



***Blank Page***

***Don't Forget To Delete Me!***

## **COMMENTS FROM SITE 7**

**Site 7 Arlington Cemetery**

**Date:** September 4, 1999

**Weather Conditions:**

**Comments:**

# Northpoint Technology – DBS Compatibility Test – Washington DC Area

## Rx Site Data Log

Rx Site No. 7 ← Repeat

Set: 1 p1

Re: Rx Condx Ref. No. 1

Date / Time: 9/14/99 9:35 EDT

Re: Tx Condx Ref. No. 1

Operator: Dr. Wood / Jonathan / Sabena

### Data Measurements:

NPTx Carrier Freq. (GHz) 12.47

Disk Filename

(1) NP Signal – NPTx ON:

	DBS-1	Ant:			
Power (Px)	-53.00	TV Pix	OK	Plot ID	7-1
				File Rec	

(2) DBS Signals – NPTx OFF: (Do also ssp data on page 2). *not done*

Sat 1		Ant:			
Power (Px)		TV Pix		Plot ID	
				File Rec	

Sat 2	DTV	Ant:			
Power (Px)		TV Pix		Plot ID	7-2b
				File Rec	

Sat 3	ES-615	Ant:			
Power (Px)		TV Pix		Plot ID	7-2c
				File Rec	

Sat 4	ES-119	Ant:			
Power (Px)		TV Pix		Plot ID	7-2d
				File Rec	

(3) DBS Signals – NPTx ON: (Do also ssp data on page 2).

Sat 1		Ant:			
Power (Px)		TV Pix		Plot ID	
				File Rec	

Sat 2	DTV	Ant:			
Power (Px)	-66.50	TV Pix	OK	Plot ID	7-3b
				File Rec	

Sat 3	ES-615	Ant:			
Power (Px)	-65.83	TV Pix	OK	Plot ID	7-3c
				File Rec	

Sat 4	ES-119	Ant:			
Power (Px)	-66.83	TV Pix	OK	Plot ID	7-3d
				File Rec	

(4) NPTx OFF.

# Northpoint Technology – DBS Compatibility Test – Washington DC Area

## Rx Site Data Log

Rx Site No. 7 ← Report p2  
 Set:   1  

### Signal Strength Pointer (ssp) Data –

(2a) NPTx OFF: *not done*

	<b>Sat 1</b>	T-19										<b>Avg:</b>		
DTV	<b>Sat 2</b>	T-18											<b>Avg:</b>	
ES-615	<b>Sat 3</b>	T-18											<b>Avg:</b>	
ES-119	<b>Sat 4</b>	T-18											<b>Avg:</b>	

### (3a) NPTx ON:

	<b>Sat 1</b>	T-18										<b>Avg:</b>		
DTV	<b>Sat 2</b>	T-18	86	85	85	88	84	78	83	86	85	82	<b>Avg:</b>	84.2
ES-615	<b>Sat 3</b>	T-18	94	94	94	94	95	94	94	94	94	94	<b>Avg:</b>	94.1
ES-119	<b>Sat 4</b>	T-18	88	88	87	88	87	87	87	87	87	88	<b>Avg:</b>	87.4

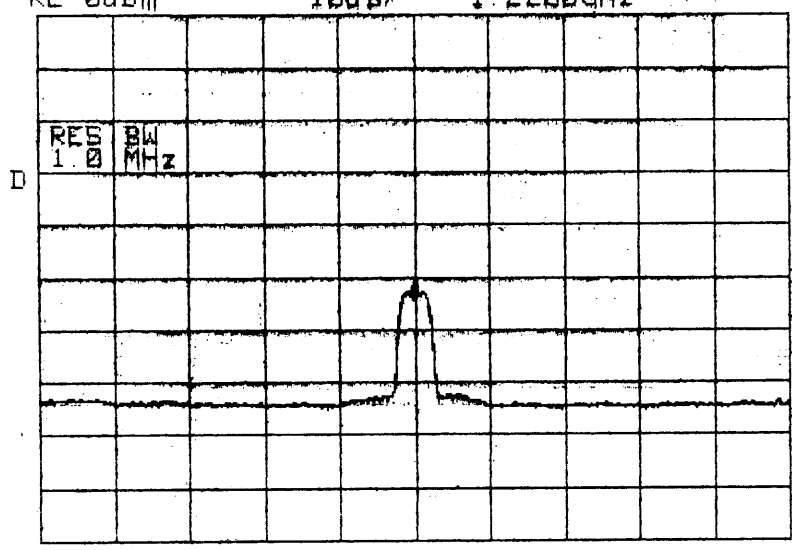
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### Legend // Comments:

NPTx – Northpoint Transmitter.

