



Normal XRD (NXRD)

CONTACT

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Machine Information



- Model : D8 ADVANCE (Bruker)
- Introduction year: 2011
- Asset number:
- Address : Bldg.102 B101-2room



You can check machine condition through 'Status Light' located at bottom of both sides.

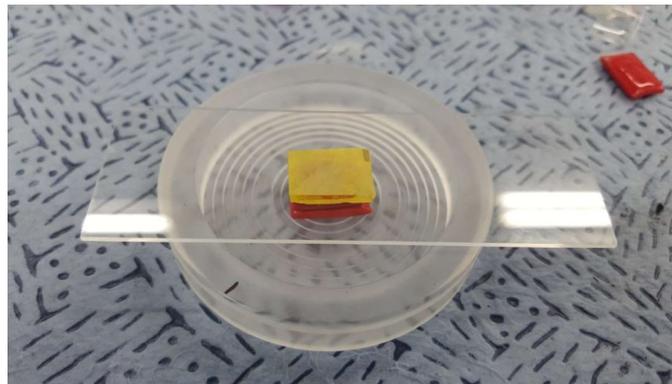
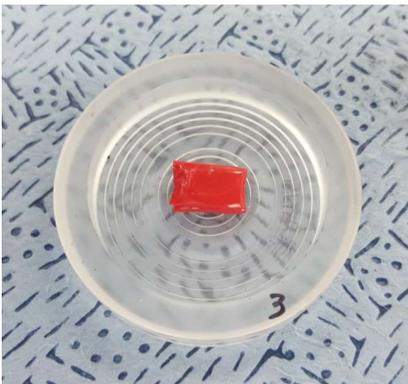
- 1) Normal operation : Ready & On
- 2) During Measurement : Ready & On & Busy
- 3) Equipment error : On & Alarm

Sampling



<Thin film Sample>

- 1) Cut rubber clay with scissors as size of sample.
 - When rubber clay is smaller than sample, thin film can be leaned.
- 2) Do not mass rubber clay, and stacks in the middle of the holder.
 - When you transform rubber clay, thin film can be leaned because of each different density and thickness of clay.
- 3) Put a thin film on rubber clay, and then press down with slide glass slowly.
 - ※ Before that, wash the slide glass clearly.
- 4) Do not reuse rubber clay because it has getting lower stickiness as you use.



Door Open & Sample Loading

> How to open NXRD door:

1) After push the button 'Door open' located at bottoms of both sides, check the Alarm blinking.

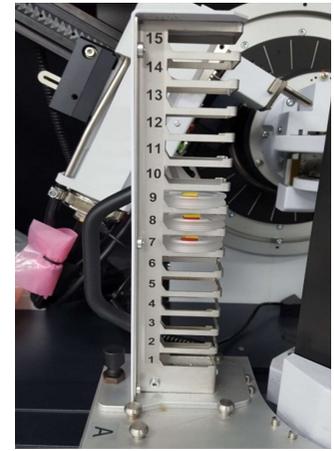
※ **Only open Left door !**

2) Fix left index finger to Pb glass, and then pull open the door with the rest 3 fingers.

- At that time, it is important to maintain this situation that index finger has power.

3) Insert holder straightly to avoid leaning on the Auto Sampler.

- In case of non-square thin film, Place it so that it looks similar.

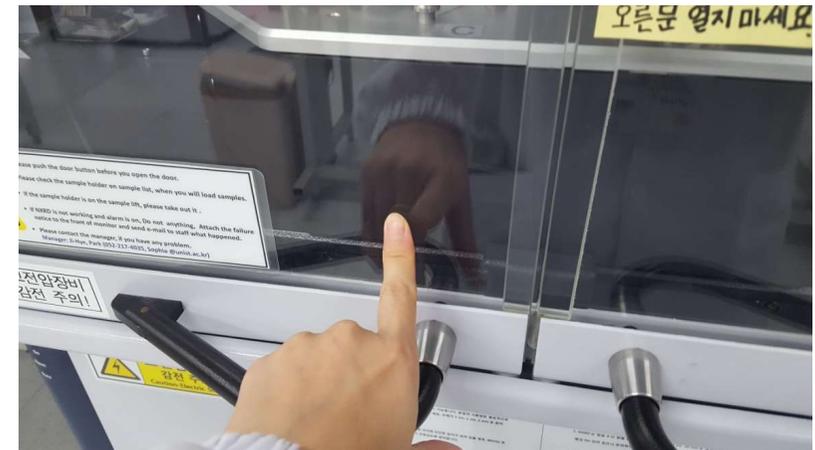


> How to close NXRD door:

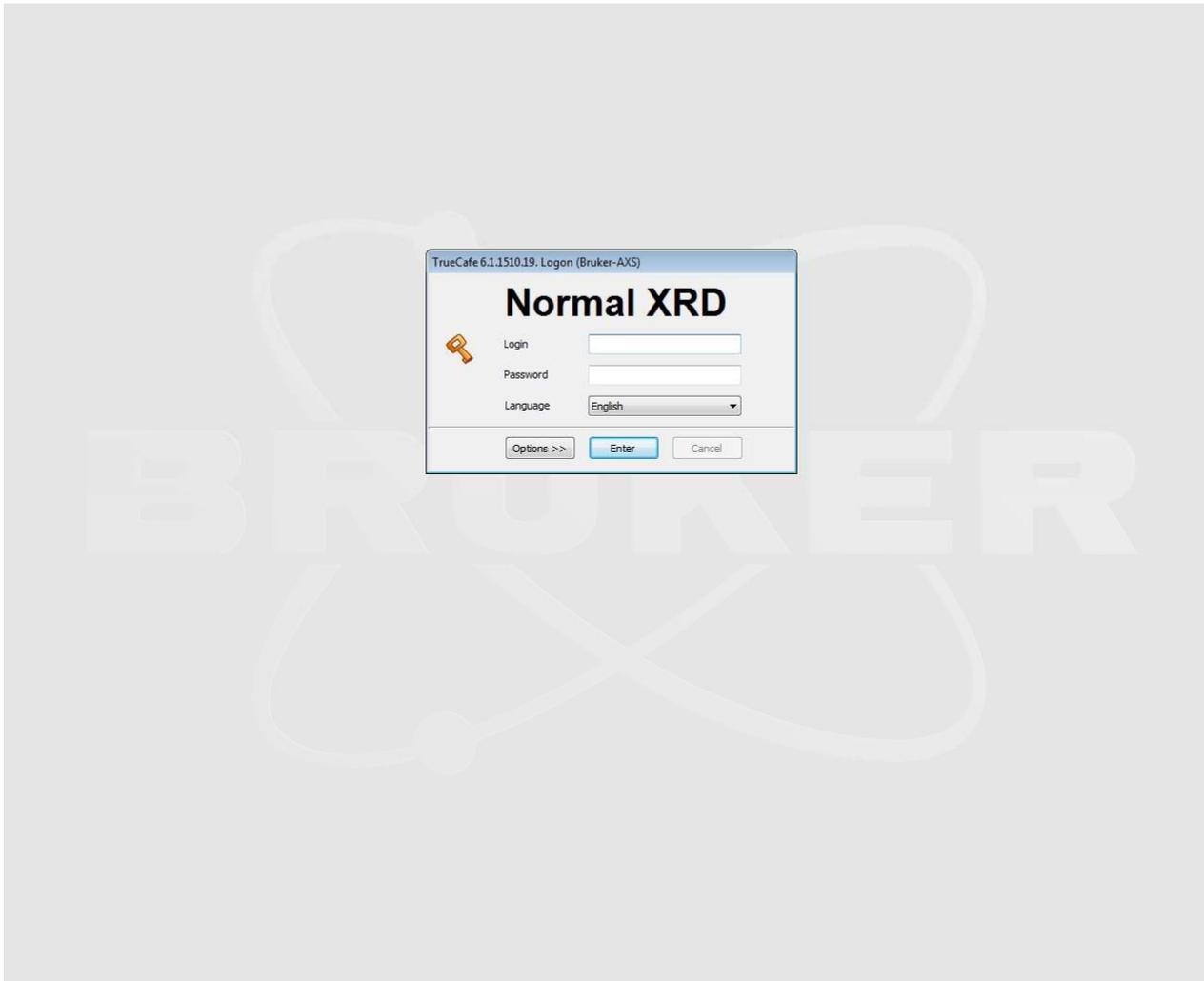
1) push the glass door all the way.

2) Push the handle to the inside, check a clicking sound.

3) Check 'Alarm' Light off.

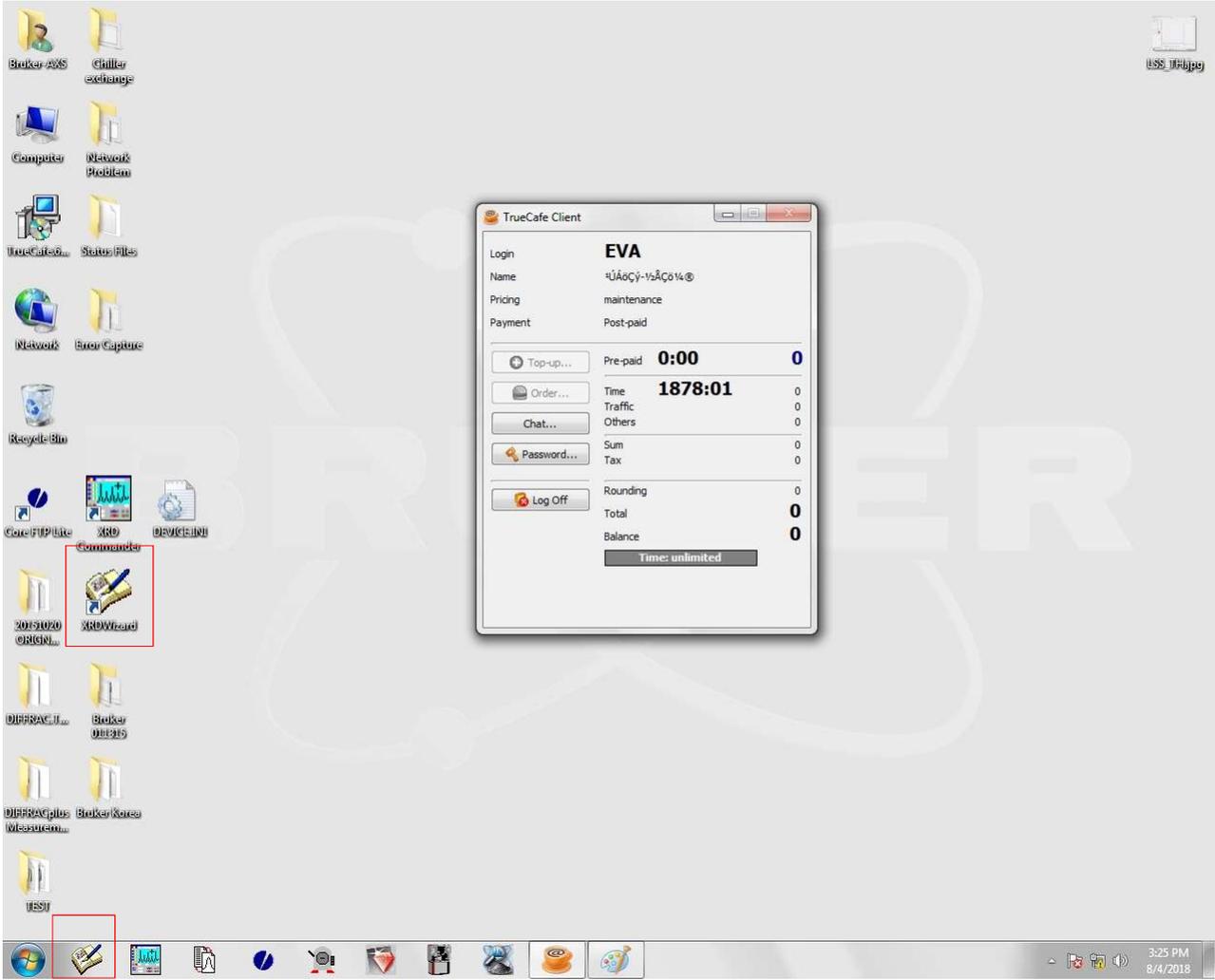


NXRD PC Access: True Cafe



1. Enter individual ID & Password in True Café.
(One ID per person !)
2. Do not share individual ID & Password.
- sharing has penalty or stop using for 90 days!
3. In case of machine manager,
- request writing ID produce manual.
- request writing corresponding manual
when having problem.

XRD WIZARD Execution



XRD WIZARD is program producing measurement condition file.

Double click one of both.

XRD WIZARD Execution

In WIZARD, you fill in below items.



-Start, Stop,

-Step size,

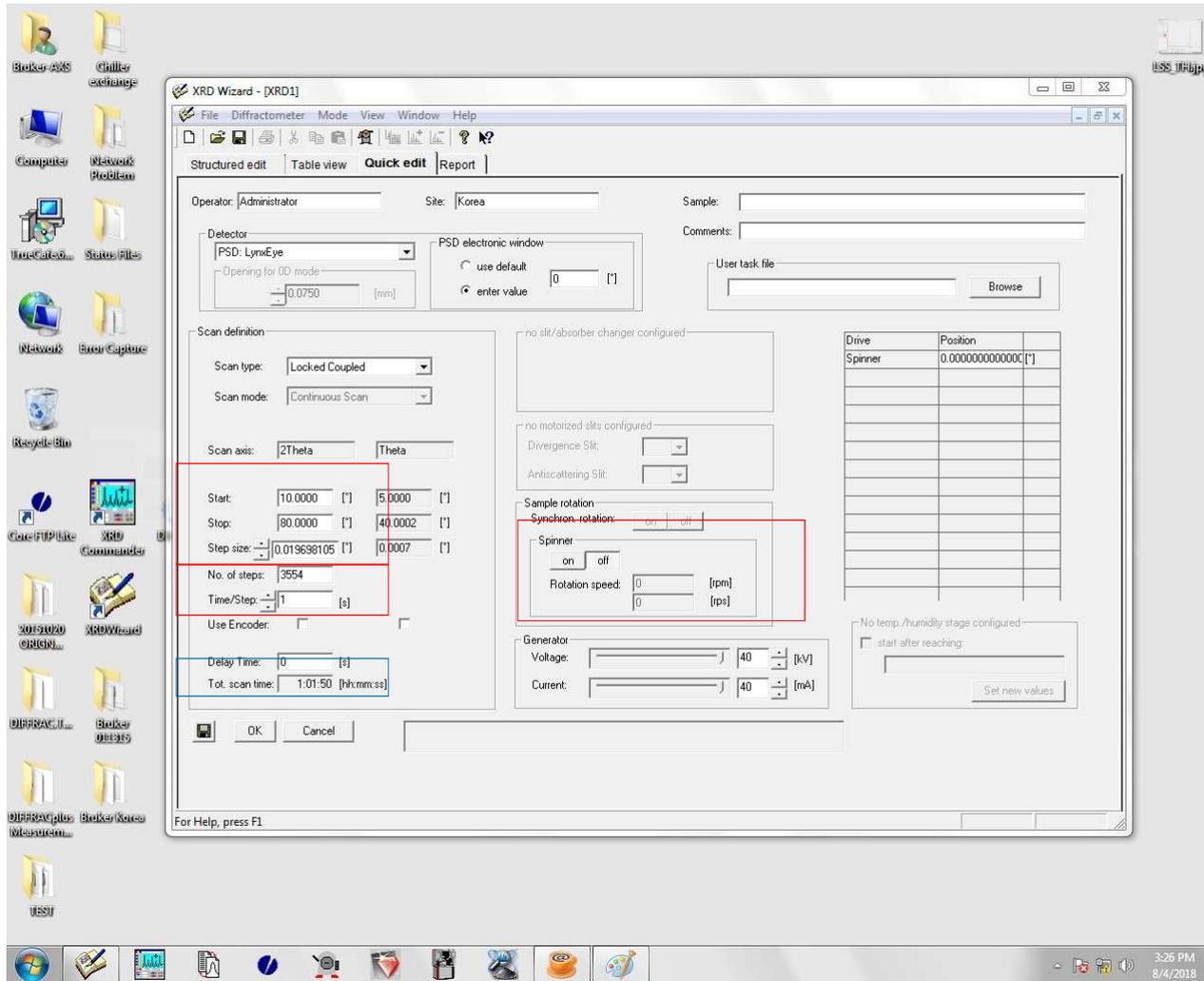
-No. of steps,

-Time/Step,

-Spinner

After inserting condition value you want,
Check Total Scan Time.

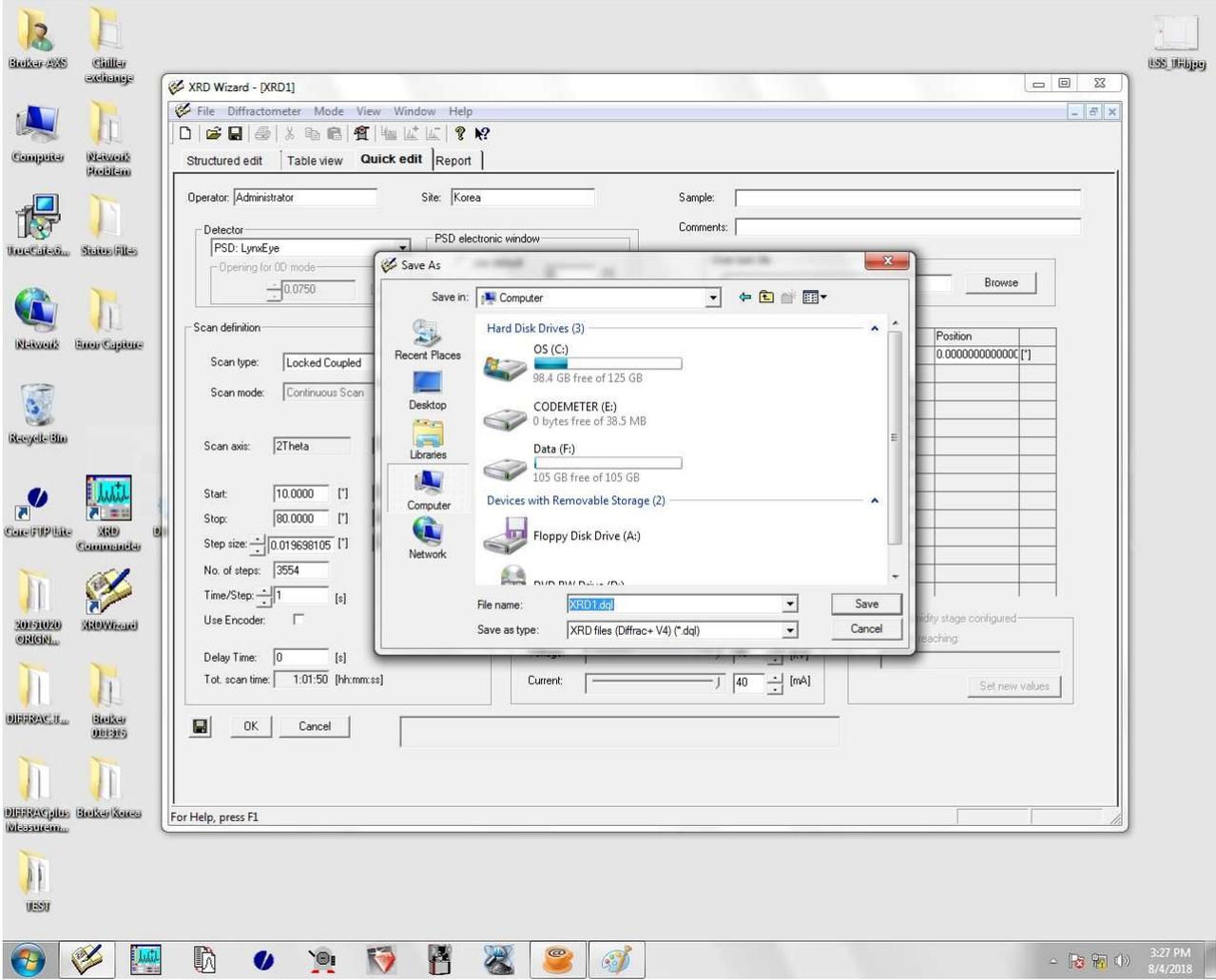
'Start' is measurement start degree,
Stop is measurement complete degree,
Step size is step of measurement degree,
Time/Step is each measurement time of step,
Spinner means whenever of not to rotate and
rotation velocity.



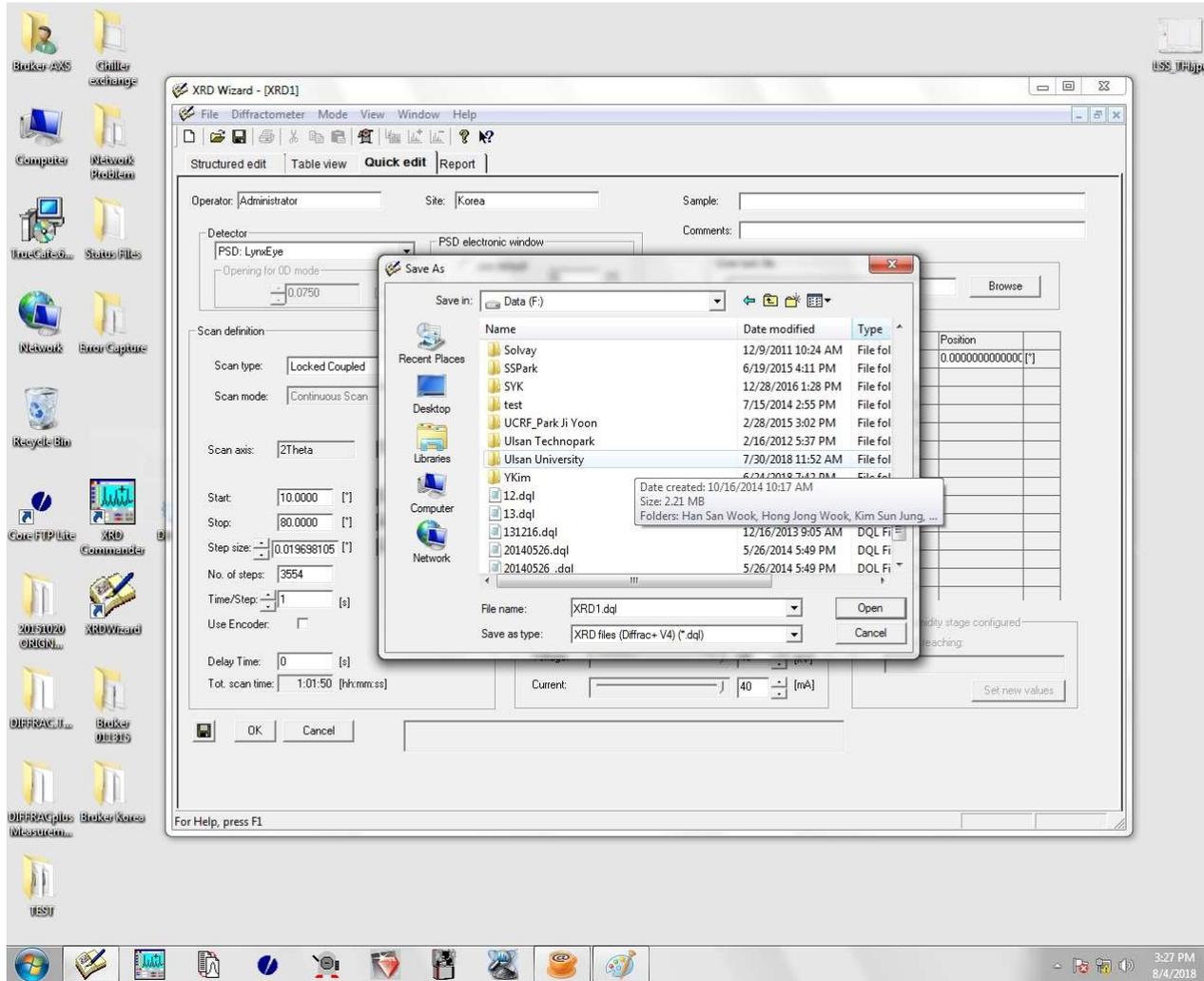
XRD WIZARD Execution



Save measurement condition file produced in 'fileWIZARD' as DQL file.



