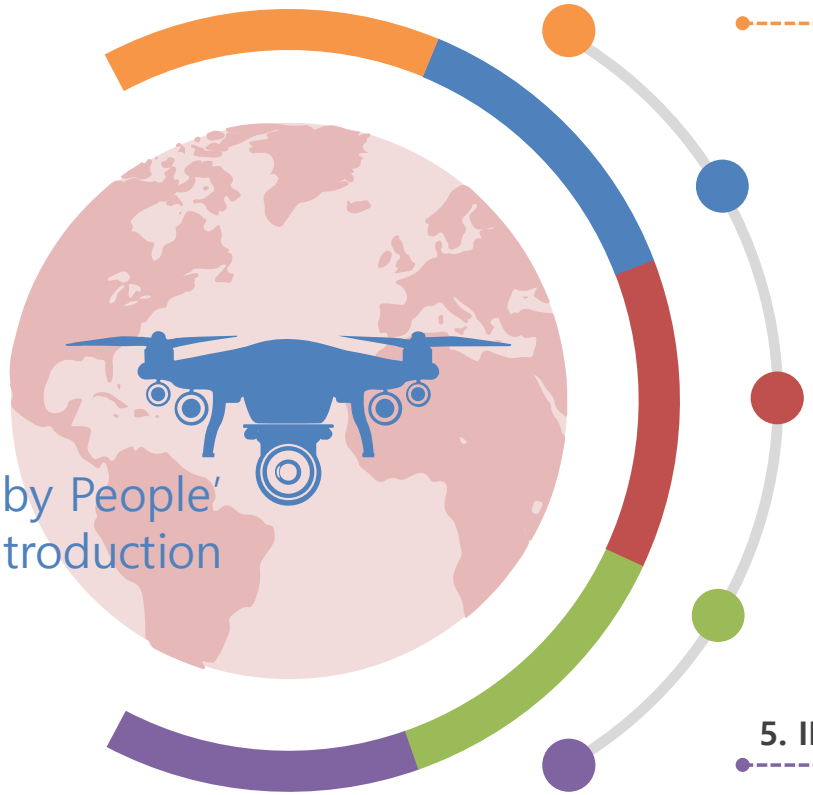

Introduction
of
SOMETHING BY PEOPLE
We Create Professional Technologies!

CONTENTS

Something by People



'Something by People'
Introduction

Overview

Something by People

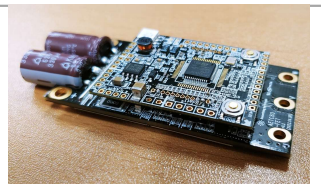
■ Brief Profile

Company	Something by People
Establishment	Nov, 2020
Employees	R&D : 4
Address	Seoul(Incubation center at Kookmin Univ.)
Items	▪ Inverter for - Industrial machine, PAV - Automobile(from small motor to drive motor) - IT devices, home appliances ▪ Advance development of various electric systems (EPS, air conditioning system controller)

■ CEO's History of R&D project participation

No.	Project	Remark
1	Key component development of Green Car EMB	Participated
2	Start-Up support project by Ministry of SMEs (Localization of drone inverter)	Primary
3	Material/Component/Equipment support project by Ministry of SMEs(Localization of drone inverter)	Primary
4	Kangwon prototype UAM(Drone Taxi) development project	Participated
5	Strategic Business by Ministry of SMEs (Development of PAV Inverter)	Primary (On-going)
6	Business agreement on XR convergence prototype development&technology consulting project with CBIST	Primary (On-going)
7	Business agreement on Start-up/Venture company win-win project with Korea Expressway Corp.	Primary (On-going)

■ History of major developments

Field	Development items
Automobile	 Recirculation blower inverter development for hydrogen fuel cell car(BLDC control)  EPS inverter development  Experimental inverter development for electric brake motor  EV drive inverter development
Drone	 Drone inverter development (AETC80)  PAV drone inverter development(30kW)

Introduction of CEO

Something by People

■ Academic career

Diploma	University	Major
Master	Sungkyunkwan	Control

■ Total development career : 14 years

No.	Period	Company	Position
1	Nov. 2020 ~	Something by People	CEO
2	Jun.2016 ~ Nov.2020	LG Electronics (Automobile Div.)	Inverter development
3	Jan.2010 ~ May.2016	LS Automotive	Inverter development

■ Publishment

	Number of Articles	Remark
Global(SCIE)	4 (as main writer)	-
Domestic	4 (2 cases as main writer)	-

■ Intellectual properties

	Pending	Registered
Patents	5 (Independent : 2)	2
Trade Mark	2	2

■ National R&D project

	Number of Cases	Remark
R&D	4	- Technology and Information Promotion Agency for SMEs - Ministry of Trade, Industry and Energy - Ministry of Education and Science
Start-Up	1	Supported by Start-Up Promotion Agency

