OSC4800 series

USB Oscilloscope / Data logger

Device Family

June 2019, Version 6.0 Data Sheet

Features:

- Hand-held portable, 153(L) x 93(W) x 23(H) mm, up to 210g.
- General Purpose I/O interface (TTL 3.3V).
- Open source hardware interface to support expansion modules.
- Open software API for third party development.
- USB 2.0 interface, USB powered.
- 72 hours long time data logger.
- OSC482M support oscilloscope software on Android Mobile Phone.
- Waveform recording and playback review.
- Support waveform image import as the comparison reference for real-time waveform. NEW
- Support Serial bus decoding (selected models).
- Support buffer waveform preview and mouse wheel operations.

APPLICATIONS:

- ✓ *General-purpose and precision testing.*
- ✓ *Embedded in industrial testing equipment for use.*
- ✓ *Embedded electronics courses for the educational market.*
- ✓ *Ripple and noise measurements for power supply characterization.*
- ✓ *Multi-sensor systems and Serial bus decoding.*
- ✓ *Car inspection and maintenance.*
- ✓ *Current/Voltage recording and analysis System for Solar Power Supply and Lighting System.*
- ✓ *Diagnosis device for field engineers.*
- ✓ *Basic equipment for DIY makers to develop their own modules.*

SPECIFICATIONS:

● Connector type :	2 channels with BNC sockets, 20 mm spacing.	
● Vertical resolution:	8 Bit.	
● Maximum sampling rate (S/s):	50M	
● Bandwidth (−3 dB):	20MHz	
● Input coupling:	AC/DC.	
● Input characteristics:	1MΩ || 25pF.	
● PC OS requirements:	Windows XP, Win 7, Win 8.1, Win10 (32 bit and 64 bit).	
● Overvoltage protection:	±60.0v (x1), ±600.0v (x10). (DC + AC peak)	
● Triggering type:	Rising/falling edge according to trigger level.	
● Triggering mode:	None, auto, normal, single.	
● pre-trigger capture:	50% of capture size.	
● Automatic measurements:	Maximum, minimum, average, RMS, frequency, period, positive pulse width, negative pulse width, duty cycle, rise time, peak-to-peak value.	
● Deep measurement: 	With this function, the waveform jump points are automatically numbered and marked, and the time difference between the two adjacent numbers is automatically displayed.	
● Samples Interpolation:	Linear or sin(x)/x.	
● FFT:	1024 ~ 16k points.	
● FFT window function:	Rectangle, Hanning, Hamming, Blackman.	
● Math:	A+B, A-B, AxB, X-Y.	
● Acquisition Modes:	Normal mode / High Resolution mode / Peak detect mode.	
● Waveform recording and playback:	File format :	*.oscxxx.
	Record depth:	50 ~ 450 frames.
	File size:	6 MB ~ 20GB.
● Comparison reference 	Support waveform image import and real-time waveform comparison reference. It can import waveform pictures, set gray level and transparency, move up and down, and zoom in and out horizontally and longitudinally.	
● Data logger Sampling Interval:	1 second to 1 hour.	
● Data logger Record Duration:	1 minute ~ 72 hours.	
● Temperature range:	Operating: 0 °C to 40 °C (20 °C to 30 °C for stated accuracy). Storage: −20 °C to +60 °C.	
● Reference Output:	1K Hz, 1.5 V square wave output with 50% duty cycle.	
● Size:	153(L) x 93(W) x 23(H) mm.	
● Languages (full support):	English, Chinese (simplified).	
● Compliance:	CE, FCC.	
● Net weight:	198 g.	
● Input sensitivity (10 vertical	20 mV/div to 2 V/div.	

