

AZIMUTH PATTERN Horizontal Polarization

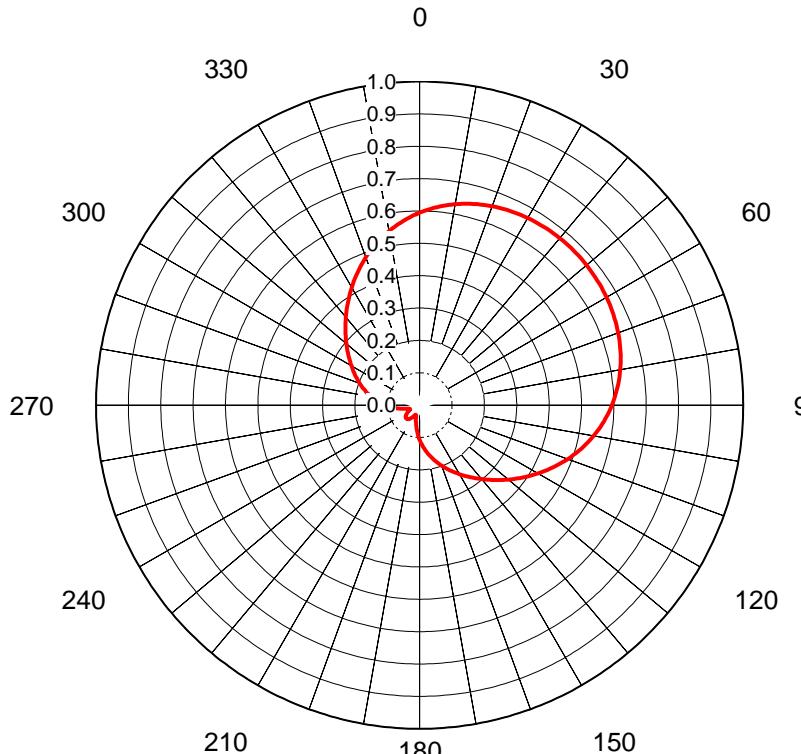
Proposal No. KPTM/KXVO
 Date 14-Dec-21
 Call Letters KPTM
 Channel 26
 Frequency 545 MHz
 Antenna Type TFU-24WB/VP-R C160
 Gain 1.6 (2.05dB)
 Calculated

Pattern Number WB-C160-26 Hpol

| Deg | Value |
|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 0 | 0.982 | 36 | 0.797 | 72 | 0.889 | 108 | 0.992 | 144 | 0.849 | 180 | 0.458 | 216 | 0.626 | 252 | 0.427 | 288 | 0.705 | 324 | 0.931 |
| 1 | 0.979 | 37 | 0.794 | 73 | 0.895 | 109 | 0.989 | 145 | 0.844 | 181 | 0.446 | 217 | 0.634 | 253 | 0.417 | 289 | 0.716 | 325 | 0.935 |
| 2 | 0.975 | 38 | 0.792 | 74 | 0.901 | 110 | 0.987 | 146 | 0.838 | 182 | 0.434 | 218 | 0.640 | 254 | 0.409 | 290 | 0.727 | 326 | 0.939 |
| 3 | 0.971 | 39 | 0.790 | 75 | 0.907 | 111 | 0.984 | 147 | 0.833 | 183 | 0.423 | 219 | 0.646 | 255 | 0.401 | 291 | 0.738 | 327 | 0.943 |
| 4 | 0.967 | 40 | 0.788 | 76 | 0.913 | 112 | 0.981 | 148 | 0.826 | 184 | 0.413 | 220 | 0.651 | 256 | 0.395 | 292 | 0.748 | 328 | 0.947 |
| 5 | 0.962 | 41 | 0.786 | 77 | 0.920 | 113 | 0.978 | 149 | 0.820 | 185 | 0.404 | 221 | 0.655 | 257 | 0.390 | 293 | 0.758 | 329 | 0.951 |
| 6 | 0.958 | 42 | 0.785 | 78 | 0.926 | 114 | 0.975 | 150 | 0.813 | 186 | 0.397 | 222 | 0.659 | 258 | 0.387 | 294 | 0.767 | 330 | 0.955 |
| 7 | 0.953 | 43 | 0.784 | 79 | 0.931 | 115 | 0.972 | 151 | 0.806 | 187 | 0.391 | 223 | 0.661 | 259 | 0.385 | 295 | 0.776 | 331 | 0.959 |
| 8 | 0.947 | 44 | 0.783 | 80 | 0.937 | 116 | 0.968 | 152 | 0.799 | 188 | 0.386 | 224 | 0.662 | 260 | 0.385 | 296 | 0.785 | 332 | 0.962 |
| 9 | 0.942 | 45 | 0.783 | 81 | 0.943 | 117 | 0.965 | 153 | 0.791 | 189 | 0.383 | 225 | 0.663 | 261 | 0.386 | 297 | 0.793 | 333 | 0.966 |
| 10 | 0.937 | 46 | 0.783 | 82 | 0.948 | 118 | 0.961 | 154 | 0.783 | 190 | 0.381 | 226 | 0.663 | 262 | 0.389 | 298 | 0.801 | 334 | 0.969 |
| 11 | 0.931 | 47 | 0.784 | 83 | 0.953 | 119 | 0.957 | 155 | 0.775 | 191 | 0.381 | 227 | 0.661 | 263 | 0.393 | 299 | 0.808 | 335 | 0.973 |
| 12 | 0.925 | 48 | 0.785 | 84 | 0.958 | 120 | 0.953 | 156 | 0.766 | 192 | 0.383 | 228 | 0.659 | 264 | 0.399 | 300 | 0.815 | 336 | 0.976 |
| 13 | 0.919 | 49 | 0.786 | 85 | 0.963 | 121 | 0.949 | 157 | 0.757 | 193 | 0.386 | 229 | 0.656 | 265 | 0.407 | 301 | 0.822 | 337 | 0.979 |
| 14 | 0.913 | 50 | 0.788 | 86 | 0.968 | 122 | 0.945 | 158 | 0.747 | 194 | 0.391 | 230 | 0.652 | 266 | 0.415 | 302 | 0.829 | 338 | 0.982 |
| 15 | 0.907 | 51 | 0.790 | 87 | 0.972 | 123 | 0.941 | 159 | 0.737 | 195 | 0.397 | 231 | 0.647 | 267 | 0.425 | 303 | 0.835 | 339 | 0.985 |
| 16 | 0.901 | 52 | 0.792 | 88 | 0.976 | 124 | 0.937 | 160 | 0.726 | 196 | 0.405 | 232 | 0.642 | 268 | 0.435 | 304 | 0.841 | 340 | 0.987 |
| 17 | 0.895 | 53 | 0.794 | 89 | 0.980 | 125 | 0.933 | 161 | 0.715 | 197 | 0.413 | 233 | 0.635 | 269 | 0.447 | 305 | 0.847 | 341 | 0.989 |
| 18 | 0.888 | 54 | 0.797 | 90 | 0.983 | 126 | 0.929 | 162 | 0.704 | 198 | 0.423 | 234 | 0.628 | 270 | 0.459 | 306 | 0.852 | 342 | 0.992 |
| 19 | 0.882 | 55 | 0.800 | 91 | 0.986 | 127 | 0.925 | 163 | 0.692 | 199 | 0.433 | 235 | 0.620 | 271 | 0.472 | 307 | 0.857 | 343 | 0.993 |
| 20 | 0.876 | 56 | 0.804 | 92 | 0.989 | 128 | 0.921 | 164 | 0.680 | 200 | 0.444 | 236 | 0.611 | 272 | 0.486 | 308 | 0.862 | 344 | 0.995 |
| 21 | 0.870 | 57 | 0.808 | 93 | 0.991 | 129 | 0.917 | 165 | 0.668 | 201 | 0.456 | 237 | 0.602 | 273 | 0.500 | 309 | 0.867 | 345 | 0.996 |
| 22 | 0.864 | 58 | 0.812 | 94 | 0.994 | 130 | 0.913 | 166 | 0.655 | 202 | 0.468 | 238 | 0.592 | 274 | 0.514 | 310 | 0.872 | 346 | 0.998 |
| 23 | 0.858 | 59 | 0.816 | 95 | 0.995 | 131 | 0.908 | 167 | 0.642 | 203 | 0.481 | 239 | 0.581 | 275 | 0.528 | 311 | 0.877 | 347 | 0.998 |
| 24 | 0.852 | 60 | 0.820 | 96 | 0.997 | 132 | 0.904 | 168 | 0.628 | 204 | 0.493 | 240 | 0.570 | 276 | 0.543 | 312 | 0.881 | 348 | 0.999 |
| 25 | 0.846 | 61 | 0.825 | 97 | 0.998 | 133 | 0.900 | 169 | 0.614 | 205 | 0.506 | 241 | 0.559 | 277 | 0.557 | 313 | 0.886 | 349 | 0.999 |
| 26 | 0.841 | 62 | 0.830 | 98 | 0.999 | 134 | 0.896 | 170 | 0.600 | 206 | 0.519 | 242 | 0.547 | 278 | 0.572 | 314 | 0.890 | 350 | 0.999 |
| 27 | 0.835 | 63 | 0.835 | 99 | 1.000 | 135 | 0.892 | 171 | 0.586 | 207 | 0.531 | 243 | 0.535 | 279 | 0.586 | 315 | 0.894 | 351 | 0.999 |
| 28 | 0.830 | 64 | 0.841 | 100 | 1.000 | 136 | 0.887 | 172 | 0.571 | 208 | 0.544 | 244 | 0.522 | 280 | 0.600 | 316 | 0.899 | 352 | 0.998 |
| 29 | 0.825 | 65 | 0.846 | 101 | 1.000 | 137 | 0.883 | 173 | 0.557 | 209 | 0.556 | 245 | 0.510 | 281 | 0.615 | 317 | 0.903 | 353 | 0.997 |
| 30 | 0.820 | 66 | 0.852 | 102 | 1.000 | 138 | 0.879 | 174 | 0.542 | 210 | 0.568 | 246 | 0.497 | 282 | 0.628 | 318 | 0.907 | 354 | 0.996 |
| 31 | 0.816 | 67 | 0.858 | 103 | 0.999 | 139 | 0.874 | 175 | 0.528 | 211 | 0.579 | 247 | 0.484 | 283 | 0.642 | 319 | 0.911 | 355 | 0.995 |
| 32 | 0.811 | 68 | 0.864 | 104 | 0.998 | 140 | 0.869 | 176 | 0.513 | 212 | 0.590 | 248 | 0.472 | 284 | 0.655 | 320 | 0.915 | 356 | 0.993 |
| 33 | 0.807 | 69 | 0.870 | 105 | 0.997 | 141 | 0.865 | 177 | 0.499 | 213 | 0.600 | 249 | 0.460 | 285 | 0.668 | 321 | 0.919 | 357 | 0.991 |
| 34 | 0.804 | 70 | 0.876 | 106 | 0.995 | 142 | 0.860 | 178 | 0.485 | 214 | 0.609 | 250 | 0.448 | 286 | 0.681 | 322 | 0.923 | 358 | 0.988 |
| 35 | 0.800 | 71 | 0.882 | 107 | 0.994 | 143 | 0.855 | 179 | 0.471 | 215 | 0.618 | 251 | 0.437 | 287 | 0.693 | 323 | 0.927 | 359 | 0.985 |

This document contains proprietary and confidential information of Dielectric. It is to be used solely for the purpose for which it is provided.

No disclosure, reproduction, or use of this document or any part of it may be made without the written permission of Dielectric.



AZIMUTH PATTERN Vertical Polarization

Proposal No. KPTM/KXVO
 Date 14-Dec-21
 Call Letters KPTM
 Channel 26
 Frequency 545 MHz
 Antenna Type TFU-24WB/VP-R C160
 Gain 2.6 (4.15dB)
 Calculated

Pattern Number WB-C160-26 Vpol

| Deg | Value |
|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 0 | 0.595 | 36 | 0.672 | 72 | 0.649 | 108 | 0.499 | 144 | 0.277 | 180 | 0.107 | 216 | 0.052 | 252 | 0.036 | 288 | 0.188 | 324 | 0.380 |
| 1 | 0.599 | 37 | 0.673 | 73 | 0.647 | 109 | 0.493 | 145 | 0.272 | 181 | 0.103 | 217 | 0.053 | 253 | 0.038 | 289 | 0.193 | 325 | 0.387 |
| 2 | 0.603 | 38 | 0.673 | 74 | 0.645 | 110 | 0.487 | 146 | 0.266 | 182 | 0.098 | 218 | 0.054 | 254 | 0.041 | 290 | 0.198 | 326 | 0.393 |
| 3 | 0.607 | 39 | 0.673 | 75 | 0.642 | 111 | 0.481 | 147 | 0.261 | 183 | 0.094 | 219 | 0.055 | 255 | 0.044 | 291 | 0.202 | 327 | 0.400 |
| 4 | 0.611 | 40 | 0.674 | 76 | 0.640 | 112 | 0.474 | 148 | 0.256 | 184 | 0.089 | 220 | 0.056 | 256 | 0.047 | 292 | 0.207 | 328 | 0.407 |
| 5 | 0.614 | 41 | 0.674 | 77 | 0.638 | 113 | 0.468 | 149 | 0.251 | 185 | 0.084 | 221 | 0.057 | 257 | 0.051 | 293 | 0.211 | 329 | 0.413 |
| 6 | 0.618 | 42 | 0.674 | 78 | 0.635 | 114 | 0.461 | 150 | 0.246 | 186 | 0.080 | 222 | 0.058 | 258 | 0.054 | 294 | 0.216 | 330 | 0.420 |
| 7 | 0.621 | 43 | 0.674 | 79 | 0.632 | 115 | 0.455 | 151 | 0.241 | 187 | 0.075 | 223 | 0.058 | 259 | 0.058 | 295 | 0.220 | 331 | 0.427 |
| 8 | 0.625 | 44 | 0.674 | 80 | 0.629 | 116 | 0.448 | 152 | 0.237 | 188 | 0.071 | 224 | 0.058 | 260 | 0.062 | 296 | 0.225 | 332 | 0.433 |
| 9 | 0.628 | 45 | 0.674 | 81 | 0.626 | 117 | 0.442 | 153 | 0.232 | 189 | 0.067 | 225 | 0.058 | 261 | 0.066 | 297 | 0.230 | 333 | 0.440 |
| 10 | 0.631 | 46 | 0.674 | 82 | 0.623 | 118 | 0.435 | 154 | 0.227 | 190 | 0.063 | 226 | 0.058 | 262 | 0.070 | 298 | 0.234 | 334 | 0.447 |
| 11 | 0.633 | 47 | 0.674 | 83 | 0.620 | 119 | 0.429 | 155 | 0.222 | 191 | 0.059 | 227 | 0.058 | 263 | 0.075 | 299 | 0.239 | 335 | 0.453 |
| 12 | 0.636 | 48 | 0.674 | 84 | 0.617 | 120 | 0.422 | 156 | 0.218 | 192 | 0.055 | 228 | 0.058 | 264 | 0.079 | 300 | 0.244 | 336 | 0.460 |
| 13 | 0.639 | 49 | 0.674 | 85 | 0.613 | 121 | 0.416 | 157 | 0.213 | 193 | 0.051 | 229 | 0.057 | 265 | 0.084 | 301 | 0.249 | 337 | 0.466 |
| 14 | 0.641 | 50 | 0.673 | 86 | 0.610 | 122 | 0.409 | 158 | 0.208 | 194 | 0.048 | 230 | 0.056 | 266 | 0.088 | 302 | 0.254 | 338 | 0.473 |
| 15 | 0.644 | 51 | 0.673 | 87 | 0.606 | 123 | 0.402 | 159 | 0.204 | 195 | 0.044 | 231 | 0.055 | 267 | 0.093 | 303 | 0.259 | 339 | 0.480 |
| 16 | 0.646 | 52 | 0.672 | 88 | 0.602 | 124 | 0.396 | 160 | 0.199 | 196 | 0.041 | 232 | 0.054 | 268 | 0.097 | 304 | 0.264 | 340 | 0.486 |
| 17 | 0.648 | 53 | 0.672 | 89 | 0.598 | 125 | 0.389 | 161 | 0.195 | 197 | 0.039 | 233 | 0.053 | 269 | 0.102 | 305 | 0.269 | 341 | 0.492 |
| 18 | 0.650 | 54 | 0.671 | 90 | 0.594 | 126 | 0.383 | 162 | 0.190 | 198 | 0.037 | 234 | 0.052 | 270 | 0.106 | 306 | 0.274 | 342 | 0.499 |
| 19 | 0.652 | 55 | 0.671 | 91 | 0.590 | 127 | 0.377 | 163 | 0.186 | 199 | 0.035 | 235 | 0.050 | 271 | 0.111 | 307 | 0.279 | 343 | 0.505 |
| 20 | 0.654 | 56 | 0.670 | 92 | 0.585 | 128 | 0.370 | 164 | 0.181 | 200 | 0.033 | 236 | 0.049 | 272 | 0.116 | 308 | 0.284 | 344 | 0.511 |
| 21 | 0.656 | 57 | 0.669 | 93 | 0.581 | 129 | 0.364 | 165 | 0.176 | 201 | 0.033 | 237 | 0.047 | 273 | 0.120 | 309 | 0.290 | 345 | 0.517 |
| 22 | 0.658 | 58 | 0.668 | 94 | 0.576 | 130 | 0.358 | 166 | 0.172 | 202 | 0.032 | 238 | 0.046 | 274 | 0.125 | 310 | 0.295 | 346 | 0.523 |
| 23 | 0.659 | 59 | 0.668 | 95 | 0.572 | 131 | 0.351 | 167 | 0.167 | 203 | 0.033 | 239 | 0.044 | 275 | 0.129 | 311 | 0.301 | 347 | 0.529 |
| 24 | 0.661 | 60 | 0.667 | 96 | 0.567 | 132 | 0.345 | 168 | 0.163 | 204 | 0.033 | 240 | 0.042 | 276 | 0.134 | 312 | 0.307 | 348 | 0.535 |
| 25 | 0.662 | 61 | 0.666 | 97 | 0.562 | 133 | 0.339 | 169 | 0.158 | 205 | 0.034 | 241 | 0.040 | 277 | 0.139 | 313 | 0.312 | 349 | 0.540 |
| 26 | 0.663 | 62 | 0.665 | 98 | 0.556 | 134 | 0.333 | 170 | 0.154 | 206 | 0.035 | 242 | 0.039 | 278 | 0.143 | 314 | 0.318 | 350 | 0.546 |
| 27 | 0.665 | 63 | 0.663 | 99 | 0.551 | 135 | 0.327 | 171 | 0.149 | 207 | 0.037 | 243 | 0.037 | 279 | 0.148 | 315 | 0.324 | 351 | 0.551 |
| 28 | 0.666 | 64 | 0.662 | 100 | 0.546 | 136 | 0.321 | 172 | 0.145 | 208 | 0.038 | 244 | 0.035 | 280 | 0.152 | 316 | 0.330 | 352 | 0.557 |
| 29 | 0.667 | 65 | 0.661 | 101 | 0.540 | 137 | 0.315 | 173 | 0.140 | 209 | 0.040 | 245 | 0.034 | 281 | 0.157 | 317 | 0.336 | 353 | 0.562 |
| 30 | 0.668 | 66 | 0.659 | 102 | 0.535 | 138 | 0.310 | 174 | 0.135 | 210 | 0.042 | 246 | 0.033 | 282 | 0.161 | 318 | 0.342 | 354 | 0.567 |
| 31 | 0.669 | 67 | 0.658 | 103 | 0.529 | 139 | 0.304 | 175 | 0.131 | 211 | 0.044 | 247 | 0.033 | 283 | 0.166 | 319 | 0.348 | 355 | 0.572 |
| 32 | 0.669 | 68 | 0.656 | 104 | 0.523 | 140 | 0.298 | 176 | 0.126 | 212 | 0.046 | 248 | 0.032 | 284 | 0.170 | 320 | 0.355 | 356 | 0.577 |
| 33 | 0.670 | 69 | 0.655 | 105 | 0.518 | 141 | 0.293 | 177 | 0.121 | 213 | 0.047 | 249 | 0.033 | 285 | 0.175 | 321 | 0.361 | 357 | 0.582 |
| 34 | 0.671 | 70 | 0.653 | 106 | 0.512 | 142 | 0.287 | 178 | 0.117 | 214 | 0.049 | 250 | 0.033 | 286 | 0.179 | 322 | 0.367 | 358 | 0.586 |
| 35 | 0.671 | 71 | 0.651 | 107 | 0.505 | 143 | 0.282 | 179 | 0.112 | 215 | 0.050 | 251 | 0.035 | 287 | 0.184 | 323 | 0.374 | 359 | 0.591 |

This document contains proprietary and confidential information of Dielectric. It is to be used solely for the purpose for which it is provided.

No disclosure, reproduction, or use of this document or any part of it may be made without the written permission of Dielectric.

ELEVATION PATTERN

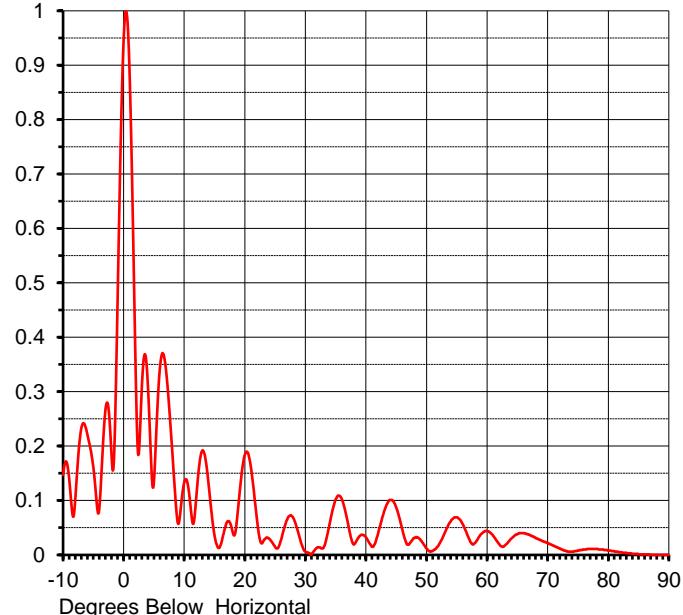
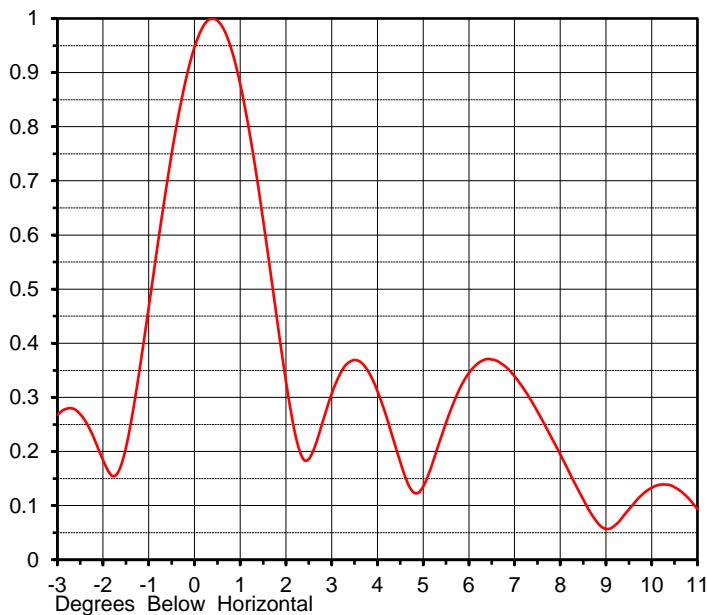
Proposal No. **KPTM/KXVO**
 Date **14-Dec-21**
 Call Letters **KPTM**
 Channel **26**
 Frequency **545 MHz**
 Antenna Type **TFU-24WB/VP-R C160**

RMS Directivity at Main Lobe
 RMS Directivity at Horizontal

21.5 (13.33 dB)
19.3 (12.86 dB)

Calculated

Beam Tilt **0.50 deg**
 Pattern Number **24W215050-26**



| Angle | Field |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------|
| -10.0 | 0.147 | 10.0 | 0.133 | 30.0 | 0.006 | 50.0 | 0.012 | 70.0 | 0.022 |
| -9.0 | 0.141 | 11.0 | 0.094 | 31.0 | 0.001 | 51.0 | 0.007 | 71.0 | 0.017 |
| -8.0 | 0.100 | 12.0 | 0.107 | 32.0 | 0.014 | 52.0 | 0.018 | 72.0 | 0.012 |
| -7.0 | 0.232 | 13.0 | 0.192 | 33.0 | 0.013 | 53.0 | 0.040 | 73.0 | 0.007 |
| -6.0 | 0.222 | 14.0 | 0.132 | 34.0 | 0.057 | 54.0 | 0.062 | 74.0 | 0.006 |
| -5.0 | 0.161 | 15.0 | 0.036 | 35.0 | 0.102 | 55.0 | 0.069 | 75.0 | 0.008 |
| -4.0 | 0.088 | 16.0 | 0.018 | 36.0 | 0.103 | 56.0 | 0.056 | 76.0 | 0.010 |
| -3.0 | 0.267 | 17.0 | 0.059 | 37.0 | 0.060 | 57.0 | 0.030 | 77.0 | 0.011 |
| -2.0 | 0.184 | 18.0 | 0.042 | 38.0 | 0.019 | 58.0 | 0.022 | 78.0 | 0.011 |
| -1.0 | 0.467 | 19.0 | 0.097 | 39.0 | 0.035 | 59.0 | 0.038 | 79.0 | 0.010 |
| 0.0 | 0.947 | 20.0 | 0.184 | 40.0 | 0.032 | 60.0 | 0.044 | 80.0 | 0.008 |
| 1.0 | 0.879 | 21.0 | 0.162 | 41.0 | 0.015 | 61.0 | 0.035 | 81.0 | 0.007 |
| 2.0 | 0.330 | 22.0 | 0.066 | 42.0 | 0.039 | 62.0 | 0.020 | 82.0 | 0.005 |
| 3.0 | 0.307 | 23.0 | 0.024 | 43.0 | 0.080 | 63.0 | 0.018 | 83.0 | 0.004 |
| 4.0 | 0.312 | 24.0 | 0.030 | 44.0 | 0.101 | 64.0 | 0.030 | 84.0 | 0.002 |
| 5.0 | 0.135 | 25.0 | 0.015 | 45.0 | 0.087 | 65.0 | 0.038 | 85.0 | 0.001 |
| 6.0 | 0.345 | 26.0 | 0.028 | 46.0 | 0.047 | 66.0 | 0.040 | 86.0 | 0.001 |
| 7.0 | 0.339 | 27.0 | 0.065 | 47.0 | 0.019 | 67.0 | 0.037 | 87.0 | 0.000 |
| 8.0 | 0.195 | 28.0 | 0.068 | 48.0 | 0.031 | 68.0 | 0.031 | 88.0 | 0.000 |
| 9.0 | 0.057 | 29.0 | 0.034 | 49.0 | 0.028 | 69.0 | 0.026 | 89.0 | 0.000 |
| | | | | | | | | | 90.0 0.000 |

This document contains proprietary and confidential information of Dielectric. It is to be used solely for the purpose for which it is provided.

No disclosure, reproduction, or use of this document or any part of it may be made without the written permission of Dielectric.