■ Others

	Title	Content
Education	Six sigma black belt	Achieved certification on 2020 (LG Electronics)
	Certification on automobile safety	Finished ISO26262 certification course(ITK Engineering)

History

Something by People

■ Brief History

Year	Month	Content
2020	Jun	Participated in Start-up support program funded by Ministry of SMEs(Drone category)
	Nov	Registered Business as “Something by People”
2021	Jan	Patent pending as 'Drone Control System' in USA.
	May	Stationed at incubation center at Kookmin Univ.
	Jun	Domestically registered patent as ‘Drone control system'
	Jun	Certified as Venture company
	Jul	Agreement of MOU with “Motor ENG Co., Ltd.”(for PAV category)
	Aug	Signed up membership on Korea Drone Technology Association
	Nov	Participated Start-up support R&D project on localization of drone components funded by Ministry of SMEs
	Dec	Participated software development of automobile blower motor for “O” company
2022	Jan	Diagnostic software specification development of automobile electric water pump for “M” company
	Jan	Participated in Kangwon UAM prototype R&D project(Inverter development)
	Feb	Registered trade mark as AETC(Advanced Electric Torque Controller)
	May	Organized research institute
	Sep	Business agreement on development of PAV inverter with Ministry of SMEs
2023	Feb	Exhibited AETC80/AETC280 at “2023 Drone Show Korea” as an Exhibitor
	Mar	Developed motor control S/W for "W" company
	Sep	Business agreement on XR convergence prototype development&technology consulting project with CBIST
	Nov	Developed motor control S/W for "S" company
	Nov	Business agreement on Start-up/Venture company win-win project with Korea Expressway Corp.
2024	Mar	Exhibited AETC60/AETC80/AETC280 at “2024 Drone Show Korea” as an Exhibitor

Former Career of CEO

Something by People

■ **Big capacity Inverter development(EV division at LG Electronics)**

- **Product : EV drive motor inverter**

■ **Specification**

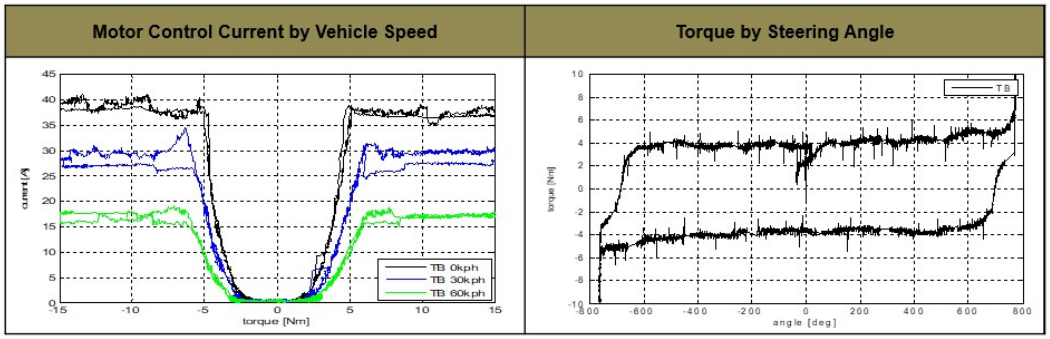
	C-Segment Inverter for EV	B-Segment Inverter for EV
Nominal Voltage	385V	400V
Max. Output	270kW	150kW
Max. Output Current	700A (Torque : 218Nm)	375A
Power Module	Infineon IGBT module 2-Pack parallel design	Infineon IGBT module (1-Pack) 
Cooling Type	Water cooling(Coolant circulation design for power module cooling)	
Control Algorithm	FOC(Field Oriented Control), IPM Control	
H/W Design	Independent design in between Control section and Power section(EMC noise isolation)	
Fail Safe	- Over-temperature, over-voltage, over-current - Current derating according to voltage level of battery - Motor phase short, Current saturation - High level controller communication error fail safe (high speed CAN)	

