



A Tenaga Nasional Subsidiary

REQUEST FOR QUOTATION (RFQ) NOTICE

Tenderers are invited from suppliers / contractors registered with Ministry of Finance (MOF) / Construction Industry Development Board Malaysia (CIDB) / Tenaga Nasional Berhad (TNB) and/or Allo Technology Sdn. Bhd. (Allo) for supply / work as follows:

Description: **SUPPLY AND DELIVER EQUIPMENTS EXFO OPTICAL TIME DOMAIN REFLECTOMETER (OTDR), INTELLIGENT OPTICAL LINK MAPPER (IOLM) & OPTICAL LOSS TEST SET (OLTS).**

Category of Works/Supplies: **NETWORK OPERATION**

Floatation Start Date and Time: **4th March 2024, Monday (12.00 Noon)**

Closing Date and Time: **12th March 2024, Tuesday (12.00 Noon)**

Submission of documents: **Single envelope submission consists of hardcopy of quotation, duly completed/signed, must be submitted not later than 12.00 Noon on 12th March 2024 in Quotation Box at Allo Reception Lobby located as below:**

ALLO TECHNOLOGY SDN BHD

Level 3, Left Wing,

College of Computer Science and Information Technology (CSIT), UNITEN,

43000 Kajang, Selangor

***Please attach in seal and label the envelope as below:**

QUOTATION TO:

Allo Technology Sdn Bhd.

(Attn: Head of Procurement & Supply Chain)

TITLE RFQ: SUPPLY AND DELIVER EQUIPMENTS EXFO OPTICAL TIME DOMAIN REFLECTOMETER (OTDR), INTELLIGENT OPTICAL LINK MAPPER (IOLM) & OPTICAL LOSS TEST SET (OLTS).

CLOSING DATE: 12th March 2024

Qualifications:

a) Sdn. Bhd. or Enterprise Companies

b) Registered with Tenaga Nasional Berhad (TNB) and/or Allo Technology Sdn. Bhd. (Allo)

A. CONTACT INFORMATION FOR GENERAL ENQUIRIES

Contact Person: Muhammad Qayyum Mohamad Nor

Email: procurementallo@allo.my / qayyum@allo.my

Phone: 6017-3525970

Appendix A

RFQ: Supply and Deliver equipments EXFO Optical Time Domain Reflectometer (OTDR) , Intelligent Optical Link Mapper (iOLM) & Optical Loss Test Set (OLTS).

No	Scope of Work	U.O.M	Qty	Price/Unit (RM)	Total (RM)
1	Supply and Deliver OTDR EXFO FTB1v2-PRO + FTBx-735C 2-wavelength OTDR + iOLM 42dB 1310/1550 OTDR + iOLM	Unit	6		
2	Supply and Deliver OTDR EXFO FTB1v2-PRO + FTBx-735C + FTBx-945 2-wavelength OTDR + iOLM + OLTS 42dB 1310/1550 OTDR + iOLM OLTS 1310/1490/1550nm	Unit	2		
SST					
GRAND TOTAL					

Note:

1) Vendor are able to deliver or collect the tools should there any requirement of faulty replacement due to factory defect as per following address with transportation cost included.

Delivery Address:

ALLO TECHNOLOGY SDN BHD. (501001-A)

LEVEL 3, LEFT WING,
COLLEGE OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY (CSIT), UNITEN,
43000 KAJANG, SELANGOR.

2) Warranty of all above items shall guarantee the efficiency and good working of the tools supplied for **three (3) years** from the date of delivery as accepted by the ALLO.

3) All above price must included the training for 20 pax in two (2) session for Allo Staff.

4) Failed to comply with our specification at *Appendix 1 - SOC* will be disqualified.

Compliance	
Payment Term : Within fourty five (45) days upon invoice submission, upon delivery, job completion and acceptance by Allo	Yes/No
Invoicing Term : 100% payment upon work completion and Allo Technology's acceptance	Yes/No
Service delivery dateline: 8-12 Weeks upon PO issuance Delivery Incoterms: Delivered Duty Paid (DDP)	Yes/No

Name:

Email:

Phone No:

Company stamp:

Date:

Appendix 1- Statement of Compliance and OTDR Specification

Optical Time Domain Reflectometer (OTDR) , Intelligent Optical Link Mapper (IOLM) & Optical Loss Test Set (OLTS)



Clause No	Sub Clause	Technical Description	Compliance (Yes / No)	Remark / Justification
		Introduction		
		Handheld ,battery powered, rugged test instrument to be used for the installation, commissioning and maintenance of fiber optics within tansmissionmetro, access & FTTx PON network		
1		Platform Requirement		
	1.1	Modularity		
	1.1.1	The Instrument shall be modular		
	1.1.2	The modules shall be field interchangeable		
	1.1.3	Must be able to fit in 2 modules at a time		
	1.1.4	Platfrom must be able to suport below modules for future upgradeability		
		OTDR		
		OLTS		
		DWDM OSA		
		CWDM OSA		
		10G Analyzer		
		100G Analyzer		
		RF Spectrum Analyzer		
	1.2	Display		
	1.2.1	The size of the display shall be 8 inches minimum, allowing analyzing the measurements comfortably.		
	1.2.1	The display shall be 1280x800 TFT		
	1.2.3	The display shall be touch screen.		
	1.3	Mechanics		
	1.3.1	The Instrument shall be handheld, battery operated and rugged for field operations.		
	1.3.2	The Instrument must be protected by bumpers.		
	1.3.3	The size of the Instrument shall not be higher than 210 x 254 x 96 mm (H x W x D)		
	1.3.4	All the input / output must be covered & protected against dust.		
	1.4	Operating System & Specification		
	1.4.1	Windows Based Operating System for flexibility & productivity		
	1.4.2	Third-Party Apps or Software can be installed in the Test equipment Platform:		
		- Remote operation & desktop sharing Software		
		- AntiVirus Software		
		- Communication via Email and OTT apps		
		- Recording & Automation Tools		
		- File Sharing via Cloud-Based Storage		
	1.4.3	Processor: Quad-Core Processor		
	1.4.4	RAM: 4GB		
	1.4.5	Internal Memory: 128GB		
	1.5	Interface / Data Transfer		
	1.5.1	The Instrument shall include the following I/O interfaces:		
		- Mic/Headset jack		
		- Micro SD Card Slot		
		- 1GigE RJ45 Port		
		- USB 3.0 x1		
		- USD 2.0 x2		
	1.5.2	The Instrument shall allow built-in Wifi or Bluetooth interface		
		- WIFI: standard IEEE802.11b/g/n		
		- Bluetooth		
	1.6	Physical andEnviromental Specifications		
	1.6.1	- Temperature range:		
		- Operating on mains:0°C to +50°C		
		- Storage: -40°C to 70°C		
	1.6.2	Humidity: 95% without condensing.		
	1.7	Network Operations, Automation, and Data Insight		
	1.7.1	Test equipment must be able to work with Exfo Exchange		
	1.7.2	Able to connect operations with real-time visibility		
	1.7.3	Operators must be able to increase collaboration and build trust with business partners		
	1.7.4	Capable to boost efficiency with automated processes		
	1.7.5	Should be able to manage field test & work flow creation		
	1.8	PC Software		
	1.8.1	Post processing software for fiber optics tests must be included.		

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Optical Time Domain Reflectometer (OTDR) , Intelligent Optical Link Mapper (IOLM) & Optical Loss Test Set (OLTS)



Clause No	Sub Clause	Technical Description	Compliance (Yes / No)	Remark / Justification
2		OTDR Module		
	2.1	Fiber Type		
	2.1.1	The Instrument shall be able to accurately measure G652, G653, G655, G657 and any special fibers.		
	2.2	Optical Interfaces		
	2.2.1	The OTDR connector must be SC/APC		
	2.2.2	The OTDR shall automatically detect traffic on the fiber or device under test, and display a warning message.		
	2.3	Measurement Capability		
	2.3.1	The OTDR must have different measurement modes in order to facilitate the use of the instrument according to the testing requirements.		
	2.3.2	The OTDR shall provide automatic event evaluation after the acquisition.		
	2.3.3	It shall be possible to perform measurement (splice, slope or reflectance) with the two cursors mode		
	2.4	Test Functions & Features		
	2.4.1	The OTDR must have a one button operation mode.		
	2.4.2	The OTDR must give an indication of the quality of the front-end connection (including attenuation and reflectance values)		
	2.4.3	The OTDR shall display: - The type of event - Distance of each event - The Loss of each event - The Reflectance of each event - The Slope of the fiber or the Section attenuation - The fiber total Loss - The fiber Optical Return Loss		
	2.4.4	The OTDR shall indicate ghost detections on the trace and in the table of events. This shall be user-selectable.		
	2.4.5	Capable to maximize Trace display view for better visibility		
	2.4.6	The Event table must be linked to the trace and shall be displayed on the same screen.		
	2.4.7	The OTDR must have a function that positions automatically the cursor on the successive events.		
	2.5	File Format		
	2.5.1	.pdf		
	2.5.2	.trc		
	2.5.3	.sor		
	2.6	Report Generation		
	2.6.1	The OTDR shall provide a function to create Pdf report of OTDR results		
	2.6.2	Report generation can be done via Exchange cloud-based platform		
	2.7	OTDR for Metro & PON Network Testing		
	2.7.1	The OTDR module shall be able to measure through and qualify up to 1x128 splitters.		
	2.7.2	Point-to-Point up to 160km		
	2.7.3	Wavelengths available: 1310nm 1550nm		
	2.7.4	Distance accuracy: $\pm(0.75 + 0.0025 \% \times \text{distance} + \text{sampling resolution})$		
	2.7.5	Linearity: +/- 0.03dB/dB		
	2.7.6	Sampling Resolution: 0.04 to 10dB		
	2.7.7	Sampling Points: up to 256000		
	2.7.8	Real time Refresh rate: 4Hz		
	2.7.9	Event Dead Zone: 0.5m		
	2.7.10	Attenuation Dead Zone: 2.5m		
	2.7.11	PON Dead Zone: 30m		
	2.7.12	Dynamic Range: (The one way difference between the extrapolated backscattering level at the start of the fiber and the RMS noise level) - at 1310nm: 42 dB - at 1550nm: 41 dB		
	2.7.13	Pulse width: 3ns to 20ms		
	2.7.14	Stable Laser Source Output: +2.5dBm		
	2.8	Intelligent Optical Link Mapper		
	2.8.1	Self-setting unit dynamically adapts to any fiber link		
	2.8.2	Automated multipulse measurement		
	2.8.3	Automated multiwavelength measurement		
	2.8.4	Comprehensive fault diagnosis and guidance		
	2.8.5	Consolidated BiDirectional Link View		
	2.8.6	Consolidated Multiplecore report/file for single fiber cable/link		
	2.8.7	Optimode for: FTTH, FTTA, LAN/WAN,		
	2.8.8	Capable to characterize 2:N splitters		
	2.8.9	SFP safe trouble shooting mode		
	2.8.10	Able to define Custom Element		

