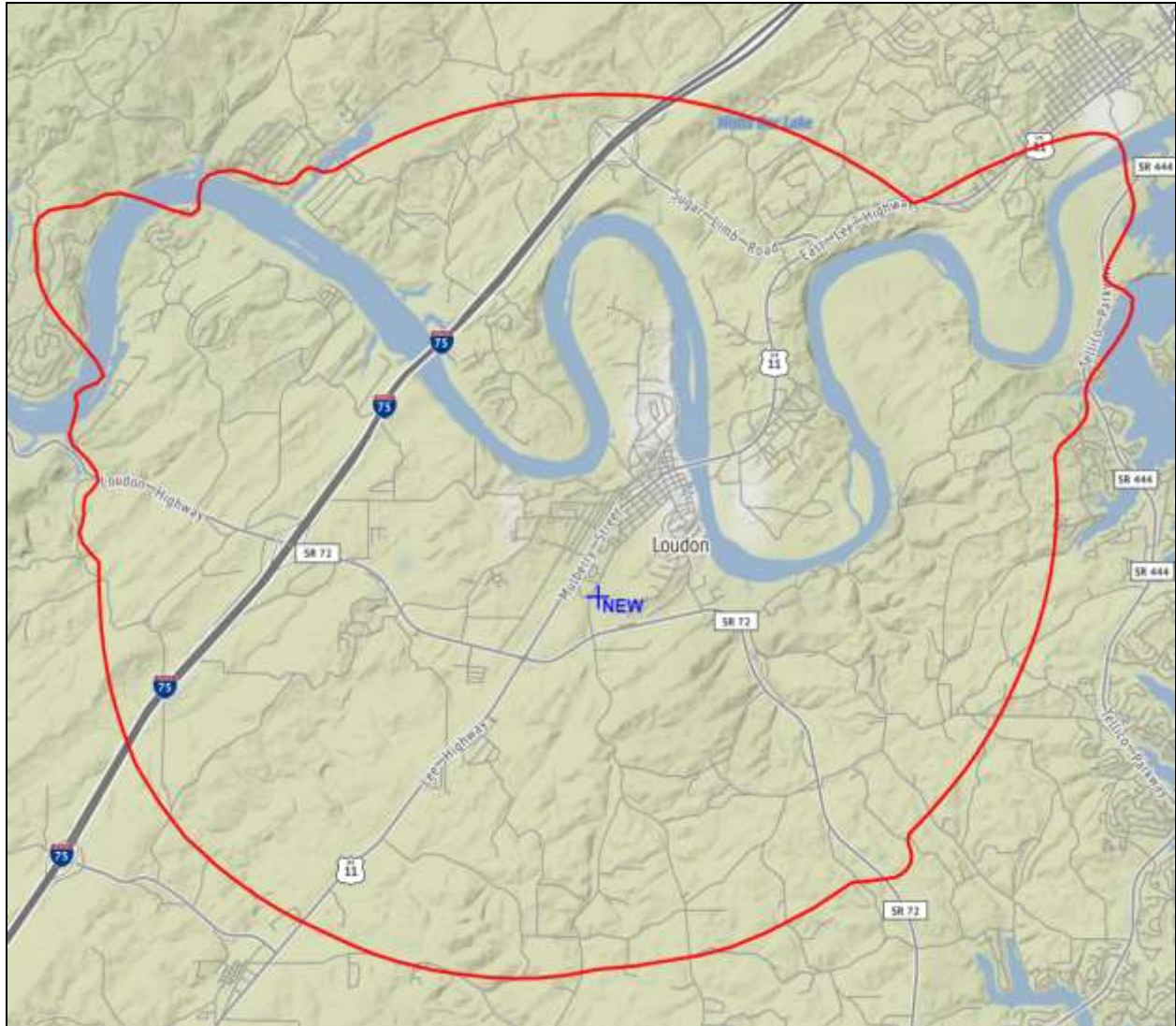




**REC Networks**  
11541 Riverton Wharf Rd.  
Mardela Springs, MD 21837  
844.REC.LPFM/202.621.2355  
recnet.com

New cross-service FM translator for **WLOD**  
**LOUDON, TN**  
**BLOUNT BROADCASTING CORPORATION**

