



Antenna Development Group  
Engineering Test Report

**Skyware Global**  
**74cm GD Metal (RMS 0.479 mm)**  
**with**  
**Jupiter Feed Assembly**

03/12/15

REVISIONS				
MF	REV	DESCRIPTION	DATE	APPROVED
	ORIG	Initial	03/12/15	

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## 1 Introduction

This report details radiation patterns and gain performance of the GD Ka-band 74cm (Metal) antenna. The data is presented in accordance with FCC regulation 25.138 ('Blanket licensing of GSO FCC Earth Stations' ... at Ka-band) and is with respect to the FCC masks outlined in regulation 25.209 ('Antenna Performance Standards'). The measurements were carried out in Skyware's Compact Antenna Test Range in Garner, North Carolina.

### 1.1 Antenna Configuration

The antenna system comprises of a 74cm GD (Metal) elliptical reflector and Jupiter Radio. Measurements are referenced to the waveguide transition at the radio.

### 1.2 Frequency List

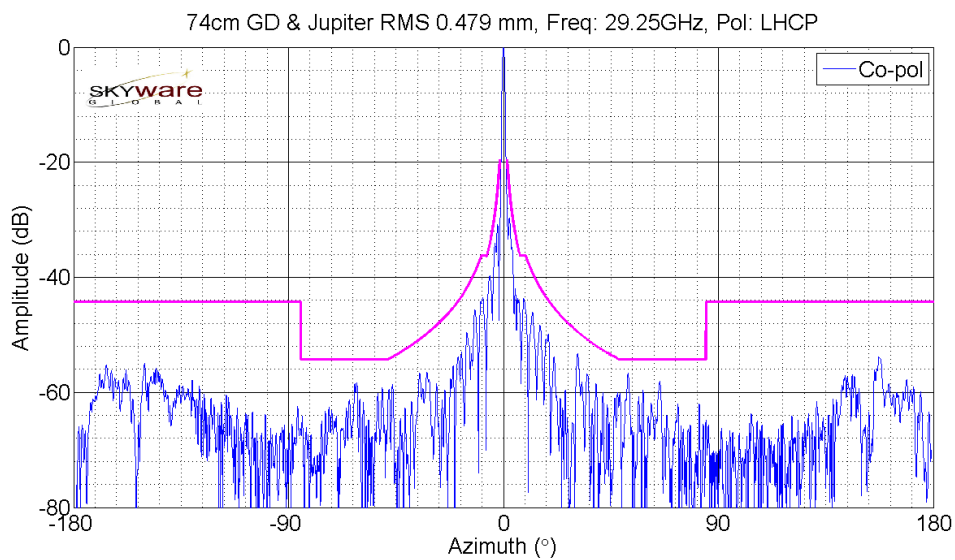
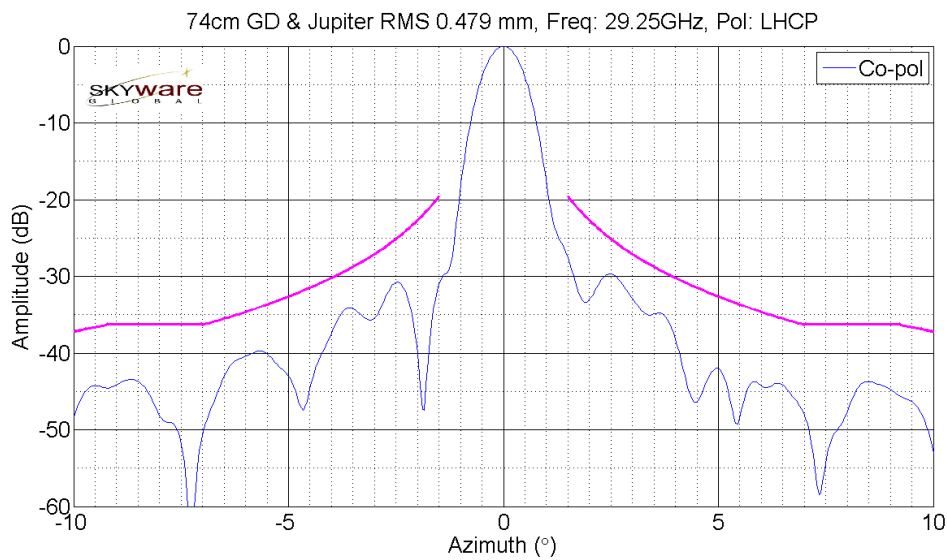
The antenna system had both co-polar and cross-polar radiation components taken in the azimuth and elevation planes for both Left Hand Circular Polarisation (LHCP) and Right Hand Circular Polarisation (RHCP) polarisations at 29.25, 29.5, 29.75 and 30GHz for the transmit band. Each pattern is presented separately and is plotted along with the applicable FCC mask.

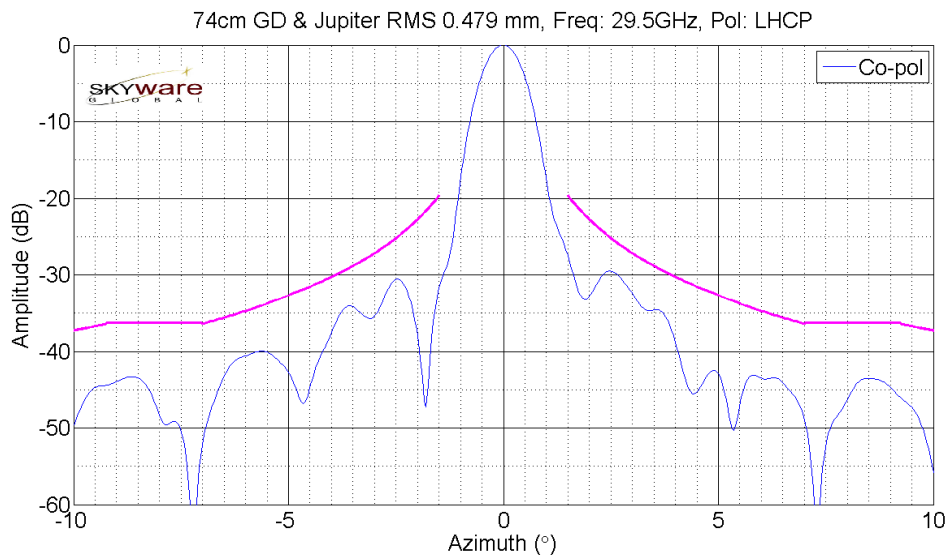
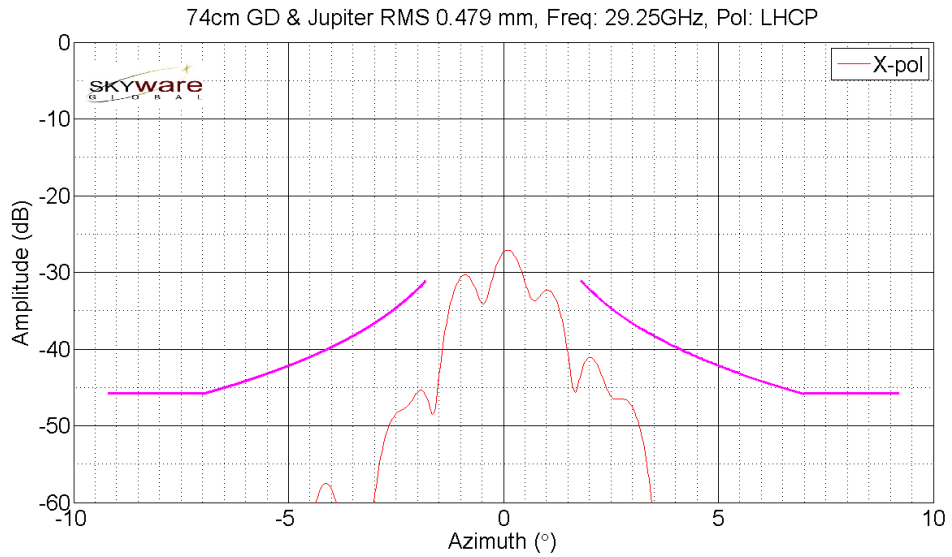
## 2 Photographs



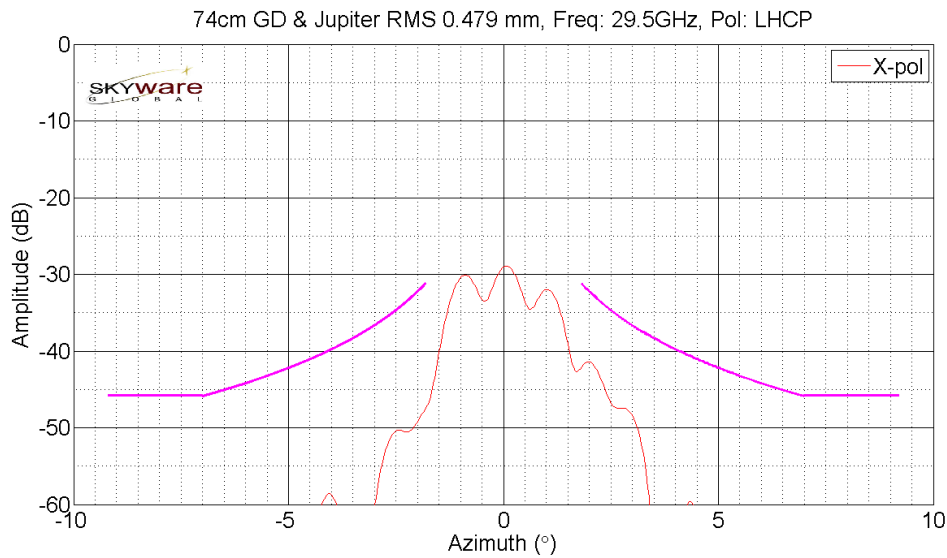
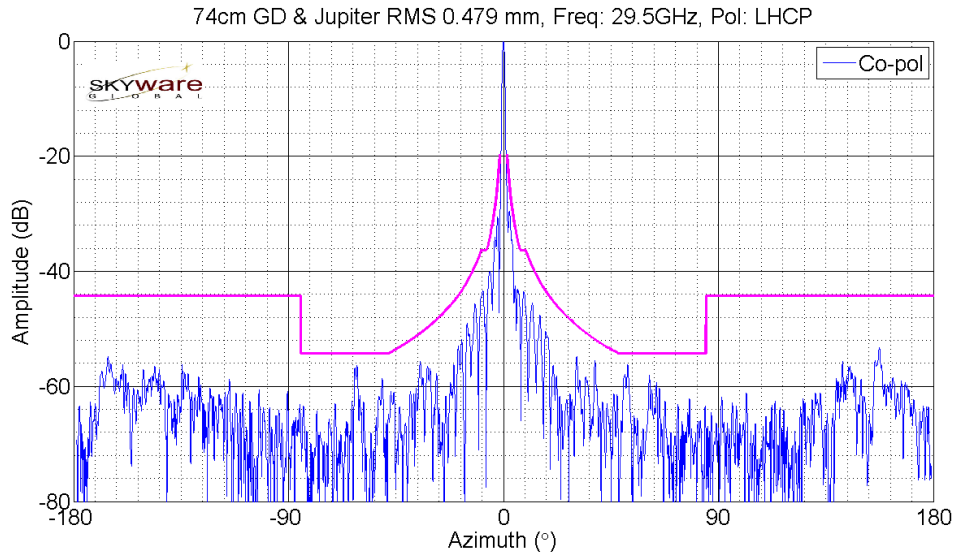
### 3 Antenna Range Data

