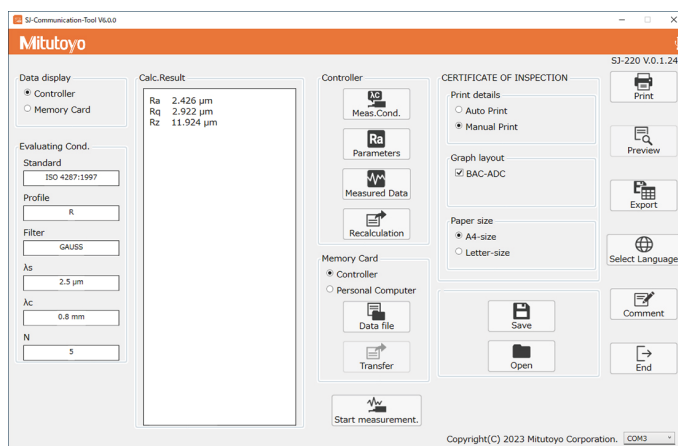# Mitutoyo

INSPECTION CERTIFICATE Production and Editing Software for Surface Roughness Tester SJ-220

SJ-Communication-Tool V6.0

User's Manual
- Instructions for use -

Read this document thoroughly before operating the product. After reading, retain it close at hand for future reference.
This English language version of the document contains the original instructions.

■ Product names and model numbers covered in this document

Product name	Model number
CERTIFICATE OF INSPECTION production and editing software for surface roughness tester SJ-220	SJ-Communication-Tool V6.0

■ Notice regarding this document

- Mitutoyo Corporation assumes no responsibilities for any damage to the product, caused by its use not conforming to the procedure described in this document.
- Upon loan or transfer of this product, be sure to attach this document to the product.
- In the event of loss or damage to this document, immediately contact the agent where you purchased the product or a Mitutoyo sales office.
- Read this document thoroughly before operating the product. In particular, be sure to fully understand "Precautions for Use" on page 6.
- The contents of this document are based on information current as of August 2023.
- No part or whole of this document may be transmitted or reproduced by any means without prior written permission of Mitutoyo Corporation.
- Some screen displays in this document may be highlighted, simplified or partially omitted for convenience of explanation. In addition, some of them may differ from actual ones to the extent that no user will misunderstand the functions and operations.
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Contents

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This EULA shall be governed by and construed in accordance with the laws of Japan, without giving effect to the principles of conflict of law. Customer agrees to submit to the exclusive jurisdiction of the district courts in Tokyo, Japan with respect to any dispute, controversy or claim arising out of or relating to this EULA and the parties respective rights and obligations hereunder. This EULA shall not be governed by the United Nations Convention on Contracts for the International Sale of Goods, the application which is expressly excluded.

If any portion hereof is found to be void or unenforceable, the remaining provisions of this EULA shall remain in full force and effect.

This EULA constitutes the entire agreement between Customer and Mitutoyo with respect to the subject matter hereof.

Customer shall indemnify, defend and hold harmless Mitutoyo, its affiliated and related companies and its suppliers from and against any and all claims and liability of any nature whatsoever arising out of or in connection with Customer's breach of this EULA.

The governing language of this EULA shall be English. English version will prevail to the extent that there is any inconsistency between English version and any version translated into another language.

About This Document

■ Positioning of this document, document map

This describes the positioning of this document and its relationship with other installments.

> **IMPORTANT**
>
> Before using SJ-Communication-Tool (referred to as "this software" in this manual), read 📖 the separate "SJ-220 User's Manual" in advance and understand how to operate the SJ-220.

● Hardware manual

Surface Roughness Measuring Instrument SURFTEST SJ-220 Instruction Manual	Explains the safety precautions, overview, components, maintenance and inspection, troubleshooting, specifications, etc. of this product that are excerpted from the User's Manual.
Surface Roughness Measuring Instrument SURFTEST SJ-220 Cases of Troubleshooting	Explains problems that are likely to occur during measurement work, from setup work to measurement data output, and the solutions to those problems.

● Software manuals

Surface Roughness Measuring Instrument SURFTEST SJ-220 User's Manual (This document)	Explains the overview, function of each part, usage, maintenance, specifications, and troubleshooting of this product.
Surface Roughness Measuring Instrument SURFTEST SJ-220 Basic Operation Guide	The contents of the explanation focus on helping you understand the basic operations of this product. Useful functions are also introduced.
Surface Roughness Measuring Instrument SURFTEST SJ-220 Surface Roughness Parameters	Explains the roughness standards and the roughness parameters.
SJ-Communication-Tool User's Manual (This document)	Explains the procedure for importing the measurement data from the SJ-220 into a PC on which this software is installed and creating an certificate of inspection.

■ Intended readers and purpose of this document

● Intended readers

This document is intended for operators of the SJ-220.
The readers are assumed to have been familiar with basic operations on a PC and Windows.

● Purpose

The purpose of this manual is to help you to understand how to use this software to create an certificate of inspection from the data of the SJ-220 and how to edit the tolerance settings of the SJ-220 on a PC.

Conventions Used in This Document

■ Safety reminder conventions warning against potential hazards

NOTICE	Indicates a situation which, if not avoided, **may result in property damage**.

■ Conventions indicating referential information or reference location

IMPORTANT	Indicates information that must be known when using the product.
Tips	Indicates further information and details relevant for the operating methods and procedures that are explained in that section.
📖	Indicates reference location if there is information that should be referred to in this document or an extraneous User's Manual. Example: For details about XX, see 📖 "1 Appellations for Each Part" on page A-5 in "Part A Overview".

■ Other conventions

( ): Round brackets	Represent a paraphrase of an immediately preceding phrase or a supplementary explanation.
" ": Double quotation marks	Represent a highlighted phrase. They also indicate an index where information to be referenced is described.
[ ]: Square brackets	Represent a menu name on the screen, screen name, dialog name, button, display item, tab name, or key on the keyboard. They also indicate an item to be purposely entered or selected by the customer.
1, **2**, **3** 1, 2, 3, ...	Indicates the order and the contents of tasks. (**1**: indicates main tasks, 1: indicates detailed tasks)
»	Indicates the action resulted from some operation(s).

Precautions for Use

■ Use and handling of this software

● Use this software only for SJ-220.

Do not use this software for measuring instruments other than this product.

● This product is for creating and editing a certificate of inspection.

Do not use this software for purposes other than the above.

■ Precautions when turning off the PC

IMPORTANT

When turnning off the PC, follow the shutdown procedures described in this manual.
Incorrect operation may damage the data of this software or the data of the SJ-220 connected.

■ Notes on backing up important data

IMPORTANT

Important data such as measurement data should be backed up regularly to recording media.

Data stored on a PC can be damaged or lost for various reasons. Please note that we are not responsible for damage or loss of measurement data for any reason.

Third party license

ComponentOne
Copyright (c) 2004 GrapeCity inc.

1　Overview

This software loads data (measurement conditions, parameter settings, calculation results, and measured data), displays them on a PC, and creates and prints a certificate of inspection. The loaded data can also be edited, transferred, and saved.

| Operation	Reference page
Switch the display language (25 languages supported).	📖 "3.1.1" (page 18)
Load and display data from the "controller (SJ-220 main unit)", "controller (memory card)", and a "PC".	📖 "3.1.2" (page 18)
Check the evaluating conditions (roughness standard, evaluation profile, filter, λs, λc, and number of sampling lengths (N)) and calculation results of the loaded data.	
Change the settings (measurement conditions and parameters) of the controller on the PC screen. Measurement conditions: 　Roughness standard, evaluation profile, filter, λs, λc, measuring speed (M-Speed), number of sampling lengths (N), pre-travel/post-travel (Pre/Post) ON/OFF, measurement range, etc.	📖 "3.2" (page 27)
Parameters: 　Judgment rules, parameter settings, tolerance judgment (ON/OFF, upper/lower tolerance values)	📖 "3.3" (page 28)
Recalculate the calculation results with the changed measurement conditions and parameters.	
Transfer the changed measurement conditions and parameters to the controller to overwrite the settings of the controller.	
Set the conditions for printing a certificate of inspection.	📖 "3.1.3" (page 21)
Display the preview of the print image to confirm the content to print.	📖 "3.1.4" (pages 22 and 23)
Add "comments" or attach an arbitrary header image to the certificate of inspection.	
Save the loaded data in CSV or PDF format.	📖 "3.1.5" (page 25)
Load data or save the loaded data to the PC.	📖 "3.1.6" (page 26)
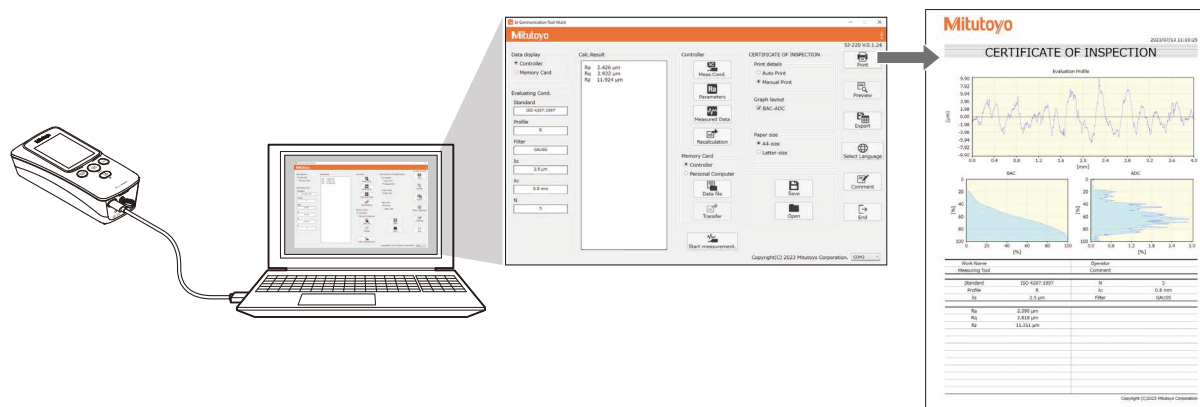
● How to connect to PC

Simply connect the PC on which the software is installed to SJ-220 via a USB 2.0 cable or wireless communication unit (Bluetooth®) and start the software to connect it to SJ-220.
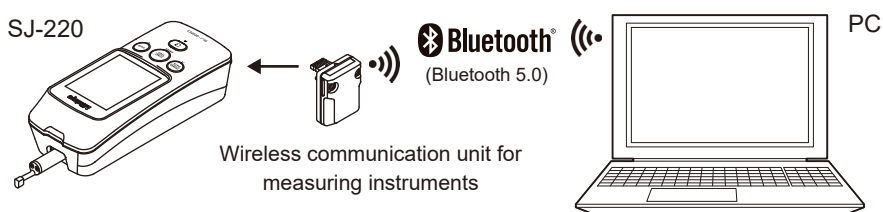
For details, see 📖 (page 10).

> **IMPORTANT**
>
> • The following USB 2.0 cable* or a wireless communication unit is required to connect SJ-220 to a PC.
>   * Type A - type C USB 2.0 cable: Type A (PC side), type C (SJ-220 side)
>
> • To connect to a PC via a wireless communication unit (Bluetooth)
>
>   - The PC must compatible with Bluetooth 5.0.
>
>   - Before starting the software, pair the wireless communication unit on the PC side.
>
>   - Only one wireless communication unit can be paired with a PC. Do not pair with multiple units.
>
> • When connecting one SJ-220 unit to a PC, use either a USB 2.0 cable or a wireless communication unit.

• Connection via a USB 2.0 cable
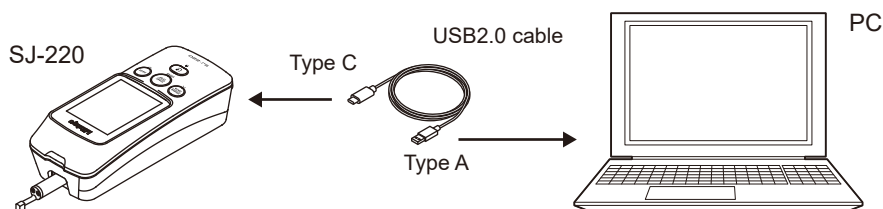
• Connection via a wireless communication unit

To purchase our optional USB cable (Part No. 12BAS451) and wireless communication unit, please contact a Mitutoyo sales office.

For details, see 📖 the SJ-220 User's Manual.

2 Setup

This chapter describes the procedures from downloading the software to connecting it to SJ-220.

2.1 Software Download

This section describes how to download the software.

The specifications required for a PC to run the software are as follows.

| Operating system	Windows 10 (64 bit) or Windows 11 (64 bit) compatible with Bluetooth 5.0
Display	Resolution of 1,280 × 720 or higher (recommended)

1 **Log in to the PC with administrator privileges.**

2 **Download the software from our website.**

URL: https://www2.mitutoyo.co.jp/eng/contact/products/SJ-Communication-Tool/

» A compressed file in zip format (SJ-Communication-Tool_V6.0.0.zip) is downloaded.

3 **Unzip the downloaded SJ-Communication-Tool_V6.0.0.zip on the PC.**

This completes the download of the software.

> **Tips**
>
> If this software has already been started, the setting file "SJCommunication-Tool.sjf" exists in the "SJ_FreeSoft" folder.
>
> OS (C:)
> 7fd8b745d47452a9c12376a82a069b5a
> adobeTemp
> Apps
> DELL
> Drivers
> HR500
> Intel
> JPWCLI   SJ-Communication-Tool.sjf
> langpacks
> Mitutoyo
> Mitutoyo Surftest
> MitutoyoApp
> SJ_FreeSoft —— SJ-Communication-Tool.sjf
>
> After executing step 3, delete the setting file "SJ-Communication-Tool.sjf".
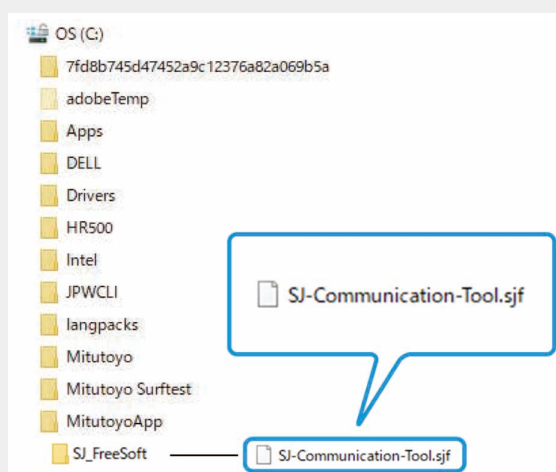
2.2 Connection to the PC

Connect SJ-220 to the PC to which the software was downloaded via a USB 2.0 cable or a wireless communication unit (Bluetooth).

To purchase our optional USB cable (Part No. 12BAS451) and wireless communication unit, please contact a Mitutoyo sales office.

For details, see 📖 the SJ-220 User's Manual.

■ Connecting via a USB 2.0 cable

1 **Turn on the PC and SJ-220.**

2 **Connect the PC to SJ-220 via the USB 2.0 cable*.**

* Connector orientation: Type A (PC side), type C (SJ-220 side)
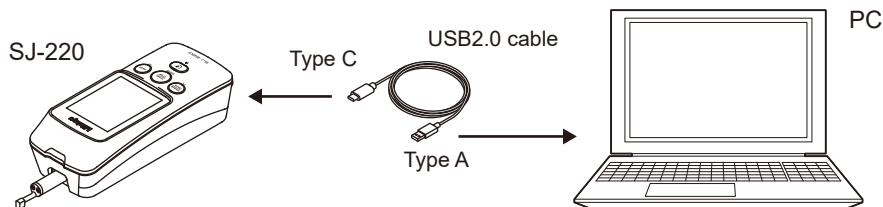
3 **Make sure Windows settings. (Administrator privileges are required.)**

1 Right-click on ⊞ (Windows Start button) in the lower left corner of the PC screen.
» A right-click menu appears.

2 Click [Device Manager] on the right-click menu.
» [Device Manager] appears.

3 Click [Ports (COM and LPT)].
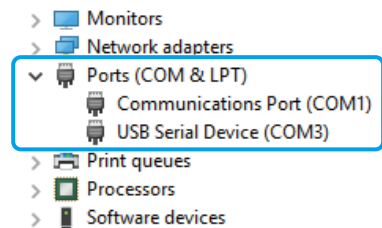
4 Unplug and re-plug the USB cable to confirm that there is a port that is shown/hidden.

When the USB cable is unplugged   When the USB cable is plugged in
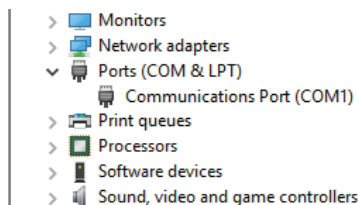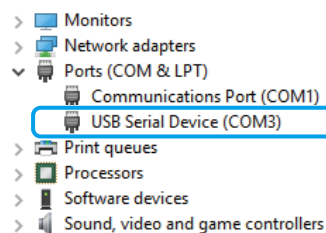
The above example shows that the "COM3" port is connected to SJ-220.

4 **Check the connection status.**

See step **3** on page 12.

■ Connecting via a wireless communication unit (Bluetooth)

SJ-220

ID No.

Bluetooth (Bluetooth 5.0)

PC

Wireless communication unit
for measuring instruments
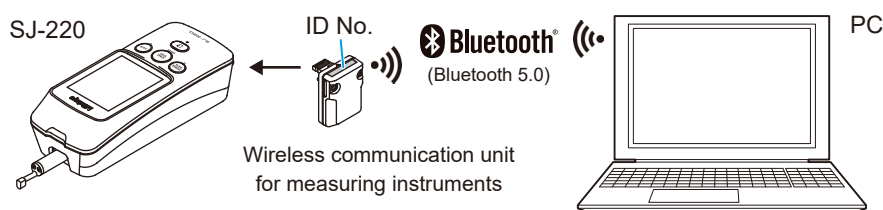
1 **Turn on the PC and SJ-220.**

Do not start the software yet.

2 **Register the wireless communication unit to the Bluetooth device of the PC.**

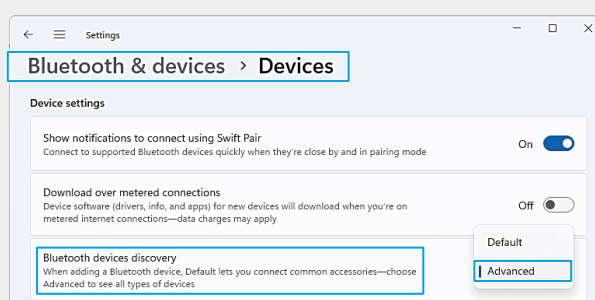**1** Click the Windows [Start] button.

2 Click the Windows [Settings] button.

» The [Settings] screen appears.

3 Select [Devices] and then > [Bluetooth & other devices].
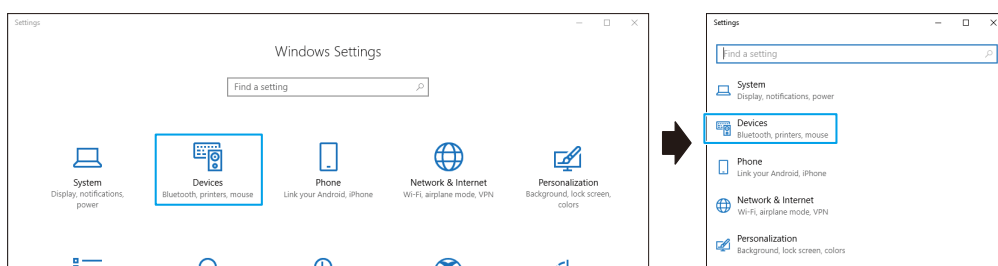
» The [Bluetooth & other devices] screen appears.

IMPORTANT

When using the Windows11, select [Bluetooth & devices] and then > [Devices] > [Bluetooth devices discovery] > [Advanced].

---

4 Confirm that the Bluetooth status is [On] and click [+ Add Bluetooth or other device] .
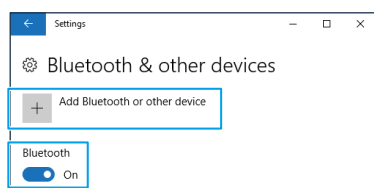
» The [Add Device] screen appears.

5 Select Bluetooth and then the wireless communication unit to be connected (e.g., SJ220-00003), enter the PIN number "193410", and click [Connect].
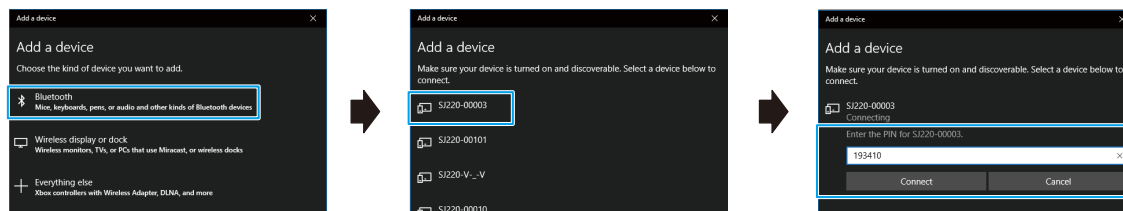
6 When the [Security] screen appears, enter the ID No. indicated on the wireless communication unit.
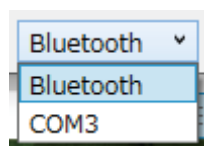

7 When "Paired" is displayed on the [Add Device] screen, click [Finish].

3 **Start the software and check the Bluetooth connection status.**

1 Check the Bluetooth connection status in [Communication Port] at the bottom of the [Home] screen.
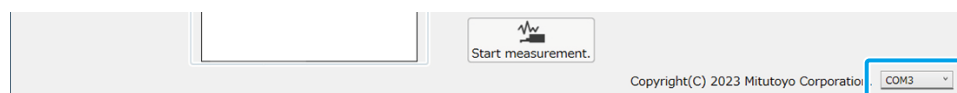
2 If the connection status shows an item other than Bluetooth, pull down the list box and select [Bluetooth].

● Connection status

COM port: If multiple COM ports are found, the first COM port found is the target of connection, regardless of whether it is used or not.

Bluetooth: Devices to be connected should be paired in advance using Windows functions.

Connection status		COM port	Bluetooth	Remarks
Connecting		COM3	Bluetooth	Red underline
Waiting for connection		---	Bluetooth	Blue underline
Connection completed		COM3	Bluetooth	Black underline
Connection interrupted	Device recognized	COM3	Bluetooth	Yellow underline
	Device not recognized			Yellow underline (no name)

<div style="background-color:#3d4db8;color:white;padding:8px">

2.3   Software Activation

</div>

Double-click the [SJ-Communication-Tool.exe] icon in the extracted folder to start the software. When the software starts up, the [Home] screen appears.

1 **Double-click the [SJ-Communication-Tool.exe] icon in the extracted folder to start the software**

》   The [Home] screen appears.
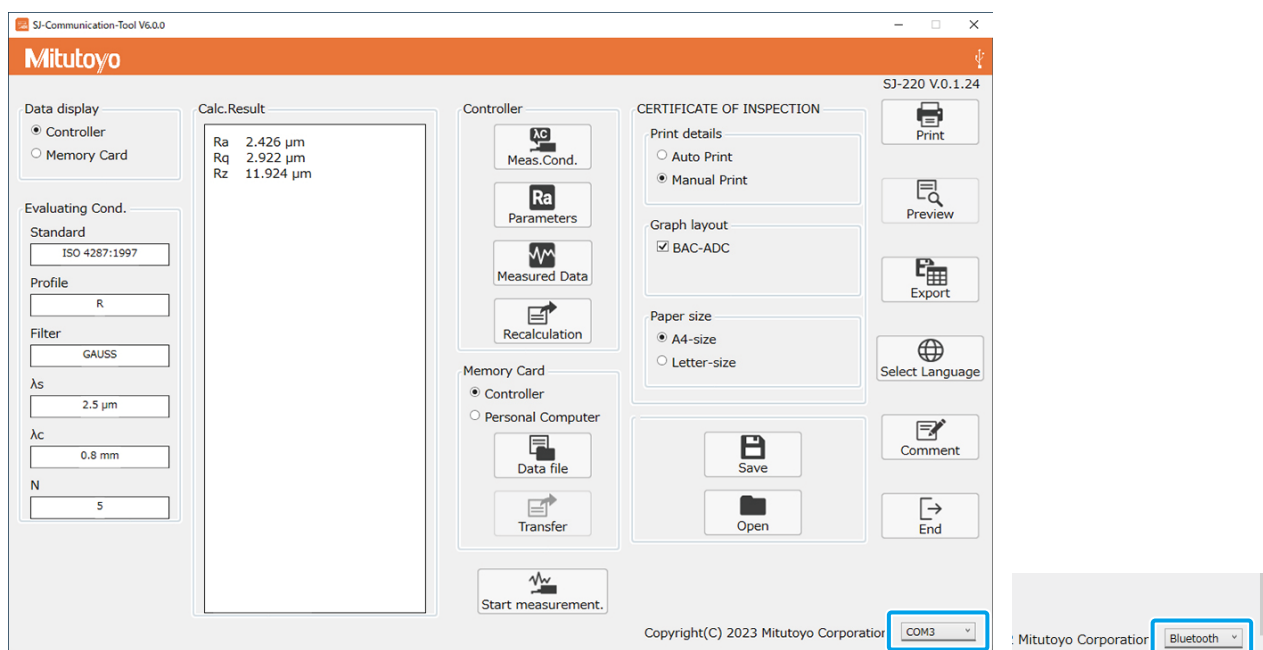
Indication when connection is complete: For USB 2.0   For Bluetooth

---

IMPORTANT

- If the connection completion status is not indicated, the USB 2.0 cable or Bluetooth may not be properly connected.

  See 📖 "2.2 Connection to the PC" (page 10) and check if the connection is made properly.

- When the software is started for the first time, the display language follows the locale setting of the PC. Change the display language to the desired one.

  For details, see 📖 "3.1.1 Selecting a Display Language (25 languages)" (page 18).

2.4 Termination

This section describes how to terminate the software.

1 **Click [End] on the [Home] screen.**
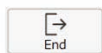
» The software terminates.

3 Operation Method

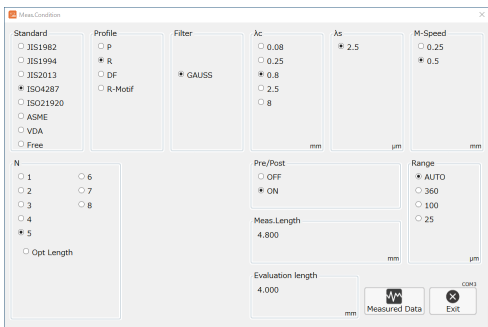The software consists of three screens.

[Home] screen
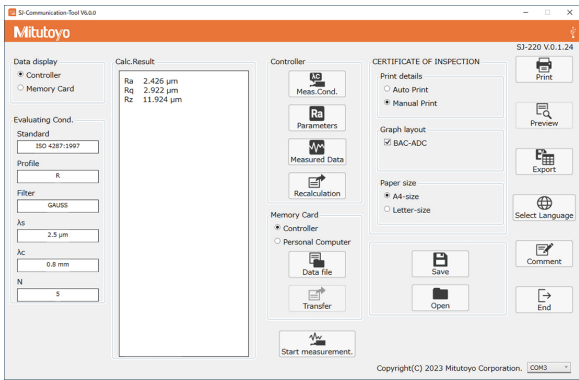
This screen is displayed first after the software is started.

The evaluating conditions and calculation results of the data in the controller or memory card are displayed according to the [Data display] setting.
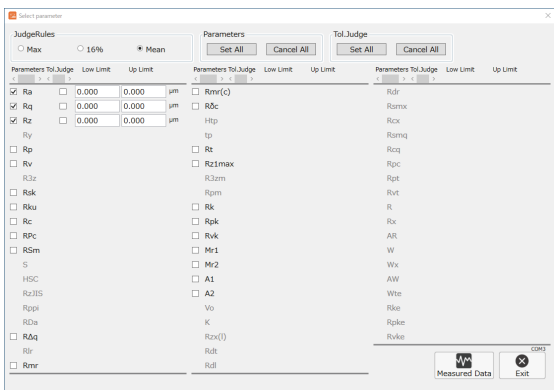
For details, see 📖 "3.1 Operation Method:[Home] Screen" (page 16).

[Meas.Cond.] screen

The contents of measurement condition settings for the data displayed on the [Home] screen are displayed.

For details, see 📖 "3.2 Checking and Changing [Meas.Cond.]" (page 27).

[Select Parameter] screen

The contents of parameter settings for the data displayed on the [Home] screen are displayed.

For details, see 📖 "3.3 [Select Parameter] Screen" (page 28).

3.1 Operation Method:[Home] Screen

The [Home] screen is displayed first after the software is started.

The evaluating conditions (roughness standard, evaluation profile, filter, λs, λc, and number of sampling lengths (N)) and calculation results of the controller (SJ-220 main unit) are automatically loaded and displayed.

The display content can be changed to show the data of the controller (memory card) or PC.
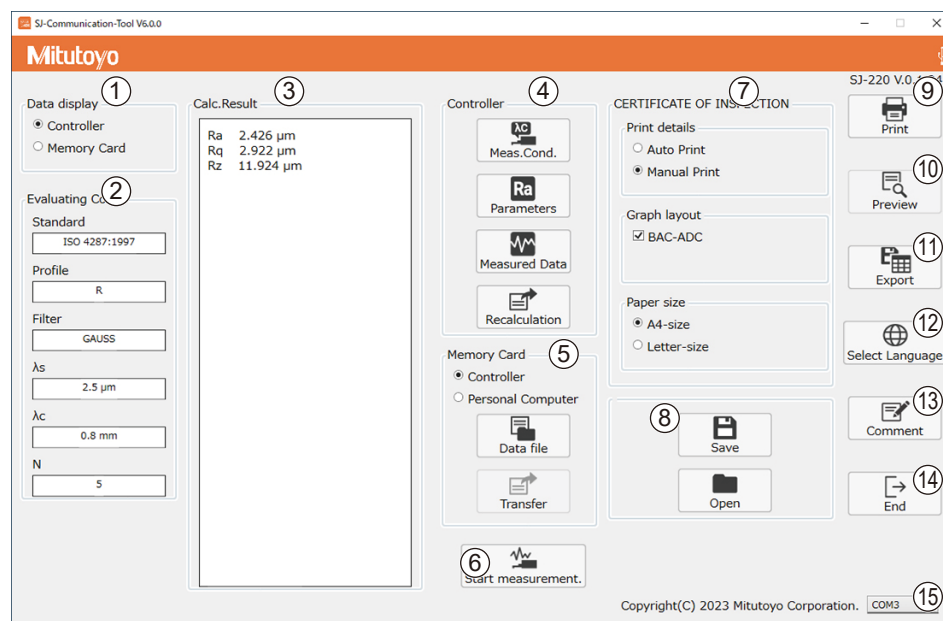
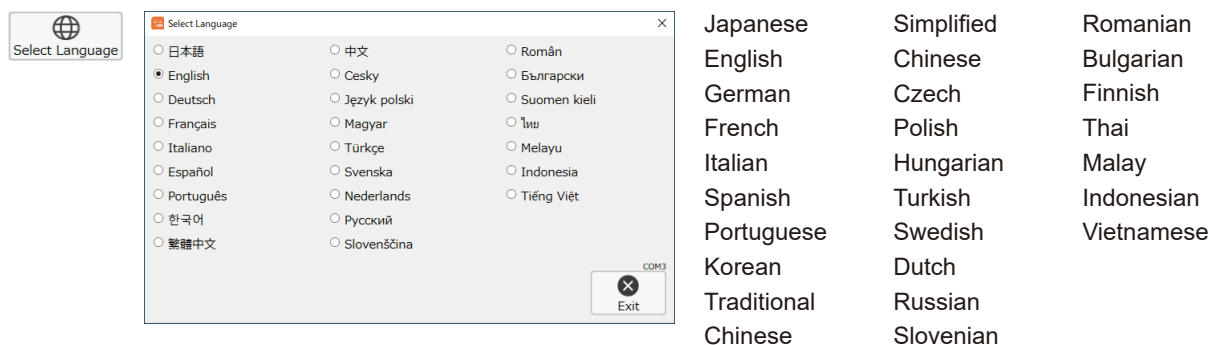| No.	Name		Description
①	Data display		Switch the loaded data to be displayed on the [Home] screen.
		[Controller]	Display the data loaded from the controller (SJ-220 main unit).
		[MemoryCard]	Display the data loaded from the memory card.
②	Evaluating Cond.		Display the evaluating conditions of the loaded data**. For details, see 📖 "3.1.2" (page 18).
③	Calc.Result		Display the calculation results of the loaded data**. For details, see 📖 "3.1.2" (page 18).
④	Controller		
		[Meas.Cond.]	Open the [Meas.Cond.] screen to display the contents of the controller settings.
		[Parameters]	Open the [Select parameter] screen to display the contents of the Controller settings.
		[Measured data]	Load data from the controller (SJ-220 main unit) and update the [Home] screen.
		[Recalculation]	Perform recalculation in the controller.

No.	Name		Description
⑤	MemoryCard		Set the data load destination. (When [MemoryCard] is selected in ①) For details, see 📖 "3.1.2" (page 18).
		[Controller]	Set the data load destination to the memory card of the controller (SJ-220 main unit).
		[Personal Computer]	Set the data load destination to the memory card of the PC.
		[Data file]	Set the data file to be loaded.
		[Transfer]	Transfer the contents of measurement condition/parameter settings on the [Home] screen to the controller. Click [Recalculation] to perform recalculation.
⑥	[Start measurement.] 🛑 Stop		Start measurement with SJ-220. During the measurement, the button shown on the left is displayed. After the measurement is finished, all the measured data* are automatically loaded. If [Auto Print] is selected, a certificate of inspection will be printed.
⑦	CERTIFICATE OF INSPECTION		Set the conditions for printing a certificate of inspection. For details, see 📖 "3.1.3" (page 21).
		Print details	Sets auto print/manual print (printing method).
		Graph layout	Set whether to display BAC-ADC profiles and to expand the evaluation profile.
		Paper size	Adjust the layout to fit the paper size (A4-size/letter-size).
⑧	Archive		Save/load the data.
		[Save]	Save the data* to a PC.
		[Open]	Loads the data* from a PC.
⑨	[Print]		Print a certificate of inspection.
⑩	[Preview]		Preview the print image of a certificate of inspection. For details, see 📖 "3.1.4" (page 22).
⑪	[Export]		Export the data on a certificate of inspection. For details, see 📖 "3.1.5" (page 25).
⑫	[Select Language]		Set the display language of the application. The display language will follow the locale setting of the PC when the software is first started. For details, see 📖 "3.1.1" (page 18).
⑬	[Comment]		Set comments on a certificate of inspection to be created. For details, see 📖 "3.1.4" (page 22).
⑭	[End]		End the application.
⑮	[Communication Port]		Set the communication port. For details, see 📖 "2.2" (page 10).

* Measurement conditions, parameters, calculation results, and measured data

** They will be displayed in black for [Controller] and in blue for [MemoryCard].

3.1.1   Selecting a Display Language (25 languages)

1 **Click [Select Language] (⑫) on the [Home] screen and select a display language on the [Select Language] screen.**

Japanese	Simplified	Romanian
English	Chinese	Bulgarian
German	Czech	Finnish
French	Polish	Thai
Italian	Hungarian	Malay
Spanish	Turkish	Indonesian
Portuguese	Swedish	Vietnamese
Korean	Dutch	
Traditional	Russian	
Chinese	Slovenian	

2 **After selecting the display language, click [Exit] to exit the screen.**

3.1.2   Data Loading and Screen Display

When the software is started, data is automatically loaded from the controller (SJ-220) to the PC and displayed on the [Home] screen. Data loaded from the controller (SJ-220) and data loaded from the memory card can be switched for display.
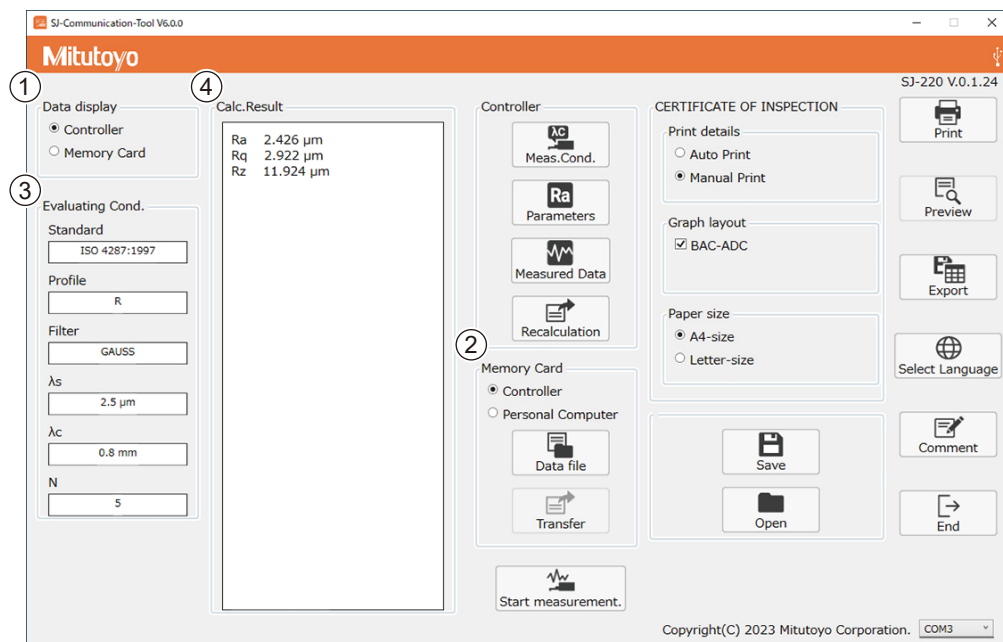
■ Display example

	Load destination: Controller (SJ-220 main unit) Character color: Black		Load destination: Memory card Character color: Blue

Evaluating conditions	Calculation results	Evaluating conditions	Calculation results
Evaluating Cond. Standard ISO 4287:1997 Profile R Filter GAUSS λs 2.5 µm λc 0.8 mm N 5	Calc.Result Ra 2.390 µm Rq 2.818 µm Rz 11.311 µm	Evaluating Cond. Standard ISO 4287:1997 Profile R Filter GAUSS λs 2.5 µm λc 0.8 mm N 5	Calc.Result Ra 2.390 µm Rq 2.818 µm Rz 11.311 µm

■ Loading data from the controller (SJ-220 main unit)

1 **Select [Controller] in the [Data display] section (①).**

The [MemoryCard] section (②) can be set to either [Controller] or [Personal Computer].

» Data is automatically loaded from the controller (SJ-220) into the PC and displayed in black on the [Home] screen.

■ Loading data from the memory card of the controller (SJ-220)

1 **Select [MemoryCard] in the [Data display] section (①) and [Controller] in the [MemoryCard] section (②).**

2 **Click [Data file] in the [MemoryCard] section (②).**

» The [MemoryCard] screen is displayed.

3 **Select the text file to be loaded and click [Read] .**

» Data from the selected file is loaded and displayed in blue on the [Home] screen.
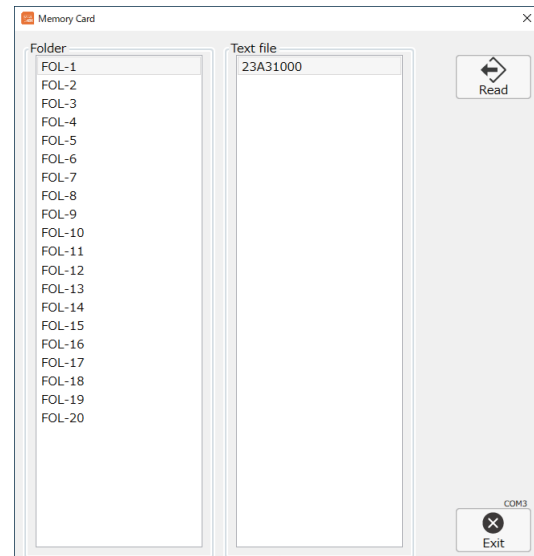
■ Loading data from the memory card in the PC

IMPORTANT

Only the memory card formatted with SJ-220 can be loaded.

Tips

It can be executed even when the controller is not connected.

1 **Select [MemoryCard] in the [Data display] section (①) and [Personal Computer] in the [MemoryCard] section (②).**

2 **Click [Data file] in the [MemoryCard] section (②).**

» The [Folder]screen is displayed.

3 **Select the [SJ-220] folder and click [OK].**

» Data from the selected file is loaded and displayed in blue on the [Home] screen.

4 **Select the text file to be read and click [CALL].**
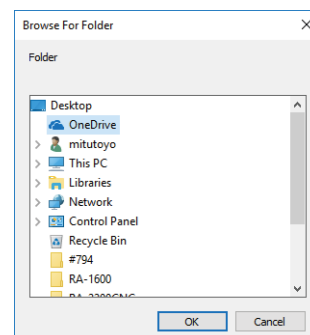
3.1.3 Setting Printing Conditions

This subsection describes how to print, display BAC-ADC graphs, and select a paper size.

1 **Select each item from the [CERTIFICATE OF INSPECTION]section of the [Home] screen.**

Print details: Auto Print/ Manual Print
Graph layout: BAC-ADC displayed/not displayed
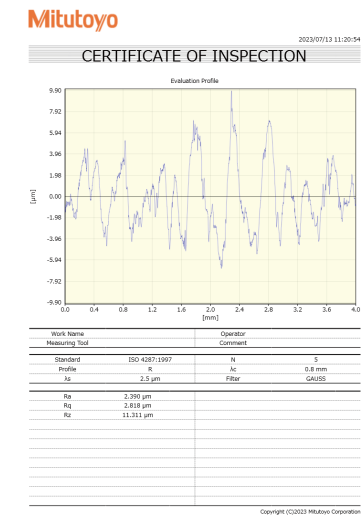Paper size: A4-size / Letter-size

● Layout samples
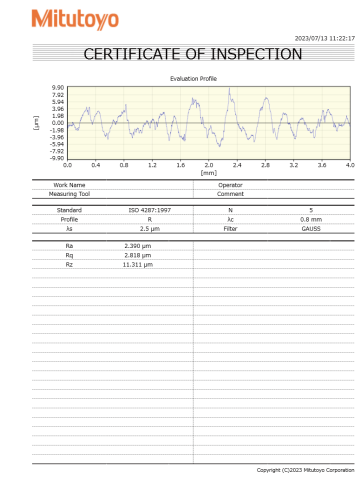
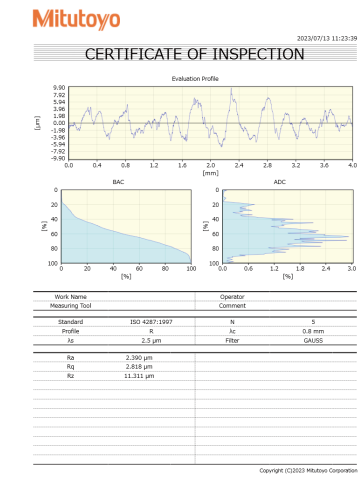BAC-ADC not displayed
A4-size
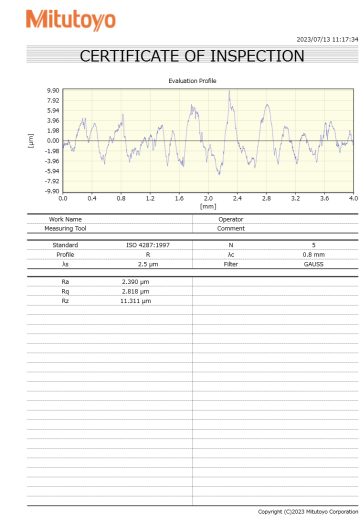
BAC-ADC displayed
A4-size
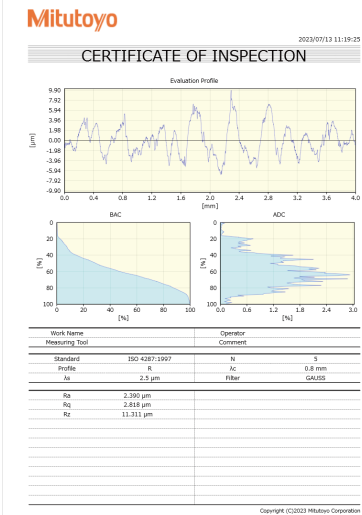
BAC-ADC not displayed, evaluation
profile expanded   A4-size

BAC-ADC not displayed
Letter-size

BAC-ADC displayed
Letter-size

BAC-ADC not displayed, evaluation
profile expanded   Letter-size
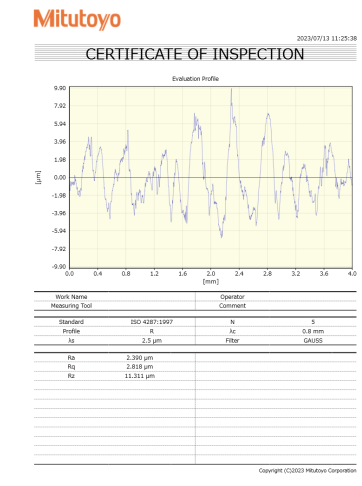
3.1.4   Previewing and Printing Print Image

This subsection describes the procedures for previewing the print image, adding comments, changing the header image data, and printing.

■ Previewing the print image

**1** **Click [Preview] on the [Home] screen to display the print preview.**
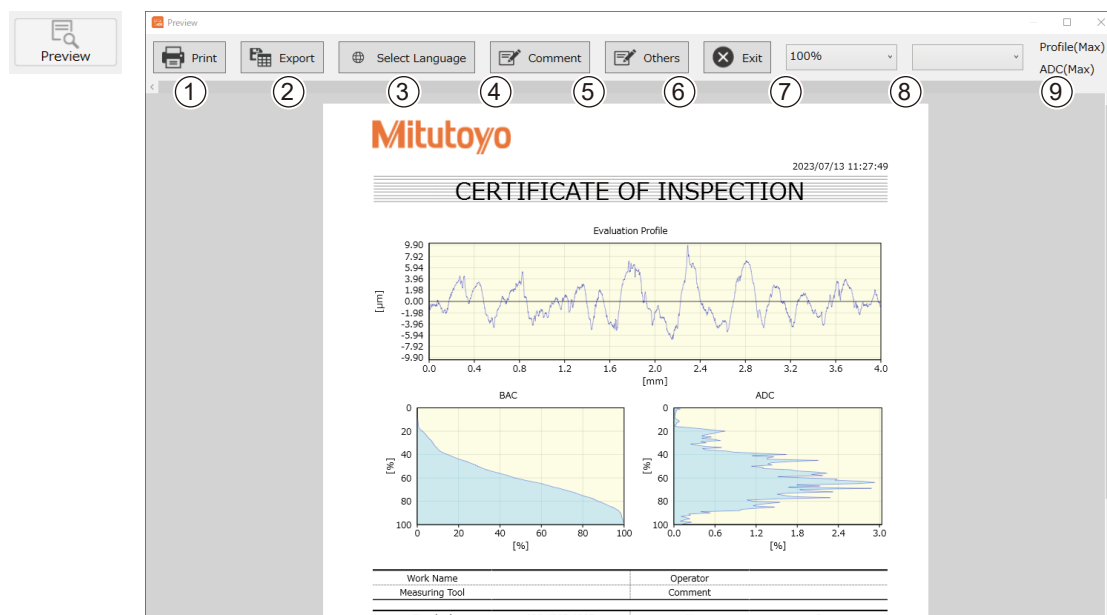
● Screen display description

| No.	Name	Description
①	Print	Print the certificate of inspection.
②	Export	Export the data on the certificate of inspection.
③	Select Language	Set the language in which the certificate of inspection is written.
④	Comment	Set the comments on the certificate of inspection.
⑤	Others	Set the header image.
⑥	Exit	Exit [Preview] .
⑦	Display Magnification	Switch the display magnification of the preview. • Fit width: Match the width of the certificate of inspection to the width of the screen. • Page Level: Display the entire certificate of inspection on the screen. • 100%: Moderate the width of the certificate of inspection to the width of the screen. • ---%: Display the certificate of inspection at any magnification other than 100%.
⑧	Printer Selection	Set the printer to be used.

| No.	Name	Description
⑨	Profile (Max)	Set the maximum value of the profile. Zero: Automatic setting (conforms to ComponentOne FlexReport specification) Non-zero: ± Maximum value in the graph
	ADC (Max)	Set the maximum value of the ADC profile. Zero: Automatic setting (conforms to ComponentOne FlexReport specification) Non-zero: ± Maximum value in the graph

■ Adding comments to the certificate of inspection
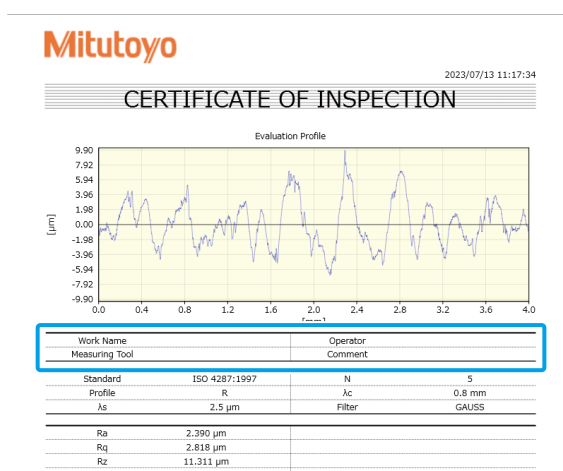
Once comments are registered, they can be added to the certificate of inspection and printed.

1 **Click [Comment] on the [Preview] screen and enter comments.**
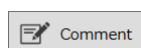
Tips

This can also be done by clicking on [Comment] on the [Home] screen.
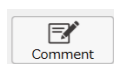
2 **After entering comments, click [Exit] to exit the screen.**

## ■ Changing the header image of the certificate of inspection
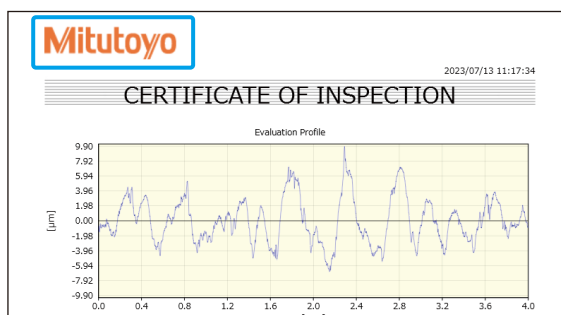
The Mitutoyo logo in the header of the certificate of inspection can be replaced with any image.

The size of the image file that can be replaced is 10435 × 700 twip. When converted to pixel units (pixel = dpi * twip / 1440), the converted value varies depending on the resolution of the image file.

・At 72 dpi resolution: 521 × 35 pixel

・At 96 dpi resolution: 695 × 46 pixel

1 Click [Others] on the [Preview] screen and select the replacement image.
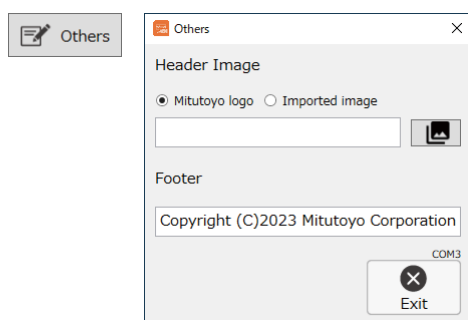
Header image

Select an image to display as the header.

・Mitutoyo logotype: Displays "Mitutoyo".
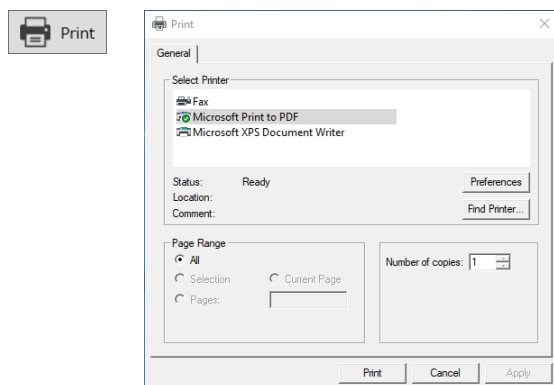
・Image read: Replaces to the image read.

Footer

Enter the text that you want to appear as the footer.

2 After selecting an image, click [Exit] to exit the screen.

■ Printing

1 Click [Print] on the [Preview] screen and select the printer to be used.

Tips

This can also be done by clicking on [Print] on the [Home] screen.
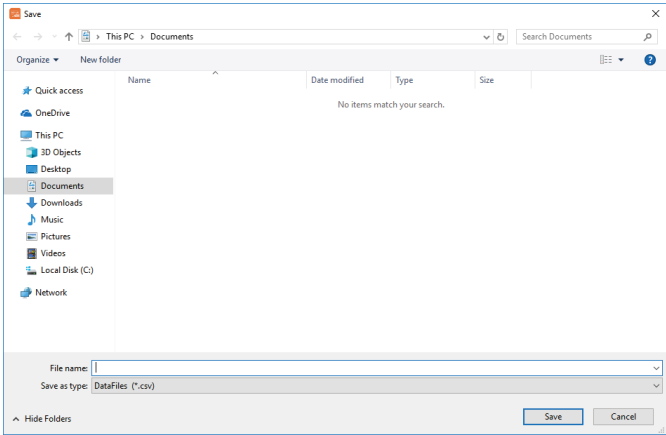

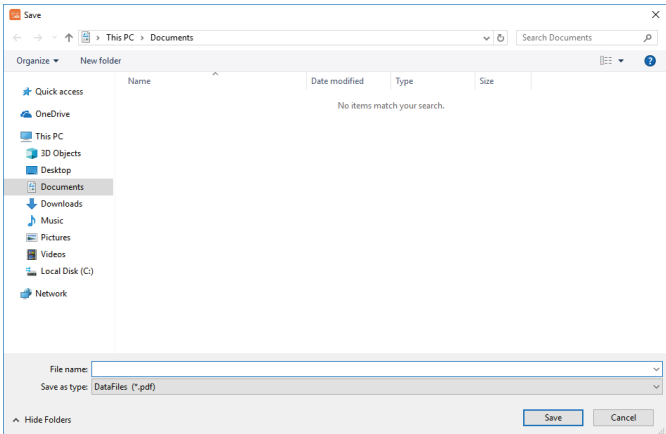**2** After selecting a printer, click [Print] to print.

3.1.5　File Output (Export)

CSV and PDF files are output separately. The names of the files to save can be set individually.

1　**Click [Export] on the [Home] screen and set the destination to save the CSV file and its name.**

Then, click [Save] or [Cancel] to switch to the screen for saving in PDF file.

Export

Saving in CSV file

Saving in PDF file

● Output example

The following example shows a comma-separated CSV file loaded into Excel.

|	A	B	C	D	E	F	G	H
1	Ra　2.390 μm	λ c 0.8 mm	0	0	0	-1.426	0	0
2	Rq　2.818 μm	N 5	0.0875	1	0.0005	-1.3523	0.0875	1
3	Rz　11.311 μm	PROF R	0.1125	2	0.001	-1.2179	0.025	2
4		FIL GAUSS	0.15	3	0.0015	-1.0575	0.0375	3
5		STD ISO 4287:1997	0.175	4	0.002	-0.9087	0.025	4
6		λ s 2.5 μm	0.1875	5	0.0025	-0.8054	0.0125	5
7		STP 0.0005	0.2125	6	0.003	-0.7701	0.025	6
8		UNT 0	0.225	7	0.0035	-0.8082	0.0125	7
9		LNG English	0.2375	8	0.004	-0.9019	0.0125	8
10			0.2625	9	0.0045	-1.0247	0.025	9
11			0.3	10	0.005	-1.1522	0.0375	10
12			0.375	11	0.0055	-1.2635	0.075	11
13			0.45	12	0.006	-1.3494	0.075	12

3.1.6　Saving and Reading Data

This subsection describes the procedure for saving data* of the controller (SJ-220 main unit) to a PC and reading the saved data.

* Measurement conditions, parameters, calculation results, and measured data

● Saving data
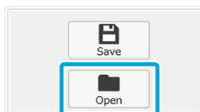
1 **Click [Save] on the [Home] screen.**
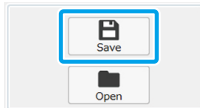
　» The [Save] screen is displayed.

2 **Specify the destination to save the file, enter the file name, and click [Save] .**

　» The file is saved.

● Reading data

1 **Click [Open] on the [Home] screen.**

　» The [Open] screen is displayed.

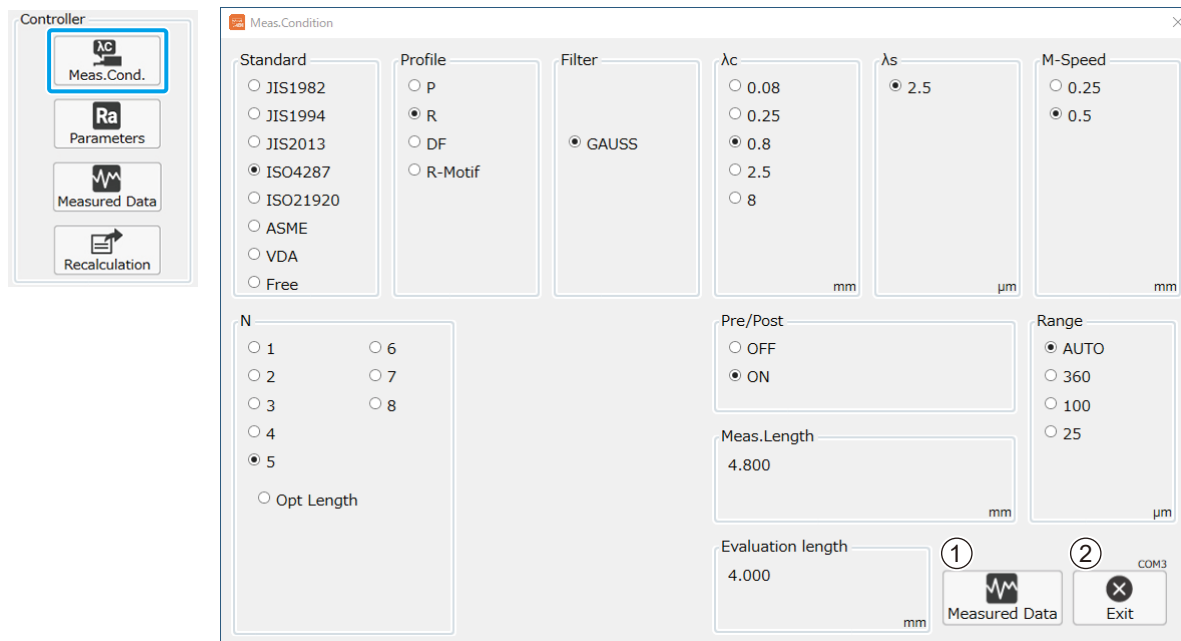**2** **Select a file and click [Open] .**

　» The file is loaded and the contents are displayed in black on the [Home]screen.

3.2   Checking and Changing [Meas.Cond.]

The measurement conditions of the loaded measured data are listed.

1 **Click [Meas.Cond.] on the [Home] screen.**

» The [Meas.Cond.] screen is displayed.

• Click [Measured data] (①) to reload the data from the controller and update the displayed contents.

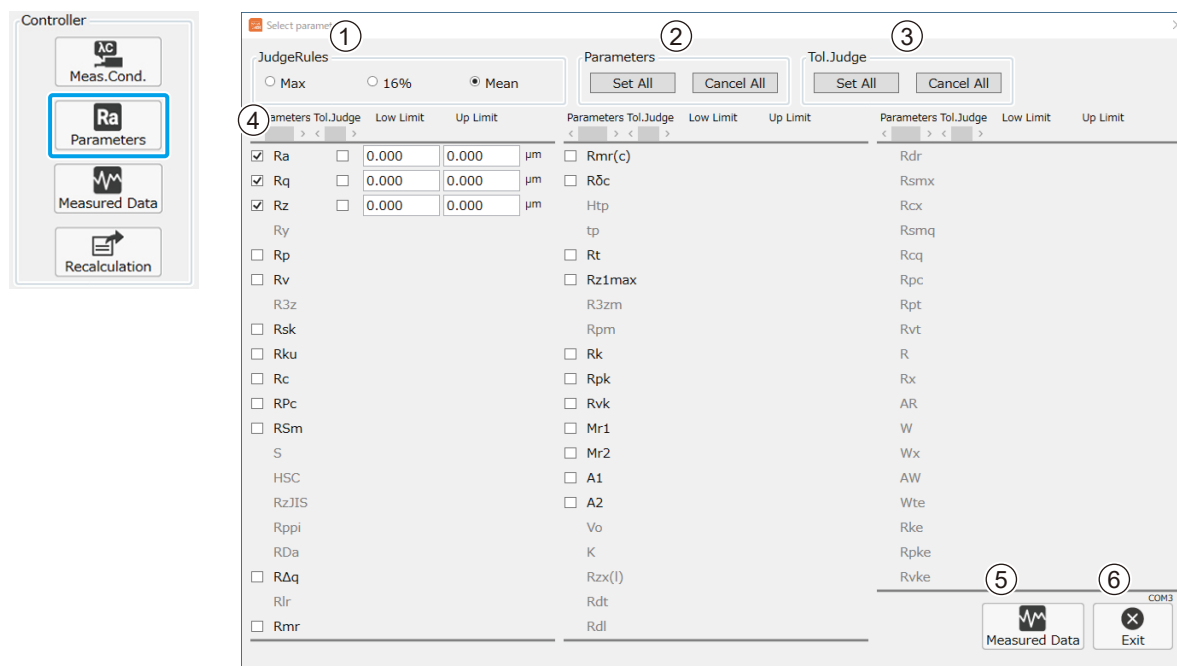**2** **Click each selection button to change the measurement conditions.**

3 **Click [Exit] (②) to exit the [Meas.Cond.] screen.**

3.3 [Select Parameter] Screen

Select the roughness parameters to analyze, set the tolerance judgment ON/OFF, and enter the upper/lower tolerance values.

1 **Click [Parameters] on the [Home] screen**

» The [Select Parameter] screen is displayed.

No.	Name	Description
①	JudgeRules	Set a tolerance judgment rule.
②	Parameters	Switch between [Set All] (select all)/[Cancel All] for [Parameters].
③	Tol.Judge	Switch between [Set All] (select all)/[Cancel All]for [Tol.Judge].
④	Current setting status	Indicates the setting status of each parameter. ・Selection/cancellation of parameters ・Selection/cancellation of tolerance judgment ・Upper limit/Lower limit for tolerance judgment It is possible to switch between selection/cancellation and enter numerical values.
⑤	Meas.data	Reload the data of the controller and update the display contents.

IMPORTANT

- Setting upper limits or lower limits to 0 (zero) turns OFF the tolerance judgement function performed based on the upper or lower tolerance values.

- Details of the parameter must be set in advance on the SJ-220 itself.
  For details, see 📖 "2.4 Calculation condition setting" of the SJ-220 User's Manual..

2 Change the parameter settings by clicking each selection button or changing numerical values.

» The changes are reflected in the [Home] screen.

3 Click [Exit](⑥) to exit the [Select Parameter] screen.

MEMO

4 Troubleshooting

If you find something wrong with the operation, read and check this chapter on troubleshooting first.

4.1 Troubleshooting

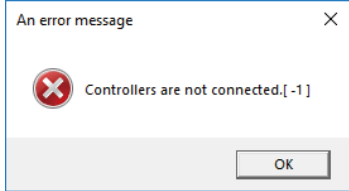If you suspect that the software is not working properly, read and check this chapter on troubleshooting first.
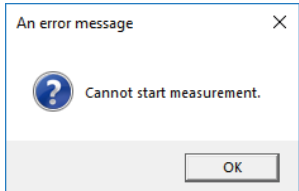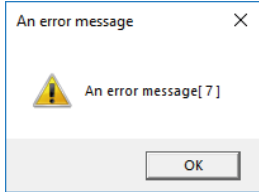
For information on how to respond to error messages that occur during operation, see 📖 "4.2 Error Messages" (page 32).

■ The software cannot be connected online.

Points to check	Cause and solution
Is the USB cable connected?	• Open the Device Manager on your PC and check whether the USB cable is properly recognized. For details on how to check, see 📖 " ■ Connecting via a USB 2.0 cable" (page 10).
Is SJ-220 set up for wireless communication?	• See "3.1 Wireless" in the "PART F Environment Settings" of the SJ-220 User's Manual. • Restart SJ-220 and then restart the software.

4

Troubleshooting

4.2 Error Messages

When an error message appears, first read and check the following error message table.

Message	Cause	Solution
The controllers is not connected. [-1] An error message ✕ ❌ Controllers are not connected.[-1] OK	• SJ-220 is turned OFF. • The USB cable is not connected. • The Bluetooth connection is not established. • The Bluetooth signal is not strong enough.	• Connect the controller to the PC. For details, see 📖 "2.2 Connection to the PC" (page 10). • For Bluetooth connection, bring the measuring instrument closer to the PC. (This problem may not be improved due to the surrounding radio wave environment).
Measurement cannot be started. An error message ✕ ❓ Cannot start measurement. OK	• The drive unit is not connected. • The detector is not connected. • The detector is has retracted. • Traverse length error	• See "PART B Setting Up" of the SJ-220 User's Manual. • Press the [START/STOP] key on the measuring instrument to return the detector. • Change the measurement conditions according to the drive unit type.
Error message [***]. An error message ✕ ⚠ An error message[7] OK	The number in [ ] corresponds to "6 Error Codes" in "PART H" of the SJ-220 User's Manual. Example in the left figure) Error message [7]: Detector over-range • Detector over-range was detected during measurement.	• See "6 Error Codes" in "PART H Specifications" of the SJ-220 User's Manual. Example in the left figure) • Correctly attach the detector to the drive unit. • If the measurement range is set to a fixed range, set the range to [AUTO].

Revision History

Date of issue	Edition number	Details of revision
August 1, 2023	First edition	Issuance

Mitutoyo Corporation