

TECHNICAL STATEMENT  
SUPPORTING REQUEST FOR AUTHORIZATION TO  
ESTABLISH ATSC 3.0 SERVICE AND ATSC 1.0 SIMULCAST HOST  
WARZ-CD, SMITHFIELD-SELMA, NC (FACILITY ID NO. 71089)  
WRAL-TV, RALEIGH, NC (FACILITY ID NO. 8688)  
RALEIGH-DURHAM (FAYETTEVILLE) DMA

Background

This statement was prepared on behalf of digital Class A Television Station WARZ-CD, Smithfield-Selma, NC; and WRAL-TV, Raleigh, NC. Authorization for ATSC 3.0 service on WARZ-CD (RF Channel 23) is requested; with WRAL-TV (RF Channel 17) to be established as an ATSC 1.0 simulcast host station. The technical facilities of the WRAL-TV host station are detailed herein.

Compliance with Coverage Requirements

The proposal is compliant with the coverage requirements for an ATSC 3.0 simulcast signal as outlined in Section 73.6029(c) of the FCC Rules. Specifically,

- (1) there is contour overlap between the protected contour of its existing signal and its ATSC 1.0 simulcast host signal;
- (2) The ATSC 1.0 simulcast host signal station, WRAL-TV, is located within 30 miles of the WARZ-CD transmitter site; and,
- (3) both WARZ-CD and WRAL-TV are licensed within the same DMA\* [Raleigh-Durham (Fayetteville)].

Compliance with Expedited Processing

The instant proposal qualifies for expedited processing according to the requirements outlined in Section 73.6029(f)(5) of the FCC Rules. Under a comparison of the predicted service contours pursuant to Section 73.6029(f)(6), the predicted noise-limited service contour of the WRAL-TV licensed facility encompasses 100% of the predicted Class A service contour of the WARZ-CD licensed facility.

---

\* Nielsen Designated Market Area.



The predicted service contours of the respective facilities are shown on the predicted coverage map included with this exhibit. The IX-free population figures for the respective coverage contours are indicated on the map as determined according to the FCC's *TVStudy* Coverage and Interference Analysis Model (v.2.2.5).

The *TVStudy* analysis summary results for both stations are attached hereto for reference. All studies were conducted utilizing the same cell size and terrain profile point spacing so as to make a consistent service comparison between the respective facilities.

A handwritten signature in black ink, appearing to read "Louis R. du Treil, Jr.", is positioned above the printed name.

Louis R. du Treil, Jr., P.E.

du Treil, Lundin & Rackley, Inc.  
5120 Station Way  
Sarasota, Florida 34233-3221

April 23, 2021



# TV Inquiry LMS

## TECHNICAL FACILITIES OF HOST STATION

du Treil, Lundin, & Rackley, Inc., Sarasota, Florida



**Callsign:** WRAL-TV    **Service:** DTV    **Status:** L2C    **App. Status:** GRA    **Rec. Type:** C  
**Channel:** 17    **Zone:** 2    **Application File No.:** 0000112824    **Chan Share Host:** N  
**Fac. ID:** 8688    **FRN:** 0001961713    **Loc. Record ID:** 25076f916bd8cd91016bfbadce19597b    **DT Emission Mask:**  
**City:** RALEIGH    **State:** NC    **Country:** US    **CP Expiration Date:** 2020-12-01  
**Party Name:** CAPITOL BROADCASTING COMPANY, INC.    **Last Change Date:** 2020-04-30

**Latitude (NAD 83):** 035-40-29    **Height AGL (m):** 596.3    **Polarization:** E  
**Longitude (NAD 83):** 078-31-39    **Overall Height AGL (m):** 606.2    **Electrical Tilt (°):** 1  
**RCAMSL (m):** 706    **ERP (kW):** 833.7    **Mechanical Tilt (°):**  
**Site Elevation AMSL (m):** 109.7    **Maximum ERP (kW):**  
**HAAT (m):** 625    **Maximum ERP (dBk):**    **Degrees True (°):**