#### 3.1 LHCP Azimuth Radiation Patterns

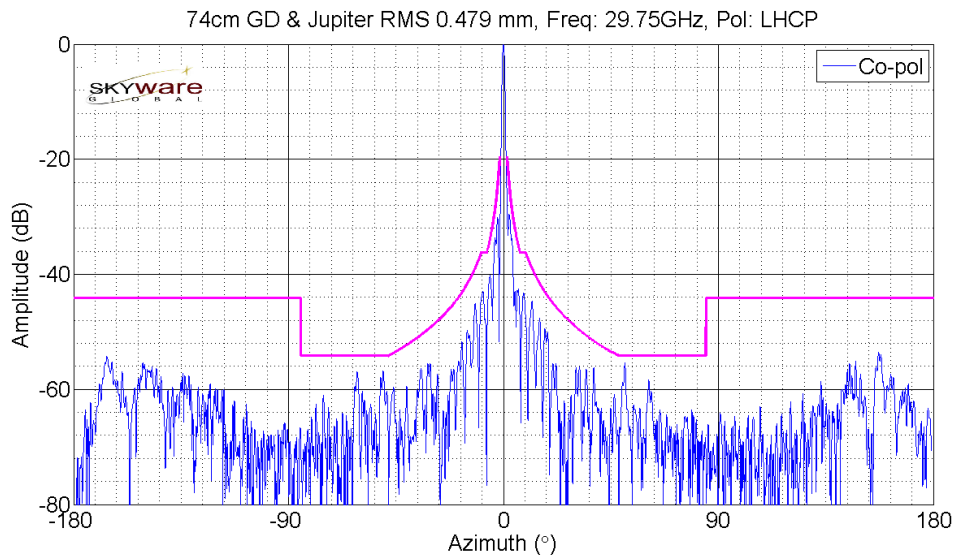
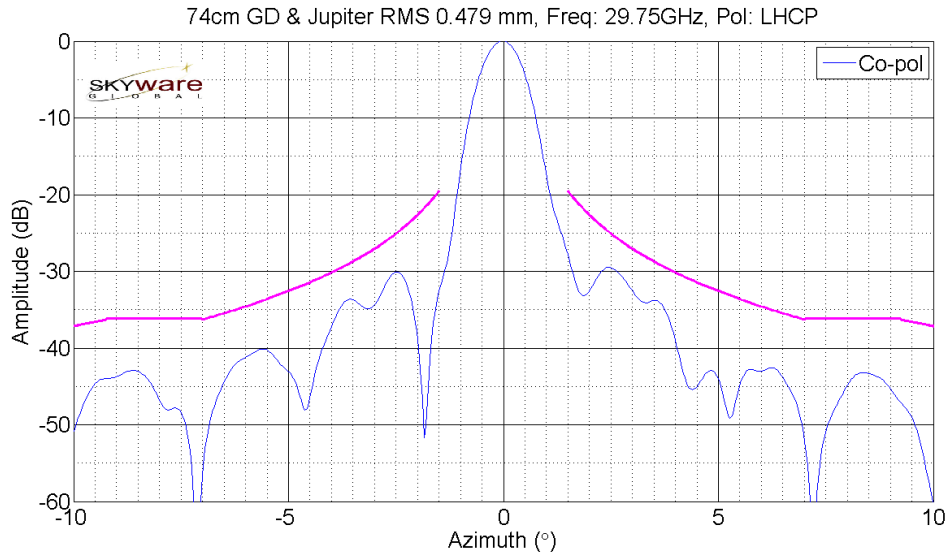




74cm GD Metal RMS 0.479 mm & Jupiter Feed

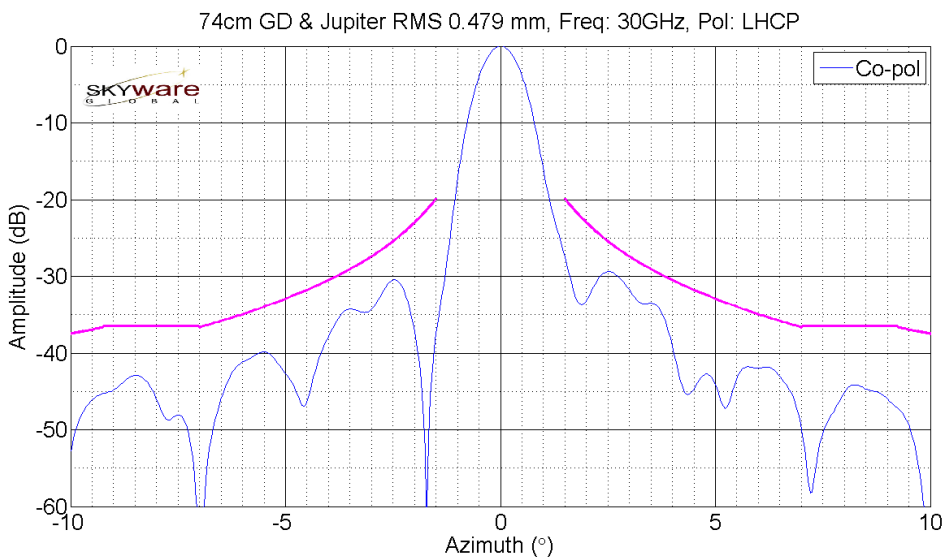
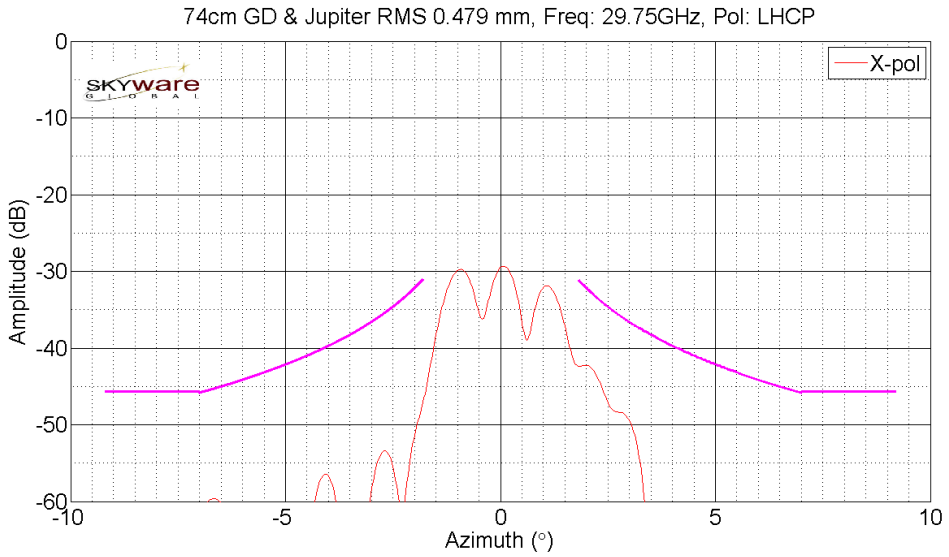


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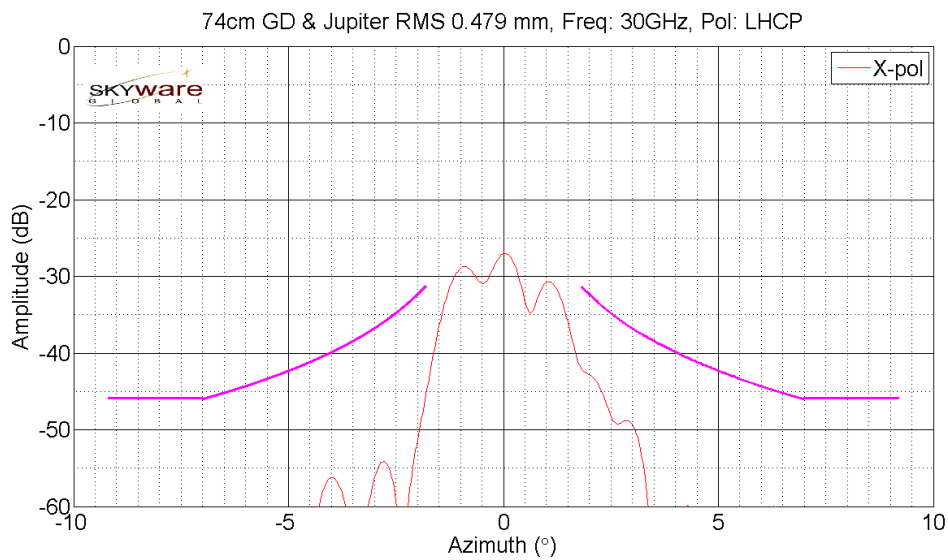
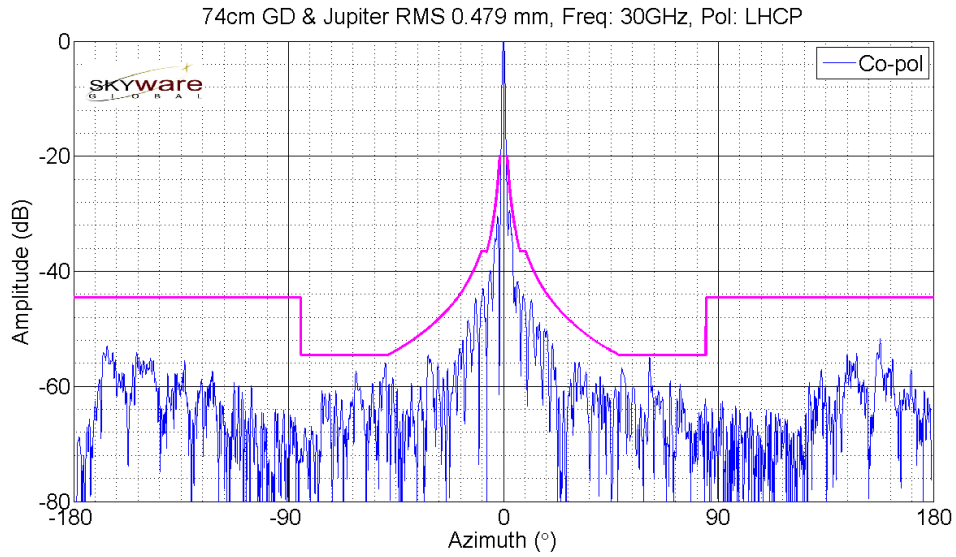




