

REPUBLIC OF THE UNION OF MYANMAR
MINISTRY OF TRANSPORT AND COMMUNICATIONS
POSTS AND TELECOMMUNICATIONS DEPARTMENT

Request for Quotation (RFQ)

for

One (1) set of Portable Spectrum Analyzer

Request for quotation Ref. No. : PTD – Portable Spectrum Analyzer/2019-2020

Package No. : G 1.3.13

Date: 7th April , 2020

To: List of Suppliers

Gentlemen/Ladies

Subject: Supply and Delivery of One (1) set of Portable Spectrum Analyzer

1. Myanmar registered companies (Company registration period not less than at least one (1) year are invited to submit your price quotation (s) for the supply of the following items:

-One (1) sets of Portable Spectrum Analyzer

2. Detailed information on technical specifications and required quantities is contained in **Annex-1**
3. The Ministry of Transport and Communications (MoTC) has received a credit (hereinafter called Credit) from the International Development Association (IDA) towards the “Telecommunications Sector Reform Project TSRP”. The MoTC intends to apply a portion of this Credit to eligible payments under the contract for which this invitation for quotations is issued. You shall be aware of the provisions on fraud and corruption stated in the specific clauses in the World Bank’s Procurement Guidelines.
4. Price quotations will be evaluated and contracts awarded to the firm offering the lowest evaluated cost of the goods with the minimum requirement of the system as described in **Annex-1**.
5. Your quotation in the required format (Attachment to Purchase Order) should be addressed and submitted to:

Director General
Posts and Telecommunications Department.
Ministry of Transport and Communications
**No. (125) , the corner of Mahar Bandula street and
Pansotan street , Kyauktadar township, Yangon
Myanmar**

Telephone: +95 1 391838
Email : dg.ptd@mptmail.net.mm

6. The quotation in duplicate and in English language should be accompanied by adequate technical documentation and catalogue(s) and other printed material or pertinent information (in English language) for each item quoted, including names and addresses of firms providing services facilities in Myanmar if applicable.
7. The deadline for receipt of your quotation (s) by the Purchaser at the address indicated in Paragraph 5 is:

Date of deadline to submit Bid proposals: 20-5-2020

Time of Bid opening: **13:30** hours at local time

The place of Bid opening: Meeting Room, Posts and Telecommunications Department(Yagon

branch office), No.(125), the corner of Mahar Bandula street
and Pansotan street , Kyauktadar township, Yangon, Myanmar

8. Your quotation(s) should be submitted as per the following instructions and in accordance with the Terms and Conditions of supply in the attached draft Purchase Order.
9. Quotations will be delivered to the address as described in paragraph 5. One (1) original hard copy and two (2) copies of quotations and two (2) searchable softcopies (word format) must be included in sending quotations. If something of error is found in softcopy, hard copy will be considered as the right one. *(Note: Electronic Bidding will not be accepted.)*
10. Other Conditions of Supply are as follows:

- (i) **PRICES** should be quoted in USD.
- (ii) **PAYMENT** for your invoice will be made 90% against delivery of goods and 10% will be subject to Final Acceptance Certificate(FAC) issued by PTD.

The winner bidder (the contractor) must deliver a Bank Guarantee with the 10% amount money of the contract price to PTD on the day signing the contract. Besides, the winner bidder will guarantee to deliver on-site and off-site training for five (5) PTD staffs for three (3) days (off site and onsite). So, the cost for their accommodation, meal and other incidental expenses should be factored in the proposal.

- (iii) **DELIVERY** prices should be quoted for delivery **DDP Nay Pyi Taw including** all kinds of taxes, i.e., withholding taxes, commercial taxes etc... (Please also quote Incoterms 2010).

- (iv) **EVALUATION AND AWARD OF PURCHASE ORDER:** Offers determined to be substantially responsive to the technical specifications as mentioned in **Annex 1** and it will be evaluated by comparison of their prices. The technical specification document and guarantees shall be signed properly and filled by the supplier.

