

Federal Communications Commission

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Description: WFUM-DT POST TRANSITION MAXIMIZATION APPLICATION
6/10/2008

Application Reference Number: 20080617ABY
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| Federal Communications Commission Washington, D.C. 20554 | Approved by OMB 3060-0029 (January 2008) | FOR FCC USE ONLY |
| FCC 340 | | |
| APPLICATION FOR CONSTRUCTION PERMIT FOR RESERVED CHANNEL NONCOMMERCIAL EDUCATIONAL BROADCAST STATION | | FOR COMMISSION USE ONLY FILE NO. - 20080617ABY |
| Read INSTRUCTIONS Before Filling Out Form | | |

Section I - General Information

| | | |
|----|--|---|
| 1. | Legal Name of the Licensee/Permittee REGENTS OF THE UNIVERSITY OF MICHIGAN | |
| | Mailing Address 535 W. WILLIAM STREET SUITE 110 | |
| | City ANN ARBOR | State or Country (if foreign address) MI |
| | | Zip Code 48103 - |
| | Telephone Number (include area code) 7347649210 | E-Mail Address (if available) SCHRAM@UMICH.EDU |
| | FCC Registration Number: 0003927902 | Call Sign WFUM-DT |
| | | Facility Identifier 69273 |
| 2. | Contact Representative (if other than licensee/Permittee) TODD D. GRAY | Firm or Company Name DOW LOHNES PLLC |
| | Mailing Address 1200 NEW HAMPSHIRE AVE, NW SUITE 800 | |
| | City WASHINGTON | State or Country (if foreign address) DC |
| | | ZIP Code 20036 - 6802 |
| | Telephone Number (include area code) 2027762000 | E-Mail Address (if available) TGRAY@DOWLOHNES.COM |
| 3. | Is this application being filed in response to a window? If Yes, specify closing date and/or window number: | <input type="radio"/> Yes <input checked="" type="radio"/> No |
| 4. | Application Purpose | |
| | <input type="radio"/> New station | |
| | <input type="radio"/> Major Change in licensed facility | |
| | <input type="radio"/> Minor Change in licensed facility | |
| | <input checked="" type="radio"/> Major Modification of construction permit | |
| | <input checked="" type="radio"/> Minor Modification of construction permit | |
| | <input type="radio"/> Major Amendment to pending application | |
| | <input type="radio"/> Minor Amendment to pending application | |
| | (a) File number of original construction permit: BPEDT-20080312ADF | |
| | (b) Service Type: | |
| | <input type="radio"/> FM <input type="radio"/> TV <input checked="" type="radio"/> DTV | |
| | (c) DTV Type: | |
| | <input type="radio"/> Pre-Transition <input checked="" type="radio"/> Post-Transition <input type="radio"/> Both | |
| | (d) Community of License: | |
| | City: FLINT State: MI | |
| | (e) Facility Type | |
| | <input checked="" type="radio"/> Main <input type="radio"/> Auxiliary | |
| | If an amendment, submit as an Exhibit a listing by Section and Question Number the [Exhibit 1] | |

portions of the pending application that are being revised.

NOTE: The failure to include an explanatory providing full particulars in connection with a "No" response may result in dismissal of the application. See Instructions, paragraph L for additional information regarding completion of explanatory exhibits.

SECTION II - Legal and Financial

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| 1. | <p>Certification. Applicant certifies that it has answered each question in this application based on its review of the application instructions and worksheets. Applicant further certifies that where it has made an affirmative certification below, this certification constitutes its representation that the application satisfies each of the pertinent standards and criteria set forth in the application instructions and worksheets.</p> | <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> |
| 2. | <p>Eligibility. Each application must answer "Yes" to one and "No" to two of the three following certifications. An applicant should not submit an explanatory exhibit in connection with these Question 2 "No" responses.</p> <p>The applicant certifies that it is:</p> <p>a. a nonprofit educational institution; or</p> <p>b. a governmental entity other than a school; or</p> <p>c. a nonprofit educational organization, other than described in a. or b.</p> | <p><input type="radio"/> Yes <input type="radio"/> No</p> <p><input type="radio"/> Yes <input type="radio"/> No</p> <p><input type="radio"/> Yes <input type="radio"/> No</p> |
| 3. | <p>For applicants checking "Yes" to question 2(c) and applying for a new noncommercial educational television station only, the applicant certifies that the applicant's officers, directors and members of its governing board are broadly representative of the educational, cultural, and civic segments of the principal community to be served.</p> | <p><input type="radio"/> Yes <input type="radio"/> No</p> <p><input type="radio"/> N/A</p> |
| 4. | <p>a. The applicant certifies that the Commission has previously granted a broadcast application identified here by file number that found this applicant qualified as a noncommercial educational entity with a qualifying educational program, and that the applicant will use the proposed station to advance a program similar to that the Commission has found qualifying in applicant's previous application.</p> <p>b. Applicants who answered "No" to Question 4(a), must include an exhibit that describes the applicant's educational objective and how the proposed station will be used to advance an educational program that will further that objective according to 47 C.F.R. Section 73.503 (for radio applicants) and 47 C.F.R. Section 73.621 (for television applicants).</p> | <p><input type="radio"/> Yes <input type="radio"/> No</p> <p>FCC FileNumber</p> <p>-</p> <p>[Exhibit 2]</p> |
| 5. | <p>The applicant certifies that its governing documents (e.g., articles of incorporation, by-laws, charter, enabling statute, and/or other pertinent organizational document) permit the applicant to advance an educational program and that there is no provision in any of those documents that would restrict the applicant from advancing an educational program or complying with any Commission rule, policy, or provision of the Communications Act of 1934, as amended.</p> | <p><input type="radio"/> Yes <input type="radio"/> No</p> |
| 6. | <p>a. Parties to the Application. List separately each party to the application including, as applicable, the applicant, its officers, directors, five percent or greater stockholders, non-insulated partners, members, and all other persons and entities with attributable interests. If another entity hold an attributable interest in the applicant, list separately, as applicable, its officers, directors, five percent or greater stockholders, non-insulated partners, and board members. Create a separate row for each individual or entity. Attach additional pages if necessary.</p> <p>[Enter Parties/Owners Information]</p> <hr/> | |

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| | b. Applicant certifies that equity and financial interests not set forth above are non-attributable pursuant to 47 C.F.R. Section 73.3555 and that there are no agreements or understandings with any non-party that would give influence over the applicant's programming, personnel, or finances to that non-party. | <input type="radio"/> Yes <input type="radio"/> No [Exhibit 3] |
| 7. | Other Authorizations. List call signs, locations, and facility identifiers of all other broadcast stations in which applicant or any party to the application has an attributable interest pursuant to the notes to 47 C.F.R. Section 73.3555. | <input type="checkbox"/> N/A [Exhibit 4] |
| 8. | Character Issues. Applicant certifies that neither applicant nor any party to the application has or has had any interest in or connection with: a. any broadcast application in any proceeding where character issues were left unresolved or were resolved adversely against the applicant or party to the application; or b. any pending broadcast application in which character issues have been raised. | <input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 5] |
| 9. | Adverse Findings. Applicant certifies that, with respect to the applicant, any party to the application, and any non-party equity owner in the applicant, no adverse finding has been made, nor has an adverse final action been taken by any court or administrative body in a civil or criminal proceeding brought under the provisions of any law related to any of the following: any felony; mass media-related antitrust or unfair competition; fraudulent statements to another government unit; or discrimination. If the answer is "No," attach as an Exhibit a full disclosure concerning the persons and matters involved, including an identification of the the court or administrative body and the proceeding (by dates and file numbers), and a description of the disposition of the matter. Where the requisite information has been earlier disclosed in connection with another application or as required by 47 C.F.R. Section 1.65, the applicant need only provide: (i) an identification of that previous submission by reference to the file number in the case of an application, the call letters of the station regarding which the application or Section 1.65 information was filed, and the date of filing; and (ii) the disposition of the previously reported matter. | <input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 6] |
| 10. | Alien Ownership and Control. Applicant certifies that it complies with the provisions of Section 310 of the Communications Act of 1934, as amended, relating to interests of aliens and foreign governments. | <input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 7] |
| 11. | Program Service Certification. Applicant certifies that it is cognizant of and will comply with its obligations as a commission licensee to present a program service responsive to the issues of public concern facing the station's community of license and service area. | <input type="radio"/> Yes <input type="radio"/> No |
| 12. | Local Public Notice. Applicant certifies compliance with the public notice requirements of 47 C.F.R. Section 73.3580. | <input type="radio"/> Yes <input type="radio"/> No |
| 13. | Anti-Drug Abuse Act Certification. Applicant certifies that neither applicant nor any party to the application is subject to denial of federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862. | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 14. | Equal Employment Opportunity (EEO). If the applicant proposes to employ five or more full-time employees, applicant certifies that it is filing simultaneously with this application a Model EEO Program Report on FCC Form 396-A. | <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A |
| QUESTIONS 15, 16 AND 17 APPLY ONLY TO APPLICANTS FOR NEW STATIONS. OTHER APPLICANTS CAN PROCEED TO QUESTION 18. | | |
| 15. | Financial. The applicant certifies that sufficient net liquid assets are on hand or that sufficient funds are available from committed sources to construct and operate the requested facilities for three months without revenue. If "No" to 15., answer question 16. and 17. | <input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 8] |
| 16. | Is this application contingent upon receipt of a grant from the National Telecommunications | |

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| | and Information Administration? | <input type="radio"/> Yes <input type="radio"/> No |
| 17. | Is this application contingent upon receipt of a grant from a charitable organization, the approval of the budget of a school or university, or an appropriation from a state, county, municipality or other political subdivision? | <input type="radio"/> Yes <input type="radio"/> No |

NOTE: If Yes to 16. **or** 17., the application cannot be granted unconditionally until all of the necessary funds are committed or appropriated. In the case of grants from the National Telecommunications and Information Administration, no further action on the applicant's part is required. If the applicant relies on funds from a source specified in Question 17., **the applicant must advise the Commission when the funds are committed or appropriated.** This should be accomplished by letter amendment to the application. Applicants should take note that the Commission's construction period is not considered "tolled" by funding difficulties and that any permit granted conditionally on funding will expire if the station is not constructed for any reason, including lack of funding.

QUESTIONS 18 AND 19 DO NOT APPLY TO APPLICATIONS FOR NEW STATIONS. APPLICANTS FOR NEW FM STATIONS CAN PROCEED TO SECTION III. APPLICANTS FOR NEW TV STATIONS CAN PROCEED TO SECTION IV.

Holding Period.

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| 18. | Applicant certifies that this application does not propose a modification to an authorization that was awarded on the basis of a preference for fair distribution of service pursuant to 47 U.S.C. Section 307(b). If "No," answer a. and b. below. If applicant answers "No" to 18. above and cannot answer "Yes" to either a. or b. below, the application is unacceptable. | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| a. | Applicant certifies that the proposed modification will not downgrade service to the area on which the Section 307(b) preference was based. | <input type="radio"/> Yes <input type="radio"/> No |
| b. | Applicant certifies that although it proposes to downgrade service to the area on which the Section 307(b) preference was based, applicant has provided full service to that area for a period of four years of on-air operations. | <input type="radio"/> Yes <input type="radio"/> No |
| 19. | Applicant certifies that this application does not propose a modification to an authorized station that received a credit for superior technical parameters under the point system selection method in 47 C.F.R. Section 73.7003. If "No," applicant must be able to answer "Yes" to a. below or provide an exhibit that makes a compelling showing that the downgrade would be in the public interest. | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| a. | Applicant certifies that the population and area within the proposed service contour (60 dBu (FM) or grade B (TV)) are greater than or equivalent to those authorized. | <input type="radio"/> Yes <input type="radio"/> No [Exhibit 9] |

Section III

Fair Distribution of Service Pursuant to 47 U.S.C. Section 307(b) (New and Major Changes to FM Radio Only) (Other applicants can proceed to Section IV).

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| 1. | Applicant certifies that the proposed station will provide a first noncommercial educational aural service to (a) at least 10 percent of the people residing within the station's 60 dBu (1mV/m) service contour and (b) to a minimum of 2,000 people. Applicants answering "Yes" must provide an Exhibit. | <input type="radio"/> Yes <input type="radio"/> No [Exhibit 10] |
| 2. | Applicant certifies that the proposed station will provide a second noncommercial educational aural service to (a) at least 10 percent of the people residing within the station's 60 dBu (1mV/m) service contour and (b) to a minimum of 2,000 people. Applicants answering "Yes" must provide an Exhibit. | <input type="radio"/> Yes <input type="radio"/> No [Exhibit 11] |

Section IV Point System Factors - New and Major Change Applications Only (used to select among mutually exclusive radio and television applications for new stations and major modifications) **NOTE:** Applicants will not receive any additional points for amendments made after the close of the application filing window.

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| <p>1. Established Local Applicant: Applicant certifies that for at least the 24 months immediately prior to application, and continuing through the present, it qualifies as a local applicant pursuant to 47 C.F.R. Section 73.7000, that its governing documents require that such localism be maintained, and that it has placed documentation of its qualifications as an established local applicant in a local public inspection file and has submitted to the Commission copies of the documentation.</p> | <p><input type="radio"/> Yes <input type="radio"/> No</p> |
| <p>2. Diversity of Ownership: (a) Applicant certifies that the principal community (city grade) contour of the proposed station does not overlap the principal community contour of any other authorized station (comparing radio and television to television, including non-fill-in translator stations other than those identified in 2(b) below) in which any party to the application has an attributable interest as defined in 47 C.F.R. Section 73.3555, that its governing documents require that such diversity be maintained, and that it has placed documentation of its diversity qualification in a local public inspection file and has submitted to the Commission copies of the documentation.</p> | <p><input type="radio"/> Yes <input type="radio"/> No</p> |
| <p>(b) Is the application's certification to 2(a) based on its exclusion of translator station(s) that will be replaced with a full service station pursuant to the authorization requested here?</p> <p>If Yes, applicant must include an exhibit identifying the translator station authorization for which it will request cancellation upon commencement of operation of the proposed full service station (i.e., upon its filing of a license application and receipt of program test authority).</p> | <p><input type="radio"/> Yes <input type="radio"/> No</p> <p>[Exhibit 12]</p> |
| <p>3. State-wide Network: Applicant certifies that (a) it has NOT claimed a credit for diversity of ownership above; (b) it is one of the three specific types of organizations described in 47 C.F.R. Section 73.7003(b)(3); and (c) it has placed documentation of its qualifications in a local public inspection file and has submitted to the Commission copies of the documentation.</p> | <p><input type="radio"/> Yes <input type="radio"/> No</p> |
| <p>4. Technical Parameters: Applicant certifies that the numbers in the boxes below accurately reflect the new area and population that its proposal would serve with a 60 dBu (FM) or Grade B (TV) signal measured in accordance with the standard predicted contours in 47 C.F.R. Section 73.713(c) (FM) and 73.683(TV) and that it has documented the basis for its calculations in the local public inspection file and has submitted copies to the Commission. Major modification applicants should include the area of proposed increase only (exclude any area already within the station's existing service area). (Points, if any, will be determined by FCC)</p> | <p><input type="radio"/> Yes <input type="radio"/> No</p> |
| <p>New area served in square kilometers (excluding areas of water):</p> | |
| <p>Population served based on the most recent census block data from the United States Bureau of Census using the centroid method:</p> | |

SECTION V - Tie Breakers - New and Major Change Applications Only (used to choose among competing radio and television applications receiving the same number of points in Section IV)

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| <p>1. Existing Authorizations. By placing a number in the box, the applicant certifies that it and other parties to the application have, as of the date of filing and pursuant to 47 C.F.R. Section 73.3555, attributable interests in the stated number of relevant broadcast station authorizations. Radio applicants should count all attributable full service radio stations, AM and FM, commercial and noncommercial, and FM translator stations other than fill-in stations or those identified in IV (2)(b) above. TV applicants should count all attributable full service TV stations, commercial and noncommercial and TV translator stations other than fill-in stations or those identified in IV(2)(b) above. (number of commercial and non-commercial licenses and construction permits)</p> |
| <p>2. Pending Applications. By placing a number in the box, the applicant certifies that it and other parties to the application have, as of the date of filing and pursuant to 47 C.F.R. Section 73.3555, attributable interests in the stated number of pending applications for new or major changes to relevant broadcast stations. Radio applicants should count all attributable full service radio stations, AM and FM, commercial and noncommercial, and FM translator stations other than fill-in stations or those identified in IV(2)(b) above. TV applicants should count all attributable full service TV stations, commercial and noncommercial, and TV translator stations other than fill-in stations or those identified in IV(2) (b) above. (number of pending commercial and non-commercial applications)</p> |

Section VI -- Certification

I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith. I acknowledge that all certifications and attached Exhibits are considered material representations. I hereby waive any claim to the use of any particular frequency as against the regulatory power of the United States because

of the previous use of the same, whether by license or otherwise, and request an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

| | |
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| Typed or Printed Name of Person Signing TIMOTHY P. SLOTTOW | Typed or Printed Title of Person Signing EXECUTIVE VICE PRESIDENT AND CFO |
| Signature | Date 6/13/2008 |

Section VII Preparer's Certification

I certify that I have prepared Section VII (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

| | |
|--------------------------------|--|
| Name JOHN F.X. BROWNE, P.E. | Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER |
| Signature | Date 6/10/2008 |

Mailing Address
JOHN F.X. BROWNE & ASSOCIATES P.C.
38710 WOODWARD AVE, SUITE 220

| | | |
|--|--|--------------------|
| City BLOOMFIELD HILLS | State or Country (if foreign address) MI | Zip Code 48304- |
| Telephone Number (include area code) 2486426226 | E-Mail Address (if available) JFXB@JFXB.COM | |

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

SECTION VII - DTV Engineering

Complete Questions 1-5, and provide all data and information for the proposed facility, as requested in Technical Specifications, Items 1-13.

Pre-Transition Certification Checklist: An application concerning a pre-transition channel must complete questions 1(a)-(c), and 2-5. A correct answer of "Yes" to all of the questions will ensure an expeditious grant of a construction permit application to change pre-transition facilities. However, if the proposed facility is located within the Canadian or Mexican borders, coordination of the proposal under the appropriate treaties may be required prior to grant of the application. An answer of "No" will require additional evaluation of the applicable information in this form before a construction permit can be granted.

Post-Transition Expedited Processing. An application concerning a post-transition channel must complete questions 1(a), (d)-(e), and 2-5. A station applying for a construction permit to build its post-transition channel will receive expedited processing if its application (1) does not seek to expand the noise-limited service contour in any direction beyond that established by Appendix B of the Seventh Report and Order in MB Docket No. 87-268 establishing the new DTV Table of Allotments in 47 C.F.R. § 73.622(i) ("new DTV Table Appendix B"); (2) specifies facilities that match or closely approximate those defined in the new DTV Table Appendix B facilities; and (3) is filed within 45 days of the effective date of Section 73.616 of the rules adopted in the Report and Order in the Third DTV Periodic Review proceeding, MB Docket No. 07-91.

1. The proposed DTV facility complies with 47 C.F.R. Section 73.622 in the following respects:

- (a) It will operate on the DTV channel for this station as established in 47 C.F.R. Section 73.622. Yes No
- (b) It will operate a pre-transition facility from a transmitting antenna located within 5.0 km (3.1 miles) of the DTV reference site for this station as established in 47 C.F.R. Section 73.622. Yes No

| | | |
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| | (c) It will operate a pre-transition facility with an effective radiated power (ERP) and antenna height above average terrain (HAAT) that do not exceed the DTV reference ERP and HAAT for this station as established in 47 C.F.R. Section 73.622. | <input type="radio"/> Yes <input type="radio"/> No |
| | (d) It will operate at post-transition facilities that do not expand the noise-limited service contour in any direction beyond that established by Appendix B of the Seventh Report and Order in MB Docket No. 87-268 establishing the new DTV Table of Allotments in 47 C.F.R. § 73.622 (i) ("new DTV Table Appendix B"). | <input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A |
| | (e) It will operate at post-transition facilities that match or reduce by no more than five percent with respect to predicted population from those defined in the new DTV Table Appendix B. | <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A |
| 2. | The proposed facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RF radiation exceeding the applicable health and safety guidelines, and therefore will not come within 47 C.F.R. Section 1.1307. Applicant must submit the Exhibit called for in Item 13. | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 3. | Pursuant to 47 C.F.R. Section 73.625, the DTV coverage contour of the proposed facility will encompass the allotted principal community. | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 4. | The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied or are not applicable. | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 5. | The antenna structure to be used by this facility has been registered by the Commission and will not require registration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely effect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7. | <input checked="" type="radio"/> Yes <input type="radio"/> No |

SECTION VII - DTV Engineering

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

| | |
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| TECH BOX | |
| 1. | Channel Number: DTV 28 Analog TV, if any 28 |
| 2. | Zone: <input checked="" type="radio"/> I <input type="radio"/> II <input type="radio"/> III |
| 3. | Antenna Location Coordinates: (NAD 27) Latitude: Degrees 42 Minutes 53 Seconds 56 <input checked="" type="radio"/> North <input type="radio"/> South Longitude: Degrees 83 Minutes 27 Seconds 41 <input checked="" type="radio"/> West <input type="radio"/> East |
| 4. | Antenna Structure Registration Number: 1013913 <input type="checkbox"/> Not Applicable <input type="checkbox"/> Notification filed with FAA |
| 5. | Antenna Location Site Elevation Above Mean Sea Level: 281 meters |
| 6. | Overall Tower Height Above Ground Level: 277.3 meters |
| 7. | Height of Radiation Center Above Ground Level: 269 meters |
| 8. | Height of Radiation Center Above Average Terrain (HAAT): 258 meters |

| 9. | Maximum Effective Radiated Power (average power): | 500 kW | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|---------|-------|---|-------|----|-------|----|------|----|-------|----|------|----|-------|----|-------|----|-------|----|-------|----|-------|-----|-------|-----|-------|-----|-------|-----|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|---------------------|--|-----|---|--|--|--|--|--|--|--|--|
| 10. | Antenna Specifications: a. Manufacturer DIE Model TUA-C4-12/48H-1 b. Electrical Beam Tilt: 0.8 degrees <input type="checkbox"/> Not Applicable c. Mechanical Beam Tilt: degrees toward azimuth degrees True <input checked="" type="checkbox"/> Not Applicable Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). [Exhibit 33] d. Polarization: <input checked="" type="radio"/> Horizontal <input type="radio"/> Circular <input type="radio"/> Elliptical e. Directional Antenna Relative Field Values: <input type="checkbox"/> Not applicable (Nondirectional) [For a composite directional (not off-the-shelf) antenna, press the following button to fill in the relative field values subform.] [Relative Field Values] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10e. Directional Antenna Relative Field Values [Fill in this subform for a composite directional (not off-the-shelf) antenna, only.] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| e. Directional Antenna Relative Field Values: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rotation (Degrees): 0 <input checked="" type="checkbox"/> No Rotation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th></tr> </thead> <tbody> <tr> <td>0</td><td>0.947</td><td>10</td><td>0.848</td><td>20</td><td>0.75</td><td>30</td><td>0.858</td><td>40</td><td>0.97</td><td>50</td><td>0.956</td></tr> <tr> <td>60</td><td>0.857</td><td>70</td><td>0.723</td><td>80</td><td>0.679</td><td>90</td><td>0.677</td><td>100</td><td>0.548</td><td>110</td><td>0.419</td></tr> <tr> <td>120</td><td>0.413</td><td>130</td><td>0.44</td><td>140</td><td>0.426</td><td>150</td><td>0.376</td><td>160</td><td>0.425</td><td>170</td><td>0.572</td></tr> <tr> <td>180</td><td>0.662</td><td>190</td><td>0.651</td><td>200</td><td>0.712</td><td>210</td><td>0.869</td><td>220</td><td>0.969</td><td>230</td><td>0.969</td></tr> <tr> <td>240</td><td>0.866</td><td>250</td><td>0.779</td><td>260</td><td>0.89</td><td>270</td><td>0.951</td><td>280</td><td>0.781</td><td>290</td><td>0.676</td></tr> <tr> <td>300</td><td>0.841</td><td>310</td><td>0.985</td><td>320</td><td>0.973</td><td>330</td><td>0.836</td><td>340</td><td>0.706</td><td>350</td><td>0.821</td></tr> <tr> <td colspan="2">Additional Azimuths</td><td>315</td><td>1</td><td colspan="8"></td></tr> </tbody> </table> | | | Degrees | Value | Degrees | Value | Degrees | Value | Degrees | Value | Degrees | Value | Degrees | Value | 0 | 0.947 | 10 | 0.848 | 20 | 0.75 | 30 | 0.858 | 40 | 0.97 | 50 | 0.956 | 60 | 0.857 | 70 | 0.723 | 80 | 0.679 | 90 | 0.677 | 100 | 0.548 | 110 | 0.419 | 120 | 0.413 | 130 | 0.44 | 140 | 0.426 | 150 | 0.376 | 160 | 0.425 | 170 | 0.572 | 180 | 0.662 | 190 | 0.651 | 200 | 0.712 | 210 | 0.869 | 220 | 0.969 | 230 | 0.969 | 240 | 0.866 | 250 | 0.779 | 260 | 0.89 | 270 | 0.951 | 280 | 0.781 | 290 | 0.676 | 300 | 0.841 | 310 | 0.985 | 320 | 0.973 | 330 | 0.836 | 340 | 0.706 | 350 | 0.821 | Additional Azimuths | | 315 | 1 | | | | | | | | |
| Degrees | Value | Degrees | Value | Degrees | Value | Degrees | Value | Degrees | Value | Degrees | Value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 0.947 | 10 | 0.848 | 20 | 0.75 | 30 | 0.858 | 40 | 0.97 | 50 | 0.956 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | 0.857 | 70 | 0.723 | 80 | 0.679 | 90 | 0.677 | 100 | 0.548 | 110 | 0.419 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120 | 0.413 | 130 | 0.44 | 140 | 0.426 | 150 | 0.376 | 160 | 0.425 | 170 | 0.572 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 180 | 0.662 | 190 | 0.651 | 200 | 0.712 | 210 | 0.869 | 220 | 0.969 | 230 | 0.969 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 240 | 0.866 | 250 | 0.779 | 260 | 0.89 | 270 | 0.951 | 280 | 0.781 | 290 | 0.676 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 300 | 0.841 | 310 | 0.985 | 320 | 0.973 | 330 | 0.836 | 340 | 0.706 | 350 | 0.821 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Additional Azimuths | | 315 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Relative Field Polar Plot | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| If a directional antenna is proposed, the requirements of 47 C.F.R. Sections 73.625(c) must be satisfied. Exhibit required. [Exhibit 34] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11. | Does the proposed facility satisfy the pre-transition interference protection provisions of 47 C.F.R. Section 73.623(a) (Applicable only if Certification Checklist Items 1(a), (b), or (c) are answered "No.") and/or the post-transition interference protection provisions of 47 C.F.R. Section 73.616? <input checked="" type="radio"/> Yes <input type="radio"/> No [Exhibit 35] If "No," attach as an Exhibit justification therefor, including a summary of any related previously granted waivers. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

- | | | |
|-----|--|--------------|
| 12. | If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefor. (Applicable only if Certification Checklist item 3 is answered "No.") | [Exhibit 36] |
| 13. | <p>Environmental Protection Act. Submit in an Exhibit the following:</p> <p>a. If Certification Checklist Item 2 is answered "Yes," a brief explanation of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken to limit RF radiation exposure to the public and to persons authorized access to the tower site.</p> <p>By checking "Yes" to Certification Checklist Item 2, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.</p> <p>If Certification Checklist Item 2 is answered "No," an Environmental Assessment as required by 47 C.F.R Section 1.1311.</p> | [Exhibit 37] |

PREPARERS CERTIFICATION ON PAGE 8 MUST BE COMPLETED AND SIGNED.

Exhibits

Exhibit 34
Description: SEE ENGINEERING STATEMENT EXHIBIT 37

SEE ENGINEERING STATEMENT EXHIBIT 37

Attachment 34

Exhibit 37
Description: ENGINEERING STATEMENT/RFR AND ANTENNA PATTERNS AND DBK TABLE

ENGINEERING STATEMENT/RFR AND ANTENNA PATTERNS AND DBK TABLE

Attachment 37

| Description |
|---|
| <u>Engineering Statement and RFR Antenna Patterns, Relative field/dBk Table</u> |



ENGINEERING STATEMENT
OF
JOHN F.X. BROWNE, P.E.
IN SUPPORT OF AN APPLICATION FOR
MINOR MODIFICATION OF A POST-TRANSITION CONSTRUCTION PERMIT
WFUM-DT
FLINT, MI

Background

The Regents of University of Michigan (UOM) is the licensee of WFUM-DT which has been authorized to operate its post-transition DTV facility on Channel 28 (BPEDT-20080312ADF) at Flint, MI, with an ERP of 126 kW at a HAAT of 258m. The tower is located at the following coordinates:

(NAD27)
42° 53' 56" NL
83° 27' 41" WL

UOM now wishes to "maximize" the post-transition facility ERP to 500 kW. All other facility parameters will remain the same.



Site

The proposed facility is located within the Canadian border zone and coordination with the Canadian government is requested to the extent necessary in light of the FCC's ongoing negotiations with the Canadian government.

Antenna System and Tower

WFUM will continue operating with its existing broadband Dielectric TUA-C4-12/48H-1 (attached hereto as Exhibit 1-4) analog antenna (which will be used for post-transition digital operation). The antenna is installed on a tower (ASR#1013913) approximately 24km southeast of Flint, MI. The tower has an overall height of 557.8m AMSL (with appurtenances) and the antenna has a center of radiation of 550m AMSL (with a calculated HAAT of 258m). No modification of the tower or antenna system is necessary.

