

ENGINEERING EXHIBIT
APPLICATION FOR CONSTRUCTION PERMIT
RADIO STATION KMLT(FM)
THOUSAND OAKS, CALIFORNIA

June 6, 2001

CH 224A 3.0 KW 141 M

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Engineering Statement

This Engineering Exhibit was prepared on behalf of radio station KMLT(FM), Thousand Oaks, California in support of an application for construction permit to relocate its transmitter site. This application is contingent on the grant of an application for KLIT(FM), Fountain Valley, California. The KMLT(FM) application is being filed in conjunction with the KLIT(FM) application pursuant to Section 73.3517(c) of the FCC Rules dealing with contingent applications.

Proposed Facilities

The proposed facility will operate on Channel 224A with a nominal non-directional effective radiated power (ERP) of 3.0 kW (circular polarization) and an antenna height above average terrain (HAAT) of 141 m. The proposed transmitter site is located 7.8 km northeast of the KMLT(FM) licensed transmitter site.

The proposed antenna will be mounted on the existing west tower (Tower #1) of the KACD(AM) directional antenna system.* The existing tower structure has FCC Antenna Structure Registration Number 1059700. The tower is located at 1901 Westlake Blvd. in Thousand Oaks. There will be no change in the overall height of the

* KACD(AM), Thousand Oaks, CA, 850 kHz, 0.25 kW-N, 0.50 kW-D, U, DA-2.

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existing tower structure as a result of the proposal. Therefore, no new or modified antenna structure registration is required.

It is planned to employ a Kintronic Laboratories model FMC-7.5 isocoupler for isolation of the transmission line across the base of the KACD(AM) tower. This installation will have a minor effect on the KACD(AM) Tower #1 base impedance. The applicant will comply with Section 73.1692 concerning antenna installations on AM directional antennas as it relates to KACD(AM).

Environmental Considerations

The proposal is categorically excluded from environmental processing, as an existing tower is to be employed, and the proposal complies with the FCC Rules concerning human exposure to radio frequency (RF) energy.

The proposal would not exceed the 5% exclusion threshold[†] for RF exposure in general population/uncontrolled environments for the frequency proposed. The calculation of RF energy at 2-m above ground was made under the procedures of OET Bulletin No. 65.[‡] A conservative vertical pattern relative field of 0.5 was assumed for steep elevation angles.[§] The RF exposure level at 2-m above ground level from the proposed facility will not exceed 4.6% of the applicable MPE for general population/uncontrolled environments.

The transmitter site shall be restricted from access. In the event that personnel are required to climb the structure, the KMLT(FM) transmissions shall be reduced or terminated as necessary to prevent RF exposure above the FCC recommended limits.

[†] See Section 1.1307(b) of the FCC Rules.

[‡] Federal Communications Commission OET Bulletin No. 65, Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (Edition 97-01, August 1997).

[§] All angles greater than 60° below the horizontal have a relative field of less than 0.5. See Appendix for proposed transmitting antenna vertical pattern data.

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Predicted Coverage Contours

The predicted coverage contours were calculated in accordance with Section 73.313 of the FCC Rules. The average terrain elevations from 3 to 16 km from the proposed site were computed using the U.S.G.S. 3-second terrain database. The standard eight radials evenly-spaced at 45-degree intervals were used in determining the overall antenna HAAT. The distances to the predicted coverage contours were determined using the average elevations of radials spaced every 45-degrees of azimuth. The antenna radiation center HAAT in each radial direction and the ERP were used in conjunction with the propagation prediction curves of Section 73.333 to determine the distances to contours. Figure 3 is a tabulation of average elevations and distances to coverage contours. Figure 4 is a map showing the predicted coverage contours.

As indicated in Figure 4, the proposed predicted 70 dBu contour will not encompass the entire community of Thousand Oaks. The city limits of Thousand Oaks were obtained from the 2000 Census TIGER data files. The Thousand Oaks city limits enclose an area of 142.5 sq. km. The proposed KMLT 70 dBu contour encompasses 141.7 sq. km of Thousand Oaks, which is 99.4% of the total area. Thus, the proposed KMLT(FM) facility will provide greater than 80% coverage of the Thousand Oaks city limits in substantial compliance with Section 73.315 of the FCC Rules.

