MX285051A/MX269051A
5G Standard
Measurement Software
(Base License)
Operation Manual

Fourth Edition

- **For safety and warning information, please read this manual before attempting to use the equipment.**
- **Additional safety and warning information is provided within the MS2850A Signal Analyzer Operation Manual (Mainframe Operation) or MS2690A/MS2691A/MS2692A Signal Analyzer Operation Manual (Mainframe Operation). Please also refer to it before using the equipment.**
- **Keep this manual with the equipment.**

ANRITSU CORPORATION

Document No.: M-W3922AE-4.0

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This indicates a note. The contents are described in the box.

These indicate that the marked part should be recycled.

MX285051A/MX269051A
5G Standard Measurement Software (Base License)
Operation Manual

28 April 2017 (First Edition)
21 February 2020 (Fourth Edition)

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- During the warranty period, Anritsu Corporation will repair or exchange this software free-of-charge if it proves defective when used as described in the operation manual.
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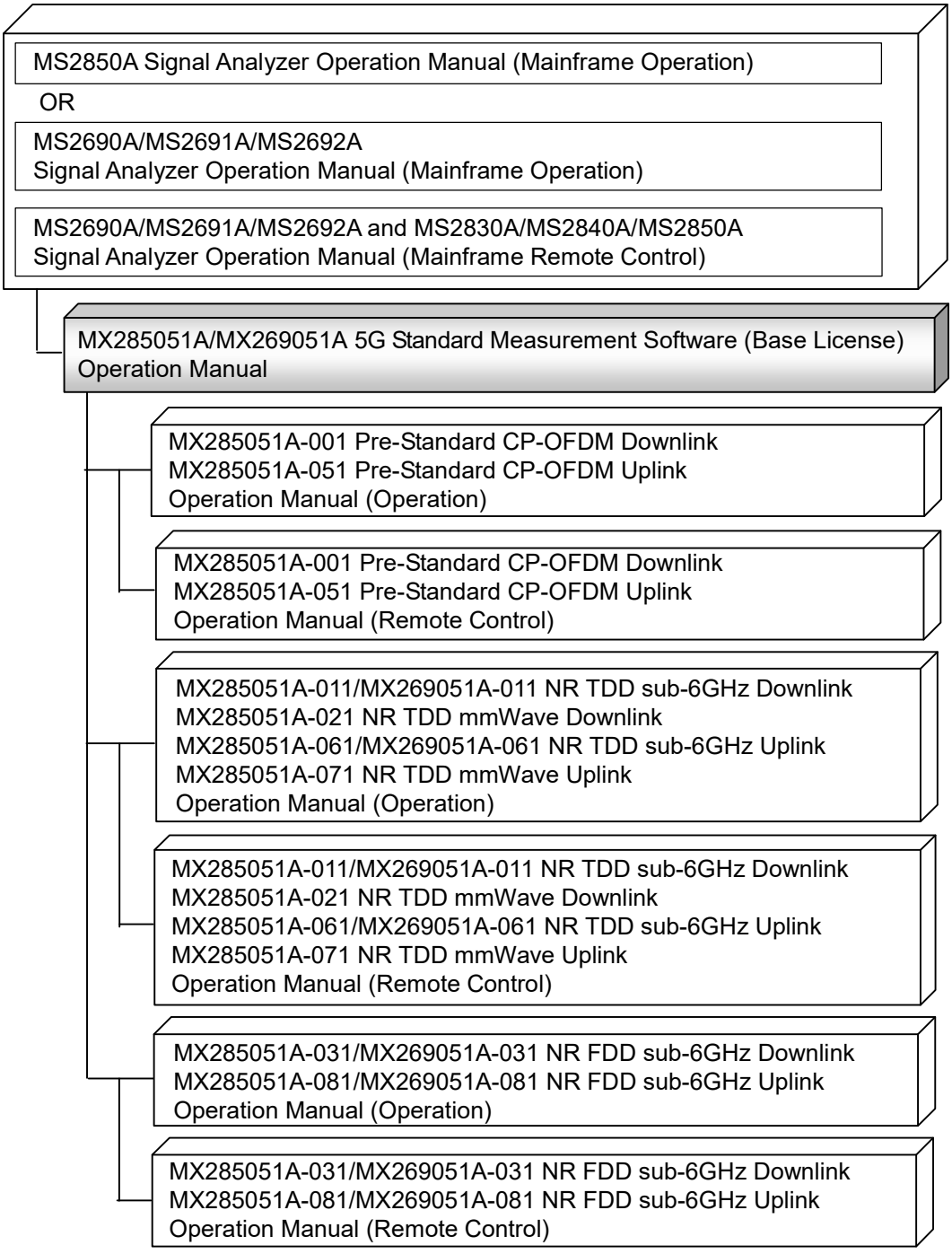
- Copying files and data
  Only files that have been provided directly from Anritsu or generated using Anritsu equipment should be copied to the instrument.
  All other required files should be transferred by means of USB flash drive or CompactFlash media after undergoing a thorough virus check.
- Adding software
  Do not download or install software that has not been specifically recommended or licensed by Anritsu.
- Network connections
  Ensure that the network has sufficient anti-virus security protection in place.
- Protection against malware (malicious software such as viruses).
  This equipment runs on Windows Operating System.
  To connect this equipment to network, the following is advised.
  • Activate Firewall.
  • Install important updates of Windows.
  • Use antivirus software.

About This Manual

■ **Composition of Operation Manuals**

The operation manuals for the MX285051A/MX269051A 5G Standard Measurement Software are comprised as shown in the figure below.



- Signal Analyzer Operation Manual (Mainframe Operation)
- Signal Analyzer Operation Manual (Mainframe Remote Control)

These manuals describe basic operating methods, maintenance procedures, common functions, and common remote control of the signal analyzer mainframe.

- 5G Standard　Measurement Software (Base License) Operation Manual <This document>

This manual describes basic operating methods, and functions of the 5G Standard　Measurement Software (Base License).

- MX285051A-001 Pre-Standard CP-OFDM Downlink
  MX285051A-051 Pre-Standard CP-OFDM Uplink
  Operation Manual (Operation)

This manual describes basic operating methods, and functions.

- MX285051A-001 Pre-Standard CP-OFDM Downlink
  MX285051A-051 Pre-Standard CP-OFDM Uplink
  Operation Manual (Remote Control)

This manual describes remote control.

- MX285051A-011/MX269051A-011 NR TDD sub-6GHz Downlink
  MX285051A-021 NR TDD mmWave Downlink
  MX285051A-061/MX269051A-061 NR TDD sub-6GHz Uplink
  MX285051A-071 NR TDD mmWave Uplink
  Operation Manual (Operation)

This manual describes basic operating methods, and functions.

- MX285051A-011/MX269051A-011 NR TDD sub-6GHz Downlink
  MX285051A-021 NR TDD mmWave Downlink
  MX285051A-061/MX269051A-061 NR TDD sub-6GHz Uplink
  MX285051A-071 NR TDD mmWave Uplink
  Operation Manual (Remote Control)

This manual describes remote control.

- MX285051A-031/MX269051A-031 NR FDD sub-6GHz Downlink
  MX285051A-081/MX269051A-081 NR FDD sub-6GHz Uplink
  Operation Manual (Operation)

This manual describes basic operating methods, and functions.

- MX285051A-031/MX269051A-031 NR FDD sub-6GHz Downlink
  MX285051A-081/MX269051A-081 NR FDD sub-6GHz Uplink
  Operation Manual (Remote Control)

This manual describes remote control.

As for signal analyzer hardware and its basic functions and operation outline, refer to *MS2850A Signal Analyzer Operation Manual (Mainframe Operation) or MS2690A/MS2691A/MS2692A Signal Analyzer Operation Manual (Mainframe Operation)*.

As for signal analyzer application's basic remote control functions and its definitions of common commands, refer to *MS2690A/MS2691A/MS2692A and MS2830A/MS2840A/MS2850A Signal Analyzer Operation Manual (Mainframe Remote Control)*.

