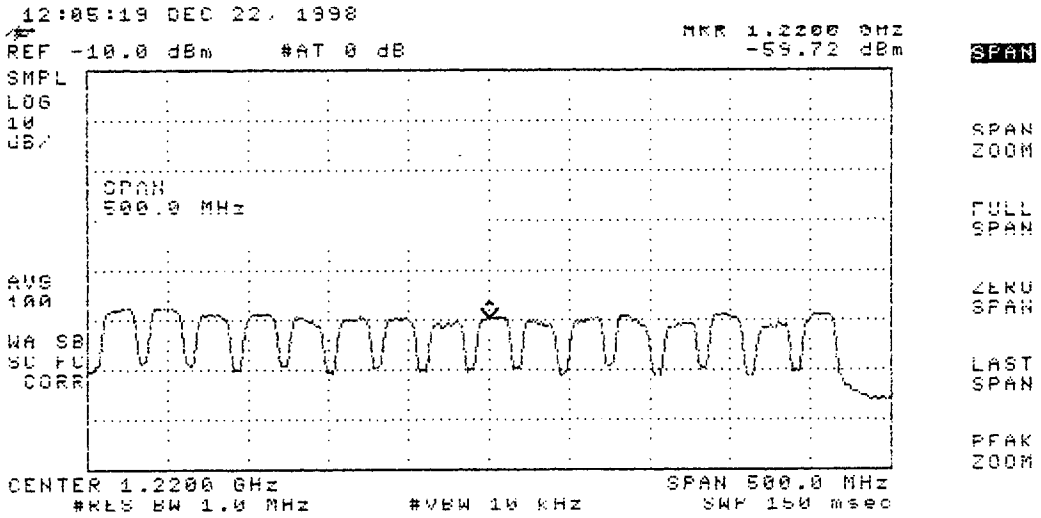
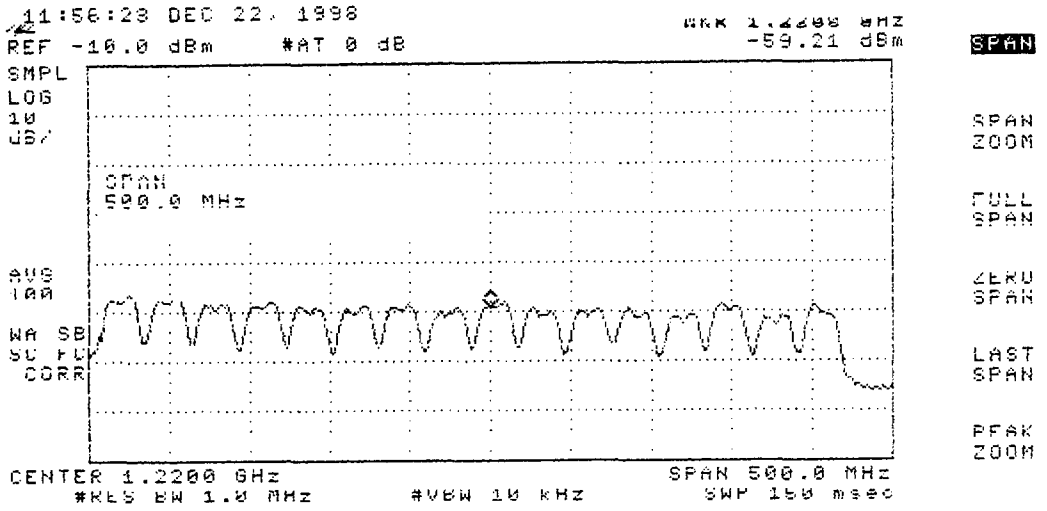
et: 1
T: 7
Transmitter: DirecTV
From: Down
Date: 12-22-98
Spectrum Analyzer: HP8591E

Plot 7-D

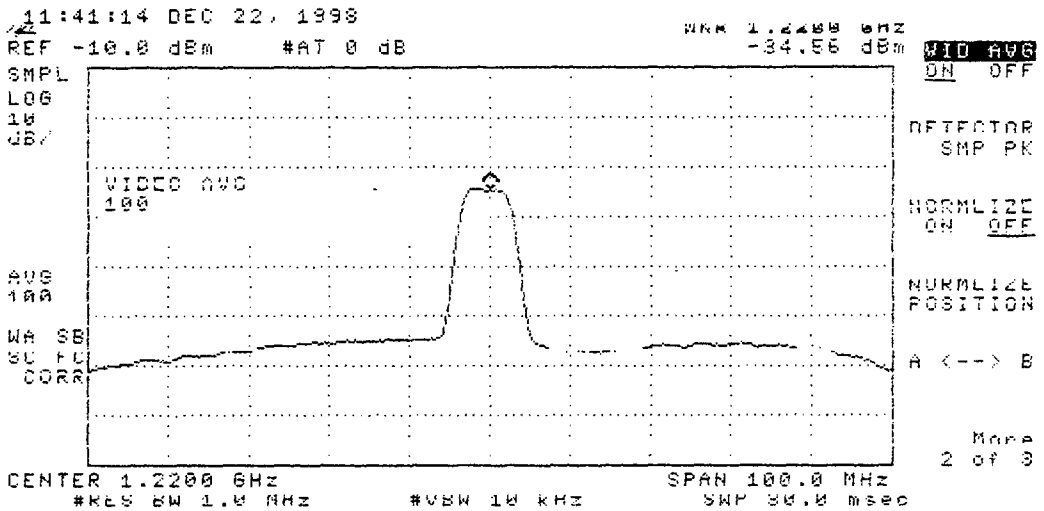


SP: 1
7
Antenna: EchoStar
Boom: Down
Subwoofer: PRESTIGE

Plot: 7-E

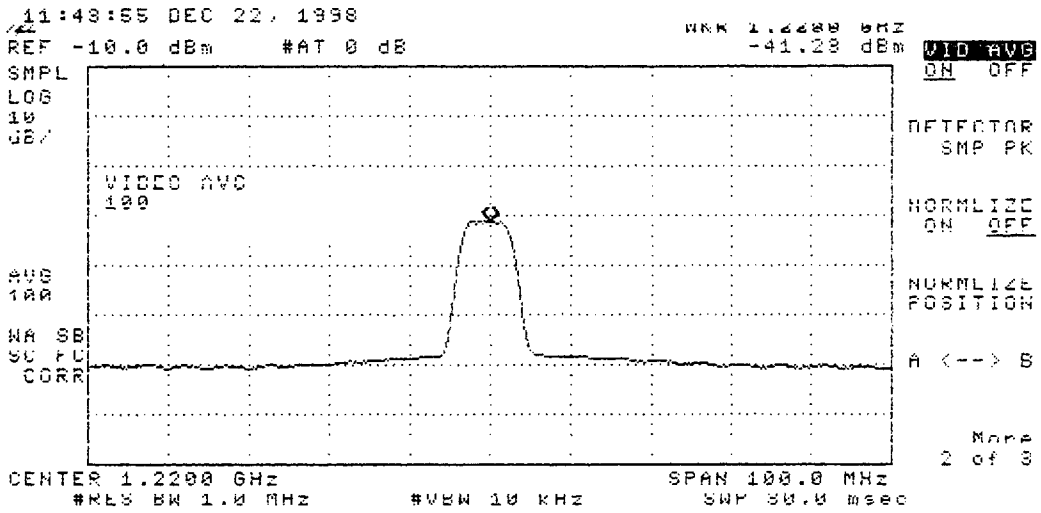


Set #1
Pol: 7-N
Beam: Down
Transmitter: NorthPoint
Date: 12-22-98
Spectrum Analyzer: HP8591E



Set: 1
[illegible]: 7
Boom: Down
Transmitter: Northern
[illegible]
Spectrum Analyzer: [illegible]

Plot: 7-R-1



off of brick & glass
video good

Set: 1

Set: 7

Pt: 7-R-2

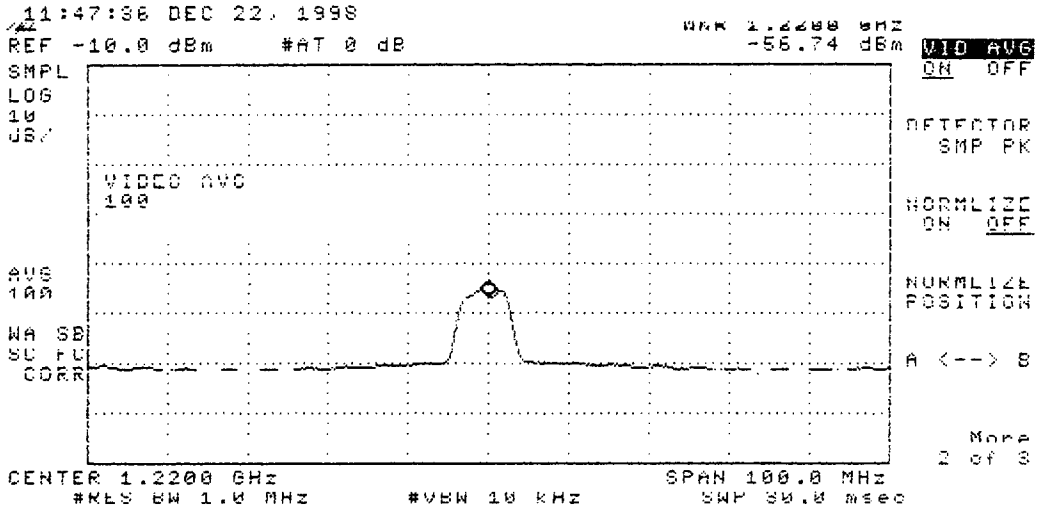
Transmitter: Normal

Environment: Indoor

Date: 12-22-98

Test Engineer: [illegible]

Notes: 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 Compatiblilty Test – Austin Test Area

Rx Site Data Log

Palmer ⊛²

Rx Site No. 7 p1

Set: 1 / ___

Re: Rx Condx Ref. No. 2

Date / Time: 12/12/98 12:40 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 -- −58.10 dBm Plot ID Code 8-E.
Tx OFF: – Peak -- _____dBm Plot ID Code _____.
Comments: _____.

Rx Site Data Log

Rx Site No. 8 **p2**
Set: 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 -- -58.15 dBm Plot ID Code -- 8-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.

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

Rx Site Data Log **Rx Site No.** 8

Set 1 / ____

Re: Condx Ref. No. 7 Date / Time 12/27/[illegible] [illegible]:[illegible] CST

Re: Condx Ref. No. [illegible] Operator: [illegible]

Direct T.V. Signal Strength Readings

Tsp No	Signal Strength Readings										Avg
16	75	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

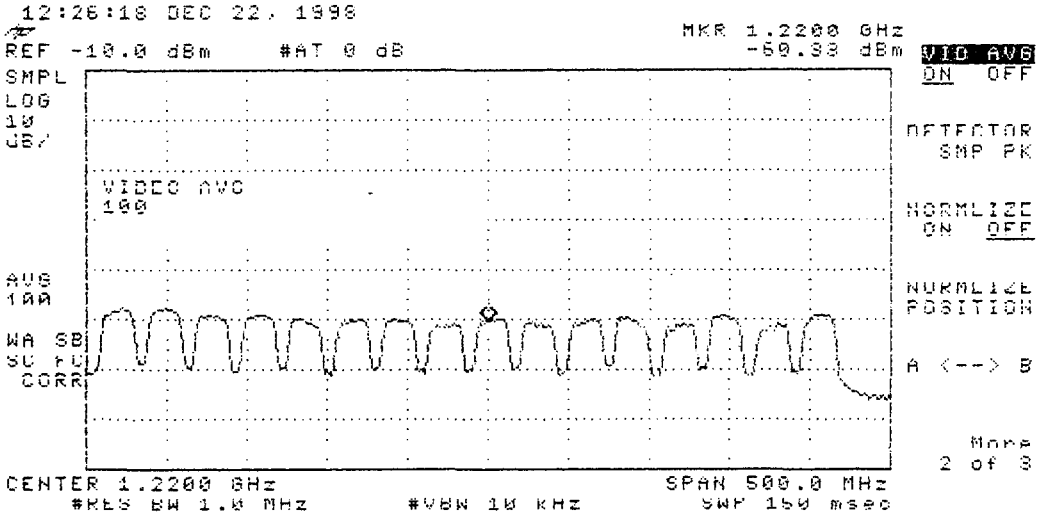
Tsp No	Signal Strength Readings										Avg
16	90	89	90	89	90	90	89	90	90	89	89.6
18	91	91	91	91	91	91	91	91	92	90	91
20	92	91	92	93	91	92	92	92	92	93	92

Notes: Overcast, very [illegible] 3%
Shielding w/ pie pan made no change

Plot 8-D

12-22-98

Spectrum Analyzer: HP8591E



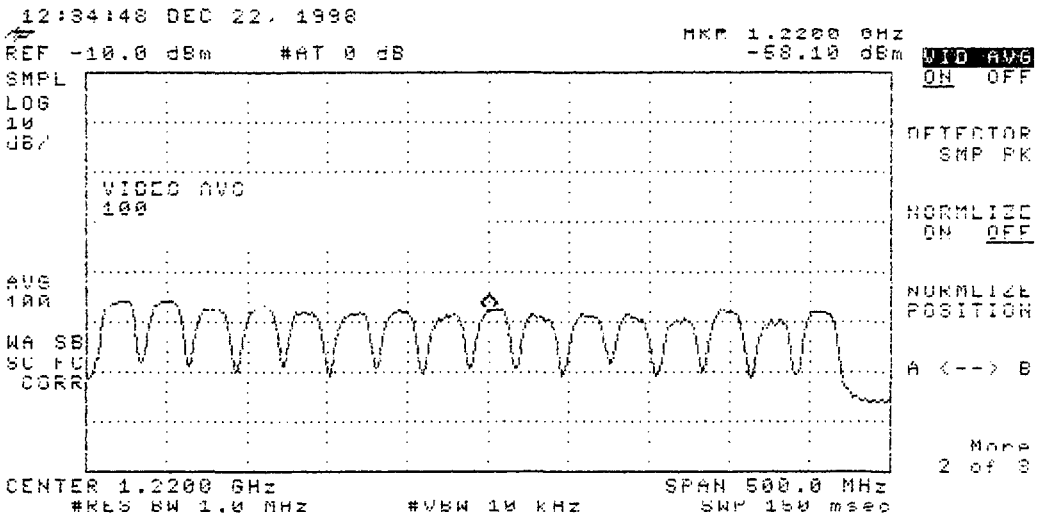
1/8

Plot: 8-E

smitter: Coaster
Down

10 dBm

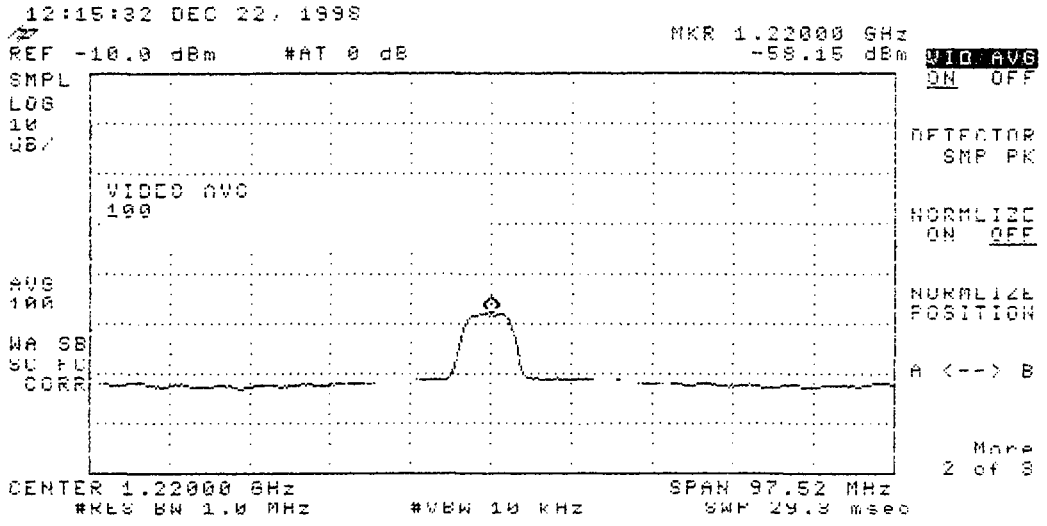
Analyzer: HP8591E



Pie pans have no effect

Set: 1
S-Ex: 8
T Shifter: Northeast
Room: Down
Date: 12-22-98
Spectrum Analyzer: HP8566E

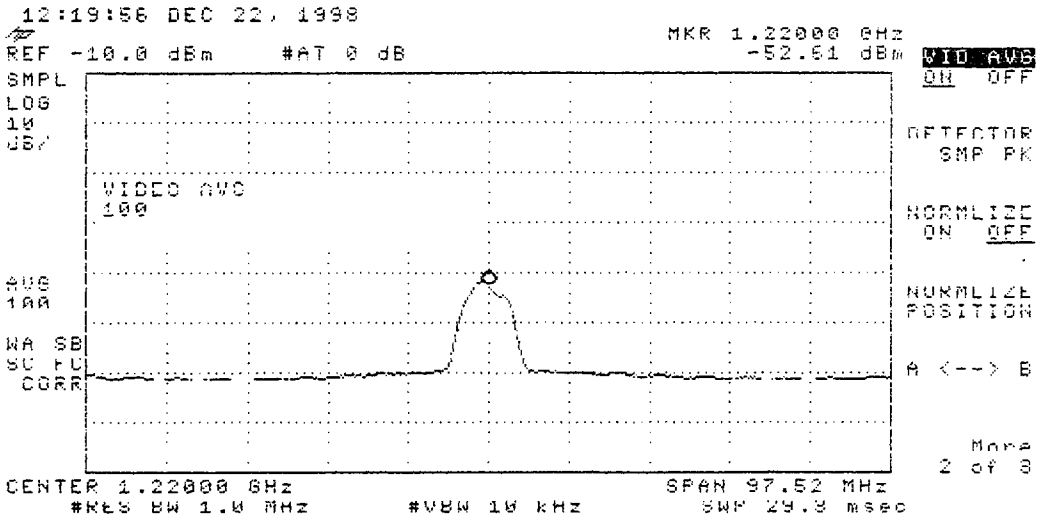
Dial 8.11



Transmitter Station by Palmer Aud.

Plot 8-R-1

Detail
Site: [illegible]
Transmitter: [illegible]
[illegible] Door
Date: 12-22-98
Antenna: [illegible] LPE5716



[illegible] 30A [illegible]
(City of [illegible])

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 Compatiblilty Test – Austin Test Area

Rx Site Data Log

Palmer ⊛ 3

Rx Site No. 9 **p1**

Set: 1 / ___

Re: Rx Condx Ref. No. 2 Date / Time: 12/22/98 12:31 CST

Re: Tx Condx Ref. No. 2 Operator: JMB / MVH

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 -- -60.31 dBm Plot ID Code 9-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: 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

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 and out Boom Down
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 -- ~~-59.37~~ -38.84 dBm Plot ID Code -- 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

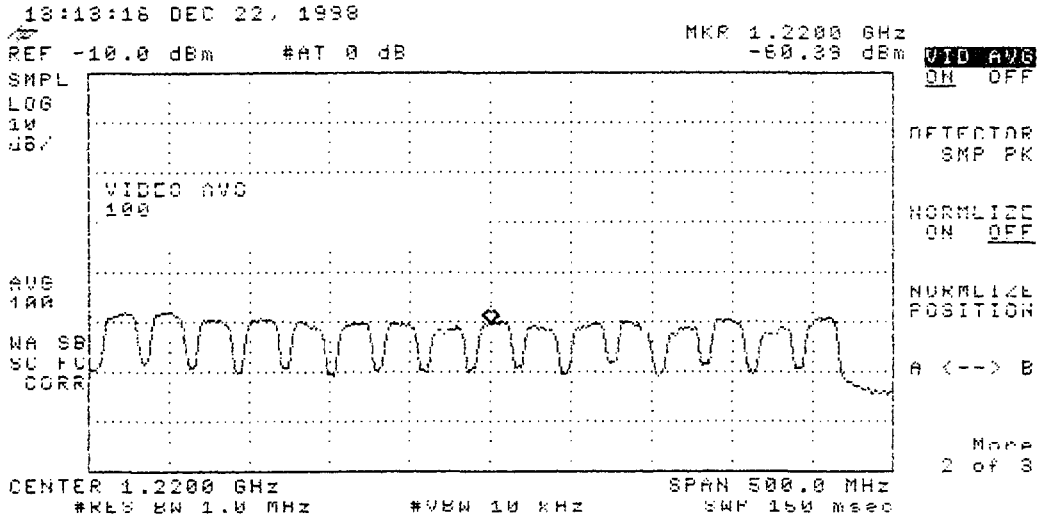
Estar T.V. Signal Strength Readings

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°, Over Cast.

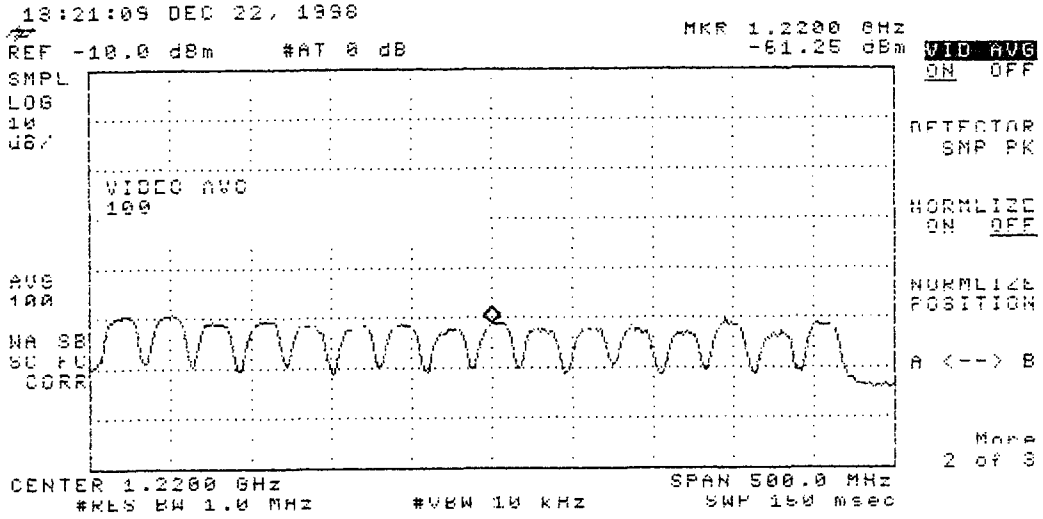
Set 1
Plot 9
Transmitter: Direct
Room: 521
Date: 12-22-98
Spectrum: HP8591E

Plot 9-D



et 1
E 9
ransmitter: Elevator
Tom 15E
Date: 12-22-98
Spectrum: HP8591E

Plot 9-E



Through Pecan tree, power lines through direct path

Test: 1

Plot 9-N-A

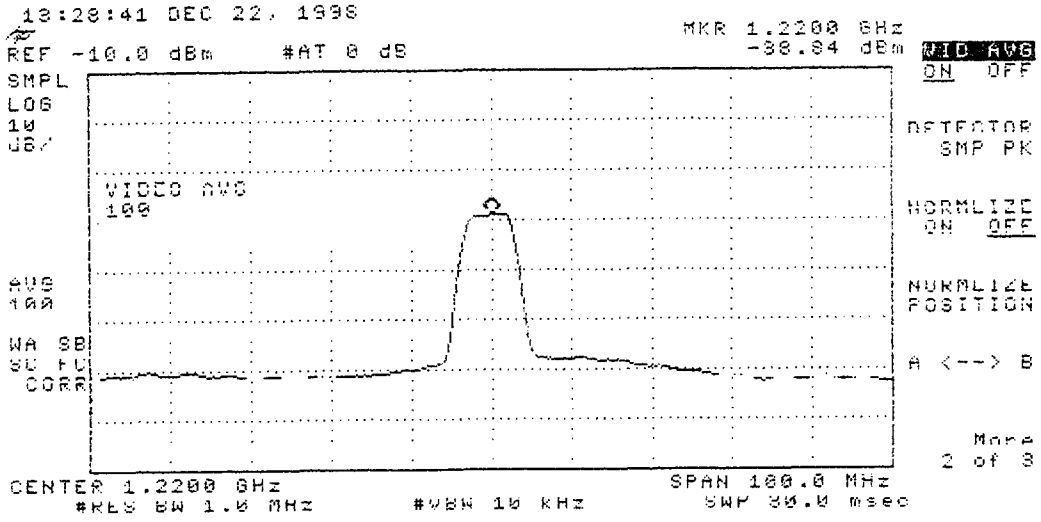
Line: 9

Transmitter: NP

Date: 12-22-98

Room 15'

Spectrum: HP8591E

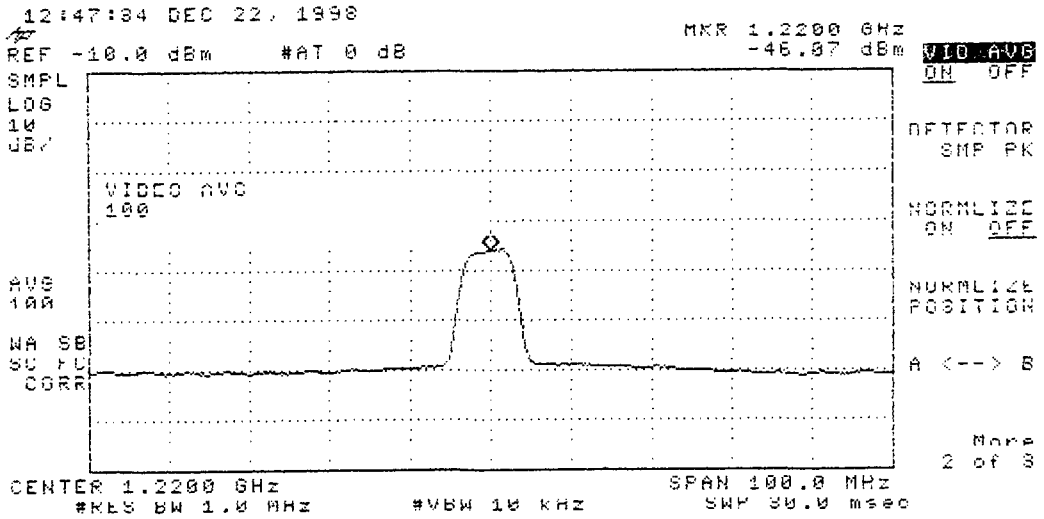


Can See Tx right at roof top of Palmer Aud.

