Programmable LTE Antenna for Laptops

Applications
• LTE-enabled laptops

Features
• Size 65 x 12 x 1 mm
• The length (65mm) can vary
• Selective Low Band: LTE band (EUTRA) 13 and 17, GSM 850 and 900
• High Band: GSM1800/1900, WCDMAI
• Switch: Sony SP4T/ CXM3569XR
• Engineering samples available
• RoHs compliant

Benefits
• Extremely low profile
• High performance
• Low losses in all states
• Minimal effect of switching on high bands
• 4 programmable states for low band
• Easily assembled to a device display area or covers of various sizes
• Planar pattern enables ultra thin displays
• Switch and antenna on the same flex ease implementation
• Compatible to several, well-known manufacturing technologies
  • LDS, Flex and Sheet Metal

Electrical specifications @ +25 °C
Note: Electrical characteristics depend from distance of metal objects and the location of the antenna on the device

<table>
<thead>
<tr>
<th>Frequency Range [MHz]</th>
<th>Efficiency [%] / [dB]</th>
<th>Return loss min [dB]</th>
<th>Impedance [Ω]</th>
<th>Operating Temperature (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700-750</td>
<td>≥ 40/-4 63/-2 (peak)</td>
<td>-6</td>
<td>50</td>
<td>-40 to +85</td>
</tr>
<tr>
<td>750-790</td>
<td>≥ 40/-4 56/-2.5 (peak)</td>
<td>-6</td>
<td>50</td>
<td>-40 to +85</td>
</tr>
<tr>
<td>820-900</td>
<td>≥ 40/-4 50/-3 (peak)</td>
<td>-6</td>
<td>50</td>
<td>-40 to +85</td>
</tr>
<tr>
<td>880-960</td>
<td>≥ 40/-4 50/-3 (peak)</td>
<td>-6</td>
<td>50</td>
<td>-40 to +85</td>
</tr>
<tr>
<td>1710-1880</td>
<td>≥ 40/-4 60/-2.2 (peak)</td>
<td>-6</td>
<td>50</td>
<td>-40 to +85</td>
</tr>
<tr>
<td>1850-1990</td>
<td>≥ 40/-4 53/-2.7 (peak)</td>
<td>-6</td>
<td>50</td>
<td>-40 to +85</td>
</tr>
<tr>
<td>1920-2170</td>
<td>≥ 40/-4 64/-1.9 (peak)</td>
<td>-6</td>
<td>50</td>
<td>-40 to +85</td>
</tr>
</tbody>
</table>

Mounting of the antenna
1. Recommend mounting of antenna:
   i. To the display frame or to the device front cover
   ii. Position: near to the ground plane corner.
2. Adhesive surface to attach to the display or to the device front cover.
3. The flex part with the switch is to be bent towards the back side and grounded to the display metal shield.