



**Dickey Rural Networks**

**Winter 2015**

**Cold Weather Proof of Performance**

**Including Triennial Color Testing**

**February 24-25, 2015**

Prepared by:





## Dickey Rural Networks CATV System FCC Proof of Performance Testing

### **System Description:**

The Dickey Rural Networks CATV network is a fiber to the home (FTTH) system with an RF overlay. There are no architectural components that would be frequency altering after the headend.

### **Bandwidth:**

The total system bandwidth is 750 MHz. This bandwidth is populated with both analog and digital traffic. Per FCC rules, plant testing will be performed on the analog bandwidth using 12 test channels.

### **Set Tops:**

Digital tier customers are supplied with set tops by the operator. The RF performance of these units is a matter of the manufacturer's specifications. All are well known units in common usage throughout the industry.

### **Test Equipment:**

These system performance measurements were made by using the following test instruments: Tektronix 2715 spectrum analyzer, Tektronix TSG-120 test signal generator, Scientific Atlanta model 6270 Demodulator, Tektronix VM700A, JDSU SDA-4040D, CLI-1750, & CLI-1450 signal level meters, 100 Ft. length of RG-6 coaxial cable standard to the system.

### **Headend Equipment:**



The headend hardware was all left in the normal operating condition, supplying the normal programming content. An FCC multiburst video test pattern was substituted for normal video in order to perform the in channel frequency response tests.

### **System Test Points:**

















































The quantity of test points selected reflect FCC rules. Time intervals between signal level tests were performed in accordance with FCC rules.

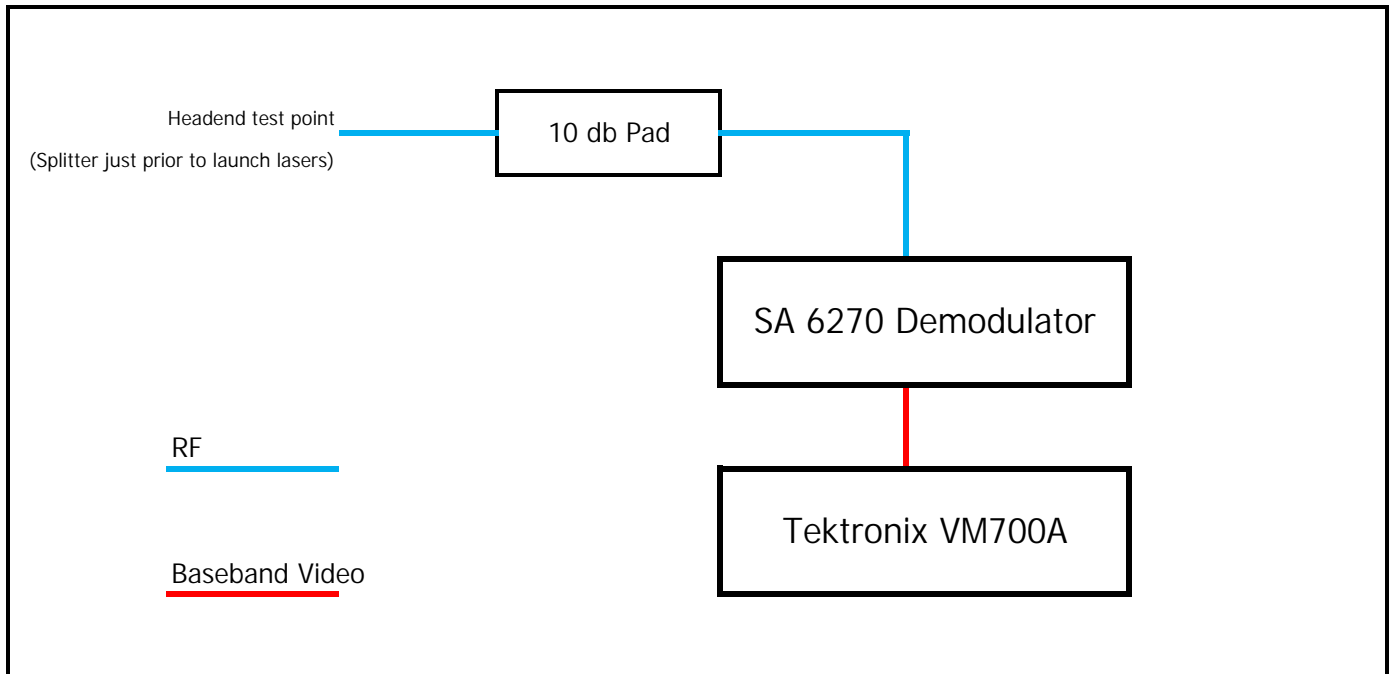
**ENGINEERING FOR TELECOMMUNICATIONS**

# Location Report: Triennial Color Testing (Headend)

Test Location:	Oakes, ND	
Date:	2/24/2015	
Video Standard:	NTSC	
	Pass 	Fail 

## Selected Test Channels

EIA Channel	Standard Frequency (MHz)	Program	Visual Carrier Level (dBmV)	Chroma/Lum Delay (ns)	Chroma Diff Gain (%)	Chroma Phase (Deg)
2	55.2500	GUIDE	20.6 	-2.9 	5.1 	0.7 
7	175.2500	BEK	20.8 	1.8 	4.9 	1.2 
26 M	235.2375	ESPNcl	21.0 	-2.3 	4.8 	1.5 
28 O-+	247.2375	TBS	21.0 	-1.2 	4.9 	1.8 
32 S-+	271.2375	ABCfam	20.9 	-2.9 	5.2 	0.9 
46 JJ-+	355.2375	TOON	20.7 	-1.6 	4.7 	1.3 
55 SS	409.2500	DIY	20.5 	1.5 	5.3 	0.6 
59 WW	433.2500	MSNBC	20.4 	0.5 	5.2 	1.0 
61 YY	445.2500	DSNYxd	20.4 	1.4 	5.3 	0.5 
69 GGG	493.2500	YouToo	21.0 	-2.5 	5.2 	0.5 
71 III	505.2500	truTV	20.7 	1.5 	4.4 	0.7 
78 PPP	547.2500	Sptman	20.4 	-1.0 	4.9 	1.1 



Wiring Diagram of Equipment used for Color Testing

### **Triennial Color Proof of Performance Testing:**

These tests were done in accordance with FCC rules and procedures that follow the NCTA and SCTE recommended practices. An RF sample signal was obtained from the main headend combiner. This represented a test point providing analog CATV channels to the subscribers. All carriers were in their normal operating mode. All RF related tests were measured with a Tektronix 2715 spectrum analyzer.

Color test measurements were measured by injecting a full field color bar signal into each analog channel. A Scientific Atlanta model 6270 demodulator was used to derive a baseband NTSC signal. The NTSC signal was then coupled to a Tektronix VM700A. All chroma measurements were made with the Tektronix VM700A using a 256 field average. For reference purposes the applicable FCC requirements are listed below.

76.605 a 11

#### Chrominance to Luminance Delay Inequality

"The chrominance-luminance delay inequality (or chroma delay), which is the change in delay time of the chrominance component of the signal relative to the luminance component, shall be within  $\pm 170$  nanoseconds."

76.605 a 11

#### Differential Gain

"The differential gain for the color subcarrier of the television signal, which is measured as the difference between the largest and smallest segments of the chrominance signal (divided by the largest and expressed in percent), shall not exceed  $\pm 20$  percent."

76.605 a 11

#### Differential Phase

"The differential phase for the color subcarrier of the television signal which is measured as the largest phase difference in degrees between each segment of the chrominance signal and the reference segment (the segment at the blanking level of 0 IRE), shall not exceed  $\pm 10$  degrees."

