

HannStar Company Introduction & Industry Product Roadmap

2023.H2

瀚宇彩晶股份有限公司

Hannstar® Display Corporation

讓我們的下一代都能享受，新彩麗世界的新希望

Agenda



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HannStar Company Introduction

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03

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04

Product Roadmap

HannStar Company Introduction

Walsin Group Introduction



Found in 1966



Wire and Cable, Specialty Steel



Chiao Yu-Lon
Chairman



Chiao Yu-Cheng
Chairman

Found in 1987



VLSI, DRAM and ICs (Voice ICs for Mobile phone, LCD driver)

Found in 2002



MLCC, Chip R, RF modules, Varistor Dielectric material, Film Capacitor, Power Choke, Diode Turnkey IC Assembly/Testing Printed Circuit Board & Assembly, RF Antenna & Protection Components, Mobile & Automotive Component



Chiao Yu-Heng
Chairman

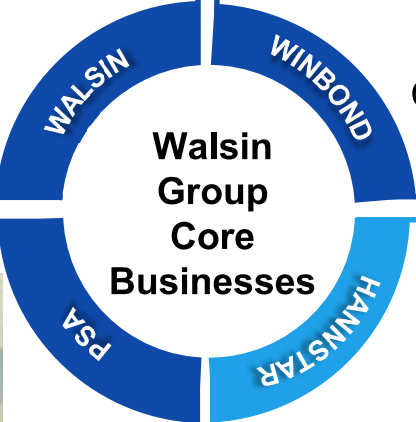


Chiao Yu-Chi
Chairman

Found in 1998



TFT LCD Panel / Touch Sensor

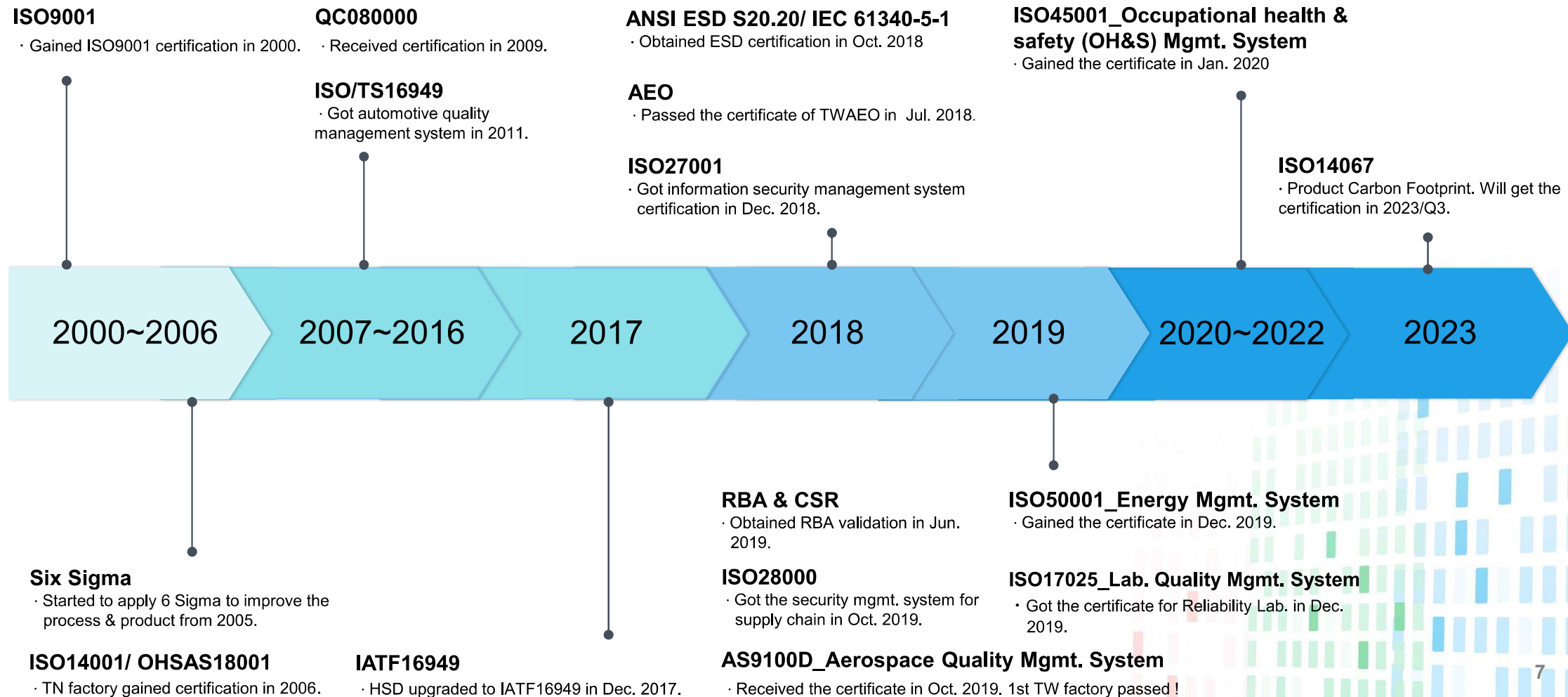


HannStar Profile

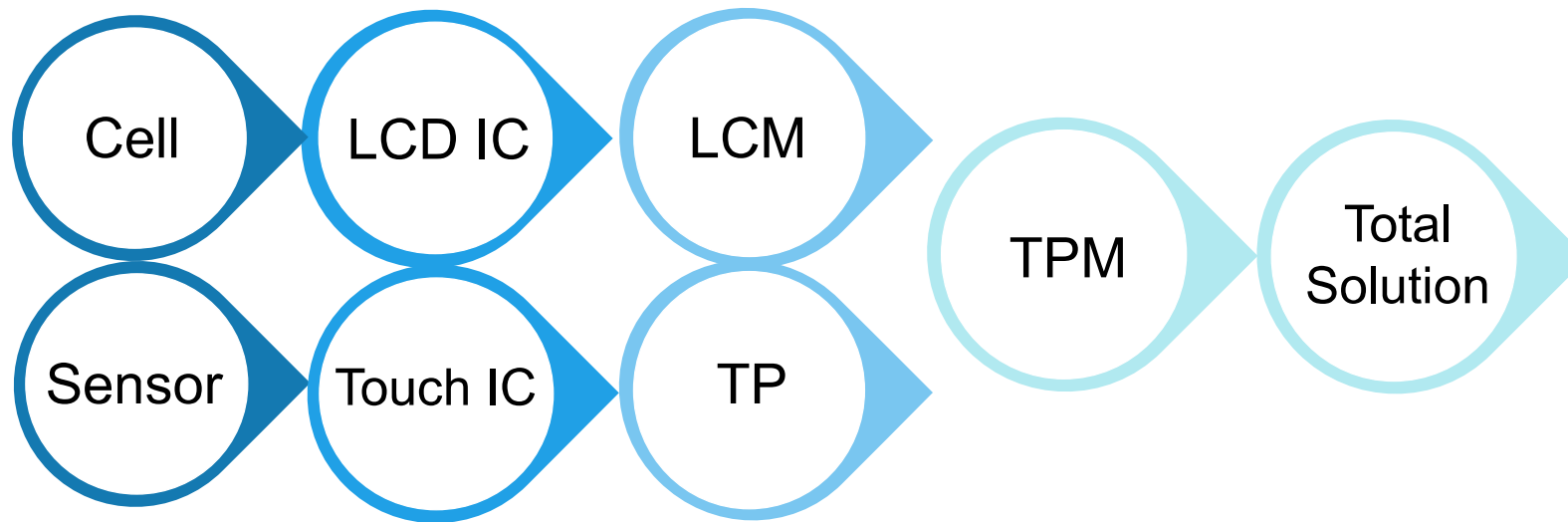


Establishment	June / 1998			
Stock Public	August / 2001			
Capacity	Fab	Generation	Substrate (mm²)	Capacity
	Fab , TFT-LCD	Gen 5.3	1,200 x 1,300	140K sheets/m
	TS1 , Cap. Touch	Gen 5.3	1,200 x 1,300	80K sheets/m
	TS2 , HannsTouch	Gen 5.5	1,300 x 1,500	52K sheets/m
Major Product	TFT- LCD : 0.96” ~ 23.8” a-Si, TN / IPS / Reflective LCD Touch : < 32” Capacitive Touch Sensor (Glass type) Lamination : OCA: Up to 17” in house optical bonding OCR: Up to 900X400 mm in house optical bonding			
Technology Partnership	  			
Capital	USD 1.1 Billion (Jan. / 2023)			
Employees	Taiwan: 2,695 China : 807(NJ+SZ) Total : 3,502 (May. / 2023)			

HSD System Certification



Hannstar Diversified Business Model



HannStar can offer all kinds of business models

- ✓ COG, FOG
- ✓ Premium spec. LCD modules(HSD NJ Factory)
- ✓ Cost effective LCD modules, through our China partners

Leading Tech

- High Resolution
- Wide View angle
- Narrow Border
- Low PWR Consumption
- Transflective

IC Support

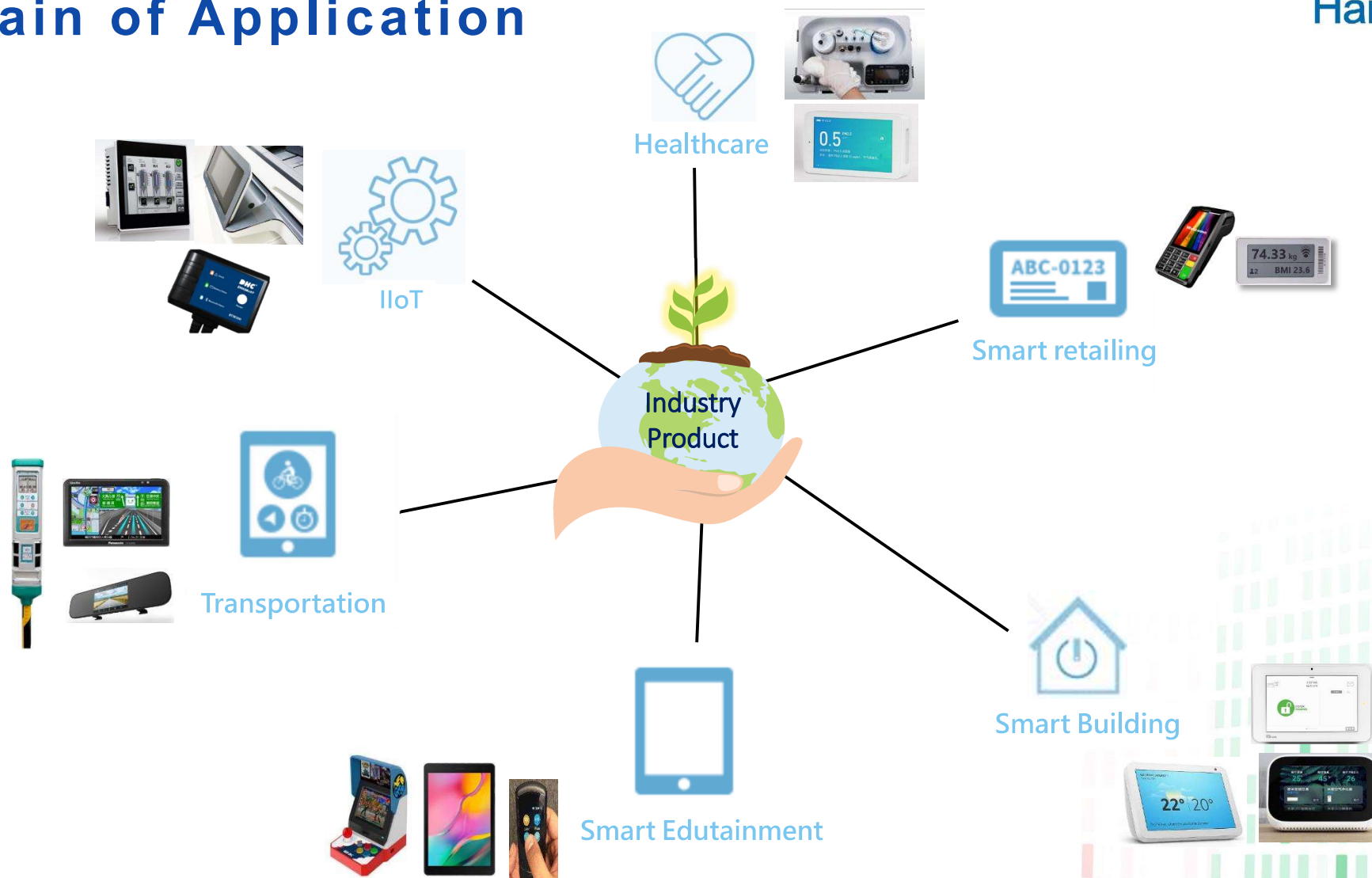
- Supplier Chain
- Lower Total Cost
- Lower Risk
- LCD & On Cell Service

Touch Bonding

- One Stop Shopping
- Reduce Bonding cost
- Reduce Raw Components

Domain of Application

Domain of Application



Domain of Application-1

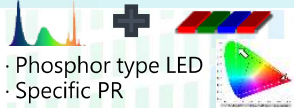
Healthcare	Smart retailing	Smart Building
☐ Agricultural Equipment	☐ Electronic Shelf Label	☐ Body Worn Camera
☐ Automation Equipment	☐ POS	☐ Digital Signage
☐ Drone	☐ Payment Terminal	☐ Monitoring Devices
☐ Outdoor Display	☐ Smart Table Card	☐ Speed Camera
☐ Plant Spectrometer	☐ Service Robot	☐ Card Access Control Device
☐ Beauty Machine	☐ Smart Shopping Cart	☐ Coffee machine
☐ Blood Gglucose Meter	☐ ATM	☐ Digital Signage
☐ Ear thermometer	☐ Parcel Locker	☐ Fingerprint Access Control Device
☐ Infusion Pump	☐ Vending Machine	☐ Monitoring Devices
☐ Oximeter	☐ Self Check-out	☐ Walkie Talkie
☐ Patient Monitor	☐ Barcode Scanner	☐ Smart Mirror
☐ Fish Finder	☐ Coffee machine	☐ Smart Door Locker
2" ~7"	1.5" ~15.6"	2" ~10"

Domain of Application-2

Transportation	Smart Edutainment	IIoT
☐ Bicycle Speed Meter	☐ Bus Timetable	☐ Bar Code Scanner
☐ Center Information Display	☐ Multifunctional printer	☐ POS
☐ In-flight Entertainment Display	☐ Green E-reader	☐ Bar Code Printer
☐ Instrument Cluster	☐ Kiosk	☐ Digital Signage
☐ Motorcycle Speed Meter	☐ Bus Stop Display	☐ Electronic Shelf Label
☐ Rear-View Mirror	☐ Classroom Tag	☐ 3D Printer
☐ Automated Gate Machine	☐ Outdoor Display	☐ Detecting Instrument
☐ Charging Station	☐ Fitness Mirror	☐ Distance Meter
☐ Smart Parking Meter	☐ E-Schoolbag	☐ Industrial Tablet
☐ Rear Seat Entertainment	☐ Education Tablet	☐ Roasting Machine
☐ Chartplotter	☐ Education Notebook	☐ HMI
☐ Ticket Vending Machine	☐ Bulletin Board	☐ Flowmeter
3.5" ~15.6"	7" ~23.8"	2" ~15.6"

