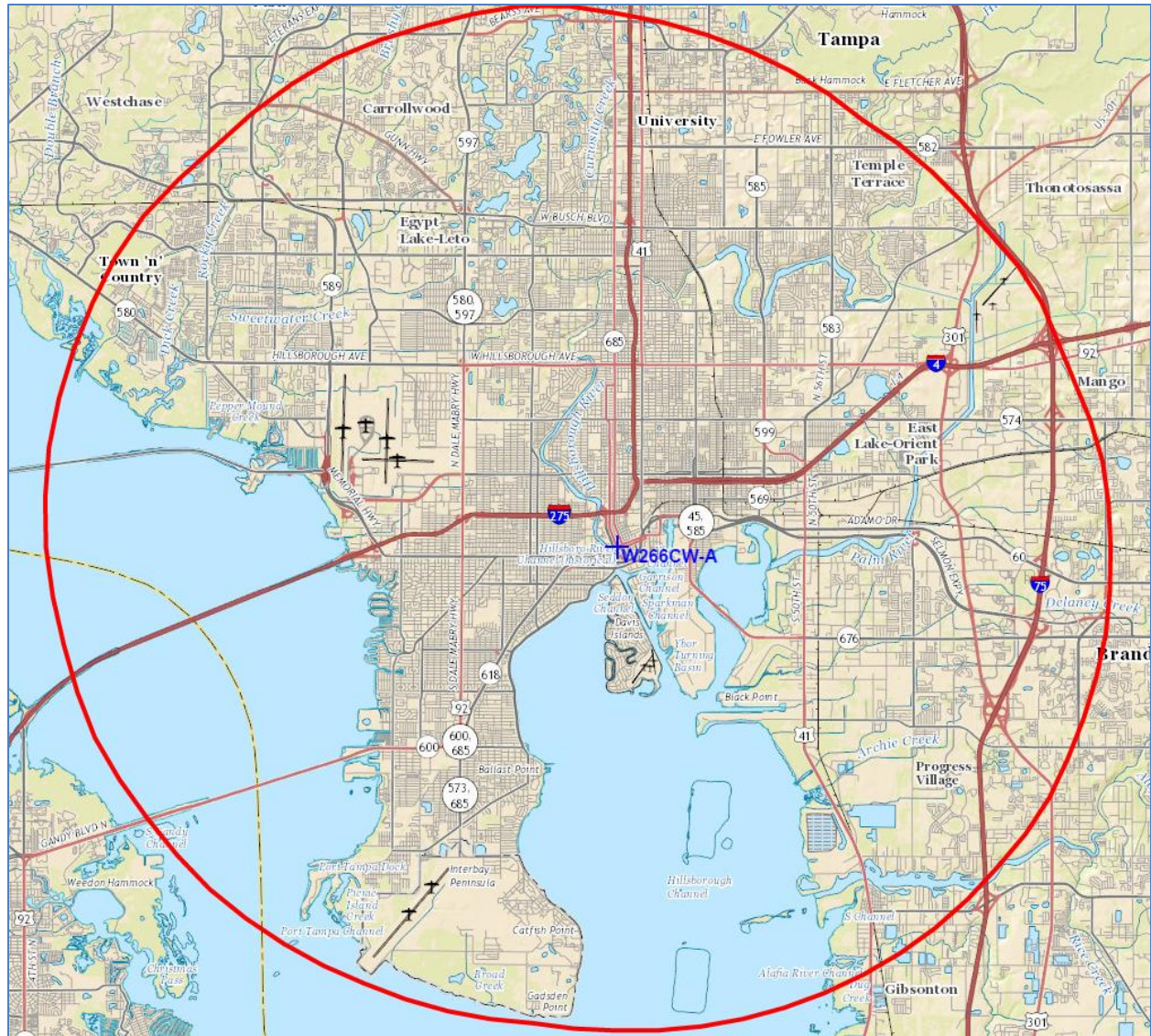




REC Networks
11541 Riverton Wharf Rd.
Mardela Springs, MD 21837
844.732.5736/202.621.2355
recnet.com

Minor Change for W266CW
TAMPA, FL
WTIS-AM, INC.
BLFT-20161114ABD

PROPOSED 60dBu F(50,50) SERVICE CONTOUR



TAMPA, FL – Channel 266D (101.1 MHz) ~ ERP 0.235 kW

Elev: 4meters ~ RCAGL: 178 meters ~ RCAMSL: 182 meters ~ Max. HAAT: 182 meters

Overall tower height: 180 meters – ASR: Not required (20 foot rule)

NAD83 Latitude: 27° 56' 50.1" NL – Longitude: 82° 27' 32.9" WL

NAD27 Latitude: 27° 56' 49.0" NL – Longitude: 82° 27' 33.6" WL

Azimuth	Field	ERP	HAAT	60dBu Contour	Latitude	Longitude
0	0.890	0.186	172.3	15.896	28.09020684	-82.45913889
5	0.870	0.178	172.0	15.685	28.08776642	-82.44520411
10	0.850	0.170	172.0	15.485	28.08438781	-82.43173009
15	0.830	0.162	172.0	15.292	28.08008388	-82.41879586
20	0.810	0.154	172.0	15.095	28.07480635	-82.40651672
25	0.795	0.149	171.0	14.902	28.06869467	-82.39495201
30	0.780	0.143	169.3	14.678	28.06154706	-82.38434529
35	0.770	0.139	171.0	14.659	28.05521412	-82.37345472
40	0.760	0.136	172.0	14.606	28.04783703	-82.36347321
45	0.755	0.134	172.0	14.555	28.03976966	-82.35427019
50	0.750	0.132	172.3	14.519	28.03113097	-82.34582567
55	0.750	0.132	174.4	14.612	28.02256816	-82.33720102
60	0.750	0.132	174.6	14.621	28.01293289	-82.33015740
65	0.745	0.130	173.5	14.522	28.00237681	-82.32508599
70	0.740	0.129	174.3	14.506	27.99179781	-82.32031285
75	0.745	0.130	175.9	14.626	27.98121840	-82.31526988
80	0.750	0.132	176.9	14.719	27.97015679	-82.31154097
85	0.750	0.132	177.2	14.731	27.95871579	-82.30972340
90	0.750	0.132	177.3	14.735	27.94716870	-82.30912695
95	0.755	0.134	176.9	14.769	27.93559289	-82.30937207
100	0.760	0.136	177.0	14.823	27.92402170	-82.31055754
105	0.760	0.136	177.1	14.827	27.91266105	-82.31338035
110	0.760	0.136	177.4	14.840	27.90153247	-82.31723497
115	0.760	0.136	178.0	14.864	27.89068751	-82.32206332
120	0.760	0.136	179.3	14.917	27.88011315	-82.32770698
125	0.755	0.134	180.1	14.898	27.87034407	-82.33498441
130	0.750	0.132	179.9	14.840	27.86141351	-82.34349519
135	0.745	0.130	180.9	14.829	27.85291029	-82.35248436
140	0.740	0.129	181.7	14.809	27.84519754	-82.36232539
145	0.735	0.127	182.0	14.769	27.83842513	-82.37298720
150	0.730	0.125	182.0	14.717	27.83260797	-82.38430486
155	0.725	0.124	182.0	14.665	27.82770453	-82.39611192
160	0.720	0.122	182.0	14.613	27.82374846	-82.40831564
165	0.715	0.120	182.0	14.560	27.82076191	-82.42081858
170	0.710	0.118	182.0	14.507	27.81876175	-82.43352289
175	0.705	0.117	182.0	14.457	27.81773212	-82.44632702

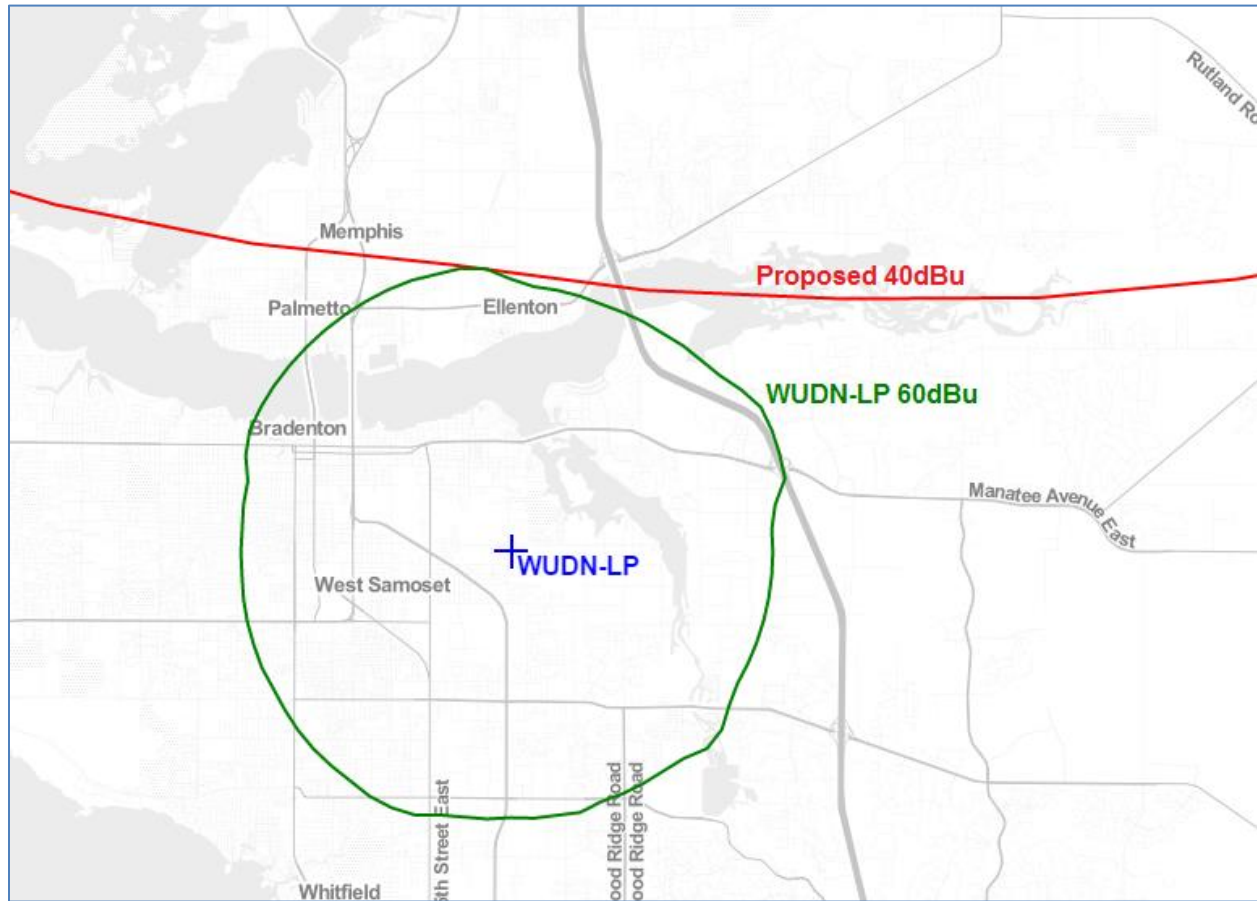
Azimuth	Field	ERP	HAAT	60dBu Contour	Latitude	Longitude
180	0.700	0.115	182.0	14.406	27.81769393	-82.45913889
185	0.700	0.115	182.0	14.406	27.81818634	-82.47190588
190	0.700	0.115	182.0	14.406	27.81965984	-82.48457605
195	0.715	0.120	182.0	14.560	27.82076191	-82.49745919
200	0.730	0.125	182.0	14.717	27.82286860	-82.51032378
205	0.745	0.130	182.0	14.871	27.82602999	-82.52304762
210	0.760	0.136	182.0	15.023	27.83022779	-82.53552466
215	0.780	0.143	182.0	15.231	27.83501481	-82.54798689
220	0.800	0.150	182.0	15.435	27.84087923	-82.56004359
225	0.820	0.158	182.0	15.643	27.84772867	-82.57164336
230	0.840	0.166	182.0	15.850	27.85556819	-82.58264634
235	0.855	0.172	182.0	16.003	27.86463818	-82.59249059
240	0.870	0.178	182.0	16.161	27.87450945	-82.60152263
245	0.890	0.186	182.0	16.367	27.88496332	-82.61006039
250	0.910	0.195	181.9	16.564	27.89621089	-82.61752356
255	0.920	0.199	181.7	16.655	27.90838726	-82.62285605
260	0.930	0.203	181.4	16.740	27.92100653	-82.62692787
265	0.945	0.210	181.2	16.877	27.93391600	-82.63027747
270	0.960	0.217	181.1	17.016	27.94714158	-82.63237138
275	0.970	0.221	180.9	17.102	27.96054622	-82.63260691
280	0.980	0.226	180.6	17.183	27.97397614	-82.63145171
285	0.985	0.228	180.1	17.206	27.98719538	-82.62839783
290	0.990	0.230	179.5	17.224	28.00013066	-82.62399398
295	0.995	0.233	178.7	17.232	28.01265206	-82.61822851
300	1.000	0.235	178.2	17.254	28.02475017	-82.61136779
305	1.000	0.235	177.3	17.210	28.03594805	-82.60277451
310	1.000	0.235	174.0	17.042	28.04570164	-82.59216618
315	0.995	0.233	172.3	16.907	28.05470995	-82.58096741
320	0.990	0.230	172.6	16.877	28.06347266	-82.56969694
325	0.985	0.228	172.9	16.846	28.07131680	-82.55762107
330	0.980	0.226	172.9	16.800	28.07806453	-82.54475651
335	0.965	0.219	173.0	16.664	28.08305068	-82.53092394
340	0.950	0.212	173.0	16.520	28.08684936	-82.51673616
345	0.940	0.208	173.2	16.435	28.09000673	-82.50249974
350	0.930	0.203	173.6	16.358	28.09212548	-82.48809628
355	0.910	0.195	173.6	16.161	28.09203444	-82.47349749