### **PROPOSED 60dBu F(50,50) SERVICE CONTOUR**

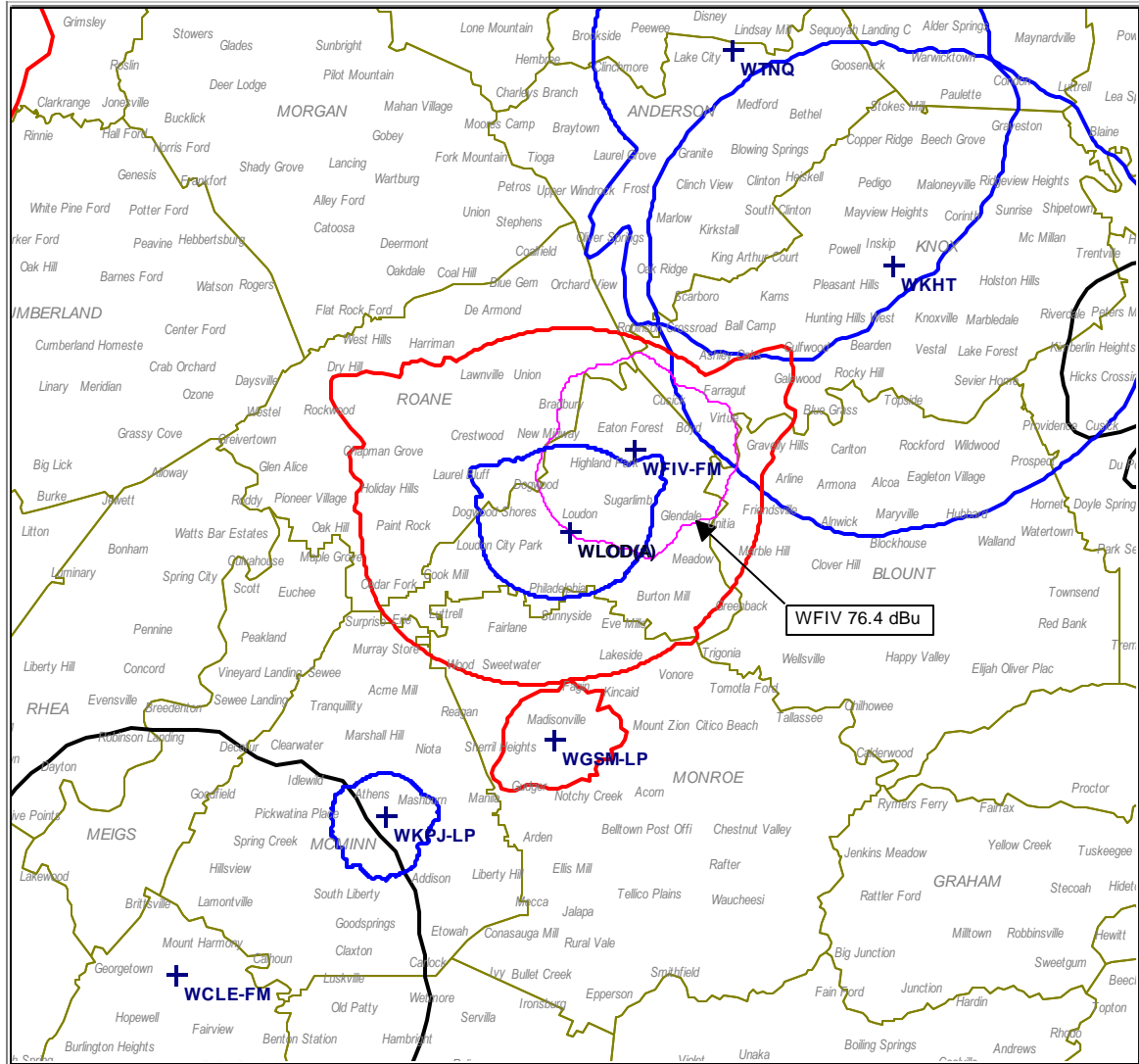


LOUDON, TN – Channel 284D (104.7 MHz) ~ ERP 0.250 kW ~ Directional antenna  
Elev: 238 meters ~ RCAGL: 56 meters ~ RCAMSL: 294 meters  
Overall tower height: 58 meters – ASR: None  
NAD83 Latitude: 35° 43' 33.9" NL – Longitude: 84° 20' 48.9" WL  
NAD27 Latitude: 35° 43' 33.6" NL – Longitude: 84° 20' 49.2" WL  
Co-located on the WLOD(AM) tower.

Site: WLOD(A)  
 Coordinates: 35-43-33.6 N, 84-20-49.2 W  
 Freq: 104.70000 MHz  
 ERP: 250.00 W

