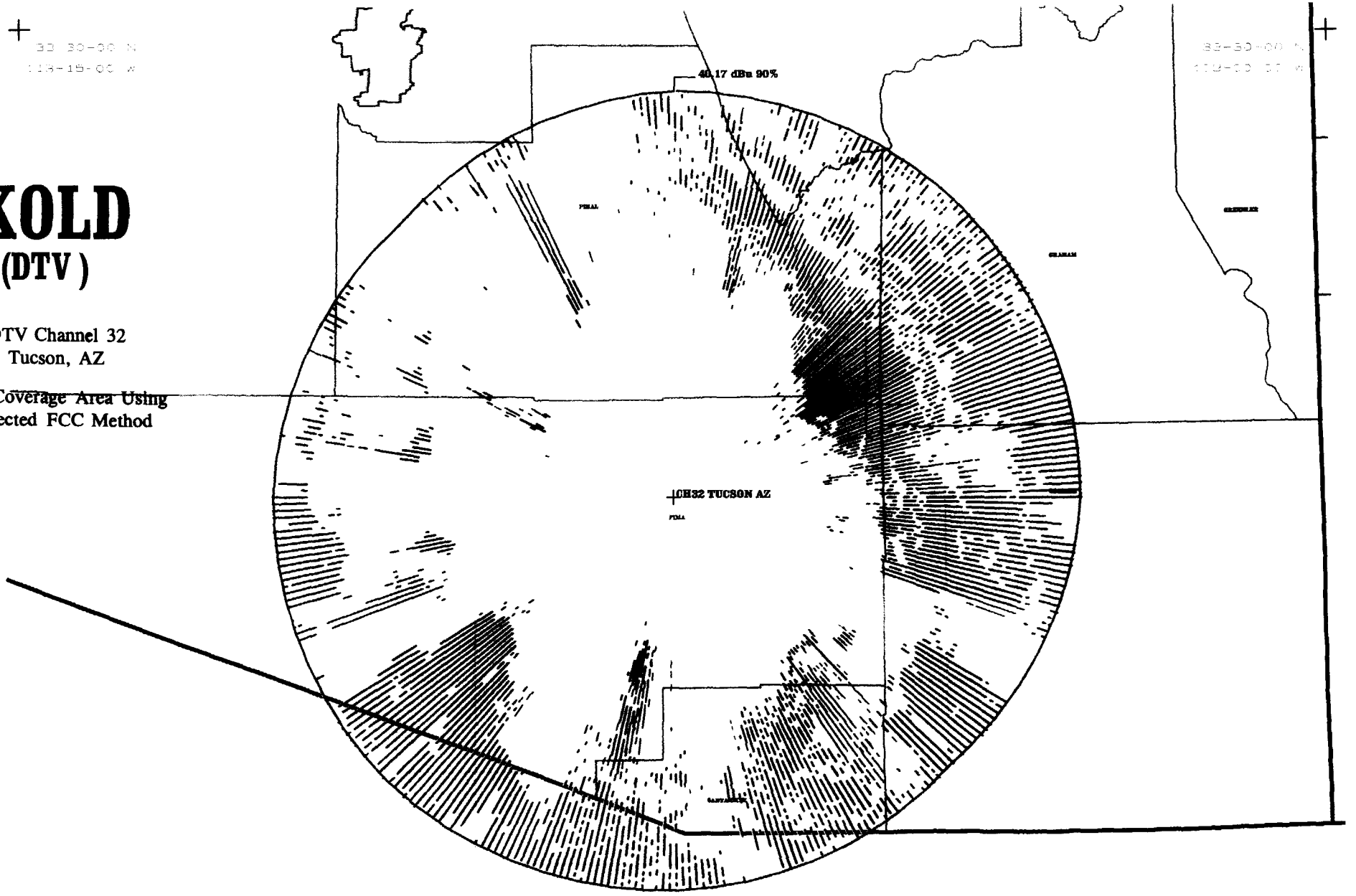
KOLD
(DTV)

DTV Channel 32
Tucson, AZ

DTV Coverage Area Using
Corrected FCC Method



Terrain loss - Red, Interference NTSC - Blue, DTV - Green

KOLD-DTV Ch. 32 ERP 729.1 HAAT 619.3

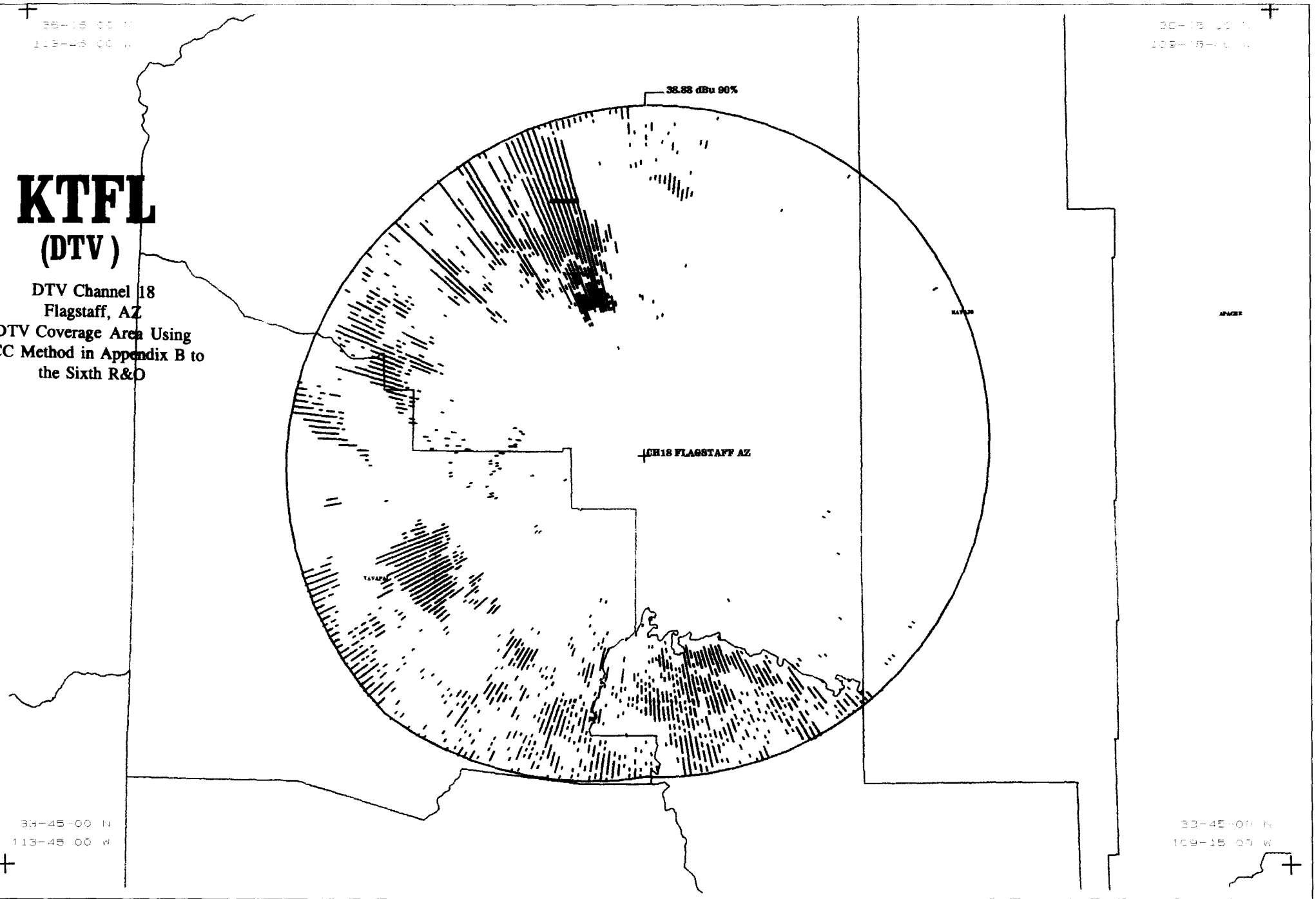
TUCSON AZ Dir. Ant. NONE

TechWare, Inc.
14101 Parke Long Ct. Suite 206
Chantilly, VA 20151-1645
703-222-5842

MAJOR DIVISIONS ARE: 10.0 KM
SCALE IS: 42.00 KM/INCH
26.10 MILES/INCH

KTFL
(DTV)

DTV Channel 18
Flagstaff, AZ
DTV Coverage Area Using
FCC Method in Appendix B to
the Sixth R&O



Terrain loss - Red, Interference NTSC - Blue, DTV - Green

KTFL-DTV Ch. 18 ERP 686.4 HAAT 476.0

FLAGSTAFF AZ Dir. Ant. NONE

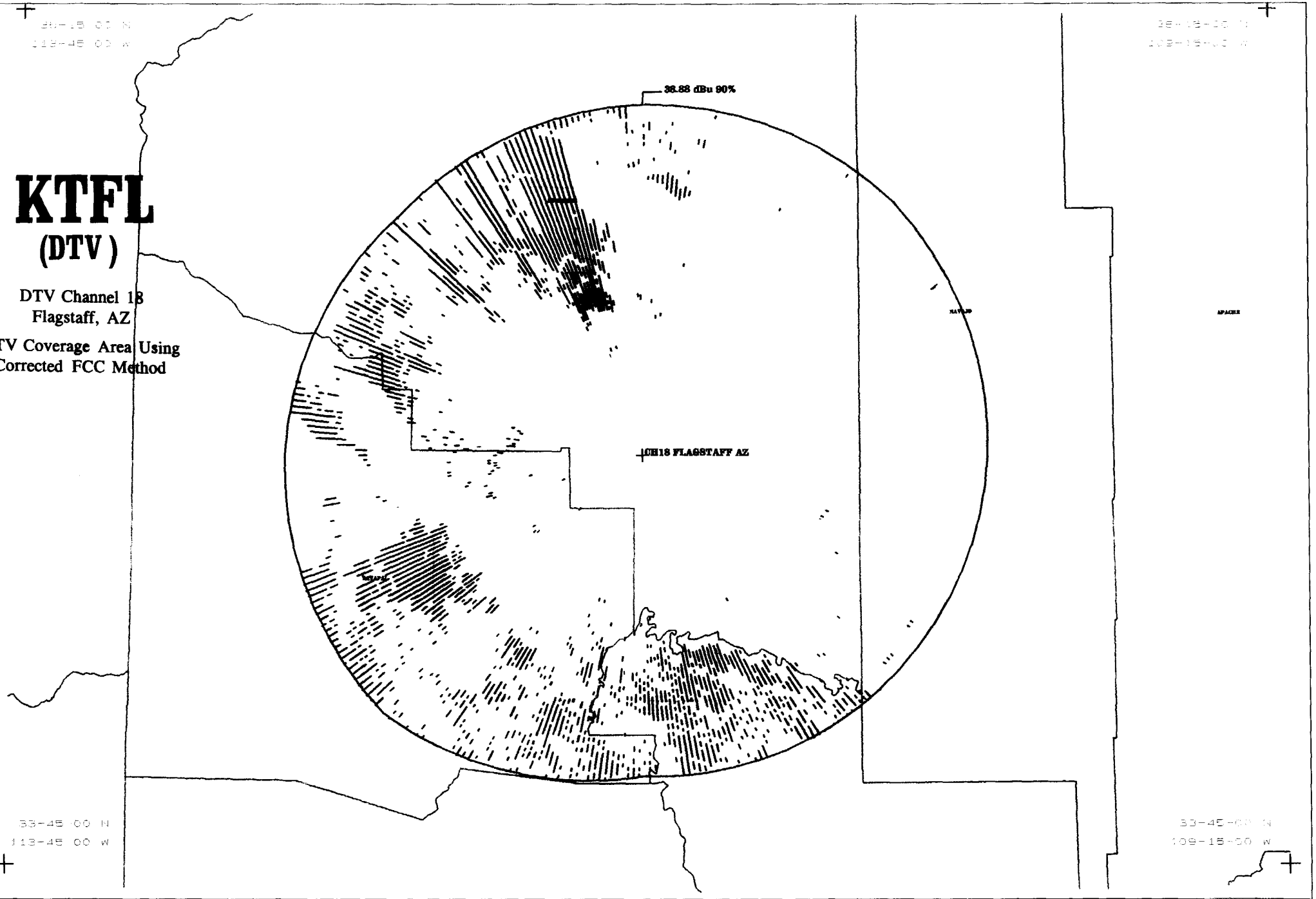
TechWare, Inc.
14101 Parke Long Ct. Suite 206
Chantilly, VA 20151-1645
703-222-5842

MAJOR DIVISIONS ARE: 10.0 KM
SCALE IS: 40.61 KM/INCH
25.23 MILES/INCH

KTFL
(DTV)

DTV Channel 18
Flagstaff, AZ

DTV Coverage Area Using
Corrected FCC Method



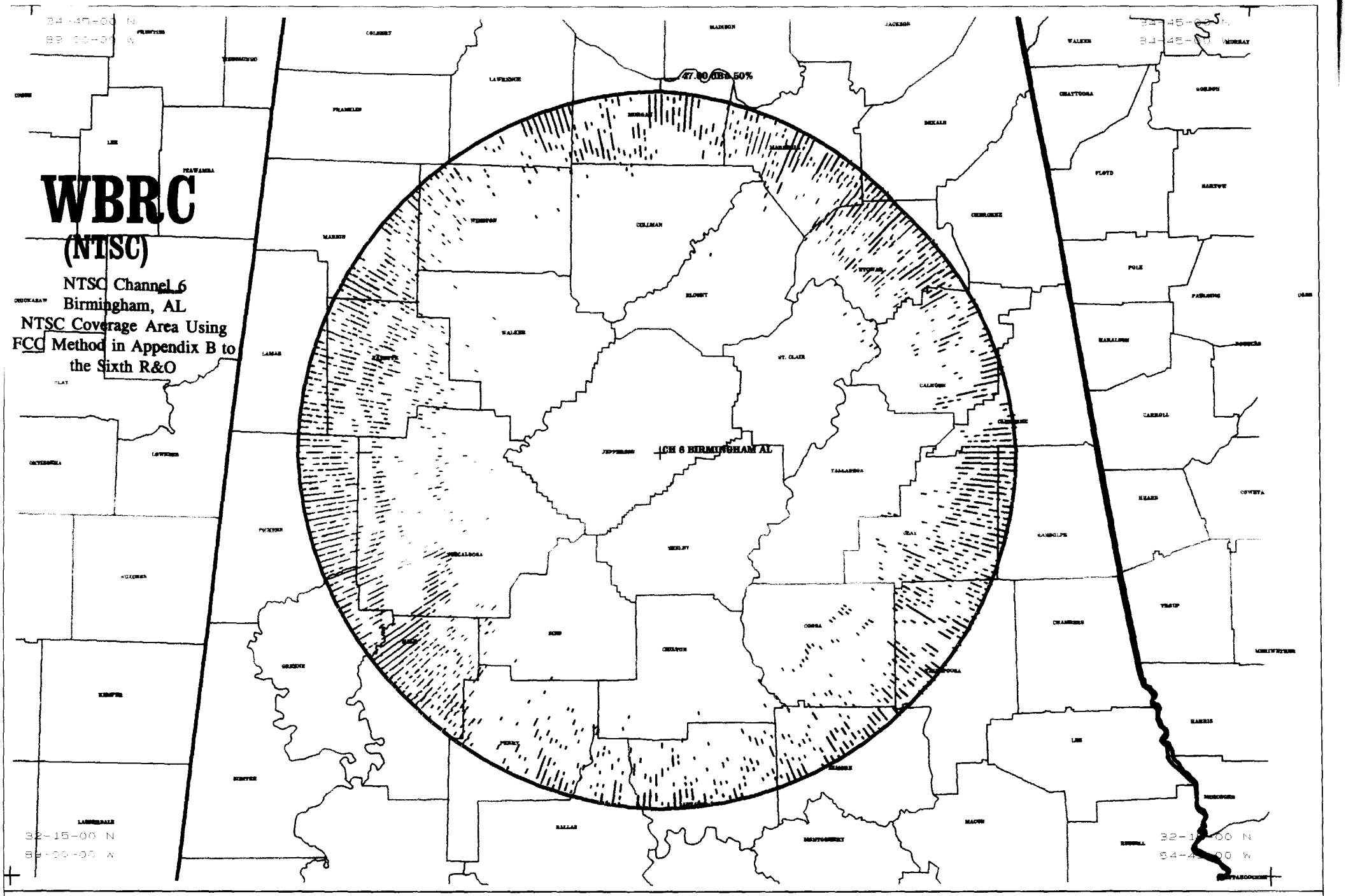
Terrain loss - Red, Interference NTSC - Blue, DTV - Green

KTFL-DTV Ch. 18 ERP 686.4 HAAT 476.0

FLAGSTAFF AZ Dir. Ant. NONE

TechWare, Inc.
14101 Parke Long Ct. Suite 206
Chantilly, VA 20151-1645
703-222-5842

MAJOR DIVISIONS ARE: 10.0 KM
SCALE IS: 40.61 KM/INCH
25.23 MILES/INCH



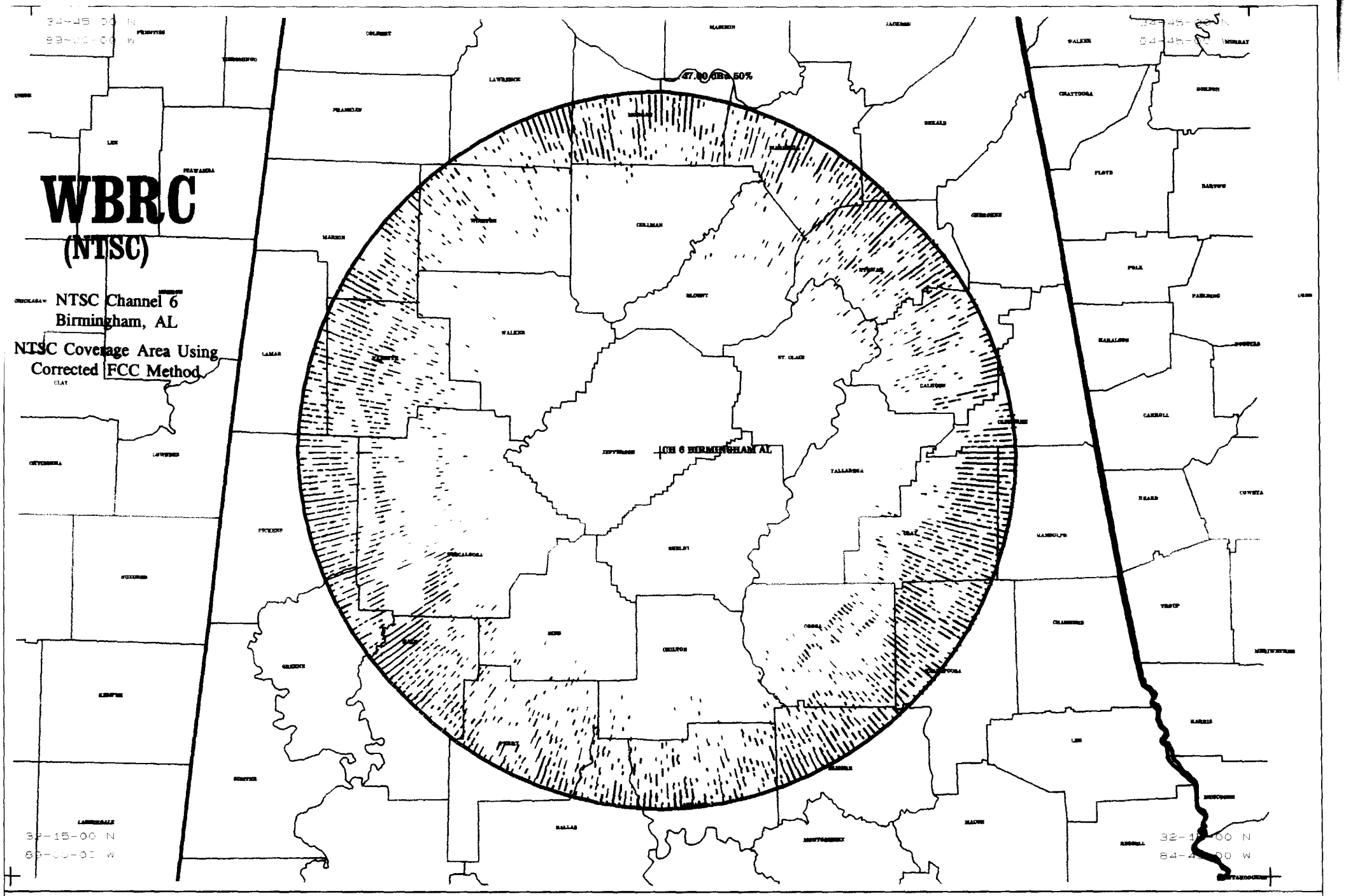
Terrain loss - Red, Interference NTSC - Green, DTV - Blue

WBRC-NTSC Ch. 6 ERP 100.0 HAAT 421.5

BIRMINGHAM AL Dir. Ant. NONE

TechWare, Inc.
14101 Parke Long Ct. Suite 206
Chantilly, VA 20151-1645
703-222-5842

MAJOR DIVISIONS ARE: 10.0 KM
SCALE IS: 39.41 KM/INCH
24.48 MILES/INCH



Terrain loss - Red, Interference NTSC - Green, DTV - Blue

WBRC-NTSC Ch. 6 ERP 100.0 HAAT 421.5

BIRMINGHAM AL Dir. Ant. NONE

TechWare, Inc.
14101 Parke Long Ct. Suite 206
Chantilly, VA 20151-1645
703-222-5842

MAJOR DIVISIONS ARE: 10.0 KM
SCALE IS: 39.41 KM/INCH
24.49 MILES/INCH

Exhibit 3

Technical Note for Understanding NTSC and DTV Service Area Maps

Specific attributes of the NTSC and DTV service area maps are provided below. Note that the maps are plotted to the scale indicated in the lower right hand corner. The scale is the same for both maps so that they can be directly compared, except for stations that have a minimum or a maximum power cap. Reference latitude and longitude, counties and some major geographical features are also plotted on the maps. The correlation between these maps and calculations performed by the FCC has been verified to be very close. The same terrain database was used. However, algorithmic differences between the Broadcasters Caucus model (adapted to the FCC methodology) and the FCC model may result in small coverage or interference differences between the two methods.

