

2022 Mid-Large OLED Display Annual Report

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2. Analysis of Issues in the OLED Industry

2.3 OLED.EX

- LG Display has developed 'OLED.EX', an OLED panel for TVs that applies deuterium substitution technology to the organic light emitting layer.
- Materials applied with deuterium substitution technology are physically more stable than conventional materials and have a longer lifetime. This technology has already been applied to the blue materials of OLEDs for mobile devices.
- In the large panel, deuterium substituted blue material was used for the first time in the Guangzhou line, and it was released as a panel for LG Electronics TV 'OLED evo'. This material was supplied by ***.
- In addition to the deuterium-substituted blue material used in the Guangzhou line, LG Display newly applied deuterium-substituted green material to the E3 and E4 lines in Paju. The suppliers of this material were *** and ***.
- Deuterium substituted green material may be used in Guangzhou line in the future.
- LG Display classifies panels newly mass-produced at E3 and E4 in Paju as P, Guangzhou panels as R, and panels produced in existing E3 and E4 as M grades.

LG Display's WRGB OLED panel types

Grade	OLED R	OLED P	OLED M
Line			
Emitting structure			
Brightness[nit]			
Color gamut [%]			
Model			
Feature			

Source: UBI Research DB

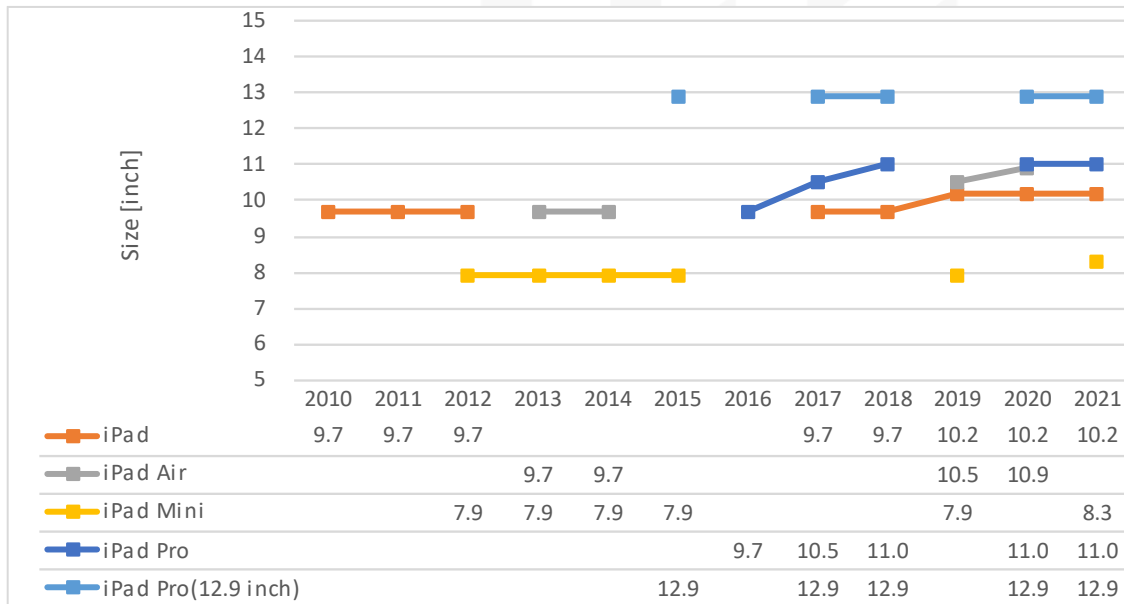
3. OLED Applied Product Trend

3.1 Trend Analysis of OLED for IT

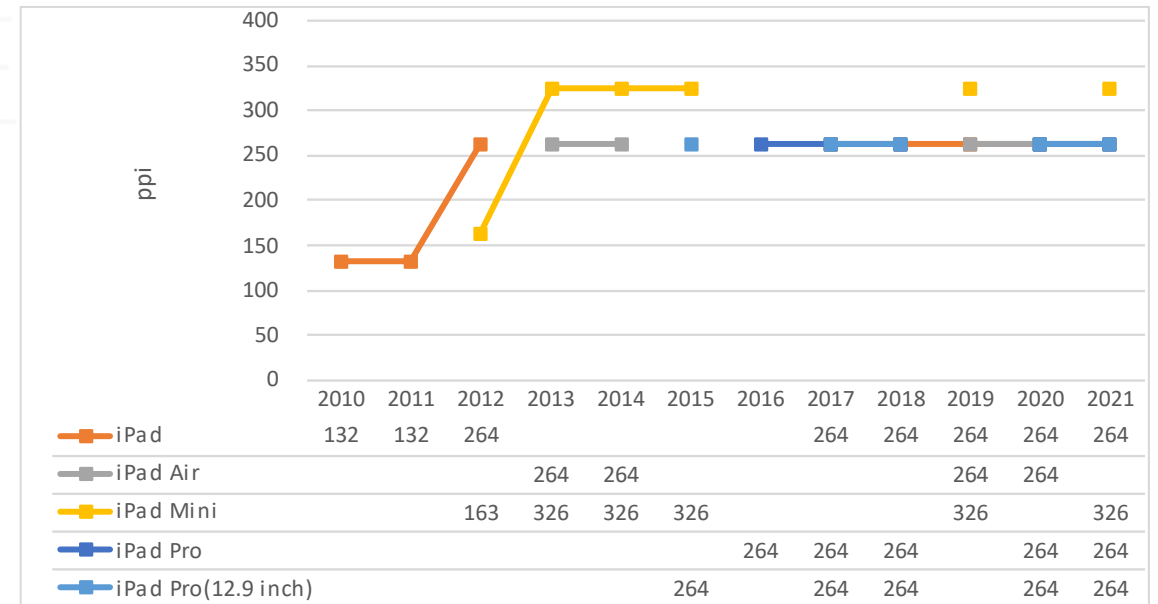
Apple iPad Series Analysis – Size and Resolution

- If OLED is applied to Apple's iPad in the future, the IT display market is likely to be reorganized to focus on the tablet PC market rather than monitors and notebooks.
- Samsung Display and LG Display are developing OLED for iPad with a 2stack RGB tandem structure, and BOE and Visionox are also considering investment.
- It is expected that 264ppi 2stack RGB tandem OLED will be applied to the 11-inch pro series and 12.9-inch pro series to be released in 2024.

