

TECHNICAL EXHIBIT
AMENDMENT TO PENDING APPLICATION
STATION KCWV(DT)
DULUTH, MINNESOTA
CH 27 40 KW (MAX-DA) 207 M

Technical Narrative

This Technical Exhibit supports an amendment to the pending application of digital television (DTV) station KCWV(DT) for its DTV operation at Duluth, Minnesota. This application requests a construction permit (CP) for KCWV(DT) digital television operation on channel 27 at Duluth with a directional effective radiated power of 40 kilowatts. KCWV(DT) intends to use an ERI ALP16L3-HSE-27 directional transmitting antenna for digital operation.

Proposed Facilities

Station KCWV(DT) proposes to operate DTV channel 27 near its authorized DTV construction permit facility transmitter site. The antenna height above average terrain for the channel 27 DTV operation will be 207 meters. Therefore, an allocation study was completed to ensure no prohibited interference would occur.

The proposed DTV transmitter site will be located at an existing transmitting tower. Therefore, the proposed site location is:

46° 47' 07" North Latitude
92° 07' 15" West Longitude

A sketch of antenna and pertinent elevations are included as Figure 1.

The Appendix contains the vertical and horizontal plane radiation pattern for the proposed antenna system.

Figure 2 is a map showing the proposed DTV predicted coverage contours. The extent of the contours have been calculated using the normal FCC prediction method. The Duluth city limits were derived from information contained in the 2000 U.S. Census of Population and Housing.

Canadian Coordination

The proposed transmitter site is located 147 kilometers from the nearest point of the common U.S./Canadian border, and is therefore within the coordination area.

However, the proposed KCWV-DT noise-limited contour does not extend beyond the noise-limited its previously authorized facility, FCC File Number BMPCDT-20080221ACC, as shown by the map provided in Figure 2. Therefore, it is believed that re-coordination with Canada is not necessary.

Population Served

The herein proposed KCWV(DT) facility is predicted to serve 198,417 persons, post-transition based upon the 2000 Census.

Allocation Considerations

The proposed KCWV(DT) Channel 27 facility meets the requirements of Section 73.623 of the FCC Rules concerning predicted interference to other Appendix B DTV allotments. Longley-Rice interference analyses were conducted pursuant to the requirements of the FCC Rules; OET Bulletin No. 69; and published FCC guidelines for preparation of such interference analyses. The Longley-Rice interference analyses were conducted using the software developed by du Treil, Lundin & Rackley, Inc. based on the FCC published software routines.¹ Stations selected for analysis were determined pursuant to the distance requirements outlined in the FCC DTV Processing Guidelines Public Notice. The results of the interference analyses for the proposed KCWV(DT) facility are summarized herein at Figure 3. As indicated therein, the proposed facility will meet the 0.5% criterion outlined in the FCC Rules and published guidelines with respect to all considered stations.²

1 The duTreil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 2 km was employed.

2 Interference analysis results reflect the net change in interference to a given station considering the interference predicted to occur from all other stations (i.e. "masking") including the allotment facility for KCWV(DT). This properly reflects the net interference change for determining compliance with the FCC 0.5% *de minimis* standard.

Radiofrequency Electromagnetic Field Exposure

The proposed KCWV(DT) facilities were evaluated in terms of potential radiofrequency electromagnetic field exposure at ground level to workers and the general public. The radiation center for the proposed KCWV(DT) antenna is located 137 meters above ground level. The maximum effective radiated power is 40 kilowatts. A "worst case" downward relative field value of 0.25 is assumed for the antenna's downward radiation. The calculated power density at a point 2 meters above ground level is 0.005 mW/cm^2 . This is less than 5 percent of the Commission's recommended limit of 0.367 mW/cm^2 for channel 27 for an "uncontrolled" environment.

Access to the transmitting site is restricted and appropriately marked with warning signs. As this is a multi-user site an agreement between the stations will control access. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down. The proposed KCWV(DT) operation appears to be otherwise categorically excluded from environmental processing.

It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been provided to the FCC by the tower owner.

Charles Cooper

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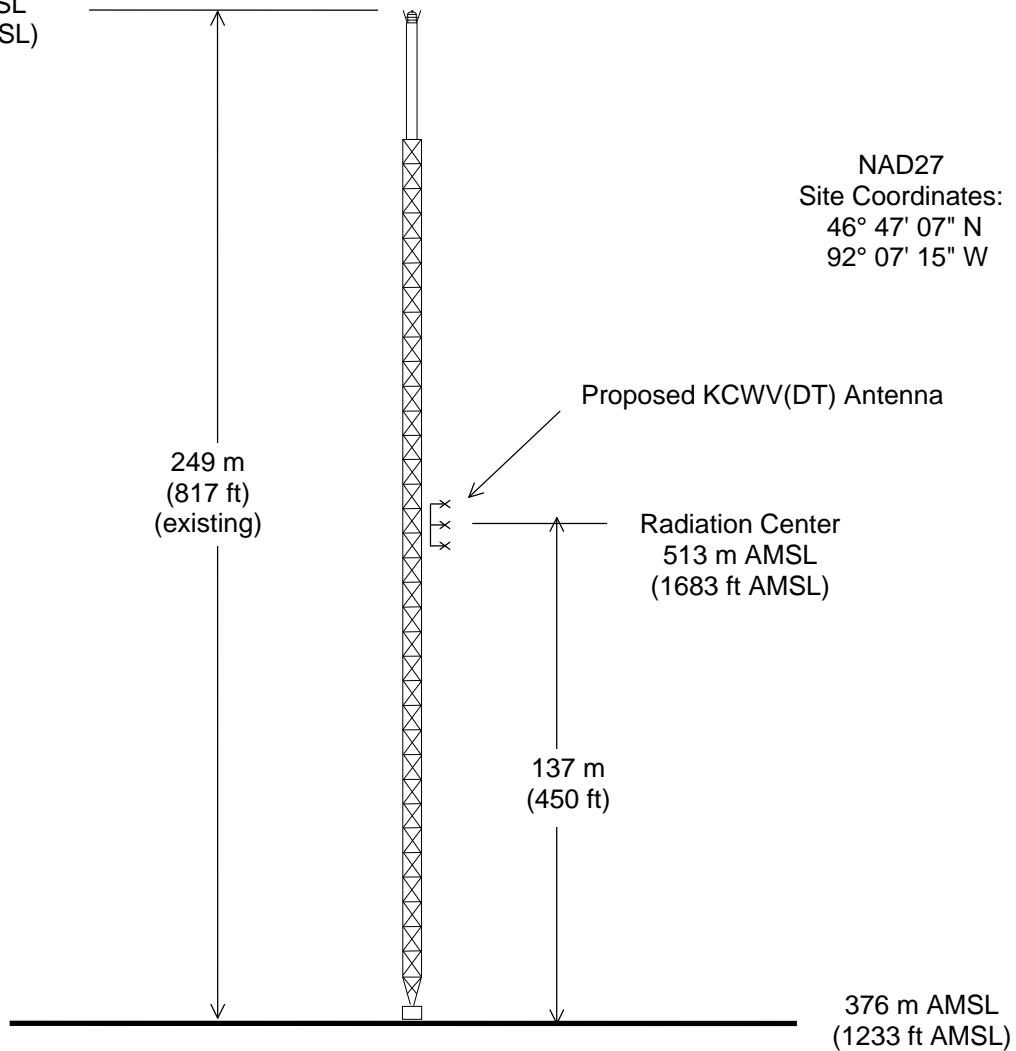
August 13, 2009



ASRN: 1024490

625 m AMSL
(2050 ft AMSL)

NAD27
Site Coordinates:
46° 47' 07" N
92° 07' 15" W



Not to Scale

ANTENNA AND SUPPORTING STRUCTURE

DTV STATION KCWV(DT)
DULUTH, MINNESOTA
CH 27 40 KW (MAX-DT) 207 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Figure 2

