

Date & Time Filed: Jun 9 2015 12:53:17:160PM

File Number: SES-LIC-INTR2015-01065

Callsign/Satellite ID:

APPLICATION FOR EARTH STATION AUTHORIZATIONS

**FCC 312 MAIN FORM
FOR OFFICIAL USE ONLY**

FCC Use Only

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:

QUZ_ARSR - Hanna City, IL C Band Form 312

1-8. Legal Name of Applicant

Name:	HARRIS CORPORATION	Phone Number:	321-727-9125
DBA Name:		Fax Number:	321-727-9616
Street:	1025 West Nasa Blvd.	E-Mail:	smikuen@harris.com
City:	Melbourne	State:	FL
Country:	USA	Zipcode:	32919 -
Attention:	Scott T Mikuen Esq		

9-16. Name of Contact Representative

Name:	George Y. Wheeler	Phone Number:	202-955-3000
Company:	Holland & Knight LLP	Fax Number:	202-955-5564
Street:	800 17th Street, NW Suite 1100	E-Mail:	george.wheeler@hkllaw.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20006-
Attention:	George Y. Wheeler	Relationship:	Legal Counsel

CLASSIFICATION OF FILING

17. Choose the button next to the classification that applies to this filing for both questions a. and b. Choose only one for 17a and only one for 17b.

a.

- a1. Earth Station
(N/A) a2. Space Station

b.

- b1. Application for License of New Station
 b2. Application for Registration of New Domestic Receive-Only Station
(N/A) b3. Amendment to a Pending Application
(N/A) b4. Modification of License or Registration
(N/A) b5. Assignment of License or Registration
(N/A) b6. Transfer of Control of License or Registration
(N/A) b7. Notification of Minor Modification
(N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite
(N/A) b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States
 b10. Other (Please specify)
 b11. Application for Earth Station to Access a Non-U.S. satellite Not Currently Authorized to Provide the Proposed Service in the Proposed Frequencies in the United States.

17c. Is a fee submitted with this application?

- If Yes, complete and attach FCC Form 159.

If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).

-

Governmental Entity Noncommercial educational licensee

Other(please explain):

17d.

Fee Classification BAX - Fixed Satellite Transmit/Receive Earth Station

18. If this filing is in reference to an existing station, enter:

(a) Call sign of station:
Not Applicable

19. If this filing is an amendment to a pending application enter:

(a) Date pending application was filed:

Not Applicable

(b) File number of pending application:

Not Applicable

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Select all that apply:

- a. Fixed Satellite
 b. Mobile Satellite
 c. Radiodetermination Satellite
 d. Earth Exploration Satellite
 e. Direct to Home Fixed Satellite
 f. Digital Audio Radio Service
 g. Other (please specify)

21. STATUS: Choose the button next to the applicable status. Choose only one.

Common Carrier Non-Common Carrier

22. If earth station applicant, check all that apply.

- Using U.S. licensed satellites
 Using Non-U.S. licensed satellites

23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities:

Connected to a Public Switched Network Not connected to a Public Switched Network N/A

24. FREQUENCY BAND(S): Place an "X" in the box(es) next to all applicable frequency band(s).

- a. C-Band (4/6 GHz) b. Ku-Band (12/14 GHz)
 c. Other (Please specify upper and lower frequencies in MHz.)

Frequency Lower: Frequency Upper:

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.

- a. Fixed Earth Station
 b. Temporary-Fixed Earth Station
 c. 12/14 GHz VSAT Network
 d. Mobile Earth Station
(N/A) e. Geostationary Space Station
(N/A) f. Non-Geostationary Space Station
 g. Other (please specify)

26. TYPE OF EARTH STATION FACILITY: Choose only one.

Transmit/Receive Transmit-Only Receive-Only N/A

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)

Not Applicable

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. §§ 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments. Yes No Rad Haz

ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or aeronautical fixed radio station services are not required to respond to Items 30-34.

29. Is the applicant a foreign government or the representative of any foreign government?	<input type="radio"/> Yes <input checked="" type="radio"/> No
30. Is the applicant an alien or the representative of an alien?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.	

BASIC QUALIFICATIONS

35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.	<input type="radio"/> Yes <input checked="" type="radio"/> No
	Graphs
36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explanation of circumstances.	<input type="radio"/> Yes <input checked="" type="radio"/> No
37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explanation of circumstances.	<input type="radio"/> Yes <input checked="" type="radio"/> No
38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of circumstances	<input type="radio"/> Yes <input checked="" type="radio"/> No
39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhibit, an explanation of the circumstances.	<input type="radio"/> Yes <input checked="" type="radio"/> No
40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.	
41. By checking Yes, the undersigned certifies, that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. <i>See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.</i>	<input checked="" type="radio"/> Yes <input type="radio"/> No
42a. Does the applicant intend to use a non-U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.	<input type="radio"/> Yes <input checked="" type="radio"/> No
42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station?	
43. Description. (Summarize the nature of the application and the services to be provided). Harris Corporation requests authority to construct and operate a 2.4 meter C Band earth station to be used in connection with a critical project for the Federal Aviation Administration. FAA Concur	

43a. Geographic Service Rule Certification

By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25. A

By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements. B

By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such services would require so many compromises in satellite design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached. C

CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Choose the button next to applicable response.)

- Individual
- Unincorporated Association
- Partnership
- Corporation
- Governmental Entity
- Other (please specify)

45. Name of Person Signing
Harry Lo

46. Title of Person Signing
Program Manager

47. Please supply any need attachments.

Attachment 1:

Attachment 2:

Attachment 3:

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

**SATELLITE EARTH STATION AUTHORIZATIONS
FCC Form 312 - Schedule B:(Technical and Operational Description)**

FOR OFFICIAL USE ONLY

Location of Earth Station Site

E1: Site Identifier: QUZ_ARSR

E5. Call Sign: NEW

E2: Contact Name Bruce Fitch

E6. Phone Number: 321-309-8557

E3. Street: 14617 West Farmington Road

E7. City: Hanna City

E8. County: Peoria

E4. State IL

E9. Zip Code 61536

E10. Area of Operation:

United States

E11. Latitude: 40 ° 41 ' 58.4 " N
 E12. Longitude: 89 ° 49 ' 30.8 " W
 E13. Lat/Lon Coordinates are: NAD-27 NAD-83 N/A
 E14. Site Elevation (AMSL): 229.8 meters

E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide asNon Compliant Exh a technical analysis showing compliance with two-degree spacing policy.	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non-geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	<input type="radio"/> Yes <input checked="" type="radio"/> No
E18. Is frequency coordination required? If YES, attach a frequency coordination report as	<input checked="" type="radio"/> Yes <input type="radio"/> No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	<input type="radio"/> Yes <input checked="" type="radio"/> No
E20. FAA Notification - (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and or the FAA's study regarding the potential hazard of the structure to aviation? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	<input checked="" type="radio"/> Yes <input type="radio"/> No

POINTS OF COMMUNICATION

Satellite Name:PERMITTED LIST If you selected OTHER, please enter the following:	
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

POINTS OF COMMUNICATION (Destination Points)

E25. Site Identifier:	
E26. Common Name:	E27. Country:

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size	E41/42. Antenna GainTransmint and/or Recieve(____ dBi at ____ GHz)	
QUZ_ARSR	1	1	Prodelin	2244	2.4	38.0 dBi at 4.0	
						42.0 dBi at 6.125	
E28. Antenna Id	E33/34. Diameter Minor/Major(meters)	E35. Above Ground Level (meters)	E36. Above Sea Level (meters)	E37. Building Height Above Ground Level (meters)	E38. Total Input Power at antenna flange (Watts)	E39. Maximum Antenna Height Above Rooftop (meters)	E40. Total EIRP for al carriers (dBW)
1	2.4/2.4	5.0	234.8	0.0	0.081	0.0	31.1

FREQUENCY

E28. Antenna Id	E43/44. Frequency Bands(MHz)	E45. T/R Mode	E46. Antenna Polarization(H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier(dBW)	E49. Maximum ERIP Density per Carrier(dBW/4kHz)
1	3700 4200	R	Horizontal and Vertical	96K0G7W	0.0	0.0

E50. Modulation and Services Digital Data

1	5925 6425	T	Horizontal and Vertical	96K0G7W	31.1	17.3
---	-----------	---	-------------------------	---------	------	------

E50. Modulation and Services Digital Data

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc E/W Limit	E56. Earth Station Azimuth Angle Eastern Limit	E57. Antenna Elevation Angle Eastern Limit	E58. Earth Station Azimuth Angle Western Limit	E59. Antenna Elevation Angle Western Limit	E60. Maximum EIRP Density toward the Horizon(dBW/4kHz)
1	Geostationary	3700 4200	74.0/139.0	156.51	40.22	240.6	21.65	0.0
	Geostationary	5925 6425	74.0/139.0	156.51	40.22	240.6	21.65	-13.7

REMOTE CONTROL POINT LOCATION

REMOTE CONTROL POINT LOCATION

E61. Call Sign		E65. Phone Number	
<p><i>NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.</i></p>			
E62. Street Address			
E63. City	E67. County	E64/68. State/Country	E66. Zip Code
		/	

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

The public reporting for this collection of information is estimated to average 0.25 - 24 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD-PERF, Paperwork Reduction Project (3060-0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to PRA@fcc.gov. PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

Remember - You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid OMB control number or if we fail to provide you with this notice. This collection has been assigned an OMB control number of 3060-0678.

THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

FCC IBFS - Electronic Filing

Submission_id :IB2015001065

Successfully filed on :Jun 9 2015 12:53:17:160PM



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

ANALYSIS OF NON-IONIZING RADIATION
for HARRIS CORPORATION
Site: Hanna City State: IL
Latitude: 40 41 58.4 Longitude: 89 49 30.8 (NAD83)
06-08-2015

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 (λ) = 0.0485 m
Transmit Power at Flange (P) = 0.0700 Watts
Antenna Gain at Earth Site (GES) = 42.0000 dBi = 15848.9319
Power Ratio:
AntiLog(GES/10)
pi = 3.1415927
Antenna Aperture Efficiency (n) = 0.6000

1. FAR ZONE CALCULATIONS

=====

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

$$\text{Far Zone Power Density} \quad (R_f) = \frac{(GES) (P)}{4 * \text{pi} * (D_f^{**2})} = 0.0174 \text{ W/m}^{**2}$$
$$= 0.0017 \text{ mW/cm}^{**2}$$

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.

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

$$\text{Near Zone Power Density} \quad (R_n) = \frac{16.0 (n) P}{\text{pi} (D^{**2})} = 0.0371 \text{ W/m}^{**2}$$
$$= 0.0037 \text{ mW/cm}^{**2}$$

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
=====

$$\begin{aligned} \text{Main Reflector Power Density} &= \frac{2(P)}{S_a} = 0.0309 \text{ W/m}^{**2} \\ &= 0.0031 \text{ mW/cm}^{**2} \end{aligned}$$

5. ZONE BETWEEN THE MAIN REFLECTOR AND THE GROUND
=====

Applying uniform illumination of the Main Reflector Surface:

$$\begin{aligned} \text{Main to Ground Power Density} &= \frac{P}{S_a} = 0.0155 \text{ W/m}^{**2} \\ &= 0.0015 \text{ mW/cm}^{**2} \end{aligned}$$

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	4.9983	Complies with ANSI
2. Near Zone	4.9963	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	4.9969	Complies with ANSI
5. Main Reflector to Ground	4.9985	Complies with ANSI

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

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	0.9983	Complies with ANSI
2. Near Zone	0.9963	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	0.9969	Complies with ANSI
5. Main Reflector to Ground	0.9985	Complies with ANSI

6. EVALUATION
=====

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

Micronet Communications, Inc.

720 F Avenue, Suite 100
Plano, Texas 75074
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: M1510334
Licensee: HARRIS CORPORATION

5.93 GHz

Page 1

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Hanna City, IL

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

04/27/2015 Original PCN

There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

ADAMS TELSISTEMS INC
AETHER GROUP LLC
AMEREN SERVICES COMPANY
AT&T COMMUNICATIONS OF ILLINOIS INC.
BLOOMINGTON CITY OF IL
BNSF RAILWAY COMPANY
BROMENN HEALTHCARE
CELLCO PARTNERSHIP
CELLCO PARTNERSHIP -ILLINOIS REGION
CIRBN, LLC
COMED A K A COMMONWEALTH EDISON
COMMONWEALTH EDISON COMPANY
COMSEARCH INC
DAVENPORT CELLULAR TELEPHONE COMPANY
EOS INC
ESSEX TELCOM INC
GTE WIRELESS OF THE MIDWEST INC
ILLINOIS BELL TELEPHONE COMPANY
ILLINOIS RSA #1 L P
ILLINOIS VALLEY CELLULAR RSA 2 INC
ILLINOIS VALLEY CELLULAR RSA 2-I PARTNERSHIP
ILLINOIS VALLEY CELLULAR RSA 2-II PARTNERSHIP
KN TELECOMMUNICATIONS INC
LASALLE COUNTY SHERIFF
MICRONET COMMUNICATIONS INC
MID AMERICAN ENERGY HOLDINGS CO
MIDAMERICAN ENERGY COMPANY
NEW CINGULAR WIRELESS PCS LLC
NORTHERN BORDER PIPELINE CO

Micronet Communications, Inc.

720 F Avenue, Suite 100

Plano, Texas 75074

972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: M1510334

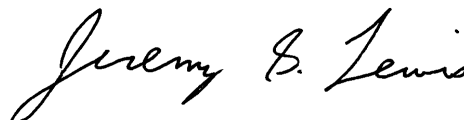
5.93 GHz

Licensee: HARRIS CORPORATION

Page 2

OLYMPIA SCHOOL DISTRICT 16
OPEN LINE COMMUNICATIONS
PEG BANDWIDTH LLC
RADIO DYNAMICS
SPRINTCOM INC
UNKNOWN
USCOC OF CENTRAL ILLINOIS LLC
USCOC OF CHICAGO LLC
USCOC OF GREATER IOWA INC
VERIZON WIRELESS (VAW) LLC
WIRELESS INFRASTRUCTURE PARTNERS LLC
WIRELESS INFRASTRUCTURE PARTNERS, LLC

