

**Technical Exhibit**  
**Entravision Holdings, LLC**  
**Facility ID: 189509, 103.5 MHz, Coachella, CA**  
**302-FM to cover Construction Permit BNPH-20110607ABT**

The facility was constructed in compliance with all conditions, terms, and obligations described in the construction permit. The following exhibits are provided to address the special operating conditions or restrictions listed in the construction permit:

Condition 1 – The attached Exhibit A is a Directional Antenna Proof-of-Performance of the station's antenna provided by manufacturer Electronics Research, Inc.

Condition 2 – The attached Exhibit B is a survey of the azimuth of the directional antenna performed by a licensed surveyor indicating the directional antenna is oriented to the correct azimuth.

Condition 3 – The attached Exhibit C is a certification that the installation of the directional antenna system was overseen by a qualified engineer and confirmed to be installed in accordance with the manufacturer's instructions.

Condition 4 – The relative field strength of the greater of the horizontal or vertical radiation component shown on page 6 of Exhibit A demonstrates that neither the measured horizontal nor vertical polarized radiation component exceeds at any azimuth the value indicated on the composite radiation pattern authorized by the construction permit.

Condition 5 – The attached Exhibit D is a coverage map of the horizontal component of the directional pattern from measurement data on page 7 of Exhibit A showing the entire boundary of the community of license (Coachella, CA) is inside the 70 dBu contour.

Condition 6 – Exhibit A page 1, paragraph 2, sentence 2 indicates that the ERI antenna is a circularly polarized, directional, four-bay, FM transmitting antenna in compliance with this condition. Additionally, the station was constructed exactly as proposed in the FCC 301 application making the RF exposure situation unchanged from the calculations submitted with the RF Exposure Study exhibit in the FCC 301 application. Therefore the station is in compliance with this condition.

Condition 7 – Entravision Holdings LLC understand that the grant is conditional as specified in this condition.

Condition 8 – Entravision Holdings intends to fully comply with the condition to reduce power or terminate operation as necessary to protect persons having access to the site, tower, or antenna from electromagnetic fields in excess of the FCC guidelines.

Richard Hunt  
Entravision Holdings, LLC

**Exhibit A**

**Directional Antenna Proof-of-Performance**

**Electronics Research, Inc.**

***Directional Antenna System  
for  
Coachella, California***

August 8, 2011

Electronics Research Inc. is providing a custom fabricated antenna system that is specially designed to meet the FCC requirements and the general needs of radio station New Station.

The antenna is the ERI model LP-4C-DA-HW configuration. The circular polarized system consists of 4 half-wavelength spaced bays using one driven circular polarized radiating element per bay and one horizontal parasitic element per bay. The antenna was mounted on the North 300 degrees East tower leg with bracketry to provide an antenna orientation of North 300 degrees East. The antenna was tested on a tapered tower, which is the structure the station plans to use to support the array. All tests were performed on a frequency of 103.5 megahertz, which is the center of the FM broadcast channel assigned to new station.

Pattern measurements were made on a sixty-acre antenna pattern range that is owned and operated by Electronics Research, Inc. The tests were performed under the direction of Thomas B. Silliman, president of Electronics Research, Inc. Mr. Silliman has the Bachelor of Electrical Engineering and the Master of Electrical Engineering degrees from Cornell University and is a registered professional engineer in the states of Indiana, Maryland and Minnesota.



# Directional Antenna System For Coachella, California

(Continued)

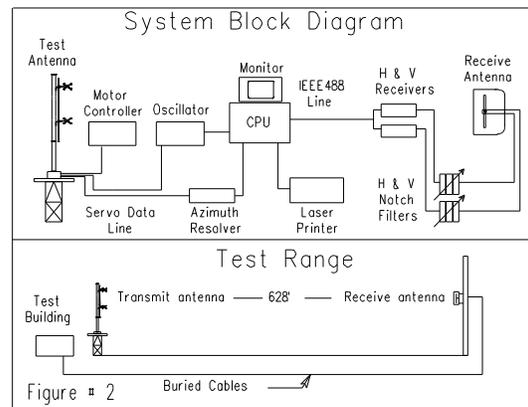
## DESCRIPTION OF THE TEST PROCEDURE

The test antenna consisted of two bay levels of the circular polarized system with the associated horizontal parasitic element. The elements and brackets that were used in this test are electrically equivalent to those that will be supplied with the antenna. A section of 1 5/8 inch o.d. rigid coaxial line was used to feed the test antenna, and a section of 1 5/8 inch o.d. rigid outer conductor only was attached above the test antenna. The lines were properly grounded during all tests.

The power distribution and phase relationship to the antenna elements was adjusted in order to achieve the directional radiation patterns for both horizontal and vertical polarization components.

The proof-of-performance was accomplished using a tapered tower with identical dimension and configuration including all braces, ladders, conduits, coaxial lines and other appurtenances that are included in the actual aperture at which the antenna will be installed. The structure was erected vertically on a turntable mounted on a non-metallic building with the antenna centered vertically on the structure, making the center of radiation of the test approximately 30 feet above ground. The turntable is equipped with a motor drive and a US Digital angle position indicator. The resolution of this angle position indicator is one-hundredth of a degree.

The antenna under test was operated in the transmitting mode and fed from a HP8657D signal generator. The frequency of the signal source was set at 103.5 MHz and was constantly monitored by a Rohde & Schwarz ESVD measuring receiver.



# Directional Antenna System For Coachella, California

(Continued)

A broadband horizontal and vertical dipole system, located approximately 628 feet from the test antenna, was used to receive the emitted test signals. The dipole system was mounted at the same height above terrain as the center of the antenna under test. The signals received by the dipole system were fed to the test building by way of two buried Heliac cables to a Rohde & Schwarz measuring receiver. This data was interfaced to a laser jet printer by means of a computer system. Relative field strength was plotted as a function of azimuth.

The measurements were performed by rotating the test antenna in a counter-clockwise direction and plotting the received signal on polar coordinated graph paper in a clockwise direction. Both horizontal and vertical components were recorded separately.

## CONCLUSIONS

The circular polarized system consists of 4 half-wavelength spaced bays using one driven circular polarized radiating element per bay and one horizontal parasitic element per bay. The power distribution and phase relationship will be fixed when antenna is manufactured. Proper maintenance of the elements should be all that is required to maintain the pattern in adjustment.

The LP-4C-DA-HW array is to be mounted on the North 300 degrees East tower leg of the tapered tower at a bearing of North 300 degrees East. Blue prints provided with the antenna will show the proper antenna orientation alignment. The antenna alignment procedure should be directed by a licensed surveyor as prescribed by the FCC.

Figure #1 represents the measured individual horizontal and vertical components, the composite maximum of either the horizontal or vertical component at any azimuth and the FCC filed envelope pattern. The horizontal plane relative field list for the composite pattern and the individual H & V components are shown as Figure #1 & 1A respectively. The actual measured pattern does not exceed the authorized FCC composite pattern at any azimuth. A calculated vertical plane relative field pattern is shown on Figure #3 attached. The power in the maximum will reach 1.900 kilowatts (2.788 dBk).

Directional Antenna System  
For  
Coachella, California

(Continued)

The RMS of the vertically polarized horizontal plane component does not exceed the RMS of the horizontally polarized horizontal plane component.

The composite horizontal and vertical maximum relative field pattern obtained from the measured data as shown on Figure #1 has an RMS that is greater than 85% of the filed composite pattern.

The clear vertical length of the structure required to support the antenna is 21 feet.

The directional antenna should not be mounted on the top of an antenna tower that includes a top-mounted platform larger than the cross-sectional area of the tower in the horizontal plane. No obstructions other than those that are specified by the blue prints supplied with the antenna are to be mounted within 75 ft. horizontally of the system. The vertical distance to the nearest obstruction should be a minimum of 10 ft. from the directional antenna. Metallic guy wires should be a minimum distance of forty feet horizontally from the antenna.

ELECTRONICS RESEARCH, INC.



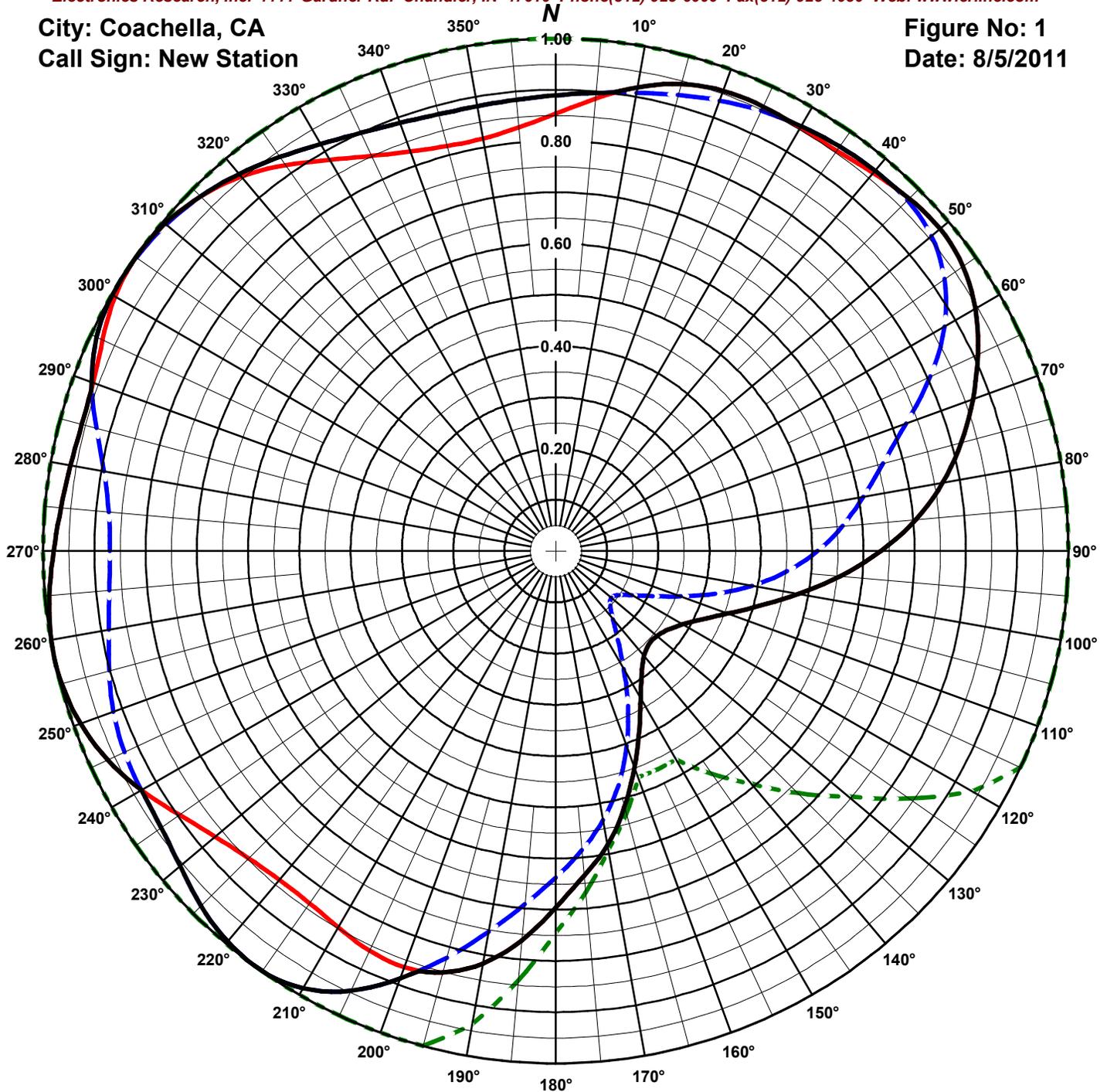
The Microsoft Word document on file electronically at Electronic Research, Inc. governs the specifications, scope, and configuration of the product described. All other representations whether verbal, printed, or electronic are subordinate to the master copy of this document on file at ERI.

# ERI<sup>®</sup> Horizontal Plane Relative Field Pattern

Electronics Research, Inc. 7777 Gardner Rd. Chandler, IN 47610 Phone(812) 925-6000 Fax(812) 925-4030 Web: www.eriinc.com

City: Coachella, CA  
Call Sign: New Station

Figure No: 1  
Date: 8/5/2011



Antenna Orientation: 300° True

Frequency: 103.5 MHz

Antenna Type: LP-4C-DA-HW

Antenna Mounting: Custom

Tower Type: Tapered tower

## HORIZONTAL

RMS: .814

Maximum: 1 @ 258°

Minimum: .256 @ 133°

## VERTICAL

RMS: .798

Maximum: 1 @ 216°

Minimum: .142 @ 130°

## COMPOSITE

RMS: .834

Maximum: 1 @ 216°

Minimum: .256 @ 133°

## FCC ENVELOPE

RMS: .944

Maximum: 1 @ 0°

Minimum: .47 @ 150°

Measured patterns of the horizontal and vertical components. The composite pattern shows the maximum of either the H or V azimuth values. This patterns is greater than 85% of the FCC filed compsite pattern BNPH-20110607ABT.

