# Technical Summary
Request for Special Temporary Authority
Engineering Exhibit

**KSPX-TV – Sacramento, CA**

Facility ID: 52953

Licensee “ION MEDIA SACRAMENTO LICENSE, INC” is currently licensed to operate on Pre-Repack DTV channel 48. The Antenna Structure Registration Number is 1015686 with a Latitude of 38° 15’ 54.0” N+ and a Longitude of 121° 29’ 28.0” W-. The station has been assigned DTV channel 21 with a Phase 9 deadline.

The lease for current tower location will soon expire and the station has secured an alternate tower location for its temporary Pre-Repack and Post-Repack operations. Although the station may request temporary Post-Repack facilities it does not anticipate needing relief from the Phase 9 completion timing.

Therefore, this application is to request special temporary authority to operate from Antenna Structure Registration Number 1012855 with a Latitude of 38° 14’ 50.0” N+ and a Longitude of 121° 30’ 7.0” W-. The HAAT is 226.27 m (AGL 228.6 m) with an AMSL of 228.6 m. An ERP of 4.3 kW will be utilized.

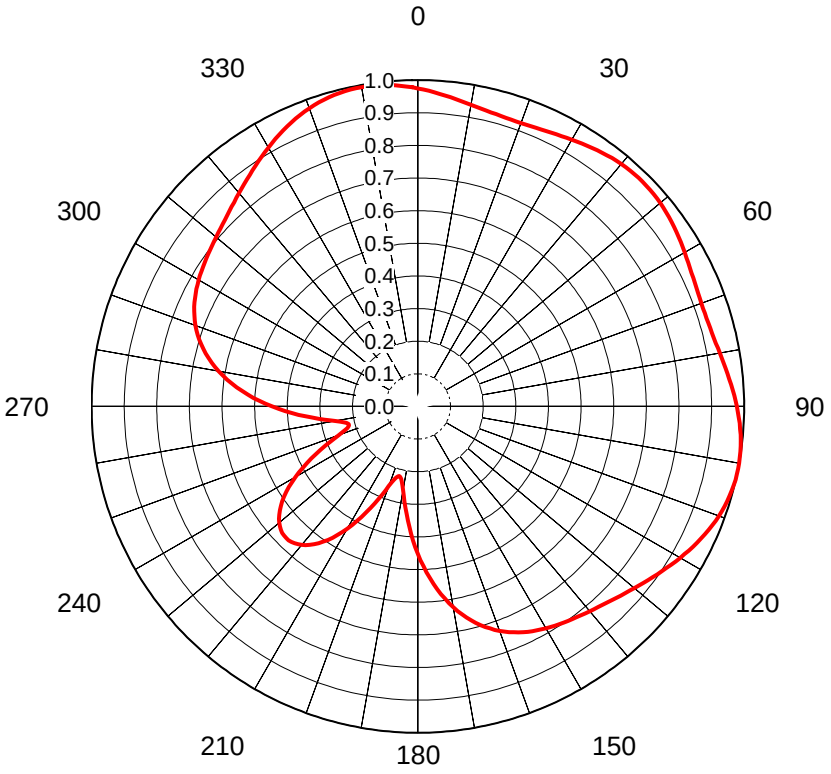
## Antenna System

A side mounted directional antenna will be utilized. It will be affixed to an existing guyed tower structure and will not increase the overall height of the structure. Elevation and Azimuth patterns are attached. Furthermore, the proposed STA operation will not expand the station’s noise limited contour.

## RF Hazard (Environmental)

Compliance with RF Hazard (Environmental) is provided in the attached RF Hazard Statement.

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# AZIMUTH PATTERN
## Horizontal Polarization

In Free Space

| | |
|---|---|
| Proposal No. | **C-71313** |
| Date | **30-Apr-19** |
| Call Letters | **KSPX** |
| Channel | **48** |
| Frequency | **677 MHz** |
| Antenna Type | **TFU-8WB-R C160** |
| Gain | **1.62 (2.11dB)** |
| | Calculated |

| Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.975 | 36 | 0.961 | 72 | 0.925 | 108 | 0.989 | 144 | 0.806 | 180 | 0.452 | 216 | 0.518 | 252 | 0.234 | 288 | 0.709 | 324 | 0.877 |
| 1 | 0.971 | 37 | 0.964 | 73 | 0.925 | 109 | 0.985 | 145 | 0.802 | 181 | 0.432 | 217 | 0.529 | 253 | 0.226 | 289 | 0.717 | 325 | 0.883 |
| 2 | 0.968 | 38 | 0.966 | 74 | 0.926 | 110 | 0.982 | 146 | 0.799 | 182 | 0.412 | 218 | 0.538 | 254 | 0.220 | 290 | 0.725 | 326 | 0.890 |
| 3 | 0.964 | 39 | 0.968 | 75 | 0.927 | 111 | 0.978 | 147 | 0.796 | 183 | 0.391 | 219 | 0.547 | 255 | 0.218 | 291 | 0.732 | 327 | 0.896 |
| 4 | 0.960 | 40 | 0.970 | 76 | 0.929 | 112 | 0.973 | 148 | 0.792 | 184 | 0.371 | 220 | 0.554 | 256 | 0.219 | 292 | 0.739 | 328 | 0.903 |
| 5 | 0.956 | 41 | 0.971 | 77 | 0.931 | 113 | 0.968 | 149 | 0.789 | 185 | 0.351 | 221 | 0.560 | 257 | 0.224 | 293 | 0.745 | 329 | 0.909 |
| 6 | 0.953 | 42 | 0.973 | 78 | 0.934 | 114 | 0.963 | 150 | 0.785 | 186 | 0.331 | 222 | 0.565 | 258 | 0.232 | 294 | 0.750 | 330 | 0.916 |
| 7 | 0.949 | 43 | 0.973 | 79 | 0.937 | 115 | 0.958 | 151 | 0.781 | 187 | 0.312 | 223 | 0.568 | 259 | 0.243 | 295 | 0.755 | 331 | 0.922 |
| 8 | 0.945 | 44 | 0.974 | 80 | 0.940 | 116 | 0.952 | 152 | 0.777 | 188 | 0.294 | 224 | 0.570 | 260 | 0.257 | 296 | 0.760 | 332 | 0.929 |
| 9 | 0.942 | 45 | 0.974 | 81 | 0.943 | 117 | 0.946 | 153 | 0.773 | 189 | 0.277 | 225 | 0.571 | 261 | 0.272 | 297 | 0.764 | 333 | 0.935 |
| 10 | 0.939 | 46 | 0.974 | 82 | 0.947 | 118 | 0.940 | 154 | 0.768 | 190 | 0.261 | 226 | 0.570 | 262 | 0.289 | 298 | 0.768 | 334 | 0.941 |
| 11 | 0.936 | 47 | 0.973 | 83 | 0.950 | 119 | 0.934 | 155 | 0.763 | 191 | 0.247 | 227 | 0.568 | 263 | 0.307 | 299 | 0.772 | 335 | 0.947 |
| 12 | 0.933 | 48 | 0.973 | 84 | 0.954 | 120 | 0.928 | 156 | 0.758 | 192 | 0.236 | 228 | 0.565 | 264 | 0.327 | 300 | 0.775 | 336 | 0.953 |
| 13 | 0.931 | 49 | 0.971 | 85 | 0.958 | 121 | 0.922 | 157 | 0.752 | 193 | 0.228 | 229 | 0.560 | 265 | 0.346 | 301 | 0.779 | 337 | 0.958 |
| 14 | 0.929 | 50 | 0.970 | 86 | 0.962 | 122 | 0.915 | 158 | 0.746 | 194 | 0.223 | 230 | 0.555 | 266 | 0.366 | 302 | 0.782 | 338 | 0.963 |
| 15 | 0.927 | 51 | 0.968 | 87 | 0.966 | 123 | 0.909 | 159 | 0.739 | 195 | 0.221 | 231 | 0.547 | 267 | 0.387 | 303 | 0.785 | 339 | 0.968 |
| 16 | 0.926 | 52 | 0.966 | 88 | 0.970 | 124 | 0.903 | 160 | 0.732 | 196 | 0.223 | 232 | 0.539 | 268 | 0.407 | 304 | 0.788 | 340 | 0.972 |
