

Installation Guide

MA25101A IQ Streaming PCIe Kit



Anritsu

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Chapter 1 — General Information

1-1 Introduction

This installation guide provides installation procedures for the Streaming PCIe card for use with the Anritsu MS2090A and the MS27201A spectrum analyzers. The PC must use the MX280005A IQ Signal Master software and the installed PCIe data transfer card for high-speed capturing and streaming of large IQ data from supported Anritsu analyzers. The PCIe kit consists of a Windows PC compatible PCIe interface card that connects to Anritsu analyzers directly through a high-speed Data Out interface port. Be sure to read the “[ESD Caution](#)” before starting [Section 1-4 “Installing the PCIe Card”](#).

System Requirements

The following are system requirements for PCIe IQ Streaming.

- PC Requirements:
 - Full-height or half-height desktop PC (Lenovo ThinkCentre 920 SFF or similar recommended)
 - Empty PCIe adapter card slot
 - Intel i5 processor or higher
 - 8 GB of RAM or higher
 - 1 TB high performance PCIe-NVMe M.2 SSD (or equivalent to sustained 2000 MB/sec write speed)
 - Ethernet Connection for analyzer control and low-speed IQ acquisition
- IQ Signal Master MX280005A (required for high-speed PCIe streaming)
- MA25101A IQ Streaming PCIe Kit:
 - PCIe PC interface card
 - PCIe data cable

Supporting Analyzers

IQ Streaming over PCIe is supported on the MS2090A and MS27201A. The analyzer requirements are:

- Option 124 – IQ Waveform Capture
- Option 125 – IQ Waveform Streaming (Requires Option 124)

ESD Caution

The equipment discussed in this installation guide is susceptible to electrostatic discharge (ESD) damage. Operators should exercise practices outlined within industry standards such as JEDEC-625 (EIA-625), MIL-HDBK-263, and MIL-STD-1686, which pertain to ESD and ESDS devices, equipment, and practices. Because these apply to the user’s PC and the analyzer, it is recommended that any static charges that may be present are dissipated before disassembling the computer case or connecting cables or antennas to the analyzer. It is important to remember that the operator may carry a static charge that can cause damage and these charges should be dissipated through proper grounding. Following the practices outlined in the above standards will ensure a safe environment for both personnel and equipment.

1-2 Contact Anritsu for Sales and Service

To contact Anritsu, visit the following URL and select the services in your region:

<http://www.anritsu.com/contact-us>

1-3 Product Documentation

Refer to the Anritsu MS2090A, MS27201A, and MX280005A product pages for more information on the instruments and large data streaming capture using the MA25101A IQ Streaming PCIe Kit.

<https://www.anritsu.com/en-us/test-measurement/products/ms2090a>

<https://www.anritsu.com/en-us/test-measurement/products/ms2720xa>

<https://www.anritsu.com/en-us/test-measurement/products/mx280005a>

1-4 Installing the PCIe Card

The PCIe card must be installed manually into the PC.

1. Disconnect power from the desktop PC.
2. Remove the PC cover to access the motherboard and PCIe expansion slots.
3. Install the PCIe card into an available PCIe slot as illustrated in [Figure 1-1](#). Ensure that the PCIe card is fully seating into the slot.
4. Replace the PC cover and proceed to [Section 1-5 “PC/PCIe Connections”](#).

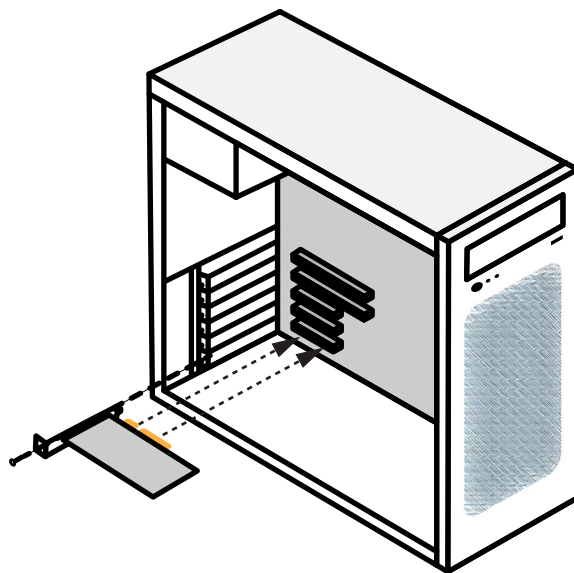


Figure 1-1. PCIe Card Installation

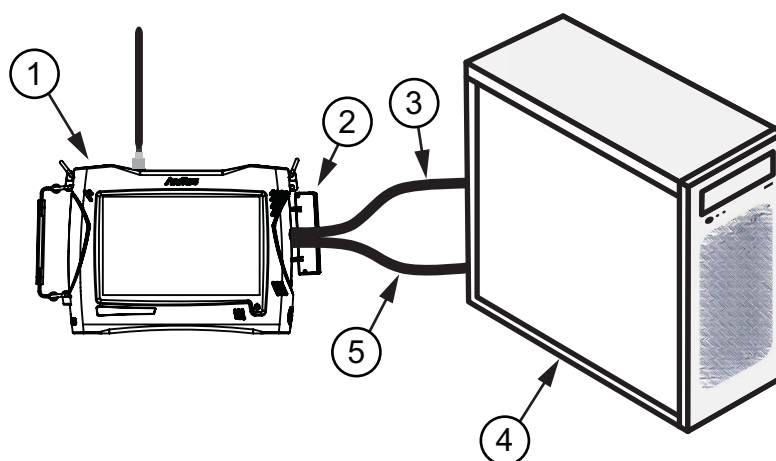
1-5 PC/PCIe Connections

The PC/PCIe connections to the analyzer are described below.

- [“Connecting the MS2090A” on page 1-3](#)
- [“Connecting the MS27201A” on page 1-4](#)

Connecting the MS2090A

1. Open the side cover of the MS2090A to locate the Data Out and Ethernet ports. Refer to [Figure 1-2](#).
2. Use the PCIe Nano pitch cable to connect the MS2090A Data Out port to the PCIe expansion card port on the Personal Computer.
3. Use an Ethernet cable to connect the MS2090A Ethernet port to the Personal Computer.
4. Load the IQ Signal Master Signal Analysis Software as described in [“Loading IQ Signal Master Software” on page 1-4](#).
5. Install the PCIe driver and power on the analyzer as described in [“Installing the PCIe Driver” on page 1-4](#).

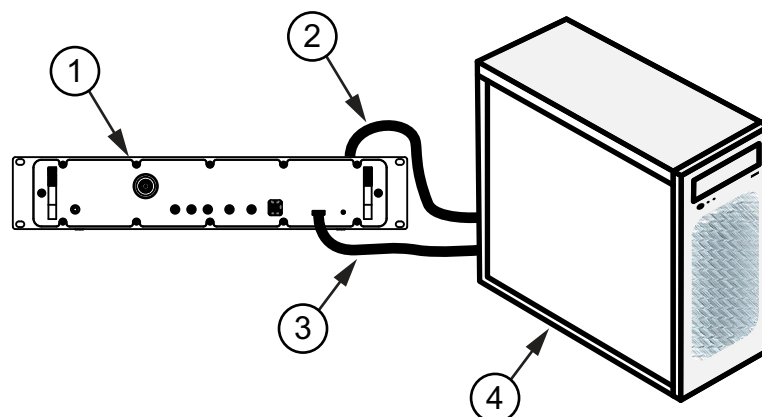


1. MS2090A Spectrum Analyzer
2. MS2090A Side Cover
3. Ethernet Cable
4. Personal Computer
5. PCIe Nano Pitch Cable

Figure 1-2. MS2090A PCIe Connection

Connecting the MS27201A

1. Refer to [Figure 1-3](#).
2. Locate the Data Out on the front panel of the MS27201.
3. Use the PCIe Nano pitch cable to connect the MS27201A front panel Data Out port to the PCIe expansion card port on the Personal Computer.
4. Use an Ethernet cable to connect the MS27201A rear panel Ethernet port to the Personal Computer.
5. Load the IQ Signal Master Signal Analysis Software as described in [“Loading IQ Signal Master Software”](#).
6. Install the PCIe driver and power on the analyzer as described in [“Installing the PCIe Driver”](#).



1. MS27201A Remote Spectrum Monitor
2. Ethernet Cable
3. PCIe Nano Pitch Cable
4. Personal Computer

Figure 1-3. MS27201A PCIe Connection

1-6 Loading IQ Signal Master Software

Load the IQ Signal Master Signal Analysis Software from the MX280005A Anritsu product page provided in [“Product Documentation”](#) on page 1-2

Installing the PCIe Driver

The PCIe driver becomes available, but is not automatically installed when the MX280005A software is installed. It must be manually installed into the PC as follows.

1. Run PLDADriverInstaller_3.8.5.exe file from the installation\Driver folder
(default: C:\ProgramFiles\AnritsuCompany\MX280005A\PCIEDriver\PLDADriverInstaller_3.8.5.exe).
2. Follow the series of on-screen instructions during installation.

When the Anritsu analyzer boots up, it does not automatically detect the FPGA image that supports PCIe data transfer. To detect the PCIe card, the analyzer and PC must be powered off and then powered on as described below:

1. Power on the Anritsu analyzer until it completely reboots and begins sweeping.
2. Power on the PC.
3. Refer to the Anritsu analyzer and the MX280005A user guides as provided in the [“Product Documentation”](#) on page 1-2 to stream large data files with the PCIe card.



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