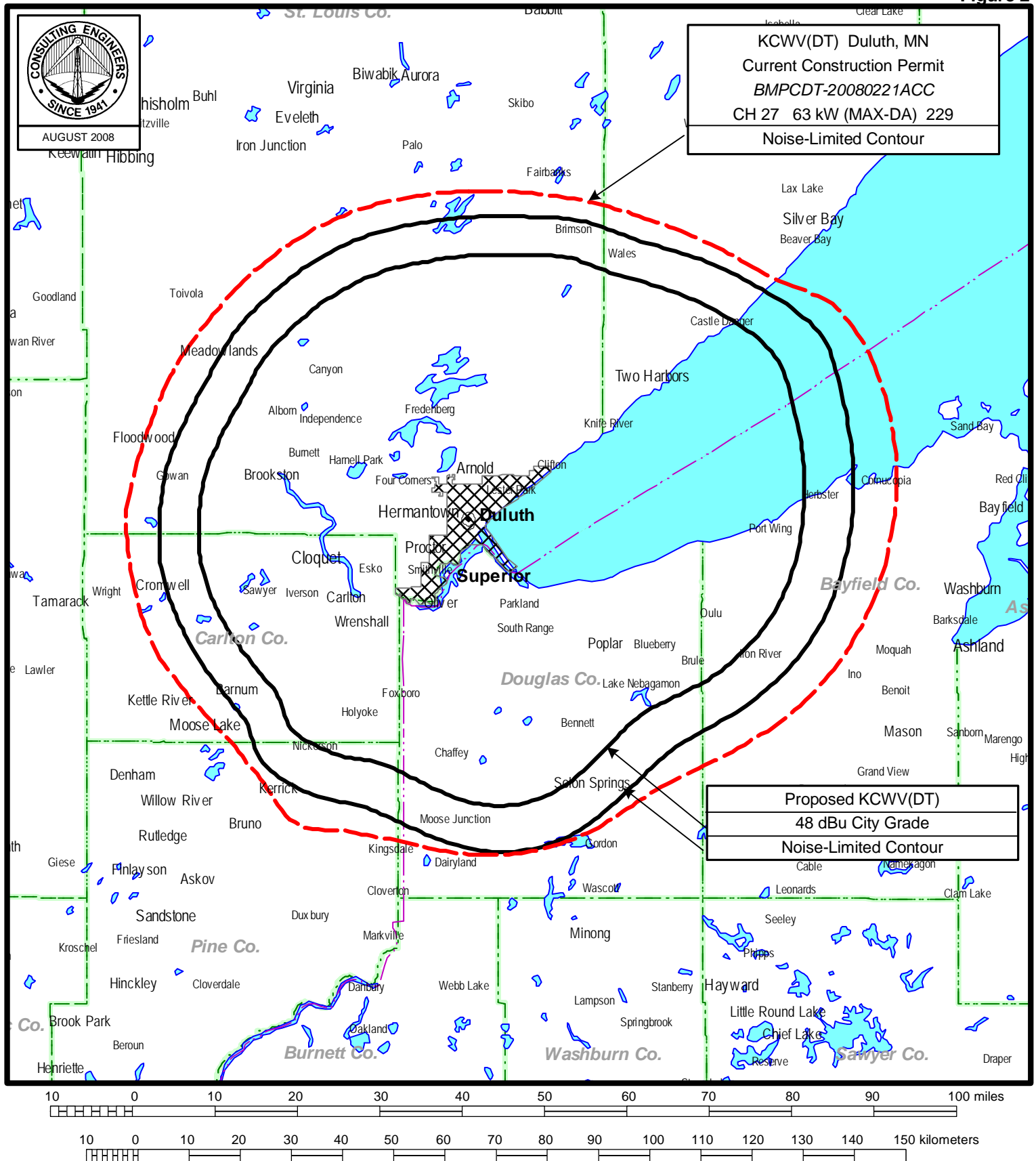


Figure 3

TW Census data selected 2000
Post Transition Data Base Selected /export/home/cdb/pt_tvdb.sff

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 08-13-2009 Time: 12:13:24

Record Selected for Analysis

KCWV USERRECORD-01 DULUTH MN US
Channel 27 ERP 40. kW HAAT 206. m RCAMSL 00513 m
Latitude 046-47-07 Longitude 0092-07-15
Status APP Zone 2 Border
Dir Antenna Make CDB Model 00000000016363 Beam tilt N Ref Azimuth 350.
Last update Cutoff date Docket
Comments
Applicant

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility meets maximum height/power limits

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	39.920	90.2	56.9
45.0	36.979	206.3	66.1
90.0	18.879	330.0	71.1
135.0	1.739	330.0	57.8
180.0	3.295	315.1	60.5
225.0	6.659	187.4	56.4
270.0	27.291	109.4	57.4
315.0	39.800	80.8	55.6

Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

KCWV 27 DULUTH MN USERRECORD01

Figure 3

and station

SHORT TO: KCWV 27 DULUTH MN DTVPLN DTVP0996
46 -47-15 92 -07-21
Req. separation 223.7 Actual separation 0.3 Short 223.4 km

SHORT TO: WHWC-TV 27 MENOMONIE WI BLEDT 20040824AAF
045-02-49 0091-51-47
Req. separation 223.7 Actual separation 194.2 Short 29.5 km

SHORT TO: WHWC-TV 27 MENOMONIE WI DTVPLN DTVP1018
45 -02-49 91 -51-47
Req. separation 223.7 Actual separation 194.2 Short 29.5 km

LANDMOBILE SPACING VIOLATIONS FOUND

NONE

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is within the Canadian coordination distance
Distance to border = 147.1km

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Start of Interference Analysis

Channel	Proposed Station Call	City/State	ARN
27	KCWV	DULUTH MN	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
26	KFTC	BEMIDJI MN	219.9	CP	BPCDT	-20080310ADP
26	KFTC	BEMIDJI MN	218.0	PLN	DTVPLN	-DTVP0955
27	KRWF	REDWOOD FALLS MN	366.0	PLN	DTVPLN	-DTVP0997
27	KRWF	REDWOOD FALLS MN	366.0	CP	BPCDT	-20080320AEK
27	KCPM	GRAND FORKS ND	393.6	PLN	DTVPLN	-DTVP1000
27	WACY-TV	APPLETON WI	420.1	CP MOD	BMPCDT	-20061114ABU
27	WACY	APPLETON WI	420.1	PLN	DTVPLN	-DTVP1017
27	WACY-TV	APPLETON WI	420.1	APP	BMPCDT	-20080620AHO
27	WHWC-TV	MENOMONIE WI	194.2	LIC	BLEDT	-20040824AAF

Figure 3

27	WHWC-TV	MENOMONIE WI	194.2	PLN	DTVPLN	-DTVP1018
28	KAWB	BRAINERD MN	183.2	APP	BPEDT	-20080620AHQ
28	KAWB	BRAINERD MN	183.2	PLN	DTVPLN	-DTVP1038
28	KAWB	BRAINERD MN	183.2	LIC	BLEDT	-20030429AAJ

%%%

Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application Ref. No.
26	KFTC	BEMIDJI MN	BPCDT -20080310ADP

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
27	KCWV	DULUTH MN	219.7	PLN	DTVPLN -DTVP0996
27	KCPM	GRAND FORKS ND	174.2	PLN	DTVPLN -DTVP1000
27	KCWV	DULUTH MN	219.9	APP	USERRECORD-01

Proposed station is beyond the site to
nearest cell evaluation distance

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Analysis of Interference to Affected Station 2

Analysis of current record

Channel	Call	City/State	Application Ref. No.
26	KFTC	BEMIDJI MN	DTVPLN -DTVP0955

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
27	KCWV	DULUTH MN	217.8	PLN	DTVPLN -DTVP0996
27	KCPM	GRAND FORKS ND	175.6	PLN	DTVPLN -DTVP1000
27	KCWV	DULUTH MN	218.0	APP	USERRECORD-01

Proposed station is beyond the site to
nearest cell evaluation distance

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Analysis of Interference to Affected Station 3

Analysis of current record

Channel	Call	City/State	Application Ref. No.
27	KRWF	REDWOOD FALLS MN	DTVPLN -DTVP0997

Stations Potentially Affecting This Station

Figure 3

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
27	KFXA	CEDAR RAPIDS IA	382.9	LIC	BLCDT	-20050713ABD
27	KFXA	CEDAR RAPIDS IA	382.9	PLN	DTVPLN	-DTVP0991
27	KCWV	DULUTH MN	366.1	PLN	DTVPLN	-DTVP0996
27	KCPM	GRAND FORKS ND	404.8	PLN	DTVPLN	-DTVP1000
27	WHWC-TV	MENOMONIE WI	293.0	LIC	BLEDT	-20040824AAF
27	WHWC-TV	MENOMONIE WI	293.0	PLN	DTVPLN	-DTVP1018
28	KSIN-TV	SIOUX CITY IA	228.5	LIC	BLEDT	-20050726AMC
28	KSIN-TV	SIOUX CITY IA	228.5	PLN	DTVPLN	-DTVP1028
27	KCWV	DULUTH MN	366.0	APP	USERRECORD-01	

Proposal causes no interference

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Analysis of Interference to Affected Station 4

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
27	KRWF	REDWOOD FALLS MN	BPCDT	-20080320AEK

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
27	KFXA	CEDAR RAPIDS IA	382.9	LIC	BLCDT	-20050713ABD
27	KFXA	CEDAR RAPIDS IA	382.9	PLN	DTVPLN	-DTVP0991
27	KCWV	DULUTH MN	366.1	PLN	DTVPLN	-DTVP0996
27	KCPM	GRAND FORKS ND	404.8	PLN	DTVPLN	-DTVP1000
27	WHWC-TV	MENOMONIE WI	293.0	LIC	BLEDT	-20040824AAF
27	WHWC-TV	MENOMONIE WI	293.0	PLN	DTVPLN	-DTVP1018
28	KSIN-TV	SIOUX CITY IA	228.5	LIC	BLEDT	-20050726AMC
28	KSIN-TV	SIOUX CITY IA	228.5	PLN	DTVPLN	-DTVP1028
27	KCWV	DULUTH MN	366.0	APP	USERRECORD-01	

Proposal causes no interference

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Analysis of Interference to Affected Station 5

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
27	KCPM	GRAND FORKS ND	DTVPLN	-DTVP1000

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
26	KFTC	BEMIDJI MN	174.2	CP	BPCDT	-20080310ADP
26	KFTC	BEMIDJI MN	175.6	PLN	DTVPLN	-DTVP0955
27	KCWV	DULUTH MN	393.4	PLN	DTVPLN	-DTVP0996
27	KRWF	REDWOOD FALLS MN	404.8	PLN	DTVPLN	-DTVP0997
27	KRWF	REDWOOD FALLS MN	404.8	CP	BPCDT	-20080320AEK
27	KCWV	DULUTH MN	393.6	APP	USERRECORD-01	

Proposed station is beyond the site to

Figure 3

nearest cell evaluation distance

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Analysis of Interference to Affected Station 6

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
27	WACY-TV	APPLETON WI	BMPCDT	-20061114ABU

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
26	WKOW-TV	MADISON WI	191.2	LIC	BLCDDT	-19981104KG
26	WKOW-TV	MADISON WI	191.2	PLN	DTVPLN	-DTVP0978
26	WKOW-TV	MADISON WI	191.2	CP	BPCDDT	-20080619AEK
27	KFXA	CEDAR RAPIDS IA	417.3	LIC	BLCDDT	-20050713ABD
27	KFXA	CEDAR RAPIDS IA	417.3	PLN	DTVPLN	-DTVP0991
27	WCIU-TV	CHICAGO IL	277.0	PLN	DTVPLN	-DTVP0992
27	WCIU-TV	CHICAGO IL	277.0	CP MOD	BMPCDDT	-20090105ACO
27	KCWV	DULUTH MN	420.4	PLN	DTVPLN	-DTVP0996
27	WHWC-TV	MENOMONIE WI	316.1	LIC	BLEDT	-20040824AAF
27	WHWC-TV	MENOMONIE WI	316.1	PLN	DTVPLN	-DTVP1018
28	WYOW	EAGLE RIVER WI	186.3	APP	BPCDDT	-20090630ACN
28	WYOW	EAGLE RIVER WI	186.3	PLN	DTVPLN	-DTVP1057
28	WYOW	EAGLE RIVER WI	186.3	CP MOD	BMPCDDT	-20041001ANY
28	WTMJ-TV	MILWAUKEE WI	141.0	LIC	BLCDDT	-20001218ACR
28	WTMJ-TV	MILWAUKEE WI	141.0	PLN	DTVPLN	-DTVP1058
27	KCWV	DULUTH MN	420.1	APP	USERRECORD-01	

Proposal causes no interference

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Analysis of Interference to Affected Station 7

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
27	WACY	APPLETON WI	DTVPLN	-DTVP1017

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
26	WKOW-TV	MADISON WI	191.2	LIC	BLCDDT	-19981104KG
26	WKOW-TV	MADISON WI	191.2	PLN	DTVPLN	-DTVP0978
26	WKOW-TV	MADISON WI	191.2	CP	BPCDDT	-20080619AEK
27	KFXA	CEDAR RAPIDS IA	417.3	LIC	BLCDDT	-20050713ABD
27	KFXA	CEDAR RAPIDS IA	417.3	PLN	DTVPLN	-DTVP0991
27	WCIU-TV	CHICAGO IL	277.0	PLN	DTVPLN	-DTVP0992
27	WCIU-TV	CHICAGO IL	277.0	CP MOD	BMPCDDT	-20090105ACO
27	KCWV	DULUTH MN	420.4	PLN	DTVPLN	-DTVP0996
27	WHWC-TV	MENOMONIE WI	316.1	LIC	BLEDT	-20040824AAF
27	WHWC-TV	MENOMONIE WI	316.1	PLN	DTVPLN	-DTVP1018
28	WYOW	EAGLE RIVER WI	186.3	APP	BPCDDT	-20090630ACN

Figure 3

28	WYOW	EAGLE RIVER WI	186.3	PLN	DTVPLN	-DTVP1057
28	WYOW	EAGLE RIVER WI	186.3	CP MOD	BMPCDT	-20041001ANY
28	WTMJ-TV	MILWAUKEE WI	141.0	LIC	BLCDDT	-20001218ACR
28	WTMJ-TV	MILWAUKEE WI	141.0	PLN	DTVPLN	-DTVP1058
27	KCWV	DULUTH MN	420.1	APP	USERRECORD-01	

Proposal causes no interference

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Analysis of Interference to Affected Station 8

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
27	WACY-TV	APPLETON WI	BMPCDT	-20080620AHO

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
26	WKOW-TV	MADISON WI	191.2	LIC	BLCDDT	-19981104KG
26	WKOW-TV	MADISON WI	191.2	PLN	DTVPLN	-DTVP0978
26	WKOW-TV	MADISON WI	191.2	CP	BPCDDT	-20080619AEK
27	KFXA	CEDAR RAPIDS IA	417.3	LIC	BLCDDT	-20050713ABD
27	KFXA	CEDAR RAPIDS IA	417.3	PLN	DTVPLN	-DTVP0991
27	WCIU-TV	CHICAGO IL	277.0	PLN	DTVPLN	-DTVP0992
27	WCIU-TV	CHICAGO IL	277.0	CP MOD	BMPCDT	-20090105ACO
27	KCWV	DULUTH MN	420.4	PLN	DTVPLN	-DTVP0996
27	WHWC-TV	MENOMONIE WI	316.1	LIC	BLEDDT	-20040824AAF
27	WHWC-TV	MENOMONIE WI	316.1	PLN	DTVPLN	-DTVP1018
28	WYOW	EAGLE RIVER WI	186.3	APP	BPCDDT	-20090630ACN
28	WYOW	EAGLE RIVER WI	186.3	PLN	DTVPLN	-DTVP1057
28	WYOW	EAGLE RIVER WI	186.3	CP MOD	BMPCDT	-20041001ANY
28	WTMJ-TV	MILWAUKEE WI	141.0	LIC	BLCDDT	-20001218ACR
28	WTMJ-TV	MILWAUKEE WI	141.0	PLN	DTVPLN	-DTVP1058
27	KCWV	DULUTH MN	420.1	APP	USERRECORD-01	

Proposal causes no interference

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Analysis of Interference to Affected Station 9

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
27	WHWC-TV	MENOMONIE WI	BLEDDT	-20040824AAF

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
27	KFXA	CEDAR RAPIDS IA	329.1	LIC	BLCDDT	-20050713ABD
27	KFXA	CEDAR RAPIDS IA	329.1	PLN	DTVPLN	-DTVP0991
27	KCWV	DULUTH MN	194.5	PLN	DTVPLN	-DTVP0996
27	KRWF	REDWOOD FALLS MN	293.0	PLN	DTVPLN	-DTVP0997
27	KRWF	REDWOOD FALLS MN	293.0	CP	BPCDDT	-20080320AEK
27	WACY-TV	APPLETON WI	316.1	CP MOD	BMPCDT	-20061114ABU

Figure 3

27	WACY	APPLETON WI	316.1	PLN	DTVPLN	-DTVP1017
27	WACY-TV	APPLETON WI	316.1	APP	BMPCDT	-20080620AHO
28	WYOW	EAGLE RIVER WI	219.5	APP	BPCDT	-20090630ACN
28	WYOW	EAGLE RIVER WI	219.5	PLN	DTVPLN	-DTVP1057
28	WYOW	EAGLE RIVER WI	219.5	CP MOD	BMPCDT	-20041001ANY
27	KCWV	DULUTH MN	194.2	APP	USERRECORD-01	

Total scenarios = 12

Result key: 1
Scenario 1 Affected station 9
Before Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC
HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	626	80.6
lost to ATV IX only	626	80.6
lost to all IX	626	80.6

Potential Interfering Stations Included in above Scenario 1

27A IA CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	BMPCDT	20061114ABU	CP
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC
HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1062	108.8
lost to ATV IX only	1062	108.8
lost to all IX	1062	108.8

Potential Interfering Stations Included in above Scenario 1

27A IA CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	BMPCDT	20061114ABU	CP
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0506%

Result key: 2
Scenario 2 Affected station 9
Before Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC

Figure 3

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HAAT  350.0 m, ATV ERP  291.0 kW
                                POPULATION  AREA (sq km)
within Noise Limited Contour      888182      27094.0
not affected by terrain losses    861695      26533.9
lost to NTSC IX                    0           0.0
lost to additional IX by ATV      626         80.6
lost to ATV IX only               626         80.6
lost to all IX                   626         80.6

Potential Interfering Stations Included in above Scenario      2

27A IA CEDAR RAPIDS              BLCDT      20050713ABD  LIC
27A MN REDWOOD FALLS            DTVPLN     DTVP0997    PLN
27A WI APPLETON                  DTVPLN     DTVP1017    PLN
27A MN DULUTH                    DTVPLN     DTVP0996    PLN

After Analysis

Results for: 27A WI MENOMONIE      BLEDT      20040824AAF  LIC
HAAT  350.0 m, ATV ERP  291.0 kW
                                POPULATION  AREA (sq km)
within Noise Limited Contour      888182      27094.0
not affected by terrain losses    861695      26533.9
lost to NTSC IX                    0           0.0
lost to additional IX by ATV      1062        108.8
lost to ATV IX only               1062        108.8
lost to all IX                   1062        108.8

Potential Interfering Stations Included in above Scenario      2

27A IA CEDAR RAPIDS              BLCDT      20050713ABD  LIC
27A MN REDWOOD FALLS            DTVPLN     DTVP0997    PLN
27A WI APPLETON                  DTVPLN     DTVP1017    PLN
27A MN DULUTH                    USERRECORD01  APP

Percent new IX =      0.0506%

Result key:      3
Scenario      3  Affected station      9
Before Analysis

Results for: 27A WI MENOMONIE      BLEDT      20040824AAF  LIC
HAAT  350.0 m, ATV ERP  291.0 kW
                                POPULATION  AREA (sq km)
within Noise Limited Contour      888182      27094.0
not affected by terrain losses    861695      26533.9
lost to NTSC IX                    0           0.0
lost to additional IX by ATV      11011        88.6
lost to ATV IX only               11011        88.6
lost to all IX                   11011        88.6

Potential Interfering Stations Included in above Scenario      3

27A IA CEDAR RAPIDS              BLCDT      20050713ABD  LIC
27A MN REDWOOD FALLS            BPCDT      20080320AEK  CP
27A WI APPLETON                  BMPCDT     20061114ABU  CP
27A MN DULUTH                    DTVPLN     DTVP0996    PLN

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Figure 3

After Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11447	116.9
lost to ATV IX only	11447	116.9
lost to all IX	11447	116.9

Potential Interfering Stations Included in above Scenario 3

27A IA CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	BMPCDT	20061114ABU	CP
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0513%

Result key: 4
 Scenario 4 Affected station 9
 Before Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11011	88.6
lost to ATV IX only	11011	88.6
lost to all IX	11011	88.6

Potential Interfering Stations Included in above Scenario 4

27A IA CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	DTVPLN	DTVP1017	PLN
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11447	116.9
lost to ATV IX only	11447	116.9
lost to all IX	11447	116.9

Potential Interfering Stations Included in above Scenario 4

Figure 3

27A IA CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	DTVPLN	DTVP1017	PLN
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0513%

Result key: 5
 Scenario 5 Affected station 9
 Before Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	626	80.6
lost to ATV IX only	626	80.6
lost to all IX	626	80.6

Potential Interfering Stations Included in above Scenario 5

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	BMPCDT	20061114ABU	CP
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1062	108.8
lost to ATV IX only	1062	108.8
lost to all IX	1062	108.8

Potential Interfering Stations Included in above Scenario 5

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	BMPCDT	20061114ABU	CP
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0506%

Result key: 6
 Scenario 6 Affected station 9
 Before Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0

Figure 3

not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	626	80.6
lost to ATV IX only	626	80.6
lost to all IX	626	80.6

Potential Interfering Stations Included in above Scenario 6

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	DTVPLN	DTVP1017	PLN
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC
HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1062	108.8
lost to ATV IX only	1062	108.8
lost to all IX	1062	108.8

Potential Interfering Stations Included in above Scenario 6

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	DTVPLN	DTVP1017	PLN
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0506%

Result key: 7
Scenario 7 Affected station 9
Before Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC
HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11011	88.6
lost to ATV IX only	11011	88.6
lost to all IX	11011	88.6

Potential Interfering Stations Included in above Scenario 7

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	BMPCDT	20061114ABU	CP
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Figure 3

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11447	116.9
lost to ATV IX only	11447	116.9
lost to all IX	11447	116.9

Potential Interfering Stations Included in above Scenario 7

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	BMPCDT	20061114ABU	CP
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0513%

Result key: 8
 Scenario 8 Affected station 9
 Before Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11011	88.6
lost to ATV IX only	11011	88.6
lost to all IX	11011	88.6

Potential Interfering Stations Included in above Scenario 8

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	DTVPLN	DTVP1017	PLN
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11447	116.9
lost to ATV IX only	11447	116.9
lost to all IX	11447	116.9

Potential Interfering Stations Included in above Scenario 8

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	DTVPLN	DTVP1017	PLN

Figure 3

27A MN DULUTH USERRECORD01 APP

Percent new IX = 0.0513%

```
Result key:          9
Scenario            9 Affected station            9
Before Analysis
```

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1085	145.1
lost to ATV IX only	1085	145.1
lost to all IX	1085	145.1

Potential Interfering Stations Included in above Scenario 9

27A	IA	CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A	MN	REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A	WI	APPLETON	BMPCDT	20080620AHO	APP
27A	MN	DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC
HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1511	169.2
lost to ATV IX only	1511	169.2
lost to all IX	1511	169.2

Potential Interfering Stations Included in above Scenario 9

27A	IA	CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A	MN	REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A	WI	APPLETON	BMPCDT	20080620AHO	APP
27A	MN	DULUTH	USERRECORD01		APP

Percent new IX = 0.0495%

```
Result key:      10
Scenario        10  Affected station          9
Before Analysis
```

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11470	153.1

Figure 3

lost to ATV IX only	11470	153.1
lost to all IX	11470	153.1

Potential Interfering Stations Included in above Scenario 10

27A IA CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	BMPCDT	20080620AHO	APP
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC

HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11896	177.3
lost to ATV IX only	11896	177.3
lost to all IX	11896	177.3

Potential Interfering Stations Included in above Scenario 10

27A IA CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	BMPCDT	20080620AHO	APP
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0501%

Result key: 11

Scenario 11 Affected station 9

Before Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC

HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1085	145.1
lost to ATV IX only	1085	145.1
lost to all IX	1085	145.1

Potential Interfering Stations Included in above Scenario 11

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	BMPCDT	20080620AHO	APP
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC

HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
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Figure 3

within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1511	169.2
lost to ATV IX only	1511	169.2
lost to all IX	1511	169.2

Potential Interfering Stations Included in above Scenario 11

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	BMPCDT	20080620AHO	APP
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0495%

Result key: 12

Scenario 12 Affected station 9

Before Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC

HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11470	153.1
lost to ATV IX only	11470	153.1
lost to all IX	11470	153.1

Potential Interfering Stations Included in above Scenario 12

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	BMPCDT	20080620AHO	APP
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE BLEDT 20040824AAF LIC

HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11896	177.3
lost to ATV IX only	11896	177.3
lost to all IX	11896	177.3

Potential Interfering Stations Included in above Scenario 12

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	BMPCDT	20080620AHO	APP
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0501%

Figure 3

Worst case new IX 0.0513% Scenario 3

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Analysis of Interference to Affected Station 10

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
27	WHWC-TV	MENOMONIE WI	DTVPLN	-DTVP1018

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
27	KFXA	CEDAR RAPIDS IA	329.1	LIC	BLCDDT	-20050713ABD
27	KFXA	CEDAR RAPIDS IA	329.1	PLN	DTVPLN	-DTVP0991
27	KCWV	DULUTH MN	194.5	PLN	DTVPLN	-DTVP0996
27	KRWF	REDWOOD FALLS MN	293.0	PLN	DTVPLN	-DTVP0997
27	KRWF	REDWOOD FALLS MN	293.0	CP	BPCDDT	-20080320AEK
27	WACY-TV	APPLETON WI	316.1	CP MOD	BMPCDDT	-20061114ABU
27	WACY	APPLETON WI	316.1	PLN	DTVPLN	-DTVP1017
27	WACY-TV	APPLETON WI	316.1	APP	BMPCDDT	-20080620AHO
28	WYOW	EAGLE RIVER WI	219.5	APP	BPCDDT	-20090630ACN
28	WYOW	EAGLE RIVER WI	219.5	PLN	DTVPLN	-DTVP1057
28	WYOW	EAGLE RIVER WI	219.5	CP MOD	BMPCDDT	-20041001ANY
27	KCWV	DULUTH MN	194.2	APP	USERRECORD-01	

Total scenarios = 12

Result key: 13
Scenario 1 Affected station 10
Before Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN
HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	626	80.6
lost to ATV IX only	626	80.6
lost to all IX	626	80.6

Potential Interfering Stations Included in above Scenario 1

27A IA CEDAR RAPIDS	BLCDDT	20050713ABD	LIC
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	BMPCDDT	20061114ABU	CP
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN
HAAT 350.0 m, ATV ERP 291.0 kW

Figure 3

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1062	108.8
lost to ATV IX only	1062	108.8
lost to all IX	1062	108.8

Potential Interfering Stations Included in above Scenario 1

27A IA CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	BMPCDT	20061114ABU	CP
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0506%

Result key: 14

Scenario 2 Affected station 10

Before Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN

HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	626	80.6
lost to ATV IX only	626	80.6
lost to all IX	626	80.6

Potential Interfering Stations Included in above Scenario 2

27A IA CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	DTVPLN	DTVP1017	PLN
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN

HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1062	108.8
lost to ATV IX only	1062	108.8
lost to all IX	1062	108.8

Potential Interfering Stations Included in above Scenario 2

27A IA CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	DTVPLN	DTVP1017	PLN
27A MN DULUTH	USERRECORD01		APP

Figure 3

Percent new IX = 0.0506%

Result key: 15
 Scenario 3 Affected station 10
 Before Analysis

Results for: 27A WI MENOMONIE	DTVPLN	DTVP1018	PLN
HAAT 350.0 m, ATV ERP 291.0 kW			
	POPULATION	AREA (sq km)	
within Noise Limited Contour	888182	27094.0	
not affected by terrain losses	861695	26533.9	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	11011	88.6	
lost to ATV IX only	11011	88.6	
lost to all IX	11011	88.6	

Potential Interfering Stations Included in above Scenario 3

27A IA CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	BMPCDT	20061114ABU	CP
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE	DTVPLN	DTVP1018	PLN
HAAT 350.0 m, ATV ERP 291.0 kW			
	POPULATION	AREA (sq km)	
within Noise Limited Contour	888182	27094.0	
not affected by terrain losses	861695	26533.9	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	11447	116.9	
lost to ATV IX only	11447	116.9	
lost to all IX	11447	116.9	

Potential Interfering Stations Included in above Scenario 3

27A IA CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	BMPCDT	20061114ABU	CP
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0513%

Result key: 16
 Scenario 4 Affected station 10
 Before Analysis

Results for: 27A WI MENOMONIE	DTVPLN	DTVP1018	PLN
HAAT 350.0 m, ATV ERP 291.0 kW			
	POPULATION	AREA (sq km)	
within Noise Limited Contour	888182	27094.0	
not affected by terrain losses	861695	26533.9	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	11011	88.6	
lost to ATV IX only	11011	88.6	
lost to all IX	11011	88.6	

Figure 3

```

Potential Interfering Stations Included in above Scenario      4

27A IA CEDAR RAPIDS      BLCDT      20050713ABD  LIC
27A MN REDWOOD FALLS    BPCDT      20080320AEK  CP
27A WI APPLETON          DTVPLN      DTVP1017    PLN
27A MN DULUTH            DTVPLN      DTVP0996    PLN

After Analysis

Results for: 27A WI MENOMONIE      DTVPLN      DTVP1018    PLN
  HAAT  350.0 m, ATV ERP  291.0 kW
                POPULATION      AREA (sq km)
  within Noise Limited Contour      888182      27094.0
  not affected by terrain losses      861695      26533.9
  lost to NTSC IX                    0          0.0
  lost to additional IX by ATV        11447      116.9
  lost to ATV IX only                 11447      116.9
  lost to all IX                     11447      116.9

Potential Interfering Stations Included in above Scenario      4

27A IA CEDAR RAPIDS      BLCDT      20050713ABD  LIC
27A MN REDWOOD FALLS    BPCDT      20080320AEK  CP
27A WI APPLETON          DTVPLN      DTVP1017    PLN
27A MN DULUTH            USERRECORD01      APP

Percent new IX =      0.0513%

Result key:      17
Scenario      5  Affected station      10
Before Analysis

Results for: 27A WI MENOMONIE      DTVPLN      DTVP1018    PLN
  HAAT  350.0 m, ATV ERP  291.0 kW
                POPULATION      AREA (sq km)
  within Noise Limited Contour      888182      27094.0
  not affected by terrain losses      861695      26533.9
  lost to NTSC IX                    0          0.0
  lost to additional IX by ATV        626        80.6
  lost to ATV IX only                 626        80.6
  lost to all IX                     626        80.6

Potential Interfering Stations Included in above Scenario      5

27A IA CEDAR RAPIDS      DTVPLN      DTVP0991    PLN
27A MN REDWOOD FALLS    DTVPLN      DTVP0997    PLN
27A WI APPLETON          BMPCDT      20061114ABU  CP
27A MN DULUTH            DTVPLN      DTVP0996    PLN

After Analysis

Results for: 27A WI MENOMONIE      DTVPLN      DTVP1018    PLN
  HAAT  350.0 m, ATV ERP  291.0 kW
                POPULATION      AREA (sq km)
  within Noise Limited Contour      888182      27094.0
  not affected by terrain losses      861695      26533.9

```

Figure 3

lost to NTSC IX	0	0.0
lost to additional IX by ATV	1062	108.8
lost to ATV IX only	1062	108.8
lost to all IX	1062	108.8

Potential Interfering Stations Included in above Scenario 5

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	BMPCDT	20061114ABU	CP
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0506%

Result key: 18

Scenario 6 Affected station 10

Before Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN

HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	626	80.6
lost to ATV IX only	626	80.6
lost to all IX	626	80.6

Potential Interfering Stations Included in above Scenario 6

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	DTVPLN	DTVP1017	PLN
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN

HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1062	108.8
lost to ATV IX only	1062	108.8
lost to all IX	1062	108.8

Potential Interfering Stations Included in above Scenario 6

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	DTVPLN	DTVP1017	PLN
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0506%

Result key: 19

Figure 3

Scenario 7 Affected station 10
Before Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN
HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11011	88.6
lost to ATV IX only	11011	88.6
lost to all IX	11011	88.6

Potential Interfering Stations Included in above Scenario 7

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	BMPCDT	20061114ABU	CP
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN
HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11447	116.9
lost to ATV IX only	11447	116.9
lost to all IX	11447	116.9

Potential Interfering Stations Included in above Scenario 7

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	BMPCDT	20061114ABU	CP
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0513%

Result key: 20
Scenario 8 Affected station 10
Before Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN
HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11011	88.6
lost to ATV IX only	11011	88.6
lost to all IX	11011	88.6

Potential Interfering Stations Included in above Scenario 8

Figure 3

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	DTVPLN	DTVP1017	PLN
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11447	116.9
lost to ATV IX only	11447	116.9
lost to all IX	11447	116.9

Potential Interfering Stations Included in above Scenario 8

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	DTVPLN	DTVP1017	PLN
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0513%

Result key: 21
 Scenario 9 Affected station 10
 Before Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1085	145.1
lost to ATV IX only	1085	145.1
lost to all IX	1085	145.1

Potential Interfering Stations Included in above Scenario 9

27A IA CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	BMPCDT	20080620AHO	APP
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1511	169.2
lost to ATV IX only	1511	169.2

Figure 3

lost to all IX 1511 169.2

Potential Interfering Stations Included in above Scenario 9

27A IA CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	BMPCDT	20080620AHO	APP
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0495%

Result key: 22

Scenario 10 Affected station 10

Before Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN

HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11470	153.1
lost to ATV IX only	11470	153.1
lost to all IX	11470	153.1

Potential Interfering Stations Included in above Scenario 10

27A IA CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	BMPCDT	20080620AHO	APP
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN

HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11896	177.3
lost to ATV IX only	11896	177.3
lost to all IX	11896	177.3

Potential Interfering Stations Included in above Scenario 10

27A IA CEDAR RAPIDS	BLCDT	20050713ABD	LIC
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	BMPCDT	20080620AHO	APP
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0501%

Result key: 23

Scenario 11 Affected station 10

Before Analysis

Figure 3

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1085	145.1
lost to ATV IX only	1085	145.1
lost to all IX	1085	145.1

Potential Interfering Stations Included in above Scenario 11

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	BMPCDT	20080620AHO	APP
27A MN DULUTH	DTVPLN	DTVP0996	PLN

After Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1511	169.2
lost to ATV IX only	1511	169.2
lost to all IX	1511	169.2

Potential Interfering Stations Included in above Scenario 11

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	DTVPLN	DTVP0997	PLN
27A WI APPLETON	BMPCDT	20080620AHO	APP
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0495%

Result key: 24
 Scenario 12 Affected station 10
 Before Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11470	153.1
lost to ATV IX only	11470	153.1
lost to all IX	11470	153.1

Potential Interfering Stations Included in above Scenario 12

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	BMPCDT	20080620AHO	APP

Figure 3

27A MN DULUTH DTVPLN DTVP0996 PLN

After Analysis

Results for: 27A WI MENOMONIE DTVPLN DTVP1018 PLN
 HAAT 350.0 m, ATV ERP 291.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	888182	27094.0
not affected by terrain losses	861695	26533.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	11896	177.3
lost to ATV IX only	11896	177.3
lost to all IX	11896	177.3

Potential Interfering Stations Included in above Scenario 12

27A IA CEDAR RAPIDS	DTVPLN	DTVP0991	PLN
27A MN REDWOOD FALLS	BPCDT	20080320AEK	CP
27A WI APPLETON	BMPCDT	20080620AHO	APP
27A MN DULUTH	USERRECORD01		APP

Percent new IX = 0.0501%

Worst case new IX 0.0513% Scenario 3

#####

Analysis of Interference to Affected Station 11

Analysis of current record

Channel	Call	City/State	Application Ref. No.
28	KAWB	BRAINERD MN	BPEDT -20080620AHQ

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
27	KCWV	DULUTH MN	183.1	PLN	DTVPLN -DTVP0996
28	WYOW	EAGLE RIVER WI	408.1	APP	BPCDT -20090630ACN
28	WYOW	EAGLE RIVER WI	408.1	PLN	DTVPLN -DTVP1057
28	WYOW	EAGLE RIVER WI	408.1	CP MOD	BMPCDT -20041001ANY
29	WFTC	MINNEAPOLIS MN	183.7	CP MOD	BMPCDT -20080311ABZ
29	WFTC	MINNEAPOLIS MN	183.7	PLN	DTVPLN -DTVP1070
27	KCWV	DULUTH MN	183.2	APP	USERRECORD-01

Proposed station is beyond the site to
 nearest cell evaluation distance

#####

Analysis of Interference to Affected Station 12

Analysis of current record

Channel	Call	City/State	Application Ref. No.
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Figure 3

28 KAWB BRAINERD MN DTVPLN -DTVP1038

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
27	KCWV	DULUTH MN	183.2	PLN	DTVPLN	-DTVP0996
28	WYOW	EAGLE RIVER WI	408.1	APP	BPCDT	-20090630ACN
28	WYOW	EAGLE RIVER WI	408.1	PLN	DTVPLN	-DTVP1057
28	WYOW	EAGLE RIVER WI	408.1	CP MOD	BMPCDT	-20041001ANY
29	WFTC	MINNEAPOLIS MN	183.7	CP MOD	BMPCDT	-20080311ABZ
29	WFTC	MINNEAPOLIS MN	183.7	PLN	DTVPLN	-DTVP1070
27	KCWV	DULUTH MN	183.2	APP	USERRECORD-01	

Proposed station is beyond the site to
nearest cell evaluation distance

#####

Analysis of Interference to Affected Station 13

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
28	KAWB	BRAINERD MN	BLEDT	-20030429AAJ

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
27	KCWV	DULUTH MN	183.2	PLN	DTVPLN	-DTVP0996
28	WYOW	EAGLE RIVER WI	408.1	APP	BPCDT	-20090630ACN
28	WYOW	EAGLE RIVER WI	408.1	PLN	DTVPLN	-DTVP1057
28	WYOW	EAGLE RIVER WI	408.1	CP MOD	BMPCDT	-20041001ANY
29	WFTC	MINNEAPOLIS MN	183.7	CP MOD	BMPCDT	-20080311ABZ
29	WFTC	MINNEAPOLIS MN	183.7	PLN	DTVPLN	-DTVP1070
27	KCWV	DULUTH MN	183.2	APP	USERRECORD-01	

Proposed station is beyond the site to
nearest cell evaluation distance

#####

Analysis of Interference to Affected Station 14

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
27	KCWV	DULUTH MN	USERRECORD-01	

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
26	KFTC	BEMIDJI MN	219.9	CP	BPCDT	-20080310ADP
26	KFTC	BEMIDJI MN	218.0	PLN	DTVPLN	-DTVP0955
27	KRWF	REDWOOD FALLS MN	366.0	PLN	DTVPLN	-DTVP0997
27	KRWF	REDWOOD FALLS MN	366.0	CP	BPCDT	-20080320AEK

Figure 3

27	KCPM	GRAND FORKS ND	393.6	PLN	DTVPLN	-DTVP1000
27	WACY-TV	APPLETON WI	420.1	CP MOD	BMPCDT	-20061114ABU
27	WACY	APPLETON WI	420.1	PLN	DTVPLN	-DTVP1017
27	WACY-TV	APPLETON WI	420.1	APP	BMPCDT	-20080620AHO
27	WHWC-TV	MENOMONIE WI	194.2	LIC	BLEDT	-20040824AAF
27	WHWC-TV	MENOMONIE WI	194.2	PLN	DTVPLN	-DTVP1018
28	KAWB	BRAINERD MN	183.2	APP	BPEDT	-20080620AHQ
28	KAWB	BRAINERD MN	183.2	PLN	DTVPLN	-DTVP1038
28	KAWB	BRAINERD MN	183.2	LIC	BLEDT	-20030429AAJ

Total scenarios = 2

Result key: 25
 Scenario 1 Affected station 14
 Before Analysis

Results for: 27A MN DULUTH USERRECORD01 APP
 HAAT 206.0 m, ATV ERP 40.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	200016	11884.6
not affected by terrain losses	199598	11824.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1181	524.1
lost to ATV IX only	1181	524.1
lost to all IX	1181	524.1

Potential Interfering Stations Included in above Scenario 1

27A WI MENOMONIE BLEDT 20040824AAF LIC

Result key: 26
 Scenario 2 Affected station 14
 Before Analysis

Results for: 27A MN DULUTH USERRECORD01 APP
 HAAT 206.0 m, ATV ERP 40.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	200016	11884.6
not affected by terrain losses	199598	11824.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1181	524.1
lost to ATV IX only	1181	524.1
lost to all IX	1181	524.1

Potential Interfering Stations Included in above Scenario 2

27A WI MENOMONIE DTVPLN DTVP1018 PLN

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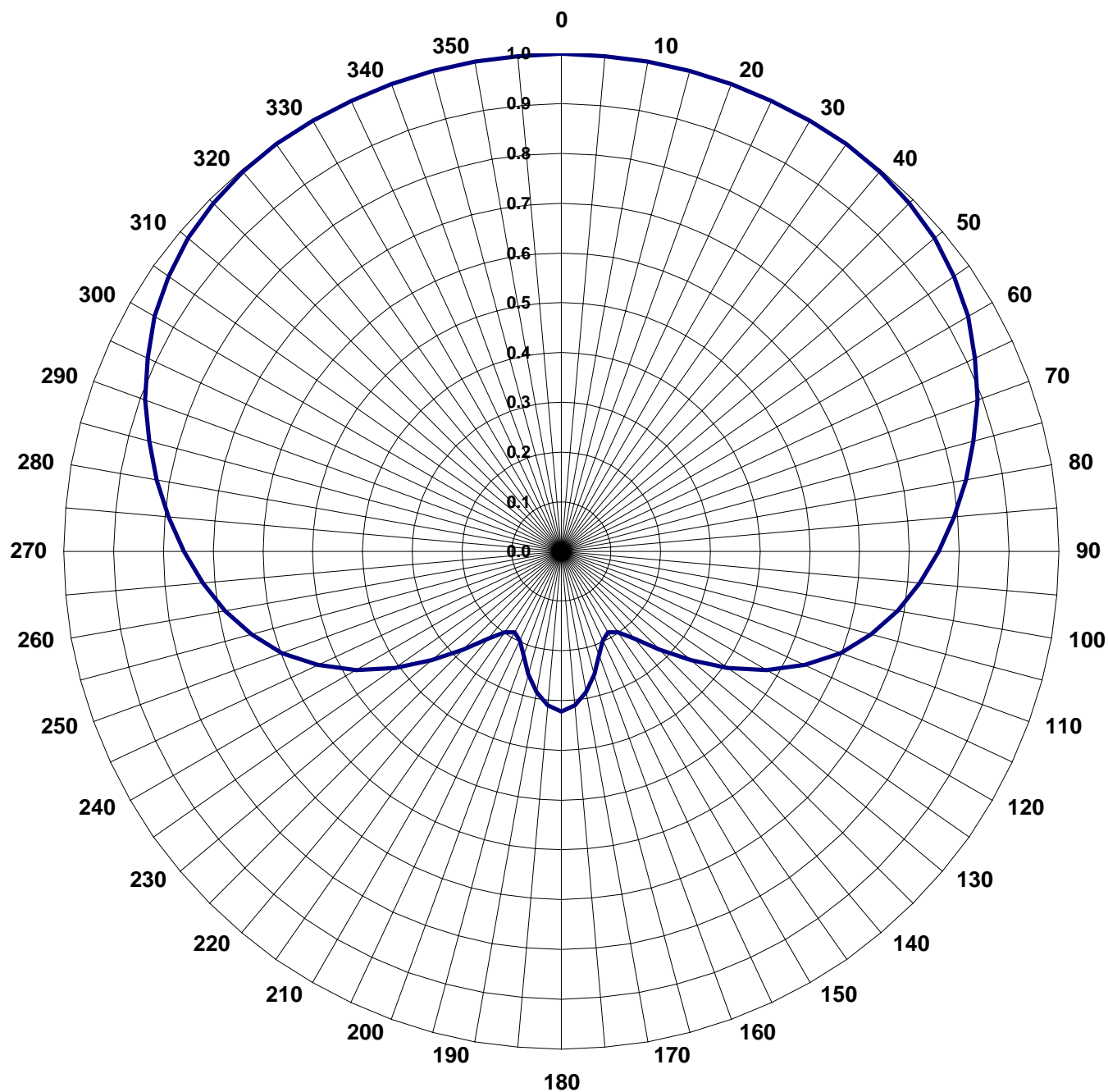
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APPENDIX

TRANSMITTING ANTENNA VERTICAL AND HORIZONTAL PLANE PATTERN

AZIMUTH PATTERN**TYPE:****ALP-E****Frequency:****27 (DTV)****Numeric****dB****Location:****Duluth, MN****Directivity:****1.86****2.70****Polarization:****Horizontal****Peak(s) at:**

Note: Pattern shape and directivity may vary with
channel and mounting configuration.



