

# MAKLUMAT SPESIFIKASI ITEM

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## MAKLUMAT SPESIFIKASI ITEM

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| <b>No Pelawaan</b>      | : UiTM/B1/PER/SHR/B/0725/0041   |
| <b>Butiran Tawaran</b>  | : Cadangan Membekal, Menghantar, Memasang, Mengujilari Dan Menyelenggara Peralatan Pengajaran dan |
| <b>Keterangan Item</b>  | : 0609030200017 : Arbitrary Waveform Generator  |
| <b>Nama Spesifikasi</b> | : FKE SEMIKONDUKTOR 2025 : Dual Channel Waveform Generator  |
| <b>Kuantiti</b>         | : 4.000   |

### Butiran Keperluan

#### 1 GENERAL REQUIREMENTS :

I Vendors must comply with all the requirements specified in this tender document.

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II Vendors must bear all costs of supplying the specified quantity of items to UiTM. Such costs shall include the costs of delivery, installation, commissioning, training, troubleshoot and maintenance work (including parts labour and on-site service) within the specified warranty period

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#### 2 GENERAL SPECIFICATION :

I Frequency : Up to 20 MHz with 2 independent channels.

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II Operating Modes : Continuous, modulated, sweep, burst; channels can be operated independently or in various combined modes.

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III Phase and amplitude coupling with precise control.

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IV Crosstalk : -75 dB; Skew: 0.8 ns.

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**Butiran Keperluan**

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| V Waveform Output :<br>-Sine: 1 $\mu$ Hz-20 MHz, amplitude flatness within $\pm 0.3$ dB.<br>-Square/Pulse: Up to 10 MHz, 16 ns minimum pulse width.<br>-Ramp/Triangle: Up to 200 kHz, $\leq 0.1\%$ linearity.<br>-Gaussian Noise: Bandwidth 1-20 MHz, crest factor 4.6.<br>-PRBS: 1-50 Mbps, customizable sequence and rise/fall time.<br>-Arbitrary Waveforms: 8 to 8 MSa per channel, up to 250 MSa/s, 16-bit resolution. | <input type="checkbox"/> |                  |
| VI Amplitude and Offset<br>-Output: 1 mVpp to 10 Vpp into 50 $\Omega$ (20 Vpp open-circuit), 4-digit resolution.<br>-DC Offset: Up to $\pm 10$ V depending on load and amplitude.<br>-High frequency accuracy: $\pm 1$ ppm (23°C $\pm 5^\circ$ C) or $\pm 2$ ppm (0-55°C).  | <input type="checkbox"/> |                  |
| VII Modulation, Burst, and Sweep<br>-AM/FM/PM/PWM with sine, square, ramp, noise, or arbitrary waveforms.<br>-Modulation Depth: AM up to 120%, FM deviation up to 15 MHz.<br>-FSK & BPSK: Rates up to 1 MHz.<br>-Burst: Gated or counted; supports precise trigger control.<br>-Sweep: Linear, logarithmic, or list (up to 128 frequencies); adjustable timing parameters and trigger sources.                              | <input type="checkbox"/> |                  |
| VIII Connectivity & Software :<br>-External I/O: BNC connectors for trigger/gate/FSK input and sync output.<br>-Trigger Delay: 0-1000s, 4 ns resolution, jitter 2.5 ns.<br>-USB 2.0: Save/load instrument settings and waveforms.<br>-LAN (LXI-C Rev 1.5) and SCPI/IEEE-488.2 programmable.<br>-Web UI: Remote access and monitoring.   | <input type="checkbox"/> |                  |
| IX Physical and Power :<br>-Size: 314mm (Max) x 130mm (Max) x 170mm (Max)<br>-Weight : Not more than 3.1 kg.<br>-Power : 100-240 V, 50/60 Hz.<br>-Accessories include power cord and BNC/alligator cables.  | <input type="checkbox"/> |                  |
| 3 CATALOGUES / BROCHURES :  |                          |                  |
| I Vendors must provide the catalogues / brochures / technical specification manuals with the tender proposal.   | <input type="checkbox"/> |                  |
| II Original copies catalogue of user, brochure, operational manual and clear technical specification of the equipment must be provided  | <input type="checkbox"/> |                  |
| III Please include a drawing illustrating connection between the components. (if relevant)  | <input type="checkbox"/> |                  |

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IV The equipment must be supplied with latest programming software and compatible to operate via latest Windows operating system. (if relevant)

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V The equipment offered by vendor must be of the latest available model.

☐**4 TRAINING :**

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

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II A minimum of one (1) days training for a minimum of five (5) participants covering each module. (Vendors must provide details/syllabus of the training module)

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III Complete training materials and documentation must be provided to all participants

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IV The training MUST be conducted by trainers who are certified by principal. Please attach the trainer's certification that is certified by principal supplier.

☐**5 WARRANTY AND SUPPORT :**

I Warranty for the equipment is three (3) years warranty.

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II Installation, maintenance, testing and commissioning of the entire system should be completed within (12) week from the delivery date.

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III Vendors must have local service for repair services and provide on call services when required by UiTM

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IV Vendors must provide details of warranty. INCLUDING ALL parts, labour, basic phone support for hardware issue, repairs onsite) Please attach the Letter of Warranty (LOW) from the principle, which states that UiTM is entitled to 3 years of warranty upon project completion

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V Vendors be responsible for the installation, commissioning and test-run of the equipment and accompanying software (if applicable) to the satisfaction of UNIVERSITI TEKNOLOGI MARA before final acceptance.

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VI All cost on delivery, installation, commissioning and test run shall be borne by the vendor.

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VII The vendors MUST provide a genuine product. The vendors must be supported back-to-back by a principle (manufacturer) to provide maintenance services for equipment supplied. The vendors should attach a Letter of Authorization (LOA) from Distributors/ Principal.

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**Butiran Keperluan**

VIII Free support through fax, email, telephone must be provided during the warranty period

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**Tawaran Syarikat**

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6 OTHER REQUIREMENTS :

I Note that all other related material, components and cabling, which are required to ensure full operation of the above package must be supplied and borne by vendors

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