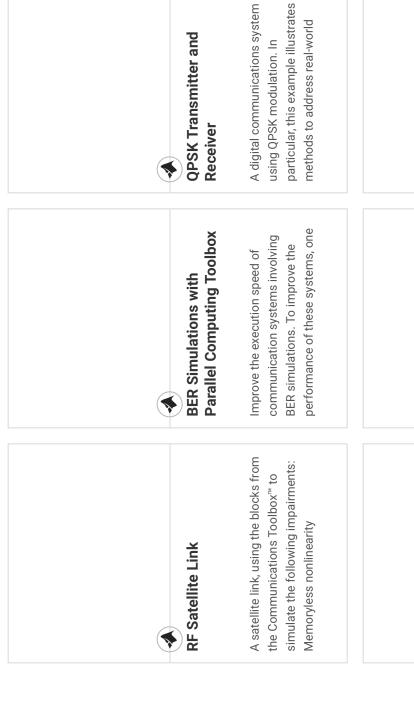
End-to-End Simulation

Integrate subcomponents for link-level BER

analyze system response to the noise and interference inherent in communication channels, explore what-if scenarios, and evaluate the tradeoffs Communications Toolbox" enables you to simulate link-level models of communications systems. Using bit error rate simulations, you can between competing system architectures and parameters.

passing it to the higher layers. Examples presented in this section demonstrate transmission, impairment of signal by the radio and propagation The physical layer (PHY) processing chain prepares data received from the higher layers for transmission and recovers transmitted data before channel, reception, recovery, and analysis of link performance.

Featured Examples







The implementation of a QPSK

transmitter and receiver. The receiver addresses practical issues in wireless communications, e.g.



DVB-S.2 Link, Including LDPC Coding

The state-of-the-art channel coding scheme used in the second generation Digital Video Broadcasting standard (DVB-S.2),



Provides visualization capabilities to

see the effects of RF impairments and corrections in a satellite downlink. The link employs 16-QAM



Estimate BER of 8-PSK in AWGN with Reed-Solomon Coding

Transmit Reed-Solomon encoded data using 8-PSK over an AWGN channel. Demodulate and decode the received signal and collect error



Introduction to MIMO Systems

Multiple-Input-Multiple-Output

(MIMO) systems, which use multiple antennas at the transmitter and receiver ends of a wireless



OFDM with MIMO Simulation

Use an OFDM modulator and demodulator in a simple, 2x2 MIMO error rate simulation. The OFDM parameters are based on the





The basic structure of turbo codes,

both at the transmitter and receiver

performance over a noisy channel ends, and characterizes their



Simulation Acceleration **End to End System Using GPUs**

which can be used to accelerate bit error rate (BER) simulations using A comparison of four techniques System objects in the MATLAB®



ALOHA and CSMA/CA **Packetized Wireless** Networks

Packetized Modem with

Data Link Layer

CSMA/CA MAC using Simulink®, Simulate a basic ALOHA or Stateflow® and the

Communications Toolbox™.

Toolbox™. The modem features a

MATLAB® and Communications

with Data Link Layer [1] using

Implement a packetized modem



802.11ac Multi-User MIMO Precoding with WINNER II **Channel Model**

The transmit and receive processing 'ading channel. To run this example, for a 802.11ac™ multi-user downlink transmission over a WINNER II

