Dielectric

**Antenna Model:** **TFU-36GTH/VP-R O6**

| | |
|---|---|
| Proposal Number: | **C-71765-1** |
| Date: | **16-Sep-21** |
| Customer: | **U. of Nebraska** |
| Location: | **Lincoln, NE** |

## Electrical Specifications

| | | | |
|---|---|---|---|
| Polarization: | **Elliptical** | | |
| Azimuth Pattern: | **Omni** | | |
| Antenna Input: | **6-1/8"** | **75 Ohm** | **EIA/DCA** |
| VSWR: | Channel | **1.08 : 1** | |
| Bandwidth: | **MHz** | | |
| Rated Input Power: | **50 kW** | **(16.99 dBk)** | **Maximum Average Power** |

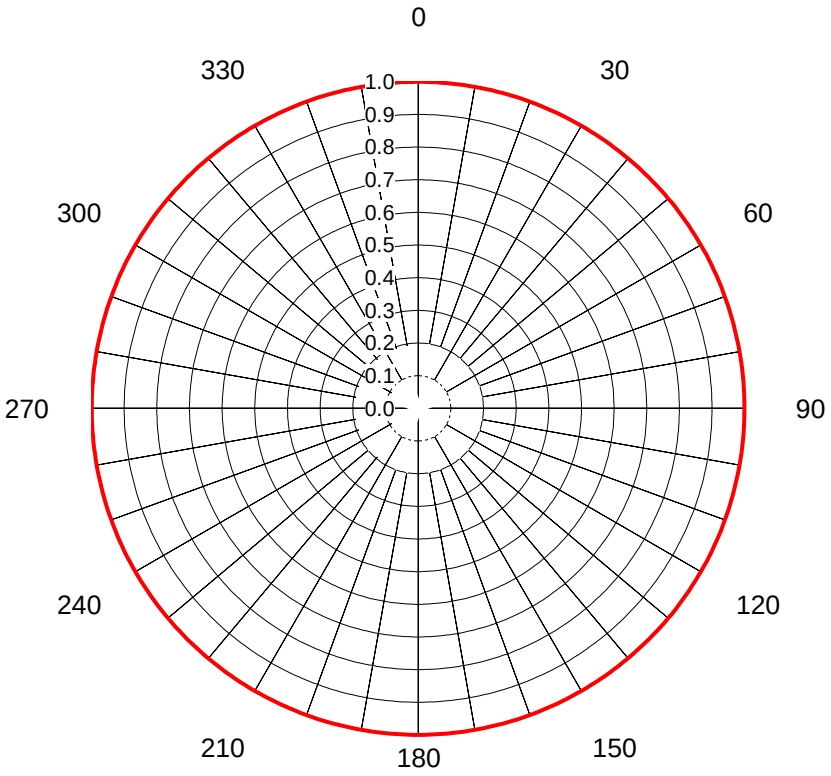
## Mechanical Specifications

| | | | | | |
|---|---|---|---|---|---|
| Mounting: | **Top Mounted** | | | | |
| Environmental Protection: | **Full Radome** | | | | |
| Height: | **67.2 ft (20.5m)** | less Lightning Protector | **71.2 ft (21.7m)** | with Lightning Protector | |
| Weight: | **14300 lb (6.5t)** | | | | |
| Effective Projected Area: | **80.1 ft² (7.4m²)** | **TIA-222-G** | Basic Wind Speed: | **90 m/h (144.8 km/h)** | |

## Channel Specifications

| Call | CH | Freq | Hpol ERP | Vpol ERP | TPO | RMS Main Lobe Hpol Gain | RMS Main Lobe Vpol Gain | RMS at Horizontal Hpol Gain | RMS at Horizontal Vpol Gain |
|---|---|---|---|---|---|---|---|---|---|
| KUON | 27 | 551 MHz | 650 kW (28.13 dBk) | 279 kW (24.45 dBk) | 36.3 kW (15.60 dBk) | 21.00 (13.22dB) | 9.00 (9.54dB) | 16.67 (12.22dB) | 7.14 (8.54dB) |

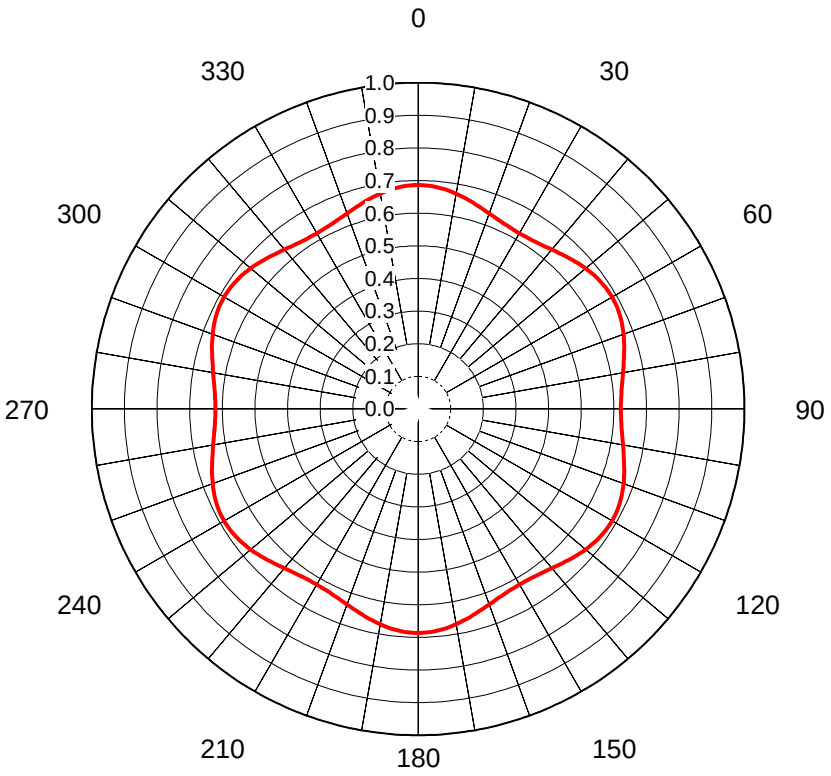
Dielectric®




# AZIMUTH PATTERN
## Horizontal Polarization

| | |
|---|---|
| Proposal No. | **C-71765-1** |
| Date | **16-Sep-21** |
| Call Letters | **KUON** |
| Channel | **27** |
| Frequency | **551 MHz** |
| Antenna Type | **TFU-36GTH/VP-R O6** |
| Gain | **1 (0dB)** |
| | Calculated |
| Circularity | **+/- 1.0 dB** |

| Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1.000 | 36 | 0.999 | 72 | 1.000 | 108 | 1.000 | 144 | 0.999 | 180 | 1.000 | 216 | 0.999 | 252 | 1.000 | 288 | 1.000 | 324 | 0.999 |
| 1 | 1.000 | 37 | 0.999 | 73 | 1.000 | 109 | 1.000 | 145 | 0.999 | 181 | 1.000 | 217 | 0.999 | 253 | 1.000 | 289 | 1.000 | 325 | 0.999 |
| 2 | 1.000 | 38 | 0.999 | 74 | 1.000 | 110 | 1.000 | 146 | 0.999 | 182 | 1.000 | 218 | 0.999 | 254 | 1.000 | 290 | 1.000 | 326 | 0.999 |
| 3 | 1.000 | 39 | 0.999 | 75 | 1.000 | 111 | 1.000 | 147 | 0.999 | 183 | 1.000 | 219 | 0.999 | 255 | 1.000 | 291 | 1.000 | 327 | 0.999 |
| 4 | 1.000 | 40 | 1.000 | 76 | 1.000 | 112 | 1.000 | 148 | 0.999 | 184 | 1.000 | 220 | 1.000 | 256 | 1.000 | 292 | 1.000 | 328 | 0.999 |
| 5 | 1.000 | 41 | 1.000 | 77 | 1.000 | 113 | 1.000 | 149 | 0.999 | 185 | 1.000 | 221 | 1.000 | 257 | 1.000 | 293 | 1.000 | 329 | 0.999 |
| 6 | 1.000 | 42 | 1.000 | 78 | 1.000 | 114 | 1.000 | 150 | 0.999 | 186 | 1.000 | 222 | 1.000 | 258 | 1.000 | 294 | 1.000 | 330 | 0.999 |
| 7 | 1.000 | 43 | 1.000 | 79 | 1.000 | 115 | 1.000 | 151 | 0.999 | 187 | 1.000 | 223 | 1.000 | 259 | 1.000 | 295 | 1.000 | 331 | 0.999 |
| 8 | 1.000 | 44 | 1.000 | 80 | 1.000 | 116 | 1.000 | 152 | 0.999 | 188 | 1.000 | 224 | 1.000 | 260 | 1.000 | 296 | 1.000 | 332 | 0.999 |
| 9 | 1.000 | 45 | 1.000 | 81 | 0.999 | 117 | 1.000 | 153 | 0.999 | 189 | 1.000 | 225 | 1.000 | 261 | 0.999 | 297 | 1.000 | 333 | 0.999 |
| 10 | 1.000 | 46 | 1.000 | 82 | 0.999 | 118 | 1.000 | 154 | 0.999 | 190 | 1.000 | 226 | 1.000 | 262 | 0.999 | 298 | 1.000 | 334 | 0.999 |
| 11 | 1.000 | 47 | 1.000 | 83 | 0.999 | 119 | 1.000 | 155 | 0.999 | 191 | 1.000 | 227 | 1.000 | 263 | 0.999 | 299 | 1.000 | 335 | 0.999 |
| 12 | 1.000 | 48 | 1.000 | 84 | 0.999 | 120 | 1.000 | 156 | 0.999 | 192 | 1.000 | 228 | 1.000 | 264 | 0.999 | 300 | 1.000 | 336 | 0.999 |
| 13 | 1.000 | 49 | 1.000 | 85 | 0.999 | 121 | 1.000 | 157 | 0.999 | 193 | 1.000 | 229 | 1.000 | 265 | 0.999 | 301 | 1.000 | 337 | 0.999 |
| 14 | 1.000 | 50 | 1.000 | 86 | 0.999 | 122 | 1.000 | 158 | 0.999 | 194 | 1.000 | 230 | 1.000 | 266 | 0.999 | 302 | 1.000 | 338 | 0.999 |
| 15 | 1.000 | 51 | 1.000 | 87 | 0.999 | 123 | 1.000 | 159 | 0.999 | 195 | 1.000 | 231 | 1.000 | 267 | 0.999 | 303 | 1.000 | 339 | 0.999 |
| 16 | 1.000 | 52 | 1.000 | 88 | 0.999 | 124 | 1.000 | 160 | 1.000 | 196 | 1.000 | 232 | 1.000 | 268 | 0.999 | 304 | 1.000 | 340 | 1.000 |
| 17 | 1.000 | 53 | 1.000 | 89 | 0.999 | 125 | 1.000 | 161 | 1.000 | 197 | 1.000 | 233 | 1.000 | 269 | 0.999 | 305 | 1.000 | 341 | 1.000 |
| 18 | 1.000 | 54 | 1.000 | 90 | 0.999 | 126 | 1.000 | 162 | 1.000 | 198 | 1.000 | 234 | 1.000 | 270 | 0.999 | 306 | 1.000 | 342 | 1.000 |
| 19 | 1.000 | 55 | 1.000 | 91 | 0.999 | 127 | 1.000 | 163 | 1.000 | 199 | 1.000 | 235 | 1.000 | 271 | 0.999 | 307 | 1.000 | 343 | 1.000 |
| 20 | 1.000 | 56 | 1.000 | 92 | 0.999 | 128 | 1.000 | 164 | 1.000 | 200 | 1.000 | 236 | 1.000 | 272 | 0.999 | 308 | 1.000 | 344 | 1.000 |
| 21 | 0.999 | 57 | 1.000 | 93 | 0.999 | 129 | 1.000 | 165 | 1.000 | 201 | 0.999 | 237 | 1.000 | 273 | 0.999 | 309 | 1.000 | 345 | 1.000 |
| 22 | 0.999 | 58 | 1.000 | 94 | 0.999 | 130 | 1.000 | 166 | 1.000 | 202 | 0.999 | 238 | 1.000 | 274 | 0.999 | 310 | 1.000 | 346 | 1.000 |
| 23 | 0.999 | 59 | 1.000 | 95 | 0.999 | 131 | 1.000 | 167 | 1.000 | 203 | 0.999 | 239 | 1.000 | 275 | 0.999 | 311 | 1.000 | 347 | 1.000 |
| 24 | 0.999 | 60 | 1.000 | 96 | 0.999 | 132 | 1.000 | 168 | 1.000 | 204 | 0.999 | 240 | 1.000 | 276 | 0.999 | 312 | 1.000 | 348 | 1.000 |
| 25 | 0.999 | 61 | 1.000 | 97 | 0.999 | 133 | 1.000 | 169 | 1.000 | 205 | 0.999 | 241 | 1.000 | 277 | 0.999 | 313 | 1.000 | 349 | 1.000 |
| 26 | 0.999 | 62 | 1.000 | 98 | 0.999 | 134 | 1.000 | 170 | 1.000 | 206 | 0.999 | 242 | 1.000 | 278 | 0.999 | 314 | 1.000 | 350 | 1.000 |
| 27 | 0.999 | 63 | 1.000 | 99 | 0.999 | 135 | 1.000 | 171 | 1.000 | 207 | 0.999 | 243 | 1.000 | 279 | 0.999 | 315 | 1.000 | 351 | 1.000 |
| 28 | 0.999 | 64 | 1.000 | 100 | 1.000 | 136 | 1.000 | 172 | 1.000 | 208 | 0.999 | 244 | 1.000 | 280 | 1.000 | 316 | 1.000 | 352 | 1.000 |
| 29 | 0.999 | 65 | 1.000 | 101 | 1.000 | 137 | 1.000 | 173 | 1.000 | 209 | 0.999 | 245 | 1.000 | 281 | 1.000 | 317 | 1.000 | 353 | 1.000 |
| 30 | 0.999 | 66 | 1.000 | 102 | 1.000 | 138 | 1.000 | 174 | 1.000 | 210 | 0.999 | 246 | 1.000 | 282 | 1.000 | 318 | 1.000 | 354 | 1.000 |
| 31 | 0.999 | 67 | 1.000 | 103 | 1.000 | 139 | 1.000 | 175 | 1.000 | 211 | 0.999 | 247 | 1.000 | 283 | 1.000 | 319 | 1.000 | 355 | 1.000 |
| 32 | 0.999 | 68 | 1.000 | 104 | 1.000 | 140 | 1.000 | 176 | 1.000 | 212 | 0.999 | 248 | 1.000 | 284 | 1.000 | 320 | 1.000 | 356 | 1.000 |
| 33 | 0.999 | 69 | 1.000 | 105 | 1.000 | 141 | 0.999 | 177 | 1.000 | 213 | 0.999 | 249 | 1.000 | 285 | 1.000 | 321 | 0.999 | 357 | 1.000 |
| 34 | 0.999 | 70 | 1.000 | 106 | 1.000 | 142 | 0.999 | 178 | 1.000 | 214 | 0.999 | 250 | 1.000 | 286 | 1.000 | 322 | 0.999 | 358 | 1.000 |
| 35 | 0.999 | 71 | 1.000 | 107 | 1.000 | 143 | 0.999 | 179 | 1.000 | 215 | 0.999 | 251 | 1.000 | 287 | 1.000 | 323 | 0.999 | 359 | 1.000 |




