

Atlanta RF: Overview

www.AtlantaRF.com

Summary: Atlanta RF

Atlanta RF LLC is an independent consulting firm that provides system-level technical design / architecture and engineering project management to the satellite communications (SATCOM) community: LEO/MEO/GEO, and to the space-flight satellite community: on-board satellite telecommunication sub-system and their associated space-qualified RF/microwave components.

Our Services. Your Success.

- **Engineering Consulting Services: SATCOM systems.**
- **Engineering Consulting Services: Space-flight Satellite systems.**
- **Engineering Systems Development: SATCOM and Satellite systems.**
- **Engineering Consulting Services: Product Development.**
- **Engineering Management: SATCOM and Space-flight Satellite systems.**
- **Project Management: SATCOM and Space-flight Satellite systems.**



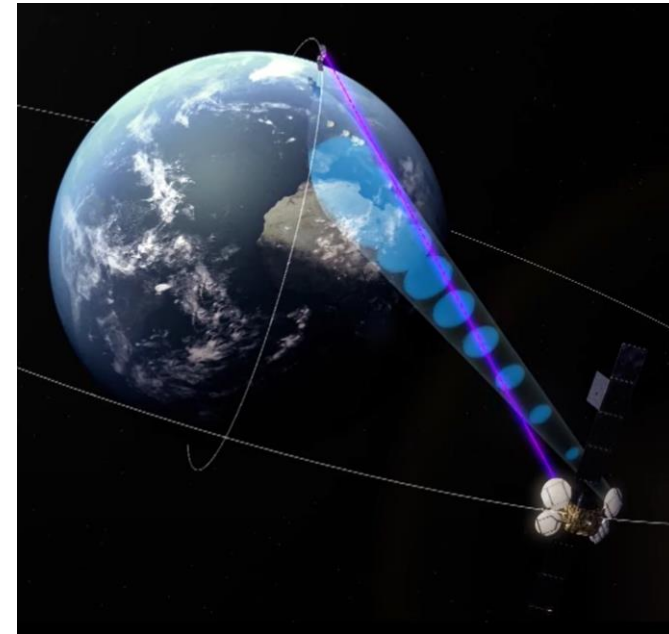
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Consulting: SATCOM & Space

Consulting: SATCOM Engineering

Consulting Services for SATCOM Engineering:

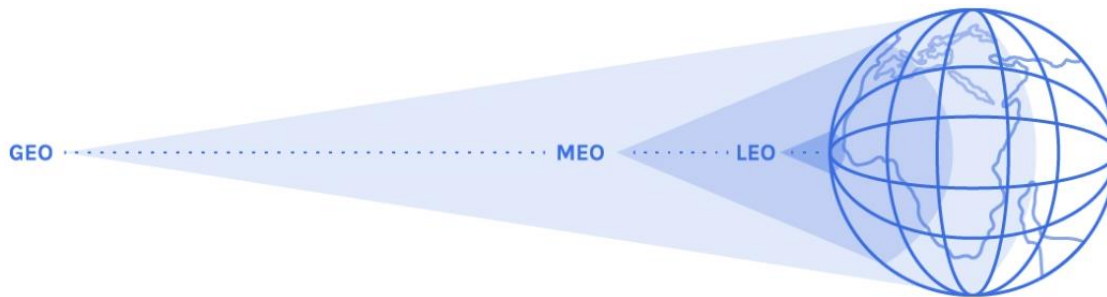
- Derive system-level specs from customer requirements.
- Define, specify & report Key Performance Indicators.
- Define system architectures for User Terminals.
- Link Budget trade studies: LEO / MEO / GEO.
- Develop performance specs & Statements of Work.
- Evaluate in-house and vendor capabilities.
- Define & optimize antennas, BUCs, LNBS and modems.
- Define verification and validation (V&V) tests.
- Design assembly & test fixtures and ATE.
- Transition for Manufacturing hand-off.
- Identify vision & roadmap for evolving future Terminal.



Consulting: Space-flight Satellite Systems

Engineering Consulting Services: Satellite/Space

- Decompose satellite's mission requirements.
- Define satellite's telecom system's requirements.
- Define telecom architecture/design approach.
- Link Budget trade studies: Forward & Reverse.
- Develop system-level specs & SOWs.
- Decompose system specs to component specs.
- Develop component specs & SOWs.
- Evaluate in-house vs. vendor capabilities.
- Evaluate First Article hardware products.
- Define verification & validation (V&V) tests.
- Design assembly & test fixtures and ATE.



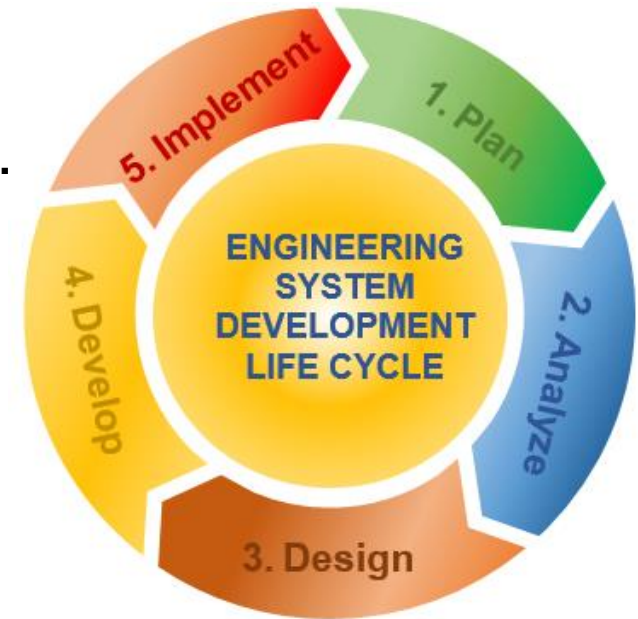
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Consulting: SATCOM & Space

Consulting: Systems Development

Consulting services for System Development:

- System requirements analysis.
- Technical assessment & feasibility analysis.
- Antenna selection: Fixed or steered RF beam (ESA).
- Uplink RF chain analysis.
- Downlink RF chain analysis.
- Modem: TDMA / FDMA.
- Power Supply selection.
- Coordinate integration of system subassemblies.
- Design reviews: KOM, SRR, PDR, CDR, TRR, PRR.
- Improve engineering processes.
- Root cause analysis & corrective actions.



Consulting: Product Development

Consulting services for Product Development:

- Identify and understand customer's needs & desires.
- Derive technical design baseline for system & subsystems.
- Establish technical / interface design metrics.
- Create product's specs & in-house / vendor SOWs.
- Evaluate in-house and vendor development capabilities.
- Support technical Stage Gates: Prepare & participate.
 - Design Reviews: KOM, SRR, PDR, CDR, TRR & PRR.
- Create test plans and procedures: QTPs & ATPs.
- Report prototype, First Article & LRIP test results.
- Design assembly & test fixtures and support ATE.



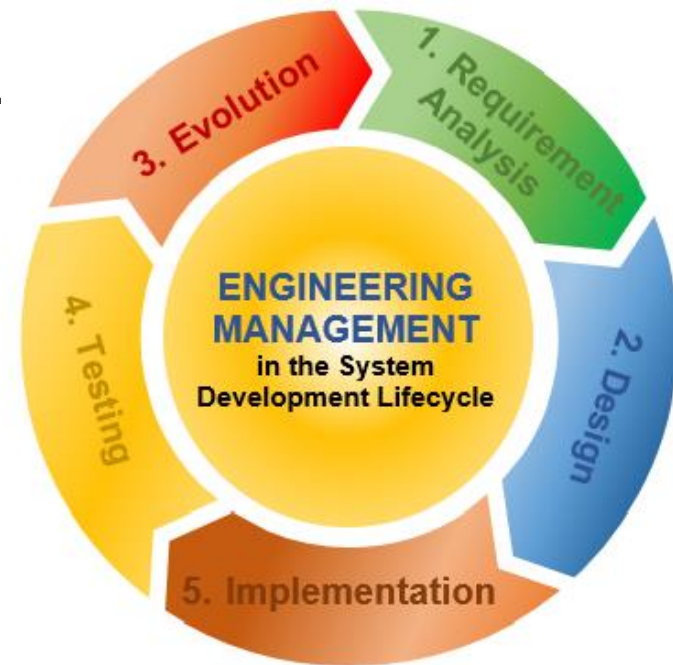
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Consulting: SATCOM & Space

Consulting: Engineering Management

Consulting services for Engineering Management:

- Prepare technical proposals: RFI / RFQ / RFP.
 - Compliance matrix, BOE, milestone schedule.
- Identify contractual or in-house requirements.
- Select architecture for system / product design.
 - Collaborate with project team.
 - Create BOMs and ICD / SCDs.
- Manufacture first article product / system.
- Functional test on first article product / system.
- Resolve operational issues.
- Create reports: Design approach & test data.
- Support ECO / ECP / NCPR.
- Support system / product life-cycle management.



Consulting: Project Management

Consulting services for Engineering Project Management:

- Review / understand requirements.
- Create Work Breakdown Structure (WBS).
- Prepare major milestone schedule based on CDRL.
- Develop basis-of-estimate (BOE) for project's cost.
- Identify technical resources for staffing project.
- Support technical Stage Gates/Design Reviews:
 - KOM, SRR, PDR, CDR, TRR & PRR.
- Program coordination and review/status briefings.
- Manage cost, schedule and technical approaches.
- Liaison with customers, subcontractors & vendors.
- Lessons learned in project's Final Report.



Consulting: Customer Benefits

Customer benefits from Atlanta RF consulting:

- Mutual partnership & knowledge transfer.
 - ✓ Build long-term team partnerships.
- Capable resources available.
 - ✓ Sustainable source of high-end RF engineers.
- Move programs & projects more rapidly.
 - ✓ Build agile business initiatives.
- Reduced design cycles.
 - ✓ Meet stringent deadlines: Proposals/programs.
- Find optimal design solutions.
 - ✓ Quicker exploitation of market opportunities.
- Value-based engineering & IP protection.
 - ✓ Sustainable & highly-competitive solutions.
- Address market dynamics faster.
 - ✓ Increase your competitive advantage.



Presentations & White Papers

Presentations & White Papers for download at www.AtlantaRF.com:

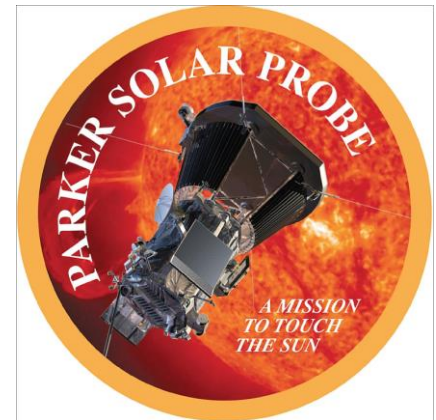
1. Overview - Atlanta RF.
2. Satellites: LEO, MEO & GEO.
3. Antennas - An Overview.
4. Link Budget Analysis: Getting Started.
5. Link Budget Analysis: Digital Modulation-Part 1-ASK.
6. Link Budget Analysis: Digital Modulation-Part 2-FSK.
7. Link Budget Analysis: Digital Modulation - Part 3 - PSK & QAM.
8. Link Budget Analysis: Error Control & Detection-FEC.
9. Multiple Access Techniques: FDMA, TDMA & CDMA.
10. Insertion Loss: Double Ridge Waveguide.
11. RF Filters: An Overview.
12. Multi-Section Symmetrical Directional Couplers.
13. Parallel Coupled Bandpass Filters: Microstrip and Stripline.

Additional presentations and white papers will be published and become available in the future, so visit www.AtlantaRF.com from time-to-time to download your free copy.

Principal Staff at Atlanta RF: Satellite/Space

Atlanta RF has principal staff who have decades of experience in design and development of RF/microwave products, subsystems and systems launched onboard communication satellites and scientific satellites, like:

1. Parker Solar Probe, currently orbiting the Sun.
2. D.A.R.T (Demonstration for Autonomous Rendezvous Technology).
3. Europa Clipper satellite (orbit's Jupiter's moon: Europa).
4. Wideband Global Satellite (WGS-6 & 7).
5. MilStar satellite.
6. Ku Direct Broadcast Satellite (DBS).
7. DirecTV satellite.
8. Hubble Telescope.
9. DSCS III & IV.



Principal staff have also developed electronically-steered antennas (ESAs) at L-band (3DELRR), at S-band (Air & Missile Defense Radar) and at Ku-band (Common Data Link).

Thank You!

Through teamwork, Atlanta RF applies our diverse technical experience to your project's challenges with creative and innovative solutions while holding ourselves accountable for the results. With professionalism and commitment to our clients, Atlanta RF will be there for you, both today and tomorrow.

Our Core Competencies:

PROFESSIONALISM

Respecting client and colleagues with integrity and accountability

COMMITMENT

Responsive and dedicated to client success

TECHNICAL EXPERTISE

Leveraging industry experience with state-of-the-art tools

LEADERSHIP

Eager to accept responsibility and provide decisive solutions

CREATIVITY

Blending innovation with proven ideas

TEAMWORK

Partnering with clients and industry experts

POSITIVE APPROACH

Welcoming clients and colleagues with friendliness, care and enthusiasm

Call or e-mail to setup a teleconference or on-site meeting:

Sales@AtlantaRF.com ; Direct: [678-445-5544](tel:678-445-5544)

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Consulting: SATCOM & Space