

Set: 1
SI: 7

Plot 7-D

Transmitter: Direct TV
Ecom: Down

T: 12-22-98

Spectrum Analyzer: HP8551E

12:05:19 DEC 22, 1998

REF -10.0 dBm #AT 0 dB

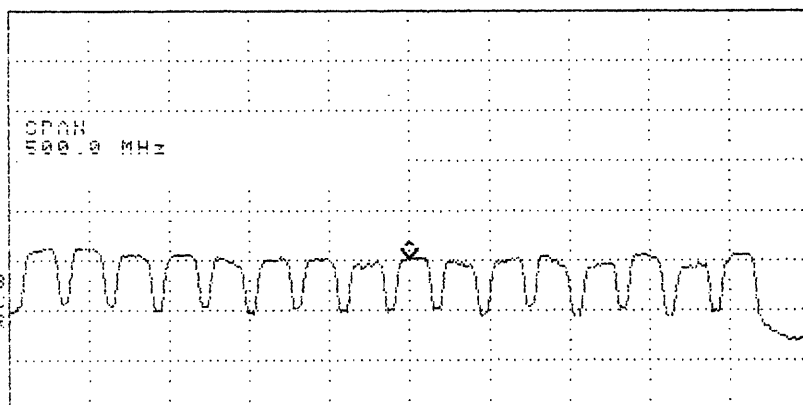
MKR 1.2200 GHz
-59.72 dBm

SMPL
LOG
10
dB/

SPAN
500.0 MHz

AUG
100

WA SB
SU FU
CORR



CENTER 1.2200 GHz

#RES BW 1.0 MHz

#VIEW 10 KHZ

SPAN 500.0 MHz

SWP 150 msec

SPAN

SPAN
ZOOM

FULL
SPAN

ZERO
SPAN

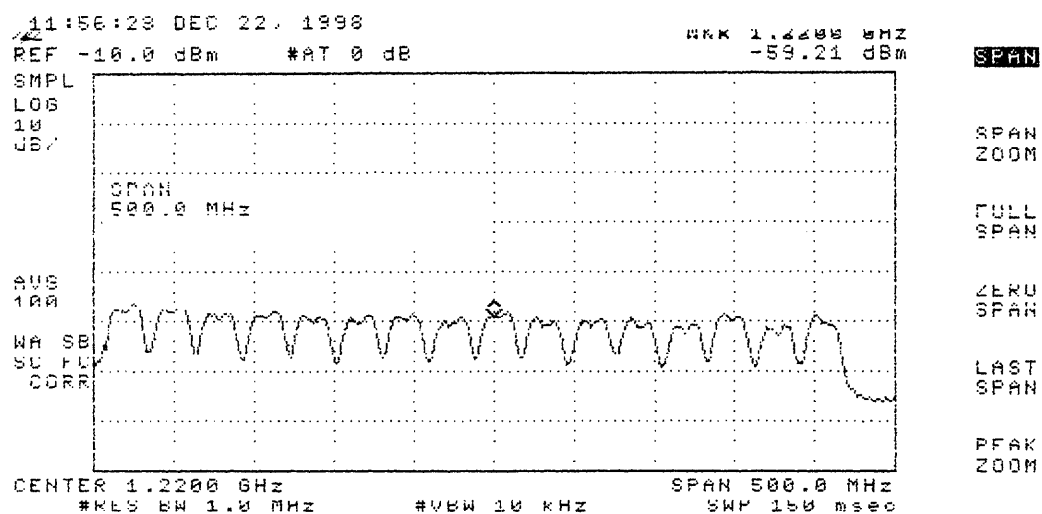
LAST
SPAN

PEAK
ZOOM

Plot: 7-E

Boom: Down

SECRETARY OF THE ARMY



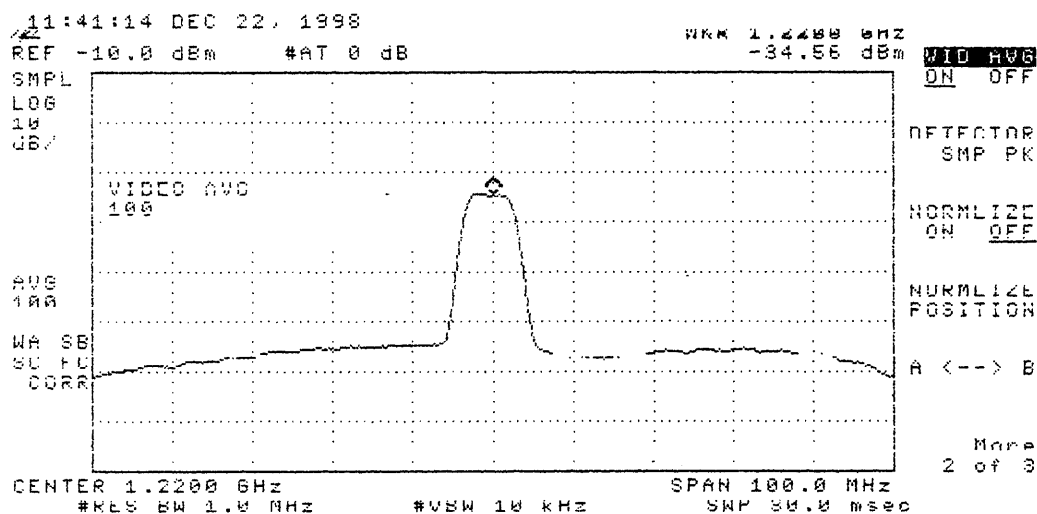
8+81
JUL 7

BT: 7-N

Born: Down
Tr. smiller: North Point

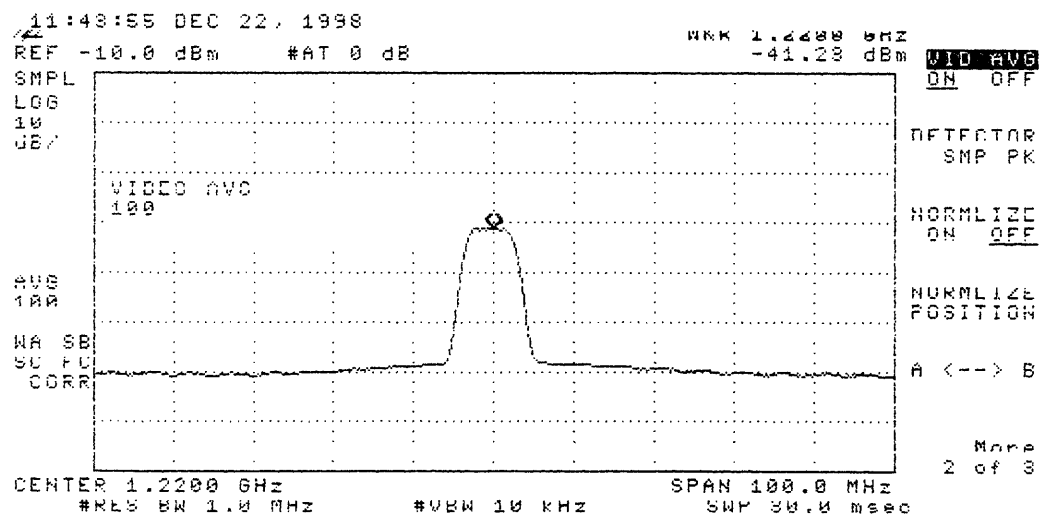
D. 12-22-97

Sp. 200, 400 Analysis: HP8591E



