

ENGINEERING STATEMENT  
SUPPORTING REQUEST FOR WAIVER  
TELEVISION STATION WCPX-TV  
(FACILITY ID NO. 10981)  
CHICAGO, ILLINOIS  
CHANNEL 34

Background

This statement was prepared on behalf of ION Media Chicago License, Inc., licensee of WCPX-TV, Chicago, IL, in support of a request for waiver of the FCC's Phase Assignment, Testing Period, and Phase Completion Date for television station WCPX-TV in the Chicago DMA\*. WCPX-TV is licensed for operation on RF Channel 43 with a maximum directional effective radiated power (ERP) of 200 kW and an antenna height above average terrain (HAAT) of 510 m.†

As a result of the FCC's Incentive Auction repack process, the WCPX-TV facility was reassigned to RF Channel 34. WCPX-TV now holds a construction permit for operation on Channel 34 with a maximum directional ERP of 400 kW and an antenna HAAT of 510 m.‡ An FCC engineering database summary sheet for the WCPX-TV construction permit facility is attached hereto for reference. The WCPX-TV construction permit facility is the subject early transition facility.

In coordination with the wireless carrier T-Mobile, ION Media Chicago License, Inc. seeks a waiver of the FCC's Phase Assignment, Testing Period, and Phase Completion Date to allow WCPX-TV to make the transition to Channel 34 earlier than its given phase transition date. Specifically, the target date for WCPX-TV to begin operations on Channel 34 is on or before October 18, 2019. This will facilitate the early deployment of new 600 MHz band wireless broadband services.

This statement demonstrates that the WCPX-TV facility can transition to Channel 34 before its assigned phase date without any disruption to the FCC's transition plans. Specifically, it is demonstrated that the operation of WCPX-TV on Channel 34

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\* Nielsen Designated Market Area abbreviated as DMA.

† See FCC File No. BLCDDT-20010226ABH.

‡ See FCC File No. 0000034347.

will have no adverse interference consequences, either caused or received, under the current allocation environment.

#### Assigned Phase

WCPX-TV is assigned to transition Phase 8, with a testing begin date of January 18, 2020. This is based on the latest FCC Phase Assignment spreadsheet dated October 23, 2018.

#### Linked Station Sets and Linked Station Neighbor Stations

An inspection of the latest FCC Linked Station Set (LSS) and Linked Station Neighbor (LSN) spreadsheet databases indicates that the WCPX-TV facility is not part of any LSSs or LSNs. These are based on the latest LSS and LSN spreadsheets available from the FCC, both dated October 23, 2018.

It is noted that there are dependencies with respect to the following stations: WISN-TV (Facility ID 65680) and WEDE-CD (Facility ID 66978). Both of these stations are in Phase 6. As described below, the WCPX-TV facility will not make its early transition until after the above listed facilities have completed their respective scheduled Phase 6 transitions.

#### Interference Caused Analysis Under Current Allocation Environment

An interference analysis was conducted for the WCPX-TV Channel 34 facility utilizing the latest version<sup>§</sup> of the FCC's *TVStudy* coverage and interference analysis prediction software. The report of the results is attached hereto entitled 'Interference Caused Analysis for WCPX-TV Channel 34 Construction Permit Facility Under Current Allocation Environment.'

The results of the analysis indicate that the proposal meets the 0.5% permissible interference level with respect to interference caused to all other full-service and Class A television stations with the exception of WNIT, South Bend, IN (Facility ID 41671).