XRD WIZARD Execution



Save location is,

Computer

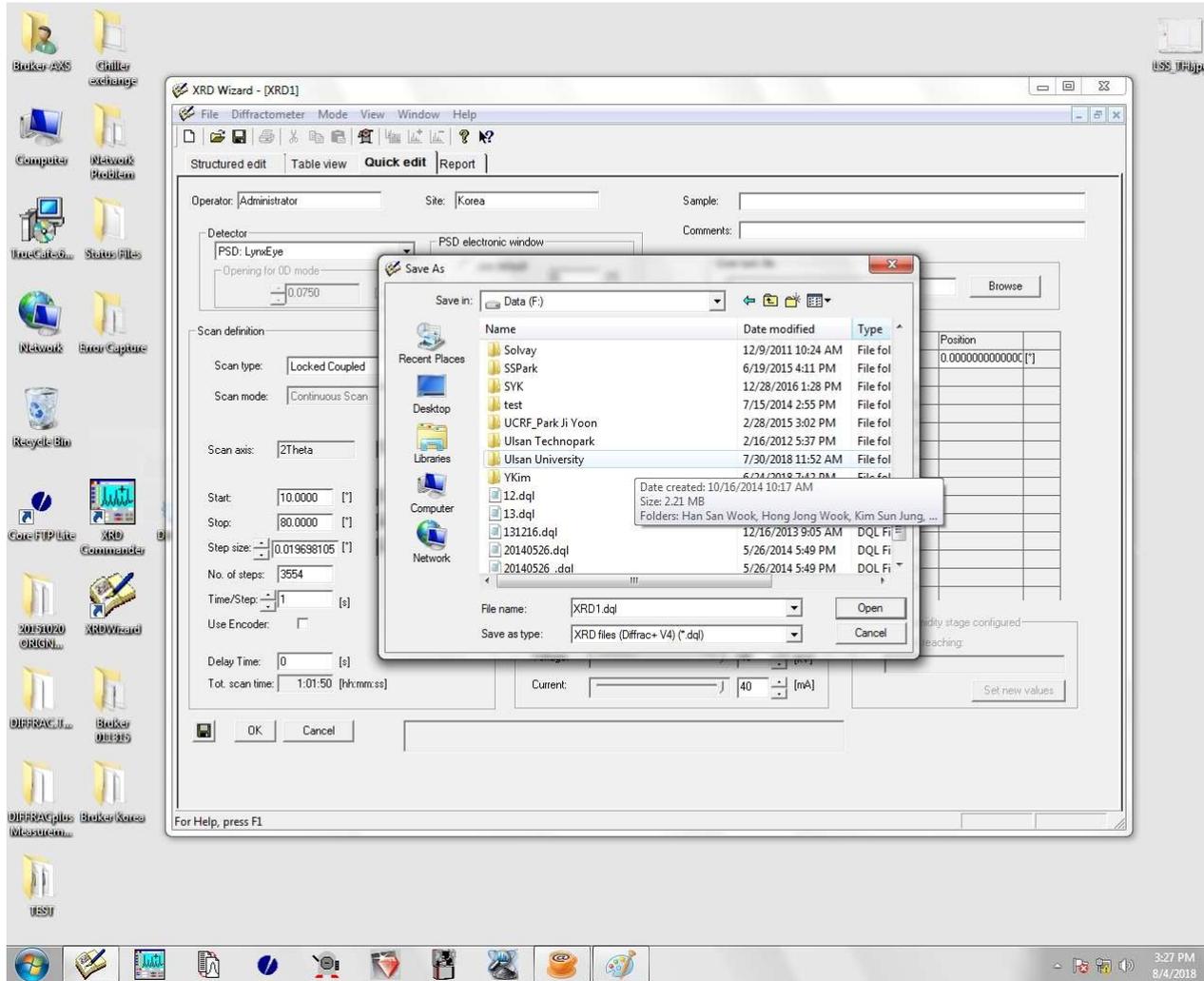
> F Drive

> Lab name folder

> Requester name folder

> Measurement date folder

XRD WIZARD Execution



Save location is,

Computer

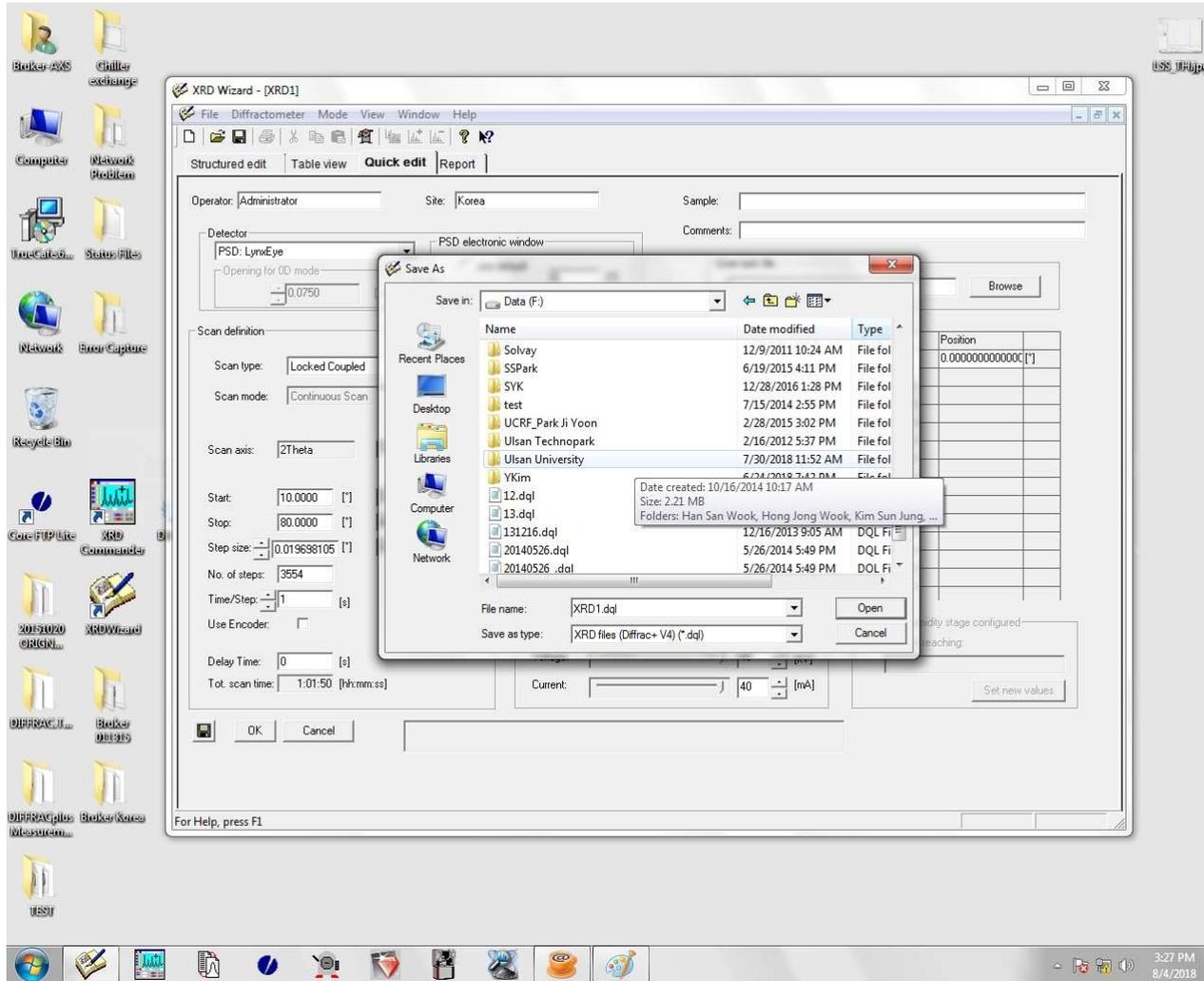
> F Drive

> Lab name folder

> Requester name folder

> Measurement date folder

XRD WIZARD Execution



Save location is,

Computer

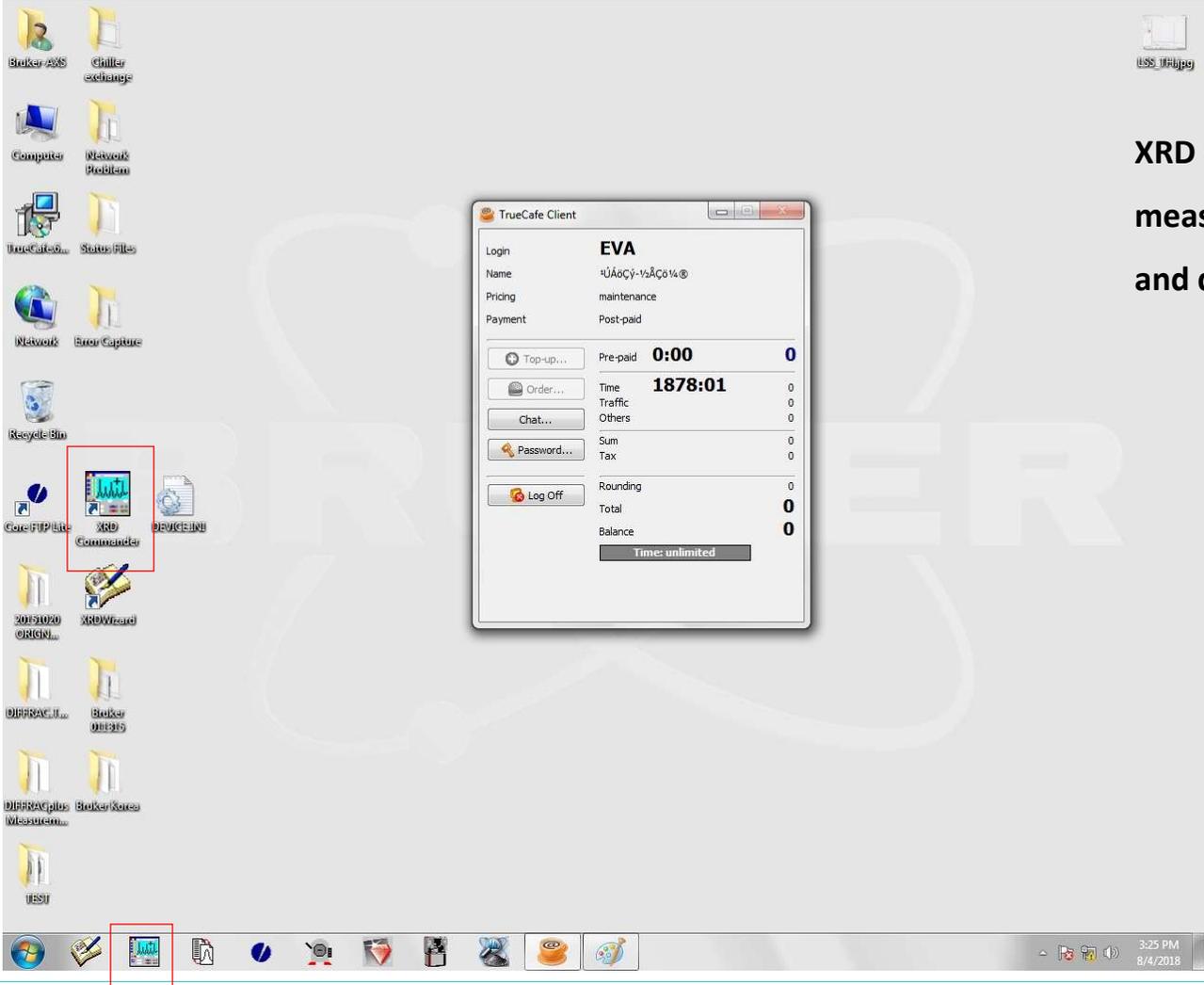
> F Drive

> Lab name folder

> Requester name folder

> **Measurement date folder**

XRD COMMANDER Execution



XRD Commander is, measurement program with measurement condition file and double check one of both.