Changes in size of Apple iPads released by 2021



Resolution changes for Apple iPads released by 2021



Source: UBI Research DB

3. OLED Applied Product Trend

3.1 Trend Analysis of OLED for IT

■ Notebook

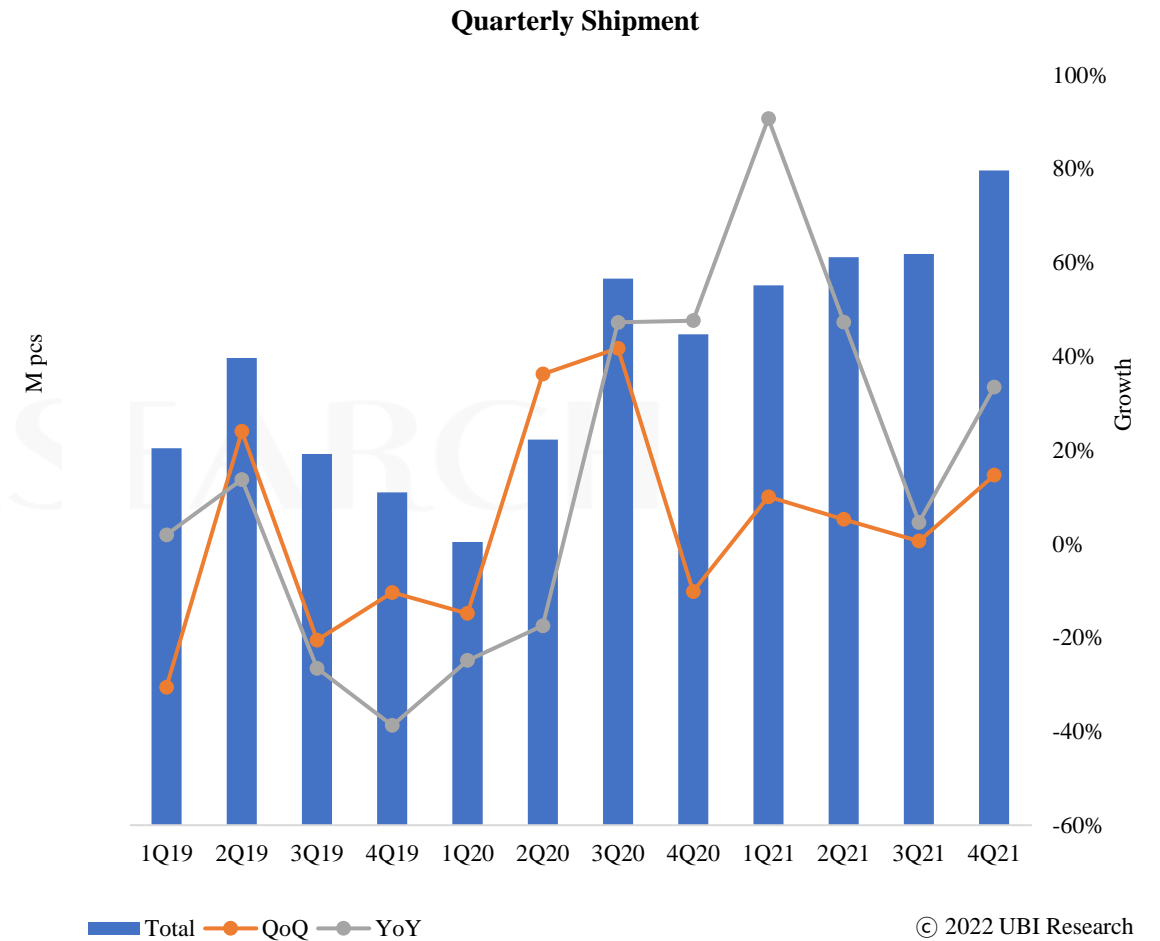
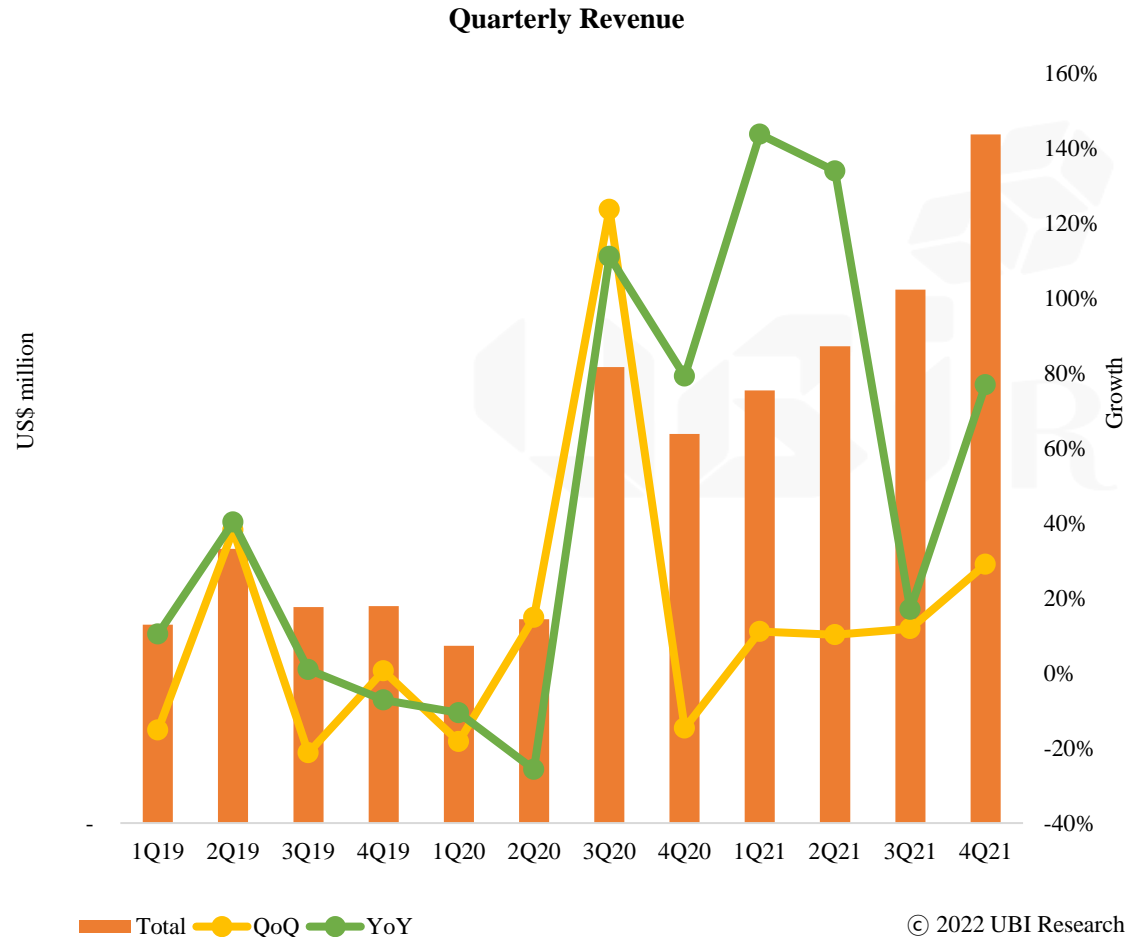
OLED notebook release trend