# Location Report: RF Modulating Site (Headend)

Test Location:	Dickey Rural Headend Oakes, ND		
Date:	2/24/2015		
Video Standard:	NTSC		
	Pass		Fail

EIA Channel	Standard Frequency (MHz)	Program	Visual Carrier Level (dBmV)		Visual Carrier Frequency (MHz)		Aural Carrier Δ (dBc)		Aural Carrier Frequency Offset (MHz)	
2	55.2500	GUIDE	20.3		55.249957		-14.3		4.500011	
4	67.2500	CBS	20.4		67.249947		-15.1		4.500003	
5	77.2500	CSPN	19.0		77.249959		-14.4		4.499977	
6	83.2500	ABC	19.7		83.249936		-14.7		4.499994	
95 A5	91.2500	BEKcen	21.1		91.250036		-15.1		4.500004	
99 A1+	115.2750	TRNADO	18.4		115.274905		-14.3		4.499978	
14 A-+	121.2375	HSN	21.7		121.237204		-15.6		4.499994	
15 B++	127.2625	WEATHR	21.1		127.262192		-16.2		4.499986	
16 C-+	133.2375	DRNCOM	22.1		133.236968		-15.5		4.499982	
17 D	139.2500	QVC	21.6		139.249444		-15.6		4.499980	
7	175.2500	BEK	19.0		175.250089		-16.9		4.499977	
8	181.2500	CW	20.1		181.249562		-15.0		4.499986	
9	187.2500	DRNWE	20.1		187.249545		-13.7		4.499991	
10	193.2500	FOX	19.7		193.249849		-16.6		4.500038	
11	199.2500	NBC	19.7		199.249846		-15.4		4.500004	
12	205.2500	CSPAN2	20.1		205.249897		-15.3		4.499996	
13	211.2500	PBS	20.7		211.249159		-15.5		4.499983	
24 K+	223.2500	ESPN	20.5		223.249110		-14.6		4.499980	
25 L++	229.2625	ESPN2	20.6		229.261302		-14.1		4.499973	
26 M-+	235.2375	ESPNcl	20.8		235.236276		-15.0		4.499977	
27 N-+	241.2375	ESPNNew	21.0		241.236243		-15.2		4.499976	
28 O-+	247.2375	TBS	21.0		247.236213		-16.0		4.499977	
29 P-+	253.2375	LIFETM	20.9		253.236180		-15.7		4.499975	
30 Q-+	259.2375	DISNEY	20.7		259.236151		-15.4		4.499978	
31 R-+	265.2375	USA	20.5		265.236122		-15.1		4.499980	
32 S-+	271.2375	ABCfam	20.4		271.236205		-15.6		4.499980	
37 AA-+	301.2375	TNT	20.4		301.236061		-14.1		4.499989	
38 BB-+	307.2375	DISCVR	21.0		307.236037		-15.3		4.499966	
40 DD-+	319.2375	HEADLN	20.7		319.237258		-15.3		4.499991	
41 EE-+	325.2375	FOXsn	20.4		325.237254		-15.3		4.499993	
42 FF++	331.2750	ANIMAL	19.8		331.274213		-15.2		4.499981	
43 GG-+	337.2375	AMC	20.2		337.236698		-14.6		4.499979	
44 HH-+	343.2375	HISTRY	20.0		343.236165		-14.9		4.499979	
45 II-+	349.2375	TLC	20.2		349.236144		-15.9		4.499990	
46 JJ-+	355.2375	TOON	20.5		355.235214		-15.9		4.499971	
47 KK++	361.2625	HGTV	20.3		361.261651		-15.4		4.499990	
48 LL-+	367.2375	A&E	20.1		367.237903		-15.2		4.499990	

# Location Report: RF Modulating Site (Headend)

Test Location:	Dickey Rural Headend Oakes, ND		
Date:	2/24/2015		
Video Standard:	NTSC		
	Pass		Fail

EIA Channel	Standard Frequency (MHz)	Program	Visual Carrier Level (dBmV)		Visual Carrier Frequency (MHz)		Aural Carrier Δ (dBc)		Aural Carrier Frequency Offset (MHz)	
49 MM-+	373.2375	CNBC	20.6		373.237907		-15.6		4.500012	
50 NN-+	379.2375	OWN	20.2		379.237913		-14.9		4.499998	
51 OO-+	385.2375	TCM	20.5		385.237918		-15.4		4.500011	
52 PP-+	391.2375	OUTDR	20.4		391.237932		-15.6		4.500001	
53 QQ-+	397.2375	TRAVEL	20.4		397.237937		-15.3		4.500006	
54 RR	403.2500	CNN	20.2		403.250437		-15.0		4.500007	
55 SS	409.2500	DIY	19.4		409.250447		-13.5		4.500003	
56 TT	415.2500	NATGEO	19.7		415.247338		-14.7		4.499959	
57 UU	421.2500	FOXnew	19.9		421.247295		-13.6		4.499972	
59 WW	433.2500	MSNBC	19.7		433.247216		-15.1		4.499973	
60 XX	439.2500	BRAVO	20.3		439.247175		-14.5		4.499973	
61 YY	445.2500	DSNYxd	19.8		445.248277		-15.4		4.499976	
62 ZZ	451.2500	GOLF	19.9		451.247094		-15.9		4.499978	
64 BBB	463.2500	FOOD	19.2		463.247014		-13.8		4.499974	
65 CCC	469.2500	GSN	19.8		469.249470		-14.7		4.499981	
67 EEE	481.2500	FX	19.2		481.249456		-15.9		4.500001	
68 FFF	487.2500	FOXspt	19.2		487.249446		-14.6		4.500001	
69 GGG	493.2500	YouToo	19.8		493.249435		-15.8		4.499990	
70 HHH	499.2500	GAC	19.9		499.249427		-15.1		4.500007	
71 III	505.2500	truTV	19.4		505.249422		-15.7		4.499995	
72 JJJ	511.2500	HLMARK	19.1		511.249414		-14.4		4.499991	
73 KKK	517.2500	OXYGEN	19.1		517.249733		-14.4		4.499991	
74 LLL	523.2500	NBCspt	18.6		523.249731		-14.1		4.499999	
75 MMM	529.2500	ION	19.3		529.249726		-14.9		4.499969	
76 NNN	535.2500	RFD TV	19.6		535.248728		-14.6		4.499982	
77 OOO	541.2500	SyFy	19.4		541.249721		-14.4		4.500033	
78 PPP	547.2500	SPTMEN	19.3		547.249718		-13.9		4.499997	

# Location Report: Analog RF Subscriber NID (FTTH)

Test Location:	Forbes, ND	
Date:	2/24/2015	
Video Standard:	NTSC	
	Pass	Fail

## Selected Test Channels

EIA Channel	Standard Frequency (MHz)	Program	Visual Carrier Level (dBmV)	Visual Carrier Frequency (MHz)	Aural Carrier Δ (dBc)	Aural Carrier Frequency Offset (MHz)
2	55.2500	GUIDE	18.3	55.249957	-13.9	4.499992
7	175.2500	BEK	17.7	175.250063	-15.8	4.499990
26 M	235.2375	ESPNcl	19.4	235.236277	-14.8	4.499978
28 O-+	247.2375	TBS	20.0	247.236239	-15.9	4.499981
32 S-+	271.2375	ABCfam	18.9	271.236207	-15.5	4.499992
46 JJ-+	355.2375	TOON	19.3	355.235184	-15.5	4.499972
55 SS	409.2500	DIY	18.8	409.250420	-13.4	4.500008
59 WW	433.2500	MSNBC	19.0	433.247177	-15.4	4.499970
61 YY	445.2500	DSNYxd	19.1	445.248227	-15.7	4.499990
69 GGG	493.2500	YouToo	18.9	493.249432	-15.3	4.499997
71 III	505.2500	truTV	18.8	505.249413	-15.4	4.499996
78 PPP	547.2500	Sptman	18.9	547.249704	-14.6	4.499998

## RF Carrier Performance Measurements

EIA Channel	Standard Frequency (MHz)	Program	Carrier to Noise (dB)	Coherent Second Order (dBc)	Coherent Triple Beat (dBc)	In Channel Response (dB)
2	55.2500	GUIDE	45.9	-64.80	-58.4	0.3
7	175.2500	BEK	45.5	-58.70	-54.4	0.3
26 M	235.2375	ESPNcl	46.1	-65.70	-56.1	0.2
28 O-+	247.2375	TBS	46.9	-65.40	-55.8	0.3
32 S-+	271.2375	ABCfam	46.6	-61.80	-55.8	0.4
46 JJ-+	355.2375	TOON	46.0	-65.10	-56.3	0.2
55 SS	409.2500	DIY	46.5	-61.90	-55.1	0.3
59 WW	433.2500	MSNBC	46.3	-61.70	-56.0	0.2
61 YY	445.2500	DSNYxd	46.8	-61.80	-56.1	0.3
69 GGG	493.2500	YouToo	46.3	-64.60	-55.5	0.2
71 III	505.2500	truTV	46.0	-64.10	-55.5	0.2
78 PPP	547.2500	Sptman	47.1	-64.40	-58.4	0.2

Hum & Low Frequency Disturbance	1.1%
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# 24 Hour Test Report



Technology Planners  
 244 W Pioneer Road  
 Fond du Lac, WI  
 54935  
 920-923-1034

Test completed for:  
 Dickey Rural Networks  
 Testing Location:  
 Forbes, ND

Model: 4040D  
 Operator: TECH\_PLAN\_  
 Date: 02/24/15 Time: 17:14:11  
 Description:

Serial #: 5443192  
 File: FORBES

Cal Date: 01/11/14  
 DOS File: FORBES

Location: FORBES  
 Location Type: FieldTest  
 Area: SJ  
 Test Pnt Type:  
 Test Pnt Comp:  
 AC Voltage:

AmpID:  
 Power Cfg:  
 Feeder Maker Cfg:  
 Trunk Term:  
 Voltage Setting:  
 DC Voltage (reg):

Reverse Pad:  
 Forward Pad:  
 Rev Equalizer:  
 Fwd Equalizer:  
 Temp:  
 DC Voltage (unreg):

	#1	#2	#3	#4	
Date:	02/24/15	02/24/15	02/25/15	02/25/15	
Time:	17:14:11	23:13:58	05:13:58	11:13:58	
Temp:	9.6 F	8.8 F	8.8 F	8.8 F	
Channel	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	24Hr Deviation(dB)
2	17.0	17.1	17.2	16.7	0.5
4	17.3	17.2	17.8	17.2	0.6
5	17.0	17.5	17.5	17.4	0.5
6	16.9	17.2	17.3	17.0	0.4
7	15.9	16.2	16.3	16.2	0.4
8	16.3	16.5	17.0	16.3	0.7
9	16.3	16.6	16.6	16.4	0.3
10	16.9	16.8	17.2	16.7	0.5
11	16.5	16.7	16.7	16.5	0.2
12	16.5	16.6	16.6	16.5	0.1
13	16.5	16.3	16.2	16.1	0.4
14	16.5	17.0	17.2	16.9	0.7
15	16.9	17.4	17.5	17.3	0.6
16	17.6	17.9	18.0	17.4	0.6
17	16.7	17.3	17.5	17.0	0.8
23	16.4	16.3	16.7	16.1	0.6
24	16.1	15.9	16.0	15.8	0.3
25	16.7	16.5	16.6	16.6	0.2
26	16.2	16.2	16.4	16.3	0.2
27	16.0	16.2	16.2	16.0	0.2
28	16.8	16.9	17.1	16.9	0.3
29	16.3	15.8	16.3	16.1	0.5
30	16.8	16.9	17.0	16.8	0.2
31	16.8	16.7	16.9	16.9	0.2
32	16.7	17.0	17.0	16.7	0.3
37	16.8	16.8	16.9	16.8	0.1
38	17.3	16.8	16.6	16.9	0.7
40	16.5	16.8	16.8	16.7	0.3
41	17.0	17.0	17.1	17.1	0.1
42	16.3	16.5	16.5	16.4	0.2
43	16.8	16.7	16.8	16.7	0.1
44	17.0	16.9	17.2	17.0	0.3
45	17.3	17.7	18.0	17.5	0.7
46	16.8	16.9	17.2	16.8	0.4
47	17.3	17.4	17.7	17.0	0.7
48	17.3	17.0	17.3	17.2	0.3
49	17.3	17.5	17.8	17.5	0.5
50	17.5	17.4	17.5	17.5	0.1
51	17.3	17.5	17.6	17.4	0.3
52	17.4	17.6	17.8	17.5	0.4
53	17.7	17.5	17.7	17.5	0.2
54	17.7	17.7	17.8	17.7	0.1
55	16.9	16.8	16.8	16.4	0.5
56	17.0	17.0	17.3	16.9	0.4



# 24 Hour Test Report



Technology Planners  
 244 W Pioneer Road  
 Fond du Lac, WI  
 54935  
 920-923-1034

Test completed for:  
 Dickey Rural Networks  
 Testing Location:  
 Forbes, ND

Model: 4040D  
 Operator: TECH\_PLAN\_  
 Date: 02/24/15 Time: 17:14:11  
 Description:

Serial #: 5443192  
 File: FORBES

Cal Date: 01/11/14  
 DOS File: FORBES

	#1	#2	#3	#4	
Date:	02/24/15	02/24/15	02/25/15	02/25/15	
Time:	17:14:11	23:13:58	05:13:58	11:13:58	
Temp:	9.6 F	8.8 F	8.8 F	8.8 F	
Channel	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	24Hr Deviation(dB)
57	17.3	17.1	17.4	17.0	0.4
59	16.9	16.5	16.9	16.6	0.4
60	17.5	17.4	17.6	17.5	0.2
61	17.1	17.2	17.5	17.1	0.4
62	16.9	17.0	17.0	16.8	0.2
64	16.3	16.6	16.6	16.4	0.3
65	16.9	17.2	17.4	16.8	0.6
67	17.5	17.8	17.9	17.3	0.6
68	18.0	18.0	18.2	17.8	0.4
69	17.0	17.2	17.5	16.8	0.7
70	17.2	17.3	17.3	17.4	0.2
71	17.0	17.1	17.1	16.9	0.2
72	16.3	16.5	16.4	16.3	0.2
73	16.6	16.7	17.0	16.5	0.5
74	17.0	16.9	17.1	16.7	0.4
75	17.3	17.4	17.6	16.9	0.7
76	17.7	17.9	17.9	17.5	0.4
77	17.1	17.2	17.5	16.9	0.6
78	17.0	17.0	17.1	16.8	0.3

LIMIT CHECK	Limit	1	2	3	4	
Min Video Carrier Level	3.0 dBmV					Pass
Max Delta Video Level	15.0 dB					Pass
Min Delta V/A	10.0 dB					Pass
Max Delta V/A	17.0 dB					Pass
Max Delta Adjacent Chan	3.0 dB					Pass
Max 24 Hour Deviation	8.0 dB					Pass
Min Digital Level	..					Pass
Max Digital Level	..					Pass
Conclusion:						<b>P A S S</b>

# Location Report: Analog RF Subscriber NID (FTTH)

Test Location:	Jud, ND	
Date:	2/24/2015	
Video Standard:	NTSC	
	Pass	Fail

## Selected Test Channels

EIA Channel	Standard Frequency (MHz)	Program	Visual Carrier Level (dBmV)	Visual Carrier Frequency (MHz)	Aural Carrier Δ (dBc)	Aural Carrier Frequency Offset (MHz)
2	55.2500	GUIDE	19.0	55.249955	-13.9	4.500011
7	175.2500	BEK	18.7	175.250082	-16.1	4.499995
26 M	235.2375	ESPNcl	20.2	235.236294	-14.7	4.499951
28 O-+	247.2375	TBS	20.8	247.236255	-16.0	4.499976
32 S-+	271.2375	ABCfam	19.7	271.236214	-15.5	4.499980
46 JJ-+	355.2375	TOON	20.0	355.235195	-15.4	4.499961
55 SS	409.2500	DIY	19.6	409.250430	-13.4	4.500008
59 WW	433.2500	MSNBC	19.7	433.247184	-15.6	4.499976
61 YY	445.2500	DSNYxd	20.2	445.248229	-15.7	4.499995
69 GGG	493.2500	YouToo	20.0	493.249440	-15.3	4.499989
71 III	505.2500	truTV	20.1	505.249418	-15.8	4.499994
78 PPP	547.2500	Sptman	20.3	547.249708	-14.8	4.499998

## RF Carrier Performance Measurements

EIA Channel	Standard Frequency (MHz)	Program	Carrier to Noise (dB)	Coherent Second Order (dBc)	Coherent Triple Beat (dBc)	In Channel Response (dB)
2	55.2500	GUIDE	51.7	-67.50	-67.6	0.3
7	175.2500	BEK	48.9	-63.00	-64.4	0.3
26 M	235.2375	ESPNcl	52.8	-67.30	-67.1	0.3
28 O-+	247.2375	TBS	54.2	-69.00	-65.6	0.3
32 S-+	271.2375	ABCfam	52.5	-67.50	-66.0	0.4
46 JJ-+	355.2375	TOON	52.4	-66.60	-66.5	0.2
55 SS	409.2500	DIY	51.7	-64.70	-63.3	0.2
59 WW	433.2500	MSNBC	51.1	-66.00	-64.8	0.3
61 YY	445.2500	DSNYxd	52.1	-63.70	-61.9	0.2
69 GGG	493.2500	YouToo	51.4	-66.90	-60.4	0.2
71 III	505.2500	truTV	50.7	-65.00	-60.0	0.2
78 PPP	547.2500	Sptman	51.8	-67.20	-60.4	0.2

Hum & Low Frequency Disturbance	0.8%
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# 24 Hour Test Report



Technology Planners  
 244 W Pioneer Road  
 Fond du Lac, WI  
 54935  
 920-923-1034

Test completed for:  
 Dickey Rural Networks  
 Testing Location:  
 Jud, ND

Model: 1450  
 Operator: OPERATOR\_NAME  
 Date: 02/24/15 Time: 07:09:49  
 Description:

Serial #: 7183480  
 File: JUD\_\_\_\_\_

Cal Date: 4/09/14  
 DOS File: JUD\_\_\_\_\_

Location: JUD  
 Location Type: FieldTest  
 Area: \_  
 Test Pnt Type:  
 Test Pnt Comp:  
 AC Voltage:

AmpID:  
 Power Cfg:  
 Feeder Maker Cfg:  
 Trunk Term:  
 Voltage Setting:  
 DC Voltage (reg):

Reverse Pad:  
 Forward Pad:  
 Rev Equalizer:  
 Fwd Equalizer:  
 Temp:  
 DC Voltage (unreg):

	#1	#2	#3	#4	
Date:	02/24/15	02/24/15	02/24/15	02/25/15	
Time:	07:09:49	13:09:42	19:09:42	01:09:42	
Temp:	10.0 F	6.7 F	7.8 F	5.8 F	
Channel	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	24Hr Deviation(dB)
2	19.0	19.0	19.1	18.7	0.4
4	19.1	19.0	19.4	19.0	0.4
5	19.0	18.9	19.3	18.9	0.4
6	18.8	18.8	18.9	18.5	0.4
7	18.2	18.2	18.3	18.2	0.1
8	18.6	18.5	18.5	18.2	0.4
9	18.5	18.5	18.6	18.4	0.2
10	18.8	18.8	19.1	18.7	0.4
11	18.7	18.6	18.7	18.6	0.1
12	18.6	18.6	18.8	18.6	0.2
13	18.6	18.6	18.3	18.1	0.5
14	19.0	18.9	19.0	18.7	0.3
15	18.6	18.5	19.0	18.5	0.5
16	19.9	19.8	19.9	19.6	0.3
17	19.0	19.0	19.3	18.8	0.5
24	18.0	18.1	18.0	18.0	0.1
25	18.1	18.1	18.2	18.1	0.1
26	18.5	18.4	18.6	18.5	0.2
27	18.4	18.3	18.4	18.4	0.1
28	19.1	19.1	19.3	19.1	0.2
29	18.5	18.2	18.4	18.4	0.3
30	19.0	19.0	19.1	19.1	0.1
31	19.0	18.9	19.1	19.0	0.2
32	19.1	19.0	19.1	19.0	0.1
37	19.0	18.9	19.0	18.9	0.1
38	18.9	18.8	19.0	18.9	0.2
40	19.0	18.9	19.1	18.9	0.2
41	19.3	19.2	19.3	19.3	0.1
42	18.5	18.4	18.5	18.4	0.1
43	19.2	19.1	19.3	19.1	0.2
44	19.4	19.3	19.5	19.4	0.2
45	20.0	19.9	20.0	19.9	0.1
46	19.2	19.1	19.2	19.1	0.1
47	18.8	18.7	18.8	18.7	0.1
48	19.2	19.2	19.2	19.2	0.0
49	19.5	19.4	19.6	19.6	0.2
50	19.6	19.5	19.7	19.5	0.2
51	19.5	19.6	19.7	19.6	0.2
52	19.7	19.8	19.9	19.7	0.2
53	19.9	19.9	19.9	19.7	0.2
54	19.9	19.9	20.1	19.8	0.3
55	19.2	19.2	19.1	19.0	0.2
56	19.4	19.4	19.5	19.2	0.3

# 24 Hour Test Report



Technology Planners  
 244 W Pioneer Road  
 Fond du Lac, WI  
 54935  
 920-923-1034

Test completed for:  
 Dickey Rural Networks  
 Testing Location:  
 Jud, ND

Model: 1450  
 Operator: OPERATOR\_NAME  
 Date: 02/24/15 Time: 07:09:49  
 Description:

Serial #: 7183480  
 File: JUD\_\_\_\_\_

Cal Date: 4/09/14  
 DOS File: JUD\_\_\_\_\_

	#1	#2	#3	#4	
Date:	02/24/15	02/24/15	02/24/15	02/25/15	
Time:	07:09:49	13:09:42	19:09:42	01:09:42	
Temp:	10.0 F	6.7 F	7.8 F	5.8 F	
Channel	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	24Hr Deviation(dB)
57	19.8	19.7	19.8	19.5	0.3
59	19.3	19.2	19.4	19.0	0.4
60	19.7	19.6	20.1	19.5	0.6
61	19.4	19.4	19.5	19.2	0.3
62	19.2	19.2	19.3	19.0	0.3
64	18.8	18.8	18.9	18.5	0.4
65	19.4	19.5	19.5	19.0	0.5
67	19.5	19.5	19.6	19.1	0.5
68	19.7	20.0	20.1	19.6	0.5
69	19.3	19.3	19.3	18.9	0.4
70	19.8	19.9	19.9	19.5	0.4
71	20.0	20.0	20.1	19.7	0.4
72	19.3	19.3	19.3	18.9	0.4
73	19.4	19.4	19.6	19.1	0.5
74	19.5	19.5	19.5	19.1	0.4
75	19.7	19.7	19.8	19.3	0.5
76	20.2	20.2	20.3	19.9	0.4
77	19.8	19.8	19.9	19.4	0.5
78	19.7	19.9	19.9	19.5	0.4

LIMIT CHECK	Limit	1	2	3	4	
Min Video Carrier Level	3.0 dBmV					Pass
Max Delta Video Level	15.0 dB					Pass
Min Delta V/A	10.0 dB					Pass
Max Delta V/A	17.0 dB					Pass
Max Delta Adjacent Chan	3.0 dB					Pass
Max 24 Hour Deviation	8.0 dB					Pass
Min Digital Level	..					Pass
Max Digital Level	..					Pass
Conclusion:						<b>P A S S</b>

# Location Report: Analog RF Subscriber NID (FTTH)

Test Location:	Kathryn, ND	
Date:	2/25/2015	
Video Standard:	NTSC	
	Pass	Fail

## Selected Test Channels

EIA Channel	Standard Frequency (MHz)	Program	Visual Carrier Level (dBmV)	Visual Carrier Frequency (MHz)	Aural Carrier Δ (dBc)	Aural Carrier Frequency Offset (MHz)
2	55.2500	GUIDE	14.0	55.249957	-13.6	4.499988
7	175.2500	BEK	14.9	175.250061	-15.4	4.499988
26 M	235.2375	ESPNcl	16.8	235.236278	-15.2	4.499976
28 O-+	247.2375	TBS	16.9	247.236234	-16.0	4.499976
32 S-+	271.2375	ABCfam	16.1	271.236225	-15.6	4.499988
46 JJ-+	355.2375	TOON	16.0	355.235196	-15.5	4.499969
55 SS	409.2500	DIY	15.9	409.250446	-13.7	4.500009
59 WW	433.2500	MSNBC	16.0	433.247192	-15.5	4.499983
61 YY	445.2500	DSNYxd	16.2	445.248296	-15.5	4.499984
69 GGG	493.2500	YouToo	16.3	493.249444	-15.5	4.499993
71 III	505.2500	truTV	16.3	505.249428	-15.6	4.499996
78 PPP	547.2500	Sptman	16.4	547.249716	-14.8	4.499991