# ERI<sup>®</sup> Horizontal Plane Relative Field Pattern

Electronics Research, Inc. 7777 Gardner Rd. Chandler, IN 47610 Phone(812) 925-6000 Fax(812) 925-4030 Web: www.eriinc.com

Figure# 1

Date: 8/5/2011

Station: New Station

Antenna: LP-4C-DA-HW

Location: Coachella, CA

Antenna Orientation: 300° True

Frequency: 103.5 MHz

Number of Bays: 4

Azimuth	Envelope			Polarization	Azimuth	Envelope			Polarization
	Field	kW	dBk	Maximum		Field	kW	dBk	Maximum
0°	0.889	1.502	1.768	Vertical	180°	0.696	0.920	-0.362	Horizontal
5°	0.897	1.530	1.846	Vertical	185°	0.763	1.105	0.435	Horizontal
10°	0.919	1.604	2.052	Horizontal	190°	0.817	1.269	1.034	Horizontal
15°	0.943	1.690	2.280	Horizontal	195°	0.851	1.377	1.389	Horizontal
20°	0.956	1.736	2.395	Horizontal	200°	0.887	1.496	1.750	Vertical
25°	0.957	1.740	2.405	Horizontal	205°	0.947	1.703	2.313	Vertical
30°	0.957	1.741	2.409	Vertical	210°	0.985	1.845	2.659	Vertical
35°	0.964	1.767	2.472	Vertical	215°	1.000	1.899	2.785	Vertical
40°	0.969	1.782	2.510	Vertical	220°	0.995	1.882	2.745	Vertical
45°	0.974	1.802	2.558	Horizontal	225°	0.979	1.820	2.600	Vertical
50°	0.978	1.819	2.598	Horizontal	230°	0.956	1.737	2.399	Vertical
55°	0.969	1.786	2.518	Horizontal	235°	0.940	1.679	2.251	Vertical
60°	0.945	1.696	2.295	Horizontal	240°	0.933	1.655	2.187	Vertical
65°	0.909	1.568	1.955	Horizontal	245°	0.964	1.767	2.471	Horizontal
70°	0.866	1.424	1.536	Horizontal	250°	0.986	1.847	2.665	Horizontal
75°	0.819	1.274	1.053	Horizontal	255°	0.998	1.892	2.769	Horizontal
80°	0.767	1.117	0.480	Horizontal	260°	0.999	1.897	2.781	Horizontal
85°	0.706	0.946	-0.242	Horizontal	265°	0.991	1.867	2.711	Horizontal
90°	0.635	0.765	-1.161	Horizontal	270°	0.979	1.822	2.606	Horizontal
95°	0.558	0.591	-2.283	Horizontal	275°	0.969	1.782	2.510	Horizontal
100°	0.481	0.440	-3.565	Horizontal	280°	0.961	1.755	2.442	Horizontal
105°	0.412	0.323	-4.907	Horizontal	285°	0.957	1.739	2.403	Horizontal
110°	0.356	0.241	-6.172	Horizontal	290°	0.963	1.763	2.463	Vertical
115°	0.315	0.189	-7.246	Horizontal	295°	0.988	1.855	2.683	Vertical
120°	0.286	0.156	-8.076	Horizontal	300°	0.999	1.896	2.779	Vertical
125°	0.268	0.136	-8.661	Horizontal	305°	1.000	1.898	2.784	Horizontal
130°	0.258	0.126	-8.994	Horizontal	310°	0.994	1.879	2.739	Horizontal
135°	0.257	0.126	-9.011	Horizontal	315°	0.979	1.821	2.603	Horizontal
140°	0.268	0.136	-8.654	Horizontal	320°	0.961	1.754	2.441	Vertical
145°	0.292	0.162	-7.900	Horizontal	325°	0.938	1.673	2.236	Vertical
150°	0.332	0.209	-6.803	Horizontal	330°	0.917	1.598	2.035	Vertical
155°	0.385	0.282	-5.497	Horizontal	335°	0.900	1.540	1.875	Vertical
160°	0.450	0.384	-4.157	Horizontal	340°	0.889	1.501	1.763	Vertical
165°	0.517	0.508	-2.939	Horizontal	345°	0.882	1.480	1.702	Vertical
170°	0.582	0.645	-1.907	Horizontal	350°	0.881	1.476	1.691	Vertical
175°	0.636	0.767	-1.150	Horizontal	355°	0.884	1.484	1.716	Vertical

