APPLICATION FOR CONSTRUCTION PERMIT
DIGITAL COMPANION CHANNEL

W14CQ – SAVANNAH, GEORGIA
CHANNEL 23

DIGITAL NETWORKS–SOUTHEAST, LLC

APRIL 2020

© 2020 JEREMY RUCK & ASSOCIATES, INC.

JEREMY RUCK & ASSOCIATES, INC.
P.O. Box 415
221 S. 1st Avenue
Canton, IL 61520
Tel: 309.647.1200
Fax: 855.332.9537
jeremyruck.com

APPLICATION FOR CONSTRUCTION PERMIT

The following engineering statement and attached exhibits have been prepared for **Digital Networks-Southeast, LLC** ("Southeast"), licensee of analog low power television station W14CQ at Vidalia, Georgia, and are in support of their application for construction permit for a new digital companion channel low power television facility at Savannah, Georgia. The Facility ID for the current analog station is 129370, and is licensed under FCC File No. BLTT-20040915ADW.

W14CQ operates as an analog low-power television station on channel 14 at a center of radiation of 193.1 meters above mean sea level, 94 meters above ground level, utilizing a directional antenna. The proposed facility would be relocated from the licensed site, and would operate on television channel 23 with a maximum effective radiated power of 3.12 kW. The proposed center of radiation is 106.6 meters above mean sea level, or 76.2 meters above ground level. The antenna proposed for use at the facility is a composite directional antenna comprised of four Kathrein-Scala PR-TV antennas. Two of these antennas would be oriented at 85 degrees true, and the other two at 305 degrees true.

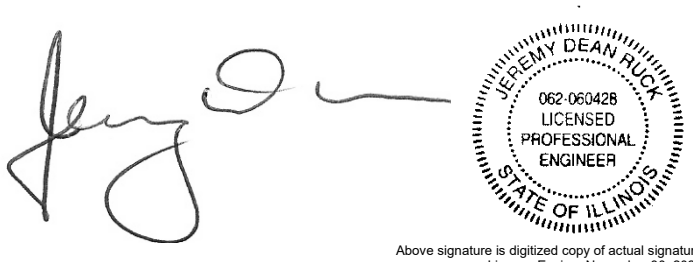
Exhibit E-1 provides a comparison between the proposed and licensed service contours. This map demonstrates that the proposed 51 dBu F(50,90) service contour overlaps the licensed 74 dBu F(50,50) service contour. Additionally, as is demonstrated, the proposed transmitter site is located within 30-miles of the licensed transmitter site.

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 is the 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 1.70 $\mu W/cm^2$. This value is less than the upper limit of the uncontrolled environment condition upper limit. Southeast certifies that 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.

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, 2021

Jeremy D. Ruck, PE
April 2, 2020

JEREMY RUCK & ASSOCIATES, INC.
P.O. Box 415
221 S. 1st Avenue
Canton, IL 61520
Tel: 309.647.1200
Fax: 855.332.9537
jeremyruck.com

