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April 14, 2011

SUBMITTED IN IBFS AND BY HAND

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

Re: File No. SAT-MOD-20101118-00239

Dear Ms. Dortch:

On April 13, 2011, Jim Kirkland, General Counsel of Trimble Navigation Ltd. ("Trimble") and the undersigned counsel for Trimble met separately with Angela E. Giancarlo, Chief of Staff and Senior Legal Advisor to Commissioner Robert M. McDowell, and Charles Mathias, Senior Legal Advisor to Commissioner Meredith Atwell Baker. During the meetings, Mr. Kirkland reiterated Trimble's concerns about the interference that the terrestrial operations of LightSquared Subsidiary LLC ("LightSquared") recently approved by the FCC will have on GPS receivers. The points addressed during the meetings are summarized in the attached presentation which was distributed at each meeting.

Pursuant to section 1.1206(b) of the Commission's rules, a copy of this letter and attachment are being filed electronically in the International Bureau Filing System ("IBFS") and manually with the Office of the Secretary for inclusion in the above-referenced application file and served electronically on the Commission participants in each meeting.

Please direct any questions regarding this filing to the undersigned.

Sincerely,

/s/ Russell H. Fox

Russell H. Fox

Attachment

cc: Angela E. Giancarlo (via e-mail, w/attachment)
Charles Mathias (via e-mail, w/attachment)

LightSquared Impact on GPS

Jim Kirkland, General Counsel, Trimble Navigation Ltd.

Background – Prior Rules for MSS/L Band

- The radiofrequency band (the “L Band”) where the Mobile Satellite Service is placed has long been reserved for space to earth communications due to unique physical characteristics
  - At these frequencies, radio signals propagate better through the Earth’s atmosphere, improving performance and cost effectiveness of earth satellite communications
- Under pre-existing MSS rules, licensees were allowed to conduct “ancillary” terrestrial operations
- **ATC operators were expressly obligated to cure interference caused by terrestrial operations**

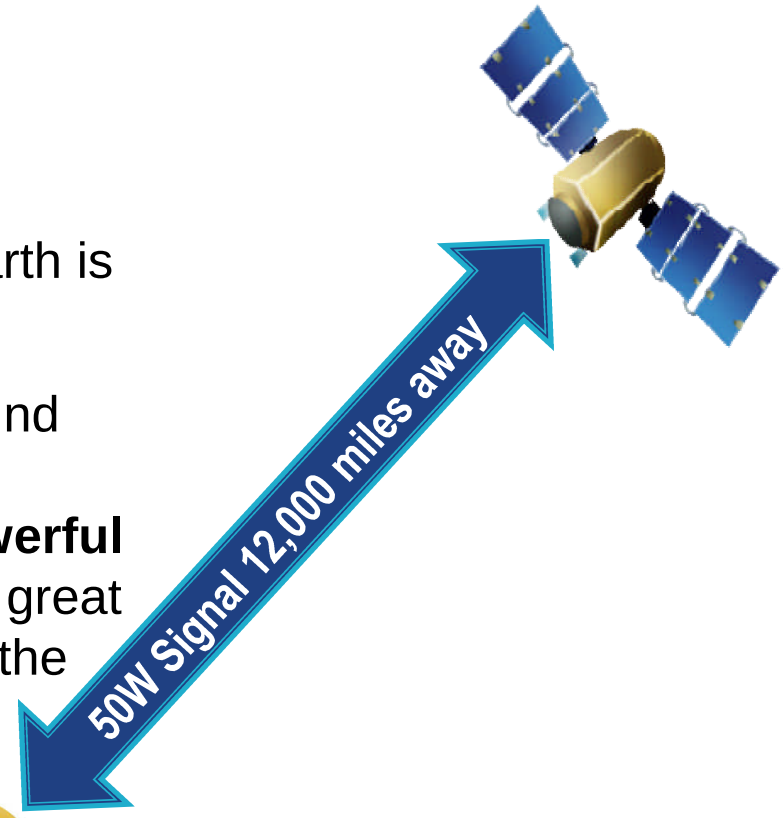
LightSquared's November 2010 Proposal

- In November 2010, LightSquared proposed a primarily terrestrial operation
- The proposal would dramatically expand terrestrial operations in mobile satellite band
  - 40,000 high powered base stations (up to 1500 watts each) are to be built in metropolitan areas throughout the US
  - Terrestrial transmission capacity "will be tens of thousands of times the capacity" of its satellites
- The MSS L-Band is directly adjacent to the GPS "L1" band

Interference Concerns

The L1 GPS signal's received power on earth is 10^{-16}W.

