

INTERFERENCE ANALYSIS FOR PROPOSED WMBC-TV, NEWTON, NJ, CHANNEL 18 (1WTC MASTER ANTENNA)

tvstudy v2.2.5 (4uoc83)

Database: localhost, Study: wmbc_wt29h1, Model: Longley-Rice

Study build station data: LMS TV 2020-08-16

Proposal: WMBC_WT29H D18 DT APP NEWTON, NJ
File number: wmbc_wt29h
Facility ID: 43952
Station data: User record
Record ID: 3067
Country: U.S.
Zone: I

Search options:

Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	WPHL-TV	D17	DT	LIC	PHILADELPHIA, PA	BLANK0000040408	127.8 km
No	WPXQ-TV	D17	DT	LIC	NEWPORT, RI	BLANK0000068158	205.9
Yes	WEKW-TV	D18	DT	LIC	KEENE, NH	BLANK0000111230	291.7
Yes	WVH-CD	D18	DC	LIC	SOUTHAMPTON, NY	BLANK0000098161	143.0
Yes	WTVH	D18	DT	CP	SYRACUSE, NY	BLANK0000094502	303.7
Yes	WTVH	D18	DT	APP	SYRACUSE, NY	BLANK0000119614	303.2
No	WYPX-TV	D19	DT	LIC	AMSTERDAM, NY	BLANK0000080167	213.8

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D18
Latitude: 40 42 46.80 N (NAD83)
Longitude: 74 0 47.30 W
Height AMSL: 530.4 m
HAAT: 520.0 m
Peak ERP: 250 kW
Antenna: RFS-PEP40E 0.0 deg
Elev Pattn: Generic
Elec Tilt: 1.00

As noted in further detail below:

1. Higher resolution terrain profile point spacing is requested.
2. There is an interference consent agreement with WPHL-TV.

39.1 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	118 kW	513.8 m	99.6 km
45.0	167	527.8	103.8
90.0	160	510.7	102.1
135.0	188	517.7	104.1
180.0	115	521.6	100.0
225.0	128	524.2	101.1
270.0	243	523.7	106.9
315.0	142	520.1	101.7

Distance to Canadian border: 397.2 km

Distance to Mexican border: 2670.8 km

Conditions at FCC monitoring station: Laurel MD

Bearing: 235.2 degrees Distance: 294.7 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 279.0 degrees Distance: 2627.4 km

**Proposal fails distance check to land mobile station: Philadelphia PA ch. 19, 128.8 km
**Proposal fails distance check to land mobile station: BERGEN NJ WIL791 ch. 19, 13.9 km
**Proposal fails distance check to land mobile station: BERGEN NJ WIL824 ch. 19, 12.5 km
**Proposal fails distance check to land mobile station: BERGEN NJ WIL942 ch. 19, 16.3 km
**Proposal fails distance check to land mobile station: BERGEN NJ WIM835 ch. 19, 15.8 km
**Proposal fails distance check to land mobile station: BERGEN NJ WPLU548 ch. 19, 15.2 km
**Proposal fails distance check to land mobile station: BERGEN NJ WPLX446 ch. 19, 19.1 km

