



**Kessler and Gehman Associates**  
Consultants • Broadcast • Wireless

**DIGITAL TELEVISION  
TRANSLATOR POST  
TRANSITION CHANNEL  
DISPLACEMENT  
RELIEF APPLICATION  
FOR W42DJ-D  
FACILITY ID 74118**

Ocala, FL

***Prepared For:***

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***Prepared On:***

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## **1.0 MINOR MODIFICATION CHANNEL DISPLACEMENT RELIEF ELIGIBILITY**

Graham Media Group, Orlando, Inc. (“GMG”) is the licensee of a digital Low Power Television Station (“LPTV”) having call sign W42DJ-D, Facility ID 74118. W42DJ-D is licensed<sup>1</sup> to operate on channel 42 with an ERP of 7.1KW through a directional antenna using a stringent Emission Mask.

LPTV/translator stations which currently broadcast on channels (38-51) are automatically displaced because they are in the new 600 MHz band for mobile broadband service and thus W42DJ-D is clearly eligible to file for channel displacement relief in the April 10, 2018 through June 1, 2018 post-incentive auction special displacement window and is the purpose of the instant application.

Pursuant to 47 CFR Section 74.787(b) the instant application is considered a “minor” change because:

- The change in frequency is related to displacement relief as outlined above.
- There is no change in transmitting antenna location such that the protected contour resulting from the change does not overlap some portion of the protected contour of the authorized facilities of the existing station as illustrated in Appendix C.
- There is no change in transmitting antenna location greater than 30 miles (48km) from the reference coordinates of the existing station’s antenna location.

## **2.0 STATION TRANSMITTER LOCATION AND ELEVATION**

It is proposed to keep W42DJ-D at its licensed location on an existing tower as illustrated in Appendix A. The structure has an FCC Antenna Structure

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<sup>1</sup> FCC File No.: BLDTT-20120119AEC

Registration (“ASR”) number of 1036814. The instant application does not propose to increase or modify the existing support structure or the existing ASR.

### **3.0 ALLOCATION ANALYSIS**

Appendix B are the summarized results from TVStudy V2.2.5. As indicated the proposed W42DJ-D facility is predicted to receive 4.40% aggregate inbound interference to which is acceptable to GMG.

### **4.0 AM STATION PROXIMITY**

No AM stations are located within 3.2 km of the proposed facility. Pursuant to 47 C.F.R. Section 1.30002(e), the construction or extension of an antenna-supporting structure shall be considered subject to the moment method analysis and prior notification requirement; however, the instant application does not propose to extend the existing structure or build a new structure. Thus, the proposed facility is exempt from further AM analysis consideration.

### **5.0 INTERNATIONAL COORDINATION**

The W42DJ-D transmitter site is 1379.5 and 1505.8 km from the Canadian and Mexican border respectively and thus will not require coordination with any international authorities.

### **6.0 RADIO FREQUENCY RADIATION COMPLIANCE**

A theoretical analysis has been conducted of the human exposure to radio frequency radiation (“RFR”) using the calculation methodology described in OET Bulletin 65, Edition 97-01. The RFR analysis is conducted pursuant to the following methodology:

Terrain<sup>2</sup> extraction is compiled from the proposed tower site to radial lengths of 0.25 miles in 0.001 mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

Starting from the origin the maximum calculated RFR value is determined among the 360 degree radials for each 0.001 mile increment, the value is then converted into a percentage of the maximum allowable general population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

The resulting RFR study in Appendix D demonstrates that the peak exposure is 0.06% of the most restrictive permissible exposure threshold. Pursuant to OET Bulletin 65 concerning multiple-user transmitter sites only those licensees whose transmitters produce power density levels greater than 5.0% of the exposure limit are considered significant contributors to RFR. Since the proposed operation is within 5% of the most permissible exposure at any location 2 meters above the ground, it is not considered a significant contributor to RFR exposure. Thus, contributions to exposure from other RF sources in the vicinity of the proposed facility were not taken into account. The instant application is compliant with the FCC limits for human exposure to RF radiation and is excluded from further environmental processing since no changes are proposed to the tower structure to accommodate the proposed antenna.

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<sup>2</sup> Terrain extraction is based upon a 3 arc second point spacing terrain database.

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A chain link fence encloses the support structure and the applicant will cooperate with any other users of the tower by reducing the power to the antenna or if necessary completely cutting it off to protect maintenance workers on the tower.

## **7.0 CERTIFICATION**

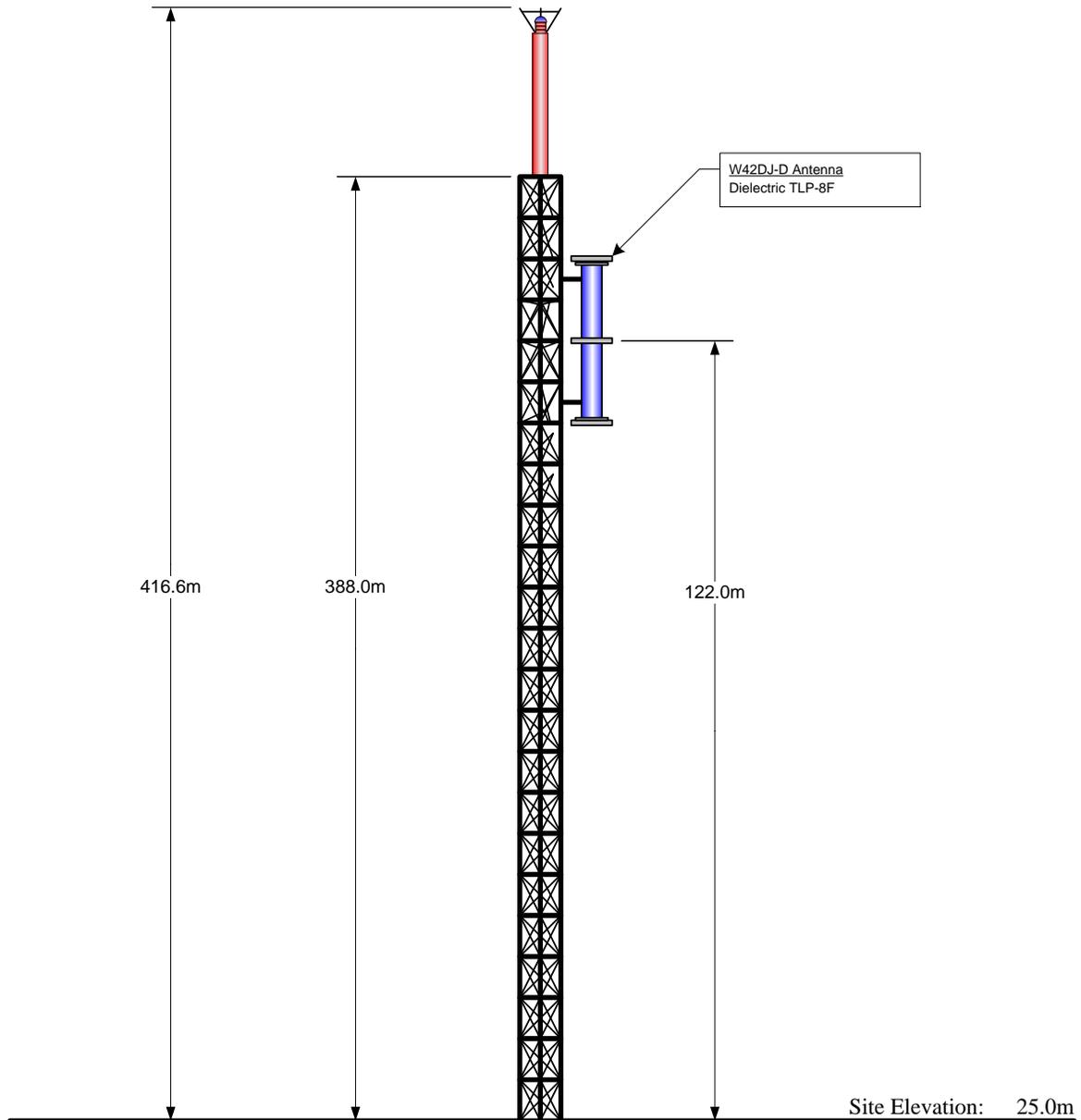
The foregoing statement and the report regarding the engineering work are true and correct to the best of my knowledge. Executed April 18, 2018.

Kessler and Gehman Associates, Inc.



Ryan Wilhour  
Consulting Engineer

**APPENDIX A – Tower Elevation Diagram**



Antenna CRAGL:	122.0 m
Antenna CRAMSL:	147.0 m
Antenna HAAT:	125.8 m

NAD 83 Coordinates:	
N. Latitude:	29° 16' 06.0"
W. Longitude:	82° 04' 50.0"

FCC Tower Registration Number:	1036814
FAA Study Number	97-ASO-4067-OE

**NOTE: NOT TO SCALE**

# W42DJ-D – Post Transition Channel Displacement Relief

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## APPENDIX B – TVStudy V2.2.5 Allocation Analysis

Study created: 2018.04.18 12:45:36

Study build station data: LMS TV 2018-04-17

Proposal: W42DJ-D D21 LD LIC OCALA, FL  
File number: W42DJ Channel 21  
Facility ID: 74118  
Station data: User record  
Record ID: 293  
Country: U.S.

Build options:  
Protect pre-transition records not on baseline channel  
Protect baseline records from LPTV

Search options:  
Non-U.S. records included

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	NEW	D20	LD	APP	DUNNELLO, FL	BNPDTL20090825BFT	38.0 km
No	NEW	D20	LD	APP	GAINESVILLE, FL	BNPDTL20090825AOQ	48.4
No	WKBJ-LD	D20	LD	LIC	Jacksonville, FL	BLANK000008067	122.6
No	WCWJ	D20	DT	CP	JACKSONVILLE, FL	BLANK0000029603	122.8
No	WCWJ	D20	DT	BL	JACKSONVILLE, FL	DTVBL29712	122.7
No	WSCF-LD	D20	LD	LIC	MELBOURNE, FL	BLANK0000022690	187.0
Yes	NEW	D20	LD	APP	OCALA, FL	BNPDTL20090825AMY	26.1
No	WFTV	D20	LD	LIC	ORLANDO, FL	BLCDT20140116ACS	108.7
No	WZXZ-CD	D20	DC	CP	ORLANDO, ETC., FL	BLANK0000034824	123.1
No	WZXZ-CD	D20	DC	BL	ORLANDO, ETC., FL	DTVBL70415	113.4
No	NEW	D20	LD	APP	REDDICK, FL	BNPDTL20090825AKM	16.0
No	WVEA-TV	D20	DT	CP	TAMPA, FL	BLANK0000034006	158.9
No	WVEA-TV	D20	DT	BL	TAMPA, FL	DTVBL60559	158.9
No	WARP-CD	D20	DC	LIC	TAMPA-ST. PETERSBURG, FL	BLDTA20091029ABJ	164.5
Yes	NEW	D20	LD	APP	WILLISTON, FL	BNPDTL20090825BUO	34.9
No	WCTV	D20	DT	CP	THOMASVILLE, GA	BLANK0000033928	237.4
No	WCTV	D20	DT	BL	THOMASVILLE, GA	DTVBL31590	237.4
No	WDHN	D21	DT	LIC	DOTHAN, AL	BLCDT20090303ACR	379.8
Yes	WCLF	D21	DT	APP	CLEARWATER, FL	BLANK0000036056	162.0
Yes	WCLF	D21	DT	LIC	CLEARWATER, FL	BLCDT20060627AAQ	162.0
Yes	WDYB-CD	D21	DC	CP	DAYTONA BEACH, FL	BLANK0000034903	85.0
No	WDYB-CD	D21	DC	BL	DAYTONA BEACH, FL	DTVBL41375	85.0
No	WGFS-LP	D21	LD	APP	FORT MYERS, FL	BLANK0000051656	319.3
Yes	NEW	D21	LD	APP	GAINESVILLE, FL	BNPDTL20090825AOI	48.4
No	W21DN-D	D21	LD	CP	GREENVILLE, FL	BNPDTL20100513ALK	191.4
Yes	WJEB-TV	D21	DT	CP	JACKSONVILLE, FL	BLANK0000028163	122.6
Yes	WJEB-TV	D21	DT	BL	JACKSONVILLE, FL	DTVBL29719	122.6
No	WKME-CD	D21	DC	CP	KISSIMMEE, FL	BLANK0000028487	115.1
No	WKME-CD	D21	DC	BL	KISSIMMEE, FL	DTVBL61702	115.2
No	WPXM-TV	D21	DT	CP	MIAMI, FL	BLANK0000034917	411.3
No	WPXM-TV	D21	DT	BL	MIAMI, FL	DTVBL48608	409.4
No	W21AU-D	N21+	TX	LIC	ORLANDO, FL	BLTTL19920715IB	95.4
No	W21AU-D	D21	LD	LIC	ORLANDO, FL	BLANK0000025170	123.1
No	W21DA-D	D21	LD	CP	Macon, GA	BLANK0000005517	411.8
No	WEBA-TV	D21	DT	CP	ALLENDALE, SC	BLANK0000025022	440.5
No	WEBA-TV	D21	DT	BL	ALLENDALE, SC	DTVBL61003	440.4
No	WGCU	D22	DT	CP	FORT MYERS, FL	BLANK0000024916	274.4
No	WGCU	D22	DT	APP	FORT MYERS, FL	BLANK0000034435	274.4
No	WGCU	D22	DT	BL	FORT MYERS, FL	DTVBL62388	274.4
No	W22EF-D	D22	LD	CP	LAKE CITY, FL	BMPDTL20120316ADB	85.7
Yes	WVEN-TV	D22	DT	CP	MELBOURNE, FL	BLANK0000026109	123.1
Yes	WVEN-TV	D22	DT	APP	MELBOURNE, FL	BLANK0000034008	123.1
Yes	WVEN-TV	D22	DT	BL	MELBOURNE, FL	DTVBL5802	123.1
Yes	WOFI	D22	DT	LIC	ORLANDO, FL	BLCDT20110708AAV	121.7
No	WTWC-TV	D22	DT	CP	TALLAHASSEE, FL	BLANK0000034393	240.5
No	WTWC-TV	D22	DT	BL	TALLAHASSEE, FL	DTVBL66908	240.5

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No	WARP-CD	D22	DC	CP	TAMPA-ST. PETERSBURG, FL	BLANK0000025105	164.5
No	WARP-CD	D22	DC	APP	TAMPA-ST. PETERSBURG, FL	BLANK0000034453	164.5
No	WARP-CD	D22	DC	BL	TAMPA-ST. PETERSBURG, FL	DTVBL55106	164.5
No	WTBZ-LP	N29z	TX	LIC	GAINESVILLE, FL	BLTTL20050907ABX	48.4

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D21  
Mask: Full Service  
Latitude: 29 16 6.00 N (NAD83)  
Longitude: 82 4 50.00 W  
Height AMSL: 147.0 m  
HAAT: 125.8 m  
Peak ERP: 15.0 kW  
Antenna: Dilectric TLP-8F 190.0 deg  
Elev Pattn: Generic  
Elec Tilt: 1.00

49.5 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.061 kW	128.0 m	18.7 km
45.0	0.008	126.5	11.1
90.0	0.423	128.6	28.8
135.0	5.09	129.4	41.6
180.0	14.6	124.1	46.6
225.0	9.54	126.6	44.6
270.0	1.31	122.0	34.3
315.0	0.019	121.1	13.6

Distance to Canadian border: 1379.5 km

Distance to Mexican border: 1505.8 km

Conditions at FCC monitoring station: Vero Beach FL  
Bearing: 142.2 degrees Distance: 232.6 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 306.0 degrees Distance: 2424.0 km

No land mobile station failures found

Study cell size: 1.00 km  
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%  
Maximum new IX to LPTV: 2.00%

