



# COLLEGE OF ENGINEERING & TECHNOLOGY

Department: Electronics and Communications Engineering, Cairo

## Graduation Project Description Form

Project Supervisor(s): Prof. Khaled Shehata , Dr safaa

Project Title: Design and implementation of DVB-S2 Module

Generation Cellular Networks.

Duration from 9/2013 \_\_\_till 7/2014 \_\_\_\_\_

### Product Category

Algorithm\_\_\_ Hardware✓\_\_\_ Software✓\_\_\_

### Standards:

Safety: UL, CE\_\_\_\_\_ IEEE ✓\_\_\_ FCC\_\_\_

Other \_\_\_\_\_

### Practical Realization Form

PCB \_\_\_\_\_ Firmware\_\_\_ Embedded CPU Kit (ARM, ..etc):\_\_\_\_\_

PC Software \_\_\_\_\_ Ready-made Package\_\_\_ DSP Kit\_\_\_ FPGA Kit\_✓

VLSI Schematics \_\_\_ VLSI Layout \_\_\_ VLSI Silicon (ASIC)\_\_\_\_\_

### Language



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VHDL/Verilog  Matlab  C/C++/Java \_\_\_\_\_

#### Productization

Finished Product Form: \_\_\_\_\_ Possible Commercialization \_\_\_\_\_

Amount of funds needed for buying components: \_\_\_\_\_

IEEE GOLD Made-In-Egypt/Engineering Day: \_

ITAC (ITIDA) or NTRA Funding Application: \_

#### Testing

Functional  Simulation  \_\_\_\_\_ Parameters \_\_\_\_\_ Final Hardware  Other: \_\_\_\_\_

#### Lab Test Setup

EMC \_\_\_\_\_ Environmental \_\_\_\_\_ Microwave \_\_\_\_\_ Analog Lab \_\_\_\_\_

Other: \_\_\_\_\_

CAD Tools *(No unauthentic software is allowed)*:

Elective Classes Required:



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EC 535 Digital VLSI Design



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#### Abstract

Nowadays, digital satellite TV is the most popular system which provides a global delivery of digital television and data services through satellite. The digital video broadcasting DVB-S2 is the second generation system for satellite TV to make use of the improvements that have emerged since the publication of the DVB-S. DVB-S2 is a single, very flexible standard covering a variety of applications by satellite. Using innovative and more efficient channel coding methods and higher order modulation modes enable DVB-S2 works with higher efficiency than DVB-S. DVB-S2 has been optimized for digital multi-program television broadcasting services and high definition television (HDTV) broadcasting services to be used for primary and secondary distribution in the fixed satellite service (FSS) and the broadcasting satellite service (BSS) bands.

The aim of this project is to design and implement a DVB-S2 module on an FPGA using VHDL design entry.



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References and Links