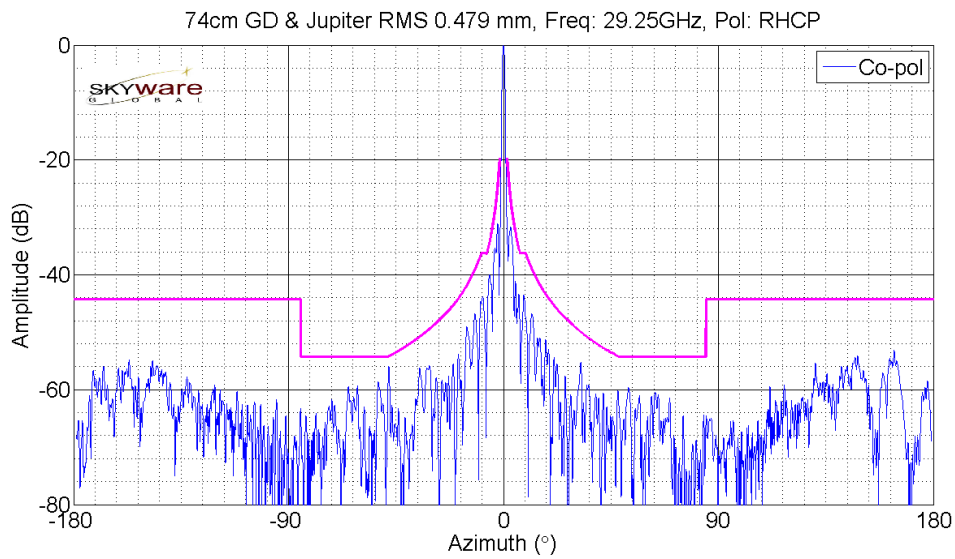
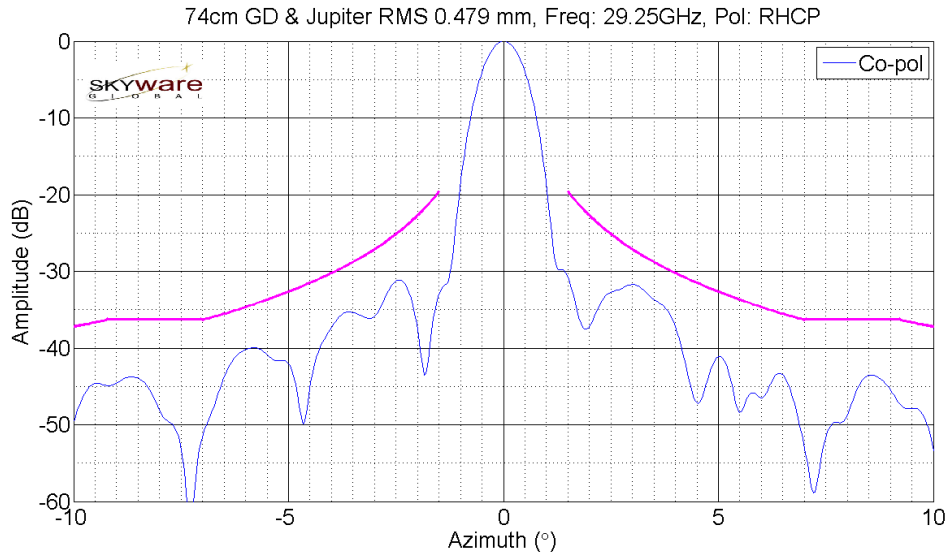
74cm GD Metal RMS 0.479 mm & Jupiter Feed

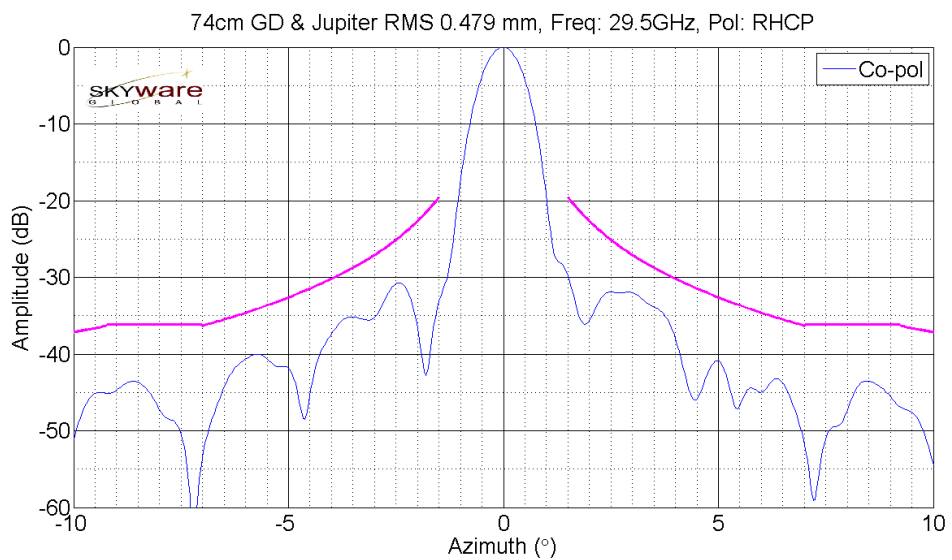
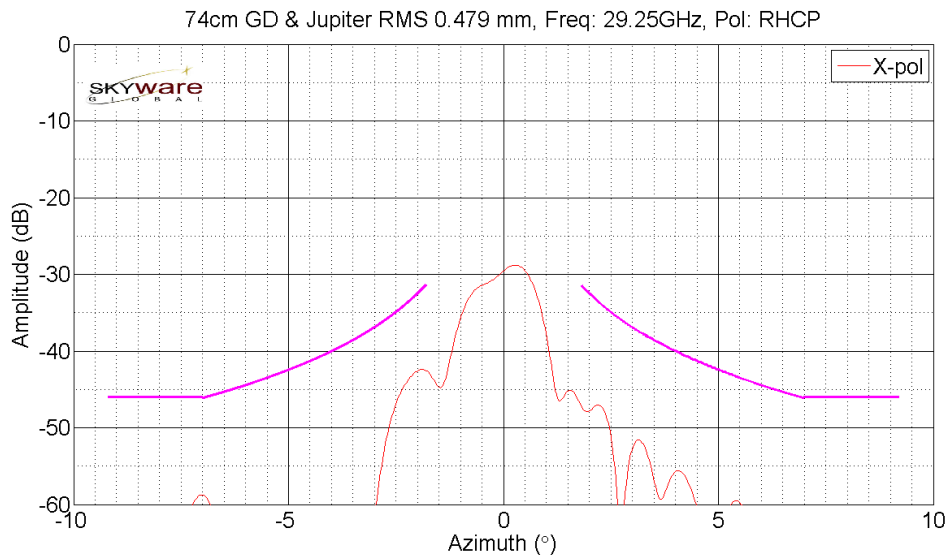


74cm GD Metal RMS 0.479 mm & Jupiter Feed

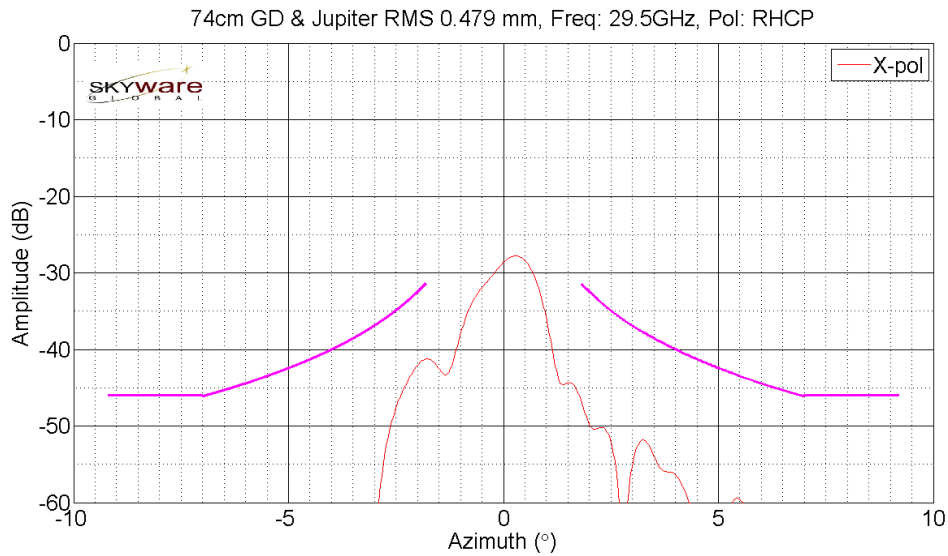
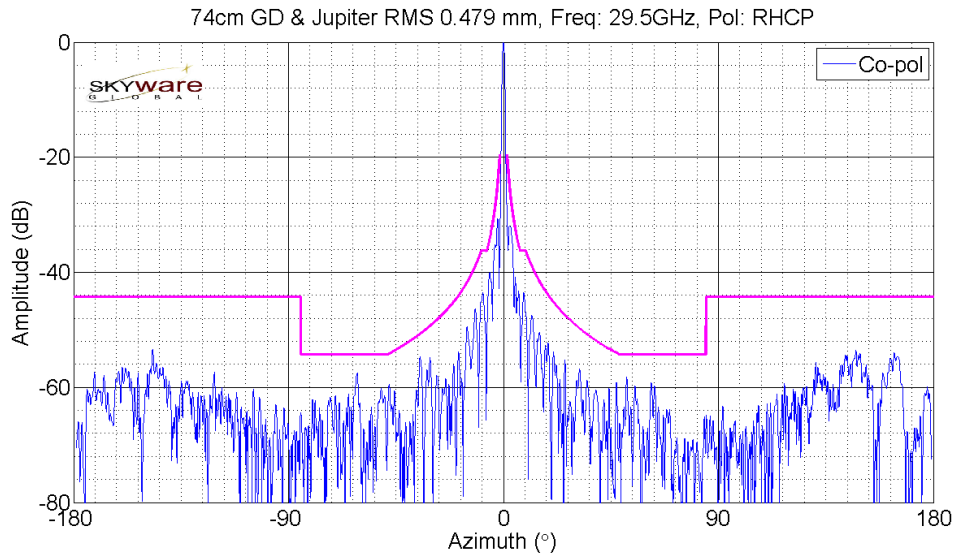


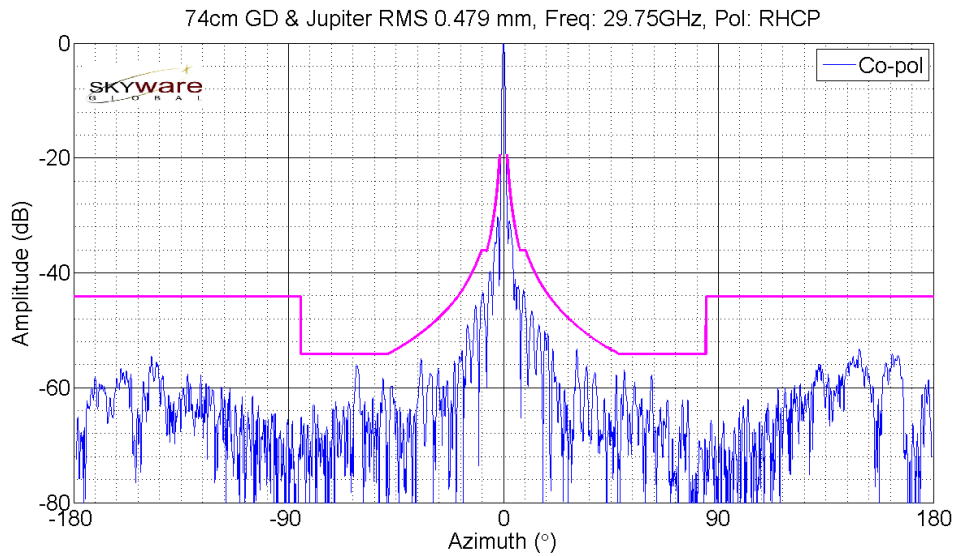
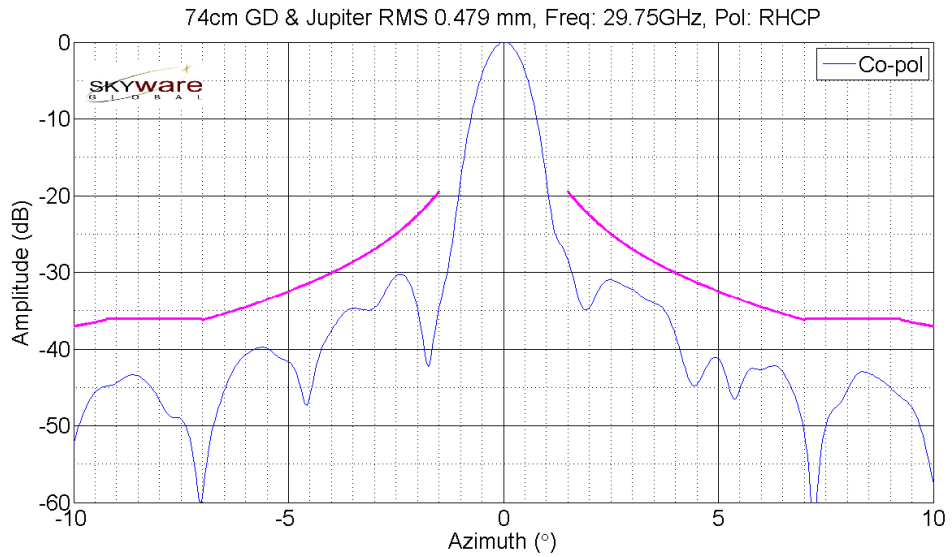
### 3.2 RHCP Azimuth Radiation Patterns



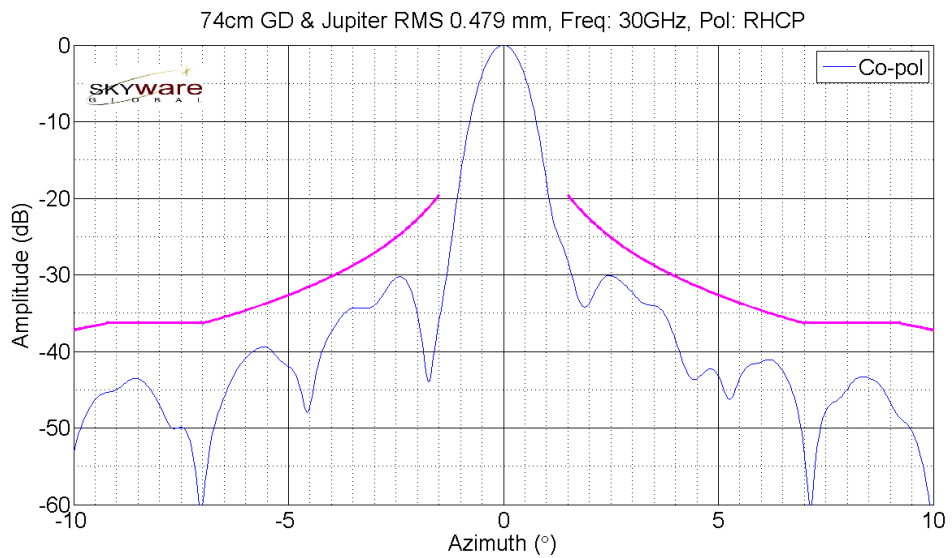
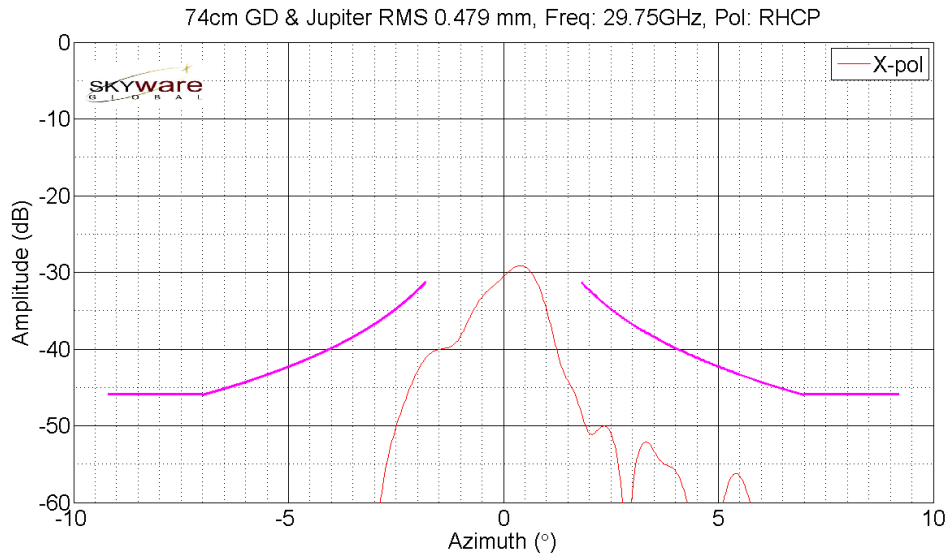


74cm GD Metal RMS 0.479 mm & Jupiter Feed

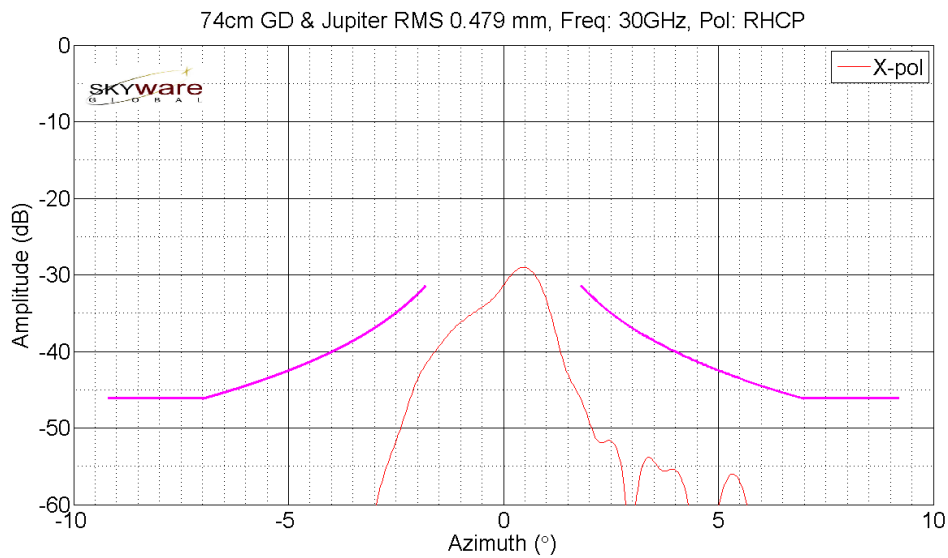
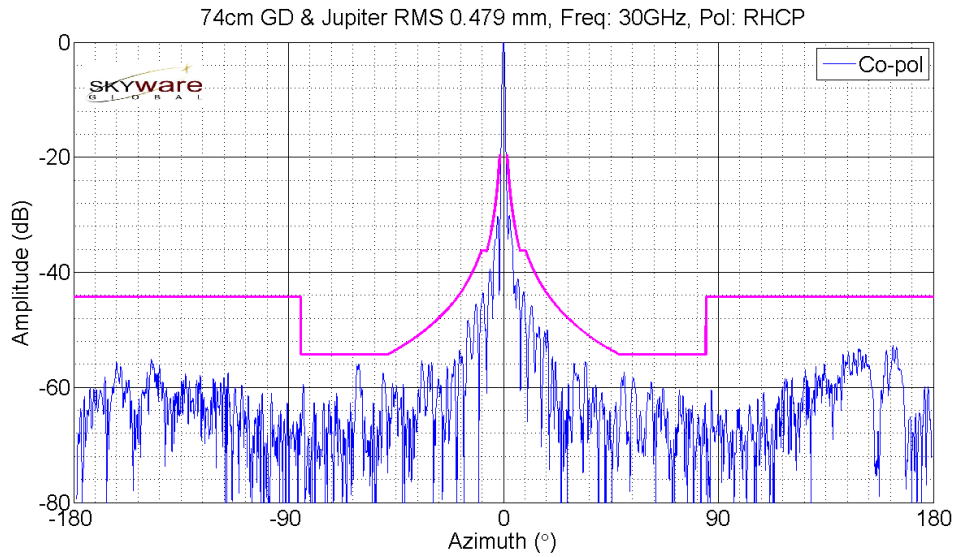




