

Data Management System Operation Guide

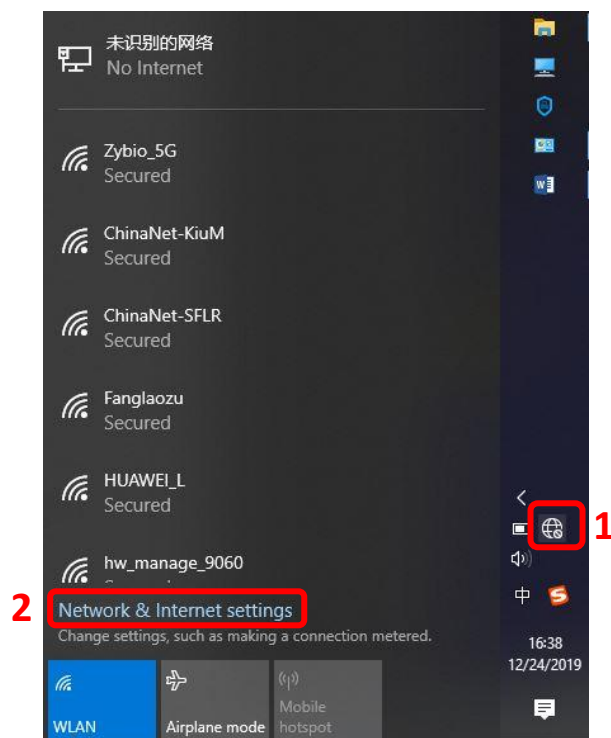
Part 1: Preparation for Installation

1. A network cable.
2. PC with LAN port.
3. Install “Data Management Installer” which we sent to you.
 - 3.1 Operating system requirement: Windows 7 Ultimate; Windows 8.1 Pro; Windows 10 Pro; Microsoft Windows XP Professional SP3.
 - 3.2 Supported language: English.
 - 3.3 Supported resolution: at least 1024*768.
4. Connect machine and computer with network cable. Check if machine LAN port green light is flashing to confirm whether the cable connected well or not.

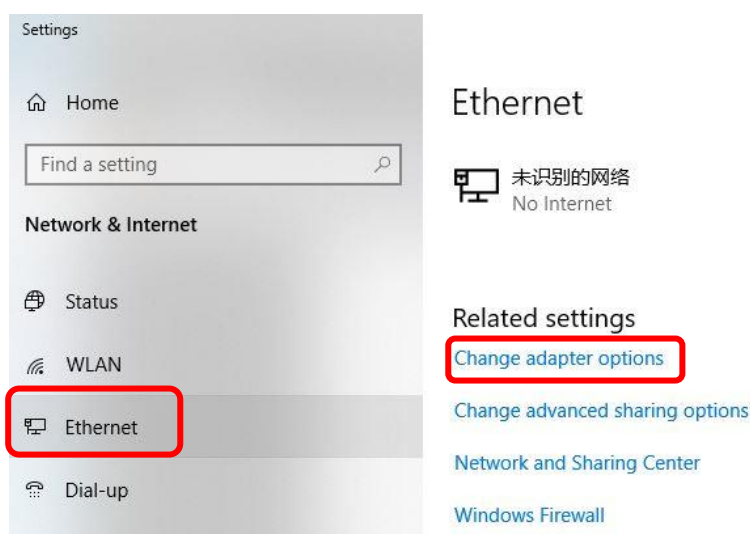


Part 2: Check IP on PC

1. Enter into “Network&Internet settings”, like the picture below shows.



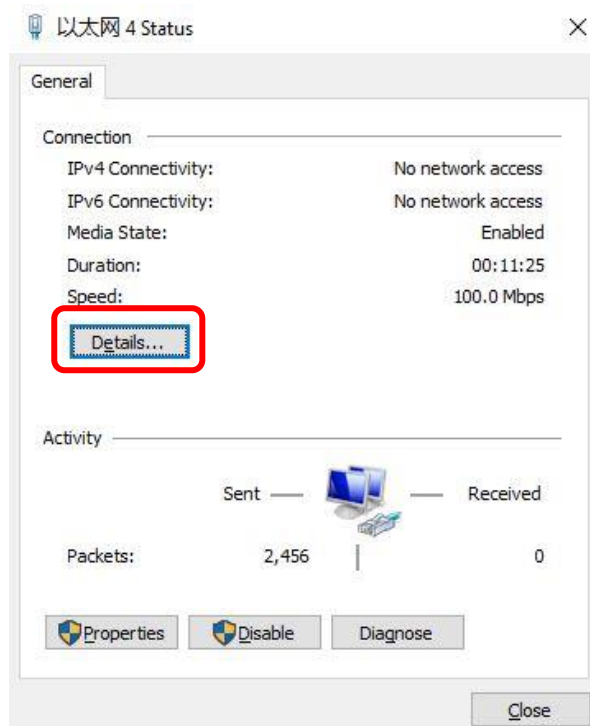
- 2 Enter into "Ethernet" > "Change adapter options".



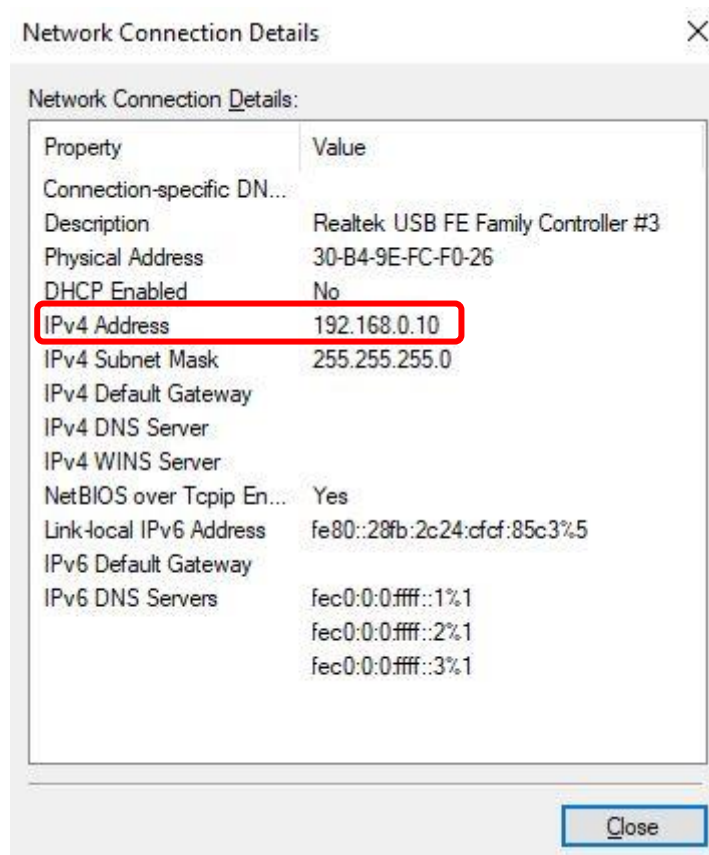
- 3 Double click corresponding network.



4 Click "Details" to check IP.



5 Get IP of your PC.



Part 3: Parameter setting for machine

1. Enter into “Management” => “Setup” => “General” interface like the following picture.

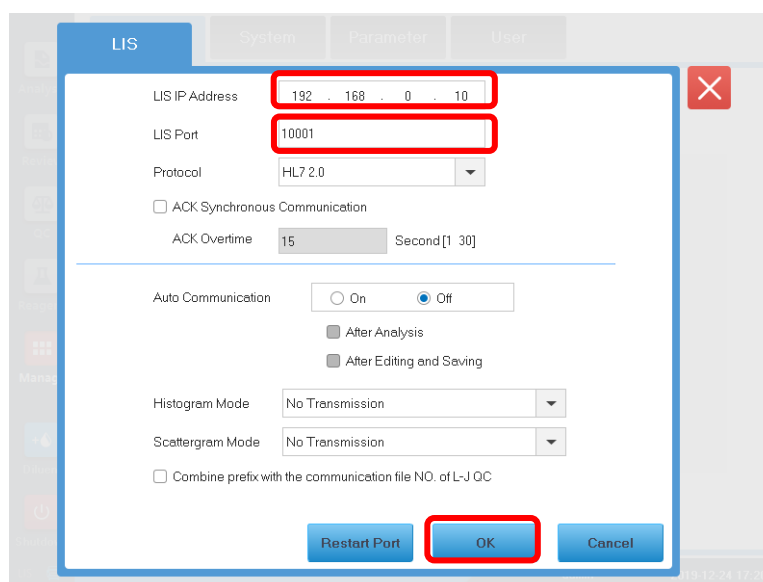


2. Enter **LIS interface** to set IP Address and LIS Port. Then click **OK** to save.

Set the **LIS IP** same as the computer IP that you get in **part 2**.

For this example: LIS IP Address: 192.168.0.10

LIS Port: 10001



3. Enter “communication” interface to set “IP Address” and “Default Gateway”. Then click **OK** to save.

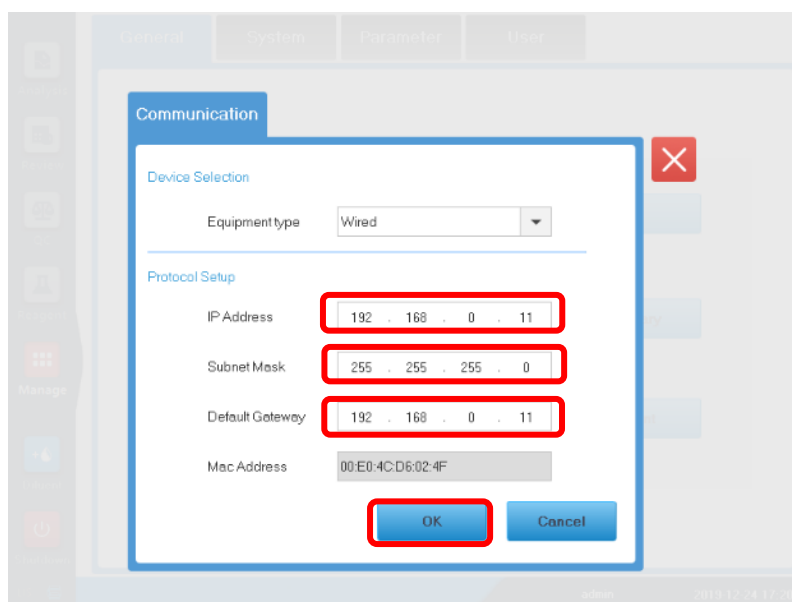
(PS: The last segment number of the communication IP should be different with the LIS IP, I marked it in the following example with red color.)