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<sup>§</sup> *TVStudy* version 2.2.5

With respect to WNIT, the FCC's temporary transitional interference limit of 2% is met.\*\*

The following is noted:

1. WITI is in repack Phase 6, which begins on September 7, 2019 and is completed on October 18, 2019. The WITI facility will transition from Channel 33 to Channel 31. Therefore, the WCPX-TV early transition will occur following the transition of WITI and its facility record was omitted from the study.
2. WISN-TV is in repack Phase 6, which begins on September 7, 2019 and is completed on October 18, 2019. The WISN-TV facility will transition from Channel 34 to Channel 28. Therefore, the WCPX-TV early transition will occur following the transition of WISN-TV and its facility record was omitted from the study.
3. WEDE-CD is in repack Phase 6, which begins on September 7, 2019 and is completed on October 18, 2019. The WEDE-CD facility will transition from Channel 34 to Channel 28. Therefore, the WCPX-TV early transition will occur following the transition of WEDE-CD and its facility record was omitted from the study.

#### Interference Received Analysis Under Current Allocation Environment

An interference analysis specifically for the 'received case' of interference was conducted for the WCPX-TV Channel 34 early transition facility utilizing the FCC's *TVStudy* prediction software. The report of the results is attached hereto entitled 'Interference Received Analysis for WCPX-TV Channel 34 Construction Permit Facility Under Current Allocation Environment.' The purpose of this study is to evaluate all current environment records in the received interference analysis.

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\*\* It is noted that WNIT is in Phase 6 and will have made its transition from Channel 35 to Channel 31 by October 18, 2019. But it is not a dependency with respect to the WCPX-TV early transition as proposed herein.

The results of the analysis indicate that the proposal meets the 0.5% permissible interference level with respect to interference caused to all other full-service and Class A television stations.

It is noted that the WITI, WISN-TV and WEDE-CD facility records were omitted from the study for the reasons outlined above.

Effects on Linked Station Sets

Because the WCPX-TV early transition will occur following the respective phase transitions of stations WITI, WISN-TV and WEDE-CD, the early transition of the WCPX-TV facility to Channel 34 in advance of its phase transition date will not create any pairwise interference cases or new linked station sets.

Conclusion

Based on the early transition of WCPX-TV following the respective phase transitions of stations WITI, WISN-TV and WEDE-CD, it is concluded that the early transition of the WCPX-TV facility on Channel 34, as described herein, will not result in any interference caused or received cases that would result in the creation of any new linked station sets or dependencies established in the Incentive Auction repack process.



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October 26, 2018

# TV Inquiry

## WCPX-TV EARLY TRANSITION FACILITY

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



**Callsign:** WCPX-TV    **Service:** DT    **Status:** CP MOD    **App. Status:** GRANT    **Border Code:**    **Rec. Type:** C  
**Channel:** 34    **Offset:**    **Zone:** 1    **Docket Number:**    **DTV Type:** POSTTRAN  
**Fac. ID:** 10981    **Assoc. ID:**    **Application File No.:** BLANK-0000034347    **DT Emission Mask:**  
**City:** CHICAGO    **State:** IL    **Country:** US    **CP Expiration Date:**  
**Party Name:** ION MEDIA CHICAGO LICENSE, INC.    **Last Change Date:** 5/21/2018

**Latitude (NAD 83):** 41-52-44    **Height AGL (m):** 508.1    **Polarization:** H  
**Longitude (NAD 83):** 087-38-08    **Overall Height AGL (m):** 524.9    **Electrical Tilt (°):** 1  
**Longitude (NAD 83):** 087-38-08.2    **ERP (kW):** 400    **Mechanical Tilt (°):**  
**RCAMSL (m):** 689.5    **Maximum ERP (kW):**    **Mechanical Tilt Azimuth (°):**  
**Site Elevation AMSL (m):** 181.4    **Maximum ERP (dBk):** 26    **Degrees True (°):**  
**HAAT (m):** 510    **Maximum ERP at any Angle (kW):**    **Antenna Make:**  
**Maximum HAAT (m):**       **Antenna Model:**

