

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

In the Matter of	)	
	)	
DIRECTV Enterprises, LLC	)	File No. SAT-AMD-20130716-00094
	)	Call Sign S2893
Amendment to DIRECTV KU-45W Application	)	

**REPLY COMMENTS OF SES SATELLITES (GIBRALTAR) LIMITED**

SES Satellites (Gibraltar) Limited (“SES”) hereby submits its reply regarding the above-captioned DIRECTV amendment to its application for a new Ku-band spacecraft at the 45.2° W.L. orbital location (the “DIRECTV Amendment”).

In its initial comments, SES made two requests. First, SES asked the Commission to impose standard condition language requiring DIRECTV to comply with the power levels specified in Section 25.212 of the Commission’s rules unless higher power levels have been coordinated with potentially affected systems.<sup>1</sup> In its response, DIRECTV confirms that it does not object to this condition.<sup>2</sup> Accordingly, any grant of the DIRECTV Amendment should specify that:

DIRECTV shall comply with the power levels specified in Section 25.212 of the Commission’s rules, 47 C.F.R. § 25.212, unless DIRECTV coordinates any operations using power levels exceeding the levels in Section 25.212 with all potentially affected adjacent satellites within 6 degrees orbital separation of the 45.2° W.L. orbital location. DIRECTV shall inform the Commission of the power levels it has coordinated. In addition, DIRECTV must inform all affected earth station operators that Section 25.220 of the Commission’s rules, 47 C.F.R. § 25.220, applies to operations that exceed the power levels specified in Section 25.212.

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<sup>1</sup> Comments of SES Satellites (Gibraltar) Limited, File No. SAT-AMD-20130716-00094, filed June 9, 2014 (“SES Comments”) at 1-3.

<sup>2</sup> Consolidated Response of DIRECTV Enterprises, LLC, File No. SAT-AMD-20130716-00094, filed June 23, 2014 (“DIRECTV Response”) at 3-4.

Second, SES argued that the Commission should require DIRECTV to correct the interference analysis provided in support of the amendment.<sup>3</sup> In particular, SES observed that DIRECTV's C/I calculations for its planned 65 cm antenna appeared to be based on the incorrect assumption that the antenna would conform to the  $29-25 \cdot \log(\theta)$  antenna off-axis gain pattern at 2.2 degrees. SES showed that the actual off-axis gain pattern for such an antenna would diverge significantly from the  $29-25 \cdot \log(\theta)$  mask. Because the DIRECTV link budgets and interference analysis were based on this erroneous calculation, SES argued they should be resubmitted.

On this point, DIRECTV admits that its original antenna description was unclear because DIRECTV failed to make explicit the fact that its proposed antenna is elliptical, with actual dimensions of about 49 cm by 89 cm.<sup>4</sup> Nevertheless, DIRECTV claims that the antenna "has improved off-axis gain performance at  $2^\circ$  that is very close to that specified in Section 25.209."<sup>5</sup> DIRECTV states that it "does not believe that there is any need for resubmission of a revised analysis in these circumstances."<sup>6</sup>

SES disagrees. DIRECTV does not provide any analysis to support its most recent assertions regarding the antenna's gain performance or quantify how much the antenna diverges from the applicable regulatory standard. SES calculates that the gain for the DIRECTV antenna at two degrees would exceed the  $29-25 \cdot \log(\theta)$  mask by 5.2 dB (see Figure 1, below), which we do not think qualifies as being "very close" to meeting the Commission's requirements.

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<sup>3</sup> SES Comments at 4-5.

<sup>4</sup> DIRECTV Response at 3.