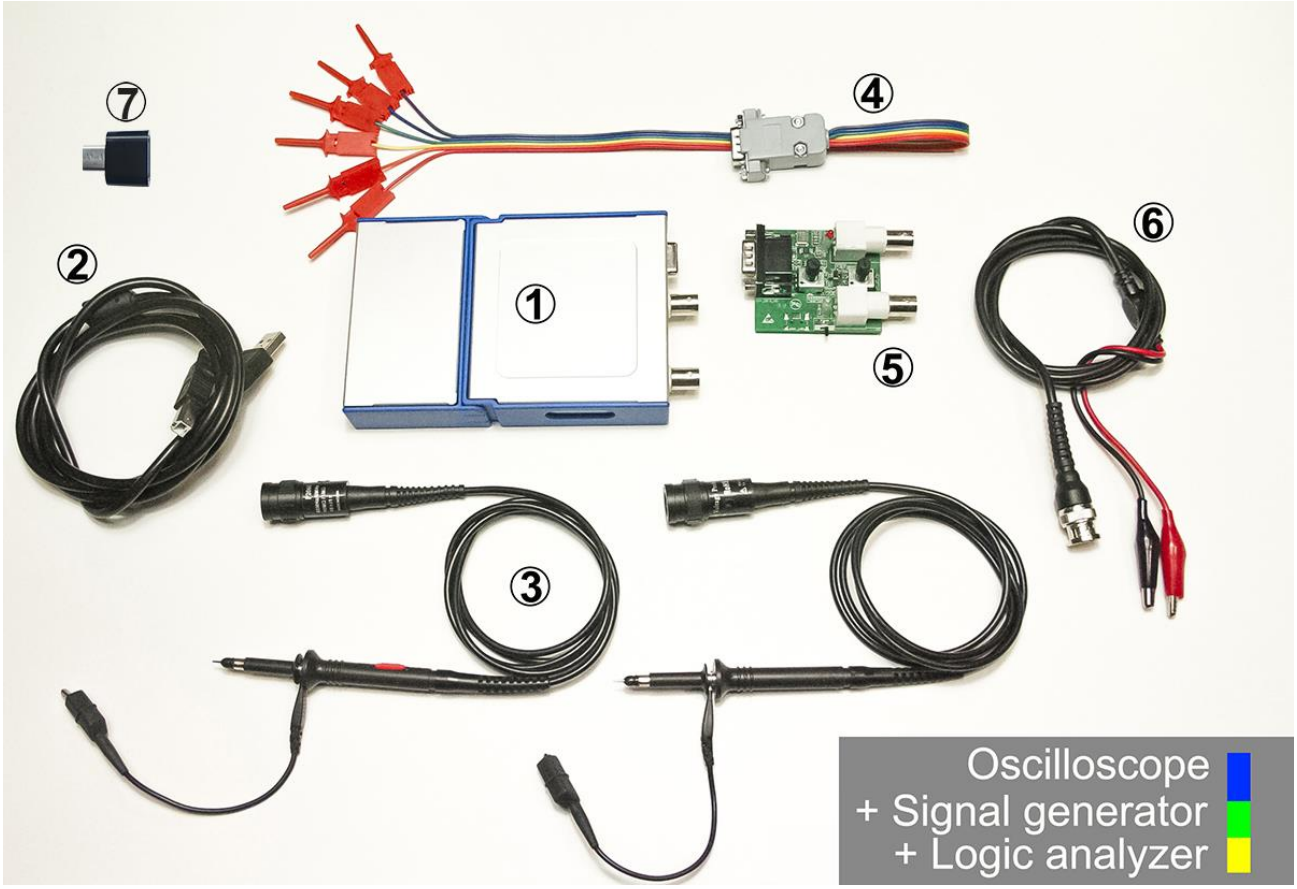
	divisions):		
●	Input ranges(probe x1):	±100 mV to ±5 V full scale, in 7 ranges.	
●	Timebase selection (10 horizontal divisions):	50 ns/div ~ 2 s/div, in 19 ranges.	
●	Typical noise (peak to peak voltage): 20 mv/div	2 mv	
	50 mv/div	3.4 mv	
	100 mv/div	6.4 mv	
	200 mv/div	21 mv	
	500 mv/div	32 mv	
	1 v/div	101 mv	
●	GPIO: 	3 I/O, One IO can use high and low levels to control the start and stop of PC software.	
●	Memory depth (byte /ch):	512	≤1 us/div
		1k	4 us/div
		2k	20 us/div
		32k	0.2 ms ~ 5 ms /div
		64k	10 ms /div
		256k	100 ms /div
		512k	200 ms /div
		1M	0.5 s/div
		2M	1 s/div
		5M	2 s/div
●	Trigger type:	Software	
●	Trigger source:	Channel A	
●	Power consumption:	5 v || (238~253) mA	
●	Protocols decoding:	UART/RS-232, I²C	

AT A GLANCE

Model:	OSC482	OSC482M	OSC482S	OSC482L	OSC482X	OSC482F
Detail:	Support Windows XP, Win 7, Win 8.1, Win10 (32 bit and 64 bit).	Support Windows XP, Win 7, Win 8.1, Win10 (32 bit and 64 bit) and Android phone/tablet.	OSC482 + 13M Hz Signal generator.	OSC482 + 4 channels Logic analyzer.	OSC482+13M Hz Signal generator + 4 channels Logic analyzer.	OSC482M + 13M Hz Signal generator + 4 channels Logic analyzer.
Input channels:	2	2	2	2	2	2
Maximum sampling rate :	50M S/s	50M S/s	50M S/s	50M S/s	50M S/s	50M S/s
Bandwidth:	20M Hz	20M Hz	20M Hz	20M Hz	20M Hz	20M Hz
FFT:	✓	✓	✓	✓	✓	✓

Data logger:	✓	✓	✓	✓	✓	✓
I/O extension:	✓	✓	✓	✓	✓	✓
Decode:	✓	✓	✓	✓	✓	✓
Signal generator module support:	✘	✘	✓	✘	✓	✓
Logic analyzer module support:	✘	✘	✘	✓	✓	✓
Android Phone/ Tablet support	✘	✓	✘	✘	✘	✓

Expansion modules & Accessories:

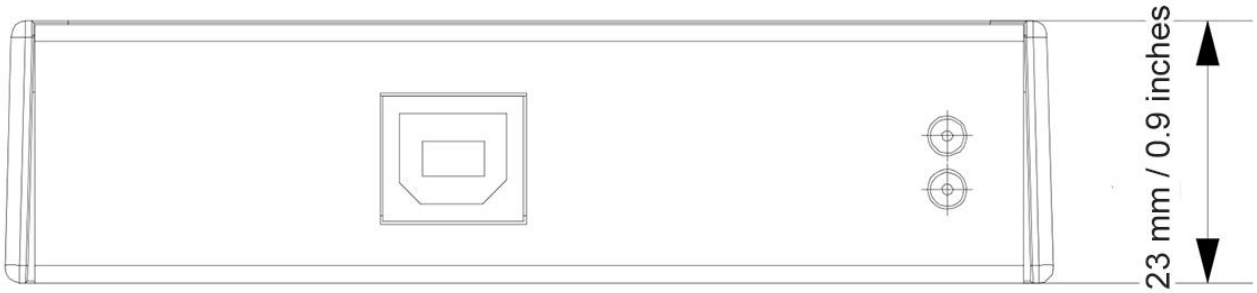


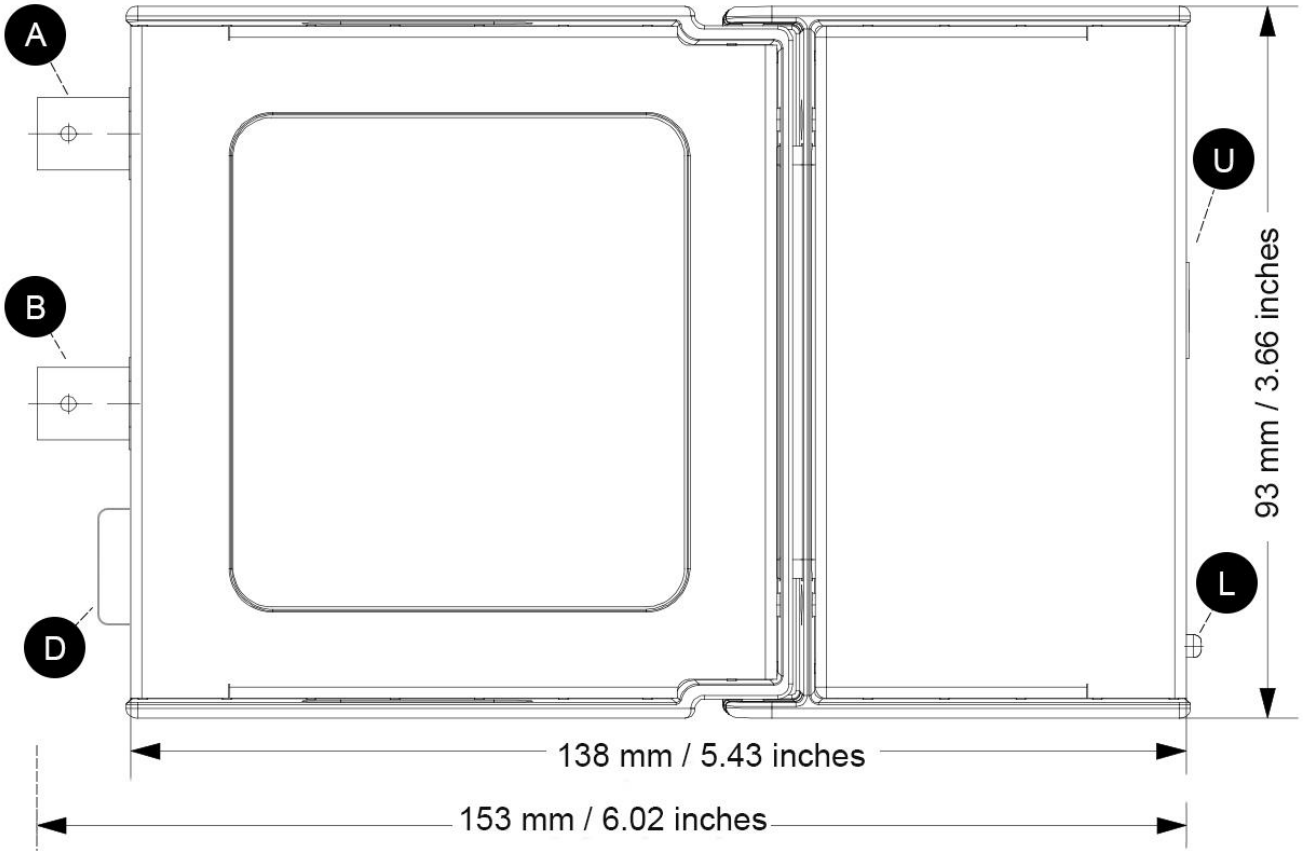
Model	Android phone support	Signal generator module	Logic analyzer module	Bill of materials
OSC482	✘	✘	✘	①+②+③
OSC482M	✓	✘	✘	①+②+③ + ⑦
OSC482X	✘	✓	✓	①+②+③+④+⑤+⑥
OSC482L	✘	✘	✓	①+②+③+④
OSC482S	✘	✓	✘	①+②+③+⑤+⑥
OSC482F	✓	✓	✓	①+②+③+④+⑤+⑥+ ⑦

	type	quantity	model	details
①	Oscilloscope host device	1	OSCxxx	/
②	USB cable	1	U2100	USB2.0 compliant, length: 1m (or whatever length it is), USB Type A Male to USB Type B Male
③	Passive voltage probe, 60 MHz x1/x10	2	P2060	10x: 60M Hz,10MΩ,600 V CAT II
				1x: 6M Hz,1MΩ,300 V CAT II
④	Logic analyzer module	1	L02	4 channels, TTL level, consistent with the performance of the host device.
⑤	Signal generator module	1	S02	1 channel, Sine wave, Triangle wave, Square wave.1 Hz ~ 13M Hz (Sine wave) output frequency range. 48M sampling rate.
⑥	Signal output cable	1	SO13	Output cable for Signal generator module S02.
⑦	Adapters for Android phone	1	A2C0	/

This ④, ⑤ and ⑥ , ⑦ are standard or optional, depending on the host you purchased. If the host you purchased supports the feature of the module and do not provide it as standard, then you can buy it separately as an optional one.

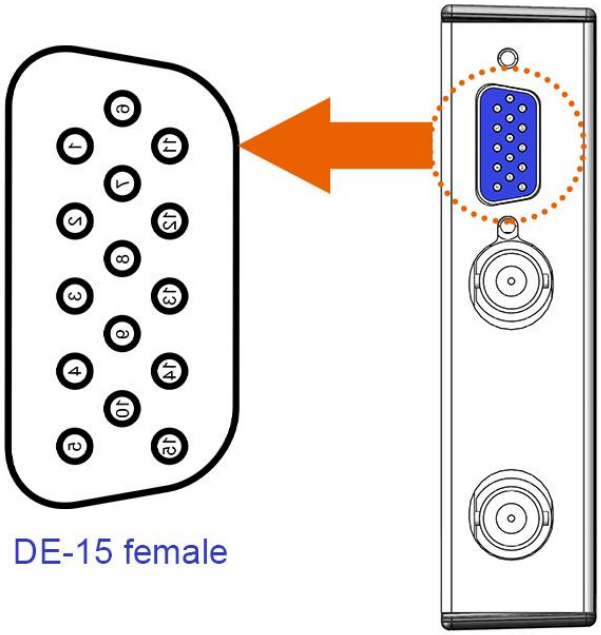
INTERFACES:



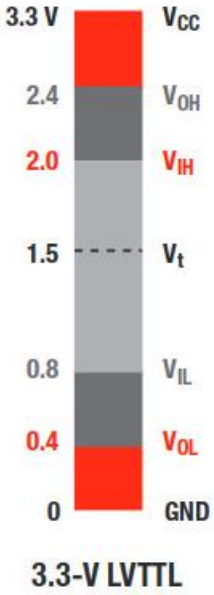


	Description:
A	Input channel A.
B	Input channel B.
L	Power LED (red), Status LED (green).
U	USB 2.0 interface, Type B female.
D	DE-15 interface for expansion modules.

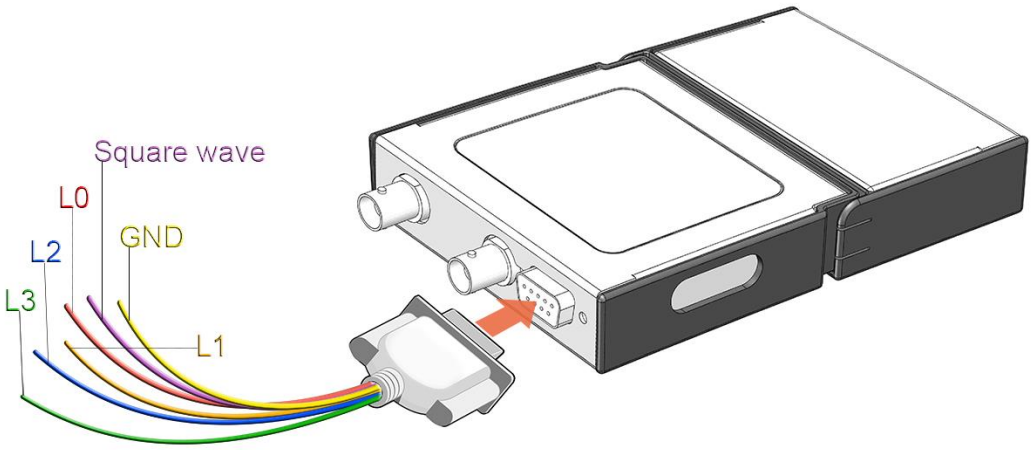
1: L3
2: IO1/Lctrl
3: LO2/Ext trigger
4: IO3
5: chB input
6: square wave(1k)
7: L1
8: DGND
9: IO4/L0
10: DGND
11: L2
12: 3.3V
13: -5V
14: 5V
15: AGND



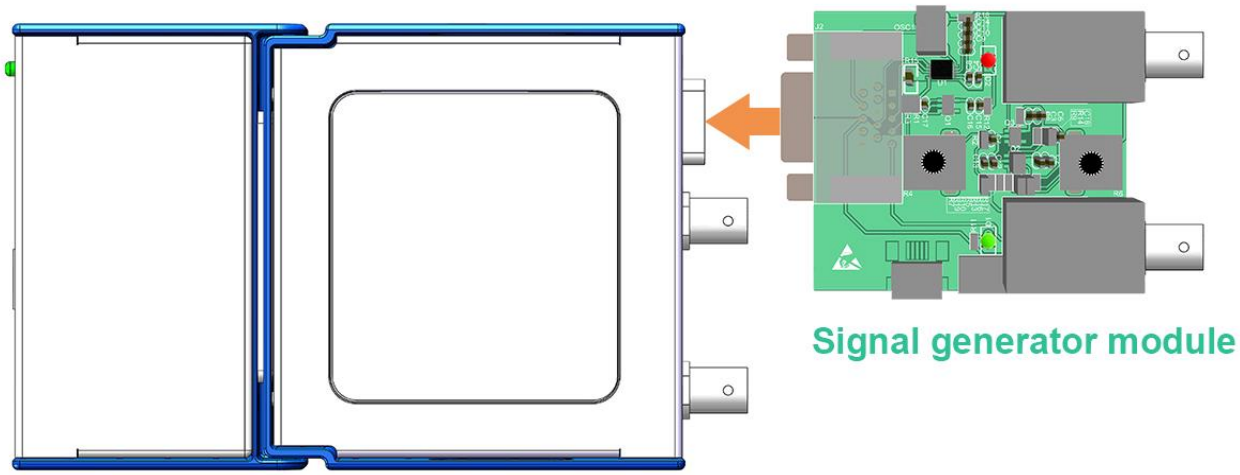
DE-15 female



3.3-V LVTTL



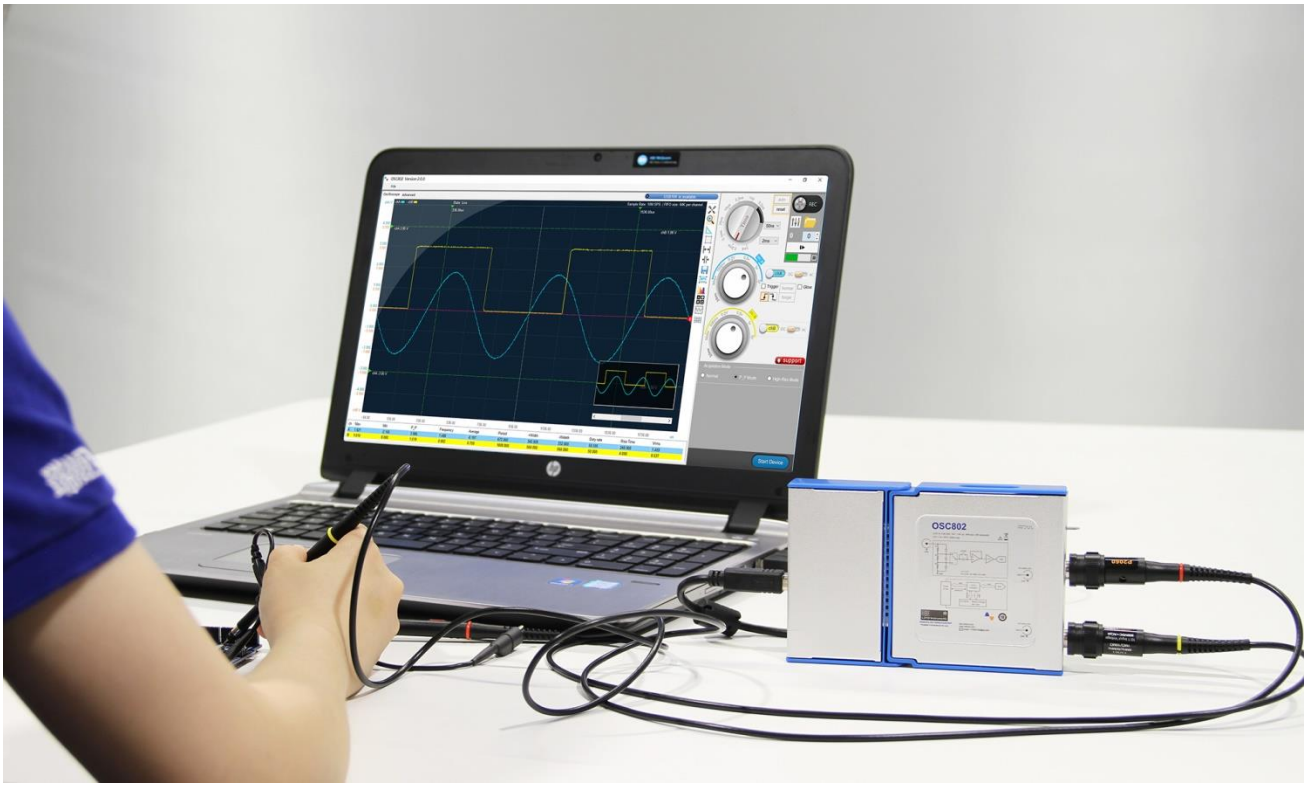
The input voltage between 2V and 3.3V is considered to be high and the input voltage between 0.8V and 0V is considered to be low for the four channels input L0~L3 of the logic analyzer shown above.



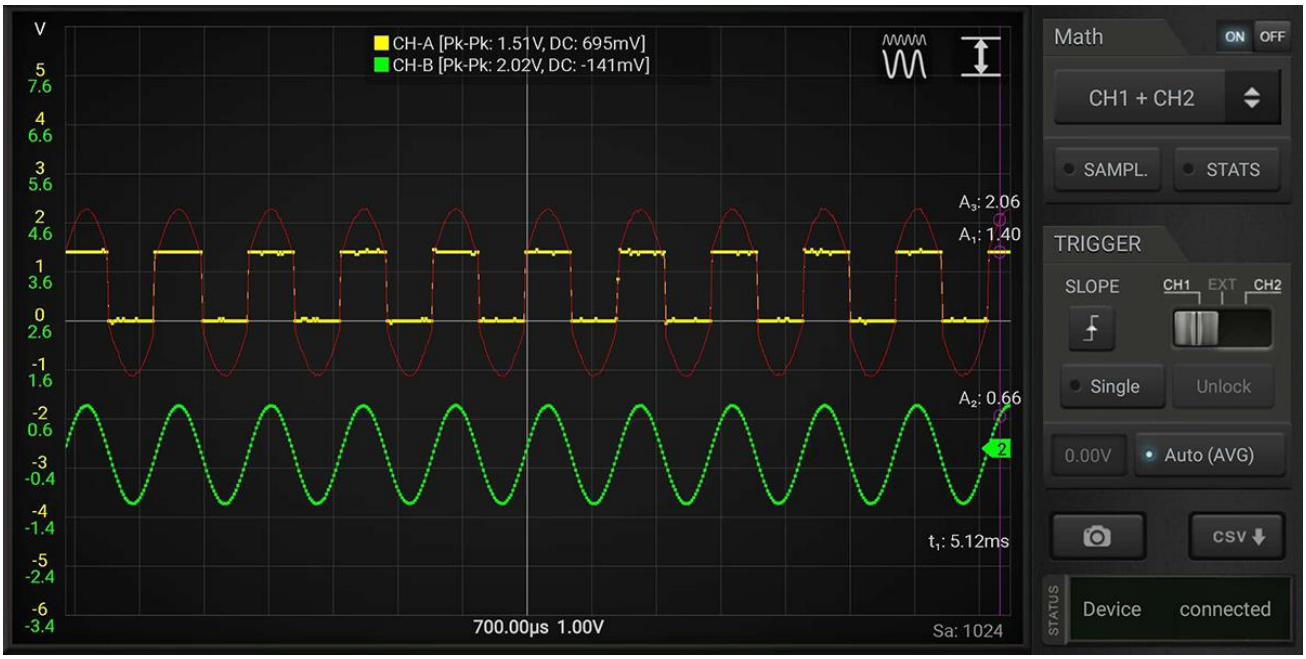
Signal generator module

Oscilloscope host

Windows software



App for Android phone(OSC482M/OSC482F):



Note:

Although most Android phones/tablets are supported, it cannot be ruled out that individual models cannot be turned on due to the inability to enable OTG. We will maintain a list of tested phones and ask the supplier for the list before purchase.