74cm GD Metal RMS 0.479 mm & Jupiter Feed

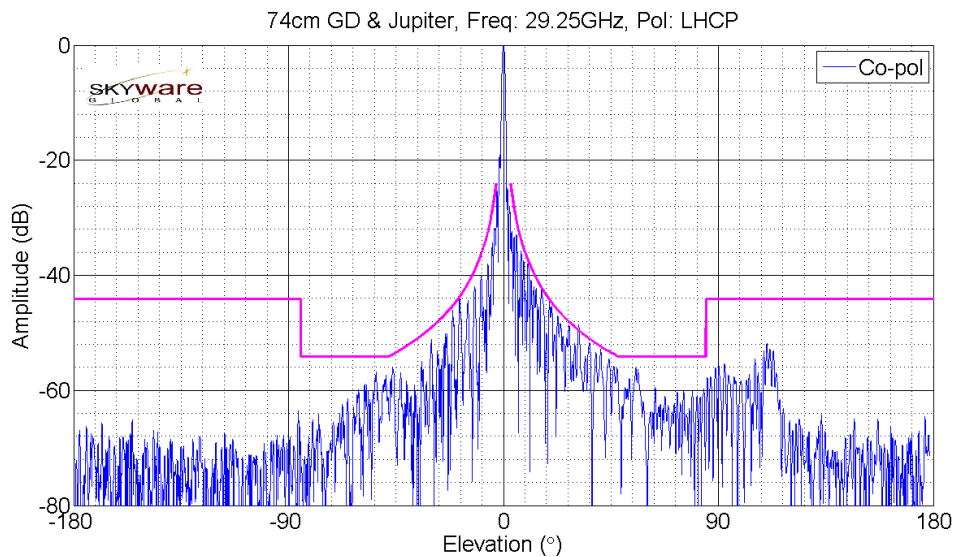
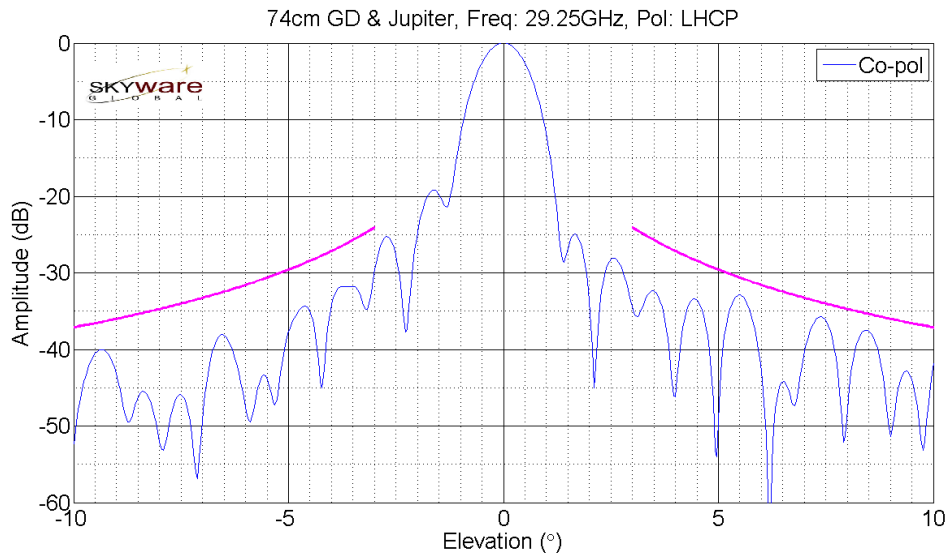


74cm GD Metal RMS 0.479 mm & Jupiter Feed

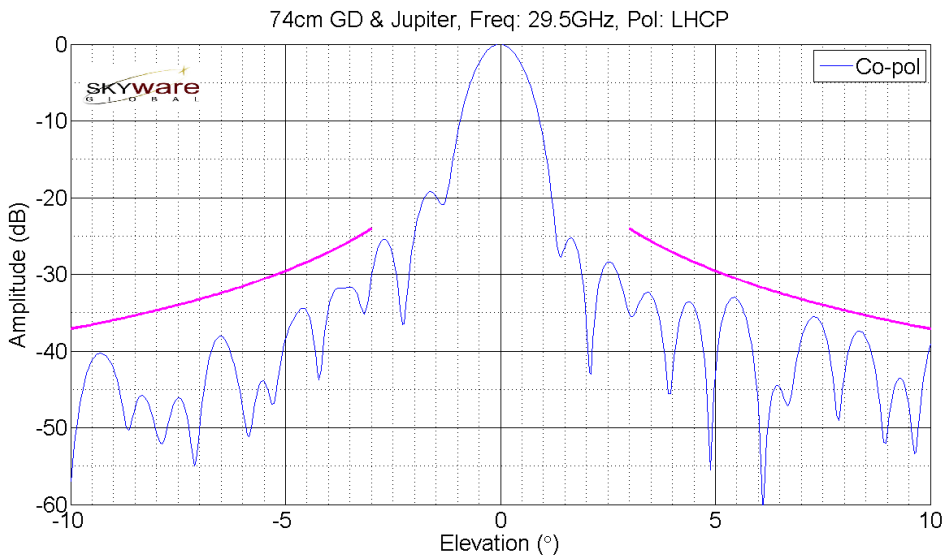
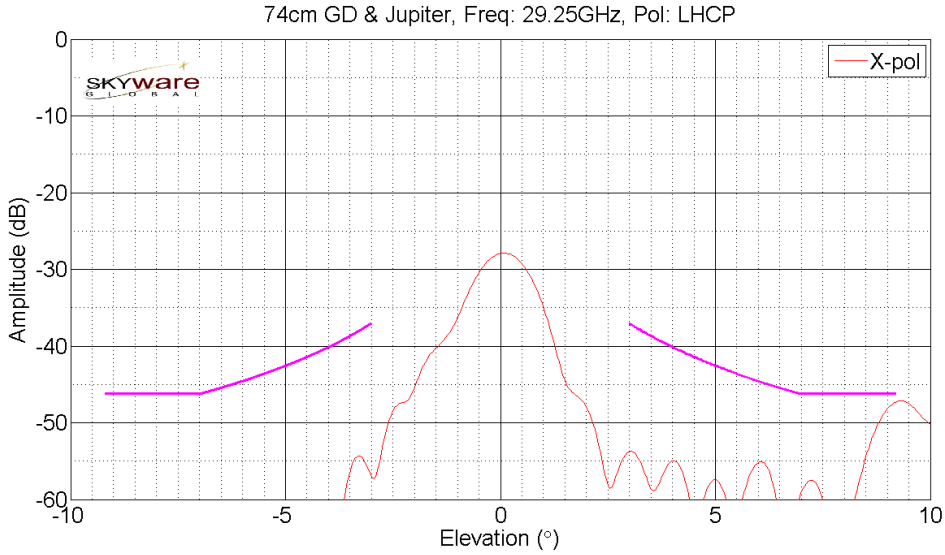




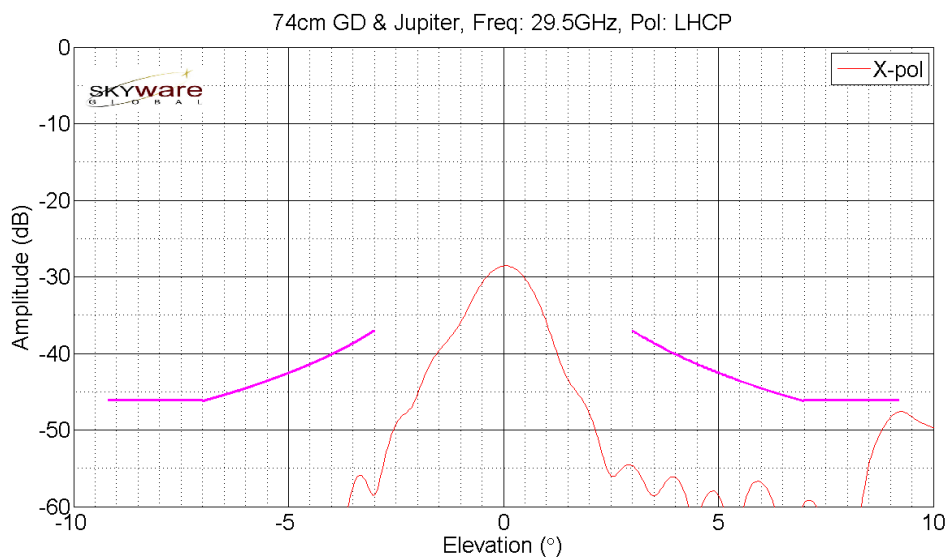
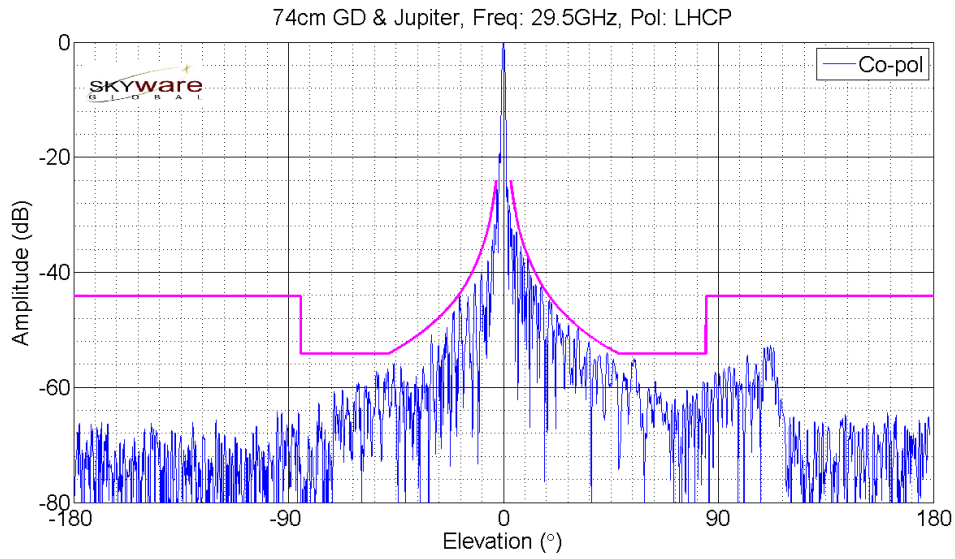
### 3.3 LHCP Elevation Radiation Patterns



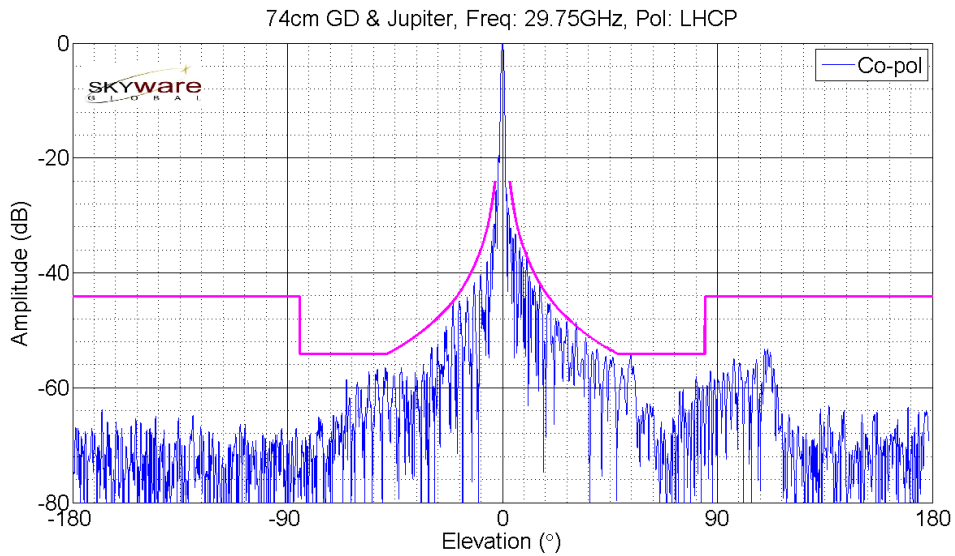
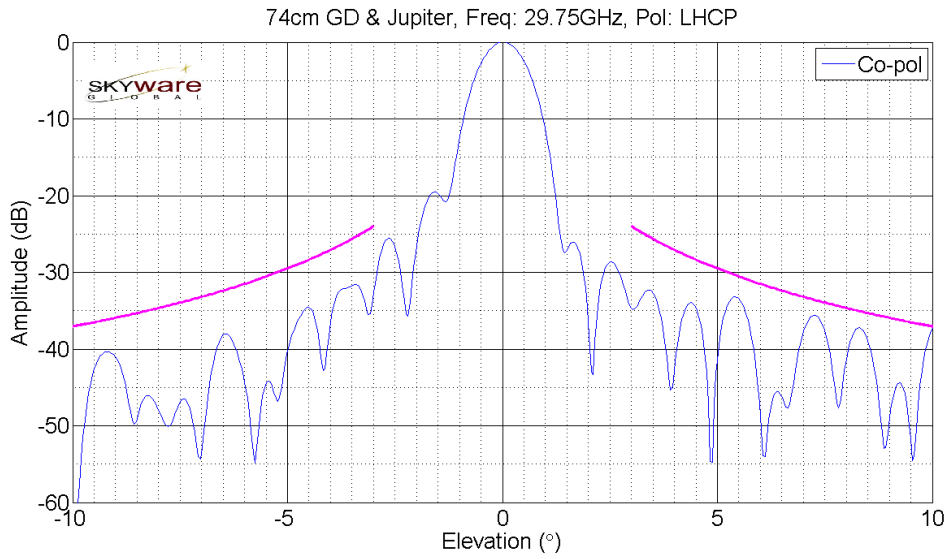
74cm GD Metal RMS 0.479 mm & Jupiter Feed



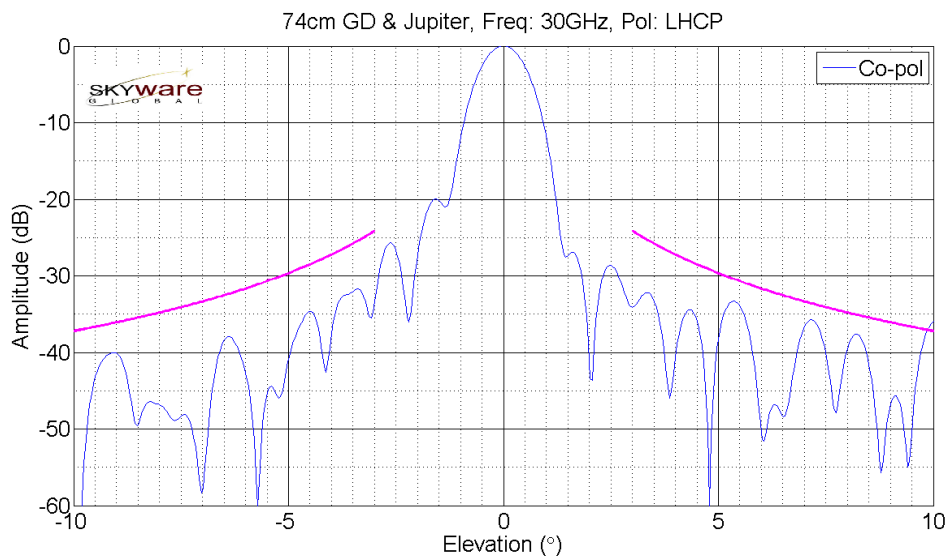
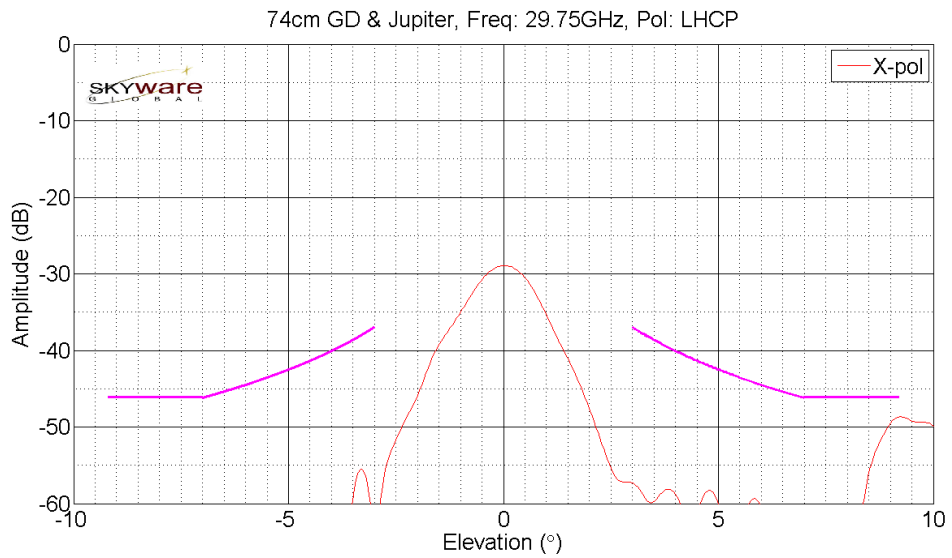
74cm GD Metal RMS 0.479 mm & Jupiter Feed

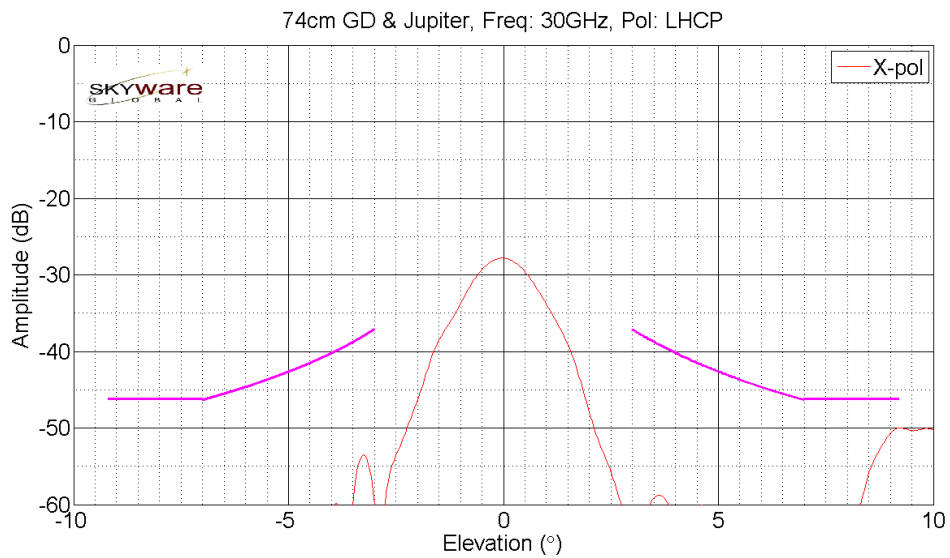
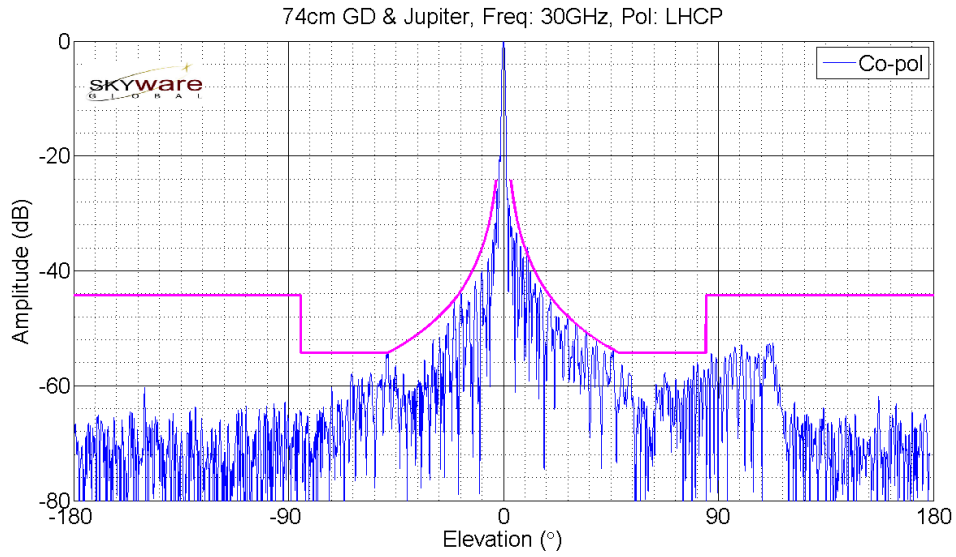


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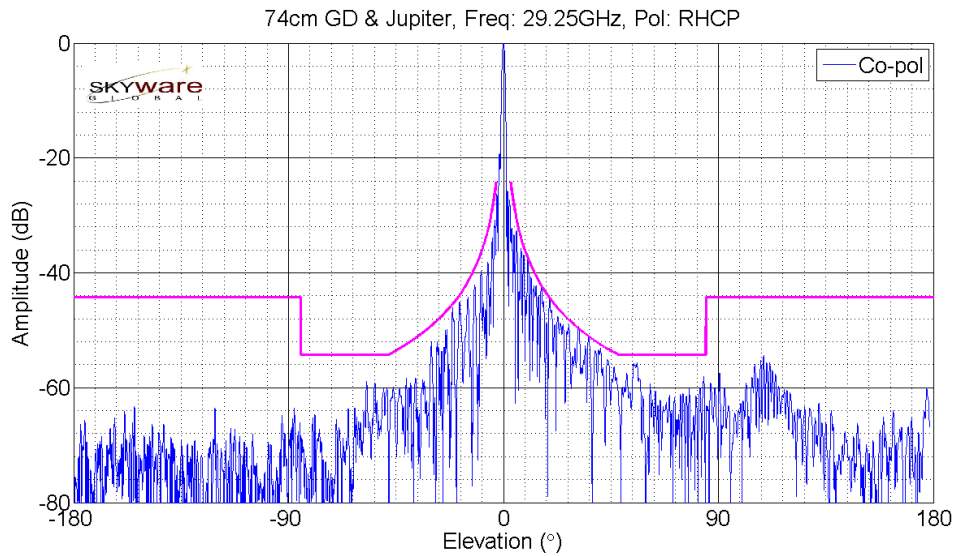
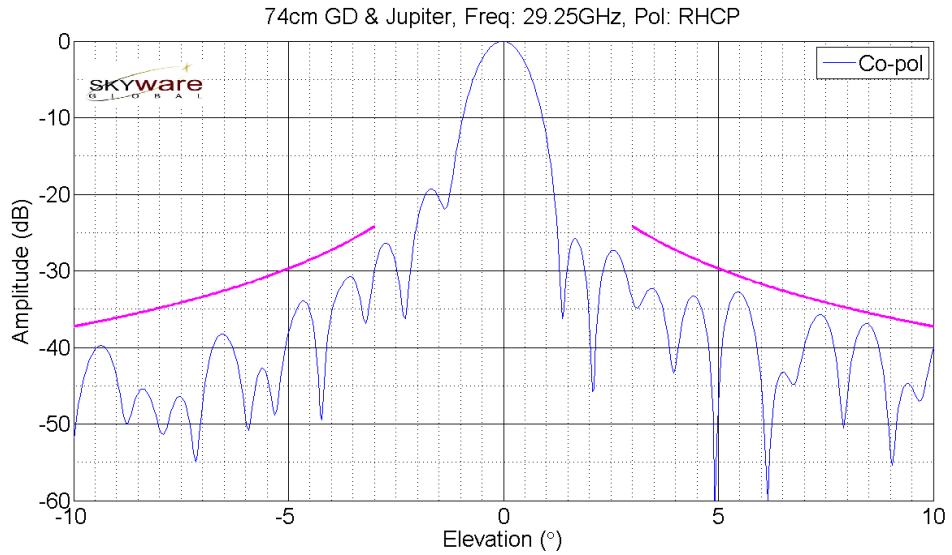


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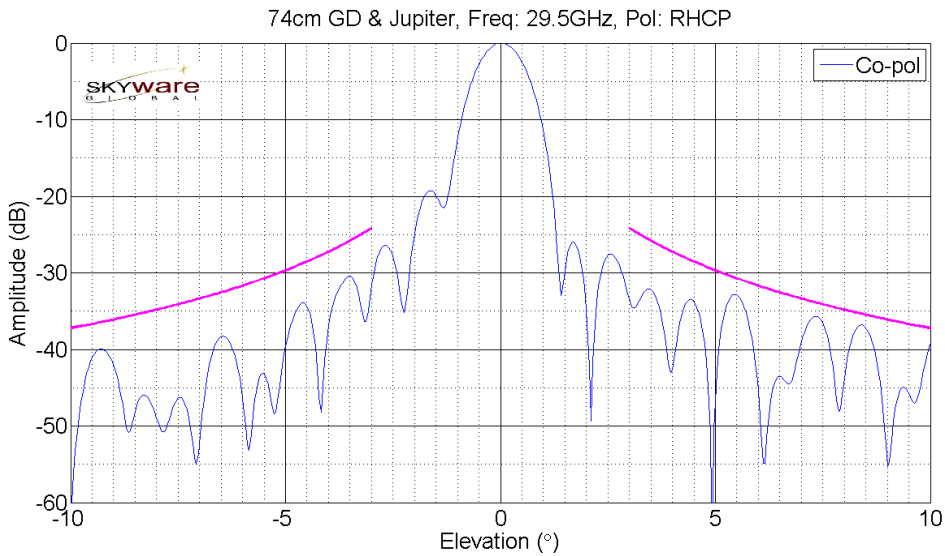
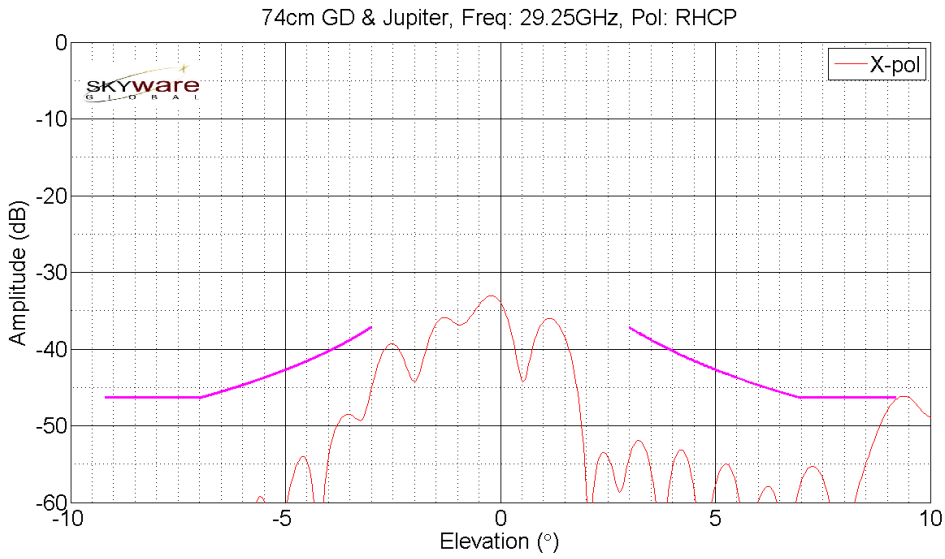




### 3.4 RHCP Elevation Radiation Patterns

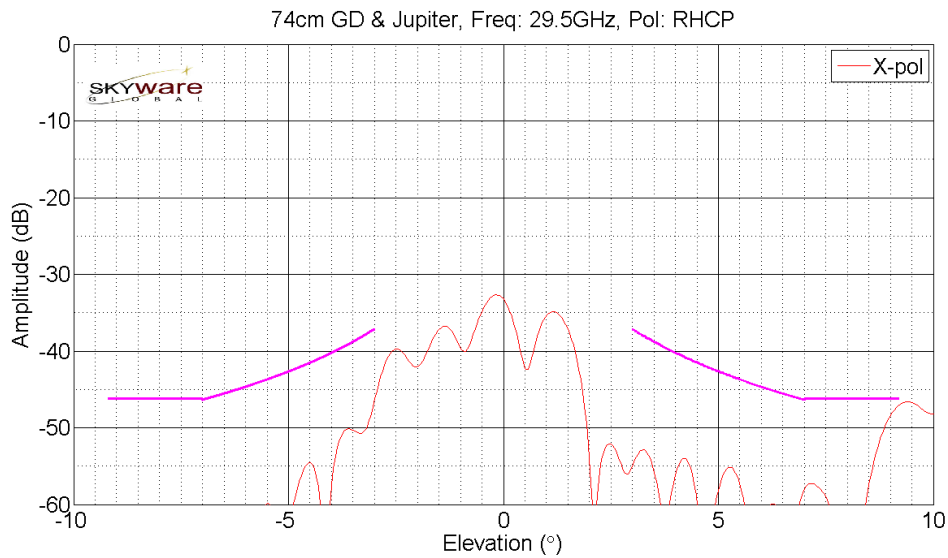
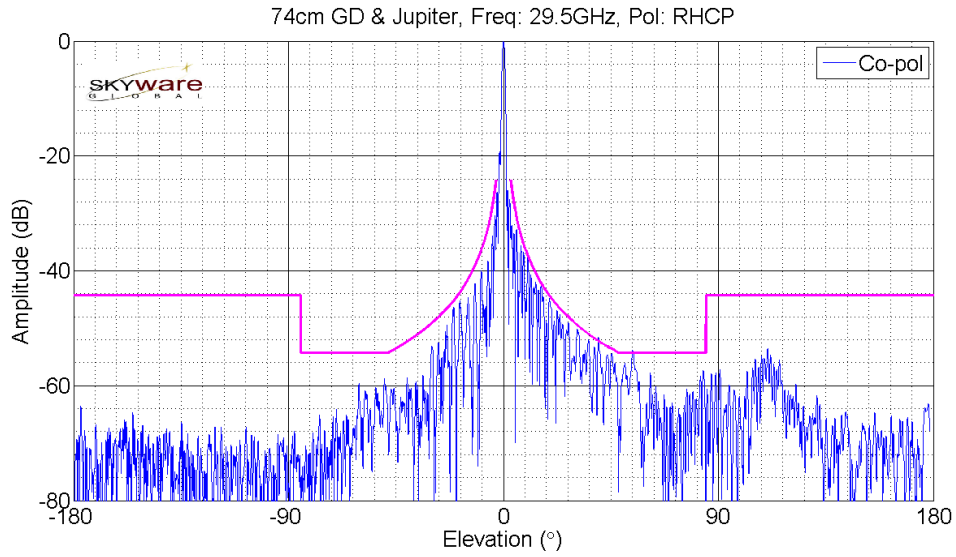


