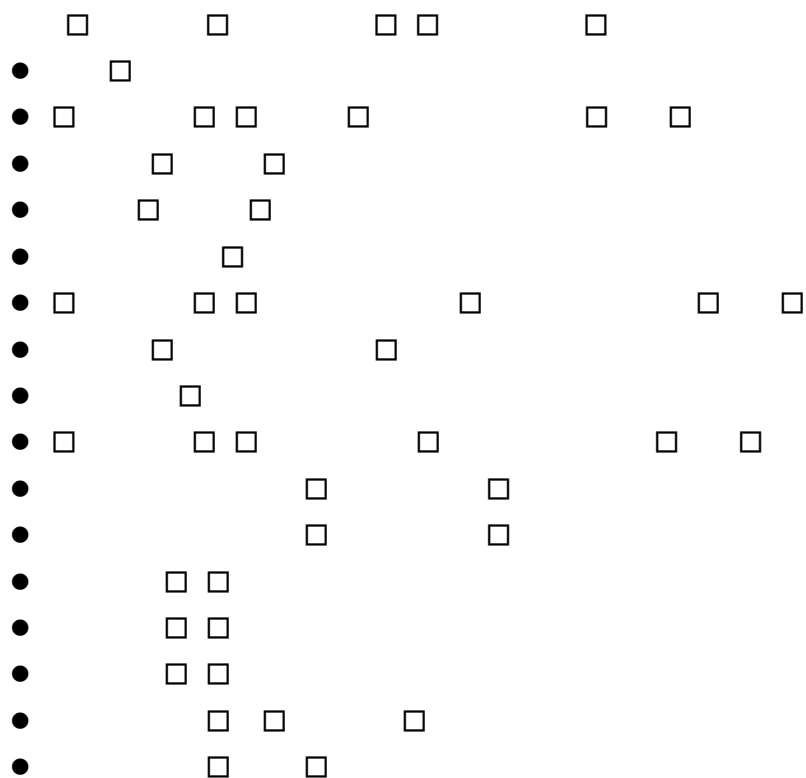


1 LCR Meter Sample Application

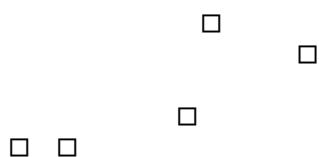
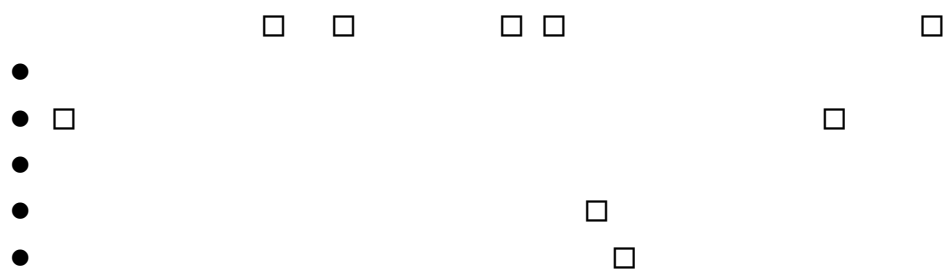
-1 Overview



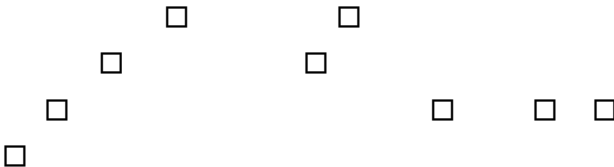
(1) Functionality



(2) Measurement methods



(3) Operating environment

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(4) Supported products

A diagram consisting of two parts. On the left, there is a vertical line of 10 solid black dots. On the right, there is a horizontal line of 3 open squares.



LCR Meter Sample Application

File Tool Help

Mode

LCR TRANSFORMER ANALYZER

Interface

☐ RS-232C
Port COM1 Baud 9600

☐ GPIB (National Instruments GPIB-USB-HS Only)
Address 01

☐ USB
Port HIOKI USB Device (COM27)

☐ LAN
LCR IPAddress 192.168.0.1 Port 3500

Update interface status

Exit



-3 LCR mode

LCR Meter Sample Application

File Measure Command

Z **7.257945kohm**

OFF

PH **-90.000deg**

OFF

Exit LCR

Set

AC INFORMATION

FREQ	1000.00Hz	TRIG	EXTERNAL
V	1V	DCBIAS	OFF
LIMIT	OFF	SPEED	MEDIUM
RANGE	AUTO	AVG	OFF
LOW Z	OFF	DELAY	0.00000s

DC INFORMATION

V	1V	SPEED	MEDIUM
LIMIT	OFF	AVG	OFF
RANGE	AUTO	DC ADJ	OFF
LOW Z	OFF	DELAY	0.00030s

TRIG

(1) LCR settings

LCR Meter Sample Application

File Measure Command

Z **7.257945kohm**

OFF

PH **-90.000deg**

Exit LCR

Set

Set LCR

AC SET

FREQ	1000.00	Hz	TRIG	EXTERNAL
LEVEL	V	1	V	DCBIAS
LIMIT	OFF	0.1	A	OFF
RANGE	AUTO	10kohm	SPEED	MEDIUM
LOW Z	OFF	AVG	1	DELAY
				0.00000 s