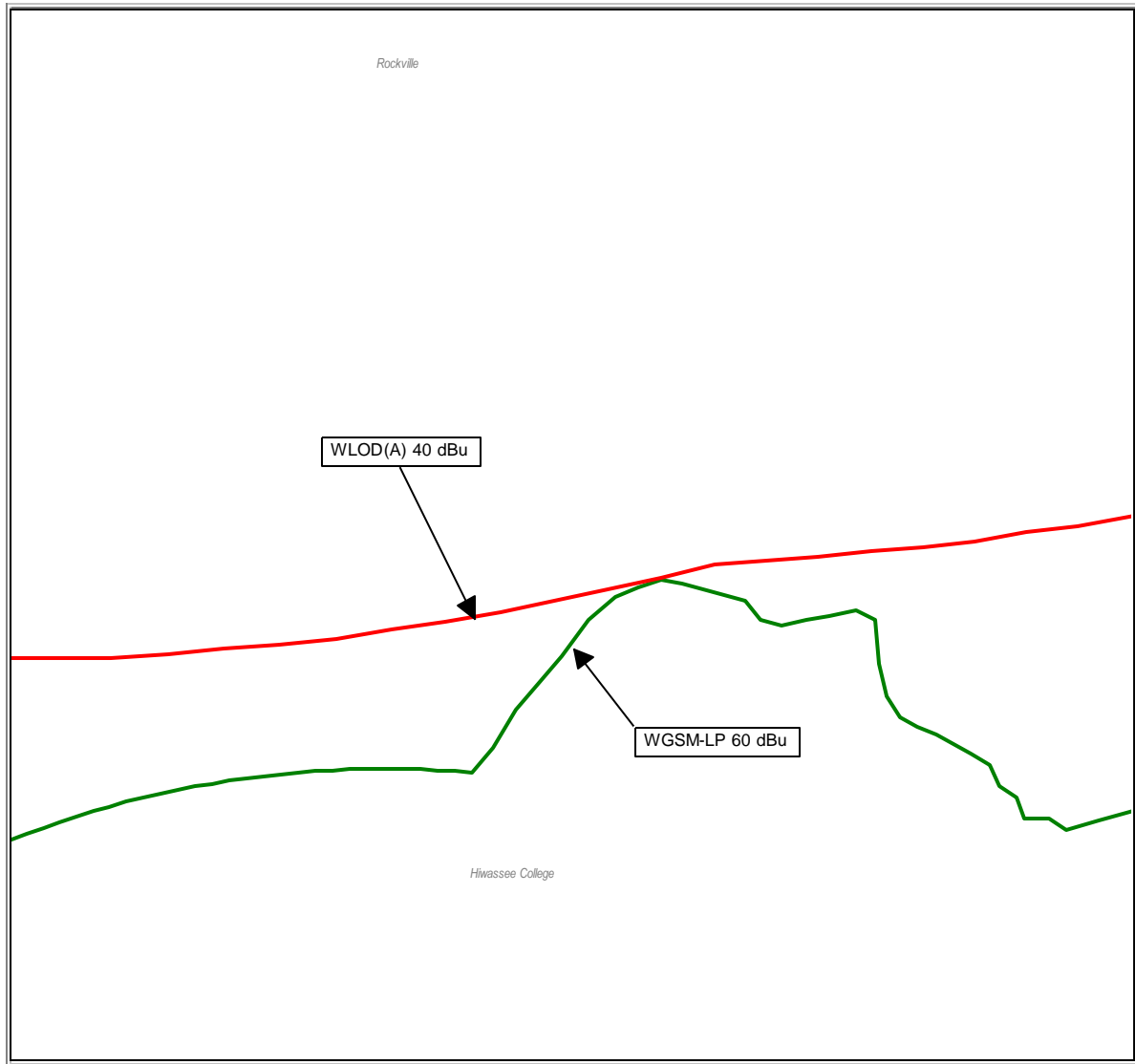
Bearing	ERP W	HAAT	DH	Distance	Lat	Lon
0	241.57	17	460	23.55	35.937837	-84.347000
5	242.56	23	370	23.58	35.937252	-84.324173
10	244.04	21	440	23.61	35.935159	-84.301449
15	244.04	19	180	23.61	35.931138	-84.279111
20	244.04	15	100	23.61	35.925552	-84.257293
25	245.02	15	60	23.64	35.918639	-84.236050
30	246.02	22	60	23.66	35.910249	-84.215610
35	248.00	22	70	23.71	35.900611	-84.195982
40	250.00	30	70	23.76	35.889598	-84.177433
45	247.51	46	110	29.25	35.911800	-84.117326
50	245.52	55	60	32.45	35.913272	-84.070972
55	238.63	51	60	30.71	35.884100	-84.067749
60	231.84	46	60	28.74	35.854939	-84.070782
65	222.31	40	60	26.39	35.826034	-84.081646
70	212.98	34	70	24.11	35.799896	-84.095795
75	198.92	27	40	22.39	35.777887	-84.107219
80	185.76	21	40	21.99	35.760107	-84.106963
85	171.81	23	70	21.55	35.742656	-84.109143
90	158.80	18	120	21.10	35.725774	-84.113248
95	145.92	12	120	20.63	35.709616	-84.119382
100	133.59	8	300	20.14	35.694346	-84.127350
105	123.55	7	370	19.71	35.679926	-84.136157
110	114.24	16	390	19.29	35.666492	-84.146318
115	106.28	8	600	18.90	35.654001	-84.157370
120	98.60	14	610	18.50	35.642653	-84.169639
125	93.33	22	320	18.21	35.631921	-84.181890
130	88.21	33	250	18.81	35.617162	-84.187597
135	84.68	31	670	18.00	35.611450	-84.206201
140	81.51	27	910	17.51	35.605317	-84.222516
145	79.24	21	840	17.36	35.598052	-84.236863
150	77.01	10	680	17.21	35.591907	-84.251822
155	76.18	7	350	17.15	35.586139	-84.266820
160	75.35	2	250	17.10	35.581479	-84.282330
165	73.44	1	220	16.96	35.578608	-84.298445
170	71.56	0	190	16.83	35.576919	-84.314681
