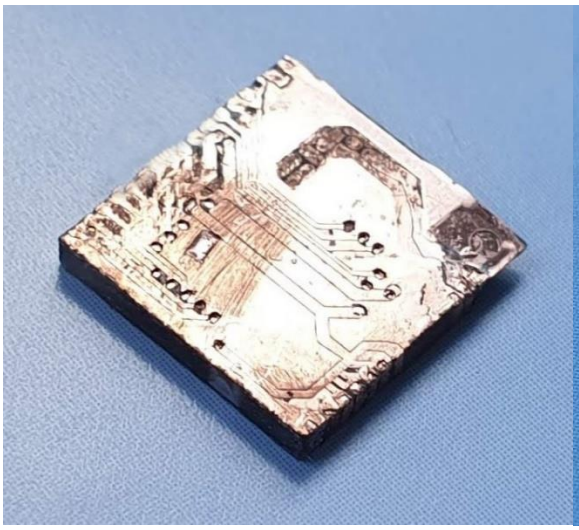
Applied 3D Microtechnologies
Committed to Customer Success Since 1996

www.microTEC-d.com

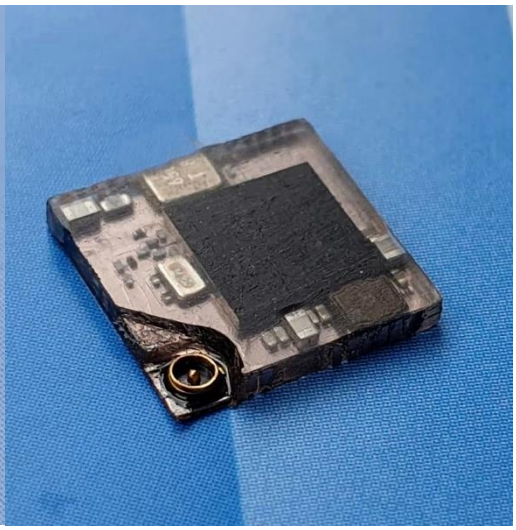
3D-CSP Host Module for BLE Applications

Smallest host module (8.7 x 7.8 x 1.2 mm³) with TI CC2650

Front side



Back side



TI CC2650 with 24 MHz, 32.8 kHz quartz and RF connector (8.7 x 7.8 x 1.2 mm³)

3D-CSP Host Module with TI CC2650

- Microcontroller
  - Powerful ARM® Cortex®-M3
  - EEMBC CoreMark® Score: 142
  - Up to 48-MHz clock speed
  - 128 KB of In-System programmable flash
  - 8 KB of SRAM for cache
  - 20KB of Ultralow-Leakage SRAM
  - 2-Pin cJTAG and JTAG Debugging
  - Supports Over-The-Air Upgrade (OTA)
- Ultralow-power sensor controller
  - Can run autonomous from the rest of the system
  - 16-Bit architecture
  - 2KB of Ultralow-Leakage SRAM for code and data

Peripherals

- All digital peripheral pins can be routed to any GPIO
- Four general-purpose timer modules (eight 16-Bit or four 32-Bit timers, PWM each)
- 12-Bit ADC, 200-ksamples/s, 8-channel analog MUX
- Continuous time comparator
- Ultralow-Power analog comparator
- Programmable current source
- UART, 2× SSI (SPI, MICROWIRE, TI), I2C, I2S
- *Real-Time Clock* (RTC)
- AES-128 security module
- *True Random Number Generator* (TRNG)
- 15 GPIOs
- Support for eight capacitive-sensing buttons
- Integrated temperature sensor

Low Power

- Wide supply voltage range
  - Normal operation: 1.8 to 3.8 V
  - External regulator mode: 1.7 to 1.95 V
- Active-Mode RX: 5.9 mA
- Active-Mode TX at 0 dBm: 6.1 mA
- Active-Mode TX at +5 dBm: 9.1 mA
- Active-Mode MCU: 61 µA/MHz
- Active-Mode MCU: 48.5 CoreMark/mA
- Active-Mode sensor controller: 8.2 µA/MHz
- Standby: 1 µA (RTC running and RAM/CPU retention)
- Shutdown: 100 nA (wake up on external events)

RF Section

- 2.4-GHz RF transceiver compatible with *Bluetooth Low Energy* (BLE) 4.2 specification and IEEE 802.15.4 PHY and MAC
- Excellent receiver sensitivity (–97 dBm for BLE and –100 dBm for 802.15.4), selectivity, and blocking performance
- Link budget of 102 dB/105 dB (BLE/802.15.4)
- Programmable output power up to +5 dBm
- Differential RF interface
- Suitable for systems targeting compliance with worldwide radio frequency regulations
  - ETSI EN 300 328 (Europe)
  - EN 300 440 Class 2 (Europe)
  - FCC CFR47 Part 15 (US)
  - ARIB STD-T66 (Japan)

Flash it

microTEC
Gesellschaft für Mikrotechnologie mbH
Bismarckstraße 142b
47057 Duisburg
Tel.: +49 (0) 203.306-2050
info@microtec-d.com

GEFÖRDERT VOM
Freiform
Bundesministerium für Bildung und Forschung
VDI | VDE | IT