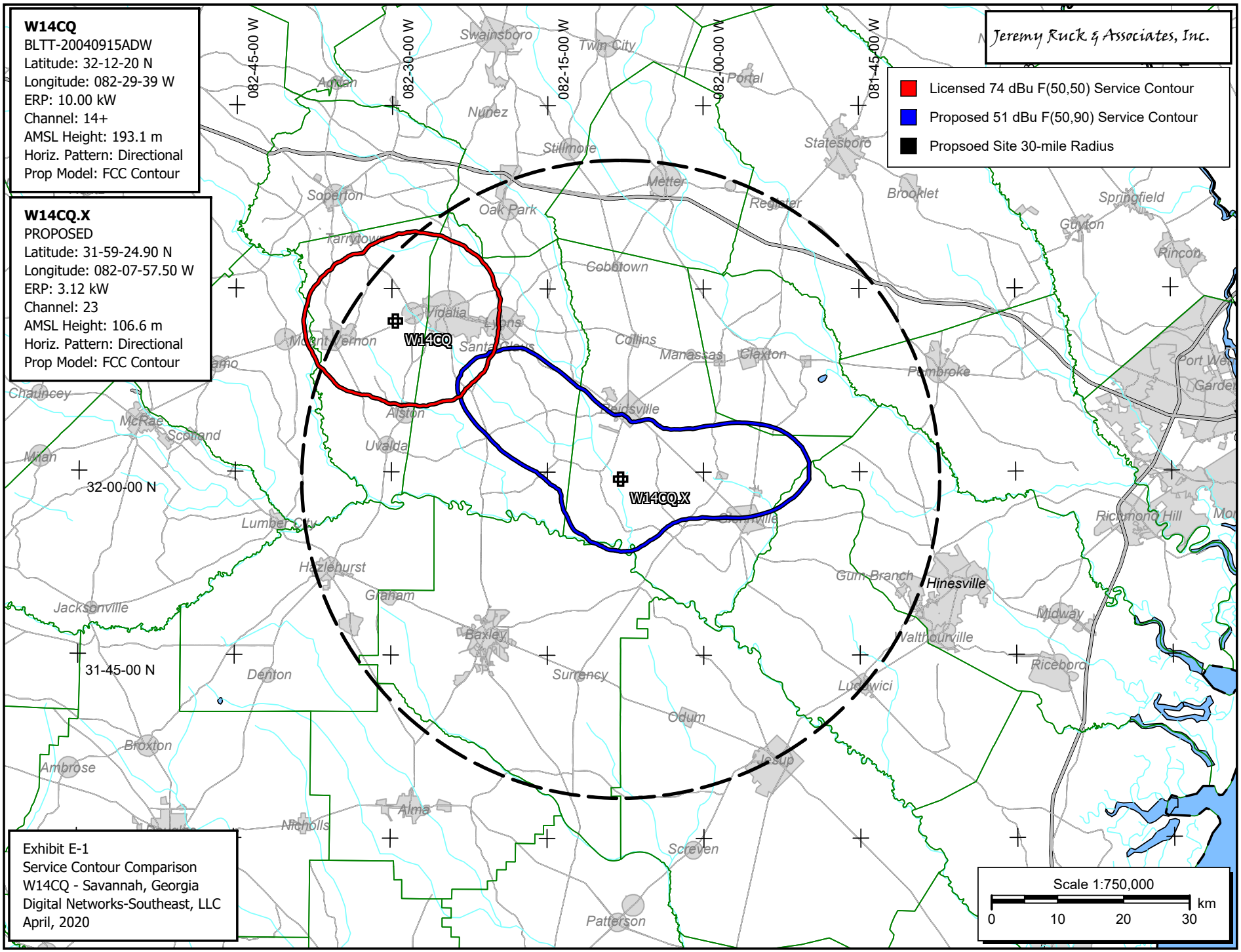

W14CQ
BLTT-20040915ADW
Latitude: 32-12-20 N
Longitude: 082-29-39 W
ERP: 10.00 kW
Channel: 14+
AMSL Height: 193.1 m
Horiz. Pattern: Directional
Prop Model: FCC Contour
W14CQ.X
PROPOSED
Latitude: 31-59-24.90 N
Longitude: 082-07-57.50 W
ERP: 3.12 kW
Channel: 23
AMSL Height: 106.6 m
Horiz. Pattern: Directional
Prop Model: FCC Contour
Jeremy Ruck & Associates, Inc.
Licensed 74 dBu F(50,50) Service Contour
Proposed 51 dBu F(50,90) Service Contour
Propsoed Site 30-mile Radius
082-45-00 W
082-30-00 W
082-15-00 W
082-00-00 W
081-45-00 W
32-00-00 N
31-45-00 N
W14CQ
W14CQ.X
Swainsboro
Twin City
Portal
Nunez
Adrian
Stillmore
Statesboro
Metter
Register
Brooklet
Springfield
Guyton
Rincon
Soperton
Oak Park
Tarrytown
Cobbtown
Vidalia
Lyons
Mount Vernon
Santa Claus
Collins
Manassas
Claxton
Pembroke
Chauncey
McRae
Scotland
Alston
Uvalda
Reidsville
Milan
Lumber City
Hazlehurst
Graham
Jacksonville
Baxley
Denton
Surrency
Odum
Jesup
Broxton
Ambrose
Nicholls
Alma
Screven
Patterson
Gum Branch
Hinesville
Midway
Valthourville
Riceboro
Ludowici
Richmond Hill
Port We
Garde
Exhibit E-1
Service Contour Comparison
W14CQ - Savannah, Georgia
Digital Networks-Southeast, LLC
April, 2020
Scale 1:750,000
0
10
20
30
km