Coverage

The entire principal community of Flint, MI is well within the predicted F(50,90) 48 dBu contour based on the proposed 500 kW ERP.

Interference

Studies were run with the proposed parameters using software that emulates the software used by the FCC (OET-69 analysis). The results of the study indicate that there are no post-transition stations that would receive more than 0.5% new interference.

Environmental/RFR

The proposed construction does not require preparation of an Environmental Assessment as it does not involve any of the factors listed in Section 1.1306.



The additional ground level RFR contributed to the site by this proposal in public areas is calculated to be 0.002291 mW/cm^2 which is less than 5% of the MPE for public exposure (0.37 mW/cm^2) at the proposed frequency and, therefore, the proposal is excluded from further consideration.

UOM agrees to comply with the Commission's requirements regarding power adjustments or cessation of operation as may be necessary to ensure a compliant environment for worker access. Workers will be encouraged to wear personal RFR monitors when on the structure. The tower base is enclosed by a locked security fence and appropriate signage warning of RFR hazards is posted.

Certification

I hereby certify that the foregoing report or statement was prepared by me but may include work performed by others under my supervision or direction. The statements of fact contained therein are believed to be true and correct based on personal knowledge, information and belief unless otherwise stated; with respect to facts not known of my own personal knowledge, I believe them to be true and correct based on their origin from sources known to me to be generally reliable and accurate. I have prepared this document with due care and in accordance with applicable standards of professional practice.

A handwritten signature in black ink, appearing to read 'John F. X. Browne', written over a horizontal line.

John F. X. Browne, P.E.
June 2, 2008

DIRECTIONAL ANTENNA DATA
WFUM-DT
dBk Table

| Actual Bearing | Pattern Azimuth | Relative Field | ERP (dBk) | CONTOURS(km) | |
|----------------|-----------------|----------------|-----------|--------------|--------|
| | | | | 48 dBu | 41 dBu |
| N000E | 0.00 | 0.947 | 26.52 | 76.4 | 87.8 |
| | 10.00 | 0.848 | 25.56 | | |
| | 20.00 | 0.750 | 24.49 | | |
| | 30.00 | 0.858 | 25.66 | | |
| | 40.00 | 0.970 | 26.73 | | |
| N045E | 45.00 | 0.978 | 26.80 | 75.6 | 86.6 |
| | 50.00 | 0.956 | 26.60 | | |
| | 60.00 | 0.857 | 25.65 | | |
| | 70.00 | 0.723 | 24.17 | | |
| N090E | 80.00 | 0.679 | 23.63 | 68.1 | 75.9 |
| | 90.00 | 0.677 | 23.60 | | |
| | 100.00 | 0.548 | 21.77 | | |
| | 110.00 | 0.419 | 19.43 | | |
| | 120.00 | 0.413 | 19.31 | | |
| N135E | 130.00 | 0.440 | 19.86 | 64.1 | 71.4 |
| | 135.00 | 0.439 | 19.84 | | |
| | 140.00 | 0.426 | 19.58 | | |
| | 150.00 | 0.376 | 18.49 | | |
| | 160.00 | 0.425 | 19.56 | | |
| N180E | 170.00 | 0.572 | 22.14 | 68.7 | 76.7 |
| | 180.00 | 0.662 | 23.41 | | |
| | 190.00 | 0.651 | 23.26 | | |
| | 200.00 | 0.712 | 24.04 | | |
| | 210.00 | 0.869 | 25.77 | | |
| N225E | 220.00 | 0.969 | 26.72 | 73.6 | 83.5 |
| | 225.00 | 0.983 | 26.84 | | |
| | 230.00 | 0.969 | 26.72 | | |
| | 240.00 | 0.866 | 25.74 | | |
| | 250.00 | 0.779 | 24.82 | | |
| N270E | 260.00 | 0.890 | 25.98 | 75.1 | 85.8 |
| | 270.00 | 0.951 | 26.55 | | |
| | 280.00 | 0.781 | 24.84 | | |
| | 290.00 | 0.676 | 23.59 | | |
| | 300.00 | 0.841 | 25.49 | | |
| N315E | 310.00 | 0.985 | 26.86 | 77.5 | 89.3 |
| | 315.00 | 1.000 | 26.99 | | |
| | 320.00 | 0.973 | 26.75 | | |
| | 330.00 | 0.836 | 25.43 | | |
| | 340.00 | 0.706 | 23.97 | | |
| | 350.00 | 0.821 | 25.28 | | |

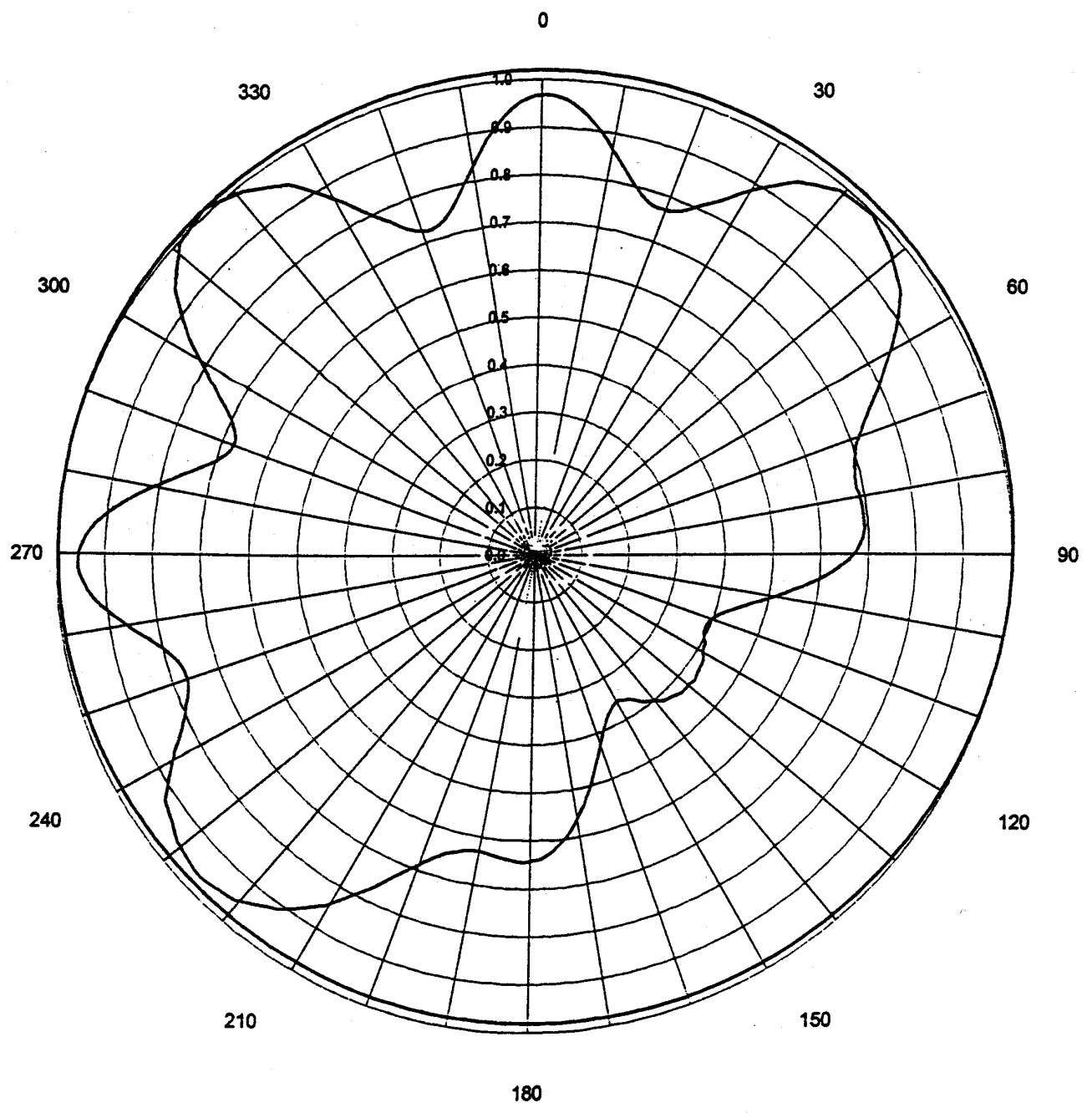
Maximum: N315E 26.99 dBk

Minimum: N152E 18.40 dBk

| | | |
|-----------------|-----------------|------------|
| Proposal Number | DCA-xxxx | |
| Date | 4-Jun-01 | |
| Call Letters | | Channel 28 |
| Location | Flint, MI | |
| Customer | | |
| Antenna Type | TUA-C4-12/48H-1 | |

