

TECHNICAL EXHIBIT
APPLICATION FOR CONSTRUCTION PERMIT

WWHL-LD - HUNTSVILLE, ALABAMA
FACILITY ID: 995

DIGITAL NETWORKS—SOUTHEAST, LLC

SEPTEMBER 2018

APPLICATION FOR CONSTRUCTION PERMIT

The following engineering statement and attached exhibits have been prepared for **Digital Networks-Southeast, LLC** ("Southeast"), licensee of digital low power television station WWHL-LD at Huntsville, Alabama, and are in support of their application for construction permit.¹ This application proposes a minor change to the license for this facility, which is under LMS File No. 0000059648.

WWHL-LD is licensed to operate on channel 31 as a digital low power television station with a maximum ERP of 1.85 kW at a center of radiation of 280.5 meters above mean sea level utilizing a non-directional antenna. It is proposed that the facility be relocated from its current licensed site to another site within the Huntsville, Alabama region. The proposed facility would continue to operate on channel 31 with a maximum effective radiated power of 15 kW at a center of radiation of 610 meters above mean sea level, 136.9 meters above ground level, utilizing a directional antenna. The proposed antenna, a Propagation Systems Inc. ("PSI") model PSILP12OI utilizes an "omnioid" pattern with 1.00 degree electrical beamtilt, and is oriented at 270 degrees true.

The proposed relocation of the facility would comply with the minor change provisions of Section 73.3572 of the Commission's Rules. Exhibit E-1 illustrates the licensed and proposed 51 dBu F(50,90) service contours. As this map demonstrates, the licensed 51 dBu F(50,90) contour is fully contained within the proposed 51 dBu F(50,90) service contour.

¹ The Facility ID for WWHL-LD at Huntsville, Alabama is 995.

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The proposed technical parameters would not result in interference to other proposed, authorized, or licensed facilities in excess of that permitted under the Commission's Rules. Exhibit E-2 provides tabular output from *TVStudy*. This study demonstrates no interference check failures.

The proposed facility would not constitute a significant environmental impact, and is exempt from environmental processing. The proposed antenna would be mounted to an existing tower that is registered with the Commission. The addition of the antenna to this tower would not increase the existing environmental impact already present from the tower.

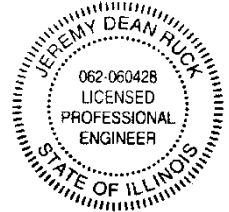
Using the equations in Supplement A of *OET Bulletin 65*, the calculated worst-case power density at ground level assuming a downward radiation relative field of 0.3 is $2.48 \mu\text{W}/\text{cm}^2$. This value is less than the upper limit of the uncontrolled environment condition upper limit. Additionally, the contribution of WWHL-LD to the aggregate power density at the site would not cause that level to exceed the upper limit of the uncontrolled environment of the Commission's safety standard. Southeast certifies it will coordinate with all other users of the site to ensure that workers and other personnel are not exposed to levels of radiofrequency radiation in excess of the applicable safety standards. Coordination activities will include, but are not necessarily limited to, a reduction in transmitter power or cessation of operation.

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The preceding statement and attached exhibits have been prepared by me, or under my direction, and are true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature
License Expires November 30, 2019

Jeremy D. Ruck, PE
September 25, 2018

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9.25.2018

WWHL-LD.X

0000059648
Latitude: 34-44-12.80 N
Longitude: 086-31-58.90 W
ERP: 15.00 kW
Channel: 31
Frequency: 575.0 MHz
AMSL Height: 610.0 m
Horiz. Pattern: Directional

WWHL-LD

0000059648
Latitude: 34-35-22 N
Longitude: 087-06-17 W
ERP: 1.85 kW
Channel: 31-
Frequency: 574.5 MHz
AMSL Height: 280.5 m
Elevation: 250.0 m
Horiz. Pattern: Directional]

Jeremy Ruck & Associates, Inc.

Proposed 51 dBu
F(50,90) Contour

Licensed 51 dBu
F(50,90) Contour

Exhibit E-1

Service Contour Comparison
WWHL-LD - Huntsville, Alabama
Digital Networks-Southeast, LLC
September, 2018

Scale 1:750,000

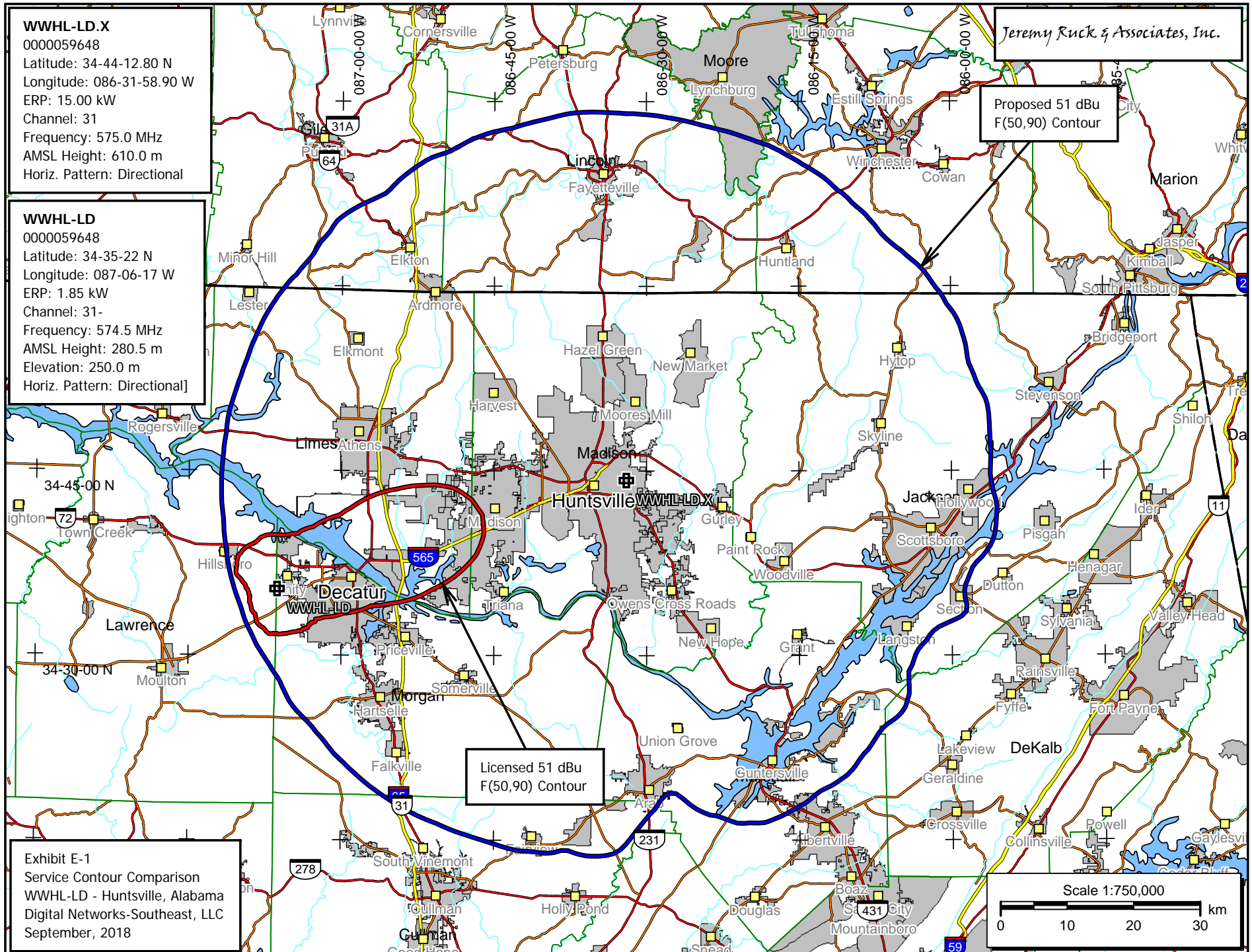


Exhibit E-2 - TVStudy Interference Study

Study created: 2018.09.25 11:39:28

Study build station data: LMS TV 2018-09-24

Proposal: WWHL-LD D31 LD LIC Huntsville, AL
File number: BLANK0000059648
Facility ID: 995
Station data: User record
Record ID: 205
Country: U.S.

Build options:

Protect pre-transition records not on baseline channel

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WNAL-LD	N27-	TX	LIC	SCOTTSBORO, AL	BLTT20060126AEL	52.1 km
Yes	WIAT	D30	DT	LIC	BIRMINGHAM, AL	BLCDT20021219AAV	141.4
No	WTBS-LD	D30	LD	LIC	ATLANTA, GA	BLDTL20110105ABR	226.4
No	WDGA-CD	D30	DC	CP	DALTON, GA	BLANK0000028635	138.4
No	W21BZ	N30-	TX	LIC	COLLEGE DALE, TN	BLTTL19990802JH	136.9
No	WVLT-TV	D30	DT	LIC	KNOXVILLE, TN	BLCDT20120103ABR	272.2
No	WNAB	D30	DT	CP	NASHVILLE, TN	BLANK0000034797	171.4
No	WAXC-LD	D31	LD	LIC	ALEXANDER CITY, AL	BLDTL20110329ABN	206.3
Yes	WSFG-LD	D31	LD	CP	BERRY, AL	BLANK0000029418	150.3
No	WNCB	D31	DT	LIC	MONTGOMERY, AL	BLANK0000001319	288.5
No	WSRE	D31	DT	LIC	PENSACOLA, FL	BLCDT20060621AAS	469.4
Yes	WPCH-TV	D31	DT	CP	ATLANTA, GA	BLANK0000025264	226.4
No	WSB-TV	D31	LD	LIC	ATLANTA, GA	BLCDT20100429ADZ	267.8
No	WFXG	D31	DT	LIC	AUGUSTA, GA	BLANK0000013467	456.7
No	WDMA-CD	D31	DC	LIC	MACON, GA	BLDTA20140602AAA	338.0
Yes	WPXA-TV	D31	DT	LIC	ROME, GA	BLANK0000001920	178.9
No	WMUB-LD	D31	LD	CP	WARNER ROBINS, GA	BLANK0000054344	351.6
No	NEW	D31	LD	APP	EVANSVILLE, IN	BNPDTL20090825AZX	353.5
No	NEW	D31	LD	APP	EVANSVILLE, IN	BNPDTL20090825AXM	353.5
No	WVUT	D31	DT	CP	VINCENNES, IN	BLANK0000027953	443.2
No	WDKY-TV	D31	DT	LIC	DANVILLE, KY	BLCDT20120308AAK	401.7
No	WKMA-TV	D31	DT	CP	MADISONVILLE, KY	BLANK0000034649	286.5
No	WGBC	D31	DT	APP	MERIDIAN, MS	BLANK0000035926	334.2
No	WGBC	D31	DT	LIC	MERIDIAN, MS	BLCDT20071024AAK	334.2
No	W31DH-D	D31	LD	LIC	FRANKLIN, ETC, NC	BLDTT20090615AAP	298.2
No	W31AZ-D	D31	LD	LIC	HENDERSONVILLE, NC	BLANK0000011016	377.3
No	W31AZ-D	N31-	TX	LIC	HENDERSONVILLE, NC	BLTTL19940525JJ	377.3
No	W31AN-D	D31	LD	LIC	MURPHY, NC	BLDTT20090615AAV	232.6
No	W31DY-D	D31	LD	CP	PICKENS, SC	BDCCDTT20120614AAI	376.7
Yes	WBXX-TV	D31	DT	CP	CROSSVILLE, TN	BLANK0000025087	250.6
Yes	WLMT	D31	DT	LIC	MEMPHIS, TN	BLCDT20050427ABN	301.4
Yes	WJDE-LD	D31	DC	LIC	NASHVILLE, TN	BLDTA20110627AAU	160.1
No	WAXC-LD	D32	LD	CP	ALEXANDER CITY, AL	BDISDTL20120831ABQ	206.3
No	W50BO	D32+	LD	APP	ASHVILLE, AL	BLANK0000054790	108.5
No	WBMA-LD	D32	LD	APP	BIRMINGHAM, AL	BLANK0000052973	147.6
No	WAAY-TV	D32	DT	LIC	HUNTSVILLE, AL	BLCDT20050701ABO	0.0
No	WMJN-LD	D32	LD	CP	Somerville, AL	BLANK0000054506	0.0
No	W21DM-D	D32	LD	APP	TUSCALOOSA, AL	BLANK0000051652	141.4
No	W32EQ-D	D32	LD	CP	TUSCALOOSA, AL	BLANK0000010947	221.9
No	WSB-TV	D32	DT	CP	ATLANTA, GA	BLANK0000034812	226.9
No	W18BL-D	D32	DC	CP	ADAMSVILLE, TN	BLANK0000034140	175.3
No	WNPX-TV	D32	DT	CP	COOKEVILLE, TN	BLANK0000034404	171.8
No	W34DB	N34+	TX	LIC	LEWISBURG, TN	BLTTL20050309ABL	82.5
No	W38EI-D	N38-	TX	LIC	Alexander City, AL	BLTTL20120606AAN	150.0
No	WBMG-LD	N38-	TX	LIC	MOODY, AL	BLTTL19970804JG	130.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D31

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Exhibit E-2 - TVStudy Interference Study

Mask: Full Service
Latitude: 34 44 12.80 N (NAD83)
Longitude: 86 31 58.90 W
Height AMSL: 610.0 m
HAAT: 379.7 m
Peak ERP: 15.0 kW
Antenna: PSII2LPOI 270.0 deg
Elev Pattn: Generic
Elec Tilt: 1.00

50.4 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	6.53 kW	381.5 m	55.7 km
45.0	5.58	362.0	54.0
90.0	6.73	370.5	55.4
135.0	5.58	366.4	54.2
180.0	6.53	367.2	55.1
225.0	11.9	417.0	60.7
270.0	15.0	405.1	61.4
315.0	11.9	367.5	58.3

Distance to Canadian border: 841.3 km

Distance to Mexican border: 1391.8 km

Conditions at FCC monitoring station: Powder Springs GA
Bearing: 119.8 degrees Distance: 192.5 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 295.5 degrees Distance: 1750.8 km

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%

No IX check failures found.

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