Exhibit E-2 - TVStudy Interference Study

```
tvstudy v2.2.5 (4uoc83)
Database: 127.0.0.1,  Study: W14CQ DISP APP Ch 23 ASRN 1291382 3.12 kW 106.6 m AMSL PR-TV x4 2@85 2@305,
Model: Longley-Rice
Start: 2020.04.02 09:22:40

Study created: 2020.04.02 09:22:40

Study build station data: LMS TV 2020-04-02

    Proposal: W14CQ D23 LD APP Savanna, GA
 File number: BLANK0000022542
 Facility ID: 129370
Station data: User record
   Record ID: 144
     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	WUBF-LD	D22	LD	LIC	JACKSONVILLE, FL	BLANK0000068178	196.3 km
No	WTWC-TV	D22	DT	CP	TALLAHASSEE, FL	BLANK0000034393	227.4
No	W22EJ-D	D22	LD	CP	MACON, GA	BMPDTL20130515ACS	158.8
Yes	WJCL	D22	DT	LIC	SAVANNAH, GA	BLANK0000029019	75.2
No	W22ER-D	D22	LD	CP	VALDOSTA, GA	BNPDTL20100510ACB	169.0
No	WACH	D22	DT	LIC	COLUMBIA, SC	BLANK0000093772	268.5
No	WRGX-LD	D23	LD	LIC	DOTHAN, AL	BLDTL20130531ATB	362.3
No	WQAP-LD	D23	LD	CP	MONTGOMERY, AL	BLANK0000058726	406.9
No	WKCF	D23	DT	CP	CLERMONT, FL	BLANK0000034532	391.5
No	WUOF-LD	D23	LD	CP	GAINESVILLE, FL	BLANK0000021138	251.3
No	WUOF-LD	D23	LD	LIC	GAINESVILLE, FL	BLDTL20111207AAM	251.3
No	W23AQ	N23-	TX	LIC	LAKE CITY, FL	BLTT19931215JE	211.2
No	WKBJ-LD	D23	LD	CP	LIVE OAK, FL	BLANK0000051650	198.0
No	WKBJ-LD	D23	LD	LIC	LIVE OAK, FL	BLANK0000108066	198.0
No	NEW	D23	LD	APP	MADISON, FL	BNPDTL20090825AHQ	220.7
No	K23OY-D	D23	LD	CP	PANAMA CITY, FL	BNPDTL20090825ASZ	375.4
No	W23EF-D	D23	LD	CP	TALLAHASSEE, FL	BLANK0000013251	256.1
No	WQDU-LD	D23	LD	CP	ALBANY, GA	BLANK0000036643	210.8
No	WQDU-LD	D23	LD	LIC	ALBANY, GA	BLDTL20150112ACP	195.2
No	W23EE-D	D23	LD	CP	ASHBURN, GA	BNPDTL20100510ABC	146.8
No	W23DV-D	D23	LD	CP	ATHENS, GA	BMPDTL20140522AGK	211.1
No	WAAU-LD	D23	LD	LIC	AUGUSTA, GA	BLDTL20120522AFJ	165.5
No	W13DJ-D	D23	LD	CP	CARROLLTON, GA	BLANK0000053935	321.4
No	W23FA-D	D23	LD	CP	COLUMBUS, GA	BLANK0000071972	276.7
No	WKTB-CD	D23	DC	LIC	NORCROSS, GA	BLANK0000081811	288.3
No	WPGA-TV	D23	DT	CP	PERRY, GA	BLANK0000028377	158.2
No	WBTV	D23	DT	LIC	CHARLOTTE, NC	BLCDT19991025AEB	385.1
No	W23EZ-D	D23	LD	LIC	SYLVA, NC	BLANK0000080642	387.1
No	WECT	D23	DT	CP	WILMINGTON, NC	BLANK0000034156	437.8
No	WLDW-LD	D23	LD	LIC	Florence, SC	BLANK0000092516	322.7
No	WAZS-LD	D23	LD	CP	NORTH CHARLESTON, SC	BLANK0000054749	217.0
No	WFLI-TV	D23	DT	LIC	CLEVELAND, TN	BLANK0000093785	459.5
No	WTLF	D24	DT	CP	TALLAHASSEE, FL	BLANK0000035775	227.4
No	WTLF	D24	DT	LIC	TALLAHASSEE, FL	BLCDT20030303ABF	273.4
No	WPXC-TV	D24	DT	LIC	BRUNSWICK, GA	BLCDT20110426AAQ	134.5
No	WXTX	D24	DT	LIC	COLUMBUS, GA	BLANK0000064021	263.4
No	W24EW-D	D24	LD	CP	MACON, GA	BLANK0000098113	148.9
No	WITV	D24	DT	CP	CHARLESTON, SC	BLANK0000034488	250.7
No	WTAT-TV	D24	DT	LIC	CHARLESTON, SC	BLCDT20090612AHS	251.8

```
No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

    Channel: D23
       Mask: Full Service
```

```
   Latitude:  31 59 24.90 N (NAD83)
  Longitude:  82  7 57.50 W
Height AMSL: 106.6 m
       HAAT: 65.2 m
   Peak ERP: 3.12 kW
    Antenna: SCA PR-TV x4 2@85 2@305 0.0 deg
Elev Pattrn: Generic

