

Dual-Interface CPU Card Inlay

Antenna-to-module connection methods

Four construction approaches are illustrated below. The selected CPU module and card production process determine which connection is suitable; the quotation defines the supplied assembly stage.

Reference / technology	Connection mechanism	Application & conditions
Soldered antenna leads Direct electrical connection	Antenna ends are soldered to the compatible module terminals.	A production line equipped to join and inspect the antenna leads. Historical slide 23: seven-layer complete card 0.81 mm; central three inlay layers 0.39 mm. Not current supply dimensions.
Zigzag + conductive adhesive Direct electrical connection	Conductive adhesive joins zigzag antenna-end regions to the module.	A matching module terminal geometry and controlled adhesive bonding process. Historical slide 24 identifies the method. Thickness is omitted because the source layer values do not agree with its stated total.
Pads + conductive adhesive Direct electrical connection	The antenna terminates at pads; conductive adhesive connects the module to those pads.	A prelam with pad positions and a module cavity aligned to the chosen module. Historical slide 25: eight-layer complete card 0.83 mm; bracketed four-layer prelam subtotal 0.45 mm.
Inductive close coupling Electromagnetic connection	A coil on the module couples to the card antenna without a galvanic connection.	A compatible inductive-coupling module and a matched coupling-loop design. Historical slide 26: five-layer complete card 0.82 mm, including a 0.22 mm antenna core. Exact module / antenna matching remains design-specific.

Sources & scope

Dual-interface construction references ACT / Trinnovation

SmartMX contact and contactless interfaces NXP Semiconductors

SmartMX3 P71D321 fact sheet NXP Semiconductors

Coil on Module technology Infineon Technologies

This technical reference compares documented components or historical connection methods. It does not establish current availability, tested compatibility of a combined assembly, production dimensions, MOQ or lead time. The order drawing and quotation define the supplied configuration.

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