DC SET

LEVEL	V	1	V	SPEED	MEDIUM
LIMIT	OFF	0.1	A	AVG	1
RANGE	AUTO	300ohm	DC ADJ	OFF	DELAY
LOW Z	OFF			0.00030	s

OK Cancel

(2) Frequency, voltage, and current characteristics measurement





MODEL, IM3570

Ver, V3. 11

DATE, 2017-05-30

TIME, 18:31:12

AC SETTINGS

FREQ, 5000000.00, Hz

V, 1, V

LIMIT, OFF

RANGE, HOLD, 1Mohm

LOW Z, OFF

SPEED, SLOW2

AVG, OFF

DELAY, 0.00000, s

DC BIAS, OFF

Frequency(MHz), AC Status, Z, PH, AC Vmoni, AC Imoni, DC Vmoni, DC Imoni

4.00, 3, 25.29198E+09, -146.204, 1.000838E+00, 3.881721E-11, 0.000000E+00, 0.000000E+00

25004, 2, 1.033173E+09, -104.054, 1.030344E-01, 2.236199E-10, 0.000000E+00, 0.000000E+00

50004, 2, 181.9796E+06, -39.037, 5.201070E-02, 3.421480E-10, 0.000000E+00, 0.000000E+00

75004, 2, 167.5964E+06, 3.175, 3.482143E-02, 1.536798E-10, 0.000000E+00, 0.000000E+00

100000, 2, 167.1980E+06, -5.768, 2.618488E-02, 1.546787E-10, 0.000000E+00, 0.000000E+00

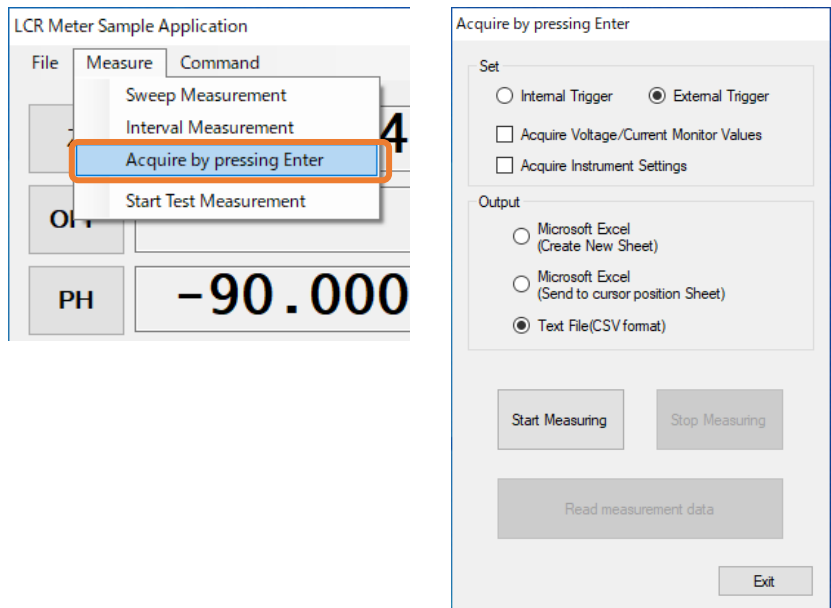
:

(4) "Acquire by pressing ENTER" measurement

□

□□

□



MODEL, IM3570

Ver, V3. 11

DATE, 2017-05-30

TIME, 18:34:20

AC SETTINGS

FREQ, 5000000. 00, Hz

V, 1, V

LIMIT, OFF

RANGE, HOLD, 1Mohm

LOW Z, OFF

SPEED, SLOW2

AVG, OFF

DELAY, 0. 00000, s

DC BIAS, OFF

DATE, TIME, AC Status, Z, PH, AC Vmoni, AC Imoni, DC Vmoni, DC Imoni

2017-05-30, 18:34:21, 0, 508. 4468E+03, 68. 327, 1. 404104E-03, 3. 629821E-10, 0. 000000E+00, 0. 000000E+00

2017-05-30, 18:34:22, 0, 547. 1544E+03, 68. 523, 1. 403642E-03, 1. 933452E-10, 0. 000000E+00, 0. 000000E+00

2017-05-30, 18:34:22, 0, 522. 5415E+03, 68. 767, 1. 403694E-03, 3. 009092E-10, 0. 000000E+00, 0. 000000E+00

2017-05-30, 18:34:22, 0, 523. 5633E+03, 67. 072, 1. 403521E-03, 2. 845311E-10, 0. 000000E+00, 0. 000000E+00

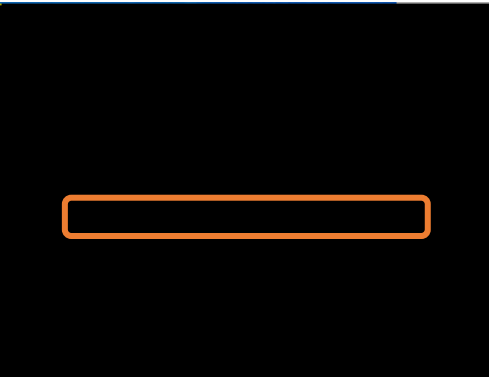
2017-05-30, 18:34:22, 0, 514. 7413E+03, 68. 428, 1. 403768E-03, 3. 335621E-10, 0. 000000E+00, 0. 000000E+00

