SONY

Guidelines of Polling software for FeliCa Certification

September 1, 2025

FeliCa Certification Section

Purpose

- Improvement of service to certified businesse
  - Improvement of customer service by shortening measurement time
  - When customer uses debug laboratories, Realize to reduction of measurement work and work time

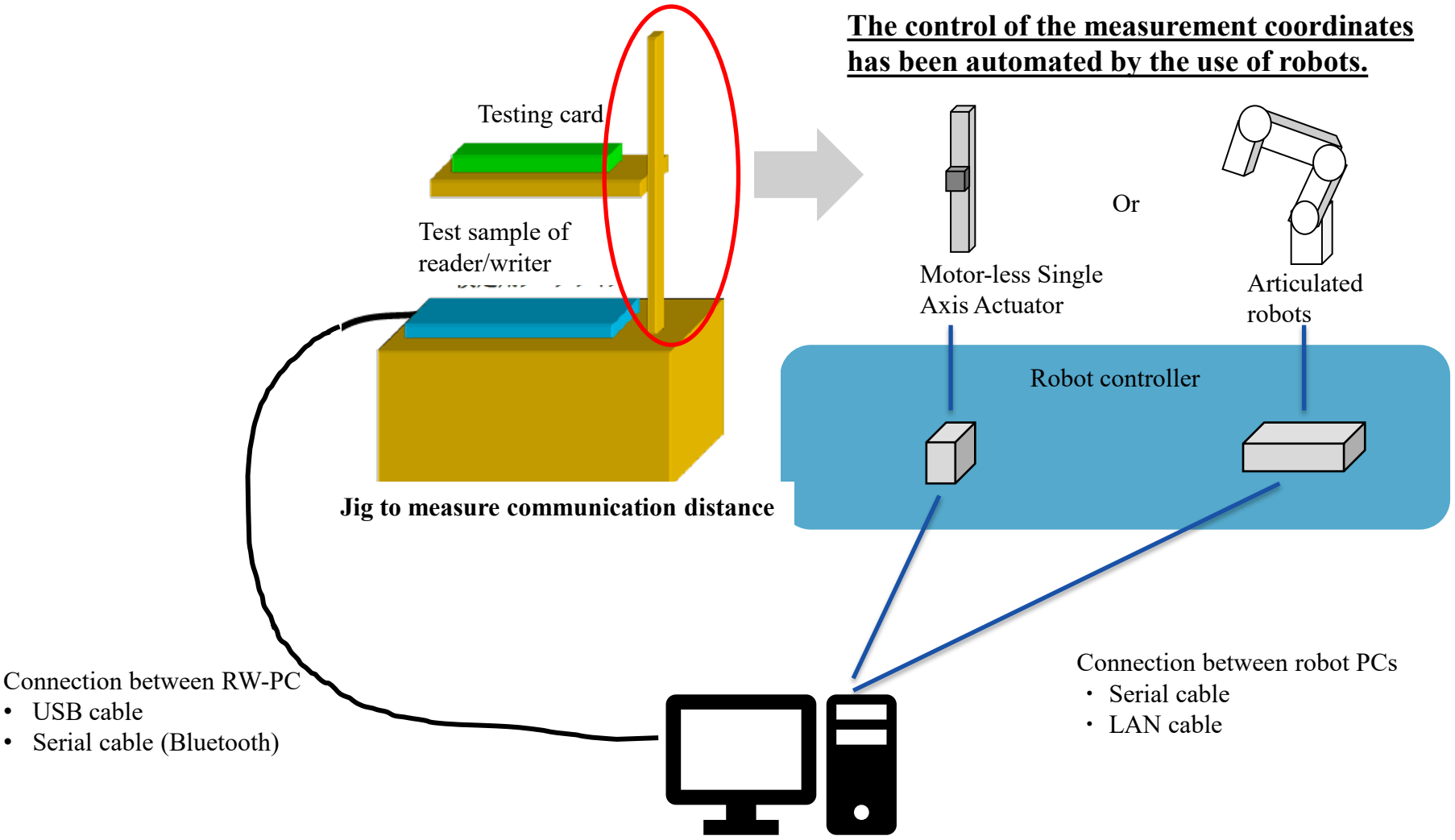
Solution

- One-stop evaluation in which robots and Reader/Writer, Abbreviation RW

Challenging

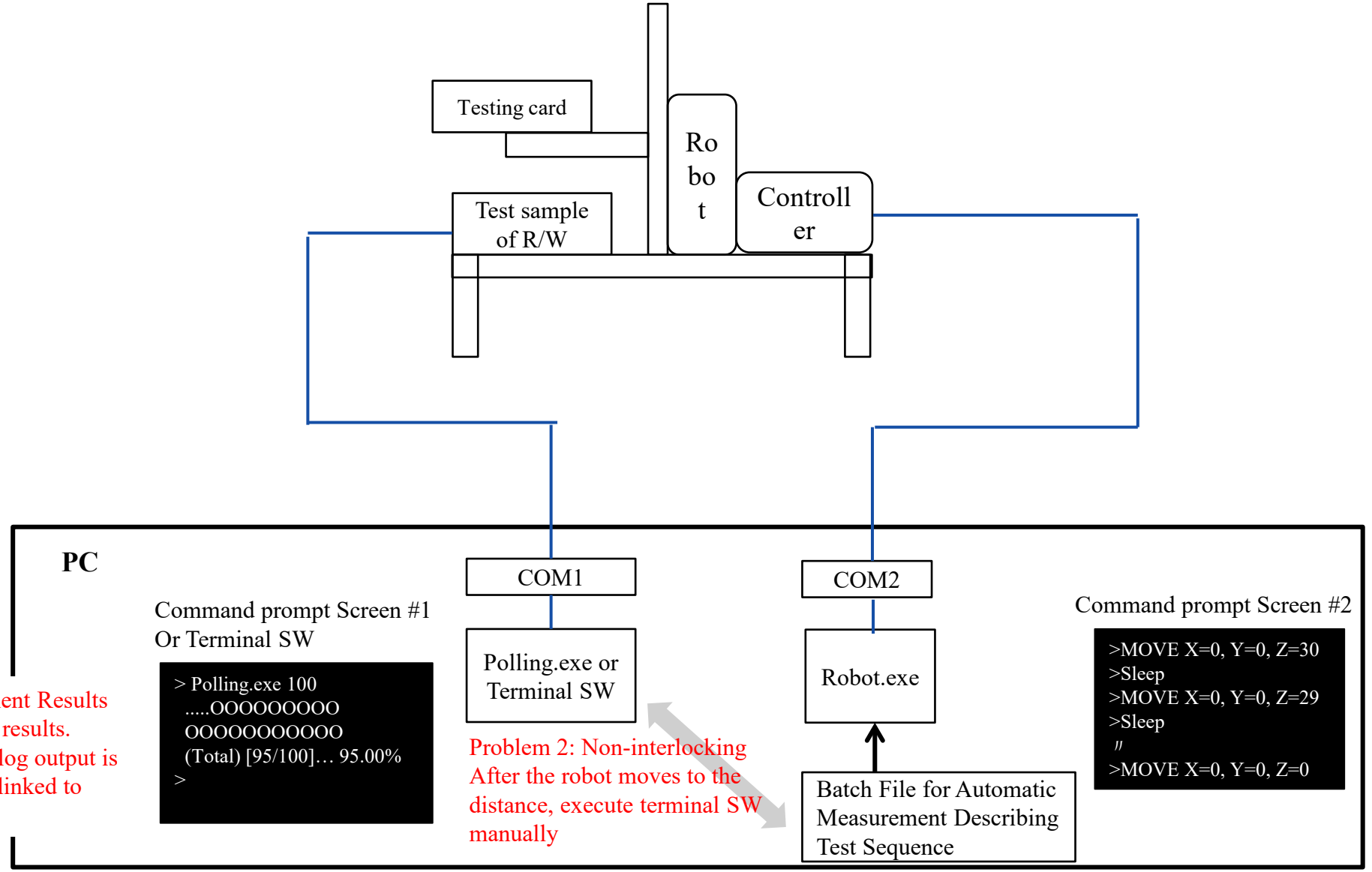
- Standardizing common commands for Input/Output interface of reader/writer Software

