

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

**FILED/ACCEPTED  
MAY - 4 2007**

Federal Communications Commission  
Office of the Secretary

In the matter of )  
)  
Application of L-3 Communications Titan ) File No. SES-LIC-20070322-00396  
Corporation for Authority to Operate a )  
Mobile On-the-Move Mobile Satellite )  
Antenna in the 14.0-14.5 GHz and 11.7-12.2 )  
GHz Frequency Bands )

**COMMENTS OF VIASAT, INC.**

ViaSat, Inc. (“ViaSat”) submits the following comments regarding the above-referenced application of L-3 Communications Titan Corporation (“L3 Titan”) for authority to operate an “On-the-Move” mobile satellite terminal in the 14.0-14.5 GHz and 11.7-12.2 GHz frequency bands.<sup>1</sup> ViaSat provides and develops Ku band services and equipment. Thus, ViaSat has an interest in licensing decisions impacting the development of new technologies that expand the capabilities of Ku band systems. As a general matter, ViaSat encourages the FCC to authorize new and innovative uses of the FCC Ku band spectrum, including land mobile satellite service (“LMSS”). However, ViaSat is concerned about the potential for interference if this terminal were operated within a network. Additionally, the Commission should include as a condition to any grant of authority a requirement to maintain records of the location of the mobile terminal to enable other operators to assess any incidents of interference.

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<sup>1</sup> *Application of L-3 Communications Titan Corporation for Authority to Operate a Mobile On-the-Move Mobile Satellite Antenna in the 14.0-14.5 GHz and 11.7-12.2 GHz Frequency Bands*, File No. SES-LIC-20070322-00396, Public Notice, Report No. SES-00914 (rel. April 4, 2007) (the “Application”).

**I. THE APPLICATION DOES NOT PROVIDE A TECHNICAL BASIS FOR ASSESSING THE INTERFERENCE POTENTIAL OF THE TERMINAL IF OPERATED WITHIN A NETWORK.**

Although L3 Titan seeks authorization to operate a single terminal, the modem specified in L3 Titan's Application (the L3/Linkabit MPM-1000 modem) is capable of operating within a network and, indeed, the Application indicates that the modem is intended to do so.<sup>2</sup> L3 Titan indicates in its Application that it intends to apply in the future for a blanket license for this type of terminal.<sup>3</sup> However, if other terminals operating on the same network as the proposed terminal are authorized to different licensees, the Commission would not have the opportunity to evaluate fully the impact of L3 Titan's proposed operations within such a network.

L3 Titan fails to provide information regarding its modem adequate to demonstrate that the proposed terminal will not cause harmful interference to other operators if operated within a network of identical terminals licensed to other users. Thus, the Commission should require L3 Titan to provide more detail regarding its modem necessary to allow the Commission to evaluate the potential for interference from the proposed operation of this terminal, before it grants the authorization requested in the Application.

The Technical Brief provided by L3 Titan in support of the Application discusses the "Access Scheme" to be used in connection with the proposed terminal, indicating that the terminal will be capable of operating within a network.<sup>4</sup> However, the discussion lacks specifics regarding the bandwidth-on-demand and multiple-access techniques that the modem could employ and whether it is capable of using contention access methods. Based on a review of

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<sup>2</sup> Application, Technical Brief at 5.

<sup>3</sup> Application, FCC Filing Notes at 1.

<sup>4</sup> Technical Brief at 6.

these details, the Commission may determine whether authorization of identical terminals can operate within the same network within the application spectral power density limits.

While the Technical Brief indicates that the equivalent isotropically radiated power (“EIRP”) levels of the proposed terminal would be brought into compliance with Section 25.209 through a combination of reductions in carrier power and spectrum-spreading,<sup>5</sup> the Brief does not explain whether L3 Titan has built sufficient excess margin into its operations such that *multiple* MPM-1000 modems could be operated simultaneously on a network in compliance with EIRP limits contained in Section 25.209. In determining the allowable maximum power spectral density into the antenna, L3 Titan accounts for the relative rotation of the antenna, but does not appear to allocate any excess gain for multiple access methods.<sup>6</sup>

ViaSat has used and tested the L-3 Datron antenna and raises no issue with respect to the antenna’s performance. However, ViaSat’s operations using this antenna employed a modem that had a spread waveform with a very low power density, which greatly reduces the potential for interference due to antenna mispointing. On the other hand, operation of the L-3 Datron antenna with a modem using selected modulation, coding, and only minimal spreading to keep the off-axis EIRP density to a level just below the FCC’s limit for off-axis EIRP, as proposed in the Application, could cause interference when operated within a network or if the antenna were mispointed.

## **II. THE COMMISSION SHOULD APPLY THE SAME LOCATIONAL RECORD-KEEPING REQUIREMENTS THAT APPLY TO EARTH STATIONS ON VESSELS.**

Under the Commission’s rules for earth stations on board vessels (“ESVs”), licensees are required to maintain for a period of one year records of the ship location, transmit frequency,

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<sup>5</sup> *Id.* at 12, 14.

<sup>6</sup> *Id.* at 17, Table 8-1.

channel bandwidth and satellite used.<sup>7</sup> In adopting this rule, the Commission recognized that retaining locational data for a full year would allow other operators the ability to investigate incidence of interference.<sup>8</sup> Under the same rationale, the Commission should impose a condition to any grant of L3 Titan's Application or other applicants seeking authority for similar terminals. Such locational information would be used for interference resolution and enforcement purposes and would not have to be made public. Certain government users of such terminals desiring additional protection of sensitive locational information could seek waivers of a locational record-keeping requirement as required.

\* \* \* \* \*

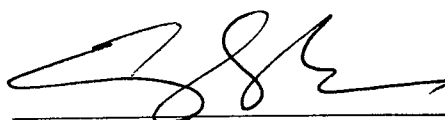
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<sup>7</sup> Section 25.221(c)(1).

<sup>8</sup> *Procedures to Govern the Use of Satellite Earth Stations on Board Vessels in the 5925-6425 MHz/3700-4200 MHz Bands and 14.0-14.5 GHz/ 11.7-12.2 GHz Bands*, Report and Order, 20 FCC Rcd 674, ¶ 48 (2005).

For the foregoing reasons, the Commission should require L3 Titan to provide further explanation of the access scheme used by the MPM-1000 modem to allow the Commission to evaluate any potential for interference where the antenna is operated within a network. Until L3 Titan demonstrates that the proposed terminal complies with the Commission's rules when operated within a network, as it was designed to do, the Commission should not grant L3 Titan's requested authority. Further, any grant of authority should include a requirement to maintain records of locational information, similar to the requirement applicable to ESVs.

Respectfully submitted,



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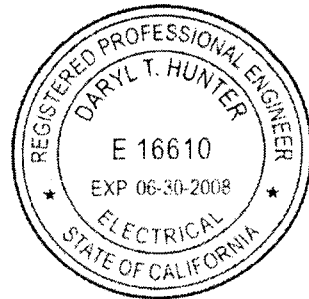
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*Counsel for ViaSat, Inc.*

Filed: May 4, 2007

## ENGINEERING INFORMATION CERTIFICATION

I hereby certify that I am the technically qualified person responsible for reviewing the engineering information contained in the foregoing submission, that I am familiar with Part 25 of the Commission's rules, that I have either prepared or reviewed the engineering information submitted in this pleading, and that it is complete and accurate to the best of my knowledge and belief.



*Daryl T. Hunter*

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Dated: May 4, 2007

## CERTIFICATE OF SERVICE

I, Berin M. Szoka, hereby certify that on this 4<sup>th</sup> day of May, 2007, I served a true copy of the foregoing Comments of ViaSat, Inc. by first class mail, postage pre-paid upon the following:

Paul Moller  
Intellicom Technologies  
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Berin M. Szoka