



## Coalition to Save Our GPS

Uniting to Protect GPS - A National Utility for More than 30 Years

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## LightSquared's Winding Journey to Seek a Dramatic Change in Spectrum Use Approaches One-Year Anniversary

*Throughout 12 months of multiple twists and turns, and numerous claims of "solutions," massive interference to GPS has been the only constant*

WASHINGTON, D.C. – On the eve of the November 18 one-year anniversary of LightSquared's pursuit to dramatically change spectrum use, a pursuit that poses a continued threat to the viability of the nation's Global Positioning System (GPS), the Coalition to Save Our GPS reviews the events of the past year.

- Jim Kirkland, vice president and general counsel of Trimble, a founding member of the Coalition, said: "Looking back, it's truly amazing how much time, money and resources have been expended on LightSquared's poorly-conceived, constantly changing operational plans, a process that is far from complete. Considering that the company stands to make an immediate multi-billion dollar profit in spectrum value if its plans go through, it is surprising how little consideration LightSquared gave to the impact of its proposals on one of the most innovative sectors of the economy. Had Lightsquared done its homework in advance, many of the stops and starts of the last year could have been avoided. In addition, its continued attempts to shift the costs associated with impending its plans to the GPS industry, government users and consumers are only compounding the major challenges in the review process."
- Scott Burgett, director of GNSS technology at Garmin, said: "The past year has posed a major challenge to consumer GPS devices, known in the industry as general location/navigation (GLN) devices, that are used by millions of Americans. There is continued talk from LightSquared about 'solutions,' yet as recently as last week the 'solutions' we saw are intended for high-precision receivers for survey, agricultural, and industrial applications and do not solve the problems that LightSquared's proposed high-power terrestrial broadband network will cause to the millions of GLN devices used in automotive, mobile, wireless, outdoor recreation and marine applications, as well as FAA-certified devices essential for safe operation of general aviation aircraft. In fact, many GLN and aviation devices will experience problems if LightSquared's planned operations are allowed to proceed, and there is no way to retrofit these devices even if

a technical 'solution' could be devised. LightSquared's claim that over 99 percent of GLN devices and cell phones will be unaffected is not correct. This figure assumes technical measures and criteria that are inapplicable; it also draws broad conclusions from a very limited test sample of GLN devices. GPS is essential to our nation's economy. GPS saves lives every day. The proposed LightSquared network should not be allowed to proceed until all interference concerns have been thoroughly addressed, so that the GPS system can continue to provide Americans the superb service essential for their daily lives."

- Melissa Rudinger, senior vice president for government affairs of Coalition member AOPA, said: "It's difficult to convey just how devastating LightSquared's plans, if allowed to go ahead, would be to general aviation. We hear a lot of references to how this or that change would result in a 'solution' to interference to GPS, but those statements ignore the fact that changes in aviation involve, for the very good reason of air safety, extremely exacting recertification processes which are extremely costly, time consuming, and take years to complete. Further comprehensive testing is needed to determine if any of the proposed solutions are even viable. As it stands now, LightSquared's plans are fundamentally incompatible with the needs of aviation."

## **Background, Testing and "Solutions" Galore:**

On November 18, 2010, LightSquared filed an "update" to its business plan and proposed operations under an FCC authorization Ancillary Terrestrial Component (ATC) operations using spectrum licensed for Mobile Satellite Service (MSS) use. In this update, LightSquared revealed for the first time plans to provide high-powered, terrestrial-only wireless services, which had previously been prohibited by FCC rules and policies for this spectrum band.

This update, filed shortly before Thanksgiving 2010, was followed by a highly truncated comment period and led to LightSquared being granted a conditional waiver by the FCC's International Bureau in January 2011. The International Bureau directed that LightSquared has to prove that its planned operations do not cause interference to GPS. The waiver is strongly opposed by many federal government departments and agencies as well as a wide variety of America's leading industries.

A testing process was agreed upon and the Technical Working Group (TWG) – made up of experts from both LightSquared and the GPS community – launched tests to determine what LightSquared's plans would have on GPS. The results showed LightSquared's plans would cause across-the-board devastating interference with GPS and that in some cases the power of the signals generated by LightSquared's ground stations was billions of times more powerful as received on Earth than GPS's extremely faint solar-powered satellite signals.

While LightSquared's original plans called for operations in both the upper and lower bands of the MSS spectrum, it had stressed that it planned to initially roll out utilizing the upper band,

and tests therefore concentrated on upper band operations as well as upper band operations combined with lower band operations. But when test results started to come back showing how devastating these operations would be for GPS, when the testing process was virtually completed, LightSquared abruptly switched signals and hurriedly asked the TWG to conduct tests of an alternate deployment scenario. Before the tests results had even been filed with the FCC, on June 20, 2011, LightSquared announced that it had a “comprehensive solution to the problem of interference with GPS”: use the lower band MSS band only. But even the tests on the lower band, limited as they were by the late LightSquared switch, showed very heavy interference to GPS.

LightSquared subsequently declared it had come up with yet another operational plan change, to lessen the amount of power it would use in the lower band and that this constituted yet another “solution” to the interference problem – one not yet thoroughly tested. But even LightSquared admitted that none of its various switches in plans would solve interference with high-precision GPS. Soon enough LightSquared was touting filter and other design fixes by various vendors, declaring this untested and, until recently, unavailable equipment to be a “solution” to the problem of interference with high precision GPS.

### **Rewriting History, Spectrum Giveaway, Costs and Upper Band:**

As these various twists and turns unfolded, and multiple “solutions” were declared, there were a number of other developments, including:

- The Coalition [showed](#) that LightSquared’s repeated misstatements and rewriting of history to self-servingly claim it has been authorized for years to build its proposed terrestrial network is flat out wrong and completely ignores clear statements in prior FCC decisions and rules.
- In the [same document](#) as above, the Coalition demonstrated that one of the many motivations for LightSquared’s attempted rewrite of history is the massive spectrum giveaway that would immediately result if its plans are allowed to go forward. LightSquared’s own consultants were cited as estimating that if the MSS spectrum held by LightSquared is worth \$12 billion if it could be used for unrestricted terrestrial mobile broadband use but only \$2 billion if it is limited to satellite uses.
- A [compilation](#) of the limited number of publicly available statements and estimates concerning the costs the federal government would face and the foregone benefits from affected GPS uses if LightSquared’s planned broadband system is allowed to go forward shows that the impact could be in the range of \$245 billion.
- On September 9, 2011, the National Telecommunications and Information Administration (NTIA) [called for](#) further testing of cellular and personal/general GPS receivers in the lower band, and the FCC’s International Bureau on September 13, 2011,

[said](#) that the FCC, “in consultation with NTIA, has determined that additional targeted testing is needed to ensure that any potential commercial services offered by LightSquared will not cause harmful interference to GPS operations.”

- With LightSquared seeking to have all involved concentrate on the lower MSS band while at the same time telling some audiences it may need to use the upper band as soon as 2015, the Coalition recently sought in a [filing](#) with the FCC and a subsequent [press release](#) to have the upper band taken off the table. The Coalition cited the immense cost and disruption that an accommodation for the lower band would cause, much less going through that process and doing it all over again just a few years later for the upper band.
- The Coalition has consistently stressed – [here](#), [here](#) and [here](#) – that if testing shows that LightSquared’s most recent “solution” actually is one, which remains a big “if,” the costs of retrofitting or replacing existing GPS devices must be borne by LightSquared.

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