



Corporate Profile

CONTENTS

Business Area	03
Division	04
1. Ceramic Capacitor Solution	05
2. ESD/EMI Solution	06
3. Antenna Solution	07
4. BLDC Motor Solution	09
Appendix	10

AMOTECH is the company developing and manufacturing key components for IT & Automobile industry based on advanced material.

Telecom

Ceramic Capacitor Solution

- Telecom/ Network(5G) MLCC
- Specified MLCC
- Multifunctional MLCC



Automotive

Ceramic Capacitor Solution

- 1608~3225
- High Temperature/ high Voltage/ High Power

ESD/EMI Solution

- ESD/EMI Components
- AVN & Infor & Entertainment

Antenna Solution

- GPS / NFC / WPC / WiFi / LTE etc.
- CSM

Motor Solution

- BLDC Motor / E-GMP
- LCF / BCF / In-Car sensor



IT Device

Ceramic Capacitor Solution

- High capacity MLCC
- Ultra-small size MLCC

ESD/EMI Solution

- ESD/EMI Components

Antenna Solution

- NFC+WPT combo





Division of Business	Business Introduction	Main Products
Ceramic Capacitor Solution	Amotech provides a variety of multi-layer ceramic capacitors, for home appliances, telecommunications, and automobiles, based on its own MLCC material, process technology, and circuit technology.	<ul style="list-style-type: none"> · MLCC for Telecom · MLCC for Semiconductor · MLCC for EV
ESD/EMI Solution	ESD/EMI component is designed to prevent any malfunctions or damage from occurring to various digital and automotive devices caused by static electricity and electromagnetic waves.	<ul style="list-style-type: none"> · Chip Varistor(ESD) · EMI/EOS Filter(EMI)
Antenna Solution	This component is designed to enable wireless communications in automobiles, on mobile phones, and laptops. Our own material composition technology and circuit design technology provides optimized products that clearly satisfy the customers' needs.	<ul style="list-style-type: none"> · NFC & Wireless Charging · CSM · GPS/GNSS
BLDC Motor Solution	This is a highly efficient next-generation smart motor designed with longevity and quietness in mind, which provides a core solution that amplifies the energy efficiency in automobiles and home appliances.	<ul style="list-style-type: none"> · LED Cooling Fan · Battery Cooling Fan · In car Sensor

Core competitiveness

Material Competitiveness

Internal Electrode (material)	(General Purpose) Ni, (Low-Loss) Cu etc. → BME materials & High Power (High Reliability) Ag, AgPd etc. → PME electrode material
Ceramic (material)	for general purpose and high pressure, Low-Loss
External Electrode	Cu-Hermetic shielding, (Crack-Resistant) Soft terminal, Non-magnetic for Medical, etc.

Manufacturing process & Design Competitiveness

Process Flexibility	<ul style="list-style-type: none"> Ability to respond to diverse customer needs Through the long EMC business, Having experience and know-how in mass production of electrode materials
Ultra Small	Realize an Ultra-small size MLCC
Design Technology	Circuit Design Technology for High Frequency

Products

MLCC (Multi Layer Ceramic Capacitor)

Components that remove noise and provide a stable electric current during the current flow within semiconductor

For Telecommunication

- Base station
- Optical cable for telecommunication



For IT/ Semiconductor

- High capacity
- Ultra-small size



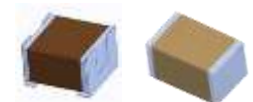
For Automotive

- 1608~3225
- ADAS



For EV

- EV Powertrain
- high temperature/
high Voltage/ High Power



Core competitiveness

ESD/EMI Components

- ESD / EMI Solution product design technology and ceramic material composition technology
- Ceramic component design experience for Various types of circuit protection
- Production process technology for miniaturization and high pressure

☑ Application

Auto Solution

AVN, Telematics, Infotainment, Cluster, ADAS System, Touch Screen



Body Control Module, Multi jack, Rear/Front Camera



IT Solution



Mobile Phone



Next Generation IT Device



Products

ESD/EOS

| ESD(Electro Static Discharge)

Preventing overvoltage around IC and circuit & High speed communication ESD component

- Chip Varistor
- ESD Suppressor
- EOS Filter (Electrical Over-Stress)



EMI Protection

| EMI(Electro Magnetic Interference)

Unneeded spectrum block for noise reduction between the devices

- EMI/EOS Filter
- CMF
- DMF



Core competitiveness

RF Antenna Module

- Global NFC+WPC supplier
- Various Antenna Design Skill
- Optimize antenna matching skill
 - Quick Customer Responsiveness
- Collaborative projects with global chipset suppliers
- Secure many reference for global top-tier automotive companies

Application



Infotainment

- AVN
- Telematics



Connected Car

- Car access
- Car Sharing



Self-Driving Car

- ADAS

Products

Auto Solution



Car Sharing Module

Communication antenna module which apply to main control center and vehicle for Car sharing service

Telecommunication Antenna

By providing a variety of information in real time via a wireless network Used in Driving information, AVN, Navigation etc.