Set: 1
Di: 7
Zoom: Down
Transmitter: NorthPoint
E: 112-22-95
Location: Alynor: HPC29.1C

21-: 7-R-1



off of brick & glass
video good

Sat: 1

Sat: 7

Transmitter: 100Watt

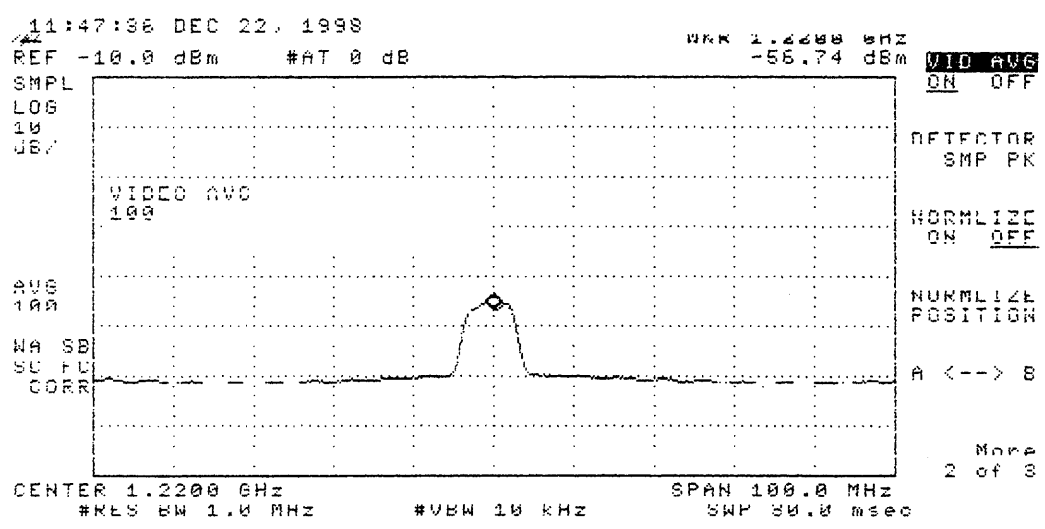
End: Down

12-22-98

Pt: 7-R-2

Station Analysis: 100Watt

good, solid glass



COMMENTS FROM SITE 7

Site 7 Palmer *1

- a. Have two reflection plots**
 - 1. Reflection off of brick and glass building**
 - 2. Reflection off of solid glass part of a building**

Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Data Log

Palmer ②

Rx Site No.

8

p1

Set:

1/1

Re: Rx Condx Ref. No.

2

Date / Time:

12/22/02 12:10 CST

Re: Tx Condx Ref. No.

2

Operator:

JMB

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[✓]___/N___

Any behavior correlated with Tx ON/OFF ? Y___/N___

Comments: _____

Signal Power Spectrum – Tx ON: --Peak -- -60.14 dBm Plot ID Code 8-D
Tx OFF: -- Peak -- _____ dBm Plot ID Code _____

Comments: _____

EchoStar – Tx OFF: OK? Y___/N___ Tx ON: OK? Y[✓]___/N___

Any behavior correlated with Tx ON/OFF ? Y___/N___

Comments: _____

Signal Power Spectrum – Tx ON: --Peak -- -58.19 dBm Plot ID Code 8-E
Tx OFF: -- Peak -- _____ dBm Plot ID Code _____

Comments: _____

Rx Site Data Log

Set:

p2

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.

8

Set 1/1

Re: Condx Ref. No.

2

Date / Time

12/30/08 12:02 CST

Re: Condx Ref. No.

2

Operator:

JTB

Direct T.V. Signal Strength Readings

Tsp No	Signal Strength Readings										Avg
16	78	80	80	77	78	78	77	77	78	78	77.9
18	75	76	76	76	74	74	76	75	75	76	75.3
20	79	79	79	79	78	79	79	77	77	79	78.5

Estar T.V. Signal Strength Readings

Tsp No	Signal Strength Readings										Avg
16	90	89	90	89	90	90	89	90	90	89	89.6
18	91	91	91	91	91	91	91	91	92	90	91
20	92	91	92	93	91	92	92	92	92	93	92

Notes:

Overcast, Very Cold Temp 34°

Shielding w/ pie pan made no change

Plot: 8-D

12-22-98

Spectrum Analyzer: HP8591E

12:26:18 DEC 22, 1998

REF -10.0 dBm #AT 0 dB

MR 1.2200 GHz
-60.33 dBm

VID AVG
ON OFF

SMPL
LOG
10
GB

DETECTOR
SMP PK

VIDEO AVG
100

NORMLIZE
ON OFF

AUS
100

NORMLIZE
POSITION

WA SB
SU FC
CORR

A <--> B

CENTER 1.2200 GHz

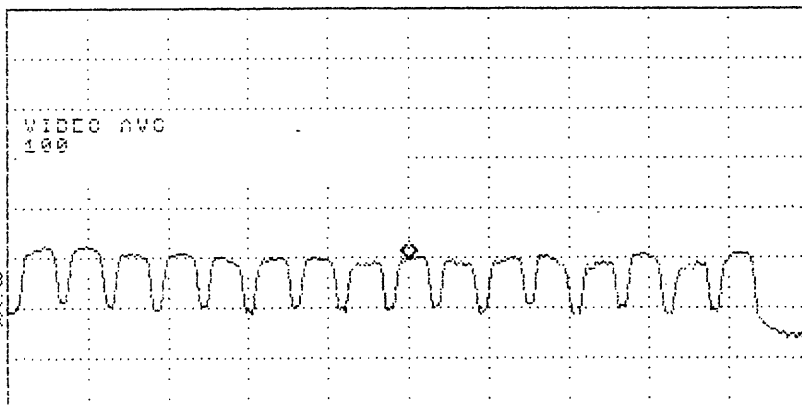
#RES BW 1.0 MHz

#VBW 10 KHZ

SPAN 500.0 MHz

SWP 150 msec

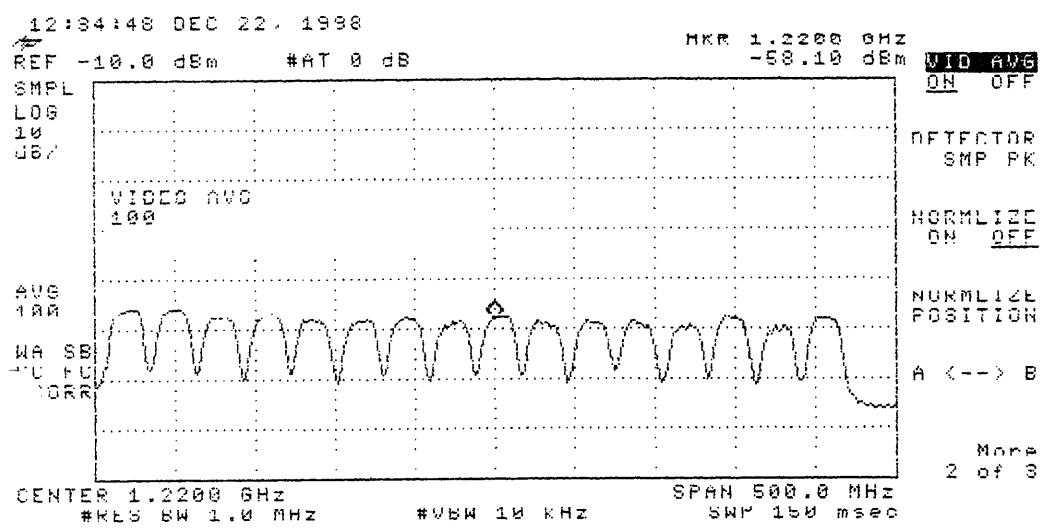
More
2 of 3



1
8

Plot: 8-E

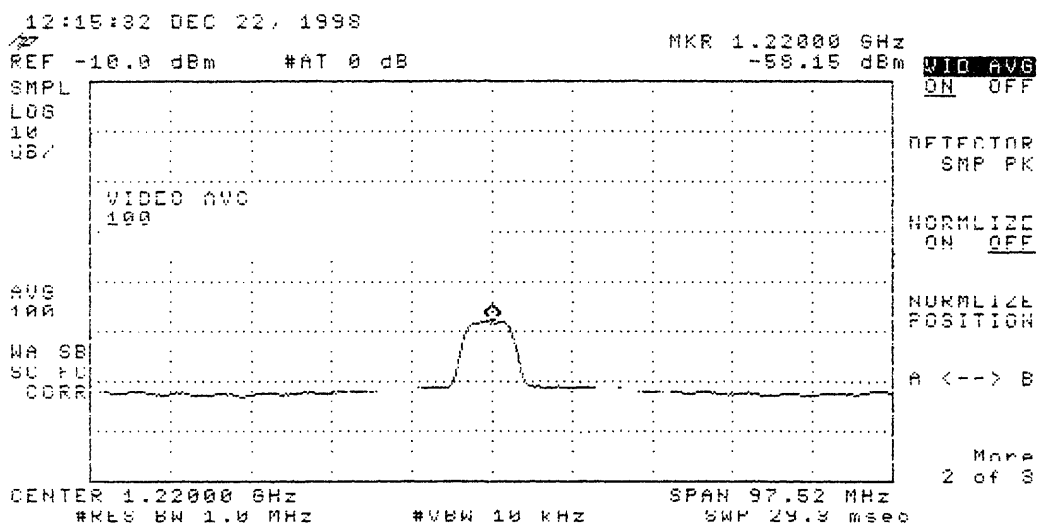
Transmitter: EchoStar
in Down
110 dB
1.10 Hz/Hz: APIS/IE



Pi pans have no effect

S-1
 8
 T. Miller: Northwest
 Room: DOWN
 Date: 12-22-98
 Spectrum Analysis: HP8941E

Plot 18-11



Transceiver hidden by Palmer Awd.

Plot 8-R-1

Set 11

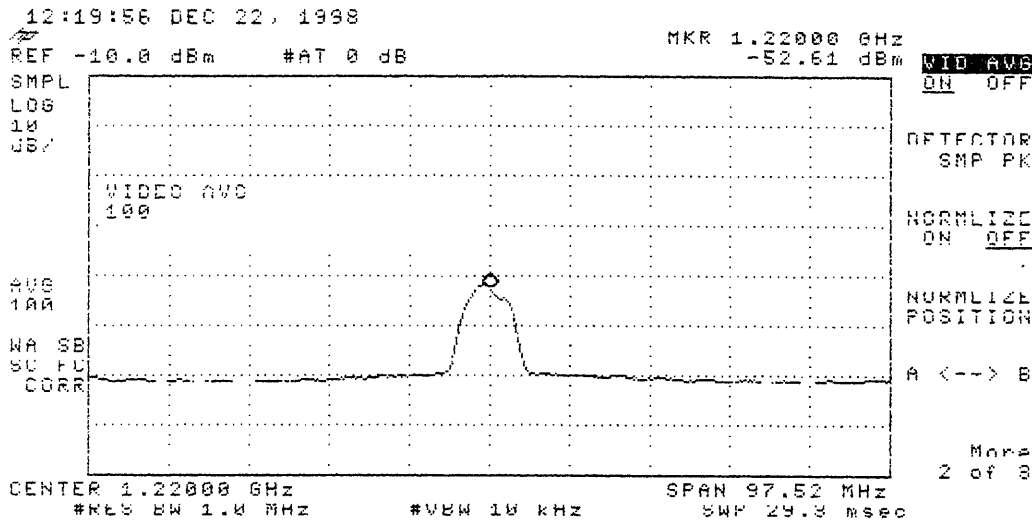
Site 18

Transmitter North Point

Room 1000

Date: 12-22-98

Frequency 1.22000 GHz



Through 1.220 GHz, off COA 1.220 GHz
(City of Austin) PC

COMMENTS FROM SITE 8

Site 8 Palmer *2

- a. Shielding with pie pans made no change
- b. NP Tx hidden by Palmer Auditorium
- c. Have one reflection plot
 - 1. Reflection off of COA building (through a tree)

Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Data Log

Palmer * 3

Rx Site No.

9

p1

Set:

1/1

Re: Rx Condx Ref. No.

2

Date / Time:

12/22/98 12:31 CST

Re: Tx Condx Ref. No.

2

Operator:

JMB / MVA

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~~✓~~ / N___

Any behavior correlated with Tx ON/OFF ? Y___ / N___

Comments: Boom up -15ft

Signal Power Spectrum – Tx ON: --Peak -- -60.3 dBm Plot ID Code 9-10
Tx OFF: --Peak -- _____ dBm Plot ID Code _____

Comments: _____

EchoStar – Tx OFF: OK? Y___ / N___ Tx ON: OK? Y~~✓~~ / N___

Any behavior correlated with Tx ON/OFF ? Y___ / N___

Comments: Boom 15ft

Signal Power Spectrum – Tx ON: --Peak -- -61.25 dBm Plot ID Code 9-E
Tx OFF: --Peak -- _____ dBm Plot ID Code _____

Comments: Boom 15ft

Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Data Log

Rx Site No.

9

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: *Windy, picture in sat Boom Boom
Picture Good - Boom 15'*

(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 -- $\frac{-51.37}{-38.84}$ dBm Plot ID Code -- $\frac{9-N}{9-N-A}$

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.

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

Rx Site Data Log

Rx Site No.

9

Set 1 / 1

Re: Condx Ref. No.

2

Date / Time

12/22/98 12:39 CST

Re: Condx Ref. No.

2

Operator:

JMB

Direct T.V. Signal Strength Readings

Tsp No	Signal Strength Readings										Avg
16	63	64	65	66	66	67	66	62	64	64	64.7
18	64	61	62	62	61	58	54	61	61	62	60.6
20	65	67	67	71	66	66	67	74	74	71	68.8

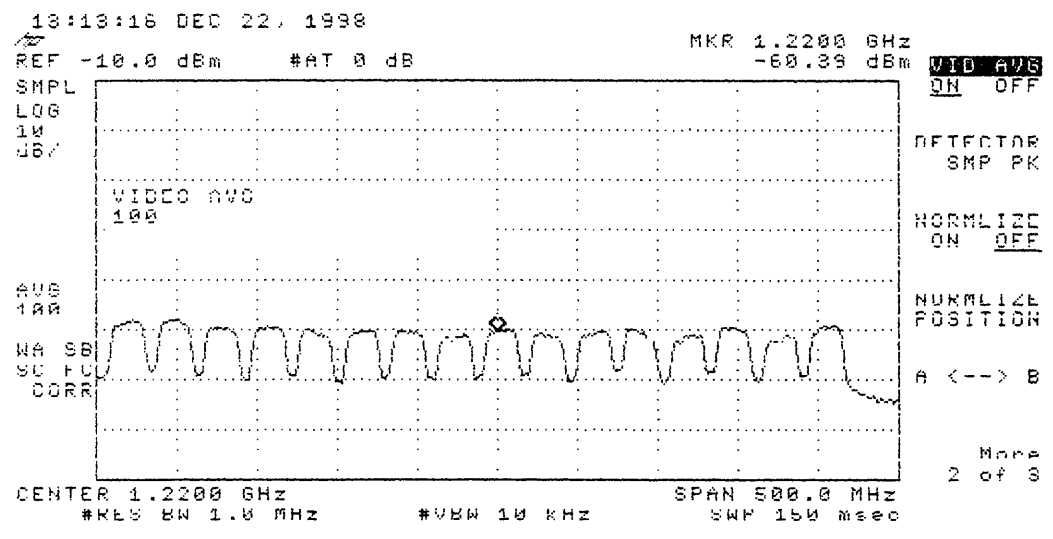
Estar T.V. Signal Strength Readings

Tsp No	Signal Strength Readings										Avg
16	66	67	65	65	65	65	66	65	65	67	65.6
18	61	61	62	63	61	61	61	60	60	61	61.1
20	67	65	66	67	67	66	67	66	66	67	66.4

Notes: Windy, Cooled 30°→38° Overcast.

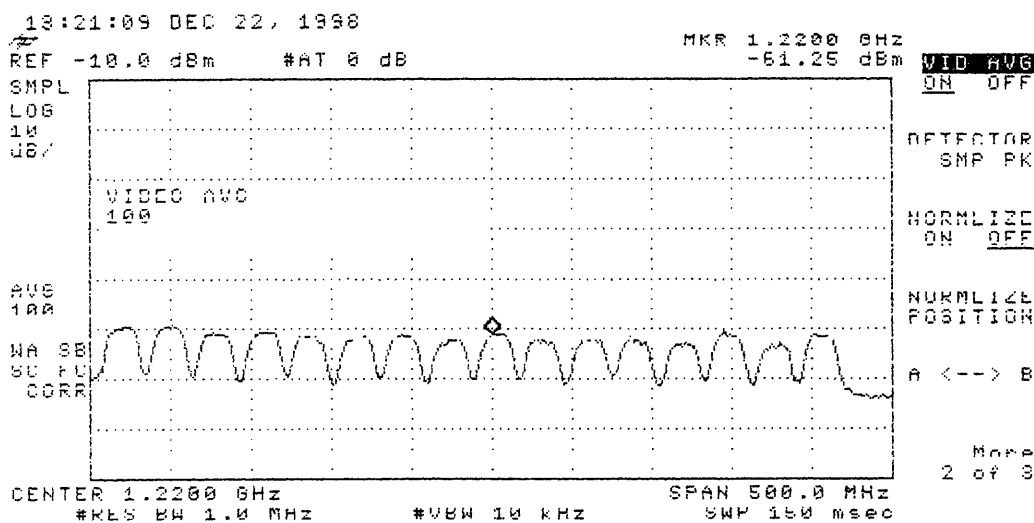
Set 1
 2-9
 Transmitter Direct
 300mV 1524
 Date: 12-22-97
 Spectrum: #2200E

Plot 9-D



Set 1
19
Transmitter: Elvistar
Team 157
Date: 12-22-98
Spectrum: HP891E

Plot 9-E



Through Pecan tree, power lines through direct path

Set: 1

Plot 9-N-A

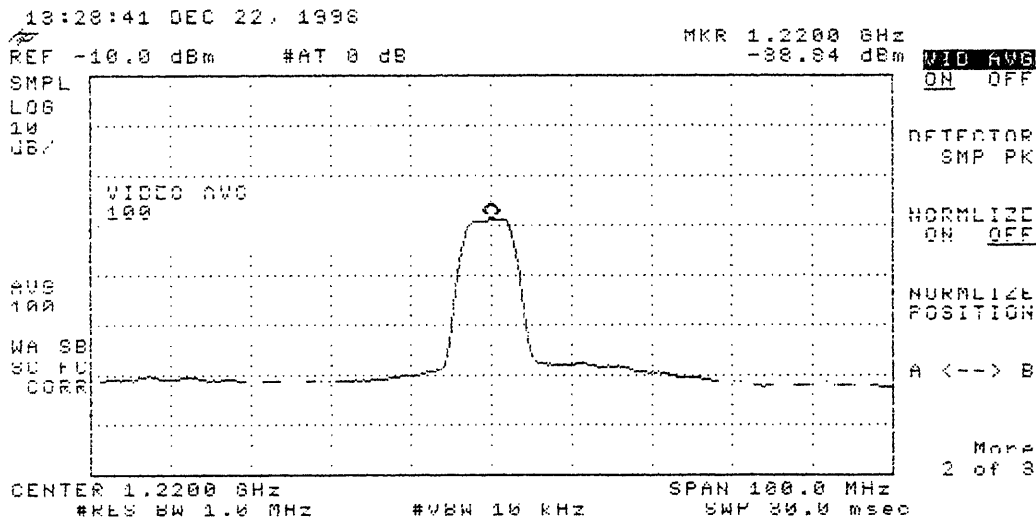
9

Transmitter: NP

Date: 12-22-98

Room 15'

Spectrum: HP8591E



Can See Tx right at rooftop of Palmer Acad.

Set: 1
3.9

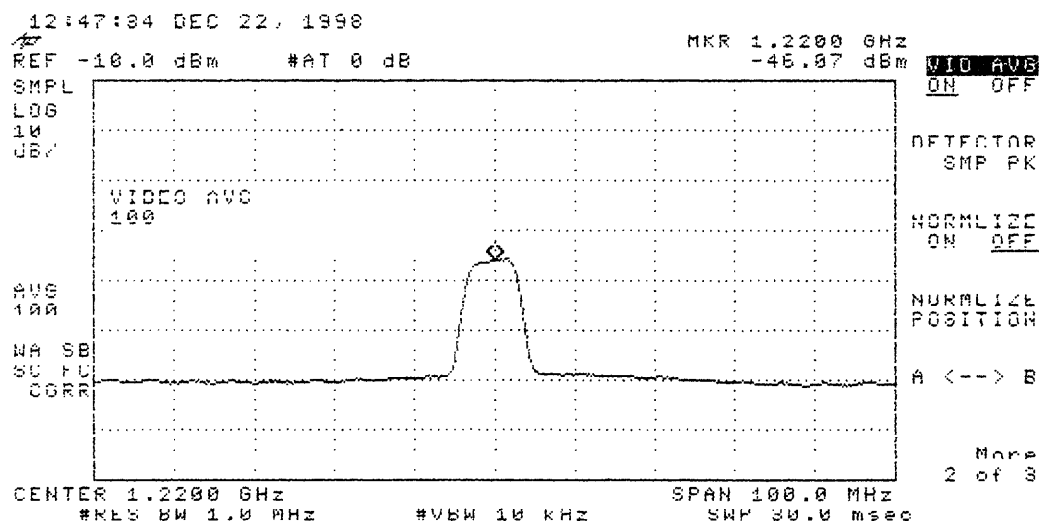
Plot 9-R-1

Transmitter: Northpoint

Zoom down

I 12-22-98

Spectrum Analyzer 18591E



Reflection off Northside of East wing of SW Burton Creek

Transmitter below 100ft top of Palmer Auel

Net: 1

Plot 9-A-2

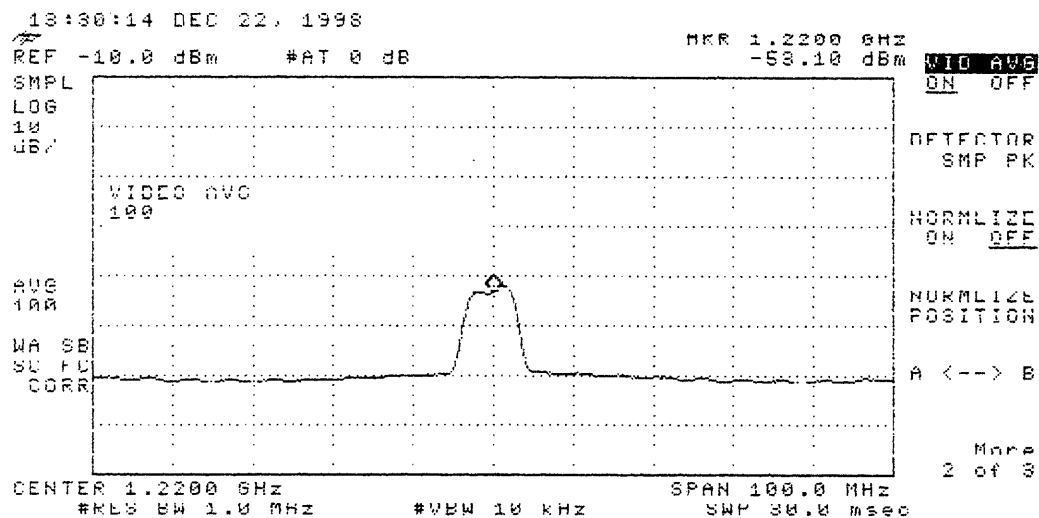
Site: 9

Reflection - NP - 811 Barton Creek East of center

Date: 12-22-98

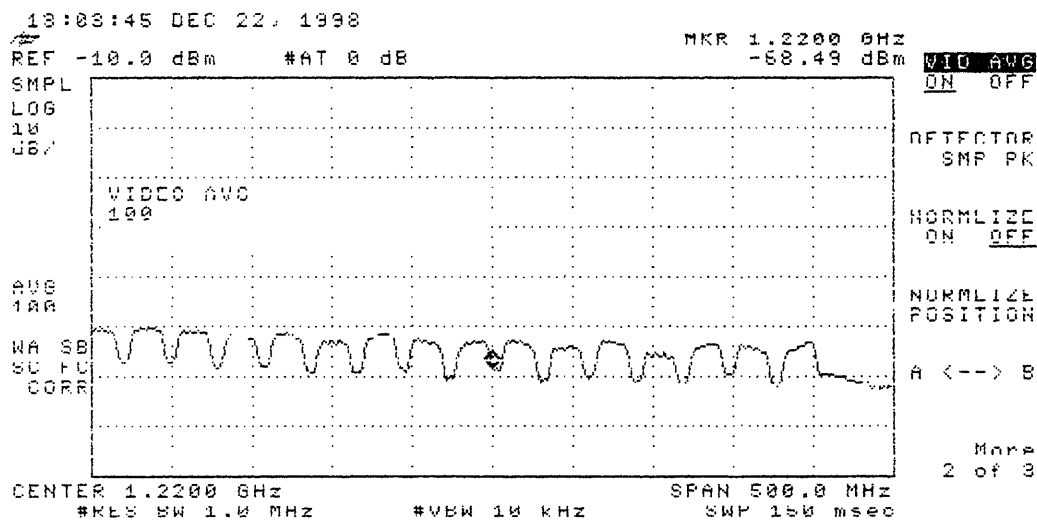
Boom 15'

Spectrum: HP8591E



Set. 1
 S 2i9
 Transmitter: Direct
 Date: 12-22-98
 3: 1: Down
 Position: 478591E

Plot 9-D-1



Signal Strength Sporadic between 0 & 41

Satellites
 block 123 bldg
 not boom around

Se 4:1
Se 19

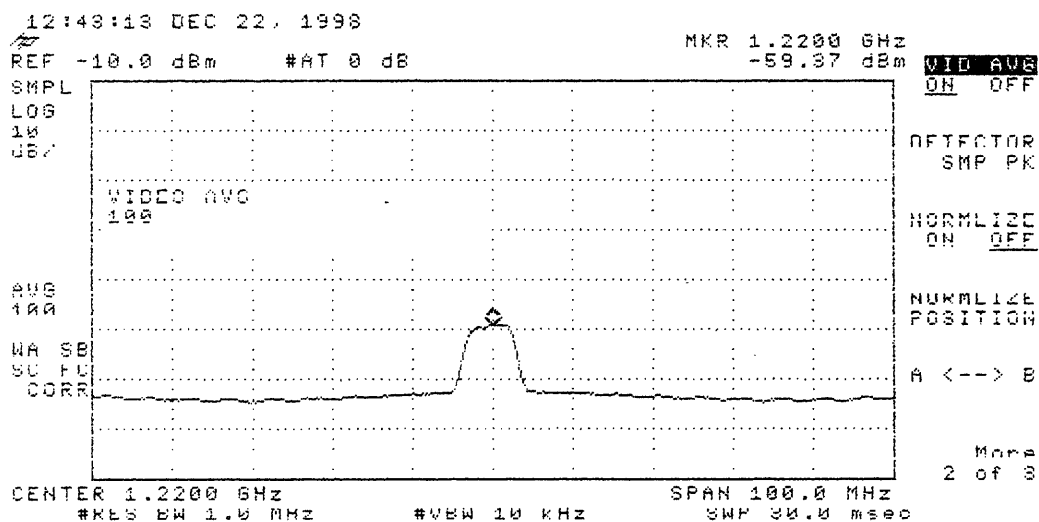
Plot 9-N-1

Transmitter: North point

E 10m: Down

Date 12-22-98

Spectrum Analyzer: HP8591E



Through Palmer Aud, through tree, transmitter below
rooftop of Palmer Aud.

COMMENTS FROM SITE 9

Site 9 Palmer *3

- a. Picture from NP is in and out and it is windy with boom down. At 15' picture is good.
- b. With boom down, signal strength jump from 0 to 41, DTV satellites blocked by a building.
- c. Estar at 15' pointing through trees and power lines. Right in direct path.
- d. NP is through Palmer and a tree, Tx is below roof top of Palmer with boom down.
- e. At 15' feet can see NP Tx right at roof top of Palmer
- f. Have two reflection plots
 - 1. Reflection off of northside of east wing of 811 Barton Creek, Tx below roof top of Palmer.
 - 2. Reflection off of 811 Barton Creek (east of center)

Northpoint Technology – DBS Compatibility Test – Austin Test Area

Rx Site Data Log

TXDOT

Rx Site No.

10

p1

Set:

11

Re: Rx Condx Ref. No.

2

Date / Time:

12/23/98 1:55 CST

Re: Tx Condx Ref. No.

2

Operator:

MWB

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 -- -59.52 dBm Plot ID Code 10-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 -- -59.29 dBm Plot ID Code 10-E
Tx OFF: – Peak -- _____ dBm Plot ID Code _____

Comments: _____

Northpoint Technology – DBS Compatiblilty Test – Austin Test Area

Rx Site Data Log

Rx Site No.

10

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 -- -61.27 dBm Plot ID Code -- 10-N

Comments: _____

N/A

(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.

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

Rx Site Data Log

Rx Site No.

10

Set

11

Re: Condx Ref. No.

2

Date / Time

12/23/98 1:40 CST

Re: Condx Ref. No.

2

Operator:

MW/ME

Direct T.V. Signal Strength Readings

Tsp No	Signal Strength Readings										Avg
16	80	79	79	81	81	80	80	80	79	80	80.0
18	79	77	77	78	78	79	79	79	78	78	78.3
20	82	82	81	81	80	80	81	82	81	82	81.2

Estar T.V. Signal Strength Readings

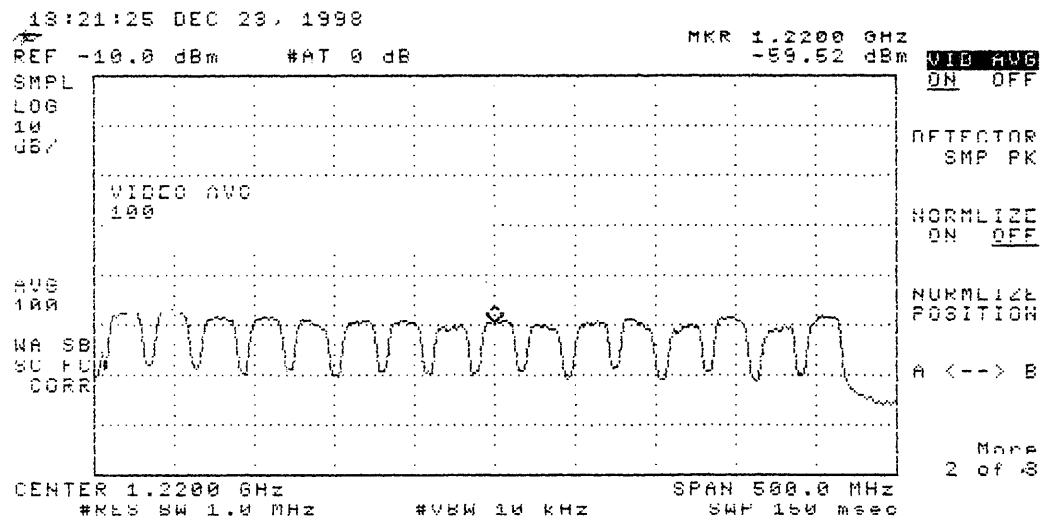
Tsp No	Signal Strength Readings										Avg
16	85	85	85	85	84	84	84	85	85	85	84.7
18	84	83	84	83	84	84	83	83	84	84	83.6
20	86	87	86	86	86	86	86	85	86	85	85.9

Notes: Overcast, Drizzling, Cold 30°-35° Windy.

1. Shield from Reflection, No change in Pioneer on DTV, + Estar

1. DTV, Site-10, Set-1, 12/23/98
2. Boom Down
3. HP-8591E

P/1+10-0



1. Estqr, Site-10, Set-1, 12/23/98
2. Boom Down
3. HP-8591E

Plot 10-E