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Clause No	Sub Clause	Technical Description	Compliance (Yes / No)	Remark / Justification
3		OLTS Module		
	3.1	Test Functions Integration		
	3.1.1	OLTS module must be provided with the same Test Platform for OTDR		
	3.1.2	The module shall be able to perform OLTS (Bidirectional IL & ORL) measurement and length/distance measurement		
	3.1.3	100% automated fiber inspection: one-step process with pass/fail analysis at both fiber ends		
	3.1.4	Onboard assistant and diagnosis to reduce reference errors and negative loss		
	3.2	OLTS Function		
	3.2.1	The Bi-Dir OLTS module shall provide up to 3 wavelengths on the same test port. (1310/1490/1550nm)		
	3.2.2	The Bi-Dir OLTS shall have up to 4 selectable functions: Bi-Dir OLTS/Light Source/Power Meter/ORL Meter		
	3.2.3	The loss measurement could be performed uni or bi-directional		
	3.2.4	The ORL measurement could be performed uni or bi-directional		
	3.3	Bidirectional LTS Measurement Mode		
	3.3.1	The OLTS shall provide automatic continuity check of the fiber under test connected to both end units without starting any test.		
	3.3.2	The OLTS must provide the possibility to perform loop-back and side-by-side referencing		
	3.3.3	The OLTS must have a one button operation mode.		
	3.3.4	The OLTS must offer the possibility to start measurement from any unit at any time.		
	3.3.5	The unit shall display the measurement process in a graphical view		
	3.3.6	It shall be possible to display results for one fiber or for a complete cable		
	3.3.7	The OLTS must be able to define Loss and ORL threshold per wavelength		
	3.3.8	The OLTS must be able to provide pass/Fail indication according to defined threshold		
	3.3.9	The LTS shall display: - The Loss A->B, Loss B->A and Average loss - The ORL A->B and ORL B->A - The distance - The failed results in red - The passed results in green		
	3.3.10	The results will be stored individually for each fiber or as a single file for the entire cable		
	3.3.11	Report generation can be done via Exchange cloud-based platform		
	3.4	Bidirectional OLTS Measurement Mode Specification		
	3.4.1	Wavelengths: 1310, 1490, 1550nm		
	3.4.2	Laser Safety: Class 1 - Source function (also valid for source mode): Laser safety class (21 CFR): Class 1		
	3.4.3	Measurement Range: - Insertion Loss: 50dB - Optical Return Loss: 50dB - Distance: Up to 200km - Length Measurement uncertainties: Duplex: $\pm(0.5 \text{ m} + 0.5 \% \times \text{length})$, Simplex: $\pm(1 \text{ m} + 0.5 \% \times \text{length})$		
	3.4.4	Testing Duration IL,ORL,and length measurement for 3 wavelength must be 6 sec or better for a single fiber core		
	3.4.5	Connector type must be SC/APC		

Note:

1) Failed to complied above requirement shall be disqualified.

Name:

Email:

Phone No:

Company stamp:

Date: