Revision Record

Date	Version	Revision
3/28/2023	1.5.2R3	Fixed an issue on the production line
12/19/2022	1.5.2R2	Fixed a calibration bug only existing on Rev.G hardware (06-xx)
8/24/2022	1.5.2R1	1. Measurement enhancement - Added setup/hold time: tsu@R, tsu@F, th@R, th@F
		2. Optimized UI
		3. Added SCPI commands for Measure Cursors and clearing measure items in Simple mode
		4. Supported LXI (only with the Uboot-OS Version 5.4)
		5. Supported time zone setting
		6. Fixed several bugs
		a) Webserver doesn't show instrument UI if the scope reboot with a wireless mouse connected
		b) Incorrect "Recall" icon in the File Manager
		c) Scope freezes with AWG enabled and measure cursor on rise time
		d) IP setting of AWG in Bode Plot not remembered after reboot
		e) Network storage only works for SMB1.0
		f) MEAS:SIMPle:ITEM\sOVSN,ON does not work as expected
		g) Roll time incorrect at 1ks/div and 20kpts
		h) Raw data not consistent in x and sinx/x interpolation modes
		i) Math: Dx parameter of Derivation cannot be increased by universal control
		j) Incorrect FFT sample rate
5/23/2022	1.3.9R12	1. Fixed several bugs of 1.3.9R10
		a) Compatibility issue on 2-channel models
		b) WebServer control issue
3/8/2022	1.3.9R10	Compatible with new hardware (hardware version: **04**-xx).
		Note:
		1. This is a firmware compatible with new hardware. No feature or specification difference between it and 1.3.9R6. It's not necessary to upgrade it from 1.3.9R6 to this release.
		2. This release cannot be downgraded to former releases.
10/21/2021	1.3.9R6	2. Fixed several bugs
		a) When selecting the option screen the scope hangs
		b) Wrong FFT frequency when memory depth > 10 Mpts
		c) Incorrect network storage path leads the scope to hang
9/2/2021	1.3.9R4	1. Measurement enhancement:
		a) Supported cursors for measurement
		b) Supported Track plot
		c) Added parameters: Positive Slope and Negative Slope
		2. Display:

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a) Supported to display axis label

b) Auto hide menu setting increased to 10 seconds

c) Added "Hide" button in the fast menu of channel for quickly hiding trace

3. Save/Recall:

a) Supported network storage

b) Supported to Print only grid area

c) Supported to save FFT result

d) Updated the File Manager

4. Bode Plot:

a) The maximum generator amplitude changed from 6Vp-p to 24Vp-p

b) Supported single sweep

5. Horizontal: Time Zero strategy updated – time zero changed from center display to trigger position.

6. Acquisition: Deleted some unnecessary clear operations on the history buffer

7. Updated Russian menu

8. Supported setting Cursors by virtual keypad

9. Fixed several bugs

a) Decode failure occurs on last nibble or byte

b) The "STL?" query issue in AWG function

c) If persistence is enabled, and you change the trigger setting, persistence will be switched off

d) Decode list can't go higher than item #2

e) Decode format is reset to "binary" when recalling stored settings

f) Sequence capture does not work with serial trigger from digital channel

g) ERES 0.5-bit works for ERES(C1), but not for ERES(F1)

h) The icons for rise and fall time in the Measure Select screen are reversed

i) When switching the attenuator, the message "Zone is too small" appears

j) After shutting-down the scope and rebooting not all settings are restored

k) Bode plot abnormal when Sequence is enabled

l) SENT decode: tolerance not functional

m) SENT decode: only display CRC segment but no calculation on the CRC checksum

n) SENT decode: The Short Serial data is NOT decoded if only 16 frames are sent. If a 17th frame follows, the data is decoded

o) SENT decode: Changing the horizontal time/div affects the ability to decode.

