Protek A334M

VSWR Analyzer **User Manual**

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INTRODUCTION

This Operating Manual represents design, specifications, overview of functions, and detailed operation procedure of A334M VSWR Analyzer, to ensure effective and safe use of the technical capabilities of the instrument by the user.

A334M VSWR Analyzer operation and maintenance should be performed by qualified engineers with initial experience in operating of microwave circuits and PC.

The following abbreviations are used in this Manual:

PC – Personal Computer

DUT – Device Under Test

SWR – Standing Wave Ratio

SAFETY INSTRUCTIONS

Carefully read through the following safety instructions before putting the analyzer into operation. Observe all the precautions and warnings provided in this Manual for all the phases of operation, service, and repair of the analyzer.

The analyzer must be used only by skilled and specialized staff or thoroughly trained personnel with the required skills and knowledge of safety precautions.

A334M is tested in stand-alone condition or in combination with the accessories supplied by GS INSTRUMENTS CO., LTD. against the requirement of the standards described in the Declaration of Conformity. If it is used as a system component, compliance of related regulations and safety requirements are to be confirmed by the builder of the system.

Never operate the analyzer in the environment containing inflammable gasses or fumes.

Operators must not remove the cover or part of the housing. The analyzer must not be repaired by the operator. Component replacement or internal adjustment must be performed by qualified maintenance personnel only.

Never operate the analyzer if the power cable is damaged.

Never connect the test terminals to mains.

Electrostatic discharge can damage your product when connected or disconnected from the DUT. Static charge can build up on your body and damage the sensitive circuits of internal components of both the product and the DUT.
To avoid damage from electric discharge, observe the following:

- Always use a desktop anti-static mat under the DUT.
- Always wear a grounding wrist strap connected to the desktop anti-static mat via daisy-chained 1 MΩ resistor.

Observe all the general safety precautions related to operation of equipment powered by mains.

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The definitions of safety symbols used on the instrument or in the Manual are listed below.

	Refers to the Manual if the instrument is marked with this symbol.
	Alternating current.
	Direct current.

WARNING	**This sign denotes a hazard. It calls attention to a procedure, practice, or condition that, if not correctly performed or adhered to, could result in injury or death to personnel.**
CAUTION	**This sign denotes a hazard. It calls attention to a procedure, practice, or condition that, if not correctly performed or adhered to, could result in damage to or destruction of part or the entire product.**
NOTICE	**This sign denotes important information. It calls attention to a procedure, practice, or condition that is essential for the user to understand.**

✓ Cleaning

- This section provides the cleaning instructions required for maintaining the Proper operation of the analyzer.
- To remove contamination from parts other than test ports and any connectors of the analyzer, wipe them gently with a soft cloth that is dry or wetted with a small amount of water and wrung tightly.
- It is essential to keep the test ports always clean as any dust or stains on them

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can significantly affect the measurement capabilities of the analyzer. To clean the test ports (as well as other connectors of the analyzer), use the following procedure:

- Using compressed air remove or loosen the contamination particles;
- Clean the connectors using a lint-free cleaning cloth wetted with a small amount of ethanol and isopropyl alcohol (when cleaning a female connector, avoid snagging the cloth on the center conductor contact fingers by using short strokes);
- Dry the connector with low-pressure compressed air.

- Always completely dry a connector before using it.
- Never use water or abrasives for cleaning any connectors of the analyzer.
- Do not allow contact of alcohol to the surface of the insulators of the connectors.

WARNING

Never perform cleaning of the product if the power cable is connected to the power outlet.
Never clean the internal components of the product.

✓ Storage

Before first use store your equipment in the factory package at environment temperature from 0 to +50ºC and relative humidity up to 95% (at 25ºC).

After you have removed the factory package store the equipment at environment temperature from +10 to +35ºC and relative humidity up to 80% (at 25ºC).
Ensure to keep the storage facilities free from dust, fumes of acids and alkalies, aggressive gases, and other chemicals, which can cause corrosion.

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1 GENERAL OVERVIEW

1.1 Description

The Protek A334M is multi-port VSWR analyzer with a frequency range of 5MHz to 4GHz.

The Protek A334M is suitable for multi-port VSWR analysis in a factory line for mass production of antenna, cable and etc. This equipment is designed to support up to 6 ports for VSWR analysis.

The Protek A334M has VSWR measurement function necessary to accurately verify the antenna, cable and etc.

The Protek A334M is connected through an Ethernet cable to an external personal computer which GUI software program is installed.

The GUI software program allows the user to easily analyze measurements and generate comprehensive reports.

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1.2 Specifications

1.2.1 Basic Specifications

Item	Sub Item	Specification
General	Max Input Power	+25dBm Damage level
	Frequency Range	5MHz - 4GHz
	Frequency Accuracy	< ±3ppm @ 25°C
	Frequency Resolution	10kHz
	Impedance	50Ω
	Scan Speed	< 1 msec /data point
	Test port	N Female
VSWR	Number of data points	126, 251, 501, 1001, 2001
	VSWR Range	1 ~ 65 (Resolution : 0.01dB)
Miscellaneous	Dimension	470X178X324 mm
	Weight	14kg
Environmental	Operating Temperature	0°C ~ +50°C
	Storage Temperature	-40°C ~ +80°C (-40°F ~ +176°F)
	Humidity	95% NO Condensation

Table 1.1 Basic Specifications

1.2.2 Key Measurements

- High resolution VSWR Measurements

1.2.3 Key Features

- Up to 2001 data points
- User friendly GUI software menu structure
- Remote firmware upgrade capability

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1.3 Ordering Information

1.3.1 Standard Accessories

The standard accessories supplied with the A334M VSWR Analyzer are as follows:

Description	Picture	Specification
AC Power Cord		6FT(1.8MM) 220V BLACK
LAN Cable		CAT.5E UTP Direct Cable
USB Flash Drive		USB2.0(Manual, Software)

Table 1.2 A334M Accessories

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2 PREPARATION FOR USE

2.1 General Information

Unpack the Analyzer and other accessories. Check the contents of the package against the list specified in section 1.4.1. Connect your A334M to AC power source by means of the AC Power Cord supplied with the equipment.

Warm-up the Analyzer for 20 minutes after turning the power on.

Assemble the test setup using cables, connectors and etc, which allow DUT connection to the Analyzer.

Perform calibration of the Analyzer. Calibration procedure is described in section 4.1.3.

2.2 Front Panel

The front view of A334M is represented in figure 2.1. The front panel is equipped with the following parts:

Figure 2.1 A334M Front Panel

2.2.1 Power Switch

Switches the initial condition power supply of the Analyzer on and off.

CAUTION	Do not disconnect the power cable from the mains when the Analyzer is operating. This can damage the Analyzer software.

2.2.2 TEST Ports (Port 1 ~ Port 6)

	The type-N 50Ω test port 1 to 6 are intended for DUT connection. +25dBm 50VDC Max (50Ω Port1 ~ Port6)
CAUTION	Do not exceed the maximum allowed power of the input RF signal (or maximum DC voltage) indicated on the front panel. This may damage your Analyzer.

2.3 Rear Panel

The rear view of A334M is represented in figure 2.2. The rear panel is equipped with the following parts:

Figure 2.2 A334M Rear Panel

2.3.1 AC Socket

	Provides input for the AC power source via an AC Socket

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In case of emergency, to avoid danger of electric shock or the like, pull the power cable out of the power outlet or the AC power socket of the Analyzer.

100-120VAC / 3.0A

200-240VAC / 2.0A

50/60 Hz

2.3.2 Ethernet Port

Ethernet port allows the user to connect the Analyzer to a LAN (Local Area Network). This connection enables the user to control the Analyzer using an external PC. Used for upgrading the Analyzer's firmware.

- 10BASE-T & 100BASE-TX support
- CAT5e UTP Cable uses

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3 PC GUI Program Installation

A334M comes with PC based User interface program(GUI). To install the GUI, PC and A334M shall be connected by Ethernet cable. GUI enables to display VSWR measurement DATA.

Checking prompt VSWR measurement will help user to speed up factory automation process for quick measurement. .

3.1 System Requirement

Before install GUI, it is recommendable to check specification of computer. Following specifications are basically recommended.

Recommendable system specification	
OS	Windows XP, Windows Vista, Windows 7
CPU	More than 800MHz Processor
Memory	More than 512MB
Size of file	At least 100MB space available
Display	1280 x 800 or 1280 x 1024
Mandatory	Microsoft.Net Framework v3.5 SP1

Table 3.1 System Recommendable specification

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3.2 Install Process

3.2.1 Running the Installation File

Open and execute «Setup.exe» or i A334M.msi

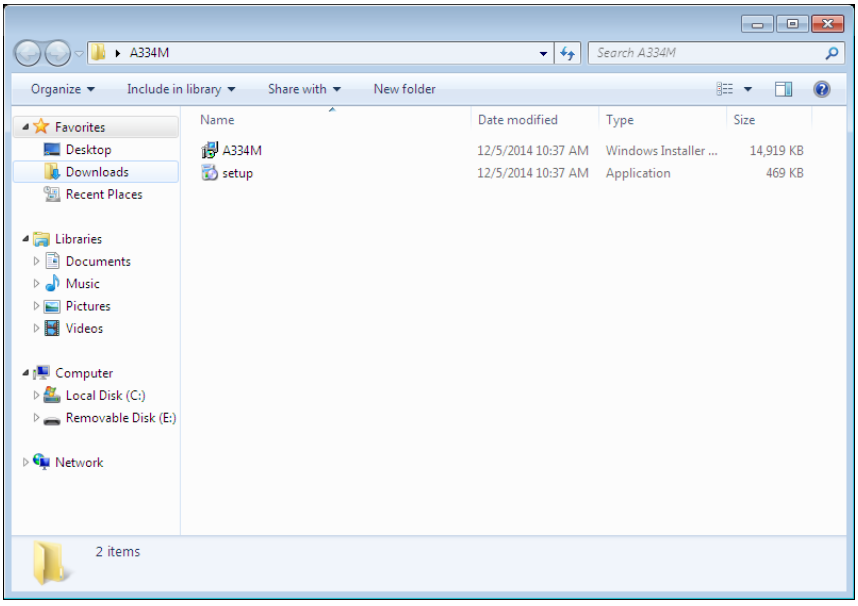

Figure 3.1 Installation Process 1

Execute a install File

NOTICE

Both A334M.msi and Setup.exe files shall be located at same folder..

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3.2.2 Proceed to install

Take following steps for installation process.

