

KEYSIGHT TECHNOLOGIES (AGILENT HP)

N7617B

The Keysight Technologies N7617B Signal Studio for WLAN is a PC-based software application designed to generate standard-compliant 802.11a/b/g/j/p/n/ac/ah/ax signals. It enables engineering teams to create physical-layer and MAC-layer signal configurations for verifying WLAN component, receiver, and transmitter designs.

SPECIFICATIONS

General

Interfaces	LAN, GPIB, USB (via PC-to-instrument connection)
Display	PC-based Graphical User Interface (GUI)

Signal Creation Capabilities

Supported IEEE Standards	802.11a/b/g/j/p/n/ac/ah/ax
Modulation Schemes	BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
802.11ax (Wi-Fi 6) Support	HE TB (Trigger-based), HE SU (Single User), HE MU (Multi-User), HE ER (Extended Range) PPDU formats
802.11ac (Wi-Fi 5) Support	VHT PPDU format with MU-MIMO up to 4 users
802.11n (Wi-Fi 4) Support	HT-Mixed and HT-Greenfield PPDU formats
802.11ah (Wi-Fi HaLow) Support	1 MHz, 2 MHz, 4 MHz, 8 MHz, and 16 MHz bandwidths
Maximum MIMO Channels	Up to 8x8 spatial streams (standard and hardware dependent)
Signal Bandwidths	1, 2, 4, 8, 16, 20, 40, 80, 160, 80+80 MHz
802.11ax Guard Interval	0.8 μ s, 1.6 μ s, or 3.2 μ s with 1x, 2x, or 4x HE-LTF
Channel Coding Options	BCC (Binary Convolutional Coding) and LDPC (Low Density Parity Check)
Guard Interval (802.11n/ac)	Short (400 ns) or Long (800 ns)
Pilot Scrambling	On / Off (Standard compliant or user-defined)
Spatial Mapping Modes	Direct, Spatial Expansion, User-defined matrix

Licensing and Options

N7617B-RFP Option	802.11a/b/g/j/p WLAN signal creation, fixed license
N7617B-SFP Option	802.11n WLAN signal creation, fixed license
N7617B-TFP Option	802.11ac WLAN signal creation, fixed license
N7617B-UFPP Option	802.11ah WLAN signal creation, fixed license
N7617B-YFP Option	802.11ax WLAN signal creation, fixed license
N7617B-2FP Option	Connect to EXT wireless communications test set, fixed license
N7617B-7FP Option	Connect to VXT PXIe vector transceiver, fixed license

Signal Impairments

I/Q Impairments	Gain imbalance, Quadrature angle, I/Q offset
Frequency Impairments	Carrier frequency offset, Sampling frequency offset
Symbol Timing Impairment	User-defined symbol timing error

Compatible Instruments

Compatible Benchtop VSGs	Keysight N5182B MXG, N5172B EXG, E4438C ESG, E8267D PSG
Compatible PXIe VSGs	Keysight M9381A, M9383A/B
Compatible Wireless Test Sets	Keysight E6640A EXM, E6607A/B/C EXT

System Requirements

Supported Operating Systems	Windows 10 (64-bit), Windows 7 SP1 (32-bit or 64-bit)
Recommended RAM	4 GB or more
Required Instrument Control Software	Keysight IO Libraries Suite (version 17.0 or later)

User Interface & Control

Automation Interfaces	Supported via .NET API
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PC System Requirements

Minimum Disk Space	2 GB
Recommended Processor	Dual-core or higher

TECHNOLOGY

WLAN (802.11a/b/g/j/p/n/ac/ah/ax)

APPLICATIONS

WLAN Device Design, Verification, and Manufacturing Test

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