Test and Measuring Equipment

S No.	Equipment_Name	Model / Part #	Make	Description	Uses	Document Link
1	Oscilloscope 100 Mhz 2-Ch	TBS1102B	Tektronix	Digital Storage Oscilloscope: 100MHz bandwidth: 2GS/s sample rate: 2 channel: 2.5K record length:	A digital storage oscilloscope (often abbreviated DSO) is an oscilloscope which stores and analyses the signal digitally rather than using analog techniques. It is now the most common type of oscilloscope in use because of the advanced trigger, storage, display and measurement features which it typically provides. User can see display of their signal in time domain and will be helpfull in analyzing their product performance	https://www.tek.com/oscilloscope/tbs1102b-edu
2	Oscilloscope 200 Mhz 2-Ch	RTB2002, RTB-B1, RTB-PK1	R&S	10 inch, Digital 2 channel oscilloscope, with Capacitive touch screen 200 MHz bandwidth sampling rate up to 2.5 GSa/s, sample memory up to 20MSa,ADC resolu=tion 10 bit Mixed signal, max. 300 MHz, 2.5GSa/s, RTB-B1 (Logic Analyzer) with 16 channels, 10MSa per channel, The R&S®RTB-PK1 application bundle unlocks the rich functionality of the R&S®RTB2000 oscilloscopes. This very attractively priced bundle includes all currently available software options (I^2C, SPI, UART/RS-232/RS-422/RS-485, CAN, LIN, history and segmented memory mode) as well as the arbitrary waveform generator and pattern generator hardware option	This is mixed signal Oscilloscope can do both analog and digital signal analysis A digital storage oscilloscope (often abbreviated DSO) is an oscilloscope which stores and analyses the signal digitally rather than using analog techniques. It is now the most common type of oscilloscope in use because of the advanced trigger, storage, display and measurement features which it typically provides. User can see display of their signal in time domain and will be helpfull in analyzing their product performance In addition to that this particular equipment will do Logic Analyzer (Logic probe(s)) for digital signal analysis, this will help users to debug their digital portion of circuit and also equipped with protocol decoding , and can analyze data sent by various devices	https://www.rohde-schwarz.com/in/product/rtb2000-productstartpage_63493-266306.html
3	Oscilloscope 500 Mhz 4-Ch	MSOX3054T DSOXT3APPBNDL	Keysight	8.5 inch 500Mhz Oscilloscope, mixed signal, 4 analog Channels 16 digital channels, SW application bundle DSOX3AERO, DSOX3AUDIO DSOXT3AUTO DSOX3COMP DSOX3EMBD DSOX3FLEX DSOXT3CKPI DSOX3MASK DSOXT3NRZ DSOX3PWR DSOXT3FRA DSOXT3SENSOR DSOX3VID DSOX3WAVEGEN DSOXT3NFC DSOXT3UPD	This is mixed signal Oscilloscope can do both analog and digital signal analysis A digital storage oscilloscope (often abbreviated DSO) is an oscilloscope which stores and analyses the signal digitally rather than using analog techniques. It is now the most common type of oscilloscope in use because of the advanced trigger, storage, display and measurement features which it typically provides. User can see display of their signal in time domain and will be helpfull in analyzing their product performance In addition to that this particular equipment will do Logic Analyzer (Logic probe(s)) for digital signal analysis, this will help users to debug their digital portion of circuit and also equipped with protocol decoding , and can analyze data sent by various devices	https://www.keysight.com/en/pdx-x202187-pn-MSOX3054T/mixed-signal-oscilloscope-500-mhz-4-analog-plus-16-digital-channels?cc=US&lc=eng
