



Proteus[®] 4G is a digital signal processor for 4G networks conditioning the wireless receive uplink RF path. This produces an RF signal free of unwanted narrow band interference. Proteus 4G with PurePass[®] digital signal processing improves network performance as measured in Received Interference Power and Thermal Noise Rise. It provides spectrum conditioning across 5, 10, 15 or 20 MHz of channel bandwidths and accounts for the time domain structure of LTE.

How Does it Work?

- The Proteus 4G can identify unwanted narrow band interference and remove it from the channel, providing an optimized measurement for the eNodeB.
- The resource scheduler assigns spectrum block resources accordingly based upon the conditioned spectrum output from the Proteus, affording more efficient use of the spectrum.
- Adaptive Modulation and Coding are applied relative to the individual user channel response, increasing spectral efficiency to each user as measured by the eNodeB.

Proteus 4G Features

Adaptive Interference Mitigation ("AIM") eliminates the corruption caused by narrow band interference, passing an RF signal free of unwanted narrow band interference

- Optimize receive path resource blocks
- Removes unwanted in-band energy in the receive path
- Recovers coverage, capacity and performance

User Defined Band Rejection activates software-defined band-reject filters through a simple user interface

- Suppress adjacent channel RF that can affect C to I ratio
- User chooses center frequency and bandwidth of filters
- Use as needed to add extra isolation and selectivity

ProView[®] and SpectrumView[®] Plus analysis tools give visibility into the condition of the spectrum, log interference activity, and provide spectral history

Wireless carriers with 4G networks now use Received Interference Power and Thermal Noise Power metrics from the eNodeB, among other indicators, to measure network performance. Unfortunately, other narrow band co-channel energy can impact the RIP measurement, providing erroneous information that could impact resource scheduling and spectral efficiency. Proteus mitigates this energy and maximizes spectrum utilization, critical to delivering the higher data rates LTE promises.

Proteus applications:

- **Mitigate co-channel interference**
[Increase coverage and achieve maximum data rates](#)
- **Reduce mobile Tx power in the event of interference**
[Protect network performance](#)
- **Support high traffic sites**
[Improve performance of interference avoidance algorithms](#)
- **Reduce interference from CATV, wireless microphones and broadcast TV**
[Identify even spurious and random interference](#)
- **Optimize performance at special events in CoW/CoLT deployments**
[Ensure maximum data rates](#)
- **Improve coverage and capacity in coastal and border sites**
[Complete more calls](#)

Proteus with PurePass provides spectrum conditioning for optimal LTE performance and coverage.

Specifications

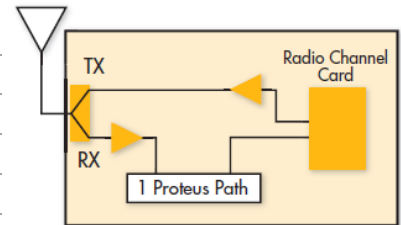


RF Performance

Bandwidth	25 MHz
Gain variation (over full bandwidth)	< +/- 2dB
Max input power	> -25 dBm
Minimum detectable signal	< -100 dBm/30 kHz
Dynamic range	> 75 dB
Adaptation time	< 200 μs (typ)
AIM interference rejection (CW)	> 40 dB

Mechanical/Power/Interface/Storage

Dimensions (inches)	3.5 H x 19 W x 17 D
Mounting	19" or 23" Rack
Weight	15 lbs
Operating temperature	-35° to 50° C
Humidity	5% to 95%
Connector	N-type female
Local User Interface (configuration, data visualization)	QVGA touch screen
Remote User Interface	Via Web Browser
Data Interfaces	Ethernet, USB 2.0
Cooling	Unforced convection
Alarms	Dry contact, SNMP capable
Supply Voltage	+27 or -48 VDC
Power Consumption	90 Watts



Typical Proteus Configuration



*All specifications subject to change without notice.
Please contact ISCO International for complete performance data.*

Increasing the Value of Our Customers' Wireless Networks