AZIMUTH PATTERN

| | | | | |
|-----------------------|------|------------|-----------|------------|
| Gain | 1.70 | (2.30 dB) | Frequency | 557.00 MHz |
| Calculated / Measured | | Calculated | Drawing # | TUA-C4-557 |



Proposal Number **DCA-xxxx**
 Date **4-Jun-01**
 Call Letters **-----**
 Location **Flint, MI**
 Customer **-----**
 Antenna Type **TUA-C4-12/48H-1**

Exhibit 2

Channel **28**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TUA-C4-557**

| Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0 | 0.947 | 45 | 0.978 | 90 | 0.677 | 135 | 0.439 | 180 | 0.862 | 225 | 0.983 | 270 | 0.951 | 315 | 1.000 |
| 1 | 0.947 | 46 | 0.974 | 91 | 0.671 | 136 | 0.436 | 181 | 0.864 | 226 | 0.980 | 271 | 0.944 | 316 | 0.995 |
| 2 | 0.945 | 47 | 0.969 | 92 | 0.663 | 137 | 0.433 | 182 | 0.865 | 227 | 0.977 | 272 | 0.933 | 317 | 0.989 |
| 3 | 0.939 | 48 | 0.965 | 93 | 0.653 | 138 | 0.430 | 183 | 0.864 | 228 | 0.974 | 273 | 0.920 | 318 | 0.984 |
| 4 | 0.930 | 49 | 0.960 | 94 | 0.640 | 139 | 0.428 | 184 | 0.862 | 229 | 0.971 | 274 | 0.904 | 319 | 0.979 |
| 5 | 0.919 | 50 | 0.956 | 95 | 0.626 | 140 | 0.426 | 185 | 0.859 | 230 | 0.969 | 275 | 0.885 | 320 | 0.973 |
| 6 | 0.908 | 51 | 0.949 | 96 | 0.613 | 141 | 0.420 | 186 | 0.857 | 231 | 0.961 | 276 | 0.867 | 321 | 0.963 |
| 7 | 0.894 | 52 | 0.942 | 97 | 0.598 | 142 | 0.415 | 187 | 0.855 | 232 | 0.955 | 277 | 0.846 | 322 | 0.954 |
| 8 | 0.880 | 53 | 0.935 | 98 | 0.582 | 143 | 0.410 | 188 | 0.853 | 233 | 0.948 | 278 | 0.825 | 323 | 0.945 |
| 9 | 0.864 | 54 | 0.929 | 99 | 0.565 | 144 | 0.405 | 189 | 0.852 | 234 | 0.943 | 279 | 0.803 | 324 | 0.936 |
| 10 | 0.848 | 55 | 0.923 | 100 | 0.548 | 145 | 0.402 | 190 | 0.851 | 235 | 0.938 | 280 | 0.781 | 325 | 0.928 |
| 11 | 0.832 | 56 | 0.909 | 101 | 0.533 | 146 | 0.394 | 191 | 0.851 | 236 | 0.923 | 281 | 0.761 | 326 | 0.909 |
| 12 | 0.816 | 57 | 0.896 | 102 | 0.517 | 147 | 0.387 | 192 | 0.853 | 237 | 0.907 | 282 | 0.741 | 327 | 0.890 |
| 13 | 0.801 | 58 | 0.883 | 103 | 0.502 | 148 | 0.382 | 193 | 0.855 | 238 | 0.893 | 283 | 0.723 | 328 | 0.871 |
| 14 | 0.788 | 59 | 0.869 | 104 | 0.487 | 149 | 0.378 | 194 | 0.860 | 239 | 0.879 | 284 | 0.707 | 329 | 0.853 |
| 15 | 0.776 | 60 | 0.857 | 105 | 0.472 | 150 | 0.376 | 195 | 0.865 | 240 | 0.866 | 285 | 0.694 | 330 | 0.836 |
| 16 | 0.766 | 61 | 0.841 | 106 | 0.460 | 151 | 0.373 | 196 | 0.871 | 241 | 0.850 | 286 | 0.684 | 331 | 0.816 |
| 17 | 0.757 | 62 | 0.826 | 107 | 0.448 | 152 | 0.372 | 197 | 0.879 | 242 | 0.835 | 287 | 0.676 | 332 | 0.797 |
| 18 | 0.752 | 63 | 0.812 | 108 | 0.437 | 153 | 0.374 | 198 | 0.889 | 243 | 0.823 | 288 | 0.673 | 333 | 0.780 |
| 19 | 0.749 | 64 | 0.798 | 109 | 0.427 | 154 | 0.378 | 199 | 0.700 | 244 | 0.812 | 289 | 0.673 | 334 | 0.765 |
| 20 | 0.750 | 65 | 0.786 | 110 | 0.419 | 155 | 0.383 | 200 | 0.712 | 245 | 0.804 | 290 | 0.676 | 335 | 0.752 |
| 21 | 0.752 | 66 | 0.771 | 111 | 0.412 | 156 | 0.388 | 201 | 0.725 | 246 | 0.794 | 291 | 0.682 | 336 | 0.737 |
| 22 | 0.756 | 67 | 0.757 | 112 | 0.405 | 157 | 0.396 | 202 | 0.739 | 247 | 0.786 | 292 | 0.692 | 337 | 0.725 |
| 23 | 0.764 | 68 | 0.744 | 113 | 0.401 | 158 | 0.404 | 203 | 0.754 | 248 | 0.781 | 293 | 0.704 | 338 | 0.716 |
| 24 | 0.774 | 69 | 0.733 | 114 | 0.398 | 159 | 0.414 | 204 | 0.770 | 249 | 0.779 | 294 | 0.720 | 339 | 0.709 |
| 25 | 0.787 | 70 | 0.723 | 115 | 0.397 | 160 | 0.425 | 205 | 0.788 | 250 | 0.779 | 295 | 0.739 | 340 | 0.706 |
| 26 | 0.798 | 71 | 0.713 | 116 | 0.397 | 161 | 0.438 | 206 | 0.802 | 251 | 0.782 | 296 | 0.755 | 341 | 0.705 |
| 27 | 0.810 | 72 | 0.704 | 117 | 0.398 | 162 | 0.452 | 207 | 0.818 | 252 | 0.787 | 297 | 0.774 | 342 | 0.709 |
| 28 | 0.824 | 73 | 0.697 | 118 | 0.401 | 163 | 0.467 | 208 | 0.834 | 253 | 0.795 | 298 | 0.794 | 343 | 0.715 |
| 29 | 0.840 | 74 | 0.691 | 119 | 0.406 | 164 | 0.481 | 209 | 0.851 | 254 | 0.805 | 299 | 0.817 | 344 | 0.724 |
| 30 | 0.858 | 75 | 0.687 | 120 | 0.413 | 165 | 0.495 | 210 | 0.869 | 255 | 0.817 | 300 | 0.841 | 345 | 0.735 |
| 31 | 0.871 | 76 | 0.683 | 121 | 0.414 | 166 | 0.512 | 211 | 0.880 | 256 | 0.830 | 301 | 0.858 | 346 | 0.750 |
| 32 | 0.886 | 77 | 0.681 | 122 | 0.417 | 167 | 0.528 | 212 | 0.892 | 257 | 0.845 | 302 | 0.876 | 347 | 0.766 |
| 33 | 0.900 | 78 | 0.679 | 123 | 0.421 | 168 | 0.544 | 213 | 0.904 | 258 | 0.860 | 303 | 0.895 | 348 | 0.784 |
| 34 | 0.915 | 79 | 0.679 | 124 | 0.425 | 169 | 0.559 | 214 | 0.916 | 259 | 0.875 | 304 | 0.914 | 349 | 0.803 |
| 35 | 0.931 | 80 | 0.679 | 125 | 0.431 | 170 | 0.572 | 215 | 0.928 | 260 | 0.890 | 305 | 0.933 | 350 | 0.821 |
| 36 | 0.938 | 81 | 0.681 | 126 | 0.432 | 171 | 0.587 | 216 | 0.936 | 261 | 0.906 | 306 | 0.943 | 351 | 0.841 |
| 37 | 0.946 | 82 | 0.683 | 127 | 0.433 | 172 | 0.601 | 217 | 0.944 | 262 | 0.920 | 307 | 0.953 | 352 | 0.861 |
| 38 | 0.954 | 83 | 0.685 | 128 | 0.435 | 173 | 0.613 | 218 | 0.952 | 263 | 0.932 | 308 | 0.964 | 353 | 0.879 |
| 39 | 0.962 | 84 | 0.686 | 129 | 0.438 | 174 | 0.624 | 219 | 0.961 | 264 | 0.942 | 309 | 0.975 | 354 | 0.895 |
| 40 | 0.970 | 85 | 0.686 | 130 | 0.440 | 175 | 0.632 | 220 | 0.969 | 265 | 0.949 | 310 | 0.985 | 355 | 0.909 |
| 41 | 0.972 | 86 | 0.688 | 131 | 0.440 | 176 | 0.642 | 221 | 0.972 | 266 | 0.956 | 311 | 0.988 | 356 | 0.923 |
| 42 | 0.973 | 87 | 0.687 | 132 | 0.439 | 177 | 0.650 | 222 | 0.975 | 267 | 0.959 | 312 | 0.991 | 357 | 0.933 |
| 43 | 0.975 | 88 | 0.686 | 133 | 0.439 | 178 | 0.656 | 223 | 0.977 | 268 | 0.960 | 313 | 0.994 | 358 | 0.941 |
| 44 | 0.977 | 89 | 0.682 | 134 | 0.439 | 179 | 0.660 | 224 | 0.980 | 269 | 0.957 | 314 | 0.997 | 359 | 0.946 |

