

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

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In the Matter of)	
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ECHOSTAR SATELLITE OPERATING CORPORATION)	File No. SAT-MOD-2012____-____
)	Call Sign S2844
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Application for Waiver of Section 25.215)	
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APPLICATION FOR MINOR MODIFICATION AND REQUEST FOR WAIVER

I. INTRODUCTION AND SUMMARY

EchoStar Satellite Operating Corporation (“ESOC”) respectfully requests minor modification of its authority for its Direct Broadcast Satellite (“DBS”) satellite, EchoStar 16, to reflect the results of the actual antenna tests that were recently conducted by ESOC’s satellite manufacturer. These tests largely confirmed the specifications in ESOC’s application for launch and operating authority for EchoStar 16. The tests revealed, however, minor variances in the satellite’s cross-polarization isolation performance in certain transmit and receive beams. ESOC therefore requests a waiver of Section 25.215 of the Commission’s rules,¹ to the extent necessary, to permit these beams to be operated with less than 30 dB cross-polarization isolation. These variances do not increase the potential for harmful interference to any other operational or planned DBS satellite.

¹ 47 C.F.R. § 25.215.

After successful launch, which is currently scheduled for September of this year,² EchoStar 16 will provide DBS service to households in the United States from 61.5° W.L. in accordance with the service parameters set forth by the Commission.³ For the reasons set forth herein, grant of this application will serve the public interest and will not cause any harmful interference.

II. MODIFICATION AND WAIVER REQUEST

Although the beams on EchoStar 16 were designed to perform at the 30 dB cross-polarization level (with the exception of certain areas over Bermuda, the Caribbean, and Mexico, as explained in EchoStar's original launch and operating authority application),⁴ testing has revealed that certain beams will perform with cross-polarization isolation levels just below 30 dB. Specifically, five transmit spot beams perform at cross-polarization isolation levels between 26.8 and 30 dB, and eight uplink beams perform with cross-polarization isolation levels between 26.4 and 30 dB. In addition, the continental United States ("CONUS") beam has a cross-polarization isolation of between 28 and 30 dB over approximately 3% of its coverage area when operated on channel 21, between 29 and 30 dB over 2% of its coverage area when operated on channel 23, and between 29 and 30 dB over 1% of its coverage area when operated on channel

² EchoStar 16 is currently scheduled to launch on the Proton M/Briz M launch vehicle following the launch of the Intelsat 23 satellite. In light of the recent failure of the Briz M upper stage, however, EchoStar anticipates that the September launch window will be pushed back to accommodate the failure investigation and associated remedial work. EchoStar will keep the Commission informed of updates to the launch schedule.

³ See Stamp Grant, File No. SAT-LOA-20110902-00172 (granted June 22, 2012) ("EchoStar 16 Grant").

⁴ EchoStar requested, and received, waiver of Section 25.215 to the extent necessary to permit operations over these regions with cross-polarization isolation of less than 30 dB as described in the application. See EchoStar 16 Grant.

27. None of these differentials will have a material effect on the satellite's provision of service or its potential for interference.

Commission rules may be waived if there is good cause to do so.⁵ Here, there is good cause, and the International Bureau has already granted similar waivers when the impact on neighboring satellite networks is negligible, and/or the only party suffering increased interference is the satellite operator itself.⁶ The Bureau explained in one case, “[I]icensees may use cross-polarization isolation different from that specified for the Region 2 BSS Plan if they demonstrate that such a difference does not result in interference to other operational or planned systems, including U.S. licensed systems.”⁷

This is the case here. All beams on EchoStar 16 have cross-polarization isolation performance that meets or exceeds 30 dB over most of the broadcast coverage area. The attached Technical Annex details those limited beams and regions where the cross-polarization isolation falls below 30 dB in a portion of the coverage area.⁸ The slight uplink shortfalls create insubstantial amounts of self-interference. The ECHOSTAR-16 satellite's link budgets are sufficiently robust to compensate for the negligible degradation caused by the reduced uplink cross-polarization isolation performance. Most importantly, and as demonstrated in the

⁵ See 47 C.F.R. § 1.3; *WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969).

⁶ DIRECTV Enterprises LLC, *Order and Authorization*, 20 FCC Rcd. 15778, 15779 ¶ 7 (2005) (“*DIRECTV Waiver Order*”) (waiving Section 25.215 when the cross-polarization isolation of DIRECTV 5's DBS antennas was typically 27 dB over the satellite's primary coverage area); see also EchoStar Satellite Operating Corporation, *Order and Authorization*, 21 FCC Rcd. 14780 ¶ 8 (2006); Star One S.A., *Order*, 19 FCC Rcd. 16334 ¶ 12 (2004); New Skies Satellites N.V., *Order*, 17 FCC Rcd. 10369 ¶ 19 (2002).

⁷ *DIRECTV Waiver Order*, 20 FCC Rcd. at 15779 ¶ 7.

⁸ ESOC hereby incorporates by reference its application for launch and operating authority for the EchoStar 16 satellite, including the narrative, Form 312, Schedule S, and Technical Annex (collectively, the “EchoStar 16 Application”). Except as set forth in this modification request, the information contained in the EchoStar 16 Application remains accurate.

Technical Annex, the cross-polarization isolation downlink shortfall negligibly increases interference to adjacent DBS satellites. Moreover, the level of increase is insignificant considering that the dominant interference source arises from the co-polar interference component.

Accordingly, consistent with past precedent, a waiver of Section 25.215 of the Commission's rules is warranted here.

III. CONCLUSION

For the foregoing reasons, ESOC respectfully requests that the Commission waive the cross-polarization isolation requirements set forth in Section 25.215 of the Commission's rules to the extent requested herein.

Respectfully submitted,

/s/

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