

SYN43756(E) Tri-Band Wi-Fi & Bluetooth Combo SoC

PRODUCT BRIEF

The Synaptics SYN43756(E) system on chip (SoC) combines a tri-band (2.4 GHz, 5 GHz, and 6 GHz) Wi-Fi® 2x2 MAC/baseband/radio with Bluetooth® 5.3 to reduce the space, cost, power, complexity, and time to market of IoT devices that demand the most robust and interoperable wireless connectivity.

BENEFITS

- ▶ Reduces footprint, cost, power, complexity, and time to market
- ▶ Operates in 2.4 GHz and 5/6 GHz bands simultaneously with up to 1200 Mbps throughput
- ▶ Allows multiple concurrent Bluetooth connections and audio streams
- ▶ Advanced Wi-Fi/Bluetooth co-existence
- ▶ Seamless network interoperability



HIGH PERFORMANCE
2X2 WI-FI



LOW POWER CONSUMPTION



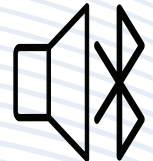
APPLICATIONS

- ▶ Smart home
- ▶ Automotive in-cabin entertainment
- ▶ Personal area networks
- ▶ Security
- ▶ Smart factories/ Industry 4.0

HOST OFFLOAD FEATURES



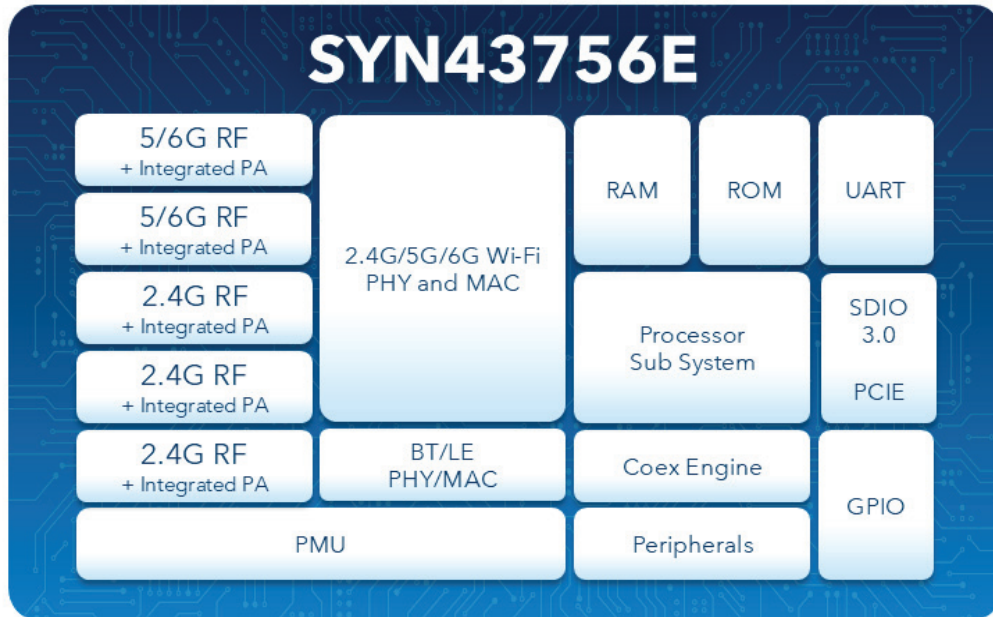
BT 5.3 & LE AUDIO



FEATURES

- ▶ Supports Wi-Fi 2.4/5/6 with best CMOS RF, including integrated PAs and LNAs (external PA and LNA optional) with highest transmit (Tx) power level and receive (Rx) sensitivity; capable of 1024QAM over 10 meters
- ▶ IEEE 802.11ax compliant; legacy support for 802.11a/b/g/n; Wi-Fi 6E capable
- ▶ 2 x 2 MIMO antenna array
- ▶ LE Audio support
- ▶ Integrated Bluetooth 5.3 with support for Bluetooth Low Energy (BLE)
- ▶ Dedicated Bluetooth antenna
- ▶ Internal Bluetooth PA supports two modes: Normal Output Power Mode (14 dBm) and High Output Power Mode (20 dBm)

SYSTEM BLOCK DIAGRAM



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