:

(5) Test measurement

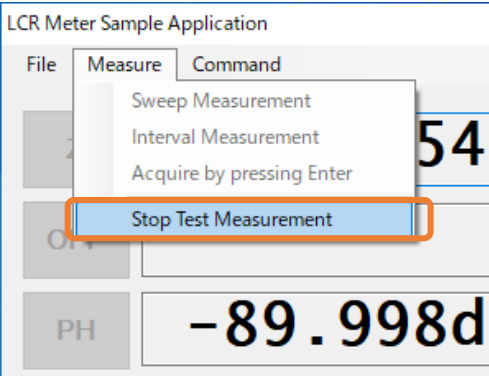
☐ ☐ ☐ ☐ ☐

☐ ☐ ☐



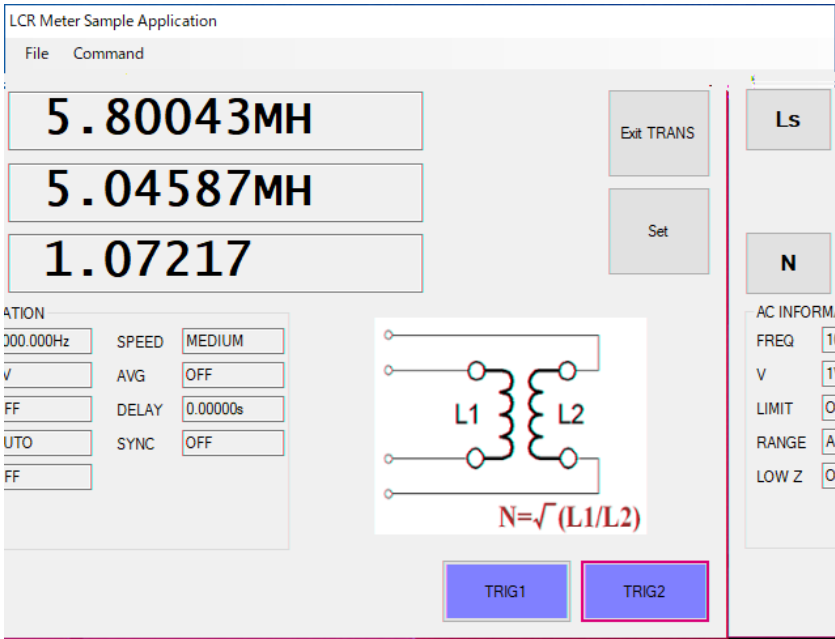
☐

☐ ☐ ☐ ☐ ☐

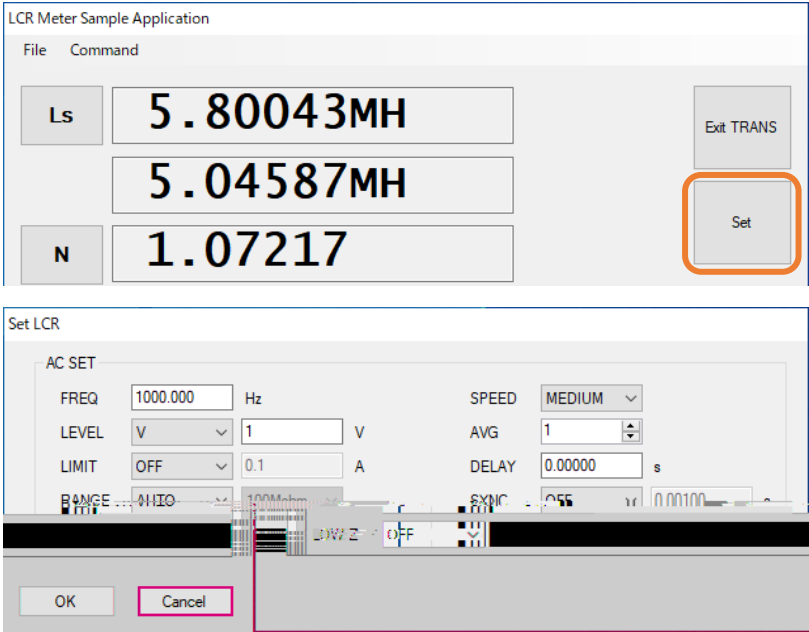


☐ ☐

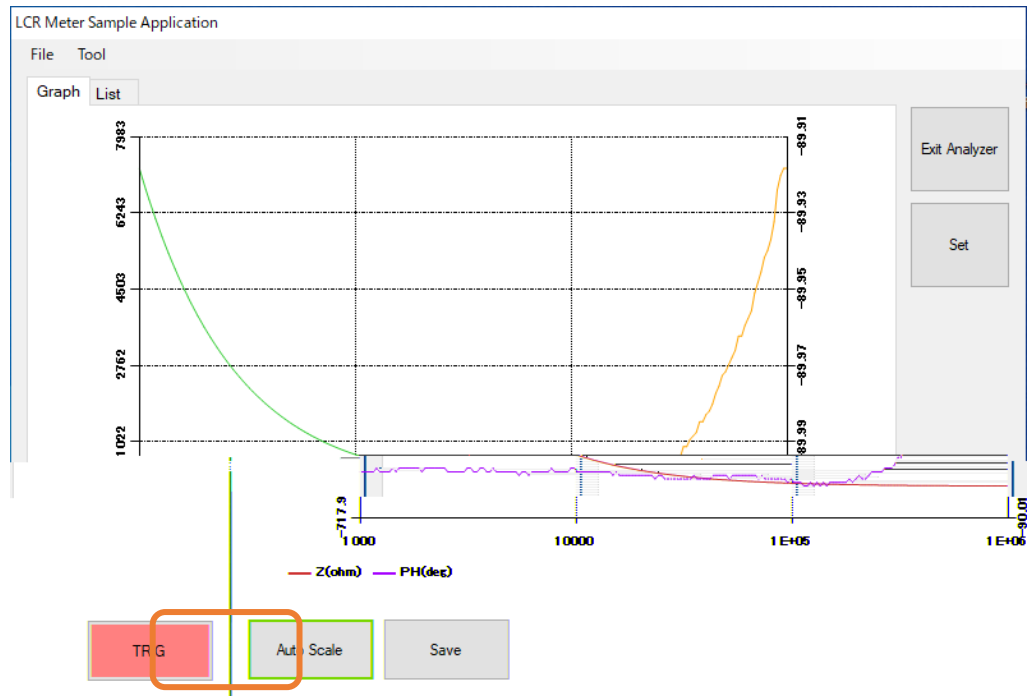
-4 TRANSFORMER mode



(1) TRANSFORMER settings



-5 ANALYZER mode



LCR Meter Sample Application

File Tool

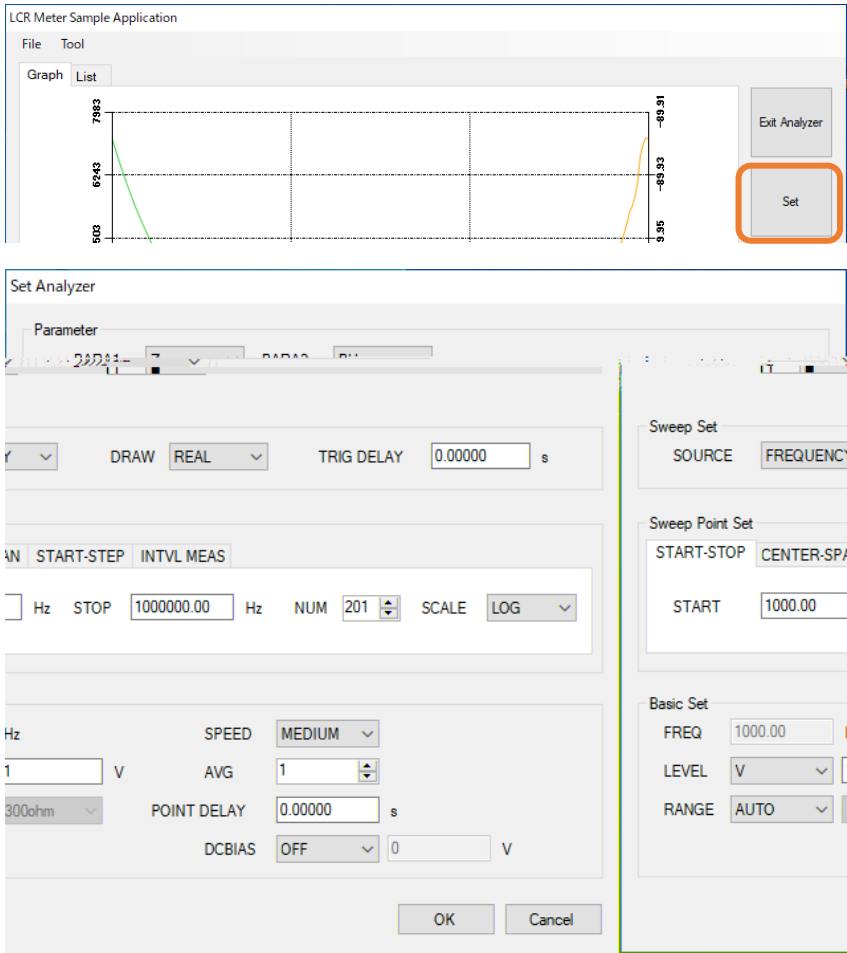
Graph List

No	FREQUENCY(Hz)	Z(ohm)	PH(deg)
1	1000.00	7257.8900	-89.9990
2	1035.10	7011.7210	-89.9990
3	1071.50	6773.5500	-89.9990
4	1109.20	6543.2790	-89.9990
5	1148.20	6321.0790	-89.9990
6	1188.50	6106.7480	-89.9980
7	1230.30	5899.2320	-89.9990
8	1273.50	5699.1510	-89.9990
9	1318.30	5505.5040	-89.9990
10	1364.60	5318.6770	-89.9990

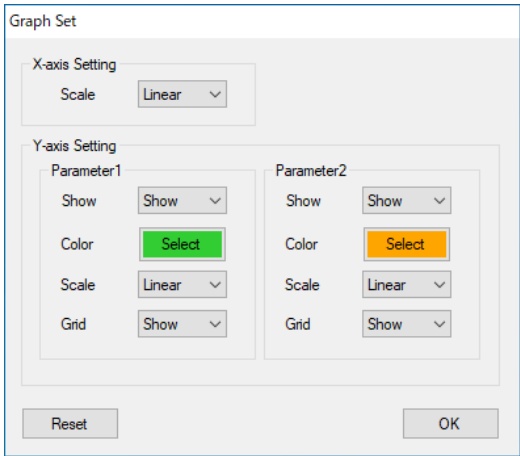
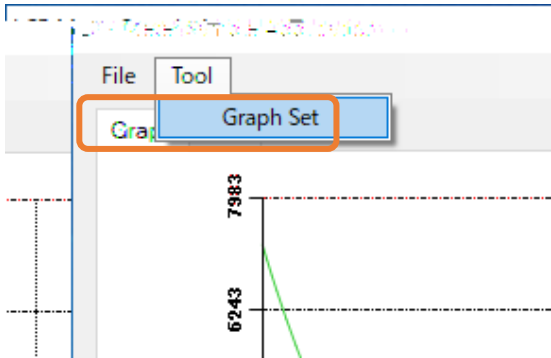
Exit Analyzer
Set

TR G Auto Scale Save

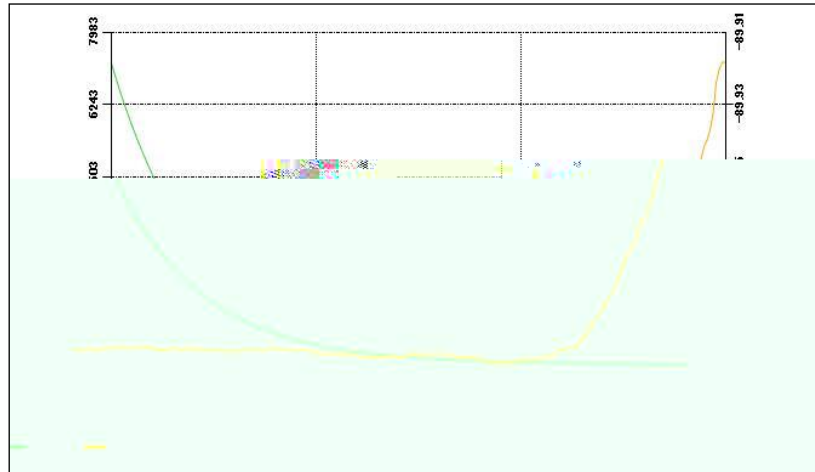
(1) ANALYZER settings



(2) Graph settings



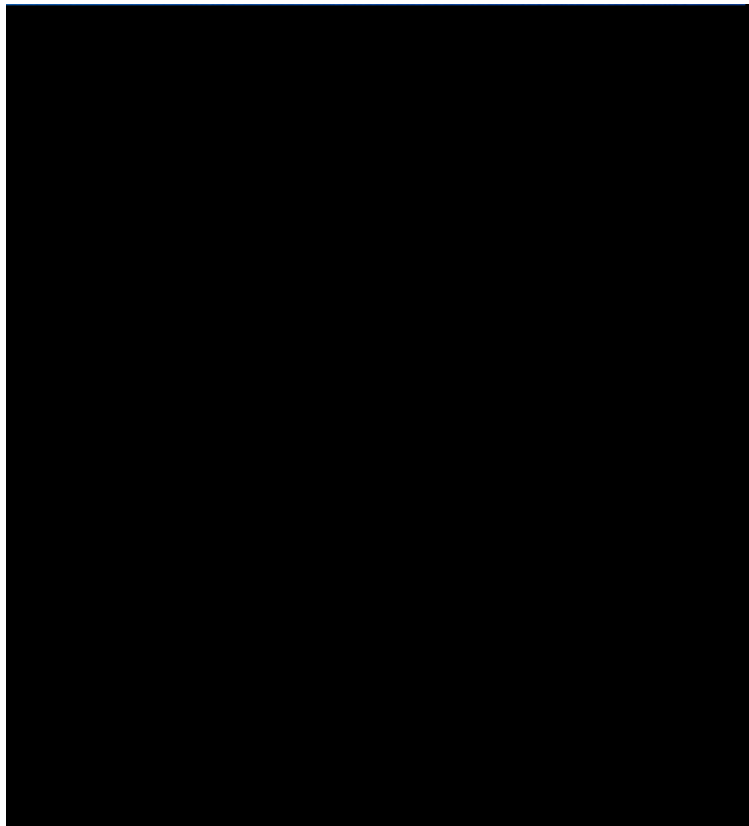
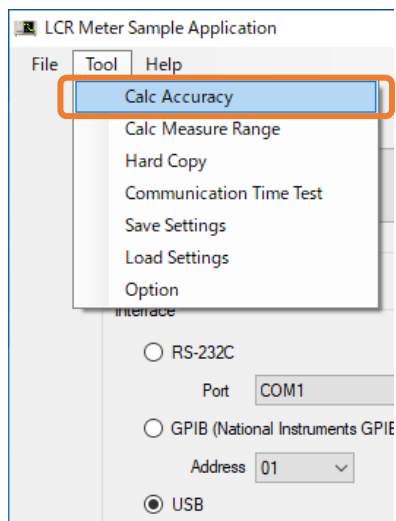
(3) Example BMP file created by saving a measured value graph in ANALYZER mode