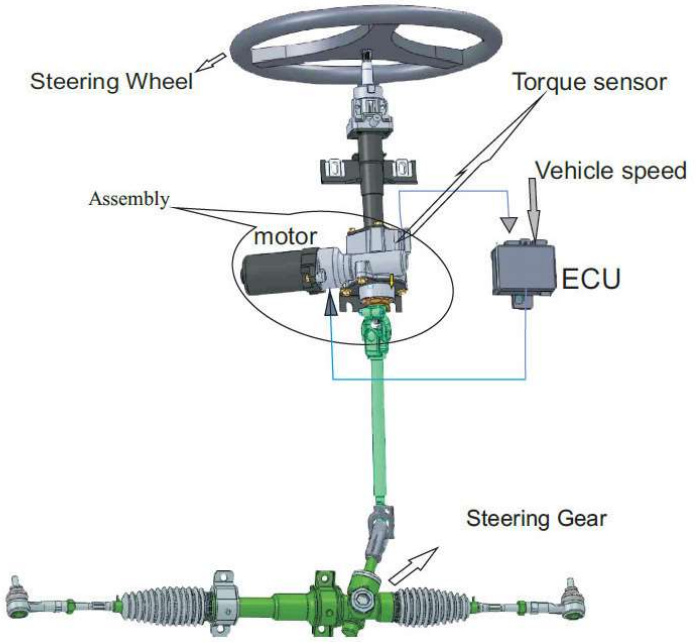
Former Career of CEO

Something by People

■ EPS (Electric Power Steering)
: Assistant steering system by motor(none hydraulic)

- EPS is composed of torque sensor and motor
- ECU controls motor according to steering wheel movement measured by torque sensor
- ECU changes control mode according to driving condition including speed variation

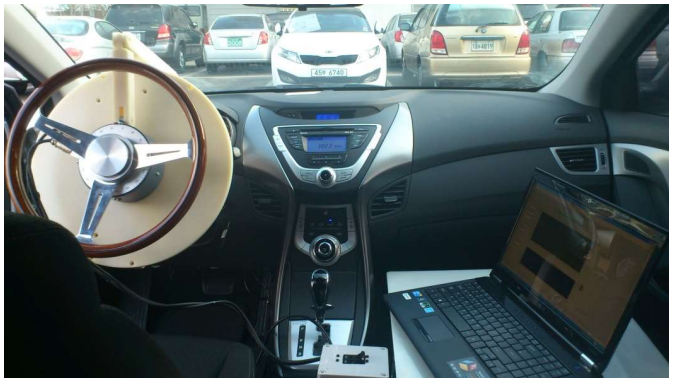




Former Career of CEO

Something by People

■ Experimental Vehicle for development of EPS inverter



Major Development

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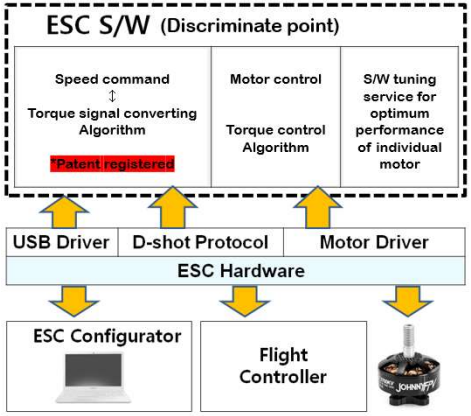
■ Drone ESC (AETC40)

	AETC40 (Advanced Electric Torque Controller)
Allowable Voltage	16V
Continuous Current	40A
Max. Output	640W
Control Algorithm	(FOC) Field Oriented Control
	Sensorless Control
MCU	STM32F767VGT6
MOSFET	BSC0925ND
Current Sensor	ACS722LLCTR



		BLDC Control	FOC Control
Differentiation of Control		Speed control	Torque control
Control Accuracy@1000RPM		0.0026sec	0.0000625sec
System Efficiency		-	3% ↑
Torque Ratio per unit current		-	10% ↑
Noise		-	10% ↓
Torque Riffle		11.90[%]	3.50[%]
Output Current Type		Square Wave	Sign Wave
Fail Safe	Overvoltage	o	o
	Temperature	o	o
	Motor Stall	x	o
	Control Current Value Error	x	o
	Current Limit Value	o	o
	Motor Phase Shortage	o	o
	Current derating according to voltage level	x	o
	Communication Error	x	o

Major Development

Something by People

■ Drone ESC (AETC80) : Launching due by first half of 2024

	Contents	Image
Allowable Voltage	6~12S(~52.2V)	 ▲ AETC80
Continuous Current	80A	
Max.Output	4.85KW	
Control Algorithm	Field Oriented Control(FOC)/Sensorless Control	
MCU / MOSFET	STM32F730 / TPH4R008NH	
Current Sensor	ACS780LLRTR-100B	
Application	Industrial Drones(Delivery, Agriculture, etc.)	
Feature	- Interchangeable mounting for various types of motors - Enhances safety and convenience by adopting Fail Safe system.	