Allocation Considerations

As outlined in Figure 5, the proposed facility meets the separation requirements of Section 73.207 of the FCC Rules with respect to all pertinent allotments and assignments with the exception of those involving KLIT(FM). As part of the FCC action in MM Docket No. 99-329, the KLIT(FM) license was amended to specify Fountain Valley, California as its new community of license.^{**} As noted above, an application for construction permit is being filed for KLIT(FM) in conjunction with this

^{**} See *Report and Order*, MM Docket No. 99-329, RM-9701, *In the Matter of Amendment of Section 73.202(b) Table of Allotments, FM Broadcast Stations (Avalon, Fountain Valley, Adelanto, Ridgecrest and Riverside, California)*, Released: March 9, 2001.

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filing that places the new KLIT(FM) transmitter at a site that is fully-spaced with the proposed KMLT(FM) facility. The KMLT(FM) and KLIT(FM) applications are contingent and may be granted simultaneously in compliance with the FCC Rules.

Louis Robert du Treil, Jr.

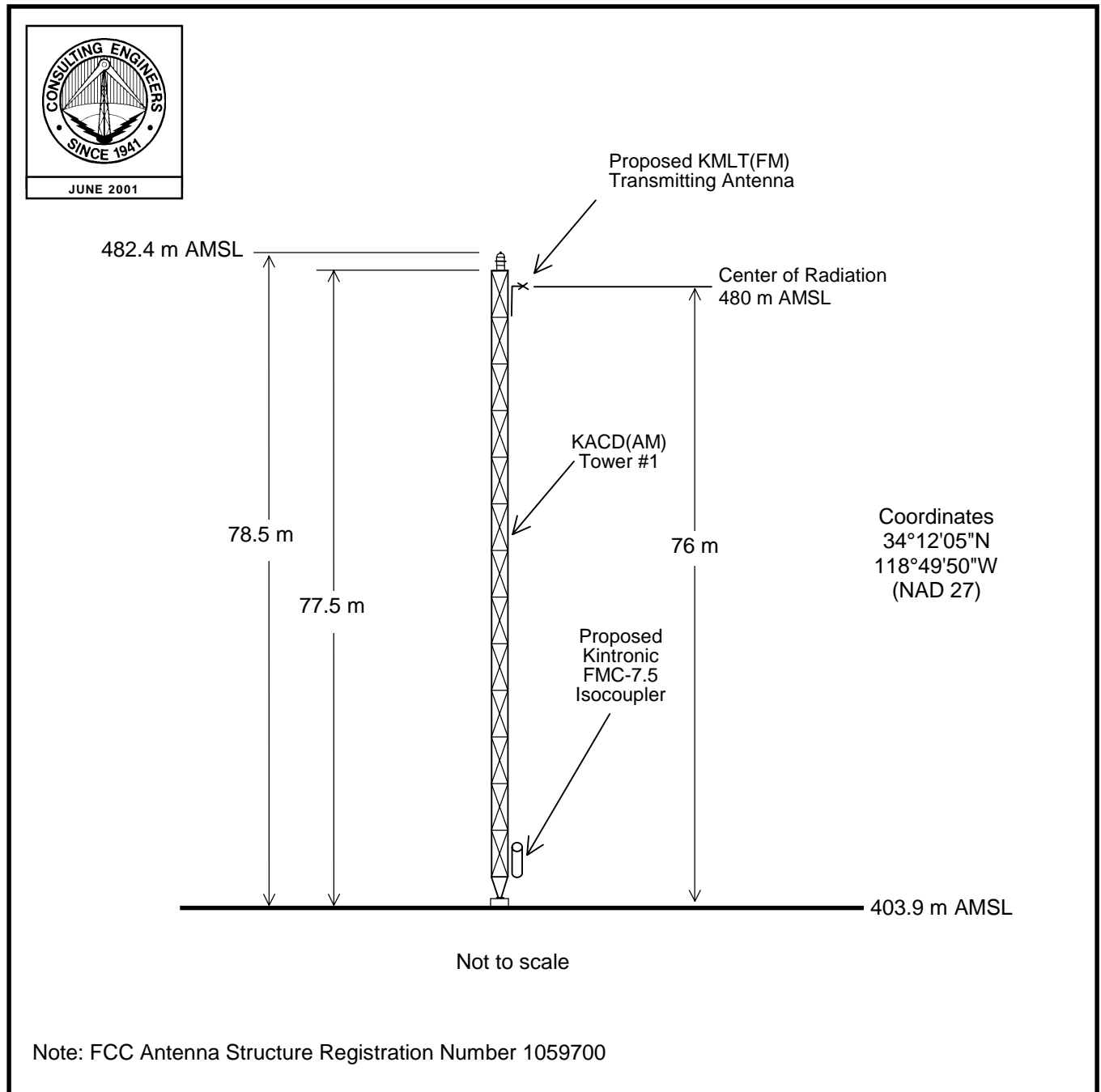
June 6, 2001

Figure 1

