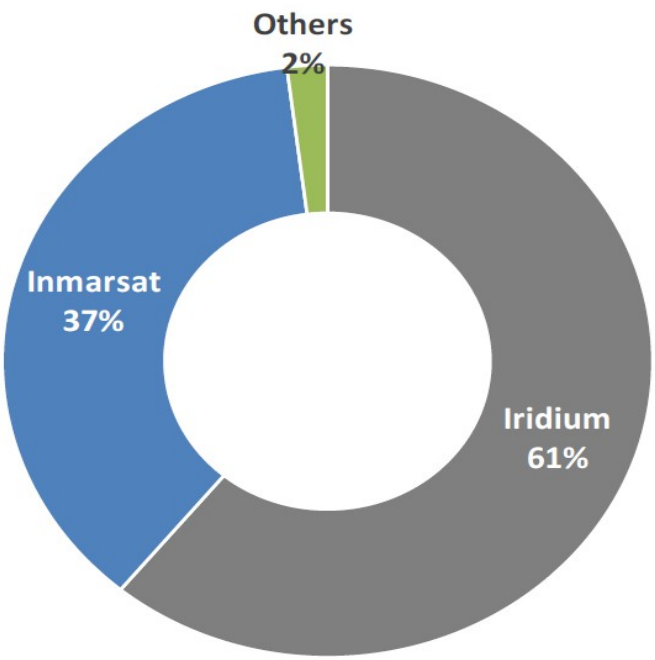
- Serves all DoD branches and US Government agencies
- Strong 15-year relationship under DISA EMSS program
- Unique capabilities
- Subscriber growth of 20% in 2015

iridium Everywhere

Mobile Satellite Services (MSS) market share – aviation

Today, Iridium is the leading supplier of mobile satellite services to global aviation

- Based on Euroconsult 2015 Mobile Satellite Communication data
- Over 55,000 aviation subscribers
- Includes general aviation, rotorcraft, commercial aviation, business jets, UAVs, high altitude balloons, etc.
- Iridium's concerns are strongly supported by aviation industry



MSS Operator – Terminal Installations

"Ligado proposes the Commission proceed on an issue affecting multiple aviation safety systems based on an intent and generic plans with little specifics. Commercial aviation would not make a safety decision on such information, and nor would the flying public expect them to do so. Accordingly, until the issues raised … by the aviation parties are addressed and resolved, the Commission should not grant the Ligado modification applications." *October 12, 2016 ex parte letter of Aviation Spectrum Resources, Inc.*

Source: Mobile Satellite Communications © Euroconsult 2015

iridium Everywhere

Harmful interference to Iridium services from Ligado's proposed terrestrial operations must be resolved

- Ligado Networks (formerly LightSquared) seeks to operate a modified ancillary terrestrial network operating in the L-band, including the 10 MHz adjacent to Iridium at 1627.5-1637.5 MHz
- Iridium's technical analysis (submitted to FCC on Sept. 1, 2016) indicates this would result in significant harmful interference to Iridium's mobile terminals, including terminals used for vital SATCOM aviation services
- Iridium's supplemental technical analysis (submitted to FCC on Dec. 14, 2016) describes the specific harmful interference to Iridium's aviation services
- Section 25.255 of the FCC's rules requires Ligado to resolve any harmful interference from their terrestrial operations; purpose of the rule is clear – maximize flexibility consistent with sound spectrum management while providing absolute interference protection for incumbent MSS providers

iridium Everywhere

Interference to Iridium caused by OOBE from Ligado into adjacent Iridium band

- Ligado's proposed network will have potentially millions of mobile devices transmitting just 1 MHz away from the spectrum that Iridium utilizes for all of its critical uplink and downlink satellite services, including SATCOM aviation services
- Ligado's proposed terrestrial use of 10 MHz at 1627.5-1637.5 MHz will cause significant harmful interference to adjacent-band low-power Iridium terminals
- Ligado's proposed compliance with a substantially relaxed out-of-band emission (OOBE) limit of -58 dBW/4 kHz at 1626.5 MHz offers insufficient interference protection
- Unlike Ligado/GPS interference problem, Ligado's OOBE result in unwanted emissions in the Iridium band and cause interference to Iridium services
- Ligado's proposed OOBE limit at the upper edge of Iridium's band is 70 dB higher than the limit in the RNSS (GPS) band

iridium Everywhere

Contact Information

Maureen C. McLaughlin
Vice President, Public Policy
Iridium Communications, Inc.
Maureen.McLaughlin@iridium.com

iridium Everywhere