RCT7, RADIAx® Coaxial Radiating Cable with Bump, 50–2400 MHz, tuned foil, 1-5/8 in, black non-halogenated, fire retardant polyolefin jacket

Product Classification

Brand: RADIAX®
Product Series: RCT7
Product Type: Radiating cable

Construction Materials

Jacket Material: Non-halogenated, fire retardant polyolefin
Dielectric Material: Foam PE
Inner Conductor Material: Corrugated copper tube
Jacket Color: Black
Outer Conductor Material: Copper foil

Dimensions

Nominal Size: 1-5/8 in
Diameter Over Jacket, maximum: 49.784 mm | 1.960 in
Inner Conductor OD: 18.1610 mm | 0.7150 in
Outer Conductor OD: 43.815 mm | 1.725 in
Cable Weight: 0.83 kg/m

Electrical Specifications

Operating Frequency Band: 50 – 2400 MHz
Optimum Operating Frequency Band: 1700 – 2400 MHz | 800 – 960 MHz
Polarization: Vertical
Velocity: 93 %
VSWR Installed, typical, 1700–2700 MHz: 1.38
VSWR Installed, typical, 50–960 MHz: 1.30
VSWR on Reel, typical: 1.43
Stop Bands: 1110 – 1650 MHz
Cable Impedance: 50 ohm ±2 ohm
dc Resistance, Inner Conductor: 1.435 ohms/km
dc Resistance, Outer Conductor: 1.969 ohms/km
dc Test Voltage: 15000 V
Insulation Resistance: 100000 Mohms•km
Jacket Spark Test Voltage (rms): 10000 V
Peak Power: 302.0 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: 16.0 N-m | 11.8 ft lb
Flat Plate Crush Strength: 0.8 kg/mm
Indication of Slot Alignment: Yes—bumps face the wall
Minimum Bend Radius, Single Bend: 508.00 mm | 20.00 in
Recommended Distance from the Wall: 101.6 mm | 4.0 in
Recommended Hanger Spacing: 1.3 m | 4.3 ft
Tensile Strength: 215 kg | 474 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>0.50</td>
<td>0.15</td>
<td>69</td>
<td>80</td>
</tr>
<tr>
<td>100 MHz</td>
<td>0.60</td>
<td>0.18</td>
<td>70</td>
<td>80</td>
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<tr>
<td>150 MHz</td>
<td>0.70</td>
<td>0.21</td>
<td>77</td>
<td>86</td>
</tr>
<tr>
<td>350 MHz</td>
<td>1.10</td>
<td>0.34</td>
<td>86</td>
<td>97</td>
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<tr>
<td>450 MHz</td>
<td>1.30</td>
<td>0.40</td>
<td>88</td>
<td>100</td>
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<tr>
<td>700 MHz</td>
<td>1.60</td>
<td>0.49</td>
<td>87</td>
<td>98</td>
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</table>
### Regulatory Compliance/Certifications

<table>
<thead>
<tr>
<th>Agency</th>
<th>Classification</th>
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<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>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Gain (dB)</th>
<th>Reflected Loss (dB)</th>
<th>Return Loss (dB)</th>
<th>VSWR</th>
</tr>
</thead>
<tbody>
<tr>
<td>800 MHz</td>
<td>1.90</td>
<td>0.58</td>
<td>65</td>
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<tr>
<td>900 MHz</td>
<td>2.20</td>
<td>0.67</td>
<td>61</td>
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<tr>
<td>1700 MHz</td>
<td>6.00</td>
<td>1.83</td>
<td>51</td>
<td>53</td>
</tr>
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<td>1.58</td>
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<tr>
<td>1900 MHz</td>
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<td>57</td>
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<tr>
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<td>2200 MHz</td>
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<td>2300 MHz</td>
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<tr>
<td>2400 MHz</td>
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<td>1.40</td>
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<td>70</td>
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