**Ant Type:** NDIR    **Antenna ID:** 1005204    **Rotation (°):**

0°	1.000	90°	1.000	180°	1.000	270°	1.000
10°	1.000	100°	1.000	190°	1.000	280°	1.000
20°	1.000	110°	1.000	200°	1.000	290°	1.000
30°	1.000	120°	1.000	210°	1.000	300°	1.000
40°	1.000	130°	1.000	220°	1.000	310°	1.000
50°	1.000	140°	1.000	230°	1.000	320°	1.000
60°	1.000	150°	1.000	240°	1.000	330°	1.000
70°	1.000	160°	1.000	250°	1.000	340°	1.000
80°	1.000	170°	1.000	260°	1.000	350°	1.000

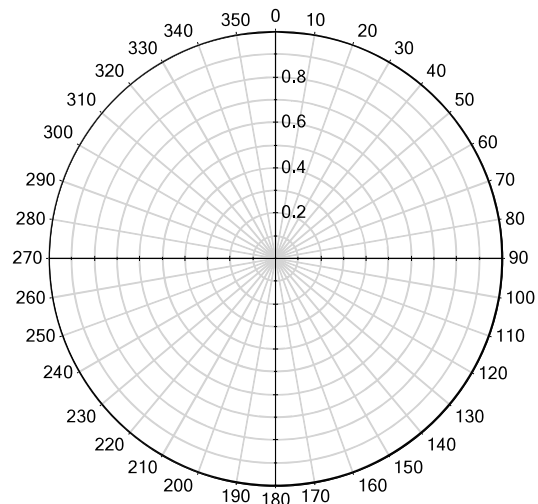
**Antenna Make:** ERI

**Antenna Model:** ATW25H4-ETO-17H

**Last Change Date:** 2020-04-27 12:48:01.373

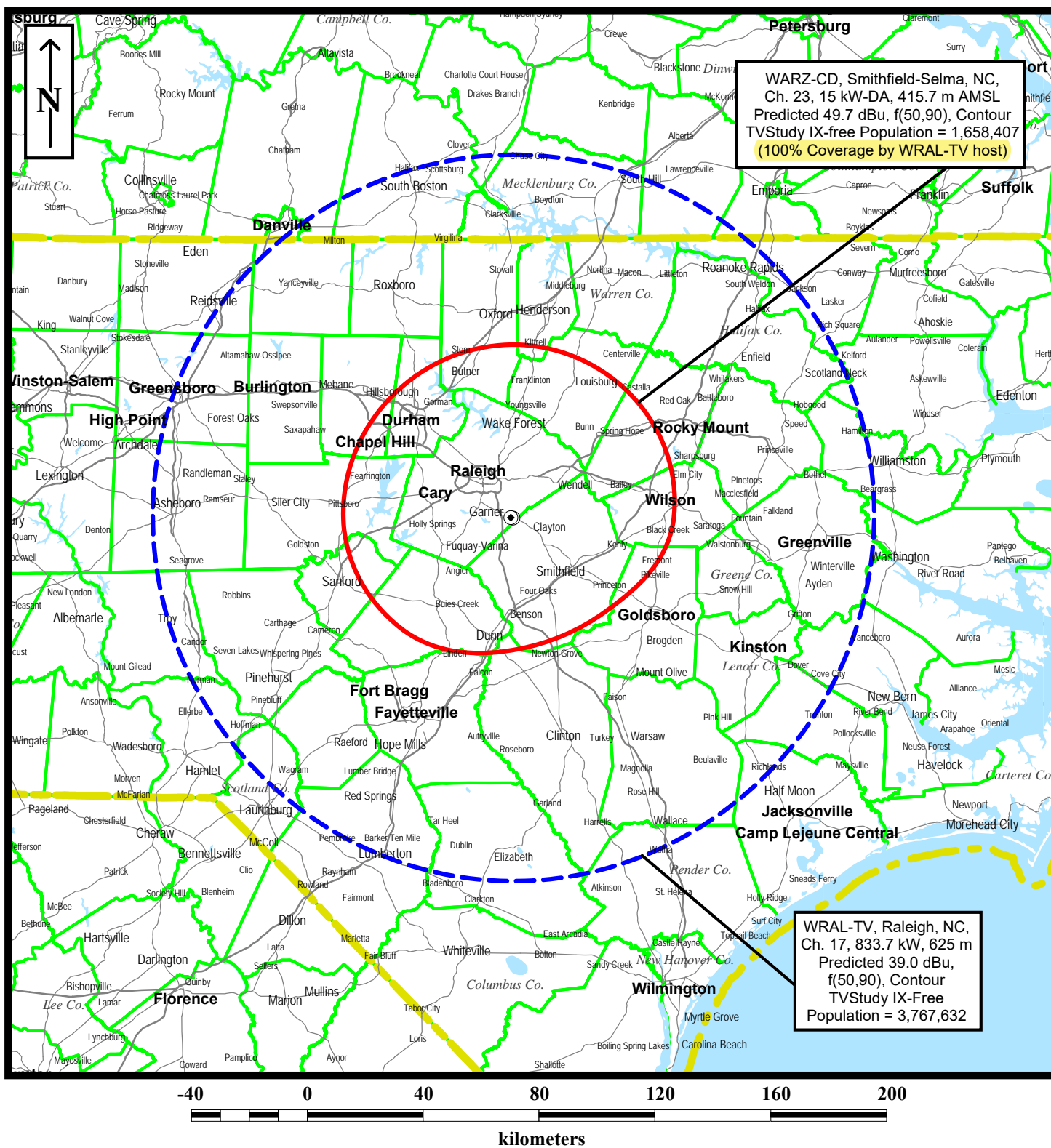
**Ant. Record ID:** 25076f916bd8cd91016bfbadce19597c

