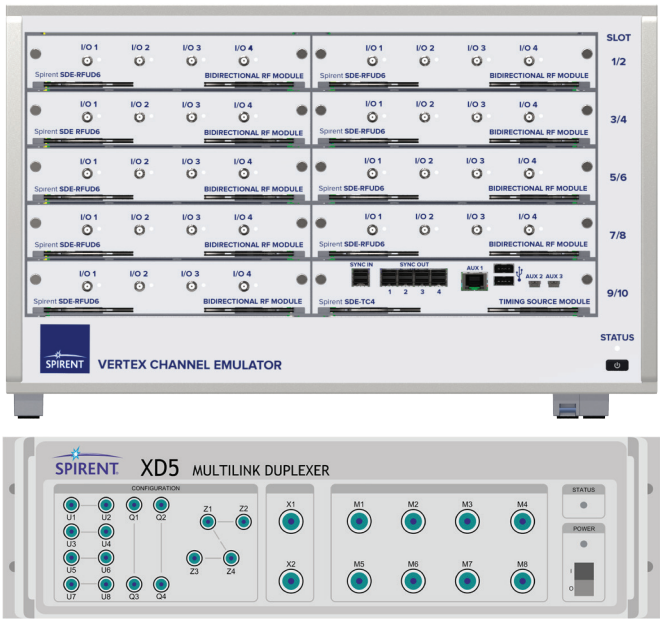
Spirent **XD5**
Multilink Duplexer

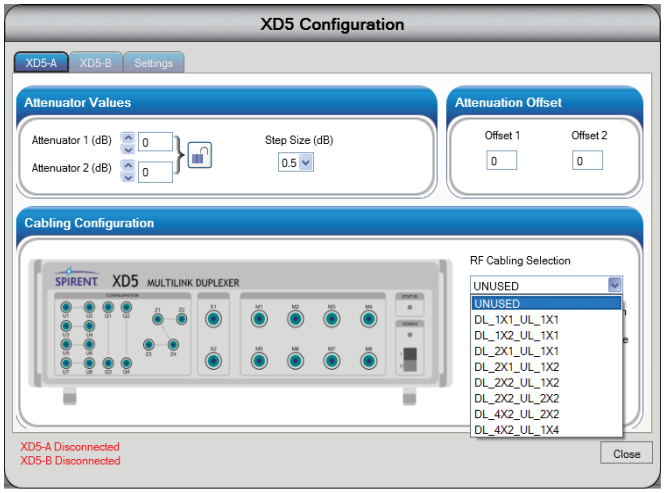
Spirent's XD5 is a Multilink Duplexer that, when used in conjunction with Spirent's Vertex® or VR5 Channel Emulator, allows additional flexibility in executed test themes. It enhances the channel emulator functionality by doubling the number of faded cells in the downlink through MIMO while providing a clean uplink, or conversely, enabling MIMO and/or fading in the uplink while providing a clean channel on the downlink.

Key Features

- Maximizes the usage of number of digital links purchased in the uplink or the downlink
- Enhances Spirent's channel emulation capabilities to combine bidirectional signals from up to 4 eNodeB's going to the UE
- Doubles the number of downlink faded channels versus bi-directional connection setups
- Easily controlled through the Vertex or VR5 GUI
- Supports increased number of cells for Live2Lab® Virtual Drive Test - Conversion Tool (Live2Lab VDT-CT)
- Increases number of cells in existing test systems with a simple XD5 upgrade
- Provides reverse isolation for bidirectional test conditions
- Significantly reduces the minimum I/O separation required in a bi-directional test setup
- Flexible architecture to support a wide variety of configurations in both the downlink (DL) and uplink (UL):
  - DL 4 x 2 / UL 2 x 2
  - DL 4 x 2 / UL 1 x 4
  - DL 2 x 2 / UL 2 x 2
  - DL 2 x 2 / UL 1 x 2
  - DL 2 x 1 / UL 2 x 1
  - DL 2 x 1 / UL 1 x 2
  - DL 1 x 2 / UL 1 x 1
  - DL 1 x 1 / UL 1 x 1



Vertex + XD5 instruments



XD5 can be easily controlled via the Vertex or VR5 GUI

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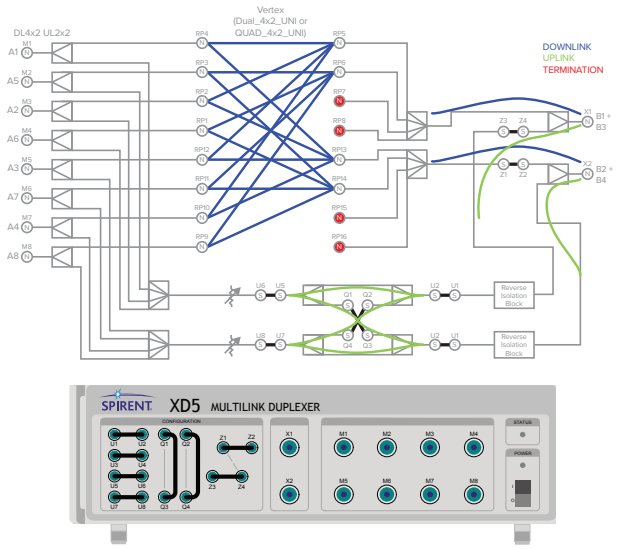
Benefits of the XD5

XD5 is a valuable add-on to Spirent's Vertex, the world's most scalable channel emulator. When it comes to RF performance, XD5 raises the boundaries of what can be achieved with Vertex and satisfies highly-specific and customized test requirements:

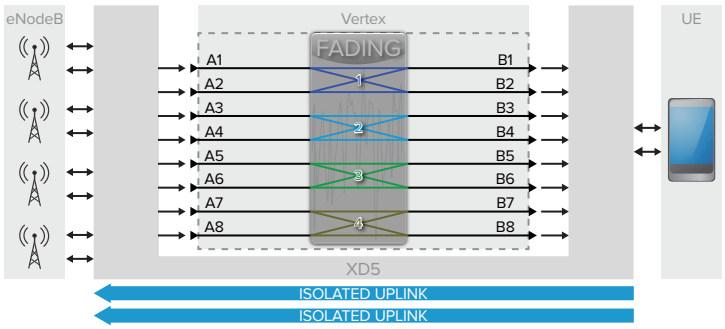
- Supports unidirectional CoMP and carrier aggregation tests with very high reverse isolation
- Enables special use cases such as enabling fading on the uplink while maintaining a clean channel on the downlink

XD5 allows for higher flexibility by supporting various complex MIMO configurations in both the uplink/downlink and, by taking the isolation "out of the box," provides better control over parameters like reverse link isolation and phase shift.

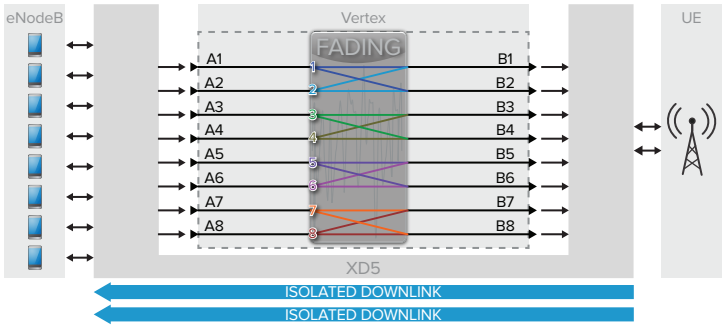
XD5 delivers enhanced functionality and flexibility to address test conditions in many scenarios.



With XD5's superior duplexing capabilities, achieve quad-hybrid duplexing capabilities in the uplink with ease using one Vertex instrument. The above picture illustrates the simplified cabling and the functional diagram for this configuration.



Schematic showing a typical use case of XD5 integration with Vertex with MIMO and fading enabled on the downlink and a clean isolated channel being made available on the uplink.



Another use case of XD5 integration with fading enabled on 8 UE's on the uplink and a clean isolated channel being made available on the downlink.

Technical Specifications	
Part Number	VR5-XD5
Frequency Range:	400MHz to 3,000MHz
Max RF Input Power:	Downlink: +30dBm max Uplink: +23dBm max (damage = > +30dBm max continuous)
Isolation:	Forward isolation: >125dB Uplink reverse isolation: 110dB min, 205dB max
Uplink Attenuation Range:	95dB, 0.5dB steps
Insertion Loss:	8dB min, 103dB max

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