ORIENT DISPLAY
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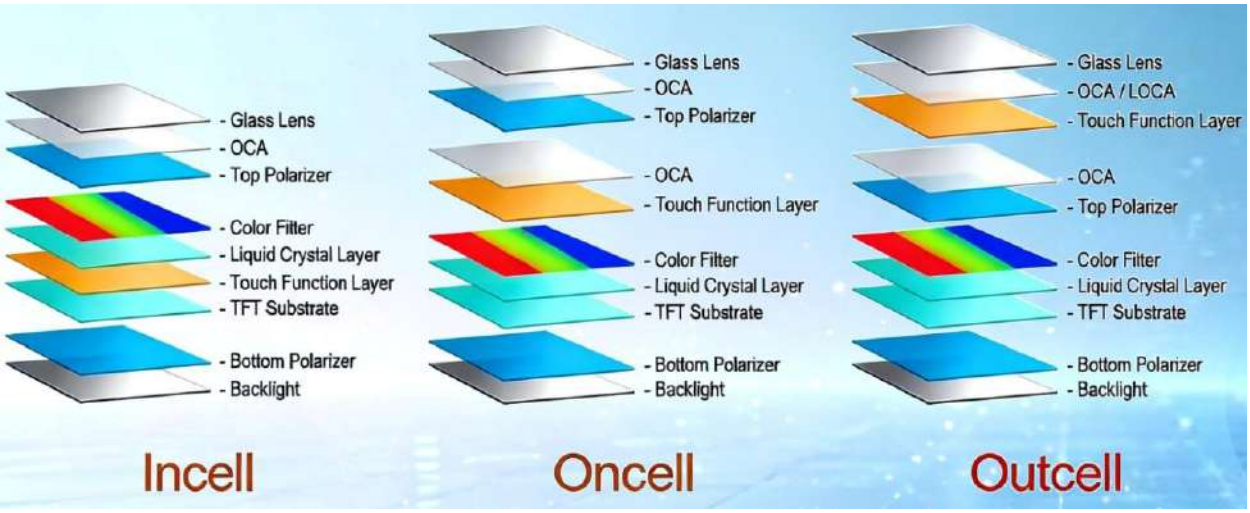
March 24th, 2026

Dear Valued Customers:

Introducing Orient Display's In-Cell, On-Cell, and Out-Cell LCD Technologies

As touch functionality continues to evolve across display applications, we'd like to share a quick overview of the three primary integration methods used in LCD modules: In-Cell, On-Cell, and Out-Cell. Each approach offers unique advantages depending on your product requirements.



In-Cell Technology integrates the touch function directly within the TFT layer of the LCD. This results in a thinner, lighter display with excellent optical performance and improved touch accuracy. It is commonly used in applications where sleek design and premium user experience are key.

On-Cell Technology places the touch sensor on top of the LCD panel, just beneath the cover glass. It provides a good balance between performance and cost, making it a popular choice for mid-range applications that require reliable touch functionality without the higher complexity of In-Cell.

Out-Cell Technology utilizes a separate touch panel laminated onto the LCD. This approach offers the greatest flexibility, making it ideal for industrial and specialized applications. While it results in a slightly thicker structure, it allows for easier customization and maintenance.

Size	Resolution	Interface	Driver IC	CTP interface	On/In Cell
1.9”	170*320	SPI	ST7789V2	IIC - CST9217	**ON CELL**
3.5”	320*480	SPI+RGB	AXS15231	IIC	**IN CELL**
3.95”	480*480	SPI+RGB	ST7701S	IIC - CST3240	**ON CELL**
4.7”	750*1334	MIPI	NV3051F	IIC - CST3530	**ON CELL**
5.0”	720*1280	MIPI	FT7131M	IIC	**IN CELL**
5.9”	1080*2160	MIPI	HX83112F	IIC	**IN CELL**
6.00”	1280*360	LVDS	FT7253	IIC	**IN CELL**
13.0”	1200*1920	MIPI	FT8201P	IIC	**IN CELL**
14.6”	1920*1080	LVDS	RM5T500	IIC	**IN CELL**

Please contact us (**info@orientdisplay.com** **or** **sales@orientdisplay.com**) for further information and questions.

Orient Display Team