

The Scope of Smart Electronics Industry

(1) Emerging 3C Electronics

- **Smart wearable devices** : High-end application processors, high speed transmission chip, next-generation memory, and highly integrated chips.
- **Smart control** : human machine interface control chip, face recognition chip, and contactless chip.
- **Smart sensor** : environmental sensing chip and MEMS integrated chip.

(2) Car Electronics

- **Power Transmission Control System** : power management controller system and motor drive control system.
- **Chassis control and sensing control system** : line transmission control system, steering control system, anti-lock braking system, and electronic control suspension system.
- **Auto body electronics** : electronic stability control, lane departure warning system, parking aid system, pre crash system, radar, and sensor fusion system.
- **Telematics** : GPS vehicle positioning, automotive navigation, audio and video multimedia information system, and dashboard camera.

(3) Medical Electronics

- **Mobile medical electronics** : portable chip of electronic anamnesis and portable ultrasonic sensor.
- **Home medical electronics** : Body temperature / blood pressure / blood glucose sensor and control chip.
- **Medical electronics in medical institutions** : medical electronics such as ultrasound, magnetic resonance imaging, and computed tomography.
- **Telemedicine medical electronics** : IoT ECG sensing system, IoT video diagnosis and treatment system.

(4) Green Electronics

- **Power management system and power component** : power management control chips, PV Inverter, SiC, and GaN power component.
- **Smart energy-efficient power system** : Home appliance frequency conversion control system, smart home equipment, smart meter, and smart grid.
- **Smart energy-efficient lighting and display** : low-power LED lighting and display driver chip, LCD and touch panel integration driver chip, and Smart lighting network and control system.

(5) Artificial intelligence (AI)

- Neural processing unit (NPU)
- Graphics processing unit (GPU)
- Neural network processor (NNP)
- Tensor processing unit (TPU)
- Field programmable gate array (FPGA)
- Reduced instruction set computing (RISC)

(6) Internet of Things (IoT)

- Application-specific integrated circuit (ASIC)
- Global positioning system (GPS)
- System on chip (SoC)
- Health tracker for measuring physiological signals
- Wireless network security system on a chip
- Ambient light energy self-powered integrated chip
- SoC for combining GPS and MCN

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