XRD COMMANDER Execution



DIFFRAC plus XRD Commander - diffractometer/bruker-axs-pc

File Diffractometer **Jobs** View Help

Sample Pos. Load Init SC Sample ID Max 0

Std Aux Actual >>> Requested

Tube 30 30

2Theta 60 60

Detector 30 30

Div. Slit

Antis. Slit

Phi 0 0

Chi

X

Y

Z

Absorber Set

Rotation Set Off

Detector Slit In Out

Shutter Open Close Closed

X-Ray On Off On

40 20 kV

40 5 mA

Start 10 Use Zoom Increment 0.0196981 Stop 79.9873

Scanspeed 1 Sec / Step Start Cont

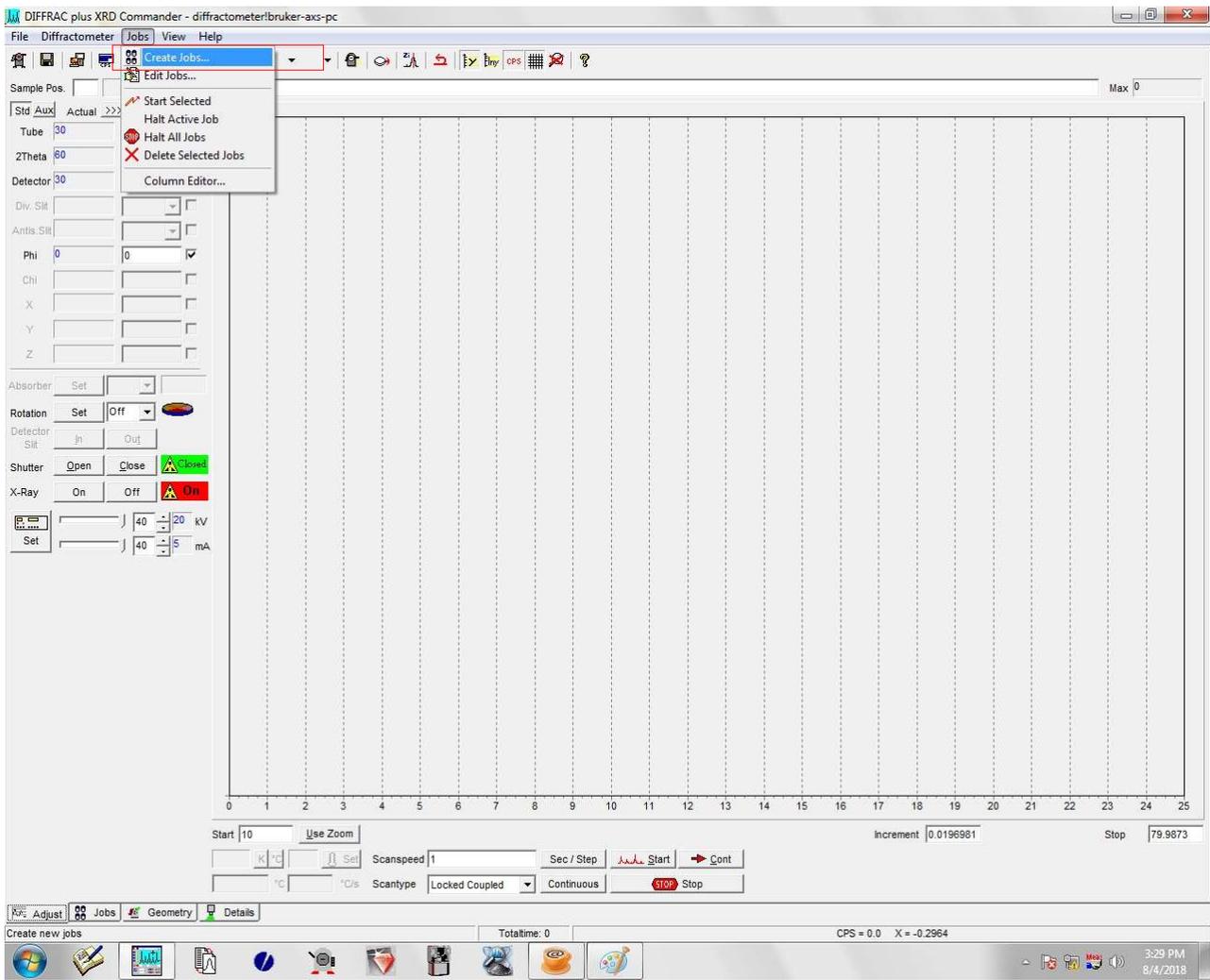
Scantype Locked Coupled Continuous Stop

Totaltime: 0 CPS = 0.0 X = -0.3706

3:29 PM 8/4/2018

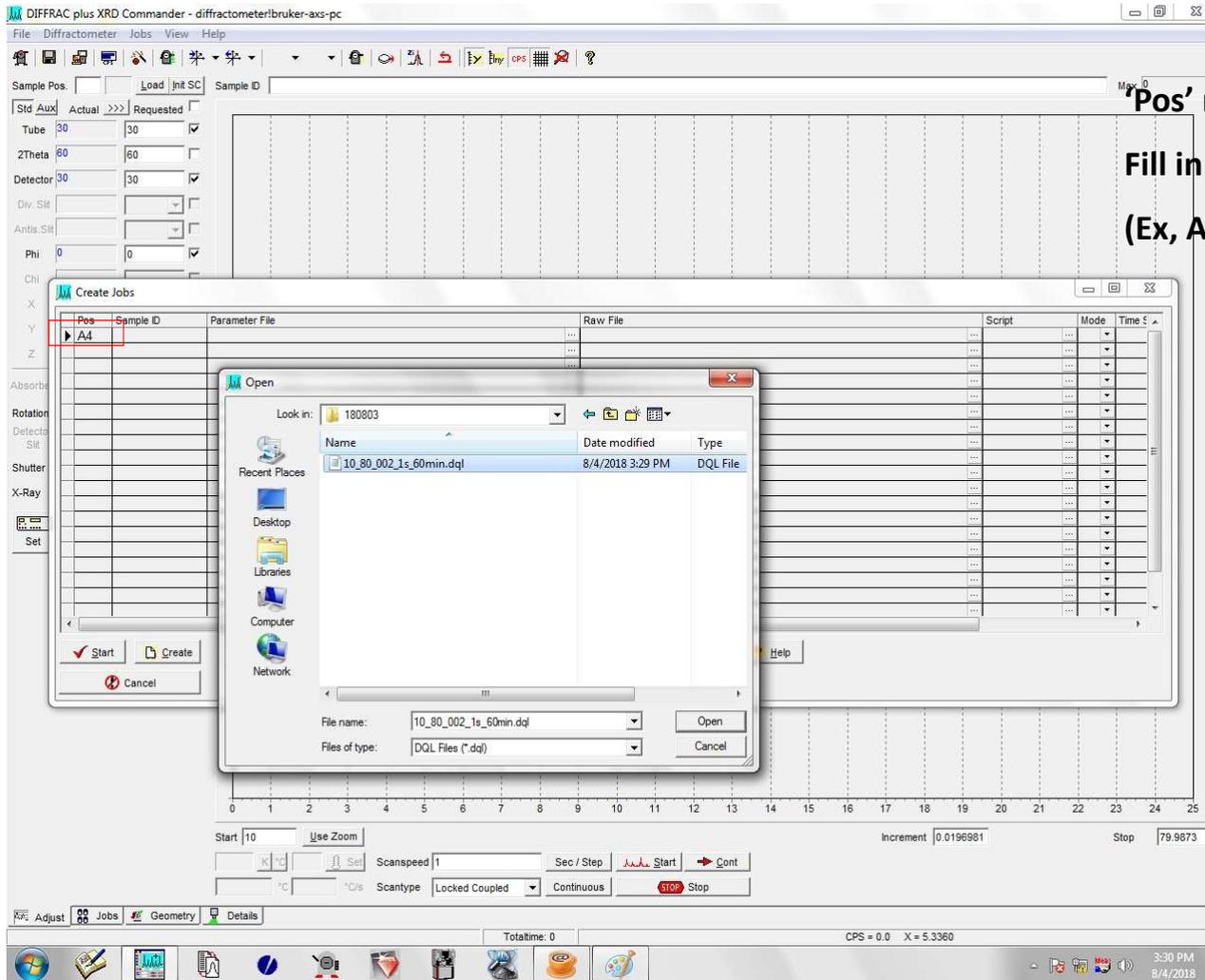
Click 'Jobs' button in upper TAB.

XRD COMMANDER Execution



And then, click 'Create Jobs'.

XRD COMMANDER Execution

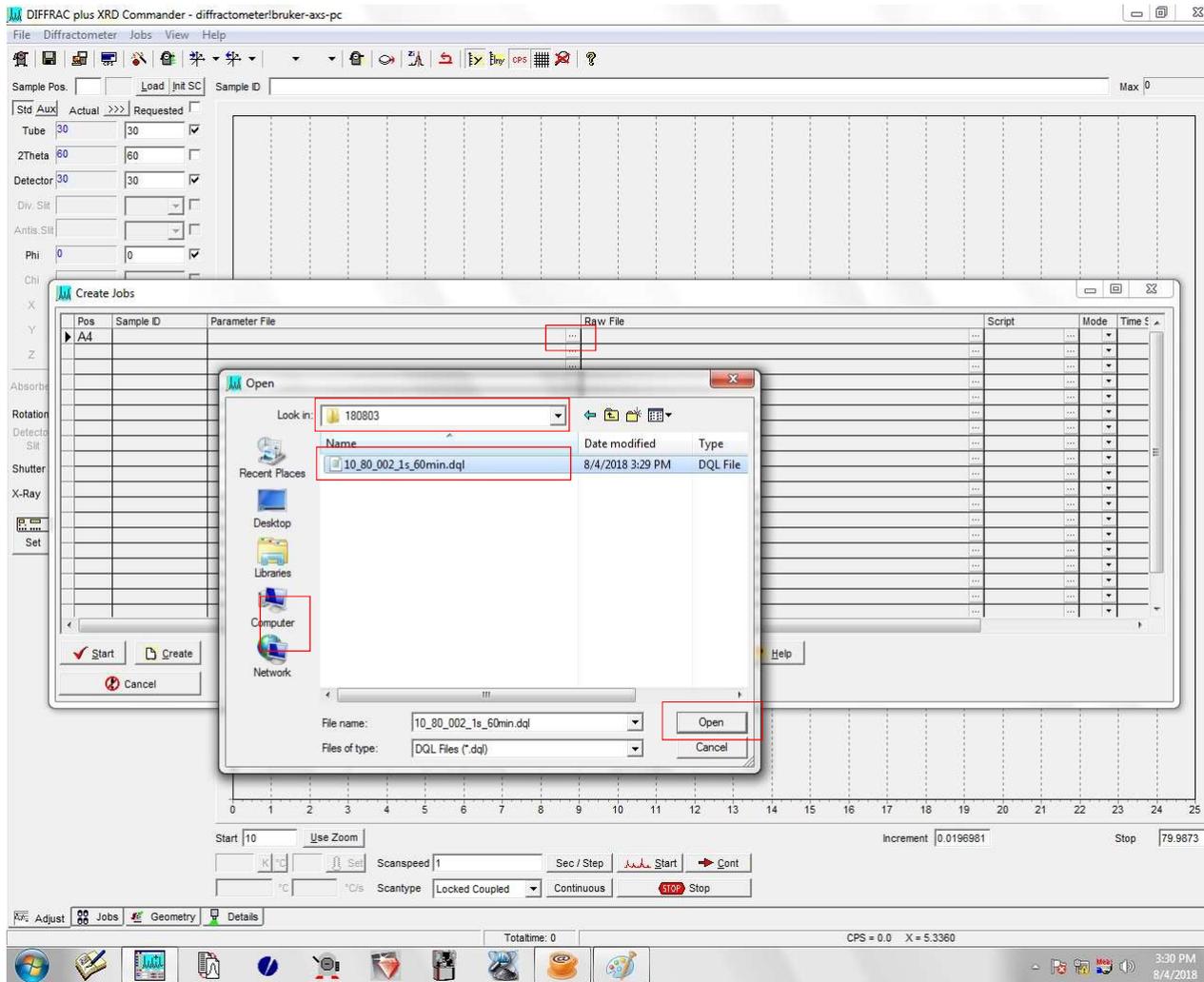


'Pos' means setting location of sample on the equipment.

Fill in location of sample.

(Ex, A3, A4, A5...)

XRD COMMANDER Execution



Parameter File means measurement condition file

- Extension is **.dql**

Click shortcut icon '[...]

Click 'Computer' and go to saved location of measurement condition file.

- F Drive > Lab name folder > Requester folder

Click **name of measurement condition file** in measurement date folder and then open.

XRD COMMANDER Execution



Pos	Sample ID	Parameter File	Raw File	Script	Mode	Time
A4		F:\Ulsan University\Lee Byeong Kyu\180803\10 80 002 1s 60m	F:\Ulsan University\Lee Byeong Kyu\180803\			

Ctrl+V in 'Raw File' space.

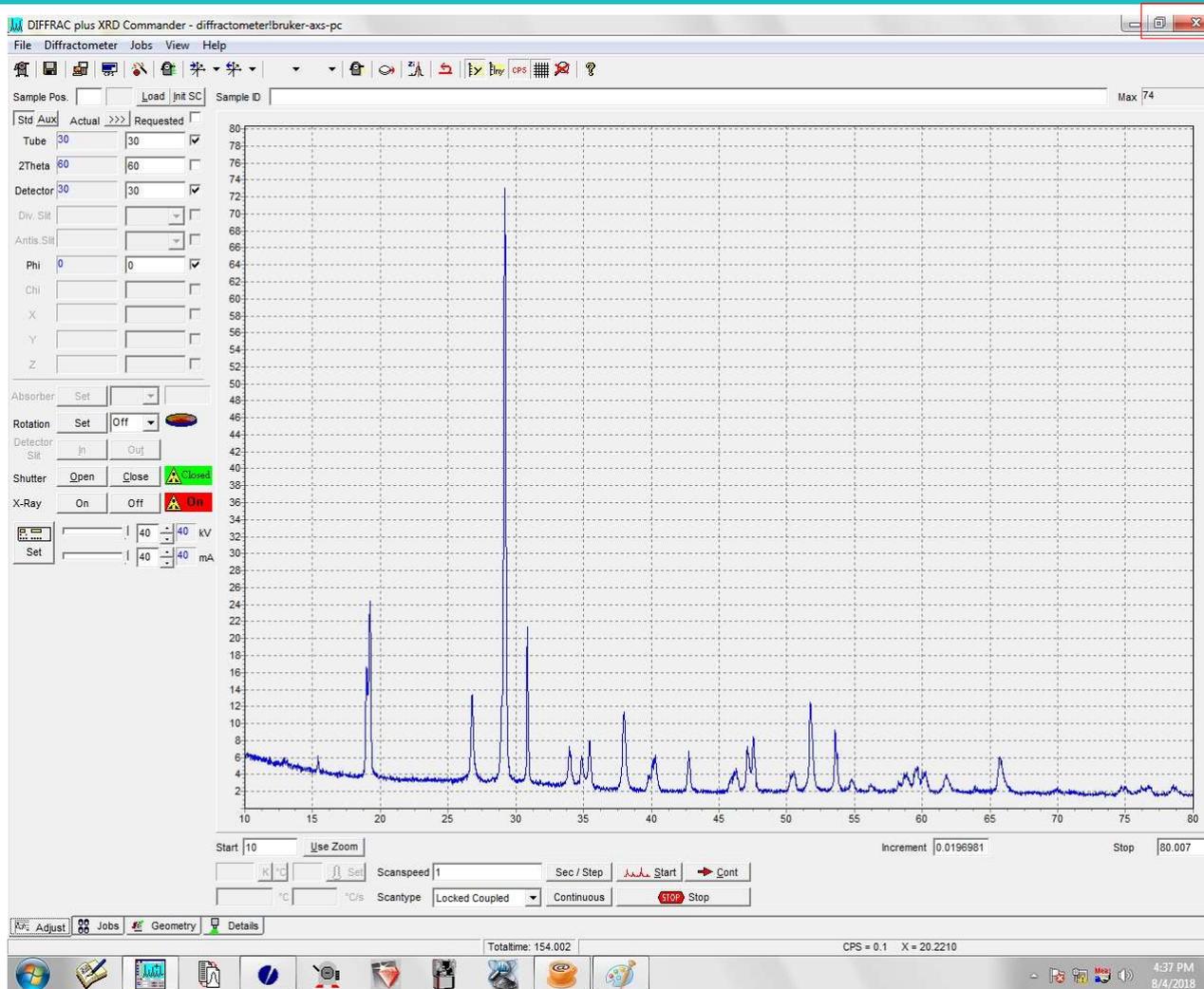
XRD COMMANDER Execution



Click button Browse '[...]' of Raw File and then,
Write sample name that you want to save.

Click 'Open'

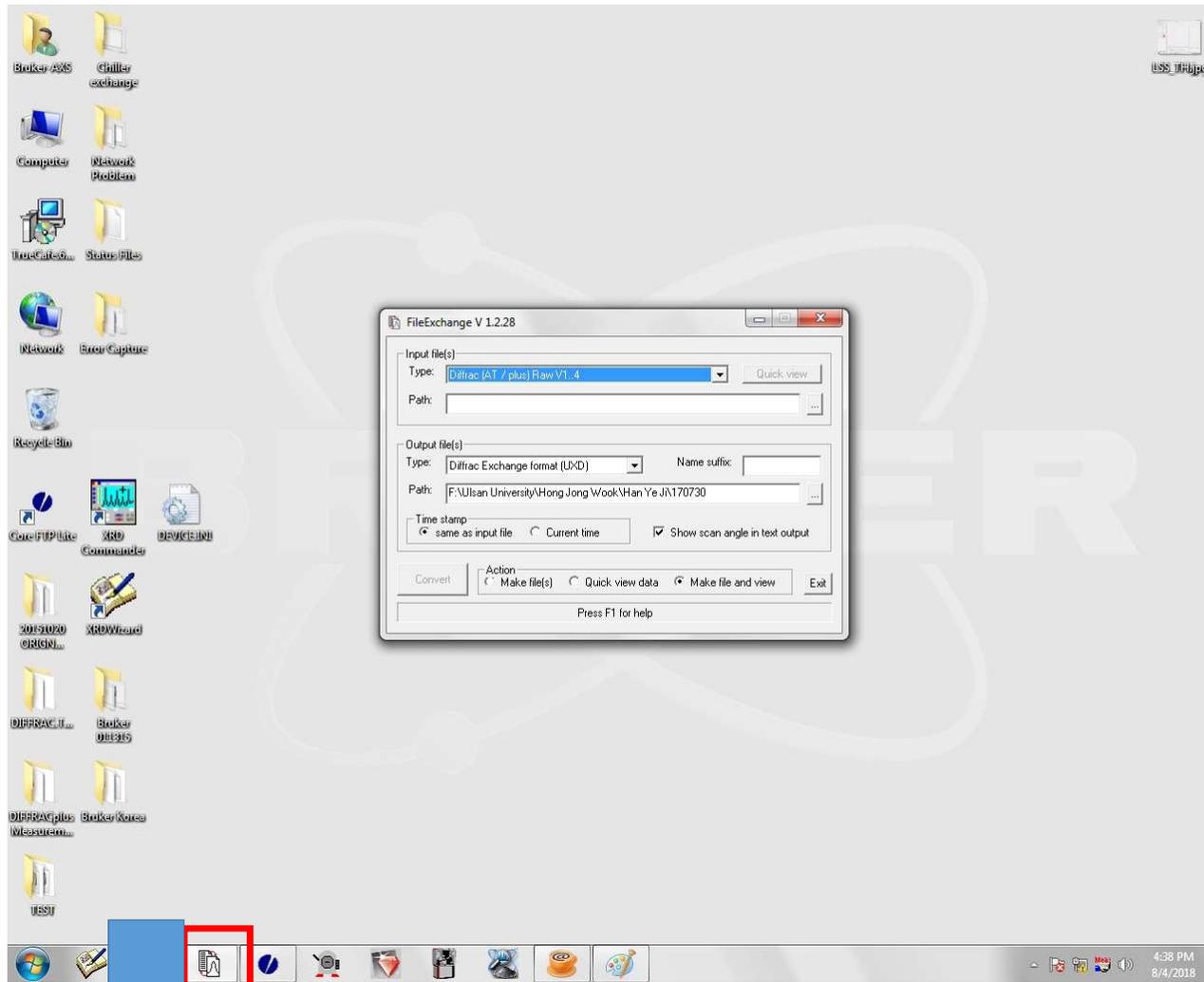
Measurement Complete



If 'Busy' LED button of Status Light is off,
It means measurement complete.

