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**Technical Statement for
Rancho Palos Verdes Broadcasters, Inc.
DTV Maximization Construction Permit
for Minor Change in a Licensed Facility:**

**KXLA-DT
Channel 51
Rancho Palos Verdes, CA**

Licensed in File No. BLCDT-20060322ACN

Introduction

This Technical Statement provides the supplemental technical data and information required for the FCC Form 301 “Application for Construction Permit for Commercial Broadcast Station” of Rancho Palos Verdes Broadcasters, Inc., (“RPV”) for Digital Television (DTV) facilities on Channel 51 in Rancho Palos Verdes, CA. In particular, it addresses the additional information required by Section III-D – DTV Engineering – applicable to Station KXLA-DT. The Station is licensed in File No. BLCDT-20060322ACN. The instant application seeks a construction permit to enable maximization through alteration of the antenna pattern and height of KXLA-DT. Its location and effective radiated power will remain unchanged.

Transmitter Site

The transmitter site at which KXLA-DT currently operates is located at the Mt Wilson antenna farm – the location from which most television stations in the Los Angeles market operate. The antenna supporting structure serving KXLA-DT is owned by

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American Tower Corporation and is shared with six other television stations: KDOC-TV, KDOC-DT, KJLA-DT, KOCE-TV, KOCE-DT, and KXLA(TV). There is a common antenna shared by the group of stations and split into two arrays to accommodate different patterns necessary for stations in the group to provide protection to other stations. The site plan was shown in Figure 2 of the Technical Statement for the original KXLA-DT construction permit application (File No. BPCDT-19991101AIZ) and is not repeated herein. The tower is covered by FCC Antenna Structure Registration (ASR) Number 1221073. The tower structure itself is 81 meters tall. Antennas mounted on the tower increase the overall height above ground level to 122 meters. The ground elevation at the site is 1739.8 meters above mean sea level. The overall tower height above mean sea level, as reflected in the ASR data, is 1861.8 meters. The tower layout is shown in Figure 2 below.

Facilities

The facilities requested in the application associated with this Technical Statement include continued operation by KXLA-DT at 1000 kW ERP, with a change in the portion of the antenna used by KXLA-DT and a corresponding change in height above average terrain to 949 meters. The change requested in the instant application comprises a modification of the antenna azimuth pattern, generally to fill in nulls and to provide increased field strength in a northerly direction. Complete technical specifications for the proposed facilities are given in Figure 1.

The change in antenna pattern will be accomplished through a move by KXLA-DT from the lower to the upper panel array within the overall antenna, in combination with a modification of the antenna itself. The lower section of the antenna currently used by KXLA-DT has a sculpted pattern oriented to place three major lobes extending from approximately 80 through 305 degrees true (at the half-power points). A null is included in the direction of San Diego to protect a co-channel analog station there. The upper section of the antenna to be used by KXLA-DT, upon grant of the requested facilities, provides better service to all of the market, does not have nulls in the same places, and can be used by KXLA-DT post-transition since there no longer will be a need to protect an analog station in San Diego.

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Modification of the antenna to achieve the proposed change in pattern to the north will require the addition of two columns of panels to the three columns already installed in the antenna upper array. Because of the shape of the column supporting the panels, it is not possible to put the new panels in locations at which no nulls will be created in the azimuth pattern. Consequently, one significant new null will arise from the combination of the new columns of panels with the existing panel columns. That new null has been placed where there is insignificant population served using the current antenna pattern and where, as discussed below in the section on Loss Areas, the same population will nonetheless continue to be served by the new antenna pattern. In all other directions, the contours show an extension of service using the new pattern.

To optimize service to the Los Angeles region from the upper array, different beam tilt values were used on each of the antenna faces in the existing antenna design. Three major lobes were obtained that, after the modification through addition of the two new columns of panels, will have peak values located at 103 degrees, 185 degrees, and 269 degrees True. The corresponding electrical beam tilt values for those panel columns are 1.4 degrees, 1.8 degrees, and 1.4 degrees, respectively. Other techniques also were applied to sculpt the pattern in the desired manner. With the proposed addition of the two new columns of panels, new major lobes will be produced at 2 degrees, 39 degrees, and 325 degrees True. The new lobes will have electrical beam tilt values of 1.0, 1.0, and 1.2 degrees, respectively. With addition of the new columns of panels, peak power gain of the antenna will become 33.88 (15.30 dB) at the lobe maximum toward 269 degrees and a depression angle of 1.4 degrees.

A plot of the relative field azimuthal radiation pattern at the depression angles having maximum radiation in each direction is provided as Figure 3a.¹ Shown in Figure 3b is the relative field azimuthal radiation pattern at the depression angles to the radio horizon

¹ The azimuthal radiation pattern incorporating the maximum radiation in each direction at any depression angle provides the most conservative indication of the potential for interference to other stations. Consequently, it was used in all of the TV_Process studies cited in this statement, thereby offering the greatest possible protection to neighboring stations, and it is provided in the Tech Box of Form 301. This is the approach taken in prior filings for KXLA-DT and the other stations sharing the same common antenna system.

in each direction. Plotted in Figure 3c is the relative field, azimuthal radiation pattern in the horizontal plane. The azimuthal radiation pattern at the depression angles having maximum radiation in each azimuthal direction, expressed in decibels relative to 1 kW (dBk), is plotted in Figure 4a. Figure 4b shows the azimuthal radiation pattern at the depression angles to the radio horizon in each direction in dBk. Figure 4c is a plot of the horizontal plane radiation pattern in dBk. The tabulated azimuthal field and power values used in the derivation of Figures 3a, 3b, and 3c and Figures 4a, 4b, and 4c appear in Figure 5.

Because of the use of different electrical beam tilt values in the six main lobes, six elevation radiation patterns in relative field values are included as Figures 6a, 6b, 6c, 6d, 6e, and 6f, for the 103-, 185-, 269-, 325-, 2-, and 39-degree azimuths, respectively. (The three new elevation patterns were added to the end of the list so that presentation of the patterns for the original three faces of the antenna remained in like-numbered figures relative to their presentation in earlier Technical Statements.) The corresponding elevation power patterns expressed in dBk are plotted in Figures 7a, 7b, 7c, 7d, 7e, and 7f. The related tabulated elevation field and power values are given in Figure 8.

Figure 9 gives the tabulated values of average elevations and contour distances for the nine required radial directions, calculated as prescribed in §73.625(b)(1, 2, and 4). Figure 10 shows the Principal Community (48 dBu) and Noise Limited (42.0 dBu after correction for the dipole factor) contours on a map of the coverage area, as prescribed by §73.625(b)(3)² but based on radials spaced at one-degree intervals around the compass. The location of the Principal Community (48 dBu) (blue) contour is positioned beyond Rancho Palos Verdes, as required by §73.625(a)(1). For comparison purposes, Figure 11 shows the contours of the currently proposed facilities and those of the licensed facilities.

² It should be noted that, because of the complexity of the antenna patterns, the contours provided in the maps included herein were generated with three-dimensional models of the patterns. These models have 360 azimuth values and 72 elevation slices. Use of only the data provided with this Technical Statement or the Form 301 data will not accurately duplicate the contours. Should the Commission require the three-dimensional model, the complete data set can be supplied.

Principal Community Coverage

As required by Section 73.625(a)(1), the DTV transmitter location must be chosen so as to put a minimum F(50,90) field strength of 48 dBu over the entire principal community to be served. Section 73.625(a)(2) further requires that “the location of the antenna must be so chosen that there is not a major obstruction in the path over the principal community to be served.” As demonstrated by the 48 dBu contour on the coverage map of Figure 10, taken alone, the transmitter location chosen, combined with the other characteristics of the transmission system, does deliver the minimum required field strength over the entire principal community to be served. Checklist question number 3, which asks whether “the DTV coverage contour of the proposed facility will encompass the allotted principal community,” therefore is correctly answered “yes.” It is noted, however, that, in an abundance of caution with respect to obstructions in the path that occur within the principal community, it is answered “no” on the application form.

As has been described in previous filings with the Commission with respect to issuance of the initial construction permit underlying the KXLA-DT license, there is a major obstruction in the path centered within the principal community of Rancho Palos Verdes. As was demonstrated to the Commission in the filings that led to the issuance of the KXLA(TV) construction permit,³ there is no available location from which it is possible to obtain unobstructed service to the entirety of the Rancho Palos Verdes community. Consequently, a choice must be made as to which portion of the land area and which corresponding part of the population will receive service and which will not. As the Commission noted in its reconsideration of the Fifth DTV Report and Order, “For either NTSC or DTV, there are situations where line-of-sight coverage over the entire community is not possible. In such situations, licensees should avoid obstruction to the

³ Technical Statement — Response to Informal Objection of Sunbelt Television, Inc. Re: Minor Modification of Licensed Facilities of KXLA(TV)

Technical Statement — Response to Reply to Opposition to Informal Objection of Sunbelt Television, Inc. Re: Minor Modification of Licensed Facilities of KXLA(TV)

extent possible.”⁴ The choice of the Mt Wilson transmitter site results in service to the largest possible portion of the population of Rancho Palos Verdes and thereby avoids obstruction to the extent possible. Moreover, the Commission issued the construction permit underlying the currently outstanding KXLA(TV) and KXLA-DT licenses with full knowledge of this situation.⁵ The present application to modify the KXLA-DT facility does not, indeed cannot, change the situation with respect to the obstruction in the path and does not materially alter the coverage of Rancho Palos Verdes as previously approved by the Commission. The inherent topography of Rancho Palos Verdes determines that situation.

Interference to U.S. Stations

Because of the proposed change in antenna pattern, new interference studies were conducted to confirm that no additional interference, beyond that permitted by the FCC rules, is predicted to be caused by the current proposal. Pre- and post-transition versions of the Commission’s TV_Process program were used to perform the studies. Summaries of the pre- and post-transition studies are shown in Tables 1 and 2, respectively. In the tables, the channel, call sign, city of license, and application record number of each station studied are given in the left four columns. These are followed by the DTV baseline or protected contour population in the fifth column, the total population predicted to be impacted by interference with KXLA-DT assumed to be using the antenna pattern included in the Commission’s DTV Plan (i.e., the licensed KXLA-DT pattern) in the sixth column, and the number of scenarios studied for each station in the seventh column. In the two columns on the right, the populations predicted to be impacted by additional interference with use of the planned modified antenna pattern are shown alongside the percent changes in total population from the DTV plan values. Dashes indicate instances in which the TV_Process program reported that the “proposal causes no interference,” meaning that, without consideration of masking by other

⁴ Memorandum Opinion and Order on Reconsideration of the Fifth Report and Order In the Matter of Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, FCC 98-23, released February 23, 1998, ¶95.

⁵ DA-03-835, adopted March 19, 2003, and released March 21, 2003.

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stations, there were no cells in its initial culling study that were predicted to receive interference. Thus, in these cases, no further examination was required, and the number of scenarios studied was zero.

Table 1 summarizes eleven pre-transition cases for eight stations implicated in the change of the KXLA-DT antenna pattern and therefore requiring analysis. In all situations, the worst-case result is shown in the table. In six of the cases studied, the result was that “the proposal causes no interference;” hence, there are dashes in all the cells on the right side of the table for those cases. In two cases, there were three or four scenarios studied, but the level of interference remained unchanged, leading to zero percent change being indicated in the right-hand column. In one case, eight scenarios were studied, with the result that the interference was shown to be reduced. In yet another case, eight scenarios were studied, with the result that there was a very small increase in interference shown. In the last case, one scenario was studied, with the result that an increase in interference of 1.6815 percent was predicted to occur. Thus, in all but one case, the result of the studies is that either minimal or no new interference is predicted to be caused by the proposed antenna pattern modification to the stations studied. In the one case, an increase in interference is predicted that is within the *de minimis* pre-transition interference criterion. Based on these results, the modified facility requested by RPV should be permissible for pre-transition operation.

Table 2 summarizes one post-transition case implicated in the change of the KXLA-DT antenna pattern and therefore requiring analysis. Again, the worst case result is shown in the table. In the case studied, which is to the requested reference facility of a station seeking a change in channel through a Petition for Rulemaking, the predicted new interference amounts to 0.0220 percent – well within the 0.5 percent criterion for predicted interference increase permitted for post-transition facility modifications. Based on this result, the modified facility requested by RPV should be permissible for post-transition operation.

Table 1 – KXLA-DT Pre-Transition Studies to Neighboring Stations Using FCC TV_Process Program

Chnl	Station	City	ARN	DTV Baseline / Protected Contour	Original Ptn Interference Population	Scen-arios	Pattern Mod Interference Population	% Change
44	KXLA(TV)	Rancho Palos Verdes, CA	BMPCT-20031128AAV	—	—	—	—	—
44	KXLA(TV)	Rancho Palos Verdes, CA	BLCT-20040105ACG	—	—	—	—	—
50	KOCE-TV	Huntington Beach, CA	BSTA-20061027AFZ	—	—	—	—	—
50	KOCE-TV	Huntington Beach, CA	BLET-20040617AAC	15,325,888	286,696	8	291,923	0.0341
51	KNSO(TV)	Merced, CA	BCLT-20021007ACD	—	—	—	—	—
51	KUSI-TV	San Diego, CA	BLCT-19990308KG	2,831,076	222,845	1	270,450	1.6815
52	KVEA(TV)	Corona, CA	BLCT-20030311AOQ	15,214,966	1,889,233	8	1,887,886	-0.0089
52	KESQ-DT	Palm Springs, CA	DTVPLN-DTVP1500	1,521,419	420,105	3	420,105	0.0000
54	KAZA-TV	Avalon, CA	BLCT-20010712AGN	—	—	—	—	—
58	KLCS(TV)	Los Angeles, CA	BLET-20030522AGL	15,049,387	173,174	4	173,174	0.0000
58	KLCS(TV)	Los Angeles, CA	BPET-20080326AJF	—	—	—	—	—

Table 2 – KXLA-DT Post-Transition Studies to Neighboring Stations Using FCC TV_Process Program

Chnl	Station	City	ARN	DTV Baseline / Protected Contour	Original Ptn Interference Population	Scen-arios	Pattern Mod Interference Population	% Change
50	KVMD-DR	Twentynine Palms, CA	BPRM-20080620AOJ	10,032,710	1,264,525	3	1,266,452	0.0220

Consideration of Class A Stations

The Commission's Rules specify protection to be afforded by full service stations to LPTV stations that have achieved Class A status.⁶ For purposes of this application, the Commission's TV_Process program was used to locate any Class A stations that might be impacted by the modification of the KXLA-DT antenna pattern. The TV_Process program reported no contour overlap of the protected contour of any Class A station.

Protection to Mexican Station

The Memorandum of Understanding (MOU) between the FCC and the Secretaria de Comunicaciones y Transportes of Mexico (SCT – subsequently superseded by a governmental organization named COFETEL) requires a minimum separation between co-channel DTV stations of 223 km at UHF and between co-channel DTV and NTSC stations of 244 km at UHF. Since the distance from the KXLA-DT transmitter location to the nearest point on the Mexican border is 207.4 km and since all adjacent-channel separation requirements are considerably less than that value, co-channel considerations are the only ones that apply. Further, the only Mexican state that is within either 223 or 244 km of the KXLA-DT transmitter site is Baja California (BCN). Thus, that is the only Mexican state in which allotments are relevant.

A search of the allotment tables in the MOU show there to be only one assignment on Channel 51 within Baja California – a digital allotment in San Felipe. Using the reference coordinates given for the San Felipe allotment in the MOU, the two stations are separated by 467 km – over double the requirement for co-channel DTV stations. Consequently, while coordination with Mexico may be required, there should be no reason for disapproval of the current request by the Mexican authorities. It meets all of the provisions of the MOU.

⁶ Section 73.613, Protection of Class A TV stations and Section 73.616(f), Post-transition DTV interference protection.

Loss Areas

As shown in Figure 11, there are two areas where the contour of the proposed antenna pattern falls inside the contour of the currently licensed facility. Those areas are a small bulge roughly east of the transmitter site and a triangular area to the west northwest of the transmitter. Studies conducted of the two regions determined the total populations within the shortfall areas and the populations within those areas predicted to receive service from the current and proposed facilities when analyzed using the Longley-Rice terrain sensitive propagation model.

Starting with the region to the east of the transmitter, the contour shortfall has an area of 44.557 km². It has a total population of 812 people. Using the Longley-Rice propagation model, none of those people is predicted to receive a signal having a field strength of 42 dBu or greater from the currently licensed facility. (42 dBu is the noise-limited field strength threshold on Channel 51 after dipole factor correction.) Similarly, none of the people in the eastern shortfall region is predicted to receive a signal having a field strength at or above the noise-limited threshold from the proposed facility.

