

Technical Certifications

This exhibit for the minor modification of WLKP demonstrates compliance with all engineering standards and requirements specified in the applicable FCC rules and regulations. This application proposes a change in the WLKP location. The licensed and proposed parameters are indicated below:

	Licensed	Minor Mod
Channel / Class	220A	220A
ASRN	1254889	1033639
Geographical Coordinates	39 20 46.3 81 29 54.4	39 20 35.0 81 29 52.0
Tower AGL	44 m	57.9 m
Site AMSL	299 m	298.7 m
COR AGL	32 m	39.6 m
COR AMSL	331 m	338.3 m
HAAT	99 m	109.1 m
ERP	5.2 kW (H&V, DA)	2.9 kW (H&V, DA)

GLOBE terrain data

Channel Study**1. Compliance with 47 C.F.R. 73.207**

The proposed facility meets all minimum distance separation requirements with regard to co-channel, first, second, or third adjacent channel stations, and those separated by 53/54 channels, except the licensed facilities of the following stations:

Station	Channel	City of License	Facility ID	Distance Short-Spaced
WYVK	221A	Middleport, OH	18022	14.9km

This application proposes contour protection (47 C.F.R. 73.215. 47 C.F.R. 73.215(e)) for WYVK.

The minimum separation requirement between a class A and a class A facility (WLKP proposed and WYVK), which are first adjacent channels, is 49 km. Exhibit 1-A shows that WYVK is separated from the proposed facility by 56.63 km.

Therefore, the proposed facility is permitted to use contour protection toward the short-spaced facility (See Exhibit 2 for compliance with contour protection requirements).

WLKP Site Spacing Table

REFERENCE		DISPLAY DATES
39 20 35.00 N.	CLASS = A Int = A	DATA 09-14-23
81 29 52.00 W.	Current Spacings to 3rd Adj.	SEARCH 09-14-23
----- Channel 220 - 91.9 MHz -----		

Call	Channel	Location	Azi	Dist	FCC	Margin
WLKP	LIC-Z 220A	Belpre	OH 350.7	0.35	114.5	-114.2
WOUC-TV	LI -D 06 1E	Cambridge	OH 12.1	85.09	153.5	-68.4
WOUC-TV-ACHA-D	6 --	Cambridge	OH 12.1	85.10	153.5	-68.4
WYVK	LIC 221A	Middleport	OH 236.1	56.63	71.5	-14.9
WOUB-FM	LIC 217B	Athens	OH 267.0	56.29	68.5	-12.2
WPHP	LIC 220A	Wheeling	WV 41.7	108.46	114.5	-6.0
WOUH-FM	LIC 220A	Chillicothe	OH 269.6	112.46	114.5	-2.0
WBIK	LIC 221A	Pleasant City	OH 356.5	76.08	71.5	4.6
WHKU	LIC 220A	Proctorville	OH 217.5	128.64	114.5	14.1
WJIC	LIC-D 219A	Zanesville	OH 318.4	92.20	71.5	20.7
WKCO	LIC 220A	Gambier	OH 326.5	137.83	114.5	23.3
WRSG	LIC 218A	Middlebourne	WV 69.2	54.96	30.5	24.5
WTHM-LP	LIC 223L1	Ravenswood	WV 206.1	55.61	28.5	27.1
WTHM-LP	CP 223L1	Ravenswood	WV 206.1	55.63	28.5	27.1
WBHZ	LIC 220A	Elkins	WV 110.6	145.56	114.5	31.1
WYRC-LP	LIC 222L1	Spencer	WV 169.1	59.87	28.5	31.4
WXCR	LIC-N 222A	New Martinsville	WV 55.1	64.12	30.5	33.6
WKJA	LIC-Z 220B1	Brunswick	OH 348.2	178.50	142.5	36.0
WCAL	LIC 220A	California	PA 59.6	157.55	114.5	43.1
WTCL-LD	STA 06Z--	Cleveland	OH 355.7	227.15	129.5	97.7
WKBS-TV-ACHA	6 --	Altoona	PA 61.4	294.52	153.5	141.0
WKBS-TV	LI 06 1C	Altoona	PA 61.4	294.52	153.5	141.0

Reference station has protected zone issue: Canada- AM tower
All separation margins include rounding