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Engineering Specifications

Channel / Frequency	224A / 92.7 MHz
Site Coordinates	34°12'05"North Latitude 118°49'50"West Longitude
Site elevation	403.9 m AMSL
Average elevation of standard eight radials, 3 to 16 km	339 m AMSL
Overall height of existing structure	78.5 m AGL / 482.4 m AMSL
Height of antenna radiation center	76 m AGL / 480 m AMSL
Antenna radiation center HAAT	141 m
Transmitter	as required
Transmitter power output	8.70 kW
Isocoupler	Kintronic Laboratories, FMC-7.5
Isocoupler insertion loss	0.2 dB (95.5% efficiency)
Transmission line	Andrew, HJ5-50A
Transmission line length	90 m
Transmission line efficiency	78.5%
Antenna	Dielectric, DCR-M1
Polarization	Circular
Power gain	0.46
Antenna input power	6.52 kW
Effective radiated power (H & V)	3.0 kW



PROPOSED ANTENNA AND SUPPORTING STRUCTURE

RADIO STATION KMLT(FM)

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du Treil, Lundin & Rackley, Inc. Sarasota, Florida

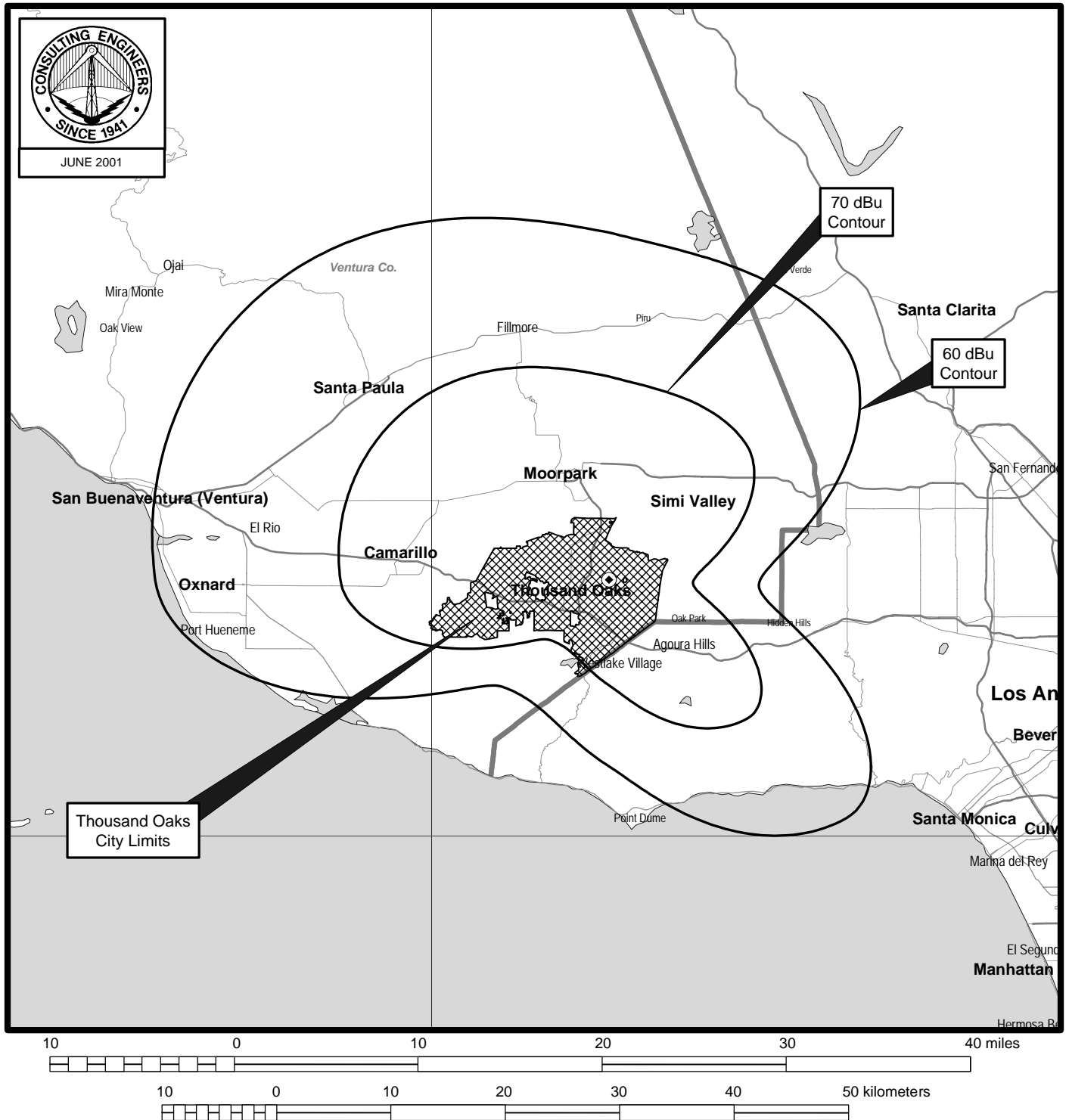
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Tabulation of Average Elevations
and Distances to Coverage Contours