<sup>5</sup> *Id.*

<sup>6</sup> *Id.*

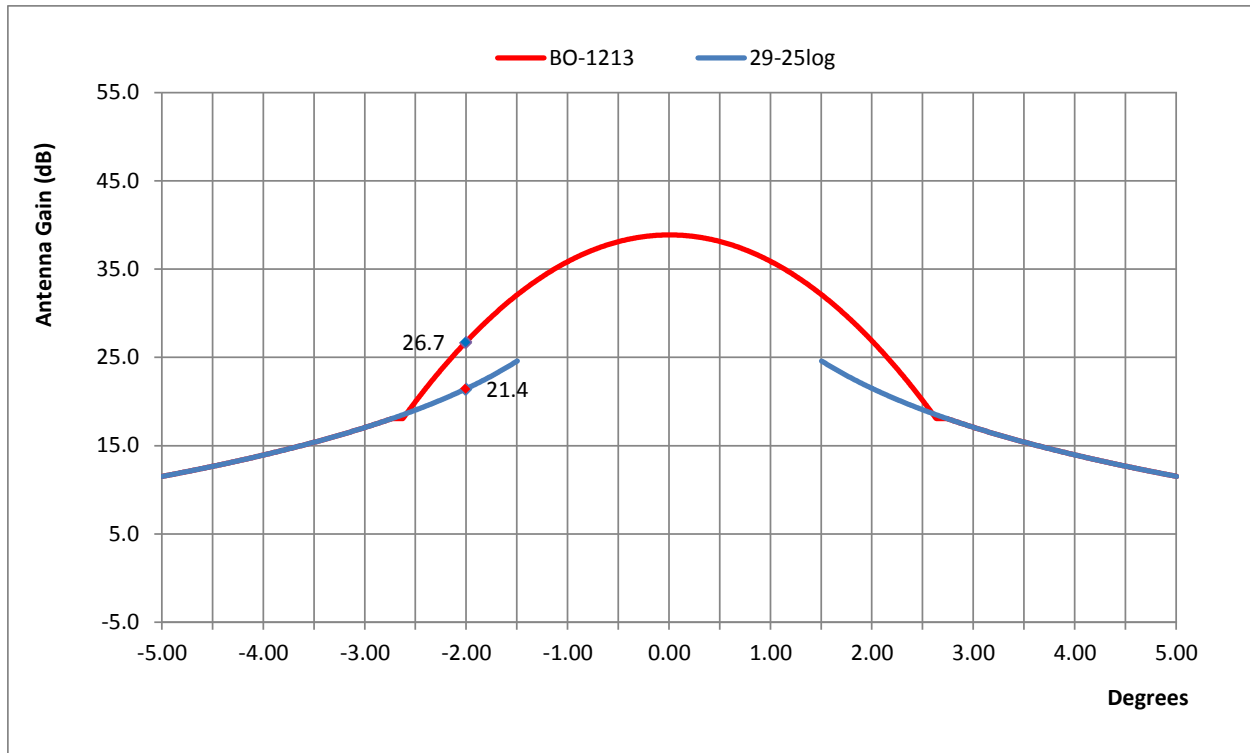


Figure 1

BO.1213 antenna gain pattern for 89 cm antenna<sup>7</sup> at 11.7 GHz with 65% efficiency

<sup>7</sup> For purposes of preparing the figure, SES assumed that the antenna would be aligned with the geostationary arc and that the antenna would measure 89 cm in the East-West dimension. Note that the pattern shown is based on a circular 89 cm antenna, so the peak gain depicted in the figure would not be the same as for the 48 cm by 89 cm antenna described by DIRECTV. However, the gain at two degrees, which is the relevant value here, is equivalent.

Accordingly, SES renews its request that DIRECTV be instructed to provide updated link budgets and interference calculations reflecting the actual operational parameters of its proposed antennas. Moreover, the Commission should make clear that DIRECTV cannot claim that its proposed dishes are entitled to protection from future adjacent satellite operations that comply with the Commission's two-degree framework, unless such protection has been coordinated.

Respectfully submitted,

SES Satellites (Gibraltar) Limited

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Dated: July 3, 2014

DECLARATION

I, Zachary Rosenbaum, hereby certify under penalty of perjury that I am the technically qualified person responsible for preparation of the technical information contained in the foregoing comments; that I am familiar with the technical requirements of Part 25; and that I either prepared or reviewed the technical information contained in the comments and that it is complete and accurate to the best of my knowledge, information and belief.

/s/ \_\_\_\_\_  
Engineer, Spectrum  
Management and  
Development  
SES

Dated: July 3, 2014

**CERTIFICATE OF SERVICE**

I hereby certify that on this 3rd day of July, 2014, a true copy of the foregoing  
“Comments of SES Satellites (Gibraltar) Limited” is being sent by first class, U.S. Mail, postage  
paid, to the following:

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