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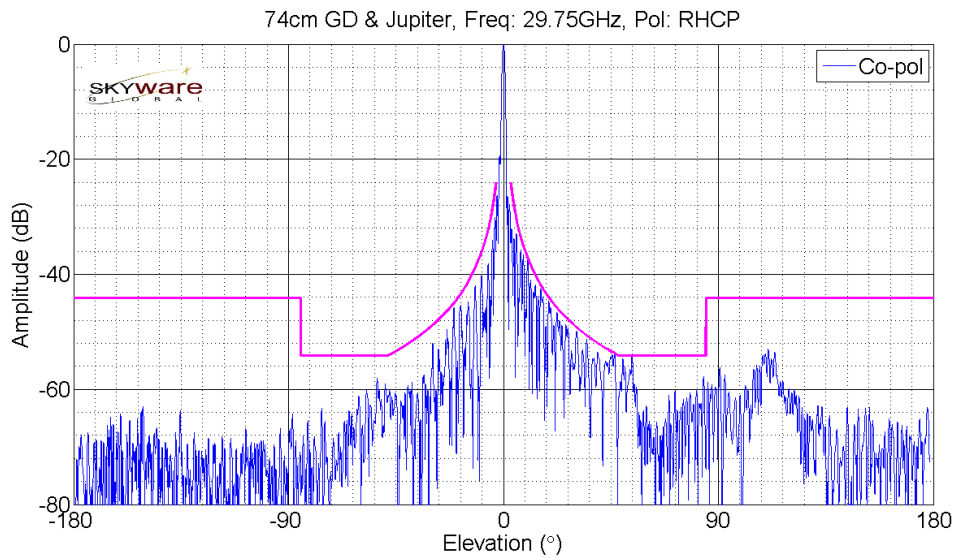
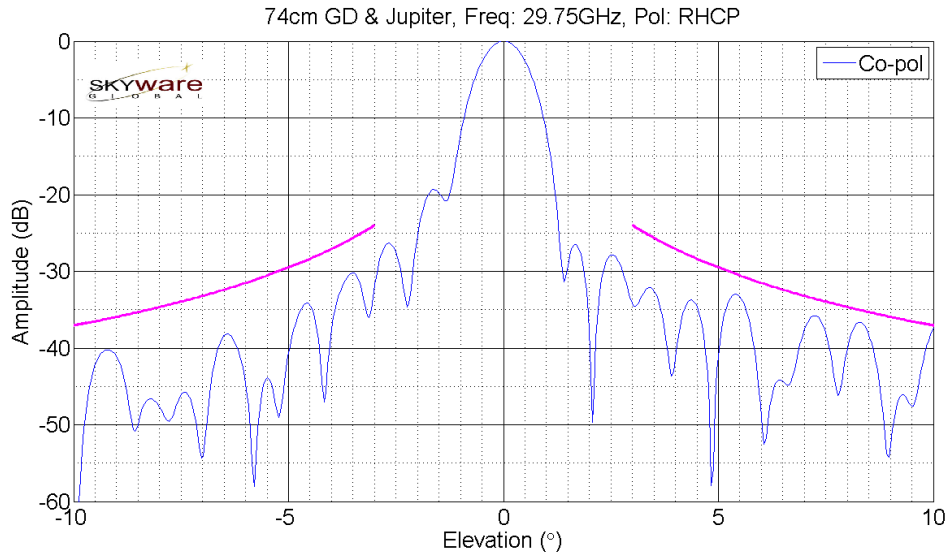




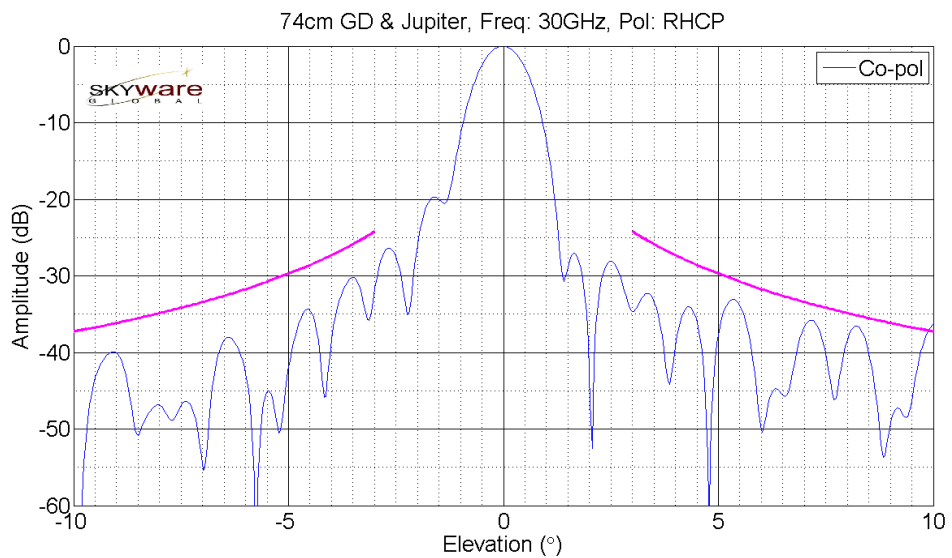
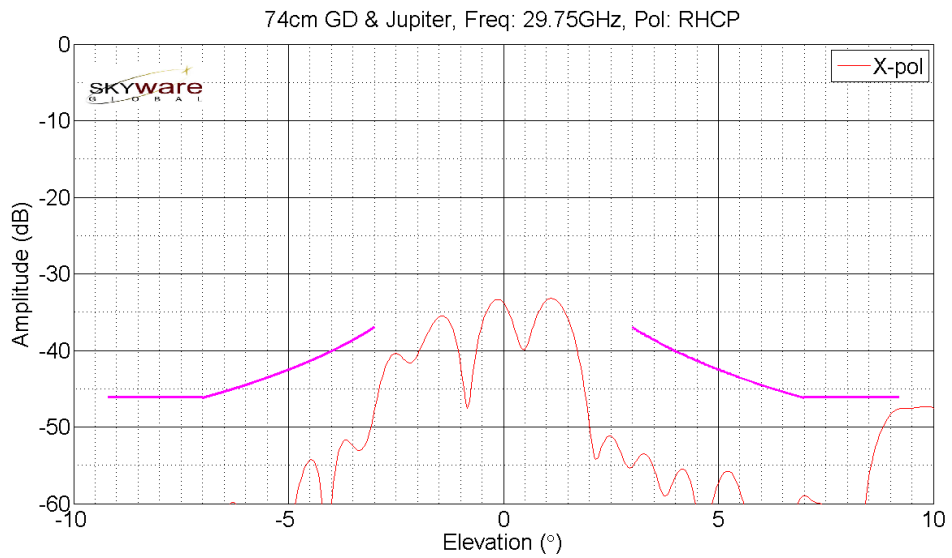
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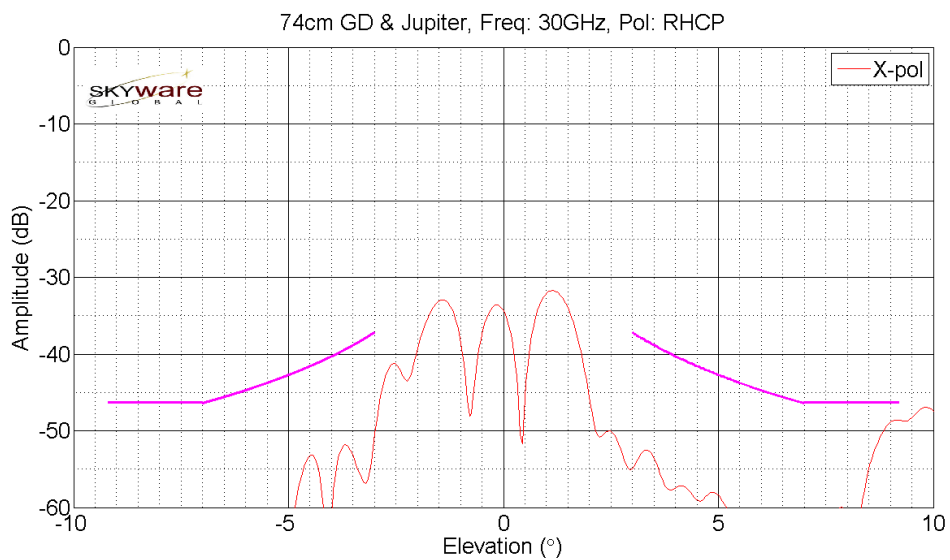
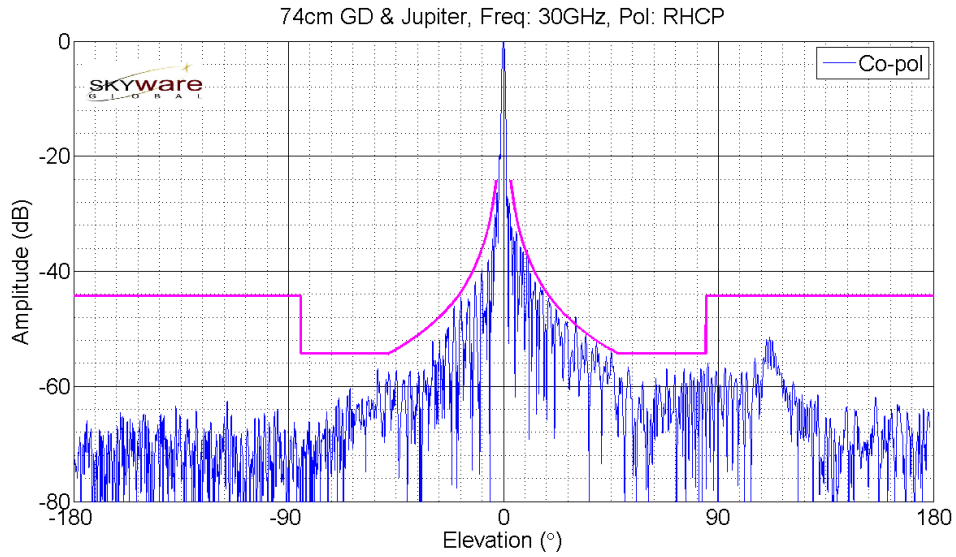
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74cm GD Metal RMS 0.479 mm & Jupiter Feed



## 3.5 Gain