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**Proposal fails distance check to land mobile station: BERGEN NJ WPLX446 ch. 19, 19.8 km
**Proposal fails distance check to land mobile station: BERGEN NJ WPLX446 ch. 19, 19.7 km
**Proposal fails distance check to land mobile station: BERGEN NJ WPLX616 ch. 19, 12.7 km
**Proposal fails distance check to land mobile station: BERGEN NJ WPLX623 ch. 19, 17.8 km
**Proposal fails distance check to land mobile station: BERGEN NJ WPLX683 ch. 19, 18.0 km
**Proposal fails distance check to land mobile station: ESSEX NJ WIL429 ch. 19, 21.0 km
**Proposal fails distance check to land mobile station: ESSEX NJ WIL429 ch. 19, 22.1 km
**Proposal fails distance check to land mobile station: ESSEX NJ WIL924 ch. 19, 19.5 km
**Proposal fails distance check to land mobile station: ESSEX NJ WIL924 ch. 19, 19.7 km
**Proposal fails distance check to land mobile station: ESSEX NJ WIM608 ch. 19, 21.9 km
**Proposal fails distance check to land mobile station: HUDSON NJ WIL676 ch. 19, 8.3 km
**Proposal fails distance check to land mobile station: HUDSON NJ WIL676 ch. 19, 12.7 km
**Proposal fails distance check to land mobile station: HUDSON NJ WPLV668 ch. 19, 6.3 km
**Proposal fails distance check to land mobile station: HUDSON NJ WPLV668 ch. 19, 4.8 km
**Proposal fails distance check to land mobile station: MIDDLESEX NJ WIL536 ch. 19, 47.4 km
**Proposal fails distance check to land mobile station: MIDDLESEX NJ WIL536 ch. 19, 44.4 km
**Proposal fails distance check to land mobile station: MIDDLESEX NJ WIL536 ch. 19, 43.0 km
**Proposal fails distance check to land mobile station: MIDDLESEX NJ WIL720 ch. 19, 36.7 km
**Proposal fails distance check to land mobile station: MIDDLESEX NJ WIL720 ch. 19, 37.0 km
**Proposal fails distance check to land mobile station: MIDDLESEX NJ WIM222 ch. 19, 31.2 km
**Proposal fails distance check to land mobile station: MIDDLESEX NJ WPGX713 ch. 19, 38.1 km
**Proposal fails distance check to land mobile station: MIDDLESEX NJ WPGX713 ch. 19, 35.9 km
**Proposal fails distance check to land mobile station: MIDDLESEX NJ WQPX974 ch. 19, 33.2 km
**Proposal fails distance check to land mobile station: MIDDLESEX NJ WQPX974 ch. 19, 29.9 km
**Proposal fails distance check to land mobile station: MIDDLESEX NJ WQPX974 ch. 19, 23.9 km
**Proposal fails distance check to land mobile station: MIDDLESEX NJ WQPX974 ch. 19, 28.2 km
**Proposal fails distance check to land mobile station: MONMOUTH NJ WIJ783 ch. 19, 60.6 km
**Proposal fails distance check to land mobile station: MONMOUTH NJ WIJ783 ch. 19, 37.8 km
**Proposal fails distance check to land mobile station: MONMOUTH NJ WIL678 ch. 19, 54.7 km
**Proposal fails distance check to land mobile station: MONMOUTH NJ WIL678 ch. 19, 54.7 km
**Proposal fails distance check to land mobile station: MONMOUTH NJ WIM583 ch. 19, 47.9 km
**Proposal fails distance check to land mobile station: MONMOUTH NJ WIM583 ch. 19, 48.0 km
**Proposal fails distance check to land mobile station: MONMOUTH NJ WIM583 ch. 19, 46.2 km
**Proposal fails distance check to land mobile station: MONMOUTH NJ WPMW554 ch. 19, 54.3 km
**Proposal fails distance check to land mobile station: MONMOUTH NJ WPMW554 ch. 19, 35.3 km
**Proposal fails distance check to land mobile station: MONMOUTH NJ WQGU308 ch. 19, 54.1 km
**Proposal fails distance check to land mobile station: MONMOUTH NJ WQLZ558 ch. 19, 64.7 km
**Proposal fails distance check to land mobile station: MONMOUTH NJ WQLZ558 ch. 19, 53.6 km
**Proposal fails distance check to land mobile station: MONMOUTH NJ WQLZ558 ch. 19, 35.7 km
**Proposal fails distance check to land mobile station: MONMOUTH NJ WQLZ558 ch. 19, 33.2 km
**Proposal fails distance check to land mobile station: MORRIS NJ WQAM754 ch. 19, 35.2 km
**Proposal fails distance check to land mobile station: MORRIS NJ WQAM754 ch. 19, 37.7 km
**Proposal fails distance check to land mobile station: NASSAU NY WPVS875 ch. 19, 26.3 km
**Proposal fails distance check to land mobile station: NASSAU NY WPVS875 ch. 19, 38.7 km
**Proposal fails distance check to land mobile station: NASSAU NY WPVS875 ch. 19, 33.6 km
**Proposal fails distance check to land mobile station: NASSAU NY WPVS875 ch. 19, 46.5 km
**Proposal fails distance check to land mobile station: NASSAU NY WPYR980 ch. 19, 31.9 km
**Proposal fails distance check to land mobile station: NASSAU NY WQEH796 ch. 19, 47.4 km
**Proposal fails distance check to land mobile station: NASSAU NY WQEH959 ch. 19, 47.4 km
**Proposal fails distance check to land mobile station: NASSAU NY WQKU273 ch. 19, 34.5 km
**Proposal fails distance check to land mobile station: PASSAIC NJ WIL599 ch. 19, 30.2 km
**Proposal fails distance check to land mobile station: PASSAIC NJ WIL599 ch. 19, 34.5 km
**Proposal fails distance check to land mobile station: PASSAIC NJ WIL636 ch. 19, 25.5 km
**Proposal fails distance check to land mobile station: PASSAIC NJ WIL636 ch. 19, 25.2 km
**Proposal fails distance check to land mobile station: PASSAIC NJ WQMH982 ch. 19, 28.0 km
**Proposal fails distance check to land mobile station: PASSAIC NJ WQMH982 ch. 19, 30.5 km
**Proposal fails distance check to land mobile station: PASSAIC NJ WQMH982 ch. 19, 34.5 km
**Proposal fails distance check to land mobile station: PASSAIC NJ WQMH982 ch. 19, 38.7 km
**Proposal fails distance check to land mobile station: SOMERSET NJ WIK841 ch. 19, 42.9 km
**Proposal fails distance check to land mobile station: SOMERSET NJ WIK841 ch. 19, 42.6 km
**Proposal fails distance check to land mobile station: SOMERSET NJ WIK841 ch. 19, 43.7 km
**Proposal fails distance check to land mobile station: SOMERSET NJ WIK841 ch. 19, 47.5 km
**Proposal fails distance check to land mobile station: SOMERSET NJ WIK841 ch. 19, 39.6 km
**Proposal fails distance check to land mobile station: SOMERSET NJ WIL900 ch. 19, 66.0 km
**Proposal fails distance check to land mobile station: SOMERSET NJ WIL900 ch. 19, 56.0 km
**Proposal fails distance check to land mobile station: SOMERSET NJ WIL900 ch. 19, 52.9 km
**Proposal fails distance check to land mobile station: SOMERSET NJ WIL900 ch. 19, 41.9 km
**Proposal fails distance check to land mobile station: SOMERSET NJ WIL900 ch. 19, 47.9 km
**Proposal fails distance check to land mobile station: SOMERSET NJ WIL900 ch. 19, 47.4 km
**Proposal fails distance check to land mobile station: SOMERSET NJ WPVM588 ch. 19, 59.8 km
**Proposal fails distance check to land mobile station: SOMERSET NJ WPVM588 ch. 19, 39.6 km
**Proposal fails distance check to land mobile station: SOMERSET NJ WPVM588 ch. 19, 36.8 km