Convention Used in This Manual

In this document,  indicates a panel key.

Throughout this document, the use of MS2850A is assumed unless otherwise specified. If using MS2690A/MS2691A/MS2692A (hereinafter, MS269xA), change MS2850A to read MS269xA.

Table of Contents

Chapter 1 Overview

This chapter provides an overview of the MX285051A/MX269051A 5G Standard Measurement Software (Base License) and describes the product configuration.

1.1 Product Overview

The MS2850A or MS269xA Signal Analyzer enables high-speed, high-accuracy, and simple measurements of transmission characteristics of base stations and mobile stations for various mobile communications types. The MS2850A or MS269xA is equipped with high-performance signal analyzer and spectrum analyzer functions as standard, with optional measurement software allowing modulation analysis functionality supporting various digital modulation modes.

The MX285051A/MX269051A 5G Standard Measurement Software (Base License) (hereinafter, referred to as "MX285051A/MX269051A") allows measuring RF characteristics according to 5G standard by installing the software options such as MX285051A-001 Pre-Standard CP-OFDM Downlink.

Note:

One of the following software options is required to use the MX285051A/MX269051A.

- MX285051A-001 Pre-Standard CP-OFDM Downlink
- MX285051A-051 Pre-Standard CP-OFDM Uplink
- MX285051A-011/MX269051A-011 NR TDD sub-6GHz Downlink
- MX285051A-061/MX269051A-061 NR TDD sub-6GHz Uplink
- MX285051A-021 NR TDD mmWave Downlink
- MX285051A-071 NR TDD mmWave Uplink
- MX285051A-031/MX269051A-031 NR FDD sub-6GHz Downlink
- MX285051A-081/MX269051A-081 NR FDD sub-6GHz Uplink

1.2 Product Configuration

1.2.1 Standard configuration

Table 1.2.1-1 or Table 1.2.1-2 lists the standard configuration of the MX285051A/MX269051A.

Table 1.2.1-1 Standard configuration (MS2850A)

Item	Model Name	Product Name	Q'ty	Remarks
Application	MX285051A	5G Standard Measurement Software (Base License)	1	
Accessory	—	Installation CD-ROM	1	Application software, operation manual CD-ROM

Table 1.2.1-2 Standard configuration (MS269xA)

Item	Model Name	Product Name	Q'ty	Remarks
Application	MX269051A	5G Standard Measurement Software (Base License)	1	
Accessory	—	Installation CD-ROM	1	Application software, operation manual CD-ROM

1.2.2 Option

Tables 1.2.2-1 or Tables 1.2.2-2 lists the option for the MX285051A/MX269051A. This is sold separately.

Table 1.2.2-1 Option (MS2850A)

Option No.	Product Name	Remarks
MX285051A-001	Pre-Standard CP-OFDM Downlink	
MX285051A-051	Pre-Standard CP-OFDM Uplink	
MX285051A-011	NR TDD sub-6GHz Downlink	
MX285051A-061	NR TDD sub-6GHz Uplink	
MX285051A-021	NR TDD mmWave Downlink	
MX285051A-071	NR TDD mmWave Uplink	
MX285051A-031	NR FDD sub-6GHz Downlink	
MX285051A-081	NR FDD sub-6GHz Uplink	

Table 1.2.2-2 Option (MS269xA)

Option No.	Product Name	Remarks
MX269051A-011	NR TDD sub-6GHz Downlink	
MX269051A-061	NR TDD sub-6GHz Uplink	
MX269051A-031	NR FDD sub-6GHz Downlink	
MX269051A-081	NR FDD sub-6GHz Uplink	

1.2.3 Applicable parts

Table 1.2.3-1 lists the applicable parts for the MX285051A/MX269051A.

