Dielectric®

**Antenna Model:** **TFU-30DSC/VP-R P220**

| | |
|---|---|
| **Proposal Number:** | C-70459-5 |
| **Date:** | 31-Jul-18 |
| **Customer:** | Nexstar |
| **Location:** | Shreveport, LA |

## Electrical Specifications

| | | | |
|---|---|---|---|
| **Polarization:** | Elliptical | | |
| **Azimuth Pattern:** | Directional | | |
| **Antenna Input:** | 8-3/16" | 75 Ohm | EIA/DCA |
| **VSWR:** | Channel | 1.08 : 1 | |
| **Bandwidth:** | 6 MHz | | |
| **Rated Input Power:** | 25 kW | (13.98 dBk) | Maximum Average Power |

## Mechanical Specifications

| | | | | |
|---|---|---|---|---|
| **Mounting:** | Side Mounted | | | |
| **Environmental Protection:** | Full Radome | | | |
| **Height:** | 66.9 ft (20.4m) | | | |
| **Weight:** | 1850 lb (0.8t) | Excludes Mounts | | |
| **Effective Projected Area:** | 67.2 ft² (6.2m²) | TIA-222-G | **Basic Wind Speed:** | 89 m/h (143.2 km/h) |

## Channel Specifications

| Call | CH | Freq | Hpol ERP | Vpol ERP | TPO | Peak Main Lobe Hpol Gain | Peak Main Lobe Vpol Gain | Peak at Horizontal Hpol Gain | Peak at Horizontal Vpol Gain |
|---|---|---|---|---|---|---|---|---|---|
| KSHV | 16 | 485 MHz | 442 kW (26.45 dBk) | 111 kW (20.43 dBk) | 16.5 kW (12.18 dBk) | 36.45 (15.62dB) | 9.11 (9.60dB) | 22.40 (13.50dB) | 5.60 (7.48dB) |

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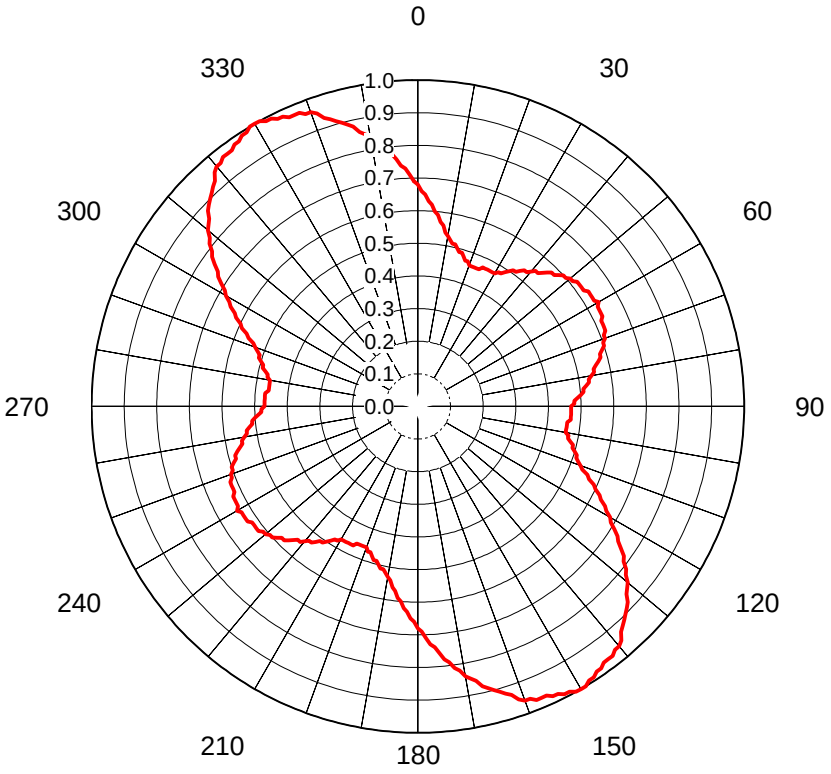