R E C NETWORKS
CHANNEL REPORT

NAD27 LATITUDE: 27 - 56' 49.0" - LONGITUDE: 82 - 27' 33.6"
CHANNEL: 266 - CLASS: D

CHAN	FREQ	CALL	LOCATION	CLS	DIST	INTF	SERV	CLEAR	BEAR
212	90.3	WLVF-FM : LANDMARK BAPTIST CHURCH, INC.	HAINES CITY	FL A	84.3	IF	10.0	74.3	77.0
213	90.5	WBVM : BISHOP OF THE DIOCESE OF ST. PETERSBURG	TAMPA	FL C1	22.2	IF	22.0	0.2	120.0
213	90.5	WBVM : BISHOP OF THE DIOCESE OF ST. PETERSBURG	TAMPA	FL C1	22.2	IF	22.0	0.2	120.0
264	100.7	WMTX : CITICASTERS LICENSES, INC.	TAMPA	FL C	24.1	0.8	85.6	-62.3	126.0
265	100.9	W265BJ : BIBLE BROADCASTING NETWORK, INC.	CRYSTAL RIVER	FL D	104.0	24.2	5.7	74.1	357.0
265	100.9	WXJZ : JVC MEDIA OF FLORIDA, LLC	GAINESVILLE	FL A	187.5	23.8	27.7	136.0	4.0
266	101.1	WAVV : ALPINE BROADCASTING CORPORATION	NAPLES PARK	FL C1	214.3	48.0	71.8	94.5	156.0
266	101.1	WJRR : CLEAR CHANNEL BROADCASTING LICENSES, INC.	COCOA BEACH	FL C	152.9	47.7	85.3	19.9	62.0
266	101.1	W266CW : WTIS-AM, INC. : Currently authorized facility	ST. PETERSBURG	FL D	18.5	52.0	16.4	-49.9	241.0
266	101.1	WUDN-LP : UNIDOS NOW	SARASOTA	FL L1	52.7	47.3	5.6	0.0	187.0
267	101.3	WTMG : MARC RADIO GAINESVILLE, LLC	WILLISTON	FL A	163.4	24.2	27.7	111.5	357.0
267	101.3	WTMG : MARC RADIO GAINESVILLE, LLC	WILLISTON	FL A	163.2	24.2	27.7	111.3	357.0
268	101.5	WPOI : COX RADIO, INC.	ST. PETERSBURG	FL C	24.1	0.8	85.6	-62.3	126.0

PROPOSED TRANSMITTER VS. WUDN-LP



DIRECTIONAL ANTENNA

Shively 6812b – 2 inch pole mount – per manufacturer’s specifications:

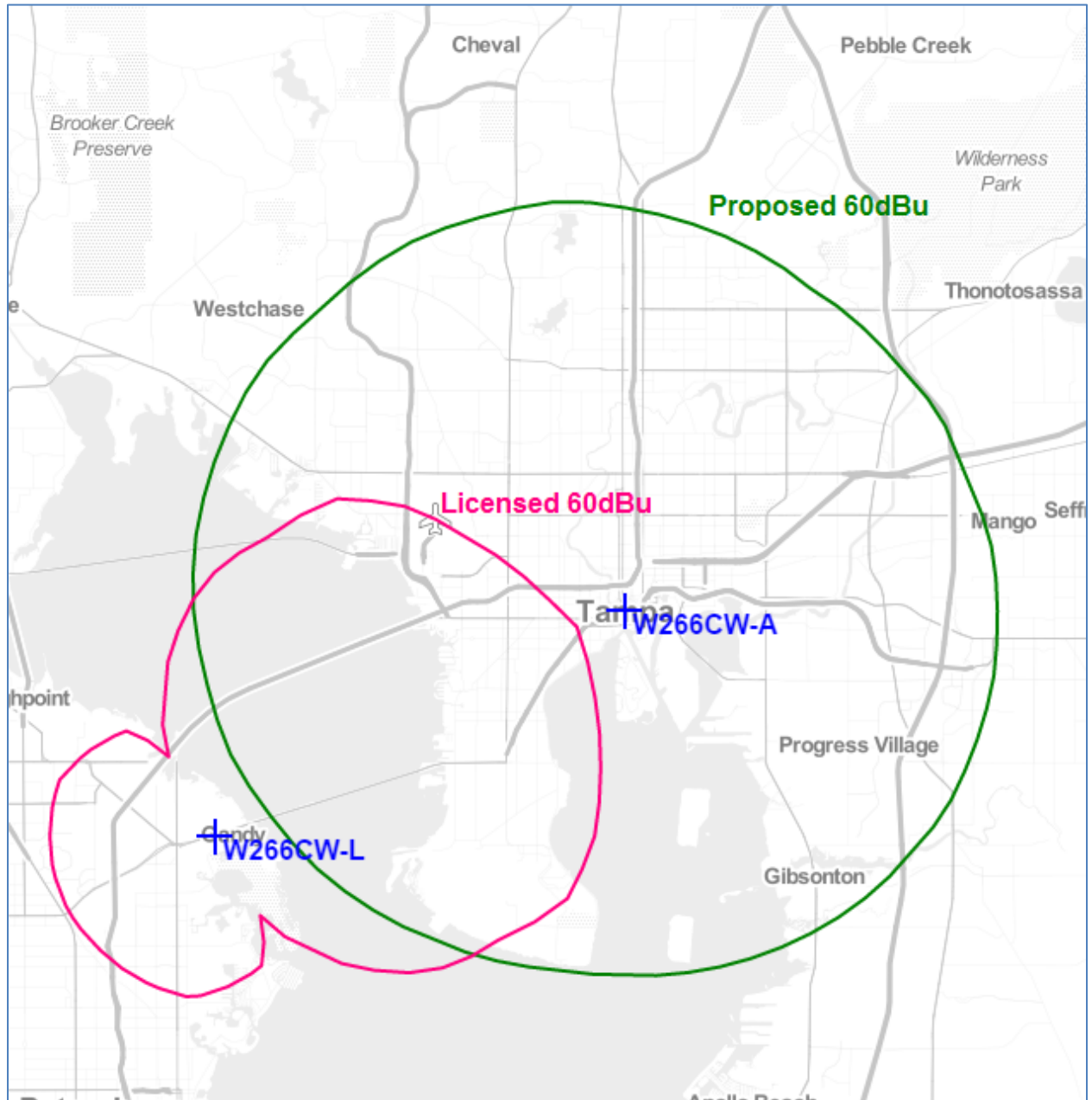
Az	Field	ERP
0	0.890	0.186
10	0.850	0.170
20	0.810	0.154
30	0.780	0.143
40	0.760	0.136
50	0.750	0.132
60	0.750	0.132
70	0.740	0.129
80	0.750	0.132

Az	Field	ERP
90	0.750	0.132
100	0.760	0.136
110	0.760	0.136
120	0.760	0.136
130	0.750	0.132
140	0.740	0.129
150	0.730	0.125
160	0.720	0.122
170	0.710	0.118

Az	Field	ERP
180	0.700	0.115
190	0.700	0.115
200	0.730	0.125
210	0.760	0.136
220	0.800	0.150
230	0.840	0.166
240	0.870	0.178
250	0.910	0.195
260	0.930	0.203

Az	Field	ERP
270	0.960	0.217
280	0.980	0.226
290	0.990	0.230
300	1.000	0.235
310	1.000	0.235
320	0.990	0.230
330	0.980	0.226
340	0.950	0.212
350	0.930	0.203

MINOR CHANGE



REQUEST FOR WAIVER OF §74.1204(a)
SECOND ADJACENT CHANNEL

“20-FOOT-RULE” APPLICATION

W266CW
Tampa, FL
Channel 266L1 (101.1 MHz)

The 100 dBu interfering contour of the proposed translator facility is fully inside the protected service contours of WMTX, Tampa (Facility ID #23078) and WPOI, Saint Petersburg, Florida (Facility ID # 66013).

WMTX operates on Channel 264 with an ERP of 96 kW and is located 24.1 km from the proposed translator. The proposed translator is inside the 88.7 dBu service F(50, 50) contour of WMTX.

WPOI operates on Channel 268 from the same location as WMTX with 97.1 kW ERP. The proposed translator is inside the 88.8 dBu service contour of WPOI.

The proposed translator will be on the top of the Bank of America Building (“BofA”), the second tallest building in downtown Tampa. The roof line of the building is at 170 meters above ground level (AGL). Below the roof line is a tall floor of equipment including elevators and additional mechanical support for the building. This area is unoccupied. The highest occupied level of the building is at 163 meters AGL at floor level. Taking the height of persons and the placement of radios on shelves into consideration, we will raise that level to 165 meters. Therefore, the highest occupied level on this building is 165 meters AGL. The radiation center of the proposed antenna is at 178 meters AGL.

Using the U/D method¹, the proposed translator station is predicted to produce an undesired interference overlap in respect to WMTX to the proposed translator station’s 128.7 dBu interfering contour (“overlap zone”). The 128.8 interfering contour generated towards WPOI would be entirely within the contour for WMTX. At 235 watts ERP, the overlap zone extends to 39 meters from the radiation center.

To address the 39 meter overlap zone reaching occupied areas of the building, the applicant is proposing to specify operation using a 3-bay Shively 6812b circularly polarized antenna at half-wavelength spacing. Based on manufacturer’s specifications, the proposed antenna would generate an interfering contour of 124.81 dBu at the highest occupied point of the building. The adjacent building to the north is approximately 30 meters shorter than BofA and therefore interference will not reach any occupied area of that building.