Channel Study

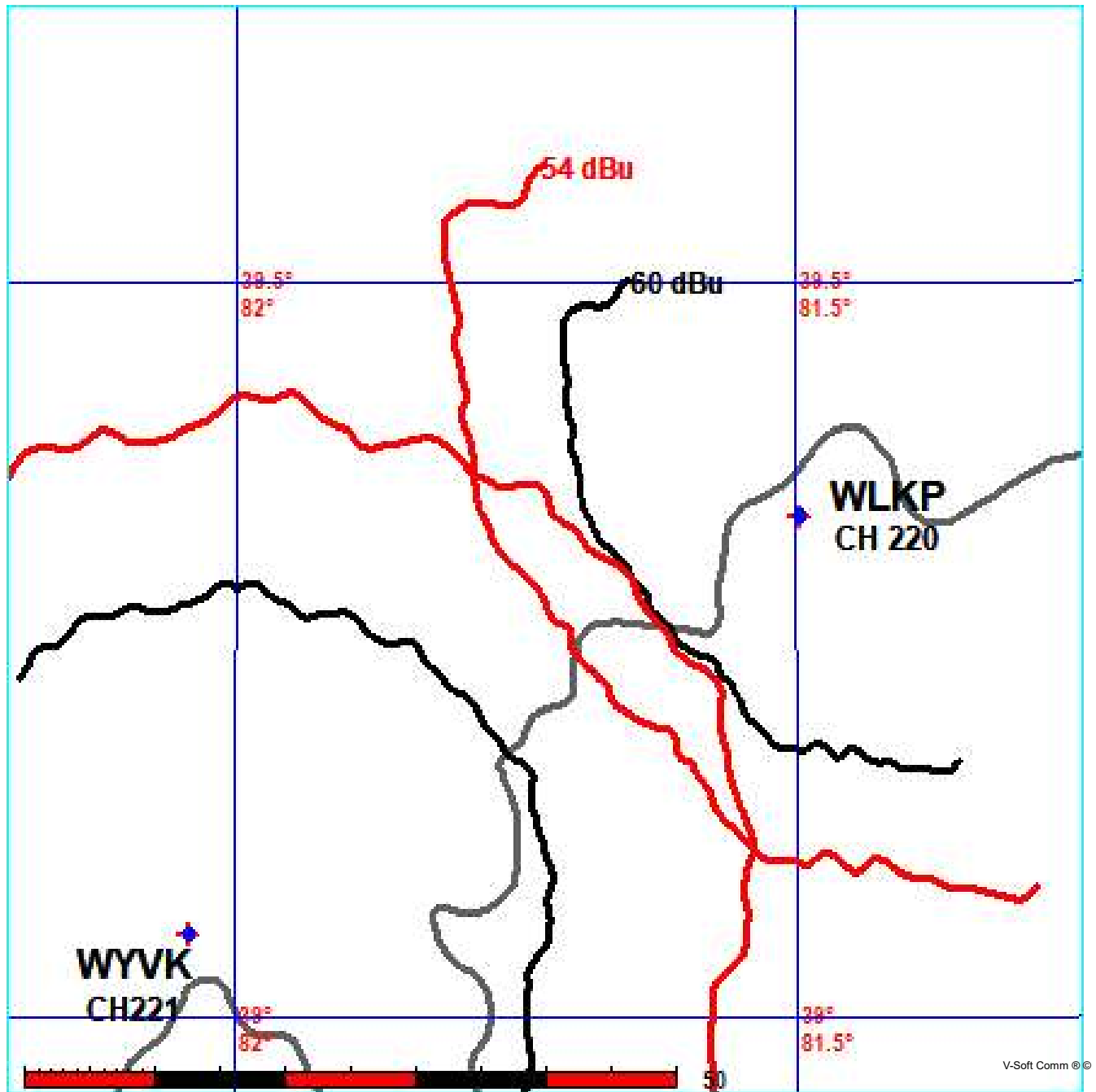
REFERENCE		CH# 220A - 91.9 MHz, Pwr= 2.9 kW DA, HAAT= 109.1 M, COR= 338.3 M								DISPLAY DATES	
39 20 35.0 N.		Average Protected F(50-50)= 25.0 km								DATA 09-14-23	
81 29 52.0 W.		73.215 Directional								SEARCH 09-14-23	
CH CITY	CALL	TYPE STATE	ANT	AZI. <--	DIST FILE #	LAT. LNG.	Pwr (kW) HAAT (M)	INT (km) COR (M)	PRO (km) LICENSEE	*IN* (Overlap in km)	*OUT*
06 1E Cambridge	WOUC-TV	LI	DEN OH	12.1 192.2	85.19 0000068363	38 28 33.30 82 14 59.50	7.110 338	5.8 655	288.1	293.9R	-208.7M
6 -- Cambridge	WOUC-TV-A	CHA	D Y OH	12.1 192.2	85.20 DTVBL50141	38 28 33.30 82 14 59.50	1.720 385	5.8 699	244.7	250.5R	-165.3M
220A Belpre	WLKP!	LIC	ZCN OH	350.7 170.7	0.35 BLED20060410ACA	39 20 46.30 81 29 54.40	5.200 99	331	---Reference--- Educational Media Foundati		
221A Middleport	WYVK^	LIC	CN OH	236.1 55.8	56.55 BMLH20000518ABB	39 03 30.30 82 02 30.50	6.000 100	42.8 326	27.7	0.4	8.9 Positive Radio Group, Inc.
217B Athens	WOUB-FM	LIC	CN OH	267.0 86.6	56.14 BLED20020517ABA	39 18 52.30 82 08 58.50	50.000 150	6.2 401	53.9	34.1	0.8 Ohio University
