Satellite Feed Horn Polarization and Antenna Adjustment

NPR's Transponders 1, 3 and 5 are on Galaxy 16 at 99-degrees west longitude.

Note: Please consider using http://www.dishpointer.com/ to aid in locating the exact antenna pointing coordinates for your site's physical address.

NPR's **Horizontally Polarized** Content Depot downlink carriers are on Transponders 3 and 5. Please setup your spectrum analyzer to display our L-Band Streams carrier centered at 1390 MHz on transponder 3 or our Files carrier centered at 1350 MHz for transponder 5. Transponder 1's center frequency is at 1430 MHz.

Please review the L-Band downlink transponder plots provided.

To solve any signal reception problems the site engineer needs to consider inspecting and adjusting his antenna's feed horn polarization and peaking his antenna's azimuth and elevation for optimum performance. Before making any polarization adjustments please place a **"witness mark"** showing your starting point on the antenna feed horn and ring. This can be done using a scribe or permanent marker. Doing this will enable a quick return to your original settings.

The provided plots illustrate what a properly polarized and peaked antenna at your site should look like in order to receive NPR's Transponders 1, 3 and 5. Loosen and rotate the feed assembly until the transponder carriers are peaked and the surrounding noise floor is minimized. This is done the same way for all 3 of our transponders.

Note: Please use the same procedure of placing "witness marks" before adjusting the antenna's azimuth or elevation.

After using the plots to complete the polarization adjustment described above one can, if he chooses to, **"peak the antenna"** using its **azimuth and elevation** adjustments. If it is already peaked as you make any of these antenna adjustments the carrier level on the spectrum analyzer will decrease. If it is not peaked adjust to achieve the **maximum downlink signal carrier level and the lowest noise floor.** You are seeking to get the maximum carrier signal level across all our transponders while maintaining the lowest noise floor.

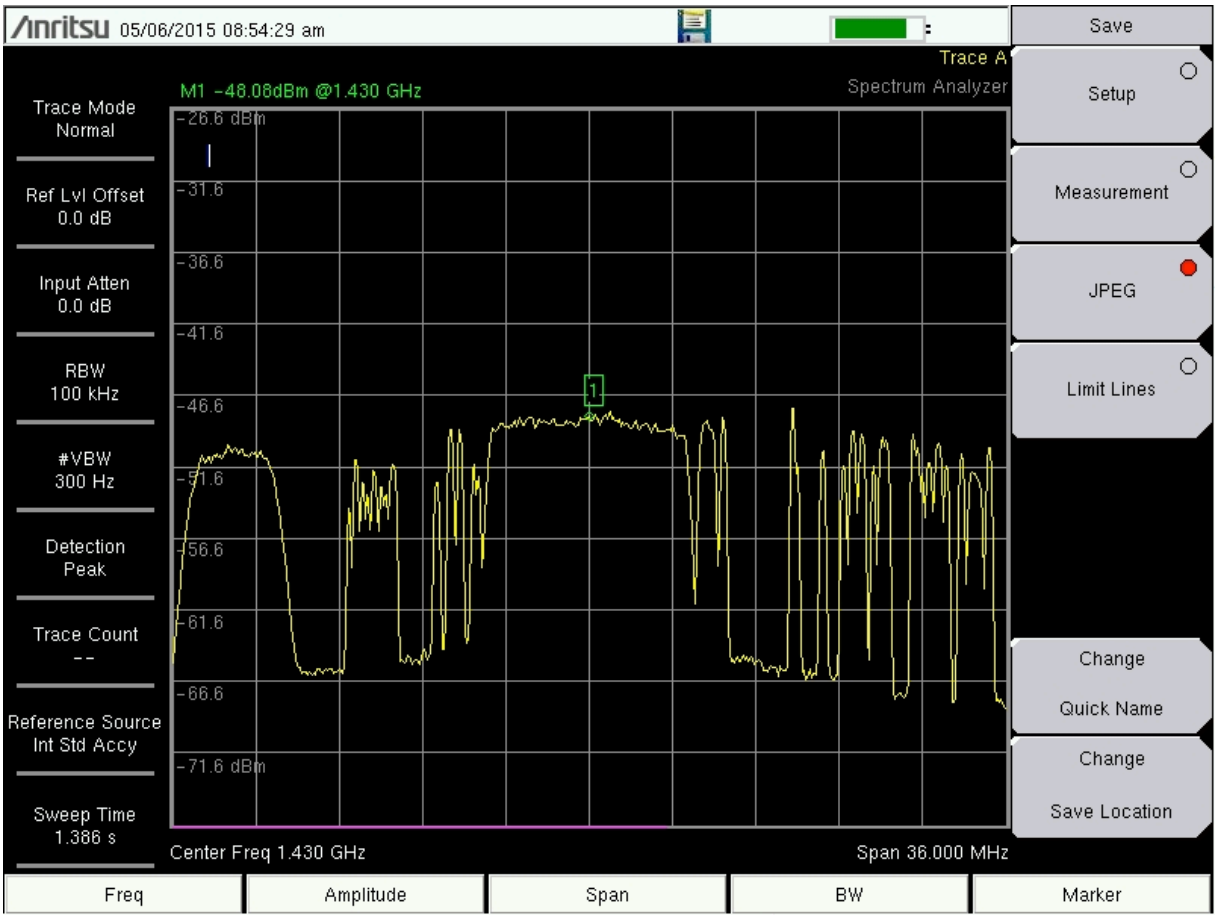
Note: If the engineer has chosen to peak his antenna then he needs to recheck the feed horn polarization afterwards.

Upon completing these steps the downlink antenna should be optimized for receiving NPR's Content Depot programming without any signal dropouts or audio problems.

We hope that this information helps to optimize your antenna for the best downlink reception of NPR's Content Depot signals at your site. If you have any problems please contact the Satellite Maintenance Depot for assistance.

Thanks,

Satellite Maintenance Depot
National Public Radio
1111 North Capitol St., NE
Washington, DC 20002 (PH: 202-513-2650)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Input Atten
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RBW
100 kHz
#VBW
300 Hz
Detection
Peak
Trace Count
--
Reference Source
Int Std Accy
Sweep Time
1.386 s
-26.6 dBm
-31.6
-36.6
-41.6
-46.6
-51.6
-56.6
-61.6
-66.6
-71.6 dBm
Center Freq 1.430 GHz
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Setup
Measurement
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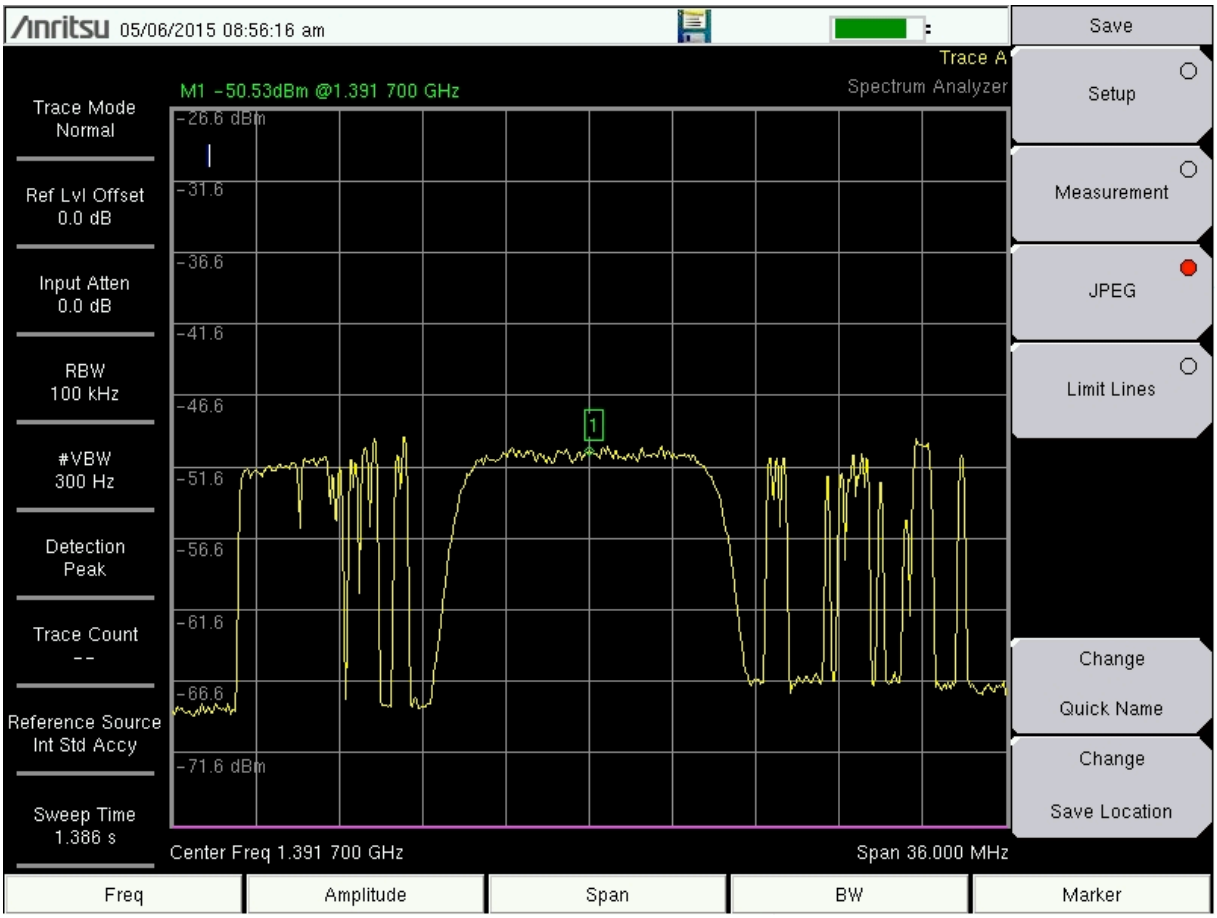
Limit Lines
Change
Quick Name
Change
Save Location
Freq
Amplitude
Span
BW
Marker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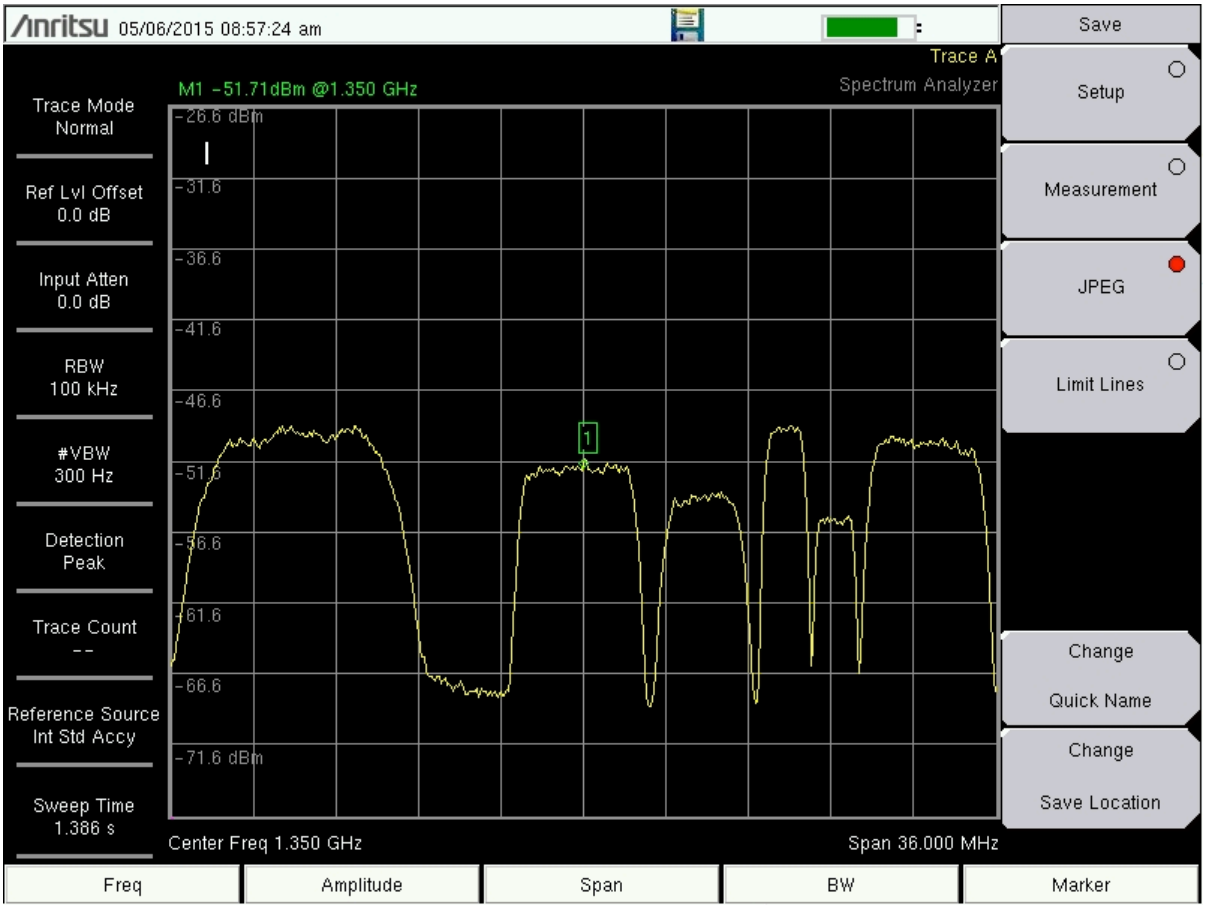
#VBW
300 Hz
Detection
Peak
Trace Count
--
Reference Source
Int Std Accy
Sweep Time
1.386 s
-26.6 dBm
-31.6
-36.6
-41.6
-46.6
-51.6
-56.6
-61.6
-66.6
-71.6 dBm
Center Freq 1.391 700 GHz
Span 36.000 MHz
Setup
Measurement
JPEG
Limit Lines
Change
Quick Name
Change
Save Location
Freq
Amplitude
Span
BW
Marker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Input Atten
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RBW
100 kHz
#VBW
300 Hz
Detection
Peak
Trace Count
--
Reference Source
Int Std Accy
Sweep Time
1.386 s
-26.6 dBm
-31.6
-36.6
-41.6
-46.6
-51.6
-56.6
-61.6
-66.6
-71.6 dBm
1
Center Freq 1.350 GHz
Span 36.000 MHz
Setup
Measurement
JPEG
Limit Lines
Change
Quick Name
Change
Save Location
Freq
Amplitude
Span
BW
Marker