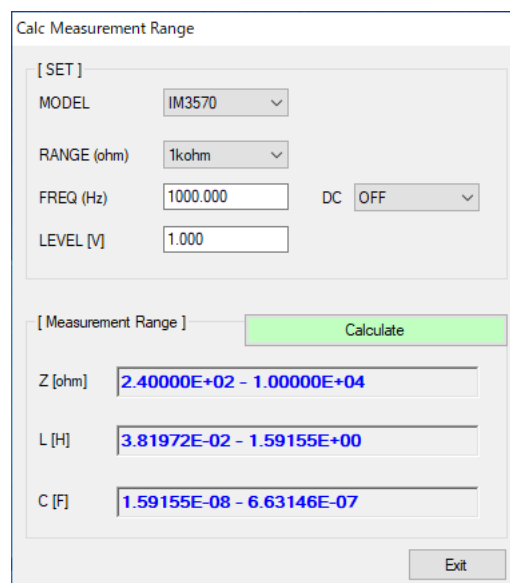
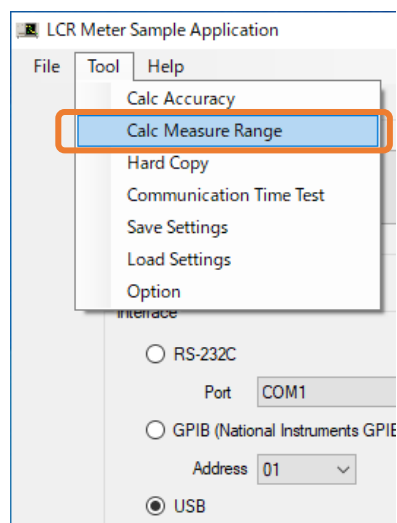
(4) Example CSV file created by saving a measured value list in ANALYZER mode

