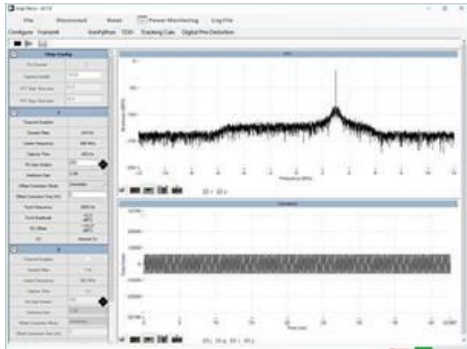
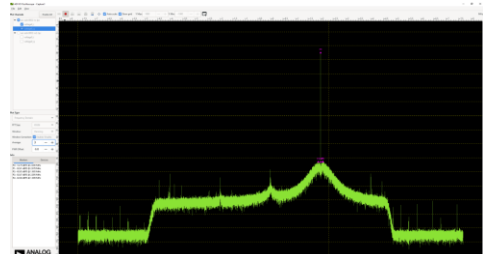


## ADRV9001 SOFTWARE AND HARDWARE SELECTION GUIDE

The ADRV9001 evaluation system can be controlled using two different software packages provided by ADI. Two software packages serve different user types.

- *Product Line SDK package* that serves as main development package. It is targeted to the user who is interested in developing their own hardware/software platform using the ADRV9001 chip and utilizing the APIs to control the chip. User using this package typically will be interested in how the chip operates and performs in great detail, as understanding the information is important for their own development. Transceiver Evaluation Software (TES) is also provided as part of the SDK, offering user help through the evaluation->prototyping->production process.
- *Open Source, Linux based, Prototyping software*, which is targeted to the user who is interested in the overall performance of the chip in a very quick manner. User using this package typically may not be interested in the chip operation in detail. This software package also helps user with embedded prototyping activities such as in-system simulation and evaluation tasks.

Aim of this document is to help user to better understand differences between available ADRV9001 software packages and their corresponding hardware configurations.

	<b>Product Line SDK package</b>	<b>Open Source, Linux based, Prototyping software</b>
<b>Devices</b>	ADRV9002, ADRV9003, ADRV9004, ADRV9005, ADRV9006	
<b>Evaluation Boards</b>	ADRV9002NP/W1/PCBZ low band, 30MHz – 3GHz ADRV9002NP/W2/PCBZ high band, 3GHz – 6GHz	
<b>FPGA platforms</b>	<ul style="list-style-type: none"> <li>• Xilinx ZC706</li> <li>• Xilinx ZCU102</li> </ul>	<ul style="list-style-type: none"> <li>• Xilinx ZCU102</li> <li>• Xilinx ZedBoard (CMOS Only)</li> <li>• Xilinx ZC706 (CMOS only)</li> <li>• Intel Arria 10 SoC (CMOS only)</li> </ul>
<b>Evaluation systems</b>		AD-JUPITER-EBZ <ul style="list-style-type: none"> <li>• Zynq Ultrascale+ MPSoC ZU3EG</li> <li>• ADRV9002 wide band 100MHz – 6GHz</li> </ul>
<b>FPGA HDL code</b>	Image (and source) provided within SDK package	Reference design of HDL on GitHub
<b>Graphical user interface</b>	Transceiver Evaluation Software (TES) - Windows GUI for transceiver configuration, evaluation and data capture <ul style="list-style-type: none"> <li>• Supports all latest features and contains latest bug fixes</li> </ul> 	IIO Oscilloscope - Open-source Linux IIO scope for data capture. <ul style="list-style-type: none"> <li>• Latest source always available, development on github</li> <li>• Integrates profile generator with a subset of available features</li> <li>• Does not offer the same functionality as TES. New features support lags TES.</li> </ul> 
<b>Development / Maintenance</b>	<ul style="list-style-type: none"> <li>• One package containing all resources for evaluation, prototyping and production,</li> <li>• Quarterly updates</li> </ul>	<ul style="list-style-type: none"> <li>• Main updates on 6 months schedule. Bug fixes and small updates available frequently. Each component maintained and developed separately, on its own schedule,</li> <li>• Linux device driver (which includes C SDK) will lag schedule behind C SDK releases</li> <li>• Long term maintenance and update plan to be compatible with future versions of tools and integrations</li> </ul>

	<i>Product Line SDK package</i>	<i>Open Source, Linux based, Prototyping software</i>
<b>MATLAB support</b>	TES automatically generates code with API functions that can be called within MATLAB® environment (windows only).	Transceiver Toolbox support in MATLAB® and Simulink® with native System Objects starting with R2020A
<b>GNU Radio support</b>	Currently not supported.	GNU radio supported via native IIO library Windows, Linux, MAC, starting with version 3.7
<b>Python support</b>	TES automatically generates code with API functions that can be called within Python environment (Windows only).	Python support through pyadi-iio module with native python classes; available through conda and pypi Windows, Linux, MAC; python version newer than 3.6
<b>Linux support</b>	Autogenerated code can be compiled into Linux application (Linux® user space)	Open-source Linux® Standard IIO driver 4.19, 5.10, 5.15, 6.1; ARM, ARM64, PetaLinux, OE build system, works with all IIO supported environments
<b>Software license type</b>	Under ADI proprietary license	Varies: GPL (General Public License), LGPL, BSD by component, ADI proprietary license
<b>API code/NO-OS driver</b>	Operating system-agnostic API source in C	
<b>Standard Language Support</b>	Desktop: C, C++, C#, Python, MATLAB Embedded: C, C++	Desktop: C, C++, C#, Python, MATLAB, Simulink, RUST, Node.js Embedded: C, C++, C#, Python, RUST, Node.js
<b>Where to find it?</b>	<a href="https://www.analog.com/en/design-center/landing-pages/001/transceiver-evaluation-software.html">https://www.analog.com/en/design-center/landing-pages/001/transceiver-evaluation-software.html</a>	<a href="https://wiki.analog.com/resources/eval/user-guides/adrv9001">https://wiki.analog.com/resources/eval/user-guides/adrv9001</a> <a href="https://wiki.analog.com/resources/eval/user-guides/jupiter-sdr">https://wiki.analog.com/resources/eval/user-guides/jupiter-sdr</a>
<b>Support</b>	TRx/Hardware support: <a href="https://ez.analog.com/wide-band-rf-transceivers/design-support-adrv9001-adrv9007/">https://ez.analog.com/wide-band-rf-transceivers/design-support-adrv9001-adrv9007/</a>  API/TES/Software support: <a href="https://ez.analog.com/wide-band-rf-transceivers/tes-gui-software-support-adrv9001-adrv9007/">https://ez.analog.com/wide-band-rf-transceivers/tes-gui-software-support-adrv9001-adrv9007/</a>	<a href="https://ez.analog.com/fpga">https://ez.analog.com/fpga</a> <a href="https://ez.analog.com/linux-software-drivers/">https://ez.analog.com/linux-software-drivers/</a> <a href="https://ez.analog.com/microcontroller-no-os-drivers/">https://ez.analog.com/microcontroller-no-os-drivers/</a> <a href="https://ez.analog.com/sw-interface-tools/">https://ez.analog.com/sw-interface-tools/</a>

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