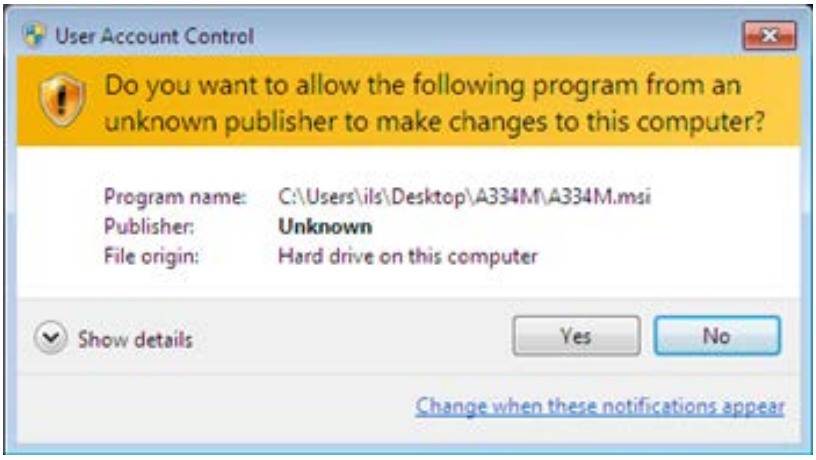

Figure 3.2 Installation Process 2

Upon execution of set up file, User account control message will be popped up. (Equal or higher version than Window Vista) Please click “Yes” button to make progress.

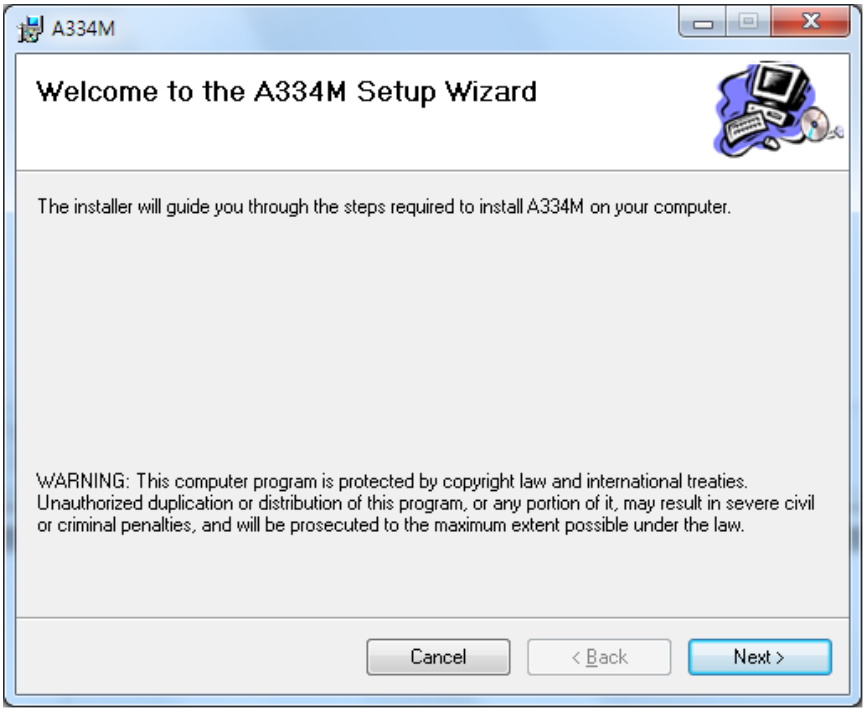

Figure 3.3 Installation Process 3

Above screen shot will guide you to installation. Please click «Next».

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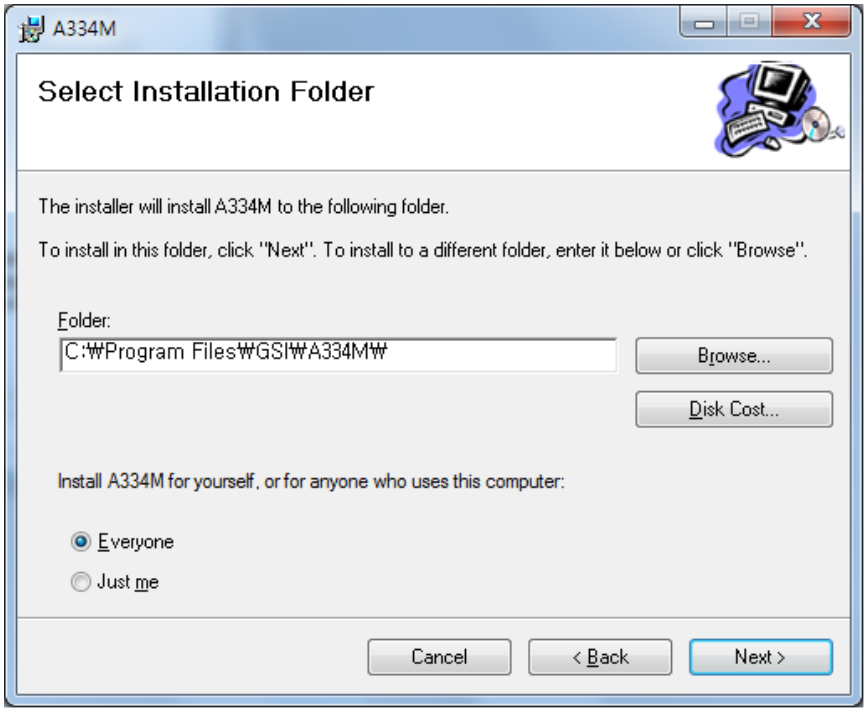

Figure 3.4 Installation Process 4

Above screen shot shows choice of installation path. It is not recommendable to change default path. Please click «Next»..

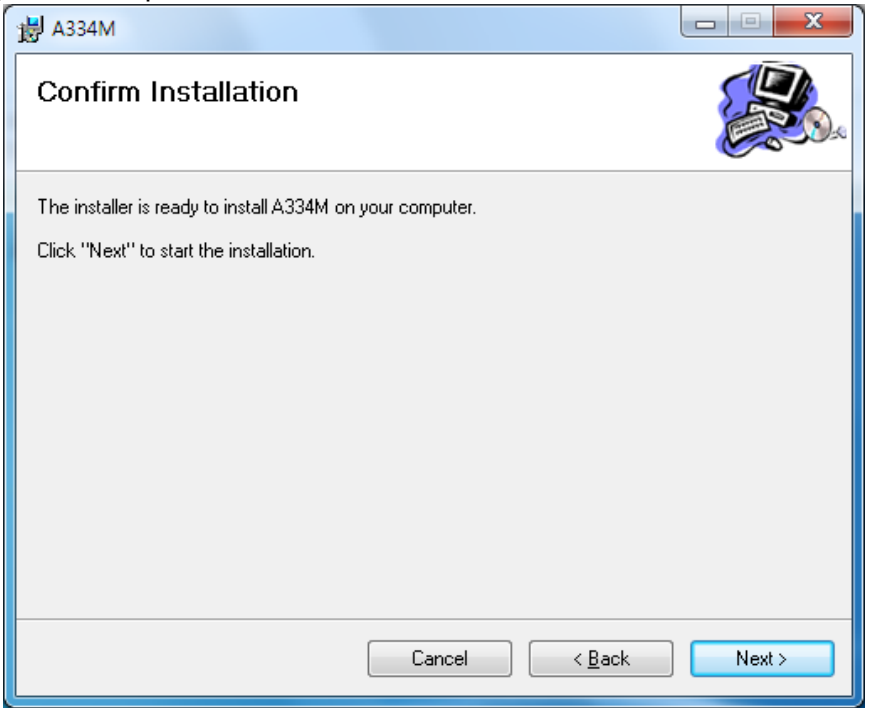

Figure 3.5 Installation Process 5

Above screen shot shows that everything is properly ready to install. Please

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click «Next».

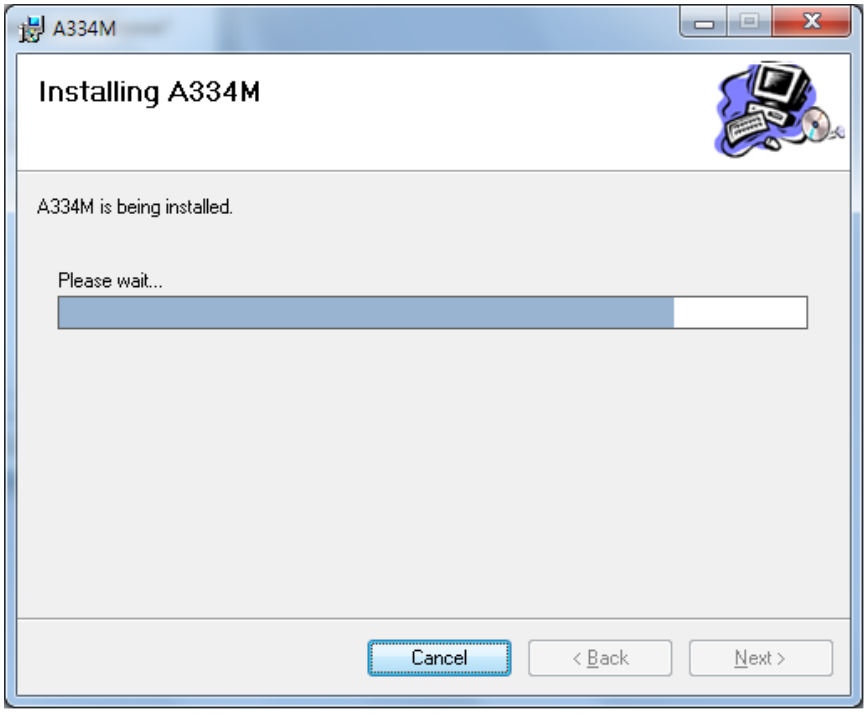

Figure 3.6 Installation Process 6

Progress

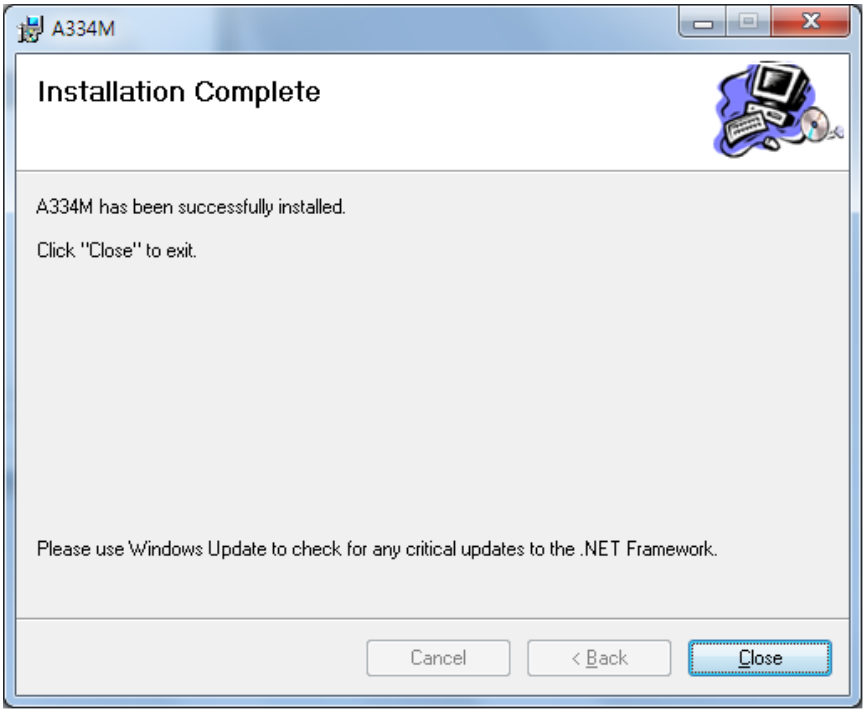

Figure 3.7 Installation Process 7

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Upon successful installation, above screen shot will be displayed. Please click «Close» button to complete installation.

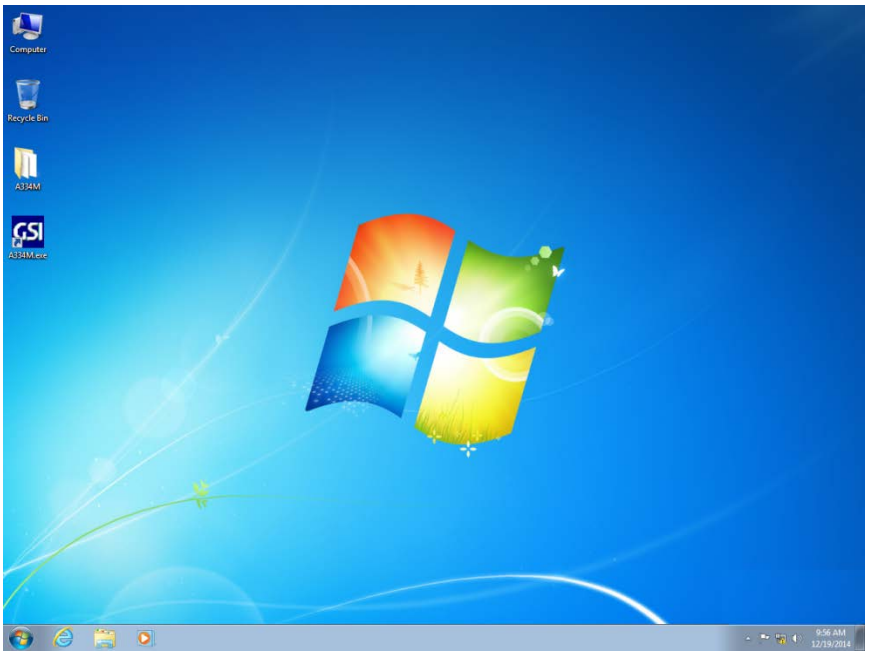
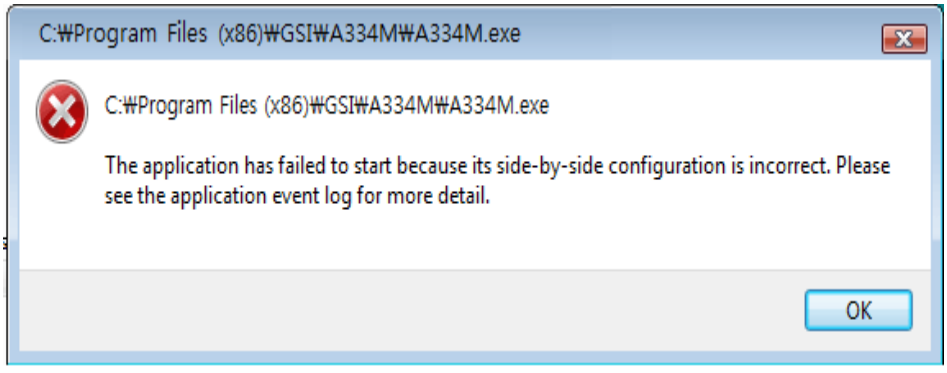


Figure 3.8 Installation Process 8

Once GUI is installed successful, A334M.exe icon (short cut) will be showed at Desktop.

Side by Side Error

NOTICE



Error message might be popped up during installation or execution of GUI. This kind of error is caused by lackness of Run time configuration element, which is essential to configure Microsoft Visual C++library. To clear the

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error, folloinwg address will lead you to download *'Microsoft Visual C++ 2008 SP1*

.

x86 : http://www.microsoft.com/en-US/download/details.aspx?id=5582 (Eng. Ver.)
x64 : http://www.microsoft.com/en-US/download/details.aspx?id=2092 (Eng. Ver.)

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4 Operation

4.1 Preparation for use

4.1.1 IP Address Setting

A334M PC GUI is communicated with A334M by Ethernet, and every single port of A334M is set with individual IP address. Therefore, the PC IP address has to be changed for the communication between PC and A334M.

IP address of each port	
Port 1	192.168.0.81
Port 2	192.168.0.82
Port 3	192.168.0.83
Port 4	192.168.0.84
Port 5	192.168.0.85
Port 6	192.168.0.86

Table 4.1 IP address of each port

For the communication between PC and A334M, IP address of 192.168.0.xxx must be set except from 192.168.0.81 to 192.168.0.86 because the IP address of each port is from 192.168.0.81 to 192.168.0.86. The instructions for IP address setting is following.

1. As you see below, please click and enter to **'Network and sharing center'**

Figure 4.1 "Network and Sharing center" icon at yellow box.

2. **Please click "Network and Sharing Center' -> "View your active networks" -> Local area connection**

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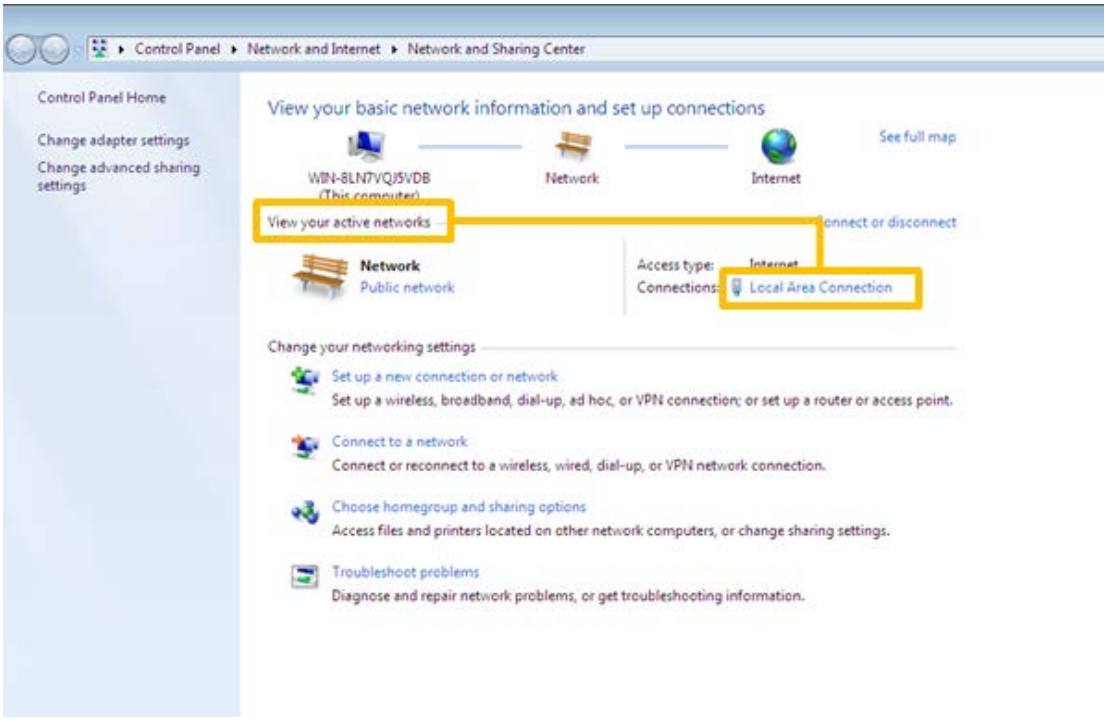

Figure 4.2 Local area connection button

3. Follow the sequence as shown in the following figure, and type the IP address in the IP address input window. Revise the IP address and Default gateway.

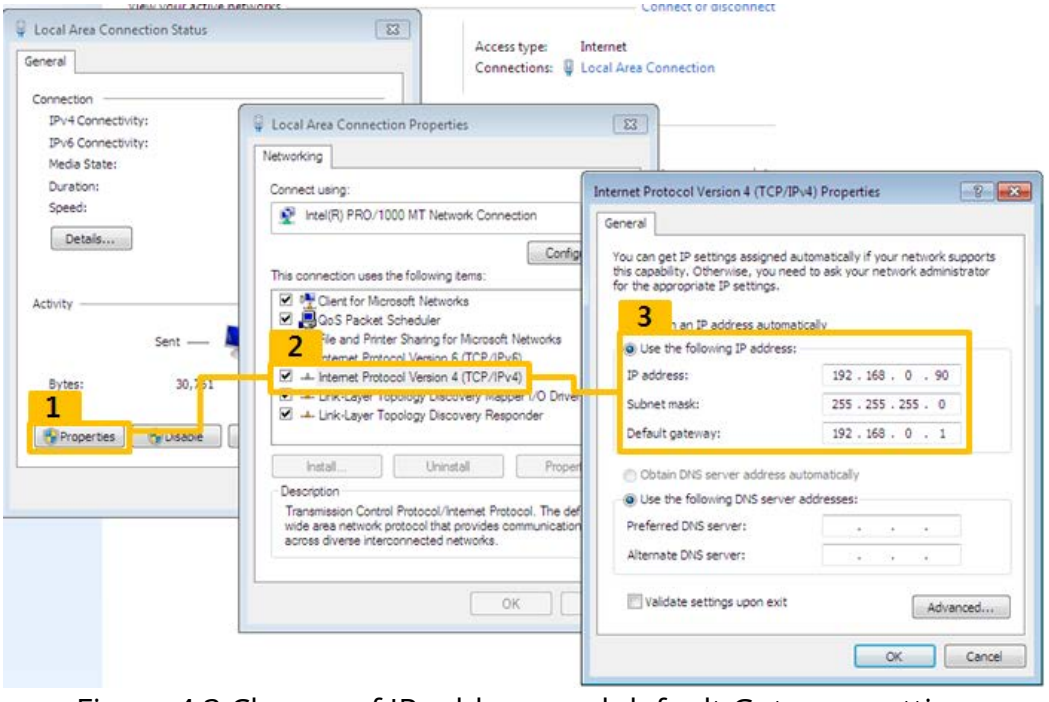

Figure 4.3 Change of IP address and default Gateway setting

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4.1.2 Connection with Instrument

After change IP address at PC, please wire PC and A334M via Ethernet cable. After all, GUI is ready to use.

Figure 4.4 Ethernet connection between PC and A334M

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4.2 Main Window

A334M GUI support 6-Port Multi View and One-Port Single View. Below screen shot display on-port single view at main window.

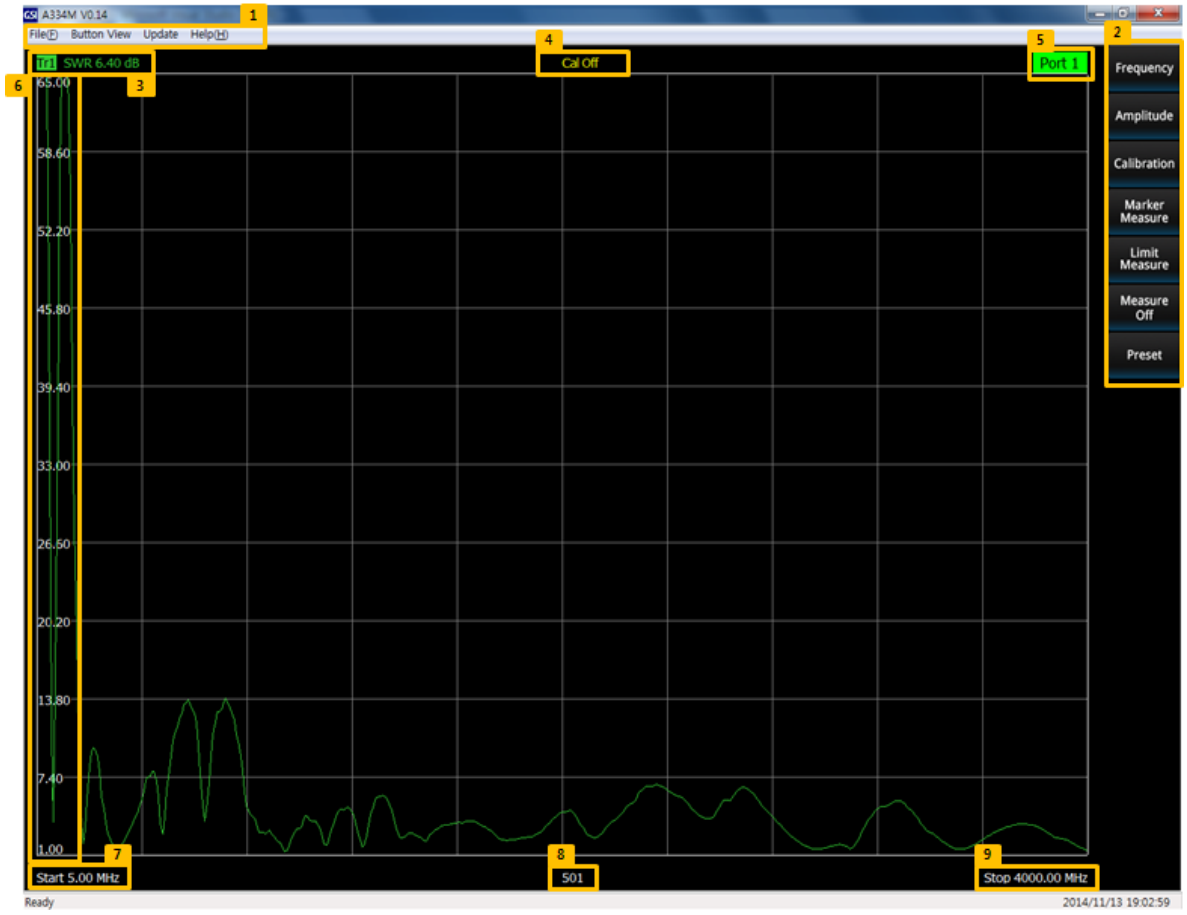

Figure 4.5 One port Single View at GUI

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A334M PC GUI Program Main Window Description		
No.	**Parameter**	**Description**
1	Top Menu Bar	Setting file management, Equipment update support, program information etc. **Referred as ☞ 4.3 Top Menu Bar**
2	Right Side Button Menu	Actual control functions are gathered in the menu **Referred as ☞ 4.4 Right Side Button Menu**
3	Trace Number/Scale Div.	Checking number trace and division of Scale
4	Cal Status	Calibration Status shall be checked by On/Off
5	Port No.	Single View provide one signel port number of measurement
6	Scale	Current setting value of Scale. **Refered as ☞ 4.4.3. Amplitude**
7	Start Freq.	Current setting value of Start Frequency **Referred as ☞ 4.4.2. Frequency / 4.4.5 Marker Measure / 4.4.7 Limit Measure**
8	Trace Point	Current setting value of Trace Point (126 / 251 / 501 / 1001 / 2001) **Referred as ☞ 4.4.2 Frequency**
9	Stop Freq.	Current setting value of Stop Frequency **Referred ☞ 4.4.2. Frequency / 4.4.5 Marker Measure / 4.4.7 Limit Measure**

Table 4.2 A334M PC GUI Program Main Window Description

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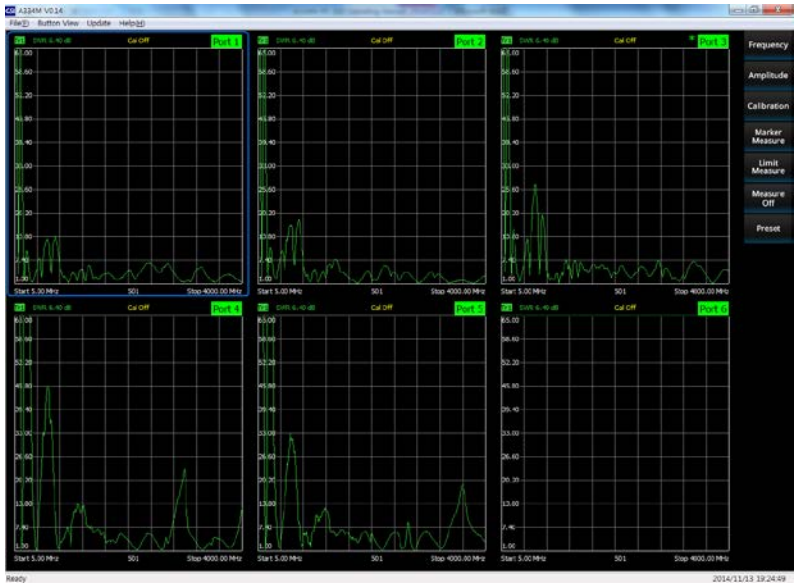
Main Window 6-Port Multi View

NOTICE



Basic display of A334M PC GUI Program is 6-Port Multi View as shown above. User may select every single screen shot to view by Single View mode.

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4.3 Top Menu Bar

4.3.1 File

File meny consists of following table.

File Menu	
Config Open	Opening previously saved Config File
Config Save	Current Configuration information will be save as File. Config File will save Calibration Data / Trace Point Frequency / Amplitude / Marker Measure / setting value of Limit Measure.
Exit	Close the UI program

Table 4.3 File Menu Description

4.3.2 Button View

Button View menu will set display of Right Side Button.

Button View		
On / Off		
	On	**OFF**

Table 4.4 Button View Description

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4.3.3 Firmware Update

Firmware Update menu support firmware update function. Firstly, please check current version of firmware by click «Menu->Update->Firmware update». As you see below, current version of firmware will be displayed.

Figure 4.6 Firmware Update Window Loading

When you complete to open F/W Version, firmware download window will be popped up. Following tables are function of F/W update window.

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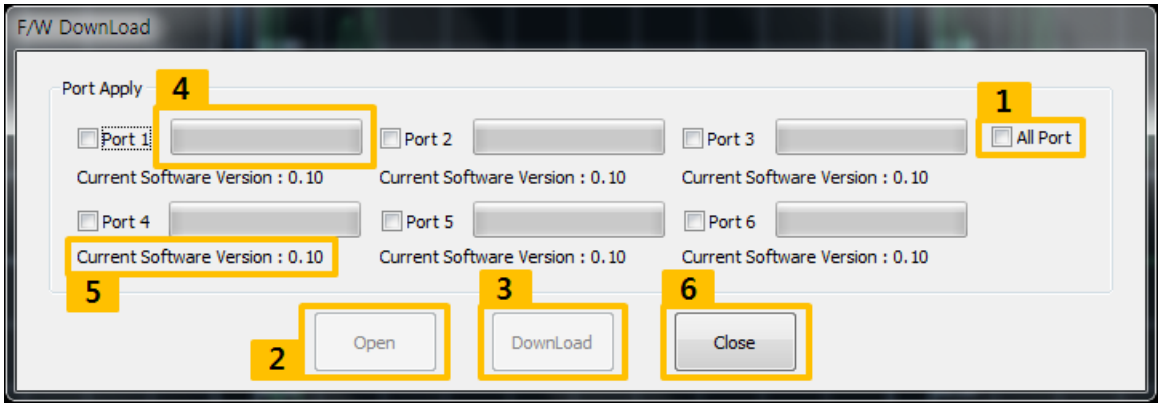

Figure 4.7 Firmware Update Window Description

FirmWare Update Window		
NO.	**Name**	**Description**
1	Port Check Box	Choice of the port that user want to Update. Checking «All port» means user want to update all ports.
2	Update File Open	When update File Open is active, user shall select update file at folder name «Update». This folder is located at GUI installation path.
3	Update Download	When user open update file, download button shall be active. User may click download button to update firmware.
4	Progress Bar	Showing update progress of each Port
5	Progress Message	Before update, current firmware of the port is displayed. During Update, warning message is coming up.
6	Close	Close F/W Download window

Table 4.5 Firmware Update Window Features Description

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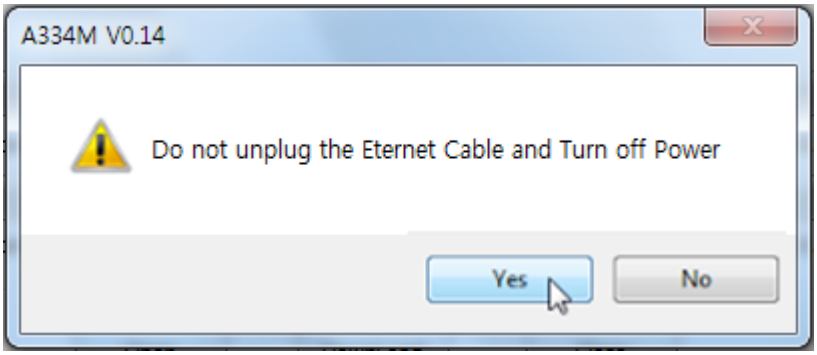
Firmware Update Error	
CAUTION	

Please do not download any other file than Update File. Moreover, please do not either un-plug the ethernet cable or turn off the AC power. It will cause damage to equipment

4.3.4 Help

Help window shows program version, serial number of the products, customer support and contact information.