Major Development

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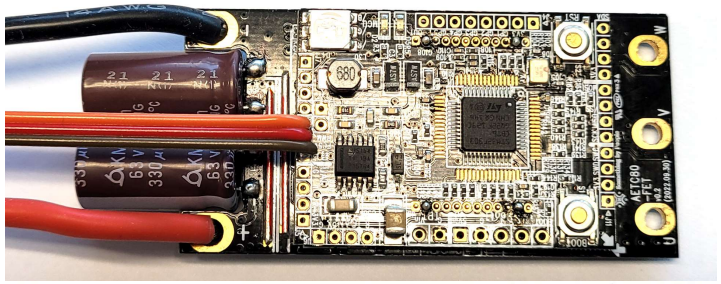
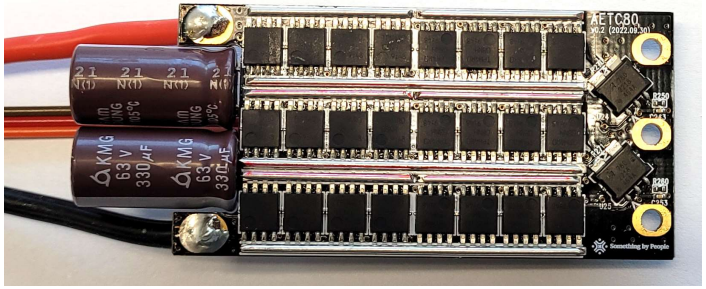
■ Drone ESC (AETC80) : Launching due by first half of 2024

Inverter Fail Safe			
Occasion	FAILURE_OVER_CURRENT	○	
	FAILURE_OVER_VOLTAGE	○	
	FAILURE_OVER_RPM	○	
	FAILURE_INCONSISTENT_CMD	○	
	FAILURE_MOTOR_STUCK	○	
	FAILURE_WARN_ESC_TEMPERATURE	○	
	FAILURE_OVER_ESC_TEMPERATURE	○	
	ESC_FAILURE_COUNT	○	▲ AETC 80

Major Development

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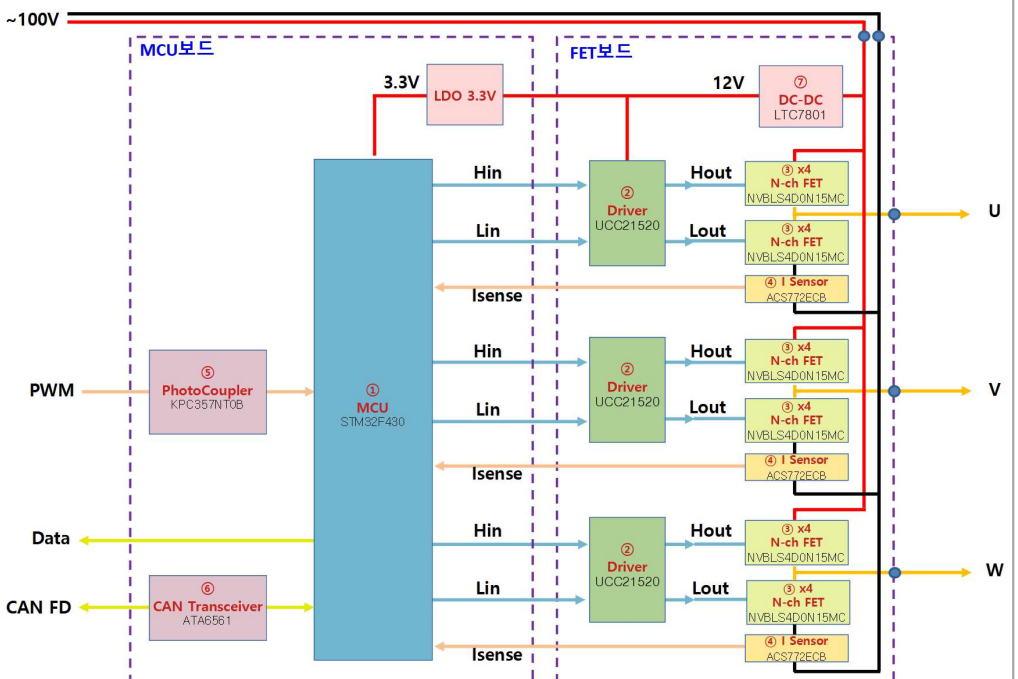
■ PAV(Personal Air Vehicle) Inverter : AETC280

- **Currently on-going under governmental R&D project funded by Ministry of SMEs**

	Content
Allowable Voltage	24S(~100V)
Continuous Current	240A
Max.Output	24KW
Control Algorithm	Field Oriented Control(FOC)/Sensorless Control
MCU / MOSFET	STM32F730 / NVBLS4D0N15MC
Current Sensor	ACS772ECB-300B
Application	UAM, PAV
Feature	- Applied optimum cooling system design for super big torque and power - Enhances safety and convenience by adopting Fail Safe system.

