

**Northpoint Technology – DBS Compatibility Test – Austin Test Area  
Signal Strength Readings**

**Rx Site Data Log**

Rx Site No. 13

Set 1-1

Re: Condx Ref. No. 2

Date / Time 12/28/98 1:05 CST

Re: Condx Ref. No. 2

Operator: MWH

**Direct T.V. Signal Strength Readings**

Tsp No	Signal Strength Readings										Avg
<b>16</b>	82	83	83	83	83	85	83	84	85	83	83.4
<b>18</b>	80	80	81	80	80	81	80	80	80	80	80.2
<b>20</b>	85	83	84	83	84	83	83	84	82	83	83.4

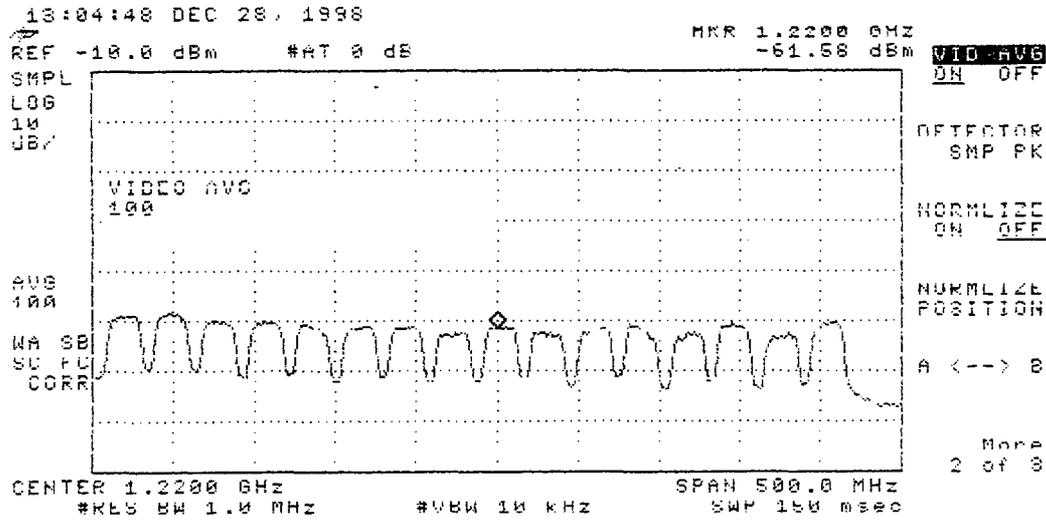
**Estar T.V. Signal Strength Readings**

Tsp No	Signal Strength Readings										Avg
<b>16</b>	93	93	92	93	93	93	93	93	93	93	92.9
<b>18</b>	93	93	93	93	93	93	92	93	93	92	92.8
<b>20</b>	96	97	95	95	95	95	96	95	95	95	95.4

Notes: *Partly, 70°  
Cloudy*

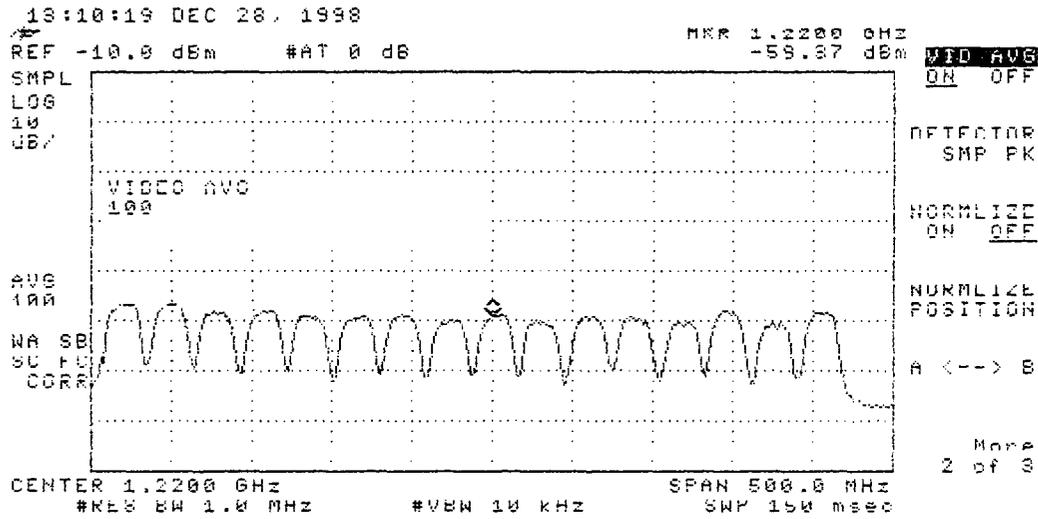
1. DTV, Site-13, Set-1, 12/28/98
2. H.P. 8591E, Boom Down

