1. **MBTS Requirements / Design Criteria**
   1. **Design Standard**

* Design Standard ASTM,EIA/TIA-222-G or BS standards (Structural standard for antennas supporting structures)
  1. **Wind Speed and Tower Load Capacity**
* Wind Speed (operational & survival) 100km/hr.
* Total designed capacity load shall be calculated on top
* Minimum Tower load capacity 4m2 on top
  1. **Materials**
* Material of the trailer and tower shall be hot dipped galvanized (HDG)
* Galvanization coating 120micron
  1. **Electrical and Grounding**
* Items related to grounding system installation shall be provided (bus bars, cables, connections, Earth ring addition, additional power outlet, outdoor lighting)
* Electrical installations including lighting, ATS and MDB panels (waterproofing enclosures)
  + **ATS includes**
* (2 contactors 2 poles (40-60Amp) with interlock (telemecanique, Schneider)
* Main CB 80amp (2pole, Schneider)
* 2 voltage relay (S&AS) single phase
* Relay 220v
* 2 CB 2x40Amp (EDL, Gen)
* 1 CB 2x40Amp Load out
* Additional block off delay 180seconds
* 6 pilot light led
* 6 fuse 2Amp (pilot light)
* 6 fuse 4Amp (VR1-VR2)
* 1 voltmeter + selection switch
  + **MDB includes**
* single phase Counter 60Amp
* Socket 220v (Schuko)
* Relay 220v
* 3 CB single phase 40Amp
* 2 CB 1x16Amp (single phase)
* 1 CB 1x10Amp (single phase)
* Surge arrestor (obo)
* 10 junctions (Viking)
  1. **GSM & MW antennas on Steel Mounts**
* 3 Quad antennas, each weight approx. 30kg on top
* Transmission antenna 60cm…90cm on high level.
  1. **Trailer Specs**
* Trailer shall be heavy duty & made of HDG steel painted, or pre painted with epoxy (5 years warranty for paint)
* Steel decking/platform :
  + Shall be heavy duty to bear the load of the generator, fuel tank & equipment (estimated 2 racks (60x70x185)cm on elevated steel chassis with HDG grating)
  + Shall be equipped with more than 4 wheels (approved size) with one wheel spare. (Double rims under the heavy area to bare the heavy loads fitted overhead).
  + Acrylic enamel paint (for safety & transportation requirements)
  + Anchor locations shall be included (for lifting purposes)

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| **TECHNICAL SPECIFICATIONS**  **Supply of MBTS (Trailer with 8m tower)** | **Ref. CV** | **Page: 3** |

* + Suitable jacks shall be included - 4 landing jacks with stabilizers are needed
  + Brakes or wheel holding weights shall be considered. (Air brake system is needed EBS)
  + All safety issues shall be considered (handrail, signs, climbing steps...) (6 tons Tandem axel suspension (spring) is to be fitted to minimize the damages that might be caused by the towing)
  + 1.5 meter gated fence made up of hot dipped galvanized steel
  + Protection cover from dust (transport & warehouse modes)
  + Hitch assembly to be equipped with wheel and standing leg
* Design dimensional parameter (outline drawings, max size 4\*2.5 meters) (more compact designs will be considered as a plus as long as it satisfies all the required areas for the deployment of the equipment and generator).
  + Transportation mode (400x250x350)cm
  + Deployment mode (450x450x..)cm
  1. **Mobile Generator specs**
* Generator shall be 10KVA.
* Fuel tank to be built in (capacity 300 liters) with level gauge or sensor.
* Canopy specs:
  + Sound measured at 1m shall be 65db
  + Material shall be made of 3mm steel & pre-painted (warranty of paint shall be minimum 3 years)

1. **Tower Specs and Requirements**

Bidder can provide either one option or both (options A and B)

* 1. **Pneumatic telescopic mast 8m height**
* Automatic lifting system (AC winch with safety interlock and stacking mechanism having a vertical lifting capacity twice the tower weight at least)
* Extended & retracted heights (Heavy duty locking mount restrictor to any desired height so it can be kept extended without air pressure)
* Guyed fixation is not acceptable
* Cabling & antenna mounts (Manual flex cables roller is needed at the tower base level)
* 3‐Sector Antenna Mounting System
* Hydraulic elevating and closing
* Cable clamps to hold all cables inside
* Mid‐Level Microwave Mount or a separate 1 m offset
  1. **Telescopic mast 8m height (Lattice type) – optional**
* Automatic lifting system (AC winch (IP 55 at least) with safety interlock and stacking mechanism having a vertical lifting capacity twice the tower weight at least)
* Extended & retracted heights (Heavy duty locking mount restrictor to any desired height )
* Guyed fixation is not acceptable
* Cabling & antenna mounts (Manual flex cables roller is needed at the tower base level)
* 3‐Sector Antenna Mounting System
* Hydraulic elevating and closing
* Cable clamps to hold all cables inside
* Mid‐Level Microwave Mount or a separate 1 m offset