The triangular contour shortfall region to the west of the transmitter has an area of 957.542 km². It has a total population of 7,462 people. Using the Longley-Rice propagation model, 49 of these people are predicted to receive a signal having a field strength of 42 dBu or greater from the currently licensed. Similarly, 49 people in the western shortfall region are predicted to receive a signal having a field strength of 42 dBu or greater from the proposed facility.

Thus, even though the contour method of comparing the currently licensed and proposed facilities shows a small loss of population (a total of 8,274 people, or 0.0551 percent), the terrain-based prediction of the Longley-Rice propagation model is that there will be no loss of service to a single person in the contour shortfall area. At the same time, the TV_Process program shows a net gain of nearly 49,000 people receiving service. If the Longley-Rice analyses were ignored and only the total population within the contour shortfall areas was considered, the loss would be *de minimis*, but the appropriate

conclusion of the loss area analysis is that there is no loss of service predicted to a single person and a net gain of nearly 49,000.

Environmental Impact / Radio Frequency Radiation

None of the conditions specified in Section 1.1307 that would require the preparation of an Environmental Assessment pertain with respect to the proposed facility at Mt. Wilson, in particular, owing to the fact that Mt. Wilson is an antenna farm and therefore exempted from environmental review under the provisions of Note 3 to Section 1.1306.

With respect to Radio Frequency Radiation exposure, OET Bulletin 65 provides methods for evaluating the level of exposure for both employees (occupational/controlled situations) and non-employees (general population/uncontrolled situations). The combination of the antenna radiation pattern, as provided in the manufacturer's technical specifications, with the antenna height above ground level and the operating power level indicate that the potential exposure would be less than 5 percent of the Maximum Permissible Exposure (MPE) limit for general population / uncontrolled situations. Specifically, application of the formulas provided in OET-65 yields a value of less than one percent of the MPE. Thus the proposed operation is categorically excluded from having to submit a detailed RF exposure analysis of the site.

Notwithstanding the foregoing, RPV recognizes its responsibility for the safety and health of employees and contractors when exposed to RF radiation conditions. It will work cooperatively with the tower site owner, with other broadcasters, and with other licensees sharing the Mt. Wilson antenna farm to coordinate activities so as to maintain a safe environment under all conditions.

Notifications

The proposed site at Mt. Wilson is not in proximity to any of the government radio astronomy installations named in Section 73.1030, nor is it proximate to any of the named radio receiving locations. Furthermore, the nearest FCC monitoring station is over 500 km distant. Thus, none of the notifications mandated by Section 73.1030 is required in this instance.

**Figure 1 — Technical Specifications
Proposed KXLA-DT Facility — Channel 51 — Mt. Wilson, CA**

Frequency

Channel	51
Frequency Band	692-698 MHz
Center Frequency	695 MHz

Location

Site	Mt. Wilson Antenna Farm, CA
Geographic Coordinates (NAD27)	34° 13' 35.3" N 118° 03' 57.7" W
Antenna Structure Registration (ASR) Number	1221073

Elevation

Elevation of site above mean sea level	1739.8 m
Overall height of tower above site elevation	122 m
Overall height of tower above mean sea level	1862 m
Height of antenna radiation center above site elevation	86.2 m
Elevation of average terrain (45-degree spaced radials, 3.2-16.1 km)	889 m
Height of antenna above mean sea level	1838 m
Height of antenna above average terrain (HAAT)	949 m

Antenna

Manufacturer	Radio Frequency Systems
Model	PHP46EB-CH51
Description	Panel array, 46 panels, 10 high – 3 sides, 8 high – 2 sides 5 sides of pentagon
Orientation (rotation around vertical axis)	186° True
Electrical beam tilt in principal lobes (2°, 39°, 103°, 185°, 269°, 325°)	1.0°, 1.0°, 1.4°, 1.8°, 1.4°, 1.2°
Mechanical beam tilt	None
Polarization	Horizontal
Gain (maximum in horizontal plane at 1.4° depression)	2.03 (3.07 dB)
Gain (maximum in vertical plane at 269° azimuth)	22.65 (13.55 dB)
Maximum gain (main beam ⁷)	33.88 (15.30 dB)

Power

Maximum effective radiated power (ERP) (main beam – 1.4° down)	1000 kW
Maximum effective radiated power (ERP) (horizontal plane)	452 kW

⁷ Main beam maximum gain does not equal the product of the horizontal & vertical plane gains (or the sum in dB) because of variations in the depression angle of the main beam with respect to the azimuth value.

KXLA-DT Channel 51 Rancho Palos Verdes, CA

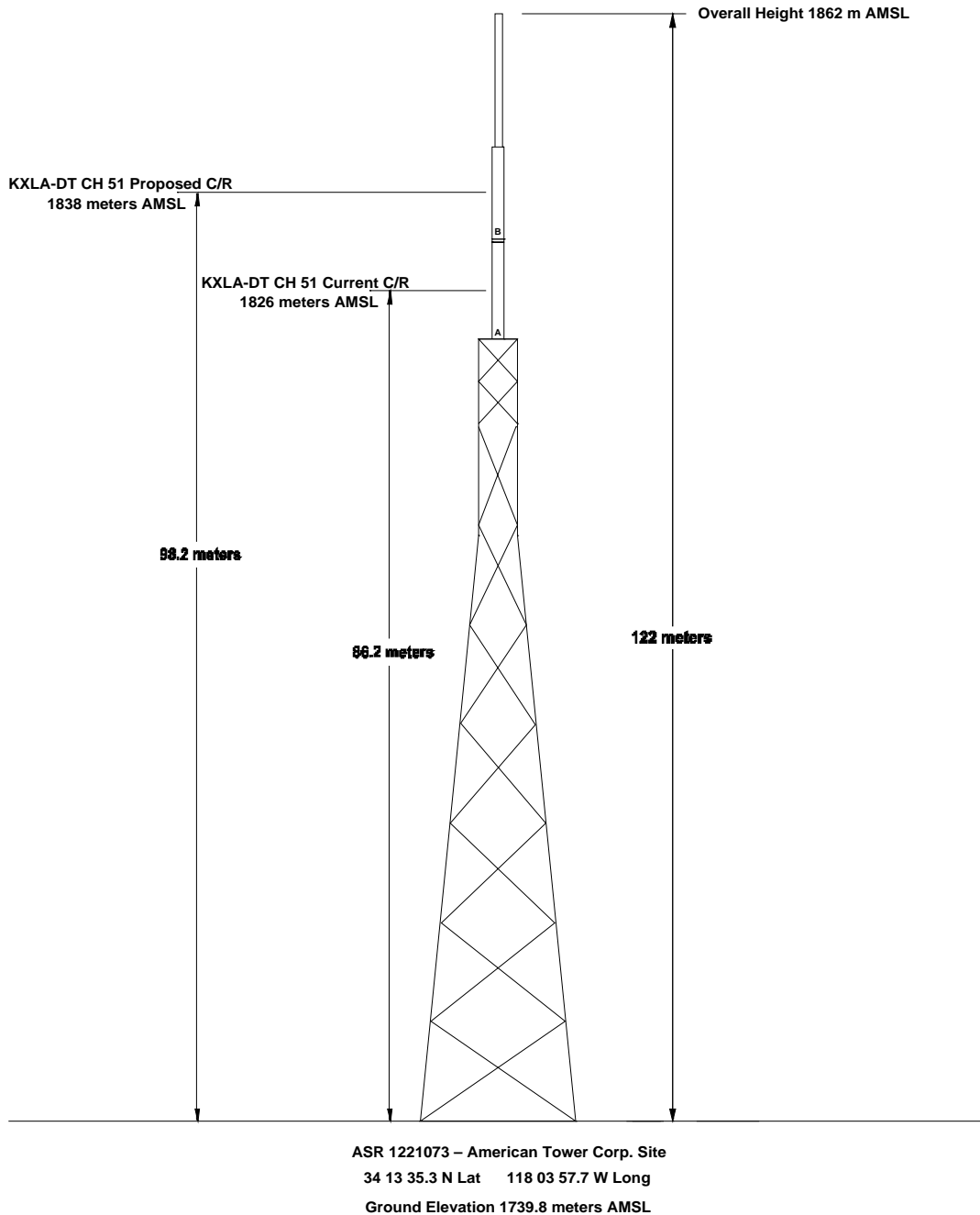
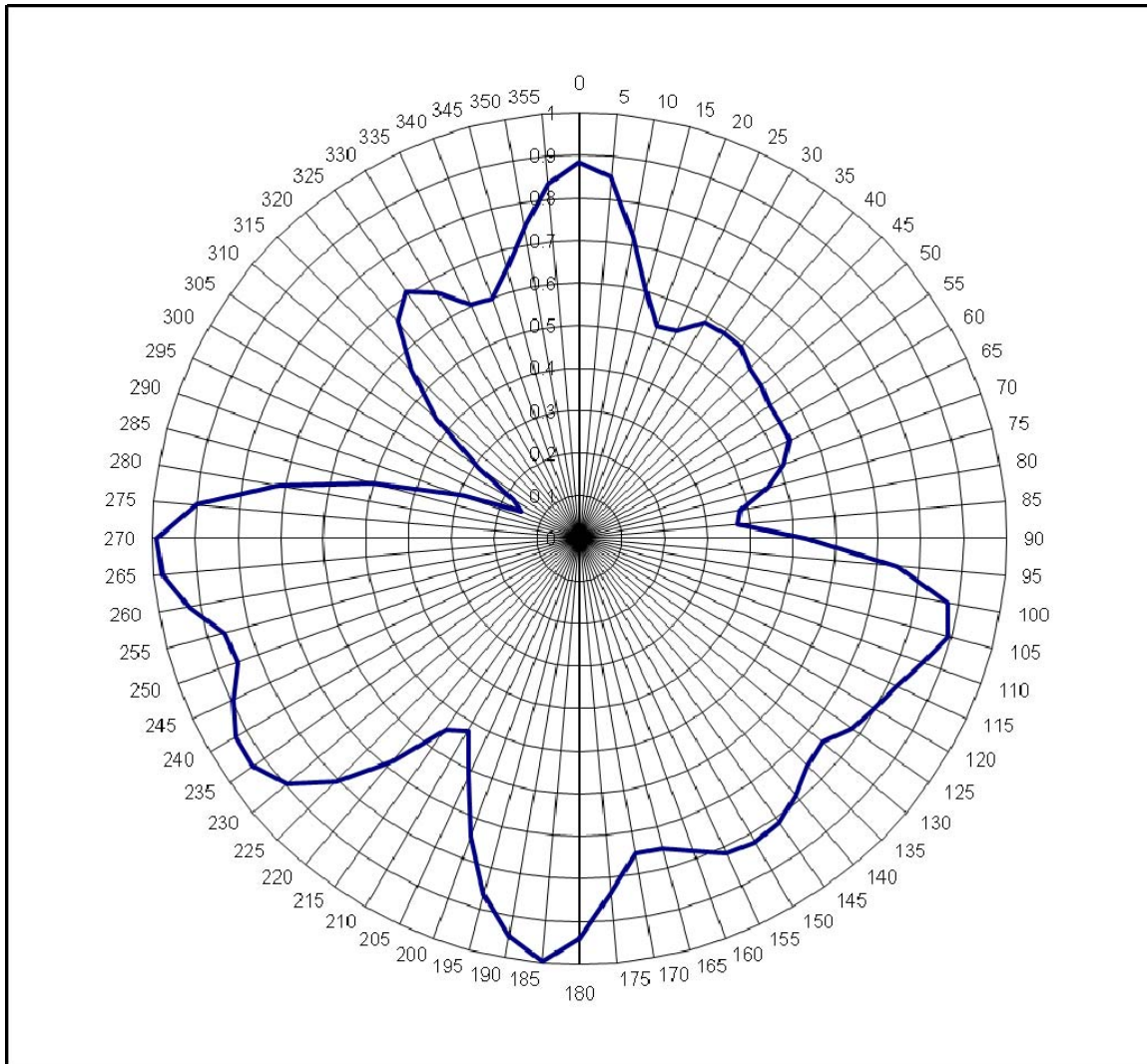