221A Pleasant City	WBIK<	LIC	CN OH	356.5 176.5	76.08 BLH20011101ABJ	40 01 37.30 81 33 08.40	6.000 52	38.8 334	25.3	71.5R	4.6M Avc Communications, Inc.
220A Wheeling	WPHP	LIC	HN WV	41.7 222.2	108.42 BLED19830103AF	40 04 07.20 80 39 03.20	0.100 79	32.4 396	9.7	49.9	19.9 Ohio County Board Of Educa
219A Zanesville	WJIC<	LIC	DCN OH	318.4 137.9	92.16 BLED20190424AAA	39 57 37.20 82 12 59.50	4.100 121	45.8 410	30.1	24.9	30.3 Vcy America, Inc.
220A Chillicothe	WOUH-FM	LIC	CN OH	269.6 88.8	112.17 BLED19920709KB	39 19 46.20 82 48 07.60	0.750 198	71.1 445	23.8	24.9	34.8 Ohio University
218A Middlebourne	WRSG<	LIC	CN WV	69.2 249.6	54.85 BMLED20150112AAI	39 30 59.20 80 53 59.30	0.900 48	1.6 332	15.2	27.8	37.3 Tyler County Board Of Educ
222A New Martinsville	WXCR<	LIC	NCN WV	55.1 235.5	64.12 BLH20050412AAJ	39 40 16.30 80 53 03.40	3.200 138	2.3 440	24.6	30.5R	33.6M Seven Ranges Radio Company
220A Proctorville	WHKU<	LIC	CN OH	217.5 36.9	128.64 0000208706	38 25 17.00 82 23 47.00	3.500 128	80.2 336	26.3	35.3	57.8 Educational Media Foundati
220A Elkins	WBHZ<	LIC	CN WV	110.6 291.6	145.26 BLED19990107KB	38 52 18.40 79 55 38.30	0.275 341	76.1 1057	25.6	44.9	43.9 American Family Associatio

Terrain database is GLOBE 30 Sec, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM
Contour distances are on direct line to and from reference station. Reference Zone= - ZN1, Co to 3rd adjacent.
All separation margins (if shown) include rounding. Call signs with exclamation marks need not be protected.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
"*"affixed to 'IN' or 'OUT' values = site inside restricted contour.
< = Station meets FCC minimum distance spacing for its class.
^ = Power and antenna height 'Max classed' as per Sec 73.215 protection requirements
Reference station has protected zone issue: Canada- AM tower

FMCommander Single Allocation Study - 09-15-2023 - GLOBE 30 Sec
WLKP's Overlaps (In= 0.43 km, Out= 8.87 km)

WLKP CH 220 A 73.215 Z
Lat= 39 20 35.00, Lng= 81 29 52.00
2.9 kW 109.1 m HAAT, 338.3 m COR
Prot.= 60 dBu, Intef.= 54 dBu

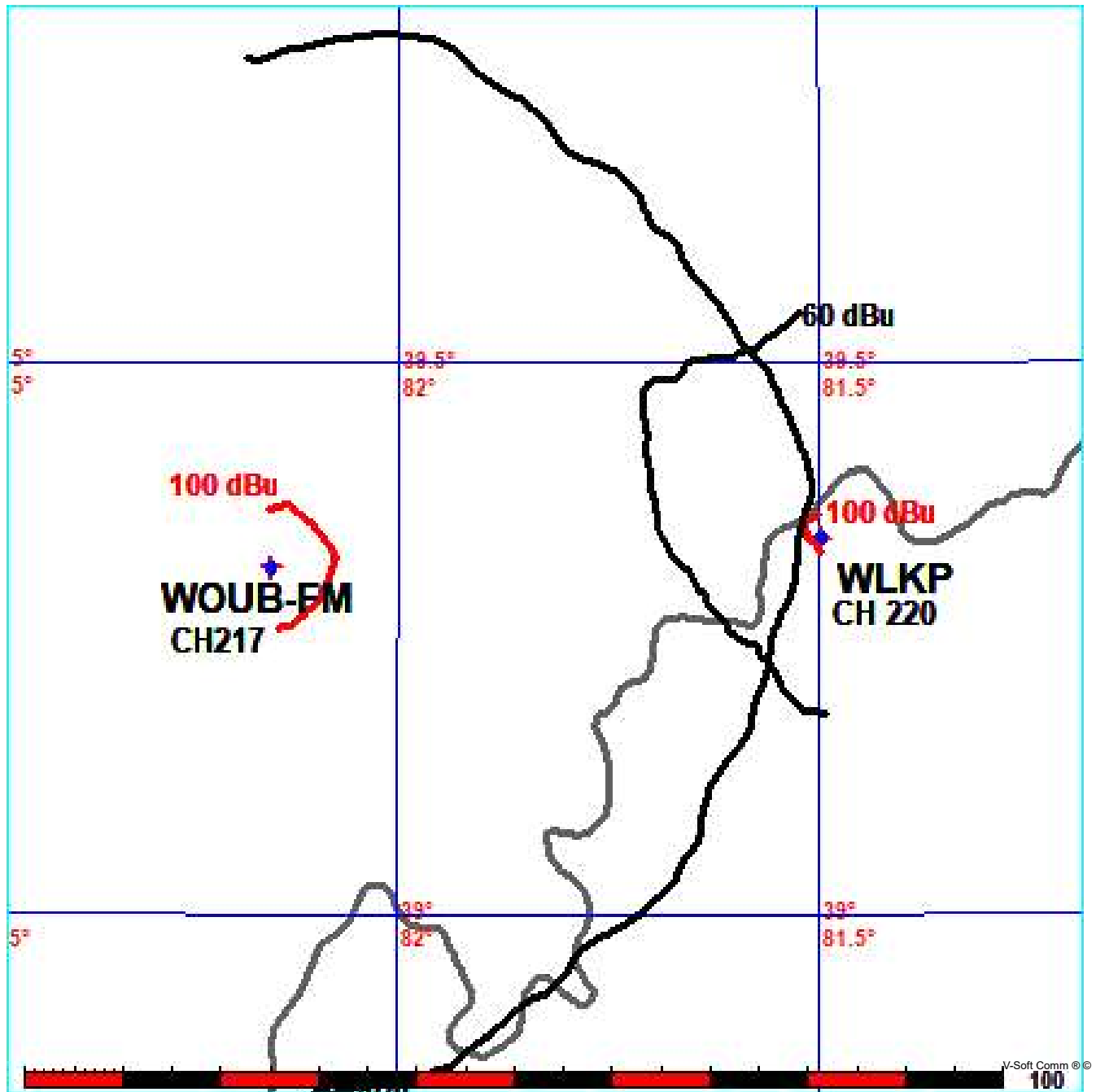
WYVK^ CH 221 A BMLH20000518ABB
Lat= 39 03 30.30, Lng= 82 02 30.50
Max Cls: 6.0 kW 100 m HAAT, 326 m COR
Prot.= 60 dBu, Intef.= 54 dBu



FMCommander Single Allocation Study - 09-15-2023 - GLOBE 30 Sec
WLKP's Overlaps (In= 34.11 km, Out= 0.8 km)

WLKP CH 220 A 73.215 Z
Lat= 39 20 35.00, Lng= 81 29 52.00
2.9 kW 109.1 m HAAT, 338.3 m COR
Prot.= 60 dBu, Intef.= 100 dBu

WOUB-FM CH 217 B BLED20020517ABA
Lat= 39 18 52.30, Lng= 82 08 58.50
50.0 kW 150 m HAAT, 401 m COR
Prot.= 60 dBu, Intef.= 100 dBu

