

Thesis Title	A Monolithic Patch Antenna on a Silicon Substrate for Active Integrated Antenna
Student	Mr. Sathaporn Promwong
Student ID.	38061259
Degree	Master of Engineering
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Thesis Advisor	Assoc. Prof. Prakit Tangtisanon

ABSTRACT

This thesis presents a monolithic silicon substrate for active integrated antenna. Silicon substrate doped with pure gold at high temperature is a new substrate enhancing the resistivity of the monolithic patch antenna. This substrate yields good performance for the monolithic patch antenna and it is easy to fabricate with the active integrated antenna. In addition, a small antenna having high permittivity (ϵ_r) silicon substrate can be applied to monolithic microwave integrated circuit (MMIC). Theory and the measurement for the dispersion characteristic of the fabricated antenna for X-band (10 GHz) was shown in the thesis. The measurement results compared with the theoretical ones were demonstrated as well.