University College Dublin

DEPARTMENT OF ELECTRONIC AND ELECTRICAL ENGINEERING
DUBLIN 4 , IRELAND.

TELEPHONE : 2693244 TELEFAX : 2830921 TELEX : 32693

Project Assessment

This is to certify that Tobias Nähring completed his research project at University College Dublin with distinction.

Personal data

Name, Surname:	Nähring, Tobias
	Student at Dresden University of Technology
Date and place of birth:	13th March 1970 in Dresden

Project data

Theme of the project:	Approximation of the safe parameter region of the Colpitts oscillator via Harmonic Balance
Project duration:	1st April to 30th September 1995
Place of work:	Department of Electronic and Electrical Engineering
	University College Dublin
	Belfield, Dublin 4, Ireland
Time of absence:	holidays from 2nd August to 11th August 1995

Assessment of the project

In their classic 1992 paper, Genesio and Tesi introduced a technique for predicting the period-doubling bifurcation boundary in Lur'e systems by means of the harmonic balance method. They demonstrated their method by applying it to Chua's circuit.

Tobias Nähring has verified the results of Genesio and Tesi and has extended their method to include higher-order harmonics. He has applied his enhanced technique to both Chua's circuit and the more difficult case of the Colpitts oscillator, with outstanding results.

This is an excellent piece of work which is of sufficiently high standard to be worthy of publication in an international refereed journal.

M. Peter Kennedy
6/5/97