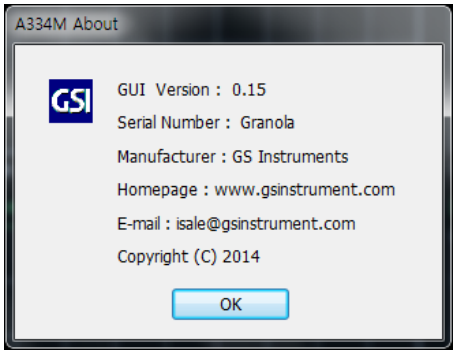
Help Window	
About	

Table 4.6 Help Window

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4.4 Right Side Button Menu

Right Side Button Menu	
Frequency	Adjust Start Frequency and stop frequency as far as 5MHz ~ 4000MHz range. Trace Point is also adjustable among 126 / 251 / 501 / 1001 / 2001
Amplitude	Adjust Port scale as far as 1 ~ 65. Auso scable function is available.
Calibration	Open, Short, Load Calibration of every single port.
Marker Measure	Assigning Marker maximum 8 points and measure the value at each marker poinrt.
Limit Measure	Limit Measure supports maximum 10 limit line, and Max, Min, Single Pointer Mode.
Measure Off	Erase the Marker at Marker Measure or delete marker point or limit line at the window..
Preset	Reset to default setting value per each port.

Table 4.7 Right Side Button Menu

4.4.1 Common Features

Common features are contained at Frequency / Amplitude / Marker Measure / Limit Measure. Description of the functions will be explained based on Frequency Window.

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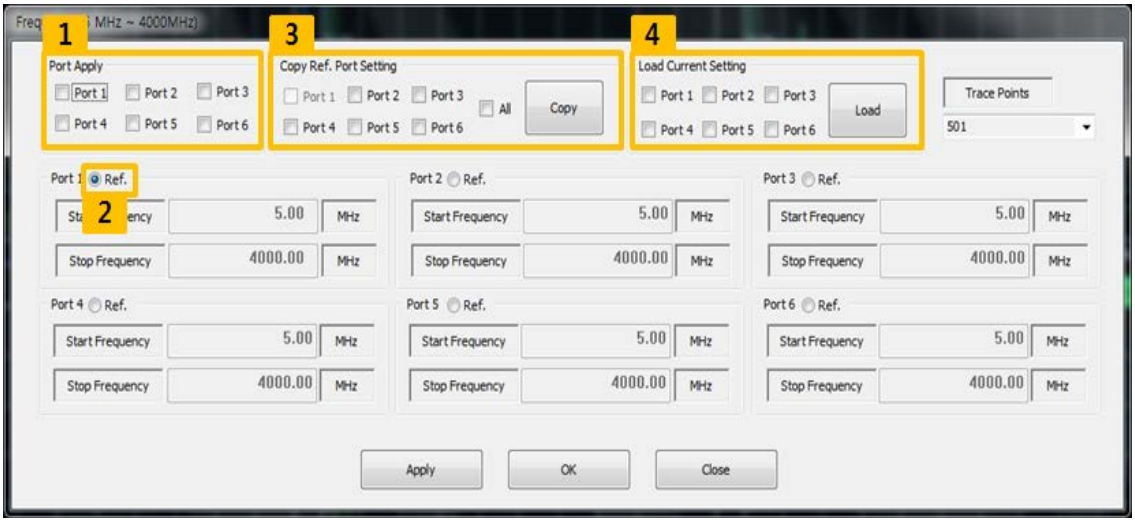

Figure 4.8 Common Features

Common Features Description		
No.	**Name**	**Description**
1	Port Apply	Selecting port, which user would like to change its default setting. Once user checked box at the port, deactive setting display will be active.
2	Ref. Select	Selecting Reference Port, specified by no. 3 Ref. Port Copy function
3	Ref. Port Copy	Copy and paste Reference port setting value specified by no. 2, to the other port.
4	Load Current Set.	Return to the defalut setting value, which did not apply yet. .

Table 4.8 Common Features Description

4.4.2 Frequency

Frequency range of the each port at A334M can be chagned at Frequency Window. Start Frequency and Stop Frequency value can be changed.. Variable rangre is between 5MHz ~ 4000MH. Trace point is also available to select at Frequency Window. A334M supports 126 / 251 / 501 / 1001 / 2001 Trace Points and default setting value of the Tracing Point is 501 Point.

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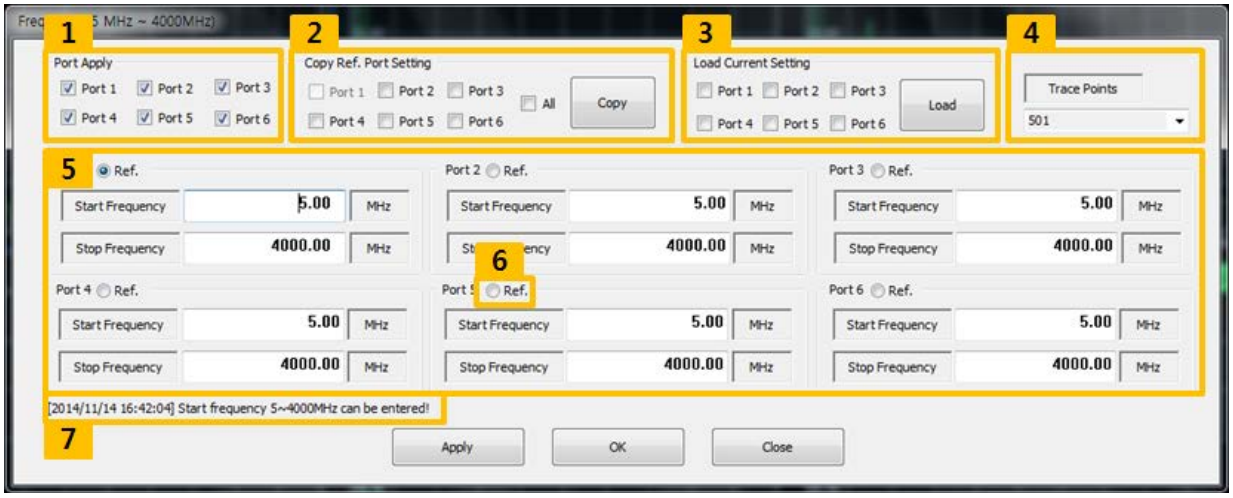

Figure 4.9 Frequency Window Description

Frequency Window Description		
NO.	**Name**	**Description**
1	Port Apply	Referred at Common Features . (4.4.1)
2	Copy Ref. Port Set.	
3	Load CurrentSet.	
4	Trace Point Set.	Trace Point is selective.. Trace Point can be individually set by each Port.
5	Freq. Text Window	Freq. Text Window is only active as limited as selected port specified by no. 1 and user shall input desirable setting value to Text Window. Once the input range is beside the point of variable range, or Start frequency is input higher than Stop frequency, waring message shall be generated as specified by No. 7.
6	Ref. Port Check box	Referred at Common Features (4.4.1)
7	Short Message box	It generates waring Message or Apply Message.

Table 4.9 Frequency Window Description

4.4.3 Amplitude

Scalable range of the each port shall be chagned at Amplitude Window. Scale means vertical axis of each port display. Top and bottom value of Scale shall be

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applied to modify to the user setting value. Morevoer, Auto Scale function, which enables to display current scale of Trace, shall be selective automatically.

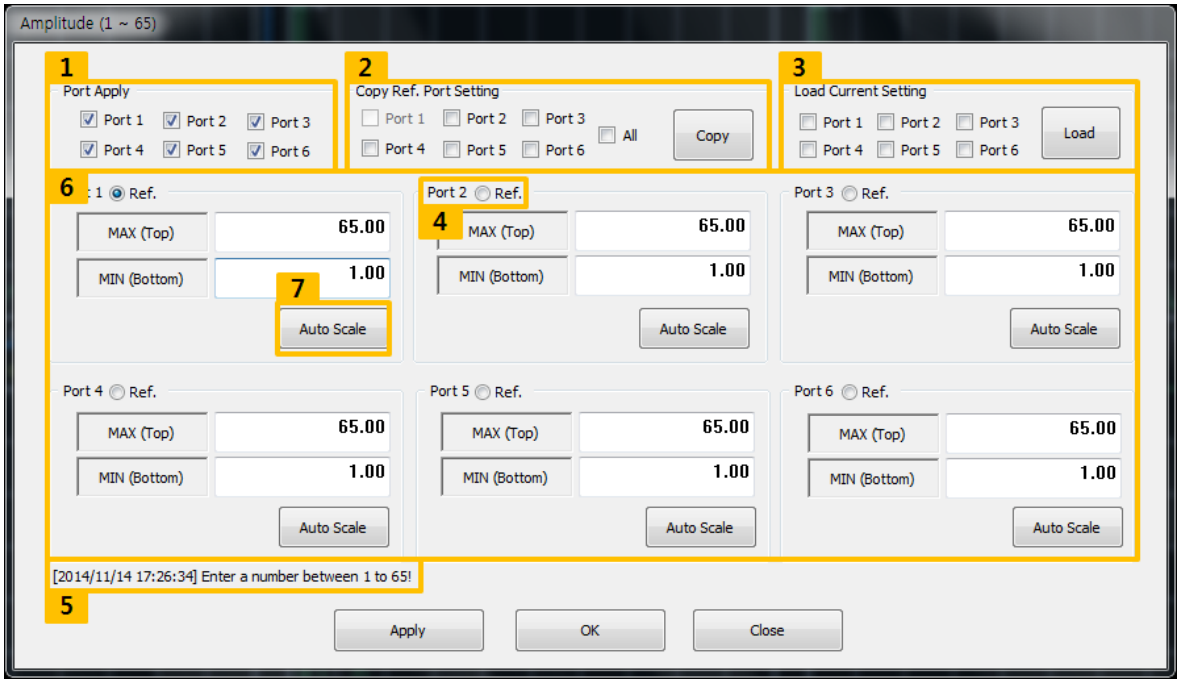

Figure 4.10 Amplitude Window Description

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Amplitude Window Description		
NO.	**Name**	**Description**
1	Port Apply	Referred at Common Features (4.4.1)
2	Copy Ref. Port Set.	
3	Load Current Set.	
4	Ref. Port Check box	
5	Short Message Box	It generates warning Message or Apply Message.
6	Amp. Text Window	Text Window is only active as limited as selected port specified by no. 1 and user shall input desirable setting value to Text Window. Once the input range is beside the point of variable range, or bottom scale input is higher than top, waring message shall be generated as specified by No. 5.
7	Auto Scale	Auto Scale function, which enables to display current scale of Trace shall be selective automatically.

Table 4.10 Amplitude Window Description

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4.4.4 Calibration

O.S.L Calibration of each single port shall be performed at Calibration Window. To complete Calibration, Open -> Short -> Load calibration shall be done in properly. Unless user completed every step, Calibration will not be applied.

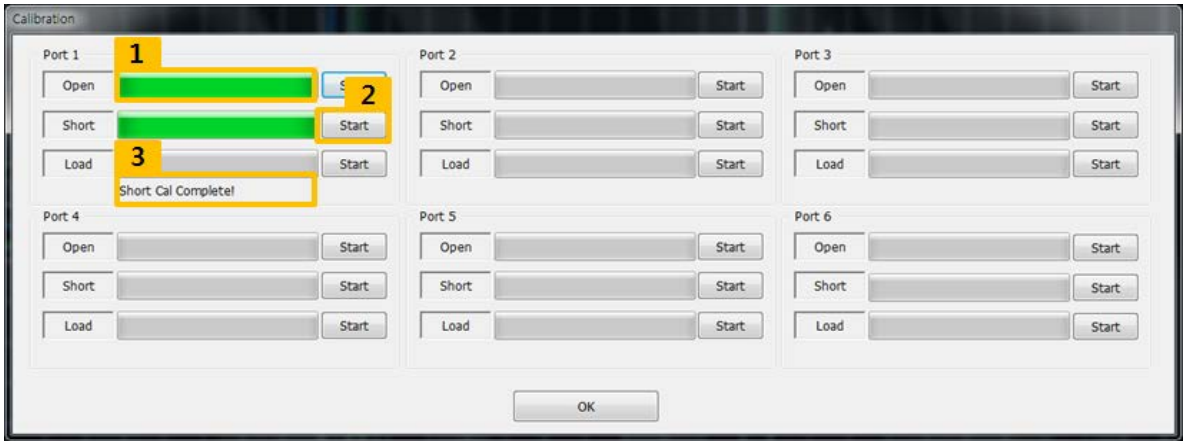

Figure 4.11 Calibration Window

Calibration Window Description		
NO.	**Name**	**Description**
1	Cal. Progress Bar	It shows progress of current Calibration process.
2	Cal. Start Button	It starts Calibration process.
3	Short Message Box	It generates applicable message of completion or cancel of each calibration process.

Table 4.11 Calibration Window Description

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4.4.5 Marker Measure

Marker Measure Window enalbes to measure amplitude of Trace at desirable frequency by usage of maximum 8 markers per individual port. Upon user setting value of Low, High Limit, measured value would make user check pass or failure immediately. Such a measured value can be imported to Microsoft Excel File.

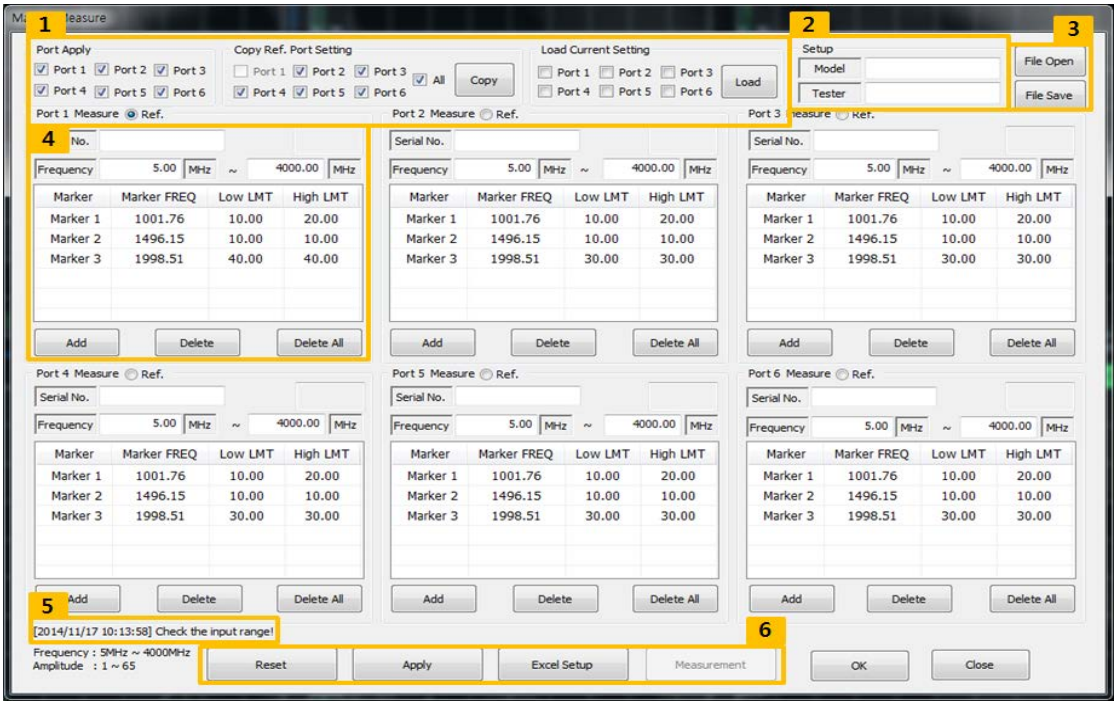

Figure 4.12 Marker Measure Window

Marker Measure Window Description		
NO.	**Name**	**Description**
1	Common Features	Referred at Common Features (4.4.1)
2	User Info. For Excel	List of basic information, which can be imported to Excel File.
3	Configuration File	Magament of default setting value, such as Calibaration data, Marker List, etc..
4	Marker List	Upon setting frequency range per each port, maximum 8 addtional marker poinrts can be added. Marker numbers, Marker frequency, Low / High limit value can be set in Marker List. Add / Delete / Delete All button enables Markers to

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		be added or deleted.
5	Short Message Box	Error message to be popped up in case of wrong Marker information input such as out of range input value.
6	Button List	✓ **Apply** It applies marker in accordance with setting value to Marker List. ✓ **Excel Setup** Excel file set up based on setting value to Marker List. Once Excel file is open, Measurement button will become active, but Marker Measure Window including Marker List will be deactivated to prevent from any further change of setting value. ✓ **Measurement** User would save result of checking Pass or Failure status by click Measurement button.. ✓ **Reset** Reset button enables to save Excel File and makes Marker Measure Window back to active.

Table 4.12 Marker Measure Window Description

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Figure 4.13 Screen shot upon application Marker

Instruction to display Marker at Trace Window.

➔ Input appropriate Marker List value at Marker Measure Window

➔ Click Apply button

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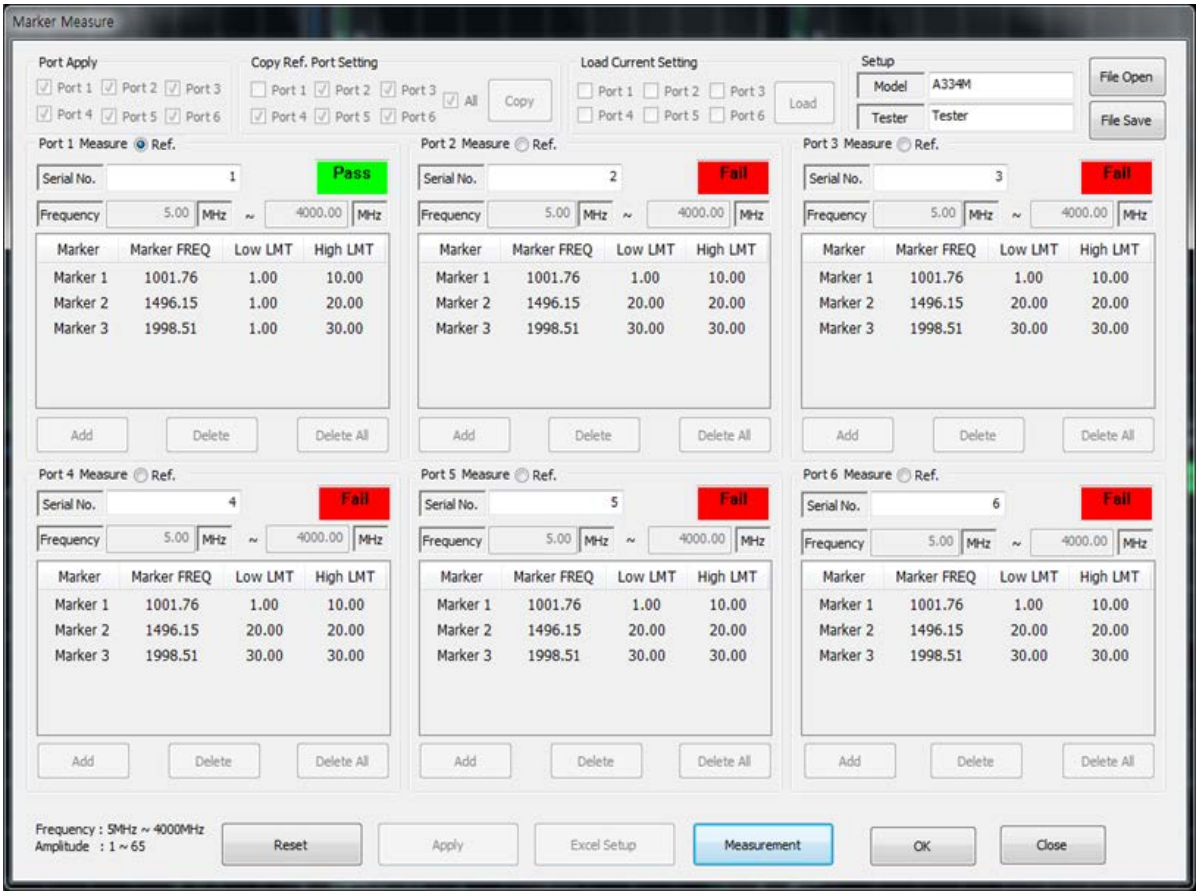

Figure 4.14 Excel Setup

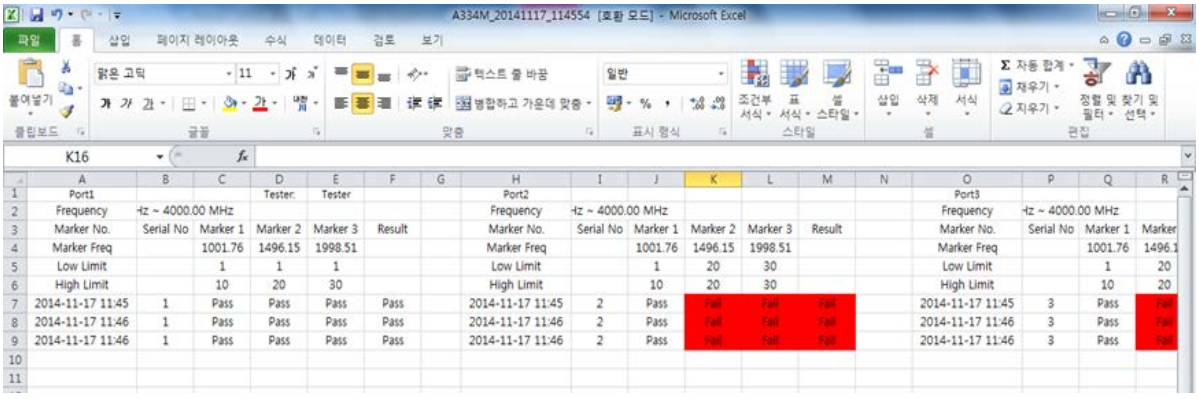

Figure 4.15 Marker Measure Data in Excel File

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Instruction to import Excel file

- ➔ Setting appropriate Marker list value at Marker Measure Window
- ➔ Input Model name and tester at Setup frame.
- ➔ Click Excel Setup button to input DATA at Excel File.
- ➔ Click Measurement button (It will be active upon Excel set up.)
- ➔ Measure performance. Result of pass / failure will be immediately showed and would be saved as well as Excel file.

4.4.6 Limit Measure

Limit Measure Window provides maximum 10 Limit Line per each port. There are three types of Limit Line; Max.; Min.; Single. It displays user desirable frequency and Limit Line at Trace Window. Moreover, Each type of the Limit Line shall measure pass or failure by its own method of each different Max.; Min; Single Point. Result of measurement can be saves as Microsoft Excel File as same as Marker Measure.

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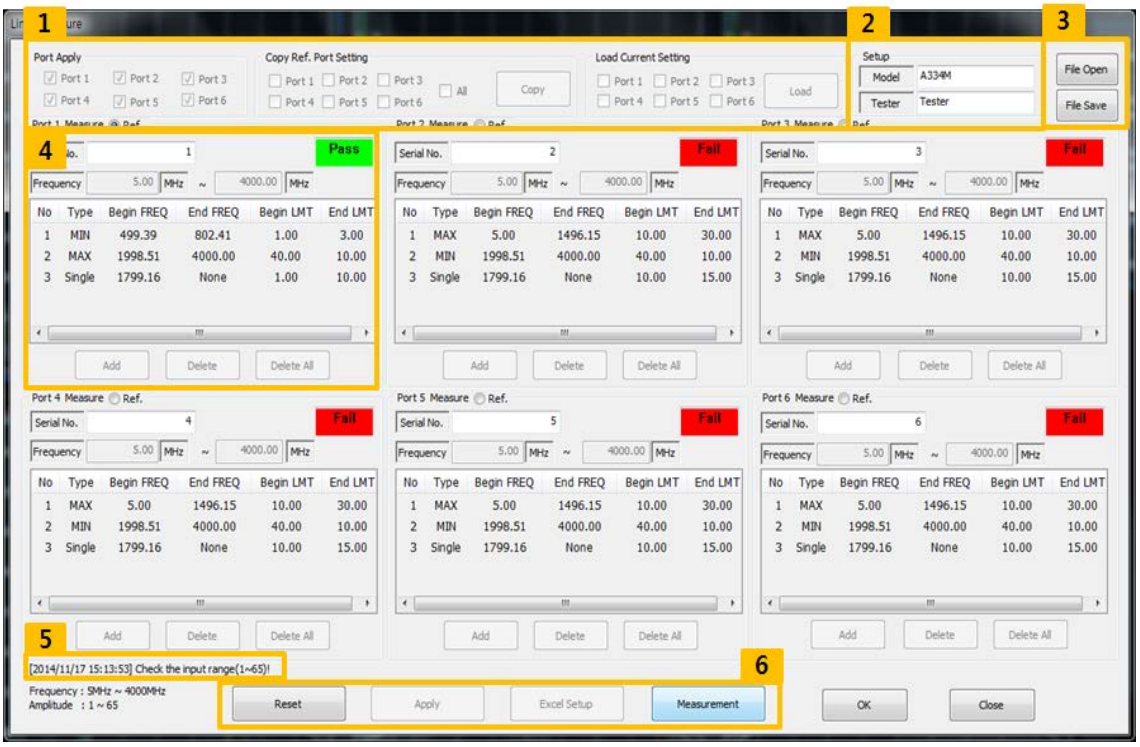

Figure 4.16 Limit Measure Window

Limit Measure Window Description		
NO.	**Name**	**Description**
1	Common Features	Referred at Common Features. (4.4.1)
2	User Info. For Excel	Basic information to be saved as Excel File.
3	Configuration File	Magament of default setting value, such as Calibaration data, Limit List, etc..
4	Limit List	Upon frequency setting, maximum 10 Limit Lines are available to set per each port. Limit Line number, type of Limit Line, start frequency, end frequency, Limit value are availble to set. Once user clicked raw of «Type» at Limit List, type of limit line can be selective through Combo Box List.

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		Add / Delete / Delete All button enables Limit Line to be added or deleted.
5	Short Message Box	Error message to be popped up in case of wrong Limit Line information input such as out of range input value..
6	Button List	**6-1 Apply** It applies marker in accordance with setting value to Marker List.. **6-2 Excel Setup** Excel file set up based on setting value to Limit List. Once Excel file is open, Measurement button will become active, but Limit Measure Window including Marker List will be deactivated to prevent from any further change of setting value. **6-3 Measurement** User would save result of checking Pass or Failure status by click Measurement button. The reult can be classified by three types of Limit Line. **6-4 Reset** Reset button enables to save Excel File and makes Limit Measure Window back to active.

Table 4.13 Limit Measure Window Description

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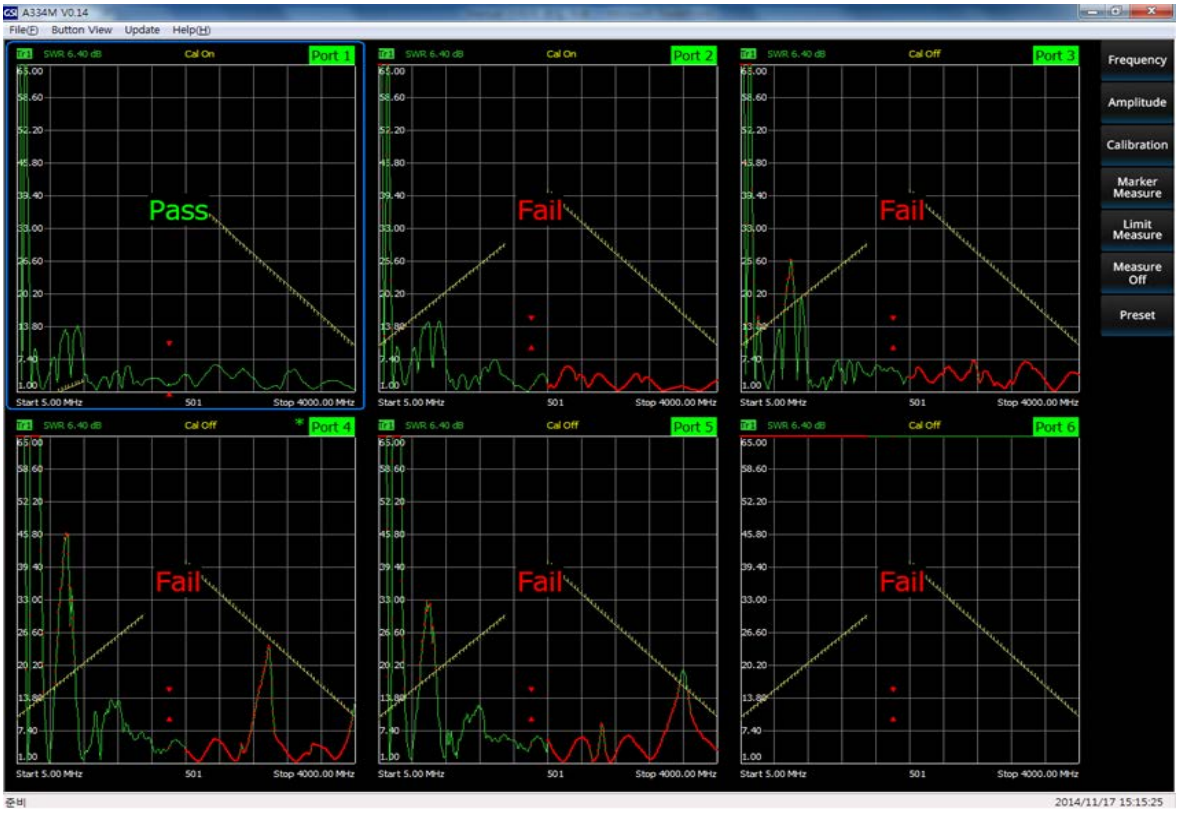

Figure 4.17 Limit Line

Instruction to display Limit Line at Limit Measure Window.

➔ Input appropriate Marker List value at Limit Measure Window

➔ Click Apply button

➔ Result of pass or failure will be displayed over Trace window.

Note) Unless setting condition is different from the types of Limit Line, Failure message will be popped up and red marker point will be displayed over trace of relevant frequency range. Please refer to the below table with regard to types of Limit line.

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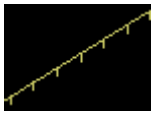
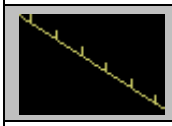
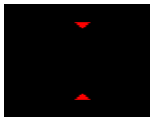
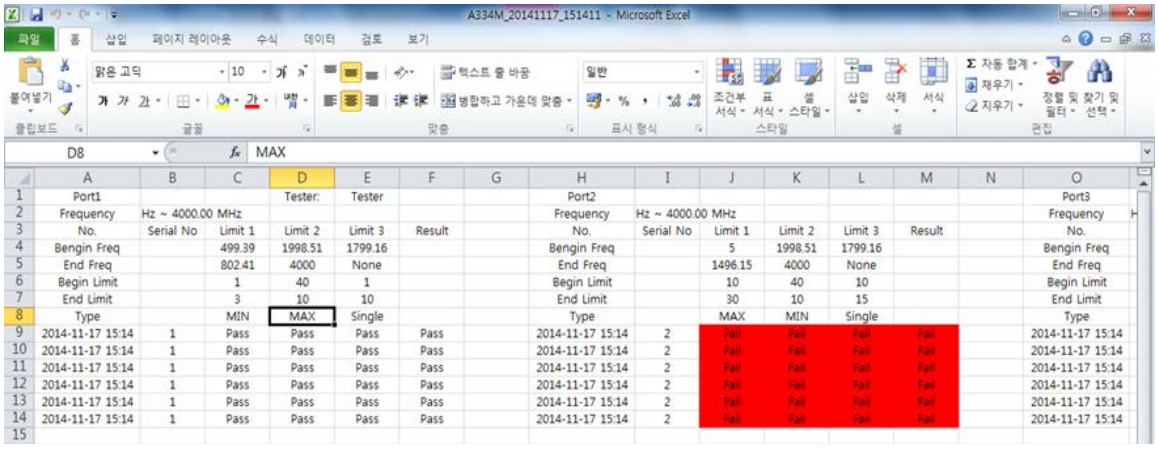
Limit Type Description		
Figure	**Type**	**Description**
	MAX	Based on Limit Line, lower part is regarded as pass and upper part is regarded as failure..
	MIN	Based on Limit Line, upper part is regarded as pass and lower part is regarded as failure..
	Single Point	Single frequency input is requested without any start frequency or end frequency. Based on the input frequency, Pass or failure shall be justified by the range of Low, High, Limit value.

Table 4.14 Limit Type Description



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Port1			Tester:	Tester			Port2							Port3
2	Frequency	Hz ~ 4000.00 MHz						Frequency	Hz ~ 4000.00 MHz						Frequency
3	No.	Serial No	Limit 1	Limit 2	Limit 3	Result		No.	Serial No	Limit 1	Limit 2	Limit 3	Result		No.
4	Bengin Freq		499.39	1998.51	1799.16			Bengin Freq		5	1998.51	1799.16			Bengin Freq
5	End Freq		802.41	4000	None			End Freq		1496.15	4000	None			End Freq
6	Begin Limit		1	40	1			Begin Limit		10	40	10			Begin Limit
7	End Limit		3	10	10			End Limit		30	10	15			End Limit
8	Type		MIN	MAX	Single			Type		MAX	MIN	Single			Type
9	2014-11-17 15:14	1	Pass	Pass	Pass	Pass		2014-11-17 15:14	2	Fail	Fail	Fail	Fail		2014-11-17 15:14
10	2014-11-17 15:14	1	Pass	Pass	Pass	Pass		2014-11-17 15:14	2	Fail	Fail	Fail	Fail		2014-11-17 15:14
11	2014-11-17 15:14	1	Pass	Pass	Pass	Pass		2014-11-17 15:14	2	Fail	Fail	Fail	Fail		2014-11-17 15:14
12	2014-11-17 15:14	1	Pass	Pass	Pass	Pass		2014-11-17 15:14	2	Fail	Fail	Fail	Fail		2014-11-17 15:14
13	2014-11-17 15:14	1	Pass	Pass	Pass	Pass		2014-11-17 15:14	2	Fail	Fail	Fail	Fail		2014-11-17 15:14
14	2014-11-17 15:14	1	Pass	Pass	Pass	Pass		2014-11-17 15:14	2	Fail	Fail	Fail	Fail		2014-11-17 15:14
15															

Figure 4.18 Limit Measure Data in Excel File

Instruction to import Excel file

➔ Setting appropriate Limit list value at Limit Measure Window

➔ Input Model name and tester at Setup frame.

➔ Click Excel Setup button to input DATA at Excel File.

➔ Click Measurement button (It will be active upon Excel set up.)

➔ Measure performance. Result of pass / failure will be immediately showed and would be saved as well as Excel file.

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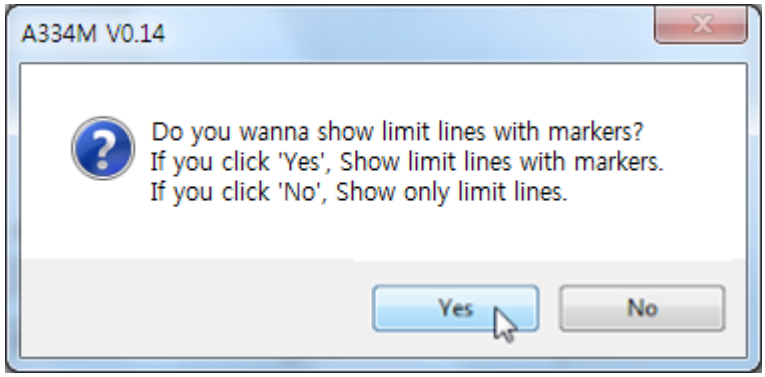
Marker / Limit Measure Multi View



NOTICE

In case that user would like to apply Marker in a status that Limit Line has been applied, or user would like to apply Limit Line in a status that Marker has been applied, above screenshot would popped up. Above screenshot means that user shall make its choice of display either Marker or Limit Line.

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4.4.7 Measure off

Measure Off has clearing function, which makes Marker or Limit Line clear at the Trace Window.

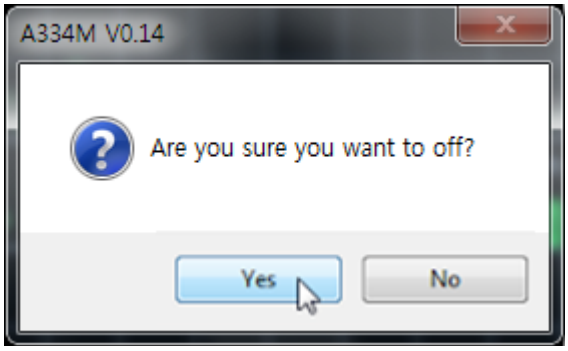

Figure 4.19 Measure Off

4.4.8 Preset

Preset initializes all the setting value back to factory default setting value including Calibration DATA, Trace Point, Frequency Span, Scale, Marker and Limit Measure. (both of A334M and User Interface program). Duly recommendable to save all the configuration before apply Preset.

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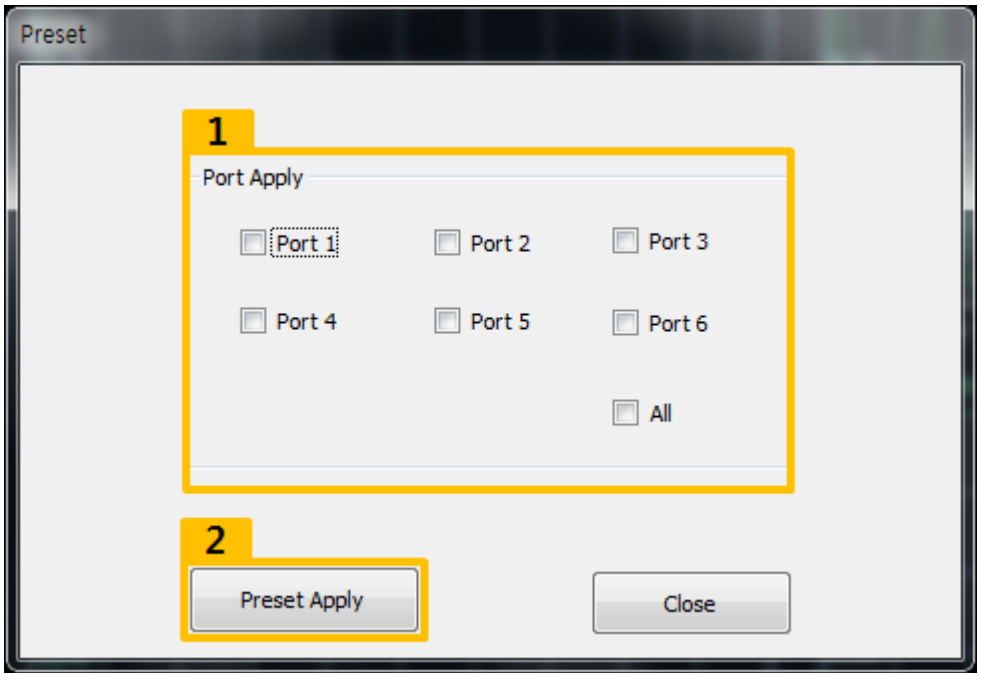

Figure 4.20 Preset Window

Preset Window Description		
NO.	**Name**	**Description**
1	Port Select Check Box	User click to choose port that wish to initialize. When «All Check Box» clicked, all 6 ports would be initiailized.
2	Apply Button	Select a port that wish to initialize.

Table 4.15 Preset Window Descriptions

Preset

NOTICE

The selected port is initialized while Marker or Limit Line is applied, and Marker and Limit Line of every port on the Trace Window is cleared. But, set values of the port which has not been preset are kept as they were rmeoon Marker Measure, Limit Measure Window.

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5 WARRANTY INFORMATION

1. The manufacturer warrants the Network Analyzer to conform to the specifications of this Manual when used in accordance with the regulations of operation detailed in this Manual.

2. The manufacturer will repair or replace without charge, at its option, any Analyzer found defective in manufacture within the warranty period, which is two (2) years from the date of purchase. Should the user fail to submit the warranty card appropriately certified by the seller with its stamp and date of purchase the warranty period will be determined by the date of manufacture.

3. The warranty is considered void if:

   a) The defect or damage is caused by improper storage, misuse, neglect, inadequate maintenance, or accident;

   b) The product is tampered with, modified or repaired by an unauthorized party;

   c) The product's seals are tampered with;

   d) The product has mechanical damage.

4. The batteries are not included or covered by this warranty.

5. Transport risks and costs to and from the manufacturer or the authorized service centers are sustained by the buyer.

6. The manufacturer is not liable for direct or indirect damage of any kind to people or goods caused by the use of the product and/or suspension of use due to eventual repairs.

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7. When returning the faulty product please include the accurate details of this product and clear description of the fault. The manufacturer reserves the right to check the product in its laboratories to verify the foundation of the claim.

Technical Support

Write:
GS Instruments, Co., Ltd.
70, Gilpa-ro 71beon-gil, Nam-gu, Incheon, Korea
402-854

Product Information and Technical Assistance:
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isale@gsinstrument.com

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