2019 1H Product Roadmap for IAV Application Display

(Industrial. Amusement. Vehicle)

Application Coverage

KIOSK/POS

- Long Lifetime
- Touch

HMI

- Wide Temp.
- Long Lifetime
- Wide View angle
- Robust
- Touch

ATM

- Wide Temp.
- Long Lifetime

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Gaming

- High Color Gamut
- Long Lifetime
- Wide View

Industry

- Wide Temp.
- Long Lifetime
- Wide View angle
- Robust

Vehicle(e-car)

- Wide Temp.
- Long Lifetime
- Wide View angle

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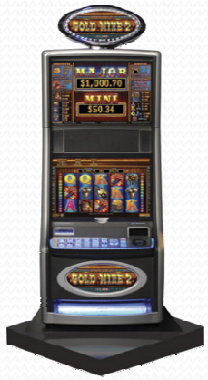
longevity

- **Long product life time support**
  - Industry display life time is over **5** years
  - Amusement display life time is over **5** years
  - Vehicle(e-car) display life time is over **10** years

Industry



Amusement

Vehicle(e-car)

Application by Feature

0 ℃ ~ 50 ℃

~300nits

Indoor

Semi-Outdoor

-20 ℃ ~ 70 ℃

~500nits

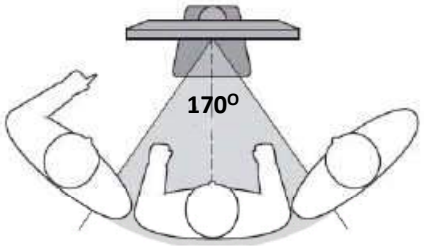
-30 ℃ ~ 85 ℃

≧ 700nits

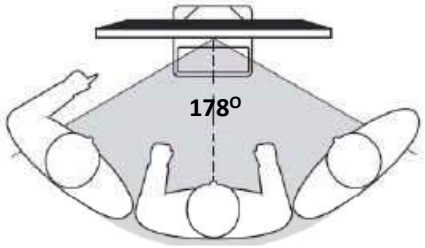
Outdoor

Wide Viewing Angle Technology

Conventional Panel
(TN)



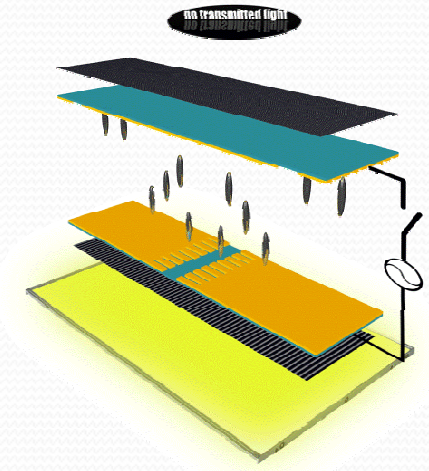
Wide Viewing Angle Panel
(MVA / AAS)



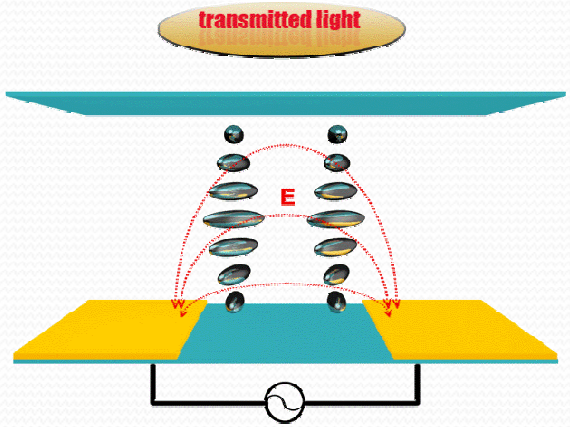
High CR

Wide View
178/ 178

MVA(Multi Vertical Alignment)



AAS(Azimuthal Anchoring Switch = IPS-like)



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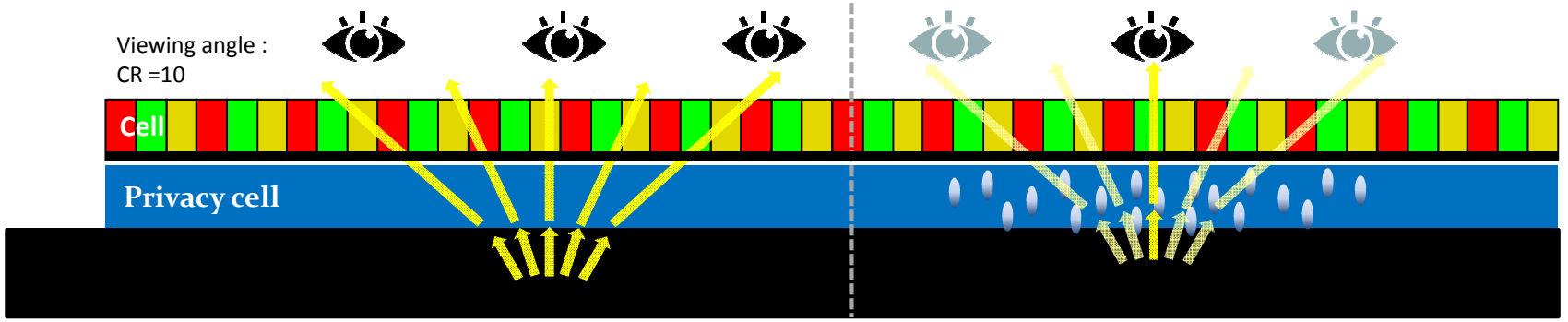
Privacy Display – Cell Solution

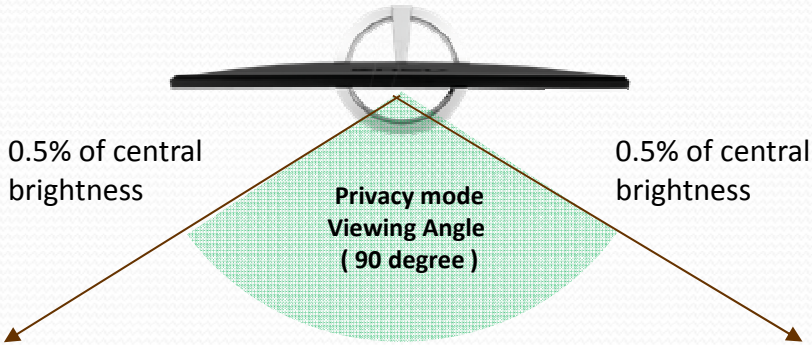
G150XJR-L01
15” XGA NPVA

2019 Jun Mockup sample
2019 Oct. ES
2020 Jan. CS

Sharing Mode
- The privacy cell keeps tranparency

Privacy Mode
- The LC of privacy cell arrays as specific angle to limit the light direction.





Privacy Mode scenario	Demo Sample	
Central brightness	350 nits	200 nits
45 ° viewing angle	<1.75 nits	<1 nits

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New Product Plan

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Size	Resolution	LC type	Operation Temp ℃	Brightness (nits)	2019		2020
					1H	2H	1H
10.4”	XGA 1024*768	AAS	-20~70	350		G104XCE-L01	
	XGA 1024*768	AAS	-30~80	500		G104XCE-L02	
	UVGA 960*1280	AAS	-40~85	600	G104ACJ-L01 China market excluded		
12.1”	WXGA 1280*800	AAS	-20~70	400/30K hrs	G121ICE-L02 China market excluded		
	WXGA 1280*800	AAS	-30~80	500/50K hrs		G121ICE-L01	
15”	XGA 1024*768	NPVA	-20~70	350	G150XNE-L02		
	XGA 1024*768	NPVA	-20~70	400	G150XJE-E02 T= 6.5mm		
	XGA 1024*768	NPVA	-30~80	350		G150XJR-L01 privacy display	
15.6"	FHD 1920*1080	AAS	0~50	400	G156HCE-E01 T= 4.5mm		
21.5”	FHD 1920*1080	AAS	0~50	(350)		G215HCJ-L3N	
23.8”	FHD 1920*1080	AAS	0~50	450/50K hrs		G238HCJ-L02	

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Product Line up – Regular(4:3 , 5:4)

Resolution \ Size	3.5 & 5.7	10.4	12.1	15	17	19
QVGA 320*240	LQ035NC111 -20℃ ~70℃ (TN)					
VGA 640*480	G057VGE-T01 -30℃ ~85℃ (TN)	G104V1-T03 -30℃ ~80℃ (VA)				
SVGA 800*600		G104S1-L01 -20℃ ~70℃ (TN) G104AGE-L02 -30℃ ~80℃ (TN)	G121S1-L02 -30℃ ~80℃ (VA) G121AGE-L03 -30℃ ~80℃ (VA)			
XGA 1024*768 UVGA 960*1280		G104X1-L03 -20℃ ~70℃ (VA) G104X1-L04 -30℃ ~80℃ (VA) G104XCE-L01 -20℃ ~70℃(AAS) G104XCE-L02 -30℃ ~80℃(AAS) G104ACJ-L01 -40℃ ~85℃(AAS) UVGA 960*1280	G121X1-L03 -30℃ ~80℃ (TN) G121X1-L04 -30℃ ~70℃ (TN) G121XGE-L01 -30℃ ~80℃ (TN) G121XCE-L01 -30℃ ~85℃ (AAS) G121XCE-L02 -30℃ ~70℃(AAS) G121XCE-P01 -30℃ ~85℃ (AAS)	G150XGE-L04 -30℃ ~80℃ (TN) G150XNE-L01 -30℃ ~80℃ (VA) G150XNE-L02 -20℃ ~70℃ (VA) G150XNE-L03 -20℃ ~70℃ (VA) G150XJE-E01 -20℃ ~70℃ (VA) G150XJE-E02 -20℃ ~70℃ (VA) G150XJE-P01 -30℃ ~80℃ (VA) G150XJR-L01 -30℃ ~80℃ (VA)	350 nits 400 nits , T= 6.5mm privacy display	
SXGA 1280*1024					M170EGE-L20 0℃ ~50℃ (TN) G170EGE-L50 -30℃ ~80℃ (TN)	G190ECE-L50 0℃ ~50℃ (AAS)

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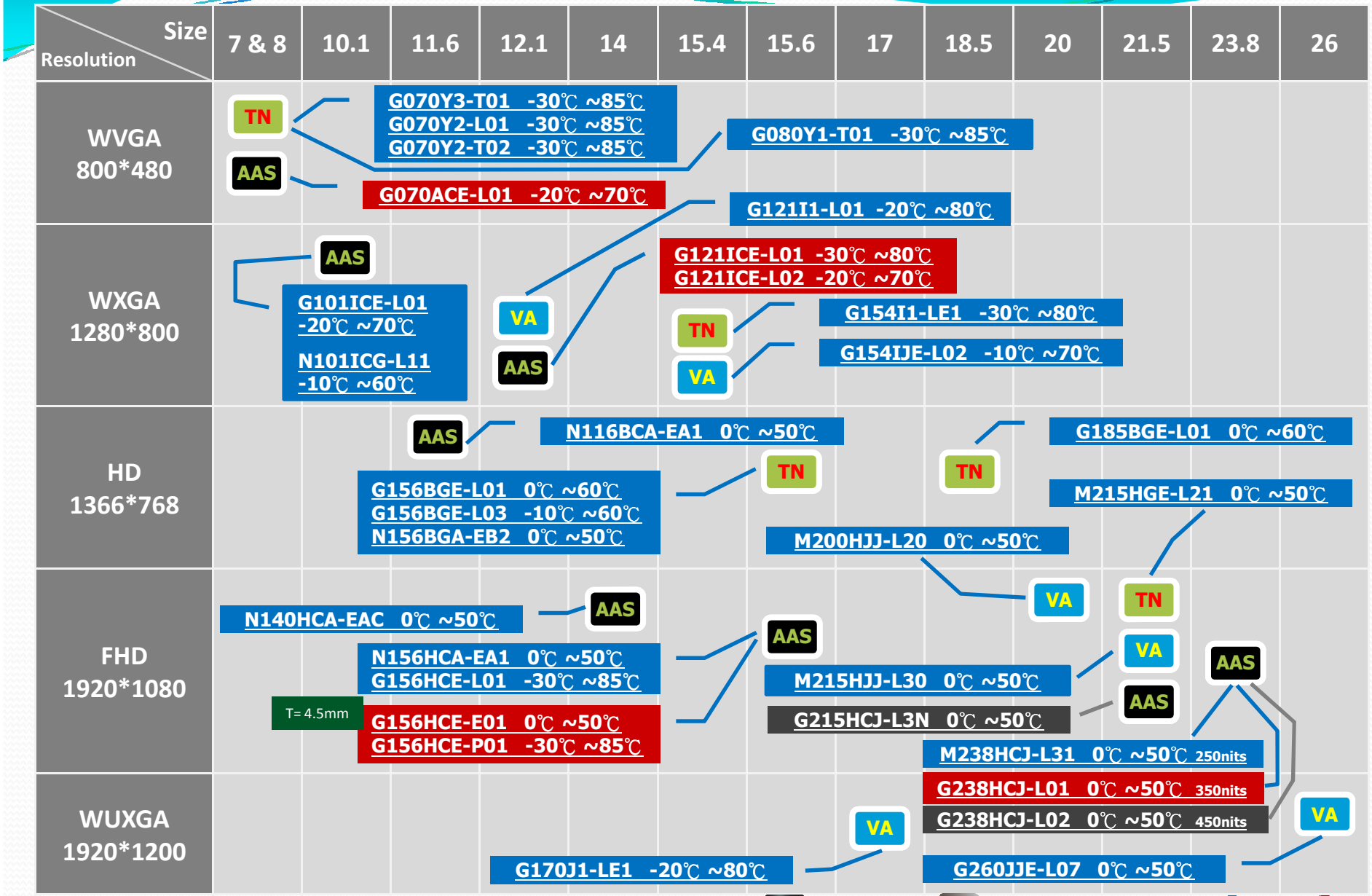
Product Line up – Wide format(16:9, 16:10)



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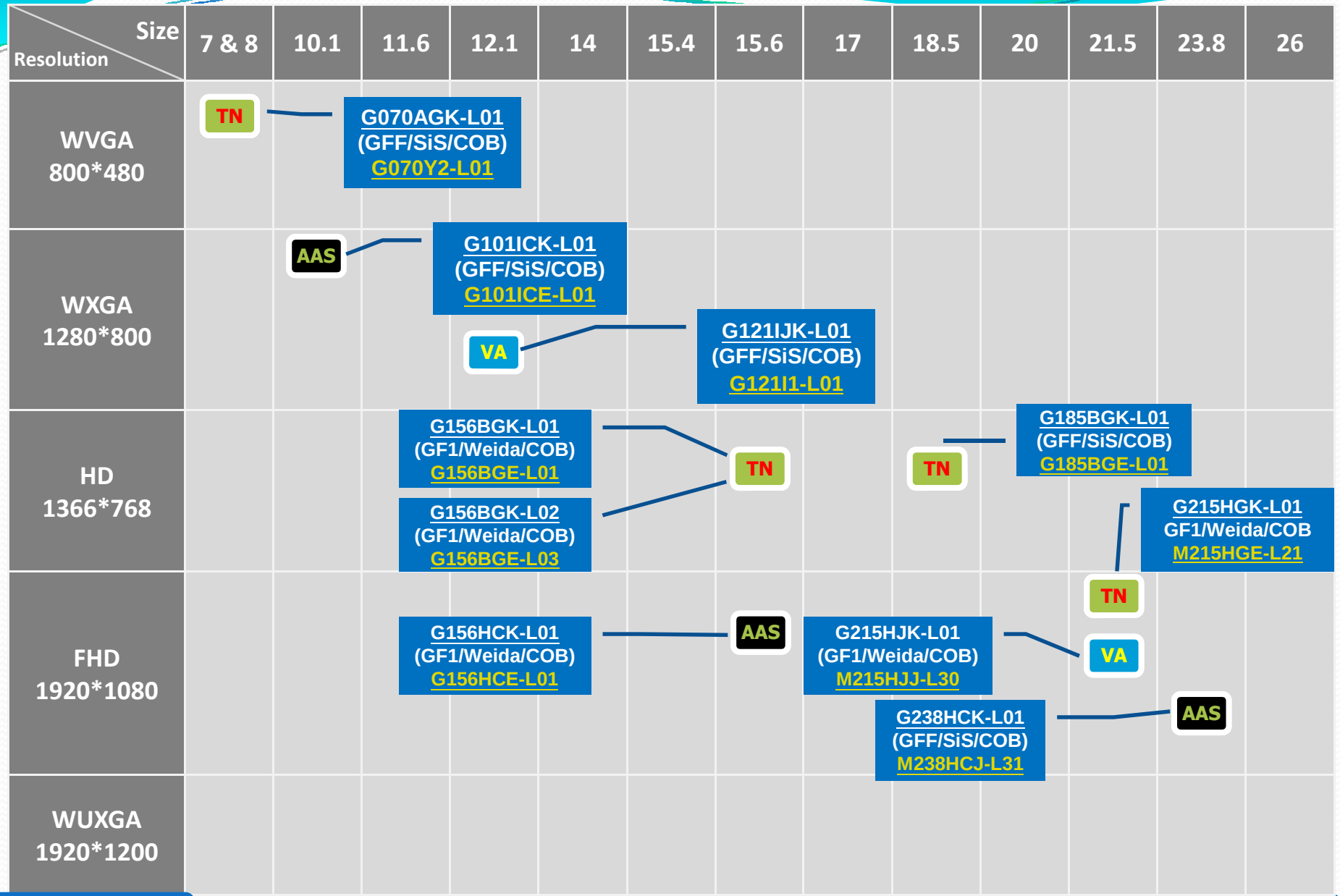
TPM Product Line up – Regular(4:3 , 5:4)