9/4/99  
JCV

ATTEN 10dB WAUG 100 MKR -53.00dBm  
RL 0dBm 10dB 1.2200GHz

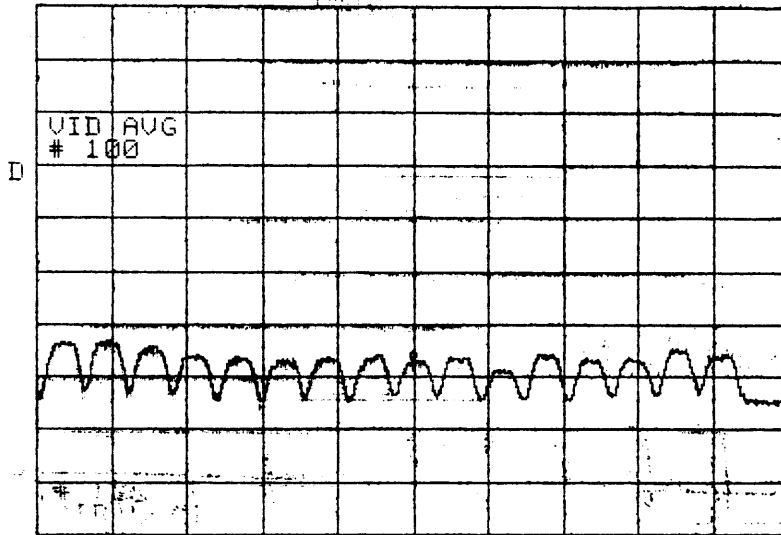


CENTER 1.2200GHz SPAN 500.0MHz  
RBW 1.0MHz \*VBW 10kHz SWP 130ms

7-1

9/4/99  
JCV

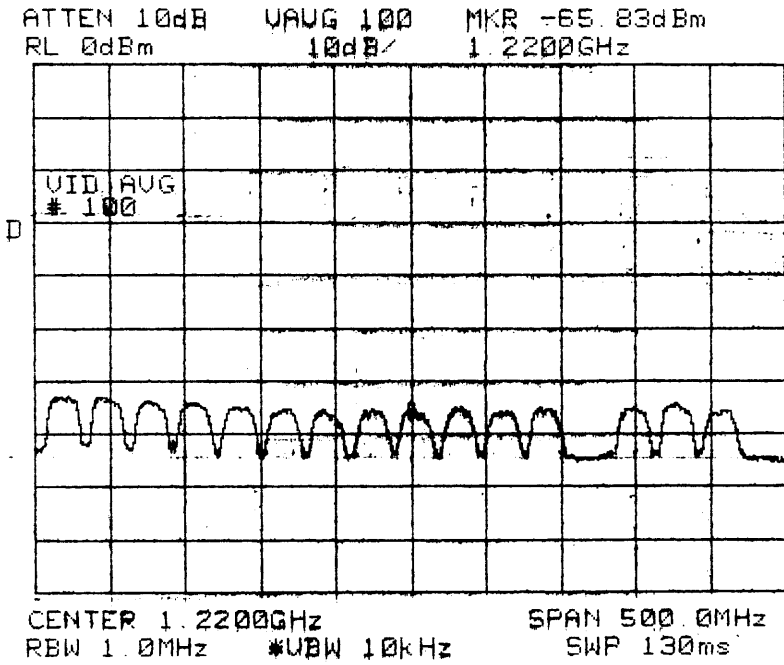
ATTEN 10dB    VAVG 100    MKR -66.83dBm  
RL 0dBm       10dB       1.2200GHz



CENTER 1.2200GHz    SPAN 500.0MHz  
RBW 1.0MHz    \*UBW 10kHz    SWP 130ms

7-3 d

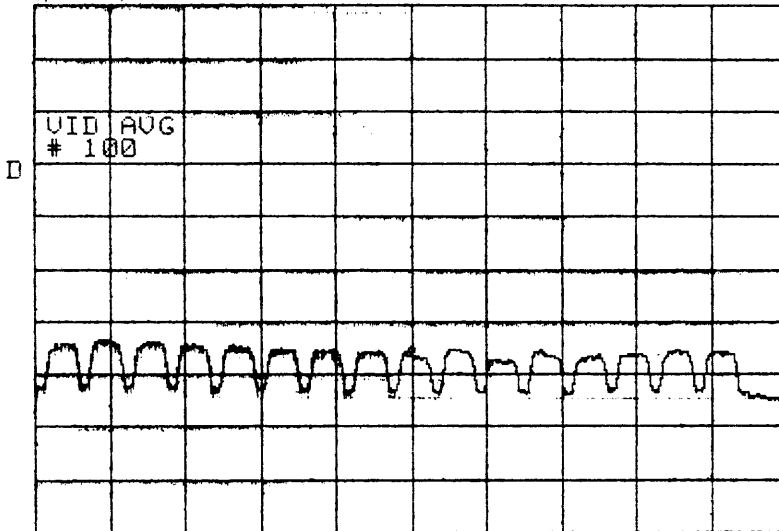
9/4/99  
JCV



7-3c

7/4/99  
JCV

ATTEN 10dB    VAWG 100    MKR -66.50dBm  
RL 0dBm       10dB/       1.2200GHz



CENTER 1.2200GHz    SPAN 500.0MHz  
RBW 1.0MHz       \*UBW 10kHz       SWP 130ms

7-36



**Northpoint Technology - DBS Compatiblilty Test - Washington DC Area**

9/4/99 Thu ~12:10 EDT

VLSI Box Data -

Data by Jonathon & Saleem

Site 7 - Arlington Cem.

NPTx ON (only)

Symbol Rate - 20MB.

<u>Date</u>	<u>DTV</u>	<u>ES2 (119)</u>
BER	< 10 <sup>-9</sup>	< 10 <sup>-9</sup>
AGC	224	178
LEVEL	171	90
NEST	55	31
Viterbi	2/3	3/4
Gain	2.0	1.0
Spec Inv.	not rec.	not rec
BER plot	none	none
UNCOR. count	not recorded	not recorded
Freq.	1221.50	1221.25
TXP	18	18
SSP	80	87
NDT	ON	ON

?

NOTE: This was the first field session with the VLSI Box & its initial shake-down.

Northpoint Technology – DBS Compatiblilty Test – Washington DC Area

**Rx Site Location Log** *Arlington Cen*

Rx Site No. 7

p1

Set:   1  

Site Name:

Date / Time:

9/4/99 09:34 EDT

Arlington Cen.