# AZIMUTH PATTERN
## Vertical Polarization

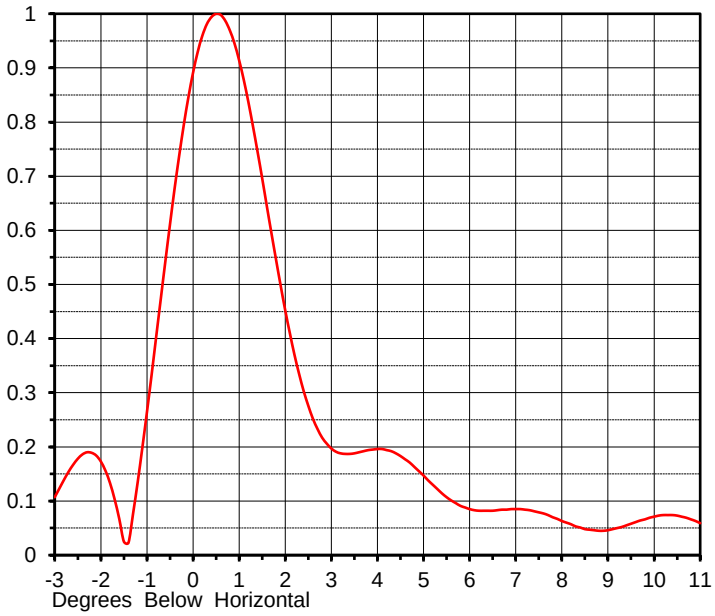
| | |
|---|---|
| Proposal No. | **C-71765-1** |
| Date | **16-Sep-21** |
| Call Letters | **KUON** |
| Channel | **27** |
| Frequency | **551 MHz** |
| Antenna Type | **TFU-36GTH/VP-R O6** |
| Gain | **1.1 (0.42dB)** Calculated |
| Circularity | **+/- 1.0 dB** |

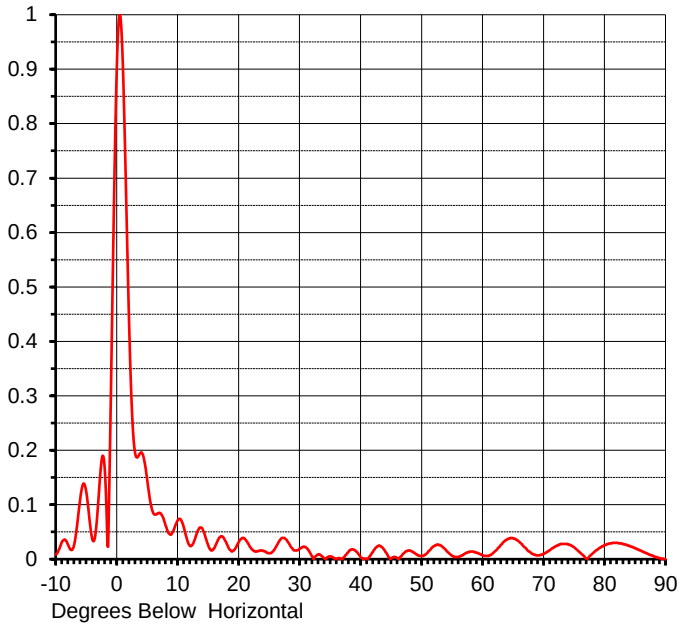
| Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.686 | 36 | 0.628 | 72 | 0.664 | 108 | 0.664 | 144 | 0.628 | 180 | 0.686 | 216 | 0.628 | 252 | 0.664 | 288 | 0.664 | 324 | 0.628 |
| 1 | 0.686 | 37 | 0.630 | 73 | 0.661 | 109 | 0.667 | 145 | 0.626 | 181 | 0.686 | 217 | 0.630 | 253 | 0.661 | 289 | 0.667 | 325 | 0.626 |
| 2 | 0.686 | 38 | 0.632 | 74 | 0.657 | 110 | 0.670 | 146 | 0.624 | 182 | 0.686 | 218 | 0.632 | 254 | 0.657 | 290 | 0.670 | 326 | 0.624 |
| 3 | 0.685 | 39 | 0.635 | 75 | 0.654 | 111 | 0.673 | 147 | 0.623 | 183 | 0.685 | 219 | 0.635 | 255 | 0.654 | 291 | 0.673 | 327 | 0.623 |
| 4 | 0.684 | 40 | 0.638 | 76 | 0.650 | 112 | 0.676 | 148 | 0.622 | 184 | 0.684 | 220 | 0.638 | 256 | 0.650 | 292 | 0.676 | 328 | 0.622 |
| 5 | 0.682 | 41 | 0.641 | 77 | 0.647 | 113 | 0.678 | 149 | 0.622 | 185 | 0.682 | 221 | 0.641 | 257 | 0.647 | 293 | 0.678 | 329 | 0.622 |
| 6 | 0.680 | 42 | 0.644 | 78 | 0.644 | 114 | 0.680 | 150 | 0.621 | 186 | 0.680 | 222 | 0.644 | 258 | 0.644 | 294 | 0.680 | 330 | 0.621 |
| 7 | 0.678 | 43 | 0.647 | 79 | 0.641 | 115 | 0.682 | 151 | 0.622 | 187 | 0.678 | 223 | 0.647 | 259 | 0.641 | 295 | 0.682 | 331 | 0.622 |
| 8 | 0.676 | 44 | 0.650 | 80 | 0.638 | 116 | 0.684 | 152 | 0.622 | 188 | 0.676 | 224 | 0.650 | 260 | 0.638 | 296 | 0.684 | 332 | 0.622 |
| 9 | 0.673 | 45 | 0.654 | 81 | 0.635 | 117 | 0.685 | 153 | 0.623 | 189 | 0.673 | 225 | 0.654 | 261 | 0.635 | 297 | 0.685 | 333 | 0.623 |
| 10 | 0.670 | 46 | 0.657 | 82 | 0.632 | 118 | 0.686 | 154 | 0.624 | 190 | 0.670 | 226 | 0.657 | 262 | 0.632 | 298 | 0.686 | 334 | 0.624 |
| 11 | 0.667 | 47 | 0.661 | 83 | 0.630 | 119 | 0.686 | 155 | 0.626 | 191 | 0.667 | 227 | 0.661 | 263 | 0.630 | 299 | 0.686 | 335 | 0.626 |
| 12 | 0.664 | 48 | 0.664 | 84 | 0.628 | 120 | 0.686 | 156 | 0.628 | 192 | 0.664 | 228 | 0.664 | 264 | 0.628 | 300 | 0.686 | 336 | 0.628 |
| 13 | 0.661 | 49 | 0.667 | 85 | 0.626 | 121 | 0.686 | 157 | 0.630 | 193 | 0.661 | 229 | 0.667 | 265 | 0.626 | 301 | 0.686 | 337 | 0.630 |
| 14 | 0.657 | 50 | 0.670 | 86 | 0.624 | 122 | 0.686 | 158 | 0.632 | 194 | 0.657 | 230 | 0.670 | 266 | 0.624 | 302 | 0.686 | 338 | 0.632 |
| 15 | 0.654 | 51 | 0.673 | 87 | 0.623 | 123 | 0.685 | 159 | 0.635 | 195 | 0.654 | 231 | 0.673 | 267 | 0.623 | 303 | 0.685 | 339 | 0.635 |
| 16 | 0.650 | 52 | 0.676 | 88 | 0.622 | 124 | 0.684 | 160 | 0.638 | 196 | 0.650 | 232 | 0.676 | 268 | 0.622 | 304 | 0.684 | 340 | 0.638 |
| 17 | 0.647 | 53 | 0.678 | 89 | 0.622 | 125 | 0.682 | 161 | 0.641 | 197 | 0.647 | 233 | 0.678 | 269 | 0.622 | 305 | 0.682 | 341 | 0.641 |
| 18 | 0.644 | 54 | 0.680 | 90 | 0.621 | 126 | 0.680 | 162 | 0.644 | 198 | 0.644 | 234 | 0.680 | 270 | 0.621 | 306 | 0.680 | 342 | 0.644 |
| 19 | 0.641 | 55 | 0.682 | 91 | 0.622 | 127 | 0.678 | 163 | 0.647 | 199 | 0.641 | 235 | 0.682 | 271 | 0.622 | 307 | 0.678 | 343 | 0.647 |
| 20 | 0.638 | 56 | 0.684 | 92 | 0.622 | 128 | 0.676 | 164 | 0.650 | 200 | 0.638 | 236 | 0.684 | 272 | 0.622 | 308 | 0.676 | 344 | 0.650 |
| 21 | 0.635 | 57 | 0.685 | 93 | 0.623 | 129 | 0.673 | 165 | 0.654 | 201 | 0.635 | 237 | 0.685 | 273 | 0.623 | 309 | 0.673 | 345 | 0.654 |
| 22 | 0.632 | 58 | 0.686 | 94 | 0.624 | 130 | 0.670 | 166 | 0.657 | 202 | 0.632 | 238 | 0.686 | 274 | 0.624 | 310 | 0.670 | 346 | 0.657 |
| 23 | 0.630 | 59 | 0.686 | 95 | 0.626 | 131 | 0.667 | 167 | 0.661 | 203 | 0.630 | 239 | 0.686 | 275 | 0.626 | 311 | 0.667 | 347 | 0.661 |
| 24 | 0.628 | 60 | 0.686 | 96 | 0.628 | 132 | 0.664 | 168 | 0.664 | 204 | 0.628 | 240 | 0.686 | 276 | 0.628 | 312 | 0.664 | 348 | 0.664 |
| 25 | 0.626 | 61 | 0.686 | 97 | 0.630 | 133 | 0.661 | 169 | 0.667 | 205 | 0.626 | 241 | 0.686 | 277 | 0.630 | 313 | 0.661 | 349 | 0.667 |
| 26 | 0.624 | 62 | 0.686 | 98 | 0.632 | 134 | 0.657 | 170 | 0.670 | 206 | 0.624 | 242 | 0.686 | 278 | 0.632 | 314 | 0.657 | 350 | 0.670 |
| 27 | 0.623 | 63 | 0.685 | 99 | 0.635 | 135 | 0.654 | 171 | 0.673 | 207 | 0.623 | 243 | 0.685 | 279 | 0.635 | 315 | 0.654 | 351 | 0.673 |
| 28 | 0.622 | 64 | 0.684 | 100 | 0.638 | 136 | 0.650 | 172 | 0.676 | 208 | 0.622 | 244 | 0.684 | 280 | 0.638 | 316 | 0.650 | 352 | 0.676 |
| 29 | 0.622 | 65 | 0.682 | 101 | 0.641 | 137 | 0.647 | 173 | 0.678 | 209 | 0.622 | 245 | 0.682 | 281 | 0.641 | 317 | 0.647 | 353 | 0.678 |
| 30 | 0.621 | 66 | 0.680 | 102 | 0.644 | 138 | 0.644 | 174 | 0.680 | 210 | 0.621 | 246 | 0.680 | 282 | 0.644 | 318 | 0.644 | 354 | 0.680 |
| 31 | 0.622 | 67 | 0.678 | 103 | 0.647 | 139 | 0.641 | 175 | 0.682 | 211 | 0.622 | 247 | 0.678 | 283 | 0.647 | 319 | 0.641 | 355 | 0.682 |
| 32 | 0.622 | 68 | 0.676 | 104 | 0.650 | 140 | 0.638 | 176 | 0.684 | 212 | 0.622 | 248 | 0.676 | 284 | 0.650 | 320 | 0.638 | 356 | 0.684 |
| 33 | 0.623 | 69 | 0.673 | 105 | 0.654 | 141 | 0.635 | 177 | 0.685 | 213 | 0.623 | 249 | 0.673 | 285 | 0.654 | 321 | 0.635 | 357 | 0.685 |
| 34 | 0.624 | 70 | 0.670 | 106 | 0.657 | 142 | 0.632 | 178 | 0.686 | 214 | 0.624 | 250 | 0.670 | 286 | 0.657 | 322 | 0.632 | 358 | 0.686 |
| 35 | 0.626 | 71 | 0.667 | 107 | 0.661 | 143 | 0.630 | 179 | 0.686 | 215 | 0.626 | 251 | 0.667 | 287 | 0.661 | 323 | 0.630 | 359 | 0.686 |

# ELEVATION PATTERN

| | |
|---|---|
| Proposal No. | **C-71765-1** |
| Date | **16-Sep-21** |
| Call Letters | **KUON** |
| Channel | **27** |
| Frequency | **551 MHz** |
| Antenna Type | **TFU-36GTH/VP-R O6** |

| | | | |
|---|---|---|---|
| RMS Directivity at Main Lobe | **30.0 ( 14.77 dB )** | Beam Tilt | **0.50 deg** |
| RMS Directivity at Horizontal | **23.8 ( 13.77 dB )** | Pattern Number | **36G300050** |
| | **Calculated** | | |



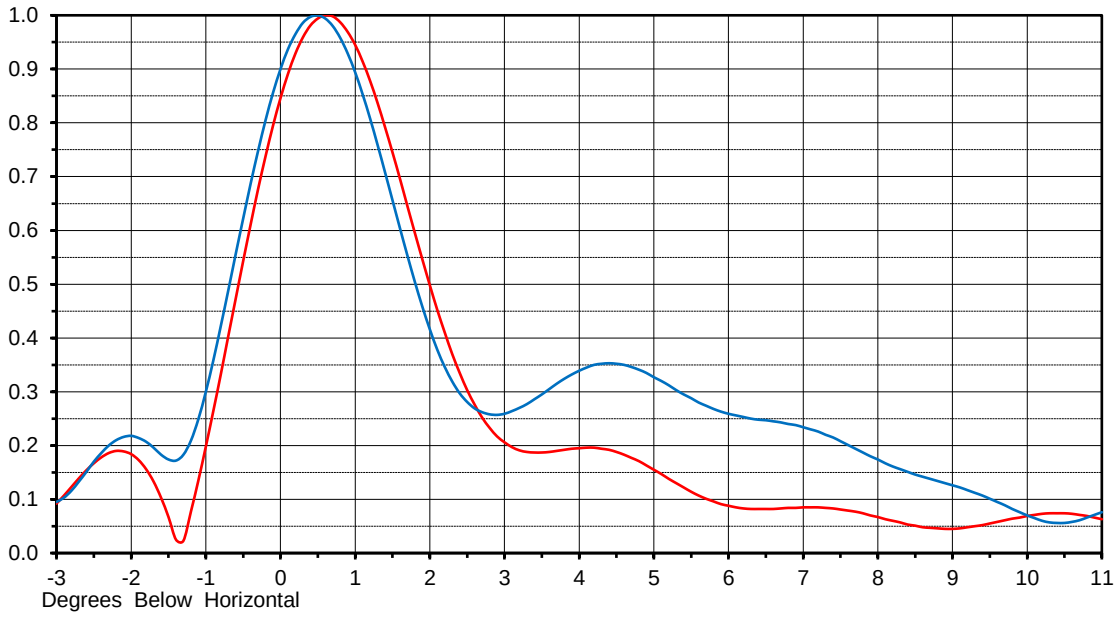

| Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field |
|---|---|---|---|---|---|---|---|---|---|
| -10.0 | 0.009 | 10.0 | 0.071 | 30.0 | 0.019 | 50.0 | 0.006 | 70.0 | 0.010 |
| -9.0 | 0.031 | 11.0 | 0.059 | 31.0 | 0.022 | 51.0 | 0.012 | 71.0 | 0.016 |
| -8.0 | 0.027 | 12.0 | 0.025 | 32.0 | 0.006 | 52.0 | 0.024 | 72.0 | 0.024 |
| -7.0 | 0.025 | 13.0 | 0.043 | 33.0 | 0.008 | 53.0 | 0.026 | 73.0 | 0.028 |
| -6.0 | 0.108 | 14.0 | 0.057 | 34.0 | 0.002 | 54.0 | 0.017 | 74.0 | 0.027 |
| -5.0 | 0.125 | 15.0 | 0.026 | 35.0 | 0.005 | 55.0 | 0.006 | 75.0 | 0.022 |
| -4.0 | 0.037 | 16.0 | 0.020 | 36.0 | 0.000 | 56.0 | 0.004 | 76.0 | 0.012 |
| -3.0 | 0.107 | 17.0 | 0.041 | 37.0 | 0.000 | 57.0 | 0.009 | 77.0 | 0.001 |
| -2.0 | 0.173 | 18.0 | 0.030 | 38.0 | 0.013 | 58.0 | 0.014 | 78.0 | 0.010 |
| -1.0 | 0.264 | 19.0 | 0.015 | 39.0 | 0.017 | 59.0 | 0.012 | 79.0 | 0.019 |
| 0.0 | 0.891 | 20.0 | 0.031 | 40.0 | 0.004 | 60.0 | 0.007 | 80.0 | 0.026 |
| 1.0 | 0.914 | 21.0 | 0.038 | 41.0 | 0.000 | 61.0 | 0.006 | 81.0 | 0.029 |
| 2.0 | 0.452 | 22.0 | 0.021 | 42.0 | 0.013 | 62.0 | 0.014 | 82.0 | 0.030 |
| 3.0 | 0.197 | 23.0 | 0.014 | 43.0 | 0.025 | 63.0 | 0.026 | 83.0 | 0.028 |
| 4.0 | 0.196 | 24.0 | 0.015 | 44.0 | 0.015 | 64.0 | 0.036 | 84.0 | 0.025 |
| 5.0 | 0.147 | 25.0 | 0.011 | 45.0 | 0.001 | 65.0 | 0.038 | 85.0 | 0.020 |
| 6.0 | 0.085 | 26.0 | 0.020 | 46.0 | 0.002 | 66.0 | 0.032 | 86.0 | 0.015 |
| 7.0 | 0.085 | 27.0 | 0.038 | 47.0 | 0.010 | 67.0 | 0.021 | 87.0 | 0.010 |
| 8.0 | 0.063 | 28.0 | 0.033 | 48.0 | 0.016 | 68.0 | 0.011 | 88.0 | 0.006 |
| 9.0 | 0.046 | 29.0 | 0.017 | 49.0 | 0.010 | 69.0 | 0.007 | 89.0 | 0.002 |
| | | | | | | | | 90.0 | 0.000 |

***FutureFill*** *refers to broadband panels or limited bandwidth slotted coaxial antennas that can be modified in the field to provide the flexibility to customize the null structure at a future date.*

## FutureFill OVERLAY

| | |
|---|---|
| Proposal No. | **C-71765-1** |
| Date | **16-Sep-21** |
| Call Letters | **KUON** |
| Channel | **27** |
| Frequency | **551 MHz** |
| Antenna Type | **TFU-36GTH/VP-R O6** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| RMS Directivity | 30.0 | **(14.77dB)** | Beam Tilt | 0.50 | Pattern No. | 36G300050 | Red |
| RMS Directivity | 23.1 | **(13.64dB)** | Beam Tilt | 0.50 | Pattern No. | | Blue |
| Calculated | | | | | | | |

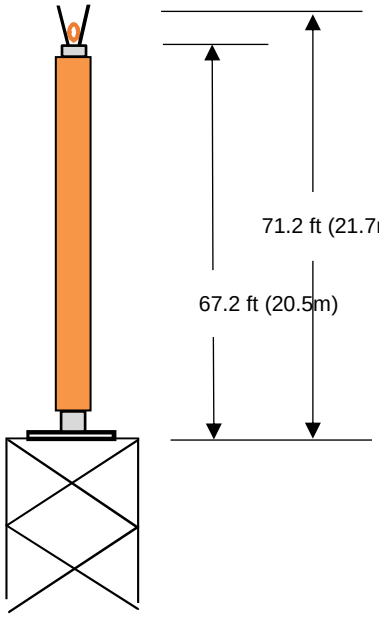



Tabulations for

| Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field |
|---|---|---|---|---|---|---|---|---|---|
| -10.0 | 0.150 | 10.0 | 0.070 | 30.0 | 0.022 | 50.0 | 0.059 | 70.0 | 0.023 |
| -9.0 | 0.184 | 11.0 | 0.076 | 31.0 | 0.032 | 51.0 | 0.053 | 71.0 | 0.017 |
| -8.0 | 0.183 | 12.0 | 0.118 | 32.0 | 0.019 | 52.0 | 0.051 | 72.0 | 0.020 |
| -7.0 | 0.173 | 13.0 | 0.137 | 33.0 | 0.016 | 53.0 | 0.062 | 73.0 | 0.027 |
| -6.0 | 0.186 | 14.0 | 0.169 | 34.0 | 0.024 | 54.0 | 0.068 | 74.0 | 0.030 |
| -5.0 | 0.112 | 15.0 | 0.141 | 35.0 | 0.026 | 55.0 | 0.066 | 75.0 | 0.029 |
| -4.0 | 0.124 | 16.0 | 0.127 | 36.0 | 0.034 | 56.0 | 0.065 | 76.0 | 0.023 |
| -3.0 | 0.095 | 17.0 | 0.130 | 37.0 | 0.038 | 57.0 | 0.071 | 77.0 | 0.018 |
| -2.0 | 0.218 | 18.0 | 0.094 | 38.0 | 0.031 | 58.0 | 0.075 | 78.0 | 0.018 |
| -1.0 | 0.300 | 19.0 | 0.073 | 39.0 | 0.042 | 59.0 | 0.071 | 79.0 | 0.023 |
| 0.0 | 0.900 | 20.0 | 0.041 | 40.0 | 0.051 | 60.0 | 0.062 | 80.0 | 0.027 |
| 1.0 | 0.894 | 21.0 | 0.030 | 41.0 | 0.053 | 61.0 | 0.058 | 81.0 | 0.030 |
| 2.0 | 0.416 | 22.0 | 0.050 | 42.0 | 0.070 | 62.0 | 0.058 | 82.0 | 0.030 |
| 3.0 | 0.259 | 23.0 | 0.054 | 43.0 | 0.087 | 63.0 | 0.058 | 83.0 | 0.029 |
| 4.0 | 0.339 | 24.0 | 0.056 | 44.0 | 0.076 | 64.0 | 0.053 | 84.0 | 0.025 |
| 5.0 | 0.327 | 25.0 | 0.048 | 45.0 | 0.061 | 65.0 | 0.042 | 85.0 | 0.020 |
| 6.0 | 0.259 | 26.0 | 0.051 | 46.0 | 0.063 | 66.0 | 0.028 | 86.0 | 0.015 |
| 7.0 | 0.234 | 27.0 | 0.060 | 47.0 | 0.062 | 67.0 | 0.021 | 87.0 | 0.010 |
| 8.0 | 0.174 | 28.0 | 0.043 | 48.0 | 0.055 | 68.0 | 0.026 | 88.0 | 0.006 |
| 9.0 | 0.126 | 29.0 | 0.018 | 49.0 | 0.055 | 69.0 | 0.028 | 89.0 | 0.002 |
| | | | | | | | | 90.0 | 0.000 |

# MECHANICAL SPECIFICATIONS

| | |
|---|---|
| Proposal No. | **C-71765-1** |
| Date | **16-Sep-21** |
| Call Letters | **KUON** |
| Channel | **27** |
| Frequency | **551 MHz** |
| Antenna Type | **TFU-36GTH/VP-R O6** |




Preliminary Specifications

## Top Mounted

### With ice TIA-222-G

| | |
|---|---|
| **Height AGL(z)** | 820 ft (249.9 m) |
| **Basic Wind Speed** | 90 m/h (144.8 km/h) |
| **Structure Class** | II |
| **Exposure Category** | C |
| **Topography Category** | 1 |

| | | |
|---|---|---|
| Design Ice | 1.38 in | $t_{iz}$ = 3.86 in |
| Wind Speed w/Ice | 40 m/h (64.4 km/h) | |

| **Mechanical Specifications** | | **without ice** | **with ice** |
|---|---|---|---|
| Height with Lightning Protector | H4 | 71.2 ft (21.7m) | |
| Height less Lightning Protector | H2 | 67.2 ft (20.5m) | |
| Height of Center of Radiation | H3 | 33.6 ft (10.2m) | |
| Effective Projected Area | $(EPA)_S$ | 80.1 ft² (7.4m²) | 251.6 ft² (23.4m²) |
| Moment Arm | D1 | 35.1 ft (10.7m) | 36.7 ft (11.2m) |
| Weight | W | 14300 lb (6.5t) | 25900 lb (11.7t) |

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

| | | | | | |
|---|---|---|---|---|---|
| **Prepared by:** | CAB | **Date:** | 26-Aug-21 | **ME:** | **EE:** |
| **Rev. No.1 by:** | DMG | **Date:** | 16-Sep-21 | | |

## Summary

| | |
|---|---|
| Proposal No. | **C-71765-1** |
| Date | **16-Sep-21** |
| Call Letters | **KUON** |
| Channel | **27** |
| Frequency | **551 MHz** |
| Antenna Type | **TFU-36GTH/VP-R O6** |

## Antenna

| | Hpol | | Vpol | |
|---|---|---|---|---|
| **ERP:** | **650 kW** | **( 28.13 dBk )** | **279 kW** | **( 24.45 dBk )** |
| RMS Gain* | 21.00 | ( 13.22 dB ) | 9.00 | ( 9.54 dB) |

## Antenna Input Power

**31.0 kW** **( 14.91 dBk )**

## Transmission Line

| | | | |
|---|---|---|---|
| Type: | **Rigid** | Attenuation: | **( 0.69 dB )** |
| Size: | **8-3/16"** | Efficiency: | **85.3%** |
| Impedance: | **75 Ohm** | | |
| Length: | **810 ft** | **246.9 m** | |

## Transmitter Output

**36.3 kW** **( 15.60 dBk )**

Transmitter filter losses not included

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