**Note:** Rotation or tilt is not applied to the pattern shown



<b>Type:</b> LTOWER	<b>ASRN:</b> 1027322	<b>FAA Study No.:</b> 2019-ASO-24710-OE	<b>Structure Height (m):</b> 606.2
<b>Latitude (NAD 83):</b> 35-40-29.0	<b>Date Received:</b> 07/08/2020	<b>Structure Height (ft):</b> 1988.8	
<b>Longitude (NAD 83):</b> 078-31-39.0	<b>Date Entered:</b> 07/08/2020	<b>Ground Elevation (m):</b> 109.7	
	<b>Date Issued:</b> 07/08/2020	<b>Ground Elevation (ft):</b> 359.9	
	<b>Date Constructed:</b> 03/23/2000	<b>Overall Height AGL (m):</b> 606.2	
	<b>Date Dismantled:</b>	<b>Overall Height AGL (ft):</b> 1988.8	
<b>Struct. Address:</b>		<b>Overall Height AMSL (m):</b> 715.9	
5033 TV TOWER RD		<b>Overall Height AMSL (ft):</b> 2348.8	
GARNER	NC		
<b>Entity Name:</b> CBC REAL ESTATE COMPANY, INC.			





## PREDICTED COVERAGE CONTOURS

duTreil, Lundin & Rackley, Inc. Sarasota, Florida



# PREDICTED SERVICE ANALYSIS FOR WARZ-CD SMITHFIELD-SELMA, NC (RF CHANNEL 23)

tvstudy v2.2.5 (4uoc83)

Database: localhost, Study: BLANK0000143679, Model: Longley-Rice

Study build station data: LMS TV 2021-04-23

Proposal: WARZ-CD D23 DC LIC SMITHFIELD-SELMA, NC

File number: BLANK0000143679

Facility ID: 71089

Station data: LMS TV 2021-04-23

Record ID: 25076ff3788f78950178a76b75411245

Country: U.S.

Record parameters as studied:

Channel: D23

Mask: Full Service

Latitude: 35 40 35.10 N (NAD83)

Longitude: 78 32 7.20 W

Height AMSL: 415.7 m

HAAT: 0.0 m

Peak ERP: 15.0 kW

Antenna: ERI-ALP12M5-CSW-23 (ID 1008089) 345.0 deg

Elev Pattn: ERI-ALP12M5-CSW-23

Elec Tilt: 1.25

49.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	14.8 kW	349.9 m	59.6 km
45.0	14.5	342.5	59.1
90.0	9.33	329.4	56.1
135.0	1.42	331.7	46.0
180.0	1.31	338.0	45.8
225.0	6.14	329.0	53.8
270.0	13.5	322.8	57.8
315.0	14.8	328.1	58.5