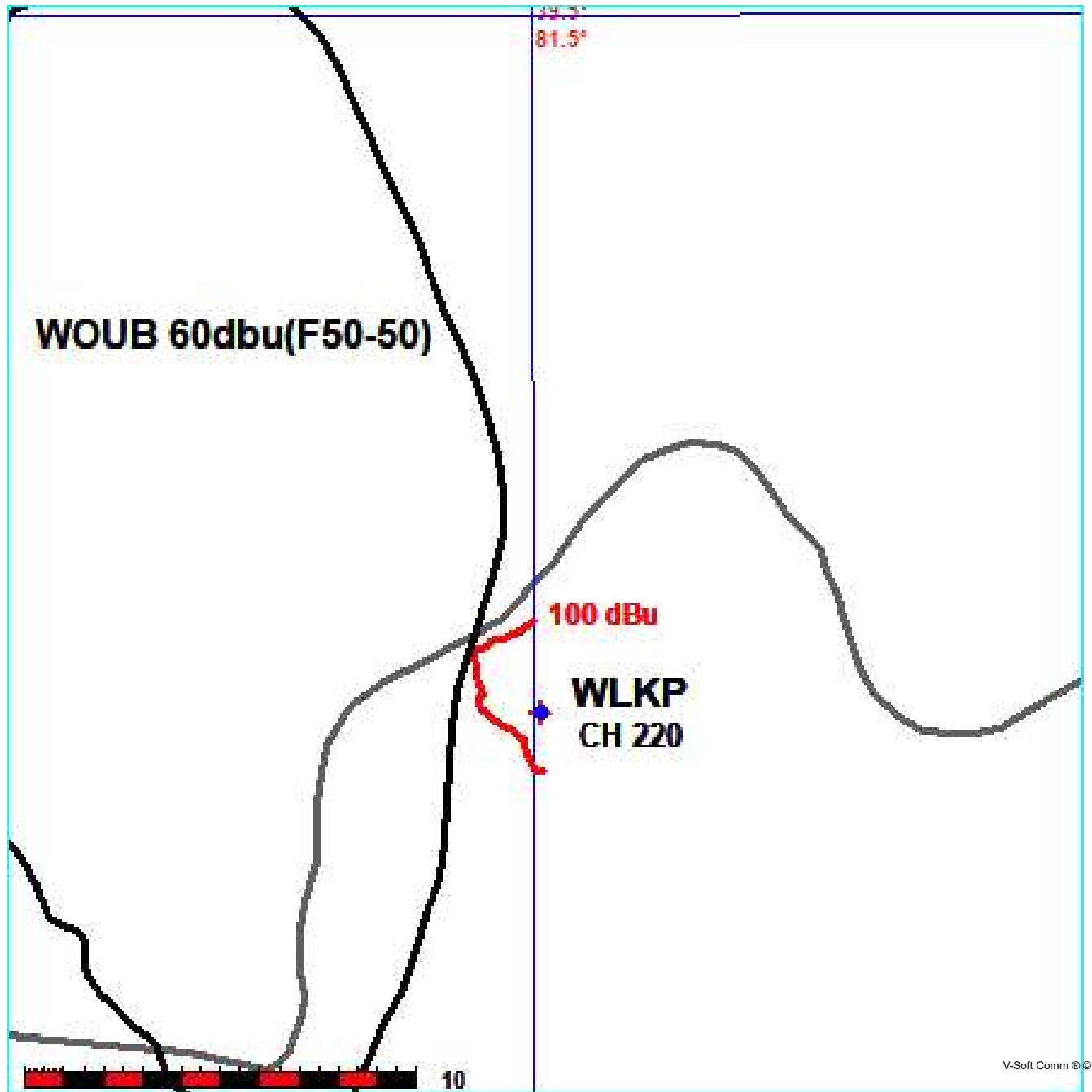


Educational Media Foundation

FMCommander Single Allocation Study - 09-15-2023 - GLOBE 30 Sec
WLKP's Overlaps (In= 34.11 km, Out= 0.8 km)

WLKP CH 220 A 73.215 Z
Lat= 39 20 35.00, Lng= 81 29 52.00
2.9 kW 109.1 m HAAT, 338.3 m COR
Prot.= 60 dBu, Intef.= 100 dBu

WOUB-FM CH 217 B BLED20020517ABA
Lat= 39 18 52.30, Lng= 82 08 58.50
50.0 kW 150 m HAAT, 401 m COR
Prot.= 60 dBu, Intef.= 100 dBu



Overlap Population Report
WLKP.P (220) / Belpre, OH

Overlap Area Type: Intersection
Areas Included:
 WLKP.P (220): FCC F(50-50) 60.00 dBu (FCC HAAT)
 PLST: Belpre, OH

Population Database: 2020 US Census (PL)