Technology Roadmap

Industrial Technology Roadmap

Technology	Performance	2023		
Wide View Angle & High CR	1000:1 1600:1 	<u>Wide View Angle</u> TN → IPS → IPS-Pro 80° → 160° → >170°	<u>High Contrast Ratio</u> TN → IPS → IPS-Pro 700 → 1000 → 1600	Mini LED C/R 100,000:1 
Touch Solution		Touch : Glass Sensor / Film Sensor / OGS / On Cell / In Cell / RTP / with Active Pen Lamination : Optical Bonding (OCR / OCA) / Air Bonding	Cover Lens : Glass (0.5mm ~ 6mm (IK10)) / Plastic (0.5mm ~ 3 mm) Surface Treatment : AG / AR / AF / AM / IR	
LED Life Time		20,000 hrs → 30,000 hrs → 50,000 hrs → 70,000 hrs → 100,000hrs and above 3 years → 5 years → 7 years → > 10 years → > 15 years		
Wide Range Operation Temp. & High Brightness		0 ~ 60 °C -20 ~ 70 °C -40 ~ 90 °C	300 ~ 500 nits (Side Light) 500 ~ 700 nits (Side Light) 1000 ~ 4700 nits or above (Side Light / Direct Light)	
Wide Color Gamut		NTSC : 50% ~ 70% ~ 103%	 · Phosphor type LED · Specific PR	
Slim Border		LCM Border = 4.0mm LCD Border = 2.5mm	LCM Border = 1.1mm LCD Border = 1.0mm	

Product Roadmap

Industrial Product Roadmap (1/9)

M/P

Developing

Planning

Resolution	MP				2023
80x160 135x240 176x220 172x320 180x454	0.96" 80x160, IPS 45%, 450nits , 800:1 SPI, 262K, -20~70	1.14" 135x240, IPS-Pro 50%, CELL, 1000:1 SPI, 262K, -20~70	2" 176x220 60%, CELL, 500:1, 0.5/0.25t, TTL(RGB)/MCU(CPU), 262K		1.9" 170x320 IPS-Pro 70%, 1300:1, 0.4t SPI/RGB 262K PA
SQQVGA QQVGA 4:5	1.44" 128x128 53%, 520nits , 500:1 SPI, 262K, -20~70	1.44" 128x128 IPS 50%, CELL, 800:1, 0.4t SPI, 262K	1.77" 128x160 60%, 150nits , 500:1 SPI, 262K, -20~70		
QVGA 3:4	2" 240x320, IPS-Pro 60%, 500nits , 800:1 TTL(RGB)/MCU(CPU), 262K	2.3" 320x240 50%, CELL, 500:1 TTL(RGB), 262K, -20~70	2.4" 240x320 55%, 350nits , 500:1 MCU, 262K, -20~70	2.4" 240x320, IPS Pro 60%, 320nits , 800:1 RGB, 262K, -20~70	2.8" 240x320, IPS-Pro 60%, 350nits , 800:1 MCU(CPU)/SPI, 262K, -20~70
	2.8" 240x320 60%, CELL, 500:1, RGB/SPI, 262K, -20~70	3.2" 240x320 60%, 320nits , 500:1 SPI, 262K, -20~70	3.45" 320x240, IPS Pro 60%, 550nits , 800:1 TTL(RGB), 16.7M, -20~70	3.5" 240x320- IPS-Pro Mono , FOG, 1100:1, 0.5t TTL(RGB), -30~85	
360x640 480x360 480x480	3.0" 360x640 IPS-Pro 60%, 350nits , 800:1 MIPI, 16.7M, -20~70	2" 480x360, IPS-Pro 60%, 600nits , 1000:1 MIPI, 16.7M, -20~70			3.95" 480x480 IPS Pro 60%, 500nits , 800:1 MIPI, 16.7M, -20~70

Industrial Product Roadmap (2/9)

M/P

Developing

Planning

Resolution	MP	2023
240x240 240x280 (1:1)	1.3" 240x240 IPS Pro 50%, 350nits, 800:1 SPI, 262K, -20~70 1.7" 240x280 IPS 50%, CELL, 1000:1 SPI, 262K, -20~70 1.54" 240x240 IPS Pro 50%, 450nits, 800:1 SPI, 262K, -20~70 1.83" 240x280 IPS 50%, CELL, 1000:1, 0.4t SPI/RGB/MCU, 262K 1.4" 240x240 IPS-Pro 60%, CELL, 900:1 SPI/MIPI, 262K, -20~70 1.3" 240x240 IPS 45%, CELL, 1000:1, 0.4t SPI, 262K, -20~70 1.5" 240x280 IPS 50%, CELL, 1000:1, 0.25t SPI/MCU, 262K PA * On Cell	
320x320 320x385 356x400	1.4" 320x320 IPS-Pro 55%, CELL, 1000:1, 0.4t SPI/MIPI, 262K 1.72" 356x400 IPS Pro 50%, FOG, 1500:1, 0.25t QSPI/MIPI, 262K TDDI 1.78" 320x385 IPS-Pro 50%, CELL, 1000:1, 0.25t SPI/MIPI, 262K	
320x480 (2:3)	2.4" 320x480 IPS 50%, CELL, 1000:1 MIPI, 262K 3.5" 320x480 60%, 400nits, 500:1 RGB, 262K	
WQVGA 16:9	3.08" 480x272 IPS-Pro 60%, CELL, 800:1 MIPI, 16.7M, -20~70 4.3" 480x272 IPS-Pro 50%, 500nits, 800:1 TTL(RGB), 16.7M, -20~70 5" 480x272 50%, CELL, 500:1 TTL(RGB), 256K, -20~70	

Industrial Product Roadmap (3/9)

M/P

Developing

Planning

Resolution	MP					2023
WVGA 9:15	3.97" 480x800 60%, 300nits ,500:1 MIPI,16.7M,-20~70	4.3" 800x480,IPS-Pro 50%, 500nits ,800:1 TTL(RGB),16.7M,-20~70	5" 800x480 IPS-Pro 70%, 400nits ,800:1, LVDS,16.7M,-40~85 <i>* Option On Cell</i>	6.06" 480x800 50%, 400nits , 500:1 TTL(RGB),65K,-20~70 <i>* Option RTP Touch</i>	5" 800x480 IPS-Pro 70%, 1300nits , min800:1 TTL/LVDS, 16.7M, O.T.-30~85	
	3.97" 480x800 IPS-Pro 70%, 450nits ,900:1 RGB/MIPI 16.7M	5" 800x480 IPS-Pro 50%, 550nits , 1000:1 TTL(RGB),16.7M,-20~70 <i>* Option RTP Touch</i>	6.2" 800x480 50%, 1100nits , 600:1, TTL(RGB),16.2M, -20~80			
FWVGA 9:16	3.47" 480x854 50%, 700:1, 0.4t MIPI 16.7M	4.46" 480x854 60%,CELL,800:1 MIPI 16.7M, -20~70	4.46" 480x854 IPS-Pro 70%, 550nits ,1000:1 MIPI,16.7M, -20~70	5" 480x854 60%, 400nits ,700:1 MIPI,16.7M,-20~70	4.95" 480x854 IPS-Pro 70%, 380nits , 800:1, TTL(RGB),16.7M,-20~70	
FWVGA 480x960 9:18	5.45" 480x960, IPS-Pro 70%,CELL,1000:1 MIPI, 16.7M,-20~70 <i>* Option On Cell</i>	4.95",480x960 60%,CELL, 800:1 MIPI, 16.7M,-20~70				
HD 9:16	5.94" IPS-Pro 70%, CELL,800:1, MIPI 16.7M, -20~70	5.2" 720x1280, IPS-Pro 70%,CELL, 900:1 MIPI, 16.7M, -20~70	5" 720x1280,IPS-Pro 70%, 500nits ,800:1 MIPI,16.7M,-20~70	5.46" 720x1280 IPS-Pro 70%, 420nits ,1000:1 MIPI,16.7M,-20~70		
720x1440 9:18	5.7" 720x1440 IPS-Pro 70%,CELL, 1000:1 MIPI, 16.7M, -20~70 <i>* Option On Cell</i>	5.45",720x1440, IPS-Pro 70%,Cell , 1000:1 MIPI, 16.7M, -20~70 <i>* Option On Cell</i>	5.99" 720x1440, IPS-Pro 70%, 400nits , 1000:1 MIPI, 16.7M, -20~70 <i>* Option On Cell</i>	5.84",720x1440, IPS 60%,CELL ,1000:1 MIPI, 16.7M, -20~70		
720x1600 9:20			6.52" IPS-Pro, Notch 70%,CELL,1500:1 MIPI, 16.7M,-20~70 TDDI			

Industrial Product Roadmap (4/9)

M/P

Developing

Planning

Resolution	MP	2023
WVGA 15:9	7" 800x480 50%, 450nits, 500:1, TTL(RGB), 16.2M, -20~70	7" 800x480 50%, 450nits, 500:1, TTL(RGB), 16.2M, -20~70
	6.95" 800x480 70%, 850nits, 600:1, TTL(RGB), 262K, -30~85	7" 800x480 IPS-Pro 70%, 830nits, 1000:1, LVDS, 16.7M, -30~85
	7" 800x480 IPS-Pro 75%, 1000nits, 1000:1, TTL(RGB), 16.7M, -40~85	7" 800x480 IPS-Pro 70%, 1000nits, 1000:1, LVDS, 16.7M, -40~85
WSVGA 16:9	7" 800x480 IPS-Pro 70%, 1000nits, 1000:1, LVDS, 16.7M, -40~85	7.82" 800x480 IPS-Pro 70%, 1000nits, 1000:1, LVDS, 16.7M, -40~85
	8" 800x480 50%, 540nits, 600:1, TTL(RGB), 16.2M, -30~85	6.75" 800x480 50%, FOG, 500:1, TTL, 16.2M, -40~85
	9" 800x480 49%, 480nits, 500:1, TTL(RGB), -20~70	8" 800x480 IPS-Pro 70%, 930nits, 800:1, TTL(RGB), 16.7M, -35~85
WSVGA 16:9	9" 1024x600 50%, CELL, 500:1, LVDS, 16.2M, -20~70	9" 1024x600 IPS-Pro 50%, 500nits, 800:1, LVDS, 16.2M, -30~85
	10.1" 1024x600 IPS-Pro 45%, 500nits, 800:1, LVDS, 16.2M, -20~70	7" 1024x600 IPS-Pro 50%, 500nits, 800:1, LVDS, 16.7M, -20~70
	7" 1024x600 50%, 600nits, 800:1, LVDS, 16.7M, -20~70	10.1" 1024x600 IPS-Pro 45%, 500nits, 800:1, LVDS, 16.2M, -30~85
WSVGA 16:9	7" 1024x600 IPS-Pro 50%, 300nits, 800:1, MIPI, 16.7M, -20~70	8" 1024x600 50%, 600nits, 800:1, LVDS, 16.7M, -20~70
	8" 1024x600 50%, 600nits, 800:1, LVDS, 16.7M, -20~70	10.1" 1024x600 45%, 500nits, 500:1, LVDS, 16.2M, -20~70
	10.1" 1024x600 45%, 500nits, 500:1, LVDS, 16.2M, -20~70	

Industrial Product Roadmap (5/9)

M/P

Developing

Planning

Resolution	MP						2023
SVGA XGA SXGA 4:3	8.4" 800x600 50%, 380nits, 600:1, TTL(RGB), 16.2M, -20~70		8" 1024x768 50%, CELL, 500:1, TTL(RGB), 16.2M, -20~70				10.4" 1024x768 IPS-Pro 70%, CELL, 1000:1 MIPI, LVDS 16.7M, O.T. -25°~75° IC 1+0
	9.7" 1024x768 50%, 300nits, 500:1, LVDS, -20~70		10.4" 1024x768 IPS-Pro 70%, 600nits, 900:1, LVDS, 16.2M, -30~85		10.4" 960x1280 IPS-Pro 70%, 1000nits, 1000:1, -30°C RT< 400ms LVDS, 16.7M, -30~85		12.1" 1024x768 IPS-Pro 70%, CELL, 1000:1 LVDS, 8bits, O.T. -30~85 IC 1+0
	12.1" 1024x768 IPS-Pro 70%, 600nits, 900:1, LVDS, 16.7M, -30~85						
HD 16:9	8" 1280x720 IPS-Pro 70%, 800nits, 1000:1, LVDS, 16.7M, -40~85		10.1" 1280x720 IPS-Pro 70%, 600nits, 900:1, LVDS, 16.7M, -30~85		8" 1280x720 IPS-Pro 70%, 800nits, 1000:1, LVDS, 16.7M, -20~70		10.1" 1280x720 IPS-Pro 85%, 1100nits, 1400:1 LVDS, 16.7M, -40~85 TDDI
	9" 1280x720 IPS-Pro 70%, 800nits, 900:1, LVDS, 16.7M, -30~85		7" 1280x720, IPS Pro 70%, 670nits, 800:1 MIPI, 16.7M, -21~63		* On Cell option		6.83" 720x1280 IPS-Pro 72%, CELL, 1000:1 MIPI, 8bits, O.T. -20~70 IC 1+0
			* CTP option				
							9" 720x1280 IPS-Pro 70%, CELL, 1000:1 MIPI, 16.7M, O.T. -25°~75° In Cell, IC 1+0
WXGA 10:16	7" 1280x768 IPS-Pro 85%, 1250nits, 1000:1 LVDS, 16.7M, -40~85		8" 800x1280, IPS-Pro 60%, CELL, 1500:1, 0.4t MIPI, 16.7M, SB N-LC + PA		8.68" 800x1340 IPS-Pro 60%, 1500:1, 0.4t MIPI, 16.7M N-LC+PA		8" 800x1280 IPS-Pro 60%, CELL, 1500:1, 0.4t MIPI 16.7M, -20~70 TDDI N-LC + PA
	* SITO On Cell		* Option SITO & OLS On Cell				8" 800x1280, IPS Pro 60%, 450nits, 800:1 MIPI, 16.7M, -20~70
	7" 800x1280, IPS Pro 60%, 300nits, 800:1 MIPI, 16.7M, -20~70		10.1" 1280x800, IPS-Pro 50%, 500nits, 1000:1, LVDS, 16.7M, -20~70 Ver. One Chip		10.35" 800x1332 IPS 57%, 1000:1, 0.4t MIPI, 16.7M, -20~70		12.1" 1280x800, IPS-Pro 70%, FOG 1000:1, LVDS, 16.7M, -30~85
	* CTP option						7" 1280x768 IPS-Pro 75%, 1000nits, 1400:1 LVDS, 16.7M, -40~85 TDDI
						10.1" 800x1280, IPS-Pro 60%, CELL, 1500:1, 0.4t MIPI 16.7M, -20~70 TDDI N-LC + PA	
						10.1" 800x1280, IPS-Pro 50%, 420nits 800:1 MIPI, 16.7M, -20~70	

Industrial Product Roadmap (6/9)

M/P

Developing

Planning

Resolution	MP		2023	
FWXGA 16:9	11.6" 1366x768 45%,CELL,600:1 eDP1.2,262K,0~50	11.6" 1366x768, IPS-Pro 50%,CELL,800:1,0.4t eDP1.2,262K,0~50		
	14" 1366x768 45%,CELL,650:1 eDP,262K,0~50			
FHD 16:9	12.8" 1920x1080 IPS-Pro 75%, 700nits , 1400:1 LVDS,16.7M,-30~85	14" 1920x1080, SB 45%,CELL,700:1, eDP1.2,16.7M,0~50	14" 1920x1080 IPS-Pro 45%, CELL,1400:1 eDP1.2,16.2M,0~50	14" 1080x1920 IPS-Pro 70%,CELL,1000:1 MIPI, 16.7M, O.T.-25°~75° In Cell, IC 1+0
	15.6" 1920x1080, IPS-Pro 70%, 850nits , 1000:1 LVDS,16.7M,-30~85	15.6" 1920x1080 IPS 45%, CELL,1000:1, 0.4t eDP1.2,16.2M,0~50		15.6" 1080x1920 IPS-Pro 70%,CELL,1000:1 MIPI, 16.7M, O.T.-25°~75° In Cell, IC 1+0
WUXGA 16:10	10.36" 1200x2000, IPS-Pro 70%, 380nits ,1350:1 MIPI 16.7M,-20~70 TDDI N-LC + PA	10.1" 1920x1200 IPS-Pro 50%,800nits,1000:1 eDP1.2,16.7M,0~50	10.5" 1200x1920 IPS-Pro 67%, CELL,1350:1 MIPI, 16.7M,-20~70 N-LC+PA TDDI	12.95" 1200x1920 IPS-Pro 68%,CELL,1000:1 MIPI, 8bits, O.T.-20~70 In Cell, IC 2+0
	12.2" 1920x1200, IPS-Pro 70%,CELL,800:1 eDP1.2,16.2M,0~50	10.1" 1200x1920, IPS-Pro 70%,CELL,1450:1 MIPI 16.7M, IC 2+0 TDDI, N-LC + PA	10.95" 1200x2000 IPS-Pro 72%,CELL,1350:1 MIPI,16.7M,-20~70 N-LC+PA TDDI	
8:3	10.25" 1280x480 IPS-Pro 70%, 600nits , 1000:1 LVDS,16.7M,-30~85	12.3" 1920x720, IPS-Pro 75%, 850nits , 1400:1 LVDS,16.7M,-30~85	10.25" 1920x720 IPS Pro 70%, 1000nits , 1000:1 LVDS, 16.7M, -30~85 TDDI	12.3" 1920x720 IPS-Pro , 70%, 1400:1 LVDS, 8bits, O.T.-40~90 IC 1+2
	10.25" 1920x720 IPS-Pro 70%, 850nits , 1000:1 LVDS,16.7M,-30~85	10.25" 1920x720, IPS-Pro 85%, 1250nits , 1000:1 LVDS,16.7M,-40~85 * Option On Cell	10.25" 720x1920 IPS-Pro 70%,CELL,1000:1 MIPI, 16.7M, O.T.-25°~75° In Cell, IC 1+0	15" 1920x720 IPS-Pro , 70%,CELL,1000:1 LVDS, 8bits, O.T. -30~85 IC 1+2

Industrial Product Roadmap (7/9)

M/P

Developing

Planning

Resolution	MP	2023
Round	1.09" 240x240 IPS-Pro 50%, CELL, 1000:1 SPI/RGB, 262K 1.28" 240x240 IPS-Pro 50%, 350nits, 800:1 SPI 262K 1.32" 360x360 IPS-Pro 70%, CELL, 1500:1 QSPI/MIPI, 262K 1.32" 128x128 IPS-Pro 60%, 1000:1 SPI 262K 1.45" 412x412 IPS-Pro 70%, CELL, 1500:1 QSPI, 262K TDDI 1.8" 320x272 IPS-Pro 70%, Cell, 1000:1 LVDS, 262K, -30~85 3.54" 800x640 IPS-Pro 70%, CELL, 1200:1 LVDS, 16.7M, -30~85 2.13" 480x480 IPS-Pro, 0.4t 70%, 1000:1 RGB/MIPI, 16.7M	
268x800/180x454 1:3	2.22" 180x454 IPS-Pro 65%, CELL, 1200:1 QSPI/MIPI, 16.7M PA TDDI	2.99" 268x800 IPS-Pro 60%, 350nits, 1500:1 MIPI, 262K, -20~70
480x1920 1:4	0.99" 40x160 IPS 50%, CELL, 800:1 SPI, 262K	8.8" 480x1920 IPS-Pro 50%, FOG, 800:1 MIPI, 16.7M, -30~85
440x1920 11:48		11.1" 440x1920 IPS-Pro 70%, CELL, 1000:1, Free Form LVDS, 16.7M, -20~70
280x1424/1920x384 1:5/5:1	7" 280x1424 IPS 60%, 500nits, 1000:1 MIPI, 16.7M, -20~70	9.2" 1920x384 IPS-Pro 70%, 3000nits, 1000:1, Free Form LVDS, 16.7M, -30~85

Industrial Product Roadmap (Reflective) (8/9)

M/P

Developing

MP

2023 H2

4.2"300x400 1Hz
Reflective
B/W, 2 Gray
27:1, 0.25t
R50%, ST7305, SPI
FOG: 0.10mW
FL: 75mW@35nits

4.2"300x400 1Hz
Reflective
R/B/W, 4color
24:1, 0.25t
R35%, ST7306, SPI
FOG: 0.2mW
FL: 130mW@35nits

10.3"1440x1920
Reflective
B/W, 256Gray
25:1, 0.25t
R50%, HX8279, MIPI
FOG: 303mW
FL: 700mW@35nits

10.3"1440x1920
Reflective
R/B/W, 65K
24:1, 0.25t
R35%, HX8252, MIPI
FOG: 451mW
FL: 1150mW@35nits

10"1200x1600
Reflective
16.7M, 12%
25:1, 0.25t
R30%, HX8279, MIPI
FOG: 610mW
FL: 870mW@35nits

13.3"1600x1200 1Hz
Reflective
R/B/W, 4 color
24:1, 0.25t
R35%, L-REF2171AZ, QSPI/SPI
FOG: 45mW
FL: 3840mW@35nits

*OnCell+Stylus Option(Planning)

* OnCell+Stylus option

2.9"168x384 1Hz
Reflective
B/W, 2 Gray
27:1, 0.25t
R50%, ST7305, SPI
FOG: 0.06mW
FL: 35mW@35nits

2.9"168x384 1Hz
Reflective
R/B/W, 4color
24:1, 0.25t
R35%, ST7305, SPI
FOG: 0.13mW
FL: 50mW@35nits

2.9"210x480 1Hz
Reflective
8 color, 12%
25:1, 0.25t
R30%, ST7306, SPI
FOG: 0.22mW
FL: 60@35nits

7.8" 768x1024
Reflective,
16.7M, 12%
25:1, 0.25t
R30%, ILI9881, MIPI
FOG: 160mW
FL: 480mW@35nits

7.8" 768x1024 1Hz
Reflective,
8 color, 12%
25:1, 0.25t
R30%, L-REF2171AZ, QSPI/SPI
FOG: 9.86mW
FL: 550mW@35nits

7.8" 1272x1696 1Hz
Reflective,
8 color, 12%
25:1, 0.25t
R30%, L-REF2171AZ, QSPI/SPI
FOG: 15mW
FL: 5500mW@35nits

2.13" 122x250 1Hz
Reflective
B/W, 2 Gray
27:1, 0.25t
R 50%, ST7305, SPI
FOG: 0.058mW
FL: 20mW@35nits

2.13" 122x250 1Hz
Reflective
R/B/W, 4color
24:1, 0.25t
R 35%, ST7305, SPI
FOG: 0.072mW
FL: 30mW@35nits

1.54"200x200 1Hz
Reflective
B/W, 2 Gray
27:1, 0.25t
R50%, ST7305, SPI
FOG: 0.045mW
FL: 15mW@35nits

3.5"640x480
Reflective
16.7M, 12%
25:1, 0.25t
R30%, ST7263, RGB/LVDS
FOG: 155mW
FL: 70mW@35nits

5.46" 720x1280
Reflective
16.7M, 12%
25:1, 0.25t
R30%, ILI9881, MIPI
FOG: 217mW
FL: 200mW@35nits

10" 1200x1600
Reflective
16.7M, 12%
25:1, 0.25t
R40%, MIPI
FOG: 430mW
FL: 630mW@35nits

14"1920x1080
Reflective
16.7M, 12%
25:1, 0.25t
R40%, eDP
FOG: 700mW
FL: 1800mW@35nits

Industrial Product Roadmap (Transflective) (9/9)

M/P

Developing

MP

2023-H2

2.41"240x320
Transflective
262K,15%
24:1,0.25t
R17.3%,Tr2.19%
ST7789P3,RGB
FOG:17mW
BL:50mW@35nits
-30~85/-40~95

5"800x480
Transflective
16.2M,80%
24:1,0.25t
R15%,Tr2.0%
ILI6123,TTL
FOG:178mW
BL:175mW@35nits
-30~85/-40~95

10"1536x2048
Transflective
16.7M,50%
24:1,0.25t
R25%,Tr0.50%
OTA7290B,MIPI
FOG:391mW
BL:1200mW@35nits

* OnCell+Stylus Option

15.6"1920x1080
Transflective
16.7M,80%
24:1,0.4t
R15%,Tr2.0%
TC2055G,LVDS
FOG:1.49W
BL:1.7W@35nits

10.36"1200x2000
Transflective
16.7M,80%
24:1,0.25t
R15%,Tr 1.27%
HX8279,MIPI
FOG:0.75mW
BL:700mW@35nits

13.3"2560x1600
Transflective
16.7M, 80%
24:1, 0.25t
R15%,Tr 0.5%
TC2060J,eDP
FOG:0.8W
BL:2.4W@35nits

21.5"1920x1080
Transflective
16.7M,80%
24:1,0.4t
R15%,Tr 2.0%
RM91C31,LVDS
FOG:1.82W
BL:2.1W@35nits

1.72"300x344
Transflective
16.7M,50%
24:1,0.25t
R25%,Tr0.3%
L-WEA2010Z,MIPI/SPI/QSPI
FOG:16mW
BL:210mW@35nits

1.45" 360x360
Transflective
16.7M,50%
24:1,0.25t
R25%,Tr0.3%
L-WEA2010Z, MIPI/SPI/QSPI
FOG:17mW
BL:250mW@35nits

14"1920x1080
Transflective
16.7M,80%
24:1,0.25t
R15%,Tr 0.5%
TC2060J,eDP
FOG:0.9W
BL:3.2W@35nits



Thank You