RCT5, RADIAX® Coaxial Radiating Cable with Bump, 50–500 MHz, tuned foil, 7/8 in, black non-halogenated, fire retardant polyolefin jacket

Product Classification

**Brand**
RADIAX®

**Product Series**
RCT5

**Product Type**
Radiating cable

Construction Materials

**Jacket Material**
Non-halogenated, fire retardant polyolefin

**Dielectric Material**
Foam PE

**Inner Conductor Material**
Copper tube

**Jacket Color**
Black

**Outer Conductor Material**
Copper foil

Dimensions

**Nominal Size**
7/8 in

**Diameter Over Jacket, maximum**
27.686 mm | 1.090 in

**Inner Conductor OD**
0.3720 in | 9.4500 mm

**Outer Conductor OD**
0.950 in | 24.100 mm

**Cable Weight**
0.28 lb/ft | 0.42 kg/m

Electrical Specifications

**Operating Frequency Band**
50 – 900 MHz

**Optimum Operating Frequency Band**
150 – 500 MHz

**Polarization**
Horizontal

**Velocity**
91 %

**VSWR Installed, typical, 50–960 MHz**
1.30

**VSWR on Reel, typical**
1.43

**Stop Bands**
320 – 340 MHz | 615 – 670 MHz

**Cable Impedance**
50 ohm ±2 ohm

**dc Resistance, Inner Conductor**
0.410 ohms/kft | 1.435 ohms/km

**dc Resistance, Outer Conductor**
1.036 ohms/kft | 3.400 ohms/km

**dc Test Voltage**
6000 V

**Insulation Resistance**
100000 Mohms•km
Jacket Spark Test Voltage (rms) 8000 V
Peak Power 91.0 kW

Environmental Specifications
Installation Temperature -30 °C to +60 °C (-22 °F to +140 °F)
Operating Temperature -30 °C to +80 °C (-22 °F to +176 °F)
Storage Temperature -30 °C to +80 °C (-22 °F to +176 °F)

General Specifications
Cable Type Radiating Mode (RCT) Series

Mechanical Specifications
Bending Moment 14.9 N·m | 11.0 ft lb
Flat Plate Crush Strength 35.0 lb/in | 0.6 kg/mm
Indication of Slot Alignment Yes; bumps face the wall
Minimum Bend Radius, Single Bend 254.00 mm | 10.00 in
Recommended Distance from the Wall 101.6 mm | 4.0 in
Recommended Hanger Spacing 1.0 m | 3.3 ft
Tensile Strength 215 kg | 475 lb
Fire Retardancy Test Method IEC 60332-1 | IEC 60332-3C-24
Smoke Index Test Method IEC 61034
Toxicity Index Test Method IEC 60754-1 | IEC 60754-2

Standard Conditions
Attenuation Test Method IEC 61196-4
Attenuation Tolerance ±5%
Attenuation, Ambient Temperature 20 °C | 68 °F
Average Power, Ambient Temperature 40 °C | 104 °F
Average Power, Inner Conductor Temperature 100 °C | 212 °F
Coupling Loss Test Method IEC 61196-4
Coupling Loss Tolerance ±5 dB

Electrical Performance
<table>
<thead>
<tr>
<th>Frequency</th>
<th>Attenuation (dB/100 m)</th>
<th>Attenuation (dB/100 ft)</th>
<th>Coupling Loss 50%</th>
<th>Coupling Loss 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>75 MHz</td>
<td>1.00</td>
<td>0.30</td>
<td>66</td>
<td>76</td>
</tr>
<tr>
<td>100 MHz</td>
<td>1.10</td>
<td>0.34</td>
<td>63</td>
<td>74</td>
</tr>
<tr>
<td>150 MHz</td>
<td>1.40</td>
<td>0.43</td>
<td>72</td>
<td>82</td>
</tr>
<tr>
<td>350 MHz</td>
<td>2.60</td>
<td>0.79</td>
<td>53</td>
<td>57</td>
</tr>
<tr>
<td>400 MHz</td>
<td>2.60</td>
<td>0.79</td>
<td>55</td>
<td>57</td>
</tr>
<tr>
<td>420 MHz</td>
<td>2.60</td>
<td>0.79</td>
<td>56</td>
<td>58</td>
</tr>
<tr>
<td>450 MHz</td>
<td>2.70</td>
<td>0.82</td>
<td>58</td>
<td>63</td>
</tr>
</tbody>
</table>
## Regulatory Compliance/Certifications

<table>
<thead>
<tr>
<th>Agency</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>RoHS 2011/65/EU</td>
<td>Compliant</td>
</tr>
<tr>
<td>ISO 9001:2015</td>
<td>Designed, manufactured and/or distributed under this quality management system</td>
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</tbody>
</table>

### Frequency Characteristics

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Insert Loss (dB)</th>
<th>Return Loss (dB)</th>
<th>Reflection Coefficient (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 MHz</td>
<td>2.80</td>
<td>0.85</td>
<td>54</td>
</tr>
<tr>
<td>800 MHz</td>
<td>4.00</td>
<td>1.22</td>
<td>55</td>
</tr>
<tr>
<td>900 MHz</td>
<td>4.30</td>
<td>1.31</td>
<td>57</td>
</tr>
</tbody>
</table>