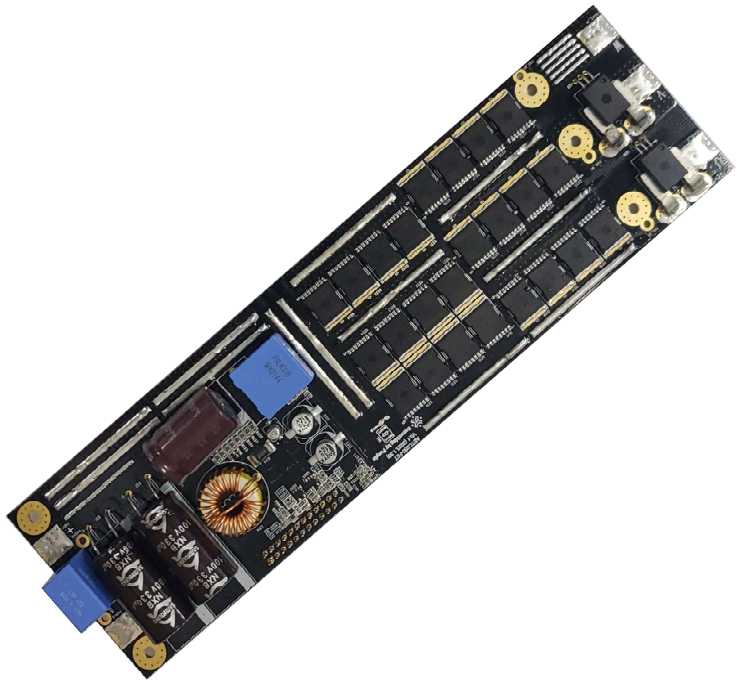
Circuit Diagram



Major Development

Something by People

■ Drone ESC (AETC280) : Launching due by latter half of 2024

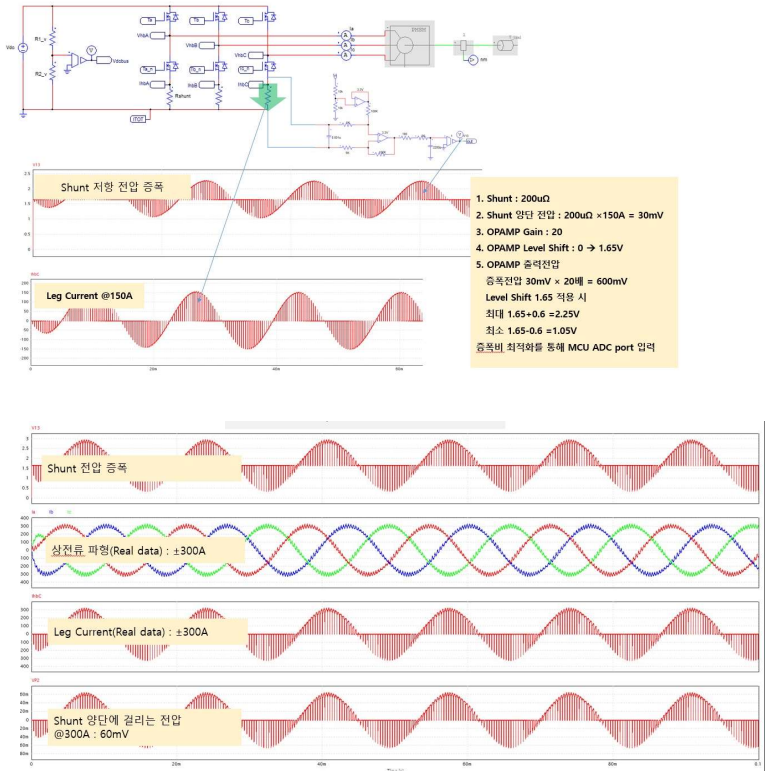
Inverter Fail Safe			
Occasion	FAILURE_OVER_CURRENT	O	
	FAILURE_OVER_VOLTAGE	O	
	FAILURE_OVER_RPM	O	
	FAILURE_INCONSISTENT_CMD	O	
	FAILURE_MOTOR_STUCK	O	
	FAILURE_WARN_ESC_TEMPERATURE	O	
	FAILURE_OVER_ESC_TEMPERATURE	O	
	ESC_FAILURE_COUNT	O	

