The technical specification comparison table of Micsig, Agilent and Fluke

Brand	Micsig		Micsig		Micsig		Fluke		Agilent	
Model	MS310IT	MS320IT	MS510IT	MS510S	MS520IT	MS520S	190-102	190-202	U1610A	U1620A
Picture										
Bandwidth	100MHz	200MHz	100MHz	100MHz	200MHz	200MHz	100MHz	200MHz	100MHz	200MHz
Rising time	3.50ns	1.75ns	3.5ns	3.5ns	1.75ns	1.75ns	3.50ns	1.75ns	3.50ns	1.75ns
Channel	2 CH		2 CH		2 CH		2 CH		2 CH	
	full isoalted channels		full isoalted channels		full isoalted channels		full isoalted channels		full isoalted channels	
Real time sample rate	signal channel 1GSa/s, dual channel 500MSa/s		signal channel 1GSa/s, dual channel 500MSa/s		signal channel 1GSa/s, dual channel 500MSa/s		1.25GSa/s	2.5GSa/s	signal channel 1GSa/s, dual channel 500MSa/s	
Memory depth	sginal channel 240Kpts dual channe120Kpts		sginal channel 240Kpts dual channe120Kpts		sginal channel 240Kpts dual channe120Kpts		10Kpts		singal channel120Kpts dual channel 60Kpts	
Max refresh rate	up to 50,000wfms/s(optional)		190,000wfms/s		190,000wfms/s		<100wfms/s		<100wfms/s	
Storage	can be upgraded toU flash storage (can be upgraded)		U flash storage		U flash storage		U flash storage		U flash storage	
Serial trigger and decode	not support		support (optional)	5 types	support (optional)	5 types	not support		not support	
Main functions	oscilloscope, multi-meter and recorder		oscilloscope, multi-meter and recorder		oscilloscope, multi-meter and recorder		oscilloscope, multi-meter and recorder		oscilloscope, multi-meter and recorder	
operation way	touch, button ,scroll wheel.		touch, button ,scroll wheel.		touch, button ,scroll wheel.		button		button	
Vertical system										
Input channel	two oscilloscope inputs one multi-meter input		two oscilloscope inputs one multi-meter input		two oscilloscope inputs one multi-meter input		two oscilloscope inputs one multi-meter input		two oscilloscope inputs and one multi-meter input	
Bandwidth limition	20MHz		20MHz		20MHz		20KHz/20MHz		10KHz/20MHz	
coupling	DC ,AC ,GND		DC ,AC ,GND		DC ,AC ,GND		DC ,AC		DC ,AC	
Input impandence	1MΩ±1%≈15pF ±3 pF		1MΩ±1%≈15pF ±3 pF		1MΩ±1%≈15pF ±3 pF		1MΩ±1%≈10pF ±2pF		1MΩ±1%≈22pF ±3pF	
vertical scale	5mV/div–50V/div		5mV/div–50V/div		5mV/div–50V/div		2mV/div–100V/div		2mV/div–50V/div	
Vertical resolution	8bit		8bit		8bit		8bit		8bit	
Max input voltage	CAT Ⅱ 600V	CAT Ⅲ 300V	CAT Ⅱ 600V	CAT Ⅲ 300V	CAT Ⅱ 600V	CAT Ⅲ 300V	CAT Ⅳ 300V		CAT III 300V	
Isolated channel voltage	CAT Ⅱ 1000V	CAT Ⅲ 600V	CAT Ⅱ 1000V	CAT Ⅲ 600V	CAT Ⅱ 1000V	CAT Ⅲ 600V	CAT Ⅳ 300V		CAT III 300V	
DC vertical offset accuracy	5mV/div～50V/div，±2%		5mV/div～50V/div，±2%		5mV/div～50V/div，±2%		5mV/div～100V/div, ±2.1%		±4% all	
Horizontal										
Time base	4ns/div-10s/div		4ns/div-10s/div		4ns/div-10s/div		2ns/div-4s/div		5ns/div-50s/div	2ns/div-50s/div
Time base scale	-12/div~50s		-12/div~50s		-12/div~50s		-12div~60s		50ms-500s	20ms-500s
Time base accuracy	20ppm		20ppm		20ppm		100ppm		25ppm	
Sampling cfg	Normal,average,peak,envelop		Normal,average,peak,envelop		Normal,average,peak,envelop		Normal,average,auto,envelop		Normal,average,peak	
Dynamic reocrd	standard unit(not support),（optional）		2 hours		2 hours		not support		not support	
Reference waveform	4 ref waveforms（can be upgraded to flash disk storage)		main unit: 4 group waveform storage, U disk		main unit: 4 group waveform storage, U disk		support		support	
Trigger system										
Trigger type	Edge,Pulse,Logic,Serial bus（UART/RS232/RS485/RS422/LIN/CAN/SPI/I2C）		Edge,Pulse,Logic,Video（PAL/NTSC/SECAM/720P/1080I/1080P）、Serial bus（UART/RS232/RS485/RS422/LIN/CAN/SPI/I2C）		Edge,Pulse,Logic,Video（PAL/NTSC/SECAM/720P/1080I/1080P）、Serial bus（UART/RS232/RS485/RS422/LIN/CAN/SPI/I2C）		Auto,Edge,Pulse,Video,N cycling		Edge,Burr,TV,N cycling,CAN,LIN	
Triiger coupling	DC,AC,HF Rej,Noise Rej		DC,AC,HF Rej,Noise Rej		DC,AC,HF Rej,Noise Rej		（off）、Noise Rej,HF Rej		AC (~10 Hz), DC,LF Rej (~35 kHz)、HF Rej (~35 kHz)	
Trigger models	Auto,normal,single		Auto,normal,single		Auto,normal,single		Auto,normal,single		Auto,normal,single	
Trigger source	CHI、CH2		CHI、CH2、external（by multimeter		CHI、CH2、external（by multimeter		input A、B or external（by		CHI、CH2、external	
Hold-off time	200ns-10s		200ns-10s		200ns-10s		none		60 ns ~ 10 s	
Measurements										
Auto measurement type	31 types		31 types		31 types		25 types		24types	
Cursor type	horizontal,vertical,cross		horizontal,vertical,cross		horizontal,vertical,cross		horizontal,vertical		horizontal,vertical	
Math										
Double waveform	+ , - , * , /, FFT		+ , - , * , /, FFT		+ , - , * , /, FFT		+ , - , * , /		+ , - , * , /	
FFT window settings	Rectangular,Hamming,、BlackmanHarris,Hanning or without window		Rectangular,Hamming,、BlackmanHarris,Hanning or without window		Rectangular,Hamming,、BlackmanHarris,Hanning or without window		auto、Hamming,Hanning or without window		Rectangular,Hamming,Hanning,Blackman-Harris,flat - topped window	
Display Features										
Screen	5.7 inches TFT LCD VGA color touch screen		5.7 inches TFT LCD VGA color touch screen		5.7 inches TFT LCD VGA color touch screen		6 inches LCD single color screen		5.7 inches TFT LCD VGA color screen	
Resolution	640*480		640*480		640*480		320*240		640*480	
3D waveform display	not support		not support		not support		not support		not support	
Grid of waveform display zone	horizontal 12 divs *vertical 8 divs		horizontal 12 divs *vertical 8 divs		horizontal 12 divs *vertical 8 divs		horizontal 12 divs *vertical 8 divs		horizontal 12 divs *vertical 8 divs	
Form	YT form (can be upgraded to XY form)		YT,XY		YT,XY		YT,XY,scrolling		YT,XY,scrolling	
Persistence	auto, 100ms~10s or ∞		auto, 100ms~10s or ∞		auto, 100ms~10s or ∞		7 levels		none	
I/O Port										
USB port (A)	Mini USB2.0-B（PC connectivity USB2.0)		Mini USB2.0-B（PC connectivity USB2.0)		Mini USB2.0-B（PC connectivity USB2.0)		USB1.0（PC connectivity USB1.0）		USB2.0(full-speed host)	
USB port (B)	USB2.0-A （U disk connectivity USB2.0)		USB2.0-A （U disk connectivity USB2.0)		USB2.0-A （U disk connectivity USB2.0)		USB1.0 (U disk connectivity)		USB2.0（full-speed interface connectivity）	
Multimeter										
Measurement types	10 physical measurements ,such as voltage, current, resistance, capacitance, diode , etc		13 physical measurements ,such as voltage, current, resistance, capacitance, diode , etc		10 physical measurements ,such as voltage, current, resistance, capacitance, diode , etc		voltage, current, resistance, capacitance, diode,temperature		9 physical measurements ,such as voltage, resistance, capacitance, diode , etc	
Measurement accuracy	4 bits		4 bits		4 bits					
Measurement display	max, average, min, values with time stamp		max, average, min, values with time stamp		max, average, min, values with time stamp		effective values		effective values	
Recorder										
Logger content	multimeter measurements, oscilloscope measurements, oscilloscope waveforms		multimeter measurements, oscilloscope measurements, oscilloscope waveforms		multimeter measurements, oscilloscope measurements, oscilloscope waveforms		multimeter measurements, oscilloscope measurements, oscilloscope waveforms		oscilloscope record，multimeter record	
Logger timebase	multimeter measurements：10s/div-20min/div oscilloscope measurements：10s/div-20min/div oscilloscope waveform：100us/div-2min/div		multimeter measurements：10s/div-20min/div oscilloscope measurements：10s/div-20min/div oscilloscope waveform：100us/div-2min/div		multimeter measurements：10s/div-20min/div oscilloscope measurements：10s/div-20min/div oscilloscope waveform：100us/div-2min/div		5s/div-30min/div			
Logger time length	main unit：17 days（can be upgraded to U flash storage）		main unit：17 days(can be expanded to U disk record unlimited)		main unit：17 days(can be expanded to U disk record unlimited)		22 days		8 days	
Power										
Power adapter	input：100-240VAC,50-60Hz，2A output：12VDC,5A		input：100-240VAC,50-60Hz，2A output：12VDC,5A		input：100-240VAC,50-60Hz，2A output：12VDC,5A		input：100-240V,50-60Hz, 24.7VA. output：17.8V,840mA		input：100-240 VAC,50/60 Hz,1.6A output：15 VDC, 4A	
Battery	battery voltage：7.4V capacity(standard)：6000mAh（continuous work time :4~5 hours）capacity(optional)：9000mAh（continuous		battery voltage：7.4V capacity(standard)：6000mAh（continuous work time:4~5 hours）capacity(optional)：9000mAh		battery voltage：7.4V capacity(standard)：6000mAh（continuous work time:4~5 hours）capacity(optional)：9000mAh（		capacity(standard)：2400mAh（continuous work time :4 hours at most）capacity(standard)：4800mAh		battery voltage:10.8V capacity(standard):4800mAh(continuous work time :3 hours）	
Work environment										
Temperature/Humidity range	-20℃-+50℃，＜85%RH		-20℃-+50℃,＜85%RH		-20℃-+50℃,＜85%RH		-20℃-+60℃，＜75%RH		-20℃-70℃，,80%RH	
Dimension										
Size	254mm*160mm*60mm		254mm*160mm*60mm		254mm*160mm*60mm		256mm*190mm*70mm		183mm*270mm*65mm	
Weight	main unit：1.380kg accessories(standard)：0.691kg 6000mAh battery：0.276kg		main unit：1.380kg accessories(standard)：0.691kg 6000mAh battery：0.276kg		main unit：1.380kg accessories(standard)：0.691kg 6000mAh battery：0.276kg		main unit：2.2kg（no battery）accessories(standard)：BP290 2400mAh battery(optional)		main unit：2.5kg（no battery）battery(standard)：4800mAh	