Year	2021	2021	2021	2021	2021	2021	2021	2021
Model	Envy 13 x360	Zbook Studio 15 G8	Spectre x360 16	XPS 13 OLED(2021)	XPS 15 OLED(2021)	Aero 15 OLED	Creator 15 A11UE	ExpertBook B5302
Company	HP	HP	HP	Dell	Dell	Gigabyte	MSI	Asus
Size [inch]	13.3	15.6	16	13.4	15.6	15.6	15.6	13
Resolution	1920 x 1080(166ppi)	3840 x 2160(282ppi)	3840 x 2160(275ppi)	3456 x 2160(304ppi)	3456 x 2160(261ppi)	3840 x 2160(282ppi)	3840 x 2160(282ppi)	1920 x 1080(169ppi)
Brightness [cd/m ²]	400	400	400	400	400	400	500	400
Contrast ratio	-	-	-	100,000:1	-	100,000:1	1,000,000:1	-
Color Gamut [%]	-	100% DCI-P3	100% DCI-P3	100% DCI-P3	100% DCI-P3	100% DCI-P3	100% DCI-P3	100% DCI-P3
Refresh rate [Hz]	60	-	-	60	60	60	-	-
Feature	-	4K OLED display	4K OLED display	3.5K OLED display 16:10 aspect ratio	3.5K OLED display 16:10 aspect ratio	VESA Display HDR 400 True Black	-	360 degree rotatable
Panel Supplier	-	SDC	-	-	-	SDC	-	-
Picture								

8. Quarterly OLED Market Performance Analysis

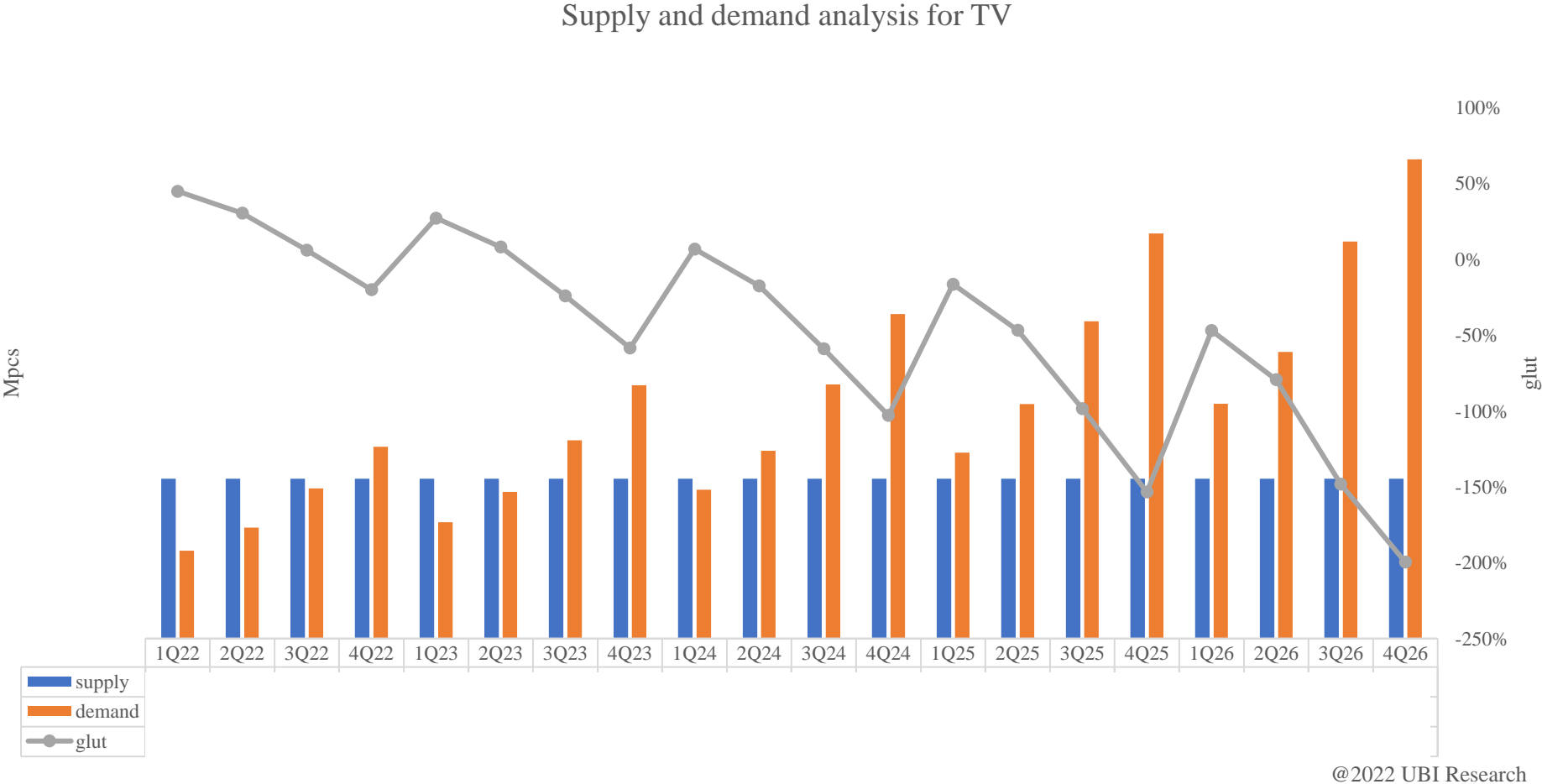
8.1 Overall Market Performance Analysis

Revenue and Shipment Performance



9. Analysis of Supply and Demand for OLED for TV

9.2 Quarterly TV OLED Demand and Supply Analysis

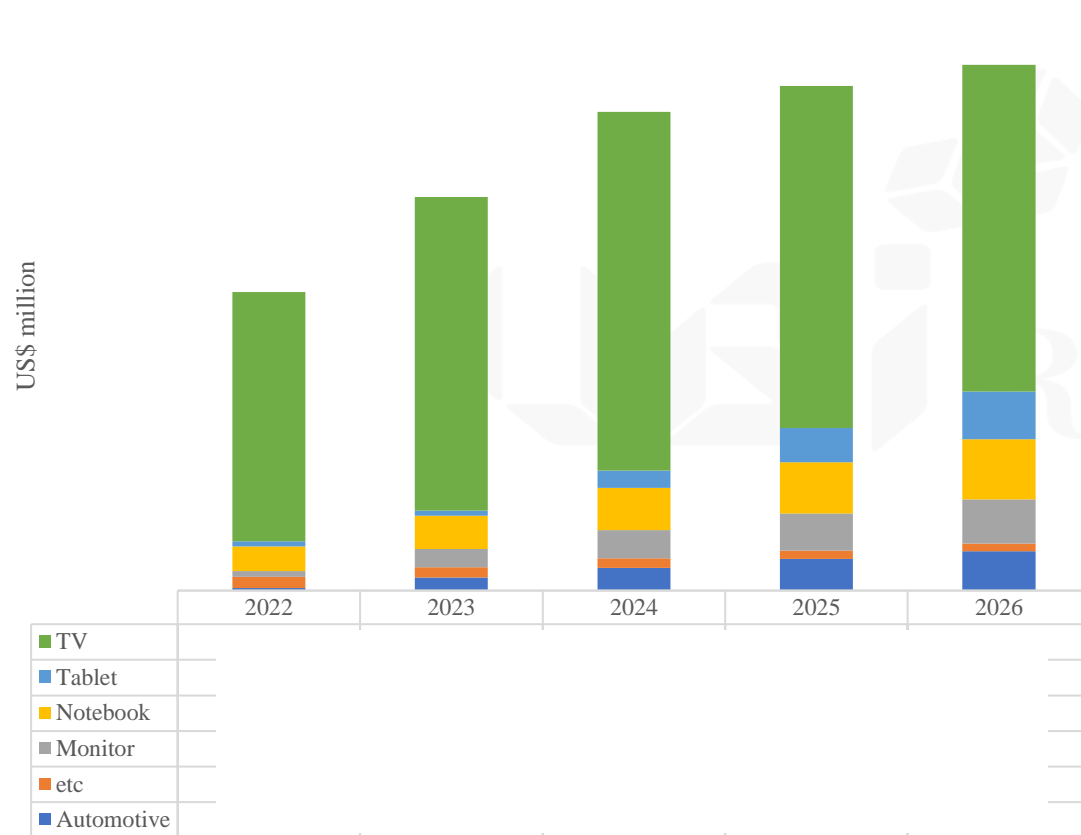


10. OLED Market Forecast

10.3 Market Forecast by Application

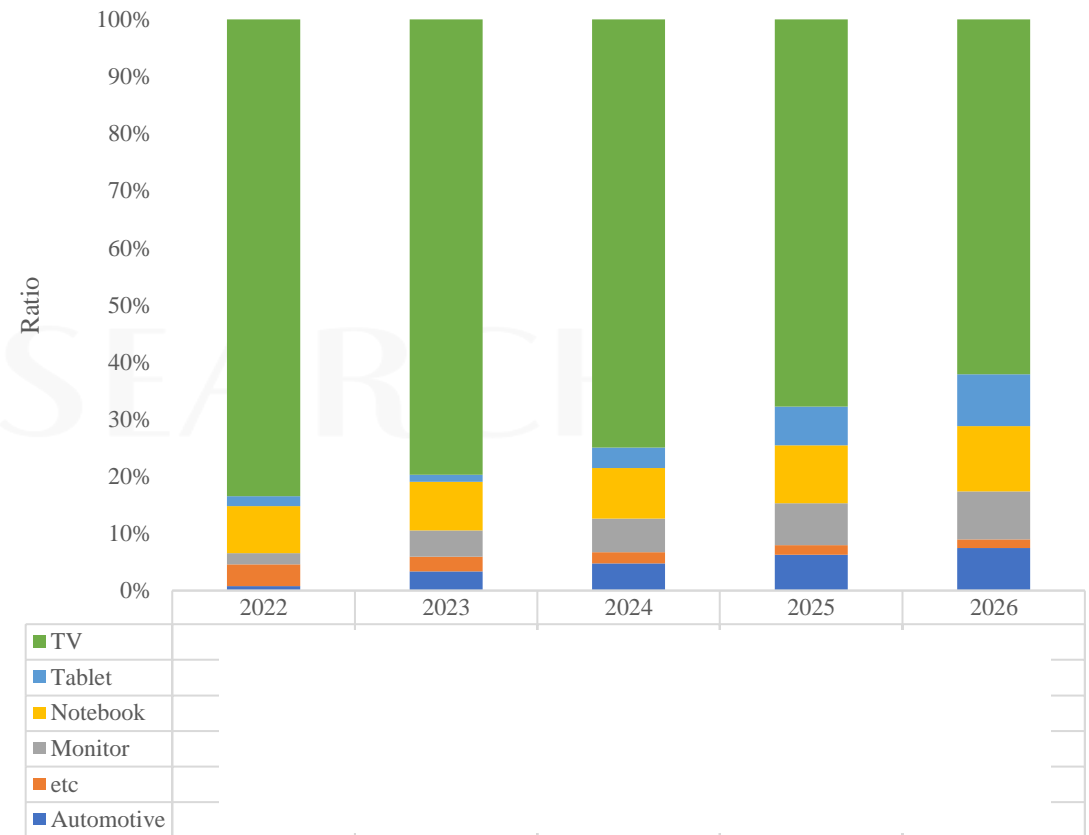
Revenue forecast

Revenue forecast by applicaiton



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Revenue ratio forecast by application



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