

**MINOR CHANGE APPLICATION**  
**CENTRAL FLORIDA EDUCATIONAL FOUNDATION, INC.**  
**W240CM FM TRANSLATOR STATION**  
**CH 241D - 96.1 MHZ - 0.019 KW**  
**TAVARES, FLORIDA**  
**February 2011**

**EXHIBIT A**

As indicated on Exhibit A1, the proposed operation of W240CM on Channel 241D with an effective radiated power of 0.019 kilowatt at 107.0 meters (351.0 feet) above ground level will not cause interference to any existing, applied for, or proposed facility. As noted on Exhibit A1, the proposed W240CM on Channel 241D is inside the predicted 60 dBu contour of second adjacent station WHTQ, Channel 243C, Orlando, Florida. Due to the relationship between W240CM on Channel 241D and WHTQ, a 40 dB ratio of the protected and interfering contours applies.

We have therefore calculated the level of signal of WHTQ at the proposed/licensed W240CM site. The WHTQ contour at the W240CM site is 62.5 dBu (50/50). A map showing the WHTQ contour at the W240CM site is attached as Exhibit A2. As noted, the corresponding interfering contour for W240CM is 102.5 dBu (50/10). At its greatest distance, the interfering contour (102.5 dBu) of W240CM extends 0.23 kilometer (754.6 feet) from the proposed W240CM site (Exhibit A3). The proposed W240CM antenna system is an Electronics Research, Inc. ("ERI") Model 100-4-HW (four bay low power half wavelength spaced). ERI has provided the vertical elevation pattern of the antenna system, so that calculations of the actual power level

at depression angles between 5° and 90° could be calculated (Exhibit A4). Applying the actual relative field values, it was then possible to calculate, using a free space calculation, the actual distance to the interfering contour (F50/10) of the translator with respect to WHTQ.

As indicated in Exhibit A5, we have calculated the elevation above the ground of the interference from the proposed W240CM translator. The closest point above the ground that the interfering contour reaches is 70.8 meters (232.3 feet) above ground. This point occurs at a distance of 135.2 meters (443.6 feet) out from the base of the tower. There are no multi-story structures which exist in the immediate vicinity of the tower. As the interfering contour does not reach the ground, it will not impact reception of service from WHTQ in the area and the interference is, therefore, considered to be over an unpopulated area. As such, it is believed that the proposed W240CM facility on Channel 241D is in compliance with §74.1204(d) of the Commission's rules.

Based on the foregoing, it is believed that the proposed W240CM operating on Channel 241D is in compliance with §74.1204(d) of the Commission's rules. If a waiver of the rule is needed, one is respectfully requested, based on the absence of any population affected in the interference area.

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**W240CM FM TRANSLATOR STATION**  
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**TAVARES, FLORIDA**  
**February 2011**

**EXHIBIT A1**

Interference Study for W240CM, Tavares, Florida  
Using Proposed/Licensed Site as Reference

