



**Broadband versus GPS**

**With billions \$ at stake**

# **LightSquared Timeline**

**2004**

**SkyTerra authorized to operate ancillary terrestrial component (ATC) for dual-mode mobile satellite service (MSS)/ATC devices licensee in the 1525-1559 MHz/1626.5-1660.5 MHz band**

**March 2010**

**U.S. Federal Communication Commission's National Broadband Plan released.  
Requires use of bands near GPS**

**March 2010**

**Harbinger Capital acquisition of SkyTerra – creates LightSquared.  
LightSquared's goal is to build out a nationwide 4G ATC network (to cover 260M in U.S. by end 2015)**

**Nov 18, 2010**

**LightSquared request submitted to FCC for modification of its ATC authority (for up to 40,000 ground stations)**

# **LightSquared Timeline**

**Jan 26, 2011**

**FCC Order and Authorization**

**Granted conditional waiver (ATC-only handsets)**

**Requires addressing GPS concerns; final report to be submitted by June 15**

**Feb 10, 2011**

**White House reiterates 500 MHz commitment and details plans for \$27.8B, estimated to be raised through auctions.**

**March 2011**

**Save Our GPS group forms**

# **LightSquared Timeline**

**Early June 2011**

Interference confirmed

**June 30, 2011**

Interference report released

**July 20, 2011**

LightSquared returns from ESRI User Conference encouraged by lack of issue awareness

**July 30, 2011**

Comments due to the FCC

**September 2011**

LightSquared goes political – General Shelton testimony

“...Aviation receivers operating as far as **7.5 miles from LightSquared transmitters completely lost GPS and were degraded out to distances of more than 16.5 miles**. For two representative receivers tested by the FAA, results also showed GPS would be completely unusable for an aircraft 500 feet above the ground in an area spanning Stafford, Virginia through Washington and Baltimore, and out to Frederick, Maryland.

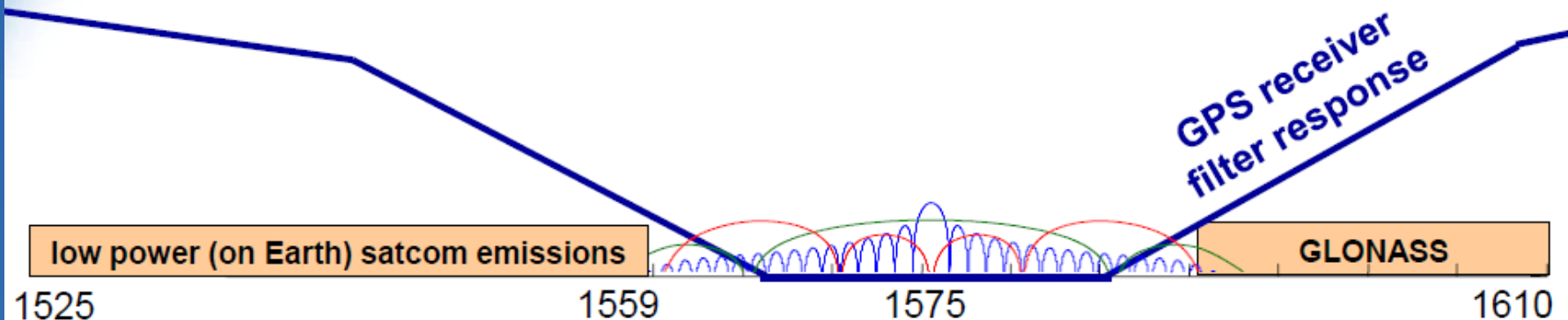
High precision GPS receivers such as those used for surveying and geological study requiring **precise measurements were adversely affected out to 213 miles and totally lost GPS out to 4.8 miles**.

“...A conclusion in the LSQ recommendations paper is that interference “is because legacy GPS receivers do not adequately reject transmissions from base stations operating in the adjacent frequency band because the GPS receivers have been deliberately or, sometimes, inadvertently, designed or manufactured with the assumption that there would be no adjacent-band terrestrial transmissions.” In fact, GPS receivers were quite purposefully designed to operate in a portion of the radio frequency spectrum deliberately maintained as a “quiet neighborhood,” with neighboring frequencies primarily occupied by signals of comparable power levels, all based on the widely accepted understanding of previous FCC rules and intent. **The proposed LightSquared transmitters will produce received signal strengths five billion times stronger than the GPS received signal...**”

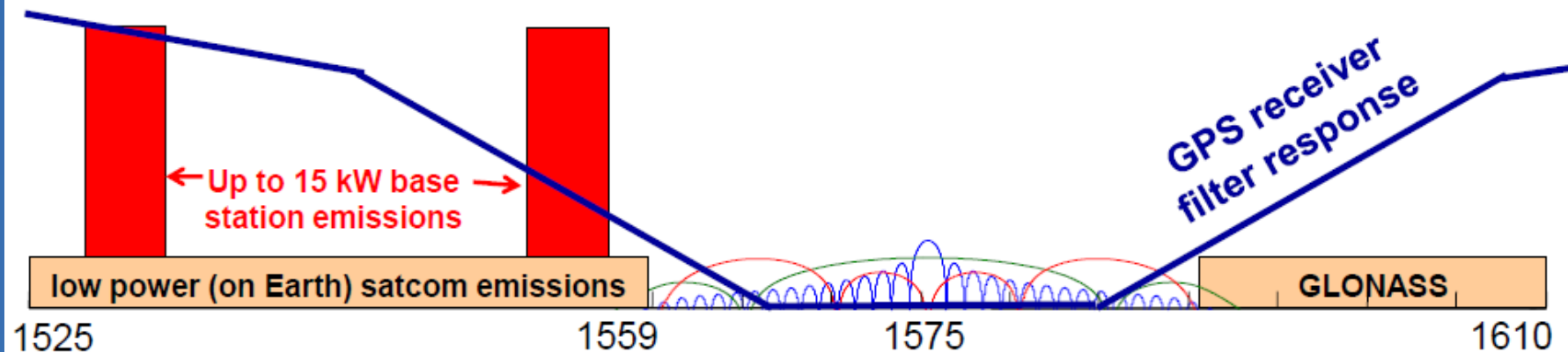


# Illustration of Concerns with LightSquared

## Situation before LightSquared



## Situation with LightSquared





# **LightSquared Timeline**

## **December 9th, 2011**

**Bloomberg News reports a second round of Federal Communication Commission (FCC) mandated interference tests confirmed LightSquared's broadband system would disrupt the signal to 75% of GPS units.**

## **December 10th, 2011**

**The Wall Street Journal reports LightSquared's financier, Minnesota youth hockey prodigy, Philip Falcone, is being threatened with possible civil-fraud charges by the U.S. Securities and Exchange Commission (SEC).**

## **December 12th, 2011**

**CEO of LightSquared, Sanjiv Ahuja, fires off a letter to Department of Defense Deputy Under Secretary Ashton Carter and Department of Transportation Under Secretary John Porcari (interference testing leads), demanding an investigation into the information leaked to Bloomberg News on December 9th.**

# **LightSquared Timeline**

**December 14th, 2011**

The report on the second round of interference testing due to the Executive Committee overseeing testing.

**Mid-December 2011**

Lehman Group lobbies Minnesota Legislators on behalf of LightSquared claiming backing of 73 State Legislators, Counties and organizations

**January 13, 2012**

National Space-Based Positioning, Navigation and Timing (PNT) Executive Committee (ExComm) – Science of LightSquared will not work



# **LightSquared Timeline**

**January 27, 2012**

Bloomberg Reports the Federal Communication Commission (FCC) is taking comments on a December 20th, 2011, LightSquared request to rule GPS is not a legally protected signal

**January 31, 2012**

Sprint tells LightSquared it has until Mid-March to receive FCC approval or its biggest customer is gone

**February 14, 2012**

National Telecommunications and Information Administration's (NTIA) release of three reports on LightSquared testing – all very negative

**February 15, 2012**

The FCC begins the formal process to rescind LightSquared's conditional waiver to operate

- Jones vs. United States
- Drones authorized to fly in U.S.
- Sierra Club vs. Orange County
  - Indoor GPS
- Russian Cyber Attack on Illinois Water Plant
  - Driverless Cars
- Save a Heart with Your Cell Phone
- Japanese Taking Emergency Management Into Their Own Hands