

## Environmental Effects

KCSP-FM, FID # 71810

Western Inspirational Broadcasters, Inc. ("WIBI") certifies that KCSP-FM complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments.

WIBI used the V-Soft RFHAZ4 software program, to determine compliance for this site.

The facility employs a 8 bay ERI SHPX (1 wavelength spacing, Type 3) transmit antenna and is located at an existing communications site with other broadcast facilities nearby. The maximum KCSP-FM contribution to the site is  $45.18 \mu\text{W}/\text{cm}^2$ , which occurs 25 meters from the base of the tower and is 22.59 % of the worst-case uncontrolled (public) exposure limit of  $200 \mu\text{W}/\text{cm}^2$ .

Combined with relevant RFR generated by nearby FM broadcast facilities, this site results in a total of  $58.77 \mu\text{W}/\text{cm}^2$  (see table below) combined RF energy, 2 meters above ground level at 25 meters from the base of the supporting tower, or, 29.9 % of the "public" exposure limit. Signs warning of the presence of RF electromagnetic fields are posted.

| CHANNEL      | CALLS  | H<br>POWER<br>(watts) | V<br>POWER<br>(watts) | HAG<br>(meters) | EPA<br>Antenna               | RFR*<br>(V-Soft<br>RFHAZ4) | Proximity<br>(meters) | Intersect<br>Distance (m) |
|--------------|--------|-----------------------|-----------------------|-----------------|------------------------------|----------------------------|-----------------------|---------------------------|
|              | KCSP-  |                       |                       |                 |                              |                            |                       |                           |
| 212          | FM     | 100000                | 100000                | 95              | ERI SHPX 8@1.0, Type 3       | 45.18                      | n/a                   | n/a                       |
| 214          | K214DI | 10                    | 10                    | 33              | Nicom BKG-77 , Type 2        | 0.098                      | 100                   | 75                        |
| 242          | K242CI | 0                     | 10                    | 6               | JPL LP-FM Vert Dipole, Type1 | 0.585                      | 100                   | 75                        |
| 219          | K219CA | 0                     | 10                    | 38              | SCALA GP-150X, Type 1        | 0.057                      | 200                   | 175                       |
| 253          | KGRK   | 3500                  | 3500                  | 32              | SHIVELY 6813-4@0.9, Type 1   | 1.905                      | 200                   | 175                       |
| 288          | KZQL   | 5000                  | 5000                  | 34              | SHIVELY 6810-6@0.5, Type 1   | 3.611                      | 200                   | 175                       |
| 228          | KWYX   | 3800                  | 3800                  | 44              | SHIVELY 6813-4@0.88, Type 1  | 0.369                      | 200                   | 175                       |
|              | KCYA-  |                       |                       |                 |                              |                            |                       |                           |
| 249          | FM     | 3600                  | 3600                  | 20              | SHIVELY 6813-4@0.88, Type 1  | 5.035                      | 200                   | 175                       |
| 223          | KMXW   | 3100                  | 3100                  | 37              | ERI LPX-3 @1.0, Type 3       | 1.93                       | 200                   | 175                       |
| <b>TOTAL</b> |        |                       |                       |                 |                              | <b>58.77</b>               |                       |                           |

\*microwatts/cm<sup>2</sup> at intersection with KCSP-FM highest level

Based on this evaluation, the site radiates approximately 30% of the public (uncontrolled) exposure limit at 2 meters above ground level and therefore fully complies with the FCC's maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments.