

TECHNICAL EXHIBIT  
APPLICATION FOR FM CONSTRUCTION PERMIT  
FM BOOSTER  
RADIO STATION KRCL(FM)  
PARK CITY, UTAH

JULY 11, 2005

CH 215     0.099 KW (MAX-DA)

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Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an application for a new FM booster at Park City, Utah. The primary station is KRCL(FM) on Channel 215C assigned to Salt Lake City, Utah.

Proposed Transmitter Location

The location is uniquely described by the following geographic coordinates:

40° 51' 18" North Latitude  
111° 28' 47" West Longitude

A map showing the transmitter location is included herein as Figure 1. A sketch showing the proposed antenna and supporting structure is shown on Figure 2.

The proposal will utilize an existing antenna system. There is no proposed physical change in the existing tower or antenna system. Therefore, no adverse impact is expected to the existing stations already operating on the on the tower.

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Coverage Contours

Figure 3 is a map showing the proposed booster station's 60 dBu (1.0 mV/m) coverage contour encompassed by the primary station's (KRCL(FM), Channel 215C, Salt Lake City, Utah) 60 dBu protected contour.<sup>1</sup>

The appendix contains the information on the proposed Jampro directional antenna.

Allocation Study

The proposed booster facility appears to satisfy the protection requirements toward first adjacent channel stations as required by Section 74.1204(i) of the Commission's Rules as to all facilities.

FM translator station K216BR (on 1<sup>st</sup>-adjacent channel 216) has been ignored as it is a secondary service and does not require protection per the FCC's Report & Order amending Part 74 of the Commission's Rules.<sup>2</sup>

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<sup>1</sup> The KRCL(FM) authorized facility, BPED-20011025ACD (license application pending, BLED-20030310AOH), was used to define the primary station.

<sup>2</sup> See paragraphs 26-29 in MM Docket No. 87-13, released August 5, 1987. Station K216BR is authorized to change to channel 213 in BPFT-20041013ABQ), which is not an allocation issue for the proposal. If the FCC differs on the ignored protection to K216BR on channel 216, the applicant respectfully requests this herein proposal be contingent upon implementation of the K216BR channel change to 213.

The proposal, with less than 100 Watts ERP, complies with § 74.1204(g) with respect to intermediate frequency (I.F.) station KEGA-FM7.

Radiofrequency Electromagnetic Field Exposure

The proposed facility has been evaluated in terms of potential radiofrequency electromagnetic field exposure at ground level in accordance with OST Bulletin No. 65, "Evaluating compliance with FCC Specified Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields."<sup>3</sup> The proposed calculated power density at the base of the tower was calculated using the appropriate equation on Page 23 of the Bulletin.

Using a total effective radiated power of 0.099 kilowatt and a reasonable assumed downward relative field value of 0.3, the predicted power density at ground level located 30 meters (100 feet) below the antenna radiation center is 0.0003 mW/cm<sup>2</sup>. This is less than 5 percent of the Commission's guideline in an uncontrolled environment for a FM radio station.<sup>4</sup>

Pursuant to Section 1.1307(b) of the Commission's Rules, the power density contributions of co-located and nearby broadcast stations are not required to be calculated as the proposed translator's power density contribution is less than five percent of the guideline value.

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<sup>3</sup> OET Bulletin 65, Second Edition 97-01, August, 1997.

<sup>4</sup> The FCC maximum guideline for an FM broadcast radio station in an uncontrolled environment is 0.2 mW/cm<sup>2</sup>.

Access to the transmitting site is restricted and appropriately marked with warning signs. When it becomes necessary for workers to ascend the tower, appropriate measures, such as reduction or shut down of power if necessary, shall be taken to ensure that the human exposure to radiofrequency electromagnetic fields will not exceed the FCC guidelines.