49.7 dBu contour:
Azimuth      ERP       HAAT   Distance
  0.0 deg  0.031 kW    57.8 m   10.6 km
 45.0      0.053       52.3     11.5
 90.0       2.76       59.4     30.2
135.0      0.021       73.8     10.9
180.0      0.024       83.6     11.8
225.0      0.021       77.9     11.1
270.0      0.061       55.9     12.3
315.0       2.08       61.2     29.1

Distance to Canadian border: 1076.9 km

Distance to Mexican border: 1584.0 km

Conditions at FCC monitoring station: Powder Springs GA
Bearing: 311.4 degrees   Distance: 318.9 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 300.1 degrees   Distance: 2254.6 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%


-------------------------------------------------------------------------------------------------------
Interference to BLANK0000029019 LIC scenario 1

             Call      Chan  Svc Status  City, State              File Number             Distance
Desired:     WJCL      D22   DT  LIC     SAVANNAH, GA             BLANK0000029019

Undesireds:  W14CQ     D23   LD  APP     Savanna, GA              BLANK0000022542          75.2 km
             WEBA-TV   D21   DT  LIC     ALLENDALE, SC            BLANK0000081199         125.7
             WTWC-TV   D22   DT  CP      TALLAHASSEE, FL          BLANK0000034393         293.1
             WHSG-TV   D22   DT  LIC     MONROE, GA               BLANK0000081582         338.6
             WACH      D22   DT  LIC     COLUMBIA, SC             BLANK0000093772         234.9

        Service area       Terrain-limited       IX-free, before        IX-free, after    Percent New IX
 32208.8     935,591   32206.8     935,580   32036.3     932,956   32030.2     932,876     0.02     0.01

Undesired                          Total IX     Unique IX, before      Unique IX, after
W14CQ D23 LD APP            7.1          80                             6.1          80
WTWC-TV D22 DT CP          59.5         464      51.5         456      50.5         456
WHSG-TV D22 DT LIC         11.0          19       1.0           0       1.0           0
WACH D22 DT LIC           116.0       2,168     106.0       2,149     106.0       2,149

-------------------------------------------------------------------------------------------------------
Interference to BLANK0000029019 LIC scenario 2

             Call      Chan  Svc Status  City, State              File Number             Distance
Desired:     WJCL      D22   DT  LIC     SAVANNAH, GA             BLANK0000029019

Undesireds:  W14CQ     D23   LD  APP     Savanna, GA              BLANK0000022542          75.2 km
             WEBA-TV   D21   DT  LIC     ALLENDALE, SC            BLANK0000081199         125.7
             WTWC-TV   D22   DT  BL      TALLAHASSEE, FL          DTVBL66908              293.1
             WHSG-TV   D22   DT  LIC     MONROE, GA               BLANK0000081582         338.6
```

```
            WACH      D22   DT  LIC     COLUMBIA, SC              BLANK0000093772         234.9

       Service area       Terrain-limited       IX-free, before       IX-free, after    Percent New IX
 32208.8     935,591   32206.8     935,580   32069.6     933,245   32063.6     933,165     0.02     0.01

Undesired                          Total IX     Unique IX, before      Unique IX, after
W14CQ D23 LD APP            7.1          80                             6.1          80
WTWC-TV D22 DT BL          26.2         175      18.2         167      17.2         167
WHSG-TV D22 DT LIC         11.0          19       1.0           0       1.0           0
WACH D22 DT LIC           116.0       2,168     106.0       2,149     106.0       2,149

-------------------------------------------------------------------------------------------------------------
Interference to proposal scenario 1

            Call      Chan  Svc Status  City, State               File Number             Distance
Desired:    W14CQ     D23   LD  APP     Savanna, GA               BLANK0000022542

Undesireds: WUOF-LD   D23   LD  CP      GAINESVILLE, FL           BLANK0000021138         251.3 km
            WKBJ-LD   D23   LD  CP      LIVE OAK, FL              BLANK0000051650         198.0
            WQDU-LD   D23   LD  CP      ALBANY, GA                BLANK0000036643         210.8

       Service area       Terrain-limited              IX-free        Percent IX
   940.1      18,156     940.1      18,156     940.1      18,156     0.00     0.00
```

JEREMY RUCK & ASSOCIATES, INC.
P.O. Box 415
221 S. 1st Avenue
Canton, IL 61520
Tel: 309.647.1200
Fax: 855.332.9537
jeremyruck.com