# AZIMUTH PATTERN
## Horizontal Polarization

In Free Space

| | |
|---|---|
| Proposal No. | **C-70459-5** |
| Date | **31-Jul-18** |
| Call Letters | **KSHV** |
| Channel | **16** |
| Frequency | **485 MHz** |
| Antenna Type | **TFU-30DSC/VP-R P220** |
| Gain | **2.17 (3.36dB)** |
| | Calculated |

| Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.680 | 36 | 0.510 | 72 | 0.600 | 108 | 0.510 | 144 | 0.970 | 180 | 0.680 | 216 | 0.510 | 252 | 0.600 | 288 | 0.510 | 324 | 0.970 |
| 1 | 0.660 | 37 | 0.520 | 73 | 0.590 | 109 | 0.520 | 145 | 0.980 | 181 | 0.660 | 217 | 0.520 | 253 | 0.590 | 289 | 0.520 | 325 | 0.980 |
| 2 | 0.650 | 38 | 0.530 | 74 | 0.580 | 110 | 0.530 | 146 | 0.980 | 182 | 0.650 | 218 | 0.530 | 254 | 0.580 | 290 | 0.530 | 326 | 0.980 |
| 3 | 0.630 | 39 | 0.530 | 75 | 0.580 | 111 | 0.540 | 147 | 0.990 | 183 | 0.630 | 219 | 0.530 | 255 | 0.580 | 291 | 0.540 | 327 | 0.990 |
| 4 | 0.620 | 40 | 0.540 | 76 | 0.570 | 112 | 0.560 | 148 | 0.990 | 184 | 0.620 | 220 | 0.540 | 256 | 0.570 | 292 | 0.560 | 328 | 0.990 |
| 5 | 0.600 | 41 | 0.550 | 77 | 0.560 | 113 | 0.570 | 149 | 1.000 | 185 | 0.600 | 221 | 0.550 | 257 | 0.560 | 293 | 0.570 | 329 | 1.000 |
| 6 | 0.590 | 42 | 0.550 | 78 | 0.550 | 114 | 0.590 | 150 | 1.000 | 186 | 0.590 | 222 | 0.550 | 258 | 0.550 | 294 | 0.590 | 330 | 1.000 |
| 7 | 0.570 | 43 | 0.560 | 79 | 0.550 | 115 | 0.600 | 151 | 1.000 | 187 | 0.570 | 223 | 0.560 | 259 | 0.550 | 295 | 0.600 | 331 | 1.000 |
| 8 | 0.560 | 44 | 0.570 | 80 | 0.540 | 116 | 0.620 | 152 | 0.990 | 188 | 0.560 | 224 | 0.570 | 260 | 0.540 | 296 | 0.620 | 332 | 0.990 |
| 9 | 0.540 | 45 | 0.580 | 81 | 0.530 | 117 | 0.630 | 153 | 0.990 | 189 | 0.540 | 225 | 0.580 | 261 | 0.530 | 297 | 0.630 | 333 | 0.990 |
| 10 | 0.530 | 46 | 0.580 | 82 | 0.530 | 118 | 0.650 | 154 | 0.980 | 190 | 0.530 | 226 | 0.580 | 262 | 0.530 | 298 | 0.650 | 334 | 0.980 |
| 11 | 0.520 | 47 | 0.590 | 83 | 0.520 | 119 | 0.660 | 155 | 0.980 | 191 | 0.520 | 227 | 0.590 | 263 | 0.520 | 299 | 0.660 | 335 | 0.980 |
| 12 | 0.510 | 48 | 0.600 | 84 | 0.510 | 120 | 0.680 | 156 | 0.970 | 192 | 0.510 | 228 | 0.600 | 264 | 0.510 | 300 | 0.680 | 336 | 0.970 |
| 13 | 0.510 | 49 | 0.600 | 85 | 0.510 | 121 | 0.690 | 157 | 0.970 | 193 | 0.510 | 229 | 0.600 | 265 | 0.510 | 301 | 0.690 | 337 | 0.970 |
| 14 | 0.500 | 50 | 0.610 | 86 | 0.500 | 122 | 0.710 | 158 | 0.970 | 194 | 0.500 | 230 | 0.610 | 266 | 0.500 | 302 | 0.710 | 338 | 0.970 |
| 15 | 0.490 | 51 | 0.610 | 87 | 0.490 | 123 | 0.730 | 159 | 0.960 | 195 | 0.490 | 231 | 0.610 | 267 | 0.490 | 303 | 0.730 | 339 | 0.960 |
| 16 | 0.490 | 52 | 0.620 | 88 | 0.480 | 124 | 0.740 | 160 | 0.960 | 196 | 0.490 | 232 | 0.620 | 268 | 0.480 | 304 | 0.740 | 340 | 0.960 |
