Harris Corporation
Request For Extension of
Special Temporary Authority
2.4m C Band Temporary Transportable Earth Station
Prospect, CT; Lat. 41-30-22.9 N, Long. 072-59-50.1 W

REQUEST FOR EXTENSION OF SPECIAL TEMPORARY AUTHORITY

Harris Corporation ("Harris") hereby requests an additional extension of the FCC Special Temporary Authority ("STA") originally granted to Harris on December 1, 2015 under FCC File No. SES-STA-20151119-00854 and subsequently extended on December 22, 2015 (FCC File No. SES-STA-20151222-00961) and February 2, 2016 (FCC File No. SES-STA-20160202-00112). Harris requests an extension of **thirty days** from the existing STA expiration date of March 14, 2016.

As noted in the original STA request, Harris had proposed and has now deployed a 2.4m Prodelin 2244 temporary fixed C-Band terminal[1] to a location in Prospect, Connecticut in order to support time-critical engineering development work on the FAA's[2] Alaska Satellite Telecommunication Infrastructure (ASTI) modernization program which serves to modernize the National Airspace (NAS) surveillance and FAA Air-to-Ground communications in Alaska.

Harris continues to experience technical issues with the multiplexer used in conjunction with the ASTI program which is resulting in timing and synch loss issues. The temporary installation of the 2.4m Prodelin 2244 C-Band terminal in Prospect, Connecticut will continue to provide a platform to evaluate the technical issues associated with the technologies that are being deployed as part of the ASTI program.

Harris submits that a grant of this extension will serve the public interest because it will assist the FAA's mission of ensuring flight safety and will further the ASTI and NAS modernization programs.

[1] As reflected in the supplemental submission to the original STA filing, made on November 30, 2015, the temporary fixed earth station will communicate with the AMC-8 Satellite.
[2] Harris Corporation, serves as the current FAA Telecommunications Infrastructure contractor (see attached letter).

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FAA CONCURRENCE

U.S. Department
of Transportation

800 Independence Ave., S.W.
Washington, D.C. 20591

**Federal Aviation
Administration**

ASU330-FTI-06-6219
18 January 2006

Harris Corporation
Attn: Elizabeth Briscoe
Mail Stop F- 11A
1025 West NASA Boulevard
Melbourne, FL 32919

Subject: FAA Concurrence for Harris C-Band and Ku-Band License Submissions

Dear Ms. Briscoe:

This letter serves to affirm that Harris Corporation, the FAA Telecommunications Infrastructure contractor, requires C-Band and Ku-Band Satellite Frequency Licenses to meet the FAA's data and voice service requirements from remote locations. FAA Satellite communications are essential to the air traffic control and safety of flight within the National Airspace System (NAS). These licenses will also be used in response to emergency operations such as disaster recovery. Granting these licenses is considered in the best interest of the flying public.

If you have any questions regarding matter, please call me at 202.493.5963.

Sincerely,

//s//

Susan Eicher
FTI Contracting Officer

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DATASHEET

Micronet Communications, Inc.
720 F Avenue, Suite 100
Plano, Texas 75074
972-422-7200

File: M1527205

TECHNICAL CHARACTERISTICS OF TRANSMIT RECEIVE EARTH STATION

Company:		HARRIS CORPORATION	
Site Name, State:		GDC_ATSI, CT	
Call Sign:			
Latitude	(NAD83)	41 30 22.9 N	
Longitude	(NAD83)	72 59 50.1 W	
Elevation AMSL	(ft/m)	799.00	243.54
Receive Frequency Range	(MHz)	3700-4200	
Transmit Frequency Range	(MHz)	5925-6425	
Range of Satellite Orbital Long.	(deg W)	138.00	140.00
Range of Azimuths from North	(deg)	252.83	254.29
Antenna Centerline	(ft/m)	10.00	3.05
Antenna Elevation Angles	(deg)	9.90	8.43