Set: 1
9

Plot 9-R-1

Transmitter: Northpoint
Room down
Date: 12-22-98
Spectrum Analyzer: HP 8591E



Reflection off Northside of Entrance of Sil Barton Creek

transmitter below 100 top of Palmer Ave

Plot 9-R-2

Set: 1

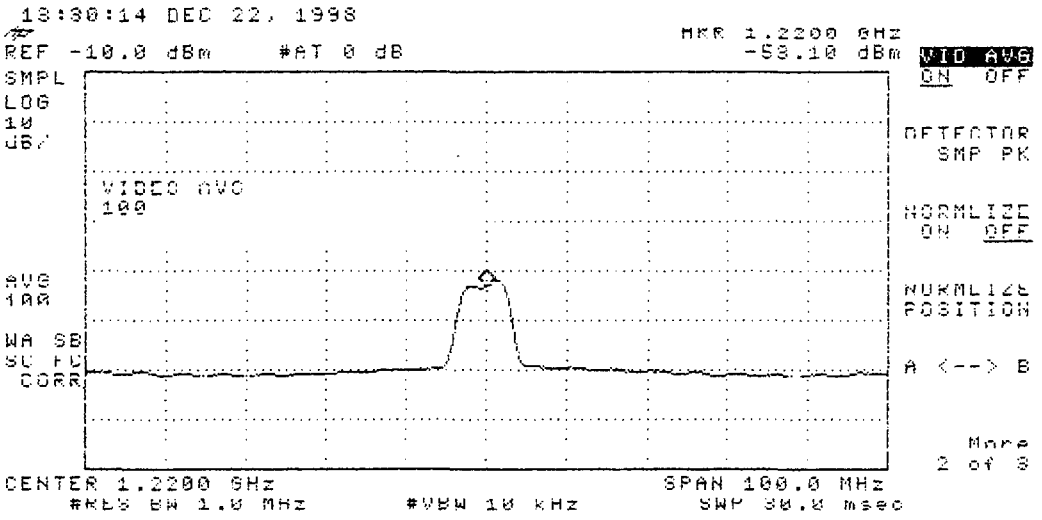
Site: 9

Reflection - NP - 811 Barton Creek East of center

Date: 12-22-98

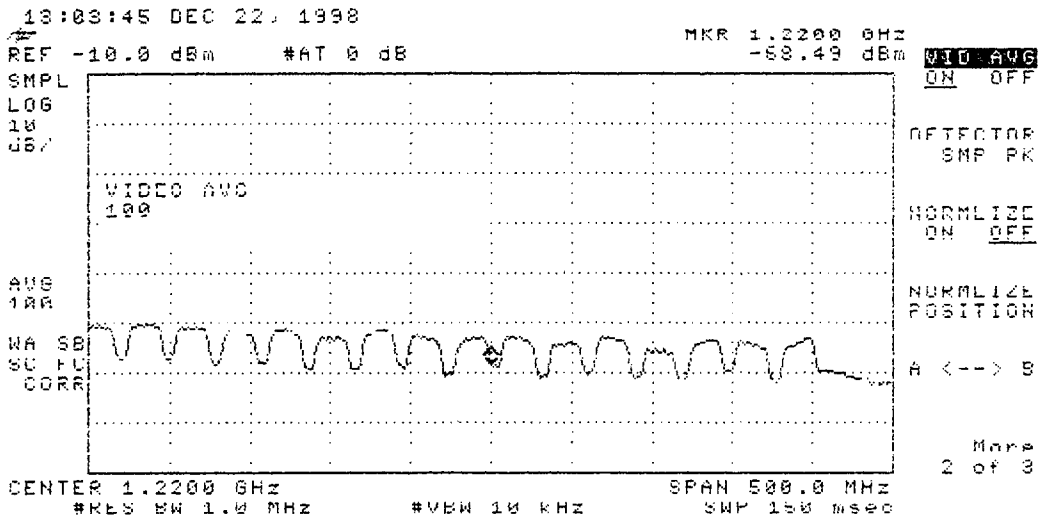
Boom 15'

Spectrum: HP8591E



Det. 1
5.2.9
Transmitter: Direct
Date: 12-22-98
Sweep: Down
Antenna: HP8594E

Plot 9-D-1

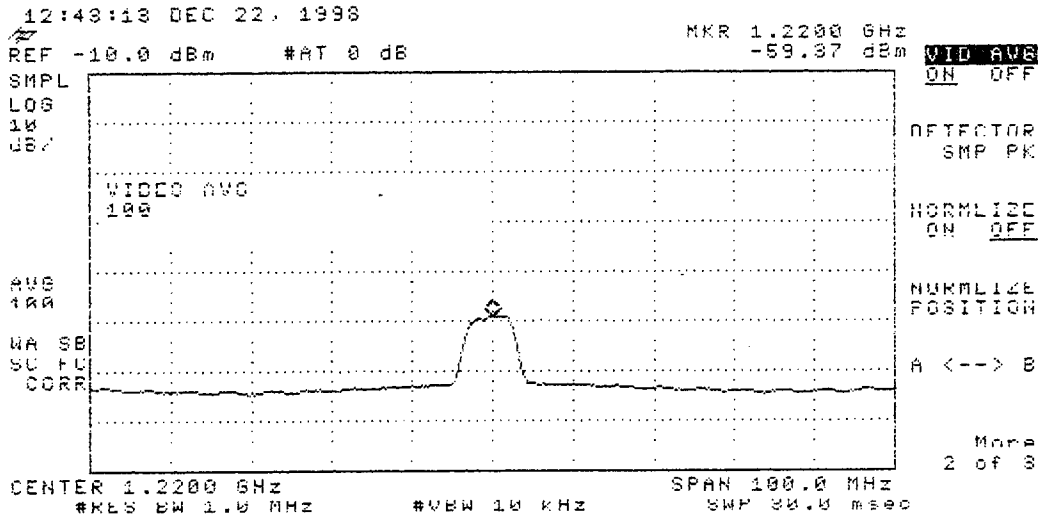


Signal [illegible] [illegible] power 0 dB

Switched back to only
1 sweep down

Set: 1
S: 9
Transmitter: Northpoint
Location: Dawson
Date 12-22-98
Spectrum Analyzer: HP8591E

Plot 9-N-1



Through Palmer Aud, through tree, transmitter below
roof top 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)