Current evaluation system



A Windows PC connected to a communication distance measurement tool prepared by the testing laboratory

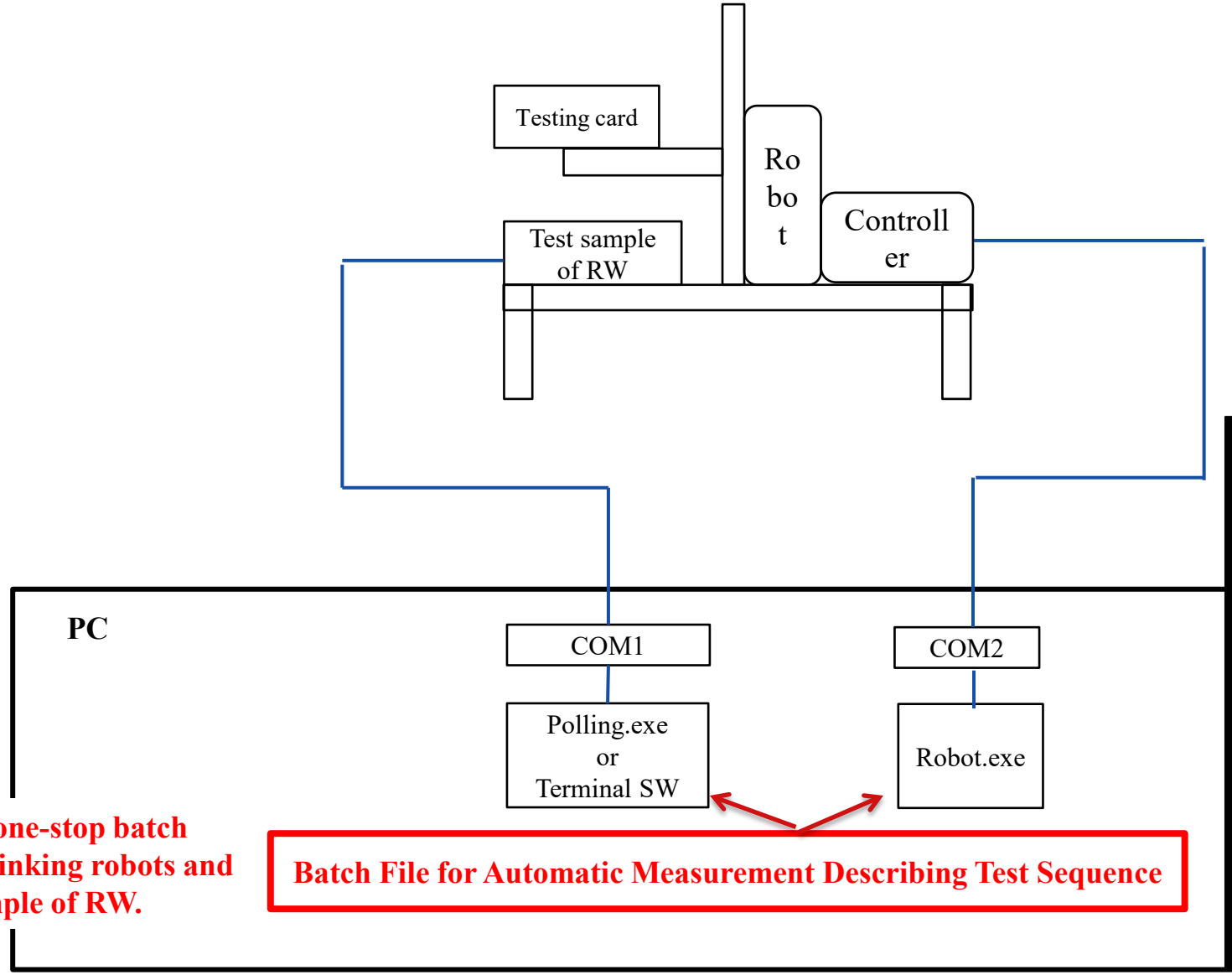
Current system configuration diagram



Problem 1: Measurement Results
Visually checking the results.
Alternatively, even if log output is possible, it cannot be linked to distance information

