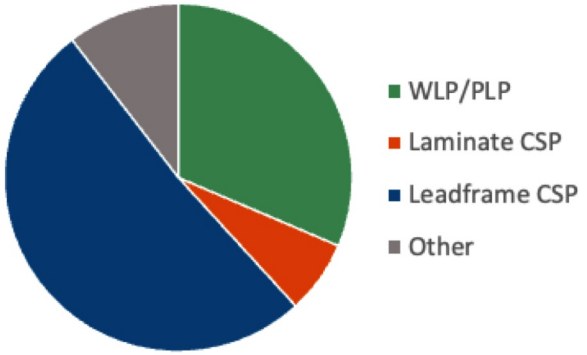
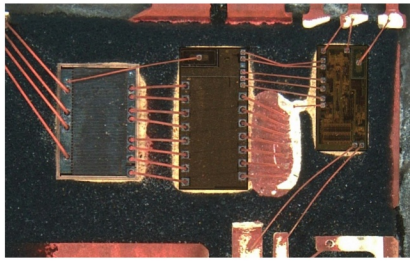
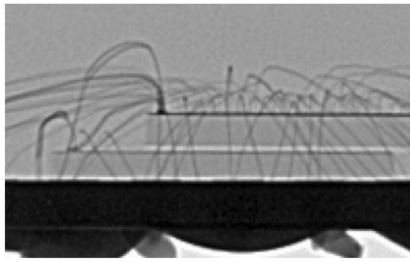
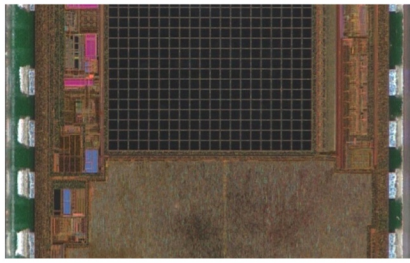
Nintendo Switch 2

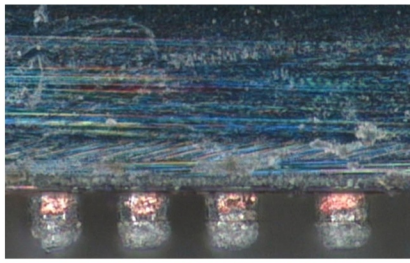
Teardown from TechSearch International, Inc.

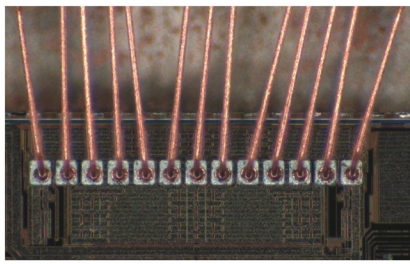


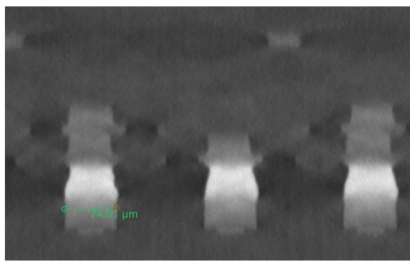












Contents and Highlights

- 265-page report with package 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
- All packages from console, both Joy Cons, dock, and 60W power supply examined
- 24 additional slides with construction analysis details for packages such as:
  - NVIDIA “Tegra T239” AP+GPU assembled in a flip chip BGA, with detailed analysis of Cu pillars on die face include 3D X-ray images
  - Intelligo AIVC™ AI audio/voice processor in QFN with stack die and Cu wire bonding
  - Infineon USB-C PD controller in FBGA with three die interconnected with Cu wires
  - PixArt optical motion sensing IC assembled as a WLP
  - Power Integrations flyback switcher containing four die including an HEMT fabricated on sapphire substrate

Teardowns backed by 38 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

Nintendo Switch 2

BEE-001

category Game Console

released Jun 2025

Package quantities (by package type)

WLP/PLP	
Laminate CSP	13
Leadframe CSP	
MIS CSP	
Ceramic CSP	
Other	
TOTAL	191

Die quantities (by die interconnect type)

RDL/WLP	
Flip chip	
Wire bond	
Clip	
Ribbon	
TOTAL	

Total area (mm²)	Bare die solutions included	Bare die solutions excluded
Package area		

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Package = Any device that has completed final packaging steps; includes all board-level packaged devices as well as finished packages mounted inside other packages/modules. *Camera modules not counted as packages.*
Bare die solutions = Finished devices mounted directly on boards or flex circuits (e.g., chip on board, chip on flex, chip on substrate, etc.)

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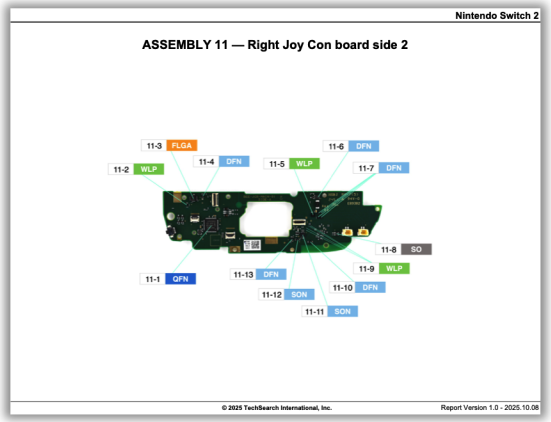

Nintendo Switch 2

ASSEMBLY 11 — Right Joy Con board side 2

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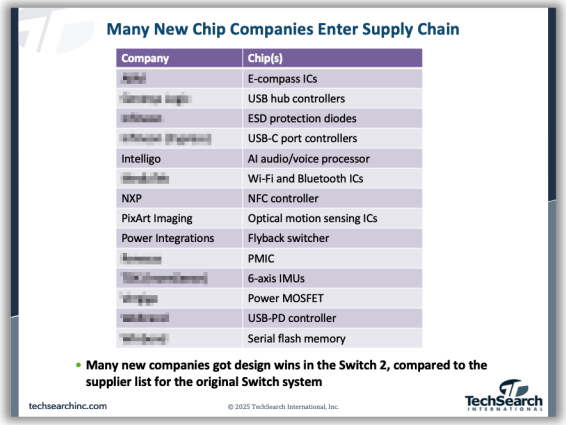

Many New Chip Companies Enter Supply Chain

Company	Chip(s)
	E-compass ICs
	USB hub controllers
	ESD protection diodes
	USB-C port controllers
Intelligo	AI audio/voice processor
	Wi-Fi and Bluetooth ICs
NXP	NFC controller
PixArt Imaging	Optical motion sensing ICs
Power Integrations	Flyback switcher
	PMIC
	6-axis IMUs
	Power MOSFET
	USB-PD controller
	Serial flash memory

- Many new companies got design wins in the Switch 2, compared to the supplier list for the original Switch system

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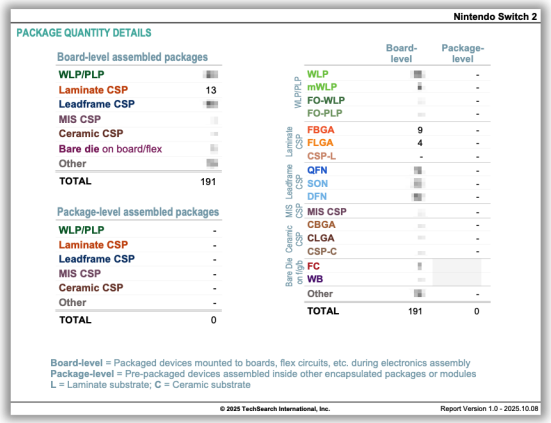

Nintendo Switch 2

PACKAGE QUANTITY DETAILS

Board-level assembled packages	
WLP/PLP	
Laminate CSP	13
Leadframe CSP	
MIS CSP	
Ceramic CSP	
Bare die on board/flex	
Other	
TOTAL	191

Package-level assembled packages	
WLP/PLP	-
Laminate CSP	-
Leadframe CSP	-
MIS CSP	-
Ceramic CSP	-
Other	-
TOTAL	0

		Board-level	Package-level
WLP/PLP	WLP		-
	mWLP		-
	FO-WLP		-
	FO-PLP		-
Laminate CSP	FBGA	9	-
	FLGA	4	-
	CSP-L	-	-
Leadframe CSP	QFN		-
	SON		-
	DFN		-
MIS CSP	MIS CSP		-
Ceramic CSP	CBGA		-
	CLGA		-
	CSP-C		-
Bare Die on flex/b	FC		
	WB		
	Other		-
	TOTAL	191	0

Board-level = Packaged devices mounted to boards, flex circuits, etc. during electronics assembly
Package-level = Pre-packaged devices assembled inside other encapsulated packages or modules
L = Laminate substrate; **C** = Ceramic substrate

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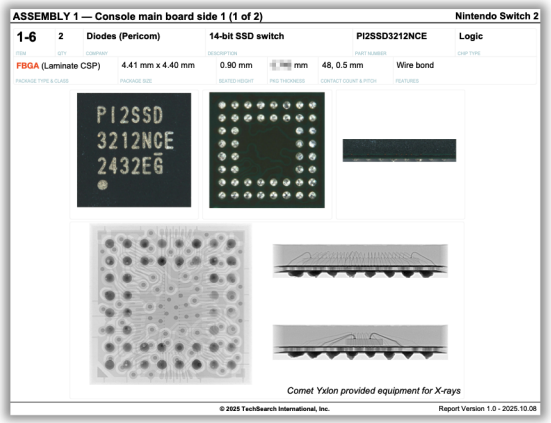

ASSEMBLY 1 — Console main board side 1 (1 of 2) Nintendo Switch 2

1-6	2	Diodes (Pericom)	14-bit SSD switch		PI2SSD3212NCE	Logic
FBGA (Laminate CSP)		4.41 mm x 4.40 mm	0.90 mm	mm	48, 0.5 mm	Wire bond

