

**Comprehensive Technical Statement
In Support of
The City of Boston
Application for New LPFM Station
102.9 MHz, Channel 275L1
Boston, MA**

Second adjacent waiver requested

Introduction

The City of Boston proposes a new LPFM station to serve Boston, MA on 102.9 MHz, channel 275L1.

The proposed site meets all spacing requirements with respect to all other operating facilities, construction permits, allocations, and applications, with the exceptions of WKLB, FCC Facility ID # 10542 and WODS, FCC Facility ID # 9639. A second adjacent waiver is requested. Full details supporting the waiver request are included.

The following table lists all conflicts whose distance fell within 25 km of the required separation as of June 16, 2013:

facid	adj	chan	lpclass	rrs	status	call	st	city	kW	da	haat	brg	km	req	Δ
9639	2	277B	B		APP	WODS	MA	BOSTON	21	N	235	20	3.73	67	-63.3
9639	2	277B	B		LIC	WODS	MA	BOSTON	8.7	N	351	265	10.4	67	-56.6
10542	2	273B	B		LIC	WKLB-FM	MA	WALTHAM	14	N	276	267	11.4	67	-55.6
155444	0	275D	T0		CP	W275BH	MA	LAWRENCE	0.25	Y	0	349	40.5	39	1.52
155444	0	275D	T0		APP	W275BH	MA	LAWRENCE	0.25	Y	0	349	40.5	39	1.52
54620	0	275B1	B1		CP	WPXC	MA	HYANNIS	6.8	N	143	138	93.4	87	6.4
155444	0	275D	T1		LIC	W275BH	MA	LAWRENCE	0.1	Y	0	349	40.5	32	8.52

As of October 18, 2013, some changes appear in this table, but none would have a significant impact on the instant application:

facid	adj	chan	lpclass	rrs	status	call	st	city	kW	da	haat	brg	km	req	Δ
9639	2	277B	B		CP	WODS	MA	BOSTON	21	N	235	20	3.72	67	-63.3
9639	2	277B	B		LIC	WODS	MA	BOSTON	8.7	N	351	265	10.4	67	-56.6
10542	2	273B	B		LIC	WKLB-FM	MA	WALTHAM	14	N	276	267	11.4	67	-55.6
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155444	0	275D	T1		LIC	W275BH	MA	LAWRENCE	0.1	Y	0	349	40.5	32	8.52

Data Sources

Skywaves Consulting LLC
PO Box 4, Millbury, MA 01527

Main Number: 401-354-2400

<http://www.skywaves.com>

Washington: 202-370-6357

consultants@skywaves.com

Distances were calculated using the FCC method defined in 73.208 of the Commission's Rules.

The facility data used in preparing the application was current as of June 17, 2013. Continued compliance was confirmed in all respects as of October 18, 2013.

Transmitter Location

The proposed transmitter site is an existing apartment building. The roof is an established communications site, ASR # 1253147. Access control and appropriate warning signage are provided.

Above the roof of the occupied section of the building (the "main roof") is an elevator machine room that extends 10 m above the main roof to a height above ground of 80 m. Existing poles and antennas extend the overall height by an additional 2 m. The proposed antenna will be mounted on a pole at a height of 1 m above the top of the elevator machine room, 11 m above the main roof, and 81 m above ground.

Second adjacent channel waiver request

The proposed site is short-spaced to two second-adjacent stations, WKLB and WODS. WKLB has one record, for its licensed facility. WODS has two records, one for its licensed facility and one for a replacement facility (APP as of 6/14 and CP as this written).

Using USGS03 terrain data and standard contour methodology, the protected signal at the transmitter site and 500m past the transmitter site from the protected station's transmitter were determined:

call	status	at site	500 m beyond site
WODS	LIC	90.40	89.64
WODS	APP/CP	105.98	104.32
WKLB	LIC	88.83	88.06

Of the three records, the lowest and therefore the most critical signal is WKLB at 88.83 dBu. The maximum permissible signal in any populated area is 128.83 dBu at the proposed transmitter site and 128.06 dBu within 500 m of the site.