Operator:

*AW*

GPS Receiver Reading at Site:

Lat: N 38° 52.858'

Time Read 1349 <sup>GMT</sup> ~~EDT~~

Lon: W 077° 03.777'

Elev: \_\_\_\_\_

Weather: HV α  
85°F - light wind

Map Sketch (show street reference and local benchmark features):

*same as prev. visits*

**COMMENTS FROM SITE 7 (Rain)**

**Site 7 Arlington Cemetery**

**Date: September 16, 1999**

**Weather Conditions: Light to heavy rain**

**Comments:**

# Northpoint Technology – DBS Compatibility Test – Washington DC Area

## Rx Site Data Log

ARLINGTON CEMETARY

Rx Site No.

27

p1

Set:

1

Re: Rx Condx Ref. No.

1

Date / Time:

09/16/99 9:51 EDT

Re: Tx Condx Ref. No.

1

Operator:

Adura

### Data Measurements:

RAIN TEST

NPTx Carrier Freq. (GHz) 12.47

Disk Filename -

(1) NP Signal – NPTx ON:

NP Tx	Ant: DBS 1			
Power (Px) -52.17 dB	TV Pix OK	Plot ID 7-1	File Rec -	

(2) DBS Signals – NPTx OFF: (Do also ssp data on page 2).

Sat 1	Ant:			
Power (Px)	TV Pix	Plot ID	File Rec	

Sat 2	DTV	Ant: NP3		
Power (Px) -69.00 dB	TV Pix	Plot ID 7-2b	File Rec -	

Sat 3	ES (4.5)	Ant: NP2		
Power (Px) -67.83 dB	TV Pix	Plot ID 7-2c	File Rec -	

Sat 4	ES (119)	Ant: NP4		
Power (Px) -68.67 dB	TV Pix	Plot ID 7-2d	File Rec -	

(3) DBS Signals – NPTx ON: (Do also ssp data on page 2).

Sat 1	Ant:			
Power (Px)	TV Pix	Plot ID	File Rec	

Sat 2	DTV	Ant: NP3		
Power (Px) -69.00 dB	TV Pix	Plot ID 7-3b	File Rec -	

Sat 3	ES (6.5)	Ant: NP2		
Power (Px) -67.00 dB	TV Pix	Plot ID 7-3c	File Rec -	

Sat 4	ES (119)	Ant: NP4		
Power (Px) -68.50 dB	TV Pix	Plot ID 7-3d	File Rec -	

(4) NPTx OFF.

# Northpoint Technology – DBS Compatibility Test – Washington DC Area

## Rx Site Data Log

Rx Site No.

7

p2

Set:

1

### Signal Strength Pointer (ssp) Data –

(2a) ~~NPTx~~ OFF:

Sat 1	T-											Avg:	
Sat 2	T-18	61	61	62	63	64	63	64	65	64	71	Avg:	63.8
Sat 3	T-18	80	78	79	80	79	80	80	81	81	81	Avg:	79.9
Sat 4	T-19	78	78	78	78	78	79	78	78	78	78	Avg:	78.1

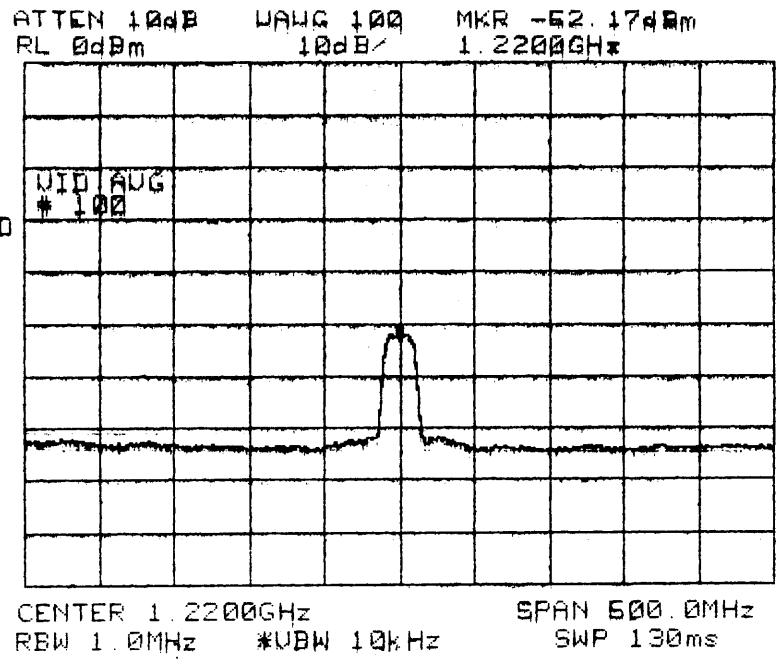
(3a) NPTx ON:

Sat 1	T-											Avg:	
Sat 2	T-18	57	54	56	62	62	61	61	61	67	63	Avg:	60.4
Sat 3	T-18	84	85	84	84	84	85	85	85	85	85	Avg:	84.6
Sat 4	T-18	64	65	66	65	65	65	64	63	62	62	Avg:	64.1

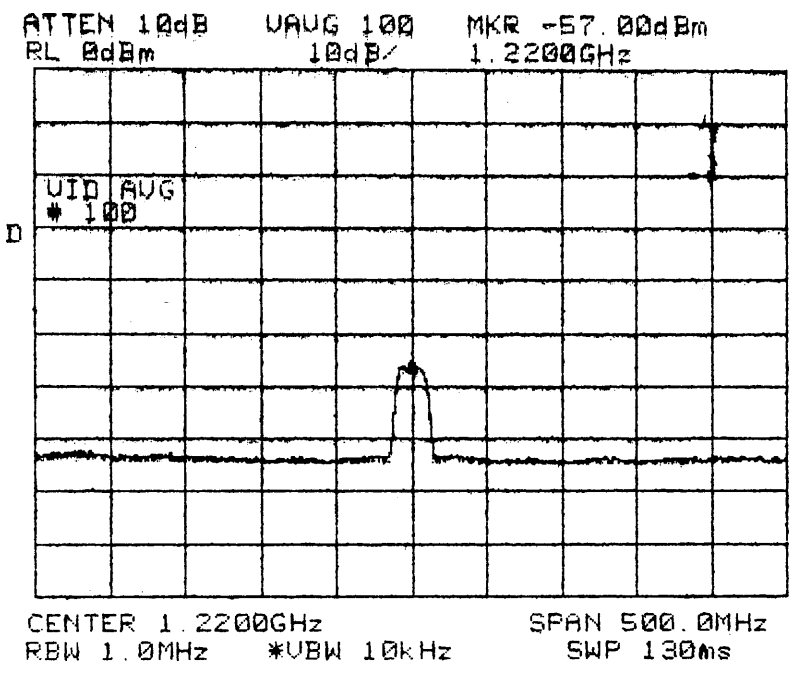
Legend # Comments:

NPTx – Northpoint Transmitter.

09/16/99  
7-1  
Adura

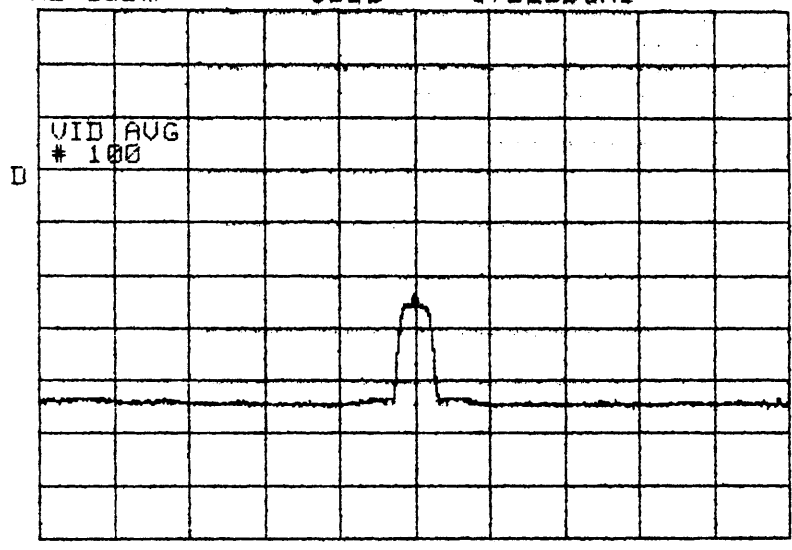


09/16/99  
7-16. around 13.77



7-1  
9/16/99  
at 15.55  
Adm

ATTEN 10dB    UAUG 100    MKR -55.67dBm  
RL 0dBm       10dB/       1.2200GHz

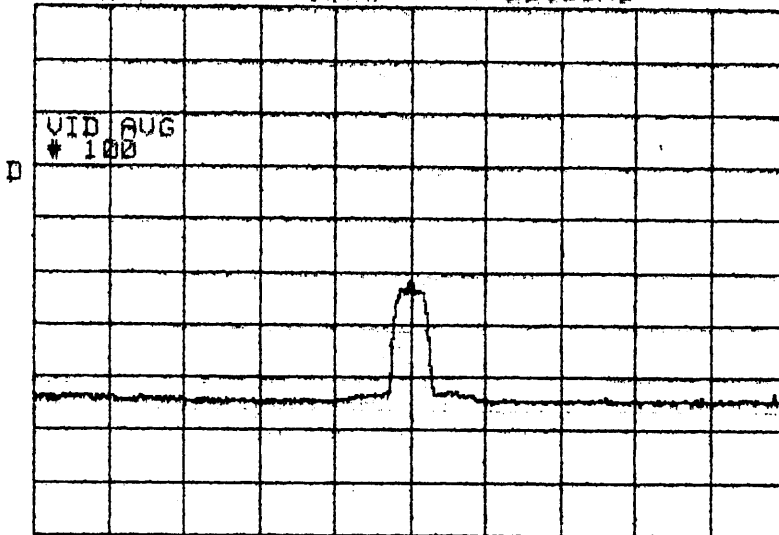


CENTER 1.2200GHz    SPAN 500.0MHz  
RBW 1.0MHz       \*VBW 10kHz    SWP 130ms



011...  
7-19  
Time: 16:11  
(Antenna was readjusted)

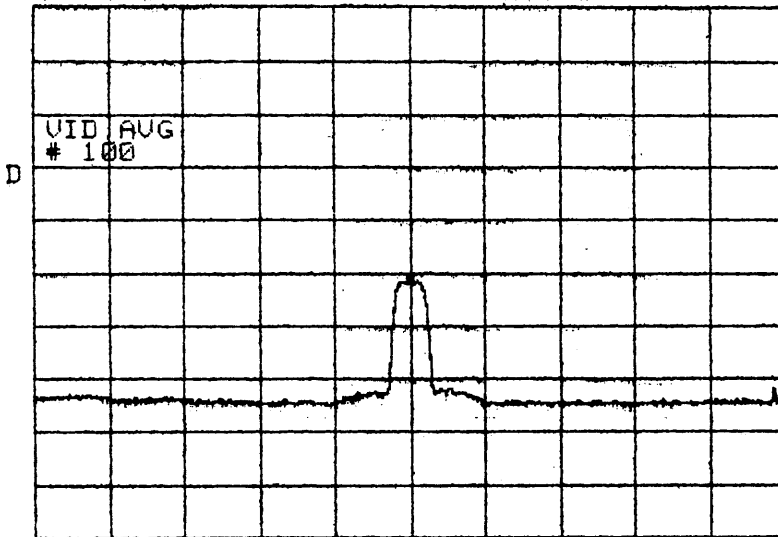
ATTEN 10dB VAUG 100 MKR -53.67dBm  
RL 0dBm 10dB 1.2200GHz



CENTER 1.2200GHz SPAN 500.0MHz  
RBW 1.0MHz \*VBW 10kHz SWP 130ms

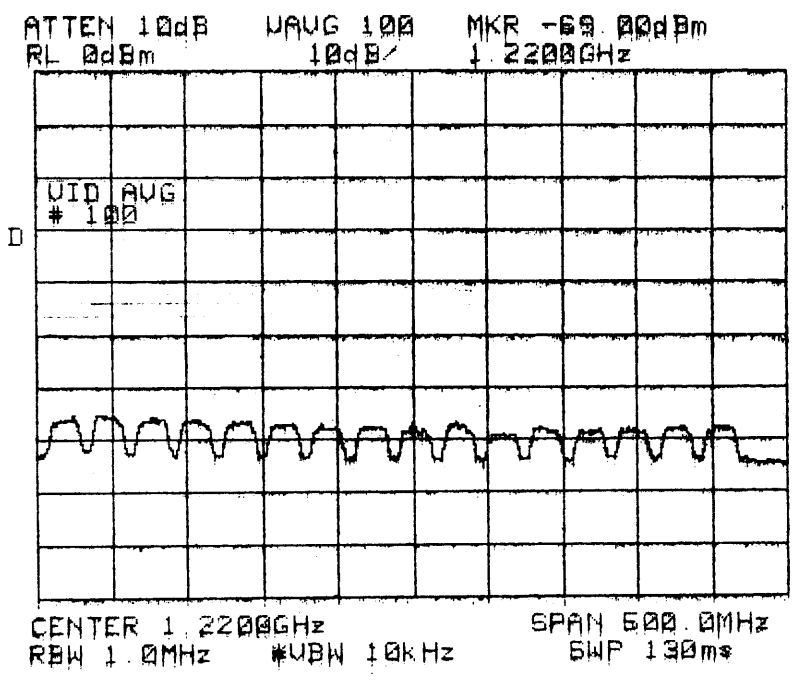
09/16/99  
7-1e  
16:12 (further  
adjustment  
of a na

ATTEN 10dB VAUG 100 MKR -52.00dBm  
RL 0dBm 10dB/ 1.2200GHz



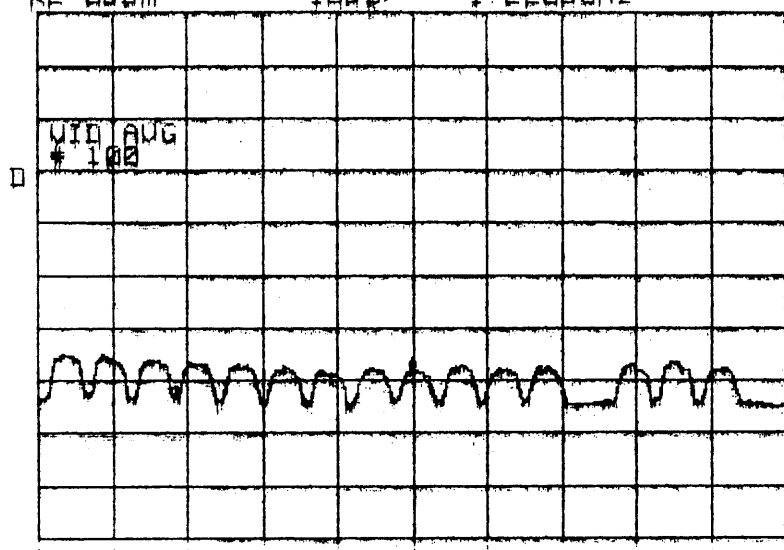
CENTER 1.2200GHz SPAN 500.0MHz  
RBW 1.0MHz \*VBW 10kHz SNP 130ms

07/16/99  
7-26  
Adura



07/16/99  
7-2c  
Hdu

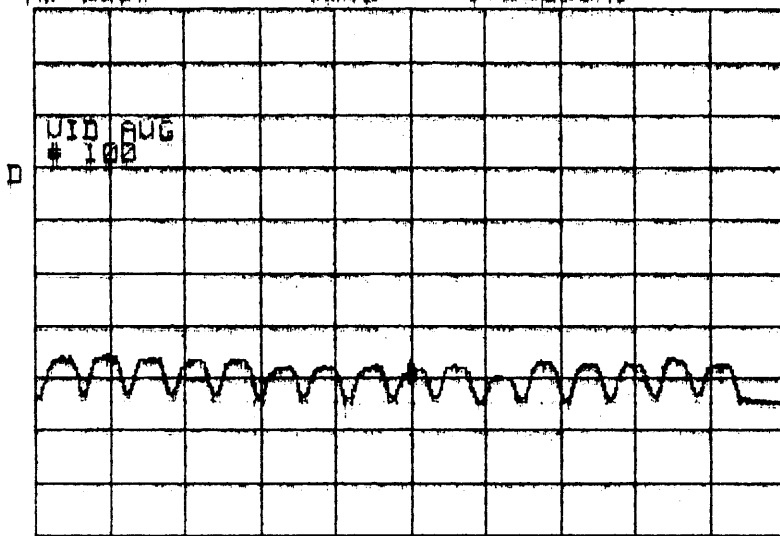
ATTEN 10dB UAG 100 MKR -67.83dBm  
RL 0dBm 10dB/ 1.2200GHz



CENTER 1.2200GHz SPAN 500.0MHz  
RBW 1.0MHz \*VBW 10kHz SWP 100ms

09/16/99  
7-29  
Adura

ATTEN 10dB    VAVG 100    MKR -58.67dBm  
RL 0dBm       10dB/       1.2200GHz

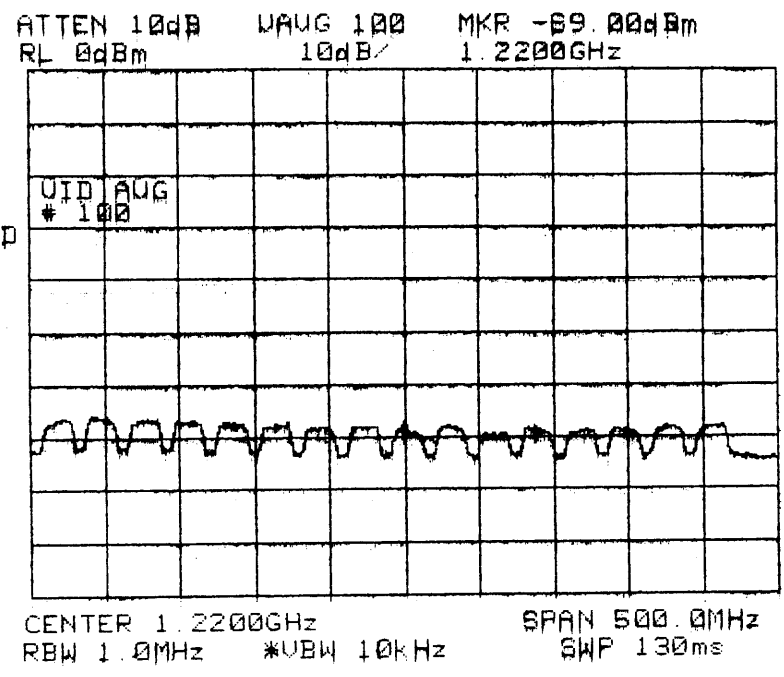


CENTER 1.2200GHz    SPAN 500.0MHz  
RBW 1.0MHz       \*VBW 10kHz       SWP 100ms

09/16/92

7-31

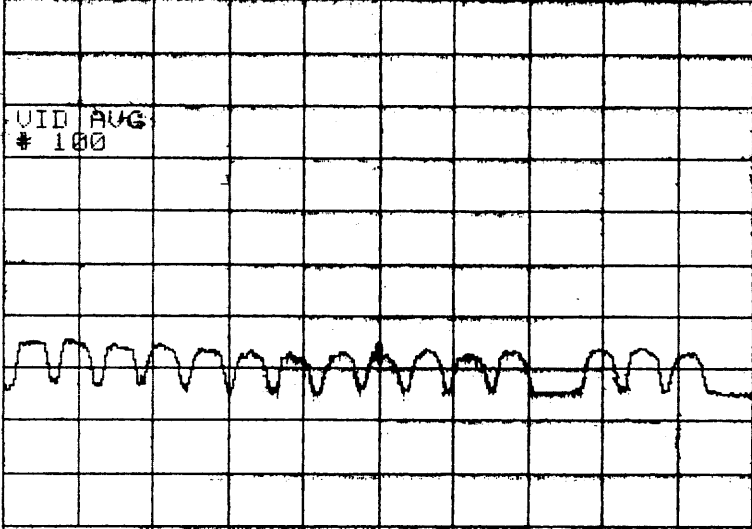
Adura



09/16/99  
7-3C  
Adura

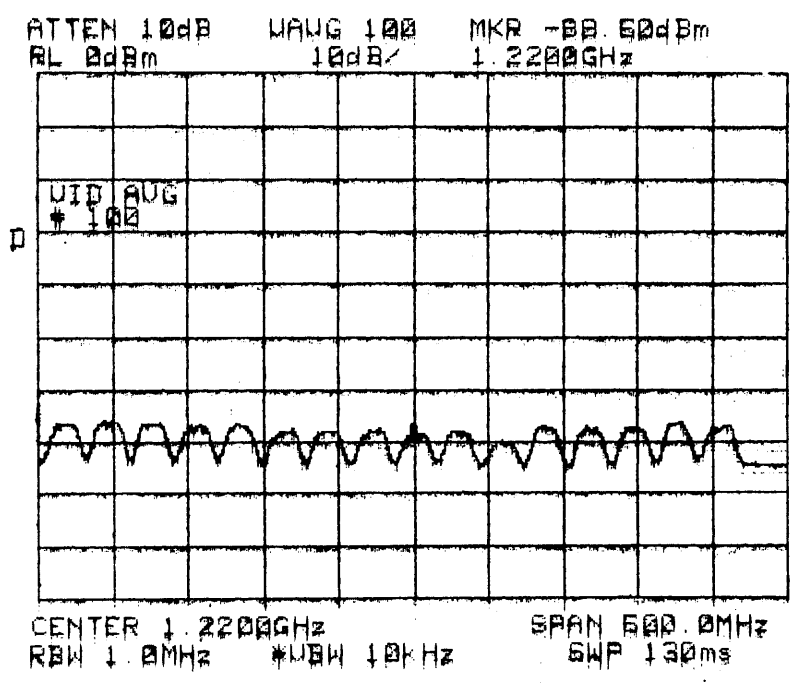
ATTEN 10dB    VAVG 100    MKR -67.00dBm  
RL 0dBm       10dB/       1.2200GHz

D



CENTER 1.2200GHz    SPAN 500.0MHz  
RBW 1.0MHz       \*VBW 10kHz    SWP 100ms

09/16/97  
7-3d  
Adura







# Weather log

Date: 09/16/99  
 Location: Arlington Cemetery  
 Recorded by Adura/Darrell

Page # 1/2  
 Rain gauge deployed at 10:35

↓ see DW note attached

Time	Rain					No Rain				Weather Factors			Comments
	Fine light rain	Light large drops	Medium Rain	Heavy Rain	Very Heavy	Mist	Ovrcast	Party Cloudy	Sunny	Wind State	(F) Temp	Baro Pressure	
10:31				✓						2G	68	29.52	
10:41				✓						2G	68	29.52	
10:51				✓						2G	68	29.52	
11:01				✓						2G	68	"	Rain 0.25"
11:11				✓						2G	68	"	
11:13				✓						2G	68	29.50	Rain 0.32"
11:21				✓						2G	68	"	Rain 0.4"
11:31			✓							2G	68	29.48	
11:41			✓							2G	68	"	
11:51			✓							2G	68	29.50	Rain 0.48"
12:04			✓							2G	68	29.50	
12:14			✓							2G	68	29.48	Rain 0.54"
12:31			✓							2G	68	29.48	
12:45				✓						2G	68	29.45	
12:55				✓						2G	68	29.40	Rain 0.75"
13:07				✓						2G	68	29.41	
13:17			✓							2G	68	29.40	Rain 1.05"
13:27			✓							2G	68	29.40	
13:37			✓							2G	68	29.40	Rain 1.20"
13:47				✓						2G	68	29.40	
13:57			✓							3G	68	29.35	
14:07			✓							3G	68	29.40	
14:17		✓								2G	68	29.35	Rain 1.25"
14:27		✓								2G	68	29.35	
14:37	✓									2G	68	29.33	Rain 1.25"
15:00	✓									2G	68	29.38	
15:10						✓				2G	68	29.38	
15:20						✓				2G	68	29.40	Rain 1.27"

### Legend

- 0 - no wind
- 1 - light wind
- 2 - Medium wind
- 3 - Heavy wind
- 4 - Gusty 1-10



TPS/

RAIN TEST  
Arlington Cemetery (Site 7)

9/16/99 Du

Note -

In the comment section of the weather log, an accurate reading of the rain fall is recorded at specific times. This allows for computation of a rain fall rate estimate,

Although this rate estimate is local to the Van, it is likely to be representative of conditions for the whole area; and it will be of interest to examine the correlation with the RITC signal level,  $E_b/N_0$ , and Link margin data.

DPD

22-141 50 SHEETS  
22-142 100 SHEETS  
22-144 200 SHEETS



9/16/99 Dan

NP-DBS Rain Tests - Site 7  
SSP Reading

Time 10:41 TX OFF

DTV	50	47	46	50	51	48	51	46	46	46	AVG
ES1	78	78	79	78	79	79	78	79	78	79	78.4
ES2	59	60	60	59	59	59	59	59	58	59	59.1

Time 10:51 TX ON

DTV	53	52	54	57	57	57	57	54	51	57	54.6
ES1	79	79	79	80	79	80	80	80	80	80	79.6
ES2	63	63	63	63	63	63	61	62	61	59	62.1

Time 11:01 TX ON

DTV	61	59	57	59	57	62	61	59	59	59	59.3
ES1	84	83	82	83	82	82	82	82	83	82	82.5
ES2	69	69	69	70	69	69	69	69	70	68	69.1

Time 11:11 TX ON

DTV	59	61	57	57	59	61	62	61	61	63
ES1	85	85	85	84	84	84	84	85	85	84
ES2	69	69	69	69	69	69	69	69	69	69

Time 11:21 TX ON

DTV	63	60	62	63	64	63	63	64	66	64	63.2
ES1	86	86	86	86	86	85	86	86	86	85	85.8
ES2	72	73	73	72	72	72	72	72	72	72	72.2
NP	E <sub>0</sub> /N <sub>0</sub> 16.00 dB										

Time 11:31 TX ON

DTV	65	65	62	64	65	64	66	66	66	65	64.8
ES1	87	87	86	86	86	86	87	87	86	86	87.4
ES2	71	72	72	71	72	71	72	72	72	72	71.7

Time 11:41 TX OFF

DTV	67	69	66	67	72	70	68	70	66	67	68.2
ES1	87	88	88	89	88	88	88	89	87	87	87.7
ES2	77	76	76	76	77	78	77	76	77	77	76.7

Time 11:51 TX OFF

DTV	70	68	72	70	64	71	67	69	68	72	69.1
ES1	87	86	86	86	87	87	86	86	87	86	86.3
ES2	76	76	76	76	77	77	76	76	76	76	76.2

22-141 50 SHEETS  
22-142 100 SHEETS  
22-144 200 SHEETS



9/16/95

Time 12:04 TX OFF

DTV	56	55	56	59	55	58	53	57	55	59	Avg
ES1	81	80	80	80	80	80	80	80	80	81	80.2
ES2	59	59	57	57	57	57	57	57	57	56	57.3

Time 12:14 TX OFF

DTV	52	50	54	52	53	51	54	52	53	52	52.3
ES1	75	76	77	77	76	75	76	76	77	75	76.0
ES2	59	59	58	60	59	59	59	58	59	60	59.0

DTV went completely down to zero about 4 times b/w 12:14 & 12:30

Time 12:31 TX OFF

DTV	54	55	54	52	51	56	55	54	54	56	54.1
ES1	80	80	80	80	80	80	80	80	80	80	80.0
ES2	61	60	61	61	61	60	60	59	60	60	60.3

DTV stayed off for 3secs at a time

Time 12:45 TX ON

DTV	50	53	52	52	51	51	48	49	50	69	53	52.6
ES1	78	79	79	80	80	79	79	80	80	80	81	79.9
ES2	61	61	60	61	61	61	61	61	61	61	60	60.9