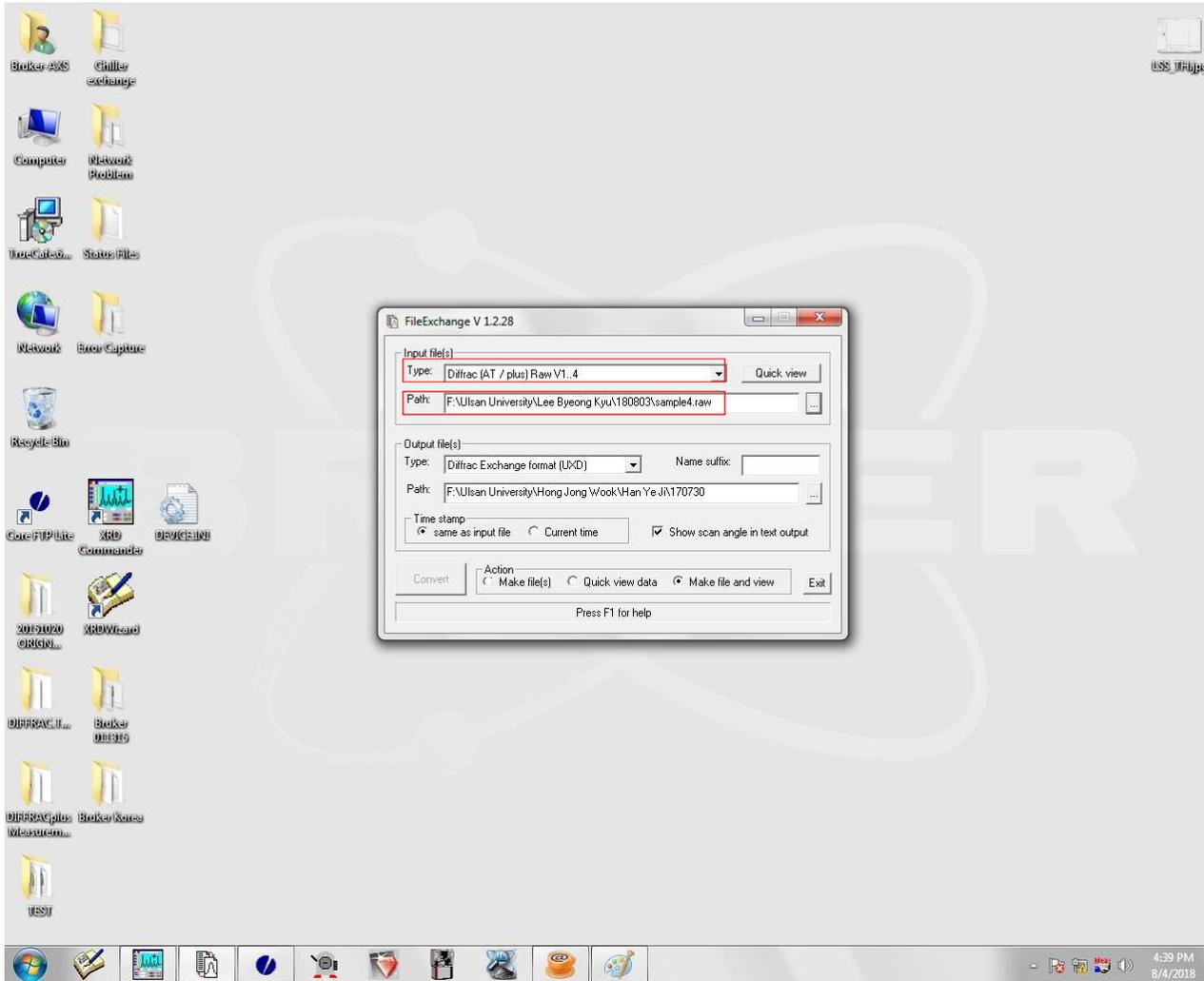
Finish Commander program.

File Exchanger Execution



Double click 'File Exchanger' program.

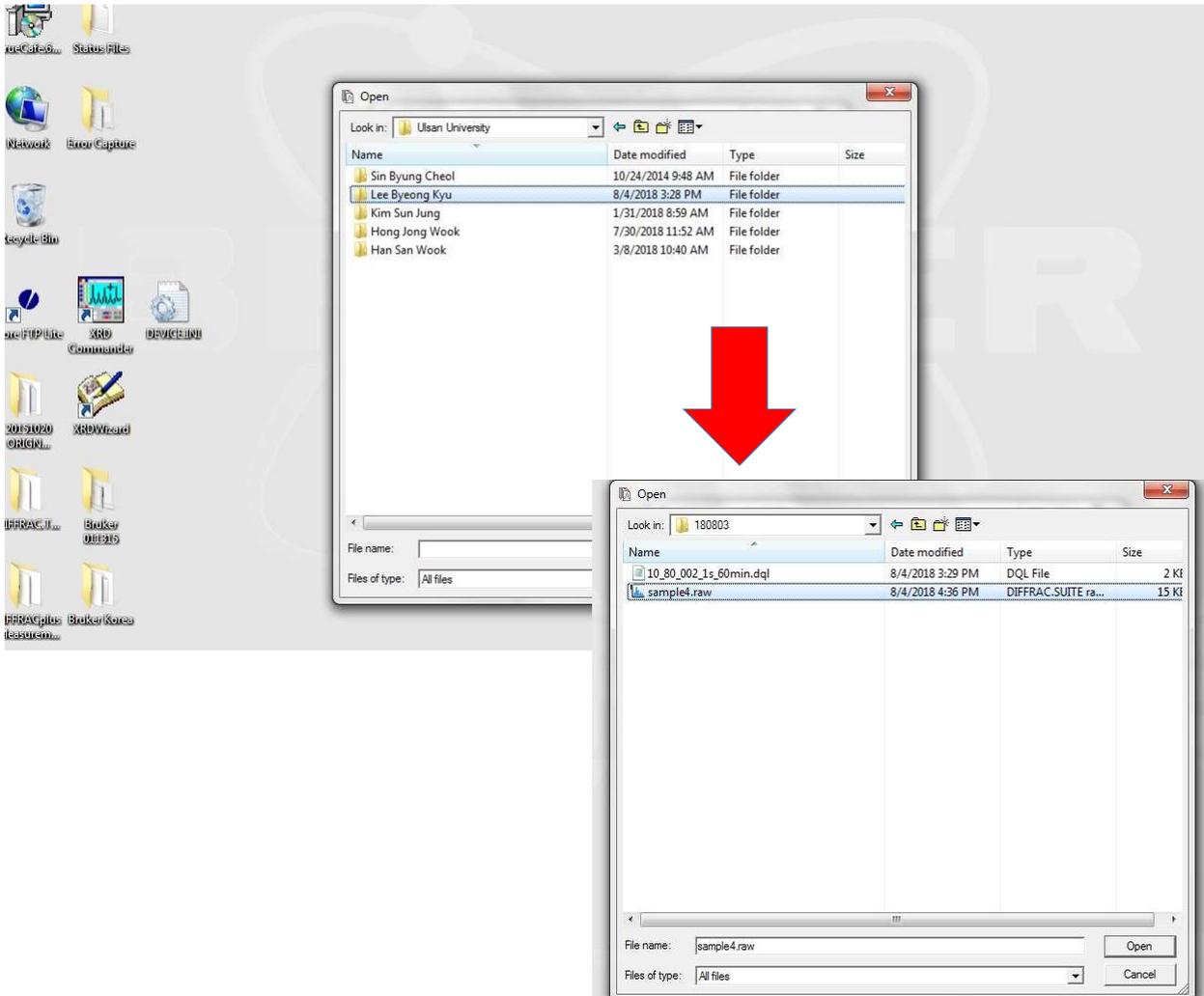
File Exchanger Execution



Input File Type:

Choose **'Diffrac (AT/Plus)Raw.V1.4'** of them.

File Exchanger Execution



Bring the saved file in Path Browser '[...]'

> F Drive (1)

> Lab name folder (2)

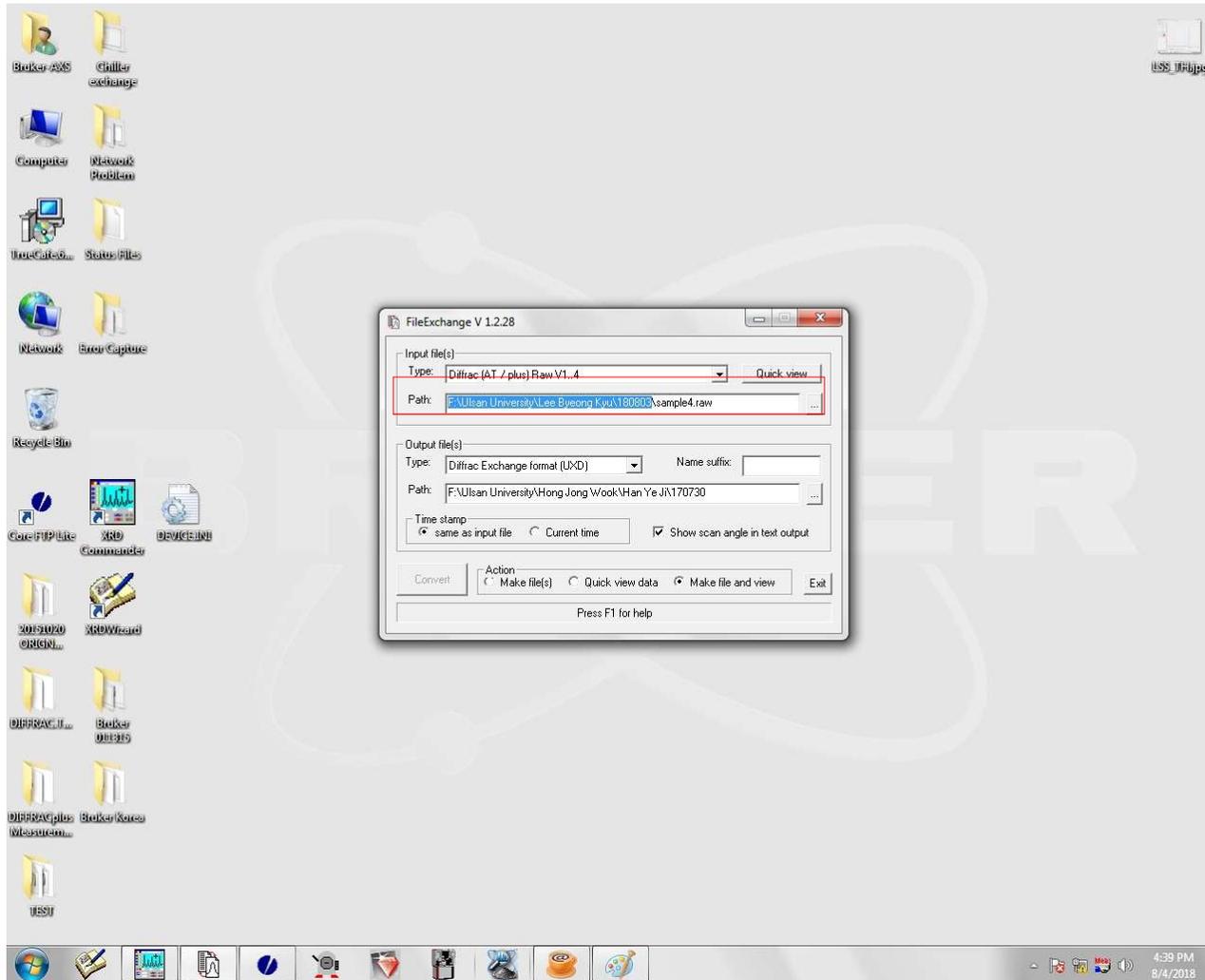
➤ Requester name folder (3)

➤ Measurement date (4)

➤ Sample name (5)

And then, open.

