

# MAKLUMAT SPESIFIKASI ITEM

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## MAKLUMAT SPESIFIKASI ITEM

<b>No Pelawaan</b>	: UiTM/B1/PER/SHR/B/0625/0038
<b>Butiran Tawaran</b>	: Cadangan Membekal, Menghantar, Memasang, Mengujilari Dan Menyelenggara Peralatan Pengajaran dan
<b>Keterangan Item</b>	: 0609060100036 : Oscilloscope
<b>Nama Spesifikasi</b>	: PKE 2025 (V2) : 2 Channel 200 MHz Digital Oscilloscope
<b>Kuantiti</b>	: 15.000

### Butiran Keperluan

#### 1 General

##### I

- Bandwidth: 200 MHz
- Channels: 2-channel
- Sample Rate: 2 GS/s sample rate on all channels or better
- Record Length: 2M point record length on all channels or better

##### II

- 7-inch TFT LCD WVGA
- Automatic measurements 14 amplitude, 14 timing, and 4 pulse count measurements

##### III

- USB 2.0 host port on the front panel for quick and easy data storage.
- USB 2.0 device port on rear panel to connect to a PC and remotely control the instrument
- Provides helpful on-screen tips for users
- Built-in oscilloscope handbook provides operating instructions and oscilloscope fundamentals
- Integrated courseware feature provides lab exercise guidance on the display
- Autoset, Cursors, and Automated measurements can be disabled to help educators to teach basic concepts to students

#### 2 Vertical system

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### Tawaran Syarikat

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Butiran Keperluan

- I
- Vertical resolution: 8 bits
  - Input sensitivity range: 500  $\mu$ V/div to 10 V/div
  - DC gain accuracy: +3% full scale ( $\geq$  10 mV/div) +4% full scale ( 10 mV/div)
  - Maximum Input Voltage: 150 Vrms, 200 Vpk
  - Offset range: 500 uV/div to 200 mV/div: +2 V , > 200 mV/div to 10 V/div: +100 V
  - Bandwidth limit: 20 MHz (Typ)
  - Input coupling: DC, AC (10 Hz cutoff frequency)
  - Input impedance: 1 M $\Omega$   $\pm$  2%, 16 pF  $\pm$ 3 pF
  - Vertical zoom: Vertically expand or compress a live or stopped waveform

3 Horizontal system

- I
- Timebase accuracy: 50 ppm  $\pm$  5 ppm per year (aging)
  - Timebase range: 2 ns/div to 50 s/div
  - Horizontal zoom: Horizontally expand or compress a live or stopped waveform
  - Deskew range:  $\pm$  100 nsec

4 Trigger system

- I
- External trigger input: Included
  - Trigger modes: Auto, Normal, Single, Force
  - Trigger Types (Edge): Trigger on a rising, falling, alternating or either edge of any source
  - Trigger Types (Pulse Width): Trigger on a pulse of a selected channel with a time duration that is 'less than a value,' 'greater than a value' or 'inside a time range' Range minimum: 10 ns, 10 s max
  - Trigger source: CH1, CH2, AUX IN, AC Line
  - Trigger Coupling: DC, Noise Reject, High Frequency Reject, Low Frequency Reject
  - Trigger signal frequency readout: Provides a frequency readout of the trigger source up to instrument bandwidth

5 Waveform measurements

- I
- Cursors: Time, Amplitude, Screen
  - Automated measurements: 32, of which up to 4 can be displayed on-screen at any one time.
- Measurements include: Period, Frequency, Rise Time, Fall Time, Positive Duty Cycle, Negative Duty Cycle, Positive Pulse Width, Negative Pulse Width, Burst Width, Phase,
- Positive Overshoot, Negative Overshoot, Peak to Peak, Amplitude, High, Low, Max, Min, Mean, Cycle Mean, RMS, Cycle
  - RMS, Positive Pulse Count, Negative Pulse Count, Rising Edge Count, Falling Edge Count, Area, Cycle Area, Delay FR,

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Tawaran Syarikat

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**Butiran Keperluan****Calit****Tawaran Syarikat**

- I • Delay FF, Delay FR, and Delay RR.  
• Gating: Isolate the specific occurrence within an acquisition to take measurements on, using either the screen, between waveform cursors or full record length
- 6 Waveform math

- I • Arithmetic: Add, subtract, multiply, divide, FFT (magnitude), FFT (phase), low-pass filter  
• FFT: Window types: Hanning, Flat top, Rectangular, Blackman-Harris Vertical scaling: dB (logarithmic) or RMS (linear) Horizontal scaling: User-defined span and center frequency settings, or Auto Setup
- 7 Display system

- I • Display Type: 7-inch TFT Color Display or better  
• Display Resolution: 800 horizontal by 480 vertical displayed pixels (WVGA)  
• Waveform styles: Vectors, Variable persistence, and Infinite persistence.  
• Format: YT and XY
- 8 Supplied Accessories

- I • Probe set Per Unit  
• AC Plug Per Unit
- 9 Manual and Documentation

- I Original copies of user and operational manual of the equipment must be provided
- 10 Installation , Testing and Commissioning

- I • Tenderers is required to install and commissioning the proposed equipment in the specified laboratory location in Faculty of Electrical Engineering, UiTM Shah Alam by their qualified trainers.  
• Installation, testing and commissioning of the entire system should be completed within one month from the delivery date.
- 11 Training

**Butiran Keperluan**

I Tenderers are required to provide training for the use, maintenance and troubleshoot of the equipment to the Technical Staff & Lecturer of Faculty of Electrical Engineering, UiTM Shah Alam and all training-related costs are borne by the tenderers

12 After Sales Service

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**Tawaran Syarikat**

- I
- Tenderers must have local service for repair services and provide on call services when required by UiTM.
  - Tenderers must provide details of the warranty. (warranty 3 years)

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