## RF Carrier Performance Measurements

EIA Channel	Standard Frequency (MHz)	Program	Carrier to Noise (dB)	Coherent Second Order (dBc)	Coherent Triple Beat (dBc)	In Channel Response (dB)
2	55.2500	GUIDE	49.7	-70.10	-66.5	0.2
7	175.2500	BEK	51.6	-62.30	-68.6	0.3
26 M	235.2375	ESPNcl	53.8	-69.70	-69.0	0.3
28 O-+	247.2375	TBS	53.8	-71.70	-67.7	0.4
32 S-+	271.2375	ABCfam	53.1	-69.20	-68.5	0.4
46 JJ-+	355.2375	TOON	52.4	-68.80	-67.8	0.2
55 SS	409.2500	DIY	53.2	-67.10	-67.6	0.3
59 WW	433.2500	MSNBC	52.4	-70.10	-69.0	0.2
61 YY	445.2500	DSNYxd	52.4	-68.80	-68.3	0.3
69 GGG	493.2500	YouToo	53.6	-69.00	-68.9	0.3
71 III	505.2500	truTV	53.9	-66.80	-68.1	0.3
78 PPP	547.2500	Sptman	53.9	-69.70	-69.2	0.2

Hum & Low Frequency Disturbance	0.7%
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# 24 Hour Test Report



Technology Planners  
 244 W Pioneer Road  
 Fond du Lac, WI  
 54935  
 920-923-1034

Test completed for:  
 Dickey Rural Networks  
 Testing Location:  
 Kathryn, ND

Model: 1750  
 Operator: OPERATOR\_NAME  
 Date: 02/24/15 Time: 08:45:13  
 Description:

Serial #: 0614953  
 File: KATHRYN

Cal Date: 12/15/14  
 DOS File: KATHRYN

Location: KATHRYN  
 Location Type: FieldTest  
 Area: \_0\_\_\_\_  
 Test Pnt Type:  
 Test Pnt Comp:  
 AC Voltage:

AmpID:  
 Power Cfg:  
 Feeder Maker Cfg:  
 Trunk Term:  
 Voltage Setting:  
 DC Voltage (reg):

Reverse Pad:  
 Forward Pad:  
 Rev Equalizer:  
 Fwd Equalizer:  
 Temp:  
 DC Voltage (unreg):

	#1	#2	#3	#4	
Date:	02/24/15	02/24/15	02/24/15	02/25/15	
Time:	08:45:13	14:45:05	20:45:05	02:45:02	
Temp:	14.9 F	16.6 F	15.7 F	10.6 F	
Channel	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	24Hr Deviation(dB)
2	12.1	12.3	12.2	11.9	0.4
4	13.4	13.6	13.7	13.6	0.3
5	13.5	13.4	13.5	13.4	0.1
6	13.2	13.4	13.3	13.2	0.2
7	13.2	13.3	13.2	13.2	0.1
8	13.6	13.7	13.6	13.7	0.1
9	13.6	13.7	13.7	13.7	0.1
10	14.0	14.1	14.0	14.1	0.1
11	14.0	14.0	14.0	14.0	0.0
12	13.9	14.1	14.1	14.1	0.2
13	13.9	14.0	14.0	14.1	0.2
14	13.6	13.7	13.6	13.5	0.2
15	13.2	13.3	13.3	13.3	0.1
16	14.6	14.8	14.7	14.5	0.3
17	13.8	13.9	13.8	13.5	0.4
24	13.4	13.5	13.5	13.6	0.2
25	13.3	13.5	13.4	13.4	0.2
26	13.8	13.9	13.9	14.1	0.3
27	13.7	13.9	13.8	14.0	0.3
28	14.5	14.6	14.6	14.8	0.3
29	13.9	13.8	14.0	14.0	0.2
30	14.5	14.6	14.5	14.7	0.2
31	14.5	14.6	14.5	14.7	0.2
32	14.5	14.7	14.4	14.7	0.3
37	14.1	14.2	14.2	14.2	0.1
38	14.4	14.5	14.1	14.0	0.5
40	14.1	14.3	14.2	14.1	0.2
41	14.4	14.6	14.4	14.7	0.3
42	13.6	13.7	13.6	13.8	0.2
43	14.3	14.4	14.4	14.5	0.2
44	14.4	14.6	14.5	14.6	0.2
45	15.0	15.1	15.1	14.9	0.2
46	14.3	14.4	14.3	14.2	0.2
47	13.6	13.8	13.7	13.6	0.2
48	14.3	14.4	14.4	14.2	0.2
49	14.5	14.5	14.5	14.4	0.1
50	14.3	14.4	14.5	14.4	0.2
51	14.3	14.5	14.5	14.3	0.2
52	14.6	14.7	14.6	14.6	0.1
53	14.7	14.8	14.6	14.6	0.2
54	14.8	14.8	14.9	14.7	0.2
55	14.0	14.2	14.2	13.9	0.3
56	14.4	14.6	14.5	14.3	0.3

# 24 Hour Test Report



Technology Planners  
 244 W Pioneer Road  
 Fond du Lac, WI  
 54935  
 920-923-1034

Test completed for:  
 Dickey Rural Networks  
 Testing Location:  
 Kathryn, ND

Model: 1750  
 Operator: OPERATOR\_NAME  
 Date: 02/25/15 Time: 08:45:13  
 Description:

Serial #: 0614953  
 File: KATHRYN

Cal Date: 12/15/14  
 DOS File: KATHRYN

	#1	#2	#3	#4	
Date:	02/24/15	02/24/15	02/24/15	02/25/15	
Time:	08:45:13	14:45:05	20:45:05	02:45:02	
Temp:	14.9 F	16.6 F	15.7 F	10.6 F	
Channel	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	24Hr Deviation(dB)
57	14.7	14.9	14.7	14.6	0.3
59	14.2	14.4	14.2	13.9	0.5
60	14.5	14.7	14.5	14.3	0.4
61	14.3	14.4	14.4	14.1	0.3
62	14.1	14.3	14.1	14.0	0.3
63	14.1	14.3	14.3	14.0	0.3
64	13.9	14.1	13.9	13.8	0.3
65	14.5	14.7	14.5	14.3	0.4
67	14.7	14.8	14.7	14.5	0.3
68	14.9	15.4	15.2	15.0	0.5
69	14.4	14.6	14.5	14.3	0.3
70	14.9	15.0	15.1	14.8	0.3
71	15.1	15.1	15.1	15.1	0.0
72	14.4	14.5	14.5	14.4	0.1
73	14.3	14.5	14.3	14.3	0.2
74	14.1	14.3	14.5	14.1	0.4
75	14.3	14.5	14.4	14.2	0.3
76	15.0	15.2	15.2	14.9	0.3
77	14.8	15.0	14.9	14.5	0.5
78	14.8	14.9	14.9	14.3	0.6

LIMIT CHECK	Limit	1	2	3	4	
Min Video Carrier Level	3.0 dBmV					Pass
Max Delta Video Level	15.0 dB					Pass
Min Delta V/A	10.0 dB					Pass
Max Delta V/A	17.0 dB					Pass
Max Delta Adjacent Chan	3.0 dB					Pass
Max 24 Hour Deviation	8.0 dB					Pass
Min Digital Level	..					Pass
Max Digital Level	..					Pass
Conclusion:						<b>P A S S</b>

# Location Report: Analog RF Subscriber NID (FTTH)

Test Location:	Lisbon, ND	
Date:	2/25/2015	
Video Standard:	NTSC	
	Pass	Fail

## Selected Test Channels

EIA Channel	Standard Frequency (MHz)	Program	Visual Carrier Level (dBmV)	Visual Carrier Frequency (MHz)	Aural Carrier Δ (dBc)	Aural Carrier Frequency Offset (MHz)
2	55.2500	GUIDE	18.2	55.249958	-14.2	4.499984
7	175.2500	BEK	16.8	175.250076	-15.7	4.499968
26 M	235.2375	ESPNcl	18.1	235.236263	-15.0	4.499971
28 O-+	247.2375	TBS	18.5	247.236213	-15.8	4.499977
32 S-+	271.2375	ABCfam	17.0	271.236189	-15.6	4.499977
46 JJ-+	355.2375	TOON	17.0	355.235174	-15.7	4.499972
55 SS	409.2500	DIY	15.9	409.250413	-14.0	4.500002
59 WW	433.2500	MSNBC	15.5	433.247179	-16.0	4.499968
61 YY	445.2500	DSNYxd	15.2	445.248295	-15.5	4.499997
69 GGG	493.2500	YouToo	14.2	493.249443	-15.4	4.499997
71 III	505.2500	truTV	14.1	505.249439	-15.6	4.499997
78 PPP	547.2500	Sptman	13.7	547.249728	-14.7	4.499994

## RF Carrier Performance Measurements

EIA Channel	Standard Frequency (MHz)	Program	Carrier to Noise (dB)	Coherent Second Order (dBc)	Coherent Triple Beat (dBc)	In Channel Response (dB)
2	55.2500	GUIDE	54.2	-67.80	-71.8	0.4
7	175.2500	BEK	53.1	-61.00	-66.9	0.3
26 M	235.2375	ESPNcl	55.4	-64.60	-67.9	0.3
28 O-+	247.2375	TBS	55.9	-68.10	-70.9	0.6
32 S-+	271.2375	ABCfam	56.1	-67.90	-70.7	0.3
46 JJ-+	355.2375	TOON	53.9	-67.60	-68.3	0.3
55 SS	409.2500	DIY	55.0	-67.60	-68.2	0.4
59 WW	433.2500	MSNBC	55.1	-67.50	-68.4	0.4
61 YY	445.2500	DSNYxd	55.2	-64.50	-68.3	0.3
69 GGG	493.2500	YouToo	53.9	-63.10	-68.3	0.2
71 III	505.2500	truTV	54.4	-64.70	-68.1	0.2
78 PPP	547.2500	Sptman	54.6	-67.00	-68.2	0.3

Hum & Low Frequency Disturbance	1.1%
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# 24 Hour Test Report



Technology Planners  
 244 W Pioneer Road  
 Fond du Lac, WI  
 54935  
 920-923-1034

Test completed for:  
 Dickey Rural Networks  
 Testing Location:  
 Lisbon, ND

Model: 1750  
 Operator: OPERATOR\_NAME  
 Date: 02/24/15 Time: 08:45:13  
 Description:

Serial #: 0614953  
 File: LISBON

Cal Date: 12/15/14  
 DOS File: LISBON

Location: LISBON  
 Location Type: FieldTest  
 Area: \_0\_\_\_\_  
 Test Pnt Type:  
 Test Pnt Comp:  
 AC Voltage:

AmpID:  
 Power Cfg:  
 Feeder Maker Cfg:  
 Trunk Term:  
 Voltage Setting:  
 DC Voltage (reg):

Reverse Pad:  
 Forward Pad:  
 Rev Equalizer:  
 Fwd Equalizer:  
 Temp:  
 DC Voltage (unreg):

	#1	#2	#3	#4	
Date:	02/24/15	02/24/15	02/24/15	02/25/15	
Time:	08:45:13	14:45:05	20:45:05	02:45:02	
Temp:	14.9 F	16.6 F	15.7 F	10.6 F	
Channel	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	24Hr Deviation(dB)
2	12.1	12.3	12.2	11.9	0.4
4	13.4	13.6	13.7	13.6	0.3
5	13.5	13.4	13.5	13.4	0.1
6	13.2	13.4	13.3	13.2	0.2
7	13.2	13.3	13.2	13.2	0.1
8	13.6	13.7	13.6	13.7	0.1
9	13.6	13.7	13.7	13.7	0.1
10	14.0	14.1	14.0	14.1	0.1
11	14.0	14.0	14.0	14.0	0.0
12	13.9	14.1	14.1	14.1	0.2
13	13.9	14.0	14.0	14.1	0.2
14	13.6	13.7	13.6	13.5	0.2
15	13.2	13.3	13.3	13.3	0.1
16	14.6	14.8	14.7	14.5	0.3
17	13.8	13.9	13.8	13.5	0.4
24	13.4	13.5	13.5	13.6	0.2
25	13.3	13.5	13.4	13.4	0.2
26	13.8	13.9	13.9	14.1	0.3
27	13.7	13.9	13.8	14.0	0.3
28	14.5	14.6	14.6	14.8	0.3
29	13.9	13.8	14.0	14.0	0.2
30	14.5	14.6	14.5	14.7	0.2
31	14.5	14.6	14.5	14.7	0.2
32	14.5	14.7	14.4	14.7	0.3
37	14.1	14.2	14.2	14.2	0.1
38	14.4	14.5	14.1	14.0	0.5
40	14.1	14.3	14.2	14.1	0.2
41	14.4	14.6	14.4	14.7	0.3
42	13.6	13.7	13.6	13.8	0.2
43	14.3	14.4	14.4	14.5	0.2
44	14.4	14.6	14.5	14.6	0.2
45	15.0	15.1	15.1	14.9	0.2
46	14.3	14.4	14.3	14.2	0.2
47	13.6	13.8	13.7	13.6	0.2
48	14.3	14.4	14.4	14.2	0.2
49	14.5	14.5	14.5	14.4	0.1
50	14.3	14.4	14.5	14.4	0.2
51	14.3	14.5	14.5	14.3	0.2
52	14.6	14.7	14.6	14.6	0.1
53	14.7	14.8	14.6	14.6	0.2
54	14.8	14.8	14.9	14.7	0.2
55	14.0	14.2	14.2	13.9	0.3
56	14.4	14.6	14.5	14.3	0.3

# 24 Hour Test Report



Technology Planners  
 244 W Pioneer Road  
 Fond du Lac, WI  
 54935  
 920-923-1034

Test completed for:  
 Dickey Rural Networks  
 Testing Location:  
 Lisbon, ND

Model: 1750  
 Operator: OPERATOR\_NAME  
 Date: 02/25/15 Time: 08:45:13  
 Description:

Serial #: 0614953  
 File: LISBON

Cal Date: 12/15/14  
 DOS File: LISBON

	#1	#2	#3	#4	
Date:	02/24/15	02/24/15	02/24/15	02/25/15	
Time:	08:45:13	14:45:05	20:45:05	02:45:02	
Temp:	14.9 F	16.6 F	15.7 F	10.6 F	
Channel	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	24Hr Deviation(dB)
57	14.7	14.9	14.7	14.6	0.3
59	14.2	14.4	14.2	13.9	0.5
60	14.5	14.7	14.5	14.3	0.4
61	14.3	14.4	14.4	14.1	0.3
62	14.1	14.3	14.1	14.0	0.3
63	14.1	14.3	14.3	14.0	0.3
64	13.9	14.1	13.9	13.8	0.3
65	14.5	14.7	14.5	14.3	0.4
67	14.7	14.8	14.7	14.5	0.3
68	14.9	15.4	15.2	15.0	0.5
69	14.4	14.6	14.5	14.3	0.3
70	14.9	15.0	15.1	14.8	0.3
71	15.1	15.1	15.1	15.1	0.0
72	14.4	14.5	14.5	14.4	0.1
73	14.3	14.5	14.3	14.3	0.2
74	14.1	14.3	14.5	14.1	0.4
75	14.3	14.5	14.4	14.2	0.3
76	15.0	15.2	15.2	14.9	0.3
77	14.8	15.0	14.9	14.5	0.5
78	14.8	14.9	14.9	14.3	0.6

LIMIT CHECK	Limit	1	2	3	4	
Min Video Carrier Level	3.0 dBmV					Pass
Max Delta Video Level	15.0 dB					Pass
Min Delta V/A	10.0 dB					Pass
Max Delta V/A	17.0 dB					Pass
Max Delta Adjacent Chan	3.0 dB					Pass
Max 24 Hour Deviation	8.0 dB					Pass
Min Digital Level	..					Pass
Max Digital Level	..					Pass
Conclusion:						<b>P A S S</b>

# Location Report: Analog RF Subscriber NID (FTTH)

Test Location:	Litchville, ND	
Date:	2/24/2015	
Video Standard:	NTSC	
	Pass	Fail

## Selected Test Channels

EIA Channel	Standard Frequency (MHz)	Program	Visual Carrier Level (dBmV)	Visual Carrier Frequency (MHz)	Aural Carrier Δ (dBc)	Aural Carrier Frequency Offset (MHz)
2	55.2500	GUIDE	13.1	55.249953	-13.3	4.499991
7	175.2500	BEK	13.0	175.250046	-16.1	4.499986
26 M	235.2375	ESPNcl	15.1	235.236233	-15.0	4.499977
28 O-+	247.2375	TBS	15.3	247.236195	-16.1	4.499972
32 S-+	271.2375	ABCfam	14.5	271.236200	-15.4	4.499977
46 JJ-+	355.2375	TOON	13.8	355.235184	-14.8	4.499974
55 SS	409.2500	DIY	13.8	409.250428	-13.8	4.500008
59 WW	433.2500	MSNBC	14.2	433.247182	-16.2	4.499966
61 YY	445.2500	DSNYxd	14.7	445.248245	-16.1	4.499984
69 GGG	493.2500	YouToo	14.4	493.249431	-15.4	4.499986
71 III	505.2500	truTV	14.4	505.249415	-15.4	4.499988
78 PPP	547.2500	Sptman	14.6	547.249711	-15.0	4.499998

## RF Carrier Performance Measurements

EIA Channel	Standard Frequency (MHz)	Program	Carrier to Noise (dB)	Coherent Second Order (dBc)	Coherent Triple Beat (dBc)	In Channel Response (dB)
2	55.2500	GUIDE	48.3	-66.60	-68.5	0.4
7	175.2500	BEK	48.8	-60.70	-67.6	0.3
26 M	235.2375	ESPNcl	51.1	-69.20	-68.9	0.2
28 O-+	247.2375	TBS	51.8	-68.10	-68.2	0.3
32 S-+	271.2375	ABCfam	51.6	-69.00	-68.4	0.2
46 JJ-+	355.2375	TOON	51.0	-67.60	-67.9	0.2
55 SS	409.2500	DIY	50.2	-66.70	-67.0	0.4
59 WW	433.2500	MSNBC	50.9	-67.60	-67.9	0.4
61 YY	445.2500	DSNYxd	50.9	-67.90	-67.4	0.3
69 GGG	493.2500	YouToo	49.8	-67.70	-67.9	0.1
71 III	505.2500	truTV	49.8	-68.50	-67.9	0.1
78 PPP	547.2500	Sptman	51.9	-67.50	-68.6	0.2

Hum & Low Frequency Disturbance	0.9%
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# 24 Hour Test Report



Technology Planners  
 244 W Pioneer Road  
 Fond du Lac, WI  
 54935  
 920-923-1034

Test completed for:  
 Dickey Rural Networks  
 Testing Location:  
 Litchville, ND

Model: 1450  
 Operator: OPERATOR\_NAME  
 Date: 02/24/15 Time: 07:09:49  
 Description:

Serial #: 7183480  
 File: LITCHVILLE

Cal Date: 4/09/14  
 DOS File: LITCHVILLE

Location: LITCHVILLE  
 Location Type: FieldTest  
 Area: \_  
 Test Pnt Type:  
 Test Pnt Comp:  
 AC Voltage:

AmpID:  
 Power Cfg:  
 Feeder Maker Cfg:  
 Trunk Term:  
 Voltage Setting:  
 DC Voltage (reg):

Reverse Pad:  
 Forward Pad:  
 Rev Equalizer:  
 Fwd Equalizer:  
 Temp:  
 DC Voltage (unreg):

	#1	#2	#3	#4	
Date:	02/24/15	02/24/15	02/24/15	02/25/15	
Time:	07:09:49	13:09:42	19:09:42	01:09:42	
Temp:	10.0 F	6.7 F	7.8 F	5.8 F	
Channel	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	24Hr Deviation(dB)
2	19.0	19.0	19.1	18.7	0.4
4	19.1	19.0	19.4	19.0	0.4
5	19.0	18.9	19.3	18.9	0.4
6	18.8	18.8	18.9	18.5	0.4
7	18.2	18.2	18.3	18.2	0.1
8	18.6	18.5	18.5	18.2	0.4
9	18.5	18.5	18.6	18.4	0.2
10	18.8	18.8	19.1	18.7	0.4
11	18.7	18.6	18.7	18.6	0.1
12	18.6	18.6	18.8	18.6	0.2
13	18.6	18.6	18.3	18.1	0.5
14	19.0	18.9	19.0	18.7	0.3
15	18.6	18.5	19.0	18.5	0.5
16	19.9	19.8	19.9	19.6	0.3
17	19.0	19.0	19.3	18.8	0.5
24	18.0	18.1	18.0	18.0	0.1
25	18.1	18.1	18.2	18.1	0.1
26	18.5	18.4	18.6	18.5	0.2
27	18.4	18.3	18.4	18.4	0.1
28	19.1	19.1	19.3	19.1	0.2
29	18.5	18.2	18.4	18.4	0.3
30	19.0	19.0	19.1	19.1	0.1
31	19.0	18.9	19.1	19.0	0.2
32	19.1	19.0	19.1	19.0	0.1
36	19.2	19.1	19.2	19.2	0.1
37	19.0	18.9	19.0	18.9	0.1
38	18.9	18.8	19.0	18.9	0.2
40	19.0	18.9	19.1	18.9	0.2
41	19.3	19.2	19.3	19.3	0.1
42	18.5	18.4	18.5	18.4	0.1
43	19.2	19.1	19.3	19.1	0.2
44	19.4	19.3	19.5	19.4	0.2
45	20.0	19.9	20.0	19.9	0.1
46	19.2	19.1	19.2	19.1	0.1
47	18.8	18.7	18.8	18.7	0.1
48	19.2	19.2	19.2	19.2	0.0
49	19.5	19.4	19.6	19.6	0.2
50	19.6	19.5	19.7	19.5	0.2
51	19.5	19.6	19.7	19.6	0.2
52	19.7	19.8	19.9	19.7	0.2
53	19.9	19.9	19.9	19.7	0.2
54	19.9	19.9	20.1	19.8	0.3
55	19.2	19.2	19.1	19.0	0.2
56	19.4	19.4	19.5	19.2	0.3

# 24 Hour Test Report



Technology Planners  
 244 W Pioneer Road  
 Fond du Lac, WI  
 54935  
 920-923-1034

Test completed for:  
 Dickey Rural Networks  
 Testing Location:  
 Litchville, ND

Model: 1450  
 Operator: OPERATOR\_NAME  
 Date: 02/24/15 Time: 07:09:49  
 Description:

Serial #: 7183480  
 File: LITCHVILLE

Cal Date: 4/09/14  
 DOS File: LITCHVILLE

	#1	#2	#3	#4	
Date:	02/24/15	02/24/15	02/24/15	02/25/15	
Time:	07:09:49	13:09:42	19:09:42	01:09:42	
Temp:	10.0 F	6.7 F	7.8 F	5.8 F	
Channel	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	24Hr Deviation(dB)
57	19.8	19.7	19.8	19.5	0.3
59	19.3	19.2	19.4	19.0	0.4
60	19.7	19.6	20.1	19.5	0.6
61	19.4	19.4	19.5	19.2	0.3
62	19.2	19.2	19.3	19.0	0.3
63	19.2	19.2	19.4	19.0	0.4
64	18.8	18.8	18.9	18.5	0.4
65	19.4	19.5	19.5	19.0	0.5
67	19.5	19.5	19.6	19.1	0.5
68	19.7	20.0	20.1	19.6	0.5
69	19.3	19.3	19.3	18.9	0.4
70	19.8	19.9	19.9	19.5	0.4
71	20.0	20.0	20.1	19.7	0.4
72	19.3	19.3	19.3	18.9	0.4
73	19.4	19.4	19.6	19.1	0.5
74	19.5	19.5	19.5	19.1	0.4
75	19.7	19.7	19.8	19.3	0.5
76	20.2	20.2	20.3	19.9	0.4
77	19.8	19.8	19.9	19.4	0.5
78	19.7	19.9	19.9	19.5	0.4

LIMIT CHECK	Limit	1	2	3	4	
Min Video Carrier Level	3.0 dBmV					Pass
Max Delta Video Level	15.0 dB					Pass
Min Delta V/A	10.0 dB					Pass
Max Delta V/A	17.0 dB					Pass
Max Delta Adjacent Chan	3.0 dB					Pass
Max 24 Hour Deviation	8.0 dB					Pass
Min Digital Level	..					Pass
Max Digital Level	..					Pass
Conclusion:						<b>P A S S</b>

# Location Report: Analog RF Subscriber NID (FTTH)

Test Location:	Rutland, ND	
Date:	2/25/2015	
Video Standard:	NTSC	
	Pass	Fail

## Selected Test Channels

EIA Channel	Standard Frequency (MHz)	Program	Visual Carrier Level (dBmV)	Visual Carrier Frequency (MHz)	Aural Carrier Δ (dBc)	Aural Carrier Frequency Offset (MHz)
2	55.2500	GUIDE	14.0	55.249957	-13.6	4.499988
7	175.2500	BEK	14.9	175.250061	-15.4	4.499988
26 M	235.2375	ESPNcl	16.8	235.236278	-15.2	4.499976
28 O-+	247.2375	TBS	16.9	247.236234	-16.0	4.499976
32 S-+	271.2375	ABCfam	16.1	271.236225	-15.6	4.499988
46 JJ-+	355.2375	TOON	16.0	355.235196	-15.5	4.499969
55 SS	409.2500	DIY	15.9	409.250446	-13.7	4.500009
59 WW	433.2500	MSNBC	16.0	433.247192	-15.5	4.499983
61 YY	445.2500	DSNYxd	16.2	445.248296	-15.5	4.499984
69 GGG	493.2500	YouToo	16.3	493.249444	-15.5	4.499993
71 III	505.2500	truTV	16.3	505.249428	-15.6	4.499996
78 PPP	547.2500	Sptman	16.4	547.249716	-14.8	4.499991

## RF Carrier Performance Measurements

EIA Channel	Standard Frequency (MHz)	Program	Carrier to Noise (dB)	Coherent Second Order (dBc)	Coherent Triple Beat (dBc)	In Channel Response (dB)
2	55.2500	GUIDE	49.7	-70.10	-66.5	0.2
7	175.2500	BEK	51.6	-62.30	-68.6	0.3
26 M	235.2375	ESPNcl	53.8	-69.70	-69.0	0.3
28 O-+	247.2375	TBS	53.8	-71.70	-67.7	0.4
32 S-+	271.2375	ABCfam	53.1	-69.20	-68.5	0.4
46 JJ-+	355.2375	TOON	52.4	-68.80	-67.8	0.2
55 SS	409.2500	DIY	53.2	-67.10	-67.6	0.3
59 WW	433.2500	MSNBC	52.4	-70.10	-69.0	0.2
61 YY	445.2500	DSNYxd	52.4	-68.80	-68.3	0.3
69 GGG	493.2500	YouToo	53.6	-69.00	-68.9	0.3
71 III	505.2500	truTV	53.9	-66.80	-68.1	0.3
78 PPP	547.2500	Sptman	53.9	-69.70	-69.2	0.2

Hum & Low Frequency Disturbance	0.7%
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# 24 Hour Test Report



Technology Planners  
 244 W Pioneer Road  
 Fond du Lac, WI  
 54935  
 920-923-1034

Test completed for:  
 Dickey Rural Networks  
 Testing Location:  
 Rutland, ND

Model: 1750  
 Operator: OPERATOR\_NAME  
 Date: 02/24/15 Time: 22:28:35  
 Description:

Serial #: 2420532  
 File: RUTLAND

Cal Date: 2/11/14  
 DOS File: RUTLAND

Location: RUTLAND  
 Location Type: FieldTest  
 Area: \_  
 Test Pnt Type:  
 Test Pnt Comp:  
 AC Voltage:

AmpID:  
 Power Cfg:  
 Feeder Maker Cfg:  
 Trunk Term:  
 Voltage Setting:  
 DC Voltage (reg):

Reverse Pad:  
 Forward Pad:  
 Rev Equalizer:  
 Fwd Equalizer:  
 Temp:  
 DC Voltage (unreg):

	#1	#2	#3	#4	
Date:	02/24/15	02/25/15	02/25/15	02/25/15	
Time:	22:28:35	04:27:50	10:27:50	16:27:49	
Temp:	12.0 F	13.7 F	13.9 F	15.7 F	
Channel	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	24Hr Deviation(dB)
2	13.9	13.6	13.6	13.7	0.3
4	15.3	14.7	15.0	15.0	0.6
5	15.2	14.8	14.7	14.8	0.5
6	14.9	14.6	14.6	14.6	0.3
7	14.8	14.3	14.3	14.3	0.5
8	15.0	14.8	14.8	14.8	0.2
9	14.7	14.8	14.8	14.7	0.1
10	15.2	15.0	15.0	15.0	0.2
11	15.0	15.1	15.1	15.0	0.1
12	15.2	15.2	15.2	15.1	0.1
13	14.6	14.9	14.9	14.9	0.3
14	15.4	15.1	15.2	15.1	0.3
15	14.7	14.1	14.2	14.2	0.6
16	16.2	15.8	15.9	15.8	0.4
17	15.5	15.0	15.0	15.3	0.5
24	14.7	14.6	14.7	14.7	0.1
25	14.7	14.4	14.4	14.5	0.3
26	15.4	15.1	15.1	15.1	0.3
27	15.4	15.3	15.3	15.3	0.1
28	16.0	15.8	15.9	15.9	0.2
29	15.0	15.2	15.2	15.3	0.3
30	16.1	15.7	15.8	15.8	0.4
31	16.2	15.8	15.9	15.9	0.4
32	15.9	15.6	15.7	15.7	0.3
37	15.6	15.4	15.5	15.4	0.2
38	15.9	16.1	15.8	15.7	0.4
40	15.4	15.3	15.4	15.3	0.1
41	16.1	15.9	16.0	15.9	0.2
42	14.5	14.7	14.7	14.6	0.2
43	15.1	15.0	15.1	15.0	0.1
44	15.7	15.2	15.3	15.1	0.6
45	16.6	16.5	16.6	16.4	0.2
46	15.5	15.4	15.4	15.4	0.1
47	14.2	14.1	14.1	14.1	0.1
48	15.7	15.7	15.6	15.5	0.2
49	16.4	16.2	16.3	16.3	0.2
50	15.9	15.8	15.7	15.7	0.2
51	15.7	15.5	15.5	15.5	0.2
52	16.4	16.3	16.3	16.2	0.2
53	16.2	16.1	16.1	16.1	0.1
54	15.2	15.1	15.1	15.1	0.1
55	14.4	14.6	14.6	14.6	0.2
56	15.5	15.6	15.3	15.3	0.3

# 24 Hour Test Report



Technology Planners  
 244 W Pioneer Road  
 Fond du Lac, WI  
 54935  
 920-923-1034

Test completed for:  
 Dickey Rural Networks  
 Testing Location:  
 Rutland, ND

Model: 1750  
 Operator: OPERATOR\_NAME  
 Date: 02/24/15 Time: 22:28:35  
 Description:

Serial #: 2420532  
 File: RUTLAND

Cal Date: 2/11/14  
 DOS File: RUTLAND

	#1	#2	#3	#4	
Date:	02/24/15	02/25/15	02/25/15	02/25/15	
Time:	22:28:35	04:27:50	10:27:50	16:27:49	
Temp:	12.0 F	13.7 F	13.9 F	15.7 F	
Channel	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	Video Lvl(dBmV)	24Hr Deviation(dB)
57	15.0	15.3	15.1	15.1	0.3
59	14.7	14.9	14.8	14.7	0.2
60	16.1	15.7	15.7	15.6	0.5
61	15.3	14.8	14.9	14.8	0.5
62	14.8	14.7	14.6	14.6	0.2
63	15.1	15.2	15.1	15.3	0.2
64	14.8	15.1	14.9	15.0	0.3
65	14.7	14.9	14.8	14.8	0.2
67	15.7	15.6	15.5	15.6	0.2
68	15.7	15.4	15.3	15.3	0.4
69	14.4	14.4	14.3	14.2	0.2
70	15.3	15.3	15.2	15.1	0.2
71	16.0	15.9	15.8	15.8	0.2
72	14.7	14.9	14.9	14.8	0.2
73	14.5	14.4	14.3	14.3	0.2
74	14.8	14.9	14.8	14.5	0.4
75	15.2	15.2	15.1	15.1	0.1
76	15.4	15.4	15.5	15.4	0.1
77	15.3	15.2	15.1	15.1	0.2
78	15.9	15.7	15.7	15.7	0.2

LIMIT CHECK	Limit	1	2	3	4	
Min Video Carrier Level	3.0 dBmV					Pass
Max Delta Video Level	15.0 dB					Pass
Min Delta V/A	10.0 dB					Pass
Max Delta V/A	17.0 dB					Pass
Max Delta Adjacent Chan	3.0 dB					Pass
Max 24 Hour Deviation	8.0 dB					Pass
Min Digital Level	..					Pass
Max Digital Level	..					Pass
Conclusion:						<b>P A S S</b>