REFERENCE		CH# 241D - 96.1 MHZ, Pwr= 0.019 kW, HAAT= 105.6 M, COR= 127 M								DISPLAY DATES	
28 51 35.0 N.		Average Protected F(50-50)= 3.7 km								DATA 02-22-11	
81 46 27.0 W.		Omni-directional								SEARCH 02-22-11	
CH CITY	CALL	TYPE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr (kW) HAAT (M)	INT (km) COR (M)	PRO (km) LICENSEE	*IN* (Overlap in km)	*OUT*
240D Tavares	W240CM	LIC	C FL	0.0 0.0	0.0 BLFT-20110203ACS	28 51 35.0 81 46 27.0	0.019	9.8 127	7.0 Central Florida Educational	-16.8*	-16.8*
241A Dade City	WTMP-FM	LIC	CX FL	229.9 49.7	66.6 BLH-20080109AFU	28 28 22.0 82 17 45.0	2.800 147	83.8 180	28.9 Scott Savage, Receiver	-24.2*<	14.2
241C0 Jacksonville	WEJZ	LIC	CN FL	4.4 184.5	162.7 BLH-19881109KA	30 19 22.0 81 38 34.0	100.000 300	172.3 304	72.6 Renda Broadcasting Corp.	-16.6*<	66.6
243C Orlando	WHTQ	LIC	NCY FL	114.6 294.9	77.4 BLH-20011219AAC	28 34 07.0 81 03 16.0	100.000 454	12.1 463	83.4 Cox Radio, Inc.	58.4	-6.3*<
239D Mount Dora	W239BS	LIC	DV FL	170.9 351.0	23.7 BLFT-20110203ACP	28 38 56.0 81 44 09.0	0.250	0.4 143	9.1 Central Florida Educational	16.2	14.2
240L1 Summerfield	WJRN-LP	LIC		296.5 116.4	38.2 BLL-20040825ACC	29 00 45.0 82 07 31.0	0.100 17	8.0 40	5.6 Hispanic-Multicultural Broad.	23.2	22.6
238A Silver Springs	WNDD	LIC	CN FL	330.6 150.5	53.8 BLH-19950501KA	29 16 55.0 82 02 50.0	6.000 100	2.8 118	28.6 Ocala Broadcasting Corp.	43.9	24.9
241D Kissimmee	1127837	APP	C FL	153.2 333.4	68.1 BNPFT-20030828AOI	28 18 40.0 81 27 36.0	0.080	19.7 63	5.9 Bible Broadcasting Network	41.4	38.6
239C3 Ormond-by-the-sea	WHOG-FM	LIC	CX FL	58.3 238.6	80.1 BMLH-20040702AEK	29 14 11.0 81 04 22.0	25.000 100	3.9 103	38.0 Black Crow Radio, LLC, Debt	69.1	41.7
242A Yankeetown	WXOF	LIC	C FL	281.7 101.2	91.0 BLH-20000104ABQ	29 01 18.0 82 41 20.0	3.500 132	42.2 135	27.6 WGUL-FM, Inc	41.8	53.5
244D Ocala	W244BC	LIC	VN FL	314.4 134.3	50.5 BLFT-19980105TD	29 10 38.0 82 08 44.0	0.010 92	0.2 116	5.6 Radio Training Network, Inc.	43.2	44.6

Terrain database is NGDC 30 SEC, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM  
Contour distances are on direct line to and from reference station. Reference Zone= East Zone, Co to 3rd  
adjacent.

Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
\*\*\*affixed to 'IN' or 'OUT' values = site inside protected contour.

< = Contour Overlap

**W240CM - Proposed**  
Latitude: 28-51-35 N  
Longitude: 081-46-27 W  
ERP: 0.019 kW  
Channel: 241D  
Frequency: 96.1 MHz  
AMSL Height: 127.0 m  
Horiz. Pattern: Omni  
Prop Model: FCC

**Graham Brock, Inc. - Broadcast Technical Consultants**

**WHTQ**  
BLH-20011219AAC  
Latitude: 28-34-07 N  
Longitude: 081-03-16 W  
ERP: 100.00 kW  
Channel: 243C  
Frequency: 96.5 MHz  
AMSL Height: 463.0 m  
Horiz. Pattern: Omni  
Prop Model: FCC

