

ECEn 560
Electromagnetic Wave Theory

Exam 2 Review

1. Antenna parameters
 - (a) Pattern, beamwidths, sidelobe level
 - (b) Directivity, gain, radiation efficiency
 - (c) Radiation resistance
2. Linear antennas
3. Linear arrays, nonuniform excitation (ULA)
 - (a) Dolph-Chebyshev array
4. Dipole in layered media
 - (a) Cylindrical wave expansion, reflection coefficient
5. Complex analysis
 - (a) Analytic functions
 - (b) Contour integration, poles, residues, branch cuts
6. Asymptotic integration
 - (a) Laplace's method, stationary phase, steepest descent
7. Theorems and principles
 - (a) Uniqueness theorem, image theorem, duality
 - (b) Equivalence principle
 - (c) Reaction and reciprocity