

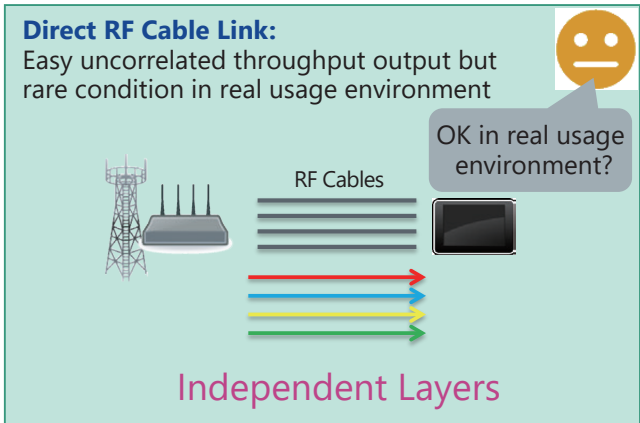
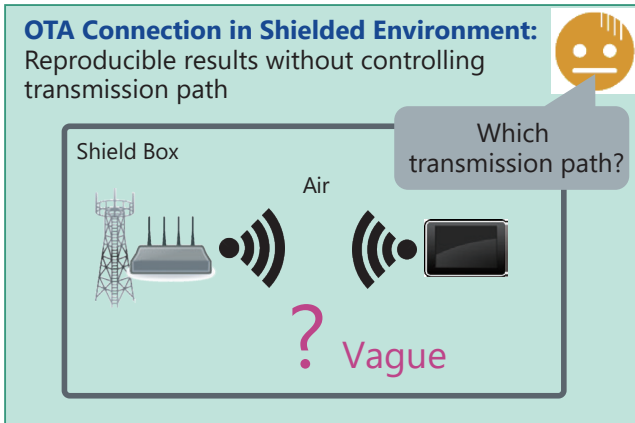
# Low-Cost, Stable MIMO Test Environment

STACSIM (Static Channel Simulator) ACC-290  
STACSIM-WB (Static Channel Simulator) ACC-339



## Configuring Effective Propagation Environment for MIMO Terminal Evaluation

Usually, MIMO mobile terminals receive over-the-air signals output from each Tx antenna at all Rx antennas. However, it is difficult to determine which signal is received by which antenna via which propagation path. Additionally, it is difficult to consistently quantify the Rx power at each antenna due to the changing test environment. On the other hand, when antennas are connected using RF cables, despite the good reproducibility, there are large differences from the real usage environment due to non-reception of signals output from other antennas (no correlation).



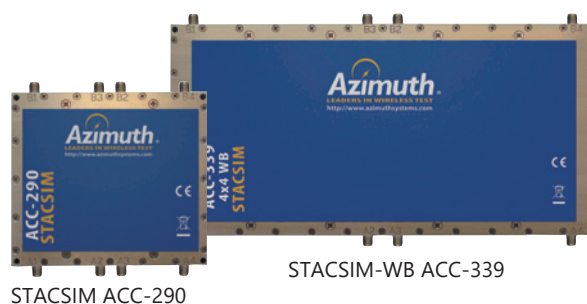
The STACSIM receives signals correlated to each antenna and maintains high reproducibility because the power at each Rx antenna is stable since the transmissions propagate via a fixed path while approximating real conditions.



## What is STACSIM?

This module incorporates a Butler Matrix transmission path and is used to configure a stable up to 4×4 MIMO test environment, supporting a wide frequency band from 700 MHz to 6 GHz for a wide range of connectivity applications, including Cellular 5G, LTE, Wi-Fi, Bluetooth, and IoT.

- Wideband flat channels over wide frequency range
- Fixed propagation path supporting up to 4×4 MIMO (also supports SISO, 1×2, 2×2, etc.)
- Simultaneous Uplink/Downlink use
- Maintenance-free (passive device)
- Excellent isolation



## STACSIM ACC-290/STACSIM-WB ACC-339 Specifications

### Phase

Reference Input Port	Expected Values of Phase at Output (ports in degrees)			
	B1	B2	B3	B4
A1	-45	-90	-135	-180
A2	-135	0	135	270
A3	270	135	0	-135
A4	-180	-135	-90	-45

### RF

Frequency Band	ACC-290: 2.4 GHz to 2.5 GHz, 4.9 GHz to 5.9 GHz ACC-339: 700 MHz to 6.0 GHz
RF Configuration	Input:4 × Output: 4
Insertion Loss	10 dB (typical)
Amplitude Balance	ACC-290: 1.5 dB max. ACC-339: 3.7 dB max.
Phase Balance	±30° max.
Isolation	ACC-290: 20 dB min. ACC-339: 15 dB min.
Total Input Power	+30 dBm/port (no input at other ports)
Impedance	50Ω
VSWR	1.5: 1
I/O Connector	SMA (f)
Operating Temperature Range	-10° to +40°C

## Other Azimuth Products

Various other simulators for wireless transmissions, such as the RFCM-B for adding a variable attenuation function to the STACSIM, and the ACE RNX Channel Emulator for configuring variable propagation paths are also available. Please consult our sales representative for more information.