<u>Azimuth</u> (deg.T)	<u>3-16 km</u> <u>Average</u> <u>Terrain</u> (m)	<u>Antenna</u> <u>HAAT</u> (m)	<u>ERP</u> (kW)	<u>Distance to</u> <u>70 dBu</u> <u>Contour</u> (km)	<u>Distance to</u> <u>60 dBu</u> <u>Contour</u> (km)
0	314	166	3.0	17.7	30.3
45	328	152	3.0	16.9	29.1
90	459	21	3.0	7.4	13.2
135	322	158	3.0	17.2	29.6
180	437	43	3.0	9.0	15.8
225	468	12	3.0	7.4	13.2
270	180	300	3.0	23.6	39.8
315	201	279	3.0	22.8	38.6

Note: All terrain elevations are based on the U.S.G.S. 3-second linearly-interpolated database. The 3-16-km average is 339 m. The overall average antenna height above average terrain is 141 m.

Figure 4



PREDICTED COVERAGE CONTOURS

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du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Figure 5

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Allocation Study

Call Id	City St	Status	File Num	Channel Freq	ERP HAAT	DA Id	Latitude Longitude	73 215	Bear	Dist. (km)	Req. (km) min max
KCMG 35022	LOS ANGELES CA	BMLH LIC C	19921021KA	222 B 92.3	43.000 887	N	34-13-36 118-03-57	N	87.5	70.53 1.53	69.0 69.0 Close
KMLT 21689	THOUSAND OA CA	BLH LIC C	19950908KB	224 A 92.7	1.500 197	N	34-09-53 118-54-08	N	238.3	7.76	
<i>(Applicant's authorized facility.)</i>											
KMLT 21689	THOUSAND OA CA	BPH CP C	19960821IB	224 A 92.7	1.700 192	N	34-09-53 118-54-08	N	238.3	7.76	
<i>(Applicant's authorized facility.)</i>											
KLIT 9304	FOUNTAIN VA CA			224 A 92.7		Y	33-36-20 117-48-35	Y	124.7	115.2 0.2	115.0 115.0 Close
<i>(KLIT application to relocate to new site. Contingent filing with instant application.)</i>											
KLIT 0	FOUNTAIN VA CA	RM RSV C	9701	224 A 92.7	0.000	N	33-36-56 117-55-33	N	127.7	105.94 -9.06	115.0 115.0 Short
<i>(Fountain Valley rule making allotment site.)</i>											
KLIT 9304	AVALON CA	BLH LIC C	19931202KG	224 A 92.7	3.000 45	Y	33-20-23 118-19-09	Y	153.6	106.67 -8.33	115.0 115.0 Short
<i>(KLIT authorized facility to be relocated to Fountain Valley.)</i>											
KLIT 9304	AVALON CA	BPH CP C	19960205IC	224 A 92.7	6.000 45	Y	33-20-23 118-19-09	Y	153.6	106.67 -8.33	115.0 115.0 Short
<i>(KLIT authorized facility to be relocated to Fountain Valley.)</i>											
KLIT 9304	AVALON CA	BPH CP C	19990507ID	224 A 92.7	6.000 83	Y	33-20-20 118-19-03	Y	153.5	106.82 -8.18	115.0 115.0 Short
<i>(KLIT authorized facility to be relocated to Fountain Valley.)</i>											
KCBS-F 9612	LOS ANGELES CA	BLH LIC C	19980505KC	226 B 93.1	28.500 1056		34-13-55 118-04-18		87.0	70.01 1.01	69.0 69.0 Close

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Vertical Plane Radiation Pattern for Proposed Transmitting Antenna

(see following sheet)

DIELECTRIC COMMUNICATIONS

A UNIT OF GENERAL SIGNAL

Proposal Number: _____

Date: NOVEMBER 5, 1991

Call Letters: _____

Channel: _____

Antenna Type: DCR (1 BAY)