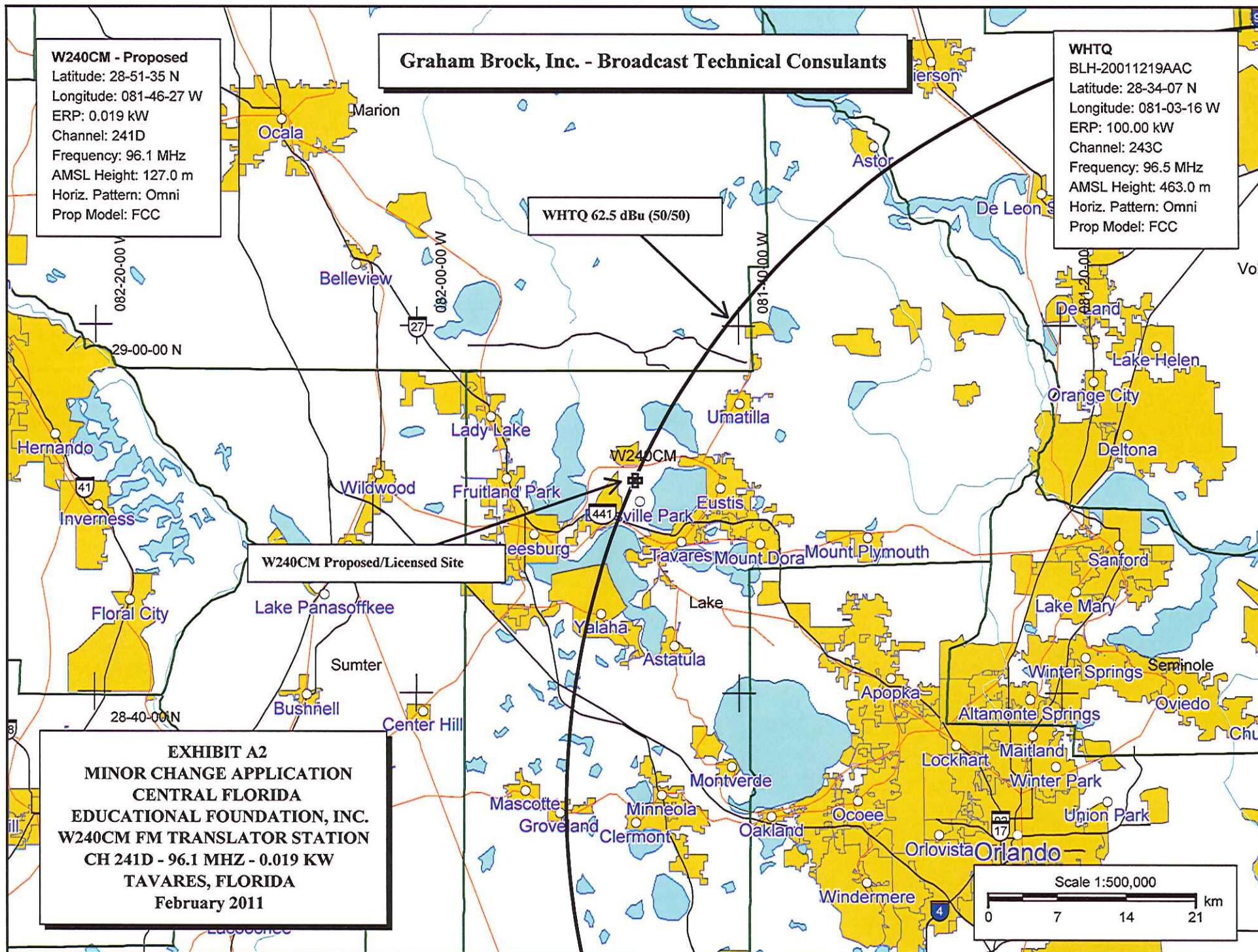
WHTQ 62.5 dBu (50/50)

W240CM Proposed/Licensed Site

**EXHIBIT A2**  
**MINOR CHANGE APPLICATION**  
**CENTRAL FLORIDA**  
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Scale 1:500,000

0 7 14 21 km



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**EXHIBIT A3**

Predicted contours:

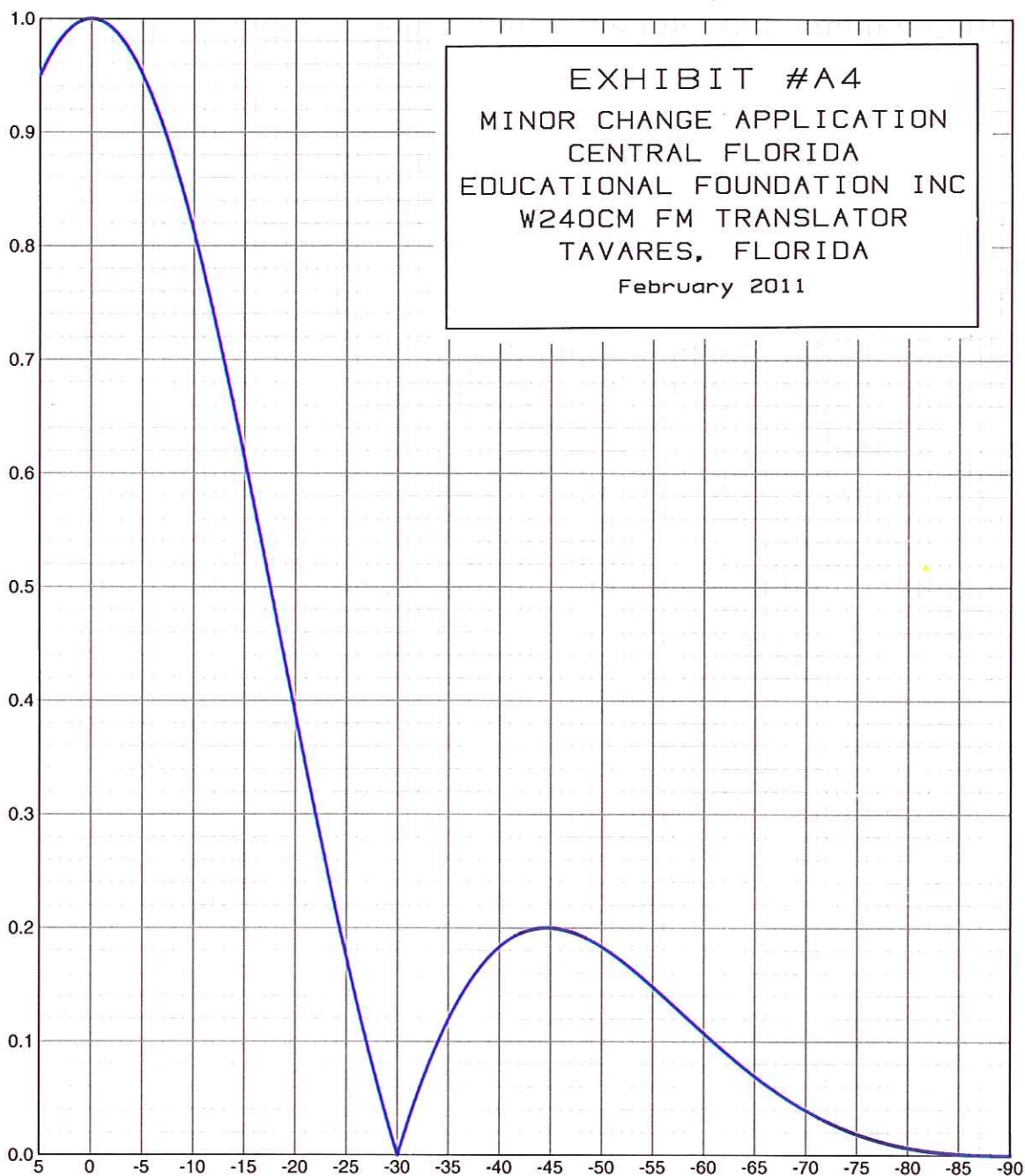
North Latitude = 28 51 35 - Tabulated Protected and Interfering Contour Date  
 West Longitude = 81 46 27 - W240CM FM Translator Station, Tavares, Florida

HAAT and Distance to Contour - NGDC 30 Second Terrain Database

Azi.	HAAT	ERP kW	dBk	Field	60-F5	40-F1	54-F1	100-F1	102.5-F1
000	103.9	0.0190	-17.21	1.000	6.96	23.26	9.82	0.31	0.23
010	106.2	0.0190	-17.21	1.000	7.04	23.53	9.92	0.31	0.23
020	107.0	0.0190	-17.21	1.000	7.07	23.62	9.95	0.31	0.23
030	107.1	0.0190	-17.21	1.000	7.07	23.64	9.96	0.31	0.23
040	107.1	0.0190	-17.21	1.000	7.07	23.64	9.96	0.31	0.23
050	105.9	0.0190	-17.21	1.000	7.03	23.50	9.91	0.31	0.23
060	106.5	0.0190	-17.21	1.000	7.05	23.57	9.94	0.31	0.23
070	107.1	0.0190	-17.21	1.000	7.07	23.64	9.96	0.31	0.23
080	106.7	0.0190	-17.21	1.000	7.06	23.59	9.94	0.31	0.23
090	103.1	0.0190	-17.21	1.000	6.94	23.16	9.78	0.31	0.23
100	95.4	0.0190	-17.21	1.000	6.67	22.21	9.42	0.31	0.23
110	99.3	0.0190	-17.21	1.000	6.81	22.70	9.60	0.31	0.23
120	104.0	0.0190	-17.21	1.000	6.97	23.27	9.82	0.31	0.23
130	107.5	0.0190	-17.21	1.000	7.08	23.69	9.98	0.31	0.23
140	107.7	0.0190	-17.21	1.000	7.09	23.71	9.99	0.31	0.23
150	106.2	0.0190	-17.21	1.000	7.04	23.53	9.92	0.31	0.23
160	105.9	0.0190	-17.21	1.000	7.03	23.50	9.91	0.31	0.23
170	106.3	0.0190	-17.21	1.000	7.04	23.54	9.92	0.31	0.23
180	104.8	0.0190	-17.21	1.000	6.99	23.36	9.86	0.31	0.23
190	104.2	0.0190	-17.21	1.000	6.97	23.30	9.83	0.31	0.23
200	105.5	0.0190	-17.21	1.000	7.01	23.45	9.89	0.31	0.23
210	106.1	0.0190	-17.21	1.000	7.04	23.53	9.92	0.31	0.23
220	105.6	0.0190	-17.21	1.000	7.02	23.46	9.89	0.31	0.23
230	105.7	0.0190	-17.21	1.000	7.02	23.47	9.90	0.31	0.23
240	106.3	0.0190	-17.21	1.000	7.04	23.54	9.93	0.31	0.23
250	106.2	0.0190	-17.21	1.000	7.04	23.53	9.92	0.31	0.23
260	103.5	0.0190	-17.21	1.000	6.95	23.21	9.80	0.31	0.23
270	103.8	0.0190	-17.21	1.000	6.96	23.25	9.81	0.31	0.23
280	103.8	0.0190	-17.21	1.000	6.96	23.24	9.81	0.31	0.23
290	107.2	0.0190	-17.21	1.000	7.07	23.65	9.97	0.31	0.23
300	106.1	0.0190	-17.21	1.000	7.04	23.52	9.92	0.31	0.23
310	104.1	0.0190	-17.21	1.000	6.97	23.29	9.83	0.31	0.23
320	106.0	0.0190	-17.21	1.000	7.03	23.51	9.91	0.31	0.23
330	108.8	0.0190	-17.21	1.000	7.13	23.83	10.04	0.31	0.23
340	108.8	0.0190	-17.21	1.000	7.13	23.83	10.04	0.31	0.23
350	106.5	0.0190	-17.21	1.000	7.05	23.56	9.93	0.31	0.23

AMSL= 126.8 M



**ELEVATION PATTERN****Type:****1004H****Channel:****240****Directivity:****Numeric****dBd****Location:****Tavares, Florida****Main Lobe:****1.18****0.70****Beam Tilt:****0.00****Horizontal:****1.18****0.70****Polarization:****Circular****Relative Field**

## TABULATED DATA FOR ELEVATION PATTERN

Type: 1004H

Polarization: Circular

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
5.00	0.951	-0.44	-6.75	0.911	-0.81	-27.00	0.099	-20.13	-50.50	0.180	-14.88	-74.00	0.022	-33.09
4.75	0.955	-0.40	-7.00	0.905	-0.87	-27.50	0.081	-21.85	-51.00	0.177	-15.03	-74.50	0.020	-33.81
4.50	0.960	-0.36	-7.25	0.898	-0.93	-28.00	0.064	-23.93	-51.50	0.174	-15.19	-75.00	0.019	-34.55
4.25	0.964	-0.32	-7.50	0.891	-1.00	-28.50	0.047	-26.57	-52.00	0.171	-15.36	-75.50	0.017	-35.31
4.00	0.968	-0.28	-7.75	0.884	-1.07	-29.00	0.031	-30.24	-52.50	0.167	-15.54	-76.00	0.016	-36.10
3.75	0.972	-0.25	-8.00	0.877	-1.14	-29.50	0.015	-36.42	-53.00	0.164	-15.73	-76.50	0.014	-36.91
3.50	0.976	-0.21	-8.25	0.869	-1.22	-30.00	0.000	-376.35	-53.50	0.160	-15.93	-77.00	0.013	-37.76
3.25	0.979	-0.19	-8.50	0.862	-1.29	-30.50	0.015	-36.75	-54.00	0.156	-16.14	-77.50	0.012	-38.64
3.00	0.982	-0.16	-8.75	0.854	-1.37	-31.00	0.029	-30.90	-54.50	0.152	-16.35	-78.00	0.011	-39.55
2.75	0.985	-0.13	-9.00	0.846	-1.45	-31.50	0.042	-27.55	-55.00	0.148	-16.58	-78.50	0.009	-40.49
2.50	0.987	-0.11	-9.25	0.838	-1.54	-32.00	0.055	-25.23	-55.50	0.144	-16.82	-79.00	0.008	-41.48
2.25	0.990	-0.09	-9.50	0.829	-1.62	-32.50	0.067	-23.47	-56.00	0.140	-17.07	-79.50	0.007	-42.51
2.00	0.992	-0.07	-9.75	0.821	-1.71	-33.00	0.079	-22.08	-56.50	0.136	-17.33	-80.00	0.007	-43.58
1.75	0.994	-0.05	-10.00	0.812	-1.81	-33.50	0.090	-20.93	-57.00	0.132	-17.59	-80.50	0.006	-44.71
1.50	0.995	-0.04	-10.50	0.795	-2.00	-34.00	0.100	-19.97	-57.50	0.128	-17.87	-81.00	0.005	-45.89
1.25	0.997	-0.03	-11.00	0.776	-2.20	-34.50	0.110	-19.14	-58.00	0.124	-18.15	-81.50	0.004	-47.13
1.00	0.998	-0.02	-11.50	0.757	-2.42	-35.00	0.120	-18.43	-58.50	0.120	-18.45	-82.00	0.004	-48.44
0.75	0.999	-0.01	-12.00	0.738	-2.64	-35.50	0.129	-17.82	-59.00	0.115	-18.75	-82.50	0.003	-49.83
0.50	0.999	0.00	-12.50	0.718	-2.88	-36.00	0.137	-17.28	-59.50	0.111	-19.06	-83.00	0.003	-51.30
0.25	1.000	0.00	-13.00	0.698	-3.13	-36.50	0.145	-16.80	-60.00	0.107	-19.38	-83.50	0.002	-52.88
0.00	1.000	0.00	-13.50	0.677	-3.39	-37.00	0.152	-16.38	-60.50	0.103	-19.72	-84.00	0.002	-54.56
-0.25	1.000	0.00	-14.00	0.656	-3.67	-37.50	0.158	-16.01	-61.00	0.099	-20.06	-84.50	0.002	-56.38
-0.50	0.999	0.00	-14.50	0.634	-3.96	-38.00	0.164	-15.68	-61.50	0.095	-20.41	-85.00	0.001	-58.36
-0.75	0.999	-0.01	-15.00	0.612	-4.26	-38.50	0.170	-15.39	-62.00	0.091	-20.77	-85.50	0.001	-60.52
-1.00	0.998	-0.02	-15.50	0.590	-4.58	-39.00	0.175	-15.14	-62.50	0.088	-21.14	-86.00	0.001	-62.91
-1.25	0.997	-0.03	-16.00	0.568	-4.91	-39.50	0.180	-14.92	-63.00	0.084	-21.53	-86.50	0.001	-65.59
-1.50	0.995	-0.04	-16.50	0.546	-5.26	-40.00	0.184	-14.72	-63.50	0.080	-21.92	-87.00	0.000	-68.64
-1.75	0.994	-0.05	-17.00	0.523	-5.62	-40.50	0.187	-14.56	-64.00	0.077	-22.32	-87.50	0.000	-72.20
-2.00	0.992	-0.07	-17.50	0.501	-6.01	-41.00	0.190	-14.41	-64.50	0.073	-22.73	-88.00	0.000	-76.49
-2.25	0.990	-0.09	-18.00	0.478	-6.41	-41.50	0.193	-14.29	-65.00	0.070	-23.16	-88.50	0.000	-81.92
-2.50	0.987	-0.11	-18.50	0.455	-6.83	-42.00	0.195	-14.19	-65.50	0.066	-23.59	-89.00	0.000	-89.42
-2.75	0.985	-0.13	-19.00	0.433	-7.28	-42.50	0.197	-14.11	-66.00	0.063	-24.04	-89.50	0.000	-101.95
-3.00	0.982	-0.16	-19.50	0.410	-7.74	-43.00	0.198	-14.05	-66.50	0.060	-24.50	-90.00	0.000	-409.33
-3.25	0.979	-0.19	-20.00	0.388	-8.23	-43.50	0.199	-14.01	-67.00	0.056	-24.97			
-3.50	0.976	-0.21	-20.50	0.365	-8.75	-44.00	0.200	-13.98	-67.50	0.053	-25.46			
-3.75	0.972	-0.25	-21.00	0.343	-9.30	-44.50	0.200	-13.97	-68.00	0.050	-25.95			
-4.00	0.968	-0.28	-21.50	0.321	-9.88	-45.00	0.200	-13.98	-68.50	0.048	-26.46			
-4.25	0.964	-0.32	-22.00	0.299	-10.49	-45.50	0.200	-13.99	-69.00	0.045	-26.98			
-4.50	0.960	-0.36	-22.50	0.277	-11.14	-46.00	0.199	-14.03	-69.50	0.042	-27.52			
-4.75	0.955	-0.40	-23.00	0.256	-11.83	-46.50	0.198	-14.07	-70.00	0.039	-28.07			
-5.00	0.951	-0.44	-23.50	0.235	-12.58	-47.00	0.197	-14.13	-70.50	0.037	-28.64			
-5.25	0.946	-0.49	-24.00	0.214	-13.38	-47.50	0.195	-14.20	-71.00	0.035	-29.22			
-5.50	0.940	-0.53	-24.50	0.194	-14.24	-48.00	0.193	-14.29	-71.50	0.032	-29.82			
-5.75	0.935	-0.58	-25.00	0.174	-15.19	-48.50	0.191	-14.38	-72.00	0.030	-30.44			
-6.00	0.929	-0.64	-25.50	0.155	-16.22	-49.00	0.189	-14.49	-72.50	0.028	-31.07			
-6.25	0.924	-0.69	-26.00	0.135	-17.37	-49.50	0.186	-14.61	-73.00	0.026	-31.73			
-6.50	0.917	-0.75	-26.50	0.117	-18.65	-50.00	0.183	-14.74	-73.50	0.024	-32.40			