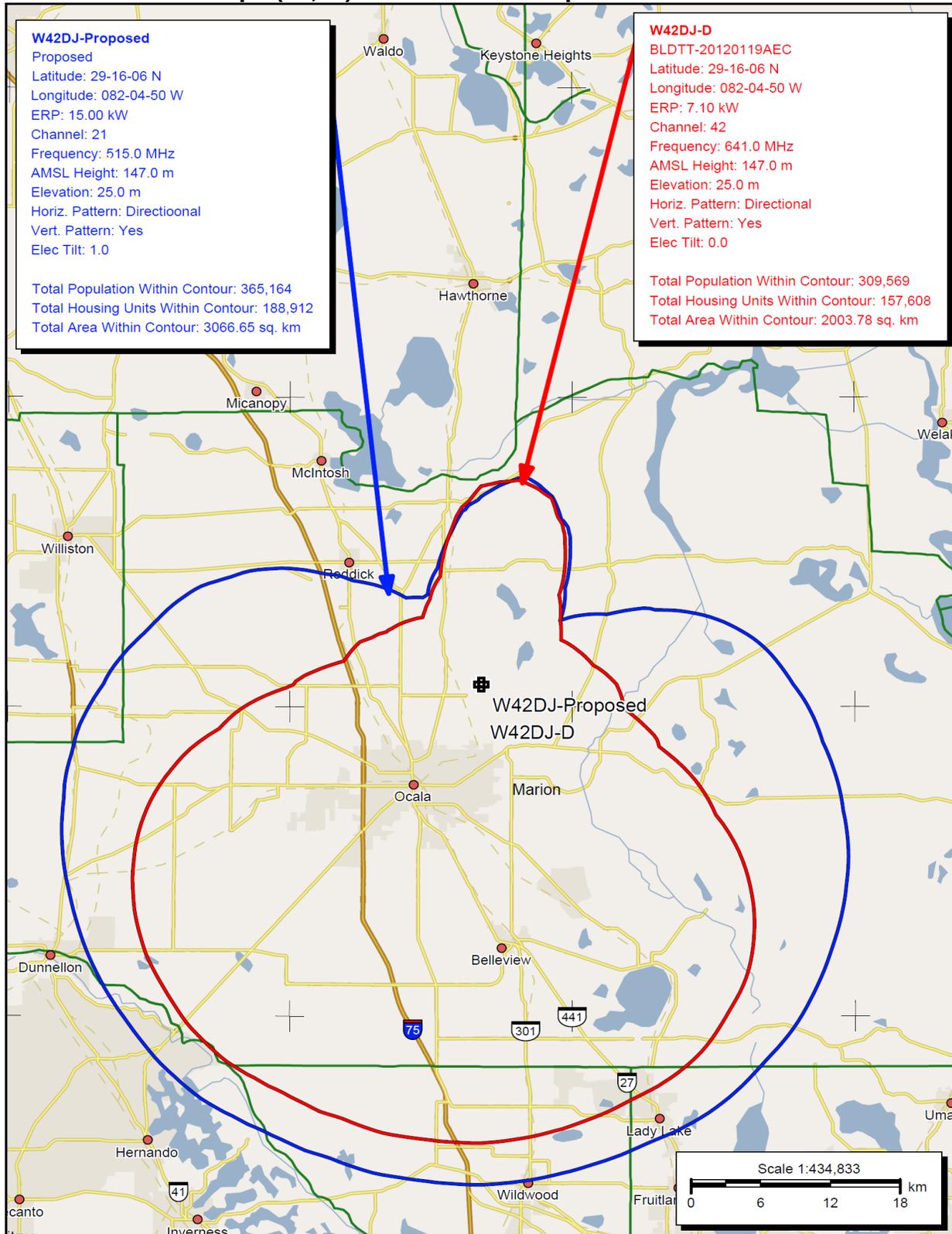
---- Below is IX received by proposal W42DJ Channel 21 ----

\*\*MX with scenario 1, 4.40% interference received  
\*\*MX with scenario 2, 4.40% interference received

# W42DJ-D – Post Transition Channel Displacement Relief

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## APPENDIX C – 51dBμ F(50,90) Licensed and Proposed Contour



APPENDIX D – Far Field Exposure to RF Emissions