**Horizontal Polarization:**

**Maximum: 1.910 (2.810 dB)**

**Horizontal Plane: 1.910 (2.810 dB)**

**Maximum ERP: 1.900 kW**

**Vertical Polarization:**

**Maximum: 1.910 (2.810 dB)**

**Horizontal Plane: 1.910 (2.810 dB)**

**Maximum ERP: 1.900 kW**

**Total Input Power: 0.995 kW**

**Reference: Coac1M.FIG**

This list shows the the maximum azimuth values of either the horizontal or vertical components.

# ERI<sup>®</sup> Horizontal Plane Relative Field Pattern

Electronics Research, Inc. 7777 Gardner Rd. Chandler, IN 47610 Phone(812) 925-6000 Fax(812) 925-4030 Web: www.eriinc.com

Figure# 1A

Date: 8/5/2011

Station: New Station

Antenna: LP-4C-DA-HW

Location: Coachella, CA

Antenna Orientation: 300° True

Frequency: 103.5 MHz

Number of Bays: 4

Azimuth	Horizontal			Vertical			Azimuth	Horizontal			Vertical		
	Field	kW	dBk	Field	kW	dBk		Field	kW	dBk	Field	kW	dBk
0°	0.854	1.384	1.412	0.889	1.502	1.768	180°	0.696	0.920	-0.362	0.637	0.771	-1.131
5°	0.886	1.491	1.735	0.897	1.530	1.846	185°	0.763	1.105	0.435	0.692	0.910	-0.409
10°	0.919	1.604	2.052	0.908	1.566	1.949	190°	0.817	1.269	1.034	0.755	1.082	0.342
15°	0.943	1.690	2.280	0.921	1.613	2.075	195°	0.851	1.377	1.389	0.821	1.282	1.078
20°	0.956	1.736	2.395	0.935	1.663	2.208	200°	0.864	1.418	1.518	0.887	1.496	1.750
25°	0.957	1.740	2.405	0.948	1.706	2.321	205°	0.860	1.406	1.480	0.947	1.703	2.313
30°	0.953	1.727	2.374	0.957	1.741	2.409	210°	0.848	1.366	1.356	0.985	1.845	2.659
35°	0.954	1.731	2.383	0.964	1.767	2.472	215°	0.838	1.335	1.256	1.000	1.899	2.785
40°	0.963	1.762	2.460	0.969	1.782	2.510	220°	0.838	1.334	1.250	0.995	1.882	2.745
45°	0.974	1.802	2.558	0.969	1.784	2.514	225°	0.848	1.365	1.351	0.979	1.820	2.600
50°	0.978	1.819	2.598	0.957	1.739	2.402	230°	0.867	1.429	1.551	0.956	1.737	2.399
55°	0.969	1.786	2.518	0.926	1.628	2.116	235°	0.897	1.529	1.843	0.940	1.679	2.251
60°	0.945	1.696	2.295	0.875	1.456	1.631	240°	0.933	1.654	2.187	0.933	1.655	2.187