TABULATED DATA FOR AZIMUTH PATTERN**TYPE: ALP-E**

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
0	1.000	0.00	92	0.745	-2.56	184	0.314	-10.06	276	0.799	-1.95
2	0.999	-0.01	94	0.731	-2.72	186	0.307	-10.26	278	0.812	-1.81
4	0.999	-0.01	96	0.717	-2.89	188	0.298	-10.52	280	0.826	-1.66
6	0.999	-0.01	98	0.702	-3.07	190	0.287	-10.84	282	0.839	-1.52
8	0.999	-0.01	100	0.687	-3.26	192	0.274	-11.24	284	0.852	-1.39
10	0.999	-0.01	102	0.671	-3.47	194	0.261	-11.67	286	0.865	-1.26
12	0.999	-0.01	104	0.654	-3.69	196	0.248	-12.11	288	0.878	-1.13
14	0.999	-0.01	106	0.636	-3.93	198	0.234	-12.62	290	0.890	-1.01
16	0.999	-0.01	108	0.617	-4.19	200	0.222	-13.07	292	0.902	-0.90
18	0.999	-0.01	110	0.597	-4.48	202	0.211	-13.51	294	0.913	-0.79
20	0.999	-0.01	112	0.575	-4.81	204	0.201	-13.94	296	0.924	-0.69
22	0.999	-0.01	114	0.552	-5.16	206	0.194	-14.24	298	0.934	-0.59
24	0.999	-0.01	116	0.528	-5.55	208	0.189	-14.47	300	0.944	-0.50
26	0.999	-0.01	118	0.503	-5.97	210	0.188	-14.52	302	0.952	-0.43
28	0.999	-0.01	120	0.476	-6.45	212	0.189	-14.47	304	0.960	-0.35
30	0.999	-0.01	122	0.449	-6.96	214	0.194	-14.24	306	0.967	-0.29
32	0.999	-0.01	124	0.422	-7.49	216	0.203	-13.85	308	0.974	-0.23
34	0.999	-0.01	126	0.394	-8.09	218	0.214	-13.39	310	0.979	-0.18
36	0.999	-0.01	128	0.366	-8.73	220	0.229	-12.80	312	0.984	-0.14
38	0.998	-0.02	130	0.340	-9.37	222	0.247	-12.15	314	0.988	-0.10
40	0.996	-0.03	132	0.314	-10.06	224	0.267	-11.47	316	0.991	-0.08
42	0.994	-0.05	134	0.289	-10.78	226	0.289	-10.78	318	0.994	-0.05
44	0.991	-0.08	136	0.267	-11.47	228	0.314	-10.06	320	0.996	-0.03
46	0.988	-0.10	138	0.247	-12.15	230	0.340	-9.37	322	0.998	-0.02
48	0.984	-0.14	140	0.229	-12.80	232	0.366	-8.73	324	0.999	-0.01
50	0.979	-0.18	142	0.214	-13.39	234	0.394	-8.09	326	0.999	-0.01
52	0.974	-0.23	144	0.203	-13.85	236	0.422	-7.49	328	0.999	-0.01
54	0.967	-0.29	146	0.194	-14.24	238	0.449	-6.96	330	0.999	-0.01
56	0.960	-0.35	148	0.189	-14.47	240	0.476	-6.45	332	0.999	-0.01
58	0.952	-0.43	150	0.188	-14.52	242	0.503	-5.97	334	0.999	-0.01
60	0.944	-0.50	152	0.189	-14.47	244	0.528	-5.55	336	0.999	-0.01
62	0.934	-0.59	154	0.194	-14.24	246	0.552	-5.16	338	0.999	-0.01
64	0.924	-0.69	156	0.201	-13.94	248	0.575	-4.81	340	0.999	-0.01
66	0.913	-0.79	158	0.211	-13.51	250	0.597	-4.48	342	0.999	-0.01
68	0.902	-0.90	160	0.222	-13.07	252	0.617	-4.19	344	0.999	-0.01
70	0.890	-1.01	162	0.234	-12.62	254	0.636	-3.93	346	0.999	-0.01
72	0.878	-1.13	164	0.248	-12.11	256	0.654	-3.69	348	0.999	-0.01
74	0.865	-1.26	166	0.261	-11.67	258	0.671	-3.47	350	0.999	-0.01
76	0.852	-1.39	168	0.274	-11.24	260	0.687	-3.26	352	0.999	-0.01
78	0.839	-1.52	170	0.287	-10.84	262	0.702	-3.07	354	0.999	-0.01
80	0.826	-1.66	172	0.298	-10.52	264	0.717	-2.89	356	0.999	-0.01
82	0.812	-1.81	174	0.307	-10.26	266	0.731	-2.72	358	0.999	-0.01
84	0.799	-1.95	176	0.314	-10.06	268	0.745	-2.56	360	0.260	-11.70
86	0.785	-2.10	178	0.319	-9.92	270	0.758	-2.41			
88	0.772	-2.25	180	0.322	-9.84	272	0.772	-2.25			
90	0.758	-2.41	182	0.319	-9.92	274	0.785	-2.10			

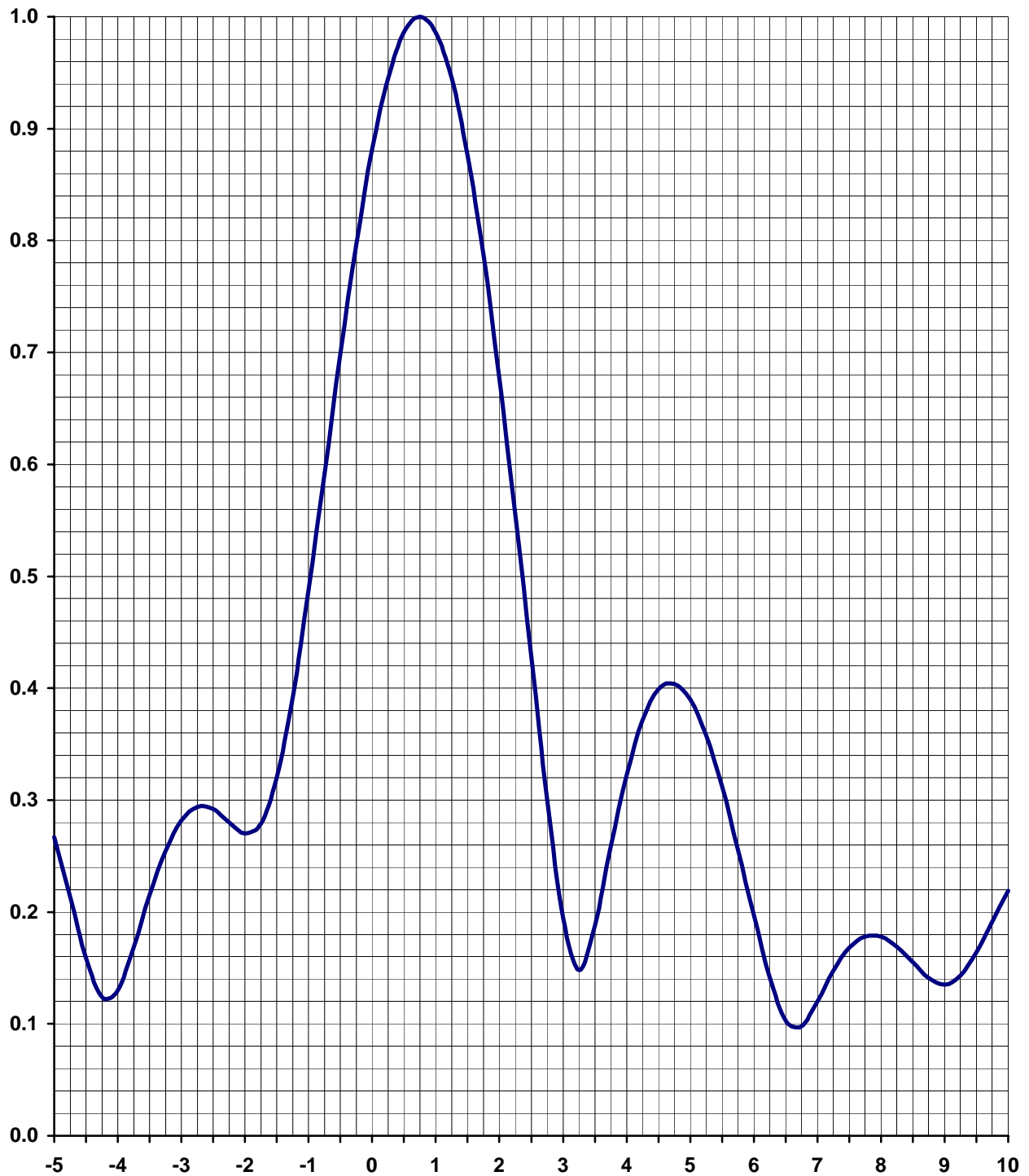
ELEVATION PATTERN

TYPE: **ALP16L3H**

Directivity:	Numeric	dBd
Main Lobe:	15.08	11.78
Horizontal:	11.70	10.68

Frequency: **27 (DTV)**

Location:	Duluth, MN
Beam Tilt:	0.75
Polarization:	Horizontal



TABULATED DATA FOR ELEVATION PATTERN

ALP16L3H

-5 to 10 degrees in 0.25 increments

10 to 90 degrees in 0.50 increments

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
-5.000	0.267	-11.47	6.75	0.098	-20.18	27.00	0.055	-25.19	50.50	0.055	-25.19	74.00	0.203	-13.85
-4.750	0.213	-13.43	7.00	0.120	-18.42	27.50	0.047	-26.56	51.00	0.064	-23.88	74.50	0.191	-14.38
-4.500	0.159	-15.97	7.25	0.147	-16.65	28.00	0.034	-29.37	51.50	0.067	-23.48	75.00	0.178	-14.99
-4.250	0.124	-18.13	7.50	0.168	-15.49	28.50	0.019	-34.42	52.00	0.065	-23.74	75.50	0.164	-15.70
-4.000	0.130	-17.72	7.75	0.178	-14.99	29.00	0.008	-41.94	52.50	0.056	-25.04	76.00	0.151	-16.42
-3.750	0.169	-15.44	8.00	0.178	-14.99	29.50	0.003	-50.46	53.00	0.043	-27.33	76.50	0.137	-17.27
-3.500	0.215	-13.35	8.25	0.169	-15.44	30.00	0.000	---	53.50	0.029	-30.75	77.00	0.123	-18.20
-3.250	0.255	-11.87	8.50	0.155	-16.19	30.50	0.005	-46.02	54.00	0.024	-32.40	77.50	0.109	-19.25
-3.000	0.282	-11.00	8.75	0.141	-17.02	31.00	0.012	-38.42	54.50	0.038	-28.40	78.00	0.097	-20.26
-2.750	0.294	-10.63	9.00	0.135	-17.39	31.50	0.017	-35.39	55.00	0.057	-24.88	78.50	0.085	-21.41
-2.500	0.292	-10.69	9.25	0.143	-16.89	32.00	0.020	-33.98	55.50	0.075	-22.50	79.00	0.074	-22.62
-2.250	0.280	-11.06	9.50	0.164	-15.70	32.50	0.029	-30.75	56.00	0.090	-20.92	79.50	0.063	-24.01
-2.000	0.270	-11.37	9.75	0.191	-14.38	33.00	0.048	-26.38	56.50	0.099	-20.09	80.00	0.054	-25.35
-1.750	0.279	-11.09	10.00	0.219	-13.19	33.50	0.075	-22.50	57.00	0.102	-19.83	80.50	0.046	-26.74
-1.500	0.320	-9.90	10.50	0.261	-11.67	34.00	0.105	-19.58	57.50	0.098	-20.18	81.00	0.038	-28.40
-1.250	0.392	-8.13	11.00	0.271	-11.34	34.50	0.134	-17.46	58.00	0.090	-20.92	81.50	0.032	-29.90
-1.000	0.487	-6.25	11.50	0.246	-12.18	35.00	0.155	-16.19	58.50	0.076	-22.38	82.00	0.026	-31.70
-0.750	0.592	-4.55	12.00	0.196	-14.15	35.50	0.164	-15.70	59.00	0.060	-24.44	82.50	0.022	-33.15
-0.500	0.698	-3.12	12.50	0.133	-17.52	36.00	0.160	-15.92	59.50	0.045	-26.94	83.00	0.019	-34.42
-0.250	0.797	-1.97	13.00	0.073	-22.73	36.50	0.142	-16.95	60.00	0.036	-28.87	83.50	0.016	-35.92
0.000	0.881	-1.10	13.50	0.029	-30.75	37.00	0.113	-18.94	60.50	0.039	-28.18	84.00	0.014	-37.08
0.250	0.945	-0.49	14.00	0.006	-44.44	37.50	0.076	-22.38	61.00	0.051	-25.85	84.50	0.012	-38.42
0.500	0.986	-0.12	14.50	0.000	---	38.00	0.041	-27.74	61.50	0.064	-23.88	85.00	0.011	-39.17
0.750	1.000	0.00	15.00	0.014	-37.08	38.50	0.034	-29.37	62.00	0.075	-22.50	85.50	0.010	-40.00
1.000	0.986	-0.12	15.50	0.032	-29.90	39.00	0.057	-24.88	62.50	0.082	-21.72	86.00	0.009	-40.92
1.250	0.945	-0.49	16.00	0.047	-26.56	39.50	0.078	-22.16	63.00	0.085	-21.41	86.50	0.008	-41.94
1.500	0.877	-1.14	16.50	0.050	-26.02	40.00	0.089	-21.01	63.50	0.085	-21.41	87.00	0.007	-43.10
1.750	0.787	-2.08	17.00	0.040	-27.96	40.50	0.089	-21.01	64.00	0.082	-21.72	87.50	0.006	-44.44
2.000	0.678	-3.38	17.50	0.026	-31.70	41.00	0.079	-22.05	64.50	0.078	-22.16	88.00	0.005	-46.02
2.250	0.555	-5.11	18.00	0.033	-29.63	41.50	0.061	-24.29	65.00	0.077	-22.27	88.50	0.004	-47.96
2.500	0.427	-7.39	18.50	0.054	-25.35	42.00	0.041	-27.74	65.50	0.081	-21.83	89.00	0.003	-50.46
2.750	0.301	-10.43	19.00	0.068	-23.35	42.50	0.025	-32.04	66.00	0.090	-20.92	89.50	0.001	-60.00
3.000	0.194	-14.24	19.50	0.069	-23.22	43.00	0.022	-33.15	66.50	0.106	-19.49	90.00	0.000	---
3.250	0.148	-16.59	20.00	0.066	-23.61	43.50	0.029	-30.75	67.00	0.124	-18.13			
3.500	0.188	-14.52	20.50	0.081	-21.83	44.00	0.035	-29.12	67.50	0.144	-16.83			
3.750	0.258	-11.77	21.00	0.121	-18.34	44.50	0.035	-29.12	68.00	0.164	-15.70			
4.000	0.323	-9.82	21.50	0.169	-15.44	45.00	0.031	-30.17	68.50	0.182	-14.80			
4.250	0.371	-8.61	22.00	0.209	-13.60	45.50	0.025	-32.04	69.00	0.199	-14.02			
4.500	0.399	-7.98	22.50	0.232	-12.69	46.00	0.021	-33.56	69.50	0.213	-13.43			
4.750	0.404	-7.87	23.00	0.232	-12.69	46.50	0.020	-33.98	70.00	0.223	-13.03			
5.000	0.390	-8.18	23.50	0.209	-13.60	47.00	0.020	-33.98	70.50	0.231	-12.73			
5.250	0.358	-8.92	24.00	0.168	-15.49	47.50	0.018	-34.89	71.00	0.235	-12.58			
5.500	0.312	-10.12	24.50	0.117	-18.64	48.00	0.012	-38.42	71.50	0.236	-12.54			
5.750	0.256	-11.84	25.00	0.065	-23.74	48.50	0.002	-53.98	72.00	0.234	-12.62			
6.000	0.197	-14.11	25.50	0.029	-30.75	49.00	0.011	-39.17	72.50	0.230	-12.77			
6.250	0.142	-16.95	26.00	0.036	-28.87	49.50	0.027	-31.37	73.00	0.223	-13.03			
6.500	0.103	-19.74	26.50	0.051	-25.85	50.00	0.042	-27.54	73.50	0.214	-13.39			