175	72.36	-5	250	16.89	35.574679	-84.330723
180	73.44	-10	100	16.96	35.573419	-84.347000
185	79.24	-18	80	17.36	35.570459	-84.363730
190	85.56	-16	250	17.76	35.568699	-84.381098
195	91.81	-17	90	18.13	35.568502	-84.398878
200	98.60	-21	90	18.50	35.569584	-84.416981
205	107.26	-22	100	18.95	35.571492	-84.435559
210	116.28	-4	90	19.39	35.574947	-84.454189
215	126.02	7	60	19.82	35.579905	-84.472723
220	136.16	22	60	20.24	35.586430	-84.490919
225	150.54	11	90	20.80	35.593602	-84.509683
230	166.06	2	90	21.35	35.602418	-84.527940
235	183.18	4	70	21.91	35.612798	-84.545575
240	201.15	5	80	22.46	35.624814	-84.562202
245	213.91	2	120	22.82	35.639047	-84.575873
250	227.05	4	110	23.17	35.654470	-84.588053
255	231.84	0	90	23.30	35.671500	-84.596193
260	236.68	6	90	23.43	35.689140	-84.602495
265	239.12	13	100	23.49	35.707308	-84.606203
270	241.57	19	120	23.55	35.725718	-84.607940
275	245.52	30	250	23.65	35.744258	-84.608101
280	250.00	32	220	24.43	35.763870	-84.613738
285	248.00	34	250	25.06	35.784049	-84.615427
290	246.02	38	310	26.42	35.806962	-84.622344
295	245.02	37	310	26.03	35.824674	-84.608730
300	244.04	51	450	30.93	35.864724	-84.644273
305	244.04	53	360	31.71	35.889243	-84.635373
310	244.04	45	320	28.78	35.892167	-84.591809
315	242.56	39	310	26.66	35.895345	-84.556269
320	241.57	37	240	25.94	35.904581	-84.532145
325	241.57	33	170	24.56	35.906837	-84.503418
330	241.57	27	200	23.55	35.909385	-84.477772
335	241.57	21	210	23.55	35.917939	-84.457545
340	241.57	13	400	23.55	35.925028	-84.436471
345	241.57	16	470	23.55	35.930600	-84.414711
350	241.57	7	570	23.55	35.934610	-84.392431
355	241.57	6	460	23.55	35.937028	-84.369803

