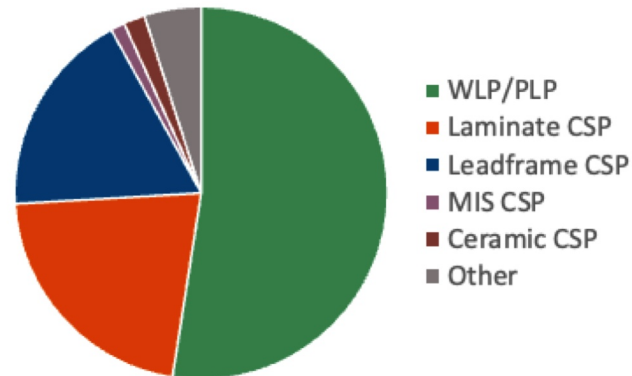


Google Pixel 10 Pro

Teardown from TechSearch International, Inc.



162 Packages Examined



Contents and Highlights

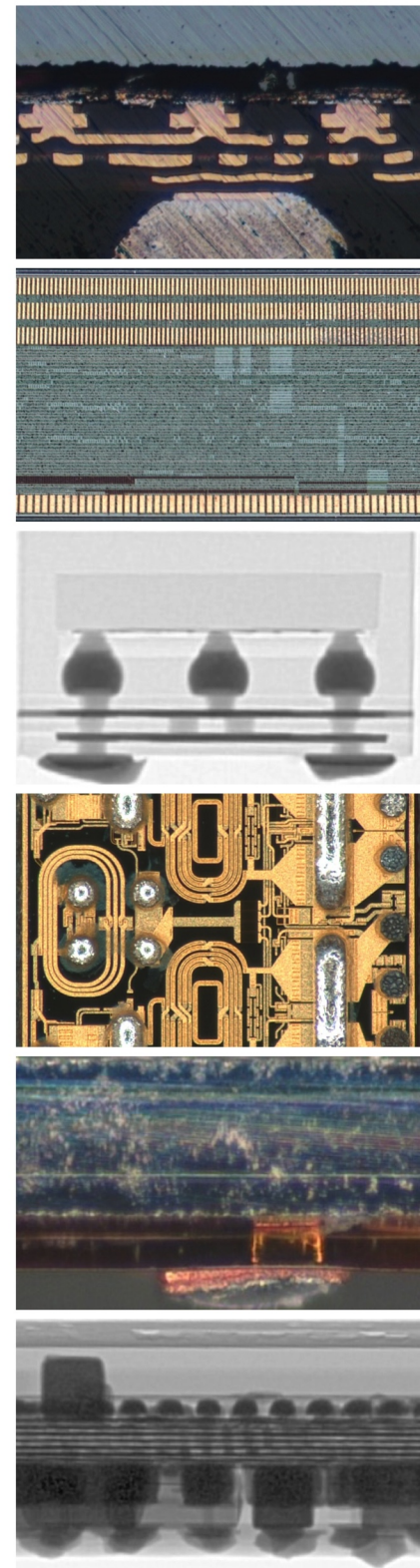
- 208-page report with package and die quantity summaries, high-resolution photos and X-rays, package dimensions, part numbers and descriptions, as well as analysis of packaging and assembly technologies discovered from package decapsulation
- 30 additional slides with construction analysis details for packages such as:
 - Google Tensor G5 AP fabricated with TSMC's InFO fan-out WLP technology, including cross-sections and analysis of RDLs
 - Qorvo QM77178 HB/MB FEM with integrated DRx, assembled as a double-sided BGA with 32 ICs and filters inside, including new LRT-SAW filters
 - Samsung Exynos Modem 5400 with flip chip-mounted baseband processor and stacked DRAM
 - USI G7 Wi-Fi 7/BT 5.3 module that uses new integrated PA+LNA+switch ICs from Broadcom
 - Renesas core PMICs and new Samsung Exynos Connect U100 UWB transceiver

Teardowns backed by 39 years serving as the industry's trusted source for semiconductor packaging trend analysis

- Examination of all chips with emphasis on assembly and packaging technologies
- Superb quality photographs and x-ray images
- Both the packages and the die within are identified and characterized
- Detailed construction analysis of key chips and packages



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Pages from the report and slides

Google Pixel 10 Pro	G4QR	category: Smartphone (high-end) released: Aug 2025		Package quantities (by package type)	
				WL/P/LP	162
				Leads CSP	
				Leads CSP	
				MIS CSP	
				Ceramic CSP	
				Other	
				TOTAL	162
				Dissolve quantities (by the interconnected type)	
				ROG/WLP	
				Flip chip	
				Wire bond	
				Clip	
				Ribbon	
				TOTAL	
				Bare die solutions	
				included	excluded
				Total area (mm²)	
				Package area	

Package Quantity Details				Board-level		Package-level	
Board-level assembled packages							
WLP/PLP	■	■	■	WLP	■	■	■
Laminate CSP	■	■	■	mWLP	■	■	■
Leadframe CSP	■	■	■	FO-WLP	■	■	■
MIS CSP	■	■	■	WLP-P	■	■	■
Ceramic CSP	■	■	■	FO-PLP	■	■	■
Bare die on figb	■	■	■	FBGA	■	■	■
Other	■	■	■	CSP-L	■	■	■
TOTAL	151			FLGA	■	■	■
Package-level assembled packages				CSP	■	■	■
WLP/PLP	■	■	■	MIS CSP	■	■	■
Laminate CSP	■	■	■	MIS CSP	■	■	■
Leadframe CSP	■	■	■	CLGA	■	■	■
MIS CSP	■	■	■	CSP-C	■	■	■
Ceramic CSP	■	■	■	FC	■	■	■
Other	■	■	■	Other	■	■	■
TOTAL	11			WB	■	■	■
				Other	■	■	■
				TOTAL	151		11

Board-level = Packages devices mounted to boards, i.e. during electronics assembly

Package-level = Pre-packaged devices assembled inside other encapsulated packages or modules

L = Laminate substrate, C = Ceramic substrate, figb = Integrated board

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Google Pixel 10 Pro

PACKAGES BY SUPPLIER LOCATION

Supplier HQ	
China	369
Europe	13
Japan	1
Korea	1
N America	1
SE Asia	1
Taiwan	1
Other	1
unknown	1
TOTAL	162

Geographic quantities based on headquarters location of chip suppliers; include bare die solutions

PACKAGE AREA BY CHIP TYPE

Chip Type	
Analog/Mixed-signal	369
RF analog	1
Logic	1
Memory	1
Sensor-Actuator	1
Image sensor	1
Discrete	1
Opto	1
RF Passive	1
IPD	1
Other	1
unknown	1
TOTAL	389

Measured with x length; includes bare die solutions

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ASSEMBLY 8 — Display and FP sensor flex circuits

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Through InFO Vias (TIVs)



- 511 Cu TIVs
 - 0.1mm diameter
 - 0.1mm height
 - 0.5mm pitch



Bottom of package after 60Us removed

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USI Wi-Fi 7/BT 5.3 Module

- Based on Broadcom BCM4390 SOC which supports Wi-Fi 7 and Bluetooth 5.3
- Smaller module size enabled by Broadcom RF front-end ICs that integrate PA, LNA, and switch circuitry on same die

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