



ENGINEERING DESIGN BUREAU
Consulting Engineers, Planners & Architects

TELECOMMUNICATION & Microwave Towers

Overview

Engineering design Bureau is one of the leading firms in the design of microwave towers. The firm has designed and supervised over 30,000 towers, both self-supported and guyed masts, for various clients. This field of engineering is the mainstay of company. All our designs are implemented with the most sophisticated structural analysis programs and are in accordance with the latest engineering practices.

The projects were completed in due time, from inception to commissioning.



Services & Specifications

The services offered by EDB in this field of work are as follows:

- Detailed Design of Structure and Foundations
- Detailed Drawings
- Bill of Quantities
- Tender Documents
- Fabrication Details
- Fabrication Supervision
- Construction/Erection supervision
- Inspection Report.

Standards EDB Uses

The following Standards are currently being implemented by EDB:

RS-222, RS-222-A, RS-222-B, EIA-222-C, EIA-222-D, EIA-222-E, TIA/EIA-222-F, ANSI/TIA-222-G (including TIA-222-G-1 and TIA-222-G-2), ANSI/TIA-222-H, and CSA S37-01.

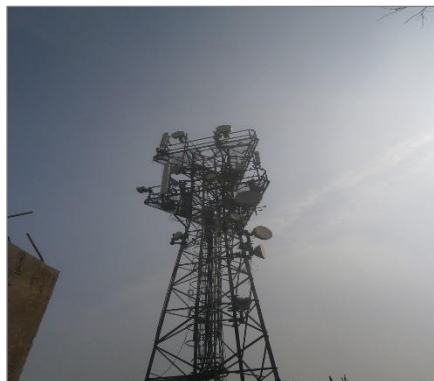
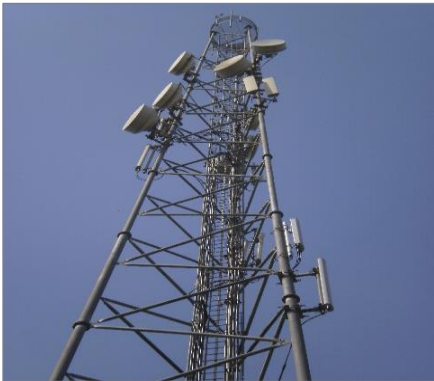
Types of Tower EDB Designs

Base Tower Types Supported:

- Three or four sided guyed towers
- Three or four sided self-supporting towers
- Ground mounted monopoles (round stepped, round tapered, 18-, 16-, 12-, and 8-sided)
- Three or four sided guyed monopoles
- Three or four sided self-supporting pipe towers.

Upper Antenna Types Supported:

- Three or four sided latticed poles
- Tubular poles (round stepped, round tapered, 18-, 16-, 12-, and 8-sided)
- Candelabra tops.



Analysis and Design

- Generation of nodes and elements for 3D frame-truss, truss, or beam-column tower models
- Linear and non-linear (P-delta, cable behavior) finite element analysis (FEA)
- Three modes available: analysis only, analysis and members check, or analysis and lowest weight-optimized design
- Determination of pressure coefficients, wind pressures, ice loads and resulting forces on the tower
- Optimized feed line Effective Projected Area calculations to minimize required wind loading
- Calculation of feed lines shielding
- Calculation of center of pressure due to offset feed lines
- Calculation of K-factors for solid round and single angle members
- Optional inner feed line support tower
- Check or design of bolts in tower members.

Designing & Supervision by EDB

Based on testing and analysis EDB's expert engineers provide designs as well as supervision services in the following areas as per client's needs:

- Structure design
- Architecture design
- Public Health
- HVSE
- Electrical design
- Fire Fighting
- Tower 3D Modeling (for Rooftop Sites)
- Tower construction Supervision (for Rooftop Sites).

Result Output

Any of the outputs mentioned below can be provided depending of the scope and specifications as per client's requirements:

- Extensive, customizable output reports, viewable directly in Microsoft Word or Microsoft Word Viewer
- Finite Element Analysis results for detailed solution diagnostics
- DXF export of model geometry.
- Structure Feasibility report.
- Structure Stability certificate.

For more information call on our landline given below:

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- Karachi, Regional Office (South): +92-21-3-4556128
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