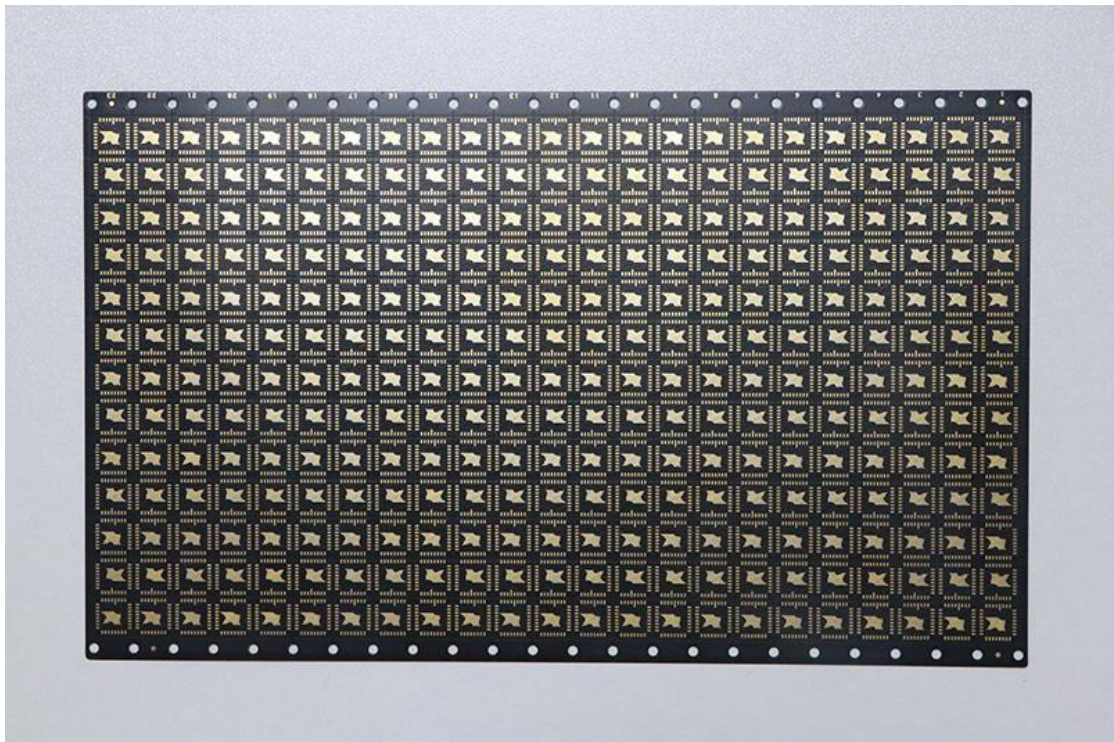




Control chip substrate

Detail

Control Chip Substrate Key Specifications

Parameter	Technical Specification
Layer Structure	4-layer Black Core BT Material Build-up
Finished Thickness	0.33mm Ultra-Slim Design

Technical Details & Customer Benefits

1. 4-Layer Black Core BT Material

- Material Composition:
 - BT (Bismaleimide Triazine) Resin** with blackened core for EMI shielding and light-blocking properties.
 - Glass transition temperature (**T_g ≥ 180°C**) for high-temperature stability.
- Customer Benefits:
 - ✔ **Low Signal Loss:** Dk (Dielectric Constant) ≤ 3.8 @10GHz, ideal for high-frequency control circuits.
 - ✔ **EMI Suppression:** Black core reduces electromagnetic interference by 25% vs standard FR-4.
 - ✔ **Aesthetic Integration:** Matte black finish blends seamlessly with compact chip packaging.

2. 0.33mm Ultra-Slim Thickness

- Process Precision:

- **Laser-drilled microvias** (75µm diameter) enable slim multi-layer stacking.
- Total thickness variation (**TTV ≤0.02mm**) across the substrate.
- **Customer Benefits:**
 - ✓ **Space Optimization:** Saves 40% vertical space compared to 0.6mm substrates.
 - ✓ **Flexural Strength:** Passes 5,000-cycle bend test (R=5mm) for flexible hybrid electronics (FHE).

Performance Comparison

Feature	This Substrate	Standard FR-4
Thickness	0.33mm	0.6-1.0mm
High-Frequency Loss	0.12dB/cm @10GHz	0.35dB/cm @10GHz
Thermal Conductivity	0.65W/mK	0.3W/mK

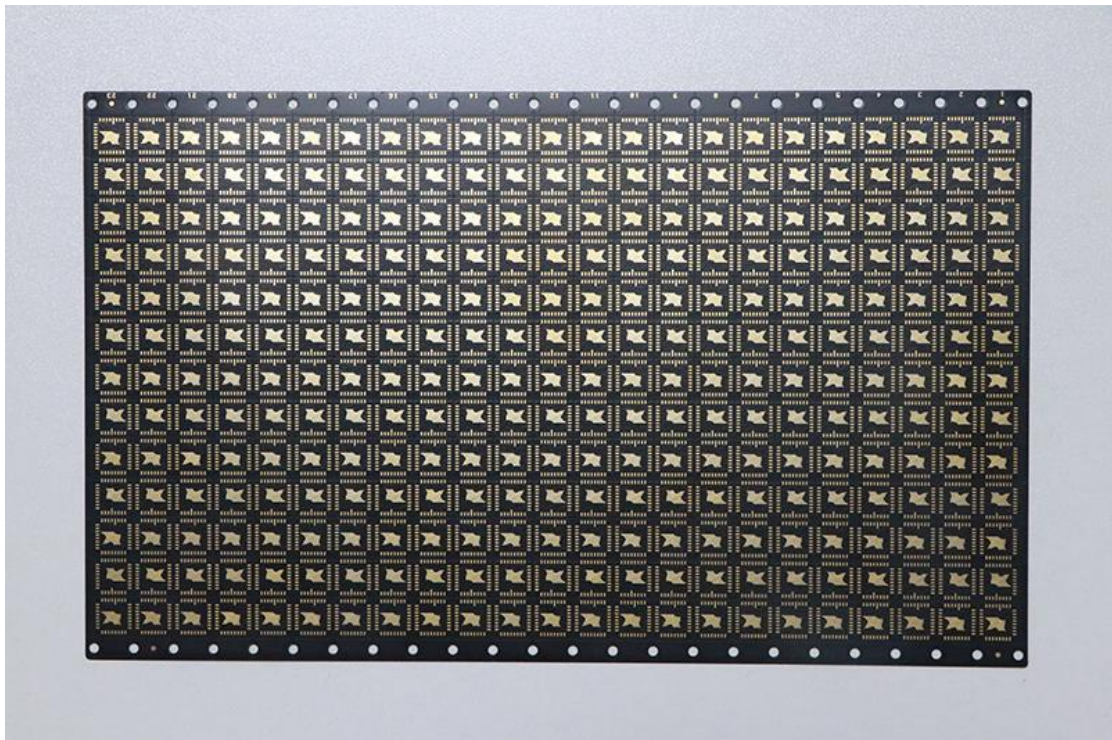
Recommended Applications

Precision motor control modules

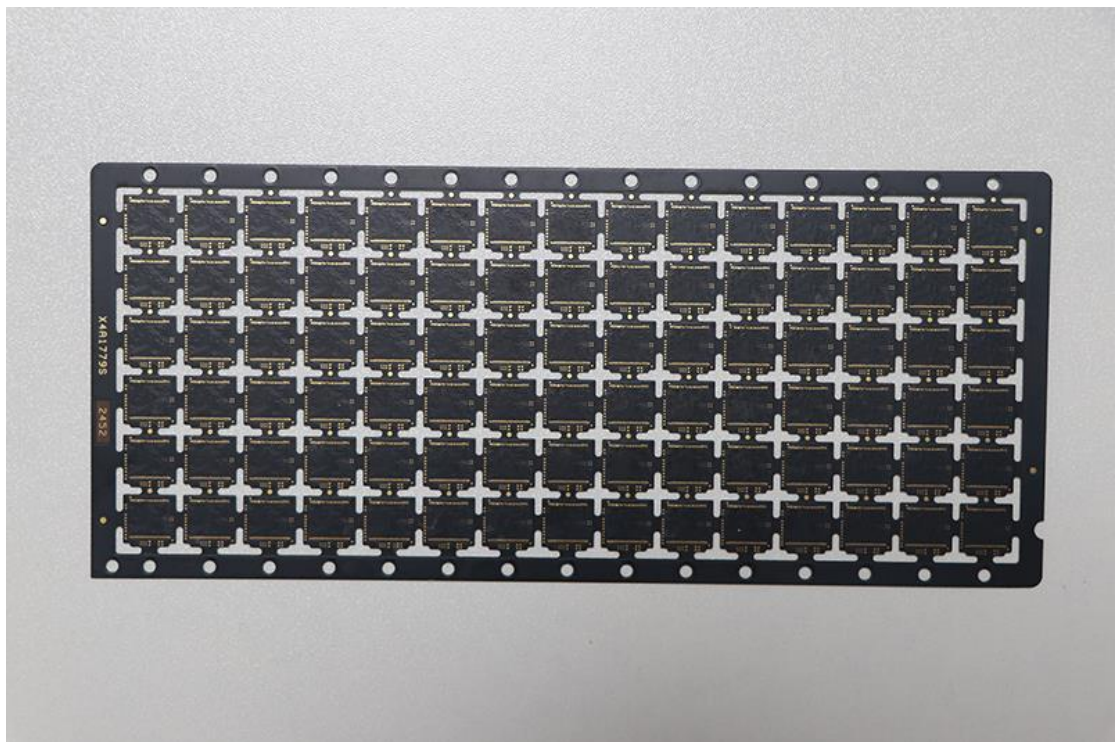
IoT sensor hub PCBs

Automotive ECU (Electronic Control Unit) micro-substrates

Product 1



Product 2



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