



WVEBA (Bid # EBA427)
W28DR-D, Cedarville, WV Site
Technical Proposal

October 4, 2012

Alternate Offer - JA/LS-DC-12-BB-SH

WY092712M

RECEIVED

2012 OCT -3 AM 9:12

WV PURCHASING
DIVISION

UHF SLOT ANTENNA



PROSTAR SERIES

Proven performance, quality and reliability

Rugged construction

Directional patterns standard & custom

High power rating to achieve 5 megawatts

Custom electrical & mechanical beam tilt

Horizontal, circular & elliptical polarization

ELECTRICAL SPECIFICATIONS

Polarization	Horizontal, Elliptical, Circular
Power Rating	1 kW to 90 kW
Beam Tilt	As specified by customer
Null Fill	As specified by customer
Input Impedance	50 or 75 ohm
VSWR	1.1:1 or better across band



UHF SLOT ANTENNA



SELECTING YOUR SLOT ANTENNA

Compatible with DTV, NTSC and PAL Broadcasts

JA-LS: 1 kW

JAMPRO's LOW POWER slot antenna is designed with the needs of low power UHF broadcasters in mind. Aluminum construction ensures excellent weather resistance while resisting windload and weight on the tower. The unique design of the low power UHF slot antenna can be configured to provide varying levels of vertically polarized signal. The versatility of the slots allows them to be top, leg or face mounted.

JA-MS: 1 to 30 kW

JAMPRO's JA/MS is the harsh environment version of the JA/LS antenna. The JA/MS is also enclosed by white UV resistant radomes for added protection from the environment. The JA/MS is an excellent choice for low power UHF broadcasters located in areas with heavy air pollution or high salt content in the air.

JSL-SERIES: 5 to 40 kW

JAMPRO's Premium LOW POWER slot antenna, using marine brass, copper and virgin Teflon in construction, is the finest antenna of its type. This excellent antenna was designed from our medium power slot series with the same detail in manufacturing and rugged construction. Now, stations transmitting with lower power can find quality and performance in the JSL Series antenna.

JSM-SERIES: 30 to 70 kW

JAMPRO's Premium MEDIUM POWER slot antenna has been designed for performance. Detail in manufacturing and tuning for your pattern assures premium performance. The feed lines are pressurized for protection, and the slots are Radome sealed to protect the antenna from the environment. The finest quality marine brass, copper and virgin Teflon is used in the construction of the antenna. Computer modeling is used in pattern designs and the patterns are confirmed on our 7,000 ft. full field test range before the antenna is shipped. Test range measured performance and factory tuned before shipping give you the confidence - you are getting the finest antenna of its type available.

JSH-SERIES: 60 to 90 kW

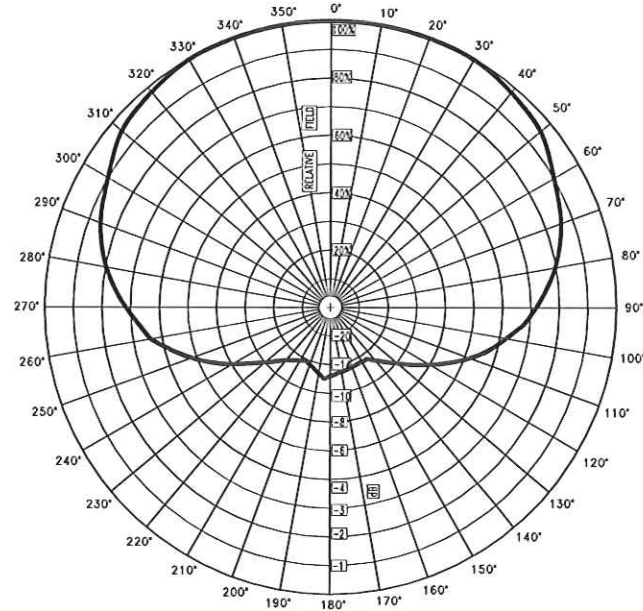
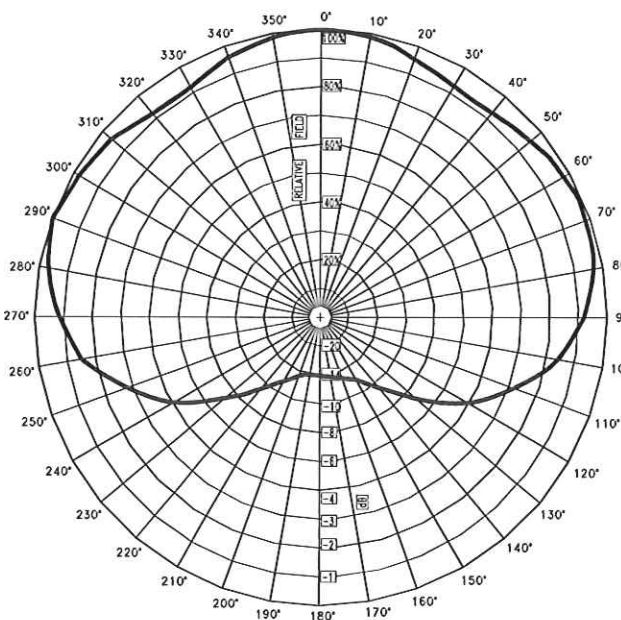
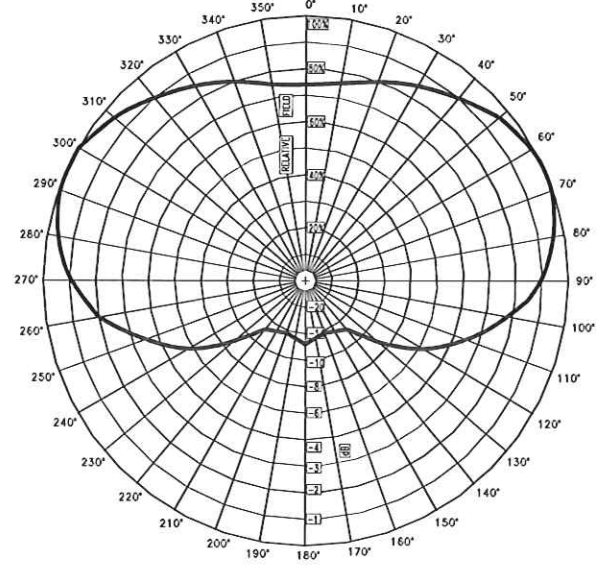
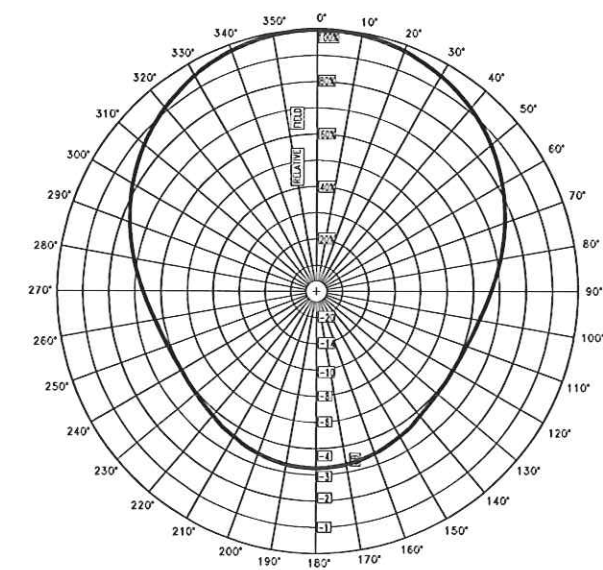
JAMPRO's Premium HIGH POWER slot antenna is Radome enclosed and environmentally sealed. The power rating of this antenna is conservative, and can be increased beyond that shown. The use of waveguide power dividing feed system will double the power rating of the antenna. The finest quality marine brass, copper and virgin Teflon is used in the construction of the antenna, and the Radome enclosure protects the antenna from environmental hazards. Computer modeling is used to design the pattern selected. The pattern is then optimized on our full field test range. The antenna is factory tuned and does not require field tuning when installed.

UHF SLOT ANTENNA



TYPICAL AZIMUTH PATTERNS (OVER 50 AVAIL)

A sample of the azimuth patterns offered for JAMPRO's Prostar slot antennas are shown. Variations of these patterns, as well as custom designed patterns, are available for any application. The free space azimuth patterns can be optimized for top mount, leg mount or face mounting on the tower. Top mount antennas include the support pole and must be specified as a top mount when requesting a quote.



UHF SLOT ANTENNA



The FCC will accept any antenna that duplicates the gain and pattern as specified in the Construction Permit filed by the station with the FCC. JAMPRO offers over 50 azimuth patterns for these slot antennas, all of which have been tested and measured on

JAMPRO's full-scale 7,000 ft. test range. All patterns are filed with the FCC and are available as "off the shelf" patterns. JAMPRO can match any pattern offered by any other manufacturer, providing more freedom and flexibility to the broadcaster.

Our engineers work with each customer to develop the most effective polarization, from a small percentage of elliptical polarization to full circular polarization. This flexibility could allow the station to have different patterns for horizontal and vertical polarizations, maximizing the station's coverage.

Electrical beam tilt to 2° is standard and available with gain reduction, and null fill to 15% is also standard. Properly configured beam tilt and null fill can substantially improve coverage of a station. In most cases, the maximum beam should be below the horizon so that 90% field is on the FCC Radio Horizon. Uniform 10% to 15% null fill will provide an optimum elevation pattern and a more uniform signal level between the horizon and the tower.

JAMPRO employs a staff of highly trained engineers and sales staff who will help you select the best antenna system for your application and design a pattern that best suits your coverage needs. Contact JAMPRO directly for assistance.

Note: Wind loads rating based on 50/33 PSF - 50 lbs. per sq. ft. for flat surfaces and 33 lbs. per sq. ft. for round surfaces. Weights do not include mounting brackets, feed lines or power dividers. Specifications for channels not shown are available upon request. Sample elevation patterns are shown without beam tilt and null fill.



Antenna Specifications	JA/LS-DC-12/28-BB-SH
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<u>CUSTOMER:</u>	West Virginia Educational Broadcasting Authority (WVEBA)
<u>FOR:</u>	West Virginia Bid # EBA427 <u>ALTERNATE OFFER</u>
<u>SITE:</u>	W28DR-D, Cedarville, WV site
<u>CHANNEL:</u>	28
<u>ANTENNA TYPE:</u>	JA/LS-DC-12/28-BB-SH
<u>ANTENNA DESCRIPTION:</u>	JAMPRO JA/LS-DC-12/28-BB-SH Prostar Low Power Sidemounted Horizontally Polarized Broadband UHF Slot Antenna, to produce a broad skull (#40) pattern.

ELECTRICAL SPECIFICATIONS

Estimated RMS gain:	12.0x / 10.79 dBd
Electrical beam tilt:	-1.5°
Null fill:	10% smooth
Bandwidth:	± 30 MHz
Antenna VSWR:	1.1:1 (on sub-band) to be specified at time of order
Input Power Rating:	3 kW
Antenna input impedance:	50 ohm

MECHANICAL SPECIFICATIONS

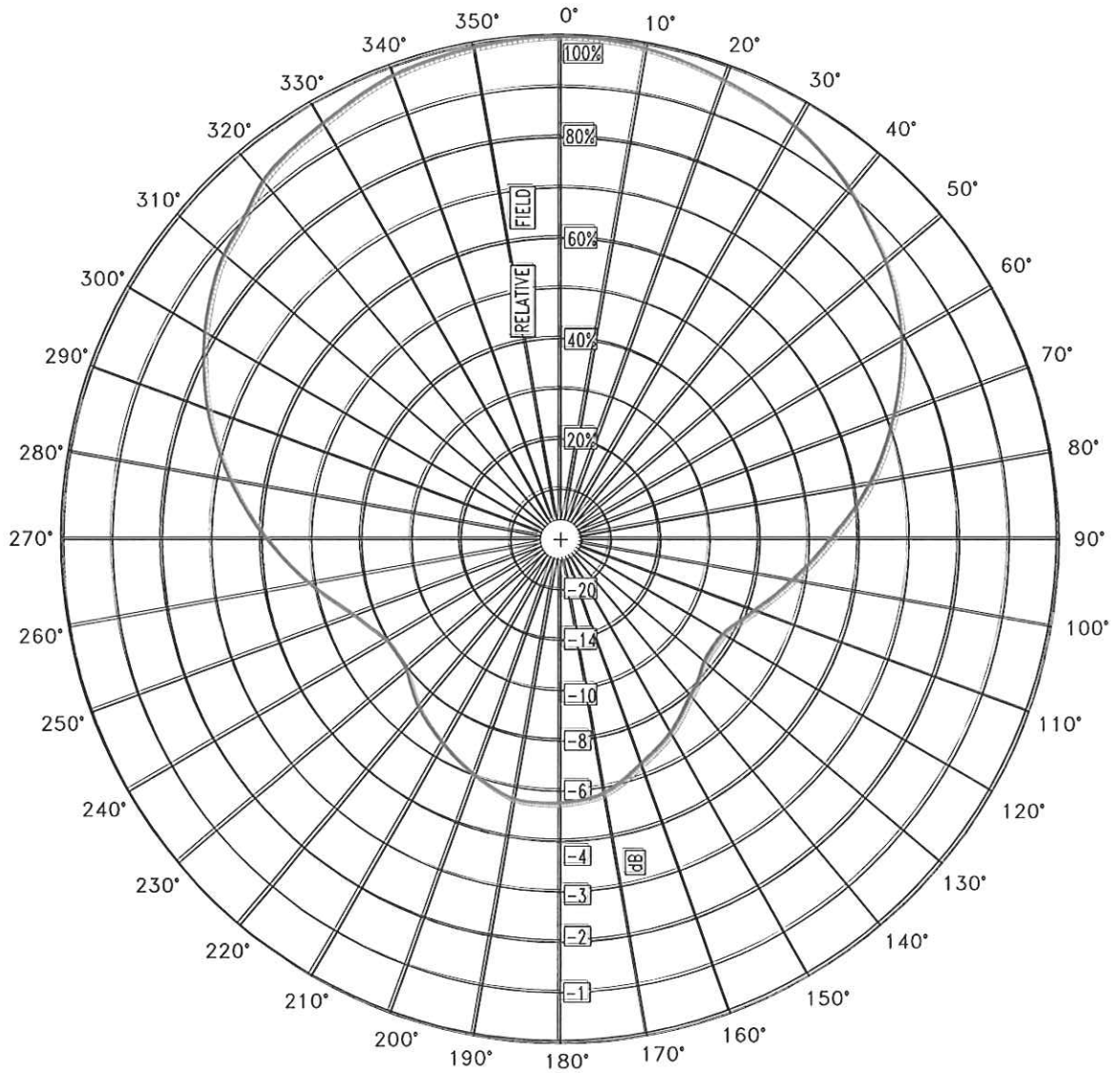
Overall height of antenna, est:	± 22'-0"
Antenna net weight, est:	128.5 lbs (120 kg) (no ice)
Projected Area (CaAa), est.	14.6 sq. ft (1.4 sq m)
Antenna input connector size:	1-5/8"

NOTE: THESE SPECIFICATIONS ARE PREDICTIONS BASED ON AVAILABLE DATA. THE ACTUAL PERFORMANCE MAY DIFFER FROM THESE DUE TO THE ELECTRICAL, MECHANICAL AND MEASURED LIMITATIONS AT YOUR FREQUENCIES.



6340 Sky Creek Drive
Sacramento, CA 95828

Phone: 916-383-1177
Fax: 916-383-1182



Azimuth Pattern Details

Customer: W28DR-D

Model: JA/LS-DC-12/28-BB

Type: UHF Broadband Slot Antenna

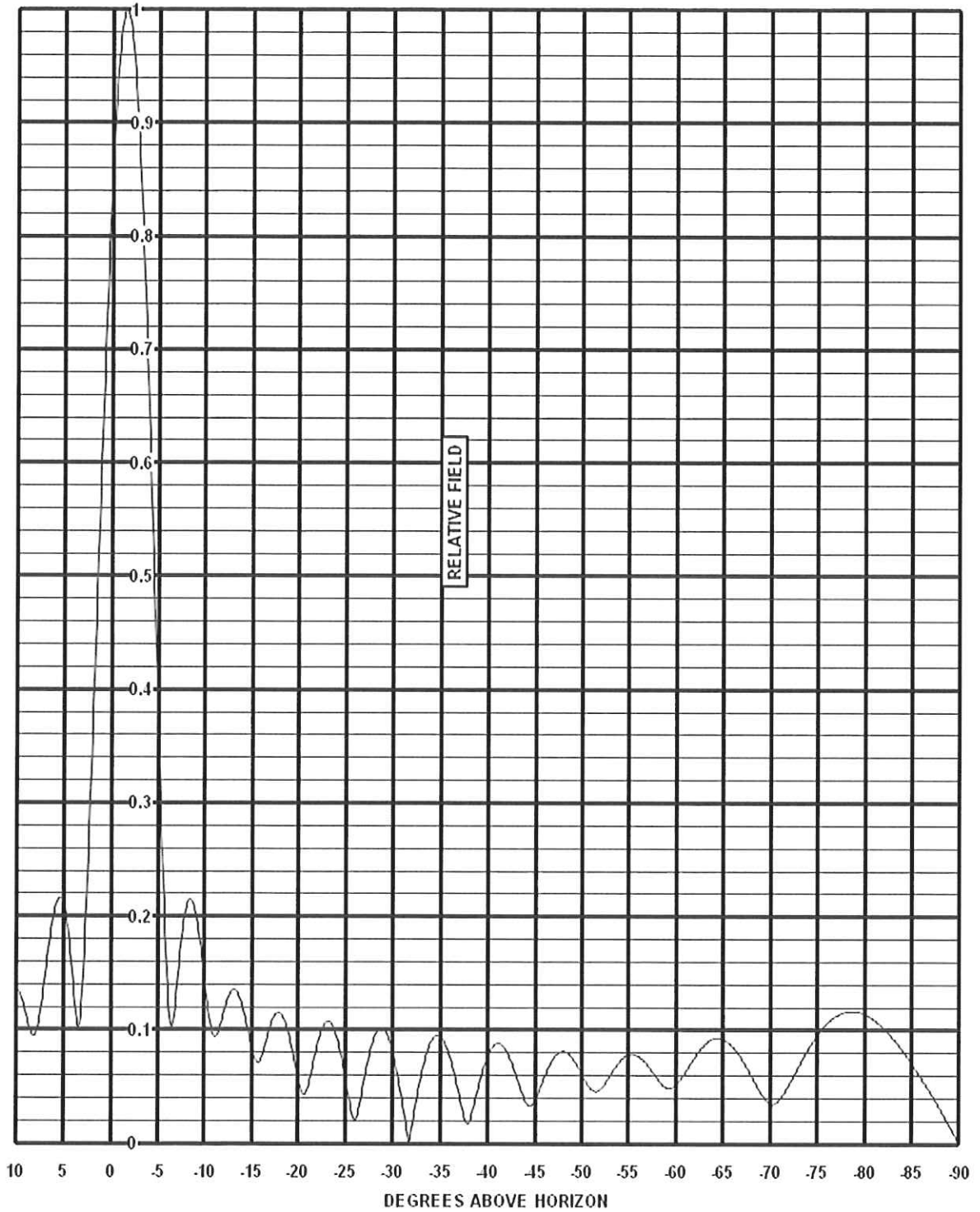
Channel: 28 (554-560 MHz)



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COMPUTED ELEVATION PATTERN



Customer: W28DR-D
Channel: 28 (554 - 560 MHz)

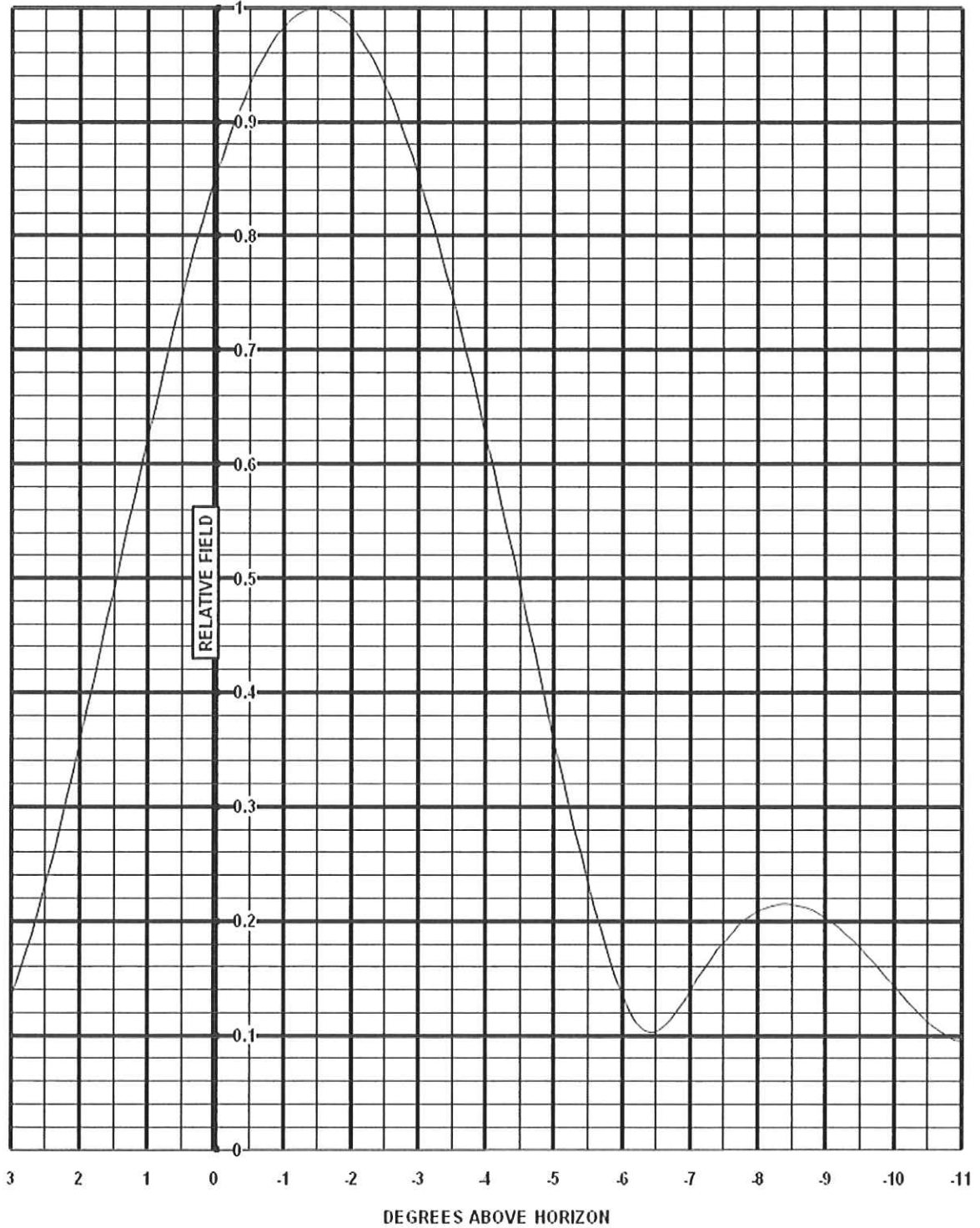
Model: JA/LS-DC-12/28-BB
Description: UHF Broadband Slot Antenna
-1.5° Beam Tilt, 10% Null Fill



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ELEVATION PATTERN



Customer: W28DR-D
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Description: UHF Broadband Slot Antenna
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Elevation Pattern Tabulation

RELATIVE FIELD VS ELEVATION ANGLE

<u>ELEVATION</u> <u>ANGLE</u>	<u>RELATIVE</u> <u>FIELD</u>	<u>ELEVATION</u> <u>ANGLE</u>	<u>RELATIVE</u> <u>FIELD</u>	<u>ELEVATION</u> <u>ANGLE</u>	<u>RELATIVE</u> <u>FIELD</u>
10	0.137	-26	0.020	-61	0.063
9	0.116	-27	0.058	-62	0.076
8	0.095	-28	0.093	-63	0.087
7	0.142	-29	0.101	-64	0.093
6	0.203	-30	0.081	-65	0.092
5	0.210	-31	0.038	-66	0.085
4	0.141	-32	0.013	-67	0.074
3	0.135	-33	0.059	-68	0.059
2	0.357	-34	0.089	-69	0.044
1	0.624	-35	0.095	-70	0.035
0	0.853	-36	0.077	-71	0.039
-1	0.983	-37	0.042	-72	0.052
-2	0.983	-38	0.018	-73	0.068
-3	0.852	-39	0.049	-74	0.083
-4	0.624	-40	0.077	-75	0.096
-5	0.357	-41	0.088	-76	0.106
-6	0.136	-42	0.081	-77	0.112
-7	0.139	-43	0.060	-78	0.116
-8	0.208	-44	0.037	-79	0.117
-9	0.203	-45	0.038	-80	0.114
-10	0.144	-46	0.059	-81	0.109
-11	0.095	-47	0.076	-82	0.102
-12	0.113	-48	0.081	-83	0.093
-13	0.135	-49	0.075	-84	0.082
-14	0.121	-50	0.061	-85	0.071
-15	0.084	-51	0.048	-86	0.058
-16	0.074	-52	0.048	-87	0.044
-17	0.102	-53	0.059	-88	0.030
-18	0.115	-54	0.072	-89	0.015
-19	0.097	-55	0.078	-90	0.000
-20	0.057	-56	0.077		
-21	0.049	-57	0.069		
-22	0.086	-58	0.058		
-23	0.107	-59	0.049		
-24	0.097	-60	0.052		
-25	0.059				

Customer: W28DR-D
Channel: 28 (554 - 560 MHz)

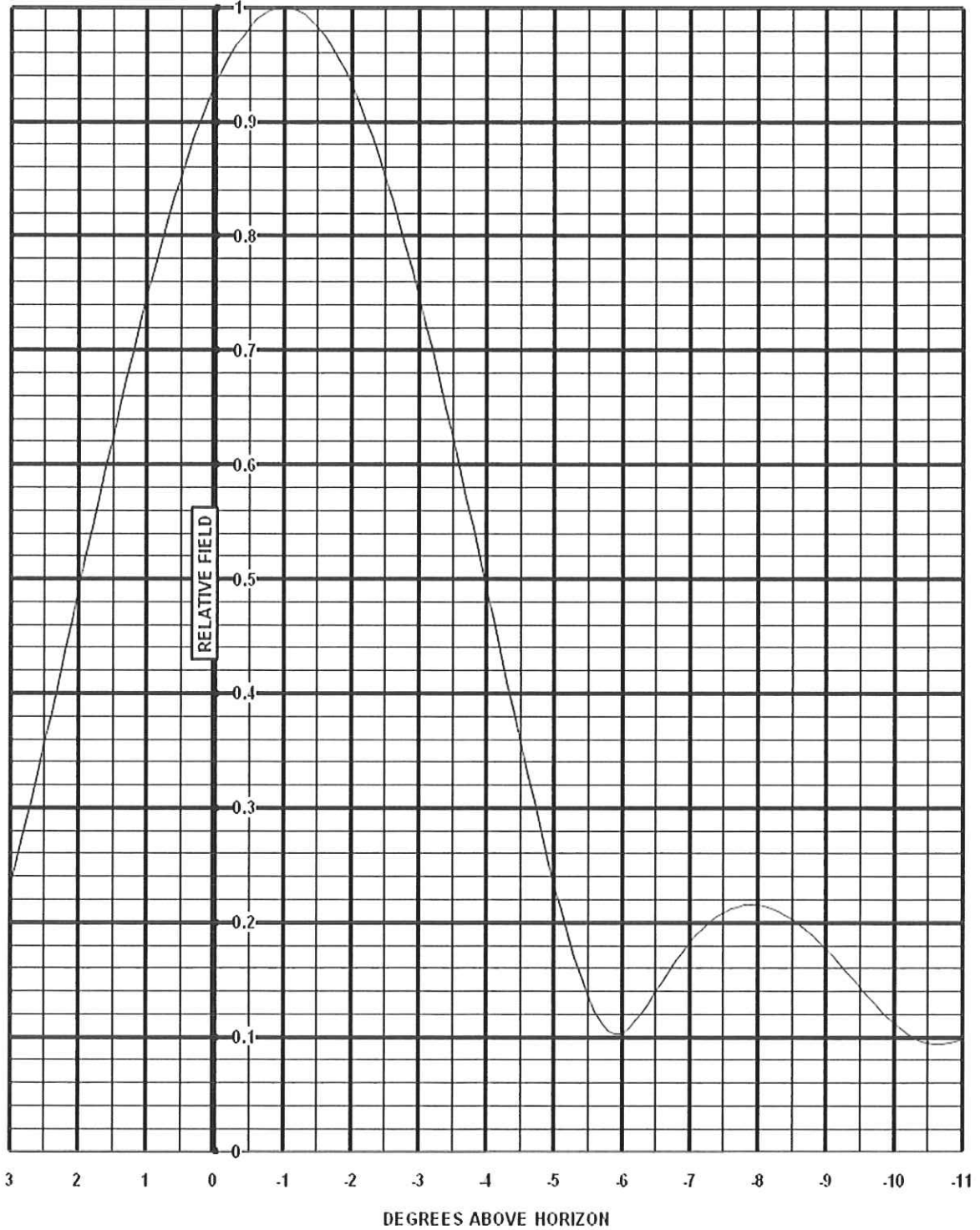
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ELEVATION PATTERN



Customer: W28DR-D
Channel: 28 (554 - 560 MHz)

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Description: UHF Broadband Slot Antenna
-1° Beam Tilt, 10% Null Fill



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Elevation Pattern Tabulation

RELATIVE FIELD VS ELEVATION ANGLE

<u>ELEVATION ANGLE</u>	<u>RELATIVE FIELD</u>	<u>ELEVATION ANGLE</u>	<u>RELATIVE FIELD</u>	<u>ELEVATION ANGLE</u>	<u>RELATIVE FIELD</u>
10	0.130	-26	0.037	-61	0.080
9	0.100	-27	0.080	-62	0.091
8	0.111	-28	0.102	-63	0.097
7	0.176	-29	0.093	-64	0.095
6	0.216	-30	0.058	-65	0.087
5	0.184	-31	0.009	-66	0.074
4	0.104	-32	0.042	-67	0.057
3	0.232	-33	0.080	-68	0.042
2	0.491	-34	0.096	-69	0.038
1	0.747	-35	0.087	-70	0.048
0	0.933	-36	0.057	-71	0.067
-1	1.000	-37	0.021	-72	0.086
-2	0.932	-38	0.037	-73	0.104
-3	0.747	-39	0.070	-74	0.119
-4	0.491	-40	0.087	-75	0.130
-5	0.233	-41	0.086	-76	0.138
-6	0.103	-42	0.069	-77	0.142
-7	0.183	-43	0.044	-78	0.143
-8	0.215	-44	0.034	-79	0.140
-9	0.177	-45	0.053	-80	0.135
-10	0.112	-46	0.073	-81	0.127
-11	0.098	-47	0.082	-82	0.117
-12	0.128	-48	0.079	-83	0.106
-13	0.133	-49	0.066	-84	0.093
-14	0.103	-50	0.051	-85	0.079
-15	0.072	-51	0.047	-86	0.064
-16	0.088	-52	0.058	-87	0.048
-17	0.113	-53	0.071	-88	0.032
-18	0.110	-54	0.079	-89	0.016
-19	0.077	-55	0.079	-90	0.000
-20	0.044	-56	0.072		
-21	0.069	-57	0.060		
-22	0.101	-58	0.051		
-23	0.106	-59	0.053		
-24	0.079	-60	0.065		
-25	0.032				

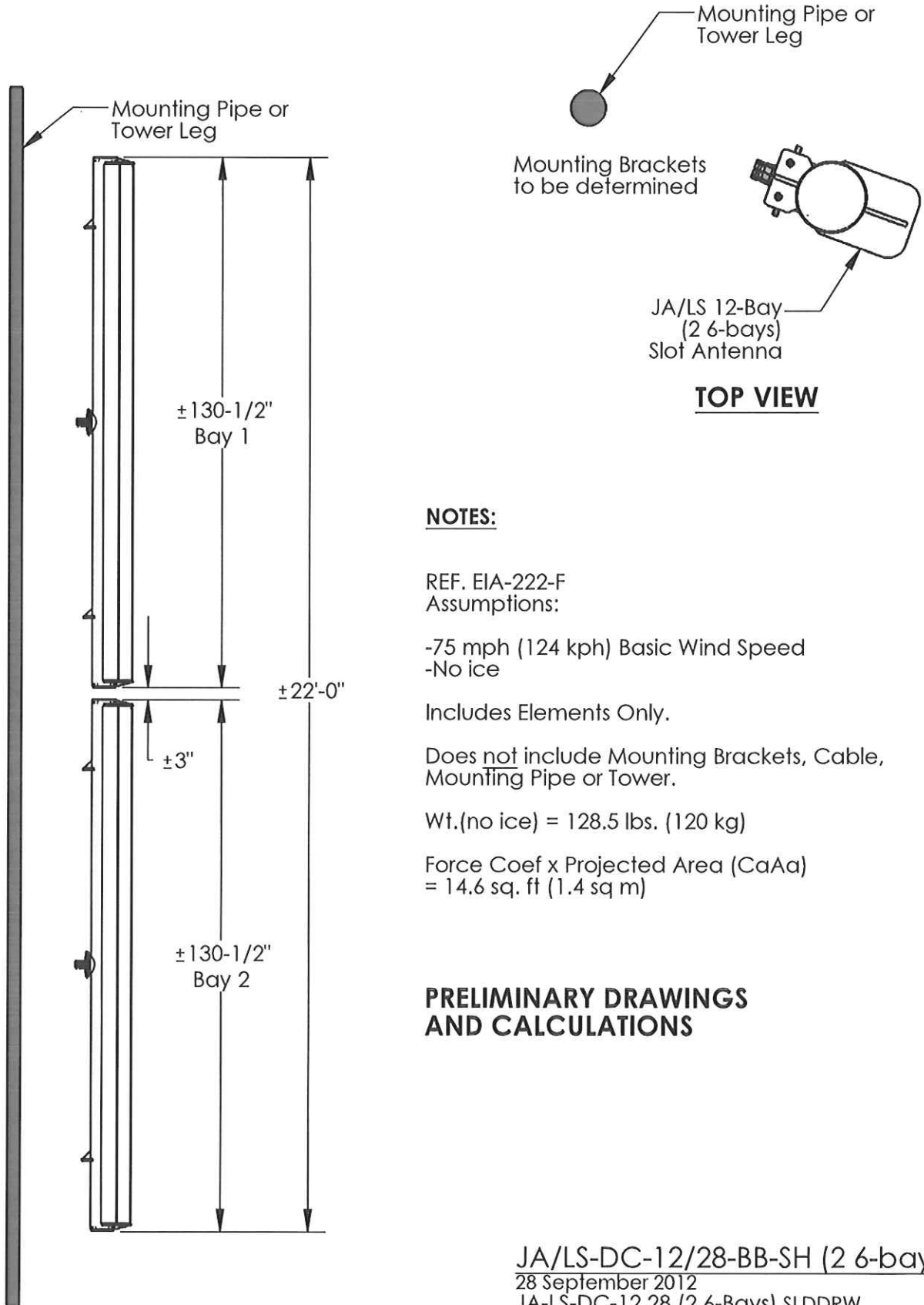
Customer: W28DR-D
Channel: 28 (554 - 560 MHz)

Model: JA/LS-DC-12/28-BB
Description: UHF Broadband Slot Antenna
-1° Beam Tilt, 10% Null Fill



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 P.O. Box 292880, Sacramento, California 95829-2880

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NOTES:

REF. EIA-222-F
 Assumptions:

- 75 mph (124 kph) Basic Wind Speed
- No ice

Includes Elements Only.

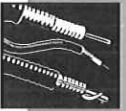
Does not include Mounting Brackets, Cable, Mounting Pipe or Tower.

Wt.(no ice) = 128.5 lbs. (120 kg)

Force Coef x Projected Area (CaAa)
 = 14.6 sq. ft (1.4 sq m)

**PRELIMINARY DRAWINGS
 AND CALCULATIONS**

JA/LS-DC-12/28-BB-SH (2 6-bays)
 28 September 2012
 JA-LS-DC-12.28 (2 6-Bays).SLDDRW



N Female
H7PNF



7-16 DIN Male
H7PDM



1-5/8" EIA Flange
87G



7/8" EIA Flange
H7MP-014

Connectors

Interface	Description	Type Number	Reference*	Inner Contact Attachment	Outer Contact Attachment	Plating Code	Max. Length in (mm)	Max. Dia. in (mm)
N Male	Tunable	H7NM-T	-	Tab Flare	Tab Flare	BB	11.6 (295)	2.4 (61)
N Female	-	H7PNF	-	Tab Flare	Tab Flare	SG	4.1 (104)	2.4 (61)
N Female	Tunable	H7NF-T	-	Tab Flare	Tab Flare	BB	11.4 (290)	2.4 (61)
7-16 DIN Male	-	H7PDM	-	Tab Flare	Tab Flare	SS	4.2 (107)	2.7 (69)
7-16 DIN Female	-	H7PDF	-	Tab Flare	Tab Flare	SS	4.2 (107)	2.7 (69)
1-5/8" EIA Flange	Gas Pass [†]	87R	-	Tab Flare	Tab Flare	BS	4.8 (122)	3.5 (89)
1-5/8" EIA Flange	Gas Block [†]	87G	-	Tab Flare	Tab Flare	BS	5.7 (145)	3.5 (89)
7/8" EIA Flange	Gas Pass [†]	H7MP-014	87S	Tab Flare	Tab Flare	BS	5.6 (142)	2.4 (61)
7/8" EIA Flange	Gas Pass, Tunable [†]	87ST	-	Tab Flare	Tab Flare	BS	11.8 (300)	2.4 (61)
7/8" EIA Flange	Gas Block [†]	H7MB-014	87SG	Tab Flare	Tab Flare	BS	5.6 (142)	2.4 (61)
7/8" EIA Flange	Gas Block, Tunable [†]	87SGT	-	Tab Flare	Tab Flare	BS	12.2 (310)	2.4 (61)
LC Female	-	87L	-	Tab Flare	Tab Flare	BB	4.9 (124)	2.4 (61)
End Terminal	-	87T	-	Tab Flare	Tab Flare	BB	7.0 (178)	2.4 (61)
Splice	-	87Z	-	Tab Flare	Tab Flare	BB	5.9 (150)	2.4 (61)

Plating Codes: BB - Brass Body and Pin, BS - Brass Body and Silver Plated Pin (inner connector), SG - Silver Plated Body and Gold Plated Pin, SS - Silver Plated Body and Pin
* Previous Type Number. † Includes inner.

Connector Accessories

	Type Number
Connector Reattachment Kit	
For 87G, 87R	34767A-6
For H7PNF, 87PN, H7MP-014, H7MB-014	34767A-7
For 87SGT, 87ST	34767A-20
For H7NF-T, H7NM-T, 87NT, 87WT	34767A-19
For 87Z	34767A-13
7/8" EIA Gas Barrier	1260A
1-5/8" EIA Gas Barrier	1261B
1-5/8" EIA End Terminal, for strap connection to center conductor, includes inner connector.	
Use with 87R	2061
1-5/8" Inner Connector, with anchor bead	34660
1-5/8" EIA 90° Miter Elbow, includes one inner connector	1061A

Product Specifications



HJ7-50A

HJ7-50A, HELIAX® Standard Air Dielectric Coaxial Cable, corrugated copper, 1-5/8 in, black PE jacket



CHARACTERISTICS

Construction Materials

Jacket Material	PE
Dielectric Material	PE
Flexibility	Standard
Inner Conductor Material	Copper tube
Jacket Color	Black
Outer Conductor Material	Corrugated copper

Dimensions

Nominal Size	1-5/8 in
Cable Volume	14.0 ft ³ /kft
Cable Weight	1.04 lb/ft
Diameter Over Jacket	1.980 in 50.292 mm
Inner Conductor OD	0.710 in 18.034 mm
Outer Conductor OD	1.830 in 46.482 mm

Electrical Specifications

Attenuation Coefficient A	0.019838
Attenuation Coefficient B	0.000081
Cable Impedance	50 ohm ± 0.5 ohm
Capacitance	22 pF/ft 7251 pF/m
dc Resistance, Inner Conductor	0.220 ohms/kft
dc Resistance, Outer Conductor	0.100 ohms/kft
dc Test Voltage	11000 V
Inductance	0.570 µH/ft 1.870 µH/m
Insulation Resistance	100000 mOhm
Jacket Spark Test Voltage (rms)	10000 V
Operating Frequency Band	1 – 2700 MHz
Peak Power	305.0 kW
Power Attenuation	3.355
Velocity	92%

Environmental Specifications

Installation Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Operating Temperature	-55 °C to +85 °C (-67 °F to +185 °F)



Mojave DryLine® Automatic Membrane Dehydrator

World-class dehydrator for low-volume systems

Ensures maximum system performance by constantly changing the air inside the waveguide.

This addition to the family of DryLine® pressurization equipment provides the industry with a fully automatic dehydrator with an expanded range that covers systems with volumes from 42.5 to 1700 liters (1.5 to 60 cubic feet). Low and medium volume cellular, broadcast, and microwave systems now can be pressurized with equipment that functions without the need for bypass kits and ancillary air tanks. The Mojave dehydrator offers operational reliability, a technologically advanced drying mechanism, easy installation, and a warranty that is the best in the business.

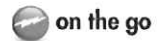
The Mojave dehydrator is a superior alternative to bottled nitrogen gas and desiccant dehydrators, especially at remote sites. The unit minimizes the maintenance associated with nitrogen tanks and manually regenerative systems. The Mojave dehydrator uses automatic pressure sensing and microprocessor control to activate and deactivate an air compressor, operating only when needed to maintain pressure the transmission lines, improving efficiency, for reduced wear and maintenance. The Mojave dehydrator does not utilize an internal tank and regulator so it constantly changes the air inside the waveguide to ensure maximum system performance.

The Mojave dehydrator features an electronic compressor control module that incorporates precise pressure sensing with microprocessor control circuitry to control compressor cycles and provide system monitoring.

DryLine® equipment offers the best performance available in any type of dehydrator. Moisture is separated from the airstream and vented to the outside. The simplicity in the membrane cartridge design eliminates the parts required for pressure swings or heat regenerative dehydration. Our three year/3,000 hour warranty assures your dehydrator will operate more dependably than any other unit in its class. The units also feature reduced noise and minimum vibration. This membrane is designed to operate at 50 psi, increasing compressor life up to 100% over the 90 psi membrane units.

The Mojave dehydrator is designed to mount in an equipment rack, on a shelf, directly on the wall, or on the floor. The Mojave dehydrator provides front access for the maintenance and operational controls. Power, air, and alarm connections of the Mojave dehydrator are accessible from the rear of the cabinet.

The standard alarm package (MOJAVE1 and MOJAVE2) includes a low-pressure alarm and an excess run alarm. The discrete alarm package (MOJAVE1A and MOJAVE2A) provides a single contact closure for the two summary alarms, as well as discrete contacts for each of the four alarms; power fail, lowpressure, excess run and high humidity. An approved terminal block is provided for the alarm outputs.



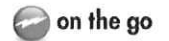
Each of these units is configured for a specific voltage range. MOJAVE1 and MOJAVE1A are wired for 115 Vac \pm 10% and have a North American power cord included with the installation accessories. The MOJAVE2 and MOJAVE2A are wired for 240 Vac \pm 10% and have a harmonized, stripped-leads power cord included with the installation accessories.

