



# SITE SURVEY REPORT Ericsson

## 1. GENERAL INFORMATION

|                                                     |                        |  |
|-----------------------------------------------------|------------------------|--|
| Site name:                                          | CASIN                  |  |
| Site number (code):                                 | BX313                  |  |
| Site address (city;street;no.; building; entrance): | Loc. CASIN JUDET BACAU |  |
| Site area:                                          | C BACAU                |  |
| Site survey team:                                   | Mira Telecom           |  |
| Checked by:                                         |                        |  |
| Date of site survey:                                | 30.04.2018             |  |
| Type of Site (urban, rooftop):                      | Rural Tower            |  |
| Lesser:                                             | -                      |  |
| Contact Person:                                     | -                      |  |



|                |  |
|----------------|--|
| Other Remarks: |  |
|----------------|--|

## 2. ROOFTOP (Building information)

|                  |                         |
|------------------|-------------------------|
| GPS coordinates: | N .....° ..... ' ....." |
|                  | E .....° ..... ' ....." |
| Building height: |                         |



|                                            |                                                                |         |
|--------------------------------------------|----------------------------------------------------------------|---------|
| Existing tripod:                           | Yes <input type="checkbox"/> NO <input type="checkbox"/> ..... | m       |
| Total height:                              |                                                                | ..... m |
| Use of crane for materials transportation: | Yes <input type="checkbox"/> NO <input type="checkbox"/>       |         |
| Other Remarks:                             |                                                                |         |

3. GREEN FIELD (Specific data information)

|                                                                                   |                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GPS coordinates:                                                                  | N46° 10' 11.49"<br>E 26° 42'50.75"                                                                                                                                                                                                                                |
| Tower:                                                                            | Yes <input checked="" type="checkbox"/> NO <input type="checkbox"/>                                                                                                                                                                                               |
| Tower type:                                                                       | <input checked="" type="checkbox"/> Heavy Cosmosite tower – 30m (or more)<br><input type="checkbox"/> Polygonal Monopole – 30m (or more)<br><input type="checkbox"/> Monopole lattice tower-30m<br><input type="checkbox"/> Guyed tower on shelter-20m            |
| Antenna Metallic Structure:                                                       | New "H" Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/><br>Upgrade existing "H" Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/><br>Atypical Structure Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/> |
| RRU Metallic Structure:                                                           | New RRU Support Yes <input checked="" type="checkbox"/> NO <input type="checkbox"/><br>Atypical Structure Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/>                                                                                     |
| Mini - shelter require:                                                           | Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/>                                                                                                                                                                                               |
| Mini – shelter frame standard adaptor solution:                                   | Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/>                                                                                                                                                                                               |
| In case Non Standard Mini-shelter frame solution, dimensions are requested:       | N/A                                                                                                                                                                                                                                                               |
| Non standard mini - shelter frame profile                                         | N/A                                                                                                                                                                                                                                                               |
| RRU to Antenna/Combiner Jumper length (type: DIN7/16 Male –N Male):               | 2x2m 4x4m                                                                                                                                                                                                                                                         |
| Antenna to Combiner -> Jumper length (type: DIN7/16 Male – DIN7/16 Male):         | 6x2m                                                                                                                                                                                                                                                              |
| FO cable length between BB to RRU                                                 | 1x40m                                                                                                                                                                                                                                                             |
| DC cable length between PP to RRU                                                 | 1x40m                                                                                                                                                                                                                                                             |
| Type and length of DC power for RRU Cu 2x6 mm <sup>2</sup> (L<30m):               | -                                                                                                                                                                                                                                                                 |
| Type and length of DC power for RRU Cu 2X10 mm <sup>2</sup> if needed(30m<L<60m): | Type ..... / ..... m                                                                                                                                                                                                                                              |
| Type and length of DC power for RRU Cu 2X16 mm <sup>2</sup> if needed(60m<L<90m): | Type Cu 2X16 mm <sup>2</sup> /1x40m                                                                                                                                                                                                                               |
| Type and length of DC power for RRU Cu 2X25 mm <sup>2</sup> if needed(L>90m):     | -                                                                                                                                                                                                                                                                 |
| Combo Box required:                                                               | Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/> ; Length of cable: ..... m                                                                                                                                                                    |
| Connection patch length from CB to RRU (FO&DC)                                    | M .....                                                                                                                                                                                                                                                           |
| Outdoor CB existing breakers type                                                 | 16A <input checked="" type="checkbox"/> 25A <input type="checkbox"/> Oth. <input type="checkbox"/> ...A spec                                                                                                                                                      |
| PDU existing breakers availability (63A in PP)                                    | Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/>                                                                                                                                                                                               |
| DC cable length from PP to new PDU                                                | ..... m                                                                                                                                                                                                                                                           |
| PP Type / producer plus picture on the bottom                                     |                                                                                                                                                                                                                                                                   |

4. EXISTING CONTRACT & CHANGES



|                                                 |                              |                                        |  |
|-------------------------------------------------|------------------------------|----------------------------------------|--|
| Indoor space requires contract change           | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |  |
| Outdoor space requires contract change          | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |  |
| Cable routing requires contract change          | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |  |
| Power cabling requires contract change          | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |  |
| Indoor space requires studies & license change  | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |  |
| Outdoor space requires studies & license change | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |  |
| Cable routing requires studies & license change | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |  |
| Power cabling requires studies & license change | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |  |

Other Remarks:

**5. POWER SUPPLY INFORMATION**

|                                                                                              |                           |  |        |  |        |  |
|----------------------------------------------------------------------------------------------|---------------------------|--|--------|--|--------|--|
| Power availability:                                                                          | YES                       |  |        |  |        |  |
| Voltage-measurements (PLC display):                                                          | L1 (V)                    |  | L2 (V) |  | L3 (V) |  |
| Amperage-measurements (PLC display, without A/C):                                            | I1 (A)                    |  | I2 (A) |  | I3 (A) |  |
| Amperage-measurements (PLC display, with A/C):                                               | I1 (A)                    |  | I2 (A) |  | I3 (A) |  |
| Outdoor mini shelter: 32A available breaker in LDB (5x6 mm <sup>2</sup> AC Cable)            | N/A                       |  |        |  |        |  |
| 1X16A available breakers in indoor Power System                                              | YES                       |  |        |  |        |  |
| 1X32A available breakers in indoor Power System                                              | NO                        |  |        |  |        |  |
| 2X63A available breakers in indoor Power System                                              | NO                        |  |        |  |        |  |
| Power counter exist:                                                                         | YES                       |  |        |  |        |  |
| Main AC board exist:                                                                         | YES                       |  |        |  |        |  |
| Breaker value in BMPT:                                                                       | N/A                       |  |        |  |        |  |
| Surge arrestors existence:                                                                   | YES                       |  |        |  |        |  |
| Type and length of power connection cable for BBU                                            | Cu 2x6mm <sup>2</sup> -3m |  |        |  |        |  |
| Type and length of power connection shielded cable AI 6X25 mm <sup>2</sup> if needed:        | -                         |  |        |  |        |  |
| Type and length of power connection shielded cable AI 6X35 mm <sup>2</sup> if needed:        | -                         |  |        |  |        |  |
| Type and length of AC power connection cable 5X6 mm <sup>2</sup> for mini shelter if needed: | -                         |  |        |  |        |  |
| Type and length of DC power from PSU to PDU AI 2x35 mm <sup>2</sup> if needed:               | -                         |  |        |  |        |  |
| CB/PDU/2 Sections (if needed):                                                               | -                         |  |        |  |        |  |
| CB/PDU/3 Sections (if needed):                                                               | -                         |  |        |  |        |  |
| PDU indoor (if needed):                                                                      | No                        |  |        |  |        |  |
| Boards grounding - secured:                                                                  | Yes                       |  |        |  |        |  |
| Boards waterproofed:                                                                         | Yes                       |  |        |  |        |  |

Other Remarks: -In rack 19" existent in shelter se va instala 1XMU nou  
 -MU nou se va alimenta de pe o siguranta de 16A existenta in PDU  
 -3x RRU-noi se vor alimenta de pe 3 sig noi de 25 A

**6. POWER PLANT and BATTERY INFORMATION**

|                                      |                                                                                                             |                                                                                                  |                          |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------|
| Number of units                      | <input checked="" type="checkbox"/>                                                                         | Unit 2                                                                                           | <input type="checkbox"/> |
| Type                                 | 300A <input checked="" type="checkbox"/><br>600A <input type="checkbox"/><br>Other <input type="checkbox"/> | 300A <input type="checkbox"/><br>600A <input type="checkbox"/><br>Other <input type="checkbox"/> |                          |
| Nr./capacity[A] of rectifier modules | 2                                                                                                           |                                                                                                  |                          |
| DC Load Amperage(displayed) [A]      |                                                                                                             |                                                                                                  |                          |
| Battery capacity [Ah]                |                                                                                                             |                                                                                                  |                          |
| Battery type/number                  |                                                                                                             |                                                                                                  |                          |

Other Remarks:

**7. AIR CONDITIONING INFORMATION**

|                  |                                            |                                 |
|------------------|--------------------------------------------|---------------------------------|
| Temperature [°C] | Internal:                                  | External:                       |
| Number of units  | Unit 1 <input checked="" type="checkbox"/> | Unit 2 <input type="checkbox"/> |



|                                                   |                                                                                                                                                                                      |                                                                                                                                                                           |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                                              | Free Cooling Duct Split <input checked="" type="checkbox"/> <input type="checkbox"/>                                                                                                 | Free Cooling Duct Split <input type="checkbox"/> <input type="checkbox"/>                                                                                                 |
| Technical specifications from external unit label |                                                                                                                                                                                      |                                                                                                                                                                           |
| Cooling capacity [BTU]                            | 9.000 <input type="checkbox"/><br>12.000 <input type="checkbox"/><br>18.000 <input checked="" type="checkbox"/><br>24.000 <input type="checkbox"/><br>Other <input type="checkbox"/> | 9.000 <input type="checkbox"/><br>12.000 <input type="checkbox"/><br>18.000 <input type="checkbox"/><br>24.000 <input type="checkbox"/><br>Other <input type="checkbox"/> |
| Start meter                                       | Compressor:<br>Evap. Fan:<br>Heather:                                                                                                                                                | Compressor:<br>Evap. Fan:<br>Heather:                                                                                                                                     |
| Work time meter [h]                               | Compressor:<br>Evap. Fan:<br>Heather:                                                                                                                                                | Compressor:<br>Evap. Fan:<br>Heather:                                                                                                                                     |
| Alarms outputs                                    | Very high temp <input type="checkbox"/><br>Very low temp <input type="checkbox"/>                                                                                                    | Very high temp <input type="checkbox"/><br>Very low temp <input type="checkbox"/>                                                                                         |

Other Remarks:

**8. NEW INSTALLATION INFORMATION**

|                                                                                        |     |
|----------------------------------------------------------------------------------------|-----|
| Common: number of buss with free holes                                                 | Yes |
| Common: Available space on the existing cable tray                                     | Yes |
| Indoor equipment: Existing space for ILP mounting                                      | Yes |
| Indoor equipment: Existing space for Radio Indoor equipment mounting                   | N/a |
| Indoor equipment: Existing space for Indoor Concentrator equipment mounting            | N/a |
| Indoor equipment: Existing space for DC PDU mounting                                   | N/a |
| Indoor equipment: Available holes in FIMO                                              | N/a |
| Outdoor equipment: Existing space on the existing base frame for mini shelter mounting | N/a |
| Outdoor equipment: Existing outdoor transmission cabinet                               | N/a |
| Outdoor equipment: Existing space for outdoor Concentrator mounting (proposal)         | Yes |
| Outdoor equipment: Existing space for RRU mounting (proposal)                          | Yes |

Other Remarks: -

**9. EXISTING TELECOM EQUIPMENT & INFRASTRUCTURE**

**a. General information**

|                                     |                                            |                                  |
|-------------------------------------|--------------------------------------------|----------------------------------|
| Equipment type:                     | Indoor <input checked="" type="checkbox"/> | Outdoor <input type="checkbox"/> |
| Number of RF antennas:              | 3                                          |                                  |
| Number of MW links                  | 1                                          |                                  |
| Nr. of existing RBS cabinets        | 1xRBS 6601                                 |                                  |
| MW existing RL cabinet              | Indoor <input checked="" type="checkbox"/> | Outdoor <input type="checkbox"/> |
| Power cabinet exist (BBS):          | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>      |
| Existing cable ladder availability: | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>      |
| Existing cable entry availability:  | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>      |



|                                                                        |                                         |                                        |  |
|------------------------------------------------------------------------|-----------------------------------------|----------------------------------------|--|
| Air condition existence & operation                                    | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Grounding protection existence:                                        | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Lightning protection existence:                                        | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Installation of RF & IF cables requires special machinery (e.g. crane) | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |  |

**b. Existing Masts**

|   | Height | Length | poles/mast | Cell_id on the mast | installation readiness |
|---|--------|--------|------------|---------------------|------------------------|
| 1 |        |        |            |                     |                        |
| 2 |        |        |            |                     |                        |
| 3 |        |        |            |                     |                        |
| 4 |        |        |            |                     |                        |

**c. Existing Antenna Poles**

|   | Height | Length | Cell_id | Corner/Tower | Obstacles | installation readiness |
|---|--------|--------|---------|--------------|-----------|------------------------|
| 1 | 27m    | 3m     | U       |              | no        | yes                    |
| 2 | 27m    | 3m     | V       |              | no        | yes                    |
| 3 | 27m    | 3m     | W       |              | no        | yes                    |
| 4 |        |        |         |              |           |                        |
| 5 |        |        |         |              |           |                        |
| 6 |        |        |         |              |           |                        |

**d. Existing MW Poles**

|   | Height | Length | Hop id | Corner/Tower | Far end | Obstacles | installation readiness |
|---|--------|--------|--------|--------------|---------|-----------|------------------------|
| 1 |        |        |        |              |         |           |                        |
| 2 |        |        |        |              |         |           |                        |
| 3 |        |        |        |              |         |           |                        |
| 4 |        |        |        |              |         |           |                        |

|          |  |
|----------|--|
| Remarks: |  |
|----------|--|

**10. ANALYSIS LOADING DATA**

| LOAD TYPE | DIAMETER (mm) | POSITION (m) | NUMBER |
|-----------|---------------|--------------|--------|
| M/W LINK  |               |              |        |
| M/W LINK  |               |              |        |
| M/W LINK  |               |              |        |
| M/W LINK  |               |              |        |
| M/W LINK  |               |              |        |
| M/W LINK  |               |              |        |



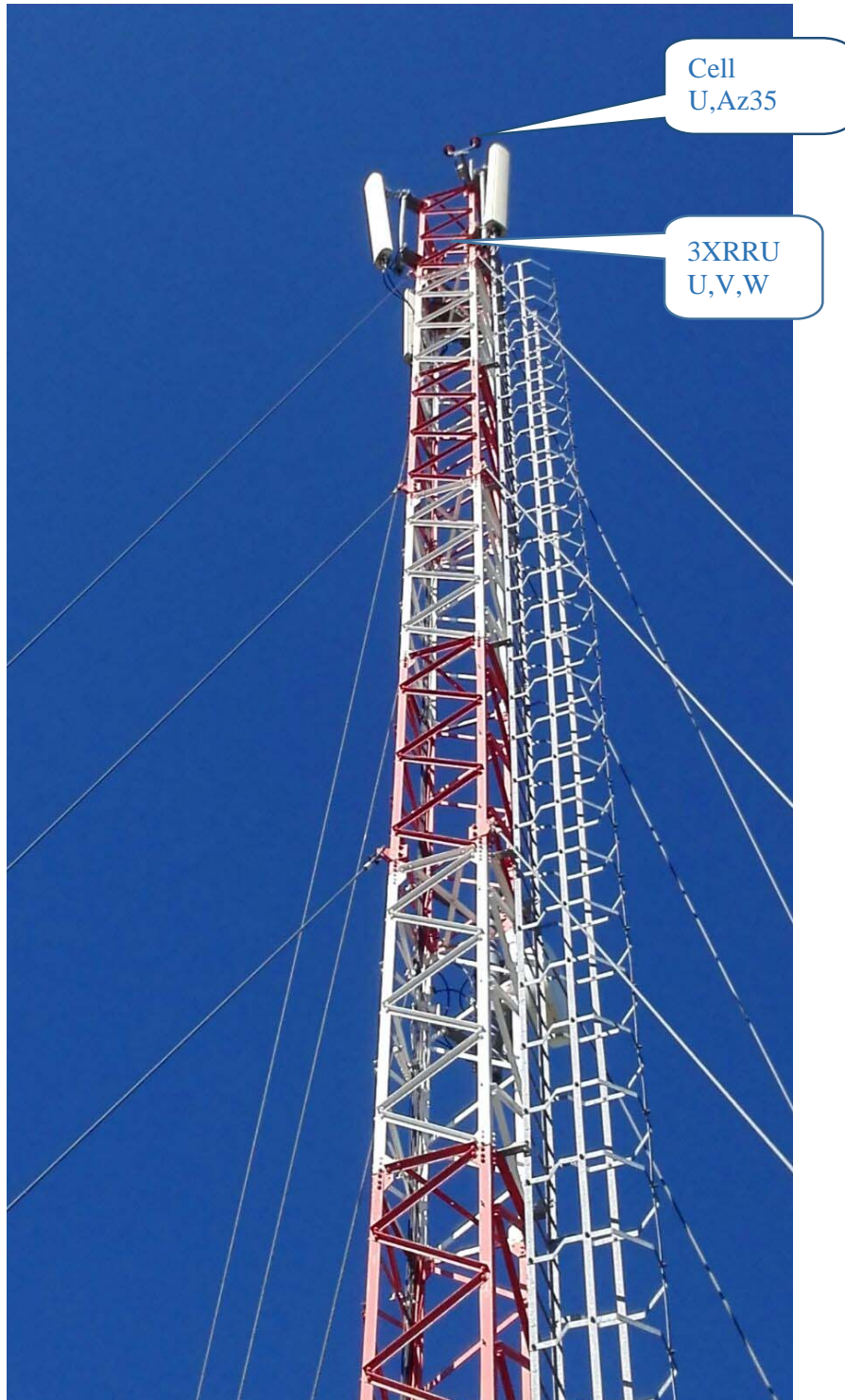
11. EXISTING LAYOUT(S):