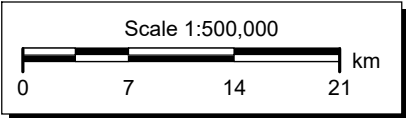
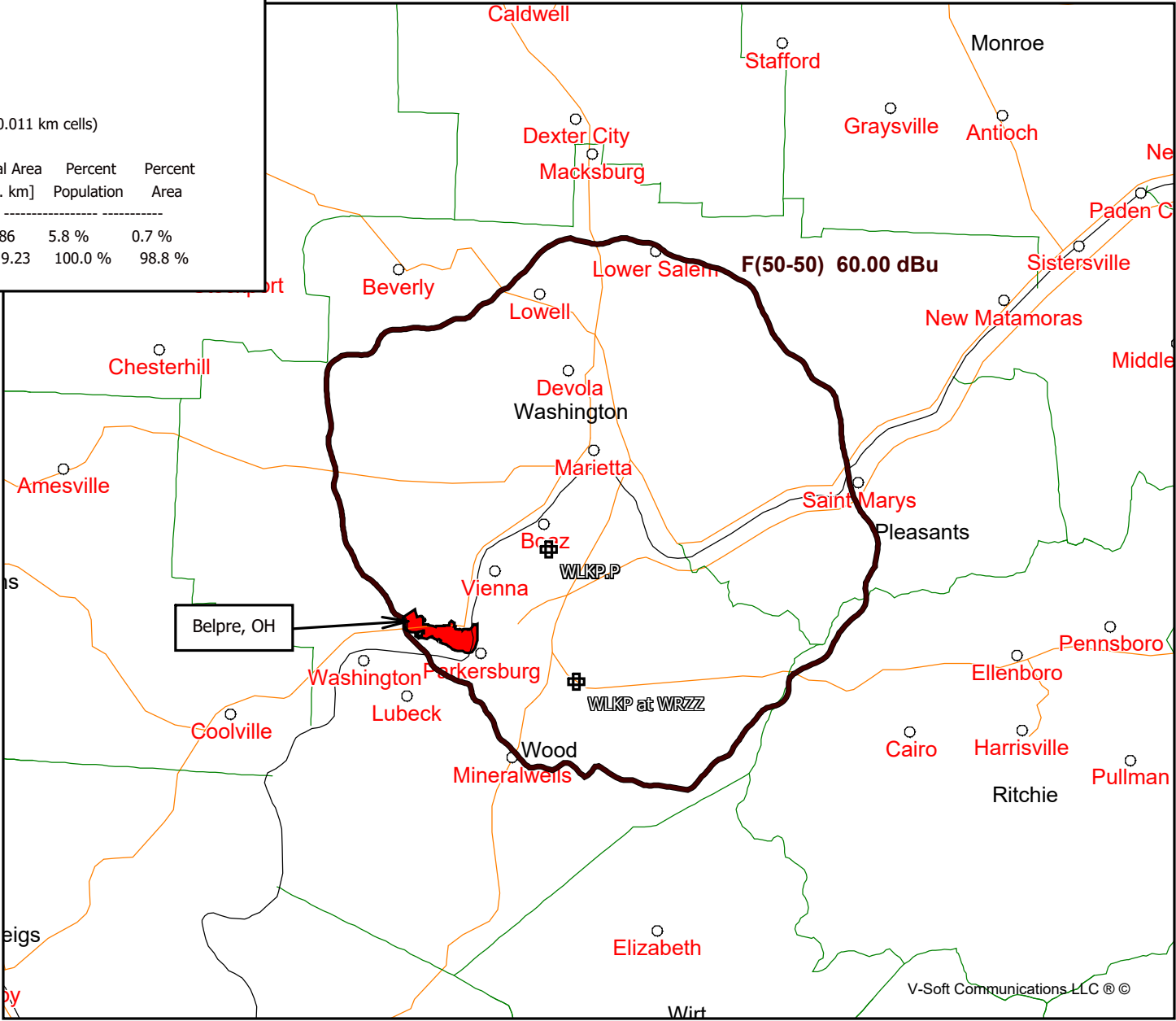
Total Population: 6,728
Overlap Area: 9.12 sq. km (Area determined using 0.011 km cells)

Area Description	Total Population	Total Area [sq. km]	Percent Population	Percent Area
WLKP.P (220): FCC F(50-50) 60	115,134	1,386	5.8 %	0.7 %
PLST: Belpre, OH	6,728	9.23	100.0 %	98.8 %

WLKP Proposed Community of License Coverage
Note: 100% of the Population and 98.8% of the area of Belpre, OH are within the proposed 60dbu service contour.

Exhibit 3

WLKP.P
BLED20060410ACA
Latitude: 39-20-35 N
Longitude: 081-29-52 W
ERP: 2.90 kW
Channel: 220
Frequency: 91.9 MHz
AMSL Height: 338.3 m
Elevation: 298.7 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None



Compliance with International Agreement

The proposed facility contemplated herein is located approximately 270km from the common border between the United States and Canada. The proposed 34dbu interfering contour can be seen in Exhibit 4-A. As can be seen in Exhibit 4-A, at no point does the interfering contour generated by the proposed facility (34dBu F(50,10) extend beyond the US-Canadian border.