Table 1.2.3-1 Applicable parts

Model Name	Product Name	Remarks
W3922AE	MX285051A/MX269051A 5G Standard Measurement Software (Base License) Operation Manual	English, printed version

Chapter 2 Preparation

This chapter describes the preparations required for using the MX285051A/MX269051A you are using.
Refer to *MS2850A Signal Analyzer Operation Manual (Mainframe Operation)* or *MS2690A/MS2691A/MS2692A Signal Analyzer Operation Manual (Mainframe Operation)* for common features, the panel keys, connectors used to connect external devices and general points of caution not included in this manual.

2.1 Signal Path Setup

As shown in Figure 2.1-1, connect the mainframe and the DUT using an RF cable, so that the signal to be tested is input to the RF Input connector.

⚠ CAUTION

Do not input a signal that has an excessive level to the RF Input connector.

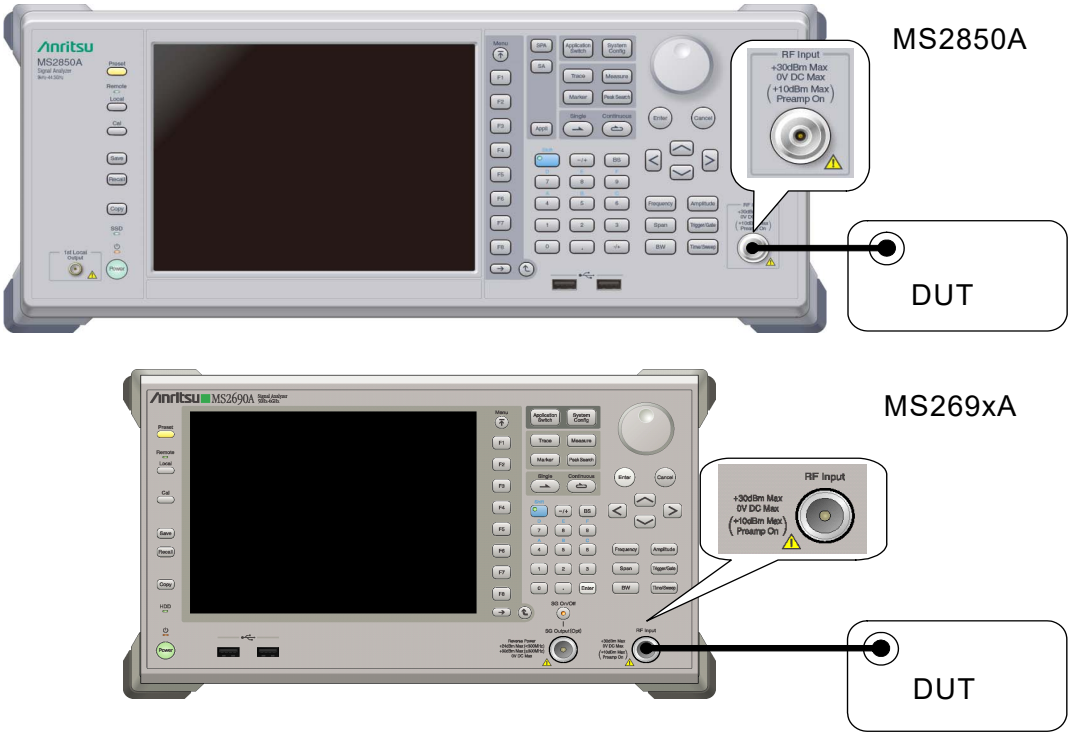


Figure 2.1-1 Signal path setup example

Set the reference signal from external sources, as required.

