**Invitation to Tender**

**Frequency Extension Module for Vector Network Analyser**

**Ref: GGH**

# 1. About Flann Microwave Ltd

For almost 70 years Flann Microwave Ltd has been the market-leading designer and manufacturer of precision passive RF, Microwave and millimetric products, solutions and service. We produce critical components and sub-systems required to deliver, test, measure and calibrate systems operating from 300MHz to 1.1THz, supplying to several industry sectors:

* SATCOM & Spaceflight
* Metrology, Test & Measurement
* R&D & Academia
* Telecommunications 5G & 6G
* Aerospace & Defence
* Security

From the company’s inception in 1956, Flann has and continues to be a family run business. We employ around 65 highly skilled engineers and professionals who have supported us as the company’s global reputation for quality, reliability and performance has grown.

Located in Bodmin, Cornwall, our purpose-built factory and business premises occupy an area of 1800m2 situated in attractive grounds with views over the rolling Cornish countryside.

Since 1993 Flann has held a quality system status with the accreditation ISO9001:2015 which we continue to comply with

Flann’s on-going policy of maintaining the highest standards ensures that the Company’s global reputation for quality, reliability and performance will continue into the future.

**Business Highlights**

* Export sales are in excess of 80% of total production.
* Technical sales and service support operating from offices in the UK.
* Global customer base including many leading companies in Communications, Research & Development, and Aerospace & Defence
* Worldwide distribution network dedicated to the supply and service of our products in a global market.
* Dynamic R&D initiative developing the next generation of passive microwave components.
* Project management, consultancy and customised product manufacture.
* Computer-aided-engineering facilities for consistent quality of manufacture and life-long in-service performance.

# 2. Background and Context

With the continual need for faster communications, radio and network manufacturers are moving to develop next stage 5G and also 6G systems. These new systems are within the 110 – 170GHz range (WG29) and as a result, we are receiving more enquiries and more orders for waveguide instruments in this range. WG29 (D-band) will be the next step. This is also evident with the fact that customers are already investing heavily in WG29 instruments for their development test benches.

To facilitate this, we must purchase a pair of frequency extender heads that connects to our existing vector network analyser.

The purchase of this system is part of a grant funded application process and therefore procurement will be subject to grant approval of the project. We will assess tenders received on lowest compliant Tender.

# 3. Tender requirements

The successful tenderer will be expected to provide a suitable solution that meets the following specification for a Frequency Extension Module for Vector Network Analyser with the following requirement:

3.1 Frequency extenders allowing full simultaneous 2-port network analysis in the specified waveguide size, when connected to a compatible Vector Network Analyser

3.2Applications include s-parameter measurement, antenna measurement, material characterisation

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| 3.3 | Frequency Range:  Must encompass as a minimum 110 to 173 GHz |
| 3.4 | RF Test Port Output Power minimum -10 dBm |
| 3.5 | Dynamic Range minimum 100 dB |
| 3.6 | Stability (magnitude) maximum +/- 0.2 dB |
| 3.7 | Stability (phase) maximum +/- 4° |
| 3.8 | Test Port Input, 1dB compression maximum +15 dBm |
| 3.9 | RF/LO Port Input, max before damage minimum +15 dBm |
| 3.10 | RF Test Port  At least WR-06, IEEE 1785.2a flange |
| 3.11 | RF Test Port VSWR Is to be < 1.4 |
| 3.12 | Compatible Vector Network Analysers (VNA) Rohde & Schwarz ZVA50, ZNA67 Copper Mountain C4220 |
| 3.13 | Ports  Minimum of RF, LO, IF, all SMA female connector |
| 3.14 | Cooling Convection, no fans |

3.15Technical Support for setting to work and commissioning to include demonstrating compatibility with the VNAs we have on site.

3.16 Warranty of 3 years

3.17 Confirmation that the equipment can normally be repaired and supported within 24hrs of the supplier being notified.

3.18 Delivery by 31 January 2024

4**. Budget**

The total maximum budget available for this commission is £70,000 (exc VAT) but inclusive of all expenses.

**Tenders that exceed the total budget will not be considered.**

The budget will be reviewed as part of the tender evaluation detailed in Section 10 and will reflect the degree to which there is a saving on the maximum budget

# 5. Tender and commission timetable

The timescale of the programme is from the date of signing the contract until the acceptance of the equipment. The timetable for submission of the Tender, completion of the programme are set out below.