Plot 13-D



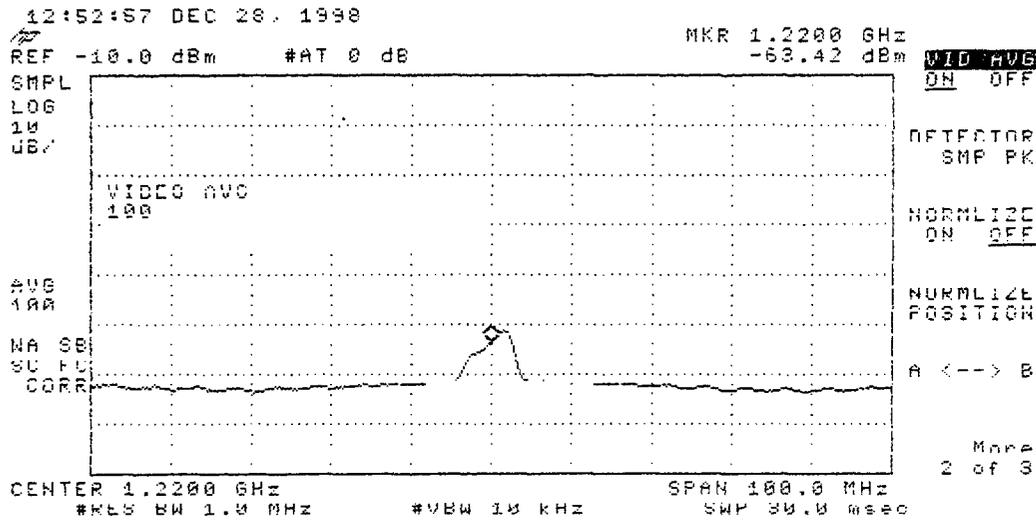
1. Estar, Site-13, Set-1, 12/28/98  
2. H.P. 8591E, Boom Down

Plot-13-E



1. Site-13, Set-1, N.P. Tx, 12/28/98
2. Picture on T.V. Good
3. H.P. 8591E, Boom Down

Plot 13-N



## COMMENTS FROM SITE 13

Site 13 Barton Creek Mall

a. Had NP plot with steppe slopes

# Northpoint Technology – DBS Compatibility Test – Austin Test Area

## Rx Site Data Log

B. Creek Mall - a

Rx Site No.

13-9

p1

Set:

11

Re: Rx Condx Ref. No.

2

Date / Time:

12/28/98 1:40 CST

Re: Tx Condx Ref. No.

2

Operator:

MWH

### Data Measurements:

- (1) On arrival --
  - Position and deploy antenna platform (first at ground level).
  - Position GPS Receiver and allow to average during site occupation.
  - Obtain information for Rx Site Location Log.
  - Point Precision Horn Antenna toward Tx (approx. direction).

- (2) DBS Signal Interference Tests – DirecTV and EchoStar.

For each satellite case (one at a time), with Tx OFF, point DBS Antenna to the satellite and peak the signal strength. Observe the monitor for the prescribed TV channel (w/ appropriate DBS Rx) and assess signal quality. Turn Tx ON and observe the TV signal quality. Note any change in signal quality that is correlated with the Tx ON/OFF condition. Repeat Tx ON/OFF sequence as needed.

With the Spectrum Analyzer (SA), observe and record the Signal Power Spectrum and its peak value at the LNB output for the two Tx states (ON/OFF). Label the Spectrum Plots and mark them with an assigned ID code.

DirecTV – Tx OFF: OK? Y\_\_\_ / N\_\_\_ Tx ON: OK? Y~~X~~ / N\_\_\_

Any behavior correlated with Tx ON/OFF ? Y\_\_\_ / N\_\_\_

Comments: \_\_\_\_\_

Signal Power Spectrum – Tx ON: --Peak -- -60.62 dBm Plot ID Code 13-9-D  
Tx OFF: – Peak -- \_\_\_\_\_ dBm Plot ID Code \_\_\_\_\_

Comments: \_\_\_\_\_

EchoStar – Tx OFF: OK? Y\_\_\_ / N\_\_\_ Tx ON: OK? Y~~X~~ / N\_\_\_

Any behavior correlated with Tx ON/OFF ? Y\_\_\_ / N\_\_\_

Comments: \_\_\_\_\_

Signal Power Spectrum – Tx ON: --Peak -- -57.26 dBm Plot ID Code 13-9-E  
Tx OFF: – Peak -- \_\_\_\_\_ dBm Plot ID Code \_\_\_\_\_

Comments: \_\_\_\_\_

# Northpoint Technology – DBS Compatibility Test – Austin Test Area

## Rx Site Data Log

Rx Site No.

132

p2

Set:

1/1

### (3) Northpoint Signal Quality Test –

With the Tx ON, point the DBS antenna toward the Tx, while using the NP Rx equipment, and peak the signal strength. Observe the monitor (w/ NP Rx equipment) and assess the signal quality.

NP Signal – OK? Y X / N \_\_\_\_\_ Comments: \_\_\_\_\_

### (4) NP Rx Signal Level and Power Spectrum at Rx Site – LNB output --

With the DBS antenna on the NP Tx, and with the Tx ON, observe and record the Signal Power Spectrum and the peak level at the LNB output. Label the spectrum plot with an assigned ID Code.

Signal Power Spectrum -- Peak -- -57.99 dBm Plot ID Code -- 13-9-N

Comments: \_\_\_\_\_

### (5) Tx Signal Level and Power Spectrum at Rx Site – w/ Precision Ant. and SA.

Using the Precision Antenna and Test Set, observe and record the Tx Signal Power Spectrum and the peak value at the Rx site. Label the spectrum plot with an assigned ID Code.

Signal Power Spectrum -- Peak -- \_\_\_\_\_ dBm Plot ID Code -- \_\_\_\_\_

Comments: \_\_\_\_\_

### (6) When Rx Site measurements and tests are completed, read the GPS Receiver and record the position in the Rx Site Location Log. Prepare the equipment for movement to the next site.

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Use the space below for added comments and notes. Attach extra pages if necessary.

**Northpoint Technology – DBS Compatibility Test – Austin Test Area  
Signal Strength Readings**

**Rx Site Data Log**

Rx Site No. 13-9

Set 1-1

Re: Condx Ref. No. 2

Date / Time 12/28/98 1:40 CST

Re: Condx Ref. No. 2

Operator: MMW

**Direct T.V. Signal Strength Readings**

Tsp No	Signal Strength Readings										Avg
<b>16</b>	85	86	86	86	86	85	85	86	86	86	85.7
<b>18</b>	85	85	83	83	85	83	84	85	85	85	84.3
<b>20</b>	87	86	87	86	87	87	86	87	86	86	86.5

**Estar T.V. Signal Strength Readings**

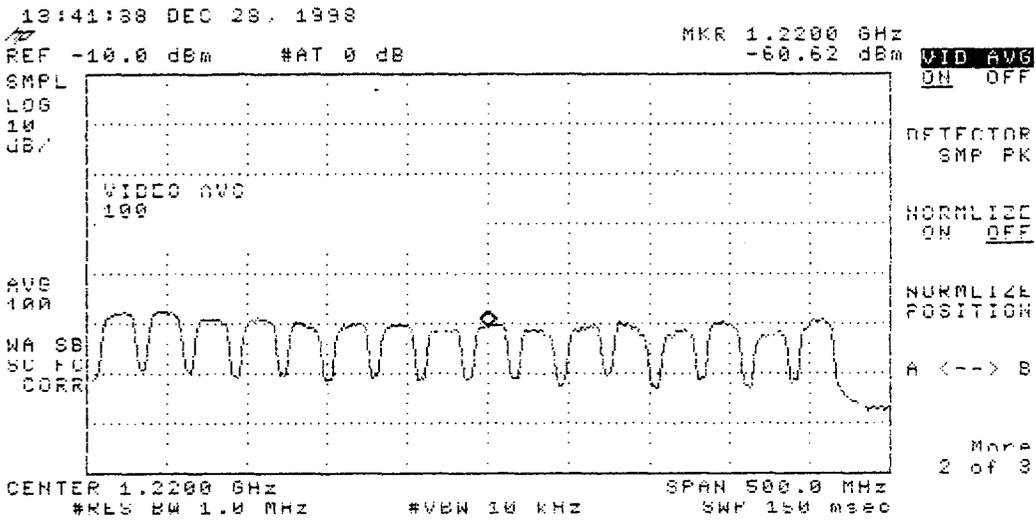
Tsp No	Signal Strength Readings										Avg
<b>16</b>	91	90	91	90	90	90	91	91	90	91	90.5
<b>18</b>	90	90	90	89	89	90	89	89	91	90	89.7
<b>20</b>	93	93	93	93	93	93	93	93	93	93	93

Notes: 1. Estar pointing right through Tree.  
DTV not pointing into tree.

2. Partly Cloudy: 70°

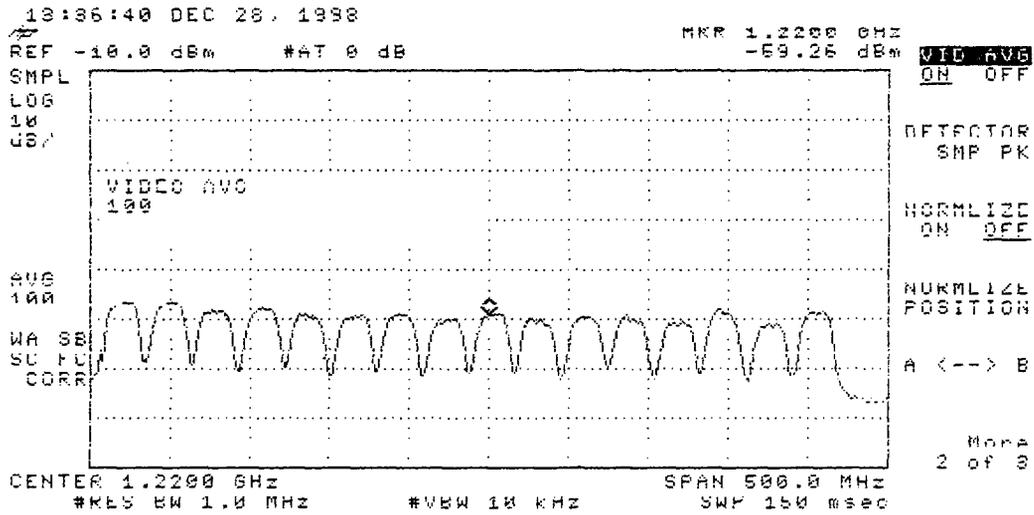
1. DTV, 12/28/98, Site-13-9, Set-1
2. Boom Down H.P. 8591E

Plot-13-9-D



1. Estgr, Site-139, 12/28/98, set-1
2. Boom Down, H.P. 8591E

Plot-13-9-E

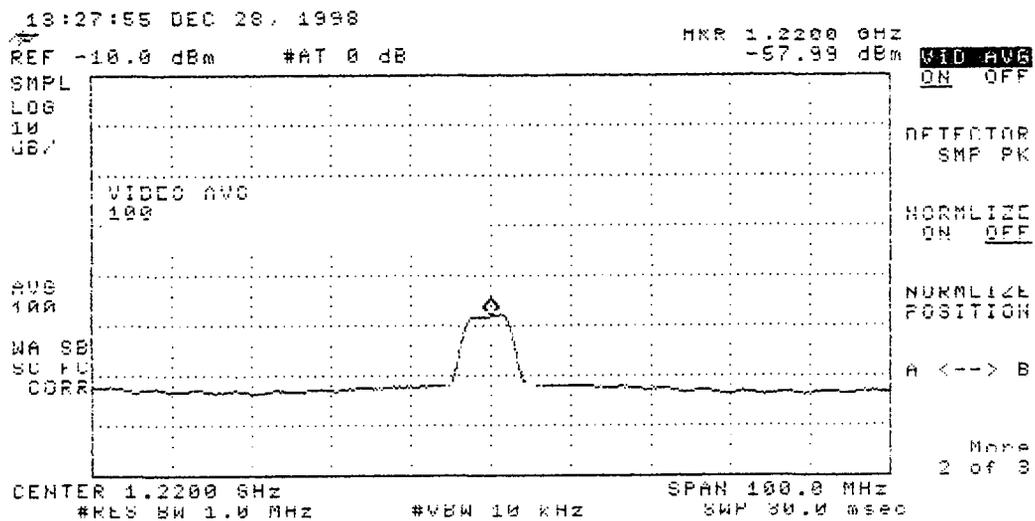


1. Site-13a, N.P. Tx, 12/28/98

2. Picture Good on T.V.

3. Boom Down, H.A. 8591E

Plot 13-a-N



**COMMENTS FROM SITE 13a**

Site 13a Barton Creek Mall

- a. Estar is pointing right through a tree

# Northpoint Technology – DBS Compatibility Test – Austin Test Area

*Barton Creek Mall (site 13A)*

## Rx Site Data Log

Rx Site No. 13-9-2 p1  
Set: 1

Re: Rx Condx Ref. No. 2 Date / Time: 12/30/98 10:45 CST  
Re: Tx Condx Ref. No. 2 Operator: MWH

### Data Measurements:

- (1) On arrival --
  - Position and deploy antenna platform (first at ground level).
  - Position GPS Receiver and allow to average during site occupation.
  - Obtain information for Rx Site Location Log.
  - Point Precision Horn Antenna toward Tx (approx. direction).

### (2) DBS Signal Interference Tests – DirecTV and EchoStar.

For each satellite case (one at a time), with Tx OFF, point DBS Antenna to the satellite and peak the signal strength. Observe the monitor for the prescribed TV channel (w/ appropriate DBS Rx) and assess signal quality. Turn Tx ON and observe the TV signal quality. Note any change in signal quality that is correlated with the Tx ON/OFF condition. Repeat Tx ON/OFF sequence as needed.

With the Spectrum Analyzer (SA), observe and record the Signal Power Spectrum and its peak value at the LNB output for the two Tx states (ON/OFF). Label the Spectrum Plots and mark them with an assigned ID code.

DirecTV – Tx OFF: OK? Y\_\_\_ / N\_\_\_ Tx ON: OK? Y~~X~~ / N\_\_\_

Any behavior correlated with Tx ON/OFF ? Y\_\_\_ / N\_\_\_

Comments: \_\_\_\_\_

Signal Power Spectrum – Tx ON: --Peak --- 60.37 dBm Plot ID Code 13-9-2-D  
Tx OFF: – Peak -- \_\_\_\_\_ dBm Plot ID Code \_\_\_\_\_

Comments: \_\_\_\_\_

EchoStar – Tx OFF: OK? Y\_\_\_ / N\_\_\_ Tx ON: OK? Y~~X~~ / N\_\_\_

Any behavior correlated with Tx ON/OFF ? Y\_\_\_ / N\_\_\_

Comments: \_\_\_\_\_

Signal Power Spectrum – Tx ON: --Peak -- 58.48 dBm Plot ID Code 13-9-2-E  
Tx OFF: – Peak -- \_\_\_\_\_ dBm Plot ID Code \_\_\_\_\_

Comments: \_\_\_\_\_

# Northpoint Technology – DBS Compatiblilty Test – Austin Test Area

## Rx Site Data Log

Rx Site No.

13-9-2

p2

Set:

1/1

(3) Northpoint Signal Quality Test –

With the Tx ON, point the DBS antenna toward the Tx, while using the NP Rx equipment, and peak the signal strength. Observe the monitor (w/ NP Rx equipment) and assess the signal quality.

NP Signal – OK? Y  / N       Comments: \_\_\_\_\_

(4) NP Rx Signal Level and Power Spectrum at Rx Site – LNB output --

With the DBS antenna on the NP Tx, and with the Tx ON, observe and record the Signal Power Spectrum and the peak level at the LNB output. Label the spectrum plot with an assigned ID Code.

Signal Power Spectrum --      Peak -- -50.78 dBm      Plot ID Code -- 13-9-2-N

Comments: \_\_\_\_\_

(5) Tx Signal Level and Power Spectrum at Rx Site – w/ Precision Ant. and SA.

Using the Precision Antenna and Test Set, observe and record the Tx Signal Power Spectrum and the peak value at the Rx site. Label the spectrum plot with an assigned ID Code.

Signal Power Spectrum --      Peak -- \_\_\_\_\_ dBm      Plot ID Code -- \_\_\_\_\_

Comments: \_\_\_\_\_

(6) When Rx Site measurements and tests are completed, read the GPS Receiver and record the position in the Rx Site Location Log. Prepare the equipment for movement to the next site.

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Use the space below for added comments and notes. Attach extra pages if necessary.

**Northpoint Technology – DBS Compatibility Test – Austin Test Area  
Signal Strength Readings**

**Rx Site Data Log**Rx Site No. 13-a-2Set 1-1Re: Condx Ref. No. 2Date / Time 12/30/98 10:50 CSTRe: Condx Ref. No. 2Operator: MWH**Direct T.V. Signal Strength Readings**

Tsp No	Signal Strength Readings										Avg
<b>16</b>	86	87	86	86	86	86	87	85	86	86	86.1
<b>18</b>	86	86	86	85	84	85	85	85	86	86	85.4
<b>20</b>	86	85	86	87	87	86	86	87	85	87	86.5

**Estar T.V. Signal Strength Readings**

Tsp No	Signal Strength Readings										Avg
<b>16</b>	91	91	91	92	91	92	91	91	91	91	91.2
<b>18</b>	91	91	91	91	91	91	91	91	91	91	91
<b>20</b>	94	94	94	94	94	94	94	94	93	94	93.9

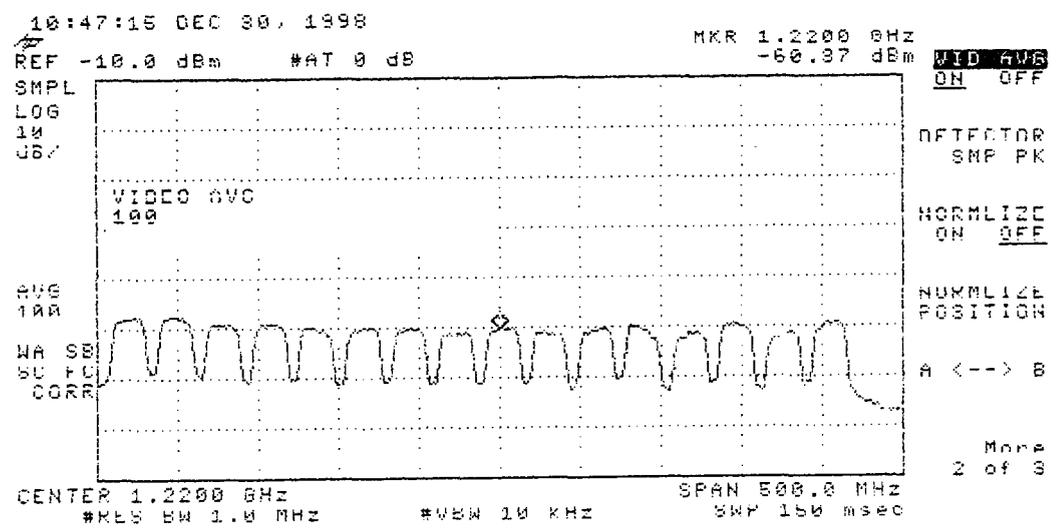
Notes: 1. Clear, 65°

2. Estar point right through a tree (little one)

1. DTV, 12/30/98, Site -13-9-2

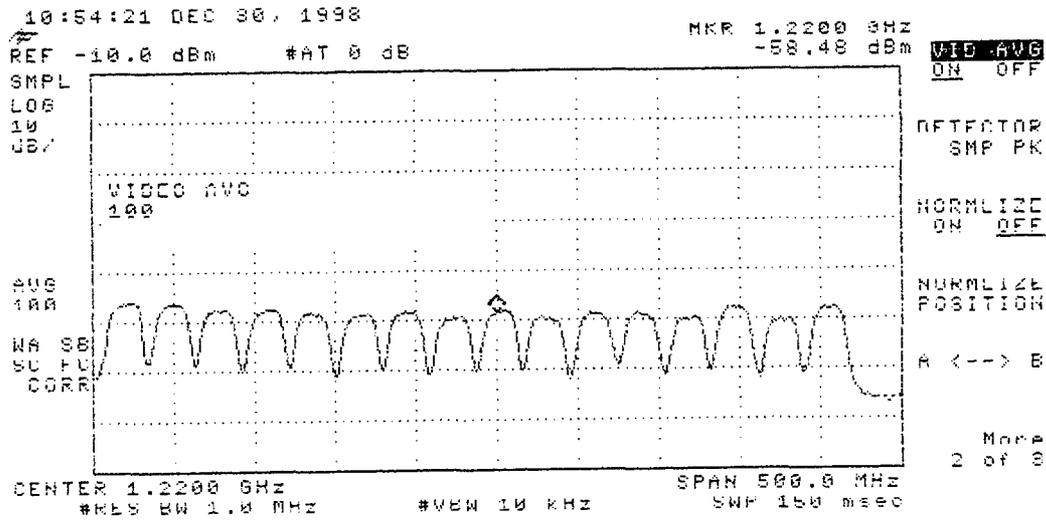
2. Boom Down

Plot - 13-9-2-D



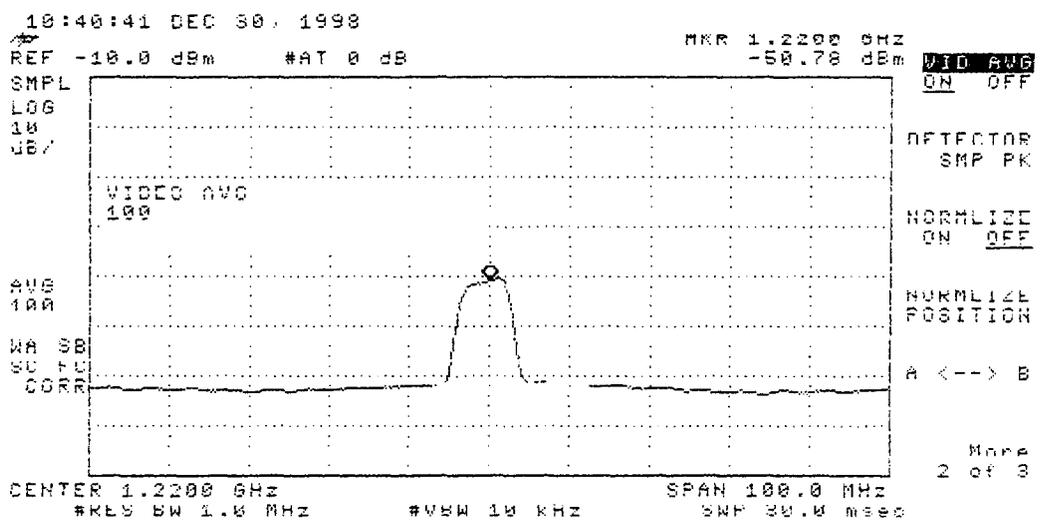
1. Estar, 12/30/98, Site-13-9-2,
2. Boom Down

Plot 13-9-2-E



1. N.P. Tx, 12/30/98, Site -13-9-2
2. Boom Down
3. Picture Good on T.V.

Plot-13-9-2-N



**COMMENTS FROM SITE 13-a-2**

Site 13-a-2 Barton Creek Mall

- a. Estar is pointing right through a little tree

Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Data Log

Acc Pinnacle

Rx Site No. 14  
Set: 11

p1

Re: Rx Condx Ref. No. 2

Date / Time: 12/28/98 2:30 CST

Re: Tx Condx Ref. No. 2

Operator: MWH

**Data Measurements:**

- (1) On arrival --
  - Position and deploy antenna platform (first at ground level).
  - Position GPS Receiver and allow to average during site occupation.
  - Obtain information for Rx Site Location Log.
  - Point Precision Horn Antenna toward Tx (approx. direction).

(2) DBS Signal Interference Tests – DirecTV and EchoStar.

For each satellite case (one at a time), with Tx OFF, point DBS Antenna to the satellite and peak the signal strength. Observe the monitor for the prescribed TV channel (w/ appropriate DBS Rx) and assess signal quality. Turn Tx ON and observe the TV signal quality. Note any change in signal quality that is correlated with the Tx ON/OFF condition. Repeat Tx ON/OFF sequence as needed.

With the Spectrum Analyzer (SA), observe and record the Signal Power Spectrum and its peak value at the LNB output for the two Tx states (ON/OFF). Label the Spectrum Plots and mark them with an assigned ID code

DirecTV – Tx OFF: OK? Y\_\_\_ / N\_\_\_ Tx ON: OK? Y~~X~~ / N\_\_\_

Any behavior correlated with Tx ON/OFF ? Y\_\_\_ / N\_\_\_

Comments: \_\_\_\_\_

Signal Power Spectrum – Tx ON: --Peak -- -60.11 dBm Plot ID Code 14-D  
Tx OFF: – Peak -- \_\_\_\_\_ dBm Plot ID Code \_\_\_\_\_

Comments: \_\_\_\_\_

EchoStar – Tx OFF: OK? Y\_\_\_ / N\_\_\_ Tx ON: OK? Y~~X~~ / N\_\_\_

Any behavior correlated with Tx ON/OFF ? Y\_\_\_ / N\_\_\_

Comments: \_\_\_\_\_

Signal Power Spectrum – Tx ON: --Peak -- -60.17 dBm Plot ID Code 14-E  
Tx OFF: – Peak -- \_\_\_\_\_ dBm Plot ID Code \_\_\_\_\_

Comments: \_\_\_\_\_

# Northpoint Technology – DBS Compatibility Test – Austin Test Area

## Rx Site Data Log

Rx Site No.

14

p2

Set:

11

### (3) Northpoint Signal Quality Test –

With the Tx ON, point the DBS antenna toward the Tx, while using the NP Rx equipment, and peak the signal strength. Observe the monitor (w/ NP Rx equipment) and assess the signal quality.

NP Signal – OK? Y X / N \_\_\_\_\_ Comments: \_\_\_\_\_

### (4) NP Rx Signal Level and Power Spectrum at Rx Site – LNB output --

With the DBS antenna on the NP Tx, and with the Tx ON, observe and record the Signal Power Spectrum and the peak level at the LNB output. Label the spectrum plot with an assigned ID Code.

Signal Power Spectrum -- Peak -- -62.07 dBm Plot ID Code -- 14-N

Comments: \_\_\_\_\_

### (5) Tx Signal Level and Power Spectrum at Rx Site – w/ Precision Ant. and SA.

Using the Precision Antenna and Test Set, observe and record the Tx Signal Power Spectrum and the peak value at the Rx site. Label the spectrum plot with an assigned ID Code.

Signal Power Spectrum -- Peak -- \_\_\_\_\_ dBm Plot ID Code -- \_\_\_\_\_

Comments: \_\_\_\_\_

### (6) When Rx Site measurements and tests are completed, read the GPS Receiver and record the position in the Rx Site Location Log. Prepare the equipment for movement to the next site.

Use the space below for added comments and notes. Attach extra pages if necessary.

① No Reflection off of Bid.

