

Comprehensive Technical Statement

In support of

New England Christian Media, Inc.

Application for Minor Change for FM Translator W229AN

93.7 MHz, Channel 229, FCC Facility ID # 156667

Providence, RI

Introduction

The following changes are proposed:

- Antenna location
- Antenna height
- Directional antenna
- Effective radiated power

Data Sources

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

All contours shown in this report were generated using antenna center above mean sea level, NAD-27 coordinates, and the FCC online HAAT calculator, which uses 30-second terrain data.

Dates shown on maps are the last change date of the CDBS download file in use at the time this statement was prepared.

Skywaves Consulting LLC

PO Box 4, Millbury, MA 01527

Main Number: 401-354-2400

Washington: 202-370-6357

<http://www.skywaves.com>

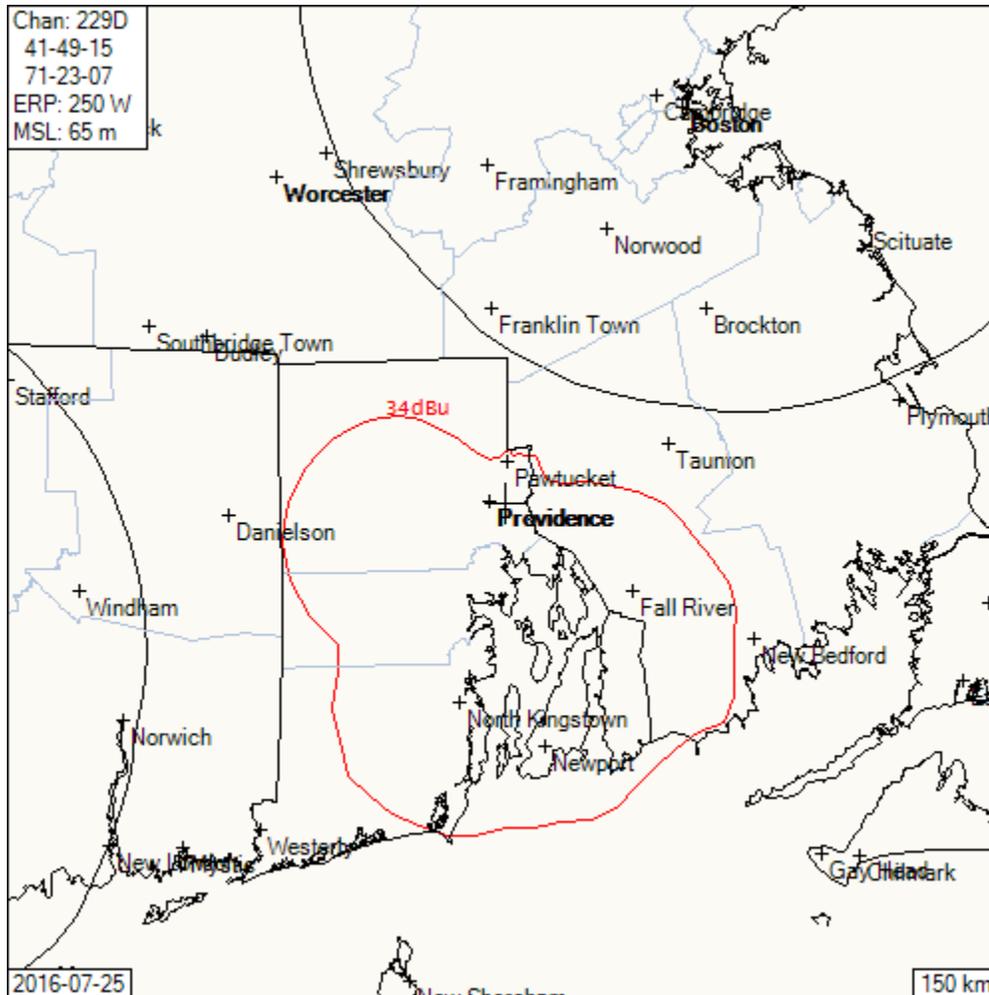
consultants@skywaves.com

Copyright © 2016 Skywaves Consulting LLC.

Detailed Interference Study

The following collection of maps and the narrative accompanying each show conclusively that no prohibited interference will occur between the proposed facility and any potentially conflicting facility or proposal. Interfering f(50,10) contours are shown as red polygons, and protected f(50,50) contours are shown as black polygons.

Map 1 – Co-channel Outbound Interference



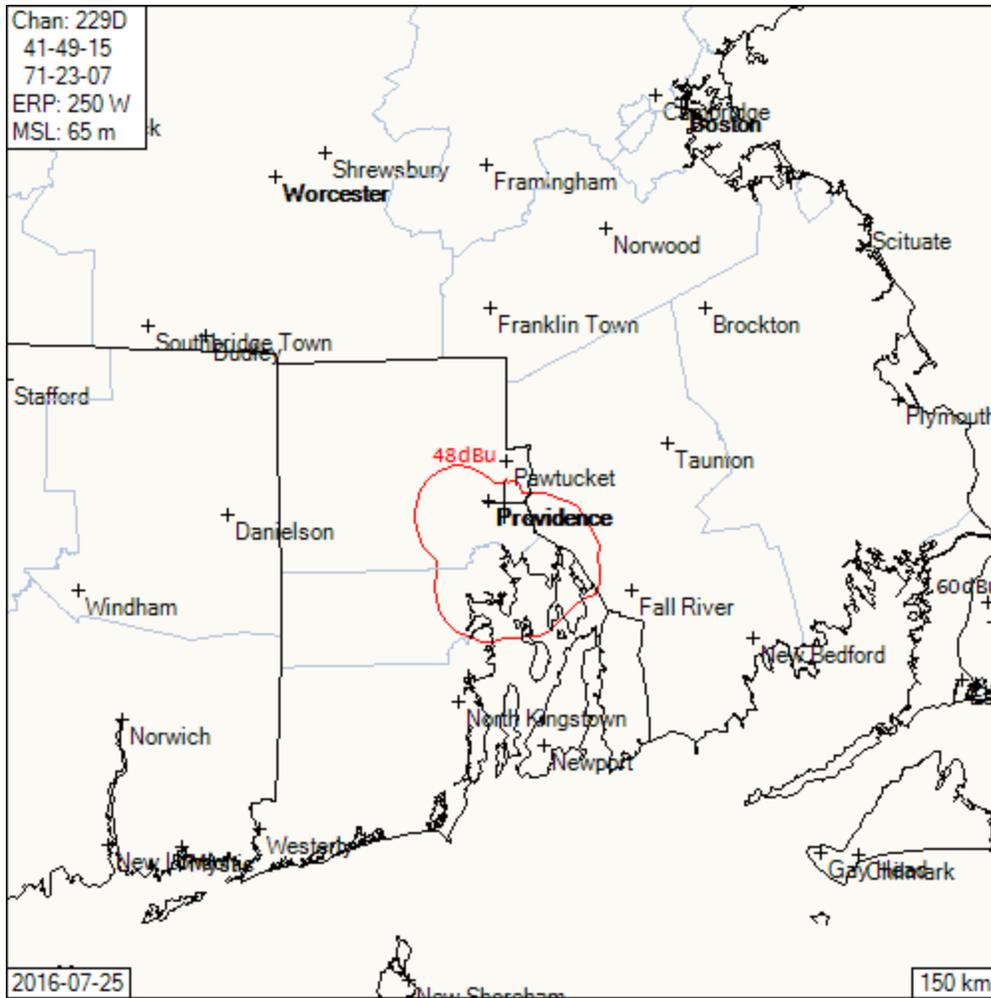
There is no overlap of the interfering contour with the protected contour of any station or proposal.

Skywaves Consulting LLC
PO Box 4, Millbury, MA 01527
Main Number: 401-354-2400
Washington: 202-370-6357

<http://www.skywaves.com>

consultants@skywaves.com
Copyright © 2016 Skywaves Consulting LLC.

Map 2 – First Adjacent Outbound Interference



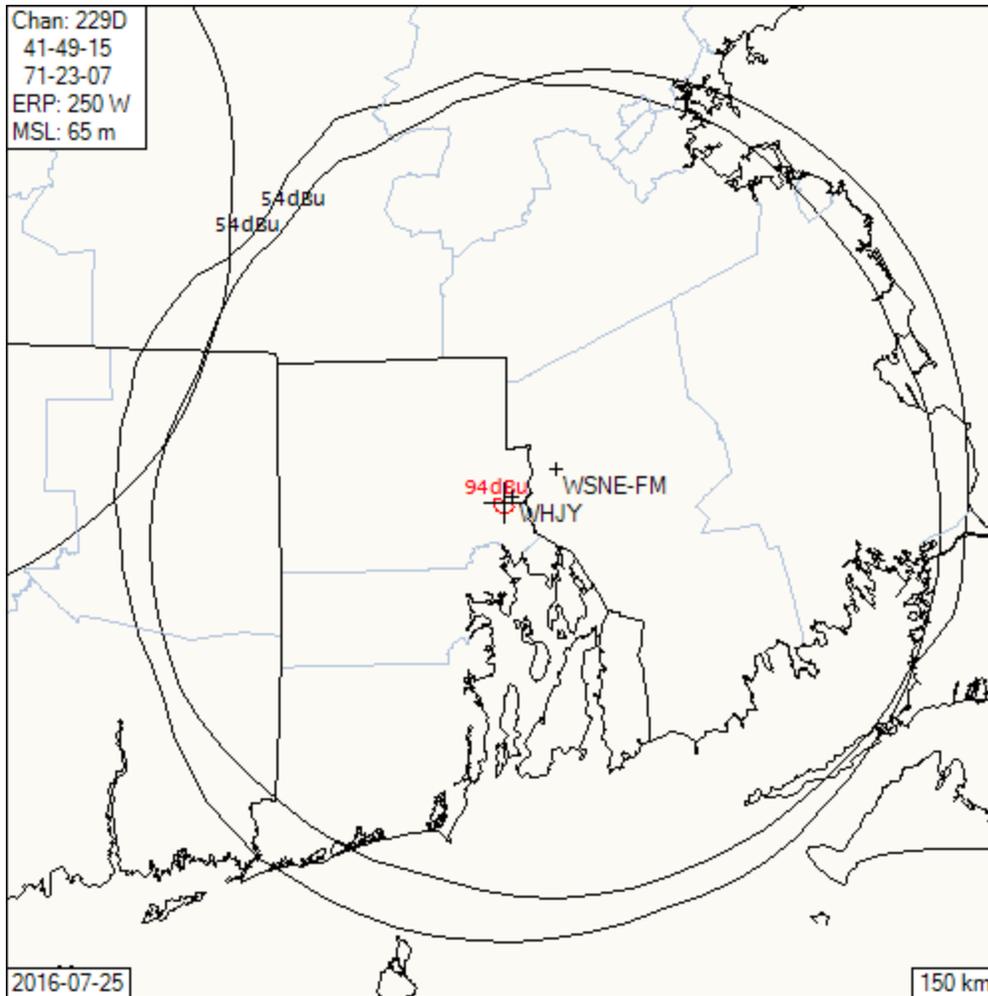
There is no overlap of the interfering contour with the protected contour of any station or proposal.

Skywaves Consulting LLC
PO Box 4, Millbury, MA 01527
Main Number: 401-354-2400
Washington: 202-370-6357

<http://www.skywaves.com>

consultants@skywaves.com
Copyright © 2016 Skywaves Consulting LLC.

Map 3 – Second/Third Adjacent Outbound Interference Detail



The transmitter site is within the protected contours of WSNE and WHJY. Both are second-adjacent Class B stations.

The signal strength of WHJY at the site is 118.1 dBu. The signal strength of WSNE at the site is 92.7 dBu. WSNE is the more critical, and the interfering signal level is 132.7 dBu.

At 250 W ERP, the free-space distance to 132.7 dBu is 26 m. The antenna will be mounted 65 m AGL. It is clear that the interfering signal will be at least 39 m above the ground. In addition, the antenna will be mounted on a tower that is located in a river 56 m from the nearest point of land.

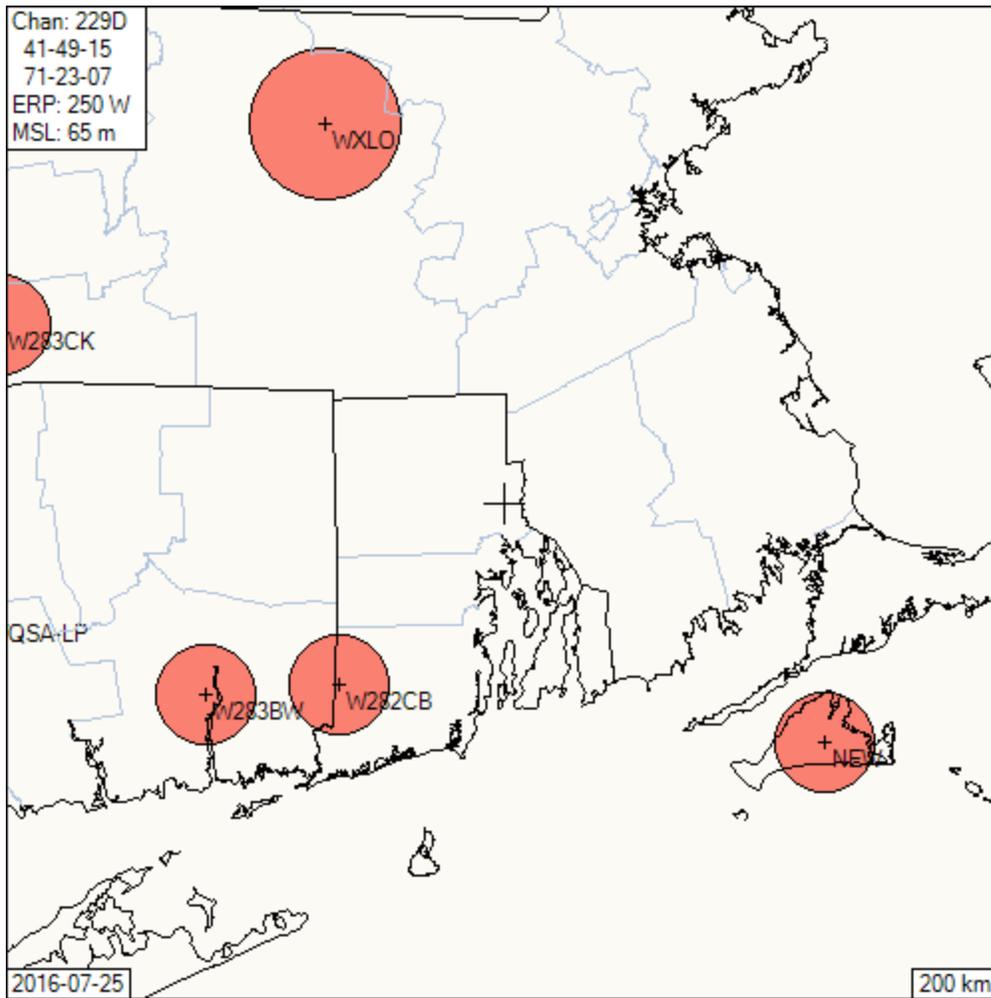
The proposal therefore complies with 74.1204(d).

Skywaves Consulting LLC
PO Box 4, Millbury, MA 01527
Main Number: 401-354-2400
Washington: 202-370-6357

<http://www.skywaves.com>

consultants@skywaves.com
Copyright © 2016 Skywaves Consulting LLC.

IF Separation requirements



There are no nearby IF-separated stations or proposals.

Skywaves Consulting LLC
PO Box 4, Millbury, MA 01527
Main Number: 401-354-2400
Washington: 202-370-6357

<http://www.skywaves.com>

consultants@skywaves.com
Copyright © 2016 Skywaves Consulting LLC.

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 355 km. Coordination with Canada is not required.

The distance to the nearest point along the US/Mexico border is 2,938 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.

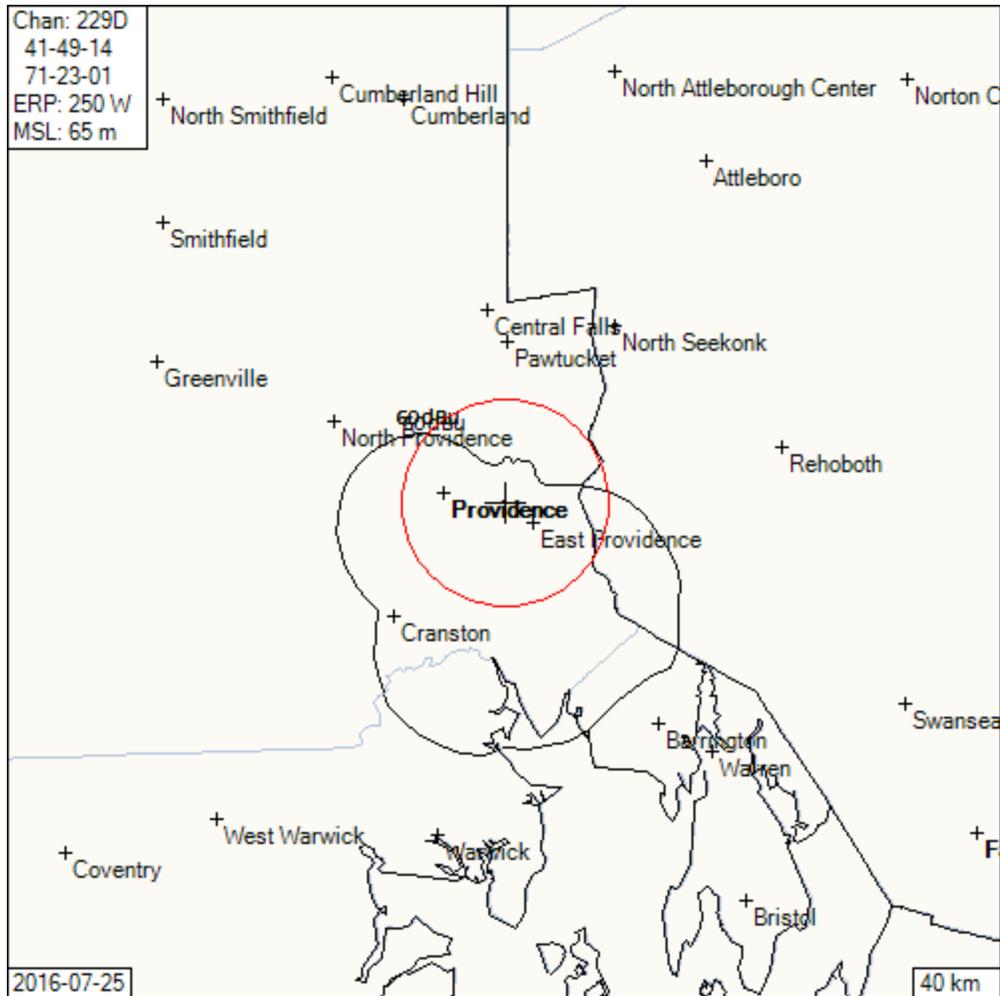
The proposed site is outside the Arecibo Observatory notification area in Puerto Rico.

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 346 km distant, in Belfast, ME. This is well beyond any potential 80 dBu contour.

Minor Change



The proposed 60 dBu f(50,50) contour (red) intersects the proposed 60 dBu f(50,50) contour (black). No change in frequency is proposed.

The proposal is therefore for a minor change.

Skywaves Consulting LLC

PO Box 4, Millbury, MA 01527

Main Number: 401-354-2400

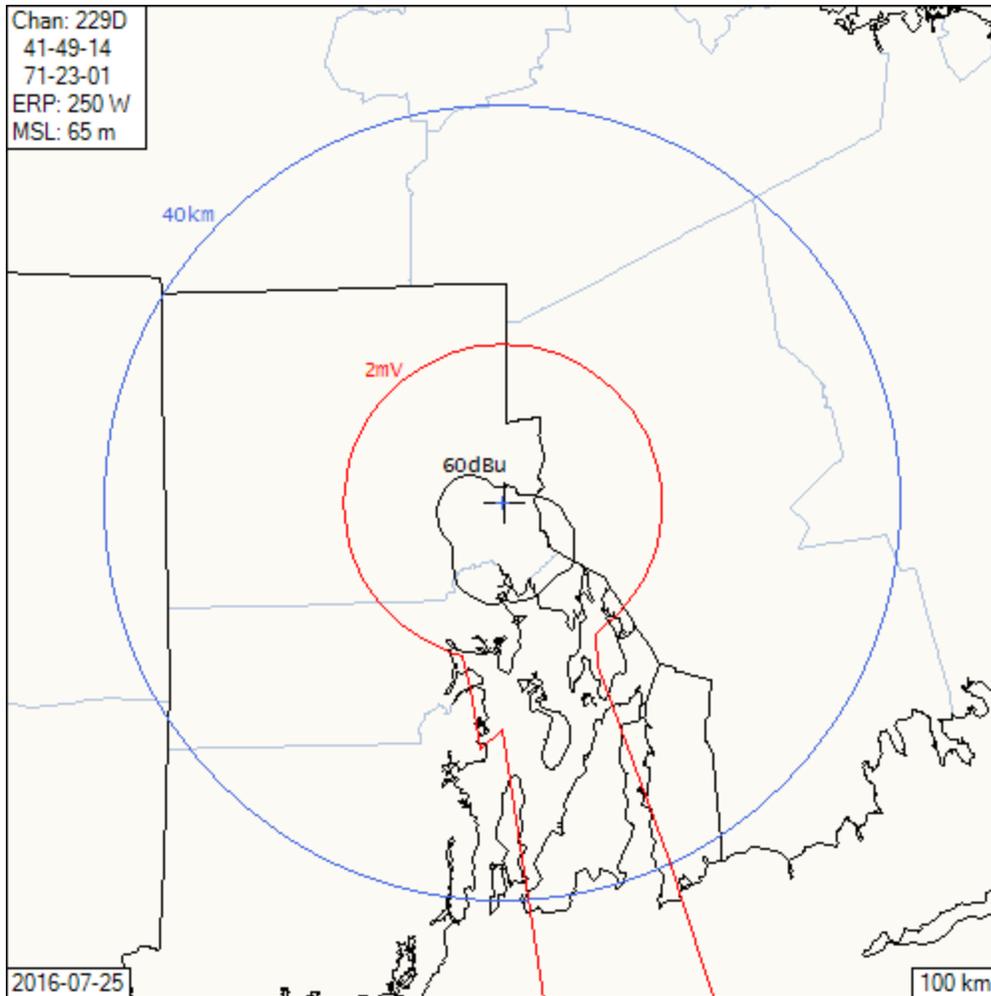
Washington: 202-370-6357

<http://www.skywaves.com>

consultants@skywaves.com

Copyright © 2016 Skywaves Consulting LLC.

Fill-In Translator



The proposed 60 dBu f(50,50) contour (black) falls entirely within both the 2 mV/m contour of the primary AM station (red) and 40 km from the AM transmitter (blue).

Skywaves Consulting LLC
PO Box 4, Millbury, MA 01527
Main Number: 401-354-2400
Washington: 202-370-6357

<http://www.skywaves.com>

consultants@skywaves.com
Copyright © 2016 Skywaves Consulting LLC.

Environmental

The antenna will be mounted on an existing tower. No change to the tower height is proposed. No excavation or construction is proposed.

RF Exposure

The antenna will be mounted 65 m above ground. RF exposure will be less than 2% of the limit for casual / uncontrolled exposure.

The tower is used by the primary AM station, WSTL. WSTL broadcasts with 1 kW on 1220 kHz with a tower that is 0.26λ in height. According to the RF exposure worksheet, a fence at least one meter from the tower is sufficient to protect the public from excessive RF exposure. A locked fence 1.5 m from the tower is provided.

Appropriate signage is provided.

The applicant agrees to reduce power or shut down in order to protect workers at the site.

Form 349 Tech Box Data

Channel 229

Primary Station Facility ID 9183
WSTL (AM)
Providence, RI

Delivery Method Other (terrestrial feed via internet)

Coordinates (NAD-27) 41 49 15 N Lat
71 23 07 W Lon

Coordinates (NAD-83) 41 49 15.4 N Lat
71 23 05.2 W Lon

ASR 1211530

Site Elevation AMSL 0 m

Overall Tower Height AGL 66 m

Radiation Center AGL 65 m

Effective Radiated Power 250 W-H + 250 W-V

Antenna type Directional

Manufacturer / Model SCA CLFM - skewed array @ 150° and 250°

az	eRel		az	eRel		az	eRel
0	0.05		120	0.78		240	0.92
10	0.05		130	0.87		250	0.94
20	0.05		140	0.92		260	0.92
30	0.05		150	0.94		270	0.87
40	0.05		160	0.92		280	0.78
50	0.05		170	0.88		290	0.66
60	0.05		180	0.92		300	0.52
70	0.07		190	0.99		310	0.38
80	0.20		200	1.00		320	0.20
90	0.38		210	0.99		330	0.07
100	0.52		220	0.92		340	0.05
110	0.66		230	0.88		350	0.05

Skywaves Consulting LLC
 PO Box 4, Millbury, MA 01527
 Main Number: 401-354-2400
 Washington: 202-370-6357

<http://www.skywaves.com>

consultants@skywaves.com
 Copyright © 2016 Skywaves Consulting LLC.