Comet Yxlon provided equipment for X-rays

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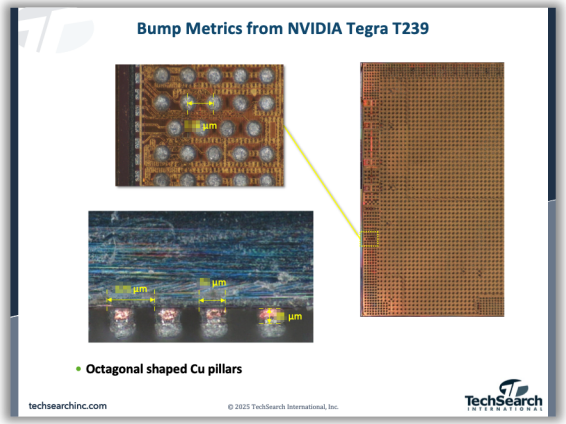

Bump Metrics from NVIDIA Tegra T239

- Octagonal shaped Cu pillars

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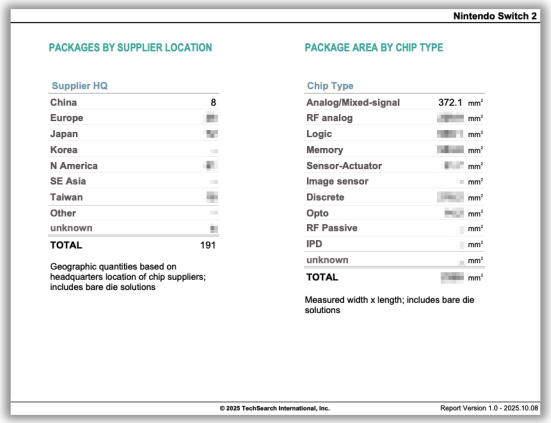

Nintendo Switch 2

PACKAGES BY SUPPLIER LOCATION

Supplier HQ	
China	8
Europe	
Japan	
Korea	
N America	
SE Asia	
Taiwan	
Other	
unknown	
TOTAL	191

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

PACKAGE AREA BY CHIP TYPE

Chip Type	
Analog/Mixed-signal	372.1 mm²
RF analog	mm²
Logic	mm²
Memory	mm²
Sensor-Actuator	mm²
Image sensor	mm²
Discrete	mm²
Opto	mm²
RF Passive	mm²
IPD	mm²
unknown	mm²
TOTAL	mm²

Measured width x length; includes bare die solutions

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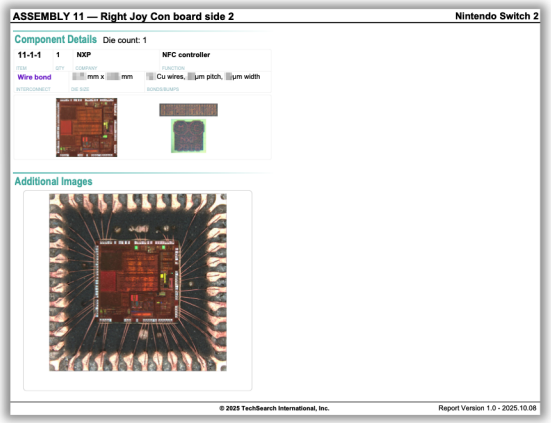

ASSEMBLY 11 — Right Joy Con board side 2 Nintendo Switch 2

Component Details Die count: 1

11-1-1	1	NXP	NFC controller		
Wire bond		mm x mm	Cu wires, µm pitch, µm width		

Additional Images

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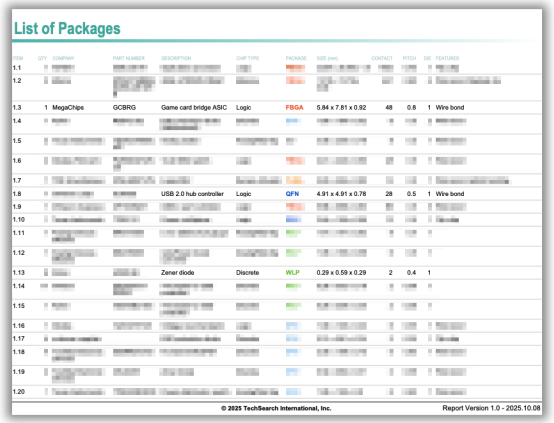

List of Packages

1.1											
1.2											
1.3	1	MegaChips	GCBRG	Game card bridge ASIC	Logic	FBGA	5.84 x 7.81 x 0.92	48	0.8	1	Wire bond
1.4											
1.5											
1.6											
1.7											
1.8			USB 2.0 hub controller		Logic	QFN	4.91 x 4.91 x 0.78	28	0.5	1	Wire bond
1.9											
1.10											
1.11											
1.12											
1.13			Zener diode		Discrete	WLP	0.29 x 0.59 x 0.29	2	0.4	1	
1.14											
1.15											
1.16											
1.17											
1.18											
1.19											
1.20											

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For pricing, please call +1-512-372-8887