Proposal Number **DCA-xxxx**

Date **4-Jun-01**

Call Letters

Channel **28**

Location **Flint, MI**

Customer

Antenna Type **TUA-C4-12/48H-1**

ELEVATION PATTERN

RMS Gain at Main Lobe **23.20 (13.65 dB)**

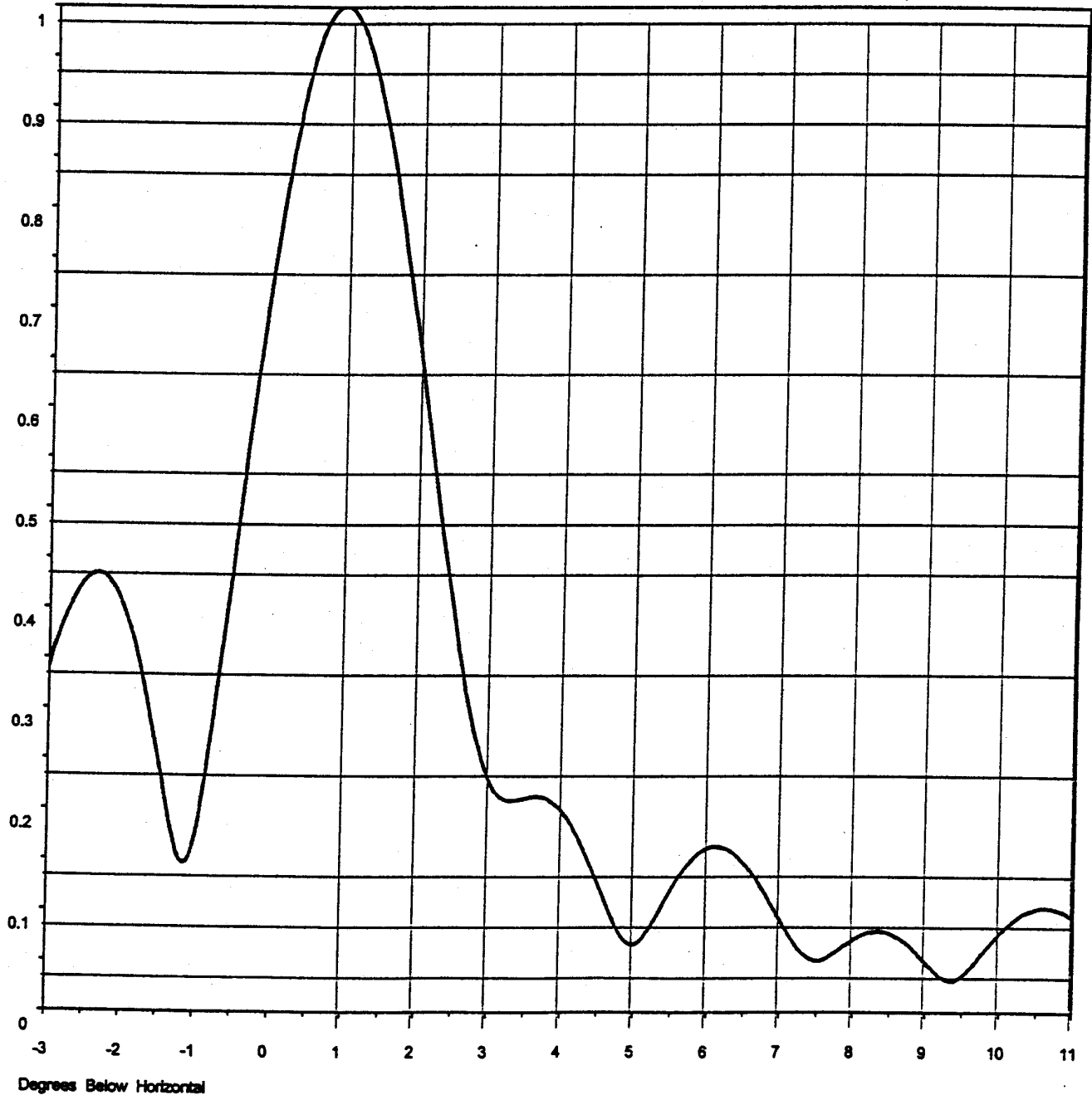
Beam Tilt **0.80 deg**

RMS Gain at Horizontal **13.60 (11.34 dB)**

Frequency **557.00 MHz**

Calculated / Measured **Calculated**

Drawing # **12U232075-B557**



Proposal Number DCA-xxxx

Date 4-Jun-01

Call Letters

Channel 28

Location Flint, MI

Customer

Antenna Type TUA-C4-12/48H-1

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: 12U232075-B557-90

| Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| -10.0 | 0.039 | 2.4 | 0.427 | 10.6 | 0.102 | 30.5 | 0.040 | 51.0 | 0.015 | 71.5 | 0.125 |
| -9.5 | 0.063 | 2.6 | 0.338 | 10.8 | 0.102 | 31.0 | 0.025 | 51.5 | 0.012 | 72.0 | 0.117 |
| -9.0 | 0.056 | 2.8 | 0.268 | 11.0 | 0.097 | 31.5 | 0.021 | 52.0 | 0.019 | 72.5 | 0.109 |
| -8.5 | 0.038 | 3.0 | 0.226 | 11.5 | 0.065 | 32.0 | 0.022 | 52.5 | 0.029 | 73.0 | 0.099 |
| -8.0 | 0.082 | 3.2 | 0.209 | 12.0 | 0.032 | 32.5 | 0.021 | 53.0 | 0.038 | 73.5 | 0.089 |
| -7.5 | 0.134 | 3.4 | 0.210 | 12.5 | 0.043 | 33.0 | 0.015 | 53.5 | 0.043 | 74.0 | 0.079 |
| -7.0 | 0.150 | 3.6 | 0.213 | 13.0 | 0.054 | 33.5 | 0.009 | 54.0 | 0.043 | 74.5 | 0.070 |
| -6.5 | 0.116 | 3.8 | 0.210 | 13.5 | 0.041 | 34.0 | 0.014 | 54.5 | 0.037 | 75.0 | 0.061 |
| -6.0 | 0.047 | 4.0 | 0.197 | 14.0 | 0.024 | 34.5 | 0.023 | 55.0 | 0.028 | 75.5 | 0.052 |
| -5.5 | 0.062 | 4.2 | 0.173 | 14.5 | 0.048 | 35.0 | 0.026 | 55.5 | 0.016 | 76.0 | 0.045 |
| -5.0 | 0.111 | 4.4 | 0.142 | 15.0 | 0.072 | 35.5 | 0.024 | 56.0 | 0.009 | 76.5 | 0.038 |
| -4.5 | 0.100 | 4.6 | 0.107 | 15.5 | 0.074 | 36.0 | 0.017 | 56.5 | 0.015 | 77.0 | 0.032 |
| -4.0 | 0.075 | 4.8 | 0.077 | 16.0 | 0.053 | 36.5 | 0.010 | 57.0 | 0.023 | 77.5 | 0.027 |
| -3.5 | 0.192 | 5.0 | 0.067 | 16.5 | 0.022 | 37.0 | 0.013 | 57.5 | 0.028 | 78.0 | 0.024 |
| -3.0 | 0.341 | 5.2 | 0.083 | 17.0 | 0.025 | 37.5 | 0.018 | 58.0 | 0.027 | 78.5 | 0.021 |
| -2.8 | 0.388 | 5.4 | 0.110 | 17.5 | 0.039 | 38.0 | 0.017 | 58.5 | 0.023 | 79.0 | 0.019 |
| -2.6 | 0.420 | 5.6 | 0.135 | 18.0 | 0.034 | 38.5 | 0.012 | 59.0 | 0.017 | 79.5 | 0.017 |
| -2.4 | 0.434 | 5.8 | 0.153 | 18.5 | 0.021 | 39.0 | 0.008 | 59.5 | 0.019 | 80.0 | 0.016 |
| -2.2 | 0.428 | 6.0 | 0.162 | 19.0 | 0.037 | 39.5 | 0.016 | 60.0 | 0.031 | 80.5 | 0.016 |
| -2.0 | 0.400 | 6.2 | 0.162 | 19.5 | 0.061 | 40.0 | 0.026 | 60.5 | 0.047 | 81.0 | 0.015 |
| -1.8 | 0.351 | 6.4 | 0.153 | 20.0 | 0.070 | 40.5 | 0.030 | 61.0 | 0.062 | 81.5 | 0.015 |
| -1.6 | 0.284 | 6.6 | 0.136 | 20.5 | 0.058 | 41.0 | 0.029 | 61.5 | 0.074 | 82.0 | 0.015 |
| -1.4 | 0.207 | 6.8 | 0.114 | 21.0 | 0.031 | 41.5 | 0.022 | 62.0 | 0.083 | 82.5 | 0.014 |
| -1.2 | 0.149 | 7.0 | 0.089 | 21.5 | 0.014 | 42.0 | 0.013 | 62.5 | 0.086 | 83.0 | 0.014 |
| -1.0 | 0.175 | 7.2 | 0.066 | 22.0 | 0.032 | 42.5 | 0.011 | 63.0 | 0.085 | 83.5 | 0.014 |
| -0.8 | 0.275 | 7.4 | 0.052 | 22.5 | 0.037 | 43.0 | 0.016 | 63.5 | 0.077 | 84.0 | 0.013 |
| -0.6 | 0.401 | 7.6 | 0.052 | 23.0 | 0.025 | 43.5 | 0.020 | 64.0 | 0.066 | 84.5 | 0.013 |
| -0.4 | 0.531 | 7.8 | 0.062 | 23.5 | 0.026 | 44.0 | 0.018 | 64.5 | 0.047 | 85.0 | 0.012 |
| -0.2 | 0.655 | 8.0 | 0.072 | 24.0 | 0.055 | 44.5 | 0.013 | 65.0 | 0.032 | 85.5 | 0.012 |
| 0.0 | 0.767 | 8.2 | 0.079 | 24.5 | 0.080 | 45.0 | 0.010 | 65.5 | 0.026 | 86.0 | 0.011 |
| 0.2 | 0.861 | 8.4 | 0.079 | 25.0 | 0.090 | 45.5 | 0.018 | 66.0 | 0.036 | 86.5 | 0.011 |
| 0.4 | 0.933 | 8.6 | 0.073 | 25.5 | 0.078 | 46.0 | 0.027 | 66.5 | 0.055 | 87.0 | 0.010 |
| 0.6 | 0.980 | 8.8 | 0.062 | 26.0 | 0.049 | 46.5 | 0.033 | 67.0 | 0.074 | 87.5 | 0.010 |
| 0.8 | 1.000 | 9.0 | 0.048 | 26.5 | 0.023 | 47.0 | 0.033 | 67.5 | 0.092 | 88.0 | 0.010 |
| 1.0 | 0.993 | 9.2 | 0.034 | 27.0 | 0.048 | 47.5 | 0.028 | 68.0 | 0.107 | 88.5 | 0.009 |
| 1.2 | 0.960 | 9.4 | 0.032 | 27.5 | 0.080 | 48.0 | 0.019 | 68.5 | 0.119 | 89.0 | 0.009 |
| 1.4 | 0.902 | 9.6 | 0.044 | 28.0 | 0.100 | 48.5 | 0.010 | 69.0 | 0.127 | 89.5 | 0.009 |
| 1.6 | 0.826 | 9.8 | 0.052 | 28.5 | 0.105 | 49.0 | 0.010 | 69.5 | 0.133 | 90.0 | 0.009 |
| 1.8 | 0.734 | 10.0 | 0.070 | 29.0 | 0.096 | 49.5 | 0.017 | 70.0 | 0.135 | | |
| 2.0 | 0.633 | 10.2 | 0.085 | 29.5 | 0.081 | 50.0 | 0.021 | 70.5 | 0.134 | | |
| 2.2 | 0.528 | 10.4 | 0.096 | 30.0 | 0.060 | 50.5 | 0.020 | 71.0 | 0.131 | | |