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**Proposal fails distance check to land mobile station: SOMERSET NJ WPVM588 ch. 19, 51.8 km
 **Proposal fails distance check to land mobile station: SOMERSET NJ WPVM588 ch. 19, 49.5 km
 **Proposal fails distance check to land mobile station: SOMERSET NJ WPVM588 ch. 19, 47.2 km
 **Proposal fails distance check to land mobile station: SOMERSET NJ WQGG391 ch. 19, 52.9 km
 **Proposal fails distance check to land mobile station: UNION NJ WIL797 ch. 19, 33.3 km
 **Proposal fails distance check to land mobile station: UNION NJ WIL967 ch. 19, 25.1 km
 **Proposal fails distance check to land mobile station: UNION NJ WIM531 ch. 19, 18.0 km
 **Proposal fails distance check to land mobile station: UNION NJ WIM531 ch. 19, 18.0 km
 **Proposal fails distance check to land mobile station: UNION NJ WPGX673 ch. 19, 20.5 km
 **Proposal fails distance check to land mobile station: UNION NJ WPIG291 ch. 19, 22.0 km
 **Proposal fails distance check to land mobile station: UNION NJ WPMC452 ch. 19, 19.4 km
 **Proposal fails distance check to land mobile station: UNION NJ WPMC452 ch. 19, 21.7 km
 **Proposal fails distance check to land mobile station: UNION NJ WPMC452 ch. 19, 21.6 km
 **Proposal fails distance check to land mobile station: UNION NJ WPMC452 ch. 19, 22.3 km
 **Proposal fails distance check to land mobile station: UNION NJ WPMC452 ch. 19, 22.5 km
 **Proposal fails distance check to land mobile station: UNION NJ WPXZ581 ch. 19, 32.6 km

Study cell size: 2.00 km

Profile point spacing: 0.30 km (Higher resolution terrain profile point spacing is requested.)

Maximum new IX to full-service and Class A: 0.50%

Maximum new IX to LPTV: 2.00%

Note: There is an interference consent agreement with WPHL-TV, which permits an interference level of up to 1.39%. The interference consent agreement is included as an exhibit to the instant application. At the last page of this study, there is a map demonstrating compliance with the requirement of the interference consent agreement that no incremental predicted interference from the WMBC-TV facility occur to WPHL-TV within the Philadelphia DMA.

Interference to BLANK0000040408 LIC scenario 1

**IX: 1.25% interference caused

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WPHL-TV	D17	DT	LIC	PHILADELPHIA, PA	BLANK0000040408	
Undesireds:	WMBC-TV	D18	DD	BL	NEWTON, NJ	DTVBL43952	126.8 km
	WMBC_WT29HD18	DT	APP		NEWTON, NJ	wmbc_wt29h	127.8
	WPXQ-TV	D17	DT	LIC	NEWPORT, RI	BLANK0000068158	332.6
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	30773.3	10,421,216	29890.1	10,267,354	29818.0	10,230,126	29553.2 10,101,785 0.89 1.25
Undesired				Total IX	Unique IX, before	Unique IX, after	
WMBC-TV D18 DD BL				64.0	33,046	64.0	33,046
WMBC_WT29H D18 DT APP				336.9	165,569	328.8	161,387
WPXQ-TV D17 DT LIC				8.1	4,182	0.0	0

Interference to BLANK0000111230 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WEKW-TV	D18	DT	LIC	KEENE, NH	BLANK0000111230	
Undesireds:	WMBC-TV	D18	DD	BL	NEWTON, NJ	DTVBL43952	284.7 km
	WMBC_WT29HD18	DT	APP		NEWTON, NJ	wmbc_wt29h	291.7
	WTVH	D18	DT	CP	SYRACUSE, NY	BLANK0000094502	304.3
	WUTF-TV	D19	DT	CP	WORCESTER, MA	BLANK0000034871	122.5
	WYPX-TV	D19	DT	LIC	AMSTERDAM, NY	BLANK0000080167	140.2
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	22102.1	1,263,049	17941.0	799,422	17601.4	766,739	17565.3 763,467 0.20 0.43
Undesired				Total IX	Unique IX, before	Unique IX, after	
WMBC-TV D18 DD BL				8.0	61	8.0	61
WMBC_WT29H D18 DT APP				44.1	3,333	44.1	3,333
WTVH D18 DT CP				83.4	741	55.4	383
WUTF-TV D19 DT CP				236.2	31,881	236.2	31,881
WYPX-TV D19 DT LIC				39.9	358	12.0	0

Interference to BLANK0000098161 LIC scenario 1

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	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WVH-CD	D18	DC	LIC	SOUTHAMPTON, NY	BLANK0000098161	
Undesireds:	WMBC-TV	D18	DD	BL	NEWTON, NJ	DTVBL43952	156.2 km
	WMBC_WT29HD18	DT	APP		NEWTON, NJ	wmbc_wt29h	143.0
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	3449.9	85,189	3449.9	85,189	3449.9	85,189	0.35
					3437.9	85,124	0.08
Undesired				Total IX	Unique IX, before	Unique IX, after	
WMBC-TV D18 DD BL		0.0		0	0.0	0	
WMBC_WT29H D18 DT APP		11.9		65		11.9	65

Interference to BLANK0000094502 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WTVH	D18	DT	CP	SYRACUSE, NY	BLANK0000094502	
Undesireds:	WMBC-TV	D18	DD	BL	NEWTON, NJ	DTVBL43952	280.9 km
	WMBC_WT29HD18	DT	APP		NEWTON, NJ	wmbc_wt29h	303.7
	WSYR-TV	D17	DT	LIC	SYRACUSE, NY	BLCDT20030812ABK	7.0
	WEKW-TV	D18	DT	LIC	KEENE, NH	BLANK0000111230	304.3
	WWNY-CD	D18	DC	LIC	MASSENA, NY	BLDTL20101118ALZ	198.1
	WSTM-TV	D19	DT	LIC	SYRACUSE, NY	BLANK0000090187	1.4
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	30157.9	1,521,996	28805.0	1,449,556	28495.6	1,446,130	-0.15
	450.4	0	450.4	0	450.4	0	0.00
							0.00(in Canada)
Undesired				Total IX	Unique IX, before	Unique IX, after	
WMBC-TV D18 DD BL		56.1		662	56.1	662	
WMBC_WT29H D18 DT APP		12.0		121		12.0	121
WSYR-TV D17 DT LIC		8.0		534	8.0	534	
WEKW-TV D18 DT LIC		4.0		169	4.0	169	
WWNY-CD D18 DC LIC		233.3		1,900	233.3	1,900	
WSTM-TV D19 DT LIC		8.0		161	8.0	161	

Interference to BLANK0000119614 APP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WTVH	D18	DT	APP	SYRACUSE, NY	BLANK0000119614	
Undesireds:	WMBC-TV	D18	DD	BL	NEWTON, NJ	DTVBL43952	280.4 km
	WMBC_WT29HD18	DT	APP		NEWTON, NJ	wmbc_wt29h	303.2
	WSYR-TV	D17	DT	LIC	SYRACUSE, NY	BLCDT20030812ABK	7.7
	WWNY-CD	D18	DC	LIC	MASSENA, NY	BLDTL20101118ALZ	199.5
	WSTM-TV	D19	DT	LIC	SYRACUSE, NY	BLANK0000090187	0.0
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	25247.1	1,390,502	24100.4	1,335,818	23896.4	1,328,560	-0.12
					23924.4	1,328,876	-0.02
Undesired				Total IX	Unique IX, before	Unique IX, after	
WMBC-TV D18 DD BL		40.0		588	40.0	588	
WMBC_WT29H D18 DT APP		12.0		272		12.0	272
WSYR-TV D17 DT LIC		75.8		6,245	75.8	6,245	
WWNY-CD D18 DC LIC		72.2		399	72.2	399	
WSTM-TV D19 DT LIC		16.0		26	16.0	26	

Interference to proposal scenario 1 1.00% interference received

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WMBC_WT29HD18	DT	APP		NEWTON, NJ	wmbc_wt29h	
Undesireds:	WPHL-TV	D17	DT	LIC	PHILADELPHIA, PA	BLANK0000040408	127.8 km
	WEKW-TV	D18	DT	LIC	KEENE, NH	BLANK0000111230	291.7
	WVH-CD	D18	DC	LIC	SOUTHAMPTON, NY	BLANK0000098161	143.0
	WTVH	D18	DT	CP	SYRACUSE, NY	BLANK0000094502	303.7

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Service area		Terrain-limited		IX-free		Percent IX	
32997.4	21,133,797	31230.2	20,696,272	30497.9	20,489,395	2.34	1.00
Undesired		Total IX		Unique IX		Prcnt Unique IX	
WPHL-TV D17 DT LIC		551.4	172,140	551.4	172,140	1.77	0.83
WEKW-TV D18 DT LIC		36.4	15,783	32.3	15,454	0.10	0.07
WVVH-CD D18 DC LIC		83.9	12,312	83.9	12,312	0.27	0.06
WTVH D18 DT CP		64.7	6,971	60.6	6,642	0.19	0.03

Interference to proposal scenario 2
**MX: 0.97% interference received

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WMBC-WT29HD18	D18	DT	APP	NEWTON, NJ	wmbc_wt29h	
Undesireds:	WPHL-TV	D17	DT	LIC	PHILADELPHIA, PA	BLANK0000040408	127.8 km
	WEKW-TV	D18	DT	LIC	KEENE, NH	BLANK0000111230	291.7
	WVVH-CD	D18	DC	LIC	SOUTHAMPTON, NY	BLANK0000098161	143.0
	WTVH	D18	DT	APP	SYRACUSE, NY	BLANK0000119614	303.2

Service area		Terrain-limited		IX-free		Percent IX	
32997.4	21,133,797	31230.2	20,696,272	30554.5	20,496,034	2.16	0.97
Undesired		Total IX		Unique IX		Prcnt Unique IX	
WPHL-TV D17 DT LIC		551.4	172,140	551.4	172,140	1.77	0.83
WEKW-TV D18 DT LIC		36.4	15,783	36.4	15,783	0.12	0.08
WVVH-CD D18 DC LIC		83.9	12,312	83.9	12,312	0.27	0.06
WTVH D18 DT APP		4.1	3	4.1	3	0.01	0.00

There is no MX case with the WTVH application since the predicted interference from the WTVH application is 0.00%.