NTSC Map

The NTSC map is based on the April 3, 1997 version of the FCC engineering database. Operating parameters of the NTSC operation taken from that database include tower location, antenna height above average terrain (HAAT), directional antenna pattern (if any), and effective radiated power (ERP). From this information, the conventional predicted Grade B contour using the FCC propagation curves is plotted in black.

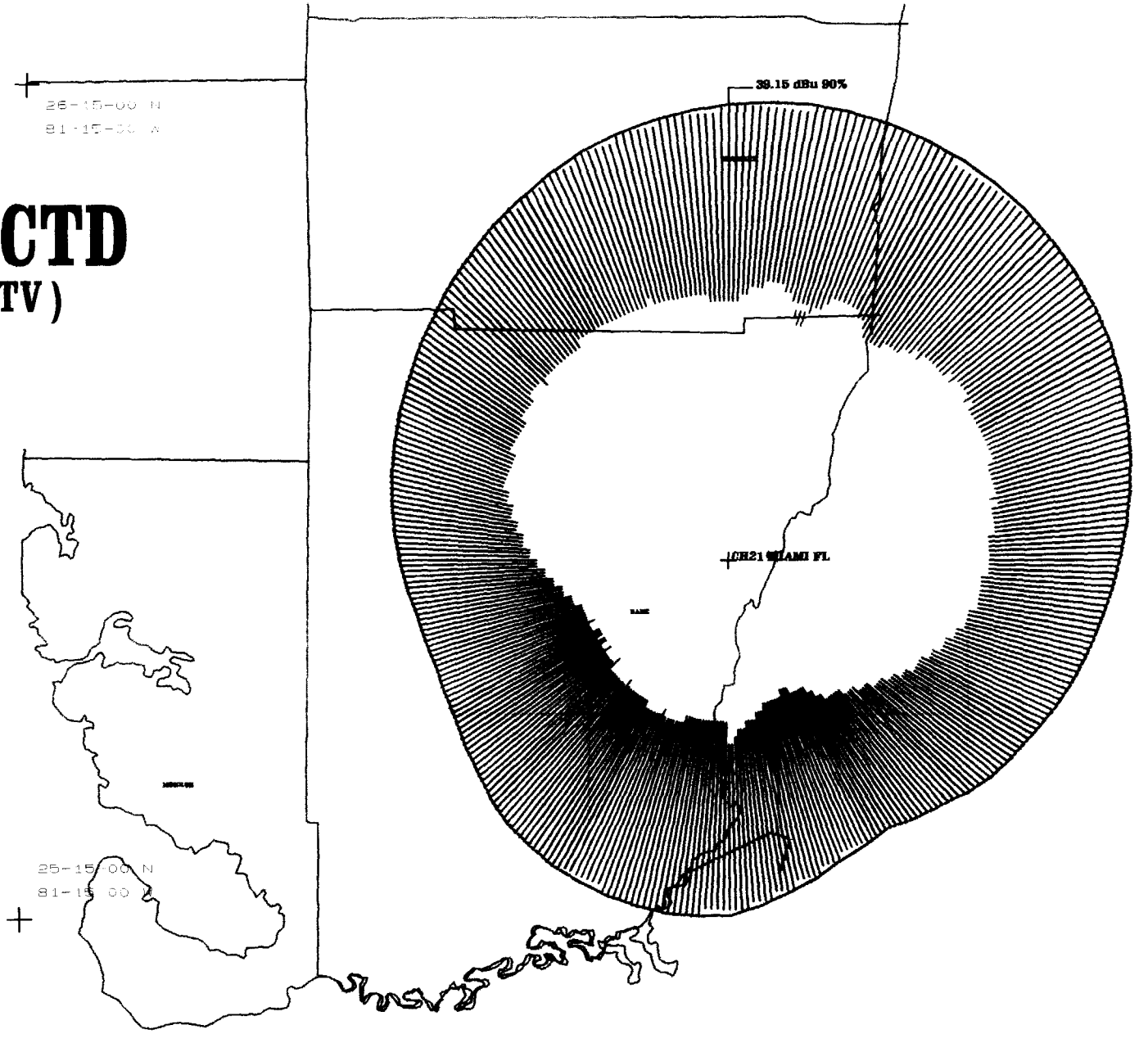
Within this predicted Grade B contour, service area losses are plotted (as radial lines every one degree and evaluated every one km along each radial) for the effects of terrain using the Longley-Rice propagation model (marked in red), interference from either other NTSC stations (marked in green) or DTV stations (marked in blue) that exceed the criteria established by the FCC for acceptable viewing. The service area that remains is the white area within the Grade B contour. Service outside the predicted Grade B contour is not evaluated.

DTV Map

The DTV channel assigned by the FCC is used to generate this map, using the same applicable parameter values as for the NTSC map: i.e., tower location, antenna height, antenna directional pattern are the same for the DTV channel analysis as for the paired NTSC channel. Using the FCC F(50,90) curves, the noise-limited service area for the DTV channel is plotted in red.

Within this predicted noise-limited area, service losses are plotted (as radial lines every one degree and every one km along each radial) for the effects of terrain using the Longley-Rice propagation model (marked in red), interference from either other DTV stations (marked in green) or NTSC stations (marked in blue) that exceed the criteria established by the FCC for acceptable viewing. The service area that remains is the white area within the noise-limited contour. Service outside the predicted noise-limited contour is not evaluated except in the case of UHF stations that are assigned the maximum one-megawatt power cap. In this case, service is calculated out to the Grade B contour of the companion NTSC channel. For DTV stations that are assigned a minimum ERP (1 kW for low VHF, 3.2 kW for high VHF and 50 kW for UHF), the NTSC station's Grade B contour is also plotted in black. For those stations, the NTSC Grade B contour is generally inside the predicted noise-limited contour of the associated DTV station.

WCTD
(DTV)



DTV Channel 21
Miami, FL

Interference Using the
Current FCC Mask

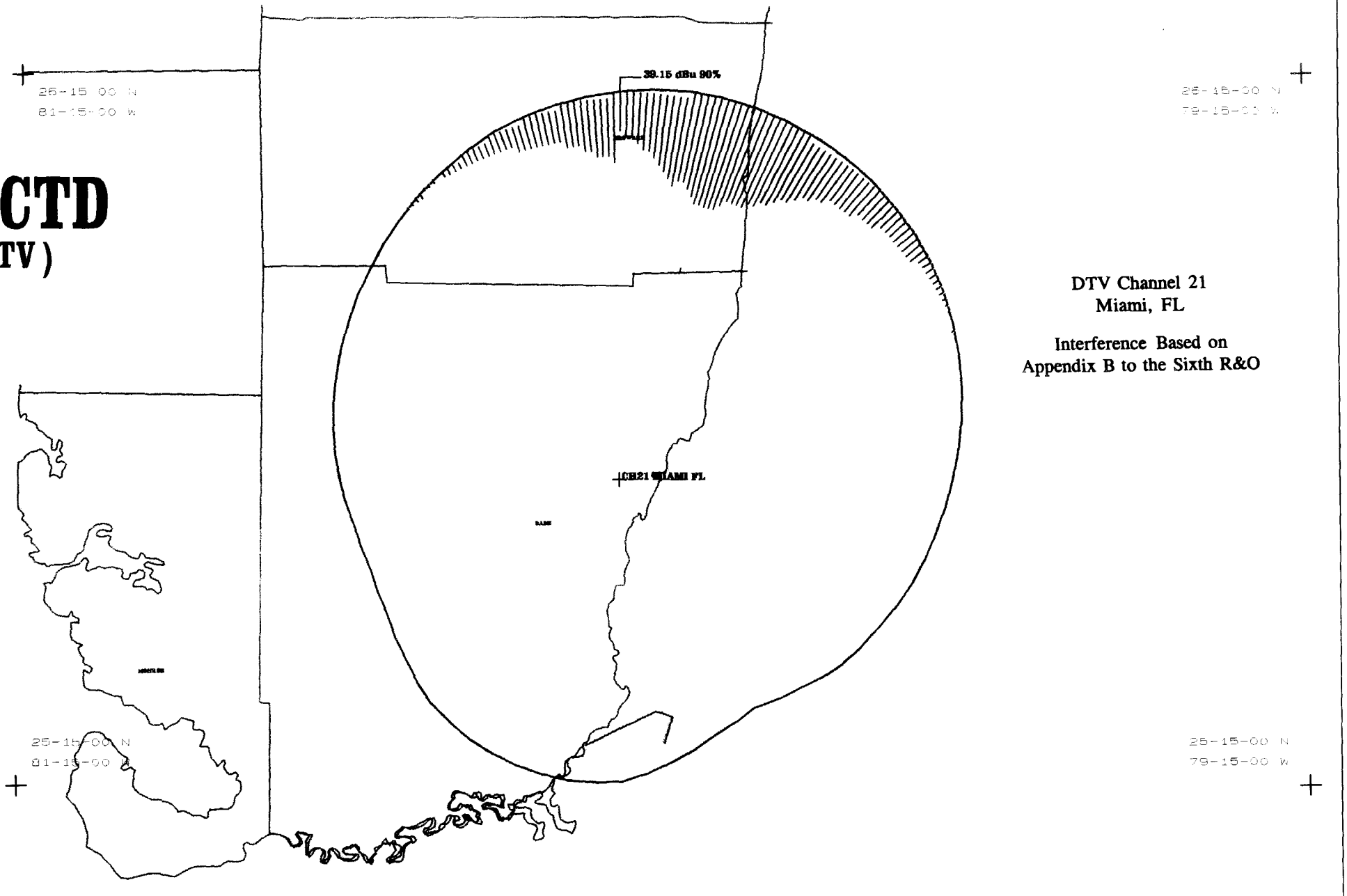
Terrain loss - Red, Interference NTSC - Blue, DTV - Green

WCTD-DTV Ch. 21 ERP 57.5 HAAT 101.7

MIAMI FL Dir. Ant. YES

TechWare, Inc.
14101 Parke Long Ct. Suite 206
Chantilly, VA 20151-1645
703-222-5842

MAJOR DIVISIONS ARE: 10.0 KM
SCALE IS: 21.10 KM/INCH
13.11 MILES/INCH



DTV Channel 21
Miami, FL

Interference Based on
Appendix B to the Sixth R&O

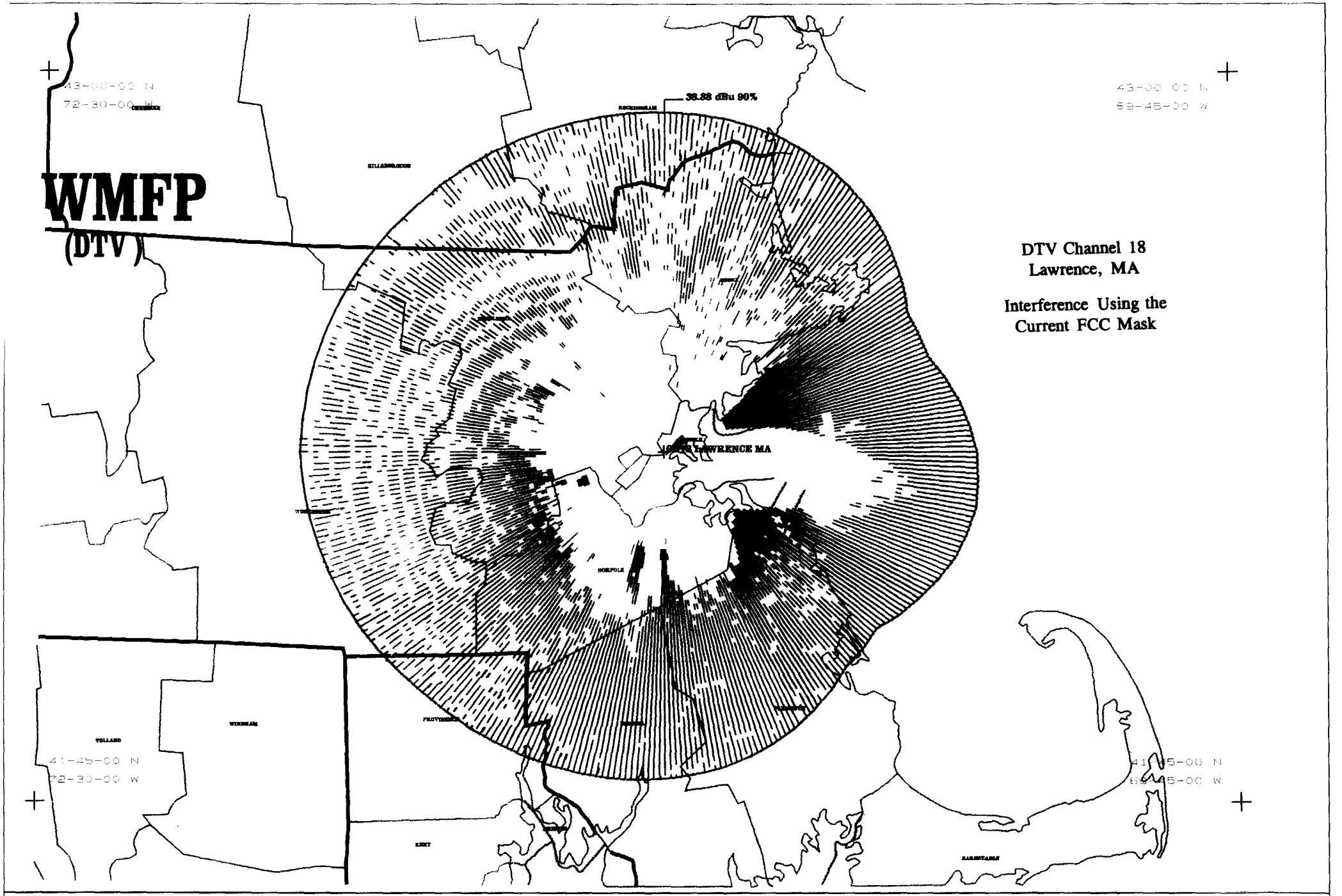
Terrain loss - Red, Interference NTSC - Blue, DTV - Green

WCTD-DTV Ch. 21 ERP 57.5 HAAT 101.7

MIAMI FL Dir. Ant. YES

TechWare, Inc.
14101 Parke Long Ct. Suite 206
Chantilly, VA 20151-1645
703-222-5842

MAJOR DIVISIONS ARE: 10.0 KM
SCALE IS: 21.10 KM/INCH
13.11 MILES/INCH



DTV Channel 18
Lawrence, MA

Interference Using the
Current FCC Mask

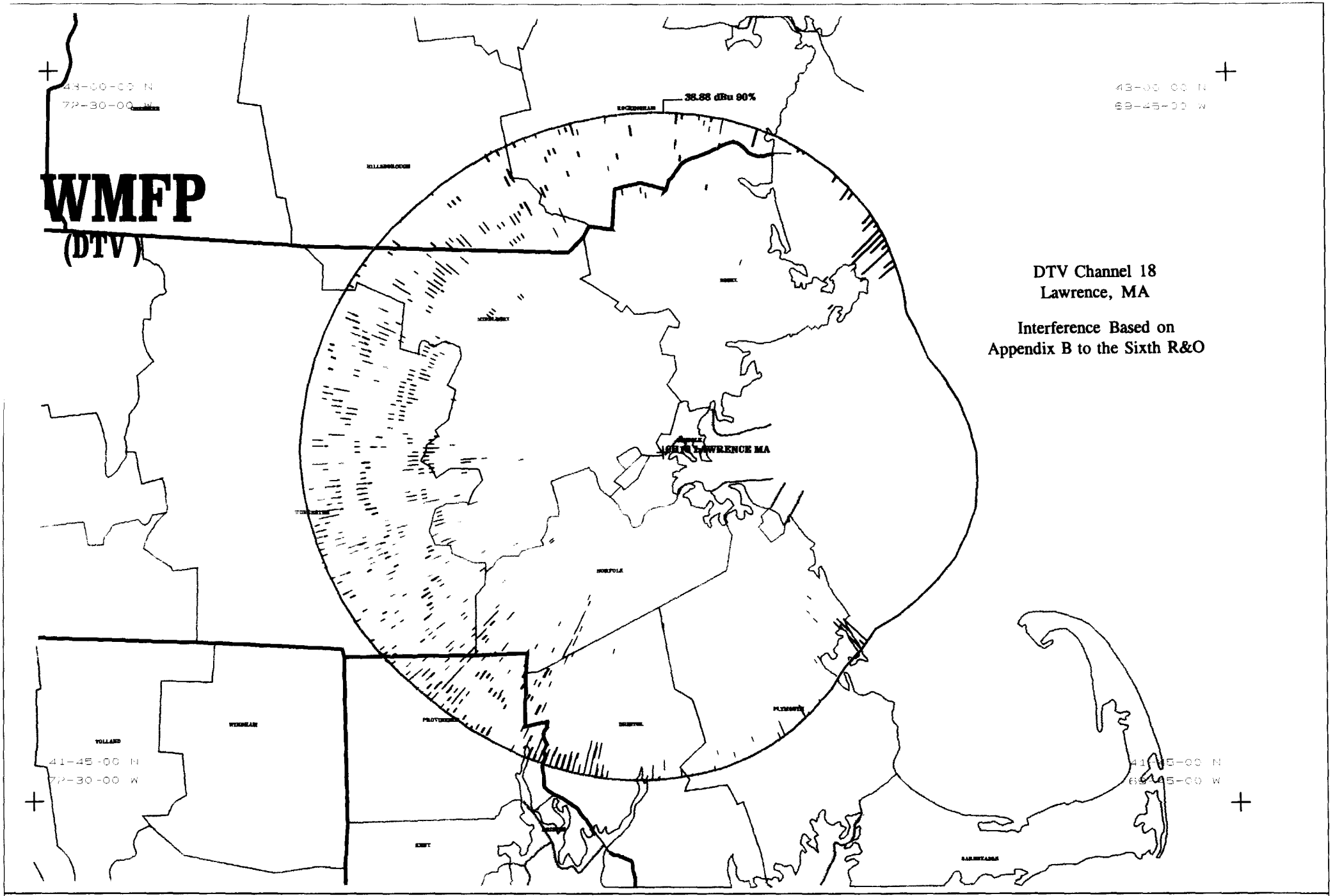
Terrain loss - Red, Interference NTSC - Blue, DTV - Green

WMFP-DTV Ch. 18 ERP 50.7 HAAT 184.6

LAWRENCE MA Dir. Ant. YES

TechWare, Inc.
14101 Parke Long Ct. Suite 206
Chantilly, VA 20151-1645
703-222-5842

MAJOR DIVISIONS ARE: 10.0 KM
SCALE IS: 23.60 KM/INCH
14.66 MILES/INCH



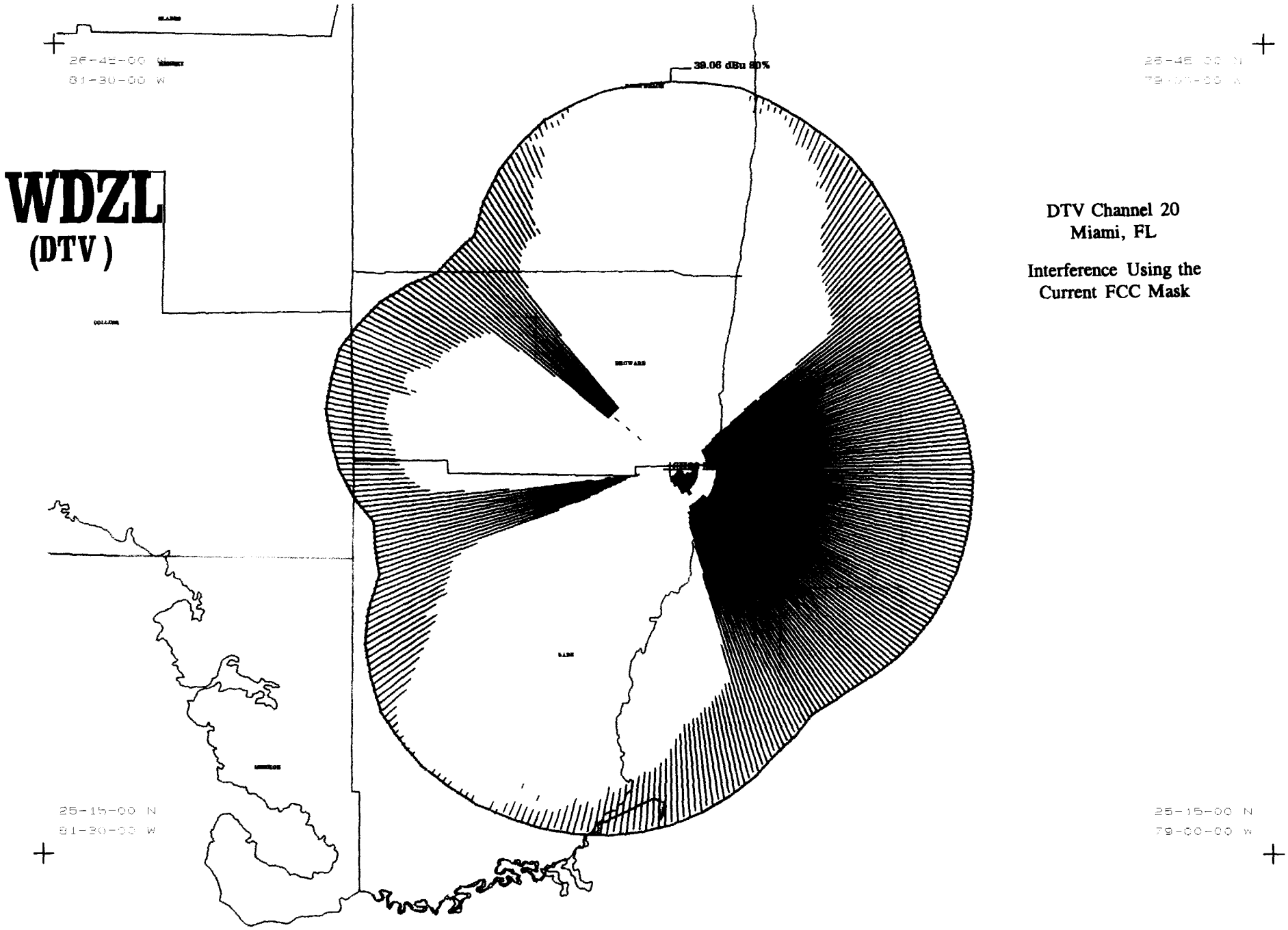
Terrain loss - Red, Interference NTSC - Blue, DTV - Green

WMFP-DTV Ch. 18 ERP 50.7 HAAT 184.6

LAWRENCE MA Dir. Ant. YES

TechWare, Inc.
14101 Parke Long Ct. Suite 206
Chantilly, VA 20151-1645
703-222-5842

MAJOR DIVISIONS ARE: 10.0 KM
SCALE IS: 23.62 KM/INCH
14.66 MILES/INCH



DTV Channel 20
Miami, FL

Interference Using the
Current FCC Mask

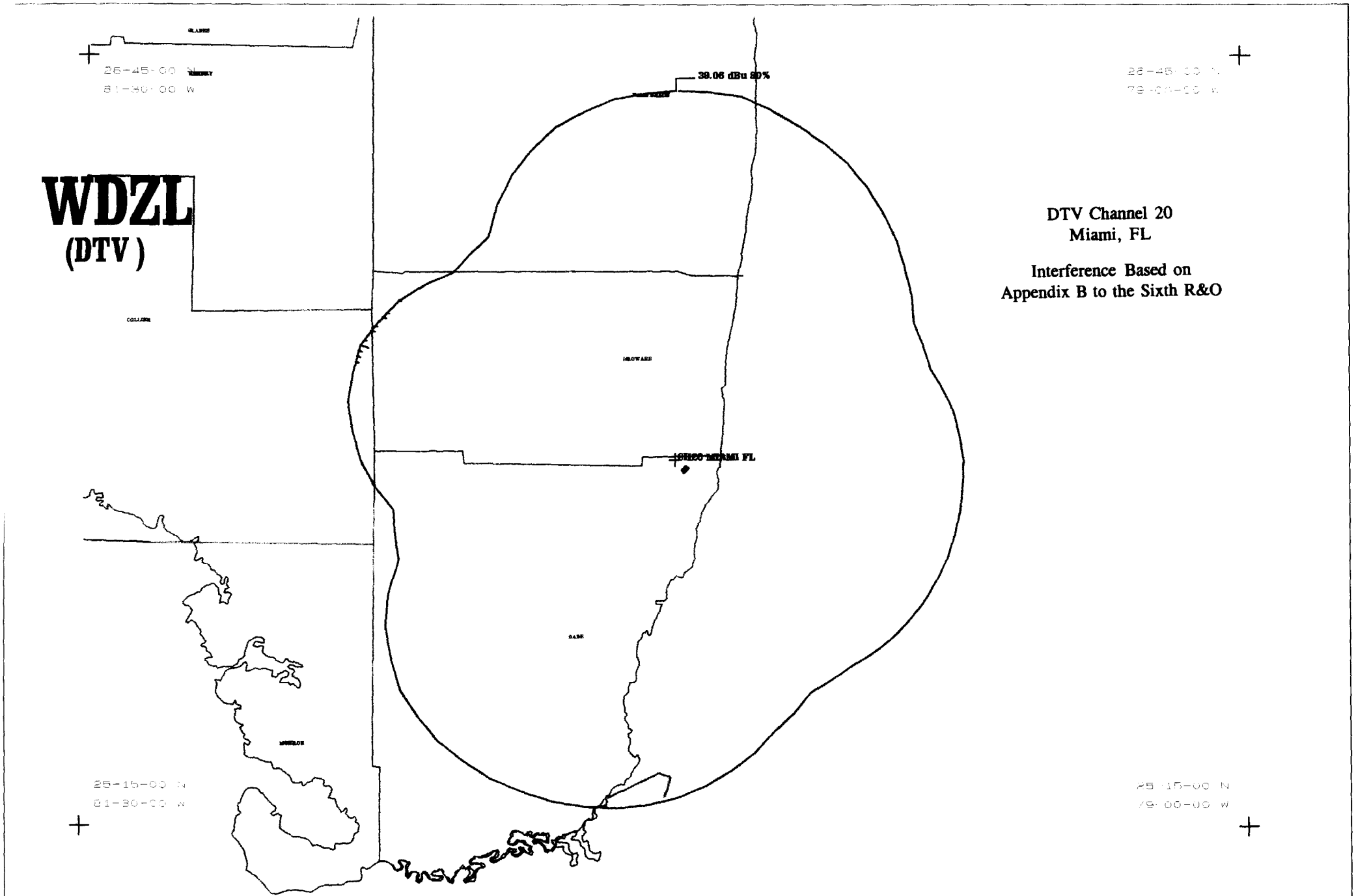
Terrain loss - Red, Interference NTSC - Blue, DTV - Green

WDZL-DTV Ch. 20 ERP 122.3 HAAT 275.9

MIAMI FL Dir. Ant. YES

TechWare, Inc.
14101 Parke Long Ct. Suite 206
Chantilly, VA 20151-1645
703-222-5842

MAJOR DIVISIONS ARE: 10.0 KM
SCALE IS: 27.26 KM/INCH
16.95 MILES/INCH



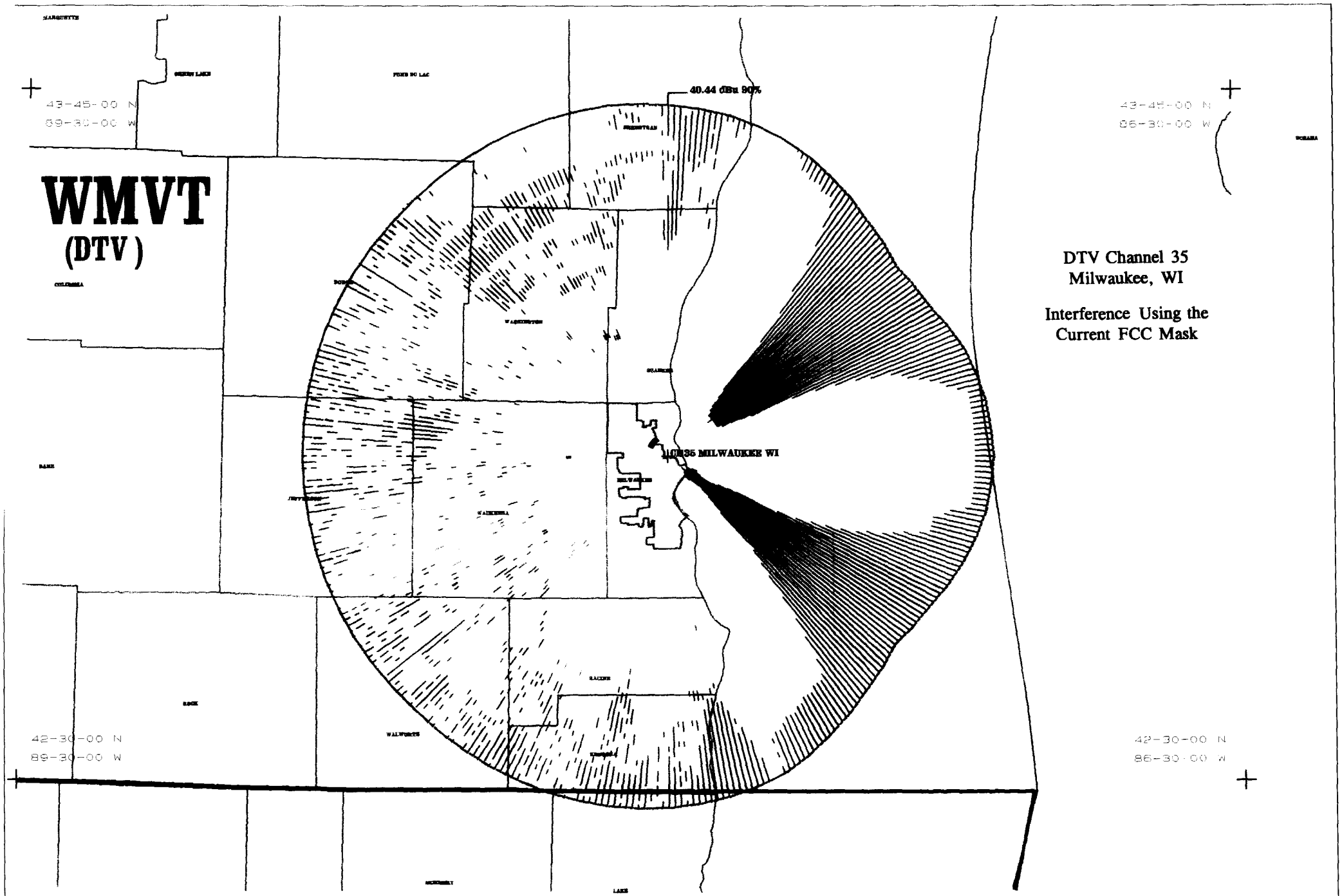
Terrain loss - Red, Interference NTSC - Blue, DTV - Green

WDZL-DTV Ch. 20 ERP 122.3 HAAT 275.9

MIAMI FL Dir. Ant. YES

TechWare, Inc.
14101 Parke Long Ct. Suite 206
Chantilly, VA 20151-1645
703-222-5842

MAJOR DIVISIONS ARE: 10.0 KM
SCALE IS: 27.28 KM/INCH
16.95 MILES/INCH



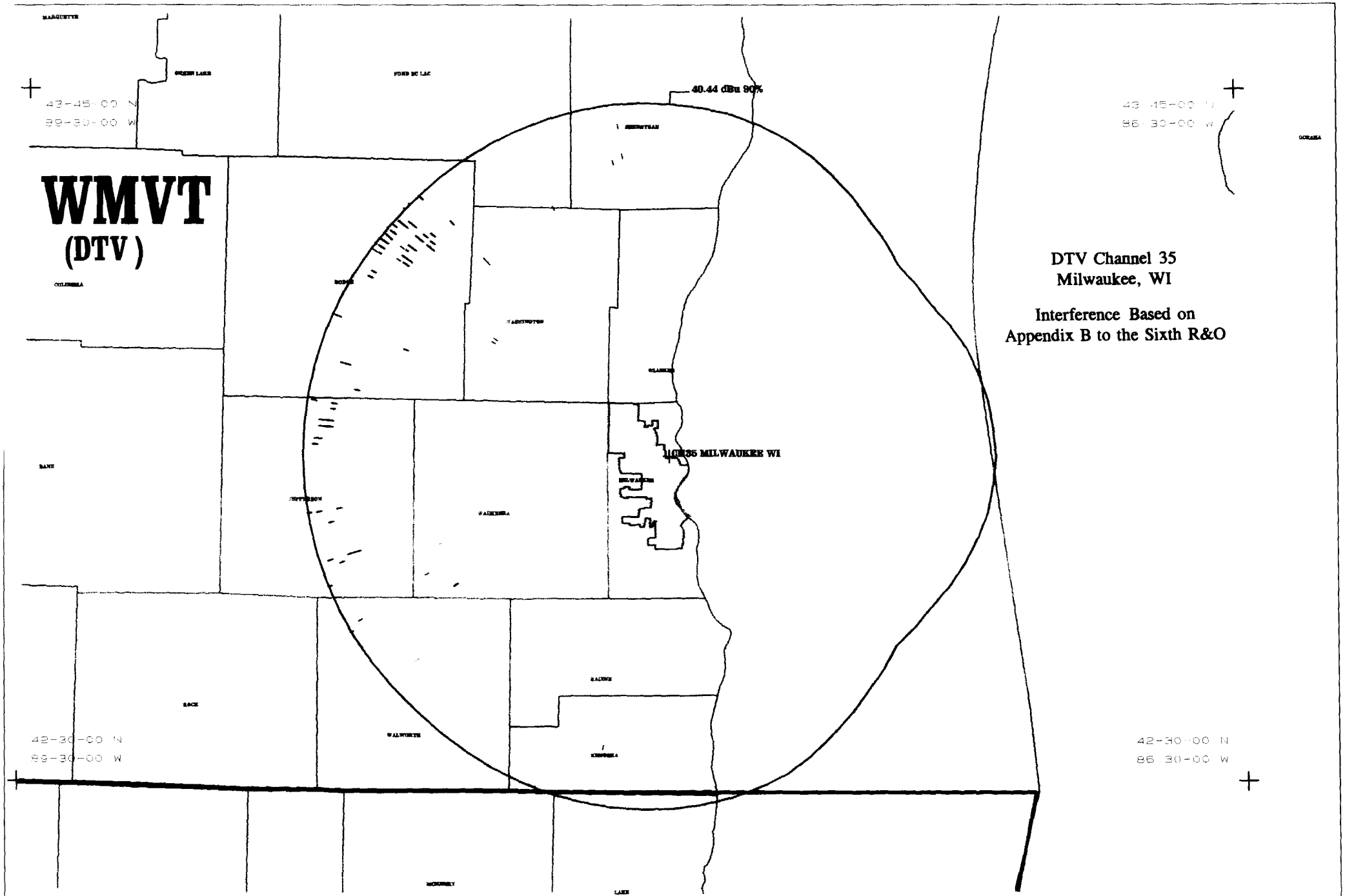
Terrain loss - Red, Interference NTSC - Blue, DTV - Green

WMVT-DTV Ch. 35 ERP 57.6 HAAT 290.8

MILWAUKEE WI Dir. Ant. YES

TechWare, Inc.
14101 Parke Long Ct. Suite 206
Chantilly, VA 20151-1645
703-222-5842

MAJOR DIVISIONS ARE: 10.0 KM
SCALE IS: 25.10 KM/INCH
15.61 MILES/INCH



Terrain loss - Red, Interference NTSC - Blue, DTV - Green

WMVT-DTV Ch. 35 ERP 57.6 HAAT 290.8

MILWAUKEE WI Dir. Ant. YES

TechWare, Inc.
14101 Parke Long Ct. Suite 206
Chantilly, VA 20151-1645
703-222-5842

MAJOR DIVISIONS ARE: 10.0 KM
SCALE IS: 25.10 KM/INCH
15.60 MILES/INCH