Study cell size: 1.00 km

Profile point spacing: 1.00 km

-----  
Interference to proposal scenario 1  
1.63% interference received

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WARZ-CD	D23	DC	LIC	SMITHFIELD-SELMA, NC	BLANK0000143679	
Undesireds:	WUVC-DT	D22	DT	LIC	FAYETTEVILLE, NC	BLANK0000125505	44.0 km
	WBTB	D23	DT	LIC	CHARLOTTE, NC	BLCDT19991025AEB	242.3
	WECT	D23	DT	LIC	WILMINGTON, NC	BLANK0000111584	174.6
	WTVR-TV	D23	DT	LIC	RICHMOND, VA	BLANK0000109887	220.5
	WUBX-CD	D24	DC	LIC	DURHAM, ETC., NC	BLANK0000108883	42.0

Service area	Terrain-limited	IX-free	Percent IX
9477.8 1,687,293	9455.8 1,685,821	9163.6 1,658,407	3.09 1.63

Undesired	Total IX	Unique IX	Prcnt Unique IX
WUVC-DT D22 DT LIC	166.1 8,485	140.2 5,243	1.48 0.31
WBTB D23 DT LIC	16.9 739	0.0 0	0.00 0.00
WECT D23 DT LIC	86.4 4,970	64.4 2,428	0.68 0.14
WTVR-TV D23 DT LIC	5.0 433	0.0 0	0.00 0.00
WUBX-CD D24 DC LIC	62.7 18,736	56.6 15,735	0.60 0.93

-----



# PREDICTED SERVICE ANALYSIS FOR WRAL-TV RALEIGH, NC (RF CHANNEL 17)

tvstudy v2.2.5 (4uoc83)

Database: localhost, Study: BLANK0000112824, Model: Longley-Rice

Study build station data: LMS TV 2021-04-23

**Proposal: WRAL-TV D17 DT LIC RALEIGH, NC**

File number: BLANK0000112824

Facility ID: 8688

Station data: LMS TV 2021-04-23

Record ID: 25076f916bd8cd91016bfbadcc845974

Country: U.S.

Zone: II

Record parameters as studied:

Channel: D17

Latitude: 35 40 29.00 N (NAD83)

Longitude: 78 31 39.00 W

Height AMSL: 706.0 m

HAAT: 625.0 m

Peak ERP: 834 kW

Antenna: Omnidirectional

Elev Pattn: Generic

Elec Tilt: 1.00

39.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	834 kW	636.0 m	125.4 km
45.0	834	630.1	125.1
90.0	834	621.1	124.6
135.0	834	624.6	124.8
180.0	834	634.4	125.3
225.0	834	620.3	124.5
270.0	834	613.9	124.1
315.0	834	621.7	124.6

Study cell size: 1.00 km

Profile point spacing: 1.00 km

-----  
Interference to proposal scenario 1  
2.04% interference received

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WRAL-TV	D17	DT	LIC	RALEIGH, NC	BLANK0000112824	
Undesireds:	WPXU-TV	D16	DT	LIC	JACKSONVILLE, NC	BLANK0000129487	161.6 km
	WXII-TV	D16	DT	LIC	WINSTON-SALEM, NC	BLANK0000081027	183.3
	WTAT-TV	D17	DT	LIC	CHARLESTON, SC	BLANK0000118551	322.3
	WHNS	D17	DT	LIC	GREENVILLE, SC	BLANK0000083635	380.2
	WKTD-CD	D17	DC	LIC	PORTSMOUTH, VA	BLTTA20050316ACC	221.1
	WVVA	D17	DT	LIC	BLUEFIELD, WV	BLANK0000087309	295.2
	WCCB	D18	DT	LIC	CHARLOTTE, NC	BLANK0000097908	204.8

	Service area	Terrain-limited	IX-free	Percent IX
48929.7	3,849,716	48658.1	3,845,904	47706.8
			<b>3,767,632</b>	1.96 2.04

Undesired	Total IX	Unique IX	Prcnt Unique IX
WPXU-TV D16 DT LIC	69.2 732	69.2 732	0.14 0.02
WXII-TV D16 DT LIC	308.5 60,857	201.9 48,529	0.41 1.26
WTAT-TV D17 DT LIC	137.9 3,028	101.0 2,022	0.21 0.05
WHNS D17 DT LIC	106.9 7,342	23.9 860	0.05 0.02
WKTD-CD D17 DC LIC	51.2 2,716	48.2 2,423	0.10 0.06
WVVA D17 DT LIC	454.2 22,034	331.6 8,396	0.68 0.22
WCCB D18 DT LIC	19.9 799	9.0 35	0.02 0.00

-----