## WLOD(A) Interference Protections

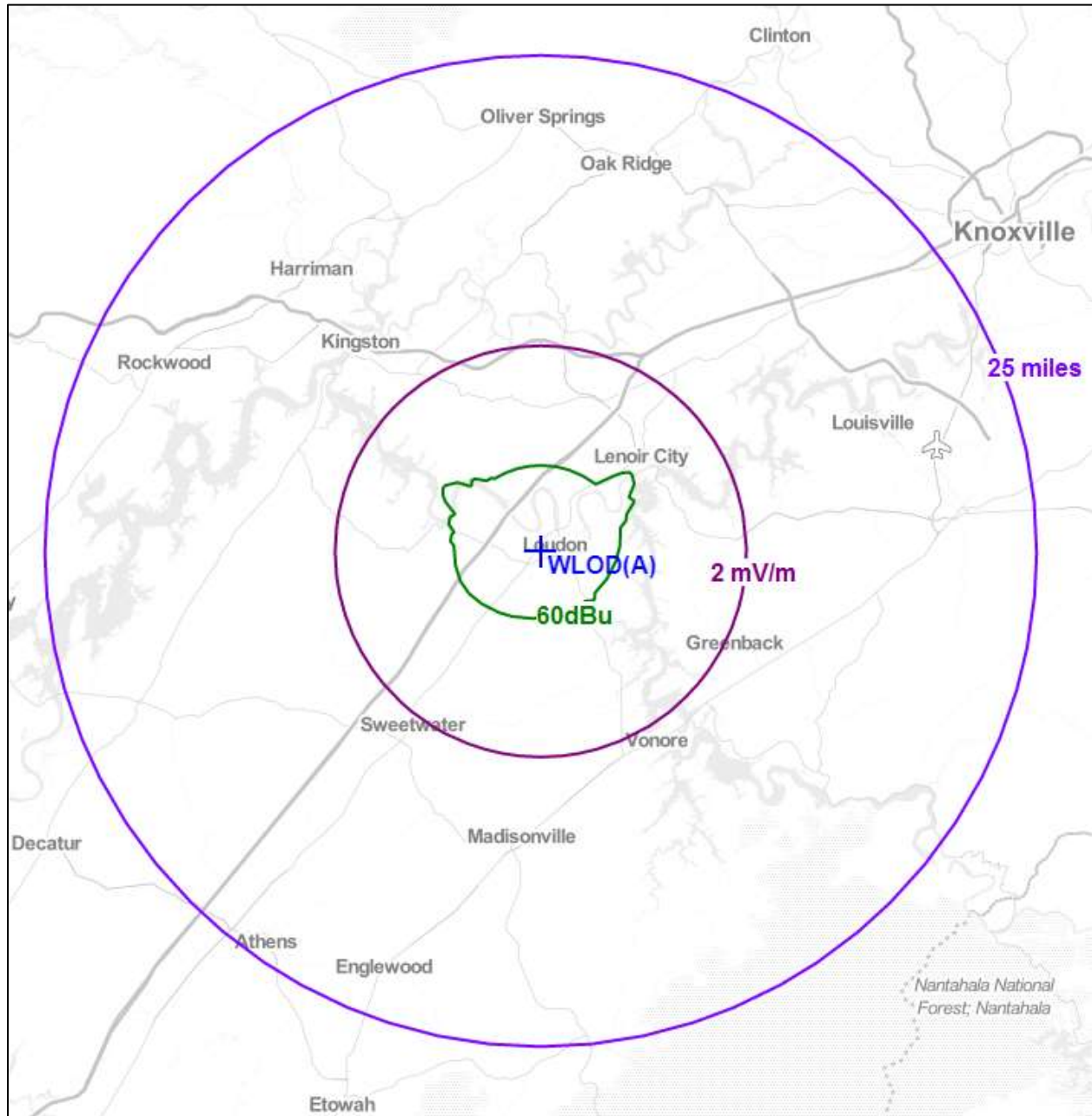


Red: Co Channel / Blue: First-adjacent Channel

## WLOD(A) vs. WGSM-LP



**CROSS-SERVICE FILL-IN TRANSLATOR: WLOD(AM)**



**WAIVER OF §74.1204(a) REQUEST**  
**SHORT-SPACED SECOND AND THIRD ADJACENT CHANNELS**

WLOD(A)  
Loudon, Tennessee  
Channel 284D (104.7 MHz)

The proposed facility (“WLOD(A)”) is within the 60 dBu protected service contour of third-adjacent channel facility WFIV-FM, Loudon, Tennessee.

WFIV-FM operates on Channel 287A with 6 kW into a non-directional antenna at 100 meters above average terrain and is located 11.9 kilometers from WLOD(A). WFIV-FM places a 76.4 dBu service contour at WLOD(A).

Using the U/D method<sup>1</sup>, the proposed translator station is predicted to produce an undesired interference overlap in respect to WFIV-FM to the proposed translator station’s 116.4 dBu interfering contour (“overlap zone”). At 250 watts ERP, the overlap zone extends to 168 meters from the radiation center. As the proposed radiation center is 56 meters above ground level, the interference will reach the ground.

To address the interference, WLOD(A) is proposing to operate a 2-bay Nicom BKG-77 circularly polarized antenna at 0.85-wave spacing. Based on manufacturer’s specifications, at 2 meters above ground level, the interfering contour along the -60 degree depression angle will not exceed 115.40 dBu. Interference will reach no point lower than 6 meters above ground level. There are no tall structures within the 168 meter overlap zone.

Based on these findings, the proposed modified FM translator will not create any interference to listeners or potential listeners of WFIV-FM. The applicant is requesting a waiver of §74.1204(a) in respect to third-adjacent channel facility WFIV-FM, Loudon, Tennessee.