Figure 2
Not to Scale

Merrill Weiss Group, LLC Technical Consultants

KXLA-DT Channel 51 Rancho Palos Verdes, CA

1000 kW ERP 949 m HAAT



Maximum Relative Field Pattern

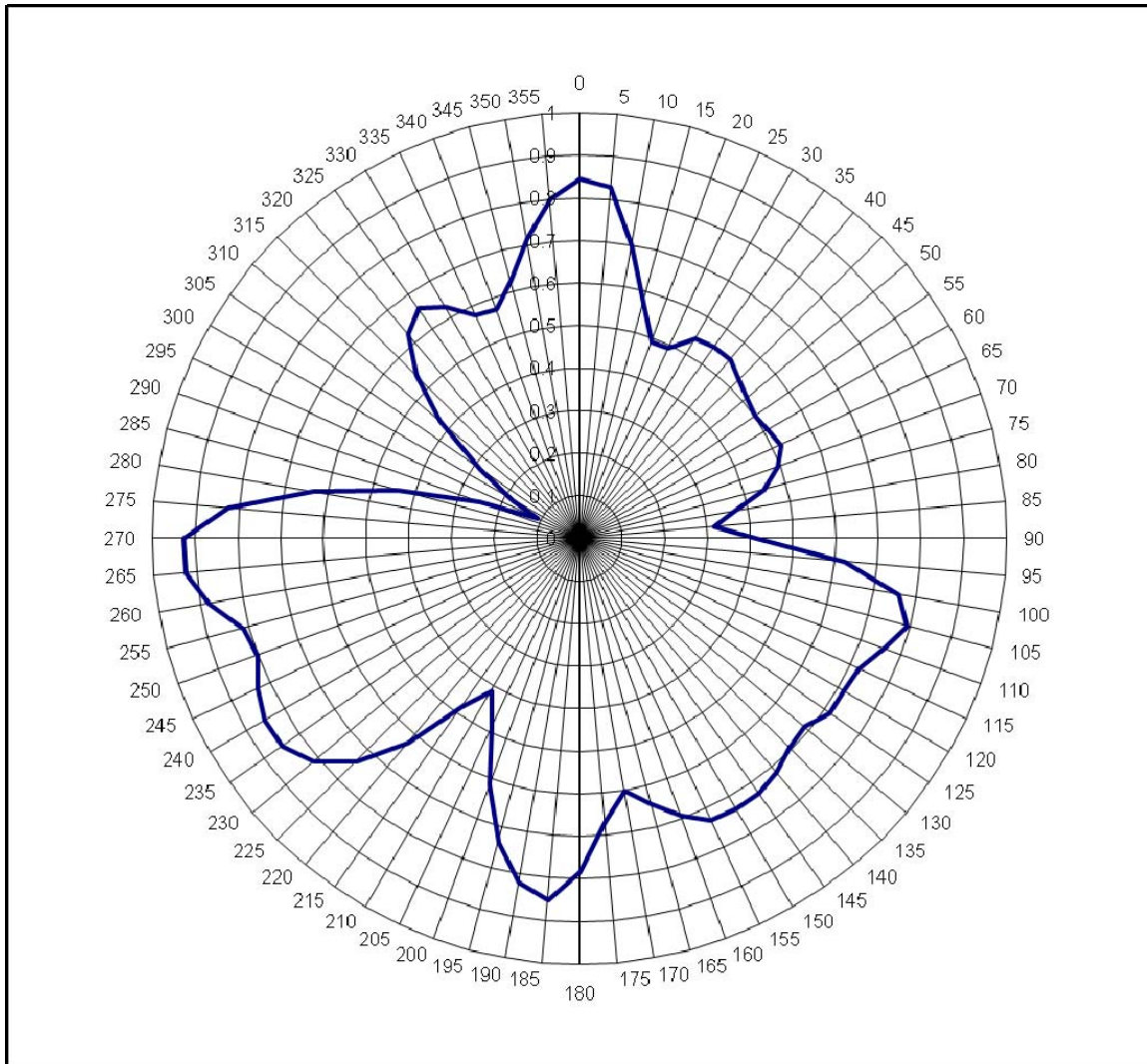
Based on data supplied by manufacturer

RFS PHP46EB-Ch51

Figure 3a

KXLA-DT Channel 51 Rancho Palos Verdes, CA

1000 kW ERP 949 m HAAT



Radio Horizon Relative Field Pattern

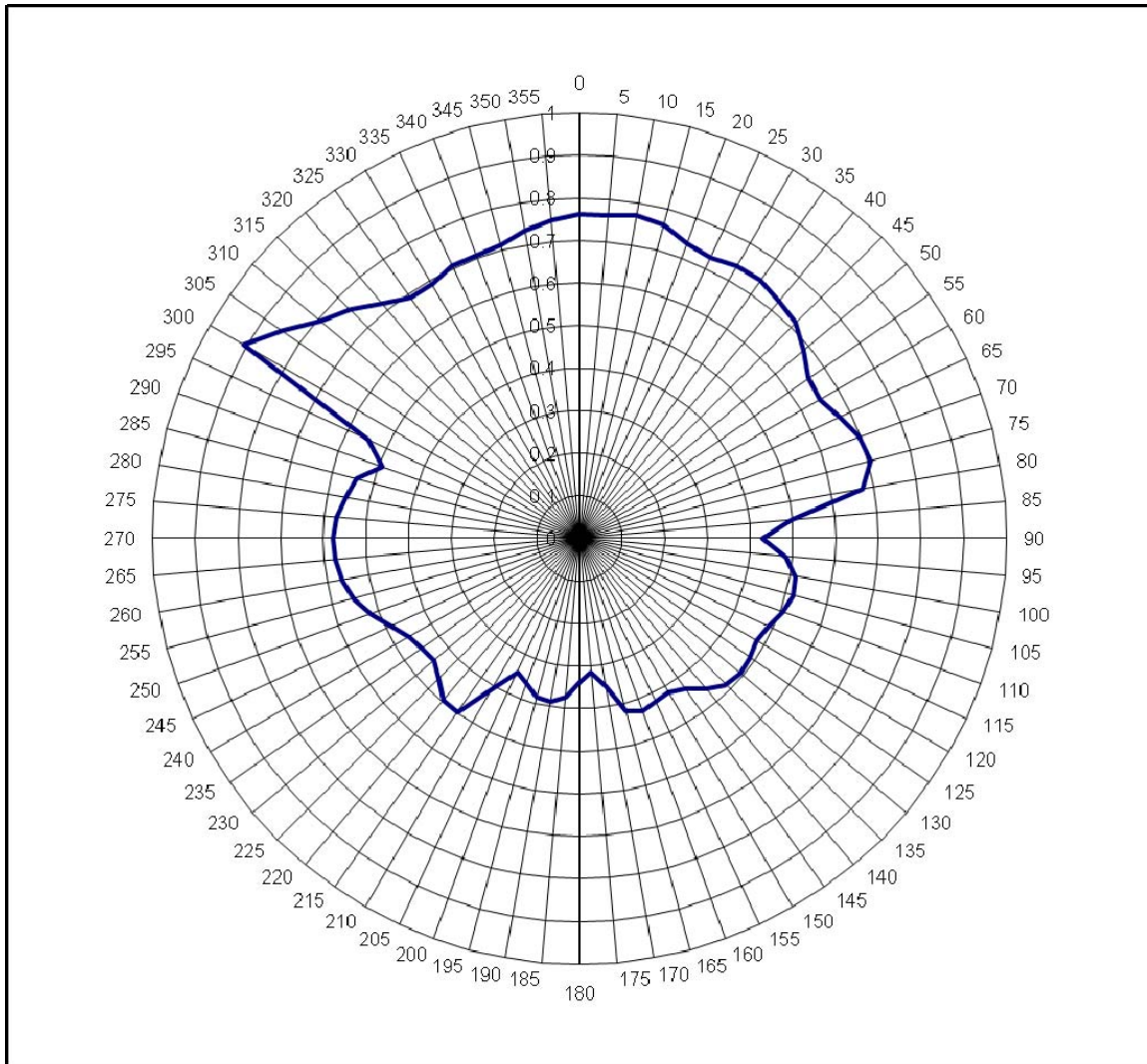
Based on data supplied by manufacturer

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Figure 3b

KXLA-DT Channel 51 Rancho Palos Verdes, CA

1000 kW ERP 949 m HAAT



Horizontal Plane Relative Field Pattern

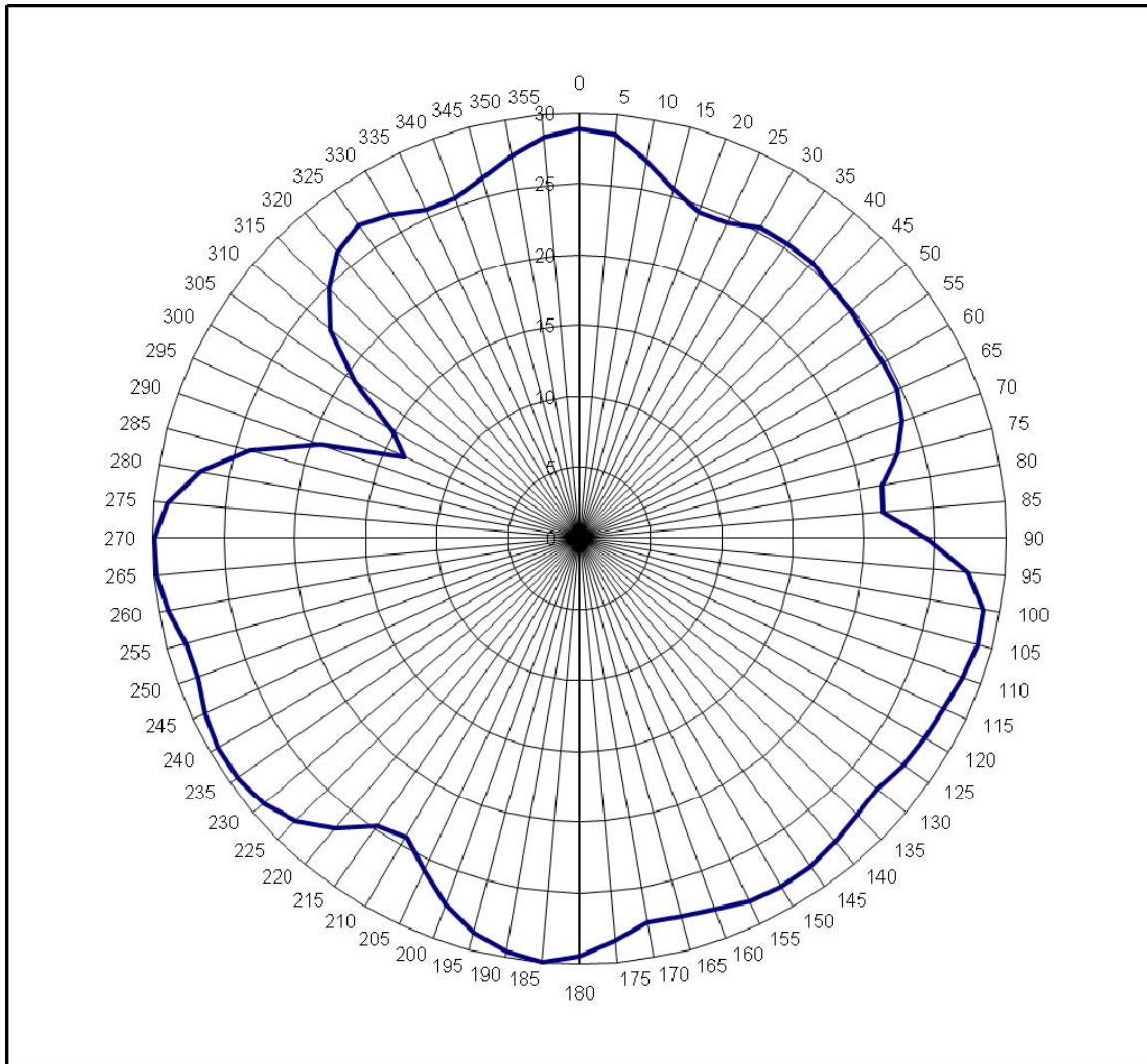
Based on data supplied by manufacturer

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Figure 3c

KXLA-DT Channel 51 Rancho Palos Verdes, CA

30.0 dBk at 269 Degrees



Maximum Effective Radiated Power (dBk)

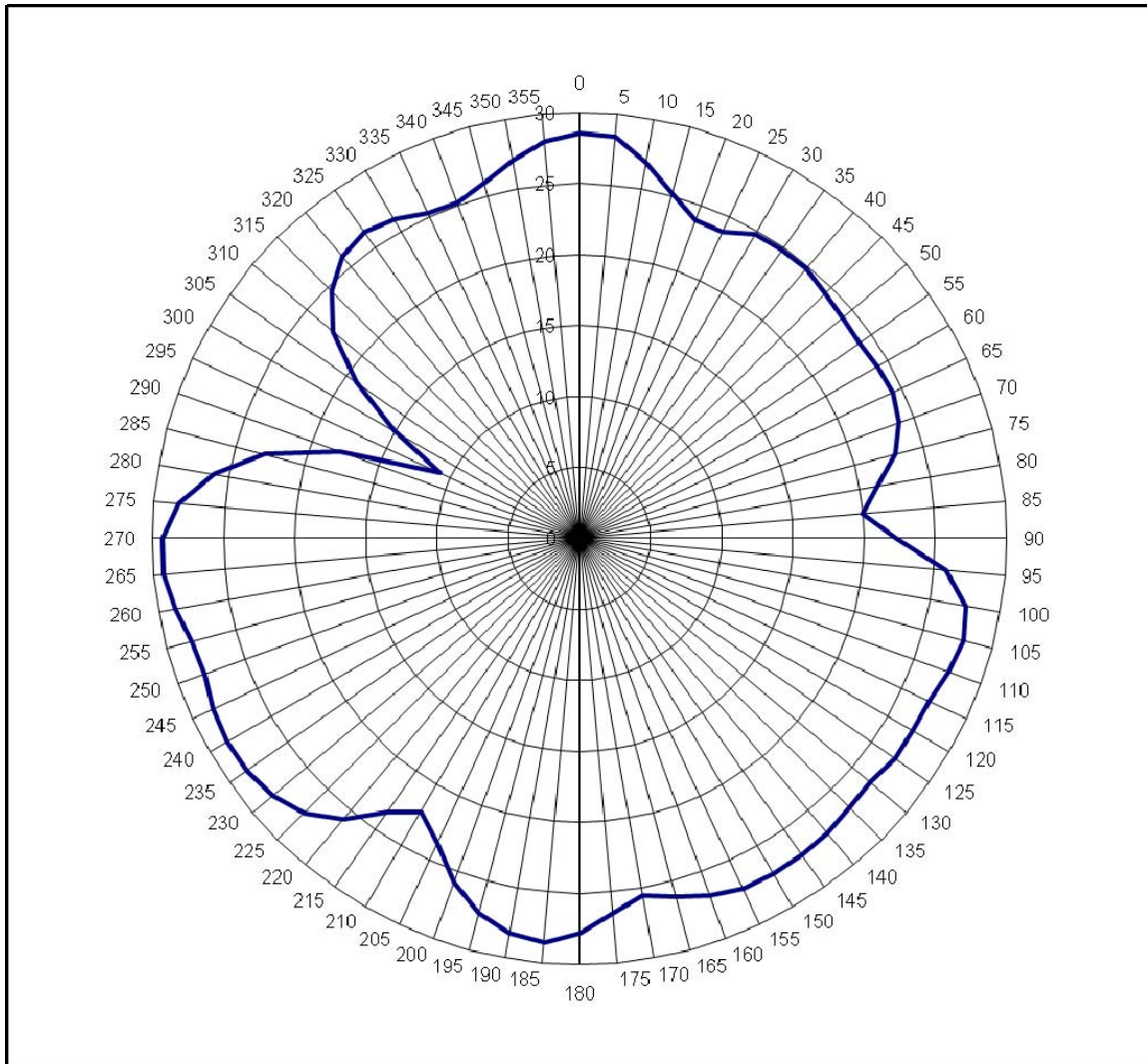
Based on data supplied by manufacturer

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Figure 4a

KXLA-DT Channel 51 Rancho Palos Verdes, CA

29.36 dBk at 270 Degrees



Radio Horizon Effective Radiated Power (dBk)

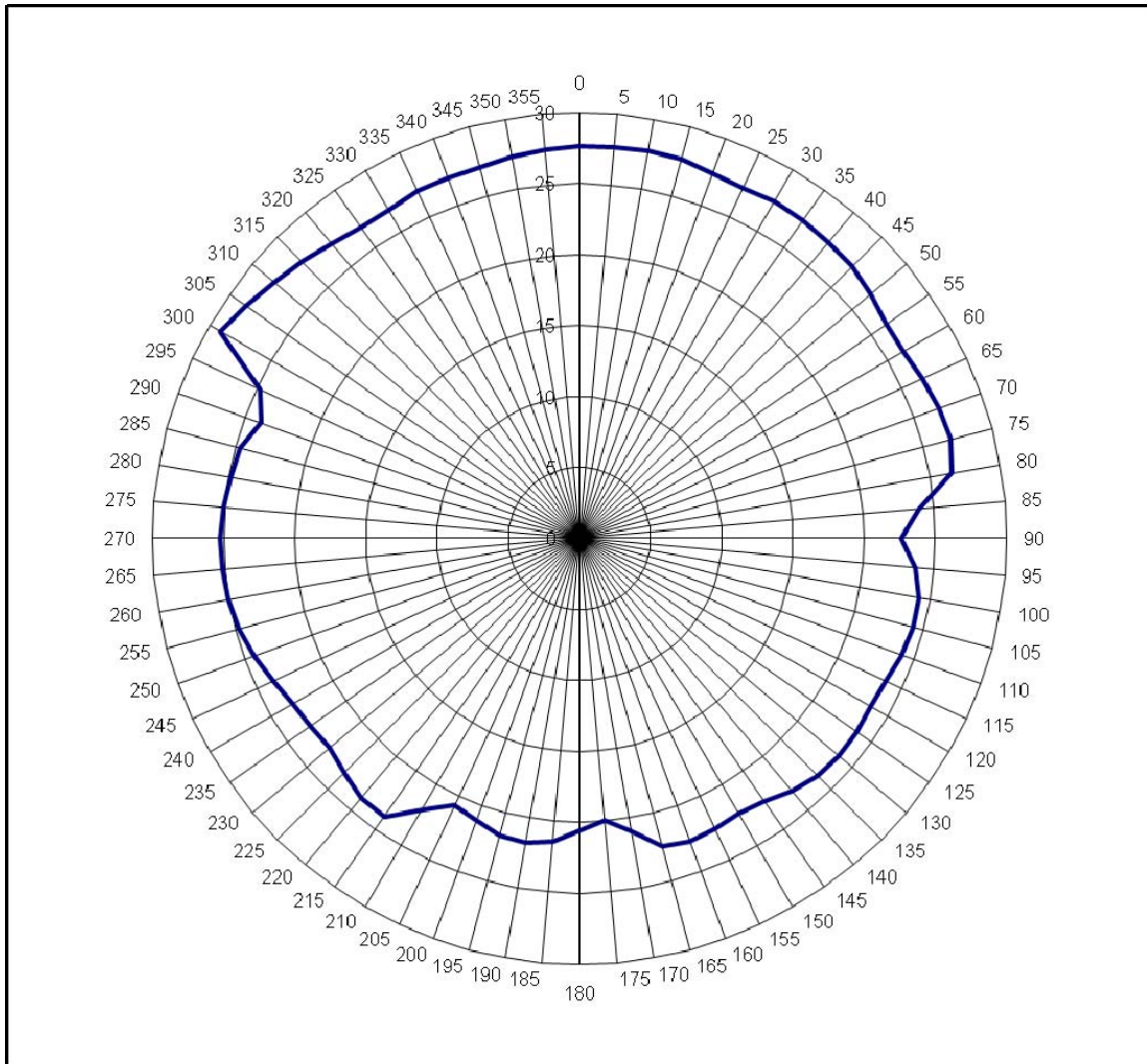
Based on data supplied by manufacturer

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Figure 4b

KXLA-DT Channel 51 Rancho Palos Verdes, CA

29.19 dBk at 300 Degrees



Horizontal Plane Effective Radiated Power (dBk)

Based on data supplied by manufacturer

RFS PHP46EB-Ch51

Figure 4c

**Figure 5 — Tabulation of Azimuth Pattern Radiation Data
RFS Model PHP46EB Antenna — Channel 51**

Bearing	Radio Horizon— Depression	Radio Horizon — Field	Radio Horizon — dBk	Horizontal Plane — Field	Horizontal Plane — dBk	Maximum Pattern — Depression	Maximum Pattern — Field	Maximum Pattern — dBk
0	0.58	0.8447	28.53	0.7608	27.63	1.0	0.8821	28.91
5	0.64	0.8282	28.36	0.7621	27.64	0.9	0.8520	28.61
10	0.62	0.6978	26.87	0.7691	27.72	0.9	0.7184	27.13
15	0.56	0.5732	25.17	0.7614	27.63	1.0	0.6015	25.58
20	0.53	0.4920	23.84	0.7364	27.34	1.0	0.5300	24.49
25	0.50	0.4926	23.85	0.7267	27.23	1.1	0.5376	24.61
30	0.50	0.5425	24.69	0.7392	27.38	1.0	0.5860	25.36
35	0.50	0.5487	24.79	0.7413	27.40	1.0	0.5904	25.42
40	0.54	0.5487	24.79	0.7277	27.24	1.0	0.5889	25.40
45	0.56	0.5266	24.43	0.7166	27.11	1.1	0.5655	25.05
50	0.58	0.5113	24.17	0.6862	26.73	1.1	0.5580	24.93
55	0.66	0.5012	24.00	0.6572	26.35	1.2	0.5441	24.71
60	0.73	0.5113	24.17	0.6537	26.31	1.2	0.5454	24.73
65	0.77	0.5204	24.33	0.6748	26.58	1.2	0.5450	24.73
70	0.79	0.4939	23.87	0.6988	26.89	1.1	0.5115	24.18
75	0.85	0.4444	22.96	0.7080	27.00	1.1	0.4552	23.16
80	0.88	0.3662	21.27	0.6756	26.59	1.3	0.3817	21.63
85	0.84	0.3148	19.96	0.5008	23.99	1.6	0.3741	21.46
90	0.72	0.4135	22.33	0.4297	22.66	1.6	0.5308	24.50
95	0.73	0.6222	25.88	0.4873	23.76	1.5	0.7494	27.49
100	0.77	0.7581	27.59	0.5137	24.21	1.5	0.8793	28.88
105	0.84	0.7939	28.00	0.5191	24.31	1.5	0.8963	29.05
110	0.85	0.7560	27.57	0.5078	24.11	1.5	0.8582	28.67
115	0.87	0.7212	27.16	0.4889	23.78	1.5	0.8199	28.28
120	0.93	0.7151	27.09	0.4790	23.61	1.5	0.7991	28.05
125	0.98	0.7140	27.07	0.4883	23.77	1.5	0.7807	27.85
130	1.02	0.6869	26.74	0.4931	23.86	1.5	0.7432	27.42
135	1.04	0.6945	26.83	0.4844	23.70	1.6	0.7545	27.55
140	1.06	0.7163	27.10	0.4604	23.26	1.6	0.7882	27.93
145	1.06	0.7292	27.26	0.4290	22.65	1.7	0.8147	28.22
150	1.07	0.7327	27.30	0.4149	22.36	1.7	0.8232	28.31
155	1.09	0.7282	27.24	0.4234	22.54	1.7	0.8147	28.22
160	1.09	0.6928	26.81	0.4318	22.71	1.7	0.7800	27.84
165	1.08	0.6444	26.18	0.4195	22.45	1.8	0.7520	27.52
170	1.08	0.6000	25.56	0.3516	20.92	1.9	0.7492	27.49
175	1.08	0.6695	26.52	0.3151	19.97	1.9	0.8364	28.45
180	1.08	0.7809	27.85	0.3394	20.61	1.9	0.9399	29.46
185	1.09	0.8516	28.60	0.3719	21.41	1.8	0.9961	29.97
190	1.09	0.8197	28.27	0.3895	21.81	1.8	0.9501	29.56
195	1.09	0.7387	27.37	0.3851	21.71	1.8	0.8652	28.74
200	1.08	0.6163	25.80	0.3618	21.17	1.9	0.7459	27.45
205	1.08	0.4862	23.74	0.3457	20.77	2.0	0.6145	25.77
210	1.08	0.4115	22.29	0.4024	22.09	2.0	0.5211	24.34
215	1.07	0.4790	23.61	0.4971	23.93	1.8	0.5471	24.76
220	1.07	0.6238	25.90	0.4944	23.88	1.6	0.6829	26.69
225	1.07	0.7390	27.37	0.4663	23.37	1.6	0.8076	28.14
230	1.05	0.8128	28.20	0.4458	22.98	1.6	0.8943	29.03
235	1.03	0.8511	28.60	0.4504	23.07	1.6	0.9342	29.41
240	1.02	0.8545	28.63	0.4619	23.29	1.5	0.9322	29.39
245	1.01	0.8339	28.42	0.4872	23.75	1.5	0.8979	29.06
250	0.99	0.8037	28.10	0.5197	24.32	1.4	0.8531	28.62
255	0.98	0.8171	28.25	0.5483	24.78	1.4	0.8602	28.69

Technical Statement — KXLA-DT Construction Permit for Antenna Pattern Change

Bearing	Radio Horizon— Depression	Radio Horizon — Field	Radio Horizon — dBk	Horizontal Plane — Field	Horizontal Plane — dBk	Maximum Pattern — Depression	Maximum Pattern — Field	Maximum Pattern — dBk
260	0.96	0.8825	28.91	0.5652	25.04	1.4	0.9299	29.37
265	0.93	0.9280	29.35	0.5753	25.20	1.4	0.9818	29.84
270	0.88	0.9289	29.36	0.5797	25.26	1.4	0.9924	29.93
275	0.82	0.8264	28.34	0.5729	25.16	1.4	0.9027	29.11
280	0.76	0.6366	26.08	0.5562	24.90	1.4	0.7185	27.13
285	0.77	0.4429	22.93	0.5417	24.68	1.4	0.5040	24.05
290	0.78	0.2489	17.92	0.4927	23.85	1.6	0.2943	19.38
295	0.74	0.1105	10.87	0.5461	24.75	1.9	0.1507	13.56
300	0.73	0.1800	15.11	0.9105	29.19	0.8	0.1803	15.12
305	0.68	0.2869	19.15	0.8512	28.60	0.9	0.2888	19.21
310	0.66	0.4286	22.64	0.7950	28.01	0.9	0.4378	22.83
315	0.69	0.5417	24.68	0.7587	27.60	1.0	0.5574	24.92
320	0.63	0.6270	25.95	0.7195	27.14	1.1	0.6643	26.45
325	0.64	0.6597	26.39	0.6906	26.78	1.1	0.7077	27.00
330	0.68	0.6283	25.96	0.6898	26.77	1.1	0.6648	26.45
335	0.69	0.5782	25.24	0.7067	26.98	1.1	0.6051	25.64
340	0.70	0.5729	25.16	0.7064	26.98	1.1	0.5981	25.54
345	0.68	0.6272	25.95	0.7128	27.06	1.1	0.6560	26.34
350	0.66	0.7135	27.07	0.7326	27.30	1.0	0.7420	27.41
355	0.61	0.8008	28.07	0.7492	27.49	1.0	0.8359	28.44
360	0.58	0.8447	28.53	0.7608	27.63	1.0	0.8821	28.91

Derived from data supplied by manufacturer

KXLA-DT Channel 51 Rancho Palos Verdes, CA

Relative Field Elevation Pattern

RFS PHP46EB-Ch51 at 103 Degrees Azimuth

Based on data supplied by manufacturer

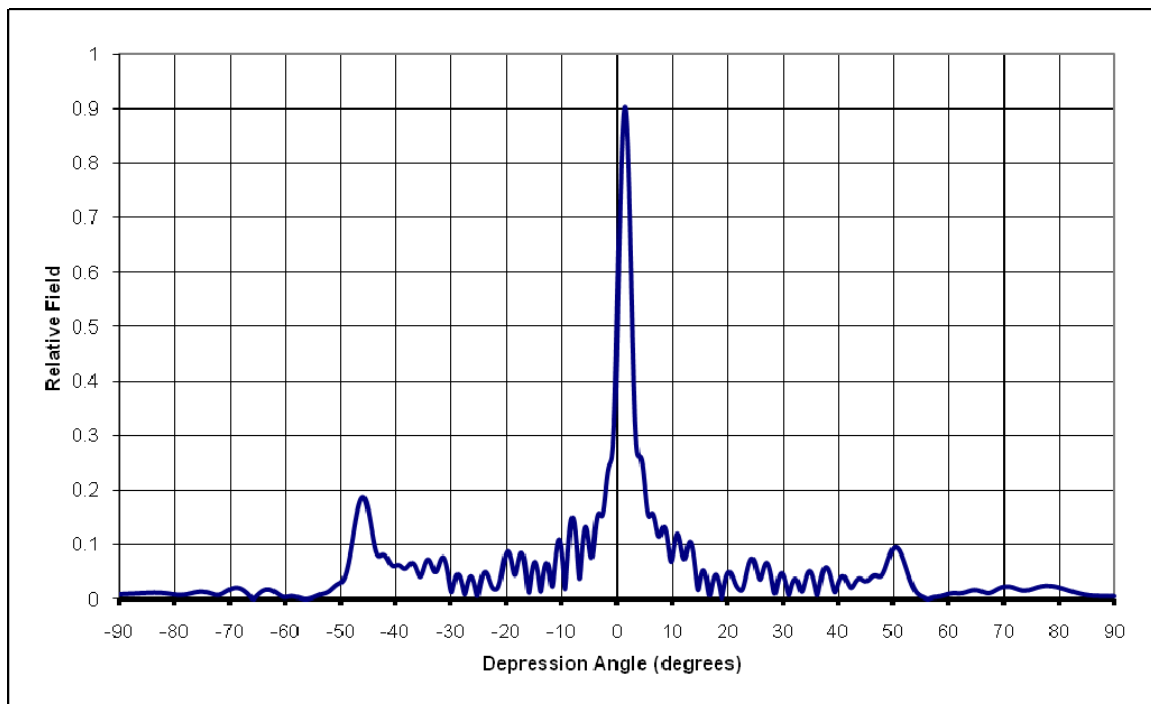
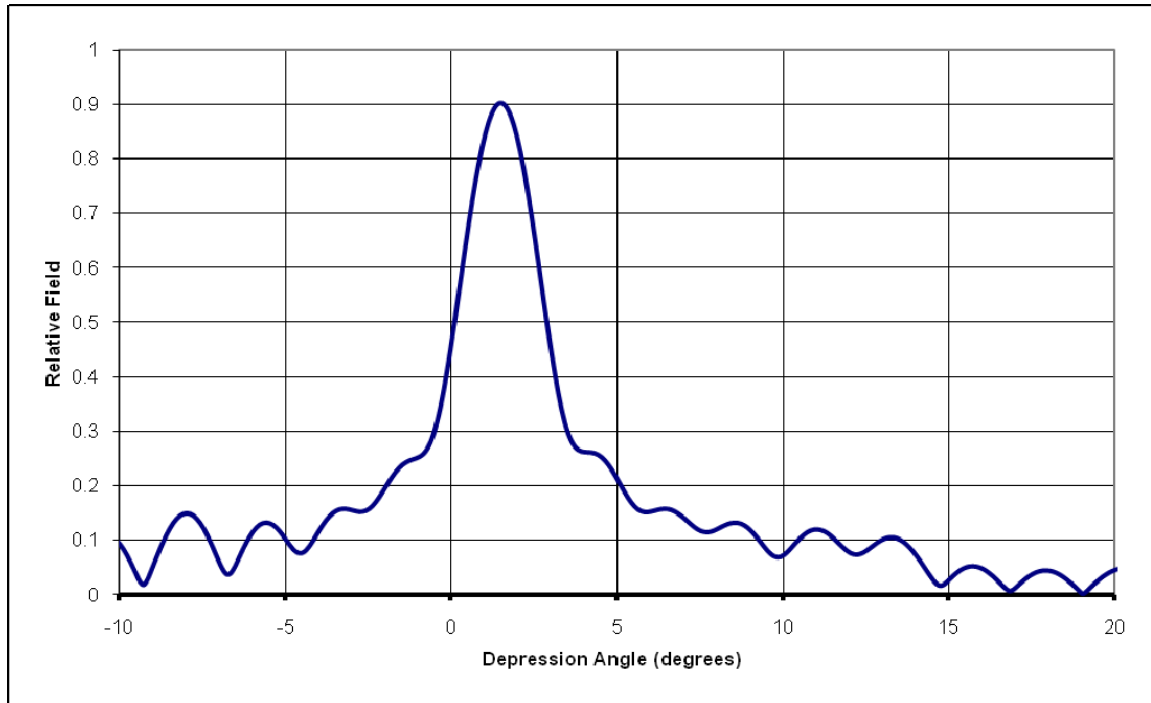


Figure 6a

KXLA-DT Channel 51 Rancho Palos Verdes, CA

Relative Field Elevation Pattern

RFS PHP46EB-Ch51 at 185 Degrees Azimuth

Based on data supplied by manufacturer

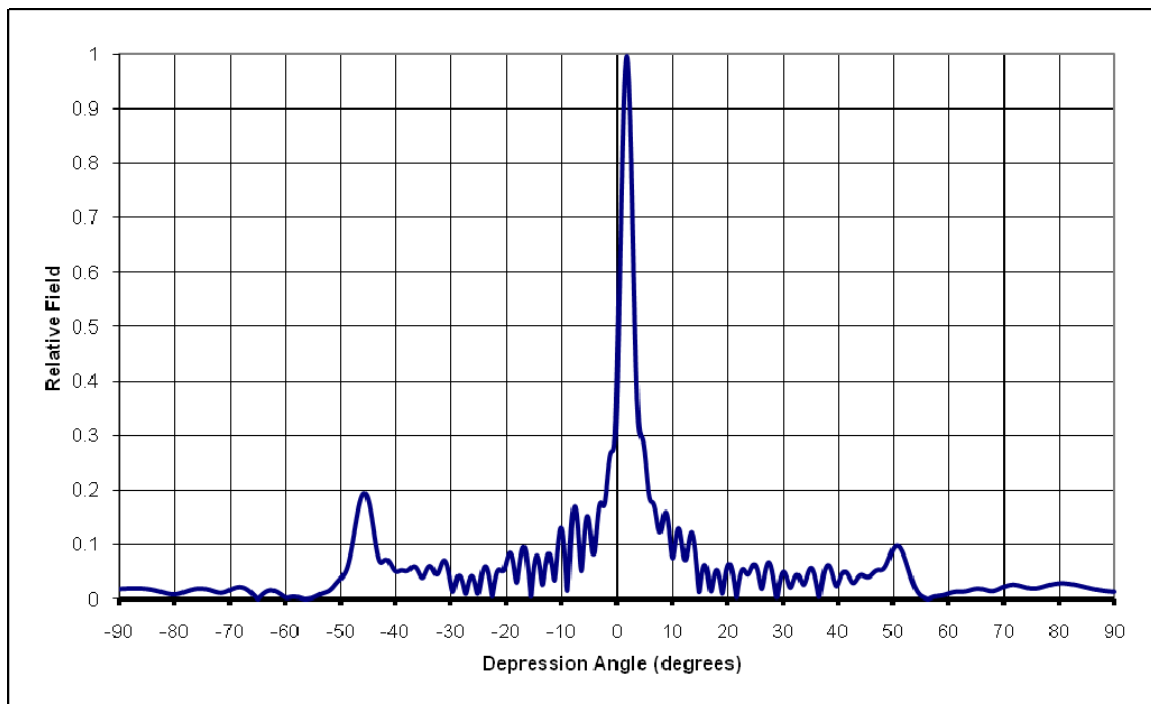
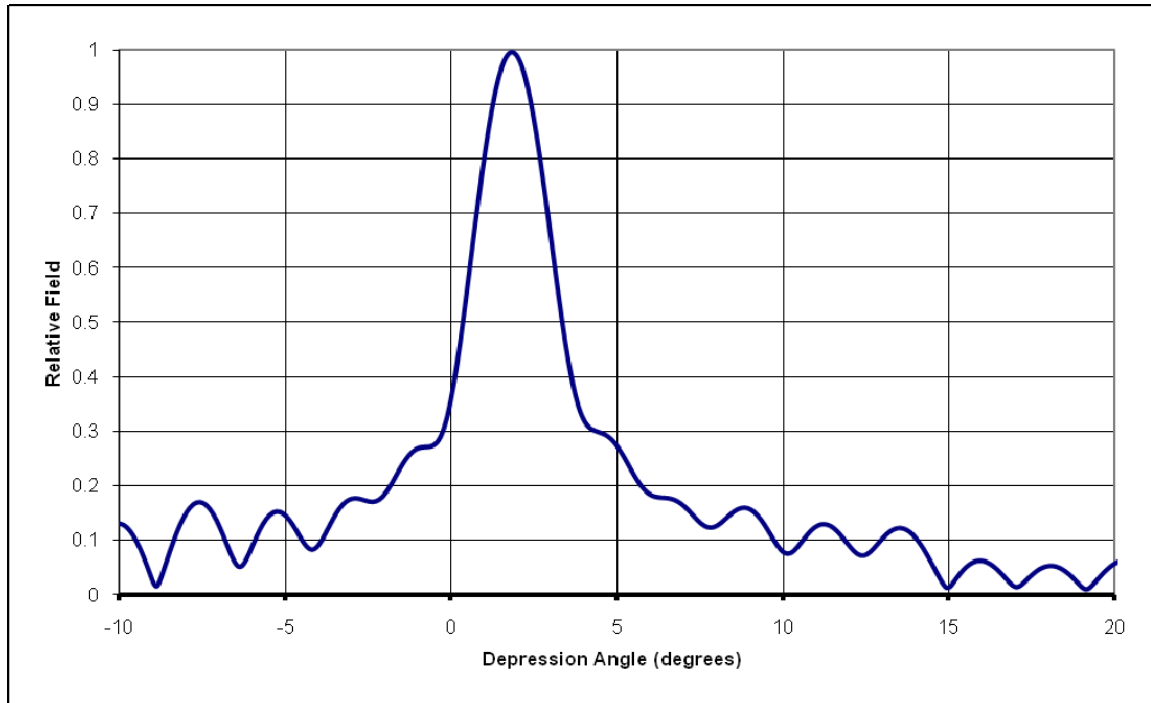


Figure 6b

KXLA-DT Channel 51 Rancho Palos Verdes, CA

Relative Field Elevation Pattern

RFS PHP46EB-Ch51 at 269 Degrees Azimuth

Based on data supplied by manufacturer

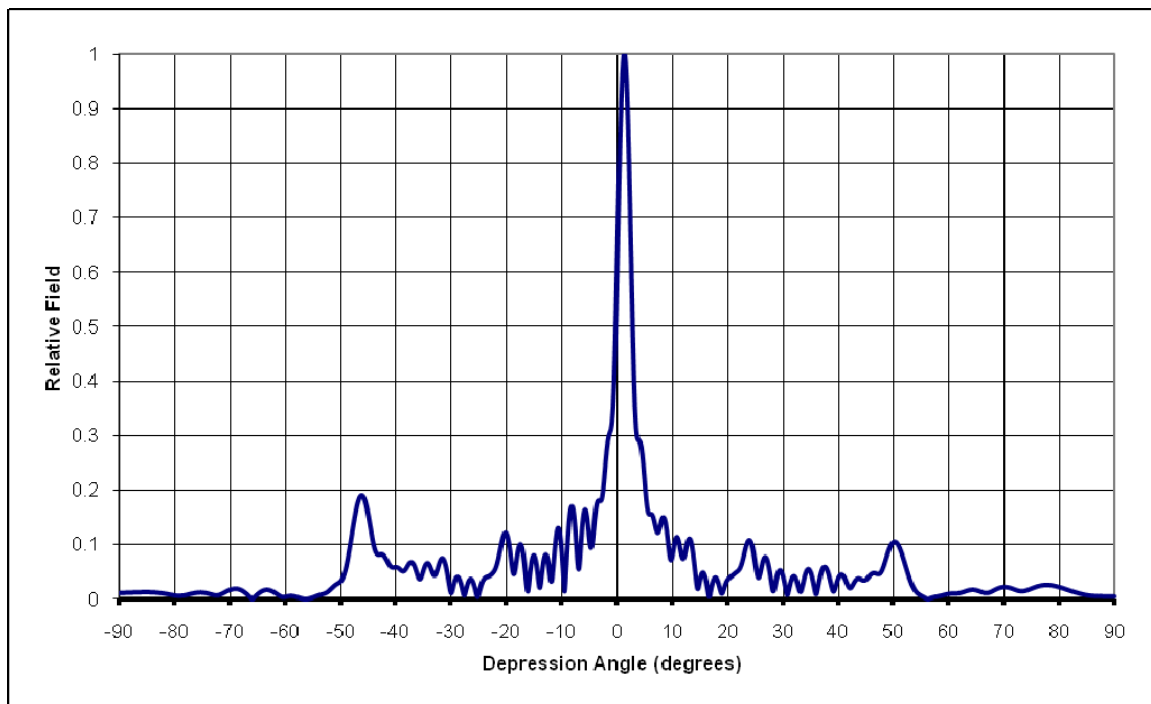
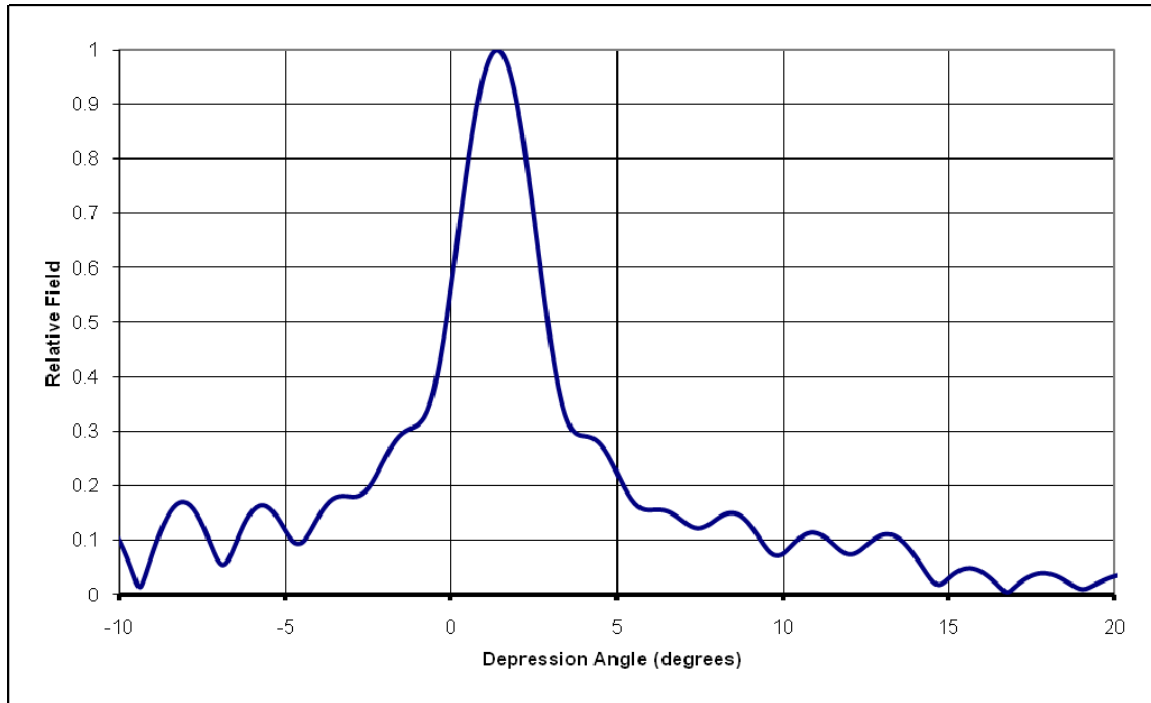


Figure 6c

KXLA-DT Channel 51 Rancho Palos Verdes, CA

Relative Field Elevation Pattern

RFS PHP46EB-Ch51 at 325 Degrees Azimuth

Based on data supplied by manufacturer

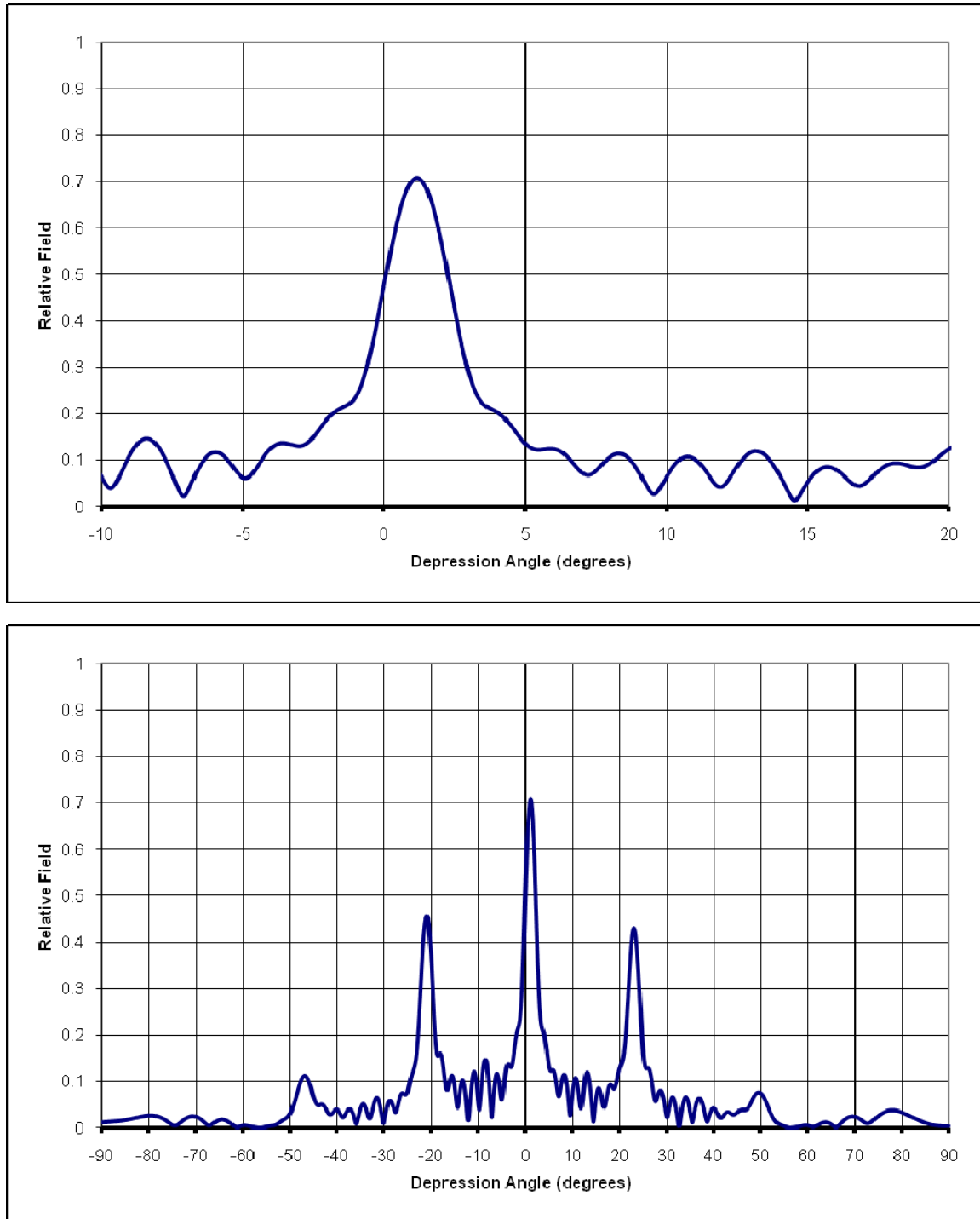


Figure 6d

KXLA-DT Channel 51 Rancho Palos Verdes, CA

Relative Field Elevation Pattern

RFS PHP46EB-Ch51 at 2 Degrees Azimuth

Based on data supplied by manufacturer

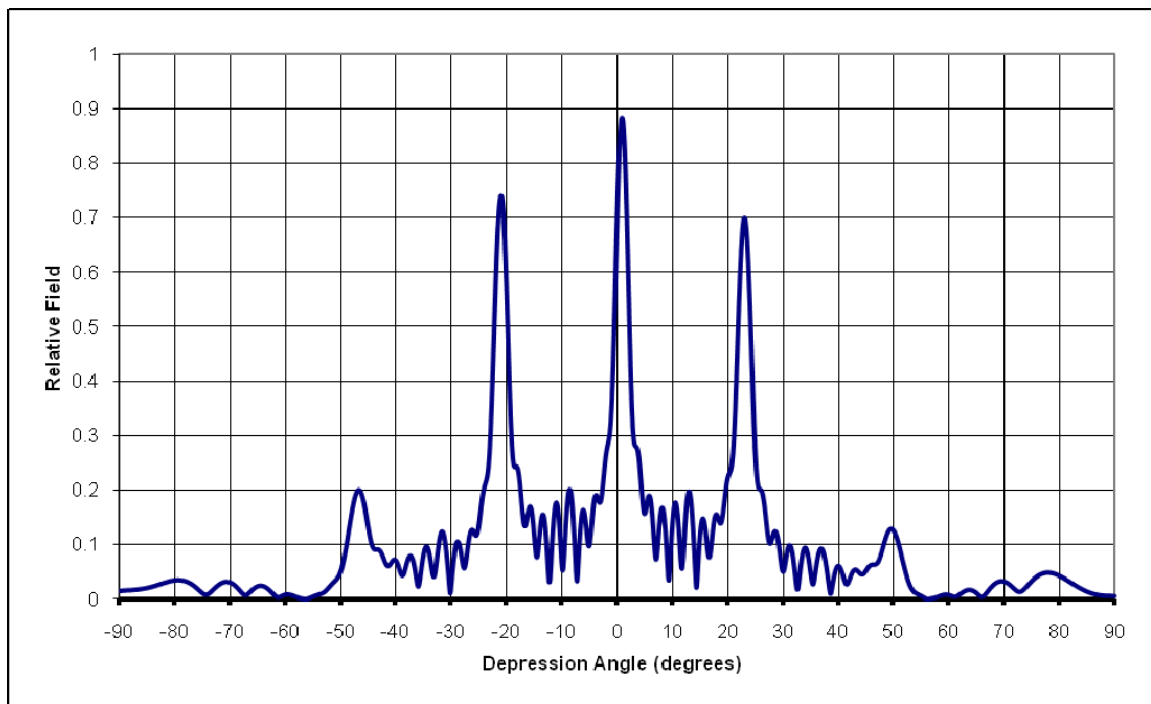
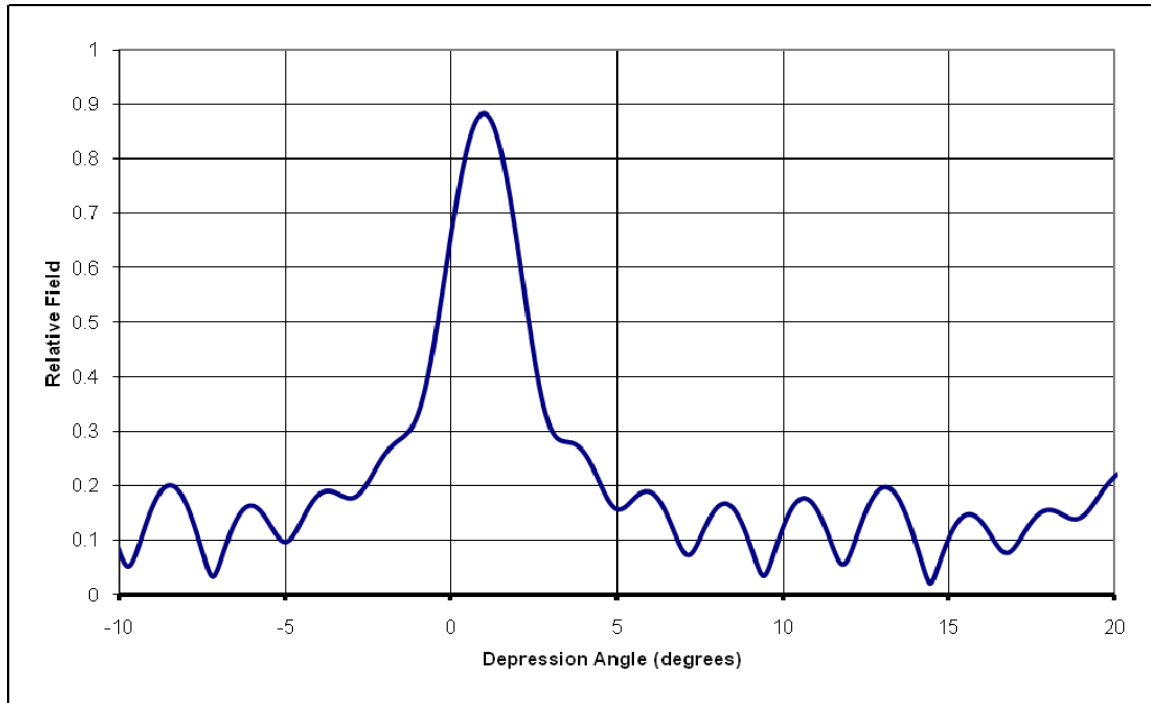


