

# Programmable LTE Antenna for Laptops

## Applications

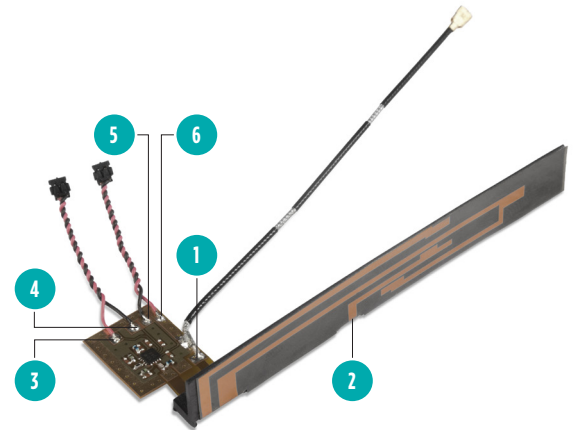
- LTE-enabled laptops

## 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, WCDMA1
- 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



Terminal configuration and dimensions of the antenna

No.	TerminalName	Terminal Dimensions
1	Feed	2 x 2.4 mm
2	Ground	3 x 2 mm
3	Switch Contact 1	2 x 2 mm
4	Switch Contact 2	2 x 2 mm
5	Switch Contact 3	2 x 2 mm
6	Switch Contact 4	2 x 2 mm

## Electrical specifications @ +25 °C

Note: Electrical characteristics depend from distance of metal objects and the location of the antenna on the device

Typical performance (Ground plane size 233x140 mm)

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

## 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.