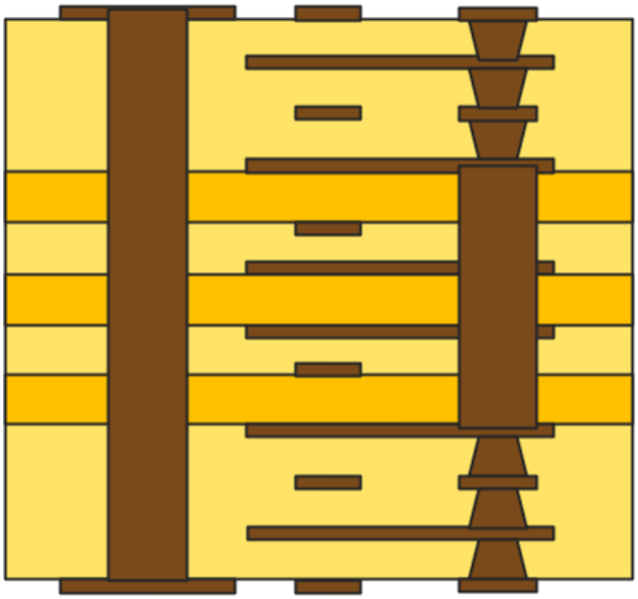
American Standard Circuits
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Ultra High Density Interconnects (UHDI)

How Ultra HDI Improves SWaP (Size, Weight, and Power)

Traditional processes for traditional PCBs **use subtractive-etch technology.**

Standard Subtractive Etch	
5.4 x 5.5	PCB Size (l x w, inches)
12	Quantity / Panel
12	Layer Count
4	Lamination Cycles



Subtractive Etch Constraints
Trace/Space limited to 75 microns

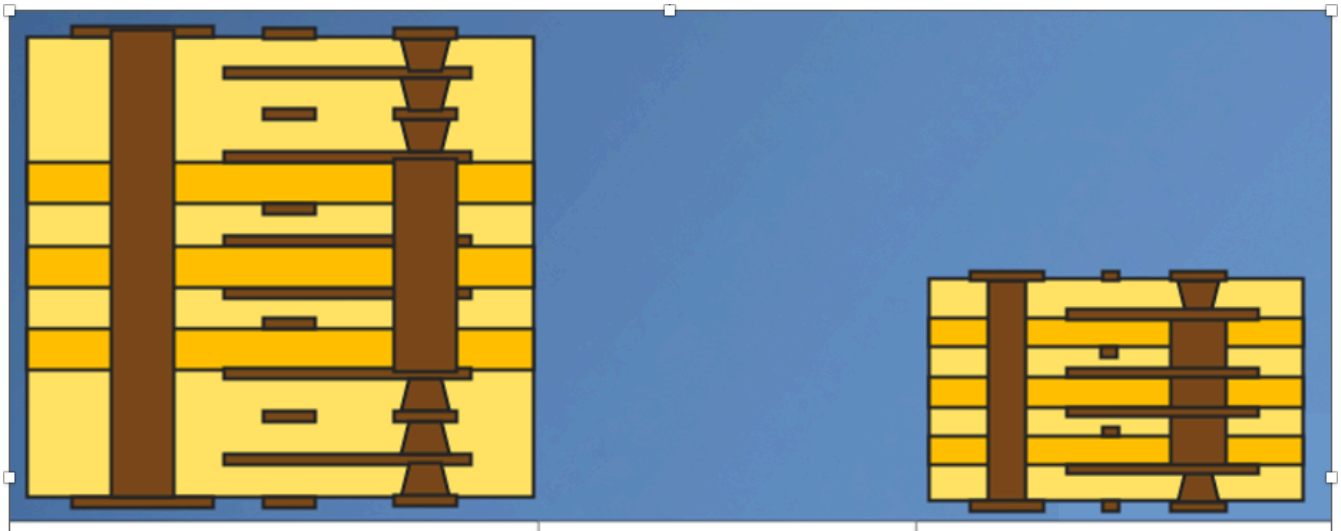
The same traditional materials, machinery, and methodology can be used to produce HDI (High Density Interconnect) PCBs, which are distinguished by via structures (stacked, buried, blind, and microvias) and multiple lamination cycles. HDI enables reduced Size and Weight, with increased Power. However, HDI designs are constrained by traditional technology, which limits trace and space to 75 microns.

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Ultra High Density Interconnects (UHDI)

How Ultra HDI Improves SWaP (Size, Weight, and Power)

Ultra HDI utilizes a whole new technology featuring ultra-thin materials: A quantum leap from 75 microns/3 mils to sub-25 microns.



Standard Subtractive Etch 75micron trace/space		ULTRA HDI 25micron trace/space
5.4 x 5.5	PCB Size (l x w, inches)	2.7 x 3.6
12	Quantity / Panel	36
12	Layer Count	8
4	Lamination Cycles	2

New design freedoms are possible with Ultra HDI, including:

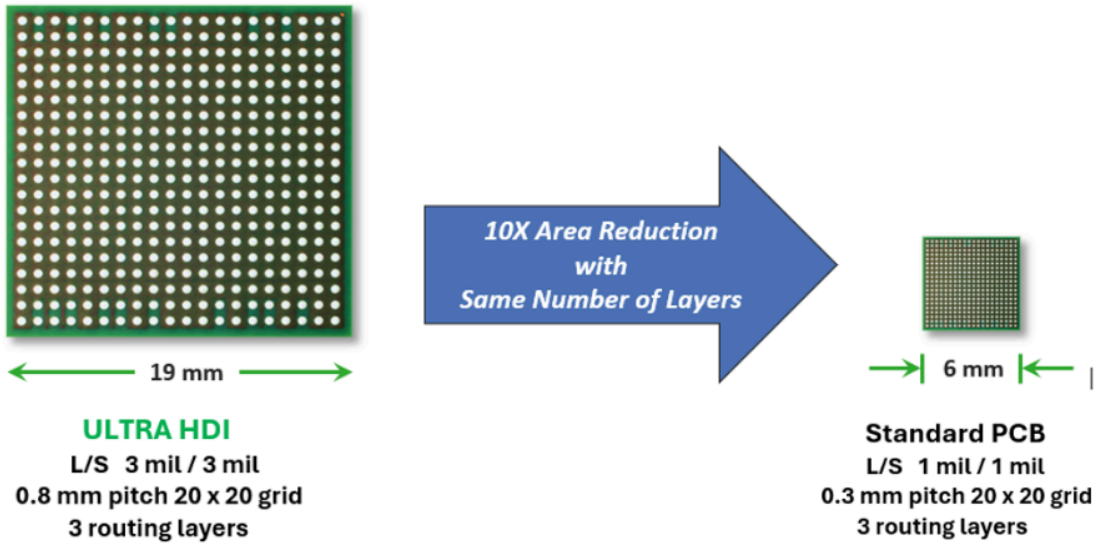
Dramatic reduction in Size and Weight, with increased Power capability

Improved Reliability, Signal Integrity, and RF performance

Package Substrates and Interposers

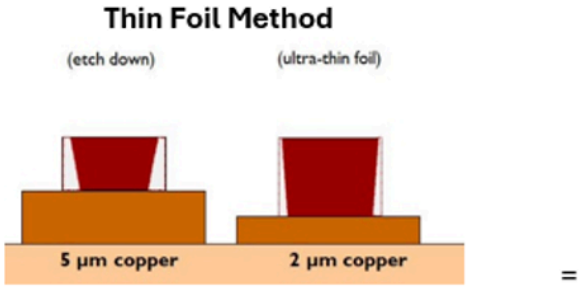
Biocompatibility advantages

Reduced costs - with fewer lamination cycles

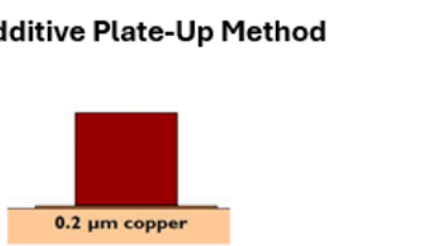


How does Ultra HDI provide these advantages?

UHDI fabrication technology makes it possible for straight vertical sidewalls with precise controls of trace and space widths. This allows for much tighter control of impedance variations for RF.