▲ AETC280

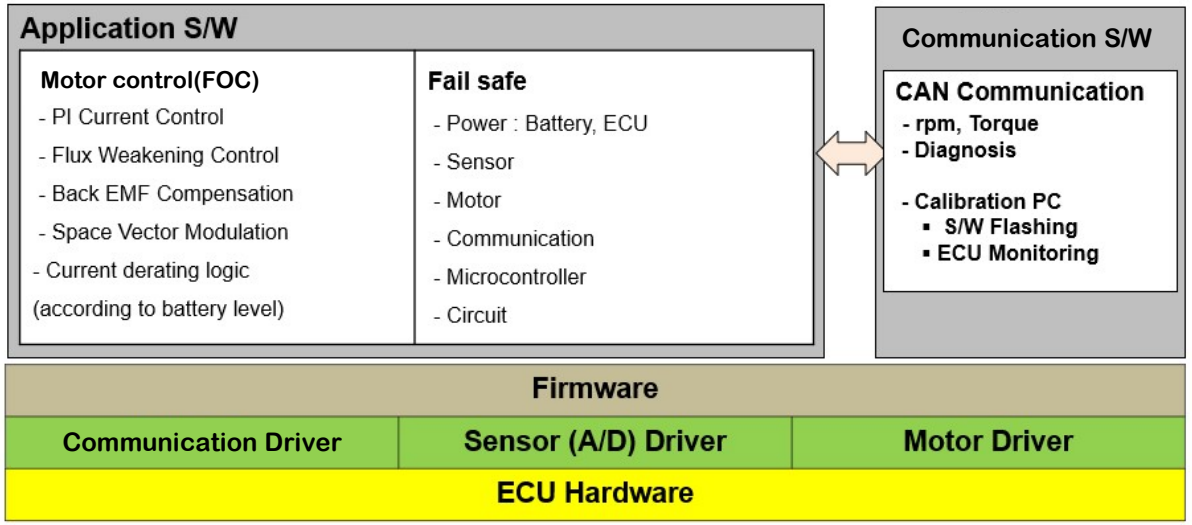
Major Development

Something by People

■ Drone ESC (AETC280) : Launching due by latter half of 2024



[Simulation]



[Software Structure]

Major Development

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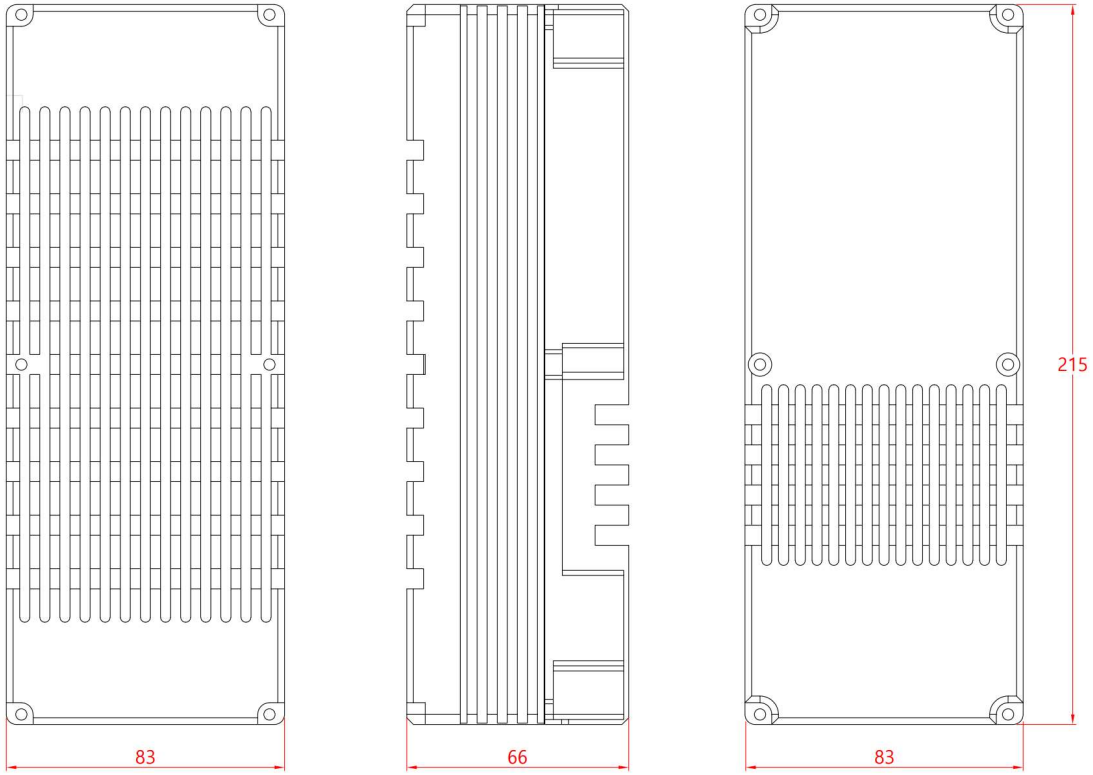
■ Designed Inverter case mock-up : AETC280