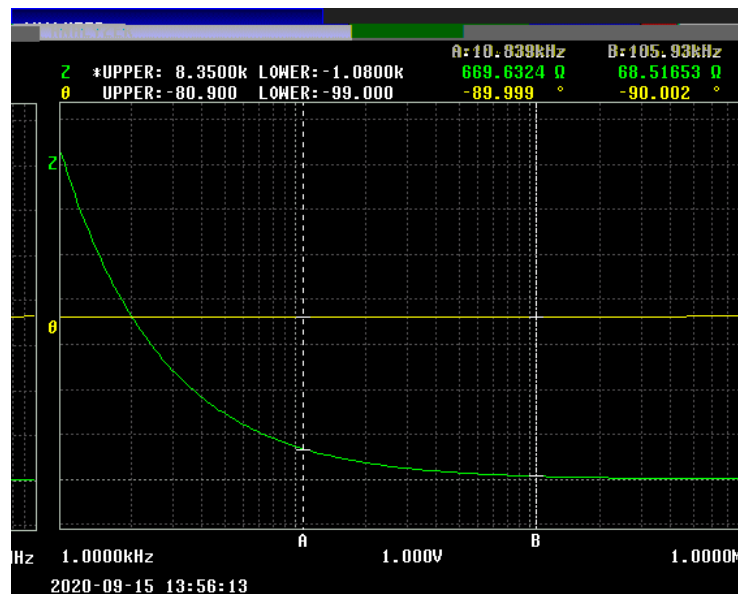
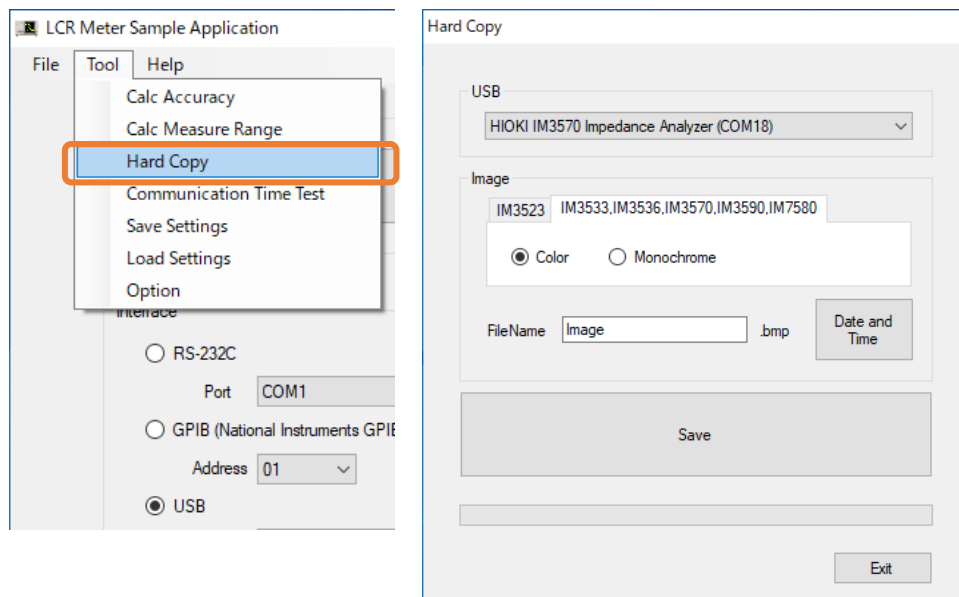
```
No. , FREQUENCY (Hz) , Z, PH
1, 1000. 00, 7257. 8380, -89. 9990
2, 1035. 10, 7011. 7810, -89. 9990
3, 1071. 50, 6773. 6000, -89. 9990
4, 1109. 20, 6543. 3690, -89. 9990
5, 1148. 20, 6321. 0560, -89. 9990
6, 1188. 50, 6106. 7470, -89. 9990
7, 1230. 30, 5899. 2850, -89. 9990
8, 1273. 50, 5699. 2160, -89. 9990
9, 1318. 30, 5505. 4920, -89. 9990
10, 1364. 60, 5318. 6280, -89. 9990
11, 1412. 50, 5138. 3220, -89. 9990
12, 1462. 20, 4963. 6710, -89. 9980
13, 1513. 60, 4795. 0520, -89. 9980
14, 1566. 80, 4632. 2580, -89. 9980
15, 1621. 80, 4475. 1760, -89. 9990
16, 1678. 80, 4323. 1810, -89. 9980
17, 1737. 80, 4176. 4220, -89. 9980
18, 1798. 90, 4034. 5870, -89. 9980
19, 1862. 10, 3897. 5880, -89. 9980
20, 1927. 50, 3765. 3610, -89. 9980
:
```

-6 Accuracy calculation

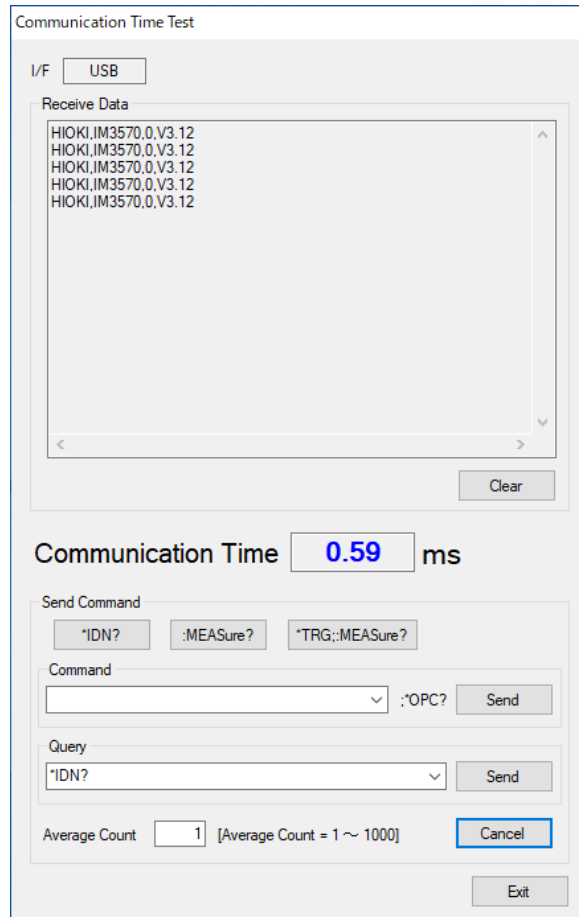
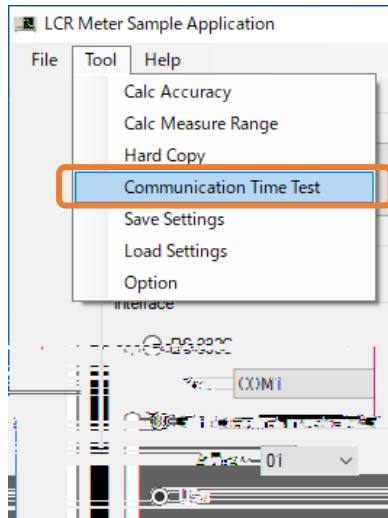


-7 Measurement range calculation



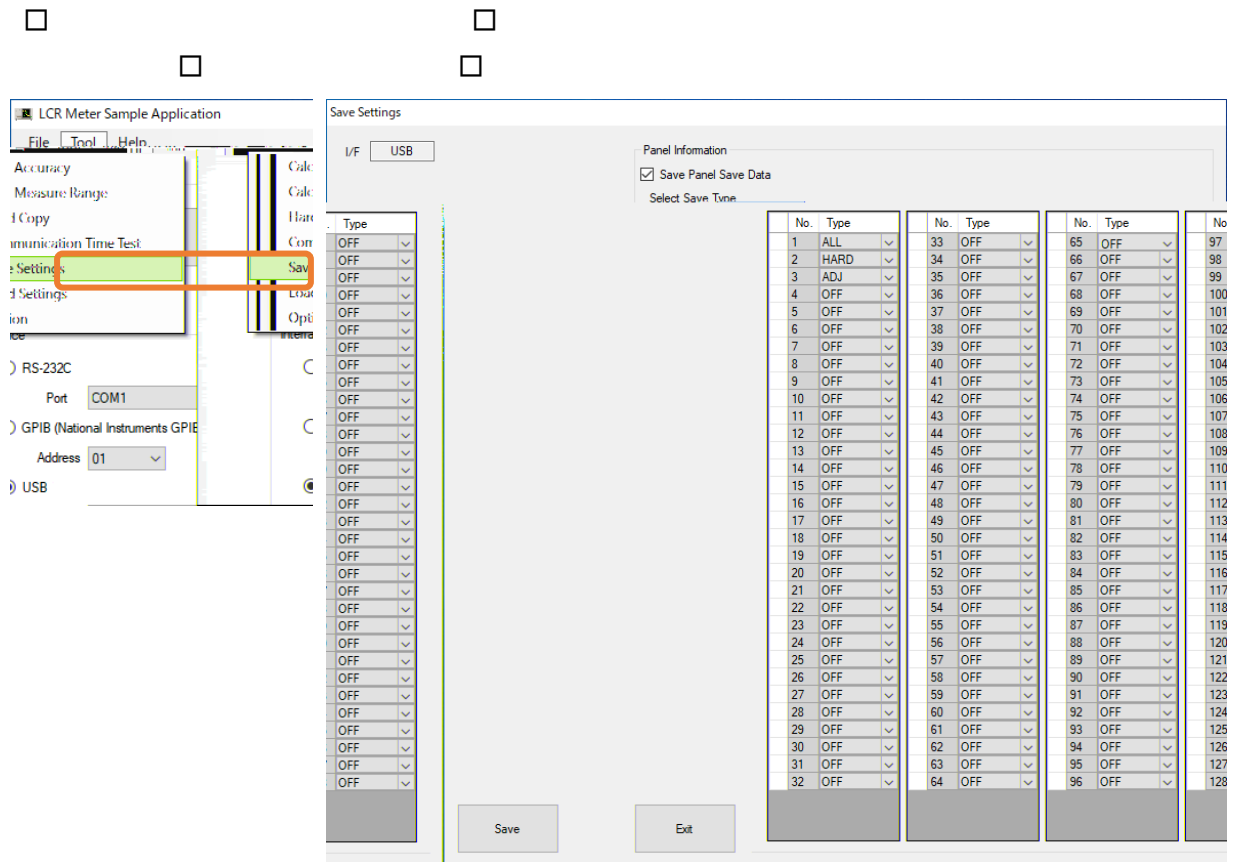


-9 Measurement of communication times

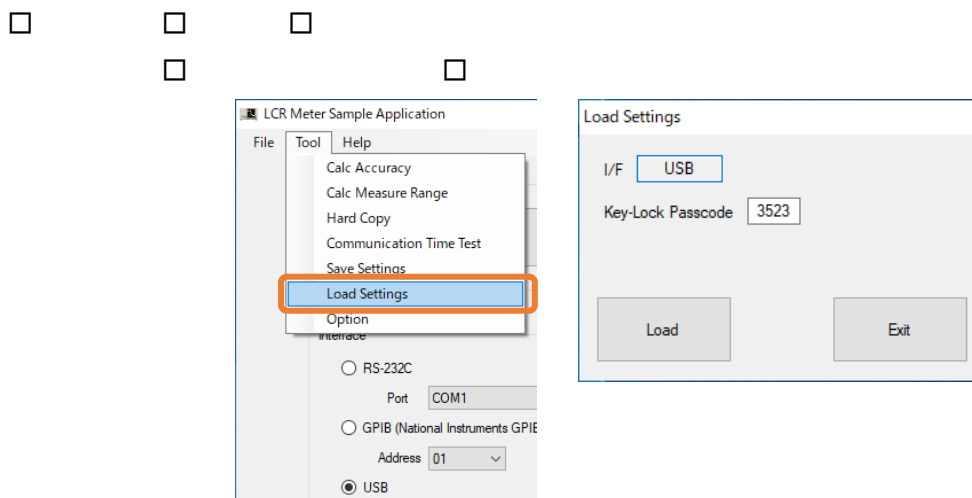


-10 Saving and loading of settings

(1) Saving of settings



(2) Loading of settings



(1) Language



(2) CSV Save Setting