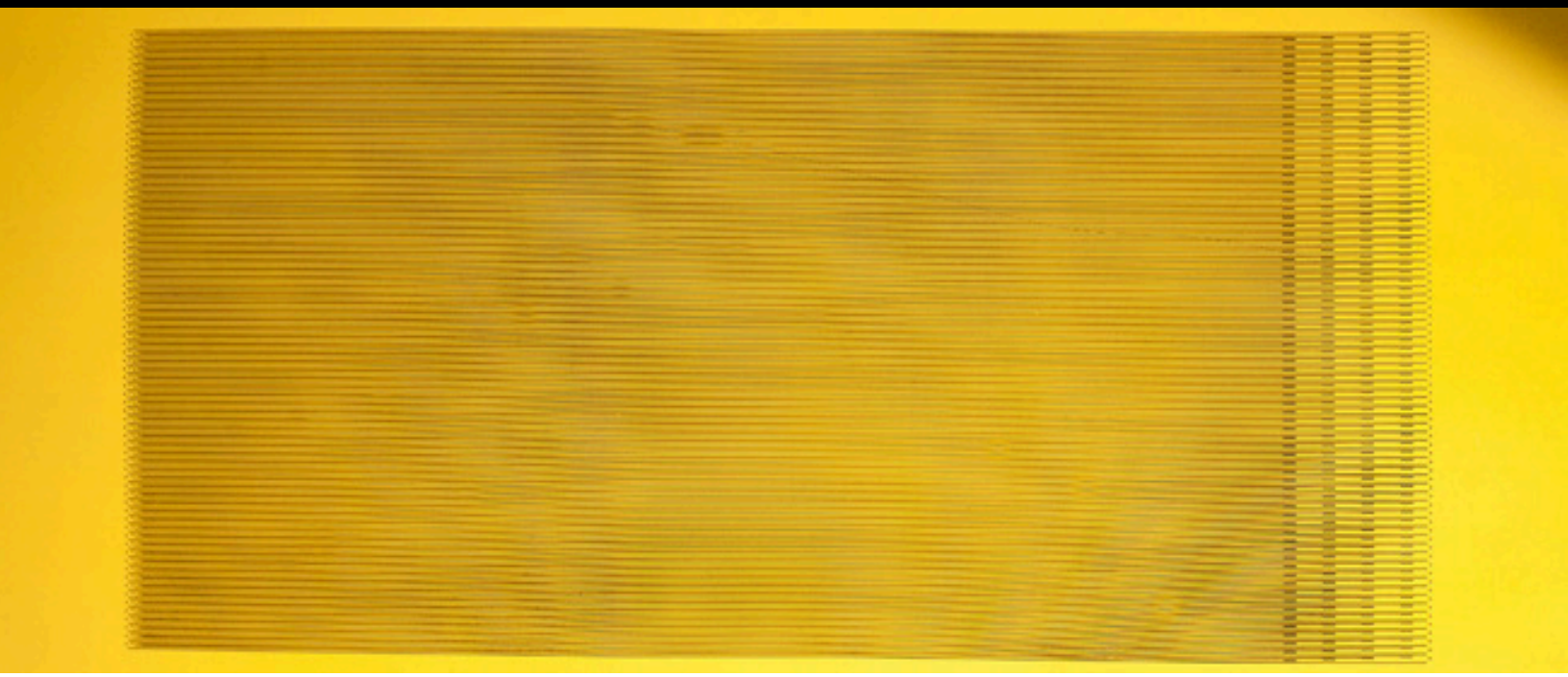
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Starts with thin/ultrathin foils or foil thickness reduction
Limits around 25 um
Relatively straight sidewalls with some etch of sidewall

Liquid Metal Ink ™ to deposit dense catalyst
Easily adapted to sub 25um
Road to package subsrates

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ASC EXPERTS CONSULT WITH OUR CUSTOMERS TO DETERMINE THE RIGHT METHOD FOR DESIRED RESULTS.

CONTACT US TODAY ABOUT IMPROVING THE SWAP FOR YOUR NEXT PROJECT!

ULTRA HDI IS A SOLUTION THAT WORKS WITH OTHER TECHNOLOGIES:

RF/MICROWAVE PRODUCTS – TIGHT LINE/WIDTH CONTROL, LOW PROFILE COPPER SURFACES, TIGHT IMPEDANCE CONTROL

EMBEDDED RESISTOR AND CAPACITORS – ABLE TO INTERFACE WITH RESISTIVE AND CAPACITIVE MATERIALS

FLEX CIRCUITS AND RIGID-FLEX PARTS – ULTRA FINE LINE FLEX CIRCUITS, HIGH COPPER ADHESION TO FLEX

METAL CORE & COINS – COMPATIBLE WITH METAL CORE CONSTRUCTION, ALLOWS COPPER PLATE TO COIN STRUCTURES

ADDITIONAL RESOURCES FOR YOU

OUR WEBSITE:

UHDI NEWSLETTER:

UHDI TECHNOLOGY, ADVANTAGES, DESIGN PARAMETERS AND FAQS IN A BROCHURE: