

**Entravision Holdings, LLC**  
**Station KRRN(FM)**  
**FM Channel 224C – 92.7 MHz – 100kW**  
**Moapa Valley, NV**

**Technical Statement**

This Technical Statement was prepared by Richard Hunt, Vice President and Director of Engineering - Western Region of Entravision Communications Corporation, on behalf of Entravision Holdings, LLC (“Holdings”), the licensee of Station KRRN(FM), FM Channel 224C, Moapa Valley, NV. Holdings has installed a new non-directional antenna to replace the previously installed non-directional antenna pursuant to Section 73.1690(c)(1) in order to implement a combined operation with Station KAER(FM), Mesquite, NV as authorized in FCC File No. BRED2011518AAW. The number of bays of the antenna, the Radiation Center Height of the antenna, and the Station’s Effective Radiated Power (ERP) are unchanged from their licensed parameters.

Holdings agrees to reduce power and/or terminate the operation of KRRN(FM) as necessary in coordination with KAER(FM) to protect workers from electromagnetic radiation in excess of FCC and OSHA guidelines.

The revised transmitter power output (TPO) for KRRN(FM) of 8.50 kW was calculated as follows:

ERP = 100 kW

Antenna Power Gain = 15.737 (per manufacturer’s data attached)

Antenna Input Power = 6.35 kW

Transmission Line = 1335.1’ of Andrew HJ9-50 Helix (0.076 dB/100’ @ 92.7 MHz)

Transmission Line Total Loss = -1.015 dB

Transmission Line Efficiency = 79.2%

Transmission Line Input Power = 8.02 kW

Combiner Loss = -0.25 dB (per manufacturer’s data attached)

Combiner Efficiency = 94.4 %

Combiner Input Power to achieve 100 kW ERP = 8.50 kW

New TPO = 8.50 kW

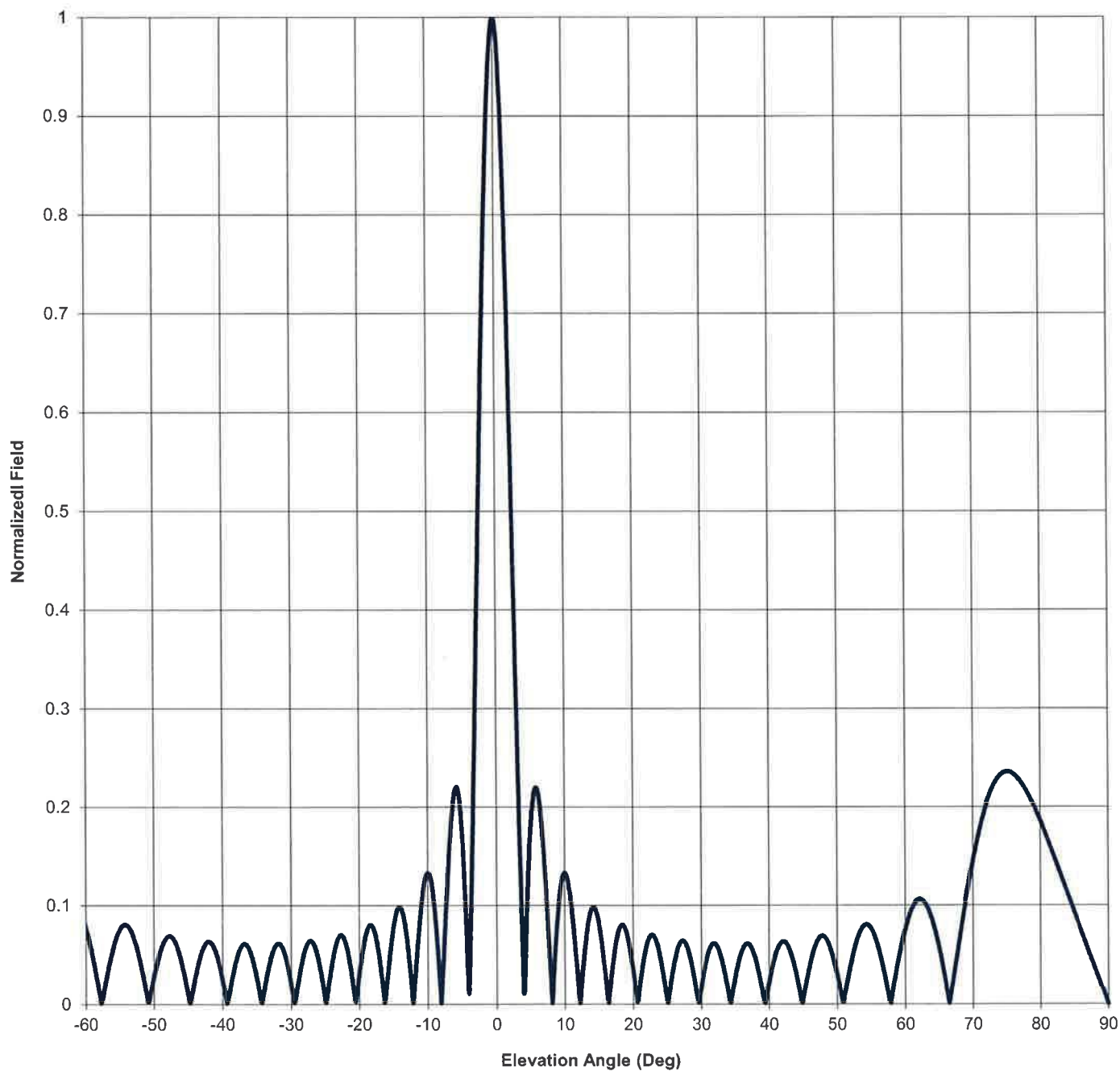
Note: Line losses between transmitter output and combiner input are negligible and were ignored. All calculations were rounded off to three significant digits.

