LOW POWER DATA TRANSMISSION USING INDUCTIVE COUPLING

PROJECT GUIDE: Ms S.REETHI

STUDENTS

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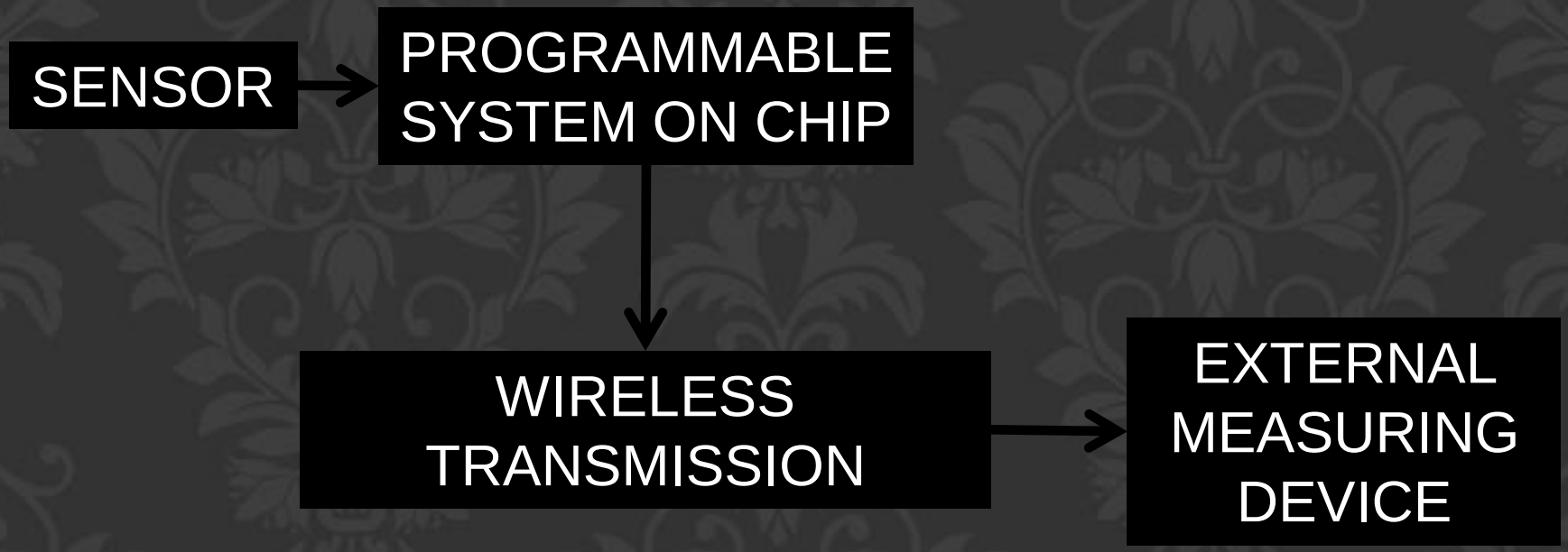
DEPT. OF ECE

OBJECTIVE

- To use wireless induction transmission technique for transmitting the measured temperature by a sensor using programmable system on chip.

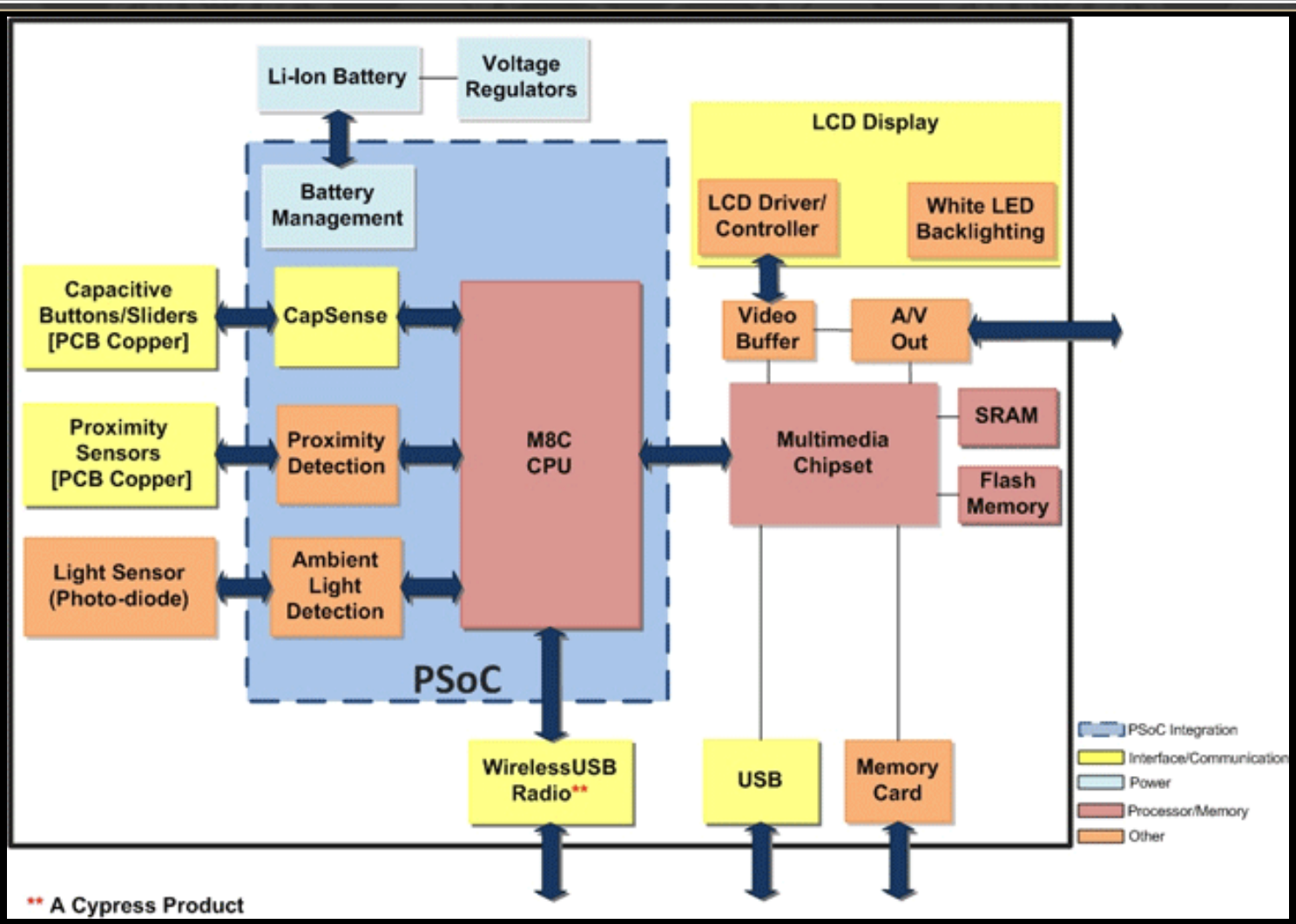
BLOCK DIAGRAM



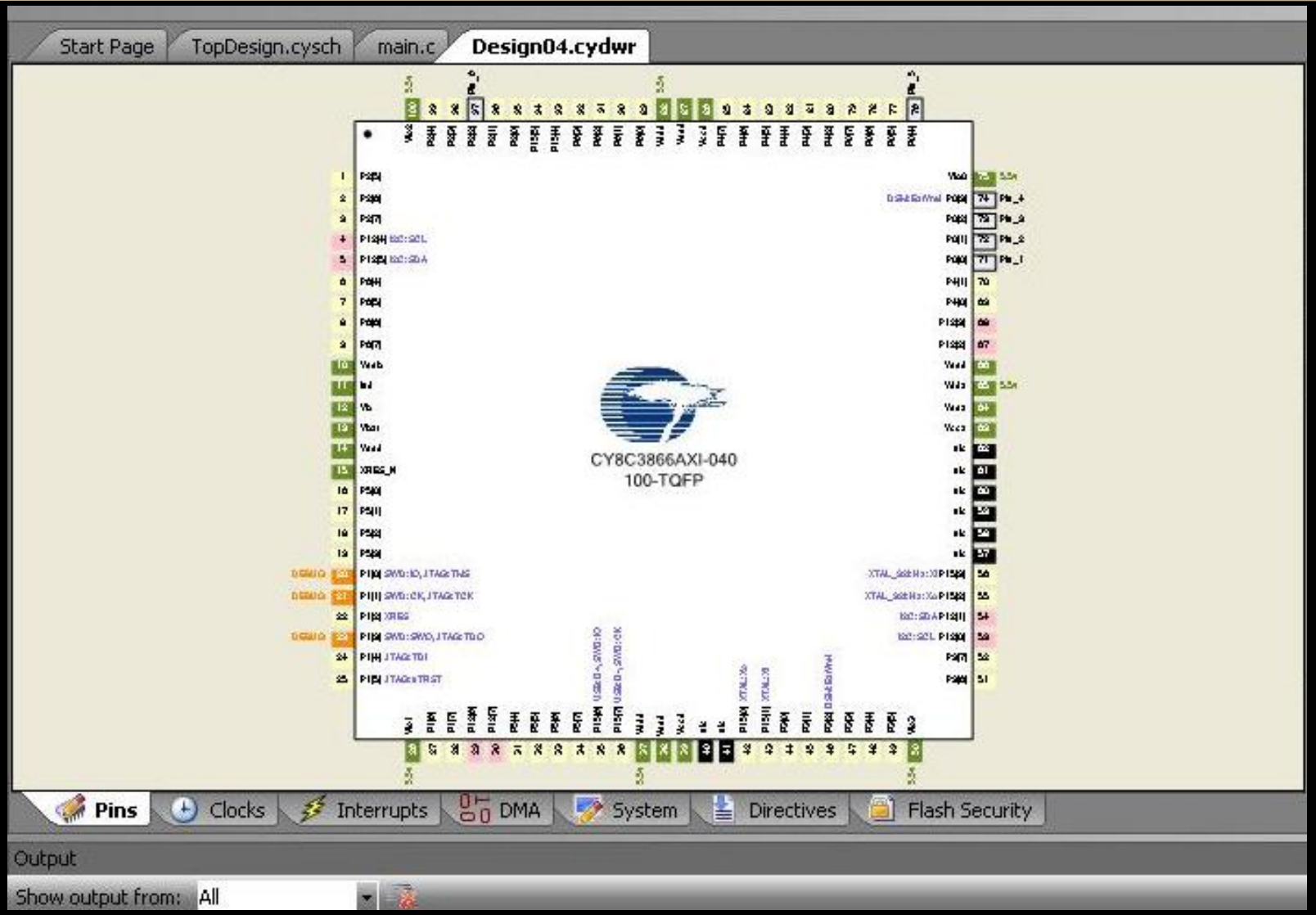
FEATURES OF PSOC

- PSoC has three separate memory spaces: paged SRAM for data, Flash memory for instructions and fixed data, and I/O Registers for controlling and accessing the configurable logic blocks and functions
- PSoC resembles an ASIC: blocks can be assigned a wide range of functions and interconnected on-chip.
- PSoC most closely resembles a microcontroller in usage, where code is executed to interact with the user-specified peripheral functions (called "User Modules"), GUI.

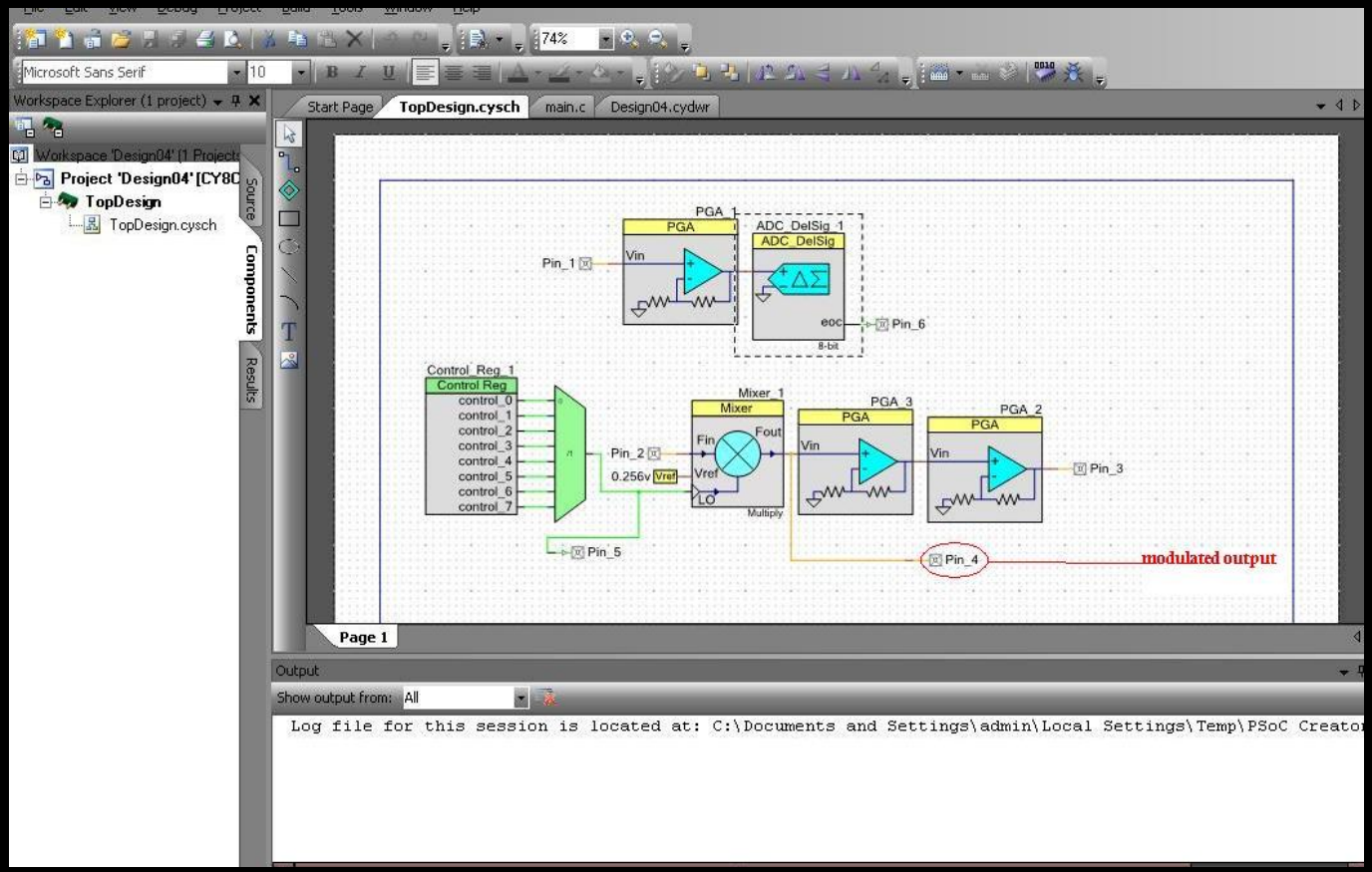
PSOC-BLOCK DIAGRAM



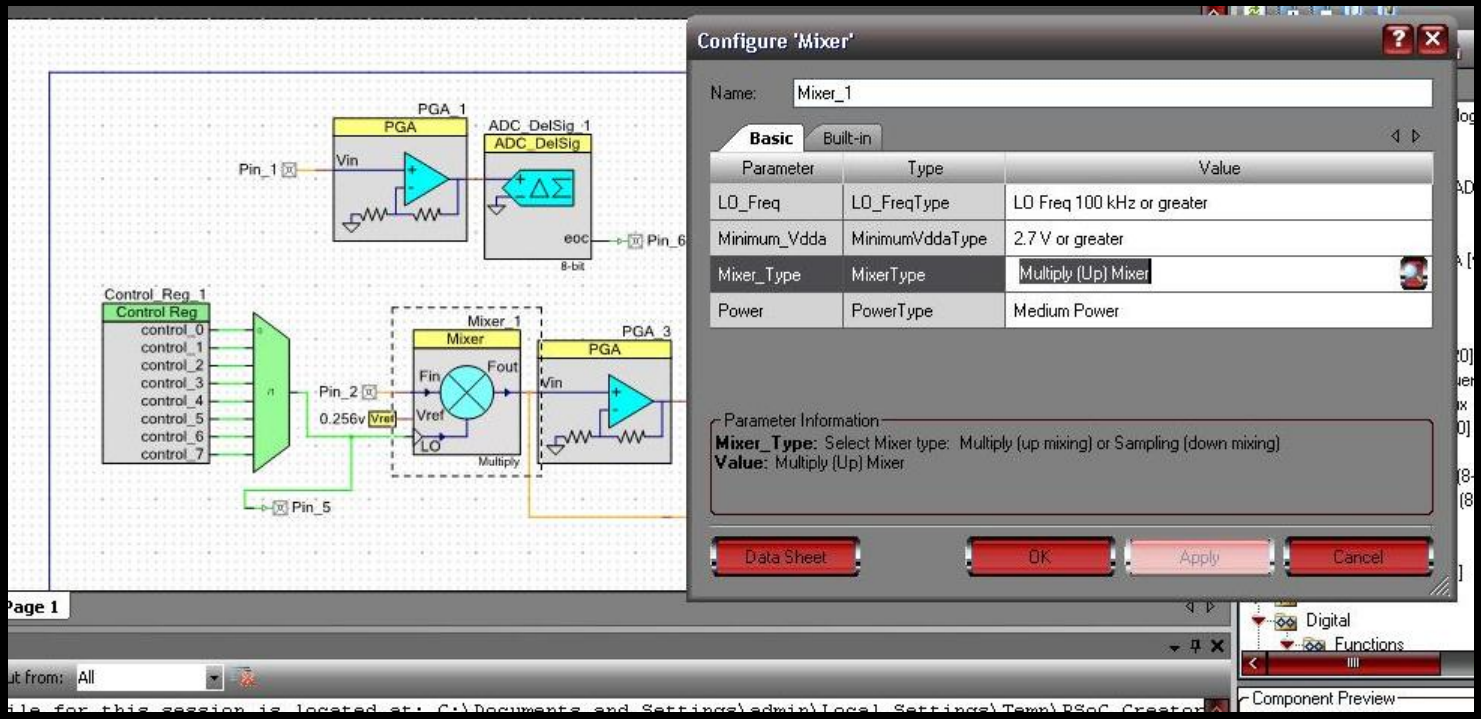
Psoc3 PIN DIAGRAM



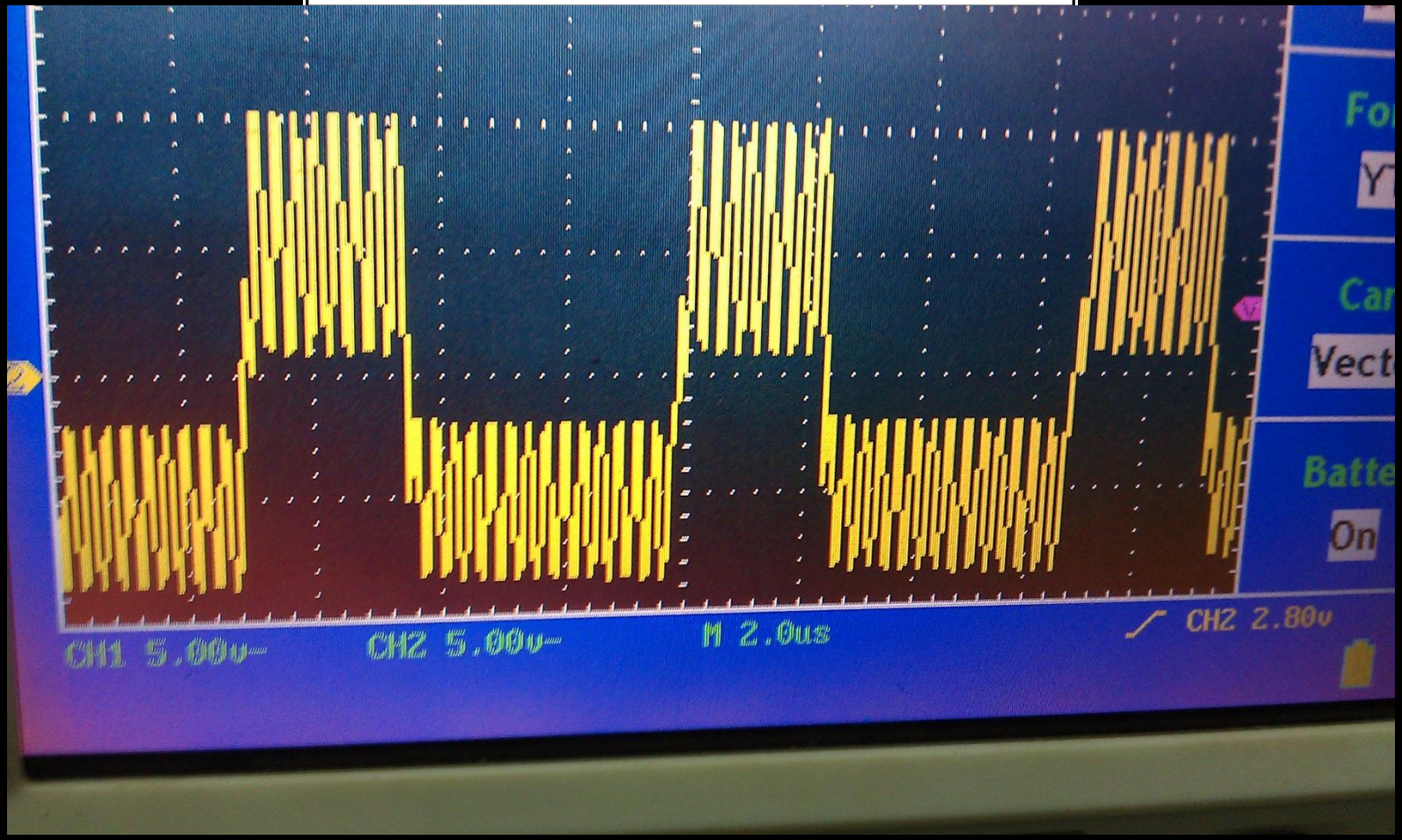
TRANSMITTER CIRCUIT



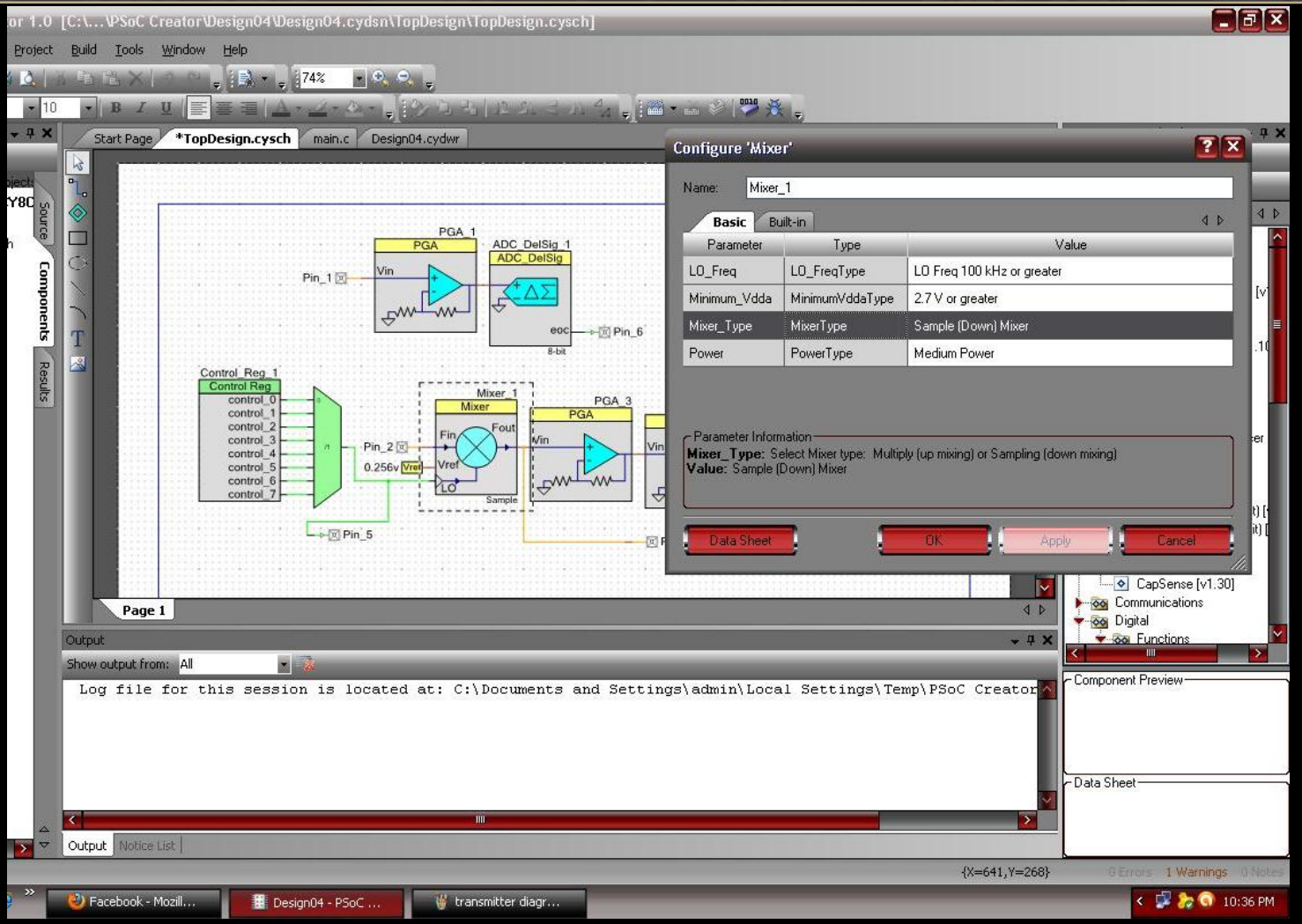
TRANSMITTER



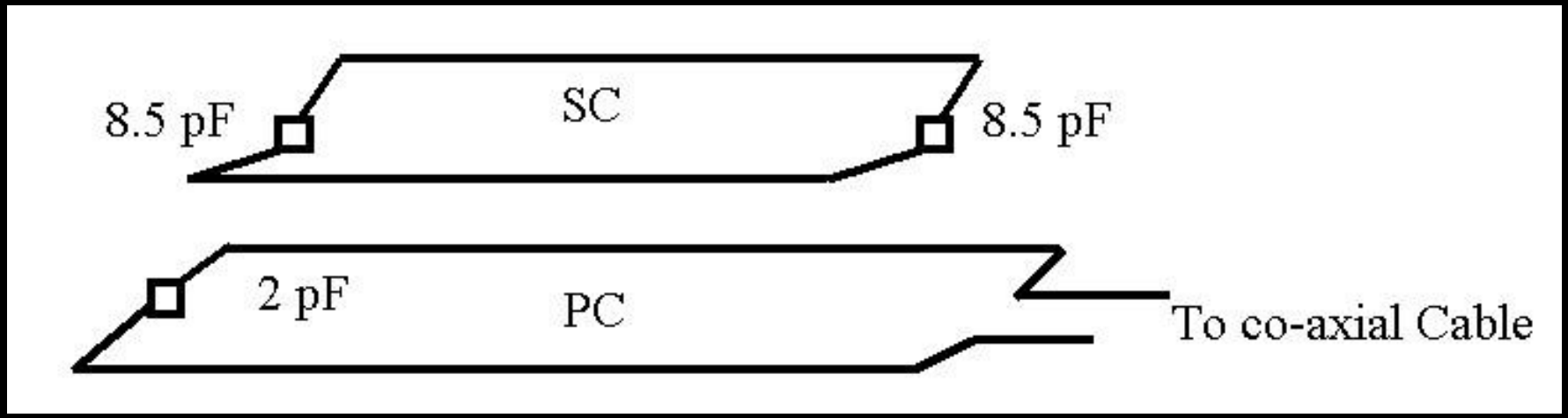
TRANSMITTER OUTPUT



RECEIVER CIRCUIT



INDUCTION CIRCUIT DIAGRAM



ADVANTAGES

- LM35 draws only 60 micro amps from its supply.
- Possesses a low self-heating capability.
- Psoc operates at a low voltage of 1-5 volt.

DISADVANTAGES

- Speed is less.
- Not highly efficient.

APPLICATIONS

- USED FOR PRESSURE SENSING
- USED FOR TEMPERATURE MONITORING

TASKS COMPLETED

DECEMBER:

- Literature survey
- Identifying and Procuring the components.

JANUARY:

- Sensor prototype designing.
- Learning about Psoc.

FEBUARY:

- Amplifier circuit design.
- Transmitter and receiver circuit design and fabrication.

TASK TO BE DONE

- Induction circuit for wireless transmission.
- Testing and implementation.
- Project report

REFERENCE

Shinya Itohand Shoji Kawahito *“A Low-power Data Transmission Technique using Inductive Coupling and Its Application to Biomedical Sensor Devices”.* Research Institute of Electronics Shizuoka University, Japan

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MILAN VAJDÍK, IVO HERMAN, DAN KOMOSNÝ *“Short-range Data Transmission Using Inductive Method”* Department of Telecommunications

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THANK YOU