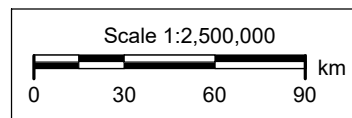
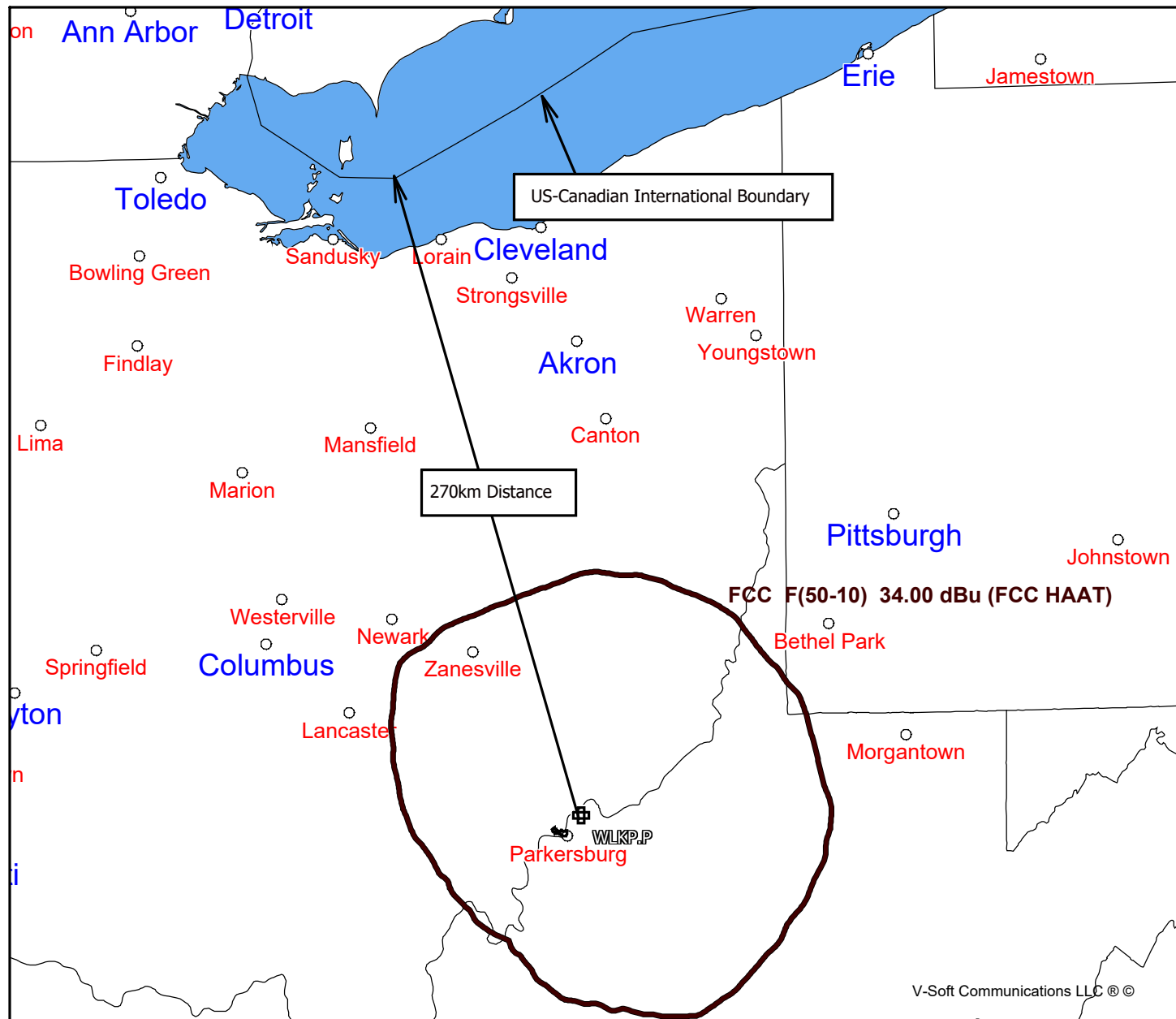
Therefore, the proposed facility will cause interference at no point within the boundaries of Canada.

WLKP Proposed 34dbu(F50-10) Contour does not overlap US-Canadian International Boundary

Exhibit 4-A

WLKP.P

BLED20060410ACA
Latitude: 39-20-35 N
Longitude: 081-29-52 W
ERP: 2.90 kW
Channel: 220
Frequency: 91.9 MHz
AMSL Height: 338.3 m
Elevation: 298.7 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None



V-Soft Communications LLC © ©

Environmental Protection

There are two main factors that need to be addressed in order to make sure that the environment around a proposed facility is protected.

1- Significant affects to the environment.

EMF's proposed facility will be constructed on an existing tower (tower ID 1033639) and will cause no adverse effects to the surrounding environment at the site.

2- Human exposure to excess levels of radiofrequency radiation.

The proposed facility is to be built using a 2-bay circularly polarized full-wave spaced EPA Type 2 Double V style antenna.

The maximum theoretical RF contribution to the site is $23.9\mu\text{W}/\text{cm}^2$ at a distance of 22 meters from the tower, which is 11.95% of the $200\mu\text{W}/\text{cm}^2$ permitted for public (uncontrolled) exposure, and 2.39% of the $1000\mu\text{W}/\text{cm}^2$ permitted for worker (controlled) exposure.

Therefore, the proposed facility complies with the requirements of OET 65.

EMF will fully cooperate with other future site users to temporarily reduce power or cease broadcasting, as necessary, to protect workers and others having access to the site from excessive levels of RF Radiation.

RF Analysis: WLKP
FIN 38912
Belpre, OH

Site type: Proposed
Channel: 220
Class: A
ERP: 2.9kw
Antenna: AAT
Model: IV-CP-ME-DA
of bays: 2
bay spacing: 1.0
COR AGL: 39m
Polarization: Circular Pol

Distance From Tower (m)	WLKP Facility	Total RF (uW/cm2)	Percent of 200uW/cm2
0	8.9195	8.92	4.460
1	9.0763	9.08	4.538
2	9.2407	9.24	4.620
3	9.4112	9.41	4.706
4	9.9608	9.96	4.980
5	10.7818	10.78	5.391
6	11.6066	11.61	5.803
7	12.4479	12.45	6.224
8	13.4365	13.44	6.718
9	14.4326	14.43	7.216
10	15.4237	15.42	7.712
11	16.4299	16.43	8.215
12	17.4427	17.44	8.721
13	18.4236	18.42	9.212
14	19.3575	19.36	9.679
15	20.3134	20.31	10.157
16	21.2374	21.24	10.619
17	22.0947	22.09	11.047
18	22.8695	22.87	11.435
19	23.3353	23.34	11.668
20	23.6396	23.64	11.820
21	23.8265	23.83	11.913
22	23.8943	23.89	11.947
23	23.8884	23.89	11.944
24	23.8140	23.81	11.907
25	23.6255	23.63	11.813
26	23.3265	23.33	11.663
27	22.9224	22.92	11.461
28	22.2694	22.27	11.135
29	21.4784	21.48	10.739
30	20.6296	20.63	10.315
31	19.7327	19.73	9.866
32	18.7977	18.80	9.399
33	17.9005	17.90	8.950
34	17.1367	17.14	8.568
35	16.3291	16.33	8.165
36	15.4877	15.49	7.744
37	14.6220	14.62	7.311
38	13.7410	13.74	6.871
39	12.8535	12.85	6.427
40	11.9101	11.91	5.955
41	10.9869	10.99	5.493
42	10.0892	10.09	5.045
43	9.2213	9.22	4.611
44	8.3873	8.39	4.194
45	7.5901	7.59	3.795

Distance From Tower (m)	0.0000 Facility	Total RF (uW/cm2)	Percent of 200uW/cm2
46	6.8324	6.83	3.416
47	6.1020	6.10	3.051
48	5.4065	5.41	2.703
49	4.7605	4.76	2.380
50	4.1634	4.16	2.082
51	3.6144	3.61	1.807
52	3.1123	3.11	1.556
53	2.6559	2.66	1.328
54	2.2434	2.24	1.122
55	1.8732	1.87	0.937
56	1.5430	1.54	0.771
57	1.2507	1.25	0.625
58	0.9951	1.00	0.498
59	0.7741	0.77	0.387
60	0.5856	0.59	0.293
61	0.4275	0.43	0.214
62	0.2975	0.30	0.149
63	0.1938	0.19	0.097
64	0.1143	0.11	0.057
65	0.0571	0.06	0.029
66	0.0204	0.02	0.010
67	0.0025	0.00	0.001
68	0.0016	0.00	0.001
69	0.0162	0.02	0.008
70	0.0448	0.04	0.022
71	0.0858	0.09	0.043
72	0.1381	0.14	0.069
73	0.2003	0.20	0.100
74	0.2713	0.27	0.136
75	0.3499	0.35	0.175
76	0.4353	0.44	0.218
77	0.5263	0.53	0.263
78	0.6222	0.62	0.311
79	0.7222	0.72	0.361
80	0.8256	0.83	0.413
81	0.9316	0.93	0.466
82	1.0397	1.04	0.520
83	1.1493	1.15	0.575
84	1.2595	1.26	0.630
85	1.3693	1.37	0.685
86	1.4792	1.48	0.740
87	1.5886	1.59	0.794
88	1.6974	1.70	0.849
89	1.8050	1.81	0.903
90	1.9114	1.91	0.956
91	2.0163	2.02	1.008
92	2.1195	2.12	1.060
93	2.2207	2.22	1.110
94	2.3199	2.32	1.160
95	2.4170	2.42	1.208
96	2.5117	2.51	1.256
97	2.6041	2.60	1.302
98	2.6940	2.69	1.347
99	2.7814	2.78	1.391
100	2.8662	2.87	1.433