4	Oscilloscope 1 Ghz 4-Ch	MDO3104 +MDO3MS +MDO3BND	Tektronix	9 inches Display, 1 Ghz Mixed Domain Oscilloscope; 4 Analog channels : 10M record length: 1GHz spectrum analyzer: 16 Digital channels, Application Module; Bundle module for MDO3000 Series (Includes MDO3AERO:MDO3AUDIO: MDO3AUTO: MDO3COMP:MDO3EMBD: MDO3FLEX: MDO3LMT: MDO3PWR: MDO3USB)"	This is mixed domain Oscilloscope can do both analog and digital signal analysisof time and Frequency domain. A digital storage oscilloscope (often abbreviated DSO) is an oscilloscope which stores and analyses the signal digitally rather than using analog techniques. It is now the most common type of oscilloscope in use because of the advanced trigger, storage, display and measurement features which it typically provides. In addition to above, this device can do even frequency domain analysis (Ex: Spectrum analyzer) can help in analyzing RF signals. User can see display of their signal in time domain and will be helpfull in analyzing their product performance In addition to that this particular equipment will do Logic Analyzer (Logic probe(s)) for digital signal analysis, this will help users to debug their digital portion of circuit and also equipped with protocol decoding , and can analyze data sent by various devices	https://www.tek.com/oscilloscope/mdo3104
5	Passive Voltage Probe - 100:1	RT-ZH10	R&S	400MHz high voltage probe, passive, 100x, 50MOhm, 7.5pF, 1kVrms, 4kVtrans	Voltage Probe for Oscilloscope to measure High voltage	https://scdn.rohde-schwarz.com/ur/pws/dl_downloads/dl_common_library/dl_manuals/gb_1/r/rt_zh/Manual_RT-ZH10_en.pdf
6	LCR Meter	TH-2817C	TONGHUI	TH28178/TH2817C LCR meter. The meter provides measurement speed up to 20times/second, 10 measurement frequencies from 50Hz to 100kHz, 3 common typical test levels, 5-digit resolution, two inner- source resistance selections and strong measurement functions. So it's suitable for measurement of quality control on production line, incoming inspection,component design and evaluation.High performance at low cost With the base of our years' experience of developing LCR meter, the meter reasonably combines easy operation and strong functions, and improves performance of 100kHz LCR meter. It is ideal instrument for incoming inspection and production line use.Communication interfaces TH28178/TH2817C can save 10 sets of measurement parameters, and automatically load saved parameters, which doesn't have the trouble of repeat setting.Useful transformer measurement function	Measures Inductance, Capacitance and Resistance	http://www.tonghui.com.cn/en/Product/lcr/2014/1201/357.html
7	Logic Analyzer	Logic Pro 16	Saleae	Logic Pro 16 16-Digital/Analog Inputs, Digital Sample Rate (max) 500 MS/s, Analog Sample Rate (max) 50 MS/s, USB2.0	Users can capture digital Logics upto 16 Channels and also decode into data format, very much usefull in when devices are communicating and would like to capture data of it to analyze further process of debugging	http://downloads.saleae.com/specs/Logic+Pro+16+Data+Sheet.pdf
8	EFT/B, ESD, SURGE Simulator	PRM61245TA	Prima, China	Combi EFT/B 4.8KV, Surge 6KV, ESD 20KV ESD, EFT, and SURGE, three functions combined into a single	To test devices immunity against Electrical Noises, which is required to meet with standards, Users can perform Electrical Noise related tests such as Surge Electrical Fast Transient Burst (EFT/B) and Electrostatic discharge (ESD)	http://www.emcprima.com/english/ProductShow_28.html
9	Voltage Dips Simulator	DRP61011TA	Prima, China	AC Voltage Dips Generator	Voltage dips and interruption generator used to test perform immunity of device against short distrubances in voltage waveform.	http://www.emcprima.com/english/ProductShow_27.html
10	Energy Meter Test Bench	KP-P3003-C	BOFA	3 Phase 3 Position test bench, 100 Amps, 0.5S	Users can perform tests too meet their Smart Meter on accuracies requirements as per standards, ex: IS 13779	https://cnbofa.en.made-in-china.com/product/LbMEoVaCCfIr/China-Three-Phase-Portable-Energy-Meter-Test-Bench-Type-Kp-P3003-C.html
11	DC Electronic Load	6312A + 63110A + 63113A	Chroma	Mainframe for 2 Load Modules Model: 6312A Load Module 500V/2A/100W for LED power driver test. Model: 63110A Load Module 300V/20A/300W for LED power driver test Model: 63113A USB Interface for model 6312A. Part: A631003	Used in testing of Power supplies and LED drivers etc as simulated load	https://www.quantel-global.com/chroma/chroma-63110a63113a63115a-led-load-simulator
12	Power supply (Digital Controlled)	HMP4030	R&S	HMP High-Performance Power Supply 1 3.1 HMP4030 3-channel power supply, 0V to 32V, max. 10A , max. 384W	Digital DC Power supply source. As per specification mentioned in descrpiton	https://scdn.rohde-schwarz.com/ur/pws/dl_downloads/dl_common_library/dl_brochures_and_datasheets/pdf_1/HMP_Fact_Sheet_5214-9344-32.pdf
13	Power supply (Digital Controlled)	VBV400-25	enArka	10kW Programmable DC Power Supply with output 400V/25A	Digital DC Power supply source. As per specification mentioned in descrpiton	https://www.enarka.com/dc-power-supplies/#vbn-full-rack
14	Power Analyzer	WT310	Yokogawa	Single Phase Power Meter Analyzer, Input elements: 1, Maximum input current: 20 A Basic Accuracy of 0.1% of Reading, Low Current Measurement down to 50 micro-Amps DC, 0.5 Hz to 100 kHz Frequency Range Standard USB, and GPIB or RS232 Interfaces, Ideal for Production, Testing, Evaluation and R&D	Power analyzer used to test end devices power consumption along with various parameters ex: Vrms, Frequency, Irms, Tri-vector powers etc This can do even Harmonics analysis	http://www.yokogawa.co.jp/ftp/dist/ks/eusers/wt/ked5s/im/IMWT310-02EN_010.pdf
15	Clamp on power meter	CW10	Yokogawa	The Clamp-on Power Meter CW10 (Single-Phase) is more like a tester type rather than a recorder, which can measure single phase AC and DC Power, Voltage, Currents, Power Factor, Frequency, Harmonics. It will also contribute to workers maintenance of not only consuming equipment but equipment for renewable energy such as solar and wind power generation.	Hand Held Power analyzer used to test end devices power consumption along with various parameters ex: Vrms, Frequency, Irms, Tri-vector powers etc This can do even Harmonics analysis	https://tmi.yokogawa.com/in/solutions/products/portable-and-bench-instruments/portable-power-monitorrecorder/model-cw10-clamp-on-power-meter/
16	Timer Counter	53220A	Keysight	Universal Counter/Timer, 350MHz,12 digits/s, 100ps, LAN, USB,GPIB	Timer counter used to test frequency at very high precssion and will be used to calibrate end devices	https://www.keysight.com/en/pd-1893411-pn-53220A/35D-mhz-universal-frequency-counter-timer-12-digits-s-100-ps?cc=US&lc=eng
17	Multimeter - Benchtop	34465A	Keysight	Keysight Benchtop 6.5 Digit Multimeter, Histogram, bar and trend charts on 4.3-inch color graphical display ease monitoring and speed up statistical analysis, Measure with confidence, with 30 ppm basic DCV accuracy. Test low power devices with 1 µA range and pA resolution, Flexibly automate measurements over USB or LAN/LXI core interface Digitizing and advanced triggering (DIG) now included, A BenchVue software license BV0001B is now included with your instrument	Bench top multimeter which mesure various electrical parameters like Rms current and voltage, frequncy etc along with connectivity specification given in description	https://www.keysight.com/en/pdx-2891457-pn-34465A/digital-multimeter-6-digit-truevolt-dmm?cc=IN&lc=eng
18	Multimeter - Handheld	Fluke 17B+	Fluke	Handheld Multimeter, FLUKE-17B+/IN CATIII , 4000 Count	Handheld multimeter which mesure various electrical parameters like Rms current and voltage, frequncy etc along with connectivity specification given in description	https://www.fluke.com/en-in/product/electrical-testing/digital-multimeters/fluke-17b-plus
19	Multimeter - Handheld	Fluke 87V	Fluke	Industrial True RMS Handheld Multimeter, Frequency to 200 kHz and % duty cycle, Resistance, continuity and diode test, 10,000 µF capacitance range for components and motor caps, Min/Max-Average recording with Min/Max Alert to capture variations automatically, Peak capture to record transients as fast as 250 µs, Relative mode to remove test lead interference from low ohms measurements, Auto and manual ranging for maximum flexibility	Handheld multimeter which mesure various electrical parameters like Rms current and voltage, frequncy etc along with connectivity specification given in description	https://www.fluke.com/en-in/product/electrical-testing/digital-multimeters/fluke-87v
20	Soldering & Desoldring rework station	NVIS84T	Scientech	Soldering rework Station Desoldering station with multi-digital 420 W, 230 V with soldering iron DSX 80 and internal pump	Used for soldering and desoldering of components in circuits and re-works	https://www.weller.com.pl/en_US/p/WR-3000M-SET-HAP200DSX80WP80-230V-FG/424
21	Spectrum Analyzer (SA)	RSA306B	Tektronix	The RSA306B USB spectrum analyzer (6 Ghz) might be small but it packs a big punch. It's loaded with features you'd expect from spectrum analyzers twice the size and twice the price. Perfect for everyday tasks	A spectrum analyzer measures the magnitude of an input signal versus frequency within the full frequency range of the instrument.	https://in.tek.com/spectrum-analyzer/rsa306
22	Vector Network Analyzer (VNA)	TTR506A	Tektronix	The TTR506A Vector Network Analyzer (VNA) (6 Ghz) allows you to get closer to your measurements than ever before. Whether you are measuring reflection coefficients, impedance, admittance, return loss, insertion loss, gain or isolation, you can trust the TTR506A to provide insights from a single source that are not available in other industry instruments. The TTR506A is perfect for filter measurements, antenna matching and tuning, amplifier measurements and RF cable and connector measurements, j	A VNA allows you to measure complex quantities such as reflection coefficients, impedance, admittance, return loss, insertion loss, gain, isolation, and much more in a manner that is not possible with other test instruments. Traditional test equipment such as power meters, spectrum analyzer, and oscilloscopes typically only have receivers that are used to measure signals emitted or created by the Device Under Test (DUT). In contrast, a VNA has both a source and a set of receivers used to determine changes to the stimulus caused by the DUT. The stimulus-based test approach allows VNAs to measure very small reflections and changes to the stimulus enabling you to accurately characterize any RF component in real-world environment and test conditions	https://in.tek.com/vna/ttr500
23	3D Printer	Ultimaker 3	Ultimaker 3	Dual extrusion w/ geared feeders Swappable print cores NFC-based filament detection Heated-bed with active leveling Built-in camera Wi-fi and ethernet connectivity Stand-alone USB stick printing	3D Printer , Users can make their prototype enclosures with this printer so that they need not to wait till their original mould comes	https://support.ultimaker.com/hc/en-us/sections/360003548399-Ultimaker-3 https://www.youtube.com/watch?v=5cfMI3u-UtB
24	Isolation Transformer	ISOT-2 kVA and 3 kVA	Transform	2 KVA Isolation transformer	Isolation Transformer helps users to test their end device in Isolation environment to avoid shocks etc.	
25	Dimmer (Variac)	VAR-4 Amps and 6 Amps	Transform	Variable AC Source 0-270 V, 4 Amps and 6 Amps	Variable AC Power source, Specification given in description	
26	Rheostat	25 Ohms-5A, 1200 Ohms-600ma, 8.6 Ohms-15 Amps, 22 Ohms-5Amps, 800 Ohms 300ma	Transform	Varistors of different values	Variable resistances can be used to test power supplies and works as load.	