For example:

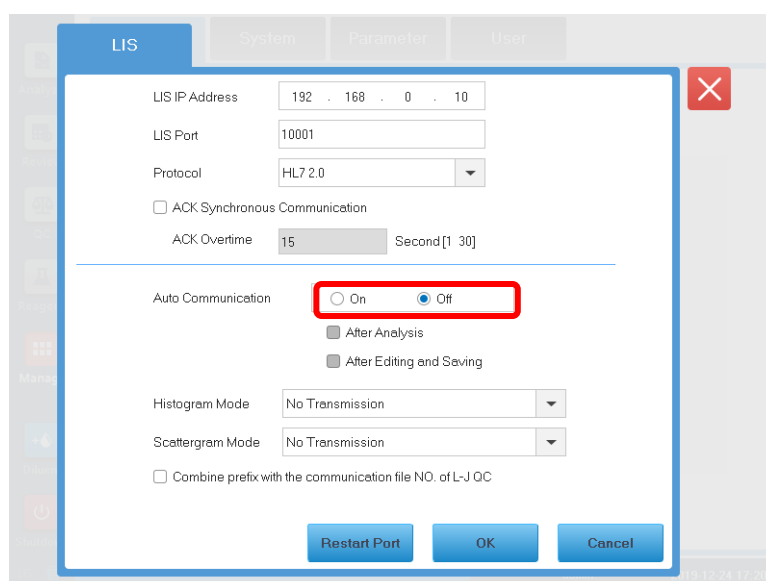
IP Address: 192.168.0.11

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.0.11

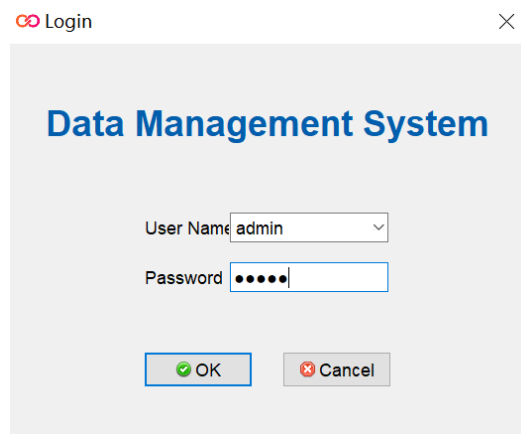


4. In **LIS interface** can also set auto communication, with “Open” and “Close” we can set machine whether to transfer data automatically or not. We can set machine transfer data automatically after analysis or after editing and saving.



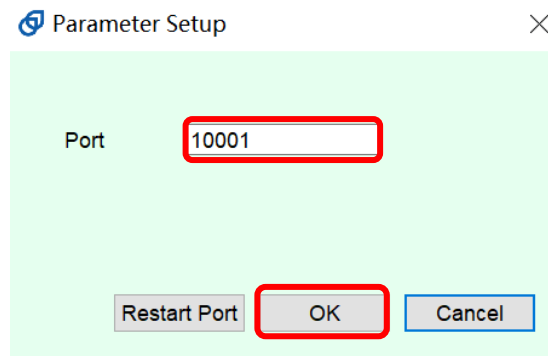
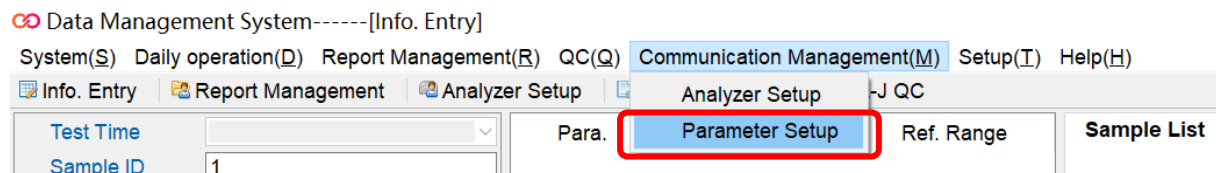
Part 4: Parameter setting for PC.

1. Log in Data management system on computer, **username: admin, password: admin.**



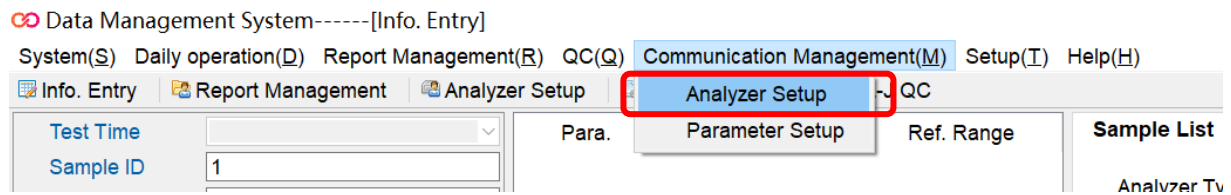
2. Enter “communication management” => “parameter setup” interface like following picture shows.

The Port number should be the same with the machine LIS Port number “**10001**”. Then click **OK** to save.

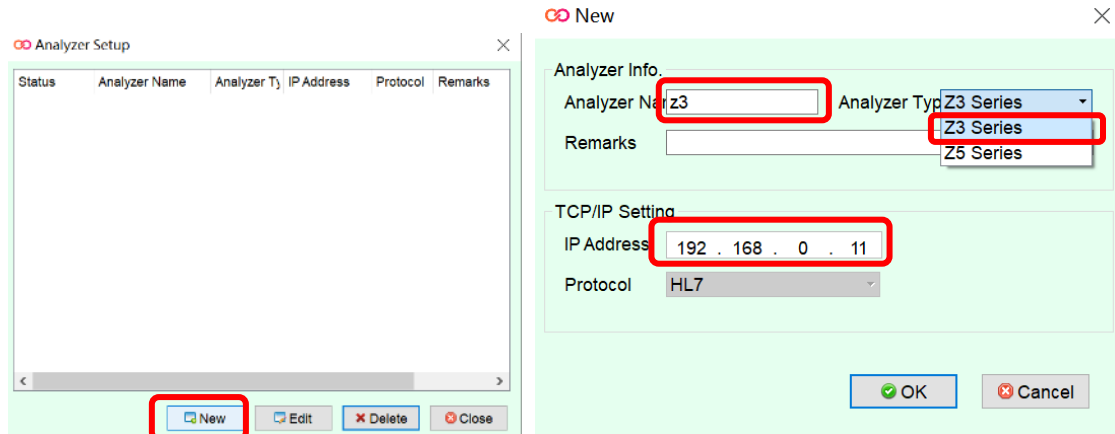


Part 4: check if the connection is success.

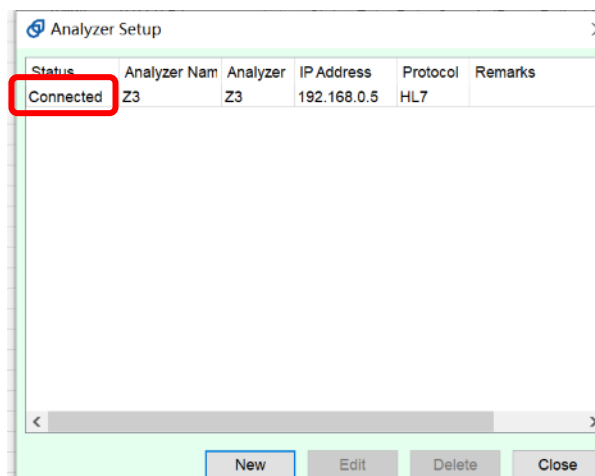
1. Go to communication management -> analyzer setup, create a new analyzer item, input the analyzer name, select the corresponding analyzer type, and the IP address should be the **same as** the **“communication interface” of machine.**



Like the example , **IP address : 192.168.0.11**

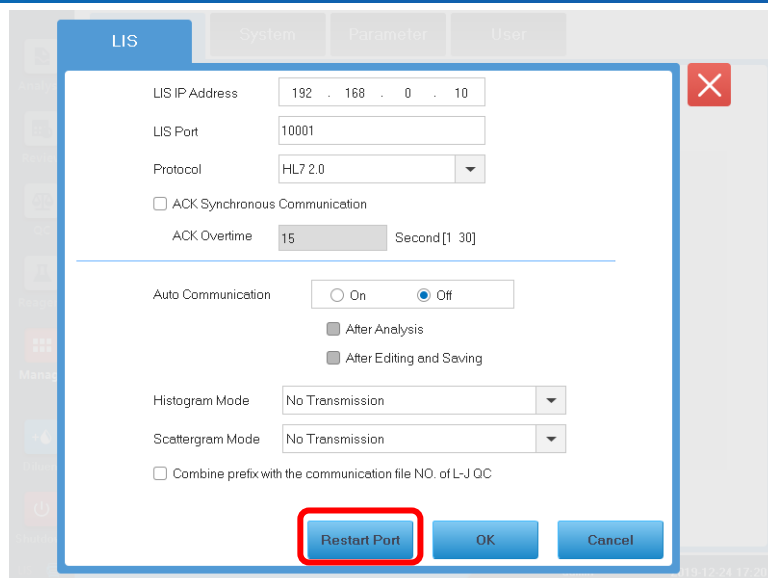


3. Click OK, the item will be created, then check the status of this item, if it is connected, we can transmit the report result.

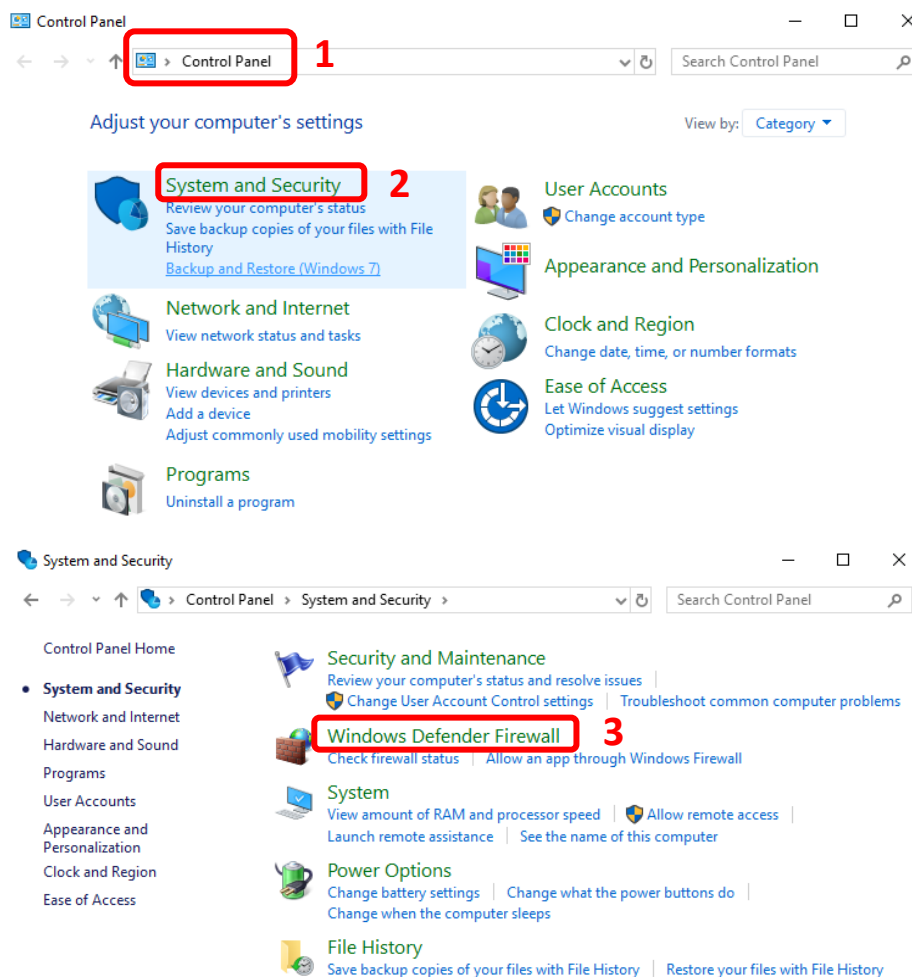


3. If it shows unconnected.

- 3.1 please check whether the IP address was input correctly by the rules that mentioned as above, then restart the data management system software and the port on machine.



3.2 If still cannot connected. Please try to turn off the firewall. Then check it again.



The image shows a sequence of four screenshots from the Windows Defender Firewall control panel, illustrating the steps to turn off the firewall for private and public networks.

Step 4: The first screenshot shows the 'Windows Defender Firewall' window. In the left-hand navigation pane, the option 'Turn Windows Defender Firewall on or off' is highlighted with a red box and the number 4.

Step 5: The second screenshot shows the 'Customize Settings' window. Under 'Private network settings', the radio button for 'Turn off Windows Defender Firewall (not recommended)' is selected and highlighted with a red box and the number 5.

Step 6: The third screenshot shows the 'Public network settings' section. The radio button for 'Turn off Windows Defender Firewall (not recommended)' is selected and highlighted with a red box and the number 6.

Step 7: The fourth screenshot shows the bottom of the 'Customize Settings' window. The 'OK' button is highlighted with a red box and the number 7.

Part 5: Search and transmit analysis data

1. If the connection is success, please enter review interface, select corresponding results we need to transmit. Then click **comm.** button then the analysis data will be transmitted to Data Management System. Like the following picture shows.

Notice: Please make sure the system time of analyzer and PC are the same and correct.

Sequence	36	37	38	39	40	41
Sample ID	2019	2020	2021	background	2018	2019
Status	Transmitted	Transmitted	Transmitted			
CRP						
WBC	8.85	9.04	8.59	0.01	8.77	5.55
Lym%	33.0	34.1	32.3		31.0	32.9
Mid%	6.0	6.1	6.4		6.7	6.3
Gran%	61.0	59.8	61.3		62.3	60.8
RBC	4.30	4.33	4.21	0.00	4.30	3.43 ↓
HCT	39.8	40.0	38.7	0.0	39.6	29.9 ↓
MCV	92.5	92.4	92.0		92.0	87.3
HGB	128	131	127	0	128	103 ↓
MCHC	322	327	329		324	343
PLT	251	252	253	0	248	268

Data Management System-----[Info. Entry]

System(S) Daily operation(D) Report Management(R) Communication Management(M) Setup(I) Help(H)

Test Time	2019/6/19 16:55	Para.	Result	Unit	Ref. Range
Sample ID	2019	WBC	8.85	10 ⁹ /L	3.50-9.50
Patient Type		Lym#	2.92	10 ⁹ /L	1.10-3.20
Patient ID		Mid#	0.53	10 ⁹ /L	0.10-1.50
First Name		Gran#	5.40	10 ⁹ /L	1.80-6.30
Last Name		Lym%	33.0	%	20.0-50.0
Gender		Mid%	6.0	%	3.0-15.0
Birthdate		Gran%	61.0	%	40.0-75.0
Age		RBC	4.30	10 ¹² /L	3.80-5.80
Ref. Group	General	HGB	128	g/L	115-175
Dept.		HCT	39.8	%	35.0-50.0
Bed No.		MCV	92.5	fL	82.0-100.0
Draw Time		MCH	29.8	pg	27.0-34.0
Deliverer		MCHC	322	g/L	316-354
Delivery Time		RDW-CV	15.9	%	11.5-16.0
Tester	admin	RDW-SD	49.9	fL	35.0-56.0
Auditor		PLT	251	10 ⁹ /L	125-350
Remarks		MPV	9.2	fL	6.5-12.0
Receiving time	2019/10/30 8:51	PDW	16.4	fL	9.0-17.0
Status	Not Validated Not Printed	PCT	0.230	%	0.108-0.282
		P-LCC	57	10 ⁹ /L	30-90
		P-LCR	22.8	%	11.0-45.0

Sample List	Graphs/Flag															
Analyzer Type: Z3	Sum: 2															
Status: Report Research	Search															
<table border="1"> <thead> <tr> <th>Status</th> <th>Entry Date</th> <th>Sample ID</th> <th>Patient ID</th> <th>Name</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/></td> <td>2019/6/19</td> <td>2019</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/></td> <td>2019/10/29</td> <td>2020</td> <td></td> <td></td> </tr> </tbody> </table>	Status	Entry Date	Sample ID	Patient ID	Name	<input checked="" type="checkbox"/>	2019/6/19	2019			<input type="checkbox"/>	2019/10/29	2020			
Status	Entry Date	Sample ID	Patient ID	Name												
<input checked="" type="checkbox"/>	2019/6/19	2019														
<input type="checkbox"/>	2019/10/29	2020														

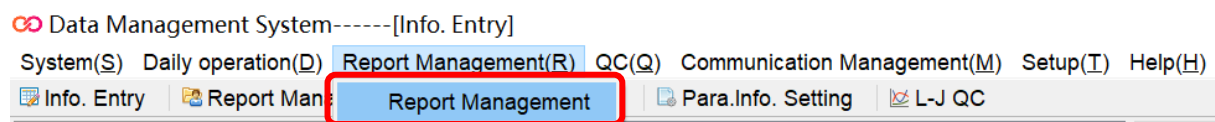
This is a historical result, after transmit it, please research it by changing the data range, guide is down below.

- The data management system only show the result that tested by today directly, If the report we sent is a historical result, please use search function. Click **search**, select the date range, and click **OK** to confirm. Then software will show the historical analysis data according to the date range automatically.

The screenshot displays the 'L-J QC' window with the 'Sample List' tab selected. The 'Analyzer Type' is set to 'Z3 Series' and the 'Status' is 'Report Research'. A red box highlights the 'Search' button. Below the main window, a 'Search' dialog box is shown with the following fields: 'Analyzer Type' (Z3 Series), 'Sample ID' (empty), 'Entry Date' (2019/2/16 - 2020/2/16, highlighted with a red box), 'Patient ID' (empty), 'First Name' (empty), 'Last Name' (empty), 'Validation Status' (dropdown), and 'Print Status' (dropdown). The 'Range' section has 'All' selected. The 'OK' button is highlighted with a red box.

Part 6: modify the report template

- Go to **Report Management** then select the **corresponding analyzer type, paper and print template**. Click **Edit** button.



Report Management

Analyzer Typ Z3 Series

Print Template Setting

Template typ Report

Paper A4

Print Templa A4 Portrait + Graph

Import Export Edit Delete

Report. Setting

Report Title Hematology Analysis Report

OK Cancel

2. Then we can modify the corresponding template.

File Edit Report Service Help

Arial 8 B U A

Report

- RepTitleBand
 - A field1
 - A field2
 - A field3
 - A field4
 - A field5
 - A field6
 - A field7
 - A field8
 - A field9
 - A field10
 - A field11
 - A field12
 - A field13
 - A field14

Name Value

Name	field26
Height	529
Width	519
Left	18
Top	220
Printing	<input checked="" type="checkbox"/>
ShowTableTi...	<input type="checkbox"/>
RowHeigth	23
TableSeperat...	15
Aligment hor	Left
Aligment ver	Center
AutoHeight	<input type="checkbox"/>
Background...	<input type="checkbox"/>
Font	
TextWran	<input type="checkbox"/>

Page 1

Report title

[ReportTitle]

[Tips_Para]	[Tips_R]	[Tips_RefRai]	[Tips_Unit]	
1 WBC	Value	Flag	Range	Unit
2 LymphN	***	***	***	***
3 MidN	***	***	***	***
4 GranN	***	***	***	***
5 LymphP	***	***	***	***
6 MidP	***	***	***	***
7 GranP	***	***	***	***
8 RBC	***	***	***	***
9 HGB	***	***	***	***
10 HCT	***	***	***	***
11 MCV	***	***	***	***
12 MCH	***	***	***	***
13 MCHC	***	***	***	***
14 RDW-CV	***	***	***	***
15 RDW-SD	***	***	***	***
16 PLT	***	***	***	***
17 MPV	***	***	***	***
18 PDW	***	***	***	***
19 PCT	***	***	***	***

[Tips_WBCMessage]

[WBCMessage]

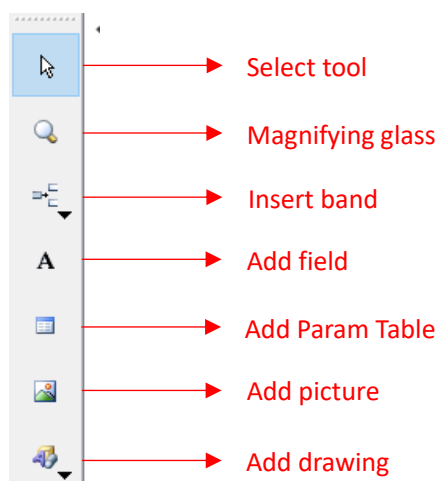
[Tips_RBCMessage]

[RBCMessage]

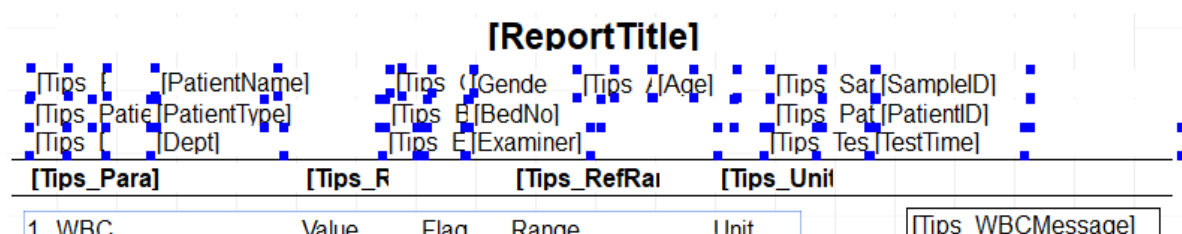
[Tips_PLTMessage]

[PLTMessage]

3. Choose the left side tools to modify the template.

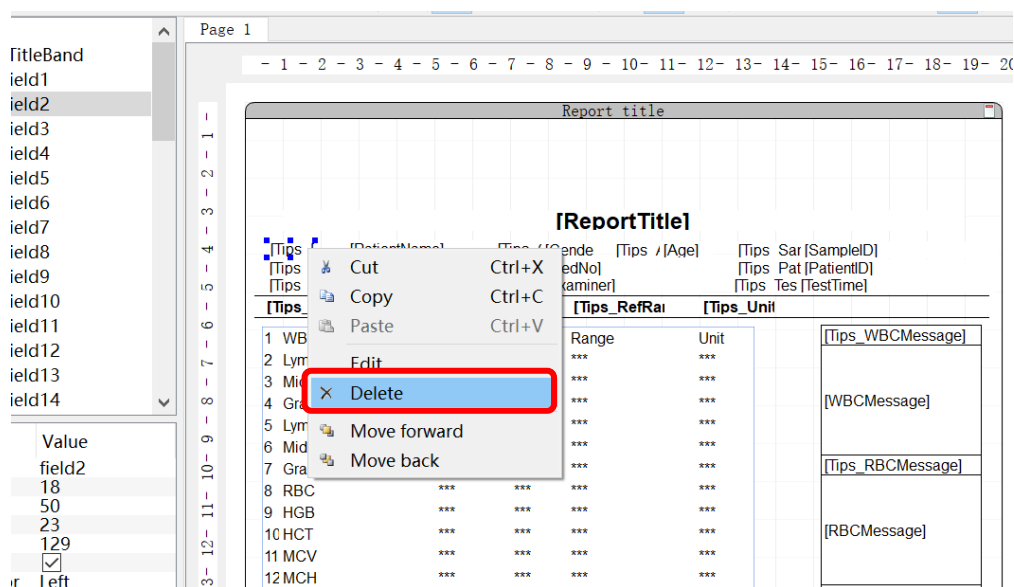


4. Hold the “Ctrl” button on keyboard to select some content then can move them together at the same time, and “Ctrl”+ “Z” to recall the mis-operation.



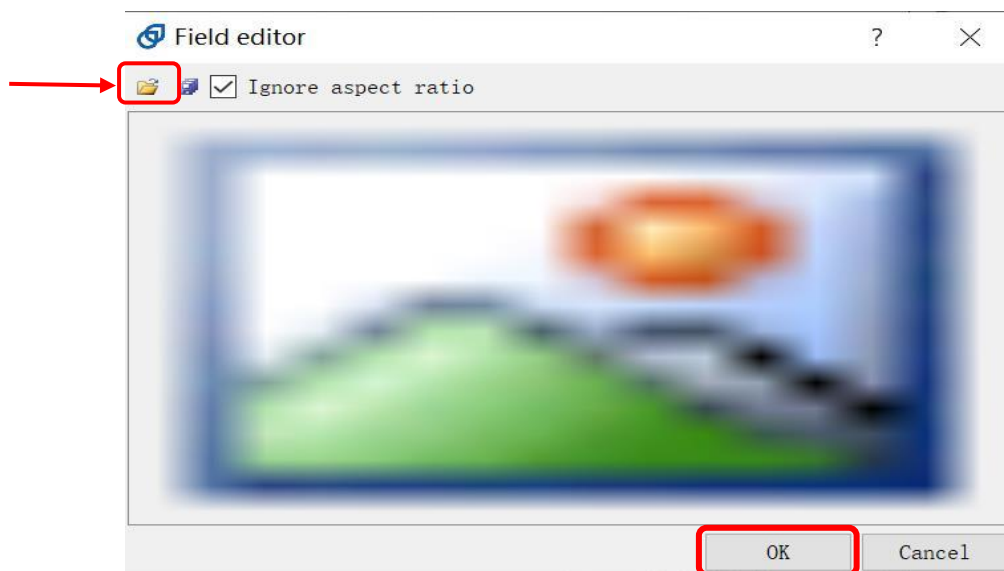
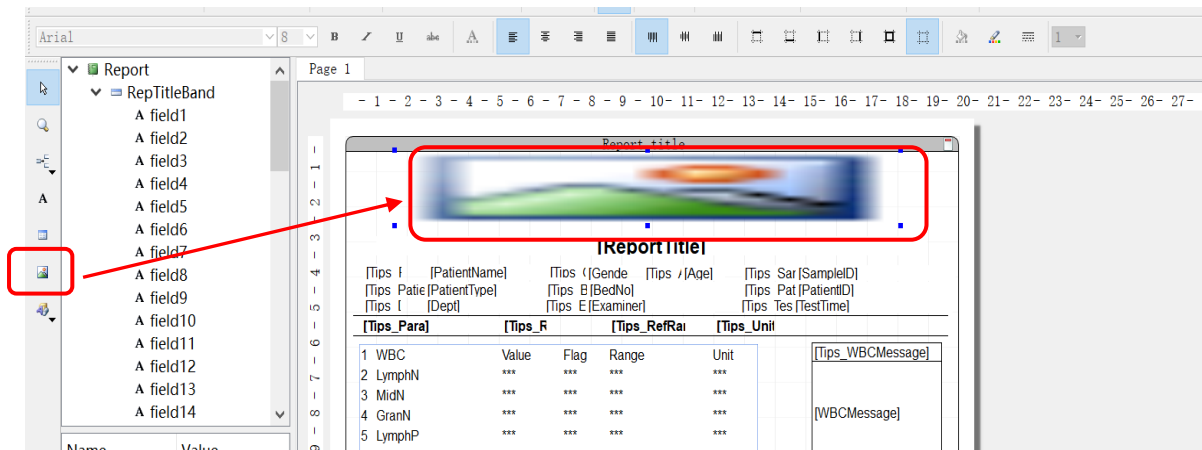
(PS: move them by using mouse or the arrow button at the lower right corner of keyboard.)

5. Select and right click to delete the content that is unnecessary.

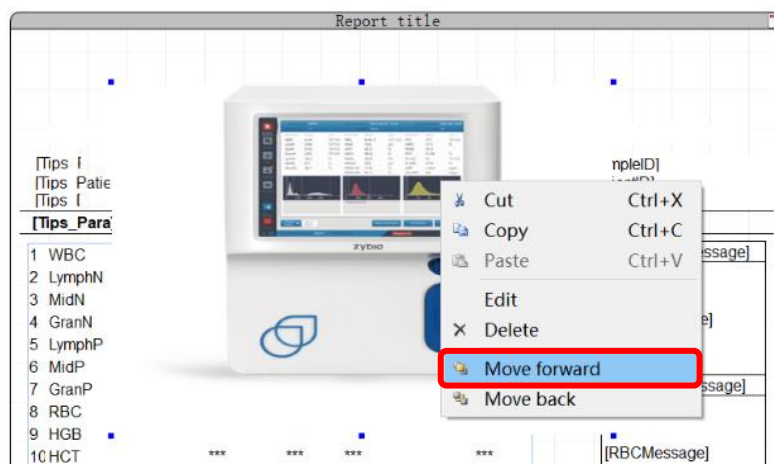


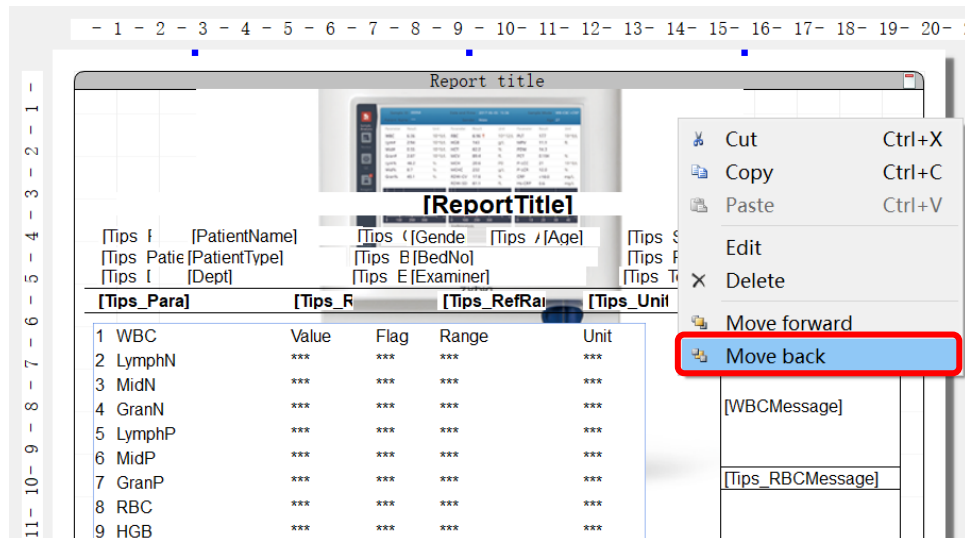
6. Click add picture. There will show a picture icon on software. Use mouse to move it and modify the size. Double click this icon will pop up a dialog box. First click file button to choose a picture from PC,

second click **OK** to save it.

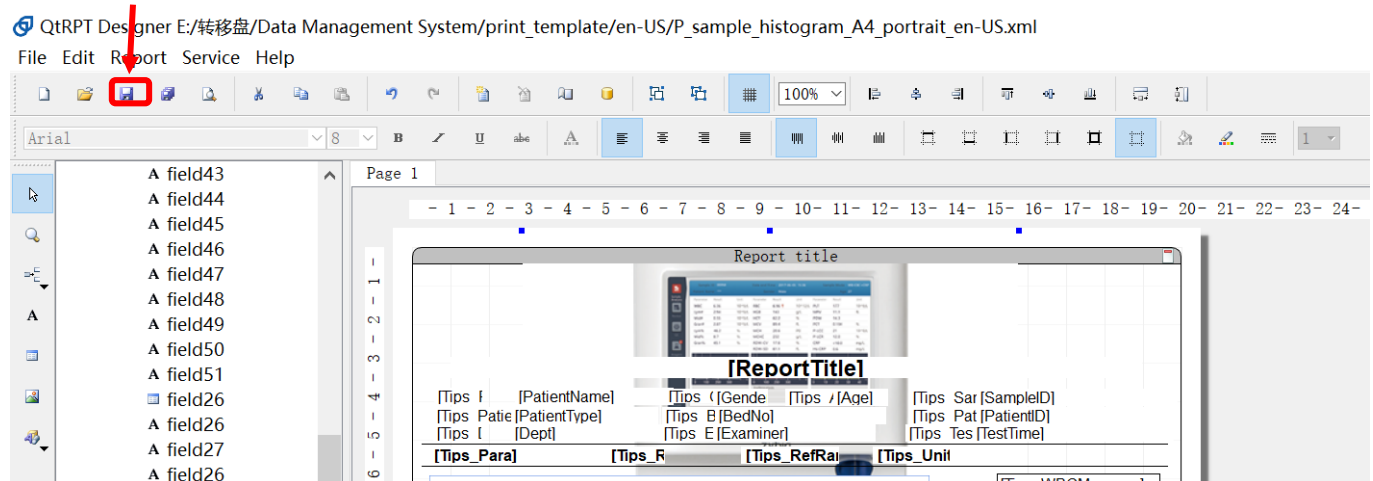


7. Select the picture and right click to choose the picture beneath the words or above the words (**move forward** or **move back**). Please check the difference by the following 2 pictures.

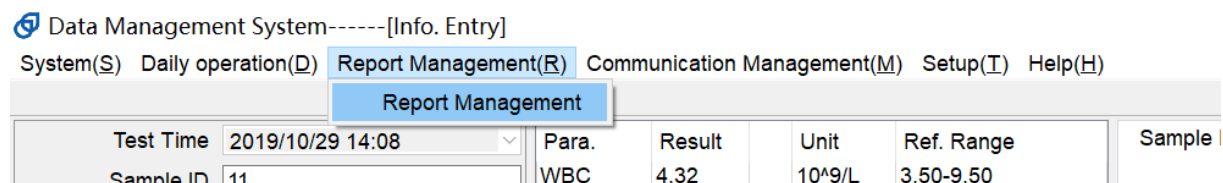




8. Click the save button to save this template.



9. After save the template modification, close the current template modify software interface. Back to the data management system software, go to report management, then select the **corresponding analyzer type, paper and print template that just been modified**. And we can modify the report title here. Click ok, then we can print report by using this template.



Report Management

Analyzer Type: Z3 Series

Print Template Setting

Template type: Report

Paper: A4

Print Template: A4 Portrait + Graph

Report Setting

Report Title: Hematology Analysis Report

Import Export Edit Delete

OK Cancel

Modify the title here

Part 7: print the report

1. Select the report that need been printed, input the patient information if needed and click the **preview** button, check if the template is correct or not.

Data Management System-----[Info. Entry]

System(S) Daily operation(D) Report Management(R) Communication Management(M) Setup(I) Help(H)

Test Time: 2019/6/19 16:35

Sample ID: 2019

Patient Type:

Patient ID:

First Name:

Last Name:

Gender:

Birthday:

Age: (Year(s))

Ref. Group: General

Dept:

Bed No:

Draw Time:

Deliverer:

Delivery Time:

Tester: admin

Auditor:

Remarks:

Receiving time: 2019/10/30 8:51

Status: Not Validated Not Printed

Part	Result	Unit	Ref. Range
WBC	8.85	10 ⁹ /L	3.50-9.50
Lym%	2.92	10 ⁹ /L	1.10-3.20
Mid%	0.53	10 ⁹ /L	0.10-1.50
Gran%	5.40	10 ⁹ /L	1.80-6.30
Lym%	33.0	%	20.0-50.0
Mid%	6.0	%	3.0-15.0
Gran%	61.0	%	40.0-75.0
RBC	4.30	10 ¹² /L	3.80-5.80
HGB	128	g/L	115-175
HCT	39.8	%	35.0-50.0
MC	92.5	fL	82.0-100.0
MCV	29.8	pg	27.0-34.0
RDW-CV	15.9	%	11.5-16.0
RDW-SD	49.9	fL	35.0-56.0
PLT	251	10 ⁹ /L	125-350
MPV	9.2	fL	6.5-12.0
PDW	16.4	fL	9.0-17.0
PCT	0.230	%	0.108-0.282
P-L C	57	10 ⁹ /L	30-90
P-L R	22.8	%	11.0-45.0

Sample List Graphs/Flag

Analyzer Type: Z3 Sum: 2

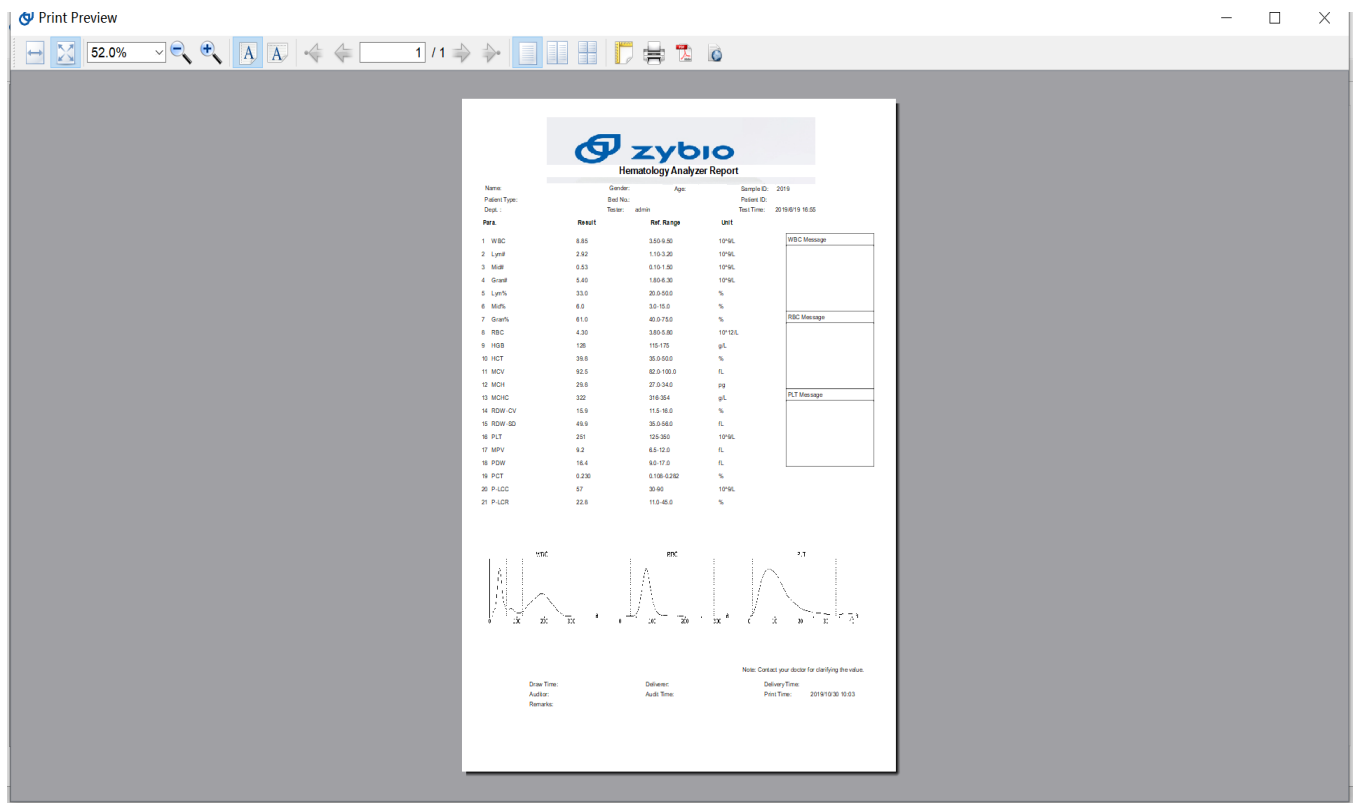
Status: Report Research Search

Stu	Entry Date	Sample ID	Patient ID	Name	Auditor	Analyzer Name
<input checked="" type="checkbox"/>	2019/6/19	2019				Z3
<input type="checkbox"/>	2019/10/29	2020				Z3

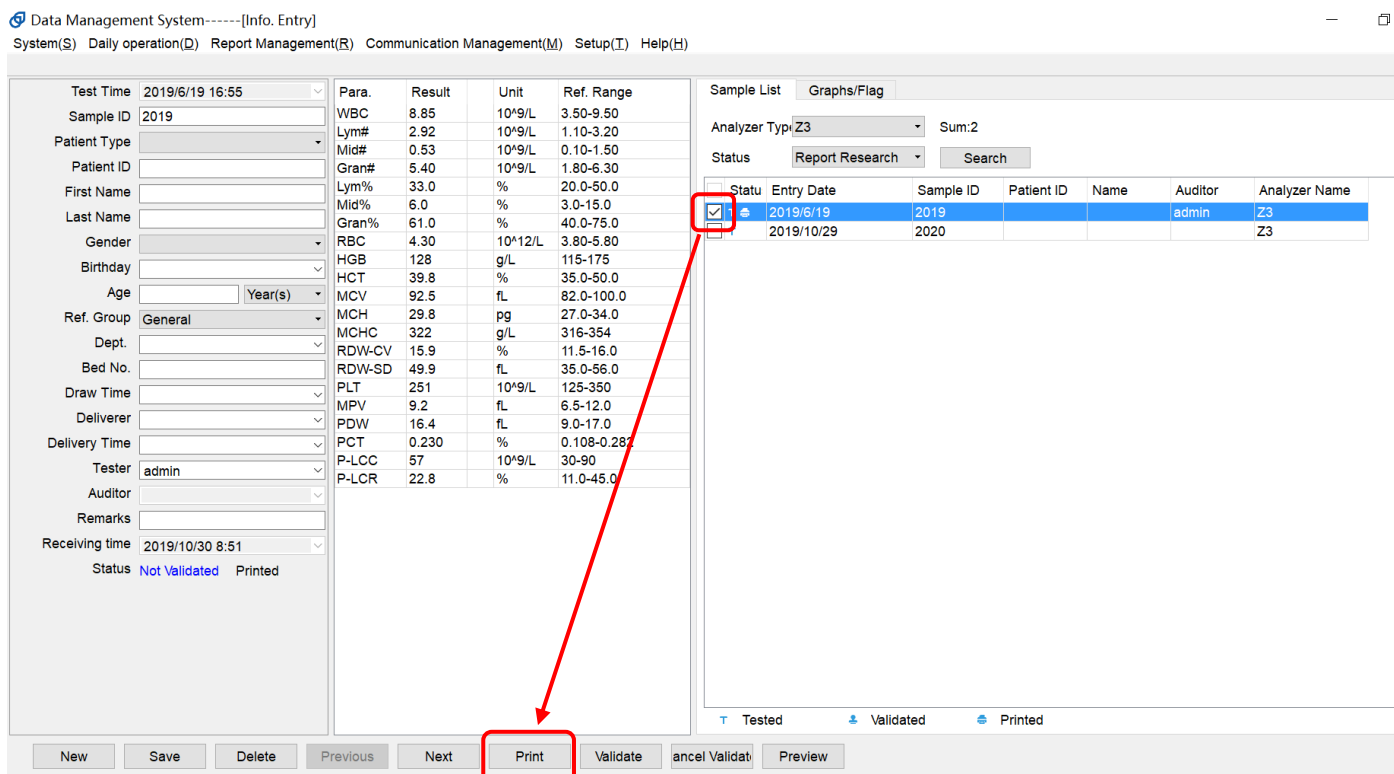
Tested Validated Printed

New Save Delete Previous Next Print Validate Cancel Validate Preview

Input the patient information if needed.



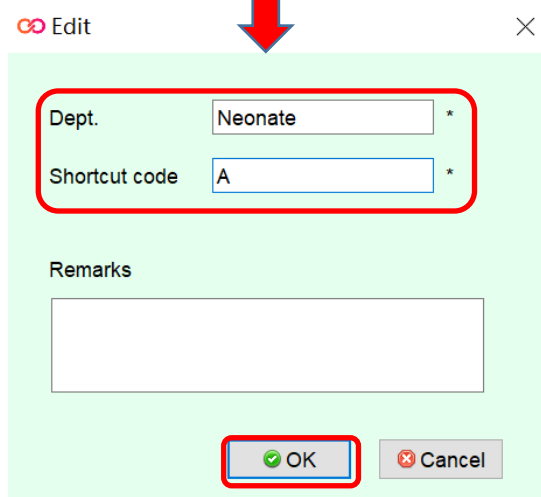
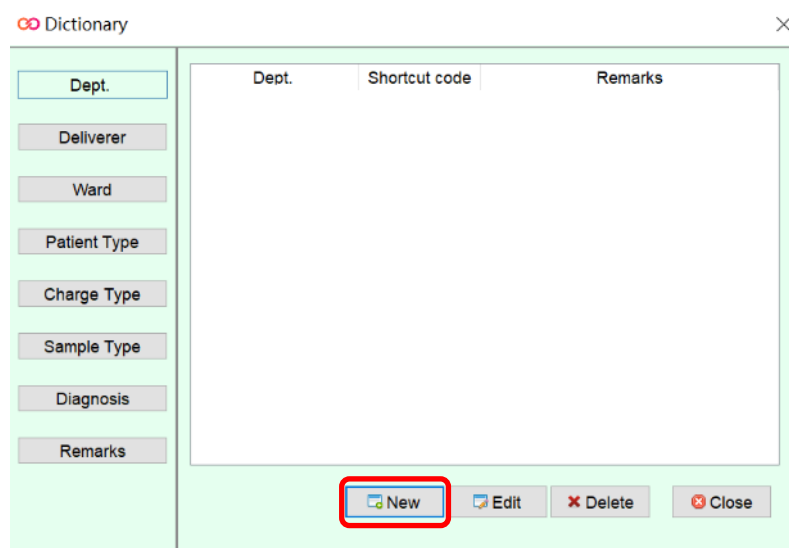
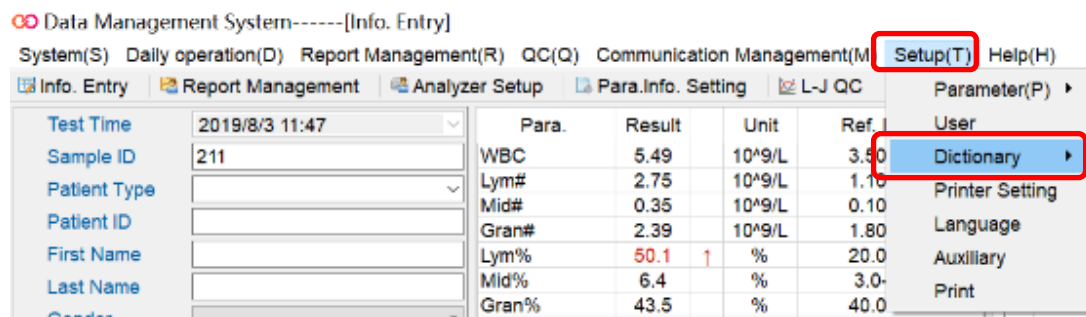
2. If the preview is correct, please close the preview interface, then click the **print** button at the bottom bar. Then it will print the report by your default printer.



Part 8: Dictionary setting (shortcut input)

1. Go to Setup→Dictionary, set up the dictionary for department, patient type, sample type and so on.

For instance, the department shortcut input set up operation down below.



2. Then select this option in select box on patient information input box.

∞ Data Management System-----[Info. Entry]

System(S) Daily operation(D) Report Management(R) QC

Info. Entry Report Management Analyzer Setup

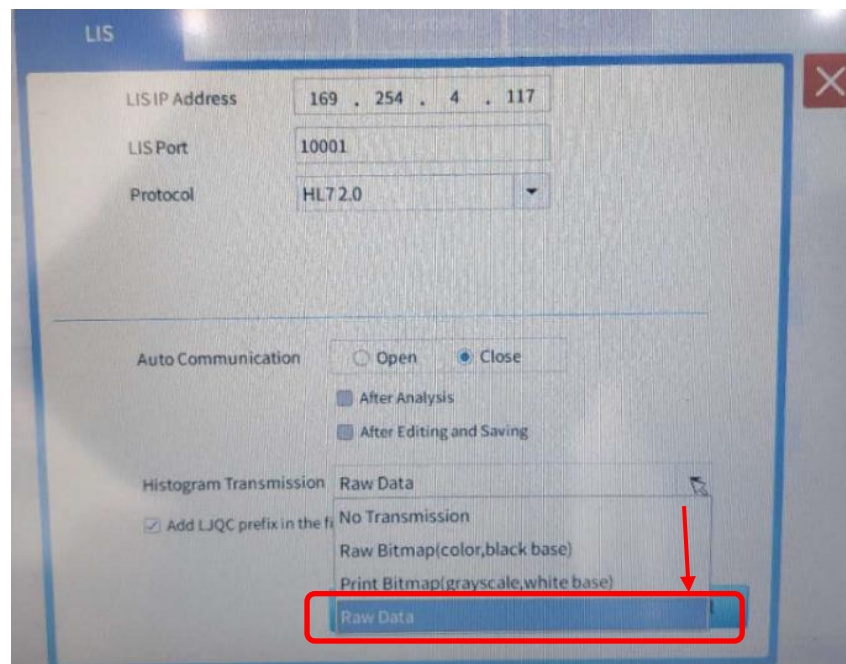
Test Time	2019/8/3 11:47	Pa
Sample ID	211	WBC
Patient Type		Lym#
Patient ID		Mid#
First Name		Gran#
Last Name		Lym%
Gender		Mid%
Birth day		Gran%
Age	Year(s)	RBC
Ref. Group	General	HGB
Charge Type		HCT
Dept.	Neonate	MCV
Ward	Neonate	MCH
Bed No.		MCHC
Sample Type	WB	RDW-C
Draw Time	2020/2/16 16:36	RDW-S
Deliverer		PLT
Delivery Time	2020/2/16 16:36	MPV
Tester	service	PDW
		PCT
		P-LCC
		P-LCR

3. For the rest patient information, it is the same way to set up the shortcut select box for them.

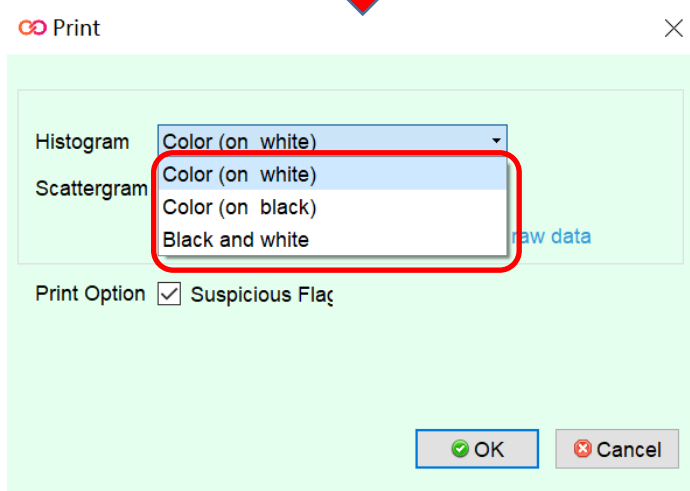
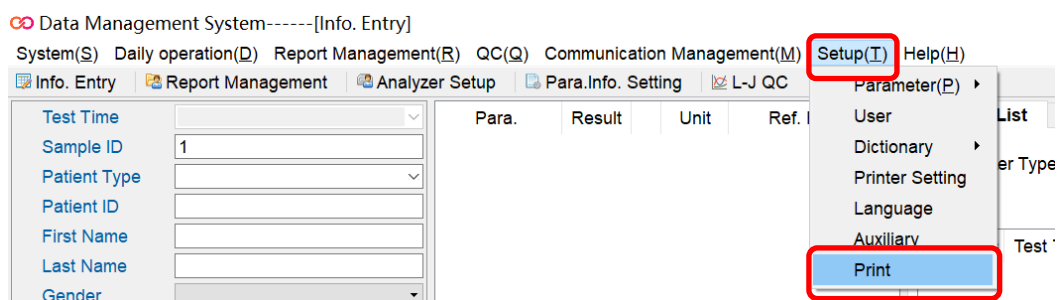
Part 9: Colored histogram and scatter gram printing

1. Setting in LIS interface of machine.

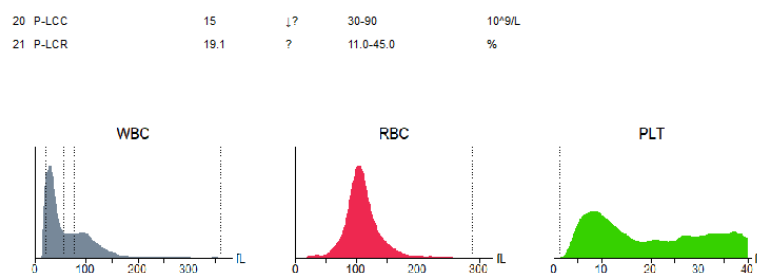
- 1.1. Select Raw Data in transmission setting box.



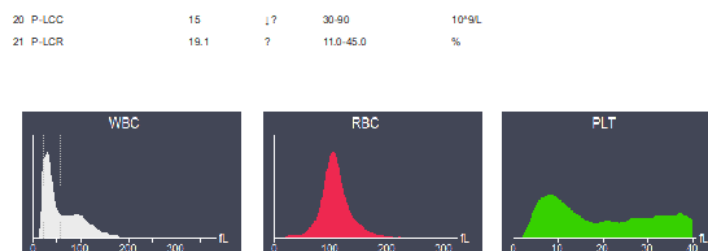
- 1.2. After this setting, transmit new sample test result to data management software.
2. Setting in data management software.
- 2.1. Go to Setup→print, select the histogram to color on white (background) or color on black (background). The rest one black and white option means black scale on white background.



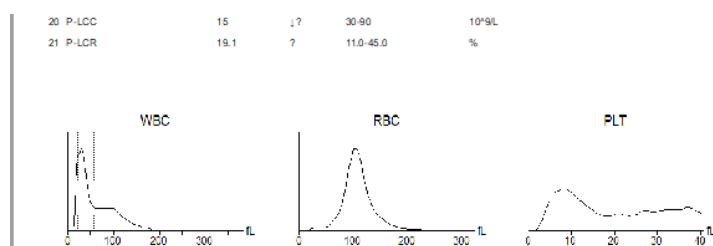
2.2. Check it by preview the data (please refer to part 7 how to preview). Grap 1 to graph 3 showed the difference.



Graph 1: Color on white background



Graph 2: Color on black background

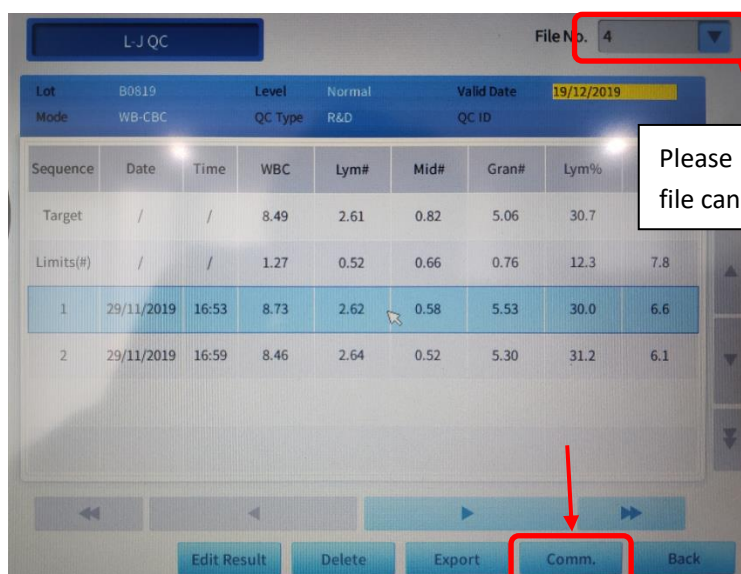
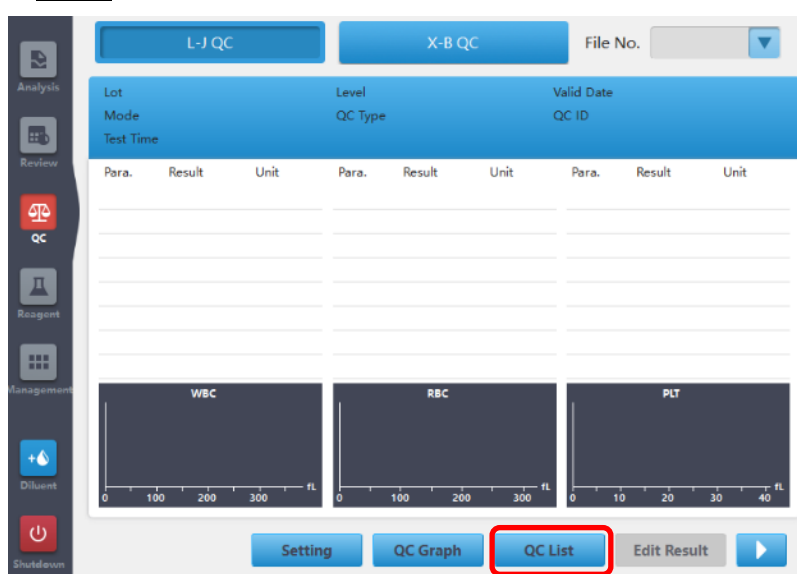


Graph 3: black (scale) on white background

Part 10: L-J QC print.

1. Operation on machine: Transmit the QC test result data to data management software

1.1 Go to QC → **QC list**, then select the test result that need to be transmitted, click **Comm.**



Please select the file NO. firstly. Every file can store 200 qc results.

2. Operation on data management software.

2.1 Click L-J QC.


∞ Data Management System-----[Info. Entry]

System(S) Daily operation(D) Report Management(R) QC(Q) Communication Management(M) Setup(I) Help(H)

Info. Entry Report Management Analyzer Setup Para.Info. Setting **L-J QC**

Test Time 2019/8/3 11:46 Para. Result Unit Ref. Range Sample List

Sample ID 21 WBC 5.87 10⁹/L 3.50-9.50



∞ Data Management System-----[L-J QC]

System(S) Daily operation(D) Report Management(R) QC(Q) Communication Management(M) Setup(I) Help(H)

Info. Entry Report Management Analyzer Setup Para.Info. Setting **L-J QC**

File No. 4 Lot 80819 Valid Date 2019/12/19 QC Type R&D QC ID

Mode WB-CBC Level Normal Analyzer Typ Z3 Series Analyzer Naz3

Date	Time	WBC	Lym#	Mid#	Gran#	Lym%	Mid%	Gran%	RBC	HGB	HCT	MCV	MCH	MCHC	RDW-CV	RDW-SD	PLT	MPV	PDW	PCV
Target	/	8.49	2.61	0.82	5.06	30.7	9.7	59.6	4.66	135	40.0	85.8	29.1	339			268			
Limits(#)	/	1.27	0.52	0.66	0.76	12.3	7.8	8.9	0.28	7	3.6	6.0	2.0	27			40			
1	2019/11/29 16:53	8.73	2.62	0.58	5.53	30.0	6.6	63.4	4.36 ↓	130	39.7	91.1	29.9	329	16.4	51.0	259	9.3	16.3	0.24
2	2019/11/29 16:59	8.46	2.64	0.62	5.30	31.2	6.1	62.7	4.36 ↓	130	39.6	90.9	29.9	329	16.4	51.0	247	9.4	16.4	0.23

Select File QC Graph Print Delete Clear

Welcome, admin

2.2 Select the QC file according to the file Lot number (one QC file can store 200 qc test results)

∞ Data Management System-----[L-J QC]

System(S) Daily operation(D) Report Management(R) QC(Q) Communication Management(M) S

Info. Entry Report Management Analyzer Setup Para.Info. Setting L-J QC

File No. 4 Lot B0819 Valid Date 2019/12/19 QC Type R&C
 Mode WB-CBC Level Normal Analyzer Typ Z3 Series Analyzer Narz3

	Date	Time	WBC	Lym#	Mid#	Gran#	Lym%	Mid%	Gran%
	Target	/	8.49	2.61	0.82	5.06	30.7	9.7	59.1
	Limits(#)	/	1.27	0.52	0.66	0.76	12.3	7.8	8.9
1	2019/11/29	16:53	8.73	2.62	0.58	5.53	30.0	6.6	63.0
2	2019/11/29	16:59	8.46	2.64	0.52	5.30	31.2	6.1	62.0

Select File QC Graph Print Delete Clear



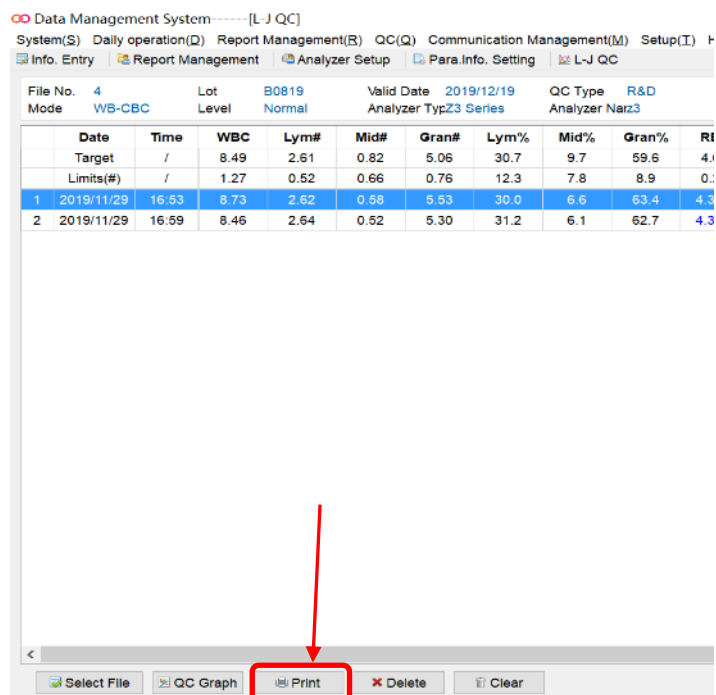
∞ Select File

Analyzer Ty Z3 Series Analyzer Name

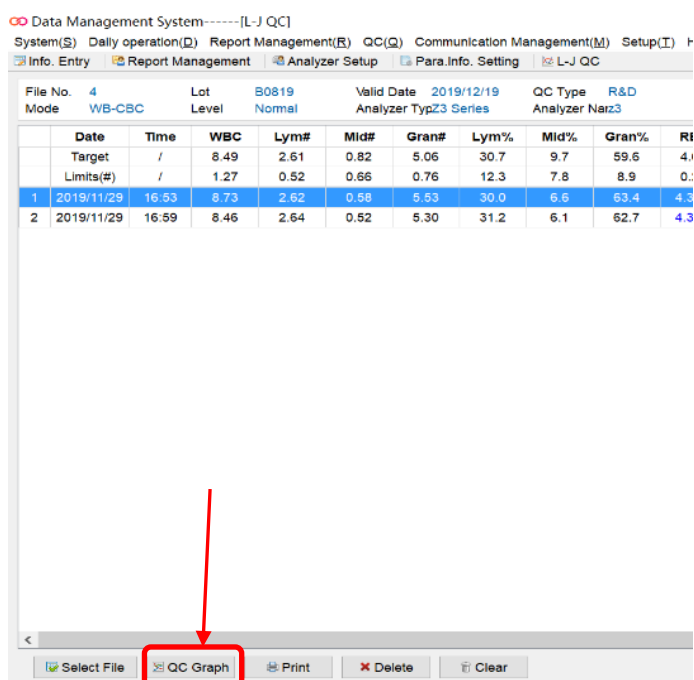
Analyzer Nam	File No.	Lot	Mode	Valid Date	Level	QC ID
z3	1	B0519L	WB-CBC	2019/8/5	Low	
z3	4	B0819	WB-CBC	2019/12/19	Normal	

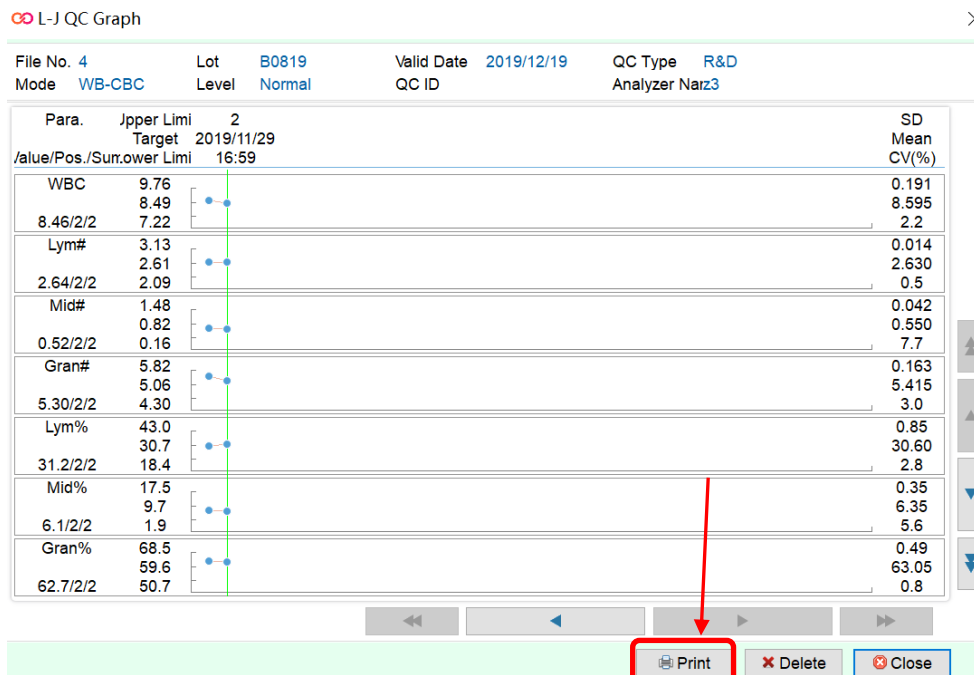
OK Edit Delete Cancel

2.3 Then print one of QC result which been stored in this QC file by click the print button.



2.4 Click **QC graph** to check the quality control test dot graph. Printing also available for this graph.





2.5 After QC printing, click Info Entry to get back to sample report interface.

∞ Data Management System-----[L-J QC]

System(S) Daily operation(D) Report Management(R) QC(Q) Communication Management(M) Setup(T) He

Info. Entry Report Management Analyzer Setup Para.Info. Setting L-J QC

File No.	4	Lot	B0819	Valid Date	2019/12/19	QC Type	R&D		
Mode	WB-CBC	Level	Normal	Analyzer Typ	Z3 Series	Analyzer	Narz3		
Date	Time	WBC	Lym#	Mid#	Gran#	Lym%	Mid%	Gran%	
Target	/	8.49	2.61	0.82	5.06	30.7	9.7	59.6	
Limits(#)	/	1.27	0.52	0.66	0.76	12.3	7.8	8.9	
1	2019/11/29	16:53	8.73	2.62	0.58	5.53	30.0	6.6	63.4
2	2019/11/29	16:59	8.46	2.64	0.52	5.30	31.2	6.1	62.7

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∞ Data Management System [Info. Entry]

System(S) Daily operation(D) Report Management(R) QC(Q) Communication Management(M) Setup(T) He

Info. Entry Report Management Analyzer Setup Para.Info. Setting L-J QC

Test Time	2019/8/3 11:46	Para.	Result	Unit	Ref. Range
Sample ID	21	WBC	5.87	10 ⁹ /L	3.50-9.50
Patient Type		Lym#	3.03	10 ⁹ /L	1.10-3.20
Patient ID		Mid#	0.42	10 ⁹ /L	0.10-1.50
First Name		Gran#	2.42	10 ⁹ /L	1.80-6.30
Last Name		Lym%	51.6	%	20.0-50.0
Gender		Mid%	7.1	%	3.0-15.0
Birthday		Gran%	41.3	%	40.0-75.0
Age		RBC	4.89	10 ¹² /L	3.80-5.80
Ref. Group	General	HGB	152	g/L	115-175
		HCT	57.4	%	35.0-50.0
		MCV	117.2	fL	82.0-100.0
		MCH	31.0	pg	27.0-34.0