A 1,500W transmission from a nearby ground transmitter in the immediately neighboring frequency will be **1,000,000,000 more powerful** at the GPS receiver's antenna. This raises great concern about saturation and 'jamming' of the GPS signal.



Effect	Distance
Jamming is Detected	13.76 miles (22137 meters)
10 dB Loss of Sensitivity	9.85 miles (15853 meters)
Loss of Fix in Open Sky	5.60 miles (9018 meters)

Table 3: GNS 430W Results

Effect	Distance
Jamming is Detected	3.57 miles (5756 meters)
Loss of Service in the Urban Canyon	1.79 miles (2884 meters)
Loss of Fix in Open Sky	0.66 miles (1059 meters)

Table 2: nüvi 265W Results

Effect on GPS Users

- GPS has been a valuable national utility for 30 years
- US Government has invested $35 billion in GPS constellation and systems, continues to invest $1 Billion per year
- Private industry has invested many more billions
- Estimated 500 million GPS receivers in use in the US
- Most if not all GPS uses depend on its ubiquitous footprint
- GPS is embedded in critical government systems and commercial activities and is central to future critical infrastructure upgrades
- GPS helps generate the critical location information transmitted to first responders in wireless 911 calls.

Critical Civilian GPS Applications

- Intelligent **Transportation Systems** in Highway, Rail and Aviation depend on GPS to improve safety, efficiency and environmental impact.
- **Public Safety, Emergency & Disaster Response** professionals use GPS to reduce response times, map disasters and coordinate relief efforts. GPS is also in e911 systems to automatically determine the location of 911 calls.
- **Utility Networks** depend on GPS for network timing and synchronization, to coordinate rapid responses to outages, as well as for safety inspections, maintenance, asset management, environmental monitoring and worker safety.
- **Earthquake, Volcano, Dam and Bridge** measurement and monitoring systems use GPS to detect tiny movements used in risk analysis and disaster prediction and prevention.
- **Construction & Surveying** applications of GPS enable fewer lane closures, less traffic disruption and faster project completion.
- **Farmers** use GPS to reduce waste in chemical and fuel use.
- **Millions of Consumers** use GPS for navigation and recreation.

The Coalition to Save Our GPS: Our major members include companies and trade associations whose members employ millions throughout the United States

- Aviation: Air Transport Association (ATA), Aircraft Electronics Association (AEA), Aircraft Owners and Pilots Association (AOPA), Aeronautical Repair Station Association (ARSA), General Aviation Manufacturers Association (GAMA), International Air Transport Association (IATA), Mid-Atlantic Aviation Coalition-New Jersey (MAAC-NJ), National Business Aviation Association (NBAA), Regional Airline Association (RAA)
- Agriculture: Farm Equipment Manufacturers Association (FEMA), National Agricultural Aviation Association (NAAA)
- Transportation and Logistics: American Association of State Highway and Transportation Officials (AASHTO), American Car Rental Association: (ACRA), Intelligent Transportation Society of America (ITS America), UPS
- Engineering and Construction: American Congress on Surveying and Mapping (ACSM), American Council of Engineering Companies/Council of Professional Surveyors (ACEC/COPS)
- Manufacturing and Related Businesses: American Rental Association (ARA), Associated Equipment Distributors (AED), Association of Equipment Manufacturers (AEM), Case New Holland, Caterpillar, Deere & Company, National Association of Manufacturers (NAM)
- Electric Utilities: Edison Electric Institute (EEI), National Rural Electric Cooperative Association (NRECA)
- GPS and Technology: Avidyne Corporation, Equipped to Survive Foundation, Inc. (ETSFI), Esri, Garmin, Hemisphere GPS, Inside GNSS, Leica Geosystems, Networkfleet, OmniSTAR, Orienteering USA, Payment Assurance Technology Association (PATA), PeopleNet, PocketGPSWorld.com Ltd,, TomTom, Topcon Positioning Systems, and Trimble