RCT7, RADIAX® Coaxial Radiating Cable with Bump, 50–2700 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       0.78 kg/m

Electrical Specifications

Operating Frequency Band 50 – 2700 MHz
Optimum Operating Frequency Band 1710 – 2700 MHz | 698 – 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             1090 – 1145 MHz | 1635 – 1705 MHz | 2180 – 2270 MHz | 545 – 570 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>0.53</td>
<td>0.16</td>
<td>69</td>
<td>79</td>
</tr>
<tr>
<td>100 MHz</td>
<td>0.60</td>
<td>0.18</td>
<td>67</td>
<td>77</td>
</tr>
<tr>
<td>150 MHz</td>
<td>0.75</td>
<td>0.23</td>
<td>76</td>
<td>82</td>
</tr>
<tr>
<td>350 MHz</td>
<td>1.20</td>
<td>0.37</td>
<td>78</td>
<td>84</td>
</tr>
<tr>
<td>450 MHz</td>
<td>1.34</td>
<td>0.41</td>
<td>74</td>
<td>78</td>
</tr>
<tr>
<td>500 MHz</td>
<td>1.44</td>
<td>0.44</td>
<td>76</td>
<td>86</td>
</tr>
<tr>
<td>Frequency (MHz)</td>
<td>Return Loss (dB)</td>
<td>Isolation (dB)</td>
<td>Return Loss (dB)</td>
<td>Isolation (dB)</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------</td>
<td>----------------</td>
<td>------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>600 MHz</td>
<td>1.60</td>
<td>0.48</td>
<td>72</td>
<td>81</td>
</tr>
<tr>
<td>700 MHz</td>
<td>1.75</td>
<td>0.53</td>
<td>72</td>
<td>77</td>
</tr>
<tr>
<td>800 MHz</td>
<td>1.90</td>
<td>0.58</td>
<td>70</td>
<td>74</td>
</tr>
<tr>
<td>900 MHz</td>
<td>2.05</td>
<td>0.62</td>
<td>71</td>
<td>76</td>
</tr>
<tr>
<td>960 MHz</td>
<td>2.14</td>
<td>0.65</td>
<td>69</td>
<td>73</td>
</tr>
<tr>
<td>1700 MHz</td>
<td>3.20</td>
<td>0.98</td>
<td>64</td>
<td>71</td>
</tr>
<tr>
<td>1800 MHz</td>
<td>3.32</td>
<td>1.01</td>
<td>64</td>
<td>69</td>
</tr>
<tr>
<td>1900 MHz</td>
<td>3.46</td>
<td>1.05</td>
<td>61</td>
<td>68</td>
</tr>
<tr>
<td>2000 MHz</td>
<td>3.60</td>
<td>1.10</td>
<td>59</td>
<td>69</td>
</tr>
<tr>
<td>2100 MHz</td>
<td>3.79</td>
<td>1.16</td>
<td>61</td>
<td>69</td>
</tr>
<tr>
<td>2200 MHz</td>
<td>4.02</td>
<td>1.23</td>
<td>61</td>
<td>68</td>
</tr>
<tr>
<td>2300 MHz</td>
<td>4.29</td>
<td>1.31</td>
<td>61</td>
<td>67</td>
</tr>
<tr>
<td>2400 MHz</td>
<td>4.49</td>
<td>1.37</td>
<td>61</td>
<td>67</td>
</tr>
<tr>
<td>2500 MHz</td>
<td>4.81</td>
<td>1.47</td>
<td>61</td>
<td>68</td>
</tr>
<tr>
<td>2600 MHz</td>
<td>5.11</td>
<td>1.56</td>
<td>60</td>
<td>69</td>
</tr>
<tr>
<td>2700 MHz</td>
<td>5.60</td>
<td>1.71</td>
<td>58</td>
<td>67</td>
</tr>
</tbody>
</table>

**Regulatory Compliance/Certifications**

**Agency**
- RoHS 2011/65/EU
- ISO 9001:2015

**Classification**
- Compliant
- Designed, manufactured and/or distributed under this quality management system