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Award

4-Port 10MHz - 67GHz Vector Network Analyser (VNA)

National Physical Laboratory

F15: Voluntary ex ante transparency notice
Notice identifier: 2024/S 000-019465
Procurement identifier (OCID): ocds-h6vhtk-04728b
Published 25 June 2024, 3:45pm

Section I: Contracting authority/entity

I.1) Name and addresses

National Physical Laboratory

Hampton Road

Teddington

TW11 0LW

Email

gary.phillips@npl.co.uk

Telephone

+44 2089773222

Country

United Kingdom

Region code

UK - United Kingdom

Internet address(es)

Main address

www.npl.co.uk

I.4) Type of the contracting authority

Body governed by public law

I.5) Main activity

Other activity

Research

Section II: Object

II.1) Scope of the procurement

II.1.1) Title

4-Port 10MHz - 67GHz Vector Network Analyser (VNA)

Reference number

123115

II.1.2) Main CPV code

- 38000000 - Laboratory, optical and precision equipments (excl. glasses)

II.1.3) Type of contract

Supplies

II.1.4) Short description

4-port Vector Network Analyser covering frequencies from 10 MHz to 67 GHz. In addition to S-parameters, this asset should allow for noise figure measurements, up to 50 GHz, of low gain and low noise devices.

II.1.6) Information about lots

This contract is divided into lots: No

II.1.7) Total value of the procurement (excluding VAT)

Value excluding VAT: £291,269.25

II.2) Description

II.2.3) Place of performance

NUTS codes

- UK - United Kingdom

II.2.4) Description of the procurement

The unit must have all performance characteristics as detailed below:

4-port Vector Network Analyser with the following specifications:

• Lower frequency limit 10 MHz (maximum)

• Upper frequency limit 67 GHz (minimum)

• 4 ports

• 1.85 mm coaxial test port interface

• Hardware realised noise measurements up to 50 GHz

• GPIB interface

• CE or UKCA marked with declaration of conformity

• 220 V operating mains voltage

Performance specifications

Typical corrected system performance at 60 GHz as follows:

• Noise floor for 10 Hz IF Bandwidth across frequency range 100MHz to 67GHz: ?-100 dBm, Direct Rx Access ?-100 dBm across the whole band.

• System dynamic range ?107 dB from 50MHz to 67GHz. Corrected Numbers, after a calibration.

• Directivity at 50-67GHz: ? 34 dB

• Source match at 50-67GHz: ? 40 dB

• Load match at 50-67GHz: ? 33 dB

• Reflection tracking (Mag) at 50-67GHz: ? ±0.031 dB

• Transmission tracking (Mag) at 60-67GHz: ? ±0.15 dB

• Three harmonically clean DDS RF sources, with harmonics better than -60dBc

• Internal signal combiner, a flexible set of switches and direct generator and receiver access points which can all be reconfigured for non-standard measurement applications without the need for an external test set or switching.

• Linearity at test port

• Dual DDS sources providing 94dBc/Hz phase noise performance at 10kHz offset at 10GHz carrier (typical)

Additional Features

• Noise Figure using built-in low noise receiver and filtering allowing for low gain, low noise measurements of amplifiers and converters

• Source corrected Vector noise figure measurements suitable for measuring low gain, low noise devices. Includes Noise Parameters.

• Option to add ARB functionality to all VNA sources, up to 6GHz Modulation BW

• Integrated touch screen display

• ?2 USB ports & 2 USB-C Ports

• Option to add 3rd internal source operating up to 13.5GHz

II.2.11) Information about options

Options: No

II.2.13) Information about European Union Funds

The procurement is related to a project and/or programme financed by European Union funds: No

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Section IV. Procedure

IV.1) Description

IV.1.1) Type of procedure

Negotiated without a prior call for competition

- The products involved are manufactured purely for the purpose of research, experiment, study or development
- The works, supplies or services can be provided only by a particular economic operator for the following reason:
    - absence of competition for technical reasons

Explanation:

The specification for the instrument that is needed to deliver the cutting-edge science is supplied by a specialist of scientific equipment, the specific needs are around low noise measurement which Keysight offer as a special built option rather than a software adjustment.

Integration with NPL software written around interaction with Keysight equipment (Time already spent with science teams – a effective plug and play requirement) is highly desirable. Specifically compatible with NPL PIMMS software (designed around Keysight PNA remote interface command set) as this software is complex and would require significant of time to rewrite the software.

In addition, Keysight offer a trade in service on all new purchases with items currently at NPL which are no longer useable or required by the science teams, this will be a

significant saving. We currently have at least two items that fit the criteria for a trade in with Keysight, one is a unfeasible repair and one is an old 8510 unit that was one of the first to enter the UK which has since been super seeded by more modern equivalents which offer greater measurements options.

IV.1.8) Information about the Government Procurement Agreement (GPA)

The procurement is covered by the Government Procurement Agreement: Yes

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Section V. Award of contract/concession

Contract No

123115

Title

4-Port 10MHz - 67GHz Vector Network Analyser (VNA)

A contract/lot is awarded: Yes

V.2) Award of contract/concession

V.2.1) Date of conclusion of the contract

25 June 2024

V.2.2) Information about tenders

The contract has been awarded to a group of economic operators: No

V.2.3) Name and address of the contractor/concessionaire

Keysight Technologies UK Limited

610 Wharfedale Road, Winnersh Triangle

Wokingham

RG41 5TP

Country

United Kingdom

NUTS code

- UK - United Kingdom

The contractor/concessionaire is an SME

No

V.2.4) Information on value of contract/lot/concession (excluding VAT)

Total value of the contract/lot/concession: £291,269.25

V.2.5) Information about subcontracting

The contract/lot/concession is likely to be subcontracted

Section VI. Complementary information

VI.4) Procedures for review

VI.4.1) Review body

MPL Management Limited

Teddington

TW11 0LW

Country

United Kingdom