Major Development

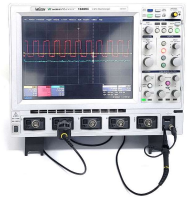
Something by People

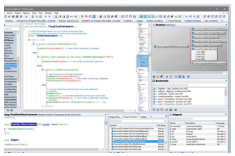
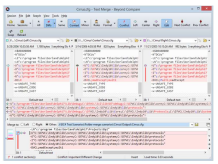
■ Other Development

Category	Home Trainer	Automobile blower motor controller	Axial Flux motor controller
Shape			
Development Scope	Electronic Home training system (Motor controller)	Motor controller firmware	Motor controller firmware

List of Equipment(1/3)

Something by People

S/N	Image	Equipment	
1		Name/Manufacturer	Oscilloscope / LeCroy
		Rating	1GHz, 4ch/10Gs/s
		Manufactured year	2016
2		Name/Manufacturer	Power Supply / G-Tek
		Rating	DC 100V, 120A
		Manufactured year	2023
3		Name/Manufacturer	Current Probe / FLUKE
		Rating	100A , DC to 100 kHz
		Manufactured year	2016
4		Name/Manufacturer	POWER Supply / KIKUSHI
		Rating	Measuring range : DC 20V, 5A
		Manufactured year	2021

S/N	Image	Equipment	
5		Name/Manufacturer	S/W Debugger / ST
		Rating	STM32 JTAG, SWD supported
		Manufactured year	2021
6		Name/Manufacturer	MULTIMETER / FLUKE
		Rating	Voltage measuring range : 1,000V
		Manufactured year	2021
7		S/W Name	Source Insight
		Usage	S/W Editor program
		Manufactured year	2021
8		S/W Name	Beyond Compare
		Usage	S/W comparison/management /merge
		Manufactured year	2021

List of Equipment(2/3)

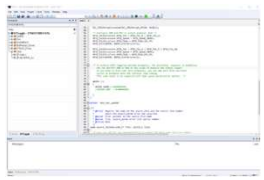
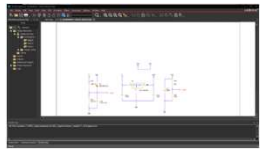
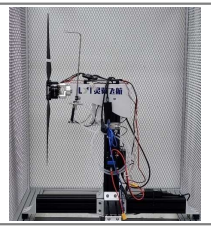
Something by People

S/N	Image	Equipment	
9		Name/Manufacturer	Differential probe(HVD3102A) / LeCroy
		Rating	1KV, 25MHz, High Voltage
		Manufactured year	2022
10		Name/Manufacturer	Function generator(DG4062) / RIGOL
		Rating	200MHz, 2CH, 500MSa/s
		Manufactured year	2021
11		Name/Manufacturer	LCR meter / GW Instek
		Rating	DC, 10Hz~10MHz LCR meter
		Manufactured year	2021
12		Name/Manufacturer	Thermal camera / Teledyne FLIR
		Rating	Thermal sensitivity : <70mK, Accuracy : 0 ~ 100°C: ±3°C, 100 ~ 300°C: ±3%
		Manufactured year	2022

S/N	Image	Equipment	
13		Name/Manufacturer	Noise meter / TES
		Rating	Lo : 35~90dB / High : 65~130dB
		Manufactured year	2022
14		Name/Manufacturer	Hot air blower / HAKKO
		Rating	Temperature : 50~600°C, Airflow : 5~115L/min
		Manufactured year	2022
15		Name/Manufacturer	Power Supply / MK POWER
		Rating	Measuring range : DC 30V, 5A
		Manufactured year	2021
16		Name/Manufacturer	Current Probe
		Rating	Peak current : 1.2kA
		Manufactured year	2022

List of Equipment(3/3)

Something by People

S/N	Image	Equipment	
17		Name/Manufacturer	Current Probe / PEMUK
		Rating	Peak current : 0.3kA
		Manufactured year	Near future
18		S/W Name	IAR
		Usage	Firmware development(Compiler)
		Manufactured year	2022
19		S/W Name	OrCAD
		Usage	Circuit design tool
		Manufactured year	2022
20		Name/Manufacturer	Thrust Tester/Wing Flying
		Rating	Max. Thurst : 30KG
		Manufactured year	2023

S/N	Image	Equipment	
21		Name/Manufacturer	Drone(X4) / TAROT
		Rating	Max. Payload : 12KG
		Manufactured year	2023
22		Name/Manufacturer	Drone(EV410) / JIS
		Rating	Max. Payload : 24.9KG
		Manufactured year	2023
22		Name/Manufacturer	Mini Thrust Tester/Mayatech
		Rating	Max. Thrust : 10KG
		Manufactured year	2024

IP & Certificate

Something by People

■ **Patent pending and registered**

- Domestically registered patent as ‘Drone Control System’ (Jun 4, 2021)
- Patent pending in USA : ‘DRONE CONTROL SYSTEM’ (Jan 19, 2021)

■ **Registered Trade Mark**

- Trade mark for our own drone ESC : AETC(Advanced Electric Torque Controller)
- Date : Feb 15, 2022

▲ Patent registered(domestic)

Electronic Acknowledgement Receipt	
EFS ID:	41676565
Application Number:	17151813
International Application Number:	
Confirmation Number:	2505
Title of Invention:	DRONE CONTROL SYSTEM
First Named Inventor/Applicant Name:	Sang Chul LEE
Customer Number:	123024

▲ Patent pending(USA)

▲ Trade mark registered

R&D Man Power

Something by People

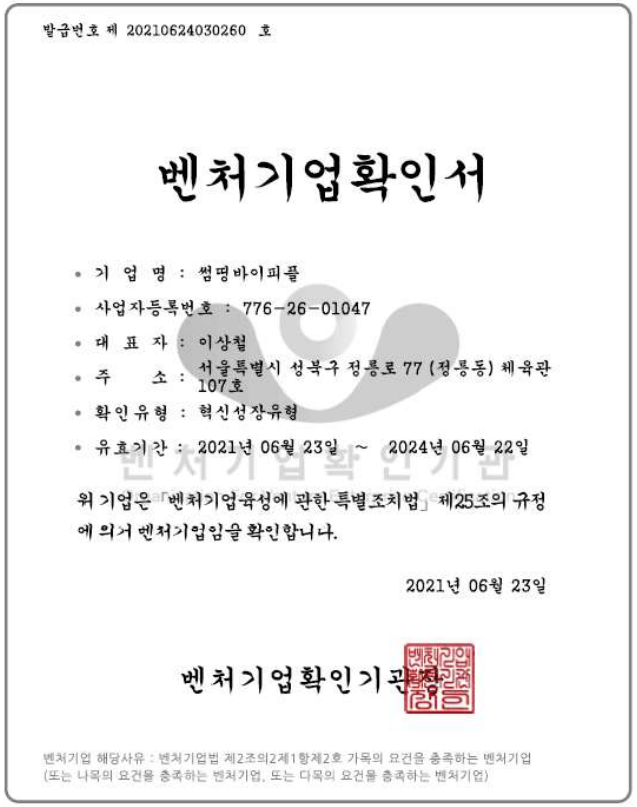
■ Research Engineers

Name	Position	University (Diploma)	Major	Developing Part	Remark
Sangchul Lee	CEO	Sungkyunkwan (Master)	Electrics/Electronics /Computer	H/W & S/W	-
Pilki Park	CTO	Sungkyunkwan (Master)	Electronics	H/W	-
Sunho Kang	CTO	Inha (Bachelor)	Industrial Automation	Mechatronic	
Sohee Kim	Engineer	Shinhan (Bachelor)	Electronics	Firmware	-

IP & Certificate

Something by People

■ Certificate



발급번호 제 20210624030260 호

벤처기업확인서

- 기 업 명 : 썸띵바이피플
- 사업자등록번호 : 776-26-01047
- 대 표 자 : 이상철
- 주 소 : 서울특별시 성북구 정릉로 77 (정릉동) 체육관 107호
- 확인유형 : 혁신성장유형
- 유효기간 : 2021년 06월 23일 ~ 2024년 06월 22일

위 기업은 「벤처기업육성에 관한 특별조치법」 제25조의 규정에 의거 벤처기업임을 확인합니다.

2021년 06월 23일

벤처기업확인기관장

벤처기업 해당사유 : 벤처기업법 제2조의2제1항제2호 가목의 요건을 충족하는 벤처기업
(또는 나목의 요건을 충족하는 벤처기업, 또는 다목의 요건을 충족하는 벤처기업)

▲ Venture company certified on Jun 23, 2021

[문서번호: nDaK-KRst-Gnib-Vijt] [발급일자: 2022년 05월 03일]

제 2022112271 호

기업부설연구소 인정서

1. 연 구 소 명: 썸띵바이피플 기업부설연구소
   [소속기업명: 썸띵바이피플]
2. 소 재 지: 서울특별시 성북구 삼양로 22 기린빌딩 205호 (길음동)
3. 신고 연월일: 2022년 05월 02일

※ 유효기간: 벤처기업 만료일(2024년 06월 22일까지)

과학기술정보통신부

「기초연구진흥 및 기술개발지원에 관한 법률」 제14조의2제1항 및 같은 법 시행령 제27조제1항에 따라 위와 같이 기업부설연구소로 인정합니다.

2022년 5월 3일

koita 한국산업기술진흥협회장

▲ Research institute organized on May 3, 2022

THANK YOU!

http://www.somebp.com