Front mounted controls and status indicators include:

- Digital LCD display for alarm and system status
- Compressor run-time alarm
- USB Interface for field updates of firmware (inside unit)

Product Specifications

COMMSCOPE®



MOJAVE 1A

DryLine® Dehydrator, Low-pressure membrane, 19 in rack mountable, 2.0–5.0 psig, with discrete alarm, 115 Vac, 60 Hz

- See related products for dc options, sold separately

Alarm

Alarm Type	Discrete
Excess-Run Alarm	10 minutes, factory set
High-Humidity Alarm	7.5% RH, factory set
Low-Pressure Alarm	68 mbar 7 kPa 1 psig
Power-Fail Alarm	Loss of input power

Dimensions

Net Weight	11.79 kg 26.00 lb
Product Depth	25.40 cm 10.00 in
Product Depth, Packed	43.18 cm 17.00 in
Product Height	22.23 cm 8.75 in
Product Height, Packed	42.55 cm 16.75 in
Product Width	48.18 cm 17.00 in
Product Width, Packed	58.42 cm 23.00 in

Electrical Specifications

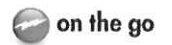
Power Cord	USA power cord
Voltage	115 Vac ±10%
Alarm Contact Rating	Form C dry contacts, 2 amps at 30 Vdc
Operating Temperature	-10 °C to +40 °C (+14 °F to +100 °F)
Power Consumption	215.0 W
Power Frequency	60 Hz
Power Phase	Single
Suggested Circuit Breaker Size	20 A
Circuit Breaker Requirement	Electrical connections require separate circuits for dehydrator installation

General Specifications

Dehydrator Type	Automatic Membrane
Voltage Type	ac
Volume Capacity, maximum	1699.00 L 60.00 ft ³
Cut In Pressure	13.79 kPa 2.00 psig
Cut In/Out Pressure Type	factory set
Cut Out Pressure	34.47 kPa 5.00 psig
Dew Point	Better than -45 °C (-50 °F) at 95% RH at +40 °C (+104 °F)
Flow Rate	4.20 SLPM 0.15 SCFM
Includes	3/8 in polyethylene tubing 90° elbow fitting Male connector fitting Needle valve Power cord Power cord connector lock PTFE tape Screws
Mount Type	Floor Rack Shelf Wall

Product Specifications

COMMSCOPE®



MOJAVE1A

Port Count	1
Port Type	3/8 in PE tube
Rack Type	EIA 19 in
Rack Units	5
Volume Capacity, minimum	42.48 L 1.50 ft ³

Product Specifications



Storage Temperature -70 °C to +85 °C (-94 °F to +185 °F)

Mechanical Specifications

Bending Moment 30.0 ft lb | 40.7 N-m
Flat Plate Crush Strength 175.0 lb/in
Minimum Bend Radius, Multiple Bends 20.00 in | 508.00 mm
Number of Bends, Minimum 15
Number of Bends, Typical 30
Pressurization, Maximum 30 psi
Tensile Strength 750 lb | 340 kg

Standard Conditions

Attenuation, Ambient Temperature 68 °F | 20 °C
Average Power, Ambient Temperature 104 °F | 40 °C
Average Power, Inner Conductor Temperature 212 °F | 100 °C

Attenuation

Frequency (MHz)	Attenuation (dB/100 ft)	Attenuation (dB/100 m)	Average Power (kW)
0.5	0.014	0.046	238.48
1	0.02	0.065	168.43
1.5	0.024	0.08	137.40
2	0.028	0.093	118.90
10	0.064	0.208	52.80
20	0.09	0.296	37.14
30	0.111	0.364	30.20
50	0.144	0.474	23.25
88	0.193	0.634	17.36
100	0.206	0.677	16.25
108	0.215	0.705	15.61
150	0.255	0.837	13.15
174	0.276	0.905	12.17
200	0.297	0.974	11.31
300	0.368	1.207	9.12
400	0.429	1.408	7.82
450	0.457	1.5	7.34
500	0.484	1.588	6.93
512	0.49	1.609	6.84
600	0.535	1.754	6.28
700	0.582	1.908	5.77
800	0.626	2.054	5.36
824	0.636	2.087	5.27
894	0.666	2.184	5.04
960	0.692	2.272	4.85
1000	0.708	2.324	4.74
1250	0.803	2.633	4.18
1500	0.89	2.92	3.77
1700	0.956	3.135	3.51
1800	0.987	3.24	3.40
2000	1.049	3.442	3.20

Product Specifications



2100	1.079	3.541	3.11
2200	1.109	3.638	3.03
2300	1.138	3.733	2.95
2500	1.194	3.919	2.81
2700	1.25	4.1	2.69



WVEBA (Bid # EBA427)
W28DR-D, Cedarville, WV Site
Commercial Proposal

October 4, 2012

Alternate Offer - JA/LS-DC-12-BB-SH

WY092712M

ALTERNATE OFFER

PRICING PAGE

Basis for Award: The Contract shall be awarded to the Vendor with the lowest overall cost meeting the specifications.

EBA427 Channel27 Digital Television Antenna System and Associated Hardware for Cedarville, WV

NOTE: Shipping and delivery costs shall be included in price.

ITEM NUMBER	QUANTITY	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	1	Antenna & Accessories	\$19,200	\$19,200
2	1	Miscellaneous Hardware (nuts, bolts, washers, etc.)	Included with antenna	
3	1	Mounting Adapters	Included with antenna	
4	1	Dehydrator	\$2,455	\$2,455
5	1	Transmission Line & Connectors	\$5,340	\$5,340
TOTAL			\$26,995	\$26,995

OPTION ITEM 1 Electrical System check of
Antenna and Transmission line \$5,760 \$5,760

NOTE: Option Item price will not be factored into bid award.

Cyndi Sundersen 10/02/12
Signature Date

Jampro Antennas, Inc.
Company Name

(916) 383-1177
Phone

(916) 383-1182
Fax

Cyndi@jampro.com
Email



Jampro Antennas, Inc.
 6340 Sky Creek Drive
 Sacramento, CA 95828
 916-383-1177 Fax 916-383-1182

Proposal #
WY 092712L

Quote

Prepared For

Name West Virginia Educational Broadcasting Authority (WVEBA)
 Company Department of Administration, Purchasing Division
 2019 Washington Street East
 Address PO Box 50130
 Charleston, WV 25305-0130
 For: **West Virginia Tender (Bid # EBA427) - Ch. 28**
W28DR-D, Cedarville, WV site
ALTERNATE OFFER

Date	10/2/2012
Valid until	11/1/2012
Rep	Wayne Y.
FOB	Destination
Est. Ship Date	60 days

Item	Qty	Part #	Description	Unit Price	Total USD
1	1	JA/LS-DC-12/28-BB-SH	JAMPRO JA/LS-DC-12/28-BB-SH Prostar Low Power Sidemounted Horizontally Polarized Broadband UHF Slot Antenna, to produce a broad skull (#40) pattern. VSWR: 1.1:1 (on sub-band) to be specified at time of order Bandwidth: ± 30 MHz Input Power: 3 kW Input size: 1-5/8" Estimated RMS gain: 12.0x / 10.79 dBd Channel: 28 Beam tilt: 1.5° Null fill: 10% smooth Price to include JA/LS-DC-12/28-BB-SH, standard mounting brackets to mount to (3-1/2" OD leg) section 3T of tower, mounting hardware, and complete installation instructions.	\$16,900.00	\$ 16,900.00
2	1 Set		245' (72M) Andrew 1-5/8" Heliac Transmission Line & Installation Accessories, to include the following: 245' HJ7-50A Andrew 1-5/8" air dielectric transmission line 1 87R Andrew 1-5/8" gas pass connector, factory attached 1 87G Andrew 1-5/8" gas block connector 6 42396A-2 Andrew 1-5/8" hanger kit (kit of 10) 6 31769-1 Andrew hardware kit (kit of 10) 6 31670-3 Andrew round member adapters, 3-4" OD leg (kit of 10) 3 241088-4 Andrew 1-5/8" grounding kit 1 24312A Andrew 1-5/8" hoisting grip 1 SCE-158 Andrew 1-5/8" wall feed thru	\$ 5,340.00	\$ 5,340.00
3	1	MOJAVE1A	Andrew Low-Volume Dehydrator Low-pressure membrane, 19 in rack mountable, 2.0–5.0 psig, with discrete alarm, 115 Vac, 60 Hz	\$ 2,455.00	\$ 2,455.00



Jampro Antennas, Inc.
 6340 Sky Creek Drive
 Sacramento, CA 95828
 916-383-1177 Fax 916-383-1182

Proposal #
 WY 092712L

Quote

Prepared For

Name West Virginia Educational Broadcasting Authority (WVEBA)
 Company Department of Administration, Purchasing Division
 2019 Washington Street East
 Address PO Box 50130
 Charleston, WV 25305-0130
 For: **West Virginia Tender (Bid # EBA427) - Ch. 28**
W28DR-D, Cedarville, WV site
ALTERNATE OFFER

Date 10/2/2012
 Valid until 11/1/2012
 Rep Wayne Y.
 FOB Destination
 Est. Ship Date 60 days

Item	Qty	Part #	Description	Unit Price	Total USD
4	1		Estimated motor freight to Cedarville, WV 26611 with offloading. Freight prices do not include customs, taxes, duties, or any other documents or fees that are required.	\$ 2,300.00	\$ 2,300.00
5	0	FT	<u>OPTIONAL</u> JAMPRO Field Technician to spend a maximum of 2 days at customer's transmit facility. Technician will inspect equipment installation, conduct VSWR testing, provide a report of test results, and provide factory authorized sign-off of system. Customer is to provide competent riggers to assist on the tower. Price quoted includes costs for travel, lodging, and meals. Additional days, if required or requested by customer, will be charged at a rate of \$1,450.00 per day (Monday thru Friday) \$1,735.00 per weekend day. Day rates apply to all days technician is out of Sacramento. NOTE: Technician schedules and the availability of equipment may require the rental of testing equipment to perform the needed field service. In this event an additional charge for equipment rental may apply. Note: Price is contingent upon technician being able to visit all sites in one trip. If additional days are needed or required an additional fee will apply. * 2 week prior notice is required before scheduling technicians visit. All prices are (USD) and F.O.B. Destination (Cedarville, WV 26611.)	\$ 5,760.00	



Jampro Antennas, Inc.
 6340 Sky Creek Drive
 Sacramento, CA 95828
 916-383-1177 Fax 916-383-1182

Proposal #
WY 092712L

Quote

Prepared For

Name West Virginia Educational Broadcasting Authority (WVEBA)
 Company Department of Administration, Purchasing Division
 2019 Washington Street East
 Address PO Box 50130
 Charleston, WV 25305-0130
 For: **West Virginia Tender (Bid # EBA427) - Ch. 28**
W28DR-D, Cedarville, WV site
ALTERNATE OFFER

Date 10/2/2012
 Valid until 11/1/2012
 Rep Wayne Y.
 FOB Destination
 Est. Ship Date 60 days

Item	Qty	Part #	Description	Unit Price	Total USD	
Any questions please contact your sales representative: Wayne Young E-mail: wayne.young@jampro.com Office: 1 (705) 812-3188 Fax: 1 (916) 383-1182 Mobile: 1 (416) 540-7394					Sub-total	\$ 26,995.00
					Total	\$ 26,995.00

Accepted by:
 Signature _____ Date _____
 Title _____

Accepted by:
 Signature _____ Date _____
 Title Jampro Antennas, Inc.

Terms of Sale:

- 1) If applicable, freight cost is an estimate only and is subject to change, contact factory to confirm pricing
- 2) Andrew transmission line, accessories, and commodity surcharges prices are subject to change, contact factory to confirm pricing
- 3) **Standard Payment Terms as per Contract** . All prices are in USD. Other terms and conditions/warranty of this order are at www.jampro.com, and upon acceptance of this order by Seller shall be binding upon seller & purchaser. For more information, call 916-383-1177.



Commercial Forms

- Certification Letter
- Vendor Preference Certificate
- Purchasing Affidavit
- Certification and Signature Page
- Addendum Acknowledgement Form



6340 Sky Creek Drive
Sacramento, California 95828 USA

Telephone (916) 383-1177
Fax (916) 383-1182

September 28, 2012

To whom it may concern:

This letter is to certify that Jampro Antennas, Inc. does not employ any West Virginia residents.

Thank you and please feel free to contact us with any questions.

Sincerely,

Cyndi Sanderson
Vice President
Jampro Antennas, Inc.



State of West Virginia VENDOR PREFERENCE CERTIFICATE

Certification and application* is hereby made for Preference in accordance with *West Virginia Code*, §5A-3-37. (Does not apply to construction contracts). *West Virginia Code*, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the *West Virginia Code*. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Resident Vendor Preference, if applicable.

- 1. **Application is made for 2.5% resident vendor preference for the reason checked:**
 Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,
 Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,
 Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,
- 2. **Application is made for 2.5% resident vendor preference for the reason checked:**
 Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
- 3. **Application is made for 2.5% resident vendor preference for the reason checked:**
 Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
- 4. **Application is made for 5% resident vendor preference for the reason checked:**
 Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,
- 5. **Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:**
 Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,
- 6. **Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:**
 Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.
- 7. **Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with *West Virginia Code* §5A-3-59 and *West Virginia Code of State Rules*.**
 Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (*West Virginia Code*, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: Tampio Antennas, Inc
Date: 9/28/12

Signed: [Signature]
Title: VP

RFQ No. EBA427

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Jampro Antennas, Inc.

Authorized Signature: Cyndi Sunders Date: 9/28/12

State of California

County of Sacramento, to-wit:

Taken, subscribed, and sworn to before me this 28 day of September, 2012.

My Commission expires NOV. 25, 2012.

Sonia Del Castillo

AFFIX SEAL HERE

NOTARY PUBLIC Sonia Del Castillo

Purchasing Affidavit (Revised 07/01/2012)



CERTIFICATION AND SIGNATURE PAGE

By signing below, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid or proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

Tampa Antennas, Inc.
(Company)

Cyndi Sanderom
(Authorized Signature)

Cyndi Sanderom VP
(Representative Name, Title)

9163831177 9163831182
(Phone Number) (Fax Number)

9/28/12
(Date)

ADDENDUM ACKNOWLEDGEMENT FORM

SOLICITATION NO.: EBA427

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- List of addendum numbers 1 through 10 with checkboxes for acknowledgment.

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

No addendums noted

Jampo Antennas, Inc.
Company
Cyndi Sinden
Authorized Signature
9/28/12
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.