

# **Review Of Microstrip Antenna Development At The Pacific Missile Test Center**

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**Summary.** Pacific Missile Test Center personnel have been conducting theoretical and experimental studies on microstrip antennas since 1965. A number of operational microstrip antenna systems have been developed. This report reviews development efforts at Pacific Missile Test Center on types of microstrip antenna elements used in these operational systems. Results of near field probing of different microstrip antenna elements are presented. These results are used as a basis to discuss microstrip antenna electrical characteristics such as orthogonal current oscillation, orthogonal charge oscillation, dipole moment of charge distribution oscillation, dipole moment of charge distribution rotation, far field radiation patterns, polarization, etc. Application of microstrip arraying techniques on thin flexible substrates that can be readily mounted conformally to the exterior surface of a missile without missile disassembly is discussed.