A Vertical Plane Plot & Tabulation and Combiner Insertion Loss measurement from Shively Labs, the manufacturer of both the antenna and combiner, are attached.

Antenna Mfg.: Shively Labs  
Antenna Type: 6513BB-14 HORZ  
Station: KRRN  
Frequency: 92.7  
Channel #: 224  
Figure: Figure 3 HORZ

Date: 5/5/2014

Beam Tilt	0.000	
Gain (Max)	15.737	11.969 dB
Gain (Horizon)	15.737	11.969 dB



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Station: KRRN

Beam Tilt 0

Frequency: 92.7

Gain (Max) 15.737

11.969 dB

Channel #: 224

Gain (Horizon) 15.737

11.969 dB

Figure: Figure 3 HORZ

Angle of Depression (Deg)	Relative Field	Angle of Depression (Deg)	Relative Field	Angle of Depression (Deg)	Relative Field	Angle of Depression (Deg)	Relative Field
-90	0.000	-44	0.029	0	1.000	46	0.040
-89	0.019	-43	0.055	1	0.903	47	0.063
-88	0.038	-42	0.063	2	0.644	48	0.069
-87	0.056	-41	0.051	3	0.311	49	0.057
-86	0.075	-40	0.022	4	0.011	50	0.030
-85	0.093	-39	0.014	5	0.176	51	0.005
-84	0.112	-38	0.046	6	0.217	52	0.040
-83	0.131	-37	0.061	7	0.141	53	0.067
-82	0.150	-36	0.053	8	0.013	54	0.080
-81	0.168	-35	0.025	9	0.094	55	0.077
-80	0.186	-34	0.013	10	0.133	56	0.058
-79	0.202	-33	0.046	11	0.098	57	0.028
-78	0.216	-32	0.061	12	0.018	58	0.008
-77	0.226	-31	0.051	13	0.060	59	0.045
-76	0.233	-30	0.018	14	0.097	60	0.076
-75	0.235	-29	0.024	15	0.081	61	0.097
-74	0.231	-28	0.056	16	0.025	62	0.106
-73	0.220	-27	0.063	17	0.038	63	0.101
-72	0.203	-26	0.041	18	0.076	64	0.083
-71	0.178	-25	0.001	19	0.073	65	0.054
-70	0.146	-24	0.045	20	0.034	66	0.017
-69	0.109	-23	0.069	21	0.019	67	0.024
-68	0.067	-22	0.060	22	0.060	68	0.067
-67	0.024	-21	0.019	23	0.069	69	0.109
-66	0.017	-20	0.034	24	0.045	70	0.146
-65	0.054	-19	0.073	25	0.001	71	0.178
-64	0.083	-18	0.076	26	0.041	72	0.203
-63	0.101	-17	0.038	27	0.063	73	0.220
-62	0.106	-16	0.025	28	0.056	74	0.231
-61	0.097	-15	0.081	29	0.024	75	0.235
-60	0.076	-14	0.097	30	0.018	76	0.233
-59	0.045	-13	0.060	31	0.051	77	0.226
-58	0.008	-12	0.018	32	0.061	78	0.216
-57	0.028	-11	0.098	33	0.046	79	0.202
-56	0.058	-10	0.133	34	0.013	80	0.186
-55	0.077	-9	0.094	35	0.025	81	0.168
-54	0.080	-8	0.013	36	0.053	82	0.150
-53	0.067	-7	0.141	37	0.061	83	0.131
-52	0.040	-6	0.217	38	0.046	84	0.112
-51	0.005	-5	0.176	39	0.014	85	0.093
-50	0.030	-4	0.011	40	0.022	86	0.075
-49	0.057	-3	0.311	41	0.051	87	0.056
-48	0.069	-2	0.644	42	0.063	88	0.038
-47	0.063	-1	0.903	43	0.055	89	0.019
-46	0.040	0	1.000	44	0.029	90	0.000
-45	0.006			45	0.006		

31693  
2530-2A-16  
2 station branched combiner  
Insertion loss/Isolation