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| **Milestone** | **Date** |
| Date ITT available on Contracts Finder | 03 November 2023 |
| Last date for raising queries | 1700: 13 November 2023 |
| Last date for clarifications to queries | 14 November 2023 |
| Deadline to return ITT | 1700: 24 November 2023 |
| Evaluation of ITT | 27 November 2023 |
| Award of Contract | This is subject to successfully obtaining grant funding and will normally be no later than 60 days from contract evaluation |

# 6. Tender submission requirements

Please include the following information in your Tender submission.

6.1 Covering letter (two sides of A4 maximum) to include:

1. A single point of contact for all contact between the tenderer and Flann Microwave Ltd during the tender selection process, and for further correspondence.
2. Confirmation that the tenderer has the resources available to meet the requirements outlined in this brief and its timelines
3. Conflict of interest statement

6.2 Proposal and compliancy matrix

6.3 Budget

**7. Sub-contracting**

Tenderers should note that a consortia can submit a tender but the sub-contracting of aspects of this commission after appointment will only be allowed by prior agreement with Flann Microwave Ltd.

**8. Conflicts of Interest**

Tenderers must provide a clear statement with regard to potential conflicts of interests. Therefore, **please confirm within your tender submission** whether, to the best of your knowledge, there is any conflict of interest between your organisation and Flann Microwave Ltd or its programme team that is likely to influence the outcome of this procurement either directly or indirectly through financial, economic or other personal interest which might be perceived to compromise the impartiality and independence of any party in the context of this procurement procedure.

Receipt of this statement will permit Flann Microwave Ltd to ensure that, in the event of a conflict of interest being notified or noticed, appropriate steps are taken to ensure that the evaluation of any submission will be undertaken by an independent and impartial panel.

# 9. Tender clarifications

Any clarification queries arising from this Invitation to Tender which may have a bearing on the offer should be raised by email to:

[Sheila.Stuart@flann.com](mailto:Sheila.Stuart@flann.com)

in accordance with the Tender and Commission Timetable in section 5.

Responses to clarifications will be anonymised and uploaded by Flann Microwave Ltd to Contracts Finder and will be viewable to all tenderers.

No representation by way of explanation or otherwise to persons or corporations tendering or desirous of tendering as to the meaning of the tender, contract or other tender documents or as to any other matter or thing to be done under the proposed contract shall bind Flann Microwave Ltd unless such representation is in writing and duly signed by a Director/Partner of the tenderer. All such correspondence shall be returned with the Tender Documents and shall form part of the contract.

# 10. Tender evaluation methodology

Each Tender will be checked for completeness and compliance with all requirements of the ITT. The award of the contract will be to the LOWEST COMPLIANT BID.

13**. Tender Award**

Any contract awarded as a result of this tender process will be in accordance with this ITT and the tenderer’s response.

# 14. Tender returns

Tenders are to be returned by email.

Tenders are to be returned in accordance with Section 5

Latest date to be returned: As per Section 5

Emailed tenders should be sent electronically to:

[Sheila.Stuart@flann.com](mailto:Sheila.Stuart@flann.com)

with the following message clearly noted in the Subject box; ‘Frequency Extension Module for Vector Network Analyser’

**Tenderers are advised to request an acknowledgement of receipt of their email.**

**15.** **Disclaimer**

The issue of this documentation does not commit Flann Microwave Ltd to award any contract pursuant to the tender process or enter into a contractual relationship with any provider of the service. Nothing in the documentation or in any other communications made between Flann Microwave Ltd or its agents and any other party, or any part thereof, shall be taken as constituting a contract, agreement or representation between Flann Microwave Ltd and any other party (save for a formal award of contract made in writing by Flann Microwave Ltd or on behalf of Flann Microwave Ltd).

Tenderers must obtain for themselves, at their own responsibility and expense, all information necessary for the preparation of their tender responses. Information supplied to the tenderers by Flann Microwave Ltd or any information contained in Flann Microwave Ltd’s publications is supplied only for general guidance in the preparation of the tender response. Tenderers must satisfy themselves by their own investigations as to the accuracy of any such information and no responsibility is accepted by Flann Microwave Ltd for any loss or damage of whatever kind and howsoever caused arising from the use by tenderers of such information.

Flann Microwave Ltd reserves the right to vary or change all or any part of the basis of the procedures for the procurement process at any time or not to proceed with the proposed procurement at all.

Cancellation of the procurement process (at any time) under any circumstances will not render Flann Microwave Ltd liable for any costs or expenses incurred by tenderers during the procurement process.

# 16. Enclosures

1. Compliancy matrix