File Exchanger Execution

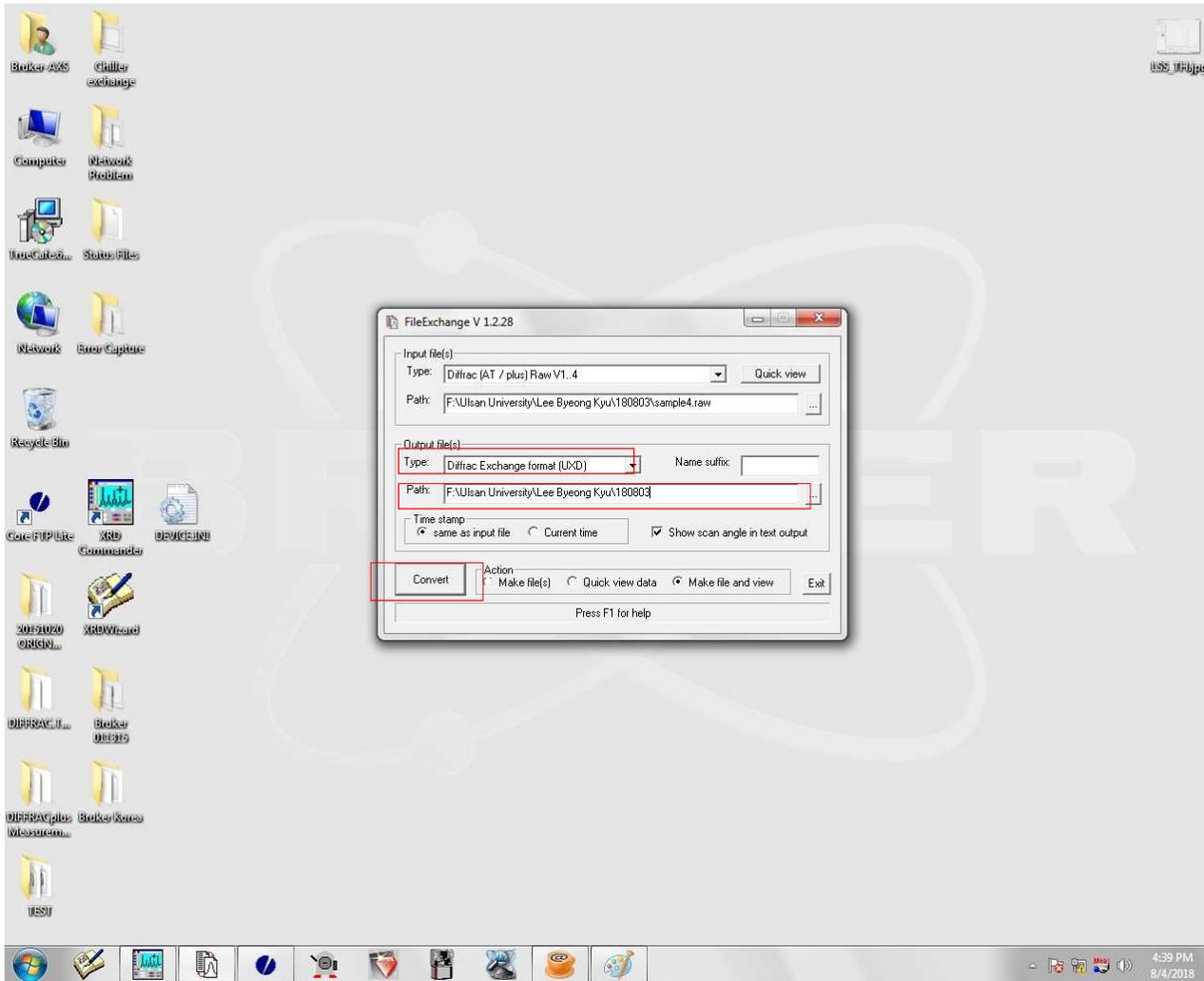


Drag and Ctrl+C all Path name **without sample name file.**

(Location:

F:\Lab name > Requester name > Date)

File Exchanger Execution



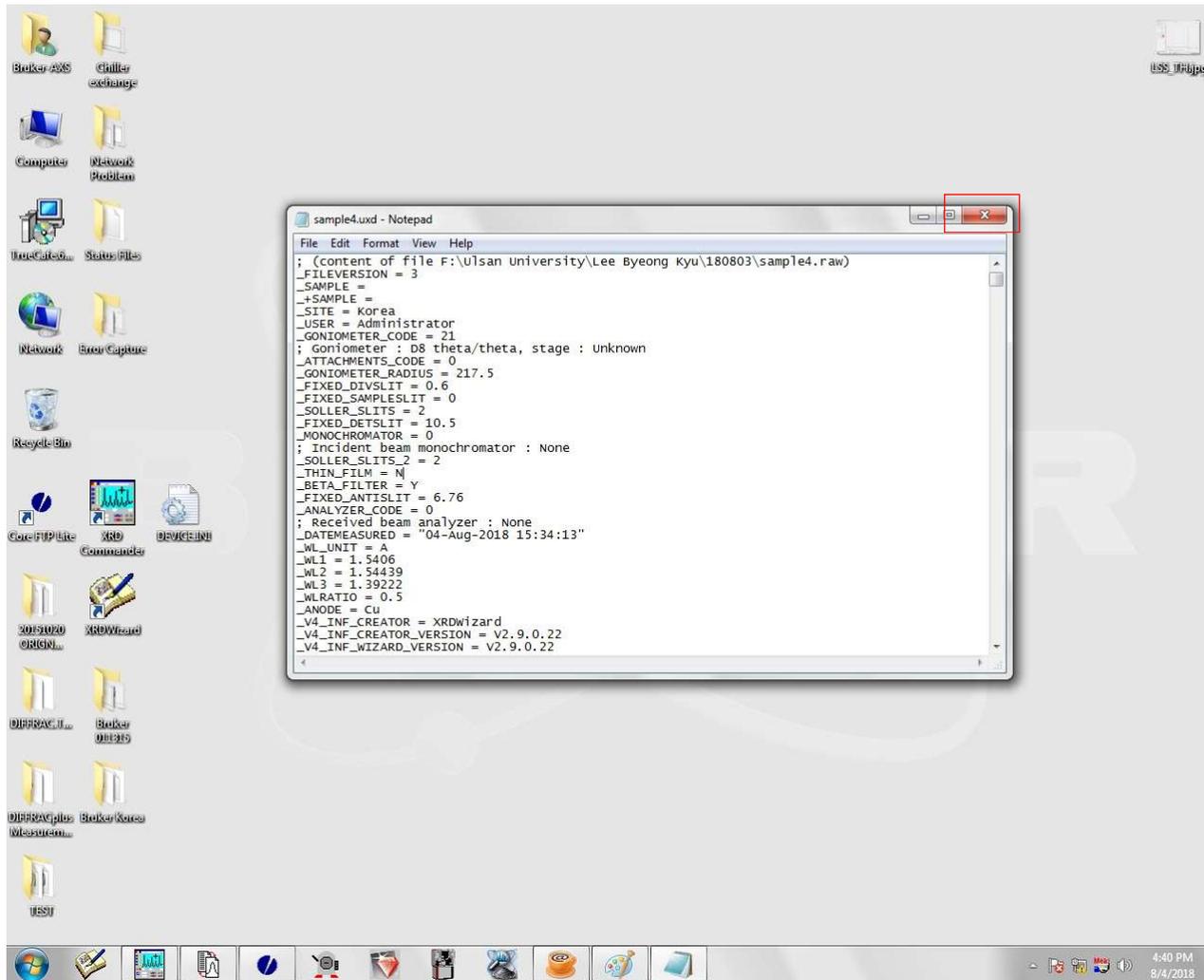
Output File Type:

Choose **'Diffract Exchange Format (UXD)'**.

Output File Path → Ctrl+V

Click **'Convert'** button.

File Exchanger Execution

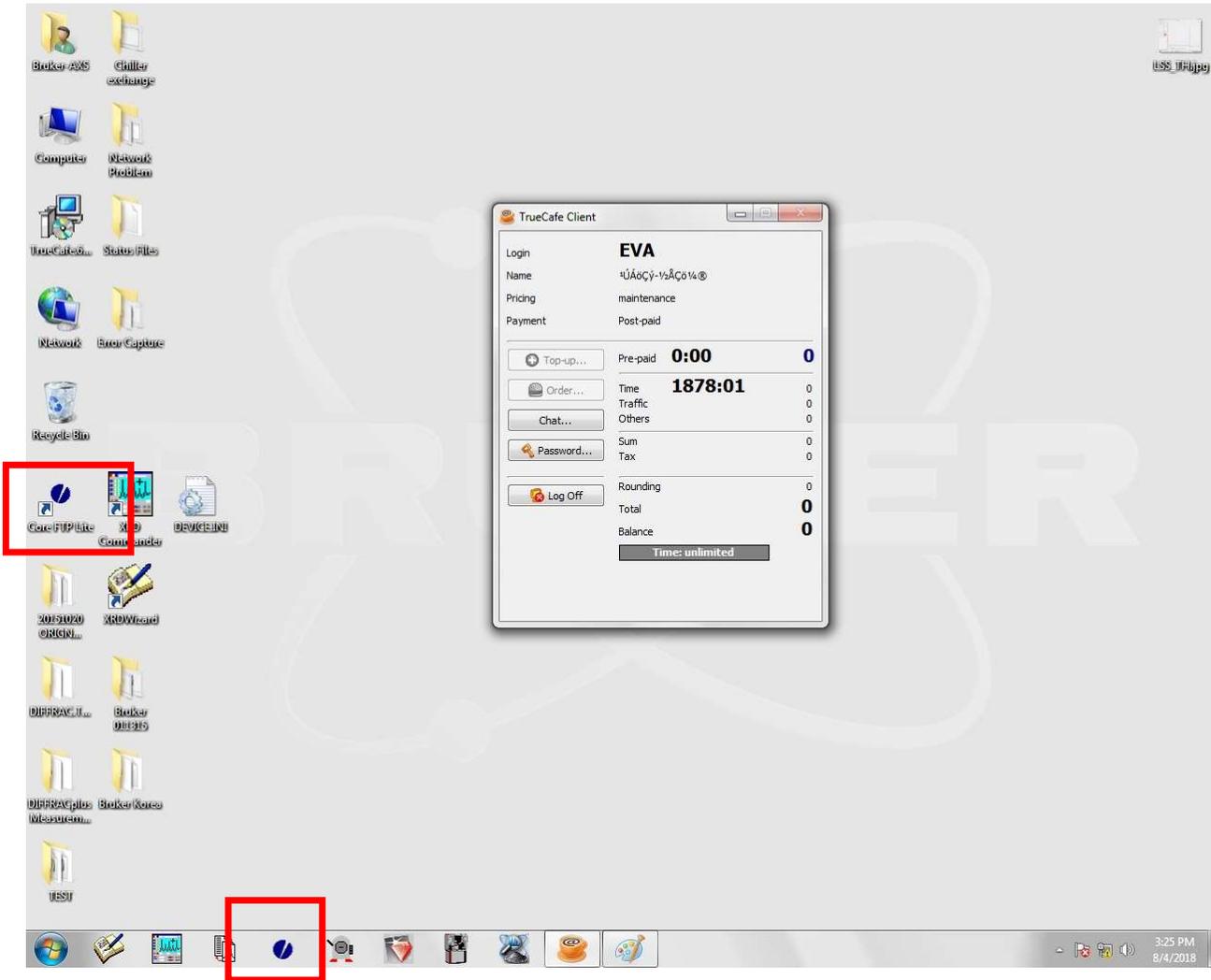


And then, it shows converted UXD files.

Click 'x' all UXD files.

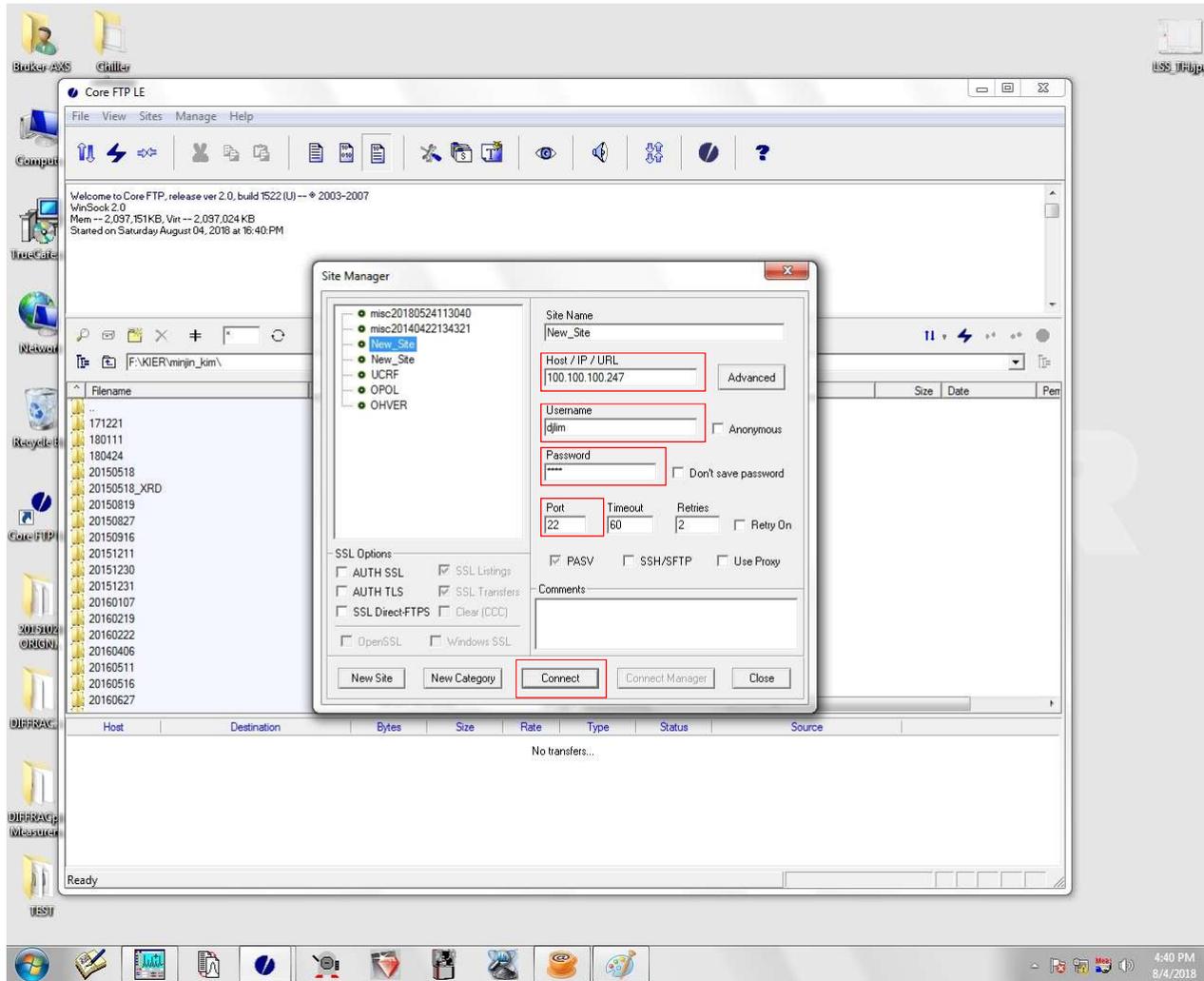
File exchange complete !

Data Upload (Core FTP Execution)



Core FTP is downloadable program without using USB.
Double click one of both.

Data Upload (Core FTP Execution)



IP: 100.100.100.247,

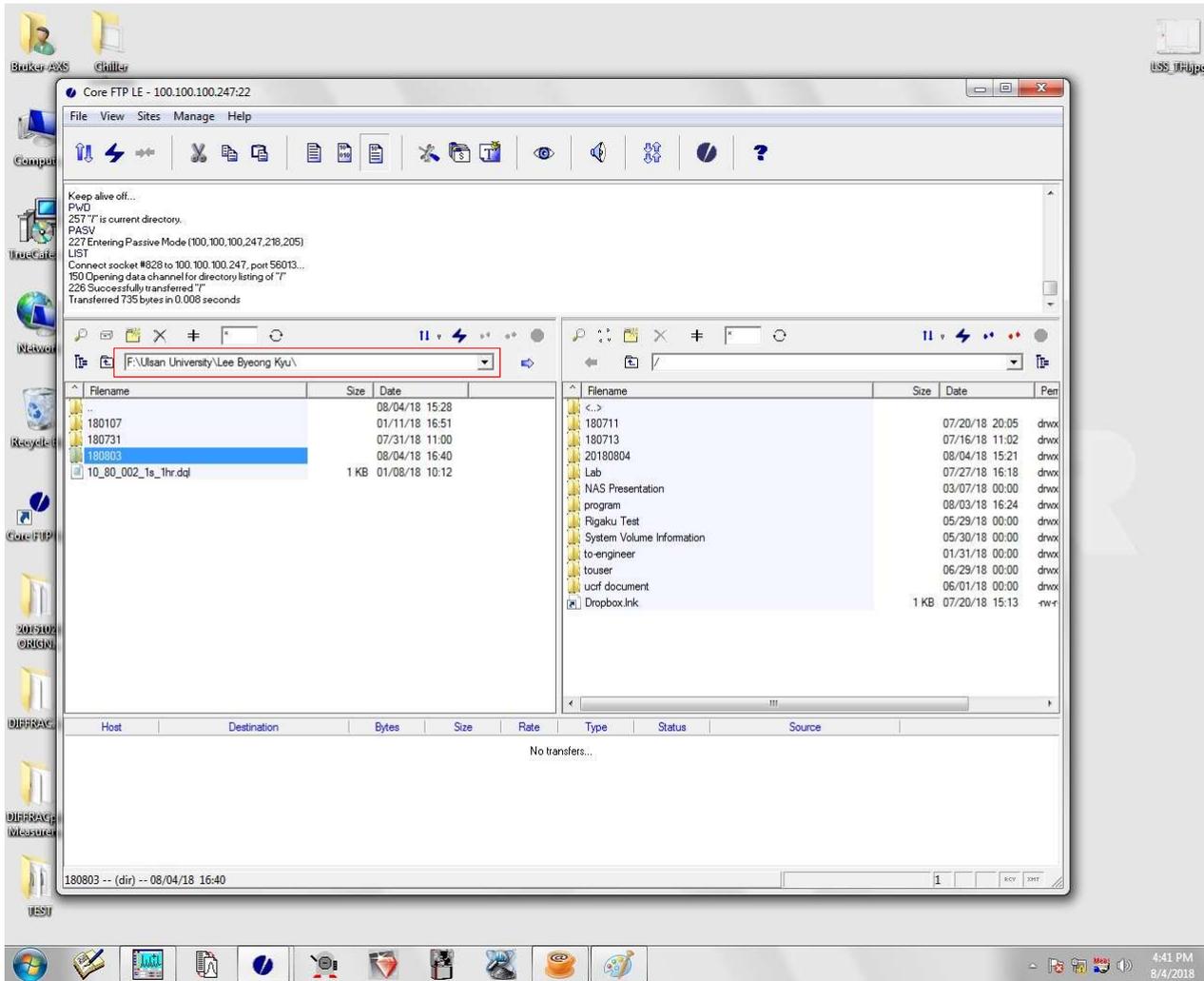
Username: djljm,

Password: 0254,

Port: 22

And then, Click 'Connect'

Data Upload (Core FTP Execution)



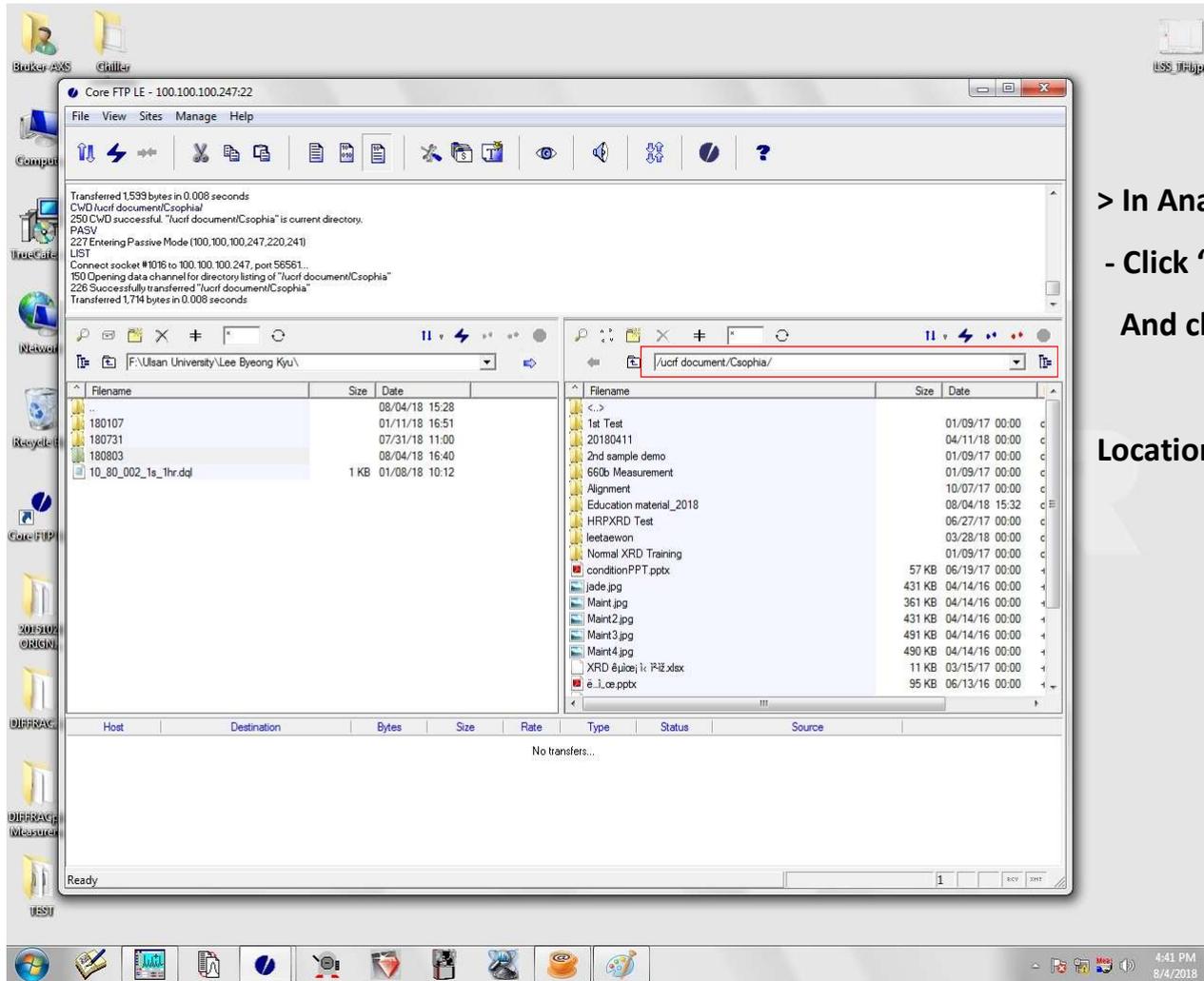
> In Analysis PC

- Click 'Browser' (Left page)

And check file location that you saved.

(Location: F:/Lab name/Requester name/Analysis date)

Data Upload (Core FTP Execution)



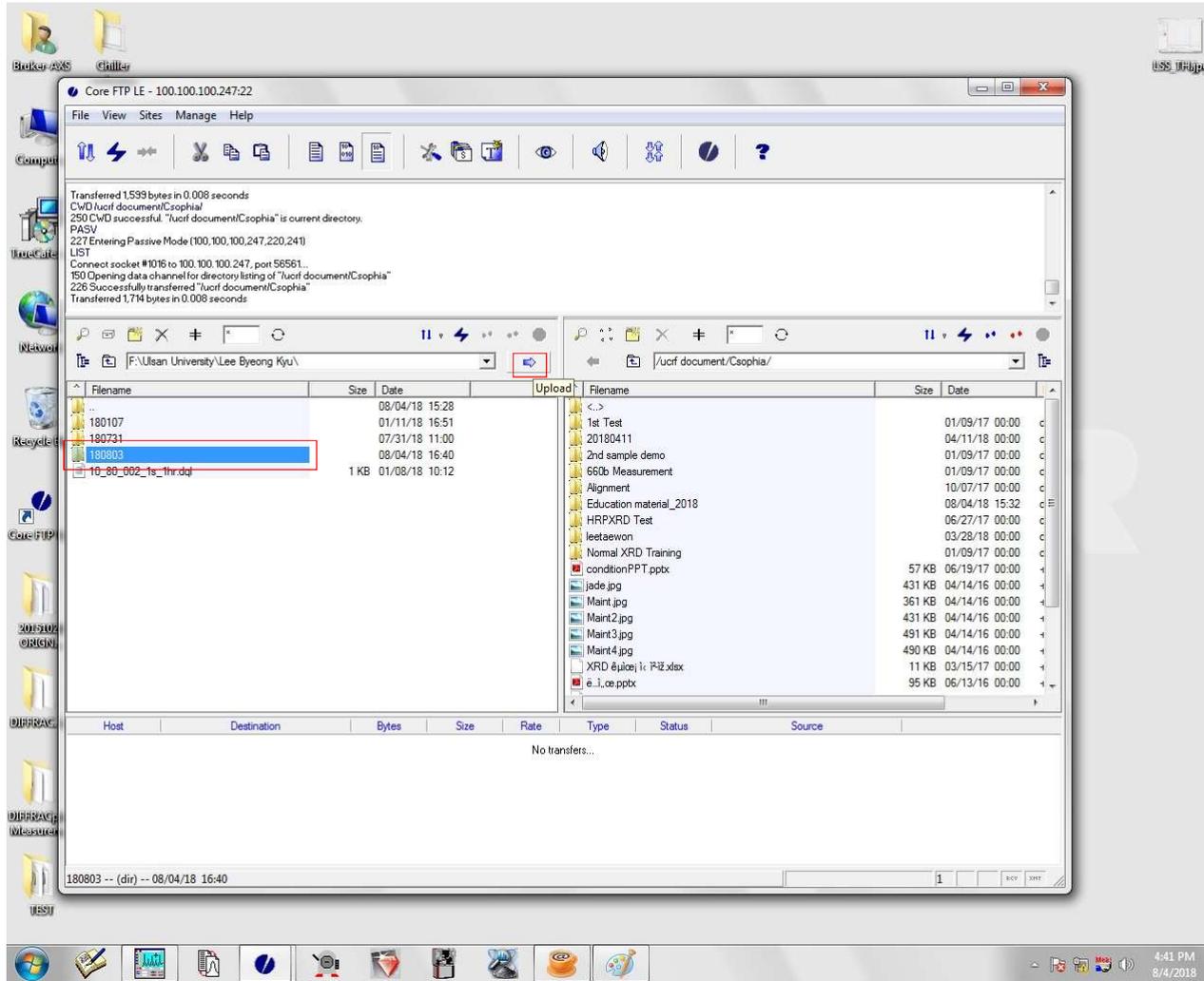
> In Analysis PC

- Click 'Browser' (Right page)

And check file server location that you want to save in Core FTP.

Location: /ucrf document/장비담당자 폴더 ????

Data Upload (Core FTP Execution)



And then, Click file you want to upload in Analysis PC,
Click the 'Upload' button.

Data Upload (Core FTP Execution)



Core FTP LE - 100.100.100.247:22

File View Sites Manage Help

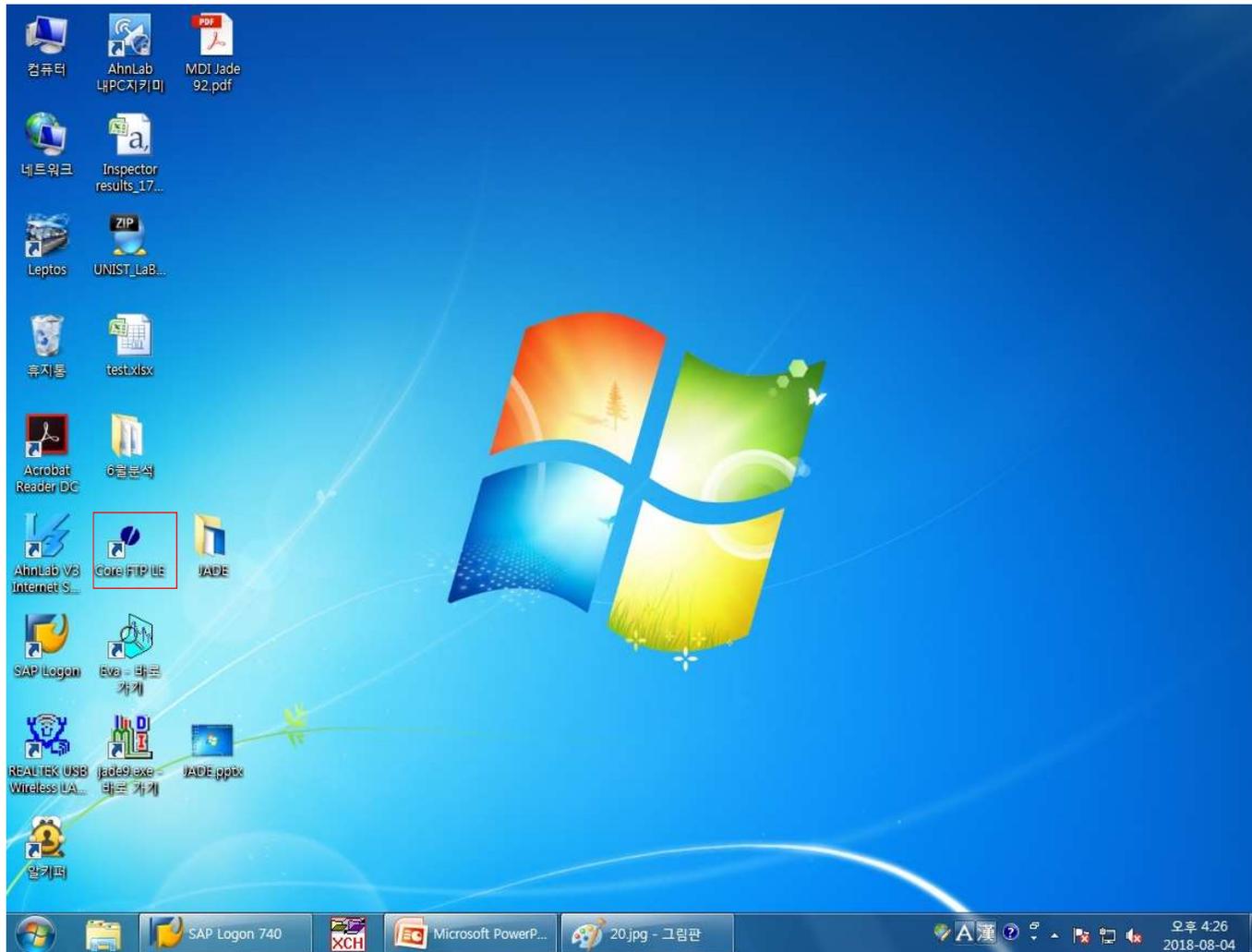
CWD /ucrf document/Csophia/
250 CWD successful. "/ucrf document/Csophia/" is current directory.
Transfer time: 00:00:01
PASV
227 Entering Passive Mode (100,100,100,247,235,66)
LIST
Connect socket #1152 to 100.100.100.247, port 60226...
150 Opening data channel for directory listing of "/ucrf document/Csophia/"
226 Successfully transferred "/ucrf document/Csophia/"
Transferred 1,771 bytes in 0.008 seconds

Host	Destination	Bytes	Size	Rate	Type	Status	Source
100.100.100.247	/ucrf document/Csophia/180803				Upload	Success	F:\Ulsan University\Lee Byeong Kyu\18...
100.100.100.247	/ucrf document/Csophia/180803/10_8...	1,090	1,090		Upload	Success	F:\Ulsan University\Lee Byeong Kyu\18...
100.100.100.247	/ucrf document/Csophia/180803/sampl...	15,356	15,356		Upload	Success	F:\Ulsan University\Lee Byeong Kyu\18...
100.100.100.247	/ucrf document/Csophia/180803/sampl...	79,765	79,765		Upload	Success	F:\Ulsan University\Lee Byeong Kyu\18...

In case of successful Data upload,
It shows and disappear **success signal** in bottom page.

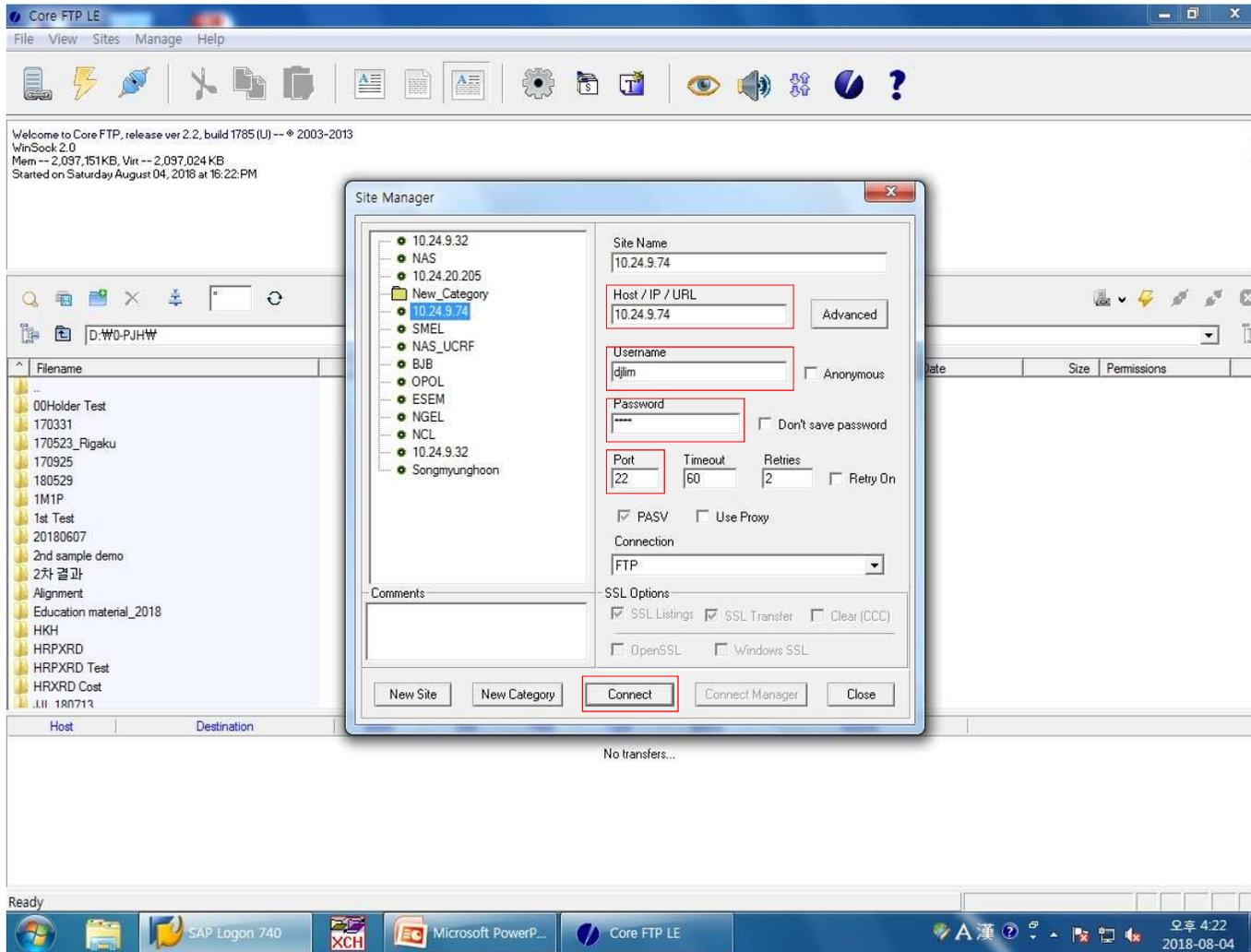
And then, finish Core FTP program.

Data Download (Core FTP Execution)



> In PC for **INPUT RESULT**, (center table)
Double click 'Core FTP LE' in desktop
For Data Download.

Data Download (Core FTP Execution)



IP: 10.24.9.74,

Username: djljm,

Password: 0254,

Port: 22

Click 'Connect'.

Data Download (Core FTP Execution)



Core FTP LE - 10.24.9.74:22

File View Sites Manage Help

150 Opening data channel for directory listing of "/ucrf document/Csophia"
 226 Successfully transferred "/ucrf document/Csophia"
 Transferred 1,573 bytes in 0.002 seconds
 PASV
 227 Entering Passive Mode (10,24,9,74,202,18)
 LIST
 Connect socket #1176 to 10.24.9.74, port 51730...
 150 Opening data channel for directory listing of "/ucrf document/Csophia"
 226 Successfully transferred "/ucrf document/Csophia"
 Transferred 1,573 bytes in 0.010 seconds

D:\WO-PJHW

Filename	Size	Date
..		08/04/18 15:37
00Holder Test		07/31/18 16:03
170331		04/04/17 23:26
170523_Rigaku		06/07/17 14:16
170925		09/26/17 08:46
180529		05/31/18 17:54
1M1P		11/30/17 14:29
1st Test		12/08/16 13:28
20180607		07/09/18 15:02
2nd sample demo		06/10/16 14:40
2차 결과		06/03/16 16:54
Alignment		10/10/16 17:18
Education material_2018		08/04/18 15:37
HKH		04/04/18 13:52
HRPXR		12/07/16 20:43
HRPXR Test		08/08/17 15:39
HRXR Cost		02/09/17 14:33
.lll 180713		07/20/18 20:37

Download

Filename	Date	Size	Permissions
<..>			
1st Test	01/09/17 00:00		drwxr-xr-x
20180411	04/11/18 00:00		drwxr-xr-x
2nd sample demo	01/09/17 00:00		drwxr-xr-x
660b Measurement	01/09/17 00:00		drwxr-xr-x
Alignment	10/07/17 00:00		drwxr-xr-x
Education material_2018	08/04/18 15:32		drwxr-xr-x
HRPXR Test	06/27/17 00:00		drwxr-xr-x
leetaewon	03/28/18 00:00		drwxr-xr-x
Normal XRD Training	01/09/17 00:00		drwxr-xr-x
가릴?덕형?공재?우현?우민??우민?우민?우민...	03/27/17 00:00	18 KB	-rw-r--r--
가릴?우민?우민?우민?우민?우민?우민?우민?우민...	10/04/16 00:00	13,079 KB	-rw-r--r--
?공재?우민?우민?우민?우민?우민?우민?우민?우민...	06/01/16 00:00	12 KB	-rw-r--r--
?우민?우민?우민?우민?우민?우민?우민?우민...	02/08/17 00:00	26 KB	-rw-r--r--
?우민.pptx	06/13/16 00:00	95 KB	-rw-r--r--
?공재?우민?우민?우민?우민?우민?우민?우민?우민...	10/04/16 00:00	351 KB	-rw-r--r--
conditionPPT.pptx	06/19/17 00:00	57 KB	-rw-r--r--
isade.inn	04/14/16 00:00	431 KB	-rw-r--r--

Host Destination Bytes Size Rate Type Status Source

No transfers...

Ready

SAP Logon 740 XCH Microsoft PowerP... Core FTP LE - 10... 19.jpg - 그림판 오후 4:23 2018-08-04

➤ Move Left to Right folder

(opposite to Analysis PC move path)

Click 'Browse' button in Right page.

Check file location that download files exist.

Location: /ucrf document/담당자 이름 폴더??

Data Download (Core FTP Execution)



Core FTP LE - 10.24.9.74:22

File View Sites Manage Help

150 Opening data channel for directory listing of "/ucrf document/Csophia"
226 Successfully transferred "/ucrf document/Csophia"
Transferred 1,573 bytes in 0.002 seconds
PASV
227 Entering Passive Mode (10,24,9,74,202,18)
LIST
Connect socket #1176 to 10.24.9.74, port 51730...
150 Opening data channel for directory listing of "/ucrf document/Csophia"
226 Successfully transferred "/ucrf document/Csophia"
Transferred 1,573 bytes in 0.010 seconds

D:\WD-PJHW

Filename	Size	Date
..		08/04/18 15:37
00Holder Test		07/31/18 16:03
170331		04/04/17 23:26
170523_Rigaku		06/07/17 14:16
170925		09/26/17 08:46
180529		05/31/18 17:54
1M1P		11/30/17 14:29
1st Test		12/08/16 13:28
20180607		07/09/18 15:02
2nd sample demo		06/10/16 14:40
2차 결과		06/03/16 16:54
Alignment		10/10/16 17:18
Education material_2018		08/04/18 15:37
HKH		04/04/18 13:52
HRPXRD		12/07/16 20:43
HRPXRD Test		08/08/17 15:39
HRXRD Cost		02/09/17 14:33
.lll 180713		07/20/18 20:37

/ucrf document/Csophia/

Filename	Date	Size	Permissions
1st Test	01/09/17 00:00		drwxr-xr-x
20180411	04/11/18 00:00		drwxr-xr-x
2nd sample demo	01/09/17 00:00		drwxr-xr-x
660b Measurement	01/09/17 00:00		drwxr-xr-x
Alignment	10/07/17 00:00		drwxr-xr-x
Education material_2018	08/04/18 15:32		drwxr-xr-x
HRPXRD Test	06/27/17 00:00		drwxr-xr-x
leetaewon	03/28/18 00:00		drwxr-xr-x
Normal XRD Training	01/09/17 00:00		drwxr-xr-x
가릴?덕형?공재?우현?우민??우민?우민... 20180411	03/27/17 00:00	18 KB	-w-r--r--
가릴?우민??우민?우민?우민?우민?우민?우민...	10/04/16 00:00	13,079 KB	-w-r--r--
가릴?우민?우민?우민?우민?우민?우민?우민...	06/01/16 00:00	12 KB	-w-r--r--
가릴?우민?우민?우민?우민?우민?우민?우민...	02/08/17 00:00	26 KB	-w-r--r--
가릴.pptx	06/13/16 00:00	95 KB	-w-r--r--
가릴?우민?우민?우민?우민?우민?우민?우민...	10/04/16 00:00	351 KB	-w-r--r--
conditionPPT.pptx	06/19/17 00:00	57 KB	-w-r--r--
isade.inn	04/14/16 00:00	431 KB	-w-r--r--

No transfers...

Click 'Browse' button in Left page.

Check file location that you want to save.

위치: /ucrf document/담당자 폴더???

Click 'Download' button with clicked folder.

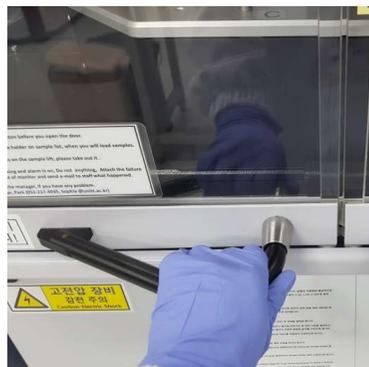
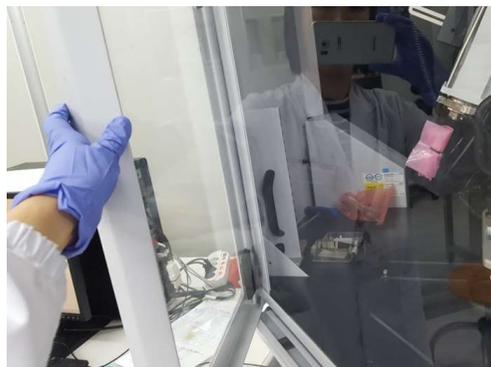
Sample Recovery



> PRINCIPLE:

The recovery of samples should be done within a week after measurement.

If not recovery, manager discards it.



*XRD has X-ray that is harmful so it has strict Safety Rule.

If you do Door Open or Close without pressing 'Door Open' button, machine is damaged due to force quit of X-ray.

Be careful to do **Door Open & Close !**