Installation Manual

Installation Manual for the ADS design kit version v2.1

Document information

Info	Content
Keywords	ADS Design kit Windows Linux Unix Instruction Manual RF small signal
Abstract	Installation manual for installing the RF small signal design kit version 2.1 in the ADS system, for Linux/Unix operating systems

founded by Philips

Revision history

Rev	Date	Description
1.0	20090609	Initial document
1.1	20091014	Addition of pin diodes
1.2	20110711	Installation of SiMKit version 3.6 for ADS in order to perform simulations with the Mextram models

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1. Introduction

The purpose of this instruction manual is to guide the customer through to process of installing the NXP RF Small Signal design kit for the Agilent RF simulator ADS.

1.1 Content of the Design Kit

The NXP RF small signal design kit version 1.0 currently consists of the following devices:

- **RF Wideband devices**
- **RF Diodes**
- **RF Junction Fet's**
- **RF dual-gate MOSFet's**
- **RF MMIC's**
- **Pin diodes**

1.2 Models and data

The following models and/or data is available in the design kit, for simulating the TF circuits:

- **SPICE parameters**
- **S-parameters**
- **Noise parameters**
- **Data sheets**

It should be noted, that not all above-mentioned data is available for all devices. The availability per device can be recognized in the associated icon by color.

2. Installing Instructions

The sections below will describe the installing instructions for the case that no design kit has been installed yet, and the case an update of the design kit has to replace the former version. Also the installation of the ADS SiMKit, required for simulating the Mextram models is included.

2.1 Case 1: First time installing of the NXP RF Small Signal Design Kit.

1. Copy the file nxp_rf_smallsignal_v2.1.zip in the ADS home directory
2. Close all ADS schematics
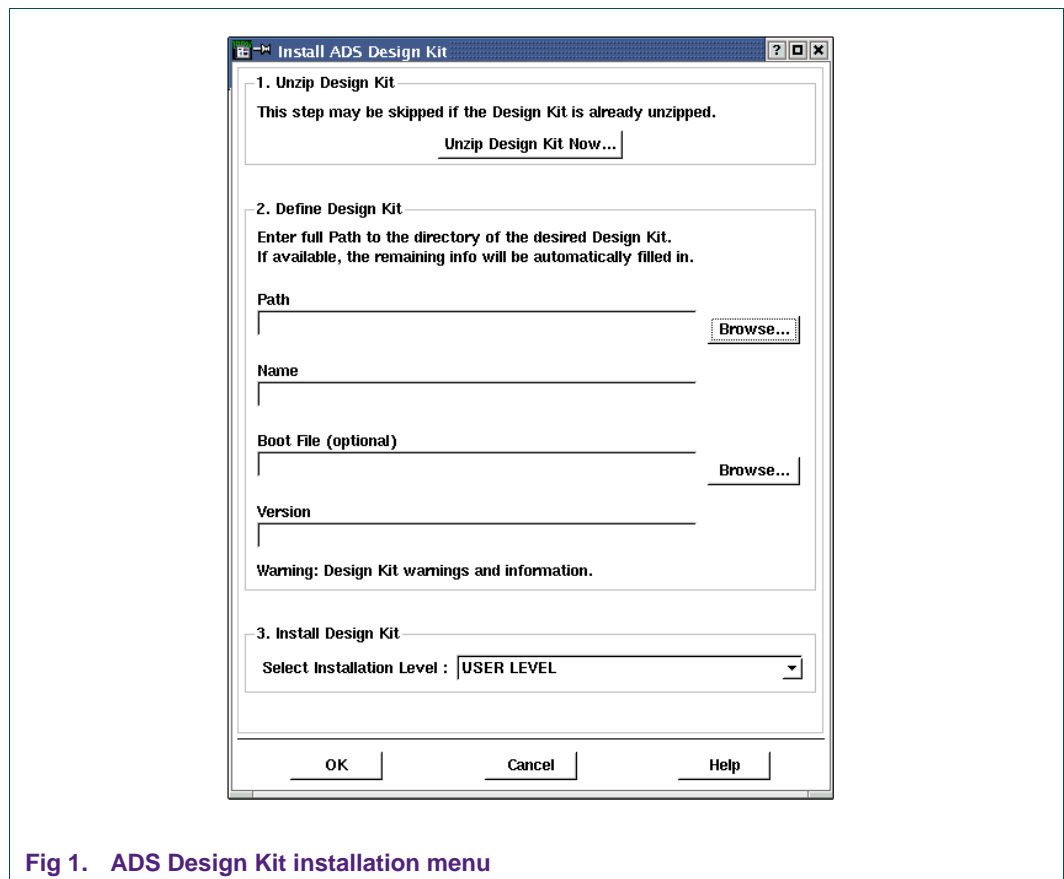3. In the main window of ADS, select "Design Kit -→ Install Design Kits……" (See Fig. 1)

Fig 1. ADS Design Kit installation menu

4. **Select 'Unzip Design Kit Now …..', and browse "Unzip File" to the file nxp_rf_smallsignal_v1.zip, leave To Directory as it is, Press OK. The Design Kit will no be installed.**

5. **Exit and restart ADS**

2.2 Case 2: Old version of the NXP RF Small Signal Design Kit installed.

1. **Copy the file nxp_rf_smallsignal_v1.zip in the ADS home directory**

2. **Close all ADS schematics**

3. **In the main window of ADS, select "Design Kit -→ Setup Design Kits……" (See Fig. 2)**

4. **REMOVE the older version of the RF Small Signal design kit (NOT just Disable)**

5. **Apply the changes**

6. **Exit and restarts ADS**

7. **Close all ADS schematics**

8. **In the main window of ADS, select "Design Kit -→ Install Design Kits……"**
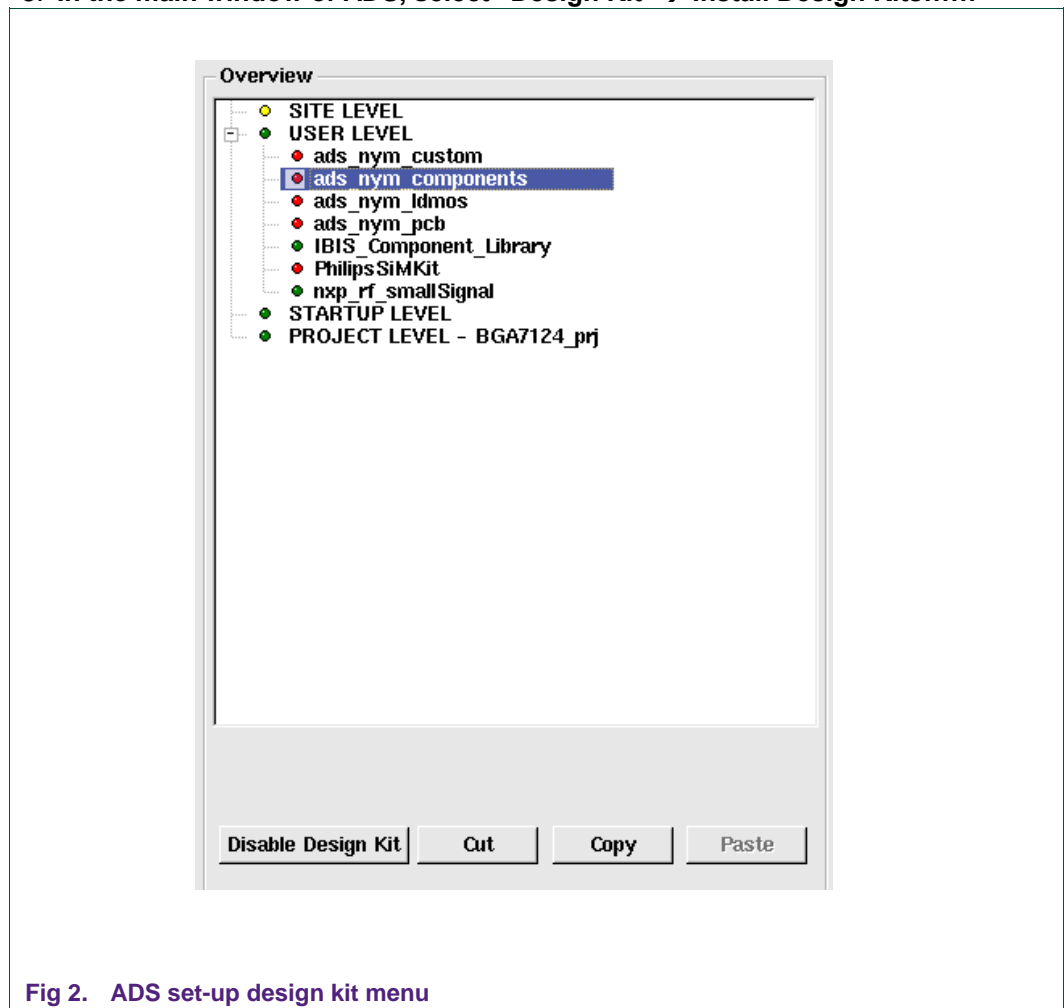

Fig 2.   ADS set-up design kit menu

9. **Select 'Unzip Design Kit Now …..', and browse "Unzip File" to the file nxp_rf_smallsignal_v1.zip, leave To Directory as it is, Press OK. The Design Kit will no be installed.**

10. **Exit and restart ADS**

2.3 Installation of the ADS SiMKit.

In order to simulate bipolar devices described with the Mextram parameters, the ADS SiMKit version 3.6 must be installed. The SiMKit and installation instructions can be found on the following website:

www.nxp.com/models

3.   User Instruction

After re-start of the ADS system, five new items will be displayed, as shown in Figure 1.
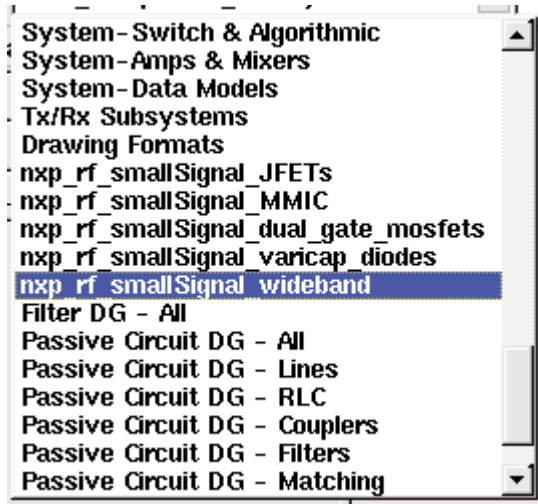

Fig 3.   NXP design kit appearance in the menu

By clicking on one of the items, a new pallet will be opened, as can be observed in Fig. 4

Fig 4.   Icon arrangement of the models

As can be observed, the text associated with the icons is in green or blue, to distinguish between the S-parameters (green colored text) and SPICE parameters (blue colored text). By selecting e.g. a S-parameter dataset, a two port representation (Fig. 5A, 2-ports and one reference) will be placed on the circuit page (see Fig. 5a)

a. Two port S-parameter representation   b. Bias conditions and help

Fig 5.   S-parameter dataset and bias conditions
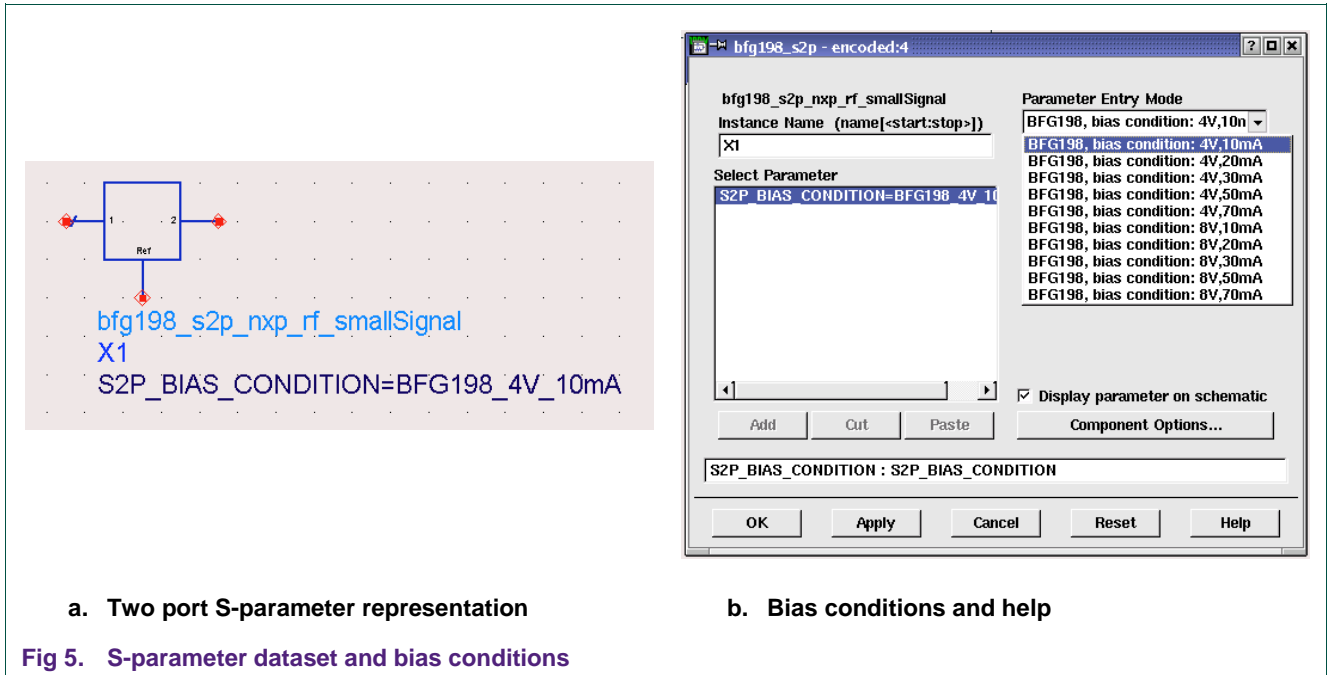
By editing the component, a new window (see Fig. 5b) will be opened, were all available bias conditions of the device can be selected. By selecting the help button, the datasheet of the device will be opened as pdf file (an Acrobat reader has to be installed)

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Date of release: 7 November 2011
Document identifier: <DOC ID>