



Kessler and Gehman Associates
Consultants • Broadcast • Wireless

**APPLICATION
FOR SPECIAL
TEMPORARY
AUTHORITY FOR
WTJX-TV FCC
FACILITY ID
70287**

Charlotte Amalie, VI

Prepared For:

Virgin Islands Public
Broadcasting System
Charlotte Amalie,
St. Thomas, VI 00801

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1.0 PURPOSE OF SPECIAL TEMPORARY AUTHORITY

This engineering statement was prepared on behalf of Virgin Islands Public Broadcasting System (“VIPBS”), licensee of digital TV station WTJX-TV located to serve Charlotte Amalie, VI. Kessler and Gehman Associates, Inc. has been authorized by VIPBS, to prepare an engineering Special Temporary Authority (STA) to commence operation on its post-auction channel 36 assignment using an interim side mount antenna. Commencement on the interim antenna will allow the decommissioning and removal of the licensed channel 44 pre-transition main antenna and for structural reinforcement of the tower to meet the current ANSI/TIA standard.

Granting the instant STA shall serve the public interest by allowing WTJX-TV to remain on-the-air without interruption while decommissioning the pre-transition antenna and strengthening the tower.

2.0 PREDICTED COVERAGE AND ALLOCATION ANALYSIS

Appendix A demonstrates the predicted noise limited coverage contours of the proposed STA and the post transition construction permitted facility. The contours were generated in accordance with the method described in 47 CFR Section 73.684 utilizing the appropriate F(50,90) propagate curves. Appendix B is a distance to contour comparison of the STA versus the permitted facility which concurs with its graphical representation in Appendix A. As clearly illustrated in both appendices, the proposed STA noise limited contour is 100% subsumed by the authorized permitted facility and thus does not generate a new interference constraint beyond the construction permit. The instant STA facility shall substantially achieve its goal of providing comparable coverage to its viewers.

Appendix C and D are two similar runs using TVStudy V2.2.5. Appendix C considers pre-transition facilities only which excludes masking from post-

transition applications and construction permits. In some cases, post-transition masking may hide prohibited interference to pre-transition stations. Appendix C indicates that no prohibited interference is caused to any pre-transition stations. Appendix D considers post transition stations and indicates that no prohibited interference is caused to any post transition facilities. WTJX-TV may operate on its post-transition channel 36 designation from December 2, 2018 and thereafter without causing prohibited interference to pre or post transition facilities.

3.0 ANTENNA STRUCTURE REGISTRATION AND TOWER MODIFICATION

The structure which the WTJX-TV STA antenna will be mounted on has an antenna structure registration (“ASR”) number of 1244135. The addition of the side mount antenna will not require any modifications to the ASR.

4.0 CERTIFICATION

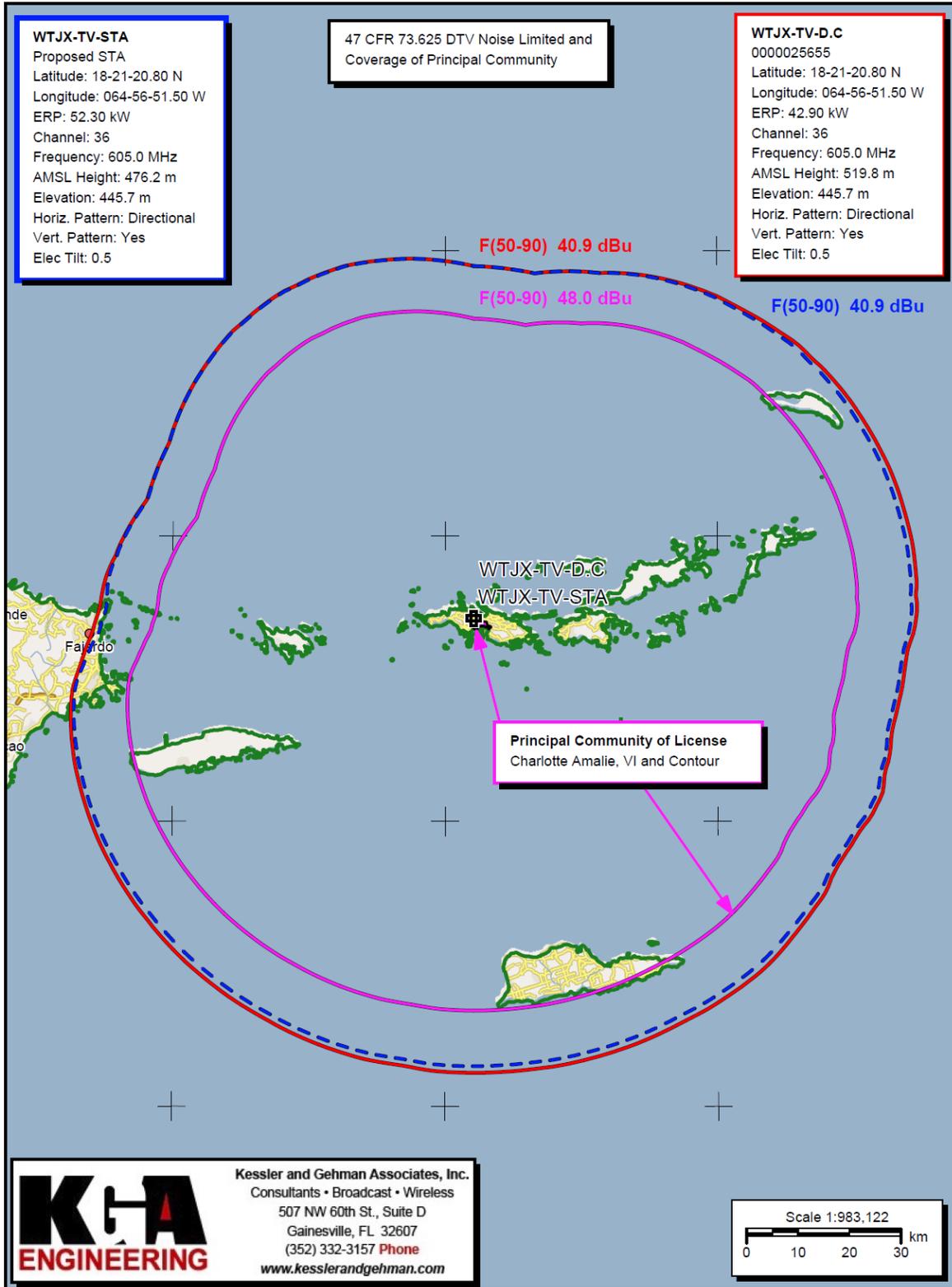
I, Ryan Wilhour, am an engineering associate of Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida and have been working in the field of radio and television broadcast consulting since 1996. I am a graduate of the University of Florida with a Bachelor of Science degree in electrical engineering. The foregoing statement and the report regarding the aforementioned engineering work are true and correct to the best of my knowledge.

Ryan Wilhour



Consulting Engineer
October 2, 2018

Appendix A – Contour Analysis



Appendix B – Distance To Contour Analysis

AZIMUTH	Construction Permitted Distance to Contour	Proposed STA Distance to Contour	Meets Contour Threshold By (km)
N000°E	68.38 km	68.37 km	0.0
N010°E	68 km	67.99 km	0.0
N020°E	71.34 km	71.31 km	0.0
N030°E	75.79 km	75.58 km	0.2
N040°E	79.15 km	78.67 km	0.5
N050°E	82.39 km	81.6 km	0.8
N060°E	84.43 km	83.44 km	1.0
N070°E	85.77 km	84.67 km	1.1
N080°E	86.37 km	85.24 km	1.1
N090°E	85.86 km	84.86 km	1.0
N100°E	84.18 km	83.36 km	0.8
N110°E	85.15 km	84.32 km	0.8
N120°E	85.48 km	84.61 km	0.9
N130°E	86.76 km	85.68 km	1.1
N140°E	88.25 km	86.95 km	1.3
N150°E	88.32 km	87.01 km	1.3
N160°E	88.36 km	87.05 km	1.3
N170°E	88.32 km	87.01 km	1.3
N180°E	88.16 km	86.87 km	1.3
N190°E	87.87 km	86.61 km	1.3
N200°E	87.98 km	86.7 km	1.3
N210°E	87.54 km	86.29 km	1.3
N220°E	86.99 km	85.78 km	1.2
N230°E	85.94 km	84.82 km	1.1
N240°E	84.49 km	83.5 km	1.0
N250°E	82.38 km	81.6 km	0.8
N260°E	79.05 km	78.58 km	0.5
N270°E	73.23 km	71.96 km	1.3
N280°E	70.55 km	70.31 km	0.2
N290°E	67.47 km	67.35 km	0.1
N300°E	68.23 km	68.21 km	0.0
N310°E	70.89 km	70.86 km	0.0
N320°E	72.78 km	72.7 km	0.1
N330°E	73.41 km	73.31 km	0.1
N340°E	72.82 km	72.75 km	0.1
N350°E	70.89 km	70.86 km	0.0

Appendix C – TVStudy V2.2.5 Pre-Transition Allocation Analysis

Study created: 2018.10.02 12:45:56
Study build station data: LMS TV 2018-09-30
Proposal: WTJX-TV D36 DT CP CHARLOTTE AMALIE, VI
File number: Proposed STA
Facility ID: 70287
Station data: User record
Record ID: 3452
Country: U.S.
Zone: II

Build options:
Protect pre-transition records not on baseline channel
Search options:
Non-U.S. records included
Baseline record excluded if station has CP
All post-transition APP, CP, and baseline records excluded
Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WIPM-TV	D35	DT	LIC	MAYAGUEZ, PR	BLEDT20060627ACQ	216.1 km
Yes	WIMN-CD	D36	DC	CP	ARECIBO, PR	BLANK0000036058	178.5
No	WIMN-CD	D36	DC	LIC	ARECIBO, PR	BLDTA20140225AAJ	178.5
Yes	WVOZ-TV	D36	DT	LIC	PONCE, PR	BLANK0000058766	192.4

No non-directional AM stations found within 0.8 km
No directional AM stations found within 3.2 km
Record parameters as studied:

Channel: D36
Latitude: 18 21 20.80 N (NAD83)
Longitude: 64 56 51.50 W
Height AMSL: 476.2 m
HAAT: 462.0 m
Peak ERP: 52.3 kW
Antenna: Jampro JA/MS-8 / 36 SEC 0.0 deg
Elev Pattnr: Generic
Elec Tilt: 0.50

40.9 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	3.06 kW	476.2 m	68.1 km
45.0	19.3	468.4	79.9
90.0	47.4	458.0	85.3
135.0	52.2	461.8	86.2
180.0	51.8	474.1	86.8
225.0	40.8	474.4	85.2
270.0	9.18	406.7	72.0
315.0	5.21	476.2	71.5

Distance to Canadian border: 2942.3 km

Distance to Mexican border: 3389.1 km

Conditions at FCC monitoring station: Santa Isabel PR
Bearing: 255.7 degrees Distance: 155.7 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 310.9 degrees Distance: 4538.2 km

Study cell size: 2.00 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%

No IX check failures found.

Appendix D – TVStudy V2.2.5 Post-Transition Allocation Analysis

Study created: 2018.10.02 12:50:54
Study build station data: LMS TV 2018-09-30
Proposal: WTJX-TV D36 DT CP CHARLOTTE AMALIE, VI
File number: Proposed STA
Facility ID: 70287
Station data: User record
Record ID: 3453
Country: U.S.
Zone: II
Search options:
Non-U.S. records included
Baseline record excluded if station has CP
Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WCCV-TV	D35	DT	CP	ARECIBO, PR	BLANK0000026046	191.7 km
Yes	WIMN-CD	D36	DC	CP	ARECIBO, PR	BLANK0000036058	178.5
No	WIMN-CD	D36	DC	LIC	ARECIBO, PR	BLDTA20140225AAJ	178.5
Yes	WVOZ-TV	D36	DT	LIC	PONCE, PR	BLANK0000058766	192.4

No non-directional AM stations found within 0.8 km
No directional AM stations found within 3.2 km
Record parameters as studied:
Channel: D36
Latitude: 18 21 20.80 N (NAD83)
Longitude: 64 56 51.50 W
Height AMSL: 476.2 m
HAAT: 462.0 m
Peak ERP: 52.3 kW
Antenna: Jampro JA/MS-8 / 36 SEC 0.0 deg
Elev Pattnr: Generic
Elec Tilt: 0.50

40.9 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	3.06 kW	476.2 m	68.1 km
45.0	19.3	468.4	79.9
90.0	47.4	458.0	85.3
135.0	52.2	461.8	86.2
180.0	51.8	474.1	86.8
225.0	40.8	474.4	85.2
270.0	9.18	406.7	72.0
315.0	5.21	476.2	71.5

Distance to Canadian border: 2942.3 km
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Conditions at FCC monitoring station: Santa Isabel PR
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Proposal is not within the West Virginia quiet zone area
Conditions at Table Mountain receiving zone:
Bearing: 310.9 degrees Distance: 4538.2 km

Study cell size: 2.00 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%

No IX check failures found.