

**RADIOFREQUENCY ELECTROMAGNETIC FIELD  
SURVEY  
FOR  
THE UNIVERSITY OF SOUTHERN CALIFORNIA  
PERMITEE OF  
KUSC-FM1, CH 218, SANTA CLARITA, CA  
BOOSTER ANTENNA  
BNPFTB-20050706AAS – CONSTRUCTION PERMIT**

**OCT 2005**

**BY:  
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## ENGINEERING STATEMENT OF JOEL T. SAXBERG

This RF survey report was prepared for the University of Southern California, permittee of FM booster station Channel 218, Santa Clarita, California, by Broadcast Engineering and Equipment Maintenance Company of Arcadia, California. The KUSC booster antenna is a directional Kathrein-Scala model CA5-150EB/CPH and is mounted with its center at 5 meters above ground level on a self-supporting "H" tower. The licensed ERP in the main lobe is 0.175 kW.

Access to the KUSC site is through a set of locked gates, which are controlled by a gate guard. Only authorized persons are allowed through the controlled gates.

### **RF Survey**

A RF survey of the KUSC booster antenna site located on Oat Mountain was made on Friday, October 14, 2005. RF measurements were made inside the gated transmitter site and in the vicinity of the booster antenna. The booster antenna is mounted on a metal "H" frame, which is located outside the fenced transmitter compound. This site is principally used by Verizon and contains many telephone systems, as well as the booster transmitting facility of KUSC, KBUA and KTLW translator.

A Narda Model 8718-10 radiation survey meter with a 8742 shaped E field probe, a Nardalert XT personal monitor and an Argent personal RF monitor were all used in making the KUSC site survey. Calibration was completed on the measurement equipment on the following dates:

8718-10, s/n 01559, calibrated 3/31/2004

8732, s/n 06012, calibrated 3/30/2004

8742, s/n 03004, calibrated 3/30/2004

A8864 s/n 03034, new purchase 11/2004

### **Method of Measurement**

The survey meter was set to read instantaneous peak values and log data at one-second intervals. The meter was connected to a shaped E-Field probe, set in a zero field, and calibrated. The shaped probe used for these measurements reads “percent of standard” for controlled environments. General Public readings in the FM and TV broadcast frequencies are 20% of the “percent of standard” readings shown on the survey meter. For conversion, it is necessary to multiply the survey meter reading by a factor of five to obtain the General Public percentage. A meter reading of 20% represents a General Public level of 100%.

Instantaneous peak readings were taken over the portion of the site that was accessible. Readings in the main beam were 40% of the maximum permissible level for uncontrolled/general public areas. Looking from the back of the CA5 antenna, the left support pipe showed spatial average readings of 40% of the MPE for uncontrolled areas. The results of the instantaneous and spatial averaging measurements indicate the site meets FCC guideline levels for the general public.

The technique in using the meter and probe is that recommended by the manufacturer. The probe was slowly moved in a large circle up and down while walking the area with the survey meter set to read instantaneous peak values. Spatial averages were taken at the left support pipe.

### **SUMMARY**

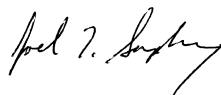
There were no “hot spots” or abnormally high readings. Spatial averages taken at the left metal support leg and were shown to be within the General Public guideline limits.

## ENGINEERING CERTIFICATION

**JOEL T. SAXBERG** deposes and says:

1. That he is President of Broadcast Engineering and Equipment Maintenance Company, "**BEEM CO.**", radio engineering consultants. **BEEM CO.** maintains offices at: 2322 S. Second Avenue, Arcadia, CA 91006. Telephone (626) 446-3468
2. That he was graduated from California State University at Los Angeles, February 1966, with a Bachelor of Science degree in Electronic Engineering. He received a MS degree in Electronic Engineering Technology in August 1996.
3. That he has submitted many applications to the Federal Communications Commission for broadcast and auxiliary broadcast construction permits and licenses.
4. That his experience in broadcast engineering is a matter of record and he has spent over thirty years working in the field of radio engineering.
5. That the attached engineering exhibit(s) and report(s) were prepared by him or under his direction and supervision. That he believes the facts stated therein to be both true and accurate. Statements that are based on information supplied by others are also believed to be true and accurate.
6. That he has performed field work on AM and FM broadcast transmitting systems throughout this country and continues to provide technical consulting services on a daily basis to broadcasters.
7. That he declares under penalty of perjury the foregoing is true and correct.

Executed on October 14, 2005



Joel T. Saxberg