| 17 | 0.925 | 53 | 0.964 | 89 | 0.974 | 125 | 0.896 | 161 | 0.724 | 197 | 0.228 | 233 | 0.530 | 269 | 0.427 | 305 | 0.791 | 341 | 0.976 |
| 18 | 0.924 | 54 | 0.961 | 90 | 0.978 | 126 | 0.890 | 162 | 0.716 | 198 | 0.236 | 234 | 0.519 | 270 | 0.447 | 306 | 0.794 | 342 | 0.980 |
| 19 | 0.924 | 55 | 0.959 | 91 | 0.981 | 127 | 0.884 | 163 | 0.707 | 199 | 0.247 | 235 | 0.507 | 271 | 0.467 | 307 | 0.797 | 343 | 0.983 |
| 20 | 0.924 | 56 | 0.956 | 92 | 0.984 | 128 | 0.878 | 164 | 0.697 | 200 | 0.260 | 236 | 0.494 | 272 | 0.486 | 308 | 0.801 | 344 | 0.986 |
| 21 | 0.925 | 57 | 0.953 | 93 | 0.988 | 129 | 0.872 | 165 | 0.687 | 201 | 0.275 | 237 | 0.481 | 273 | 0.505 | 309 | 0.804 | 345 | 0.988 |
| 22 | 0.926 | 58 | 0.950 | 94 | 0.990 | 130 | 0.866 | 166 | 0.676 | 202 | 0.291 | 238 | 0.466 | 274 | 0.523 | 310 | 0.807 | 346 | 0.990 |
| 23 | 0.927 | 59 | 0.947 | 95 | 0.993 | 131 | 0.860 | 167 | 0.664 | 203 | 0.308 | 239 | 0.450 | 275 | 0.541 | 311 | 0.811 | 347 | 0.992 |
| 24 | 0.929 | 60 | 0.944 | 96 | 0.995 | 132 | 0.855 | 168 | 0.652 | 204 | 0.326 | 240 | 0.434 | 276 | 0.558 | 312 | 0.815 | 348 | 0.993 |
| 25 | 0.931 | 61 | 0.941 | 97 | 0.997 | 133 | 0.850 | 169 | 0.638 | 205 | 0.344 | 241 | 0.417 | 277 | 0.574 | 313 | 0.819 | 349 | 0.994 |
| 26 | 0.933 | 62 | 0.938 | 98 | 0.998 | 134 | 0.845 | 170 | 0.625 | 206 | 0.362 | 242 | 0.399 | 278 | 0.590 | 314 | 0.823 | 350 | 0.994 |
| 27 | 0.936 | 63 | 0.936 | 99 | 0.999 | 135 | 0.840 | 171 | 0.610 | 207 | 0.380 | 243 | 0.381 | 279 | 0.605 | 315 | 0.827 | 351 | 0.994 |
| 28 | 0.938 | 64 | 0.933 | 100 | 1.000 | 136 | 0.836 | 172 | 0.595 | 208 | 0.398 | 244 | 0.363 | 280 | 0.620 | 316 | 0.832 | 352 | 0.993 |
| 29 | 0.941 | 65 | 0.931 | 101 | 1.000 | 137 | 0.831 | 173 | 0.579 | 209 | 0.416 | 245 | 0.345 | 281 | 0.633 | 317 | 0.837 | 353 | 0.992 |
| 30 | 0.944 | 66 | 0.929 | 102 | 1.000 | 138 | 0.827 | 174 | 0.563 | 210 | 0.433 | 246 | 0.326 | 282 | 0.646 | 318 | 0.842 | 354 | 0.990 |
| 31 | 0.947 | 67 | 0.927 | 103 | 0.999 | 139 | 0.823 | 175 | 0.545 | 211 | 0.449 | 247 | 0.308 | 283 | 0.658 | 319 | 0.847 | 355 | 0.989 |
| 32 | 0.950 | 68 | 0.926 | 104 | 0.998 | 140 | 0.819 | 176 | 0.528 | 212 | 0.465 | 248 | 0.291 | 284 | 0.670 | 320 | 0.853 | 356 | 0.986 |
| 33 | 0.953 | 69 | 0.925 | 105 | 0.996 | 141 | 0.816 | 177 | 0.509 | 213 | 0.480 | 249 | 0.274 | 285 | 0.681 | 321 | 0.859 | 357 | 0.984 |
| 34 | 0.956 | 70 | 0.925 | 106 | 0.994 | 142 | 0.812 | 178 | 0.491 | 214 | 0.493 | 250 | 0.259 | 286 | 0.691 | 322 | 0.865 | 358 | 0.981 |
| 35 | 0.959 | 71 | 0.924 | 107 | 0.992 | 143 | 0.809 | 179 | 0.471 | 215 | 0.506 | 251 | 0.246 | 287 | 0.700 | 323 | 0.871 | 359 | 0.978 |

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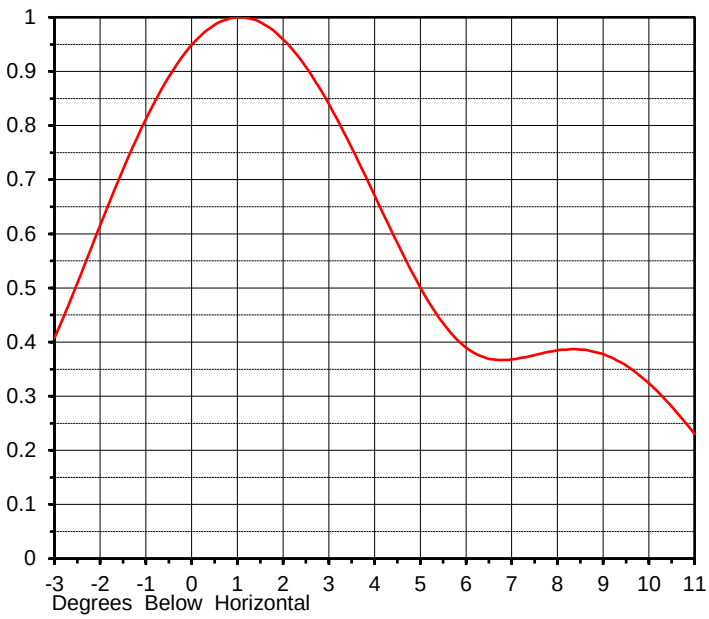
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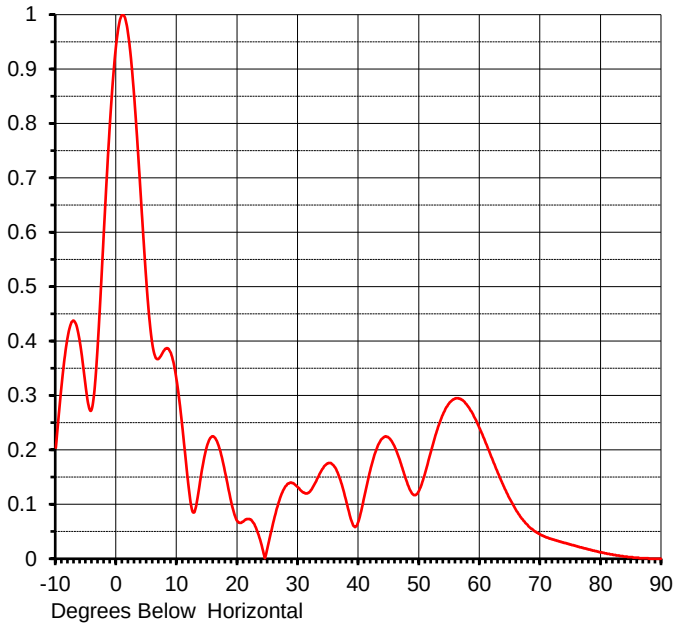
# ELEVATION PATTERN

| | |
|---|---|
| Proposal No. | **C-71313** |
| Date | **30-Apr-19** |
| Call Letters | **KSPX** |
| Channel | **48** |
| Frequency | **677 MHz** |
| Antenna Type | **TFU-8WB-R C160** |

| | | | |
|---|---|---|---|
| RMS Directivity at Main Lobe | **7.4 ( 8.69 dB )** | Beam Tilt | **1.05 deg** |
| RMS Directivity at Horizontal | **6.7 ( 8.26 dB )** | Pattern Number | **08W074105** |

**Calculated**




| Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field |
|---|---|---|---|---|---|---|---|---|---|
| -10.0 | 0.204 | 10.0 | 0.324 | 30.0 | 0.131 | 50.0 | 0.126 | 70.0 | 0.044 |
| -9.0 | 0.324 | 11.0 | 0.230 | 31.0 | 0.121 | 51.0 | 0.159 | 71.0 | 0.039 |
| -8.0 | 0.410 | 12.0 | 0.125 | 32.0 | 0.124 | 52.0 | 0.200 | 72.0 | 0.036 |
| -7.0 | 0.437 | 13.0 | 0.090 | 33.0 | 0.143 | 53.0 | 0.238 | 73.0 | 0.032 |
| -6.0 | 0.396 | 14.0 | 0.155 | 34.0 | 0.165 | 54.0 | 0.268 | 74.0 | 0.029 |
| -5.0 | 0.310 | 15.0 | 0.209 | 35.0 | 0.176 | 55.0 | 0.287 | 75.0 | 0.026 |
| -4.0 | 0.278 | 16.0 | 0.225 | 36.0 | 0.169 | 56.0 | 0.295 | 76.0 | 0.023 |
| -3.0 | 0.408 | 17.0 | 0.203 | 37.0 | 0.144 | 57.0 | 0.292 | 77.0 | 0.020 |
| -2.0 | 0.616 | 18.0 | 0.156 | 38.0 | 0.103 | 58.0 | 0.281 | 78.0 | 0.017 |
| -1.0 | 0.812 | 19.0 | 0.102 | 39.0 | 0.064 | 59.0 | 0.262 | 79.0 | 0.014 |
| 0.0 | 0.949 | 20.0 | 0.069 | 40.0 | 0.070 | 60.0 | 0.239 | 80.0 | 0.012 |
| 1.0 | 1.000 | 21.0 | 0.069 | 41.0 | 0.118 | 61.0 | 0.212 | 81.0 | 0.009 |
| 2.0 | 0.959 | 22.0 | 0.073 | 42.0 | 0.167 | 62.0 | 0.185 | 82.0 | 0.007 |
| 3.0 | 0.840 | 23.0 | 0.058 | 43.0 | 0.203 | 63.0 | 0.157 | 83.0 | 0.006 |
| 4.0 | 0.671 | 24.0 | 0.024 | 44.0 | 0.222 | 64.0 | 0.132 | 84.0 | 0.004 |
| 5.0 | 0.501 | 25.0 | 0.023 | 45.0 | 0.222 | 65.0 | 0.109 | 85.0 | 0.003 |
| 6.0 | 0.390 | 26.0 | 0.071 | 46.0 | 0.204 | 66.0 | 0.089 | 86.0 | 0.002 |
| 7.0 | 0.368 | 27.0 | 0.111 | 47.0 | 0.174 | 67.0 | 0.073 | 87.0 | 0.001 |
| 8.0 | 0.385 | 28.0 | 0.134 | 48.0 | 0.140 | 68.0 | 0.060 | 88.0 | 0.000 |
| 9.0 | 0.378 | 29.0 | 0.139 | 49.0 | 0.118 | 69.0 | 0.051 | 89.0 | 0.000 |
| | | | | | | | | 90.0 | 0.000 |

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**KSPX-STA**
Latitude: 38-14-50 N
Longitude: 121-30-07 W
ERP: 4.30 kW
Channel: 48
Frequency: 677.0 MHz
AGL: 228.6 m
HAAT: 226.27 m
AMSL: 228.6 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 1.05
Prop Model: None

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Reno
Storey
Nevada
Yuba
Colusa
Yuba City
Carson City
Lake
Sutter
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