Problem 2: Non-interlocking
After the robot moves to the distance, execute terminal SW manually

Ideal system configuration



Command Prompt Screen #1
(Operates in One Screen)

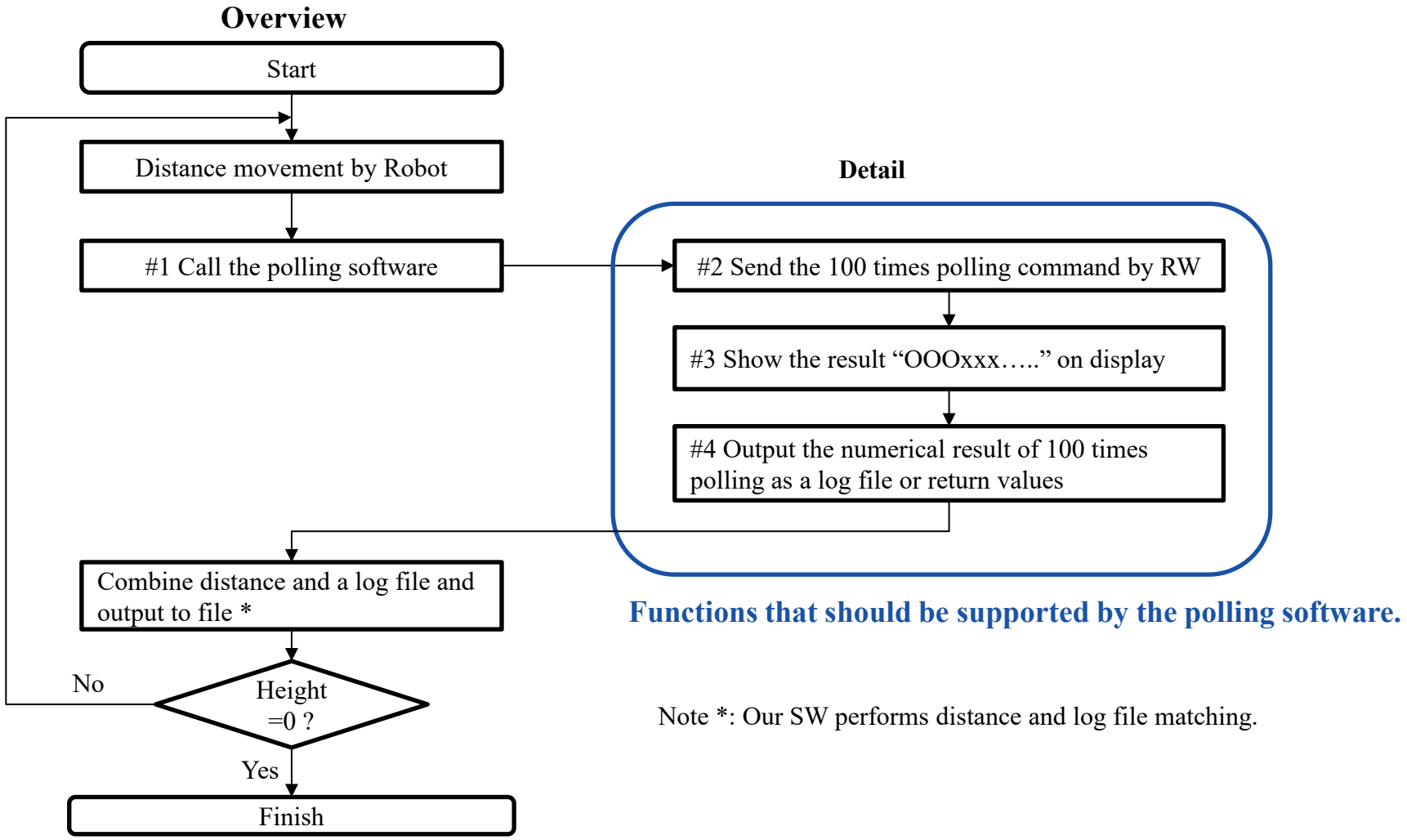
```
>MOVE X=0, Y=0, Z=30
>Polling.exe "C:/temp/Result.csv"
  .....OOOOOOOOO
  OOOOOOOOOOO
 (Total) [95/100]… 95.00%

>MOVE X=0, Y=0, Z=29
>Polling.exe "C:/temp/Result.csv"
  OOOOOOOOOOO
  OOOOOOOOOOO
  (Total) [100/100]… 100.00%
 〃
 〃
>MOVE X=0, Y=0, Z=0
>Polling.exe "C:/temp/Result.csv"
 OOOOOOOOOOO
  OOOOOOOOOOO
  (Total) [100/100]… 100.00%
```

Realize one-stop batch files by linking robots and Test sample of RW.

Batch File for Automatic Measurement Describing Test Sequence

Operation flow chart



Functions that should be supported by the polling software.

Note *: Our SW performs distance and log file matching.

Next page explains specifications of #1 to #4

Requirement

- Refer to “6.4 Communication Performance Measurement Software” in the “FeliCa Reader/Writer RF Performance Certification Measurement Specification”. The output format of the polling measurement results is important, so we will explain it in this document.

6.4.2. Requirements: Software Formats

- A software format that allows changing the operating settings by arguments at the command prompt screen. And it shall be possible to be called and executed from a batch file, etc. However, it is also acceptable to execute the terminal software with macros on the command line.
- If the serial port is used to communicate with the test sample, the COM port number shall be specified by the argument.
  EXAMPLE (if COM5 is specified): polling.exe c COM5
- **The following information shall be returned as a software return value.**

Return value (decimal display)	Content
0-100	Polling command success rate (%)
-1	Abnormal termination of software

However, instead of the software return value, it is also acceptable to specify a log file as an argument of the communication performance measurement software and output the measurement result in CSV, text format, or the like.

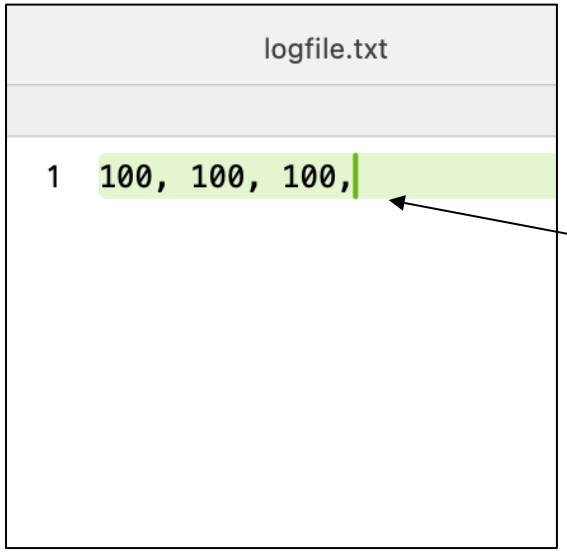
EXAMPLE (When specifying a log file as an argument and returning the value): polling.exe f "C:/ temp/Result.csv"]

Requirement

- If you want to output the measurement results to a log file, please meet all of the following requirements.

Our requirement

- Write **“Success rate, Success count, Total sent”** per line
- There is no need to write “o” or “x” notation in the log file.
- The contents of the log file are overwritten every 100 times polling command. When you open the log file, only the results of the last 100 times polling command are recorded.



The batch file created by the testing laboratory uses this log file and adds distance information to the same line.
Therefore, in the polling software created by the test-taking company, please insert a comma after the total sent and do not add the line break code CRLF.

Specification of #1 to #4

#1. Startup/Call

<All items required>

1. Windows PC connected the communication distance measurement jig can call batch file on a command prompt screen, and control can be returned to the called batch file after the operation is completed.
2. If serial communication is used, the serial port must be specifiable as an parameter when calling from a BAT file. (Argument for direct specification in bat file: c COM1)
3. Unnecessary arguments can be ignored even if unnecessary arguments are set at the time of invocation.

Note:

Even when the operation is realized through communication control software TeraTerm (TeraTerm macro) etc., all of the requirements in the preceding paragraph must be satisfied. (for example, to create a batch file that invokes a Tera Term macro.)

The testing laboratory can perform any settings of the test sample before starting the measurement. However, the polling command must be sent and terminated only by the control from the PC without touching RW screen while the communication distance is being measured.

Specification of #1 to #4

#2. Polling command-execution-condition [6.4.3] in the “FeliCa Reader/Writer RF Performance Certification Specification”

<All items required>

1. Parameter condition
   System Code: FFFFh, Timeout Time: 200[msec], Time-slot: 00h
2. Number of runs
   Polling must be executed 100 times consecutively within 25 seconds.
3. Criteria of judgment
   1. Success: The RW test sample can receive Polling normal response packets (including response code and IDm, PMm) within the timeout period for one Polling command transmission.
   2. Failed: The RW test sample for one Polling command transmission is not responding within the timeout period or Polling normal response packet cannot be received.

Specification of #1 to #4

#3 Screen display [6.4.4] [6.4.5] in the “FeliCa Reader/Writer RF Performance Certification Specification”

<All items required>

1. Screen display of success failure result
2. Count and display of number of consecutive executions/number of successes
3. Totaling the correct answer rate and displaying it on the screen

Note:

The results must be displayed on the screen so that the status can be visually confirmed. The results can be displayed on the command prompt screen on the PC or on the reader/writer screen. If the screen display is on the reader/writer, the return values and logs must be saved on the PC.

It is also desirable to be able to check the results in real time during measurement.

#4 Measurement results

<Corresponding to any of the following items>

1. Returns the measured result as a return value (correct answer rate for Polling command sent 100times. Display format is 0 to 100. Abnormal termination of software outputs -1).
2. The software should be able to output measurement results to a log file in text format (e.g., csv file). It is desirable for the caller to be able to specify the output file name of the log output as an argument. To reduce the time and effort required to modify the one-stop batch files, we strongly request that the argument be "f filename" like "polling.exe f data.csv". Also, please describe the type and format of output data in the operation manual. Please refer to page 10.

Example 1: Batch file sample with log file

Batch files created by the testing laboratory

```
@echo off
set dist=30

:loop
robot.exe c/com5 /d:%dist%
call polling.exe c com1 f  result.csv
echo %dist% >> result.csv
set /a dist = %dist% -1
if %dist% GTR 0 goto loop

@echo end of batch file
```

Output Format of log in polling software created by the test-taking company

```
fprintf_s(fp,"%6.2lf%%,  %4d,  %4d,",  success_rate,
success_count, total_sent);
```

Example 2: Batch file sample with return values

Batch files created by the testing laborator

```
@echo off
set dist=30

:loop
robot.exe c/com5 /d:%dist%
call polling.exe c com1
echo %errorlevel%%%, (100- %errorlevel%), 100, %dist% >> result.csv

set /a dist = %dist% -1
if %dist% GTR 0 goto loop
@echo end of batch file
```

Output Format of polling software created by the test-taking company

Return value (decimal display)	Content
0-100	Polling command success rate (%)
-1	Abnormal termination of software

Appendix

Revision History

Version	Date issued	Description of Revisions
1.0	November 01, 2022	First edition
1.1	Augst 01, 2025	- Editorial corrections - Added requirements on pages 7 and 8