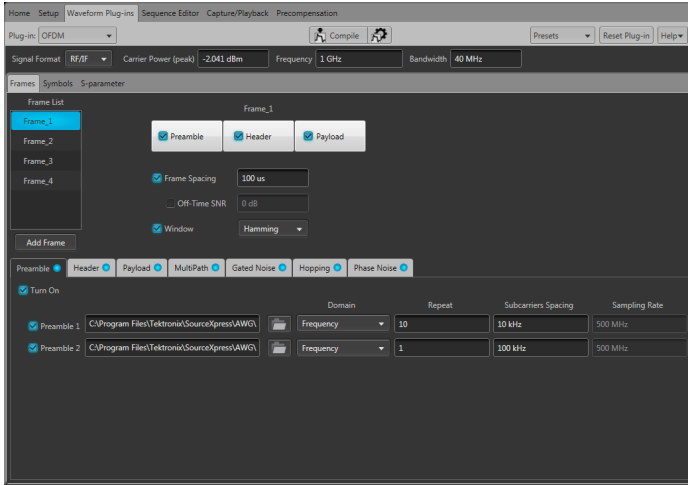


Applications for SourceXpress® and AWG70000/5200 series generators

OFDM Plug-in Datasheet



The Tektronix OFDM plug-in is a simple and flexible tool to create Single or Multiple OFDM based Frames as per standards with one or more bursts in a single compile. The plug-in integrates into the SourceXpress waveform creation platform, and the AWG70000 series and AWG5200 series arbitrary waveform generators.

Key features

- Configure and create complete multiple OFDM Frames with Preamble, Header, and Payload
- Preset for Standard compliant Frames for various wireless standards like Wi-Fi, WiMAX
- Define Frame with Preamble, Header, and Payload (selectively) to simulate different OFDM signals
- Configure Symbols with Data, Pilot and Guard sub carriers with different base pattern type, amplitude profile and phase offsets
- Subcarrier Modulation Formats including BPSK, QPSK, QAM (16, 32, 64, 256, 512, 1024), and 8-PSK
- Add Impairments such as Phase Noise and Multipath to simulate realistic propagation scenarios
- Define Frequency Hopping and Gated Noise to simulate practical environments for receiver testing
- S-Parameter emulation (requires license)
 - Scattering parameters can be directly convolved with the pulse to recreate the channel characteristics
 - Cascading S-Parameters allows you to cascade up to six Touchstone files of the same format to emulate a cascaded channel

- Offline mode
 - Designed to run on an external PC via the SourceXpress PC application, thereby reducing the time taken to synthesize large waveforms and leaving the instruments free for continued testing
- Seamless transition between design and playback
 - The easy to use graphical user interface integrates seamlessly with the user interfaces of the SourceXpress PC application and the Tektronix AWG70000 series and AWG5200 series generators
- Designed for integration for automated test or manufacturing
 - Programmatic Interface allows for integration into existing workflows

Complete OFDM signal definition

The OFDM plug-in allows users to configure every part of the OFDM signal definition. It allows users to build the signal symbol-by-symbol to create a complete OFDM frame. Each subcarrier in the symbol can be configured independently for Type, Modulation, and Base Data. You could then add Zero Padding or Cyclic Prefix. Symbols can be modified by specifying the clipping ratio and tone nulling. A symbol table gives you a summary of all the carriers in the selected symbol.

OFDM packets/frames can be built by specifying the spacing between the symbols/frames. Parts of the OFDM packets can be stressed by adding Gated Noise to it.

Requirements

- Plug-in installed with SourceXpress on PC:
 - SourceXpress software version 5.3 or greater
 - PC operating systems: Windows 7 (64 bit), Windows 8 (64 bit), Windows 10 (64 bit)
- Plug-in installed on compatible instruments:
 - AWG70000 Series, firmware version 5.3 or greater
 - AWG5200 Series, firmware version 6.0 or greater

Ordering information

Models

- | | |
|-------------|--|
| OFDMFL-SS01 | OFDM plug-in with a floating license that can be reassigned to different Tektronix instruments or PCs. |
| OFDMNL-SS01 | OFDM plug-in with a node locked license tied to a single instrument or PC. |

The OFDM plug-in can be downloaded for free and a trial license is available. Complete functionality and continued use requires the purchase of a license.

Visit the [SourceXpress](#), [AWG70000](#), or [AWG5200](#) product pages to obtain the software and license.

How to purchase

To purchase, visit the Tektronix web site to request a quote or contact your nearest sales representative.

Additional information

This and other plug-ins are available for SourceXpress and compatible waveform generators.

Use the following website links to view available application plug-ins, downloads, and trial licenses.

- [SourceXpress website](#)
- [AWG70000 Series website](#)
- [AWG5200 Series website](#)

Licensing

Each plug-in (for SourceXpress, the AWG70000A Series generators, and the AWG5200 Series generators) requires the purchase of a license before they are functional. Some plug-ins may require additional licenses to unlock specific plug-in features. Licenses are managed within the Tektronix Asset Management System (Tek AMS). The Tek AMS web site address is www.tektronix.com/products/product-license. Product license management requires a login account.

There are two types of licenses available: node-locked (NL) and floating (FL).

- Node Locked Licenses provide your own copy of the application on your instrument or personal computer and are permanently assigned to a specific Host ID or product model/serial number.
- Floating licenses can be moved between different Host IDs or product models.

Use the Tektronix Asset Management system to check in and check out floating licenses.

Certifications



Tektronix is registered to ISO 9001 and ISO 14001 by SRI Quality System Registrar.



Product(s) complies with IEEE Standard 488.1-1987, RS-232-C, and with Tektronix Standard Codes and Formats.

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For Further Information. Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit www.tek.com.

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