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Federal Communications Commission,
Wireless Bureau Applications,
P.O. Box 358 130,
Pittsburgh, PA 15251-5130,
4 August, 2008

Re: Request for a Waiver of Part 87 Rules to Allow Certification of Thales Top Flight Satellite Data Unit KV6TFS-SDU82155D for Inmarsat SwiftBB QAM channels

Dear Sir,

Thales Avionics Ltd. ("Thales") hereby requests a waiver of sections 87.131, 87.137(a), and 87.141(j) of the Federal Communications Commission's ("FCC's") rules to permit certification of this transceiver to support Inmarsat SwiftBroadband (SwiftBB) 16QAM (Quadrature Amplitude Modulation) channels.

Thales requests the FCC to certify the Satellite Data Unit (SDU) based upon technical data submitted, demonstrating that the unit complies with the technical requirements established by Inmarsat for this service rather than the above referenced rules. Attached is a letter from Inmarsat providing support for the waiver.

SwiftBB as envisaged in this application will not be used for services to support any cockpit communications for safety related applications. Permitting the use of SwiftBB for aeronautical satellite communications use will not cause any harmful interference to safety-of-life satellite users, radio astronomy or other aeronautical satellite users.

Background

Current Part 87 aeronautical mobile satellite communications were written specifically for the Inmarsat "Aero-H" and "Aero-L" services. Inmarsat is now offering a new aeronautical mobile satellite service which offers significantly higher data rates than that accommodated, at present, under Part 87. The channels that are the subject of this waiver request have a class of emission of D1W (the type of usage includes data transmission, and digital telephony). The channels are:

A THALES DEFENCE SUBSIDIARY
Registered Office: 2 Dashwood Lang Road, The Bourne Business Park
Addlestone, Nr. Weybridge, Surrey KT15 2NX
Registered in England No. 523160



Certified No: 920240

Class of Emission	Emission Designator	Allocated Bandwidth, kHz	Symbol Rate, ksym/s
D1W	50K0D1W	50	33.6
D1W	100KD1W	100	67.2
D1W	200KD1W	200	151.2

The channels all employ 16QAM, this is a more spectrally efficient modulation than Quadrature Phase Shift Keying (QPSK) – already certified for use. The use of 16QAM will support higher data rates with an overall maximum data rate of 492.8 Kbits/s, which is about twice that available for QPSK.

Technical Discussion

As noted above, current Aeronautical Mobile Satellite Part 87 regulations are based on the existing Inmarsat Aero-H and Aero-L services. The Inmarsat Swift BroadBand (SBB) service also operates in the Aeronautical Mobile Satellite Service and is designed to provide significantly higher data rates through the use of 16-QAM waveforms at symbol rates up to 151.2Ksym/s, using allocated bandwidths up to 200 KHz.

87.131 Power and Emissions

The authorised emissions do not include 50K0D1W, 100KD1W or 200KD1W. Thales requests a waiver to permit the use of these emission types.

87.137 Types of Emission

The authorised emissions do not include 50K0D1W, 100KD1W or 200KD1W. Thales requests a waiver to permit the use of these emission types.

87.141 Modulation Requirements

The authorised emissions do not include QAM. Thales requests a waiver to permit the use of this emission type.

Conclusion

As outlined above, Thales requests that the FCC waive the regulations discussed above and certify the KV6TFS-SDU82155D for the additional QAM channels. Granting certification will allow aircraft passengers to connect to the internet at higher data rates, approaching 500 kbits/s, without causing harmful interference to other services, and is therefore in the public interest.

Thales respectfully requests expedited review of this request

Sincerely,



Jennifer Livingstone
Topflight Satcom System Project Leader
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