**Northpoint Technology – DBS Compatibility Test – Austin Test Area  
Signal Strength Readings**

**Rx Site Data Log**

Rx Site No. 14

Set 1-1

Re: Condx Ref. No. 2

Date / Time 12/28/98 2:49 CST

Re: Condx Ref. No. 2

Operator: MWH

**Direct T.V. Signal Strength Readings**

Tsp No	Signal Strength Readings										Avg
<b>16</b>	86	85	85	86	85	87	86	84	85	87	84.8
<b>18</b>	84	83	84	83	83	83	85	84	83	85	83.7
<b>20</b>	86	86	86	87	86	86	85	86	86	86	86

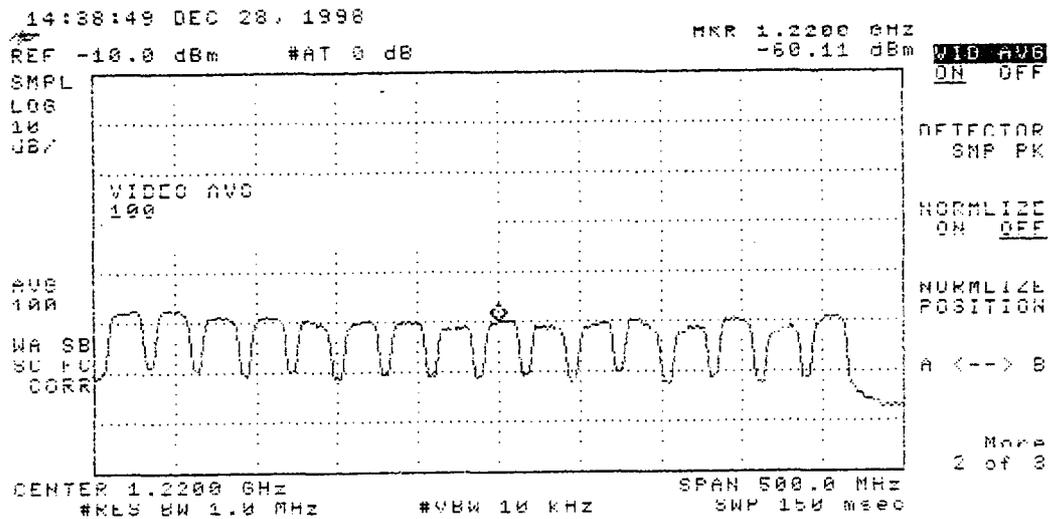
**Estar T.V. Signal Strength Readings**

Tsp No	Signal Strength Readings										Avg
<b>16</b>	89	89	89	89	89	89	90	89	90	89	89.2
<b>18</b>	88	88	87	88	87	88	88	88	89	87	87.8
<b>20</b>	91	91	93	91	91	91	91	91	91	91	91.2

Notes: 1. Estar, Edge of West end of Bld. in way  
2. Partly Cloudy, 70°

1. DTV, 12/28/98, Site-14, Set-1
2. Boom Down, H.P. 8591E

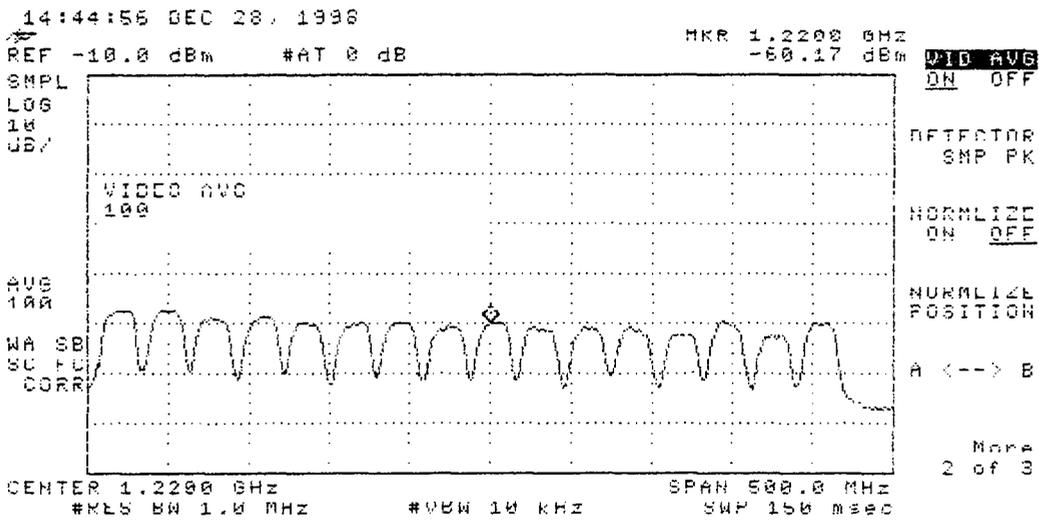
Plot -14-D



1. Estar, 12/28/98, Site-14, Set-1

2. Boom Down, HP 8591E

### Plot-14-E



1. N.P Tx, 12/28/98, Site-14, Set-1
2. Picture good on T.V.

Plot-14-N