| 17 | 0.480 | 53 | 0.620 | 89 | 0.480 | 125 | 0.760 | 161 | 0.950 | 197 | 0.480 | 233 | 0.620 | 269 | 0.480 | 305 | 0.760 | 341 | 0.950 |
| 18 | 0.470 | 54 | 0.620 | 90 | 0.470 | 126 | 0.780 | 162 | 0.930 | 198 | 0.470 | 234 | 0.620 | 270 | 0.470 | 306 | 0.780 | 342 | 0.930 |
| 19 | 0.470 | 55 | 0.620 | 91 | 0.470 | 127 | 0.790 | 163 | 0.920 | 199 | 0.470 | 235 | 0.620 | 271 | 0.470 | 307 | 0.790 | 343 | 0.920 |
| 20 | 0.460 | 56 | 0.630 | 92 | 0.470 | 128 | 0.810 | 164 | 0.910 | 200 | 0.460 | 236 | 0.630 | 272 | 0.470 | 308 | 0.810 | 344 | 0.910 |
| 21 | 0.460 | 57 | 0.630 | 93 | 0.470 | 129 | 0.820 | 165 | 0.900 | 201 | 0.460 | 237 | 0.630 | 273 | 0.470 | 309 | 0.820 | 345 | 0.900 |
| 22 | 0.460 | 58 | 0.630 | 94 | 0.470 | 130 | 0.840 | 166 | 0.890 | 202 | 0.460 | 238 | 0.630 | 274 | 0.470 | 310 | 0.840 | 346 | 0.890 |
| 23 | 0.460 | 59 | 0.630 | 95 | 0.470 | 131 | 0.850 | 167 | 0.880 | 203 | 0.460 | 239 | 0.630 | 275 | 0.470 | 311 | 0.850 | 347 | 0.880 |
| 24 | 0.460 | 60 | 0.640 | 96 | 0.460 | 132 | 0.860 | 168 | 0.860 | 204 | 0.460 | 240 | 0.640 | 276 | 0.460 | 312 | 0.860 | 348 | 0.860 |
| 25 | 0.470 | 61 | 0.630 | 97 | 0.460 | 133 | 0.880 | 169 | 0.850 | 205 | 0.470 | 241 | 0.630 | 277 | 0.460 | 313 | 0.880 | 349 | 0.850 |
| 26 | 0.470 | 62 | 0.630 | 98 | 0.460 | 134 | 0.890 | 170 | 0.840 | 206 | 0.470 | 242 | 0.630 | 278 | 0.460 | 314 | 0.890 | 350 | 0.840 |
| 27 | 0.470 | 63 | 0.630 | 99 | 0.460 | 135 | 0.900 | 171 | 0.820 | 207 | 0.470 | 243 | 0.630 | 279 | 0.460 | 315 | 0.900 | 351 | 0.820 |
| 28 | 0.470 | 64 | 0.630 | 100 | 0.460 | 136 | 0.910 | 172 | 0.810 | 208 | 0.470 | 244 | 0.630 | 280 | 0.460 | 316 | 0.910 | 352 | 0.810 |
| 29 | 0.470 | 65 | 0.620 | 101 | 0.470 | 137 | 0.920 | 173 | 0.790 | 209 | 0.470 | 245 | 0.620 | 281 | 0.470 | 317 | 0.920 | 353 | 0.790 |
| 30 | 0.470 | 66 | 0.620 | 102 | 0.470 | 138 | 0.930 | 174 | 0.780 | 210 | 0.470 | 246 | 0.620 | 282 | 0.470 | 318 | 0.930 | 354 | 0.780 |
| 31 | 0.480 | 67 | 0.620 | 103 | 0.480 | 139 | 0.950 | 175 | 0.760 | 211 | 0.480 | 247 | 0.620 | 283 | 0.480 | 319 | 0.950 | 355 | 0.760 |
| 32 | 0.480 | 68 | 0.620 | 104 | 0.490 | 140 | 0.960 | 176 | 0.740 | 212 | 0.480 | 248 | 0.620 | 284 | 0.490 | 320 | 0.960 | 356 | 0.740 |
| 33 | 0.490 | 69 | 0.610 | 105 | 0.490 | 141 | 0.960 | 177 | 0.730 | 213 | 0.490 | 249 | 0.610 | 285 | 0.490 | 321 | 0.960 | 357 | 0.730 |
| 34 | 0.500 | 70 | 0.610 | 106 | 0.500 | 142 | 0.970 | 178 | 0.710 | 214 | 0.500 | 250 | 0.610 | 286 | 0.500 | 322 | 0.970 | 358 | 0.710 |
| 35 | 0.510 | 71 | 0.600 | 107 | 0.510 | 143 | 0.970 | 179 | 0.690 | 215 | 0.510 | 251 | 0.600 | 287 | 0.510 | 323 | 0.970 | 359 | 0.690 |

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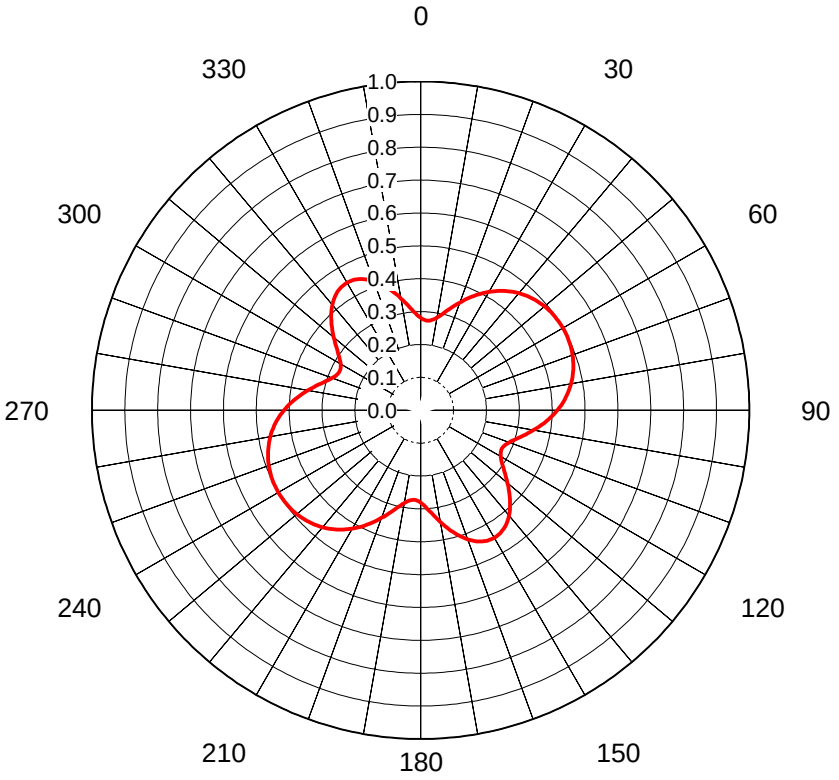



# AZIMUTH PATTERN
## Vertical Polarization

In Free Space

| | |
|---|---|
| Proposal No. | **C-70459-5** |
| Date | **31-Jul-18** |
| Call Letters | **KSHV** |
| Channel | **16** |
| Frequency | **485 MHz** |
| Antenna Type | **TFU-30DSC/VP-R P220** |
| Gain | **1.57 (1.96dB)** |
| | Calculated |

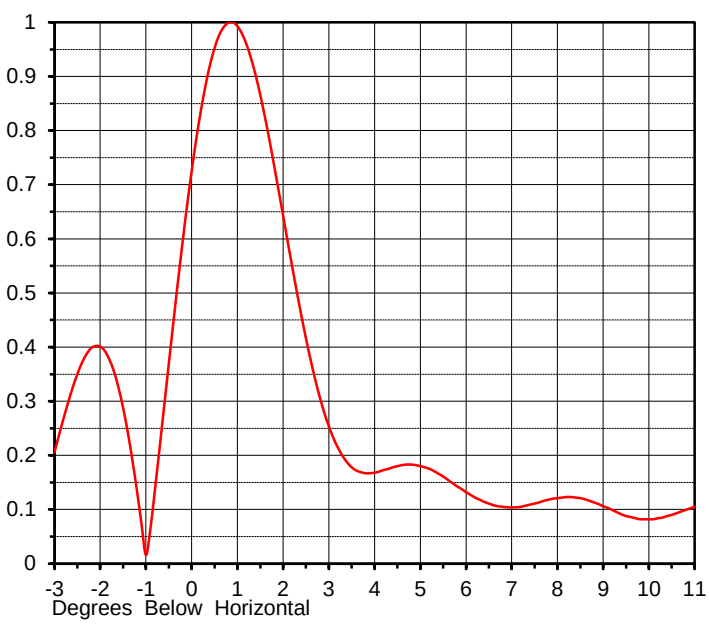
| Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.281 | 36 | 0.448 | 72 | 0.488 | 108 | 0.296 | 144 | 0.437 | 180 | 0.281 | 216 | 0.448 | 252 | 0.488 | 288 | 0.296 | 324 | 0.437 |
| 1 | 0.278 | 37 | 0.452 | 73 | 0.486 | 109 | 0.291 | 145 | 0.440 | 181 | 0.278 | 217 | 0.452 | 253 | 0.486 | 289 | 0.291 | 325 | 0.440 |
| 2 | 0.276 | 38 | 0.457 | 74 | 0.483 | 110 | 0.286 | 146 | 0.443 | 182 | 0.276 | 218 | 0.457 | 254 | 0.483 | 290 | 0.286 | 326 | 0.443 |
| 3 | 0.274 | 39 | 0.461 | 75 | 0.481 | 111 | 0.282 | 147 | 0.445 | 183 | 0.274 | 219 | 0.461 | 255 | 0.481 | 291 | 0.282 | 327 | 0.445 |
| 4 | 0.273 | 40 | 0.465 | 76 | 0.478 | 112 | 0.279 | 148 | 0.447 | 184 | 0.273 | 220 | 0.465 | 256 | 0.478 | 292 | 0.279 | 328 | 0.447 |
| 5 | 0.274 | 41 | 0.468 | 77 | 0.475 | 113 | 0.276 | 149 | 0.448 | 185 | 0.274 | 221 | 0.468 | 257 | 0.475 | 293 | 0.276 | 329 | 0.448 |
| 6 | 0.275 | 42 | 0.472 | 78 | 0.472 | 114 | 0.275 | 150 | 0.448 | 186 | 0.275 | 222 | 0.472 | 258 | 0.472 | 294 | 0.275 | 330 | 0.448 |
| 7 | 0.276 | 43 | 0.475 | 79 | 0.468 | 115 | 0.274 | 151 | 0.448 | 187 | 0.276 | 223 | 0.475 | 259 | 0.468 | 295 | 0.274 | 331 | 0.448 |
| 8 | 0.279 | 44 | 0.478 | 80 | 0.465 | 116 | 0.273 | 152 | 0.447 | 188 | 0.279 | 224 | 0.478 | 260 | 0.465 | 296 | 0.273 | 332 | 0.447 |
| 9 | 0.282 | 45 | 0.481 | 81 | 0.461 | 117 | 0.274 | 153 | 0.445 | 189 | 0.282 | 225 | 0.481 | 261 | 0.461 | 297 | 0.274 | 333 | 0.445 |
| 10 | 0.286 | 46 | 0.483 | 82 | 0.457 | 118 | 0.276 | 154 | 0.443 | 190 | 0.286 | 226 | 0.483 | 262 | 0.457 | 298 | 0.276 | 334 | 0.443 |
| 11 | 0.291 | 47 | 0.486 | 83 | 0.452 | 119 | 0.278 | 155 | 0.440 | 191 | 0.291 | 227 | 0.486 | 263 | 0.452 | 299 | 0.278 | 335 | 0.440 |
| 12 | 0.296 | 48 | 0.488 | 84 | 0.448 | 120 | 0.281 | 156 | 0.437 | 192 | 0.296 | 228 | 0.488 | 264 | 0.448 | 300 | 0.281 | 336 | 0.437 |
| 13 | 0.302 | 49 | 0.490 | 85 | 0.443 | 121 | 0.285 | 157 | 0.433 | 193 | 0.302 | 229 | 0.490 | 265 | 0.443 | 301 | 0.285 | 337 | 0.433 |
| 14 | 0.308 | 50 | 0.492 | 86 | 0.438 | 122 | 0.290 | 158 | 0.429 | 194 | 0.308 | 230 | 0.492 | 266 | 0.438 | 302 | 0.290 | 338 | 0.429 |
| 15 | 0.314 | 51 | 0.493 | 87 | 0.433 | 123 | 0.295 | 159 | 0.424 | 195 | 0.314 | 231 | 0.493 | 267 | 0.433 | 303 | 0.295 | 339 | 0.424 |
| 16 | 0.321 | 52 | 0.495 | 88 | 0.427 | 124 | 0.301 | 160 | 0.418 | 196 | 0.321 | 232 | 0.495 | 268 | 0.427 | 304 | 0.301 | 340 | 0.418 |
| 17 | 0.327 | 53 | 0.496 | 89 | 0.422 | 125 | 0.308 | 161 | 0.412 | 197 | 0.327 | 233 | 0.496 | 269 | 0.422 | 305 | 0.308 | 341 | 0.412 |
| 18 | 0.334 | 54 | 0.497 | 90 | 0.416 | 126 | 0.314 | 162 | 0.406 | 198 | 0.334 | 234 | 0.497 | 270 | 0.416 | 306 | 0.314 | 342 | 0.406 |
| 19 | 0.341 | 55 | 0.498 | 91 | 0.410 | 127 | 0.322 | 163 | 0.399 | 199 | 0.341 | 235 | 0.498 | 271 | 0.410 | 307 | 0.322 | 343 | 0.399 |
| 20 | 0.349 | 56 | 0.499 | 92 | 0.404 | 128 | 0.329 | 164 | 0.392 | 200 | 0.349 | 236 | 0.499 | 272 | 0.404 | 308 | 0.329 | 344 | 0.392 |
| 21 | 0.356 | 57 | 0.499 | 93 | 0.397 | 129 | 0.337 | 165 | 0.384 | 201 | 0.356 | 237 | 0.499 | 273 | 0.397 | 309 | 0.337 | 345 | 0.384 |
| 22 | 0.363 | 58 | 0.500 | 94 | 0.391 | 130 | 0.345 | 166 | 0.377 | 202 | 0.363 | 238 | 0.500 | 274 | 0.391 | 310 | 0.345 | 346 | 0.377 |
| 23 | 0.370 | 59 | 0.500 | 95 | 0.384 | 131 | 0.353 | 167 | 0.369 | 203 | 0.370 | 239 | 0.500 | 275 | 0.384 | 311 | 0.353 | 347 | 0.369 |
| 24 | 0.377 | 60 | 0.500 | 96 | 0.377 | 132 | 0.361 | 168 | 0.361 | 204 | 0.377 | 240 | 0.500 | 276 | 0.377 | 312 | 0.361 | 348 | 0.361 |
| 25 | 0.384 | 61 | 0.500 | 97 | 0.370 | 133 | 0.369 | 169 | 0.353 | 205 | 0.384 | 241 | 0.500 | 277 | 0.370 | 313 | 0.369 | 349 | 0.355 |
| 26 | 0.391 | 62 | 0.500 | 98 | 0.363 | 134 | 0.377 | 170 | 0.345 | 206 | 0.391 | 242 | 0.500 | 278 | 0.363 | 314 | 0.377 | 350 | 0.345 |
| 27 | 0.397 | 63 | 0.499 | 99 | 0.356 | 135 | 0.384 | 171 | 0.337 | 207 | 0.397 | 243 | 0.499 | 279 | 0.356 | 315 | 0.384 | 351 | 0.337 |
| 28 | 0.404 | 64 | 0.499 | 100 | 0.349 | 136 | 0.392 | 172 | 0.329 | 208 | 0.404 | 244 | 0.499 | 280 | 0.349 | 316 | 0.392 | 352 | 0.329 |
| 29 | 0.410 | 65 | 0.498 | 101 | 0.341 | 137 | 0.399 | 173 | 0.322 | 209 | 0.410 | 245 | 0.498 | 281 | 0.341 | 317 | 0.399 | 353 | 0.322 |
| 30 | 0.416 | 66 | 0.497 | 102 | 0.334 | 138 | 0.406 | 174 | 0.314 | 210 | 0.416 | 246 | 0.497 | 282 | 0.334 | 318 | 0.406 | 354 | 0.314 |
| 31 | 0.422 | 67 | 0.496 | 103 | 0.327 | 139 | 0.412 | 175 | 0.308 | 211 | 0.422 | 247 | 0.496 | 283 | 0.327 | 319 | 0.412 | 355 | 0.308 |
| 32 | 0.427 | 68 | 0.495 | 104 | 0.321 | 140 | 0.418 | 176 | 0.301 | 212 | 0.427 | 248 | 0.495 | 284 | 0.321 | 320 | 0.418 | 356 | 0.301 |
| 33 | 0.433 | 69 | 0.493 | 105 | 0.314 | 141 | 0.424 | 177 | 0.295 | 213 | 0.433 | 249 | 0.493 | 285 | 0.314 | 321 | 0.424 | 357 | 0.295 |
| 34 | 0.438 | 70 | 0.492 | 106 | 0.308 | 142 | 0.429 | 178 | 0.290 | 214 | 0.438 | 250 | 0.492 | 286 | 0.308 | 322 | 0.429 | 358 | 0.290 |
| 35 | 0.443 | 71 | 0.490 | 107 | 0.302 | 143 | 0.433 | 179 | 0.285 | 215 | 0.443 | 251 | 0.490 | 287 | 0.302 | 323 | 0.433 | 359 | 0.285 |

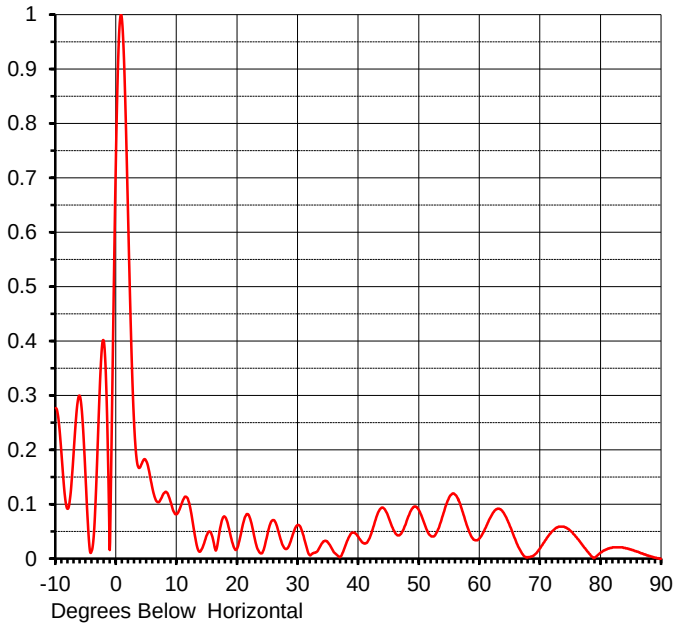
# ELEVATION PATTERN

| | |
|---|---|
| Proposal No. | **C-70459-5** |
| Date | **31-Jul-18** |
| Call Letters | **KSHV** |
| Channel | **16** |
| Frequency | **485 MHz** |
| Antenna Type | **TFU-30DSC/VP-R P220** |

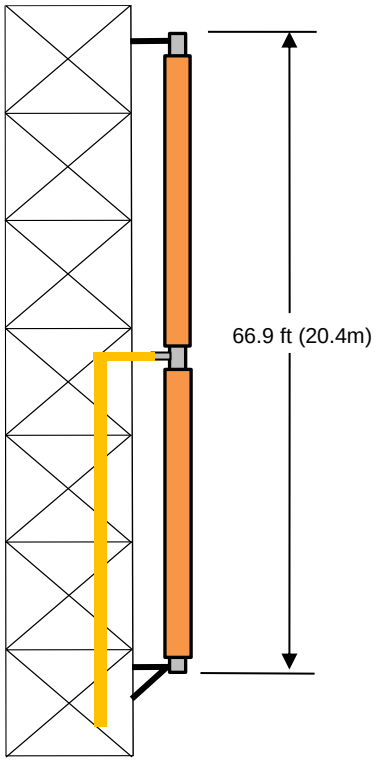
| | | | |
|---|---|---|---|
| RMS Directivity at Main Lobe | **22.6 ( 13.54 dB )** | Beam Tilt | **0.75 deg** |
| RMS Directivity at Horizontal | **11.9 ( 10.76 dB )** | Pattern Number | **30Q226075** |

**Calculated**




| Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field |
|---|---|---|---|---|---|---|---|---|---|
| -10.0 | 0.277 | 10.0 | 0.082 | 30.0 | 0.062 | 50.0 | 0.088 | 70.0 | 0.020 |
| -9.0 | 0.183 | 11.0 | 0.108 | 31.0 | 0.037 | 51.0 | 0.060 | 71.0 | 0.037 |
| -8.0 | 0.092 | 12.0 | 0.103 | 32.0 | 0.006 | 52.0 | 0.041 | 72.0 | 0.051 |
| -7.0 | 0.205 | 13.0 | 0.040 | 33.0 | 0.012 | 53.0 | 0.051 | 73.0 | 0.059 |
| -6.0 | 0.298 | 14.0 | 0.016 | 34.0 | 0.029 | 54.0 | 0.084 | 74.0 | 0.058 |
| -5.0 | 0.129 | 15.0 | 0.045 | 35.0 | 0.029 | 55.0 | 0.114 | 75.0 | 0.051 |
| -4.0 | 0.017 | 16.0 | 0.033 | 36.0 | 0.011 | 56.0 | 0.117 | 76.0 | 0.039 |
| -3.0 | 0.238 | 17.0 | 0.048 | 37.0 | 0.004 | 57.0 | 0.092 | 77.0 | 0.024 |
| -2.0 | 0.393 | 18.0 | 0.076 | 38.0 | 0.030 | 58.0 | 0.057 | 78.0 | 0.010 |
| -1.0 | 0.066 | 19.0 | 0.036 | 39.0 | 0.048 | 59.0 | 0.035 | 79.0 | 0.002 |
| 0.0 | 0.784 | 20.0 | 0.021 | 40.0 | 0.039 | 60.0 | 0.038 | 80.0 | 0.012 |
| 1.0 | 0.979 | 21.0 | 0.068 | 41.0 | 0.028 | 61.0 | 0.058 | 81.0 | 0.018 |
| 2.0 | 0.595 | 22.0 | 0.076 | 42.0 | 0.044 | 62.0 | 0.081 | 82.0 | 0.021 |
| 3.0 | 0.232 | 23.0 | 0.029 | 43.0 | 0.079 | 63.0 | 0.092 | 83.0 | 0.021 |
| 4.0 | 0.170 | 24.0 | 0.010 | 44.0 | 0.094 | 64.0 | 0.083 | 84.0 | 0.020 |
| 5.0 | 0.178 | 25.0 | 0.048 | 45.0 | 0.074 | 65.0 | 0.059 | 85.0 | 0.017 |
| 6.0 | 0.127 | 26.0 | 0.071 | 46.0 | 0.048 | 66.0 | 0.031 | 86.0 | 0.013 |
| 7.0 | 0.104 | 27.0 | 0.040 | 47.0 | 0.046 | 67.0 | 0.009 | 87.0 | 0.009 |
| 8.0 | 0.122 | 28.0 | 0.018 | 48.0 | 0.072 | 68.0 | 0.003 | 88.0 | 0.005 |
| 9.0 | 0.103 | 29.0 | 0.040 | 49.0 | 0.095 | 69.0 | 0.007 | 89.0 | 0.002 |
| | | | | | | | | 90.0 | 0.000 |




# MECHANICAL SPECIFICATIONS

| | |
|---|---|
| Proposal No. | **C-70459-5** |
| Date | **31-Jul-18** |
| Call Letters | **KSHV** |
| Channel | **16** |
| Frequency | **485 MHz** |
| Antenna Type | **TFU-30DSC/VP-R P220** |

Preliminary Specifications

## Side Mounted

### With ice TIA-222-G

| | |
|---|---|
| **Height AGL(z)** | 1657 ft (505.1 m) |
| **Basic Wind Speed** | 89 m/h (143.2 km/h) |
| **Structure Class** | II |
| **Exposure Category** | C |
| **Topography Category** | 1 |
| Design Ice | 0.75 in $t_{iz}$ = 2.10 in |
| Wind Speed w/Ice | 30 m/h (48.3 km/h) |

| **Mechanical Specifications** | | **without ice** | **with ice** | |
|---|---|---|---|---|
| Height | H2 | 66.9 ft (20.4m) | | |
| Height of Center of Radiation | H3 | 33.45 ft (10.2m) | | |
| Effective Projected Area | $(EPA)_A$ | 67.2 ft² (6.2m²) | 162.5 ft² (15.1m²) | Mounts Excluded |
| Weight | W | 1850 lb (0.8t) | 6300 lb (2.9t) | Mounts Excluded |

Antenna designed in accordance with AISC specifications for design of structural steel as prescribed by TIA-222-G

| | | | | | |
|---|---|---|---|---|---|
| **Prepared by:** | KLP | **Date:** | 31-Jul-18 | **ME:** | **EE:** |
| **Rev. No.5 by:** | JBC | **Date:** | 31-Jul-18 | | |

## Summary

| | |
|---|---|
| Proposal No. | **C-70459-5** |
| Date | **31-Jul-18** |
| Call Letters | **KSHV** |
| Channel | **16** |
| Frequency | **485 MHz** |
| Antenna Type | **TFU-30DSC/VP-R P220** |

## Antenna

| | Hpol | | Vpol | |
|---|---|---|---|---|
| **ERP:** | 442 kW | **( 26.45 dBk )** | 111 kW | **( 20.43 dBk )** |
| Peak Gain* | 36.45 | ( 15.62 dB ) | 9.11 | ( 9.60 dB) |

## Antenna Input Power

**12.1 kW ( 10.84 dBk )**

## Transmission Line

| | | | |
|---|---|---|---|
| Type: | **Rigid** | Attenuation: | **( 1.35 dB )** |
| Size: | **8-3/16"** | Efficiency: | **73.4%** |
| Impedance: | **75 Ohm** | | |
| Length: | **1680 ft** | **512.1 m** | |

## Transmitter Output

**16.5 kW ( 12.18 dBk )**

Transmitter filter losses not included

* Directivity and Gain are with respect to half wave dipole. The gain includes feed system losses