The bidder must state Comply/Not-Comply/Partial-Comply with detailed explanation and show related supported documents for the checking and comparing. In case, the bidder cannot provide the proof/ the evidence by documents of the point will be converted to “Not Comply” or “Partial-Comply”.

The bidder must provide the description of architecture of system and brief of list items that related to offered system. The detail of number of required devices are stated in detail list of Specification table.

The award will be made to the firm who meets all the requirement of standards of technical points and capabilities and offering the lowest evaluated price. [Please note, the bidder must be substantially responsive to the technical specifications]

(iii) **VALIDITY OF THE OFFER:** Your quotation(s) should be valid for a period of 120 days from the date of receipt of quotation(s) as indicated in Paragraph 7 of this Invitation to Quote.

(iv) **DELIVERY SCHEDULE:** within seven (7) weeks.

(v) **WARRANTY** of Goods offered should be covered by Manufacturer's warranty for at least 24 months or as per requirement stated in Attachment 1, whichever is longer duration, from the date of delivery to purchaser. Please specify period and terms in detail for the whole system.

(vi) **MANUALS** for the equipment should be accompanied by adequate technical documentation and catalogue(e) and other printed material or pertinent information (in English language) for all items quoted, including names and addresses of firms providing services facilities in Myanmar as necessary.

(vii) **ONSITE TRAINING** on use of the system will have to be provided as mentioned in paragraph 10(ii) above.

Please fill and sign the attachment to the Purchase Order and return the same to the Purchaser.

11. Further information can be obtained from:

U Zarne Aung

Deputy Director General

Posts and Telecommunications Department

Phone: +95 9 5400056

Email: uzarne@yahoo.com

12. The companies who want to participate in tender proposal needs to confirm by email or Fax the receipt of this invitation wherever you got it via the website or email before tender closing date in advance whether you will submit or not the price quotations once you get this invitation. Otherwise, we will not consider the proposal.

Sincerely,

NATIONAL SHOPPING

Draft Purchase Order

(To fill in after award contract)

Purchase Order No. _____

Date of Purchase Order _____

Name of the Purchaser _____

Complete Postal Address of Purchaser _____

Telephone No. _____

Fax No. _____

Subject: SUPPLY OF __ One (1) sets of Portable Spectrum Analyzer

TO: *{Please insert Supplier's name and address}*

Dear Sirs:

Your price quotation No. _____ Dated _____
for the supply of the above goods is accepted by the Purchaser for an amount of _____ as per the Terms and Conditions described in Attachment 2 to this Purchase Order. Please complete your supply in accordance with the terms and conditions contained in the attachment to this Purchase Order.

Please acknowledge receipt within 10 (ten) days from the date of receipt of this Purchase Order.

Sincerely,

Purchaser

Terms and Conditions of Supply

Project Name: Telecommunications Sector Reform Project

Description of Goods:

- Portable Spectrum Analyzer

Reference No. :

Date:

Purchaser:

Prices and Schedules for Supply

Item	Description	Unit	Qty	Unit Price (USD) (Included all kinds of taxes)	Total (USD) (Included all kinds of taxes)	Delivery Period (Weeks)
1	Portable Spectrum Analyzer Spectrum Master, Frequency Range (700 MHz to 50 GHz)	Set	1			Within (7)weeks after signing contract
2	Drone (to carry portable spectrum analyzer)	Set	1			
3	Service Package &Supporting : Installation, Commissioning &Training Assembling all products for compatible with each other ,Integration include - Drone, Castle Creation Regulator, Laptop and Intel Computer Stick	Pack (Lump sum)	1			
	Total Amount in USD (Including Commercial Tax and Withholding Tax) DDP Nay Pyi Taw					

{Note: In case of discrepancy between unit price and Total derived from unit price, unit price shall prevail}

1. Fixed Price: The prices indicated above are firm and fixed and not subject to any adjustment during contract performance.
2. Delivery Schedule: The delivery should be completed as per above schedule.
3. Payment: Payment of the contract price shall be made in the currency (USD) of the quotation of the successful bidder within 20 calendar days of receipt of the goods upon submission of an invoice. Payment for your invoice will be made 90% against delivery of all goods and 10% shall be subject to Final Acceptance Certificate (FAC) issued by PTD.

The winner bidder (the contractor) must deliver a Bank Guarantee with the 10% amount money of the contract price to PTD on the day signing the contract. Besides, the winner bidder shall propose to deliver onsite training for five (5) PTD staffs. The cost for accommodation, meal and other incidental expenses for Trainees during training period shall be factored into the price proposals.

4. Testing: An acceptance certificate shall be issued by the purchaser upon satisfactory completion of tests and inspection as mentioned in the Attachment.
5. Warranty: of Goods offered should be covered by Manufacturer's warranty for at least 24 months or as per requirement stated in Attachment 1, whichever is longer duration, from the date of delivery to purchaser. Please specify period and terms in detail for the whole system.
6. Required Technical Specifications

(i) Technical specifications as indicated in Annex 1

The Supplier confirms compliance with above specifications {In case of deviations, supplier needs to list all such deviations}.

7. Failure to Perform: The Purchaser may cancel the Purchase Order if the Supplier fails to deliver the Goods, in accordance with the above terms and conditions, in spite of being given 14 days' notice by the Purchaser, without incurring any liability to the Supplier.

NAME OF THE SUPPLIER_____

Authorized Signature_____

Place:

Date:

Form of Bid-Securing Declaration

[The Bidder shall fill in this Form in accordance with the instructions indicated.]

Date: [date (as day, month and year)]

Bid No.: [number of bidding process]

To: [complete name of Purchaser]

We, the undersigned, declare that:

We understand that, according to your conditions, bids must be supported by a Bid-Securing Declaration.

We accept that we will automatically be suspended from being eligible for bidding in any contract with the Purchaser for the period of time of two years starting on [date], if we are in breach of our obligation(s) under the bid conditions, because we:

- (a) have withdrawn our Bid during the period of bid validity specified in the Letter of Bid; or
- (b) having been notified of the acceptance of our Bid by the Purchaser during the period of bid validity, (i) fail or refuse to execute the Contract; or (ii) fail or refuse to furnish the Performance Security, if required, in accordance with the ITB.

We understand this Bid Securing Declaration shall expire if we are not the successful Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) twenty-eight days after the expiration of our Bid.

Name of the Bidder* _____

Name of the person duly authorized to sign the Bid on behalf of the Bidder** _____

Title of the person signing the Bid _____

Signature of the person named above _____

Date signed _____ day of _____, _____

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

** : Person signing the Bid shall have the power of attorney given by the Bidder attached to the Bid

[Note: In case of a Joint Venture, the Bid-Securing Declaration must be in the name of all members to the Joint Venture that submits the bid.]

TECHNICAL SPECIFICATIONS

Country: MYANMAR

Project Name: TELECOMMUNICATIONS SECTOR REFORM PROJECT

Name of Item: Portable Spectrum Analyzer

Quantity: Part A: One (1) set of Portable Spectrum Analyzer

General Technical requirement:

Posts and Telecommunications Department (PTD) under Ministry of Transport and Communications has responsibilities to check and inspect illegal use of Radio Frequency using by the various organizations within the country, the quality and standard of Telecommunications Network and Wireless Communications Network like Mobile and Microwave communications etc.

Nowadays, with the emergence of new technologies such as 5G, IoT, the applications of radio frequency resources in particular are very diverse. Increasing in the usage of frequencies has also led to an increase in the occurrence of radio interference, resulting in required spectrum monitoring in areas where it is difficult to monitor with conventional equipment. According to the Spectrum Road Map of Myanmar, it is planned to allocate that 700 MHz to 28 GHz for Mobile Communication and 28 GHz for mmWave. Spectrum Rule section 65 mentioned about conventional Microwave frequency ranging from 2–40 GHz with minimum path length. Analyzer with Drone will facilitate the process enforcing frequency used by operators and provider using microwave and mobile system in Myanmar.

In this regards, PTD is looking for **1 Set of Portable Spectrum Analyzer** with the following Details Requirement:

Detailed Requirements:

1. Portable Spectrum Analyzer Requirement

No	Parameter	Requirement	Type of requirement
1	Frequency range	700 MHz to 50 GHz	Mandatory
2	Aging rate	< 1 ppm / year	Mandatory
3	Marker resolution	1 Hz	
4	Number of sweep (trace) points	500	
5	Spectral purity SSB phase noise (f=500MHz/4500MHz, carrier offset 300Khz)	< -100 dBc / Hz	

6	<u>Resolution bandwidth</u>		
6.1	Range (-3dB bandwidth)	10 Hz to 1 KHz	Mandatory(bandwidth high is important for LTE MIMO 4x4)
6.2	Bandwidth accuracy (1Hz ≤ RBW ≤ 300 kHz)	nominal < 5%	
6.3	Bandwidth accuracy (RBW > 300 kHz)	nominal ≤ 15%	
7	Input attenuator range	0 to 30 dB, in 5 dB steps	
8	Reference level setting range	-200 dBm to 30 dBm	
9	<u>Intermodulation</u>		
9.1	Second harmonic intercept (RF attenuation=0dB, RF preamplifier=OFF, fin=20 MHz to 1.5 GHz)	30 dBm or higher	
9.2	Third-order intercept (RF attenuation=0dB, RF preamplifier=OFF, signal level 2 x -20dBm, fin= 300 MHz ≤ fin < 3.6 GHz)	5 dBm or higher	
10	Units of level axis	dBm, dBmV, dBμV, W	
11	<u>Sweep time</u>		
11.1	Range (0Hz Span)	100 us to 1000s	
11.2	Range (10 MHz ≤ Span ≤ 600MHz)	20 ms to 1000s	
12	<u>Displayed average noise level</u> (RF attenuation=0 dB, termination=50 Ω, RBW=100 Hz, VBW =10Hz, sample detector, log scaling, track generator off, normalized to 1 Hz, Preamplifier=ON)		
12.1	10 MHz to 50 GHz	Lower than 160 dBm	
12.2	1 GHz to 2 GHz	Lower than 160 dBm	
12.3	2 GHz to 5 GHz	Lower than 160 dBm	
12.4	5 GHz to 6.5 GHz	Lower than 160 dBm	
12.5	6.5 GHz to 70 GHz	Lower than 160 dBm	
13	Safety	IEC 61010-1, EN 61010-1, UL 61010-1, CAN/CSA-C22.2 No. 61010.1-04	
14	Weight	< 5 kg for Analyzer only < 6 kg with Antenna (Complete set < 6 kg)	
15	Operating time with new, fully charged battery	> 2.5 hr	

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Drone Requirement

1	OctoCopter	4 to 6 arms	
2	Payload	up to 15 kg	
3	maximum take-off weight (MTOW):	45 kg	
4	Flight time	up to 60 minutes	
5	Flight range	2 km	
6	Robust in harsh environments	IP54, IP67 (dustproof and water repellent)	
7	Temperatures:	0 to 40°C	
8	Drone Features	Return to Home Feature. Auto Pilot, Auto takeoff & landing. Drone sensors(Gyroscope & Accelerometer).	

3. System software Requirement

NO	Parameter	Requirement
1	Life- feed to operator	Yes
2	Real-time Measure, Control and Configure function	Yes
3	Life – time License provide	Yes
4	Remote control software	Yes

4. Other Requirement

NO	Parameter	Requirement
1.	Training	Training for five PTD staff at least five (5) days in Myanmar
1.1	Onsite training & doing acceptance test	Full training for about five (5) PTD staffs in Naypyitaw in two (2) days off site and three (3) days onsite depending on the practical measuring. The cost for their accommodation, meal and other incidental expenses must be included in the proposal (it should be factored into price of equipment).
2	Warranty and Technical Support	≥ 2 years
3	On-site support	The bidder has to be able to provide a local support team to field for 24/7 and if it is needed to resolve the problem technically by responding within one (1) day.

		Your Engineer must be able to go on site together with PTD engineer during the warranty period and the cost for their accommodation, meal and other incidental expenses must be included in the proposal (it should be factored into price of equipment).