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

Based on these findings, the proposed modified translator station will not create any interference with WMTX and WPOI. WTIS-AM, Inc. is requesting a waiver of §74.1204(a) in respect to second-adjacent channel stations WMTX, Tampa (Facility ID #23078) and WPOI, Saint Petersburg, Florida (Facility ID # 66013).

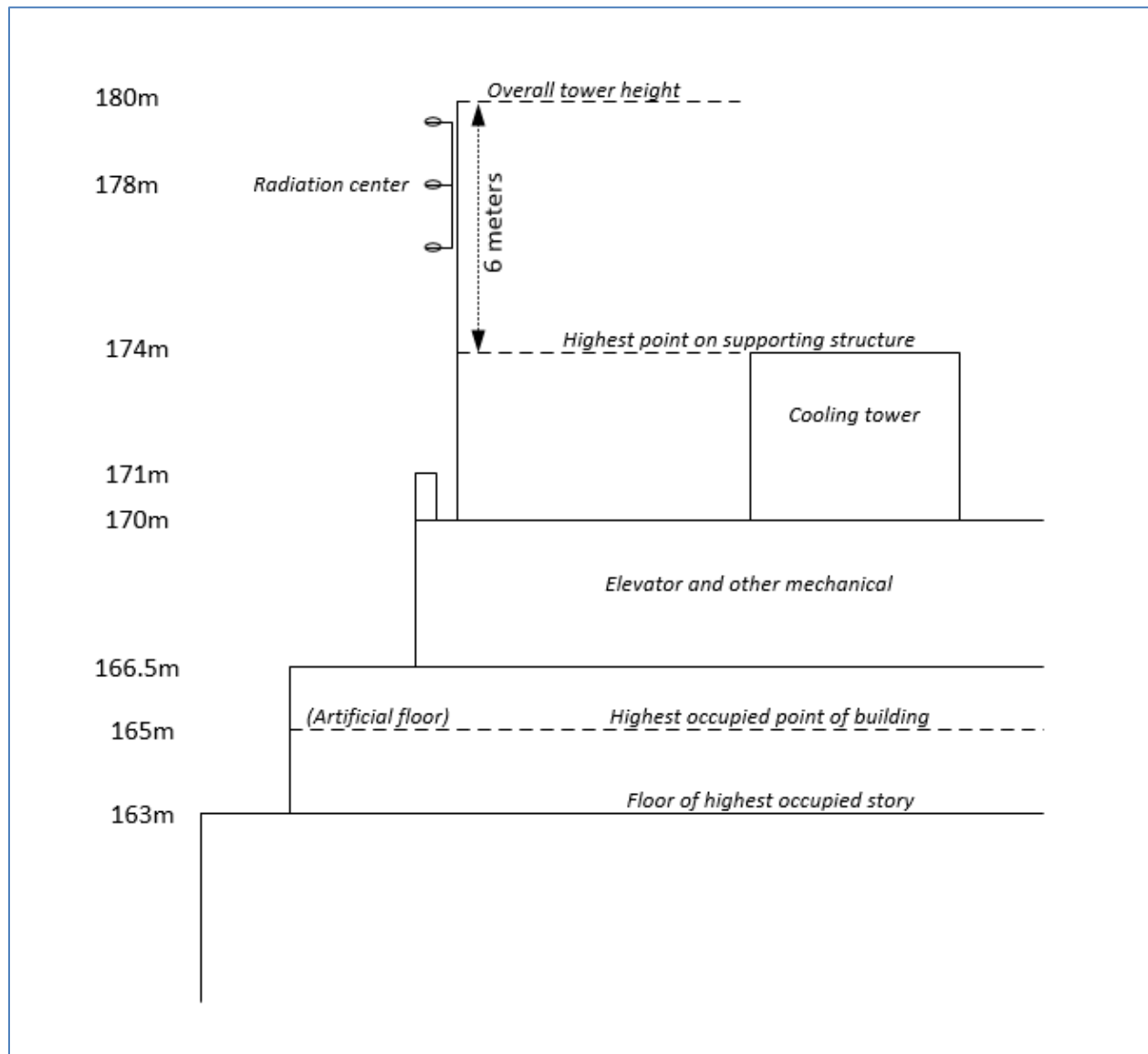
In addition, we will also demonstrate that due to the highest point of the building being the cooling towers at 174m AGL and the overall height of the antenna and pole for this installation being 180m AGL, the proposed antenna will be located 6.0 meters above the highest point of the building thus making the site exempt from tower registration.

Prepared by
Michelle Bradley
REC Networks
April 27, 2017

Proposed Power:	0.235 kW
Antenna Height AGL:	178 m
Interference Contour:	128.7 dBu
Artificial RX Antenna Height:	165 m
Antenna Type:	Shively Labs 6812b 6812c - 3 bay Half-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	0.972	0.222	-6.54	38.39	149.16	116.91	2042.32	94.18
10	0.891	0.187	-7.29	35.19	74.86	122.14	1025.06	99.41
15	0.767	0.138	-8.59	30.29	50.23	124.31	687.74	101.58
20	0.615	0.089	-10.51	24.29	38.01	124.81	520.44	102.08
25	0.451	0.048	-13.21	17.81	30.76	123.95	421.18	101.22
30	0.293	0.020	-16.95	11.57	26.00	121.67	356.00	98.94
35	0.152	0.005	-22.65	6.00	22.66	117.16	310.33	94.43
40	0.037	0.000	-34.93	1.46	20.22	105.88	276.92	83.15
45	0.048	0.001	-32.66	1.90	18.38	108.97	251.73	86.24
50	0.104	0.003	-25.95	4.11	16.97	116.38	232.36	93.65
55	0.133	0.004	-23.81	5.25	15.87	119.10	217.30	96.37
60	0.140	0.005	-23.37	5.53	15.01	120.02	205.54	97.30
65	0.133	0.004	-23.81	5.25	14.34	119.97	196.40	97.24
70	0.114	0.003	-25.15	4.50	13.83	118.95	189.42	96.22
75	0.090	0.002	-27.20	3.55	13.46	117.14	184.28	94.41
80	0.062	0.001	-30.44	2.45	13.20	114.07	180.75	91.34
85	0.032	0.000	-36.19	1.26	13.05	108.42	178.68	85.69
90	0.001	0.000	-66.29	0.04	13.00	78.35	178.00	55.62

DEMONSTRATION OF COMPLIANCE WITH 20 FOOT RULE
AND DEMONSTRATION OF HIGHEST OCCUPIED POINT OF BUILDING



PROPOSED SITE LOCATION

Translator is proposed for roof of Bank of America building (right). The building on the left is the adjacent building less than 39 meters away. Since the adjacent building is significantly shorter, the interfering contour from the radiation center would not reach any occupied point of that building even using the full *Living Way* method without taking antenna specifications into consideration.

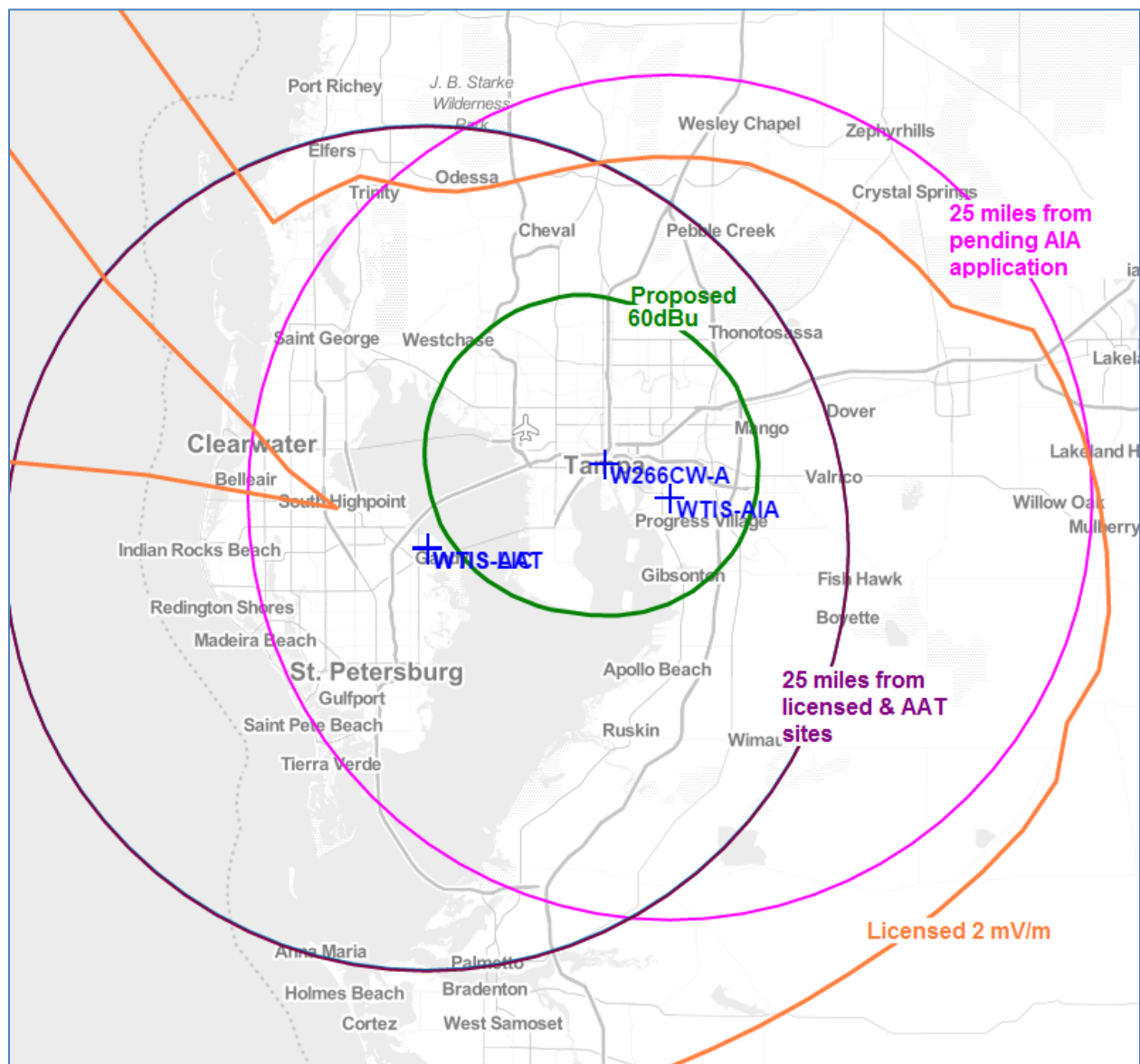


AM FILL-IN COVERAGE OF PROPOSED FACILITY

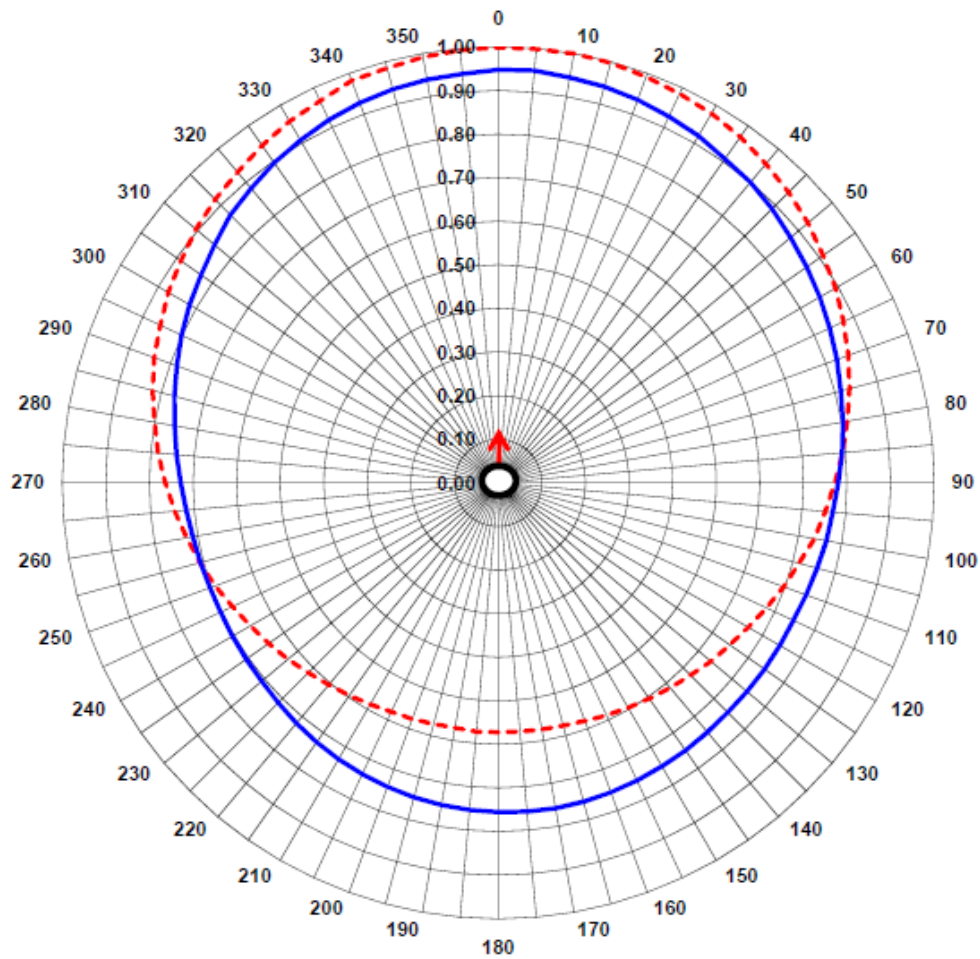
WTIS, Tampa, FL – 1110 kHz

Proposed translator protected service contour is within the 2 mV/m contour of the licensed facility for WTIS. While not shown, it is also within the 2 mV/m contour of the granted construction permit application BP-20130606AAT.

The proposed translator service contour is also within a 25 mile radius of the currently licensed facility for WTIS, the