- GPS + e Con System / GNSS
- Bluetooth, WiFi, LTE, 5G(Infotainment/AVN)

Core competitiveness

Antenna Components (NFC/WPC)

- Material Know how → possess the technology of material composition (Increases best RF efficiency)
- Coil antenna design technology
- Shielding sheet + Antenna + Module
→ Delivers integrated solution for Wireless Power Charging

☑ Application

Combo Antenna extension of coverage



| AR/VR



| Wearable Device



| Automotive

Products

NFC/WPC Combo Antenna

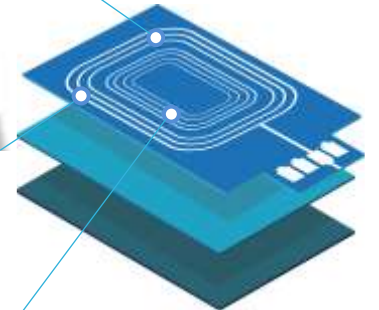
Near Field Communication (NFC)



Magnetic Secure Transmission (Samsung Pay)



Wireless Power Charging



Core competitiveness

BLDC Motor Solution

- Best Effective Circuit & Device design ability
- Integrated development capabilities from Hardware to Software by Ability to produce it's own circuit & device
- Manufacturing Competitiveness & Cost competitive advantage by Global Manufacturing System

What is BLDC Motor?

Motor replaced to electrical circuit from the brush device, differing from existing DC motor

Existing Motor - Low efficiency(40~60%) Mechanical Motor

Friction and noise caused by the contact with the brushes and commutator, shortening of life



BLDC Motor - High efficiency(70~80%) Electronical Motor

- Electronically commutated Operation (Sensor + Driver Circuit)
- Mounting sensor operation instead of brushes and commutator (Friction and noise reduction)

Products

Battery Cooling Fan

It prevents the overheating that may cause an explosion of vehicle battery or a degraded output performance.



LED Cooling Fan

When the internal air circulates and temperature rises, Thermal Equilibrium Fan motor maintains service life and performance.



In Car Sensor Motor

Maintain a comfortable environment in the car interior with built-in temperature and humidity active sensor.



Global Standards of Quality

- HKMC SQ Certification (A -Grade)
- IATA 16949 Quality Certification
- Secure VDA 6.3 System



Company Overview

Name of Company	AMOTECH Co., LTD.
Date of Incorporation	October 19 th , 1994
KOSDAQ listing date	August 1 st , 2003
CEO	Pyung - Kyu Kim
Business Area	MLCC, ESD/EMI, Antenna, BLDC Motor
Capital	4,871 mil. KRW (9,743,406 shares outstanding)
Sales(2020)	KRW 223.9 billion
Number of Employees (As of Jan. 2021)	845ppl (R&D 121ppl)

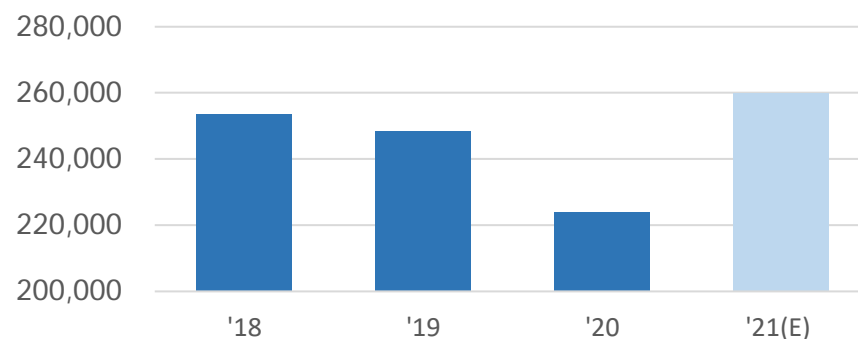
Patents Status

(As of Jan. 2021)

Division	Application	Registration	Total
Domestic	140	444	584
Overseas	241	228	469
Total	381	672	1,053

Sales Status

Unit: KRW100mn



Company History

- 1994 Amotech founded
- 2002 Named a “Korea Technology Fast 50” company by National Credit Evaluation
- 2003 Enlisted in the KOSDAQ market
- Selected chip varistor as a “Top-class Product” by Ministry of Commerce, Industry and Energy
- 2004 Awarded a “Deloitte Technology Fast 500 Asia-Pacific 2004”
- 2008 Designated as “ATC” by Ministry of Knowledge Economy
- 2011 Designated as “A Korean Hidden Champion” by KRX
- Awarded "World Class 300" by Ministry of Knowledge Economy
- 2012 Awarded “Global brand - Gold” by KOTRA
- 2015 "2015 Awarded "2015 the patent management- grand prize " by Korea Electronics Association
- 2016 Awarded "Tower of 200 million dollars export " by Korea Trade Association
- 2017 Won Korea New Growth Management Awards By Ministry of Commerce, Industry and Energy
- 2019 Awarded Outstanding Quality Award By FCA Chrysler
- 2019 “Hyundai Motor Group Chairman Award” By Hyundai Motor Group



Growing into a company specializing in materials and components of future industries



Selected chip varistor as a 'Top-class Product', 2003 (Re-selection in 2015)



Won 'Patent Management Grand Prize', 2015



Won 'Minister prize of Industry and Commerce', Korea New Growth Management Awards, 2017



Challenging the world
with advanced material products

www.amotech.co.kr