RCT7, RADIA® 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
Tape Barrier: Mica

Dimensions

Nominal Size: 1-5/8 in
Diameter Over Jacket, maximum: 49.784 mm | 1.960 in
Inner Conductor OD: 0.7150 in | 18.160 mm
Outer Conductor OD: 1.725 in | 43.820 mm
Cable Weight: 0.54 lb/ft | 0.83 kg/m

Electrical Specifications

Operating Frequency Band: 50 – 2400 MHz
Optimum Operating Frequency Band: 1700 – 2400 MHz | 800 – 960 MHz
Polarization: Vertical
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: 0.437 ohms/kft | 1.435 ohms/km
dc Resistance, Outer Conductor: 0.600 ohms/kft | 1.969 ohms/km
dc Test Voltage: 15000 V
RCT7-CPUS-4A-RNAM

**Insulation Resistance**  
100000 Mohms•km

**Jacket Spark Test Voltage (rms)**  
10000 V

**Peak Power**  
302.0 kW

**Velocity**  
93%

**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 | 12.0 ft lb

**Flat Plate Crush Strength**  
46.0 lb/in | 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 | 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>0.50</td>
<td>0.15</td>
<td>65</td>
<td>75</td>
</tr>
<tr>
<td>100 MHz</td>
<td>0.60</td>
<td>0.18</td>
<td>68</td>
<td>77</td>
</tr>
<tr>
<td>150 MHz</td>
<td>0.80</td>
<td>0.24</td>
<td>77</td>
<td>86</td>
</tr>
<tr>
<td>350 MHz</td>
<td>1.20</td>
<td>0.36</td>
<td>89</td>
<td>99</td>
</tr>
</tbody>
</table>

©2019 CommScope, Inc. All rights reserved. All trademarks identified by ® or ™ are registered trademarks, respectively, of CommScope. All specifications are subject to change without notice. See www.commscope.com for the most current information. Revised: December 19, 2018
### Regulatory Compliance/Certifications

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>Agency 1</th>
<th>Classification</th>
<th>Agency 2</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>450 MHz</td>
<td>RoHS 2011/65/EU</td>
<td>Compliant</td>
<td>ISO 9001:2015</td>
<td>Designed, manufactured and/or distributed under this quality management system</td>
</tr>
</tbody>
</table>

### Performance Table

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>TX Power</th>
<th>TX Efficiency</th>
<th>TX Bandwidth</th>
</tr>
</thead>
<tbody>
<tr>
<td>450 MHz</td>
<td>1.40</td>
<td>0.43</td>
<td>86</td>
</tr>
<tr>
<td>700 MHz</td>
<td>1.70</td>
<td>0.52</td>
<td>83</td>
</tr>
<tr>
<td>800 MHz</td>
<td>1.90</td>
<td>0.58</td>
<td>83</td>
</tr>
<tr>
<td>900 MHz</td>
<td>2.20</td>
<td>0.67</td>
<td>63</td>
</tr>
<tr>
<td>1700 MHz</td>
<td>5.20</td>
<td>1.59</td>
<td>54</td>
</tr>
<tr>
<td>1800 MHz</td>
<td>4.80</td>
<td>1.46</td>
<td>55</td>
</tr>
<tr>
<td>1900 MHz</td>
<td>4.70</td>
<td>1.43</td>
<td>56</td>
</tr>
<tr>
<td>2000 MHz</td>
<td>4.50</td>
<td>1.37</td>
<td>57</td>
</tr>
<tr>
<td>2100 MHz</td>
<td>4.50</td>
<td>1.37</td>
<td>59</td>
</tr>
<tr>
<td>2200 MHz</td>
<td>4.50</td>
<td>1.37</td>
<td>60</td>
</tr>
<tr>
<td>2300 MHz</td>
<td>4.50</td>
<td>1.37</td>
<td>60</td>
</tr>
<tr>
<td>2400 MHz</td>
<td>4.60</td>
<td>1.40</td>
<td>60</td>
</tr>
<tr>
<td>2500 MHz</td>
<td>5.00</td>
<td>1.50</td>
<td>65</td>
</tr>
<tr>
<td>2600 MHz</td>
<td>4.70</td>
<td>1.43</td>
<td>67</td>
</tr>
<tr>
<td>2700 MHz</td>
<td>4.50</td>
<td>1.37</td>
<td>68</td>
</tr>
<tr>
<td>2800 MHz</td>
<td>4.50</td>
<td>1.37</td>
<td>69</td>
</tr>
<tr>
<td>2900 MHz</td>
<td>4.60</td>
<td>1.40</td>
<td>70</td>
</tr>
</tbody>
</table>