Figure 6e

KXLA-DT Channel 51 Rancho Palos Verdes, CA

Relative Field Elevation Pattern

RFS PHP46EB-Ch51 at 39 Degrees Azimuth

Based on data supplied by manufacturer

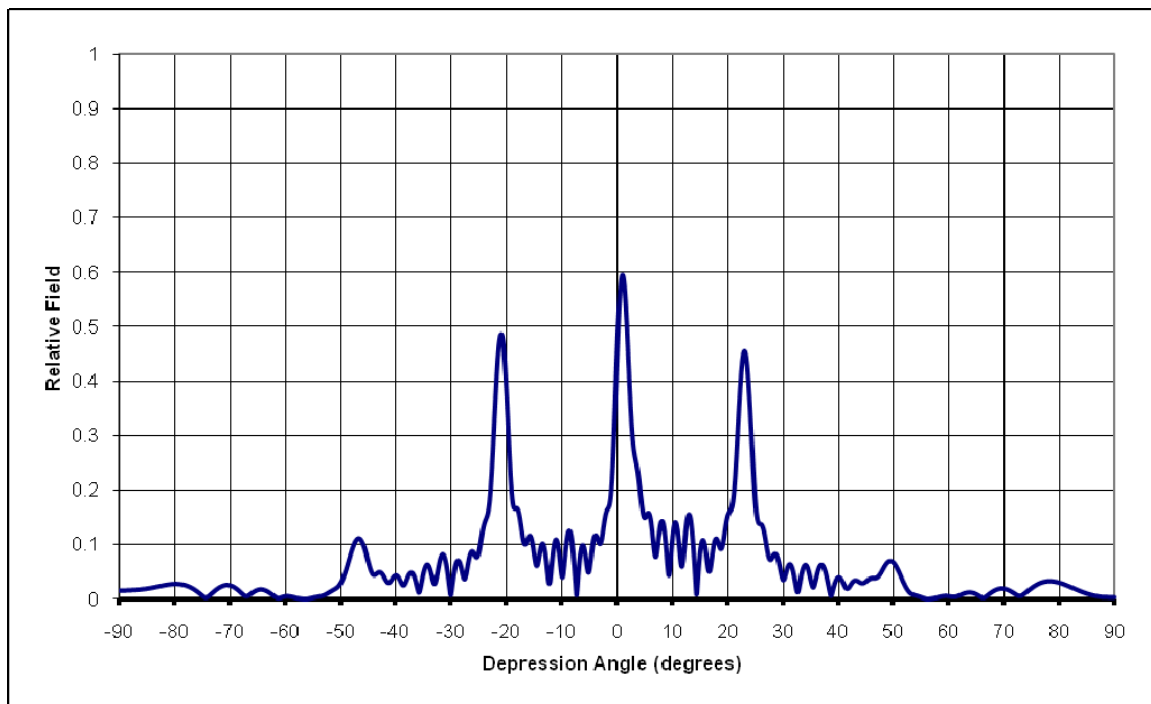
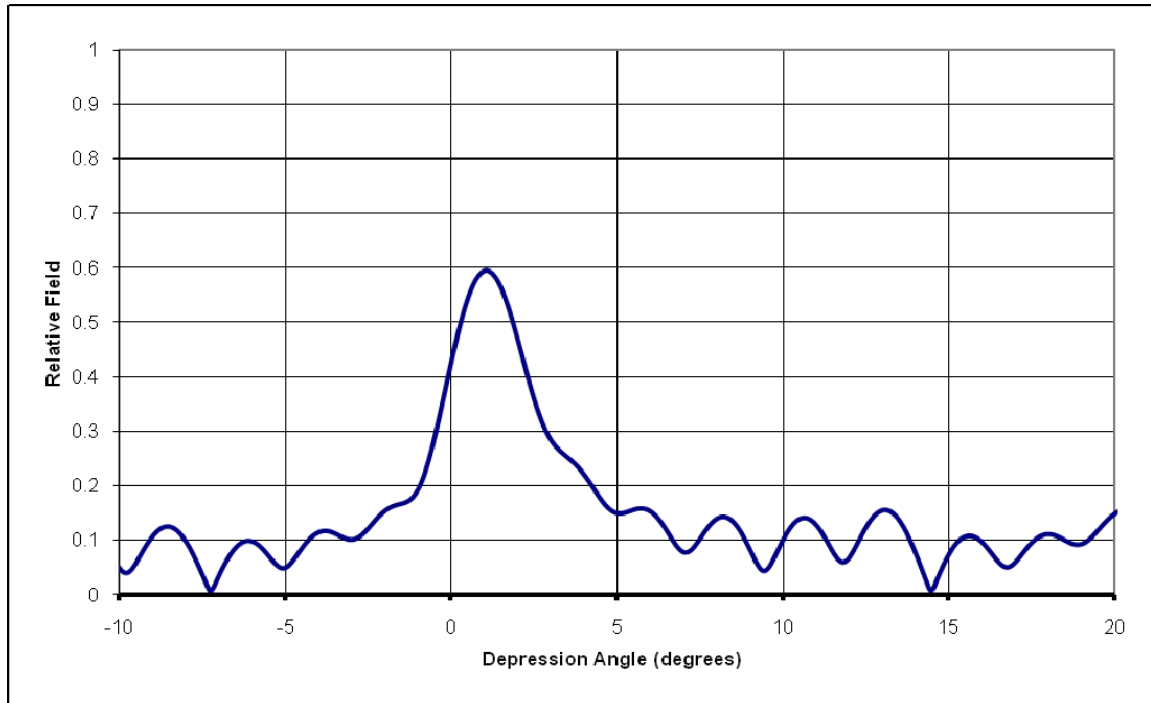


Figure 6f

KXLA-DT Channel 51 Rancho Palos Verdes, CA
Effective Radiated Power Elevation Pattern (dBk)

RFS PHP46EB-Ch51 at 103 Degrees Azimuth
Based on data supplied by manufacturer

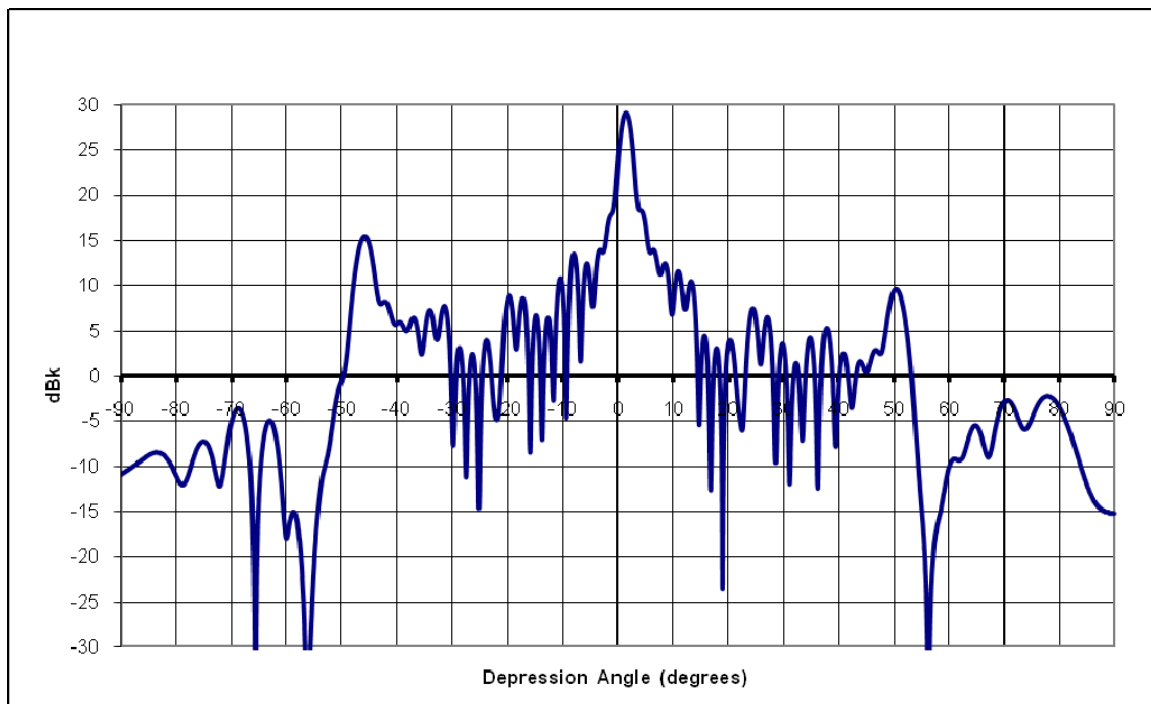
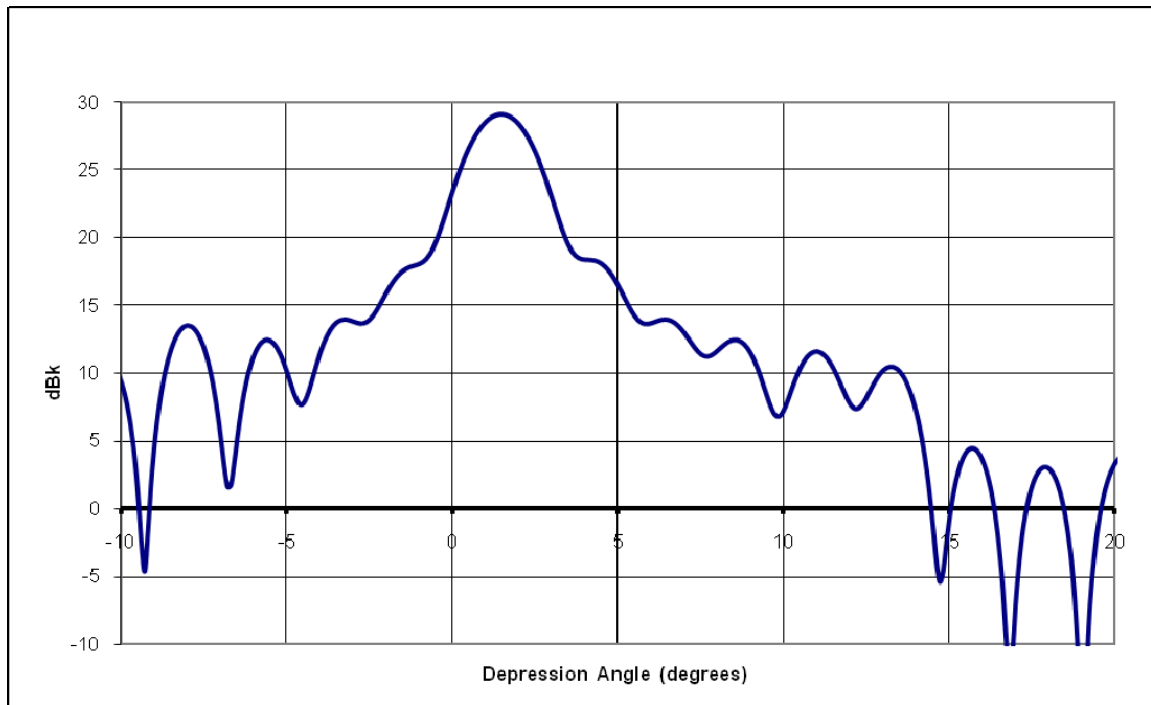


Figure 7a

KXLA-DT Channel 51 Rancho Palos Verdes, CA
Effective Radiated Power Elevation Pattern (dBk)
RFS PHP46EB-Ch51 at 185 Degrees Azimuth
Based on data supplied by manufacturer

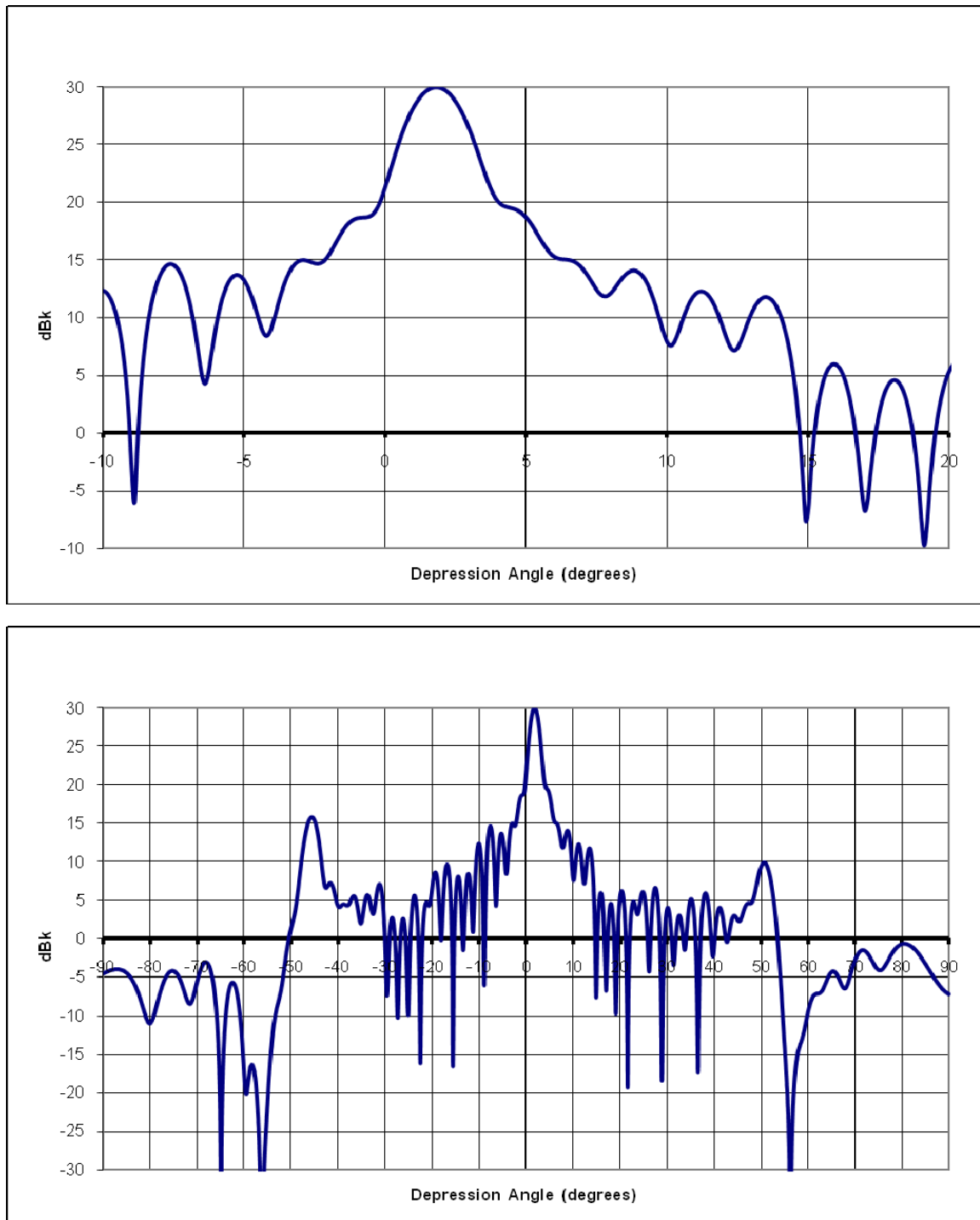


Figure 7b

KXLA-DT Channel 51 Rancho Palos Verdes, CA
Effective Radiated Power Elevation Pattern (dBk)

RFS PHP46EB-Ch51 at 269 Degrees Azimuth
Based on data supplied by manufacturer

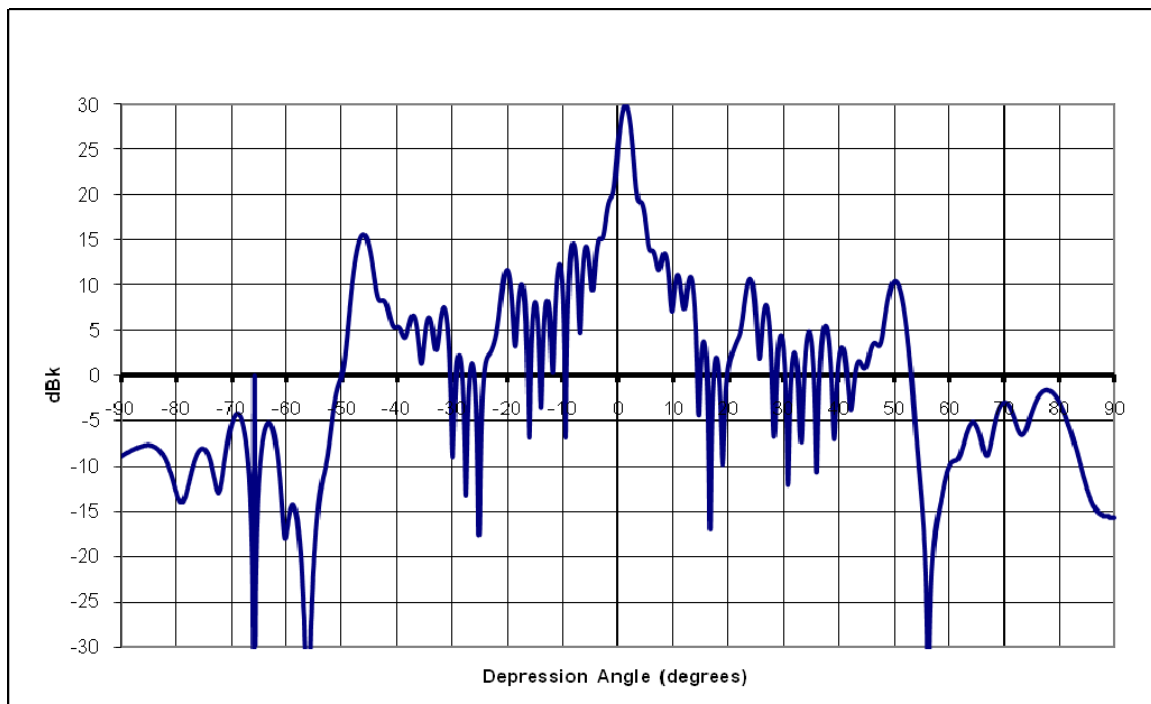
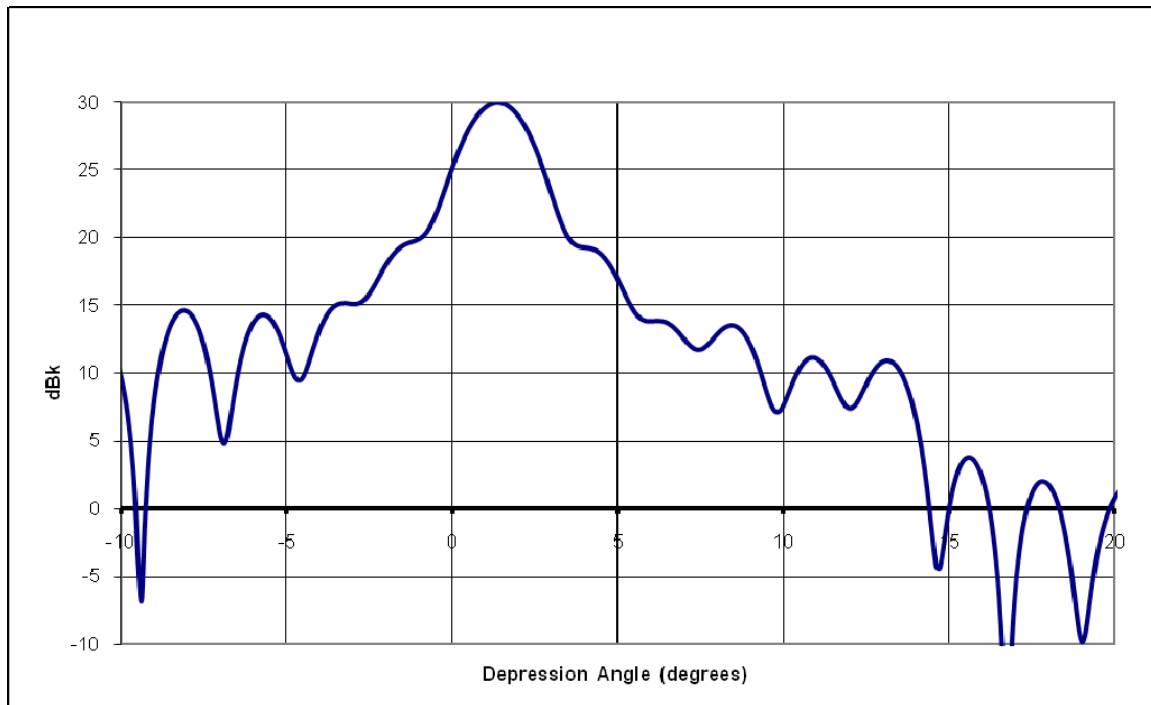


Figure 7c

KXLA-DT Channel 51 Rancho Palos Verdes, CA
Effective Radiated Power Elevation Pattern (dBk)

RFS PHP46EB-Ch51 at 325 Degrees Azimuth
Based on data supplied by manufacturer

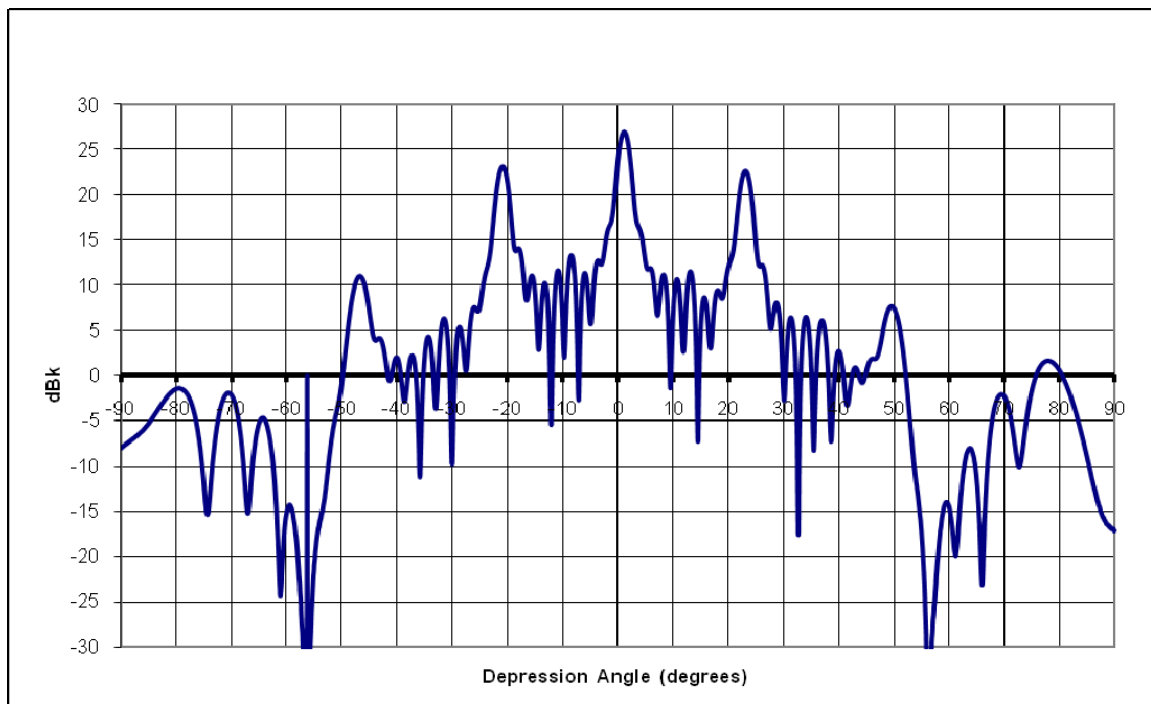
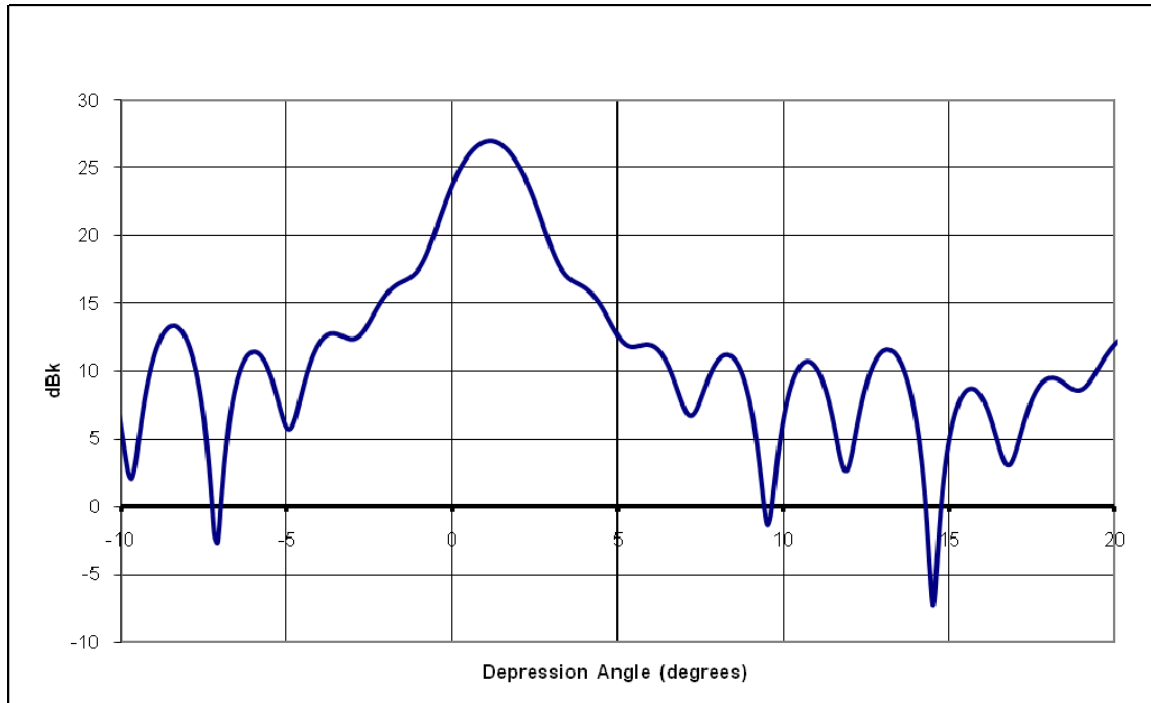


Figure 7d

KJLA-DT Channel 49 Ventura, CA
Effective Radiated Power Elevation Pattern (dBk)
RFS PHP46EB-Ch51 at 2 Degrees Azimuth
Based on data supplied by manufacturer

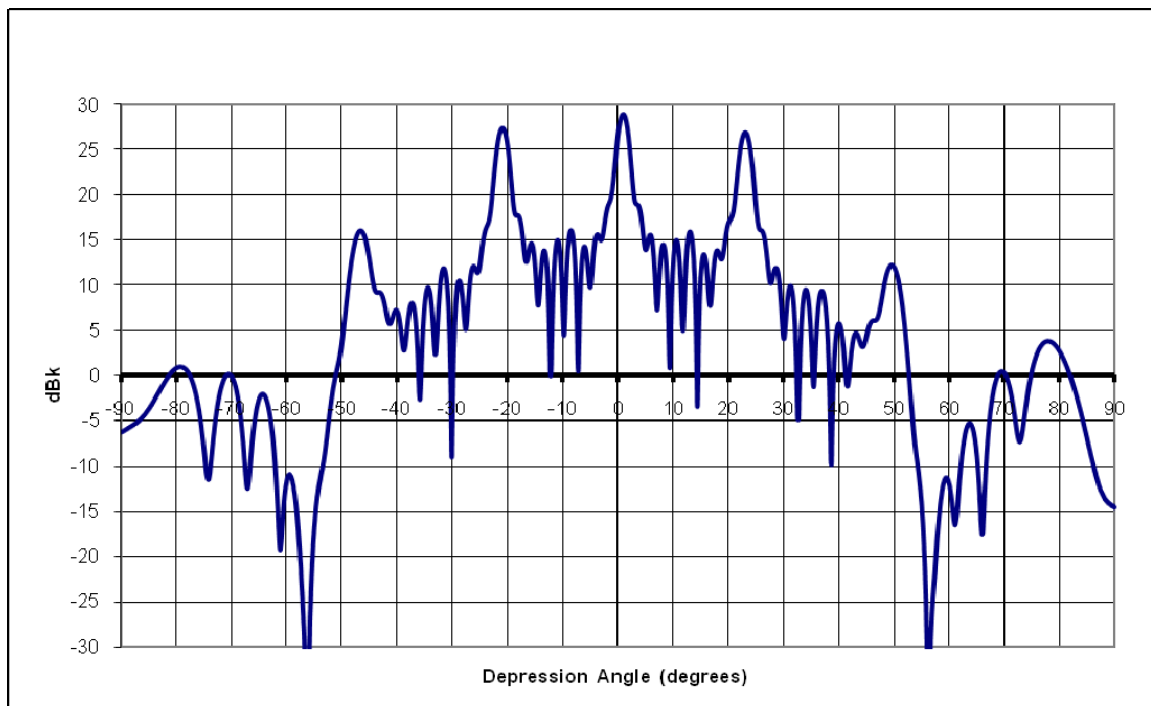
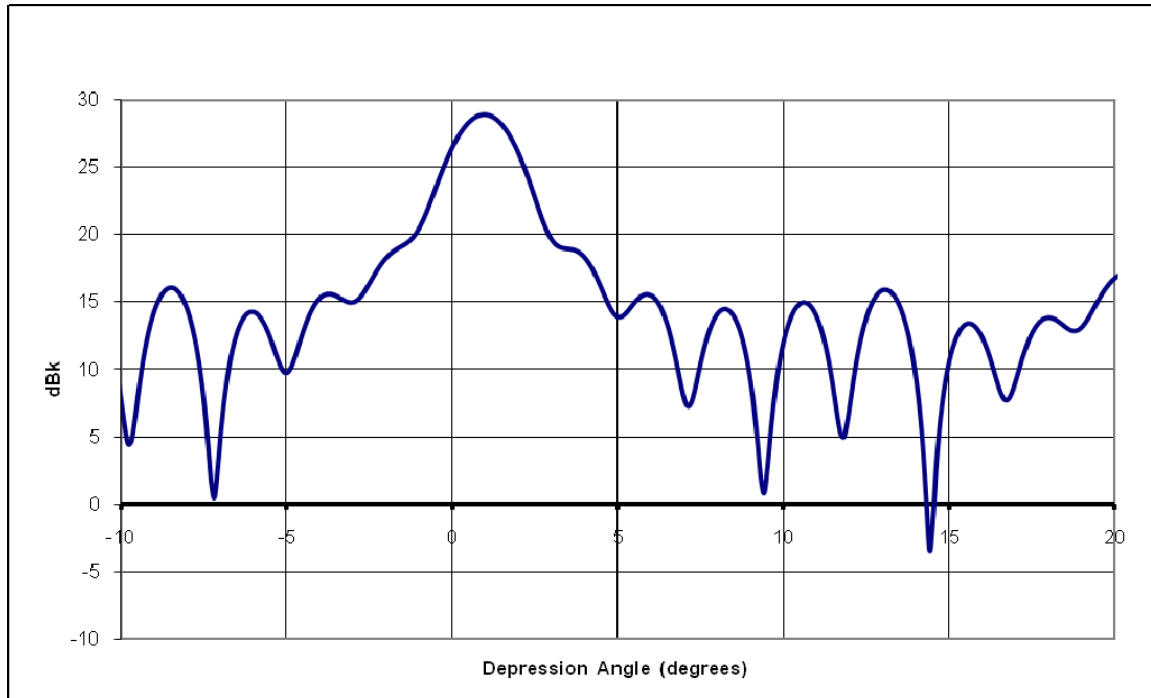


Figure 7e

KXLA-DT Channel 51 Rancho Palos Verdes, CA
Effective Radiated Power Elevation Pattern (dBk)

RFS PHP46EB-Ch51 at 39 Degrees Azimuth
Based on data supplied by manufacturer

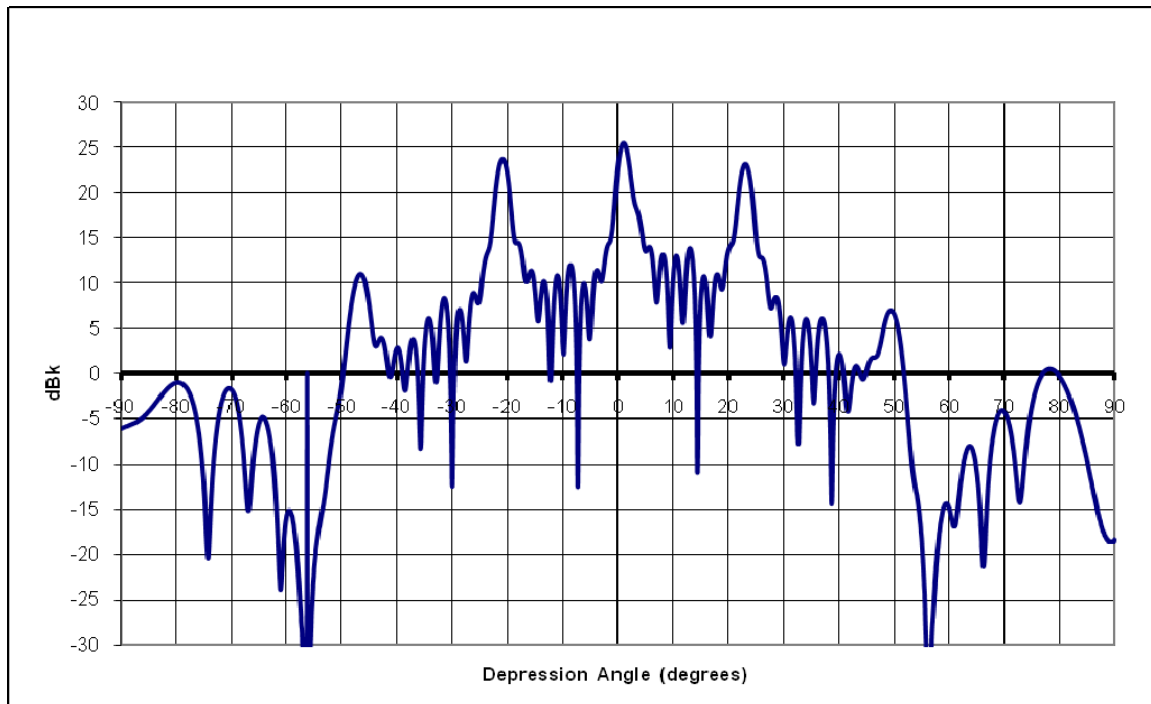
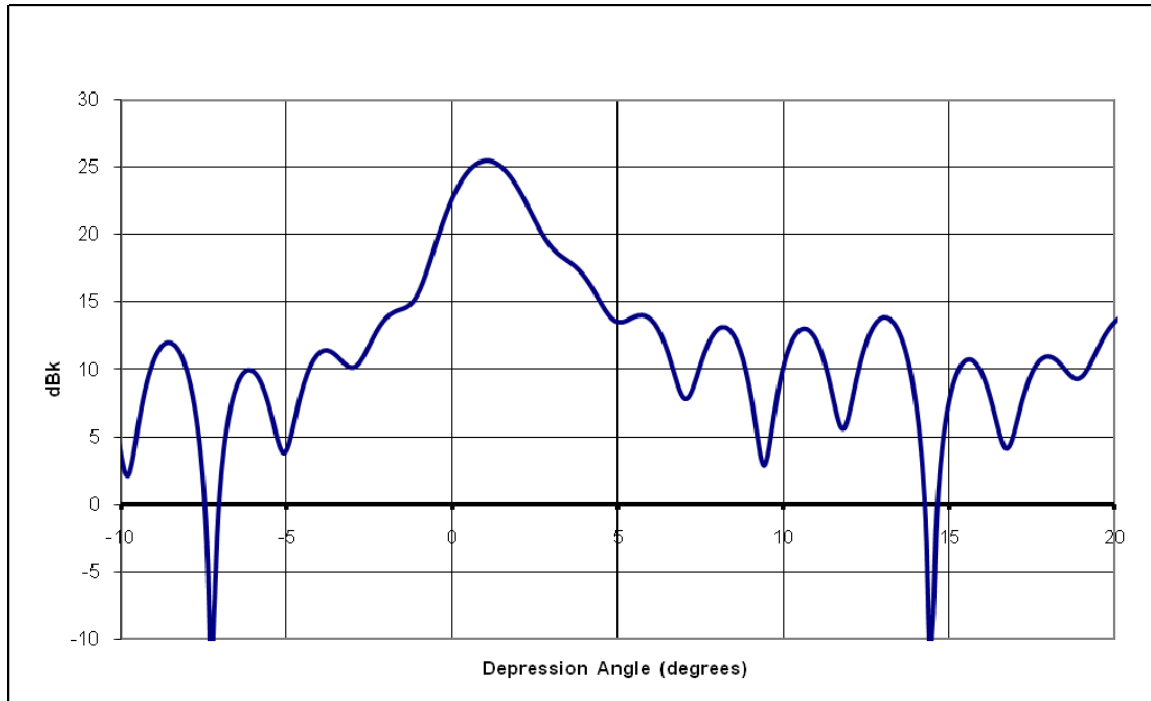