The proposed antenna height is 81 m above ground, 11 m above the top of the occupied areas of the building, and 105 m above sea level. The height above average terrain is 80 m, based on the FCC online HAAT calculator using eight radials. Recalculation with truncated over-water radials made a difference of less than 1 m. The expected ERP is 13.5 W.

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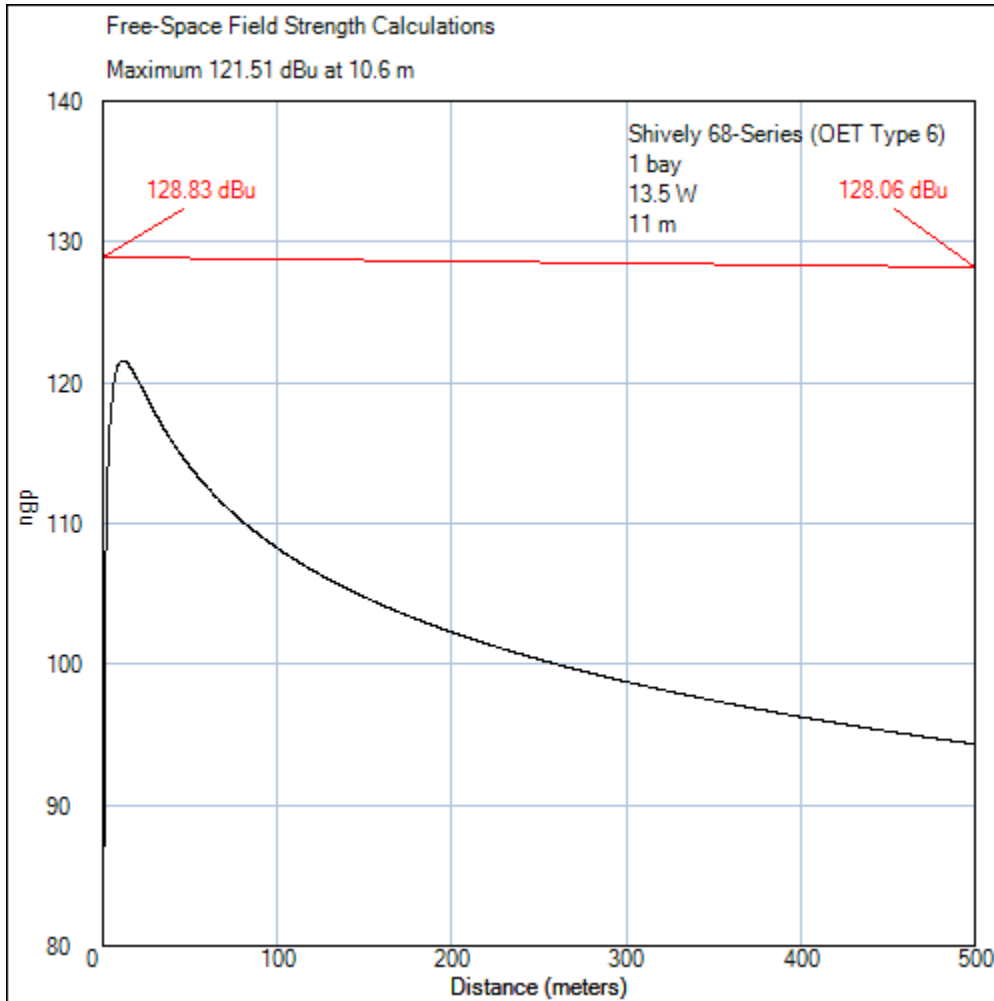
<http://www.skywaves.com>

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The proposed antenna is a one-bay Shively 6812B. The vertical pattern of this antenna is attached.

The antenna will be mounted on a pole 11 m above the highest occupied level of the building. The maximum signal 11 m below the antenna will be 121.51 dBu at 10.6 m from the base of the pole. This is 6.5 dB below the allowable limit of 128.06 dBu within 500 m of the site. No taller occupied structures exist within 500 m.



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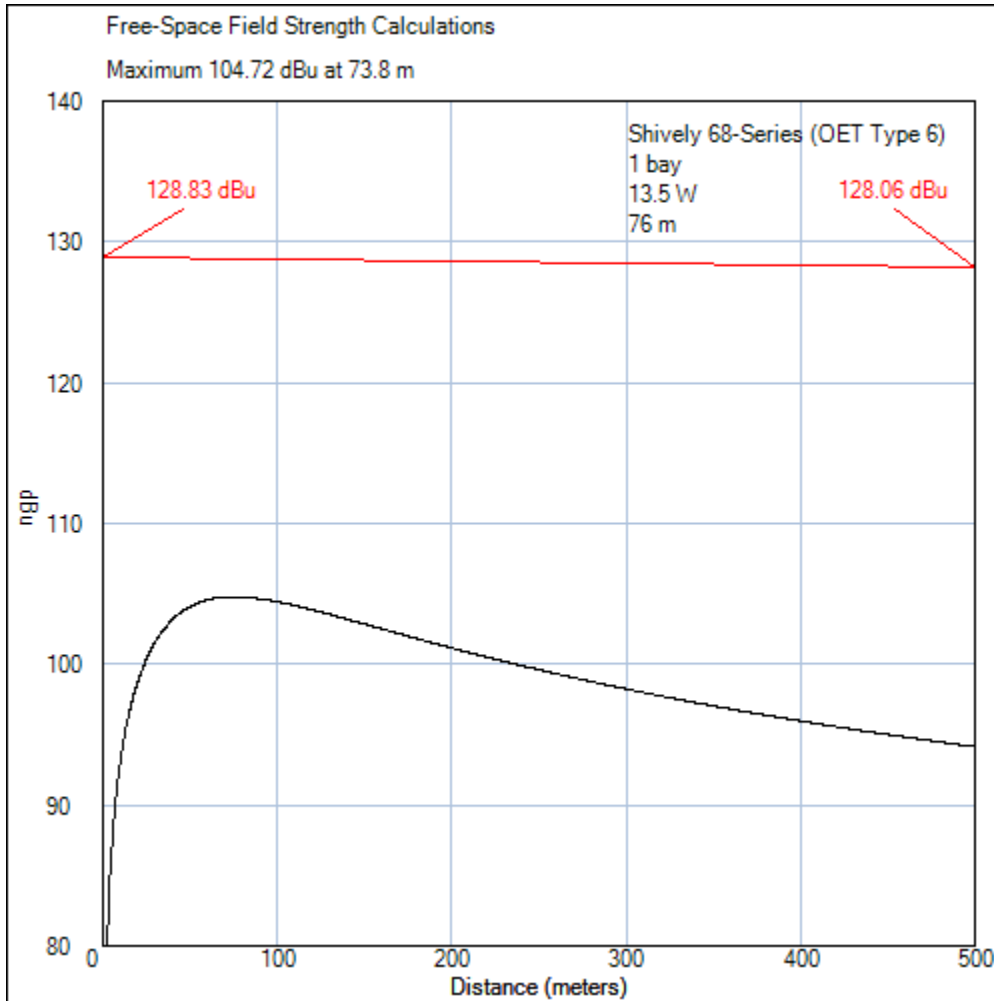
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The highest signal 6 m above the ground (76 m below the antenna) will be 104.72 dBu, which is below the allowable limit of 128.06 dBu within 500 m of the site by more than 23 dB.



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Translator/ Booster Input Interference

There are two translators within 10 km of the proposed site.

W279BQ, FCC Facility ID # 152268 is fed directly off-air from WRYP, Wellfleet, MA, FCC Facility ID # 122299. WRYP operates on channel 211, which is not a mutually exclusive channel with the proposed channel 275.

W242AA, FCC Facility ID # 168259 has no feed or primary station information in CDBS. It is owned by WGBH Educational Foundation. The WGBH website at <http://www.wgbh.org/995/> associates the 96.3 MHz signal that corresponds with W242AA's frequency with the "Classical New England" program transmitted by WCRB (channel 258, 99.5 MHz), WGBH-HD2 (channel 209, 89.7 MHz), WNCK (channel 208, 89.5 MHz), and WJMF (channel 204, 88.7 MHz). The proposed channel 275 is not mutually exclusive with any of these potential primary facilities.

There are no boosters within 50 km of the proposed site.

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Form 318 Tech Box Data

Class	LP100
Channel	275
Coordinates (NAD-27)	42 18 56 N Lat 71 05 55 W Lon
ASR	1253147
Site Elevation AMSL	24 m
Overall Tower Height AGL	82 m
Radiation Center AGL	81 m
Power/height certification	YES
Environmental	YES - Exhibit 11 (This document)

Additional Information

Coordinates (NAD-83)	42 18 56.1 N Lat 71 05 53.3 W Lon
Height above average terrain	84 m (FCC online HAAT calculator, 8 radials)
Estimated ERP	13.5 W-H + 13.5 W-V
Antenna type	Omnidirectional
Manufacturer / Model	SHI 6812B-1

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International

The FM Agreements with Canada and Mexico require evaluation and potential coordination of any proposal within 320 km of the border.

The distance to the nearest point along the US/Canada border is 301.5 km from the proposed site. Evaluation with respect to Canadian facilities and proposals is required:

Paragraph 4.4 of the February 1991 Working Agreement with Canada, as amended in 2007, provides that LPFM coordination is required only for proposals in which the 34 dBu f(50,10) contour would cross the border. The maximum distance to the proposed 34 dBu f(50,10) contour is 30.3 km, 271.2 km short of the border.

Coordination with Canada should not be required.

The distance to the nearest point along the US/Mexico border is 2,985 km. Coordination with Mexico is not required.

Quiet Zones

The proposed site is outside the National Radio Quiet Zone (National Radio Astronomy Observatory Notification Area) in West Virginia.

The proposed site is outside the Arecibo Observatory notification area in Puerto Rico.

The proposed site is not within a 100 km extension of the Table Mountain Radio Receiving Zone in Colorado.

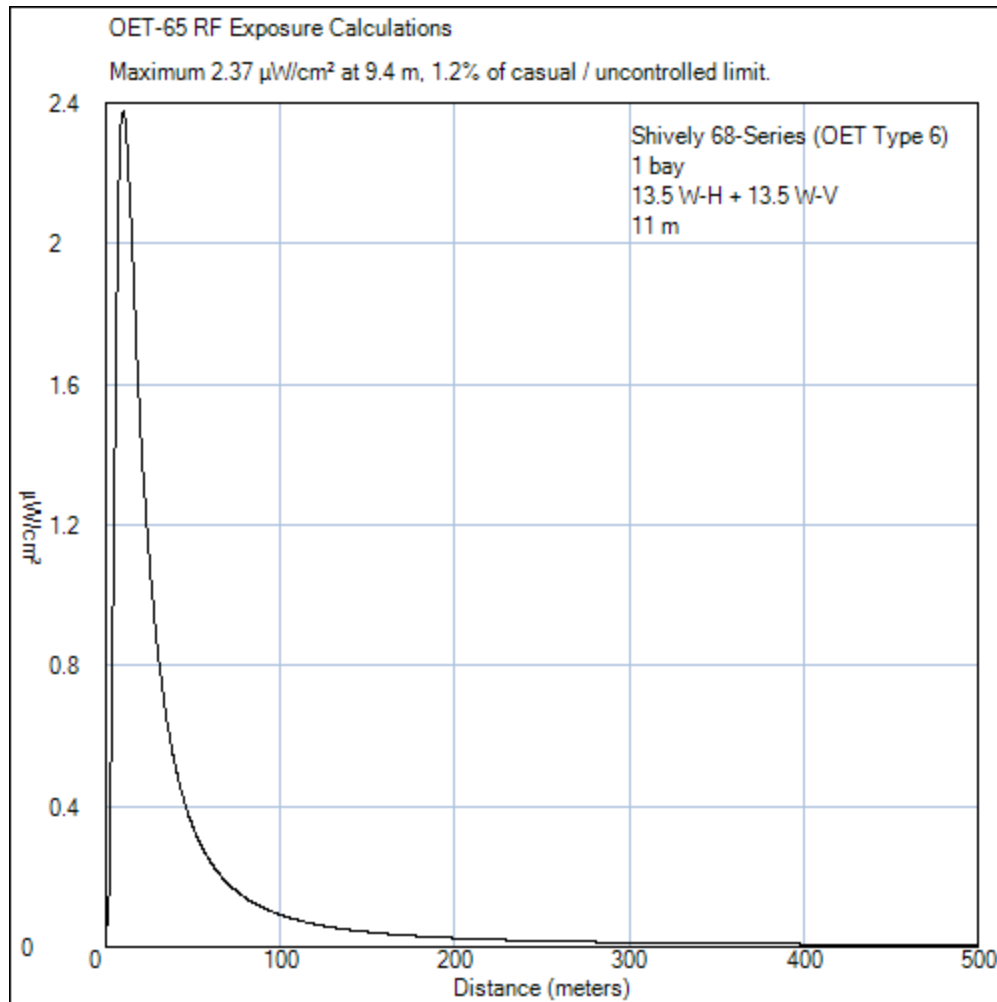
Protected Monitoring Stations

The nearest Protected Monitoring Station is 287 km distant, in Belfast, ME. This is well beyond any potential 80 dBu contour.

Environmental and RF Exposure

The antenna will be mounted 11 m above the main roof of an existing building on a 2 m pole affixed to the side of a 10 m high elevator machine room. No construction or excavation will be performed.

With the expected ERP of 13.5 W-H + 13.5 W-V, the maximum exposure on the roof will be 1.2% of the limit for casual / uncontrolled exposure:



Access to the roof is controlled and appropriate signage is provided. The applicant commits to amending the signage as appropriate and to leaving the air if necessary to protect workers in the elevator machine room.

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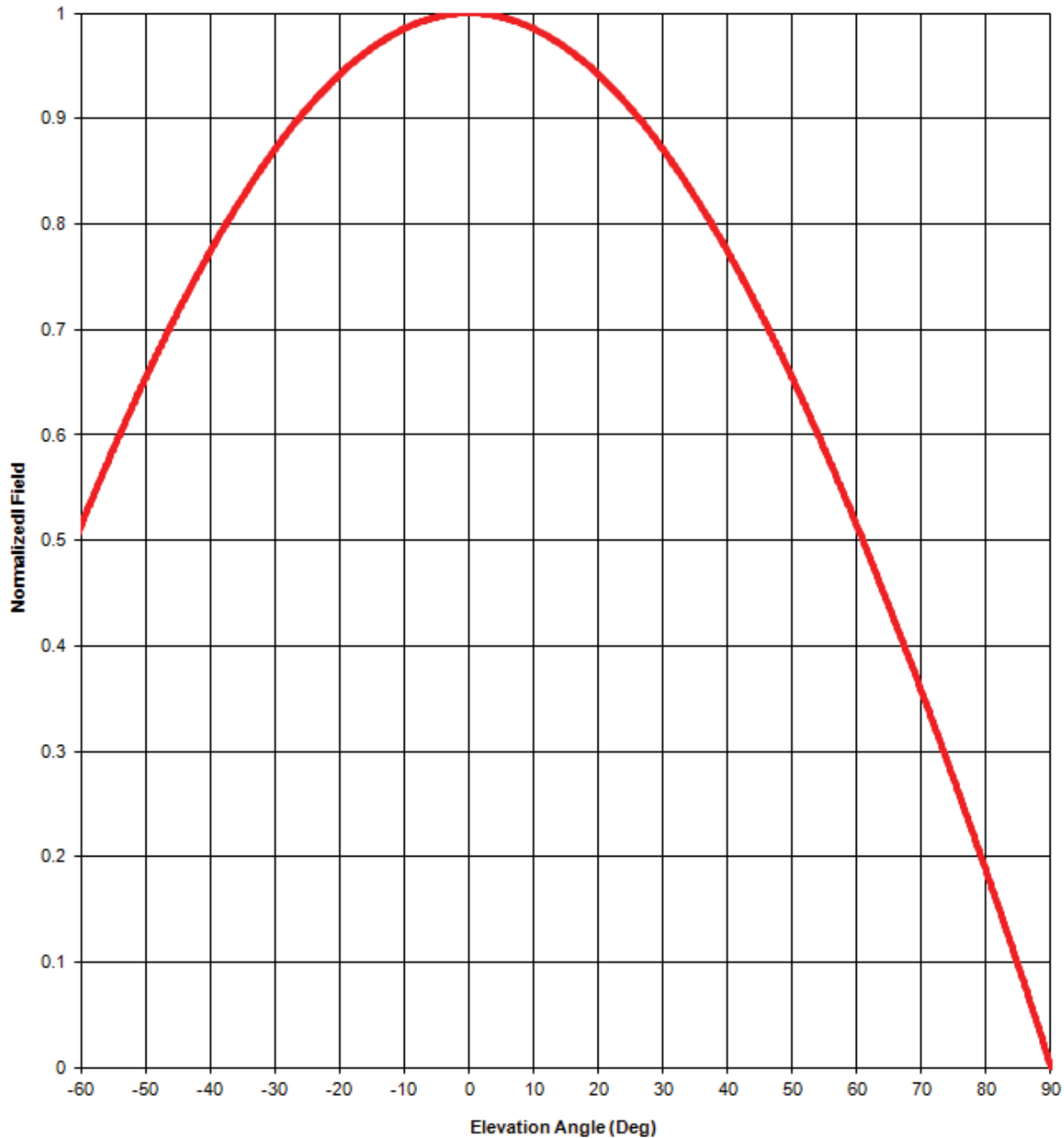
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Elevation pattern



Antenna model: 6812b, single bay

Test frequency: 98.1 MHz

Gain (maximum):

Power	dB
0.46	-3.39 dB

Document No. 6812b 1-bay fw (130701)

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Degrees	Rel. Field
1	1.000
2	0.999
3	0.999
4	0.998
5	0.996
6	0.995
7	0.993
8	0.991
9	0.988
10	0.985
11	0.982
12	0.979
13	0.975
14	0.971
15	0.967
16	0.963
17	0.958
18	0.953

Degrees	Rel. Field
19	0.948
20	0.942
21	0.936
22	0.930
23	0.924
24	0.917
25	0.910
26	0.903
27	0.895
28	0.887
29	0.879
30	0.871
31	0.862
32	0.854
33	0.845
34	0.835
35	0.826
36	0.816

Degrees	Rel. Field
37	0.806
38	0.796
39	0.785
40	0.774
41	0.763
42	0.752
43	0.741
44	0.729
45	0.717
46	0.705
47	0.693
48	0.680
49	0.667
50	0.654
51	0.641
52	0.628
53	0.614
54	0.600

Degrees	Rel. Field
55	0.586
56	0.572
57	0.558
58	0.544
59	0.529
60	0.514
61	0.499
62	0.484
63	0.469
64	0.453
65	0.437
66	0.422
67	0.406
68	0.390
69	0.373
70	0.357
71	0.341
72	0.324

Degrees	Rel. Field
73	0.307
74	0.290
75	0.273
76	0.256
77	0.239
78	0.221
79	0.204
80	0.186
81	0.168
82	0.151
83	0.133
84	0.114
85	0.096
86	0.078
87	0.059
88	0.040
89	0.021
90	0.000

Elevation Pattern Tabulation

Antenna model: 6812b, single bay

Relative Field at 0° Depression = 1.000