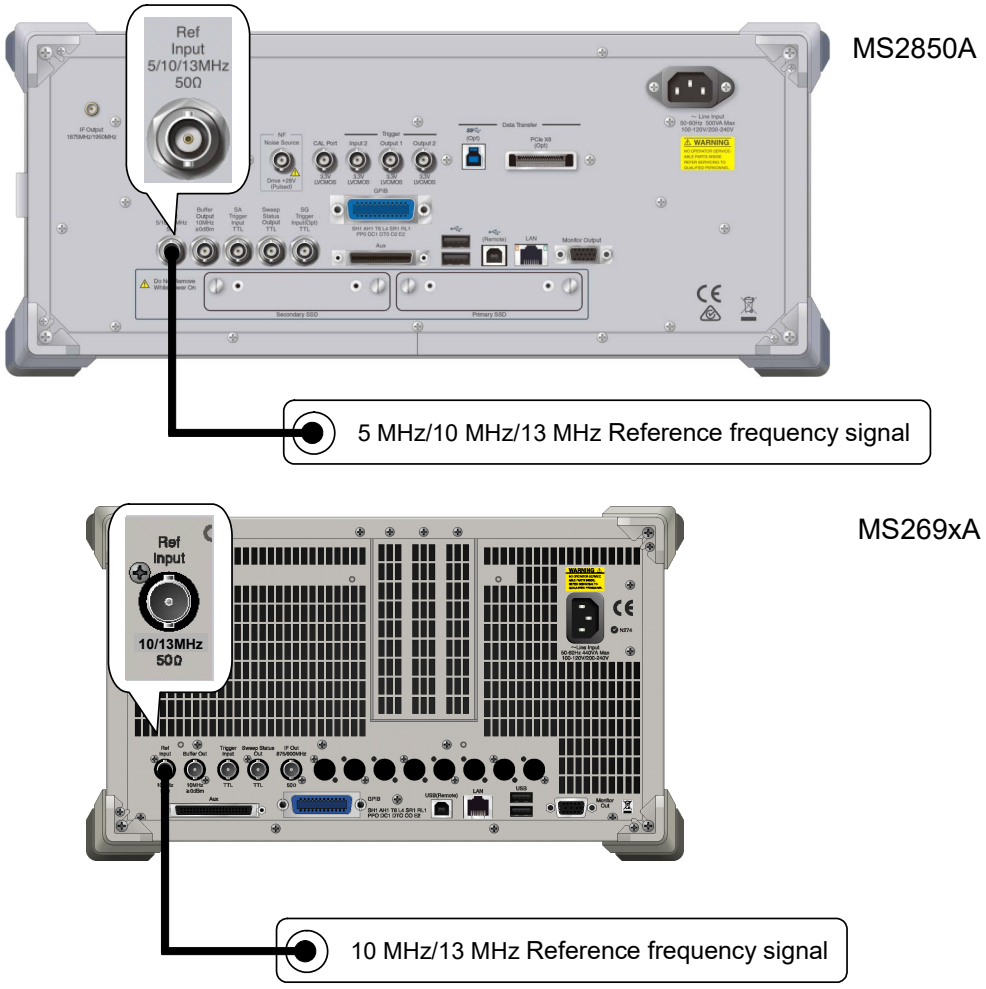


Figure 2.1-2 External reference signal input

2.2 Application Startup and Selection

To use the MX285051A/MX269051A, it is necessary to load (start up) and select the MX285051A/MX269051A.

2.2.1 Launching application

The MX285051A/MX269051A startup procedure is described below.

Note:

The XXX indicates the MX285051A/MX269051A name currently in use.

■ Procedure

1. Press System Config to display the Configuration screen.
2. Press F4 (Application Switch Settings) to display the Application Switch Registration screen.
3. Press F1 (Load Application Select), and move the cursor to "XXX" in the Unloaded Applications list.
   - If "XXX" is displayed in the **Loaded Applications** list, this means that the application is already loaded.
   - If "XXX" appears in neither the **Loaded Applications** nor **Unloaded Applications** list, this means that the application has not been installed.
4. Press F7 (Set) to load the application. If "XXX" is displayed in the **Loaded Applications** list, this means that the application is already loaded.

2.2.2 Selecting application

The selection procedure is described below.

■ Procedure

1. Press Application Switch to display the Application Switch menu.
2. Press the menu function key displaying "XXX".
   - The application can also be selected with mouse, by clicking "XXX" on the task bar.

2.3 Initialization and Calibration

This section describes the parameter settings and the preparations required before starting measurement.

2.3.1 Initialization

After selecting the MX285051A/MX269051A, first perform initialization. Initialization should be performed in order to return the settable parameters to their default settings.

The initialization procedure is as follows.

■ Procedure

1. Press Preset to display the Preset function menu.
2. Press F1 (Preset).

2.3.2 Calibration

Perform calibration before measurement. Calibration sets the level accuracy frequency characteristics for the input level to flat, and adjusts level accuracy deviation caused by internal temperature fluctuations. Calibration should be performed when first performing measurement after turning on power, executes the performance test, or if beginning measurement when there is a difference in ambient temperature from the last time calibration was performed.

■ Procedure

1. Press Cal to display the Application Cal function menu.
2. Press F1 (SIGANA All).

For details on calibration functionality executable, refer to *MS2850A Signal Analyzer Operation Manual (Mainframe Operation)* or *MS2690A/MS2691A/MS2692A Signal Analyzer Operation Manual (Mainframe Operation)*.

Chapter 3 Measurement

This chapter describes the measurement function, the parameter contents and setting methods for the MX285051A/MX269051A.

3.1 Basic Operation

3.1.1 Screen layout

This section describes the screen layout for the MX285051A/MX269051A.

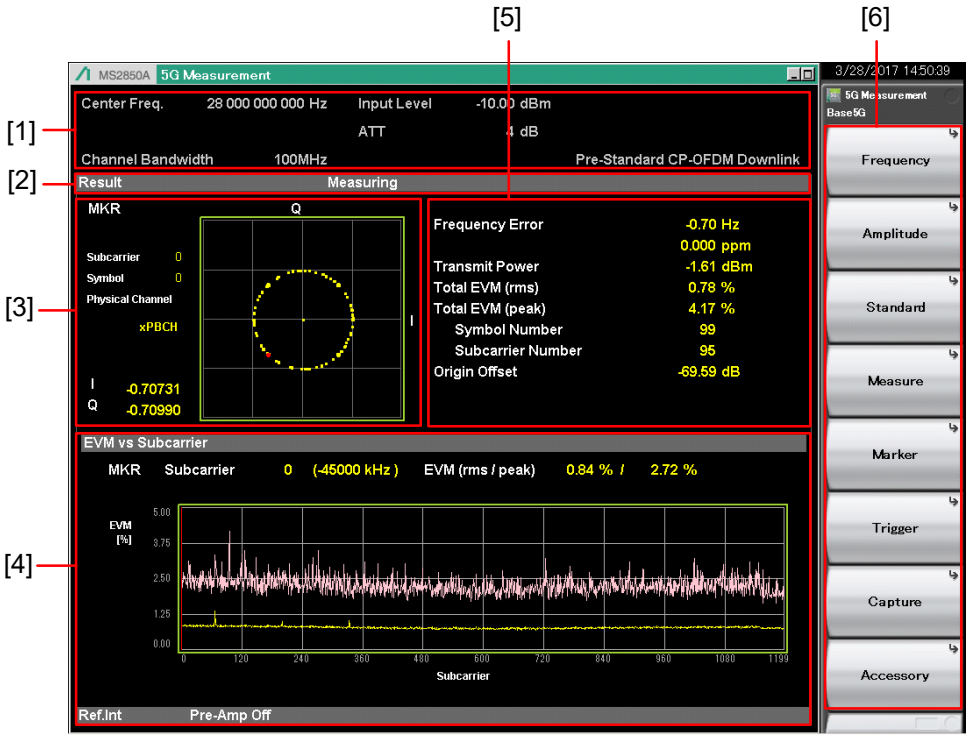


Figure 3.1.1-1 Screen Layout

[1] Measurement parameter

Displays the set parameters.

[2] Status message

Displays the status of signals.

[3] Constellation

Displays a constellation of the selected symbol.

[4] Graph window

Displays a graph of the measurement results.

[5] Result window

Displays measurement results.

[6] Function menu

Displays the functions executable with the function keys.

3.1.2 Performing measurement

Because MX285051A/MX269051A itself does not have measurement functions, a software option must be installed in MX285051A/MX269051A to perform measurement. For details about the measurement functions, see the operation manual for each software option.