

# 应宇恒(Ying Yuheng)

Spike

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## Academic Background

Yangzhou University	Master of Science in Electronic Information	Major Rank: 9/50	Sep 2021 – Jun 2024
Jiangsu University	Bachelor of Science in Electronic Information	Major Rank: 13/56	Sep 2016 – Jun 2020

## Skill Sets

### Language Proficiency:

- English: CET-6, **TOEFL 93 (2020–2022)**
- Japanese: **JLPT N2**

### Skills:

- Experienced with Altium Designer, capable of designing circuit diagrams based on functionality.
- Proficient in C/C++, Python, and JavaScript for developing test programs and application scripts.
- Strong communication skills in English, with confidence in reading and understanding technical documentation.
- Knowledgeable in STS8200/8300 boards and their technical specifications.
- Extensive experience using software tools such as Matlab, VSCode, and Pycharm.
- Experience in client-facing training for the STS8300 system.

## Training Experience

### Client-facing training of the STS8300

#### Responsibilities:

- Simulated real testing environments using normally distributed random numbers, implementing InlineQA and DPAT sample programs.
- Conducted client training on DPAT and InlineQA functionalities in PSG 3.0 during the STS8300 public course.
- Guided clients through board experiments with 8300, including VI Source, AWG, and DCM.

### Testing of TPS8287 with STS8300 System

#### Project Overview:

Tester: 8300 Board: FXVle\CBITe\DCM

TPS8287 is a high-efficiency buck converter (DC-DC converter) designed to step down voltage from a higher input to a stable, lower output while maintaining low power consumption.

#### Key Testing Parameters:

- ◆ **Vout\_I2C** (Read data from register (Address: 0x80, Register: 0x00, Data: 0x00))
- ◆ **Vout\_10mV** (At Device Address: 0x80 and Register Address: 0x00, scan data from 0x00 to 0x07, resulting in a Vout increase of 10mV per step.)

**Learning Outcomes:** Use the I2C functions of the DCM board to write different values to the TPS8287 chip's registers in order to adjust the output voltage. Measure the output voltage to verify if the trim operation was successful.

## Work Project Experience

### Design of STS8300 THB (Test Head Board)

- STS8300 THB1021 & 1022 (2992 Checker) Circuit Diagram Design and Code Implementation**  
Used Altium Designer to create the circuit diagram and implemented a contact detection function for the spring pins between the THB and the Probe Card. Designed a popup interface for the program that ensures compatibility with various boards, including "ACM", "ACM200", "FXVle", and "FOVle", based on the user's actual inserted board.
- AD Circuit Diagram Design of STS8300 THB10067 and THB10013C**  
Customized the STS8300 THB based on client requirements, created the circuit diagram using Altium Designer.

#### Achievements:

1. Developed a Python script for board configuration in the 8300 A28D4 scheme, enabling automatic selection of circuit diagrams.
2. Developed a script in Altium Designer for the automatic import of pogotower resources into the Octant page of the 8300 system from CSV files.
3. Developed a Python script for splitting CSV files corresponding to OCT1~8, enabling the segmented files to be imported into Altium Designer

## Design and Testing of IR2106 Gate Driver DUT Board on STS8200 System

#### Project Overview:

**Tester:** 8200    **Board:** FOVI\FPVI\DIO\QTMU\QVM\CBIT

IR2106 is a dual-channel driver that can simultaneously control high-side and low-side IGBTs, making it suitable for half-bridge configurations. The high-side driver is used to drive the switch connected to the supply voltage, while the low-side driver controls the switch at the ground side.

#### Responsibilities:

- ◆ Designed the schematic of DUT (Device Under Test) board for the IR2106 gate driver using **Altium Designer**, including schematic design and component selection.
- ◆ Developed test programs in C/C++ for testing the functionality of the IR2106 gate driver on the **STS8200 system**.
- ◆ Utilized **AccoTest** software for debugging and validation of the DUT board, ensuring correct functionality of the IR2106 and related components.
- ◆ Tested the following parameters: **FN**(High-side and low-side output waveforms)\ **UVCC\UVBS\Vth**(Propagation delay)\ **Ton/Toff** (Rise/fall time)
- ◆ Check the waveforms of each pin using **oscilloscope**.

**Learning Outcomes:**

1. Designed and implemented **Floating Connection** using FOVI and FPVI for VB and VS terminals in high-voltage circuit designs.
2. Developed and utilized an auxiliary circuit with AD790 + TLV3501 + BUF634 for precise measurement of timing parameters during testing.
3. Successfully participated in all stages of the project, including design, soldering, development, and debugging

## Testing of LT1084 with STS8200 System

#### Project Overview:

**Tester:** 8200    **Board:** FOVI\CBIT

LT1084 is a high-performance Low Dropout Regulator (LDO) that provides either adjustable or fixed output voltage regulation, primarily used for delivering stable power output.

#### Responsibilities:

- ◆ Tested the following parameters:
  - Line Regulation** (The change in output voltage due to variations in input voltage)
  - Load Regulation** (The change in output voltage due to variations in load current)
  - Vdrop**(The minimum difference between the input voltage and the output voltage required for the regulator to function)
- ◆ Completed **deglitch** operation to eliminate spike and glitches from the tested waveforms.
- ◆ Implemented **Gage** operation and generated Gage reports.

#### Learning Outcomes:

1. Mastered three methods for testing Vdrop: AWG sweep from 5V to 4V, software scan, and software rough scan followed by fine scan using AWG.
2. Performed Gage and Deglitch operations on LT1084 testing and mastered the complete testing process.