CALL: W240CM  
 POWER (Watts): 19 0° radial  
 ANTENNA AGL (m): 107  
 Desired Contour (dBu) 102.5

INPUT FROM MFG

DEPRESSION ANGLE	ANTENNA RELATIVE FIELD	ERP (WATTS)	dBk	DISTANCE TO INTERFERING CONTOUR (m)	HORIZONTAL DISTANCE FROM TOWER (m)	VERTICAL DISTANCE FROM GROUND (m)
5	0.951	17.2	-17.65	217.5	216.7	88.0
10	0.812	12.5	-19.02	185.8	182.9	74.7
15	0.612	7.1	-21.48	140.0	135.2	70.8
20	0.388	2.9	-25.44	88.8	83.4	76.6
25	0.174	0.6	-32.40	39.8	36.1	90.2
30	0.000	0.0	-117.21	0.0	0.0	107.0
35	0.120	0.3	-35.63	27.5	22.5	91.3
40	0.184	0.6	-31.92	42.1	32.2	79.9
45	0.200	0.8	-31.19	45.8	32.4	74.6
50	0.183	0.6	-31.96	41.9	26.9	74.9
55	0.148	0.4	-33.81	33.9	19.4	79.3
60	0.107	0.2	-36.62	24.5	12.2	85.8
65	0.070	0.1	-40.31	16.0	6.8	92.5
70	0.039	0.0	-45.39	8.9	3.1	98.6
75	0.019	0.0	-51.64	4.3	1.1	102.8
80	0.007	0.0	-60.31	1.6	0.3	105.4
85	0.001	0.0	-77.21	0.2	0.0	106.8
90	0.000	0.0	-97.21	0.0	0.0	107.0

WORST CASE HEIGHT AGL (m) 70.8

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