Location: _____

Customer: _____

VERTICAL PATTERN

RMS Gain at Main Lobe: .46 -3.37 dB

Beam Tilt: 0 degrees

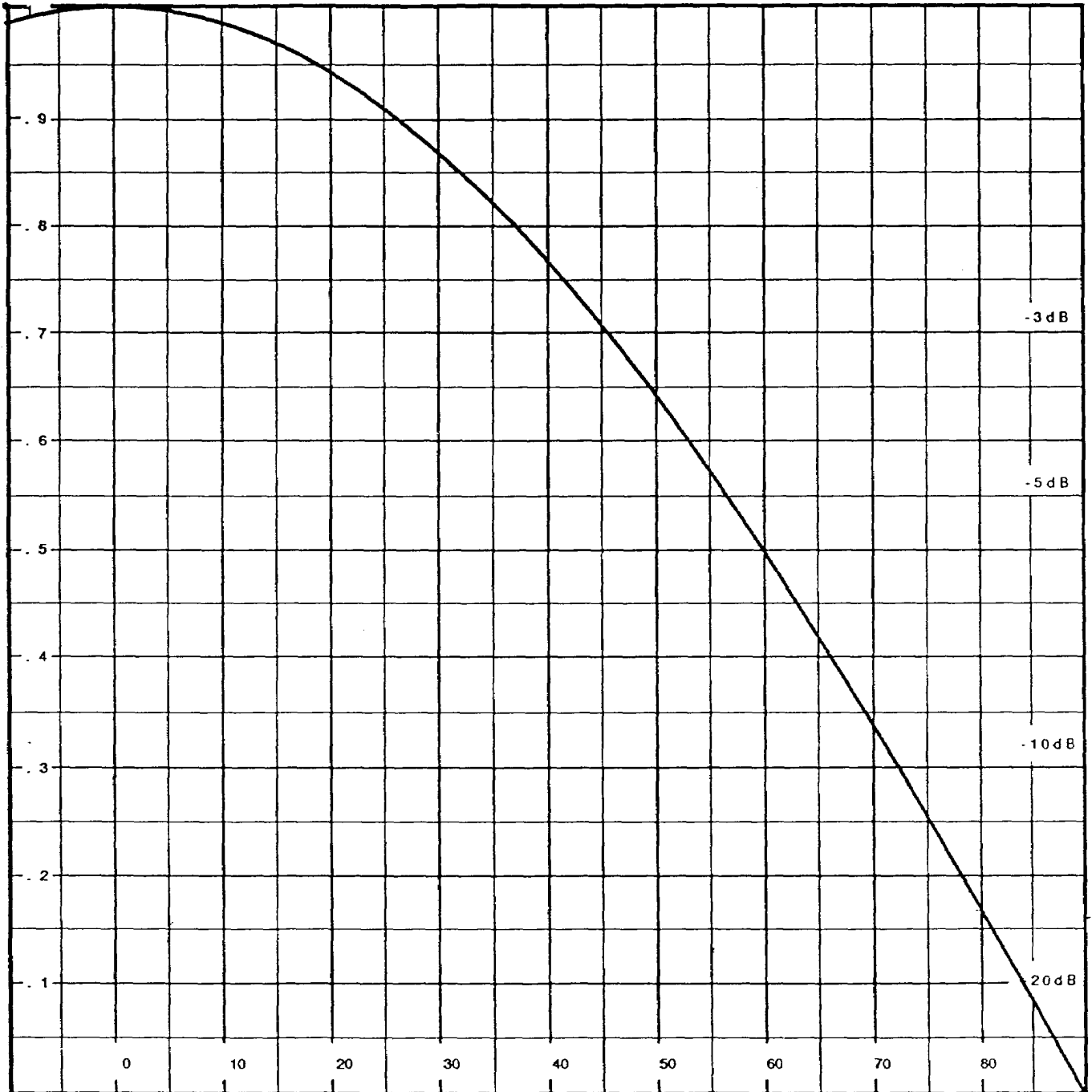
Frequency: FM MHz

RMS Gain at Horizontal: .46 -3.37 dB

Calculated: ☒

Measured: ☐

Drawing #: ELEV-1



DEGREES BELOW HORIZONTAL

NOTE: FROM -85 TO -90 DEGREES, MINIMUM RELATIVE FIELD IS 6% (PER ACTUAL MEASURED PATTERN).

RAYMOND, MAINE

Tel.: 207-655-4555
FAX: 207-655-4669

AJS Form-05