granted construction permit BP-20130606AAT as well as the pending construction permit application BP-20170419AIA.



SHIVELY LABS SAMPLE PATTERN



6812 ANTENNA

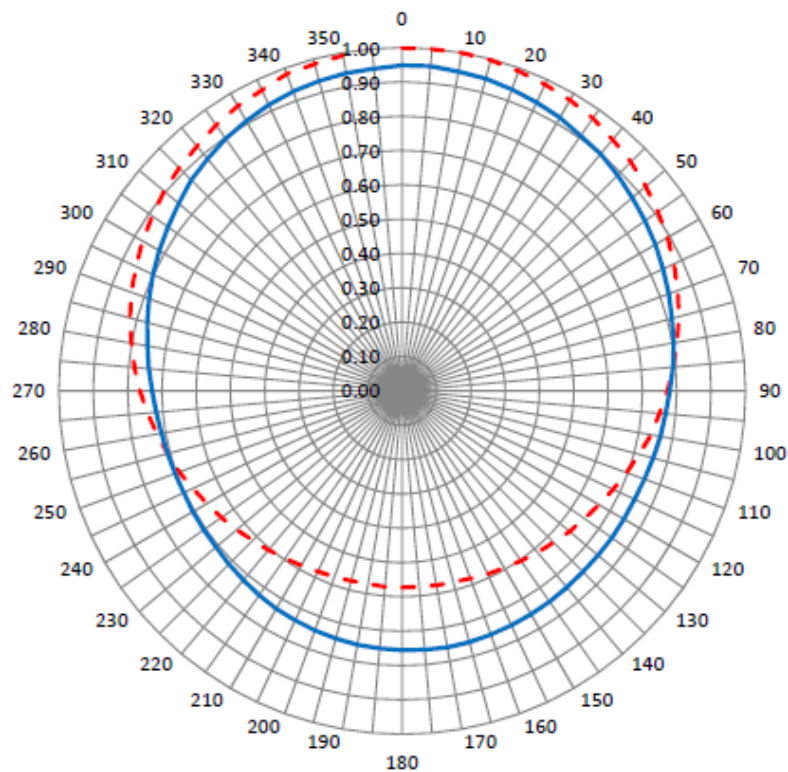
VERTICAL RMS: 79.11%

HORIZONTAL RMS: 80.73%

PATTERN NUMBER	6812-001
FREQUENCY:	MID BAND
ANTENNA AZIMUTH	0-Degrees
TOWER	POLE 2" IPS
MOUNT STYLE	6812-MT.
MOUNT REMARKS	N/A
DISTANCE FROM TOWER	Mounted to pole

This is a 6812 antennas mount to a 2" IPS TO 3" IPS pole.
Pole is customer responsibility.

SHIVELY LABS SAMPLE PATTERN

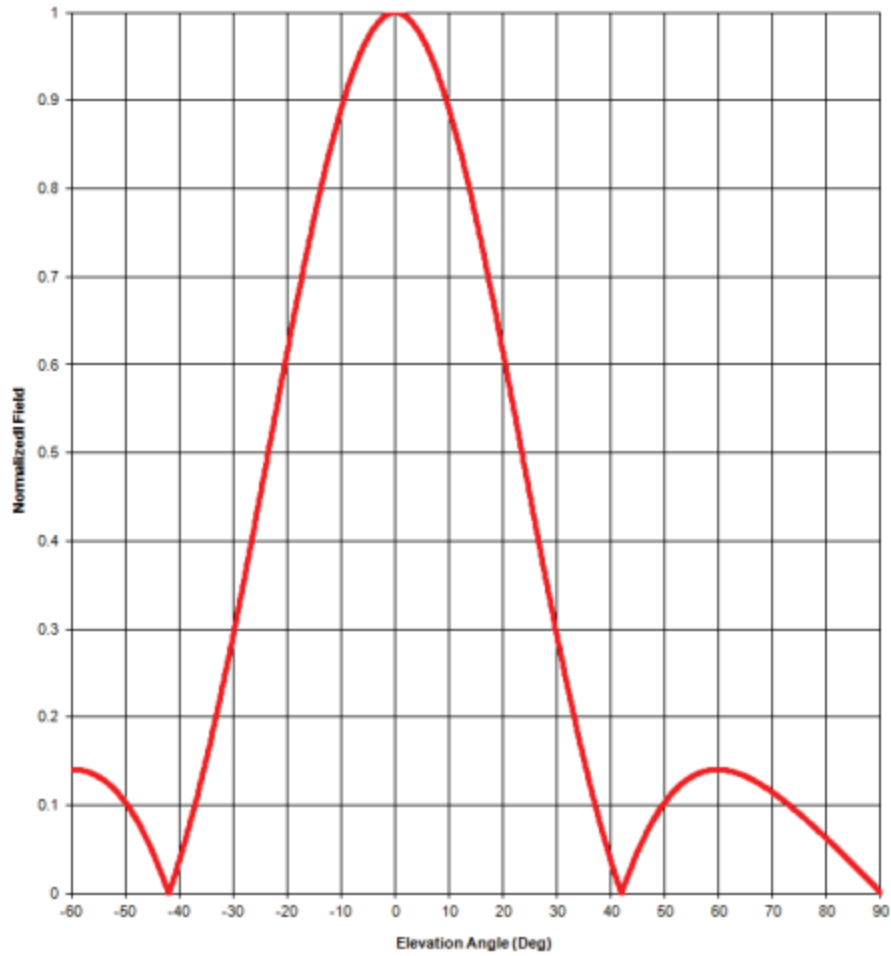


PATTERN NUMBER 6812-001

V-RMS 79.11%
H-RMS 80.73%

DEGREE	VERT	HORZ	DEGREE	VERT	HORZ	DEGREE	VERT	HORZ	DEGREE	VERT	HORZ
0	1.00	0.95	90	0.77	0.78	180	0.57	0.76	270	0.76	0.73
5	1.00	0.95	95	0.75	0.77	185	0.57	0.75	275	0.78	0.74
10	1.00	0.94	100	0.74	0.76	190	0.57	0.75	280	0.80	0.75
15	1.00	0.94	105	0.71	0.76	195	0.57	0.75	285	0.82	0.77
20	0.99	0.93	110	0.70	0.75	200	0.58	0.74	290	0.84	0.78
25	0.99	0.93	115	0.68	0.75	205	0.58	0.74	295	0.86	0.80
30	0.98	0.92	120	0.66	0.75	210	0.59	0.73	300	0.87	0.82
35	0.97	0.91	125	0.65	0.75	215	0.60	0.73	305	0.89	0.83
40	0.95	0.90	130	0.64	0.74	220	0.61	0.72	310	0.91	0.85
45	0.94	0.89	135	0.62	0.74	225	0.62	0.71	315	0.92	0.87
50	0.93	0.88	140	0.61	0.75	230	0.63	0.71	320	0.93	0.88
55	0.91	0.86	145	0.60	0.75	235	0.64	0.71	325	0.94	0.90
60	0.89	0.85	150	0.60	0.75	240	0.66	0.70	330	0.96	0.91
65	0.87	0.84	155	0.59	0.75	245	0.67	0.70	335	0.97	0.92
70	0.85	0.83	160	0.58	0.76	250	0.69	0.70	340	0.98	0.93
75	0.83	0.81	165	0.58	0.76	255	0.71	0.71	345	0.99	0.93
80	0.81	0.80	170	0.57	0.76	260	0.73	0.71	350	0.99	0.94
85	0.79	0.79	175	0.57	0.76	265	0.74	0.72	355	1.00	0.94

Elevation pattern



Antenna models: 6014, 6015, 6020, 6510, 6513, 6600, & 68xx except 6832, 3-bay half-wave-spaced

Test frequency: 98.1 MHz

Gain (maximum):

	Power	dB
6014, 6015, 68xx:	1.02	0.08 dB
6510, 6513, 6600:	2.04	3.08 dB

Document No. 68xx 3-bay hw (130701)

A Division of Howell Laboratories, Inc., P. O. Box 389, Bridgton, Maine 04009 USA

(207) 647-3327

1-888-SHIVELY

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Degrees	Rel. Field	Degrees	Rel. Field	Degrees	Rel. Field	Degrees	Rel. Field	Degrees	Rel. Field
1	0.999	19	0.646	37	0.102	55	0.133	73	0.100
2	0.995	20	0.615	38	0.079	56	0.136	74	0.095
3	0.990	21	0.582	39	0.057	57	0.138	75	0.090
4	0.982	22	0.550	40	0.037	58	0.140	76	0.084
5	0.972	23	0.517	41	0.017	59	0.140	77	0.079
6	0.959	24	0.484	42	0.001	60	0.140	78	0.073
7	0.945	25	0.451	43	0.018	61	0.140	79	0.068
8	0.929	26	0.419	44	0.034	62	0.139	80	0.062
9	0.911	27	0.387	45	0.048	63	0.137	81	0.056
10	0.891	28	0.355	46	0.062	64	0.135	82	0.050
11	0.869	29	0.323	47	0.074	65	0.133	83	0.044
12	0.845	30	0.293	48	0.085	66	0.130	84	0.038
13	0.820	31	0.263	49	0.095	67	0.126	85	0.032
14	0.794	32	0.234	50	0.104	68	0.123	86	0.026
15	0.767	33	0.205	51	0.111	69	0.119	87	0.020
16	0.738	34	0.178	52	0.118	70	0.114	88	0.013
17	0.708	35	0.152	53	0.124	71	0.110	89	0.007
18	0.678	36	0.126	54	0.129	72	0.105	90	0.000

Elevation Pattern Tabulation

Antenna models: 6014, 6015, 6020, 6510, 6513, 6600, & 68xx except 6832, 3-bay half-wave-spaced.

Relative Field at 0° Depression = 1.000