Resolution \ Size	3.5 & 5.7	10.4	12.1	15	17	19
QVGA 320*240						
VGA 640*480						
SVGA 800*600		G104AGK-L01 (GFF/SiS/COB) G104AGE-L02 (TN)				
XGA 1024*768 UVGA 960*1280		G104XJK-L01 (GFF/SiS/COB) G104X1-L03 (VA) G104XJK-L02 (GFF/SiS/COB) G104X1-L04 (VA)	G121XCK-L01 (GFF/SiS/COB) G121XCE-L01 (AAS)	G150XJK-L02 (GF1/Weida/COB) G150XNE-L01 (VA) G150XJK-L01 (GF1/Weida/COB) G150XNE-L03 (VA) G150XJK-E01 (GF1/Weida/COB) G150XJE-E01 (VA)		
SXGA 1280*1024						

Mass Production

TPM Product Line up – Wide format(16:9, 16:10)



Mass Production

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Product Roadmap

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Reverse Scan | Sunlight Readable | Replaceable Lamp / LED | Digitizer applicable | Wide Temp (>70℃) | 16ms Response time

Size	Res.	LC	2019 1H	2019 2H	2020 1H
3.5”	QVGA 320*240	TN	**LQ035NC111** 300 nits , 400:1, 8 bits, LT 10Khrs	25ms -20℃ ~70℃	
5.7”	VGA 640*480	TN	**G057VGE-T01** 450 nits , 800:1, 6 bits, LT 50Khrs	16ms -30℃ ~85℃	
7”	WVGA 800*480	TN	**G070Y3-T01** 600 nits , 650:1, 6 bits, LT 30Khrs	16ms -30℃ ~85℃	
			G070Y2-L01 500 nits , 600:1, 6/8 bits, LT 50Khrs	16ms -30℃ ~85℃	
			G070Y2-T02 500 nits , 600:1, 6 bits, LT 50Khrs	16ms -30℃ ~85℃ Driver IC with TCON	
		AAS	**G070ACE-L01** 500 nits , 1000:1, 6/8 bits, LT 50 Khrs	25ms -30℃ ~80℃ 2019 2H MP	
8”	WVGA 800*480	TN	**G080Y1-T01** 600 nits , 600:1, 6/8 bits, LT 30Khrs	16ms -30℃ ~85℃ Driver IC with TCON	
10.1”	WXGA 1280*800	AAS	**G101ICE-L01** 500 nits , 800:1, 6/8 bits, LT 50 Khrs	20ms -20℃ ~70℃	
			N101ICG-L11 350 nits , 800:1, 6/8 bits, LT 12 Khrs	20ms -10℃ ~60℃	

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Product Roadmap

- Confidential -

Reverse Scan | Sunlight Readable
Replaceable Lamp / LED | Digitizer applicable
Wide Temp (>70℃) | 16ms Response time