65°	0.909	1.568	1.955	0.806	1.234	0.913	245°	0.964	1.767	2.471	0.928	1.637	2.140
70°	0.866	1.424	1.536	0.727	1.005	0.021	250°	0.986	1.847	2.665	0.918	1.601	2.044
75°	0.819	1.274	1.053	0.661	0.830	-0.809	255°	0.998	1.892	2.769	0.902	1.545	1.891
80°	0.767	1.117	0.480	0.609	0.705	-1.516	260°	0.999	1.897	2.781	0.885	1.489	1.730
85°	0.706	0.946	-0.242	0.562	0.600	-2.221	265°	0.991	1.867	2.711	0.874	1.452	1.619
90°	0.635	0.765	-1.161	0.511	0.496	-3.044	270°	0.979	1.822	2.606	0.869	1.436	1.572
95°	0.558	0.591	-2.283	0.453	0.391	-4.084	275°	0.969	1.782	2.510	0.875	1.456	1.630
100°	0.481	0.440	-3.565	0.389	0.288	-5.407	280°	0.961	1.755	2.442	0.895	1.521	1.821
105°	0.412	0.323	-4.907	0.322	0.197	-7.046	285°	0.957	1.739	2.403	0.928	1.635	2.135
110°	0.356	0.241	-6.172	0.259	0.127	-8.946	290°	0.960	1.752	2.434	0.963	1.763	2.463
115°	0.315	0.189	-7.246	0.208	0.083	-10.833	295°	0.975	1.807	2.569	0.988	1.855	2.683
120°	0.286	0.156	-8.076	0.172	0.056	-12.500	300°	0.993	1.872	2.722	0.999	1.896	2.779
125°	0.268	0.136	-8.661	0.150	0.043	-13.711	305°	1.000	1.898	2.784	0.998	1.894	2.774
130°	0.258	0.126	-8.994	0.142	0.038	-14.178	310°	0.994	1.879	2.739	0.991	1.867	2.711
135°	0.257	0.126	-9.011	0.150	0.043	-13.682	315°	0.979	1.821	2.603	0.979	1.820	2.600
140°	0.268	0.136	-8.654	0.174	0.057	-12.423	320°	0.954	1.729	2.378	0.961	1.754	2.441
145°	0.292	0.162	-7.900	0.212	0.085	-10.700	325°	0.919	1.606	2.057	0.938	1.673	2.236
150°	0.332	0.209	-6.803	0.265	0.134	-8.739	330°	0.882	1.477	1.693	0.917	1.598	2.035
155°	0.385	0.282	-5.497	0.333	0.211	-6.764	335°	0.851	1.376	1.386	0.900	1.540	1.875
160°	0.450	0.384	-4.157	0.404	0.311	-5.074	340°	0.830	1.308	1.167	0.889	1.501	1.763
165°	0.517	0.508	-2.939	0.473	0.424	-3.721	345°	0.818	1.272	1.045	0.882	1.480	1.702
170°	0.582	0.645	-1.907	0.533	0.539	-2.681	350°	0.817	1.269	1.036	0.881	1.476	1.691
175°	0.636	0.767	-1.150	0.586	0.652	-1.856	355°	0.830	1.308	1.165	0.884	1.484	1.716

**Horizontal Polarization:**

**Maximum: 1.910 (2.810 dB)**

**Horizontal Plane: 1.910 (2.810 dB)**

**Maximum ERP: 1.900 kW**

**Vertical Polarization:**

**Maximum: 1.910 (2.810 dB)**

**Horizontal Plane: 1.910 (2.810 dB)**

**Maximum ERP: 1.900 kW**

**Total Input Power: 0.995 kW**

**Reference: Coac1M.FIG**

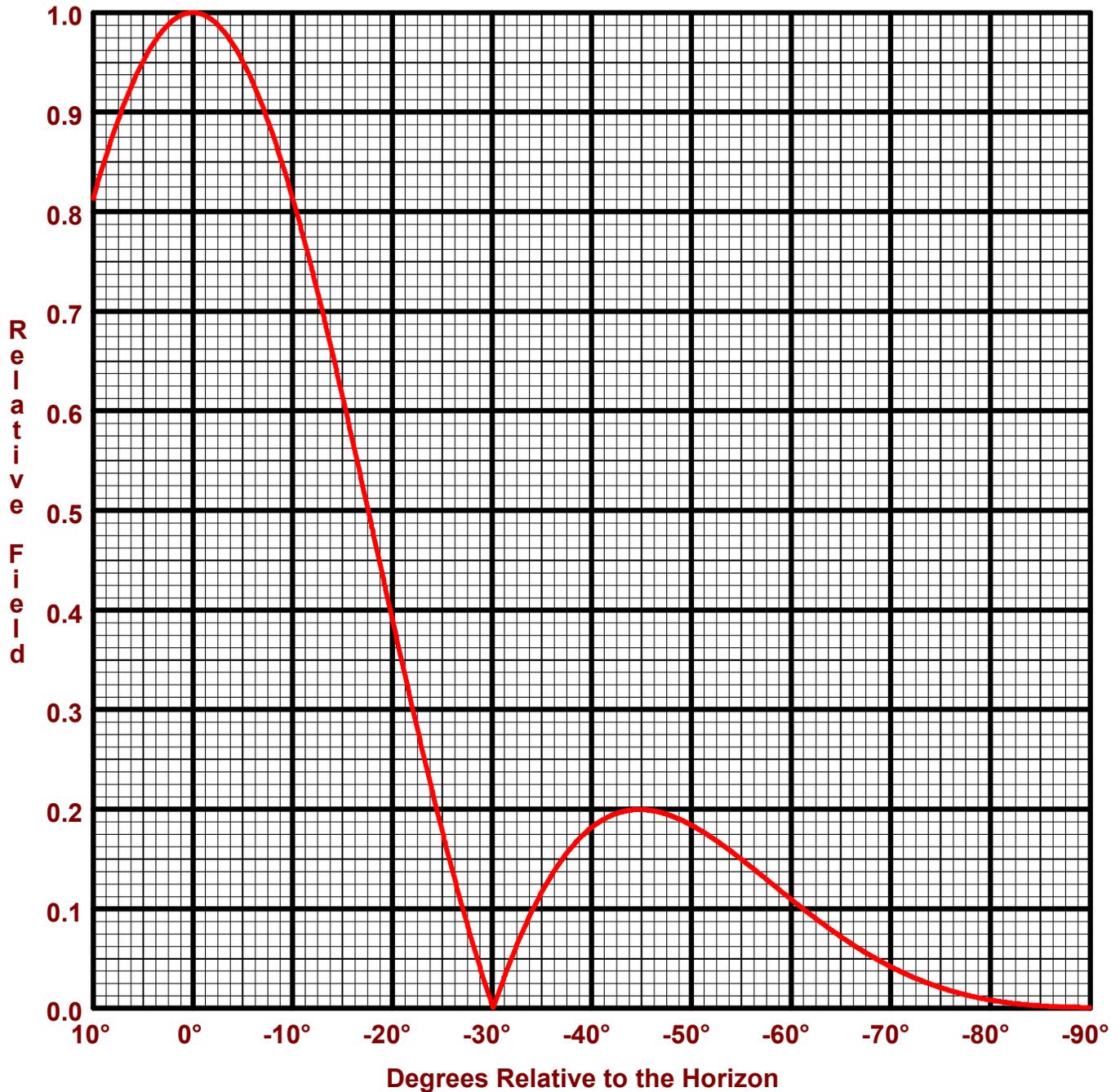
**This list shows the azimuth values for the horizontal and vertical components.**

# ERI<sup>®</sup> Vertical Plane Relative Field Pattern

Electronics Research, Inc. 7777 Gardner Rd. Chandler, IN 47610 Phone(812) 925-6000 Fax(812) 925-4030 Web: www.eriinc.com

Figure No: 3  
Call Sign: New Station  
Location: Coachella, CA  
Frequency: 103.5 MHz  
4 bay LP-4C-DA-HW antenna

Date: 8/5/2011  
H/V Power Ratio: 1  
.5 Wave-length Spacing  
0° Beam Tilt  
0% First Null Fill



**Horizontal Polarization:**  
Maximum: 1.910 (2.810 dB)  
Horizontal Plane: 1.910 (2.810 dB)  
Maximum ERP: 1.900 kW

**Vertical Polarization:**  
Maximum: 1.910 (2.810 dB)  
Horizontal Plane: 1.910 (2.810 dB)  
Maximum ERP: 1.900 kW

# Directional Antenna System for Coachella, California

(Continued)

## ANTENNA SPECIFICATIONS

Antenna Type:	LP-4C-DA-HW
Frequency:	103.5 MHz
Number of Bays:	Four

## MECHANICAL SPECIFICATIONS

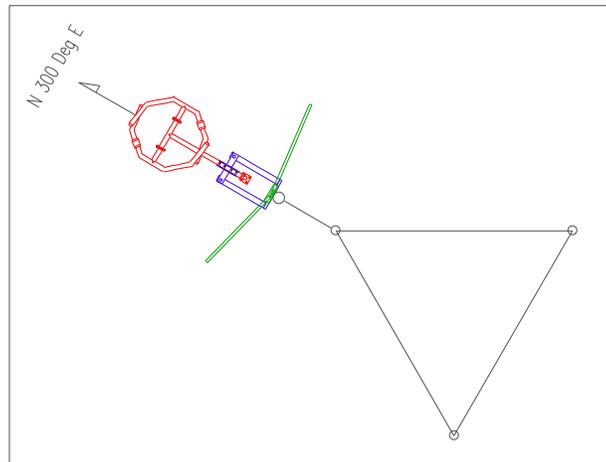
Mounting:	Custom
System length:	14 ft 3 in
Aperture length required:	21 ft
Orientation:	300° true

Input flange to the antenna 1 5/8" female.

## ELECTRICAL SPECIFICATIONS

(For directional use)

Maximum horizontal ERP:	1.900 kW (2.788 dBk)
Horizontal maximum power gain:	1.910 (2.810 dB)
Maximum vertical ERP:	1.900 kW (2.788 dBk)
Vertical maximum power gain:	1.910 (2.810 dB)
Total input power:	0.995 kW (-0.022 dBk)



**Exhibit B**

**Directional Antenna Survey**

**Coachella Valley Engineers**



August 29, 2011

Entravision Communications Corporation  
Mr. Richard Hunt, Vice President of Engineering  
5700 Wilshire Blvd., Suite 250  
Los Angeles, CA 90036

RE: Entravision Communications Corporation FM Antenna Bay Array Azimuth (True) Certification  
Near Cactus City, CA

I hereby certify that on August 24, 2011, the Entravision Communications Corporation FM Antenna Bay Array located on an American Tower Corporation tower at 33°39'22.8"N / 115°59'32.0"W was surveyed under my direct supervision, using the top antenna bay as a reference and was determined to be aligned to an azimuth of 300° True within +/- 1°.



A handwritten signature in cursive script that reads 'Mark A. Turner'.

Mark A. Turner  
P.L.S. #6532 Exp. 6/30/2013

**Exhibit C**

**Certification of Antenna Installation  
Engineer Qualifications**

**Richard Hunt**

## **DECLARATION OF RICHARD HUNT**

I, Richard Hunt, declare that the following is true and correct, to the best of my information, knowledge and belief:

1. I am the Vice President and Director of Radio Engineering for Entravision Communications Corporation ("Entravision") and am authorized to make this Declaration on behalf of Entravision.

2. I am holder of FCC General Radiotelephone License PG-4-6308 and holder of former First Class Radiotelephone License P1-4-9276. My work has been recognized by the FCC in numerous filings before the Commission.

3. I have worked in radio engineering for over 35 years and, during that time period, have gained significant experience in the installation and adjustment of FM radio equipment and antenna systems.

4. I attended Virginia Polytechnic Institute & State University from 1973 to 1977 in the B.S. Chemistry program.

5. On behalf of Entravision, I supervised the installation of the directional antenna system for Station KPST-FM, Coachella, California, pursuant to the terms contained in FCC File No. BNPH-20110607ABT.

6. I hereby certify that the installation of the directional antenna system for Station KPST-FM was completed pursuant to the manufacturer's instructions for such installation.

Richard Hunt

VP & Director of Radio Engineering

Entravision Holdings, LLC

## Exhibit D

70 dBu Coverage Map with Coachella, CA boundary

Prepared by Richard Hunt

**1428844.A**  
 Coachella CA  
 Entravision Holdings, Llc  
 Latitude: 33-39-23 N  
 Longitude: 115-59-29 W  
 ERP: 1.90 kW  
 Class: A  
 Channel: 278  
 Frequency: 103.5 MHz  
 AGL Height: 17.0 m  
 AMSL Height: 559.0 m  
 HAAT: 179.0 m  
 Elevation: 542.0 m  
 Horiz. Pattern: Directional  
 Vert. Pattern: No  
 Prop Model: Longley/Rice  
 Climate: Cont temperate  
 Conductivity: 0.0050  
 Dielec Const: 15.0  
 Refractivity: 311.0  
 Receiver Ht AG: 2.0 m  
 Receiver Gain: 0 dB  
 Time Variability: 50.0%  
 Sit. Variability: 50.0%  
 ITM Mode: Broadcast