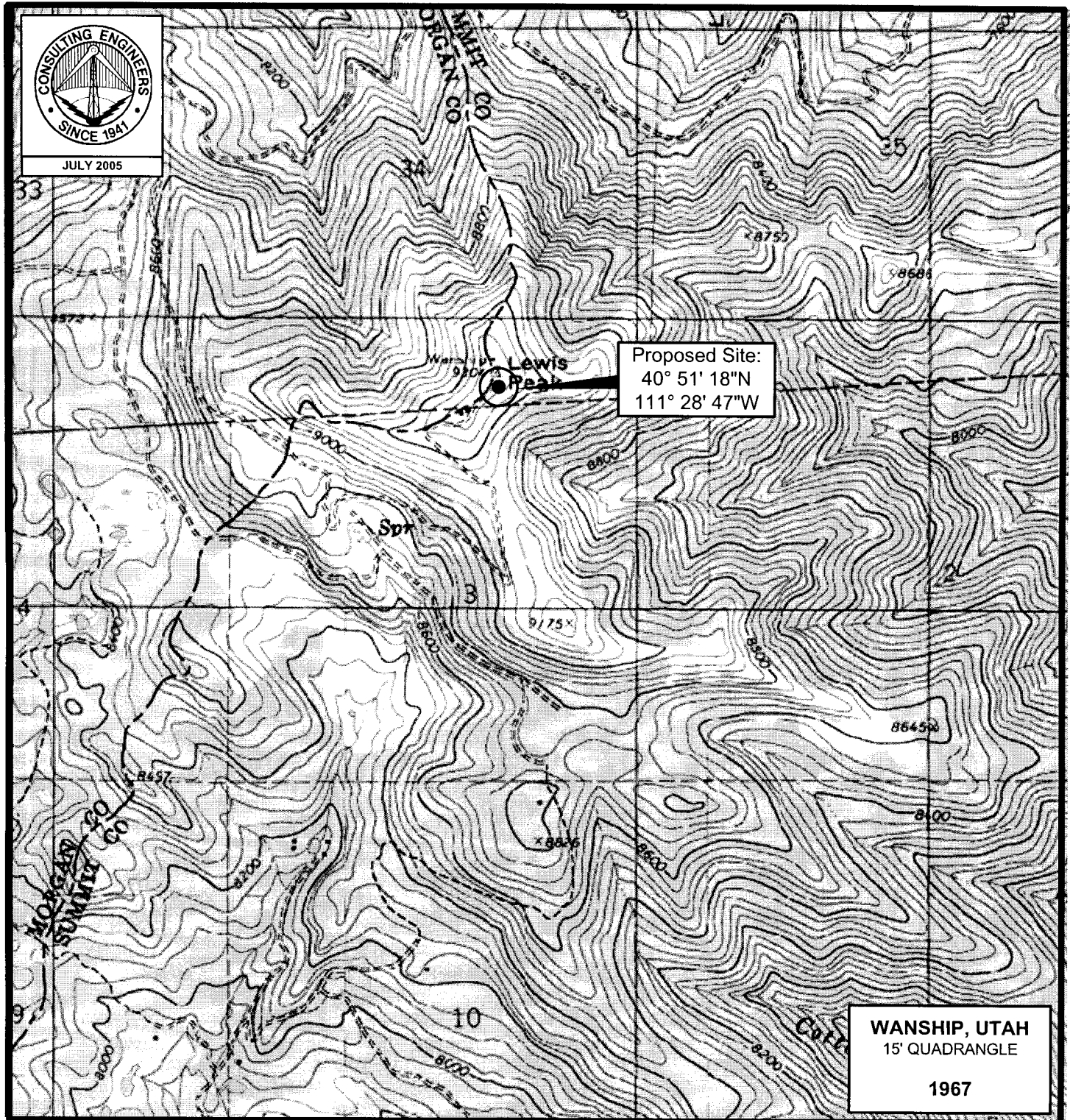


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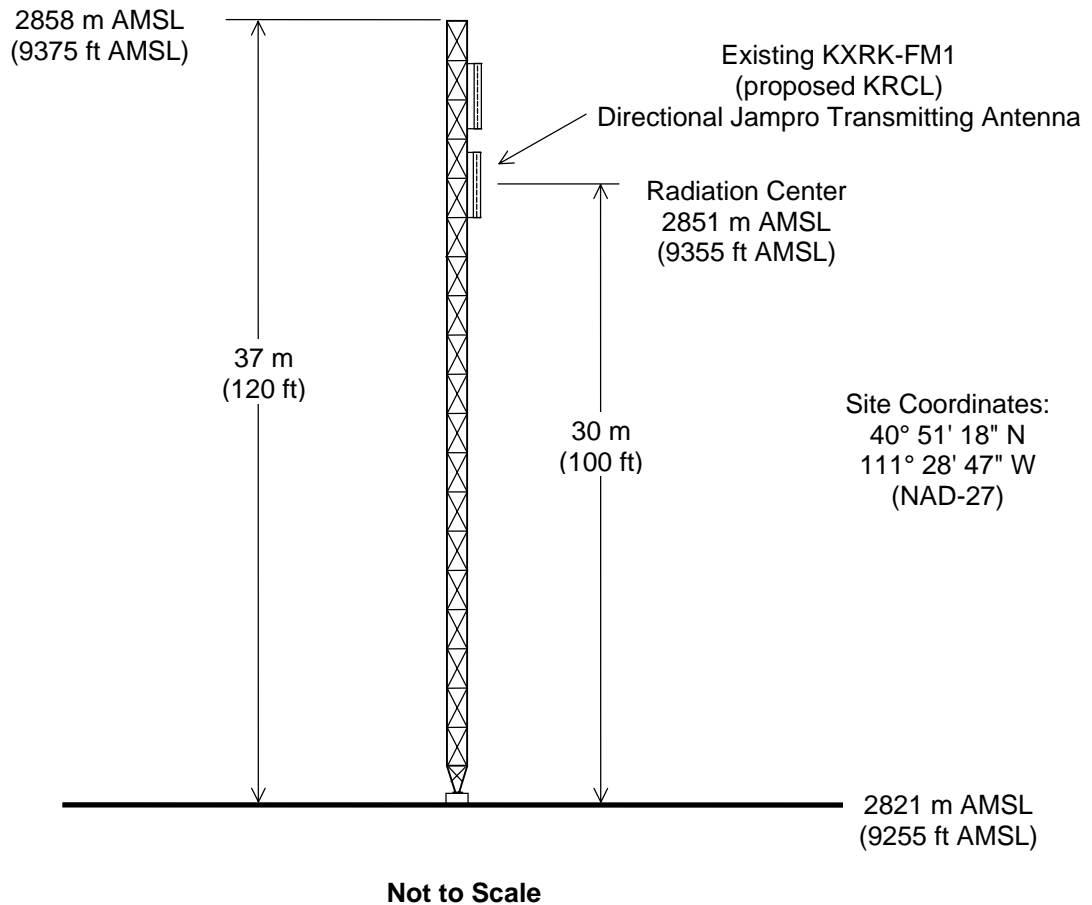
Figure 1



## **PROPOSED TRANSMITTER SITE**

**RADIO STATION KRCL(FM) BOOSTER  
PARK CITY, UTAH  
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## **PROPOSED ANTENNA AND SUPPORTING STRUCTURE**

**RADIO STATION KRCL(FM) BOOSTER**

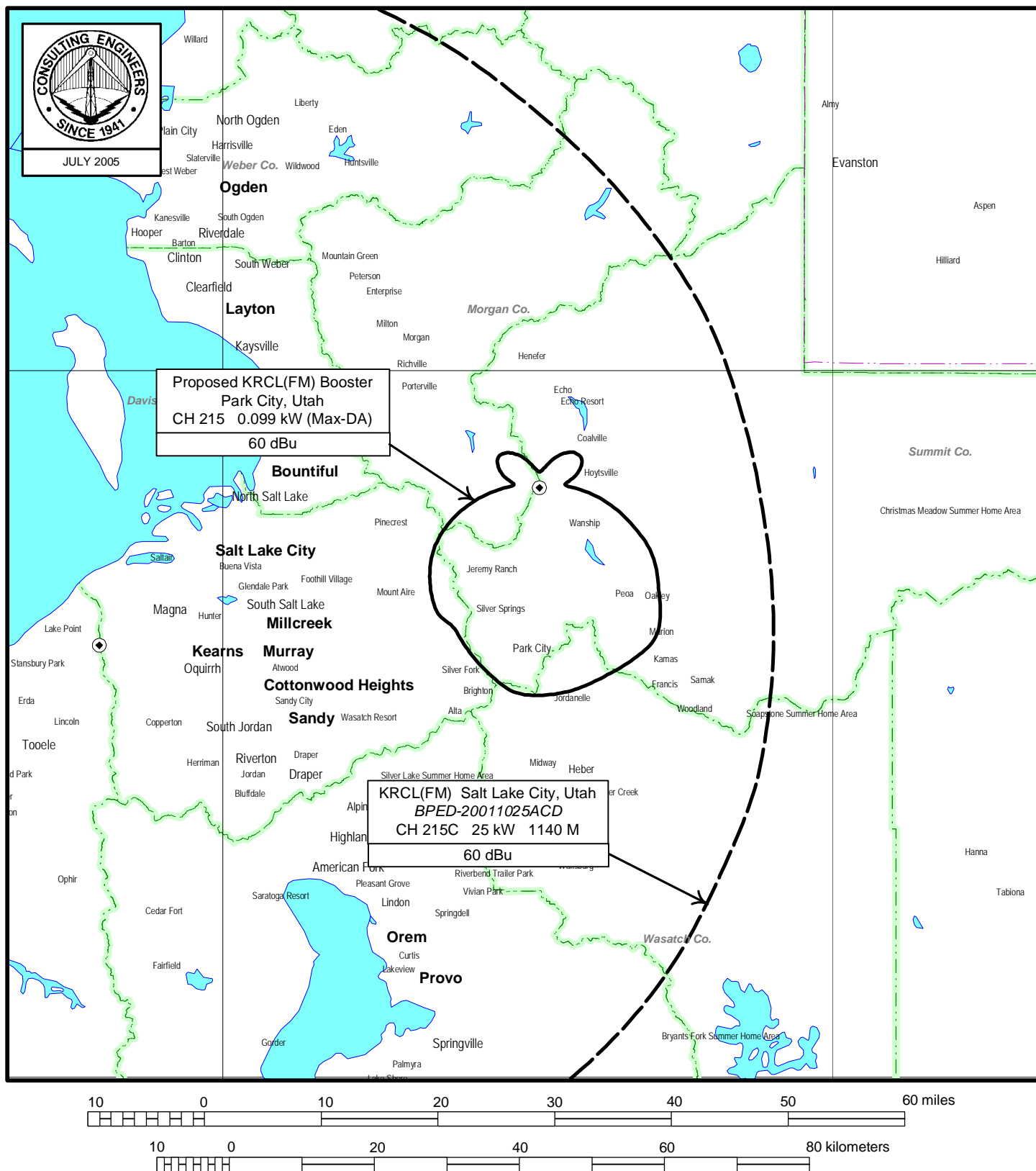
**PARK CITY, UTAH**

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Figure 3



## **FCC PREDICTED COVERAGE CONTOURS**

**RADIO STATION KRCL(FM) BOOSTER**

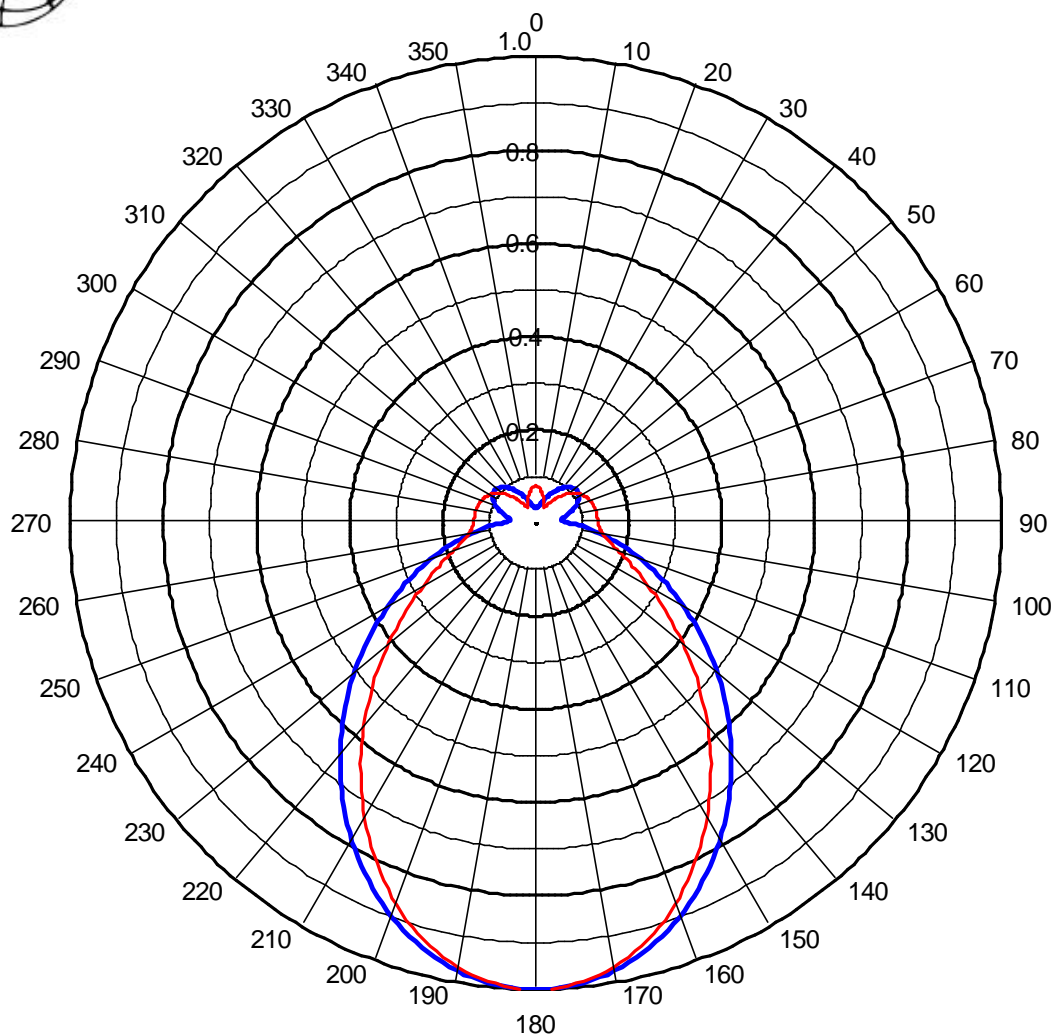
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## APPENDIX A

### MANUFACTURER DIRECTIONAL ANTENNA SPECIFICATIONS



## AZIMUTH PATTERN INFORMATION

Model: JCPD

Pattern: Single Lobe

Notes: FM 4-Dipole Panel Antenna



<u>AZIMUTH</u>	<u>HPOL</u>	<u>VPOL</u>	<u>AZIMUTH</u>	<u>HPOL</u>	<u>VPOL</u>
0	0.032	0.080	180	1.000	1.000
5	0.033	0.077	185	0.993	0.991
10	0.037	0.069	190	0.974	0.966
15	0.044	0.058	195	0.942	0.926
20	0.053	0.046	200	0.900	0.872
25	0.065	0.038	205	0.848	0.807
30	0.078	0.042	210	0.788	0.734
35	0.090	0.055	215	0.723	0.655
40	0.100	0.070	220	0.654	0.574
45	0.108	0.086	225	0.583	0.495
50	0.112	0.099	230	0.511	0.419
55	0.111	0.110	235	0.441	0.349
60	0.107	0.118	240	0.373	0.288
65	0.098	0.124	245	0.310	0.236
70	0.086	0.128	250	0.250	0.196
75	0.071	0.130	255	0.195	0.167
80	0.058	0.131	260	0.147	0.148
85	0.056	0.132	265	0.105	0.138
90	0.073	0.134	270	0.073	0.134
95	0.105	0.138	275	0.056	0.132
100	0.147	0.148	280	0.058	0.131
105	0.195	0.167	285	0.071	0.130
110	0.250	0.196	290	0.086	0.128
115	0.310	0.236	295	0.098	0.124
120	0.373	0.288	300	0.107	0.118
125	0.441	0.349	305	0.111	0.110
130	0.511	0.419	310	0.112	0.099
135	0.583	0.495	315	0.108	0.086
140	0.654	0.574	320	0.100	0.070
145	0.723	0.655	325	0.090	0.055
150	0.788	0.734	330	0.078	0.042
155	0.848	0.807	335	0.065	0.038
160	0.900	0.872	340	0.053	0.046
165	0.942	0.926	345	0.044	0.058
170	0.974	0.966	350	0.037	0.069
175	0.993	0.991	355	0.033	0.077