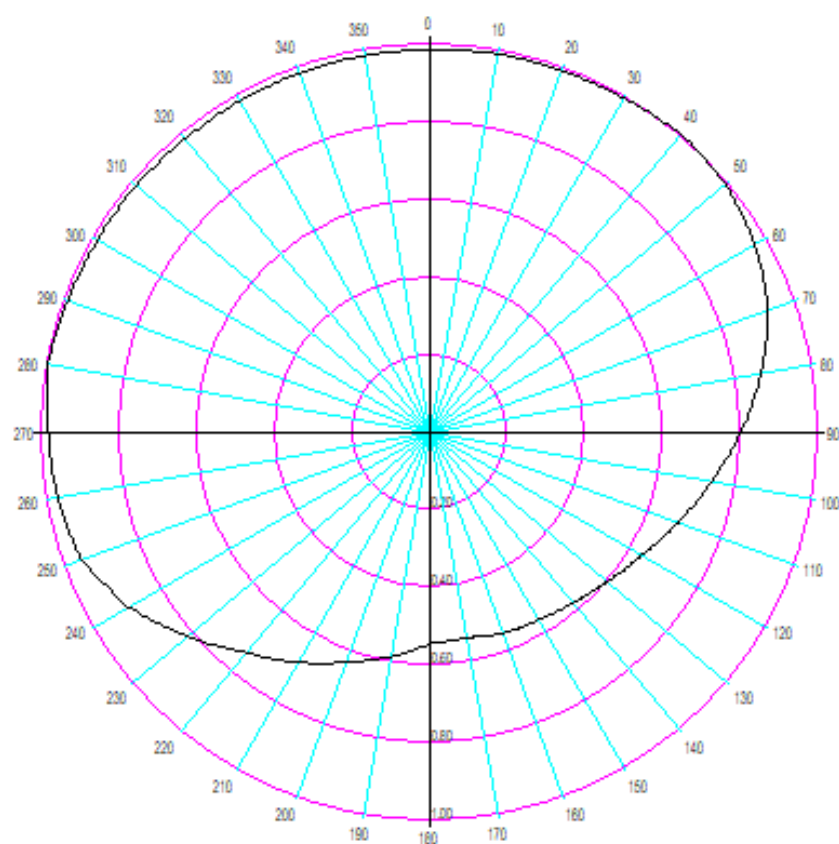
Prepared by  
Michelle Bradley  
REC Networks  
July 20, 2017

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<sup>1</sup> - See *Living Way Ministries, Inc.* Memorandum Opinion and Order, 17 FCC Rcd 17054, 17056 (2002) at 5. *Recon denied* 23 FCC Rcd 15070 (2008).



Proposed Power:				<b>0.25 kW</b>				
Antenna Height AGL:				<b>56 m</b>				
Interference Contour:				<b>116.4 dBu</b>				
Artificial RX Antenna Height:				<b>2 m</b>				
Antenna Type:				Nicom BKG77 - 2 bay 0.85 wave spacing				
Angle Below Horizon	Antenna Relative Field	ERP in kW	ERP in dBk	Distance from Ant to Interference Contour	Distance from Ant to Artificial Plane	Field Strength in dBu @ Artificial Plane	Distance from Ant to Ground Level	Field Strength in dBu @ Ground Level
5	<b>0.967</b>	0.234	-6.31	162.33	619.58	104.77	642.53	104.45
10	<b>0.871</b>	0.190	-7.22	146.21	310.97	109.85	322.49	109.53
15	<b>0.711</b>	0.126	-8.98	119.35	208.64	111.55	216.37	111.23
20	<b>0.518</b>	0.067	-11.73	86.96	157.89	111.22	163.73	110.90
25	<b>0.310</b>	0.024	-16.19	52.04	127.77	108.60	132.51	108.28
30	<b>0.112</b>	0.003	-25.04	18.80	108.00	101.22	112.00	100.90
35	<b>0.062</b>	0.001	-30.17	10.41	94.15	97.27	97.63	96.96
40	<b>0.198</b>	0.010	-20.09	33.24	84.01	108.35	87.12	108.03
45	<b>0.288</b>	0.021	-16.83	48.35	76.37	112.43	79.20	112.11
50	<b>0.336</b>	0.028	-15.49	56.40	70.49	114.46	73.10	114.15
55	<b>0.349</b>	0.030	-15.16	58.59	65.92	115.38	68.36	115.06
60	<b>0.331</b>	0.027	-15.62	55.56	62.35	115.40	64.66	115.08
65	<b>0.295</b>	0.022	-16.62	49.52	59.58	114.79	61.79	114.48
70	<b>0.246</b>	0.015	-18.20	41.30	57.47	113.53	59.59	113.21
75	<b>0.197</b>	0.010	-20.13	33.07	55.90	111.84	57.98	111.52
80	<b>0.151</b>	0.006	-22.44	25.35	54.83	109.70	56.86	109.38
85	<b>0.122</b>	0.004	-24.29	20.48	54.21	107.95	56.21	107.63
90	<b>0.117</b>	0.003	-24.66	19.64	54.00	107.62	56.00	107.30



Azim	Rcl.FS	ERP [W]	dBk	Azim	Rcl.FS	ERP [W]	dBk	Azim	Rcl.FS	ERP [W]	dBk	Azim	Rcl.FS	ERP [W]	dBk
0.0	0.983	241.572	-6.170	90.0	0.797	158.802	-7.991	180.0	0.542	73.441	-11.341	270.0	0.983	241.572	-6.170
5.0	0.983	242.556	-6.152	95.0	0.764	145.924	-8.359	185.0	0.563	79.242	-11.010	275.0	0.991	245.520	-6.099
10.0	0.988	244.036	-6.125	100.0	0.731	133.590	-8.742	190.0	0.585	85.356	-10.677	280.0	1.000	250.000	-6.021
15.0	0.988	244.036	-6.125	105.0	0.703	123.552	-9.081	195.0	0.606	91.809	-10.371	285.0	0.996	248.004	-6.055
20.0	0.988	244.036	-6.125	110.0	0.676	114.244	-9.422	200.0	0.628	98.596	-10.061	290.0	0.992	246.016	-6.090
25.0	0.990	245.025	-6.108	115.0	0.652	106.276	-9.736	205.0	0.655	107.256	-9.696	295.0	0.990	245.025	-6.108
30.0	0.992	246.016	-6.090	120.0	0.628	98.596	-10.061	210.0	0.682	116.281	-9.345	300.0	0.988	244.036	-6.125
35.0	0.996	248.004	-6.055	125.0	0.611	93.330	-10.300	215.0	0.710	126.025	-8.995	305.0	0.988	244.036	-6.125
40.0	1.000	250.000	-6.021	130.0	0.594	88.209	-10.545	220.0	0.738	136.161	-8.659	310.0	0.988	244.036	-6.125
45.0	0.995	247.506	-6.064	135.0	0.582	84.681	-10.722	225.0	0.776	150.544	-8.223	315.0	0.983	242.556	-6.152
50.0	0.991	245.520	-6.099	140.0	0.571	81.510	-10.888	230.0	0.815	166.056	-7.797	320.0	0.983	241.572	-6.170
55.0	0.977	238.632	-6.223	145.0	0.563	79.242	-11.010	235.0	0.856	183.184	-7.371	325.0	0.983	241.572	-6.170
60.0	0.963	231.842	-6.348	150.0	0.555	77.006	-11.135	240.0	0.897	201.152	-6.965	330.0	0.983	241.572	-6.170
65.0	0.943	222.312	-6.530	155.0	0.552	76.176	-11.182	245.0	0.925	213.906	-6.698	335.0	0.983	241.572	-6.170
70.0	0.923	212.982	-6.717	160.0	0.549	75.350	-11.229	250.0	0.953	227.052	-6.439	340.0	0.983	241.572	-6.170
75.0	0.892	198.916	-7.013	165.0	0.542	73.441	-11.341	255.0	0.963	231.842	-6.348	345.0	0.983	241.572	-6.170
80.0	0.862	185.761	-7.310	170.0	0.535	71.556	-11.454	260.0	0.973	236.682	-6.258	350.0	0.983	241.572	-6.170
85.0	0.829	171.810	-7.650	175.0	0.538	72.361	-11.405	265.0	0.978	239.121	-6.214	355.0	0.983	241.572	-6.170