

The FCC's Spectrum Frontiers Proceeding

**Creating a Framework that
Enables Co-Primary Access to Spectrum for
Satellite and UMFU Services**

9 May 2016



A Win-Win Solution is Achievable

- In the mmW bands, UMFU and satellite services can operate on a co-primary basis with clear operating rules
 - Satellite industry is committed to working with wireless industry to achieve a win-win solution for satellite and terrestrial
- The FCC must protect FSS use of the 28 GHz and 37/39 GHz bands from harmful interference from UMFU
 - Protect against harmful interference from UMFU at 28 GHz satellite receivers
 - Ensure ability to deploy FSS earth stations
- Appropriate rules will ensure that both services can thrive and meet the needs of U.S. consumers, enterprise and government for innovative and reliable communications
- Some UMFU applications may be more easily accommodated in the 28 GHz band over other kinds of UMFU applications
- Benefits to all sectors of the broadband economy can be maximized



Satellite Investment Benefits Critical Sectors of the Broadband Economy

- Approximately 2 million U.S. residential customers of satellite broadband supported by 28 GHz
 - Up to one-third have switched from cable/DSL
- Intensive use of 37/39 GHz band is beginning, with systems being deployed now for testing and analysis
- Non-Geostationary satellite services bring additional benefits of low latency connectivity
- A highly competitive alternative to terrestrial providers and, for many, the only viable choice
 - Schools, hospitals and critical facilities (such as oil rigs)
 - Residential-quality broadband for users on aircraft, ships & trains
 - Staple for unserved and underserved rural areas, supporting tele-medicine and e-learning
- Resilient communications for DoD
 - Broadband communications across multiple platforms and environments
 - 2015 National Security Strategy calls for enhanced resiliency of critical U.S. space capabilities





The 28 GHz Band Is the Basis for Satellite Broadband

- Billions of U.S. dollars invested in U.S. satellite broadband
 - Additional billions are being invested in design and on current construction
- 28 GHz band is used for the provision of essentially all satellite broadband services
 - FSS industry relies on this band for critical operations, such as gateways and enterprise services
- Twenty years of sharing between FSS and LMDS and the fixed nature of LMDS has enabled FSS to operate and expand
- Certainty for protection from harmful interference and co-primary status for FSS is critical





Why 37/39 GHz is Critical for Satellite Broadband

- Sufficient regulatory measures required to ensure that new UMFU services do not inhibit the satellite industry's continued co-primary access
- 37/39 GHz band is an important expansion band for satellite
 - Satellite industry is making substantial investment in development of satellite systems that require access to the band for downlink communications
 - Key element of the satellite industry's plan to meet explosive demand with expanded service and competitive broadband speeds
- Satellite broadband providers actively planning and testing for 37/39 GHz band deployments, demonstrating significant interest in the band
 - Alphasat in service today with a payload for V-band testing
 - Eutelsat and SSL are currently using an experimental Q/V-band payload on SSL built EUTELSAT 65W satellite
 - Following same track as evolution of Ka-band
 - ITU filings under coordination including coverage of North America
- Protection from harmful interference to satellite earth stations and preserving co-primary status for FSS is critical to enabling the future of broadband



Interference Potential into Satellite Broadband

- To protect satellite broadband operations, the FCC must address the issue of UMFU aggregate interference skyward from the surface of the Earth
 - Initial satellite industry analyses show that relatively limited numbers of mobile terrestrial deployments at FCC proposed power levels could severely disrupt satellites serving the U.S.
 - Impact to satellites with U.S. coverage licensed or authorized by other administrations
- SIA is working with terrestrial providers on technical parameters to understand how to mitigate interference
 - Further analyses from SIA's members will be submitted shortly

The FCC must adopt rules that protect 28 GHz band satellites from aggregate interference from terrestrial transmitters

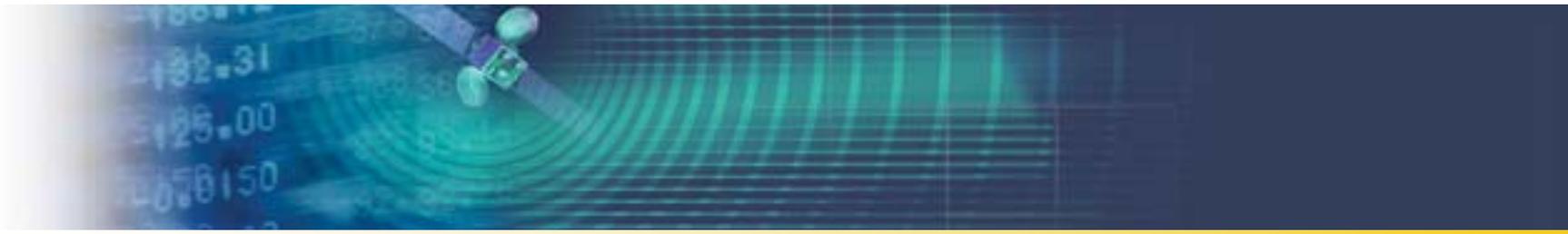


What's At Risk

- Tens of billions of dollars invested in the U.S. alone to enable satellite broadband
- Provision of advanced broadband services to the most hard-to-reach portions of the country
- High quality, competitive service offerings
- U.S. government access to ubiquitous, reliable broadband services for security and public services, and senior executive fleet
- Significant disruptions in U.S. service (and to satellites not serving the U.S. but having U.S. coverage) due to satellite receiver interference
- Benefits of globally harmonized spectrum for U.S. consumers, enterprise, and government
- Ability to rely upon spectrum sharing models for investments in long-lead advanced technologies



- The FCC has in the Spectrum Frontiers proceeding an opportunity to create a co-primary regulatory regime that meets the needs of U.S. consumers, enterprise and government for innovative communications services
 - Both parties must have equal rights to access the spectrum and must be provided with adequate protections
 - FSS access requires certainty and not dependent on auctions or secondary markets
- This is best achieved by providing co-primary status to UMFU and FSS earth stations in 37/39 GHz bands and individually authorized earth stations in the 28 GHz band
- Appropriate technical and operational rules for co-primary UMFU and FSS must be adopted
 - Mechanism for sharing information about UMFU and FSS operations essential to ensure that both services can thrive
- In addition, the FCC must address aggregate interference into satellite systems in its technical rules (the record will be supplemented by SIA's members shortly)



Satellite Industry Association

1200 18th Street, NW
Suite 1001

Washington, DC 20036

202-503-1560

www.sia.org

info@sia.org