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		p) Save/recall: Number of digits of time stamp is not enough in the long period
		q) Infinite persistence not works after switching between 8-bit and 10-bit
		r) Tolerance of UART decode too strict
		s) FFT max. scale is unrealistic
11/11/2020	1.3.7R5	1. New serial protocols supported (optional):
		a) SENT, trigger & decode
		b) Manchester, decode only
		2. Measurement enhancement:
		a) Supported user-defined thresholds (Upper, Middle and Lower): Measure | Config | Threshold
		b) Added items: +Area@AC, -Area@AC, Area@AC, AbsArea@AC
		3. Math: added new operator – Interpolate
		4. Display:
		a) Supported selectable color for traces: Display | Color Setting
		b) Supported floating menu so that the waveform is not compressed horizontally when the right-side menu is displayed: Display | Menu Style
		c) Supported to show bandwidth information on the channel descriptor box
		5. Save/Recall:
		a) Added option "Save all channel" for csv file
		b) Supported to save math traces (except FFT)
		6. Bode Plot:
		a) Optimized scan speed
		b) Fixed unexpected glitch issue
		7. Supported serial trigger as source of the frequency counter
		8. Unlocked zoom in stop mode for Roll
		9. Supported trigger Default or AutoSetup operations by pressing corresponding button twice
		10. Fixed several bugs
		a) Some vertical measurement error in roll mode
		b) Missed peak marker in FFT two-tone test
		c) AWG problem of importing the arb file from a U-disk
		d) Whenever the screen is touched, the pass/fail statistics is reset to zero
		e) SPI data value setting issue using virtual keypad
		11. Compatibility issue between WebServer and latest Chrome/Edge browsers
8/12/2020	1.3.5R10	1. Fixed a bug that a firmware upgrade kills the scope if a previous upgrade from the WebServer was failed.
5/14/2020	1.3.5R5	1. Supported to hide analog traces

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		2. Added function expression information to the math box
		3. Optimized AWG DC output accuracy at +/-3V
		4. Frequency counter supported to count serial trigger events
		5. Fixed several bugs
		a) Incorrect cursor horizontal label for FFT traces
		b) 2-channel 100MHz model cannot be upgraded to 350MHz
		c) FRFR measure invalid from Roll to Stop
		d) Unexpected behaviors when probe attenuation factor is not 1x
		e) Some bugs in PA
2/16/2020	1.3.5R3	1. Supported Sign as a math function
		2. Updated the Webserver. The built-in bin2csv tool supported to convert binary data of digital channels
		3. Added English help information
		4. Fixed several bugs

Version Compatibility

| Source Version	Object Version	Compatibility
1.5.2R2	1.5.2R3	Tested
1.5.2R1	1.5.2R2	Tested
1.3.9R12	1.5.2R1	Tested
1.3.9R6	1.5.2R1	Tested
1.3.7R5	1.5.2R1	Tested
1.3.5R3	1.5.2R1	Tested
1.3.9R10	1.3.9R12	Tested
1.3.9R6	1.3.9R10	Tested
1.3.7R5	1.3.9R10	Tested
1.3.5R10	1.3.9R10	Tested
1.3.9R4	1.3.9R6	Tested
1.3.7R5	1.3.9R4	Tested
1.3.5R10	1.3.9R4	Tested
1.3.5R5	1.3.9R4	Tested
1.3.5R5	1.3.7R5	Tested
1.3.5R3	1.3.7R5	Tested
1.3.5R5	1.3.5R10	Tested
1.3.5R3	1.3.5R10	Tested
1.3.5R3	1.3.5R5	Tested

Upgrade Instructions

Upgrade from a U-disk (USB Memory device)

**WARNING: DO NOT shut off the instrument until the update is completed.**

1. Copy the update file (*.ads) to a FLASH type U-disk, and then insert the U-disk into one of the USB host ports of the instrument.

2. Press the Utility button on the front panel, and press "*Maintenance*-> *Upgrade*". The following the menu should pop up and allow you to select the upgrade file
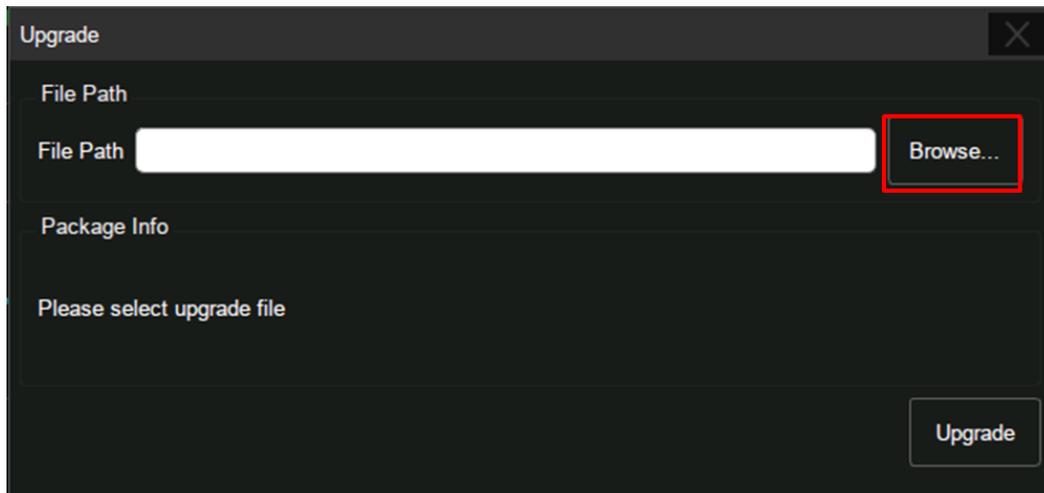

3. Click *Browse* in the menu above, select the correct update file (*.ads) in the pop-up File Manager, and then click *Recall*
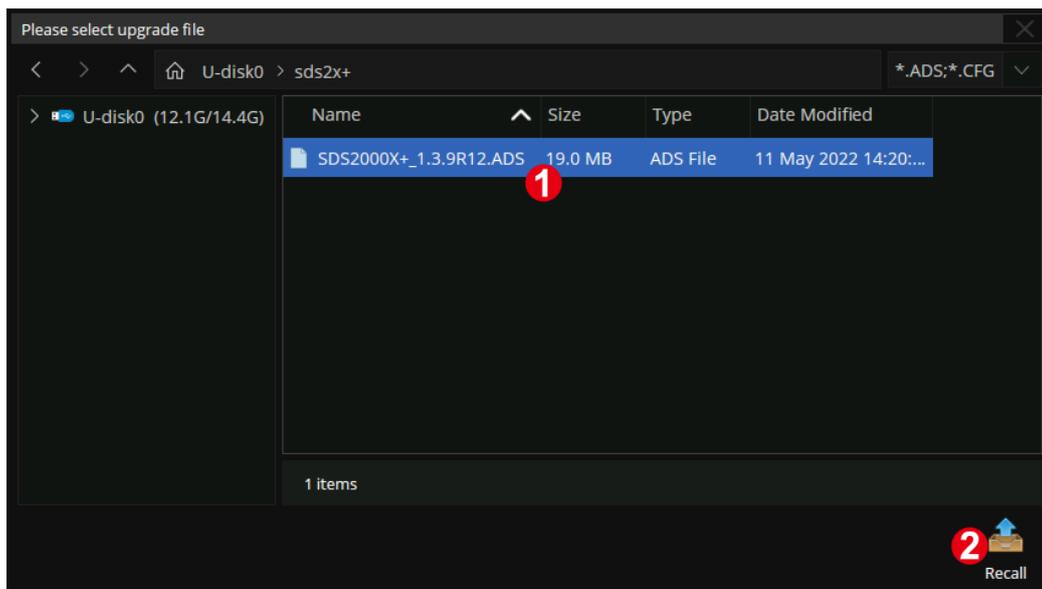
4. Click *Upgrade* to perform the upgrade operation:
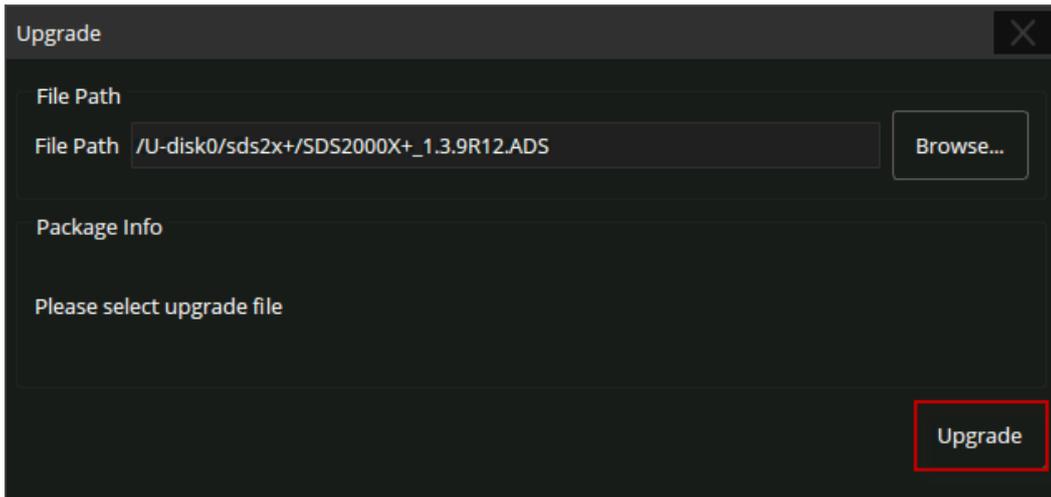
5. The system will first copy and verify the upgrade package. After the upgrade package is validated, the following interface will appear. Click *Reboot* to continue the upgrade, or click *Cancel* to cancel it.
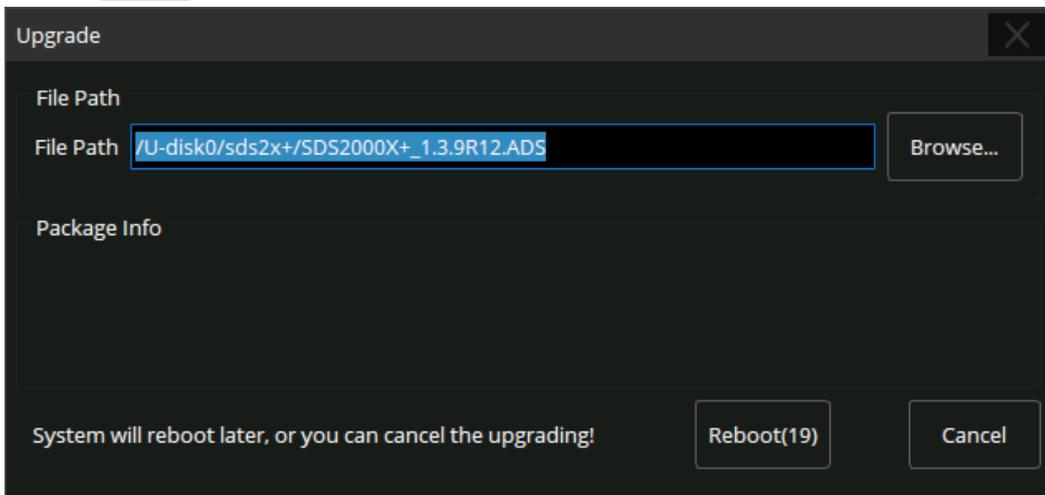

6. After the instrument reboots, check the version number through the Utility -> *System Info* to confirm if the upgrade is successful.

WARNING: DO NOT shut off the instrument until the update is completed.

Upgrade from the Web Server

A built-in web server provides an approach to control the instrument by web browser. This process doesn't require any additional software to be installed on the controlling computer. Set the LAN port correctly (see the User Manual for details), input the IP address of the instrument in the browser address bar, and then the user can browse and control the instrument on the web.
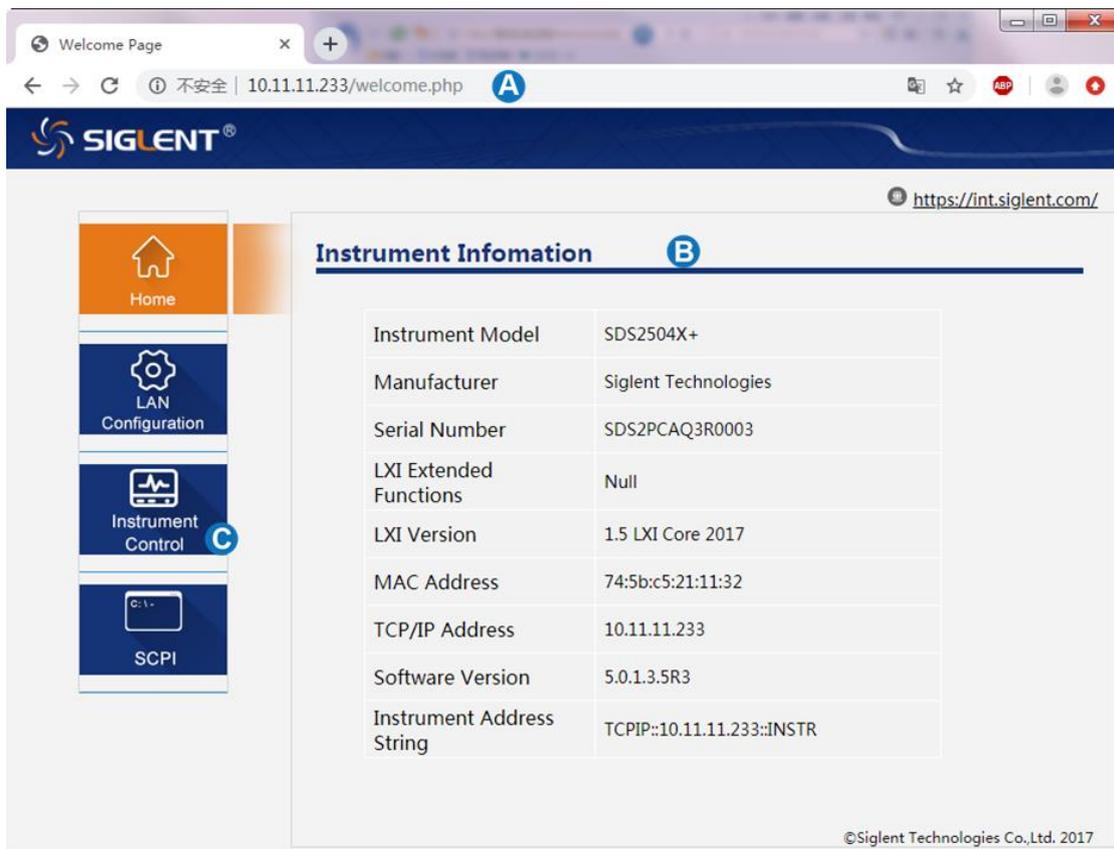
WARNING: DO NOT shut off the instrument until the update is completed.

1. Click the "FirmwareUpdate" button in the web interface

2. Select the correct update file (*.ads) stored on the computer. The instrument will automatically download the update file and perform the upgrade once the file is specified.

WARNING: DO NOT shut off the instrument until the update is completed.