Time 12:55 TX ON

DTV	50	49	49	51	47	48	48	48	48	51	48.9
ES1	74	74	74	74	75	76	74	74	75	75	74.5
ES2	55	54	54	56	55	56	56	56	58	59	55.9

DTV OFF: 1x 515w

Time 13:07 TX ON

DTV	51	53	56	52	50	51	52	51	50	49	51.6
ES1	72	73	74	74	73	74	73	74	73	74	73.3
ES2	57	58	57	58	59	59	59	59	59	59	58.4

DTV OFF: 6x 1 1 1 1 1 1

Time 13:17 TX ON

DTV	55	48	55	53	56	57	55	56	54	54	54.0
ES1	77	76	76	76	76	76	76	74	76	76	75.9
ES2	64	63	64	63	63	64	63	63	63	64	63.4

DTV OFF 5

\* DTV went completely down to zero at

22-141 50 SHEETS  
22-142 100 SHEETS  
22-144 200 SHEETS



9/16/99

Time 13:27

TX ON

Ave

DTV	58	58	59	57	58	57	60	57	61	60	58.5
ES 1	78	79	77	78	79	79	78	78	78	77	78.1
ES 2	70	69	69	69	69	69	69	69	69	69	69.1
DTV OFF	6X										

Time 13:37

TX ON

DTV	66	67	63	62	58	64	66	63	63	65	63.2
ES 1	84	84	85	84	85	85	84	85	85	85	84.6
ES 2	76	76	75	77	77	76	76	76	76	76	76.1
DTV OFF	7X										

Time 13:47

TX ON

DTV	68	68	73	69	69	66	69	69	69	69	68.9
ES 1	90	89	90	89	90	90	89	89	89	89	89.4
ES 2	79	79	78	79	79	79	79	79	80	80	79.1
DTV OFF	2 9X										

Time 13:57

TX ON

DTV	71	74	69	72	72	71	70	72	69	73	71.3
ES 1	91	91	91	92	91	92	91	91	92	91	91.3
ES 2	82	82	83	82	83	82	82	82	82	82	82.2
DTV OFF	3 8X										

Time 14:07

TX OFF

DTV	76	76	73	74	78	72	71	72	75	77	74.7
ES 1	94	93	94	93	93	94	93	94	94	94	93.6
ES 2	82	82	82	82	82	82	82	82	83	84	82.3
DTV OFF	5 8X										

Time 14:17

TX OFF

DTV	76	79	77	83	74	79	81	69	77	80	76.5
ES 1	94	94	94	94	94	95	94	95	94	94	94.2
ES 2	84	83	84	84	84	84	84	84	84	83	83.8
DTV OFF	8X										

Time 14:27

TX OFF

DTV	78	77	78	79	75	76	77	78	77	74	77.1
ES 1	94	94	94	94	94	94	93	93	94	93	93.7
ES 2	85	85	86	85	85	86	85	86	86	85	85.4
DTV OFF											

Time 14:41

TX OFF

0-zero (one time) seen

DTV	79	77	80	77	79	79	80	78	76	82	79	78.7
ES 1	95	95	94	95	94	95	95	94	95	95		94.7
ES 2	86	87	86	86	87	86	87	87	86	87		86.5

50 SHEETS  
100 SHEETS  
200 SHEETS

22-141  
22-142  
22-144







9/16/99 Jc

TX ON (Connector tightened on LNB with cable) "zero" occurrence  
 LNB tower off & cable conn. tightened not seen since then or yet.)

Time 15:57

DTV	81	82	79	81	81	82	80	81	80	83	81	Ave	81.1
ES1	96	96	96	95	96	96	96	97	97	96	96		96.2
ES2	89	88	89	89	89	89	89	89	88	88	89		88.8

Time 16:13

TX ON

DTV	83	84	84	85	84	82	86	84	83	84	P		83.9
ES1	96	96	95	96	96	96	96	97	96	97			96.1
ES2	89	88	89	89	89	89	89	89	89	89			88.9

Time 16:28

TX ON

DTV	84	85	84	85	84	85	86	85	84	84			84.6
ES1	95	96	95	95	96	96	95	97	95	96			95.6
ES2	89	89	88	89	89	89	89	89	89	89			88.9

Time 16:38

TX OFF

DTV	86	84	88	87	86	86	88	85	84	85			85.9
ES1	96	96	97	96	96	97	95	97	96	96			96.2
ES2	90	89	90	89	89	90	89	90	90	90			89.6

Time 16:48

TX OFF

DTV	87	87	86	86	87	87	88	87	85	86			86.6
ES1	96	97	96	97	97	97	97	96	95	97			96.5
ES2	90	90	90	89	88	90	90	90	90	90			89.7

Time 16:58

TX OFF

DTV	87	87	87	86	87	89	86	84	88	87			86.8
ES1	97	97	97	96	97	96	97	97	97	96			96.7
ES2	89	89	89	89	89	89	89	89	89	89			89.0

Time 17:08

TX OFF

DTV	84	88	88	87	86	86	88	88	88	89			87.4
ES1	97	97	96	96	97	95	97	97	96	96			96.4
ES2	89	89	89	89	89	89	90	89	89	90			89.2

22-141 50 SHEETS  
 22-142 100 SHEETS  
 22-144 200 SHEETS

