

LIGHTSQUARED AND GPS - THE FACTS

For the last decade, LightSquared has planned to deploy a terrestrial network, and worked with the GPS community to make sure its network would not interfere with GPS.

LIGHTSQUARED'S SERVICE HAS BEEN EXPECTED FOR ALMOST TEN YEARS

- In 2001, LightSquared proposed using satellite spectrum for a fully-capable ground network. In 2002, after discussions with the GPS industry representatives, LightSquared agreed (<http://fjallfoss.fcc.gov/ecfs/document/view?id=6513283601>) to curtail any portion of its signal that crossed into GPS frequencies. This agreement imposed restrictions that were 1000 times stricter than what the FCC rules eventually required. http://edocket.access.gpo.gov/cfr_2010/octqtr/pdf/47cfr25.253.pdf.
- In 2003, the FCC adopted initial rules allowing LightSquared's ground network to operate near GPS. http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-03-15A1.pdf. These rules were adopted after a full review by DoD, FAA and all other interested government agencies. As the FCC said recently, "extensive terrestrial operations have been anticipated in [LightSquared's spectrum band] for at least 8 years." *FCC MSS Flexibility Order*, ¶ 27 (Apr. 6, 2011). http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-57A1.pdf.

THE GPS INDUSTRY UNDERSTOOD THE SCOPE OF LIGHTSQUARED'S NETWORK

- When the rules were first written in 2003, the FCC had an explicit limit in the technical characteristics as to the number of base stations LightSquared could build - 1,750 per 200 KHz channel, which, when applied to the company's network, would equal a little over 10,000 base stations. ATC Report and Order, FCC 03-15, at ¶¶ 144-47 (February 10, 2003). http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-03-15A1.pdf.
- In 2003, the U.S. GPS Industry Council ("USGIC") stated that the restrictions of the 2002 agreement were necessary to protect GPS against "[t]he increased user density from potentially millions of MSS mobile terminals operating in ATC mode . . . [and] *potentially tens of thousands of ATC wireless base stations.*" Reply Comments of USGIC, IB Docket No. 01-185, at 2 (Sept. 4, 2003) (emphasis added). <http://fjallfoss.fcc.gov/ecfs/document/view?id=6515082621>.
- In 2004, the USGIC supported the LightSquared application for authority to operate a ground network under the 2003 rules, stating that the 2002 agreement was "intended to protect GPS receivers and at the same time allow [LightSquared] to maximize the utility of its ATC [ground network] service to its users." Letter from USGIC to FCC (Mar. 24, 2004). http://licensing.fcc.gov/myibfs/download.do?attachment_key=366878.
- In 2005, the FCC removed all limits on the number of base stations LightSquared could build and increased their permissible power to 1.6 kw, the level at which LightSquared now plans to operate. *ATC Order on Reconsideration*, FCC 05-30, at ¶¶ 48-50, 53 (February 25,

2005). http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-05-30A1.pdf. Again, this decision was reviewed by all interested government agencies and was not challenged by USGIC.

- Beginning in 2006 and continuing to 2010, LightSquared disclosed its intent to build a wireless network using tens of thousands of base stations in its annual filings with the SEC <http://www.sec.gov/Archives/edgar/data/756502/000119312506067030/d10k.htm> and <http://www.sec.gov/Archives/edgar/data/756502/000119312510041110/d10k.htm>.

THE GPS INDUSTRY KNEW ABOUT LIGHTSQUARED'S PLANNED POWER LEVELS AND DID NOT OBJECT

- In 2009, LightSquared asked the FCC to increase the power levels of its base stations by approximately 10 times to 15 kw, to match the power levels at which other wireless networks are permitted to operate. http://licensing.fcc.gov/myibfs/download.do?attachment_key=-164606.
- USGIC did not object to even those higher power levels. It objected only to the possibility of interference into the GPS band from low-power indoor femtocells, an objection it withdrew (http://licensing.fcc.gov/myibfs/download.do?attachment_key=738501) in August 2009 after reaching agreement with LightSquared. http://licensing.fcc.gov/myibfs/download.do?attachment_key=731265.
- In March 2010, the FCC approved LightSquared's increased power levels. http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-10-534A1.pdf. As with all previous FCC proceedings, the order was issued after a public proceeding and was fully coordinated with all interested federal government agencies. Neither GPSIC, nor any other party, filed for reconsideration or review of this order.
- Also in March 2010, the FCC required LightSquared to build a ground network reaching 260 million people by the end of 2015. http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-10-535A1.pdf. Neither GPSIC, nor any other party, filed for reconsideration or review of this requirement.

LIGHTSQUARED IS DOING EVERYTHING IT CAN TO WORK WITH GPS TO ADDRESS ISSUES RAISED ONLY A FEW MONTHS AGO

- In September 2010, USGIC raised for the first time (<http://fjallfoss.fcc.gov/ecfs/document/view?id=7020912452>) – in a general mobile satellite proceeding -- the possibility that some GPS receivers may be subject to interference because they can be overpowered by signals transmitted by LightSquared inside the spectrum the FCC licensed to LightSquared.
- In November 2010, LightSquared applied (http://licensing.fcc.gov/myibfs/download.do?attachment_key=852869) to allow devices onto its ground network that do not also communicate with its satellite. This application did not change the power, number, deployment or any other technical characteristic of

LightSquared's base stations. USGIC raised the same objection it raised in September.
http://licensing.fcc.gov/myibfs/download.do?attachment_key=854795.

- Although the interference issue was irrelevant to this application, LightSquared, in January 2011, proposed a rigorous program of testing to determine the extent of the susceptibility of GPS receivers to LightSquared's transmissions, which the FCC made a condition of granting LightSquared's application on Jan. 26, 2011.
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-11-133A1.pdf.
- The FCC validated the GPS testing process in April, 2011 by unanimous Commission vote, noting USGIC's September 2010 comments and the cooperative testing program, and stating that "responsibility for protecting services rests not only on new entrants but also on incumbent users themselves, who must use receivers that reasonably discriminate against reception of signals outside their allocated spectrum." *FCC MSS Flexibility Order*, ¶ 27 (Apr. 6, 2011). http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-57A1.pdf.