

If you have zero loss at the GPS bandpass, we know you need a new GPS receiver filter with 140db of LightSquared signal attenuation over the entire LightSquared noise spectrum bandpass, to keep the GPS service, if you commission the LightSquared service (see my previous filing). We know that 140db filter will add the size of a brick and the cost of \$1200.00 to each and every GPS receiver. However, the real question, which LightSquared senior executive management refused to consider (I have received several rejection emails from LightSquared senior executive management) is: what are we saving in the GPS that LightSquared must die to protect.

Power level and orbital lifetime limit of GPS satellites

<http://gpsinformation.net/main/gpspower.htm>

Which limits have been exceeded on the majority of GPS satellites

<http://www.glonass-center.ru/en/GPS/>

Which is why GPS is not working well at all

http://www.rainprediction.net/ac90-100/summaries.php?id=npa_nobaro

And we knew well in advance that GPS was cratering

<http://www.gpsworld.com/gnss-system/block-iif-follow-or-failure-7265>

Oops, gee, that means that this GPS service is pretty useless? That is exactly what it means, and the government has already put up two satellites with the new replacement L5 GPS signal (112.3 to 116.3 "MHz" of the super high power terrain station's reply to aircraft DME and TACAN avionics - the FAA is the new LightSquared new GPS threat). All present GPS receivers are going to become moot anyway, along with current commercial and private aircraft guidance above 25,000 feet. Really (stupidity cannot be cured, it just moves to another government agency)!

Now, what LightSquared could have done, were told (by me) that they could have done, was two things. But LightSquared did consider and then overtly rejected to do each:

First, alter their data transmission protocol to leave "holes" of dead air time that GPS, which is a fast repetitive packet signal, could "squitter" through. Think of it like the horizontal sync pulse in the old NTSC television protocol - didn't materially reduce the picture resolution. No GPS receiver modification required. LightSquared overtly refused this alternative, which would have allowed LightSquared to proceed with its network, while keeping the old obsolete current GPS "up", while the government proceeds on its well established implementation path to shut that GPS down entirely.

Second, alter their data transmission protocol to provide "squitters" to provide a high power unjammable unspoofable terrain based PNT system to replace entirely the critically needed but lost eLoran PNT system, which was itself better than the GPS PNT system. That would have provided what would become the primary PNT system in the US, because of redundancy and reliability (making GPS, at best, a secondary PNT system, most likely an obsolete and unnecessary system), thus insuring LightSquared both indefinite survival in addition to super-star status. This could be made 3D, for aviation use, by augmentation with pressure altimetry, which is what all GPS receivers in commercial aircraft do (GPS altitude is way off compared to pressure altitude corrected for Kohlsman window setting).

The problem is that LightSquared senior executive management had tunnel vision, and no visionary ability to gather together the objective visions of both services. They, likely, hired lawyers and politicians, when they should

have hired engineers. They didn't listen to engineers that came forward to them with the solution. But, then, maybe, LightSquared just got greedy. The "holes" of dead air time (allowing current GPS receivers to remain functional) and the "squitters" (to replace all of any form of new and old GPS with something significantly better), would have cost LightSquared a small percentage of their data thruput (senior executive management is always loath to give away anything).

Well, LightSquared, you killed yourselves, rather than be a service to your customers. You died of your own stupidity. Darwinism, hopefully before you replicated.