



**Approved**  
**by the Minutes of the Tender Committee**

**Nr. 1 from 01.03.2022**

**TENDER DOCUMENTATION**

regarding the procedure of acquiring goods, works and services  
for production needs of S.E. "Radiocomunicatii"

**TENDER for acquiring  
the low-power transmitters  
for the network Mux A of S.E. "Radiocomunicatii"**

***TENDER DOCUMENTATION** represents the necessary documents which encloses the formal, technical and financial requirements, that will help the bidder to prepare his tender offer.*

***Tender documentation encloses:***

**Section I - Instructions for bidders**

**Section II - Technical requirements**

**Section III - Forms and templates**



## SECTION I

### INSTRUCTIONS FOR BIDDERS

#### **Chapter I. THE BIDDERS**

- 1.1.** The Bidders may only be corporates, with minimum 15 years of experience in the appropriate field.

#### **Chapter II. PARTICIPATION COSTS**

- 2.1.** The Bidder covers all the costs for the preparation and presentation of the required documents.
- 2.2.** S.E. "Radiocomunicații" does not cover the costs for preparing the offer and it is not liable for these costs, whether or not the offer wins.

#### **Chapter III. INFORMATION PRESENTED BY THE BIDDERS**

- 3.1.** The Bidders shall examine all formal requirements stated herein. Failing to present the necessary documents in accordance with art.6.2, or their inadequate preparation, renders the Bid as canceled.

#### **Chapter IV. THE SPECIFICATION OF ADDITIONAL INFORMATION IN THE DOCUMENTS FOR THE TENDER PARTICIPATION**

- 4.1.** A Bidder that needs clarification regarding the tender documentation may send to S.E. "Radiocomunicații" a written request with inquiries. A written answer will be provided to any such request, provided that it was received at least 5 days before the deadline for bids submission.

#### **Chapter V. AMENDMENTS TO THE TENDER DOCUMENTATION**

- 5.1.** S.E. "Radiocomunicații" may, for any reason, on its own initiative or as an answer to a bidder's request, modify the Tender Documentation not later than 2 weeks prior to deadline for the bid submission. All the potential bidders will be announced in written on the modifications made. S.E. "Radiocomunicații" may extend, at its discretion, the deadline for tender submission in order to offer the bidders a reasonable period of time to take into consideration the occurred modifications in preparing the bids.

#### **Chapter VI. BID PREPARATION**

- 6.1. Language:** The prepared Bid, as well as all the correspondence and the documentation must be in the language indicated in Appendix 1.3. *Special conditions.*



**6.2. The Bid should include the following:**

- 1) **Cover letter**
- 2) **Information about the bidder** – according to Appendix 1.2 *General Information*
- 3) **Technical Specifications**
- 4) **Financial proposal**
- 5) **Reference list** – according to Appendix 1.4 *Reference List*

**6.3. The documents proving the Bidder's eligibility and qualification:** The bidder shall supply documents proving his statute as a Qualified Supplier. Documentary evidence proving the Bidder's qualifications to execute the agreement, in case its Bid is accepted, will be established by S.E. "Radiocomunicatii" according to the following:

- a) If the Bidder provides goods or services, which are not being produced by itself, then proof that it was duly authorized by the producer to deliver them should be presented;
- b) The personnel that will perform the installation and/or launching or provide services must be authorized by the producer of these devices/services.
- c) The bidder must provide proof regarding the technical and production capacity – Bidder shall provide from at least 3-5 national network operators their reference list of equipment, their model and types delivered by Bidder for last 36 months according to Appendix 1.4 "Reference list". All Bids without such reference list will be eliminated from evaluation.

**6.4. Tender currency / bid prices:** The currency and the price should be in accordance with the requirements from Appendix 1.3. *Special conditions*.

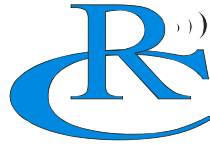
**6.5. Tender Validity:** The validity period is indicated in Appendix 1.3. *Special conditions*

## **Chapter VII. BID PRESENTATION**

**7.1. The Bid Format and Signing:** The Bid must be presented in a typed form. The Bid (financial and technical proposals and the supplementary documents) must be paginated, stamped and signed by an authorized person of the Bidder with rights to assume contractual obligations.

**7.2. Bid Sealing and Marking:**

- a) The Bid must be submitted in 2 subsequently sealed envelopes (internal envelope with return address).
- b) The external and internal envelopes shall conform to the following (clearly stated on it):
  - The envelopes shall indicate the name and address of the Bidder, to be able to return the Bid, if it is declared "submitted with delay".
  - If the external envelope is not sealed and not marked with the phrase "**Do not open until \_\_\_\_\_**" (specify the Tender deadline), S.E. "Radiocomunicatii" will not be responsible for an early opening or loss of the Bid.



### **7.3. The Tender Deadline / delayed Bids:**

- a) The Bids must arrive at the office of S.E. "Radiocomunicatii" on or until the date and time of the Tender opening.
- b) Any Bid submitted after the Tender deadline will be rejected and returned to the Bidder without being opened.

**7.4. The Modification and Withdrawal of Bids:** The Bidder may withdraw the Bid after submission, under the condition that S.E. "Radiocomunicatii" will receive a written notice prior to the Bid deadline. Any request for the modification of a Bid after the deadline, will be rejected. The winner Bid could not be withdrawn for the period of the Bid Validity.

## **Chapter VIII. THE OPENING AND EVALUATION OF BIDS**

### **8.1. The opening of Bids**

- a) S.E. "Radiocomunicatii" will open all the Bids in the presence of the members of tender committee on the day, hour and place specified in the invitation. S.E. "Radiocomunicatii" is not responsible for the delay and loss of the Bid.
- b) At the opening of the Bids it will be announced the name of the Bidders, the modifications and withdrawals of Bids, the Bid prices, the presence or absence of the requested Bid Warranty as well as other details that S.E. "Radiocomunicatii" , at its discretion, considers appropriate. No Bid will be rejected at the Bid opening, except the delayed bids. The delayed Bids will be returned to its sender without being opened.
- c) S.E. "Radiocomunicatii" will prepare the minutes of the Bids' Opening.

**8.2. Clarification of Bids:** to provide assistance in Bid examination, evaluation and comparison, S.E. "Radiocomunicatii" , at its discretion, may ask the Bidder to come with some clarifications on the Bid. The request for clarifications, as well as answer must be presented in written, and shall not imply or allow changes in the price or content of the Bid.

### **8.3. Preliminary examination:**

- a) Before the detailed evaluation, S.E. "Radiocomunicatii" will determine the compliance of each Bid to p.6.2 of the present *Instruction*. A bid shall be considered in compliance, if it corresponds to all terms and conditions stated in the present *Instruction*.
- b) S.E. "Radiocomunicatii" will examine all the Bids to determine if they are complete, if all the documents were properly signed and if all the Bids are in accordance with the present *Instruction*.
- c) The arithmetic errors will be corrected according to the following: if there are any discrepancies between the price per unit and the total price, obtained by multiplying the price per unit with the quantity, the price per unit prevails, and the total price will be corrected. If the Bidder does not accept the corrections, the Bid will be rejected. Where



there is a discrepancy between the amounts in figures and in words, the amount in words shall govern.

- d) The Bid determined as not complying with the present *Instruction* will be rejected by S.E. "Radiocomunicații".

**8.4. Bid evaluation:** The evaluation is based on the content of the Bid and is made in accordance with the Evaluation Criteria (Appendix 1.5). The evaluation criteria in Appendix 1.5 are only for internal use for Tender Committee and not send for participants.

## **Chapter IX. WINNER SELECTION. AWARDING OF A CONTRACT**

- 9.1. Criteria for awarding a contract:** The contract will be awarded to the Successful Bidder, who received the highest score, for Lot.
- 9.2. Notification about granting:** Within 30 calendar days from the opening of the Bids, S.E. "Radiocomunicații" will select the winner of the Tender and will inform the Successful Bidder for each Lot apart, on awarding the contract.
- 9.3. Signing of the Agreement:** The Successful Bidder shall sign the delivery contract within maximum 30 days from notification.



## SECTION II

### TECHNICAL AND QUALITY CONDITIONS

#### Chapter 1 Submission method of the Technical Proposal

- 1.1. The technical proposal should be submitted in strict accordance with the Technical Requirements stated hereinafter.

#### Chapter 2 Technical requirements for low-power transmitters DVB-T2 of network Mux A.

**2.1. Output power of the transmitter:** nominal output power ( $\geq$ ) 50W rms. Output power adjustable up to nominal.

**2.2. RF output:** 50 Ohm, N type or DIN 7/16f.

**2.3. Operating frequency range:** 470-694 MHz, working channel according Appendix 1.1.

**2.4. Inputs:**

ASI main input - BNC 75 Ohm

ASI reserved input - BNC 75 Ohm

TSoIP input - 2xRJ45, 100Mbit/s.

**2.5. Main parameters of DVB-T2:** according to ETSI EN 302 755.

T2-MI/MPEG-2 TS input	MPEG-2 TS input over ASI and IP T2-MI input over ASI and IP Interface Mode-A and Mode-B
PLP Constellations	QPSK, 16QAM, 64QAM, 256QAM
L1 post constellations	BPSK, QPSK, 16QAM, 64QAM
Constellation rotation	Normal, Rotated
Channel bandwidth	8 MHz (normal and rotated)
Guard Interval	1/128, 1/32, 1/16, 19/256, 1/8, 19/128, 1/4
FFT mode	1k, 2k, 4k 8k, 16k, 32k (normal and extended)
Code rate	1/2, 3/5, 2/3, 3/4, 4/5, 5/6
FEC	Short (16k), Normal (64k)
Pilot pattern	from PP1 to PP8
MFN, SFN-SISO/MISO	
Multi-PLP	

**2.6. MER:**  $\geq$  35 dB.

**2.7. Pre-correction:** automatic linear and nonlinear adaptive pre-correction

**2.8. Synchronization:**

Internal – thermally stabilized reference oscillator, frequency stability  $<1 \times 10^{-7}$ /year

External - 10MHz 1xBNC, 50 ohm, 0.1 Vpp – 3 Vpp.

☐ 1PPS 1xBNC, 50 ohm, 0 – 5 V.

Build in GPS receiver with external antenna with connecting cable not less than 10m.



**2.9. PREREQUISITE(!): provision of one copy of the transmitter for preliminary testing in the existing DVB-T2SFN Multi-PLP network**

**2.10. Out-of-band emissions:** according to ETSI EN 302 755, ETSI EN 302 296.

**2.11. Control and management:**

Remote control – network control interface (Web server and SNMP agent v2c and above)

**Internal measurement & Monitoring:**

Automatic measurement of shoulder level at center frequency plus/minus 4.2MHz and MER in the transmitter. Configurable thresholds for triggering SNMP.

**2.12. Supply voltage:** 220 V  $\pm$ 15%, 50 Hz, single-phase.

**2.13. Common parameters:**

Temperature: 1 to + 45°C.

Humidity: max 90%, non-condensing.

**2.14. Performance:**

Channel filter with non-critical mask (6 cavities)

Directional couplers and a set of cables providing the necessary level for adaptive correction (FBA and FBF).

**2.15. Warranty period is not less than: 3 years.**



**SECTION III  
APPENDIXES**

**Appendix 1.1.**

<b>Nr. d/o</b>	<b>Output CH</b>	<b>Frequency, MHz</b>	<b>Quantity (Tx Pout 50 W)</b>
<b>1.</b>	<b>21</b>	<b>474</b>	<b>5</b>
<b>2.</b>	<b>22</b>	<b>482</b>	<b>5</b>
<b>3.</b>	<b>28</b>	<b>530</b>	<b>8</b>
<b>4.</b>	<b>30</b>	<b>546</b>	<b>6</b>
<b>5.</b>	<b>31</b>	<b>554</b>	<b>6</b>
<b>6.</b>	<b>36</b>	<b>594</b>	<b>10</b>





**Appendix 1.2.**

**GENERAL INFORMATION**

1. Name of the Bidder
2. Headquarters /registration office (if it is different from the postal address)
3. Year of foundation
4. Company registration certificate (a certified copy)
5. Activity license (a certified copy)
6. Type of enterprise \_\_\_\_\_
7. Bidder's previous names (if applicable)
8. Name of Bank where the Bidder has an account
9. Subsidiary firms
10. Authorized person to represent the Bidder
11. The contact details of the authorized person:
  - Telephone:
  - Fax:
  - E-mail:
12. Relevant experience in the Tender field
13. Information regarding the experience, performances, personnel and technical capacities, as well as other relevant information.



**Appendix 1.3.**

**SPECIAL CONDITIONS**

**Table nr 2**

Relevant clauses from the Tender Instructions	Specific data to supplement or explain the Instructions for Bidders
<b>1. BID LANGUAGE</b>	English      Other: Romanian, Russian
<b>2. BID PRICE</b>	a) Shall be presented price in EURO or USA Dollars and evaluated with VAT if applicable. b) Shall be fixed from the moment of opening of Tender for the entire period of Contract performance. The Bid with unfixed price will be considered invalid and will be rejected. c) Shall be specified in total and separately for each unit, type of equipment and each option, license, software, etc. d) Shall specify separately freight costs, insurance, taxes, installation / launching costs, where applicable.
<b>3. PAYMENT TERMS</b>	a) Payment delay and grace terms (the term until the first payment), if applicable, will have priority during evaluation b) Providing information about the methods and terms of payment c) If the bid will require an advance payment, the bidder will describe the methods.
<b>4. DELIVERY TERMS</b>	a) delivery in maximum two month terms from the moment of contract signing; b) delivery will be done in one batch; c) delivery conditions according to Incoterms DAP: 28/2; Drumul Viilor str.;Chisinau; Moldova.-
<b>5. WARRANTY</b>	a) warranty terms for each equipment type; b) warranty will cover the equipment of third parties; c) warranty details (what covers the warranty); d) terms of response/reaction to a case under the warranty; e) European service centers (warranty centers); f) details about period of functionality for each type of equipment(transmitter and antenna system apart).
<b>6. VALIDITY PERIOD OF BID PRICE</b>	120 days from the opening of Tender
<b>7. PRELIMINARY EVALUATION - HOW COMPLETE IS THE BID</b>	Partial or incomplete bids are rejected.



**Appendix 1.4.**

**REFERENCE LIST FOR EQUIPMENT**

**Table nr.3**

No.	Type and model of equipment	Number of sell equipment	Country that the equipment was be delivered to	Year of delivery

**Place and Date:**

\_\_\_\_\_

**Bidder:**

\_\_\_\_\_  
**(Seal and Signature)**