Equipment Parameters		Receive	Transmit
Antenna Gain, Main Beam	(dbI)	38.00	42.20
15 DB Half Beamwidth	(deg)	1.50	1.00

Antennas Receive: PRODELIN 2244 (2.4M)
Transmit: PRODELIN 2244 (2.4M)

Max Transmitter Power	(dbW/4KHz)		-11.70
Max EIRP Main Beam	(dbW/4KHz)		30.50
Modulation / Emission Designator	DIGITAL	136KG7W	

Coordination Parameters		Receive	Transmit
Max Greater Circle Distances	(km)	256.29	136.89
Max Rain Scatter Distances	(km)	439.62	100.00
Max Interference Power Long Term	(dbW)	-140.60	-154.00
Max Interference Power Short Term	(dbW)	-118.40	-130.80
Rain Zone / Radio Zone		2	A

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RADIATION HAZARD ANALYSIS

ANALYSIS OF NON-IONIZING RADIATION
for HARRIS CORPORATION
Site: GDC_ATSI State: CT
Latitude: 41 30 22.9 Longitude: 72 59 50.1 (NAD83)
11-12-2015

The Office of Science and Technology Bulletin, No. 65, October 1985 and revised August 1997, specifies that the maximum level of non-ionizing radiation that a person may be exposed to over a six minute period is an average power density equal to 5 mW/cm**2 (five milliwatts per centimeter squared) for a controlled environment. For an uncontrolled environment, the maximum level of non-ionizing radiation that a person may be exposed to over a thirty minute period is an average power density equal to 1 mW/cm**2 (one milliwatt per centimeter squared). It is the purpose of this report to determine the maximum power flux densities of the earth station in the far zone, near zone, transition zone, at the main reflector surface, and between the antenna edge and the ground.

Parameters which were used in the calculations:
==========

Antenna Diameter, (D) = 2.4000 m

Antenna Surface Area (Sa) = pi(D**2)/4 = 4.5239 m**2

Wavelength at 6.1750 GHz (lambda) = 0.0485 m

Transmit Power at Flange (P) = 2.3000 Watts

Antenna Gain at Earth Site (GES) = 42.2000 dBi = 16595.8691
Power Ratio:
AntiLog(GES/10)

pi = 3.1415927

Antenna Aperture Efficiency (n) = 0.6000

1. FAR ZONE CALCULATIONS

Distance to the Far Zone (Df) = $\frac{(n)(D^{**}2)}{\text{lambda}}$ = 71.2577 m

Far Zone Power Density (Rf) = $\frac{(GES)(P)}{4*pi*(Df^{**}2)}$ = 0.5982 W/m**2

= 0.0598 mW/cm**2

2. NEAR ZONE CALCULATIONS

Power Flux Density is considered to be at a maximum value throughout the entire length of this Zone. The Zone is contained within a cylindrical volume which has the same diameter as the antenna. Beyond the Near Zone, the Power Flux Density will decrease with distance from the Antenna.

Distance to the Near Zone (Dn) = $\frac{D^{**}2}{4*\text{lambda}}$ = 29.6907 m

Near Zone Power Density (Rn) = $\frac{16.0(n)P}{pi(D^{**}2)}$ = 1.2202 W/m**2

= 0.1220 mW/cm**2

3. TRANSITION ZONE CALCULATIONS

The Power Density begins to decrease with distance in the Transition Zone. While the Power Density decreases inversely with distance in the Transition Zone, the Power Density decreases inversely with the square of the distance in the Far Zone. Since the maximum Power Density in the Transition Zone will not exceed the Near Zone values, it is not calculated.

4. MAIN REFLECTOR ZONE

Main Reflector Power Density = $\frac{2(P)}{Sa}$ = 1.0168 W/m**2

= 0.1017 mW/cm**2

5. ZONE BETWEEN THE MAIN REFLECTOR AND THE GROUND

Applying uniform illumination of the Main Reflector Surface:

Main to Ground Power Density = $\frac{P}{Sa}$ = 0.5084 W/m**2

= 0.0508 mW/cm**2

CALCULATED SAFETY MARGINS SUMMARY
AND EVALUATION

Controlled Safety Margin = 5.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	4.9402	Complies with ANSI
2. Near Zone	4.8780	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	4.8983	Complies with ANSI
5. Main Reflector to Ground	4.9492	Complies with ANSI

Uncontrolled Safety Margin = 1.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	0.9402	Complies with ANSI
2. Near Zone	0.8780	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	0.8983	Complies with ANSI
5. Main Reflector to Ground	0.9492	Complies with ANSI

6. EVALUATION

A. Controlled Environment
B. Uncontrolled Environment
All Zones comply with ANSI Standards.

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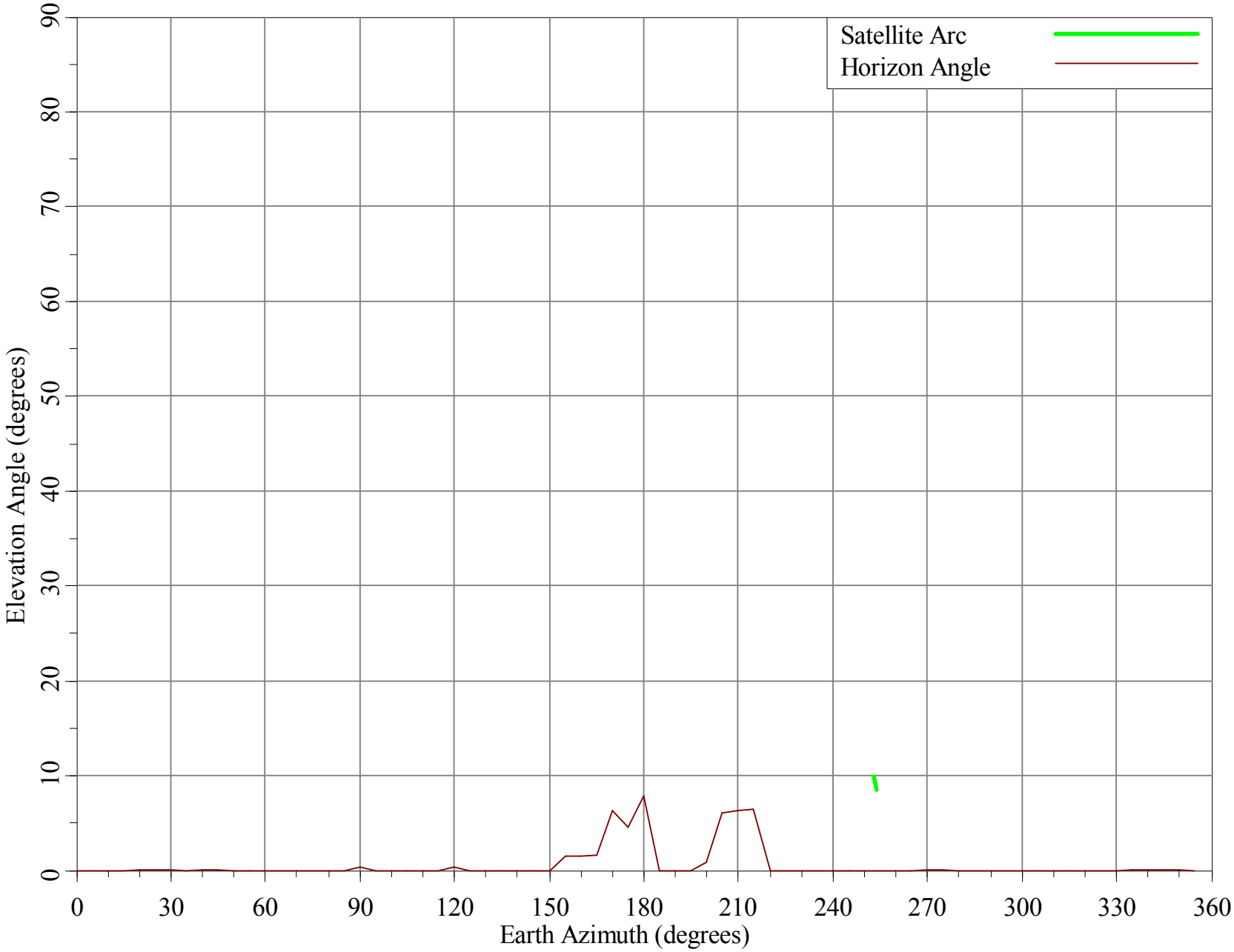
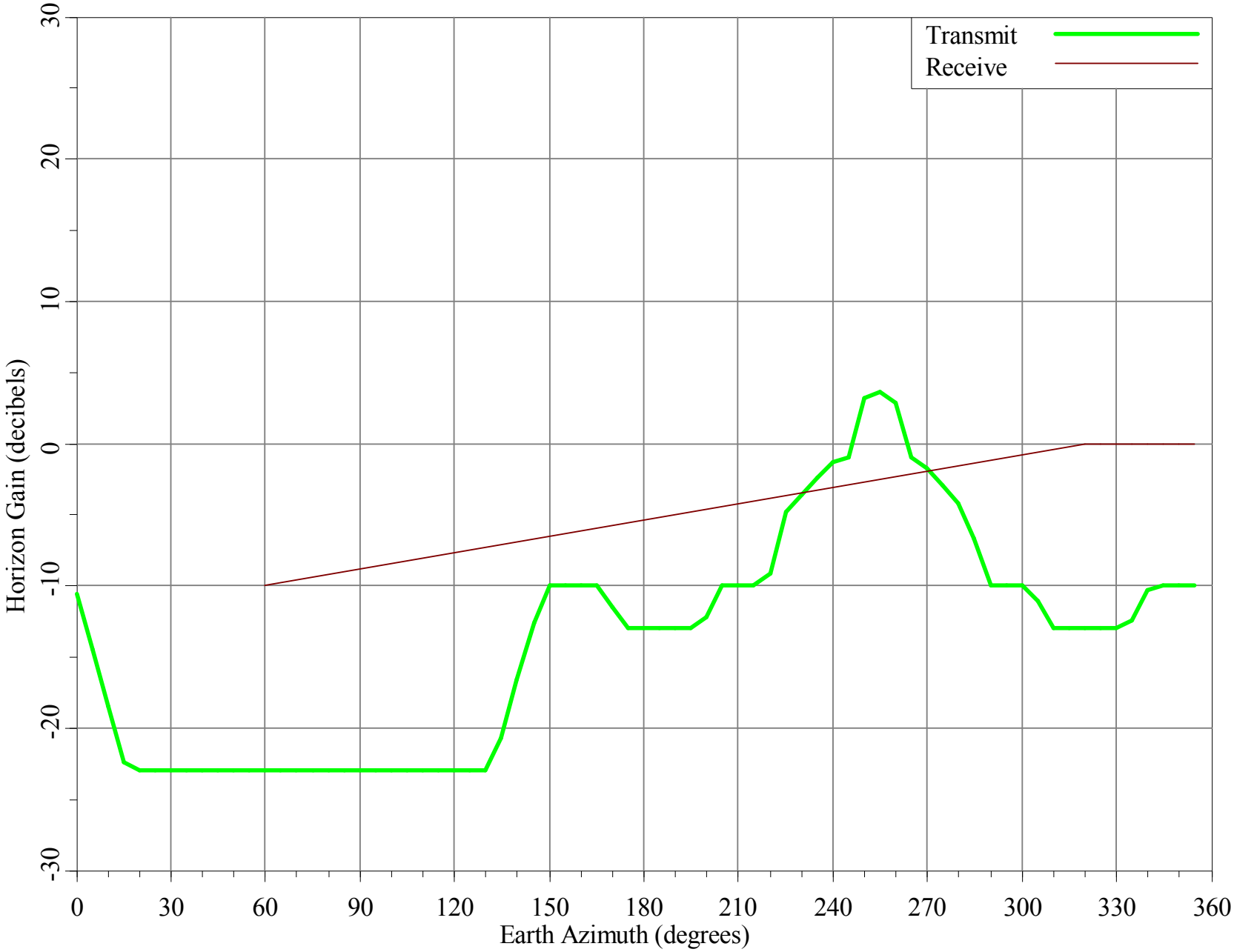
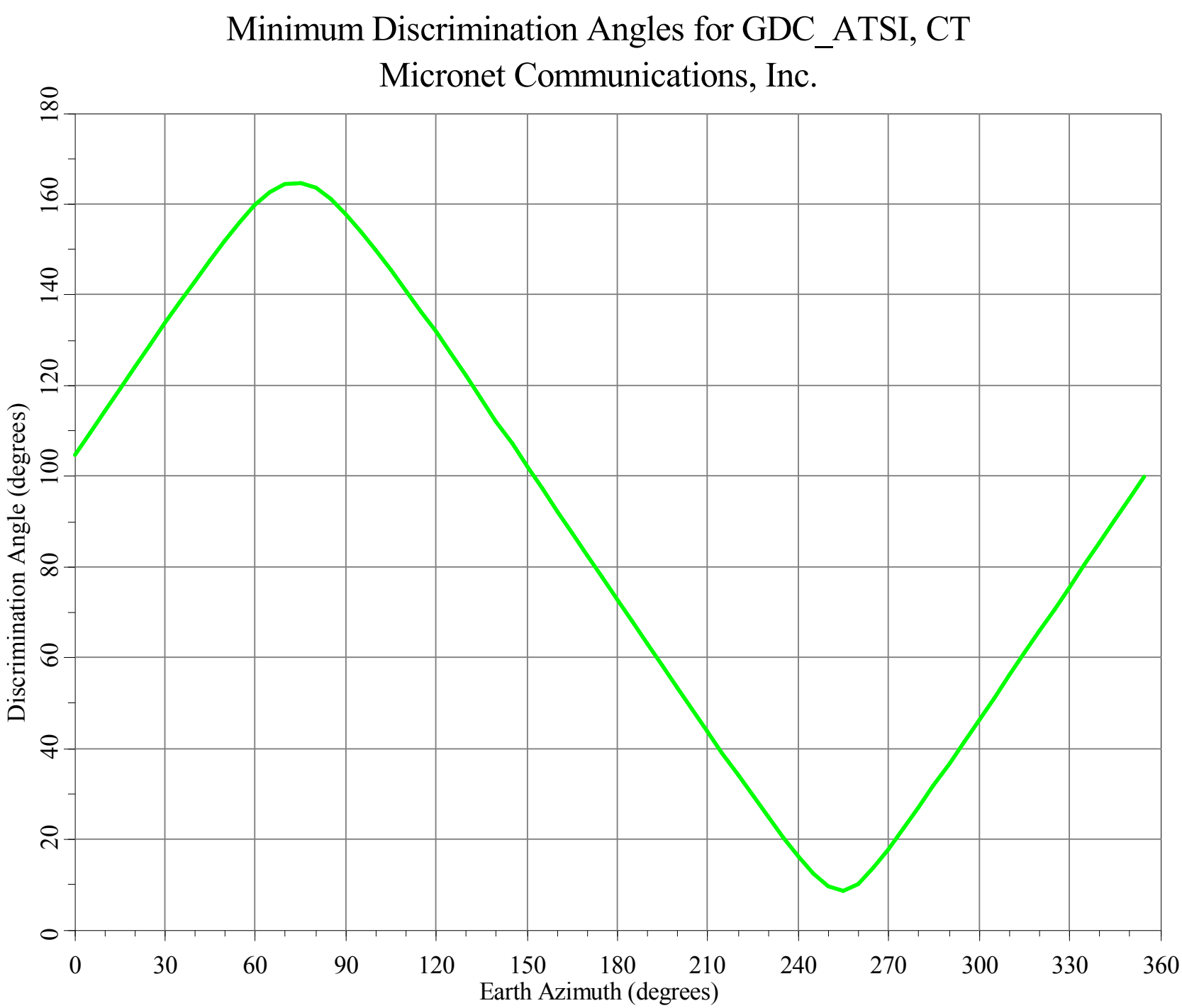
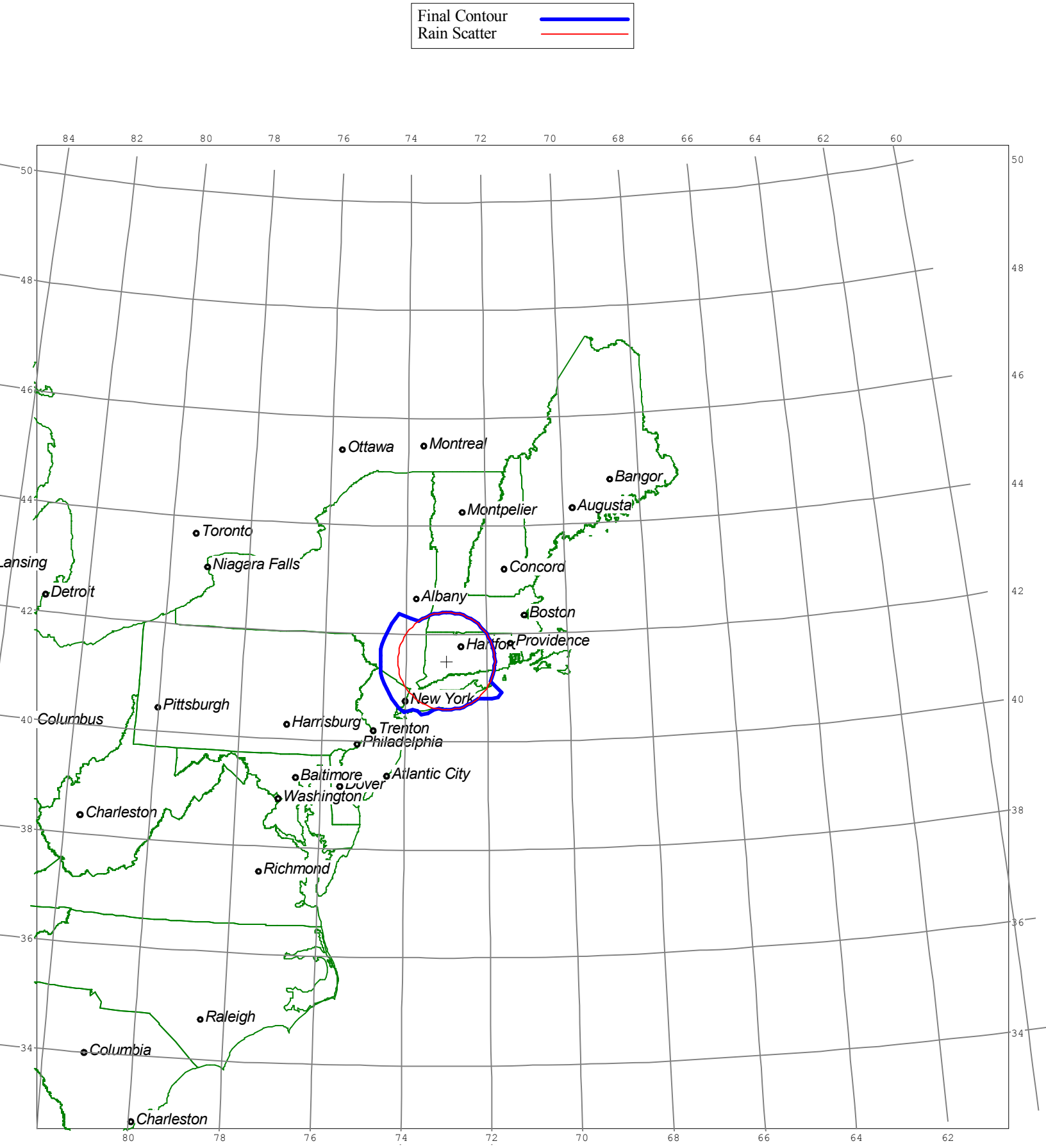
GRAPHS


Horizon Angle & Satellite Arc for GDC_ATSI, CT
Micronet Communications, Inc.
Satellite Arc
Horizon Angle
Elevation Angle (degrees)
0
10
20
30
40
50
60
70
80
90
0
30
60
90
120
150
180
210
240
270
300
330
360
Earth Azimuth (degrees)


Horizon Gain for GDC_ATSI, CT
Micronet Communications, Inc.
Transmit
Receive
Horizon Gain (decibels)
30
20
10
0
-10
-20
-30
0
30
60
90
120
150
180
210
240
270
300
330
360
Earth Azimuth (degrees)


Minimum Discrimination Angles for GDC_ATSI, CT
Micronet Communications, Inc.
Discrimination Angle (degrees)
0
20
40
60
80
100
120
140
160
180
0
30
60
90
120
150
180
210
240
270
300
330
360
Earth Azimuth (degrees)

Final Contour & Rain Scatter
for GDC_ATSI, CT - Transmit

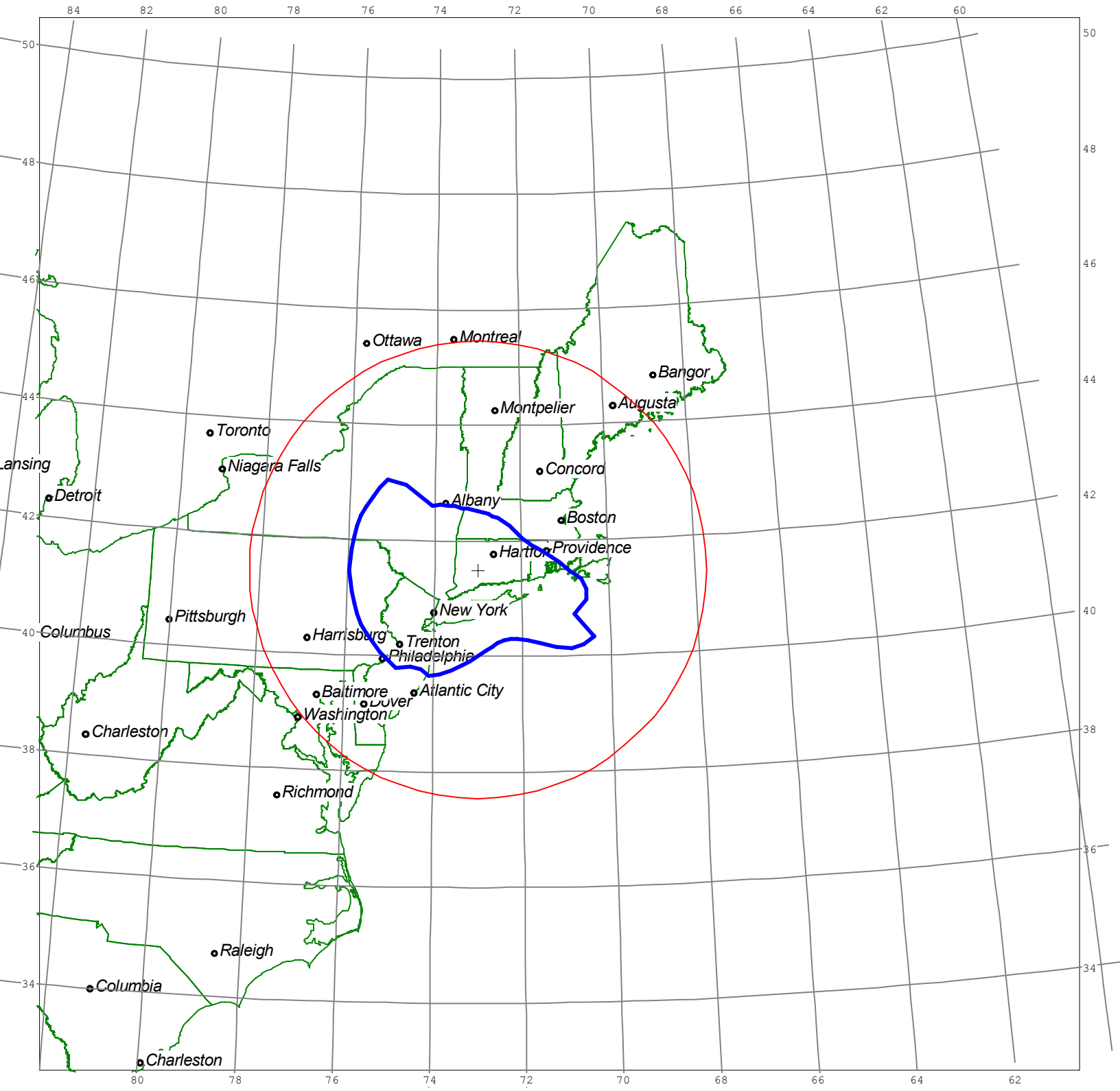


SCALE - 1:10000000 1 inch = 157.8 miles

Final Contour & Rain Scatter
for GDC ATSI, CT - Receive

SCALE - 1:10000000 1 inch = 157.8 miles

Final Contour
Rain Scatter



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NON-COMPLIANT

ANTENNA STATEMENT

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Non-Compliant Antenna Statement

Re: 2.4 Meter Temporary Fixed Earth Station
C-Band: 3700 – 4200 MHz and 5925.0 – 6425.0 MHz

Harris Corporation ("Harris" or "Applicant") proposes to use a Prodelin 2244, 2.4 meter antenna for its proposed temporary fixed earth station located in Prospect, CT at the coordinates of 41-30-22.9 N, 072-59-50.1 W. This antenna is, in terms of performance and technical characteristics, identical to the Prodelin model 1244 antenna. The Prodelin 1244 does not strictly comply with 25.209 of the FCC Rules and Regulations.

Pursuant to the *Part 25 Earth Station Fifth Report and Order*, the International Bureau (Bureau) provides a List of Approved Non-Routine Earth Station Antennas. Specifically the website http://www.fcc.gov/ib/sd/nresa lists non-routine earth station antennas licensed for use by one or more U.S. earth station operators since March 15, 2005.

"The Commission has ruled that an Earth station applicant proposing to use an antenna on this list may no longer be required to attach antenna radiation plots as an exhibit to their applications, as required by Section 25.132 (b)(3) of the Commission's rules, 47 C.F.R. § 25.132 (b)(3). Rather, they need only to provide an attachment to their applications citing the particular non-routine earth station antenna they plan to use, and an application file number and call sign of a license in which that type of non-routine antenna has been previously approved."

Accordingly, Harris submits the application file number and call sign, **File No. SES-LIC-20060302-00342** (**Call Sign: E060075**), of a previously licensed Prodelin 1244, 2.4 meter earth station, which indicates that the 2.4 meter antenna proposed in this application will operate without conflict.

The applicant agrees to accept any adjacent satellite interference in the 4 GHz receive band as a result of the performance of the antenna in the 1º to 1.5º region. The applicant understands that no adjacent satellite interference protection will be available in the 1º to 1.5º regions. The applicant understands that adjacent satellite interference protection applies only to the extent of the criteria set forth in §25.209. Should the use of this antenna cause interference to other systems; the applicant agrees to terminate transmission upon notice from the Commission.