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

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

File: M1510334

=====

TECHNICAL CHARACTERISTICS OF TRANSMIT RECEIVE EARTH STATION

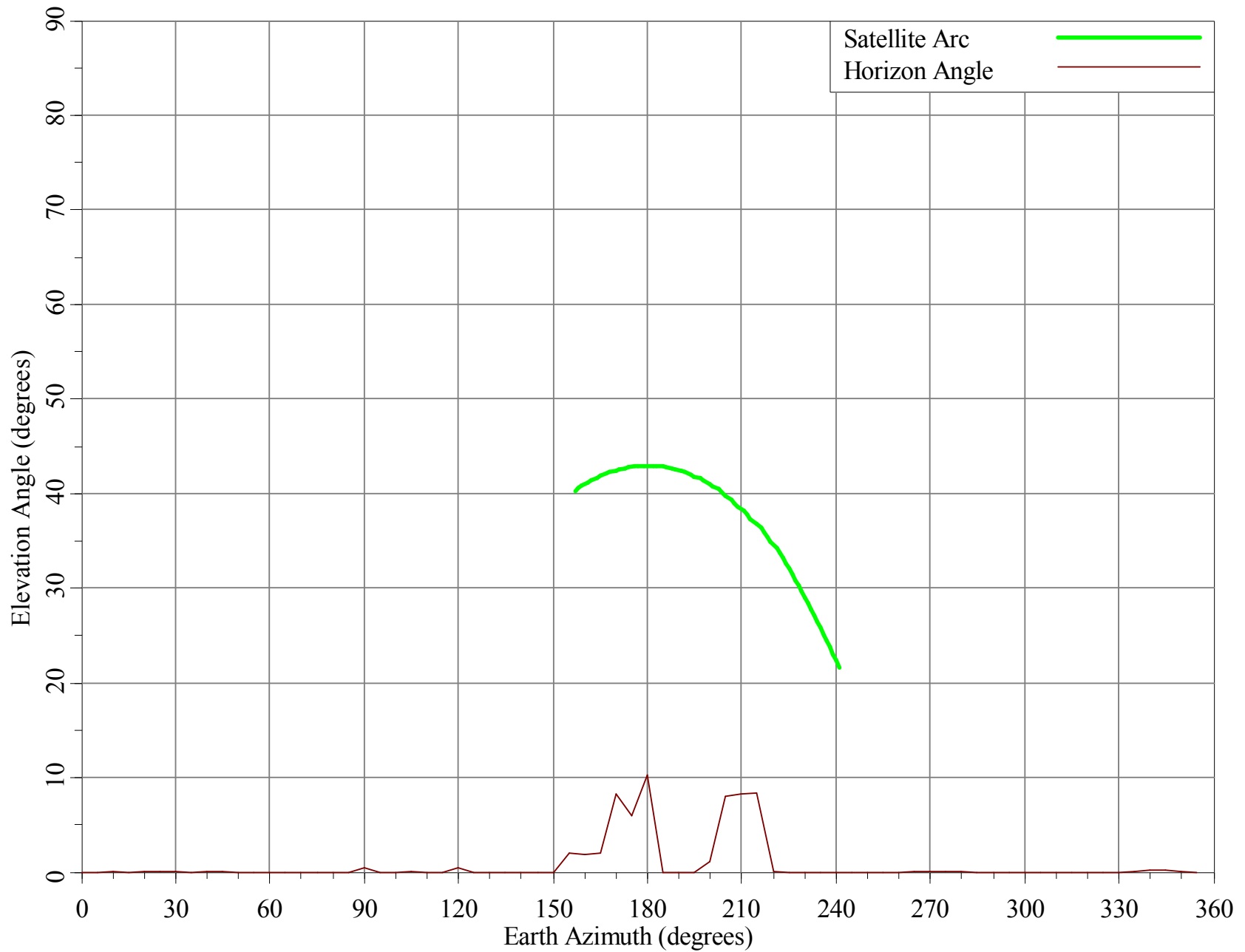
=====

Company:	HARRIS CORPORATION		
Site Name, State:	Hanna City, IL		
Call Sign:			
Latitude	(NAD83)	40 41	58.4 N
Longitude	(NAD83)	89 49	30.8 W
Elevation AMSL	(ft/m)	754.00	229.82
Receive Frequency Range	(MHz)	3700-4200	
Transmit Frequency Range	(MHz)	5925-6425	
Range of Satellite Orbital Long.	(deg W)	74.00	139.00
Range of Azimuths from North	(deg)	156.51	240.60
Antenna Centerline	(ft/m)	10.00	3.05
Antenna Elevation Angles	(deg)	40.22	21.65

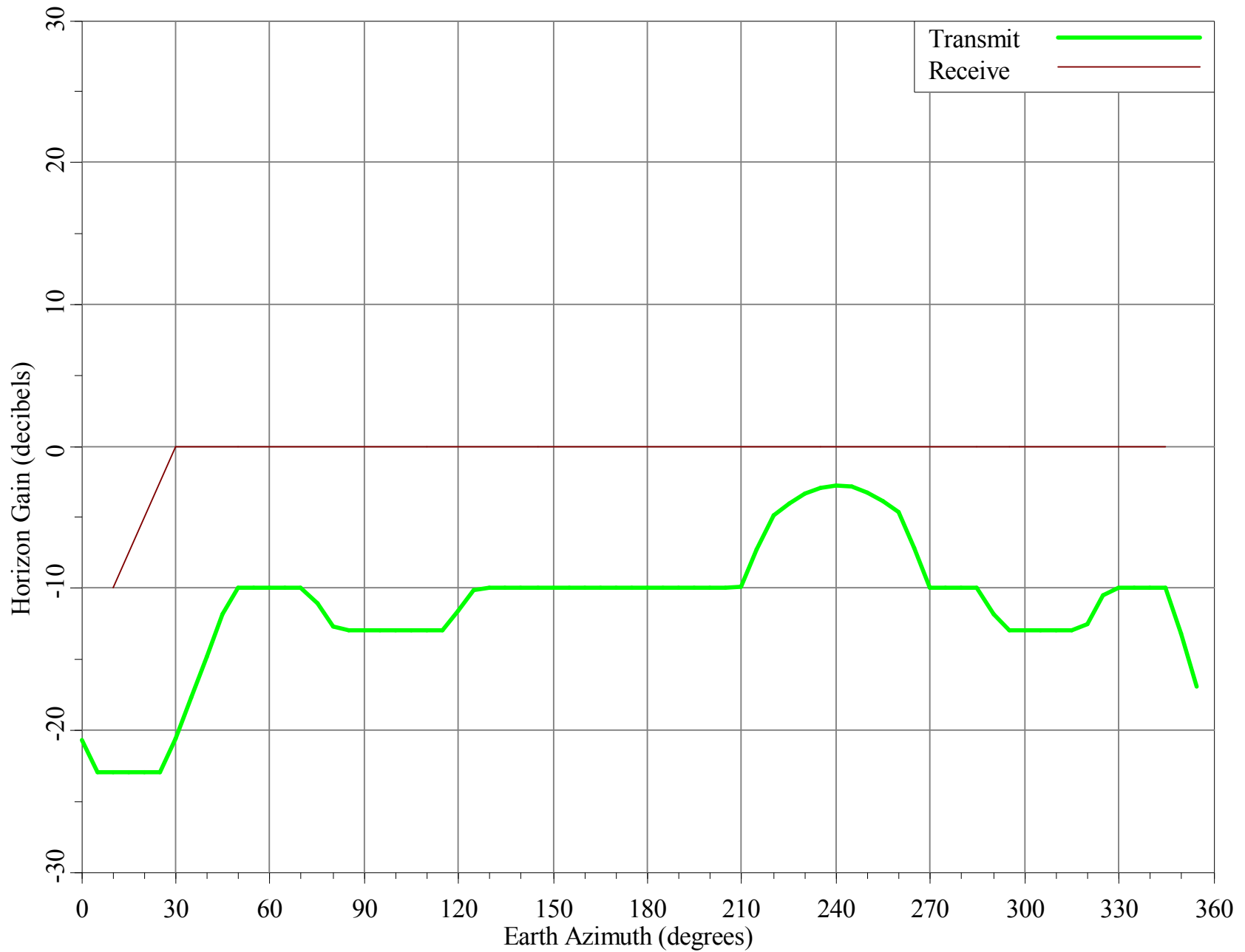
Equipment Parameters		Receive	Transmit
Antenna Gain, Main Beam	(dbI)	38.00	42.00
15 DB Half Beamwidth	(deg)	1.50	1.00
Antennas	Receive: PRODELIN 2244 (2.4M)		
	Transmit: PRODELIN 2244 (2.4M)		
Max Transmitter Power	(dbW/4KHz)		-24.70
Max EIRP Main Beam	(dbW/4KHz)		17.30
Modulation / Emission Designator	DIGITAL 96K0G7W		