Size	Res.	LC	2019 1H	2019 2H	2020 1H
10.4”	VGA 640*480	S-MVA	**G104V1-T03** 500 nits , 1500:1, 6 bits, LT 50 Khrs	23ms, Reverse Scan, Wide Temp, -30℃ ~80℃	
	SVGA 800*600	TN	**G104S1-L01** 400 nits , 700:1, 6/8 bits, LT 30 Khrs	16ms, Reverse Scan, Replaceable Lamp / LED, Wide Temp, -20℃ ~70℃	
			G104AGE-L02 400 nits , 700:1, 6/8 bits, LT 50 Khrs	16ms, Reverse Scan, Wide Temp, -30℃ ~80℃	
	XGA 1024*768	S-MVA	**G104X1-L03** 350 nits , 1000:1, 6/8 bits, LT 30 Khrs	25ms, Reverse Scan, Digitizer applicable, Wide Temp, -20℃ ~70℃	
			G104X1-L04 500 nits , 1000:1, 6/8 bits, LT 50 Khrs	25ms, Reverse Scan, Digitizer applicable, Replaceable Lamp / LED, Wide Temp, -30℃ ~80℃	
		AAS	**G104XCE-L01** 350 nits , 1000:1, 6/8 bits, LT 30 Khrs	25ms, Reverse Scan, Digitizer applicable, Wide Temp, -20℃ ~70℃	
			G104XCE-L02 500 nits , 1000:1, 6/8 bits, LT 50 Khrs	25ms, Reverse Scan, Digitizer applicable, Replaceable Lamp / LED, Wide Temp, -30℃ ~80℃	
	UVGA 960*1280	AAS	**G104ACJ-L01** 600 nits , 1000:1, 6/8 bits, LT 50 Khrs	25ms, Reverse Scan, Wide Temp, -40℃ ~85℃	2019 1H MP

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Product Roadmap

- Confidential -

Reverse Scan | Sunlight Readable | Replaceable Lamp / LED | Digitizer applicable | Wide Temp (>70℃) | 16ms Response time

Size	Res.	LC	2018 1H	2018 2H	2019 1H
11.6”	HD 1366*768	AAS	N116BCA-EA1 250 nits , 800:1, 6 bits, LT 15 Khrs	25ms 0℃~50℃	
12.1”	SVGA 800*600	S-MVA	G121S1-L02 600 nits , 1500:1, 6/8 bits, LT 50 Khrs	25ms -30℃ ~80℃	
			G121AGE-L03 450 nits , 1500:1, 6/8 bits, LT 50 Khrs	25ms -30℃ ~80℃	
	XGA 1024*768	TN	G121X1-L03 600 nits , 700:1, 6/8 bits, LT 50 Khrs	16ms -30℃ ~80℃	2020 1H EOL
			G121X1-L04 500 nits , 700:1, 6/8 bits, LT 30 Khrs	16ms -30℃ ~70℃	2020 1H EOL
		AAS	G121XCE-L01 600 nits , 1000:1, 6/8 bits, LT 50 Khrs	16ms -30℃ ~85℃	
			G121XCE-L02 500 nits , 1000:1, 6/8 bits, LT 30 Khrs	16ms -30℃ ~70℃	
			G121XCE-P01 Open cell , (1000:1), 6/8 bits	16ms -30℃ ~85℃	
	WXGA 1280*800	MVA	G121I1-L01 400 nits , 1000:1, 6/8 bits, LT 50 Khrs	25ms -20℃ ~80℃	

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Product Roadmap

- Confidential -

Reverse Scan
Replaceable Lamp / LED
Wide Temp (>70℃)
Sunlight Readable
Digitizer applicable
16ms Response time

Size	Res.	LC	2018 1H	2018 2H	2019 1H
12.1”	WXGA 1280*800	AAS	**G121ICE-L01** 500 nits , 1000:1, 6/8 bits, LT 50 Khrs	25ms -30℃ ~80℃	2019 1H MP
			G121ICE-L02 400 nits , 1000:1, 6/8 bits, LT 30 Khrs	16ms -20℃ ~70℃	2019 1H MP
14”	FHD 1920*1080	AAS	**N140HCA-EAC** 250 nits , 800:1, 6/8 bits, LT 15 Khrs	25ms 0℃~50℃	
15”	XGA 1024*768	TN	**G150XGE-L04** 400 nits , 700:1, 6/8 bits, LT 50 Khrs	16ms -30℃ ~80℃	2020 1H EOL
		VA	**G150XNE-L01** 500 nits , 2500:1, 6/8 bits, LT 50 Khrs	20ms -30℃ ~80℃	
			G150XNE-L03 300 nits , 2000:1,6/8 bits, LT 50 Khrs	20ms -20℃ ~70℃	
			G150XJE-E01 (eDP) 400 nits , 2500:1, 6/8 bits, LT 50 Khrs	20ms -20℃ ~70℃	
			G150XJE-P01 Open cell , (2500:1), 6/8 bits	20ms -30℃ ~80℃	2019 1H MP
			G150XNE-L02 350 nits , 2000:1,6/8 bits, LT 50 Khrs	20ms -20℃ ~70℃	2019 1H MP

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Product Roadmap

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Reverse Scan | Sunlight Readable | Replaceable Lamp / LED | Digitizer applicable | Wide Temp (>70℃) | 16ms Response time

Size	Res.	LC	2018 1H	2018 2H	2019 1H
15”	XGA 1024*768	VA	G150XJE-E02 (eDP) 400 nits , 2500:1, 6/8 bits, LT 50 Khrs	20ms 0℃ ~60℃ T= 6.5mm	2019 2H MP
			G150XJR-L01(Privacy) 350 nits , 2500:1, 6/8 bits, LT 50 Khrs	20ms -30℃ ~80℃	
15.4”	WXGA 1280*800	TN	G154I1-LE1 450 nits , 700:1, 6/8 bits, LT 50 Khrs	16ms -30℃~80℃	
		MVA	G154IJE-L02 400 nits , 1000:1, 6/8 bits, LT 50 Khrs	25ms -10℃~70℃	
15.6”	HD 1366*768	TN	G156BGE-L01 300 nits , 500:1, 8 bits, LT 50 Khrs	12ms 0℃~60℃	
			G156BGE-L03 500 nits , 500:1, 8 bits, LT 50 Khrs	12ms -10℃~60℃	
			N156BGA-EB2 220 nits , 600:1, 6 bits, LT 15 Khrs	12ms 0℃~50℃	

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Size	Res.	LC	2018 1H	2018 2H	2019 1H
15.6”	FHD 1920*1080	AAS	**N156HCA-EA1** 300 nits , 700:1, 6 bits, LT 15 Khrs	25ms 0℃~50℃	
			G156HCE-L01 450 nits , 800:1, 6 bit+FRC, LT 50 Khrs	12ms H/L -30℃~85℃	
			G156HCE-P01 Open cell , (800:1), 6 bit+FRC	12ms H/L -30℃~85℃ 2019 1H MP	
			G156HCE-E01 400 nits , 800:1, 6 bits, LT 50 Khrs	25ms 0℃~50℃ T= 4.5mm 2019 1H MP	
17”	SXGA 1280*1024	TN	**M170EGE-L20** 250 nits , 1000:1, 6/8 bits, LT 50 Khrs	5ms 0℃~50℃	
			G170EGE-L50 500 nits , 1000:1, 6/8 bits, LT 50 Khrs	5ms H/L -30℃ ~80℃ 2019 1H MP	
	WUXGA 1920*1200	S-MVA	**G170J1-LE1** 600 nits , 2000:1, 8 bits, LT 30 Khrs	25ms H/L -20℃~80℃	
18.5”	HD 1366*768	TN	**G185BGE-L01** 300 nits , 1000:1, 8 bits, LT 50 Khrs	5ms 0℃~60℃	
19”	SXGA 1280*1024	AAS	**G190ECE-L50** 500 nits , 1000:1, 6/8 bits, LT40 Khrs	25ms 0℃~50℃	

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Reverse Scan | Sunlight Readable | Replaceable Lamp / LED | Digitizer applicable | Wide Temp (>70℃) | 16ms Response time

Size	Res.	LC	2018 1H	2018 2H	2019 1H
20”	FHD 1920*1080	VA	M200HJJ-L20 250 nits , 3000:1, 6/8 bits, LT 30 Khrs	25ms 0℃~50℃	
21.5	FHD 1920*1080	TN	M215HGE-L21 250 nits , 1000:1, 6/8 bits, LT 30 Khrs	5ms 0℃~50℃	
		VA	M215HJJ-L30 250 nits , 3000:1, 6/8 bits, LT 30 Khrs	25ms 0℃~50℃	
		AAS	M215HCJ-L3N 350 nits , 1000:1, 6/8 bits, LT 30 Khrs	25ms 0℃~50℃	
23.8	FHD 1920*1080	AAS	M238HCJ-L31 250 nits , 1000:1, 6/8 bits, LT 30 Khrs	20ms 0℃~50℃	
			G238HCJ-L01 350 nits , 1000:1, 6/8 bits, LT 30 Khrs	20ms 0℃~50℃ 2019 1H MP	
			G238HCJ-L02 450 nits , 1000:1, 6/8 bits, LT 50 Khrs	20ms 0℃~50℃	
26”	WUXGA 1920*1200	S-MVA	G260JJE-L07 350 nits , 1500:1, 8 bits, LT 50 Khrs	20ms 0℃~50℃	

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