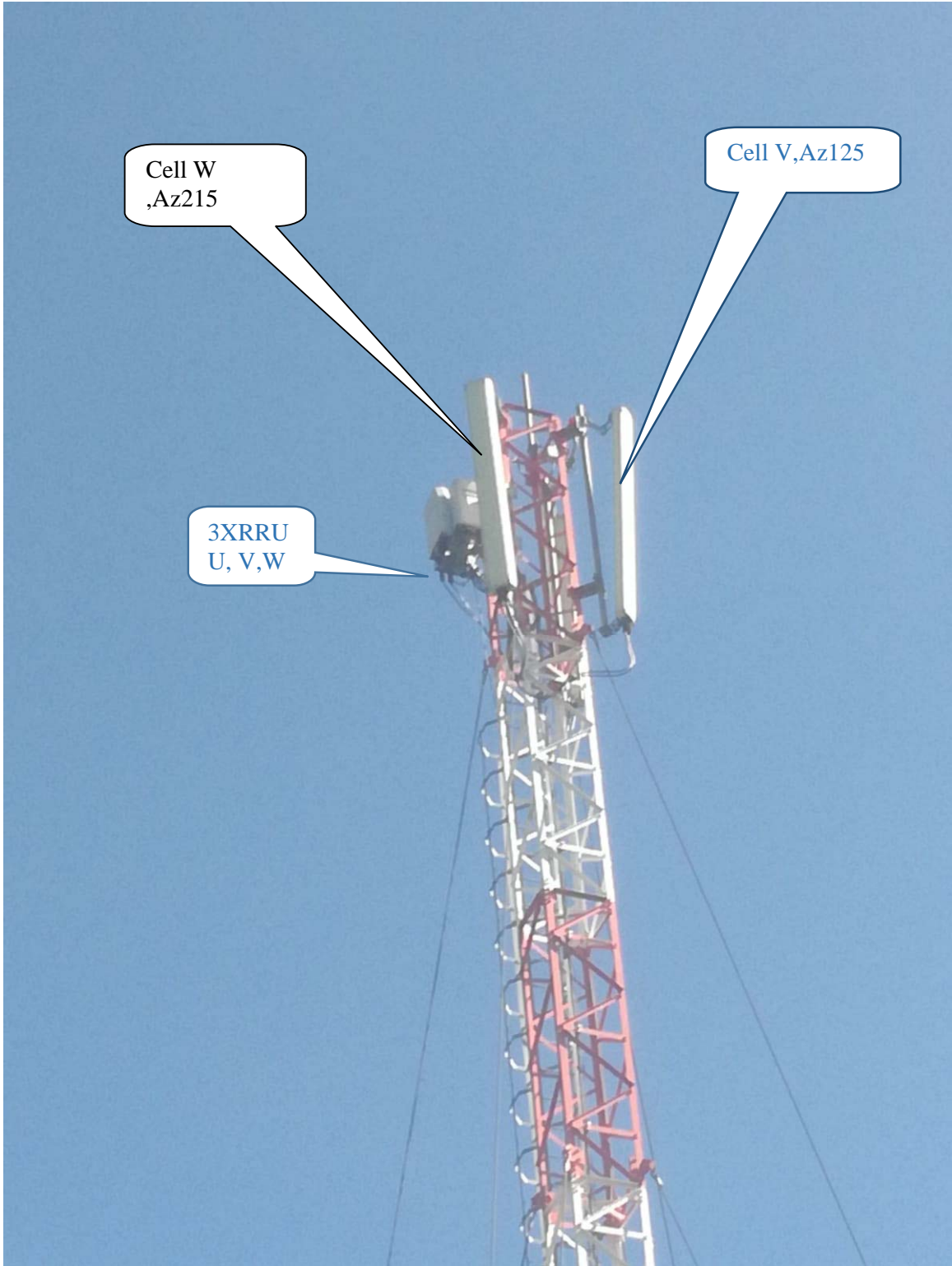
GENERAL VIEW OF STRUCTURE





RADIO INFORMATION









Modernization Telekom Mobile

CW INFORMATION Indoor







Cable tray





12. PROPOSED INFRASTRUCTURE & EQUIPMENT SOLUTION

a. Indoor cabinets

|                                                 |      |
|-------------------------------------------------|------|
| Dimensions of existing room:                    | 3x4m |
| Space availability for indoor equipment:        | yes  |
| C                                               | N/A  |
| Shelter needed:                                 | N/A  |
| Shelter concrete base needed:                   | N/A  |
| Space availability for new shelter positioning: | N/A  |
| AC power extension/change:                      | N/A  |
| Main grounding bus bar existence:               | Yes  |
| Water proofing of the room needs restoration:   | No   |
| Internal Lighting restoration:                  | No   |
| Wall painting needed:                           | No   |
| Antistatic floor addition:                      | No   |
| Fire alarm system expansion:                    | No   |
| Air Conditioning (A/C) expansion/replacement:   | No   |
| Nr./capacity[A] of rectifier modules            |      |
| Security Lights board:                          | N/A  |
| Plastic trays for cables expansion :            | N/A  |
| Internal ladder for the feeders availability:   | N/A  |
| Cable entry expansion:                          | N/A  |
| Other Remarks:                                  |      |

b. Outdoor cabinets

|                                            |  |
|--------------------------------------------|--|
| New metal base needed:                     |  |
| Dimensions of new metal base:              |  |
| Secure of metal base on floor:             |  |
| Grounding of base/Earthing for equipments: |  |
| AC power supply availability:              |  |
| Needed properly holes on base:             |  |
| Clearances around cabinets:                |  |
| Other Remarks:                             |  |

c. Proposed New Masts

|   | Height | Length | poles/mast | Cell_id on the mast | Position |
|---|--------|--------|------------|---------------------|----------|
| 1 |        |        |            |                     |          |
| 2 |        |        |            |                     |          |
| 3 |        |        |            |                     |          |
| 4 |        |        |            |                     |          |

d. New Antenna Poles

|   | Height | Length | Cell_id | Corner/Tower | Obstacles | installation readiness |
|---|--------|--------|---------|--------------|-----------|------------------------|
| 1 |        |        |         |              |           |                        |
| 2 |        |        |         |              |           |                        |
| 3 |        |        |         |              |           |                        |
| 4 |        |        |         |              |           |                        |

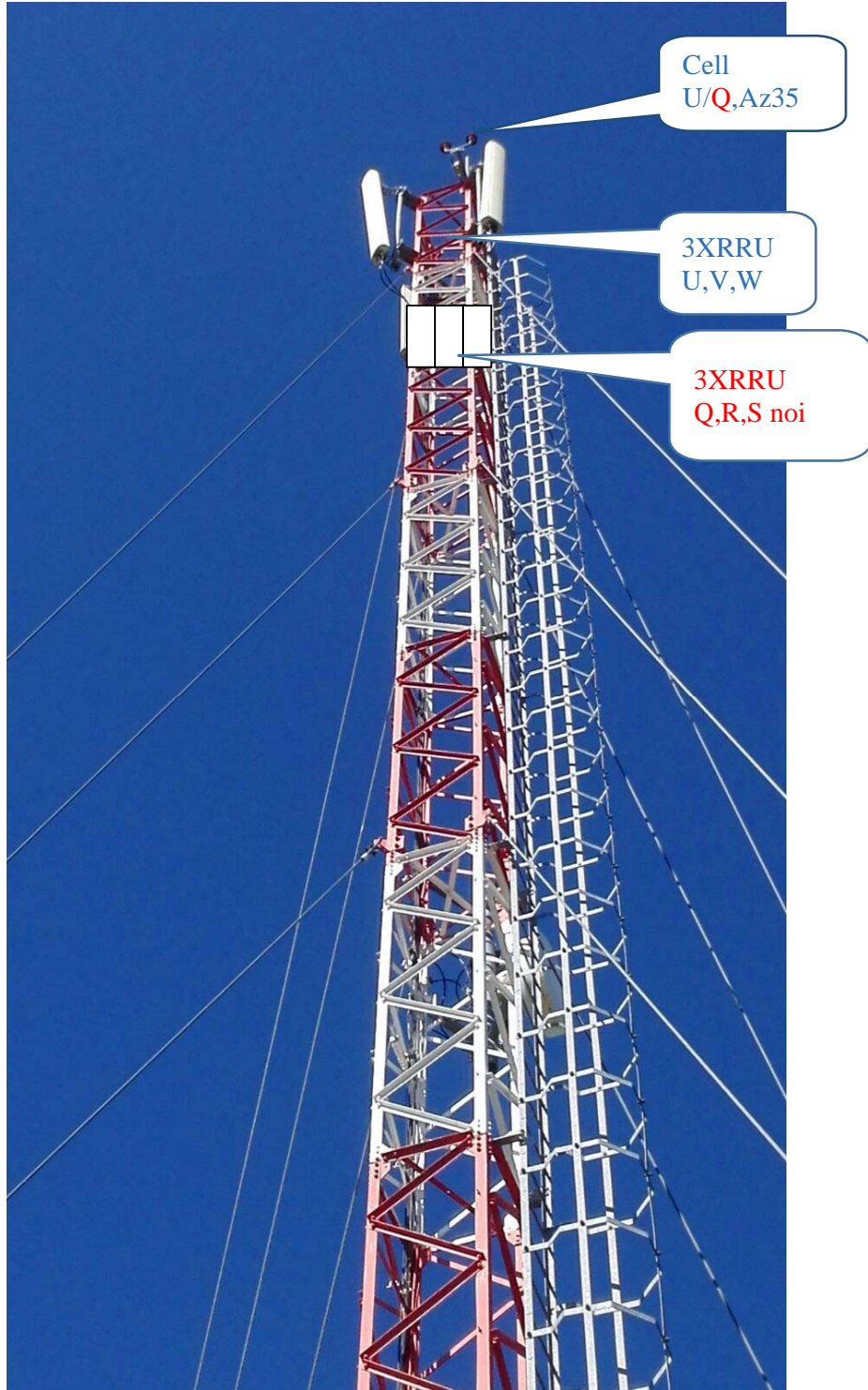
e. New MW Poles

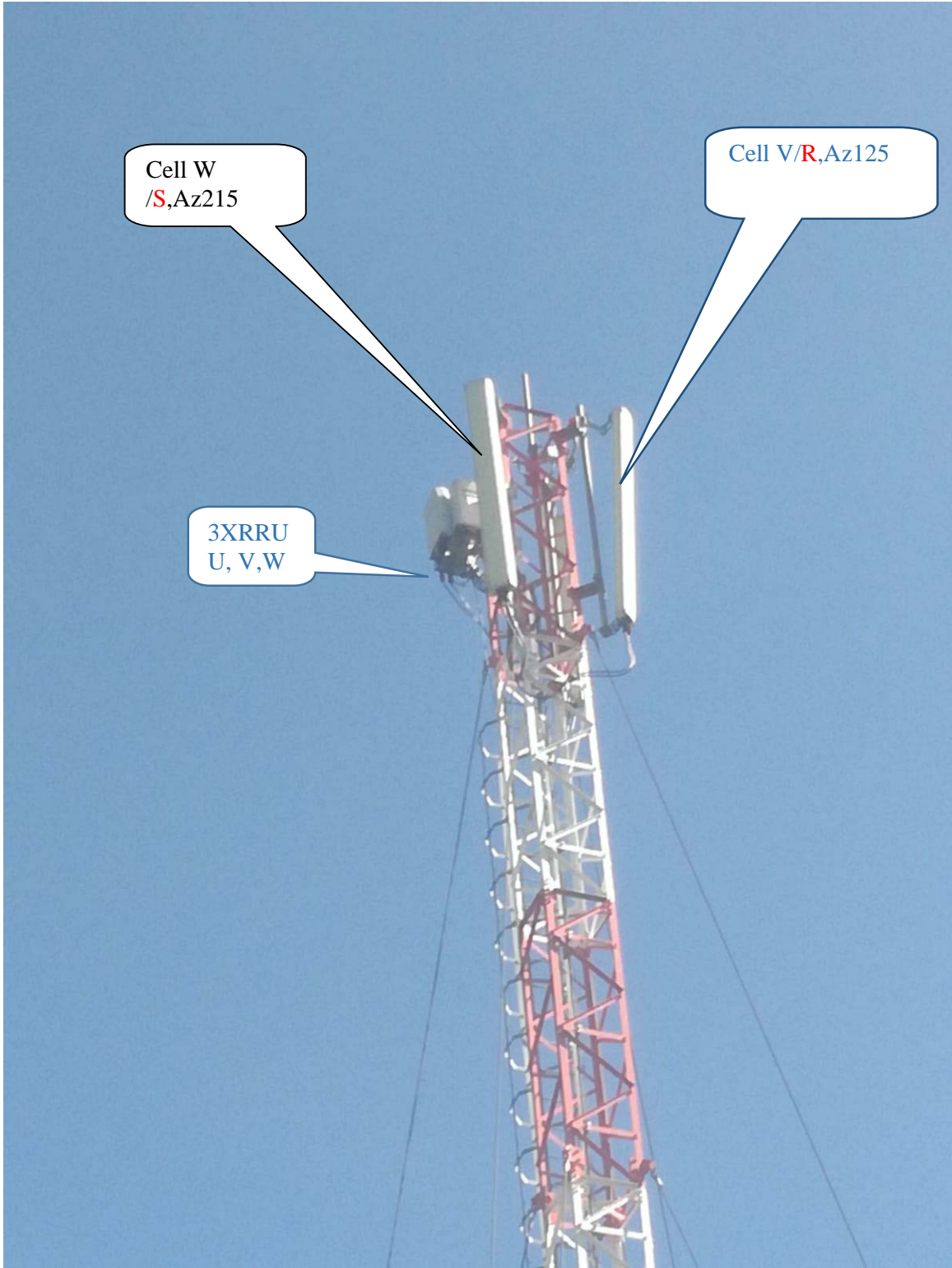
|   | Height | Length | Hop id | Corner/Tower | Far end | Obstacles | installation readiness |
|---|--------|--------|--------|--------------|---------|-----------|------------------------|
| 1 |        |        |        |              |         |           |                        |
| 2 |        |        |        |              |         |           |                        |
| 3 |        |        |        |              |         |           |                        |
|   |        |        |        |              |         |           |                        |



|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Proposed corrective works:</p> | <p>Reconfigurarea siteului BX313 Casin sa include urmatoarele elemente:</p> <ul style="list-style-type: none"><li>-se vor inlocui cele 3 anteneRF cu unele dual band ;se monteaza 3XRRU de unde se vor conecta la antenele noi dual band</li><li>-se va instala 3x RRU 800 pe support nou tip V fata turn</li><li>-impamantarea RRU-ului se va lega la impamantarea existenta print-un conductor de cupru de 16mm</li><li>-RRU-urile noi se vor alimenta din shelter la sigurante de 25A noi</li><li>-in rack PDH sub PDU se va instala un MU nou care se va alimenta de pe 1x sig. de 16A existent in PDU</li></ul> <p>Cabluri noi:</p> <ul style="list-style-type: none"><li>-3 x FO 50m</li><li>-3 X DC Cu 16mm/ 50m</li><li>-S1 2X jumpers 6m,</li><li>-S2 2X jumpers 6m,</li><li>-S3 2X jumpers 6m,</li></ul> |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

13. PROPOSED SOLUTION LAYOUT(S): PICTURES AND COMMENTS:







MU nou