

Mark Adrian Borbon Electronics Engineer



Contact Information

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Education

B.S. Electronics Engineering -
2010

Mapua University, Intramuros,
Manila, Philippines

Relevant Skills

- Mixed signal circuit design
- Reverse engineering
- Hardware and firmware design of microcontroller-based (Atmel, Microchip, Nordic, Espressif, ST and TI) and microcomputer (Raspberry Pi) circuits
- Battery-powered circuit design
- Rechargeable battery-powered circuit design
- Hardware, firmware and software debugging
- 8D problem solving skills
- SMT and through hole soldering
- Operation of spectrum analyzers, radio communication testers and high-speed oscilloscopes using active and differential probe
- C/C++, Python and Java programming skill
- Wired communication methodologies - USB, LVDS, Ethernet, RS-232, SPI, I2C, CAN and UART
- Wireless communication methodologies - Sub-1 GHz, Bluetooth, WIFI, Zigbee, LoRa and Cellular
- PCB design - Altium Designer, CADSTAR, KICAD and EAGLE
- Failure and Effect Analysis
- Technical project management

Personal Information

Gender: Male
Age: 34
Marital Status: Married
Nationality: Filipino

Summary:

An electronics engineer with more 13 years of work experience in electronics product development with a well-versed skillset relating to product testing, hardware, firmware and software design

Work Experience:

Daviscomms Singapore Pte. Ltd. Electrical Engineer

**Ubi Techpark, Singapore
June 2023 — Present**

Notable Projects/Achievements:

- Saved licensing fee of SGD 9000 (R&D office and factory) by using Python instead of Labview for fully automated PCBA test of electronic devices
- Reduced test duration for various electronic devices by test optimization and automation
- 20% cost reduction by design optimization of an ESP32-based emergency device
- Achieve 2-years estimated battery life for an ESP32-based emergency device
- Solved the recurring charging problem of a mobile device
- Improved the receiver reliability of a 433MHz transceiver from 80% to 99.95%
- Implementation of UL1607 pre-compliance test
- Achieve UL1607 compliance of a 433MHz transceiver
- Implementation of test methodologies to gather waveforms of a TI-based motherboard
- 5% cost reduction by correction of a crystal oscillator circuit of a TI-based motherboard

Line Seiki Co., Ltd. – RHQ Solutions Team Organizer (Solutions Architect)

**Cavite, Philippines
Feb. 2021 — March 2023**

Notable Projects/Achievements:

- Automation of temperature and humidity monitoring of a storage room using an Arduino cellular IoT module
- Motion study at manual production lines using a Bluetooth wearable device
- Energy harvester for IoT devices with the use of an electromagnetic switch

ALINK Engineering Services Business Owner

**Laguna, Philippines
Jan. 2019 — Jan. 2021**

Notable Projects/Achievements:

- Electronic hand tally counter with data acquisition via Bluetooth using Nordic nRF54 SoC
- LoRa-based device for monitoring the reproductive health of a goat using STM32 MCU + SX1276 LoRa chip

Line Seiki Philippines, Inc. Senior Quality Assurance Engineer

**Cavite, Philippines
Jan. 2018 — Oct. 2018**

Notable Projects/Achievements:

- Migration of manual device testing to semi-automated testing of electromagnetic counters using a 16-bit Microchip PIC MCU
- Elimination of recurring quality issues relating to crystal oscillator dependent MCUs
- Elimination of recurring quality issues relating to electronic counters that has Chip-on-Board (COB) MCUs
- Member of Internal Quality Audit Committee for ISO9001:2015

Line Seiki Philippines, Inc. Senior Product Development Engineer

**Cavite, Philippines
Aug. 2015 — Dec. 2017**

Notable Projects/Achievements:

- USB to Zigbee/Wi-Fi Bridge for an electronic tally counter using 16-bit Microchip PIC MCU
- Electronic tally counter with USB data acquisition using 8-bit Atmel MCU
- System Design of a Raspberry Pi-based USB datalogger

Line Seiki Philippines, Inc. Product Development Engineer

**Cavite, Philippines
Apr. 2011 — July 2015**

Notable Projects/Achievements:

- Design Optimization of an 8-bit Atmel-based USB datalogger
- PCB design software upgrade from Protel 99SE to Cadstar
- System Design and Implementation of a Dual Pulse Generator with Variable Frequency and Duty Cycle using an 8-bit Atmel MCU
- System design and implementation of a semi-automated tester for an electronic counter using an 8-bit Renesas MCU