Coordination Parameters		Receive	Transmit
Max Greater Circle Distances	(km)	300.12	124.94
Max Rain Scatter Distances	(km)	403.35	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

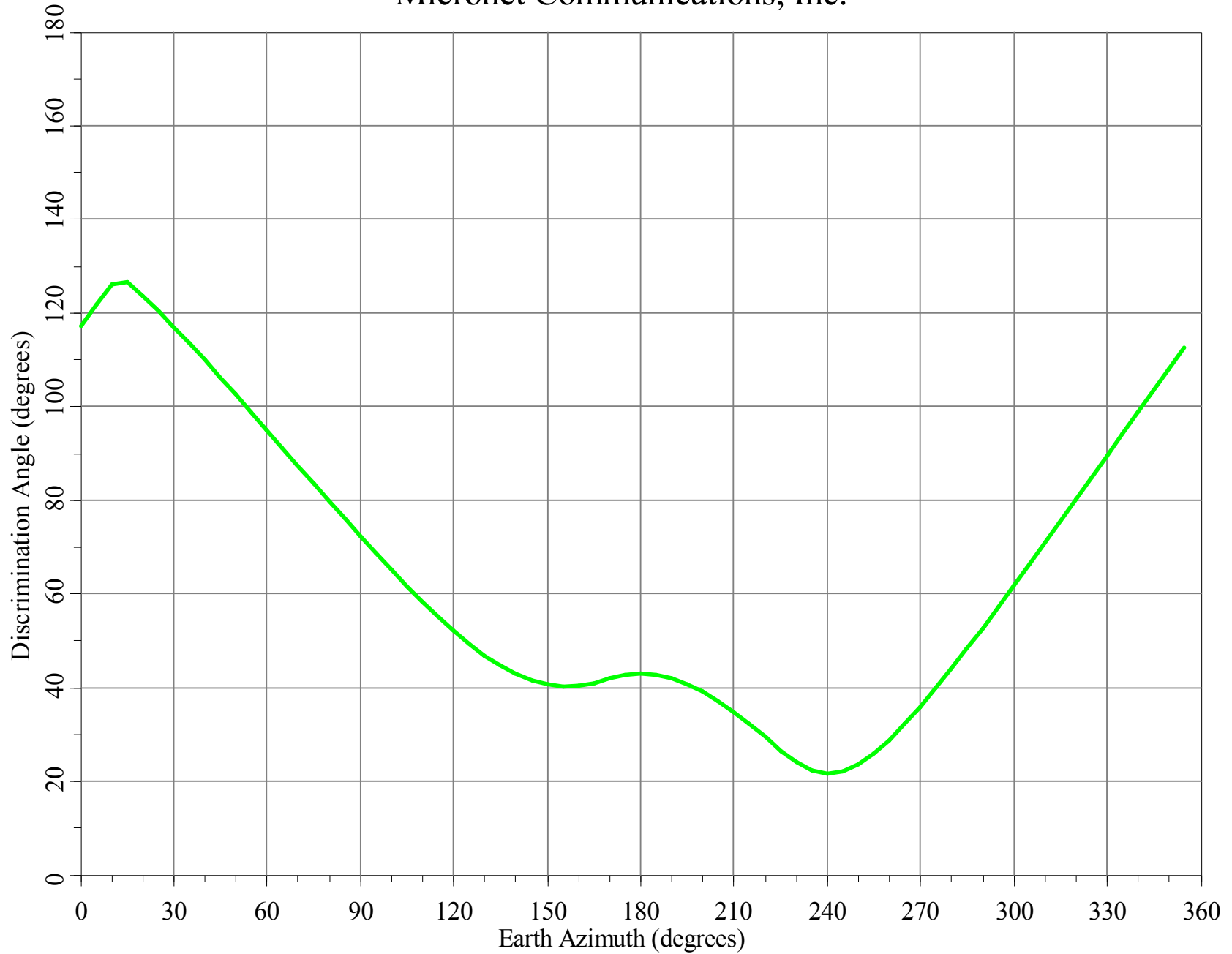
Horizon Angle & Satellite Arc for Hanna City, IL Micronet Communications, Inc.



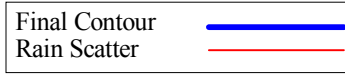
Horizon Gain for Hanna City, IL Micronet Communications, Inc.



Minimum Discrimination Angles for Hanna City, IL
Micronet Communications, Inc.



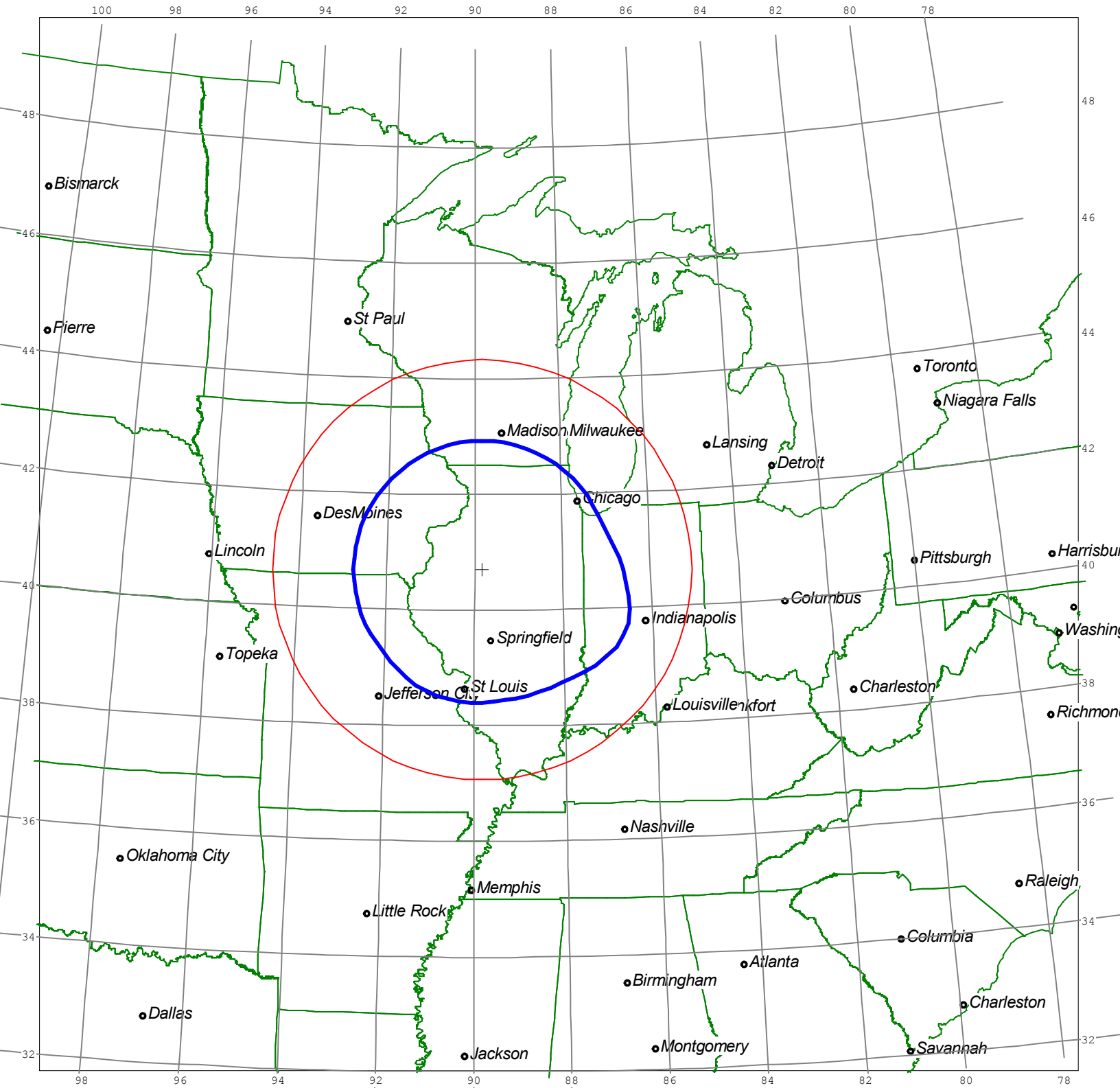
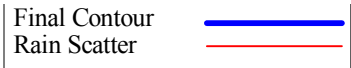
Final Contour & Rain Scatter for Hanna City, IL - Transmit



SCALE - 1:10000000 1 inch = 157.8 miles

Final Contour & Rain Scatter for Hanna City, IL - Receive

SCALE - 1:10000000 1 inch = 157.8 miles



Non-Compliant Antenna Statement

Re: 2.4 Meter Fixed Earth Station
Fixed Satellite Service
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 earth station located in Hanna City, IL at the coordinates of 40-41-58.4 N, 089-49-30.8 W. This antenna is, in terms of performance and technical characteristics, identical to the Prodelin model 1244 antenna. Attached to this exhibit please find the manufacturer data sheets for each antenna model which reflect that the Prodelin model 2244 does indeed have the same technical performance characteristics as the Prodelin model 1244. 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 1° to 1.5° region. The applicant understands that no adjacent satellite interference protection will be available in the 1° to 1.5° 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.

2.4M Rx/Tx High Wind Antenna

Series 2244

Technical Specifications

Electrical	C-Band Linear	C-Band Circular	Ku-Band
Antenna Size	2.4 M (96.00 in.)	2.4 M (8 ft.)	2.4 M (96.00 in.)
Operating Frequency (GHz) Receive Transmit	3.625 - 4.20 GHz 5.85 - 6.425 GHz	3.625 - 4.20 GHz 5.85 - 6.425 GHz	10.70 - 12.75 GHz 13.75 - 14.50 GHz
Antenna Gain at Midband, dBi ($\pm .2$ dB) Receive Transmit	38.20 dBi 42.20 dBi	38.20 dBi 42.20 dBi	47.40 dBi 49.20 dBi
VSWR	1.3:1 Max	1.3:1 Max	Tx: 1.3:1 Max Rx: 1.5:1 Max
Pattern Beamwidth (in degrees at midband) -3 dB -15 dB	2.20° Rx 1.40° Tx 4.90° Rx 3.10° Tx	2.20° Rx 1.40° Tx 4.90° Rx 3.10° Tx	0.70° Rx 0.60° Tx 1.60° Rx 1.40° Tx
Sidelobe Envelope, $100\lambda/D \leq \theta \leq 20^\circ$ $7^\circ < \theta \leq 9.2^\circ$ $9.2^\circ < \theta \leq 48^\circ$ $48^\circ < \theta$	29 - 25 Logq dBi -3.5 dBi 32 - 25 Logq dBi -10 dBi (averaged)	29 - 25 Logq dBi -3.5 dBi 32 - 25 Logq dBi -10 dBi (averaged)	29 - 25 Logq dBi -3.5 dBi 32 - 25 Logq dBi -10 dBi (averaged)
Antenna Noise Temperature 5° Elevation 10° Elevation 20° Elevation 40° Elevation	55 K 47 K 43 K 43 K	61 K 53 K 49 K 49 K	85 K 78 K 73 K 70 K
Cross Polarization Isolation On Axis With 1.0 dB Beamwidth`	> 30 dB > 27 db	Rx > 15 dB Tx > 17.7 dB Rx > 15 dB Tx > 17.7 dB	Rx > 30 dB Tx > 35 dB Rx > 25 dB Tx > 26 dB
Output Waveguide Interface	Rx CPR 229 Tx CPR 137 or Type N	Rx CPR 229 Tx CPR 137 or Type N	Rx WR75 Tx WR75

Mechanical			
Reflector Material	Glass Fiber Reinforced Polyester SMC		
Antenna Optics	Four Piece Offset, Prime Focus		
Mast Pipe Size	6" SCH 80 Pipe (6.62" OD) 16.80 cm.		
Elevation Adjustment Range	5° - 90° Continuous Fine Adjust		
Azimuth Adjustment Range	+/- 45° Fine Adjustment, 360° Continuous		
Mount Type	Elevation over Azimuth		
Shipping Specifications (Approximate Net Weight):	930 lbs.	950 lbs.	920 lbs.

Environmental Performance			
Wind Loading	Operational	65 MPH (104 km/h) with 0.5dB loss @ 14.25GHz 75 MPH (120 km/h) with 1.0dB loss @ 14.25GHz, 0.5dB loss @ 6.14GHz 90 MPH (145 km/h) with 1.0dB loss @ 6.14GHz	
	Survival	150 MPH (240 km/h)	
Temperature	Operational	-40° to 140° F (-40° to 60° C)	
	Survival	-50° to 160° F (-46° to 71° C)	
Atmospheric Conditions	Salt, Pollutants and Contaminants as Encountered in Coastal and Industrial Areas		
Relative Humidity	0 to 100% With Condensation		
Solar Radiation	360 BTU/h/ft ²		

GENERAL DYNAMICS
SATCOM Technologies

BUY NOW

1000-025 Rev. 07/11

2.4M C & Ku-Band Antennas Rx/Tx

Series 1244

Technical Specifications

Electrical		C-Band Linear	C-Band Circular	Ku-Band
Antenna Size		2.4 M (8 ft.)	2.4 M (8 ft.)	2.4 M (8 ft.)
Operating Frequency (GHz)	Receive Transmit	3.625 - 4.20 GHz 5.85 - 6.425 GHz	3.625 - 4.20 GHz 5.85 - 6.425 GHz	10.70 - 12.75 GHz 13.75 - 14.50 GHz
Midband Gain (+/- .2 dB)	Receive Transmit	38.20 dBi 42.20 dBi	38.00 dBi 42.00 dBi	47.40 dBi 49.20 dBi
VSWR		1.3:1 max	1.3:1 max	Rx: 1.5:1 Max Tx: 1.3:1 Max
Pattern Beamwidth (in degrees at midband)	-3 dB -15 dB	Rx: 2.20° Tx: 1.40° Rx: 4.90° Tx: 3.10°	Rx: 2.20° Tx: 1.40° Rx: 4.90° Tx: 3.10°	Rx: 0.70° Tx: 0.60° Rx: 1.60° Tx: 1.40°
Sidelobe Envelope, Co-Pol (dBi) 100λ / D < θ ≤ 20° 20° < θ ≤ 26.3° 26.3° < θ ≤ 48° θ > 48°		29 - 25 Logθ dBi -3.5 dBi 32 - 25 Logθ dBi -10 dBi (averaged)	29 - 25 Logθ dBi -3.5 dBi 32 - 25 Logθ dBi -10 dBi (averaged)	29 - 25 Logθ dBi -3.5 dBi 32 - 25 Logθ dBi -10 dBi (averaged)
Antenna Noise Temperature 5° Elevation 10° Elevation 20° Elevation 40° Elevation		55 K 47 K 43 K 43 K	61 K 53 K 49 K 49 K	85 K 78 K 73 K 70 K
Power Handling		1 kW	1 kW	100 W
Cross Polarization Isolation On Axis Within 1.0 dB Beamwidth		> 30 dB > 27 dB	Rx > 15 dB Tx > 17.7 dB Rx > 15 dB Tx > 17.7 dB	Rx > 30 dB Tx > 35 dB Rx > 25 dB Tx > 26 dB
Output Waveguide Interface Flange		Rx: CPR 229 Tx: CPR 137 or Type N	Rx: CPR 229 Tx: CPR 137 or Type N	Rx: WR75 Tx: WR75

Mechanical			
Reflector Material	Glass Fiber Reinforced SMC		
Antenna Optics	Four-Piece, Prime Focus, Offset Feed		
Mast Pipe Size	6" SCH 40 Pipe (6.62" OD) 16.80 cm.		
Elevation Adjustment Range	5° to 90° Continuous Fine Adjustment		
Azimuth Adjustment Range	+/- 30° Fine Adjustment, 360° Continuous		
Mount Type	Elevation over Azimuth		
Shipping Specifications (Approximate Net Weight)	640 lbs	660 lbs	630 lbs.

Environmental Performance		
Wind Loading	Operational Survival	50 mph (80 km/h) 125 mph (201 km/h)
Temperature (operational)		- 40°to 140°F (- 40°to 60°C)
Rain (operational)		½" / hr
Ice (operational)		-----
Atmospheric Conditions		Salt, Pollutants and Contaminants as Encountered in Coastal and Industrial Areas
Relative Humidity		0 to 100% with Condensation
Solar Radiation		360 BTU/h/ft2

GENERAL DYNAMICS SATCOM Technologies

1500 Prodelin Drive • Newton, NC 28658 USA • Telephone: +1-828-464-4141 • Fax: +1-828-464-4147
Email: vsat@gdsatcom.com • Web Site: www.gdsatcom.com

1000-057 Rev. 04/12

**HARRIS CORPORATION
FCC FORM 312
NEW EARTH STATION
JUNE 2015**

FAA NOTIFICATION NOT REQUIRED

FAA notification is not required pursuant to 47 C.F.R. § 17.7(a), because the antenna is less than 6.1 meters in height above ground level.

Online Payment

Step 3: Confirm Payment

1 | 2 | 3

Thank you.
Your transaction has been successfully completed.
It is recommended you [print a copy](#) for your records.



[Print this window.](#)

Pay.gov Tracking Information

Application Name: Remittance Advice

Pay.gov Tracking ID: 25LO9ARJ

Agency Tracking ID: PGC2687514

Transaction Date and Time: 06/09/2015 12:56 EDT

Payment Summary

Address Information	Account Information	Payment Information
Account Holder Name: HOLLAND & KNIGHT LLP 800 17TH STREET, Billing Address: STE. 1100 Billing Address 2: City: WASHINGTON State / Province: DC Zip / Postal Code: 20006-3906 Country: USA	Card Type: Visa Card Number: *****6419	Payment Amount: \$2,825.00 Transaction Date and Time: 06/09/2015 12:56 EDT

[Return to your agency website](#)

Payment Confirmation

Your transaction has been approved. For your records, please note the following:

AGENCY TRACKING ID:	PGC2687514
AUTHORIZATION NUMBER :	066443
AMOUNT PAID :	\$2,825.00

[PRINT FORM 159](#)[CLOSE](#)

Customer Service

[FCC Fees](#)[Web Policies / Privacy Policy](#)[FCC Home Page](#)

If you have any questions or concerns please contact your licensing system help desk.

Werner, Glenn (WAS - X71818)

From: paygovadmin@mail.doc.twai.gov
Sent: Tuesday, June 09, 2015 12:56 PM
To: Werner, Glenn (WAS - X71818)
Subject: Pay.gov Payment Confirmation: Remittance Advice- Hanna City, IL C Band Form 312 Application

Your payment has been submitted to Pay.gov and the details are below. If you have any questions or you wish to cancel this payment, please contact FCC Financial Operations Group Help Desk at ARINQUIRIES@fcc.gov at 877-480-3201 option 4.

Application Name: Remittance Advice
Pay.gov Tracking ID: 25LO9ARJ
Agency Tracking ID: PGC2687514
Transaction Type: Sale
Transaction Date: Jun 9, 2015 12:56:00 PM

Account Holder Name: HOLLAND & KNIGHT LLP Transaction Amount: \$2,825.00 Billing Address: 800 17TH STREET, STE. 1100
City: WASHINGTON
State/Province: DC
Zip/Postal Code: 20006-3906
Country: USA
Card Type: Visa
Card Number: *****6419

THIS IS AN AUTOMATED MESSAGE. PLEASE DO NOT REPLY.

6/9/2015 7:49 AM

Current Status of FRN 0003791472

STATUS: Green

You have no delinquent bills which would restrict you from doing business with the FCC.

The Red Light Display System checks all FRNs associated with the same Taxpayer Identification Number (TIN). A green light means that there are no outstanding delinquent non-tax debts owed to the Commission by any FRN associated with the requestor's TIN. The Red Light Display System was last updated on 06/09/2015 at 6:38 AM; it is updated once each business day at about 7 a.m., ET.

Customer Service

[Red Light Help](#)[FCC Debt Collection](#)[FCC Fees](#)[Web Policies / Privacy Policy](#)

Red Light Display System Help Line: (877) 480-3201, option 4, 4; TTY (202) 414-1255 (Mon.-Fri. 8 a.m.-6:00 p.m. ET)

Red Light Display System has a dedicated staff of customer service representatives standing by to answer your questions or concerns. You can email us at arinquiries@fcc.gov or fax us at (202) 418-7869.