



**APPOINTMENT OF A SERVICE PROVIDER TO
SUPPLY, DELIVER AND INSTALL DIRECTIONAL
VHF, UHF AND SHF HAND HELD ANTENNAS FOR
LIMPOPO AND NORTH WEST REGIONAL
OFFICES**

TERMS OF REFERENCE

1. Purpose of the Bid

The Independent Communications Authority of South Africa (hereinafter referred to as "the Authority") intends to procure two (2) sets of directional VHF, UHF and SHF hand held antennas which supports the Authority's Regional Offices in North West and Limpopo Provinces with enforcement and spectrum management functions.

2. Description of the requirement

2.1. The Authority currently must perform interference tracing from unknown radio sources. The Authority requires portable directional VHF, UHF and SHF hand held antennas for the purpose of assisting ICASA inspectors to trace unknown radio frequency emissions from 20 MHz up to 7.5 GHz. The antennas are required to be compatible with:

- a) The Rhode and Schwarz PR 100 Portable monitoring receivers that ICASA currently has in its possession in North West Province.
- b) The Keysight Fieldfox N9951 that ICASA currently has in its possession in Limpopo Province.

2.2. These directional antennas will be used to find and trace harmful radio frequency interference.

2.3. Portable directional antennas means hand held devices capable of detecting frequency emissions from unknown sources in the frequency range of 20 MHz to 7.5 GHz. The units offered, must be directional, lightweight, hand held, transportable and able to be re-deployed to any other regional offices when required, without re-calibration of the unit.

3. Technical specifications

3.1. These technical specifications define the minimum acceptable performance characteristics in order to fulfil ICASA's bid requirements as set out in this document:

3.2. Objectives of the Bid

- a) The scope of this specification is limited to the supply and delivery of two (2) sets of directional Hand-held VHF, UHF and SHF portable antennas in the range of 20MHz – 7.5 GHz for the North West and Limpopo regional offices. This should include all cables, hardware, carry cases, mounting accessories, software associated with the antennas and or firmware upgrades, to provide a complete solution when used with the existing 2 (Two) Rhode and Schwarz PR 100 Portable monitoring and the Keysight Fieldfox N9951 receivers.
- b) Section 4 below details the hardware and software requirements of the equipment.

4. Configuration requirements

4.1. This section defines the configuration and functional necessities which are imperative in order to fulfil antenna requirements as set out in this document. Bidders are thus required to demonstrate how the under-mentioned will be achieved. Please provide a comprehensive analysis to these requirements, by indicating whether you comply or not. Bidders are also required to guarantee that solution offered will be compatible with the receivers currently in use by ICASA (Rhode and Schwarz PR 100 and Keysight Fieldfox N9951)

4.2. ICASA currently has 7 (Seven) Rhode and Schwarz PR 100 receivers with serial numbers ending in, 103056, 103057, 103058, 103059, 103061, 103062 and 103063. They were purchased in 2014 and are all operational. They have PR 100 Remote control option 4071.9406.02, PR 100 GPS option 4071 9958.02 and HA-Z 240 External GPS receiver.

5. Specifications

The bidder must submit an equipment data sheet that will be used to measure the compliance with the following mandatory requirements.

	Mandatory requirements	Compliant	Non-compliant
1	Hand Held devices		
2	Weight less than 2kg each if more than one unit is required		
3	100% Compatibility with Rhode and Schwarz PR 100 and Keysight Fieldfox N9951 Receivers		
4	Frequency range 20 MHz - 7.5GHz: - Multiple units spanning the entire frequency range may be supplied - No gaps in frequency range will be accepted - Bidders to indicate how many devices are required to cover entire frequency range		
5	Input impedance 50 Ω		
6	VSWR < 2.5 over entire frequency range		
7	Antenna to be fitted with the connector		
8	Operating Temperature -25° C to +50C°		
9	Directivity: better than 30dB front to back ratio		
10	Polarisation – The antennas should be able to orientate in both the Vertical and Horizontal planes without changing the operators hand position		
11	A switchable low-noise wideband amplifier in with a gain of at least 10db in the 500 MHz to 7.5GHZ frequency range must be included		

6. Installation, Training and Support

6.1. The bidders shall confirm through a confirmation letter that:

- a) Will be responsible for the satisfactory testing of all equipment provided under the contract, prior to the delivery.
- b) Shall ensure that the equipment is installed or connected successfully by the users, through various forms of interventions, including but not limited to training, virtual interaction or site visit meeting where the equipment is located.
- c) Shall guarantee the operability or availability of the components for the equipment repairs (i.e. both hardware and software – through necessary upgrades), for a period not less than 5 (five) years.

7. Service and Calibration

7.1. The bidders shall indicate through a letter:

- a) The extent and location of service facilities for the equipment offered.
- b) The extent and location of calibration facilities for the equipment offered.
- c) The calibration interval required on the instrument and associated accessories.
- d) The extent, limitations, conditions and projected cost of extended warranties available on the equipment.

8. Evaluation Criteria

cut of mark of 70 points

The following criteria and weightings will be applicable:

Criteria :70 points cut off		Weights
Mandatory Requirements		70
1	Compliant with all mandatory requirements including equipment data sheet (Section 5)	= 5
2	Non-Compliant with all mandatory requirements (Section 5)	= 0
Installation, Training and Support		15
1	Confirmation letter covering all 3 points under section 6.1	= 5
2	Confirmation letter covering 2 points under section 6.1	= 3
3	Confirmation letter covering 1 point under section 6.1	= 1
Service and Calibration		15
1	A letter outlining all 4 points under section 7.1	= 5
2	A letter outlining 3 points under section 7.1	= 3
3	A letter outlining 2 or 1 point/s under section 7.1	= 1
Total: cut of mark 70 points		100

9. Price Schedule

Description	Cost (Inc. Vat & Delivery)
Cost of the two (2) antennas	
Service and calibration for a period of 5 years	
Total Cost Incl. VAT	

10. Delivery Details

To be delivered to ICASA Regions Division
Attention: Sphesihle Zungu, Divisional Assistant Regions +27 12 568 3803
350 Witch-hazel Avenue, Eco Point Office Park
Eco Park, Centurion