Figure 7f

**Figure 8 — Tabulation of Vertical Plane Radiation Data
RFS Model PHP46EB Antenna — Channel 51**

2 Degrees			39 Degrees			103 Degrees		
Elev. Angle	Rel. Field	ERP (dBk)	Elev. Angle	Rel. Field	ERP (dBk)	Elev. Angle	Rel. Field	ERP (dBk)
-5	0.0973	9.76	-5	0.0507	4.10	-5	0.1007	10.06
-4.5	0.1405	12.95	-4.5	0.0881	8.90	-4.5	0.0777	7.81
-4	0.1850	15.34	-4	0.1158	11.27	-4	0.1191	11.52
-3.5	0.1872	15.45	-3.5	0.1120	10.98	-3.5	0.1542	13.76
-3	0.1777	14.99	-3	0.1017	10.15	-3	0.1552	13.82
-2.5	0.2105	16.47	-2.5	0.1242	11.88	-2.5	0.1581	13.98
-2	0.2605	18.32	-2	0.1557	13.85	-2	0.1987	15.96
-1.5	0.2885	19.20	-1.5	0.1680	14.51	-1.5	0.2388	17.56
-1	0.3372	20.56	-1	0.1969	15.88	-1	0.2532	18.07
-0.5	0.4775	23.58	-0.5	0.2966	19.44	-0.5	0.3077	19.76
0	0.6721	26.55	0	0.4349	22.77	0	0.4708	23.46
0.5	0.8300	28.38	0.5	0.5493	24.80	0.5	0.6812	26.67
1	0.8822	28.91	1	0.5957	25.50	1	0.8466	28.55
1.5	0.8053	28.12	1.5	0.5603	24.97	1.5	0.9024	29.11
2	0.6277	25.96	2	0.4632	23.32	2	0.8278	28.36
2.5	0.4254	22.58	2.5	0.3534	20.97	2.5	0.6505	26.26
3	0.3013	19.58	3	0.2822	19.01	3	0.4408	22.88
3.5	0.2802	18.95	3.5	0.2515	18.01	3.5	0.2957	19.42
4	0.2591	18.27	4	0.2190	16.81	4	0.2624	18.38
4.5	0.1985	15.96	4.5	0.1740	14.81	4.5	0.2530	18.06
5	0.1568	13.91	5	0.1497	13.50	5	0.2100	16.44
5.5	0.1780	15.01	5.5	0.1570	13.92	5.5	0.1622	14.20
6	0.1881	15.49	6	0.1525	13.67	6	0.1532	13.71
6.5	0.1433	13.12	6.5	0.1147	11.19	6.5	0.1576	13.95
7	0.0771	7.74	7	0.0779	7.83	7	0.1404	12.95
7.5	0.1081	10.68	7.5	0.1062	10.52	7.5	0.1172	11.38
8	0.1616	14.17	8	0.1409	12.98	8	0.1213	11.68
8.5	0.1563	13.88	8.5	0.1323	12.43	8.5	0.1328	12.46
9	0.0887	8.96	9	0.0800	8.06	9	0.1182	11.45
9.5	0.0431	2.69	9.5	0.0474	3.52	9.5	0.0815	8.22
10	0.1289	12.21	10	0.1046	10.39	10	0.0734	7.31
10.5	0.1762	14.92	10.5	0.1404	12.95	10.5	0.1051	10.43
11	0.1558	13.85	11	0.1264	12.03	11	0.1203	11.61
11.5	0.0829	8.37	11.5	0.0763	7.65	11.5	0.1037	10.32
12	0.0758	7.59	12	0.0715	7.09	12	0.0769	7.72
12.5	0.1576	13.95	12.5	0.1272	12.09	12.5	0.0818	8.26
13	0.1976	15.92	13	0.1560	13.86	13	0.1026	10.22
13.5	0.1712	14.67	13.5	0.1349	12.60	13.5	0.1013	10.11
14	0.0896	9.05	14	0.0715	7.09	14	0.0711	7.04
14.5	0.0282	-1.00	14.5	0.0120	-8.42	14.5	0.0270	-1.37
15	0.1088	10.73	15	0.0779	7.83	15	0.0293	-0.66
15.5	0.1476	13.38	15.5	0.1082	10.68	15.5	0.0512	4.19
16	0.1303	12.30	16	0.0951	9.56	16	0.0476	3.55
16.5	0.0848	8.57	16.5	0.0582	5.30	16.5	0.0225	-2.96
17	0.0913	9.21	17	0.0618	5.82	17	0.0145	-6.77
17.5	0.1374	12.76	17.5	0.0980	9.82	17.5	0.0387	1.75
18	0.1559	13.86	18	0.1116	10.95	18	0.0445	2.97
18.5	0.1438	13.16	18.5	0.0993	9.94	18.5	0.0294	-0.63

Derived from data supplied by manufacturer

Technical Statement — KXLA-DT Construction Permit for Antenna Pattern Change

185 Degrees			269 Degrees			325 Degrees		
Elev. Angle	Rel. Field	ERP (dBk)	Elev. Angle	Rel. Field	ERP (dBk)	Elev. Angle	Rel. Field	ERP (dBk)
-5	0.1445	13.20	-5	0.1154	11.24	-5	0.0614	5.76
-4.5	0.0984	9.86	-4.5	0.0981	9.83	-4.5	0.0886	8.95
-4	0.0939	9.45	-4	0.1466	13.32	-4	0.1283	12.16
-3.5	0.1491	13.47	-3.5	0.1793	15.07	-3.5	0.1369	12.73
-3	0.1771	14.96	-3	0.1803	15.12	-3	0.1309	12.34
-2.5	0.1716	14.69	-2.5	0.1984	15.95	-2.5	0.1529	13.69
-2	0.1877	15.47	-2	0.2539	18.09	-2	0.1922	15.68
-1.5	0.2394	17.58	-1.5	0.2965	19.44	-1.5	0.2143	16.62
-1	0.2698	18.62	-1	0.3142	19.94	-1	0.2406	17.63
-0.5	0.2774	18.86	-0.5	0.3903	21.83	-0.5	0.3356	20.52
0	0.3705	21.38	0	0.5799	25.27	0	0.4888	23.78
0.5	0.5847	25.34	0.5	0.8042	28.11	0.5	0.6313	26.00
1	0.8172	28.25	1	0.9635	29.68	1	0.7045	26.96
1.5	0.9693	29.73	1.5	0.9945	29.95	1.5	0.6805	26.66
2	0.9841	29.86	2	0.8847	28.94	2	0.5688	25.10
2.5	0.8585	28.67	2.5	0.6751	26.59	2.5	0.4132	22.32
3	0.6430	26.16	3	0.4505	23.07	3	0.2798	18.94
3.5	0.4298	22.67	3.5	0.3155	19.98	3.5	0.2202	16.86
4	0.3174	20.03	4	0.2914	19.29	4	0.2024	16.12
4.5	0.2971	19.46	4.5	0.2738	18.75	4.5	0.1716	14.69
5	0.2705	18.64	5	0.2200	16.85	5	0.1341	12.55
5.5	0.2181	16.77	5.5	0.1679	14.50	5.5	0.1228	11.78
6	0.1832	15.26	6	0.1559	13.86	6	0.1243	11.89
6.5	0.1778	15.00	6.5	0.1532	13.71	6.5	0.1047	10.40
7	0.1624	14.21	7	0.1333	12.50	7	0.0723	7.18
7.5	0.1313	12.37	7.5	0.1227	11.78	7.5	0.0794	8.00
8	0.1280	12.14	8	0.1404	12.95	8	0.1091	10.76
8.5	0.1534	13.72	8.5	0.1501	13.53	8.5	0.1105	10.87
9	0.1565	13.89	9	0.1265	12.04	9	0.0733	7.30
9.5	0.1204	11.61	9.5	0.0836	8.44	9.5	0.0271	-1.34
10	0.0777	7.81	10	0.0771	7.74	10	0.0683	6.69
10.5	0.0952	9.57	10.5	0.1057	10.48	10.5	0.1047	10.40
11	0.1268	12.06	11	0.1133	11.08	11	0.1015	10.13
11.5	0.1225	11.76	11.5	0.0922	9.29	11.5	0.0639	6.11
12	0.0877	8.86	12	0.0743	7.42	12	0.0466	3.37
12.5	0.0746	7.45	12.5	0.0921	9.29	12.5	0.0903	9.11
13	0.1059	10.50	13	0.1108	10.89	13	0.1188	11.50
13.5	0.1229	11.79	13.5	0.1022	10.19	13.5	0.1088	10.73
14	0.1024	10.21	14	0.0664	6.44	14	0.0640	6.12
14.5	0.0524	4.39	14.5	0.0238	-2.47	14.5	0.0137	-7.27
15	0.0150	-6.48	15	0.0325	0.24	15	0.0568	5.09
15.5	0.0518	4.29	15.5	0.0487	3.75	15.5	0.0844	8.53
16	0.0623	5.89	16	0.0406	2.17	16	0.0786	7.91
16.5	0.0423	2.53	16.5	0.0146	-6.71	16.5	0.0521	4.34
17	0.0145	-6.77	17	0.0168	-5.49	17	0.0506	4.08
17.5	0.0383	1.66	17.5	0.0365	1.25	17.5	0.0790	7.95
18	0.0535	4.57	18	0.0387	1.75	18	0.0940	9.46
18.5	0.0424	2.55	18.5	0.0251	-2.01	18.5	0.0892	9.01

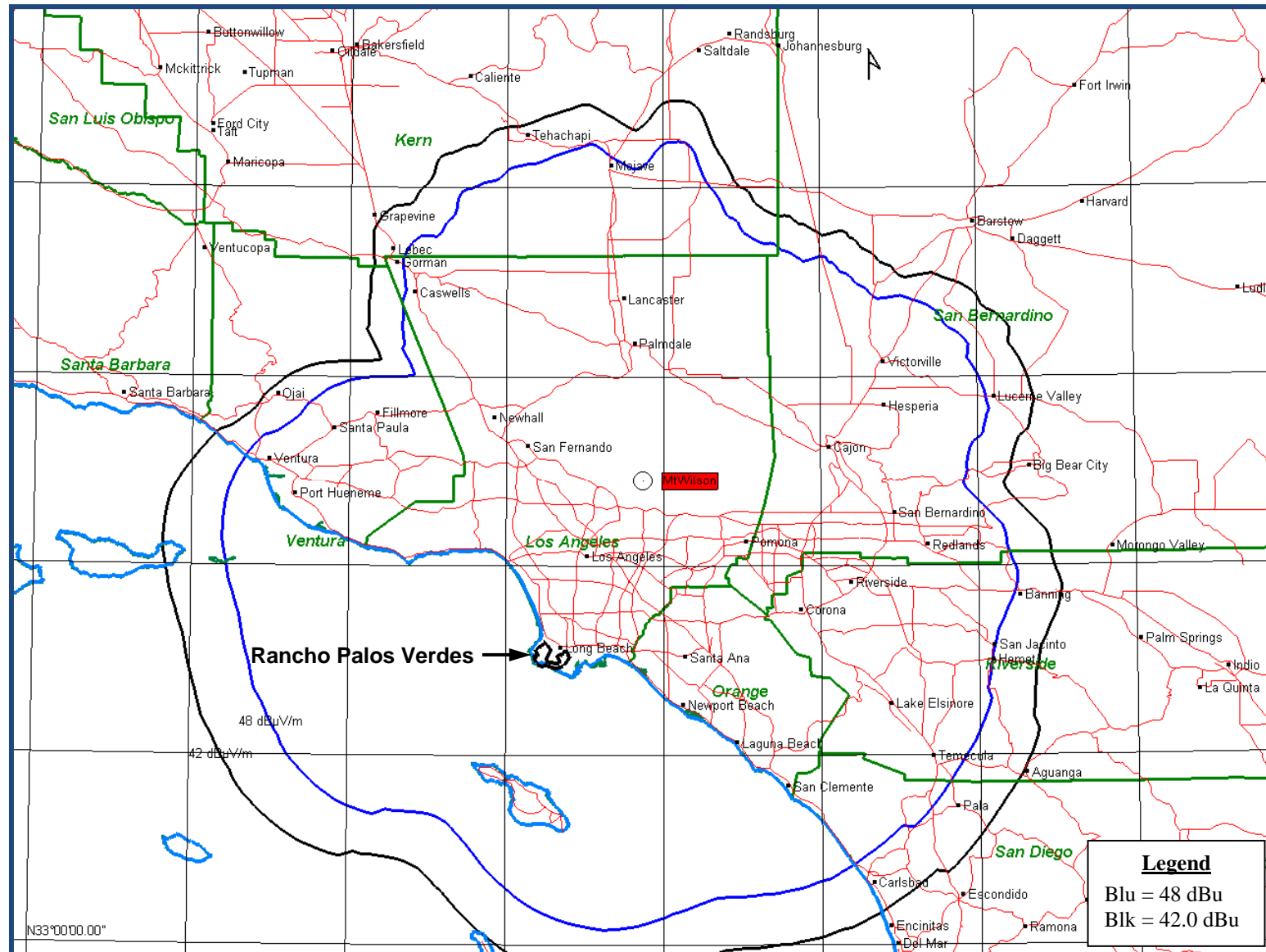
Derived from data supplied by manufacturer

**Figure 9 — Tabulation of City Grade & Noise Limited Contour Derivations
KXLA-DT Channel 51 at 1000 kW from Mt. Wilson
with RFS PHP46EB Antenna**

Azimuth	Average Terrain Elevation (meters)	Antenna Height Above Average Terrain (meters)	Effective Radiated Power (kW)	Distance to Contour F(50,90) (km)	
				City Grade 48 dBu	Noise Limited 41.9 dBu
0°	1402	436	777.9	92.3	104.5
45°	1417	421	320.4	85.3	95.2
90°	1167	671	170.5	93.6	105.5
135°	433	1405	570.0	126.3	142.7
180°	321	1517	605.0	130.4	146.2
* 207°	327	1511	200.4	117.7	133.2
225°	356	1482	652.9	130.2	146.4
270°	829	1009	984.1	120.2	135.8
315°	1222	616	311.4	96.7	108.4

* Heading to Principal Community — Rancho Palos Verdes, CA. Value not included in determination of average height above average terrain.

**Figure 10 — KXLA-DT Channel 51 — Contour Map
48 dBu (Principal Community) & 42.0 dBu (Noise Limited) Contours**



**Figure 11 — KXLA-DT Channel 51 — Comparison of Contours
Proposal vs. Currently Licensed Facility**