**Antenna Type:** D    **Antenna ID:** 1003626    **Rotation (°):** 0

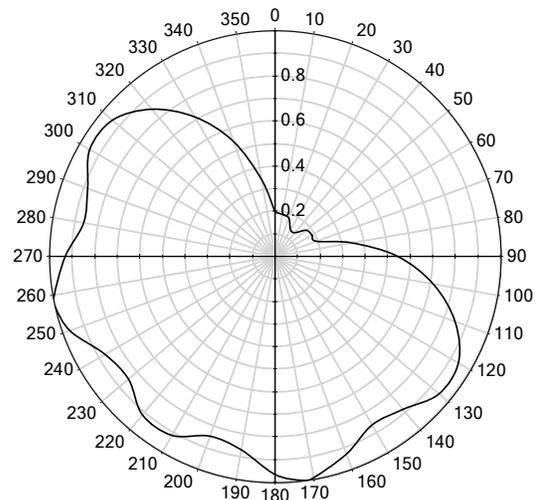
0° 0.195	90° 0.544	180° 0.967	270° 0.931	173° 1.000
10° 0.189	100° 0.714	190° 0.870	280° 0.862	257° 1.000
20° 0.180	110° 0.851	200° 0.848	290° 0.885	
30° 0.137	120° 0.940	210° 0.916	300° 0.949	
40° 0.137	130° 0.949	220° 0.916	310° 0.940	
50° 0.180	140° 0.885	230° 0.848	320° 0.851	
60° 0.189	150° 0.862	240° 0.870	330° 0.714	
70° 0.195	160° 0.931	250° 0.967	340° 0.544	
80° 0.346	170° 0.995	260° 0.995	350° 0.346	

**Standard Pattern:**

**Antenna Make:** RFS  
**Antenna Model:** PHP24C

**Last Change Date:**

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



<b>Type:</b> BMAST	<b>ASRN:</b> 1032960	<b>FAA Study No.:</b> 2012-AGL-4496-OE	<b>Structure Height (m):</b> 437.5
<b>Latitude (NAD 27):</b> 041-52-43.9	<b>Date Received:</b> 10/16/2012	<b>Structure Height (ft):</b> 1435.4	
<b>Longitude (NAD 27):</b> 087-38-07.8	<b>Date Entered:</b> 10/16/2012	<b>Ground Elevation (m):</b> 181.4	
<b>Latitude (NAD 83):</b> 41-52-44.0	<b>Date Issued:</b> 07/23/2012	<b>Ground Elevation (ft):</b> 595.1	
<b>Longitude (NAD 83):</b> 087-38-08.0	<b>Date Constructed:</b> 09/30/2012	<b>Overall Height AGL (m):</b> 524.9	
<b>Struct. Address:</b>	<b>Date Dismantled:</b>	<b>Overall Height AGL (ft):</b> 1722.1	
233 SOUTH WACKER DRIVE		<b>Overall Height AMSL (m):</b> 706.3	
CHICAGO	IL	<b>Overall Height AMSL (ft):</b> 2317.3	
<b>Entity Name:</b> 233 Broadcast, LLC			

# INTERFERENCE CAUSED ANALYSIS FOR WCPX-TV CHANNEL 34 CONSTRUCTION PERMIT FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

tvstudy v2.2.5 (4uoc83)

Database: localhost, Study: wcp34e2, Model: Longley-Rice

Study build station data: LMS TV 2018-10-25

Proposal: WCPX-TV D34 DT CP CHICAGO, IL  
File number: BLANK0000034347  
Facility ID: 10981  
Station data: LMS TV 2018-10-25  
Record ID: 25076f91633cf92d016360047cbf2d96  
Country: U.S.  
Zone: I

Build options:

Protect pre-transition records not on baseline channel

Search options:

All post-transition APP, CP, and baseline records excluded

Individual records excluded:

0000040653 WITI D33 DT LIC MILWAUKEE, WI BLANK0000040653 (WITI will have completed its Phase 6 transition by October 18, 2019.)  
20020801ABI WJYS D36 DT LIC HAMMOND, IN BLCDT20020801ABI (This is an old license facility record for WJYS that should be archived in the FCC database.)  
20101104AAA WISN-TV D34 DT LIC MILWAUKEE, WI BLCDT20101104AAA (WISN-TV will have completed its Phase 6 transition by October 18, 2019.)  
20140430ACQ WEDE-CD D34 DC LIC ARLINGTON HEIGHTS, IL BLDTA20140430ACQ (WEDE-CD will have completed its Phase 6 transition by October 18, 2019.)

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WOHO-CD	D33	DC	LIC	HOLLAND, MI	BLDTA20120316ACT	172.9 km
Yes	KQIN	D34	DT	LIC	DAVENPORT, IA	BLEDT20120921ADS	236.6
No	WQEC	D34	DT	APP	QUINCY, IL	BLANK0000035763	373.8
No	WQEC	D34	DT	LIC	QUINCY, IL	BLEDT20040715ADL	373.8
No	WCET	D34	DT	LIC	CINCINNATI, OH	BLEDT20061031AAR	403.7
Yes	WLPD-CD	D35	DC	LIC	PLANO, IL	BLANK0000034510	37.1
Yes	WNIT	D35	DT	LIC	SOUTH BEND, IN	BLEDT20110516ADN	123.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D34  
Latitude: 41 52 44.00 N (NAD83)  
Longitude: 87 38 8.00 W  
Height AMSL: 689.5 m  
HAAT: 510.0 m  
Peak ERP: 400 kW  
Antenna: RFS-PHP24C (ID 1003626) 0.0 deg  
Elev Pattn: Generic  
Elec Tilt: 1.00

40.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	15.2 kW	512.7 m	80.7 km
45.0	10.0	514.5	77.9
90.0	118	514.1	96.5
135.0	336	514.4	105.9
180.0	374	507.1	106.3
225.0	311	506.8	104.6
270.0	347	503.9	105.4
315.0	321	506.0	104.8

Distance to Canadian border: 371.2 km

Distance to Mexican border: 1825.6 km

Conditions at FCC monitoring station: Allegan MI  
Bearing: 59.1 degrees Distance: 160.1 km

Proposal is not within the West Virginia quiet zone area

# INTERFERENCE CAUSED ANALYSIS FOR WCPX-TV CHANNEL 34 CONSTRUCTION PERMIT FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

Conditions at Table Mountain receiving zone:  
Bearing: 268.4 degrees Distance: 1484.9 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%

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Interference to BLEDT20120921ADS LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KQIN	D34	DT	LIC	DAVENPORT, IA	BLEDT20120921ADS	
Undesireds:	WCPX-TV	D34	DT	CP	CHICAGO, IL	BLANK0000034347	236.6 km
	WQEC	D34	DT	APP	QUINCY, IL	BLANK0000035763	167.7
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
16010.5	596,371	15990.4	596,277	15607.3	593,269	15558.8 593,068	0.31 <b>0.03</b>
Undesired			Total IX		Unique IX, before	Unique IX, after	
WCPX-TV D34 DT CP		72.6	558		48.5	201	
WQEC D34 DT APP		383.0	3,008		383.0	2,651	

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Interference to BLEDT20120921ADS LIC scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KQIN	D34	DT	LIC	DAVENPORT, IA	BLEDT20120921ADS	
Undesireds:	WCPX-TV	D34	DT	CP	CHICAGO, IL	BLANK0000034347	236.6 km
	WQEC	D34	DT	LIC	QUINCY, IL	BLEDT20040715ADL	167.7
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
16010.5	596,371	15990.4	596,277	15954.5	595,914	15885.8 595,637	0.43 <b>0.05</b>
Undesired			Total IX		Unique IX, before	Unique IX, after	
WCPX-TV D34 DT CP		72.6	558		68.6	277	
WQEC D34 DT LIC		35.9	363		31.9	82	

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Interference to BLANK0000034510 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WLPD-CD	D35	DC	LIC	PLANO, IL	BLANK0000034510	
Undesireds:	WCPX-TV	D34	DT	CP	CHICAGO, IL	BLANK0000034347	37.1 km
	WJYS	D36	DT	LIC	HAMMOND, IN	BLCDT20100922ABI	37.1
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
4048.8	5,541,816	4048.8	5,541,816	4036.7	5,504,078	4008.6 5,500,413	0.70 <b>0.07</b>
Undesired			Total IX		Unique IX, before	Unique IX, after	
WCPX-TV D34 DT CP		40.2	41,403		28.2	3,665	
WJYS D36 DT LIC		12.1	37,738		12.1	0	

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Interference to BLEDT20110516ADN LIC scenario 1

\*\*IX: 1.76% interference caused

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WNIT	D35	DT	LIC	SOUTH BEND, IN	BLEDT20110516ADN	
Undesireds:	WCPX-TV	D34	DT	CP	CHICAGO, IL	BLANK0000034347	123.5 km
	WLPD-CD	D35	DC	LIC	PLANO, IL	BLANK0000034510	158.9
	WLWT	D35	DT	LIC	CINCINNATI, OH	BLCDT20050502ABC	310.6
	WFFT-TV	D36	DT	LIC	FORT WAYNE, IN	BLCDT20090521AAQ	100.1
	WJYS	D36	DT	LIC	HAMMOND, IN	BLCDT20100922ABI	123.5

# INTERFERENCE CAUSED ANALYSIS FOR WCPX-TV CHANNEL 34 CONSTRUCTION PERMIT FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
19520.6	1,298,159	19520.6	1,298,159	19019.9	1,254,251	18947.4	1,232,160	0.38	1.76
Undesired		Total IX		Unique IX, before		Unique IX, after			
WCPX-TV D34 DT CP		209.7	43,498			72.6	22,091	(Compliant with temporary 2% interference protection limit.)	
WLPD-CD D35 DC LIC		96.7	9,062	32.2	4,453	28.2	4,453		
WLWT D35 DT LIC		16.0	242	4.0	26	4.0	26		
WFFT-TV D36 DT LIC		331.4	18,022	319.4	17,806	319.4	17,806		
WJYS D36 DT LIC		133.1	21,407	68.6	16,798	0.0	0		

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# INTERFERENCE RECEIVED ANALYSIS FOR WCPX-TV CHANNEL 34 CONSTRUCTION PERMIT FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

Database: localhost  
 Station Data: LMS TV 2018-10-11  
 Study: LMS181011  
 Model: Longley-Rice  
 Scenario: wcp34e2r

Desired station	Service area		Terrain-limited		Interference-free	
Undesired station	Total interference		Unique interference			
WCPX-TV D34 DT CP CHICAGO, IL	30463.8	9,753,235	30415.7	9,751,916	30093.5	9,741,442
KQIN D34 DT LIC DAVENPORT, IA	72.2	5,400	72.2		5,400 (0.06%)	
WLPD-CD D35 DC LIC PLANO, IL	0.0	0	0.0		0	
WQEC D34 DT LIC QUINCY, IL	0.0	0	0.0		0	
WNIT D35 DT LIC SOUTH BEND, IN	250.0	5,074	250.0		5,074 (0.05%)	
WOHO-CD D33 DC LIC HOLLAND, MI	0.0	0	0.0		0	
WCET D34 DT LIC CINCINNATI, OH	0.0	0	0.0		0	

**Note:**

1. WITI D33 DT LIC MILWAUKEE, WI BLANK0000040653 (WITI will have completed its Phase 6 transition by October 18, 2019.)
2. WISN-TV D34 DT LIC MILWAUKEE, WI BLCDDT20101104AAA (WISN-TV will have completed its Phase 6 transition by October 18, 2019.)
3. WEDE-CD D34 DC LIC ARLINGTON HEIGHTS, IL BLDDTA20140430ACQ (WEDE-CD will have completed its Phase 6 transition by October 18, 2019.)