



Automotive Product Road Map

2016 Q4

Product Planning Center

CPT Automotive Product Aspect

Quality

- Increase module automated production scale.
- All products pass AOI (Automatic Optic Inspection).
- Specific automotive production line.

Technology

- Improve HFFS feature. Ex. Low temp. RT, Contrast Ratio.
- Enhance Image Quality. Ex. Resolution, NTSC.
- Reliable design with reliable verification.

Cost competitive

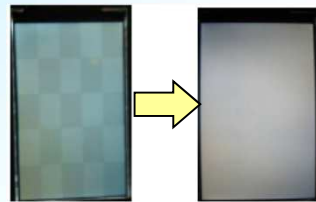
- Manufacture from front end glass to backend module assembly.
- In-house key component like Color filter and back light.
- Implement advanced material like brighter LED and more channel IC.

Product Matrix

- Complete HFFS product line.
- Support every applications in cars from CID, RSE to Cluster.

CPT Core Technology 2016~2020

LT Response: 130ms @ -20°C
Long Life Time: ~ 70k HrS



Free Form
Customization



Reliability
upgrade

High PPI

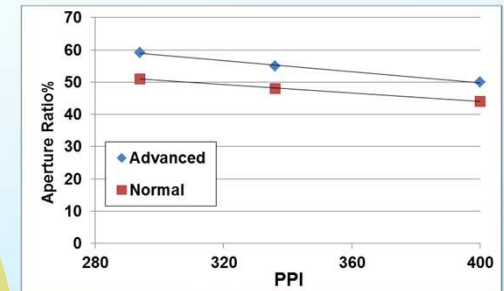
CPT Core
Technology

Free
Form
Module

High
Display
Performance

Wide Screen

Aperture Ratio
Upgrade



TN → FFS
Contrast Ratio: ~ 2000:1
NTSC: ~ 100%



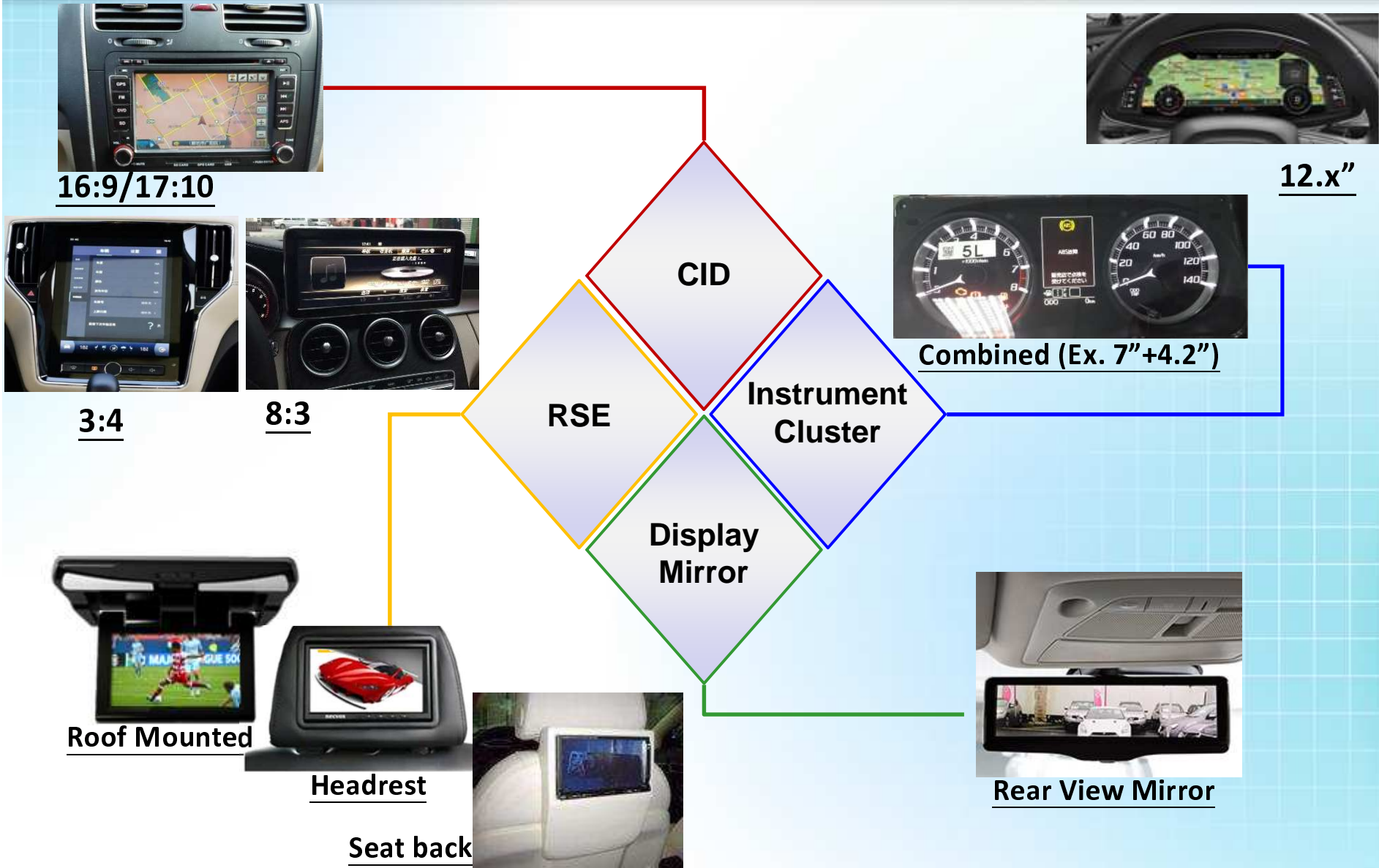
Technical Roadmap

Start develop → ← MP

Characteristics		2016	2017	2018	2019	2020
High Resolution		PPI 200~300		PPI 300~400		
High T%		T%:5% UP	T%:10% UP		T%:15% UP	
NTSC (CIE 1931)		NTSC 70%/92%	NTSC 95/100%			
High CR		CR ~1200	CR 1500~1800		CR ~2000	
Low Temp. RT	-20°C	<150ms	<140ms		<130ms	
	-30°C	<350ms			<330ms	
Touch function		ToC		TiC		
		Out cell with gloves / hover		ToC with gloves/hover		
Free Form		Free Form Display Corner-Cut Shape		Free Form Display Curved Shape		

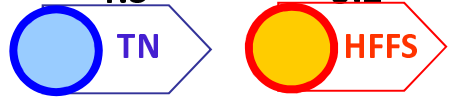
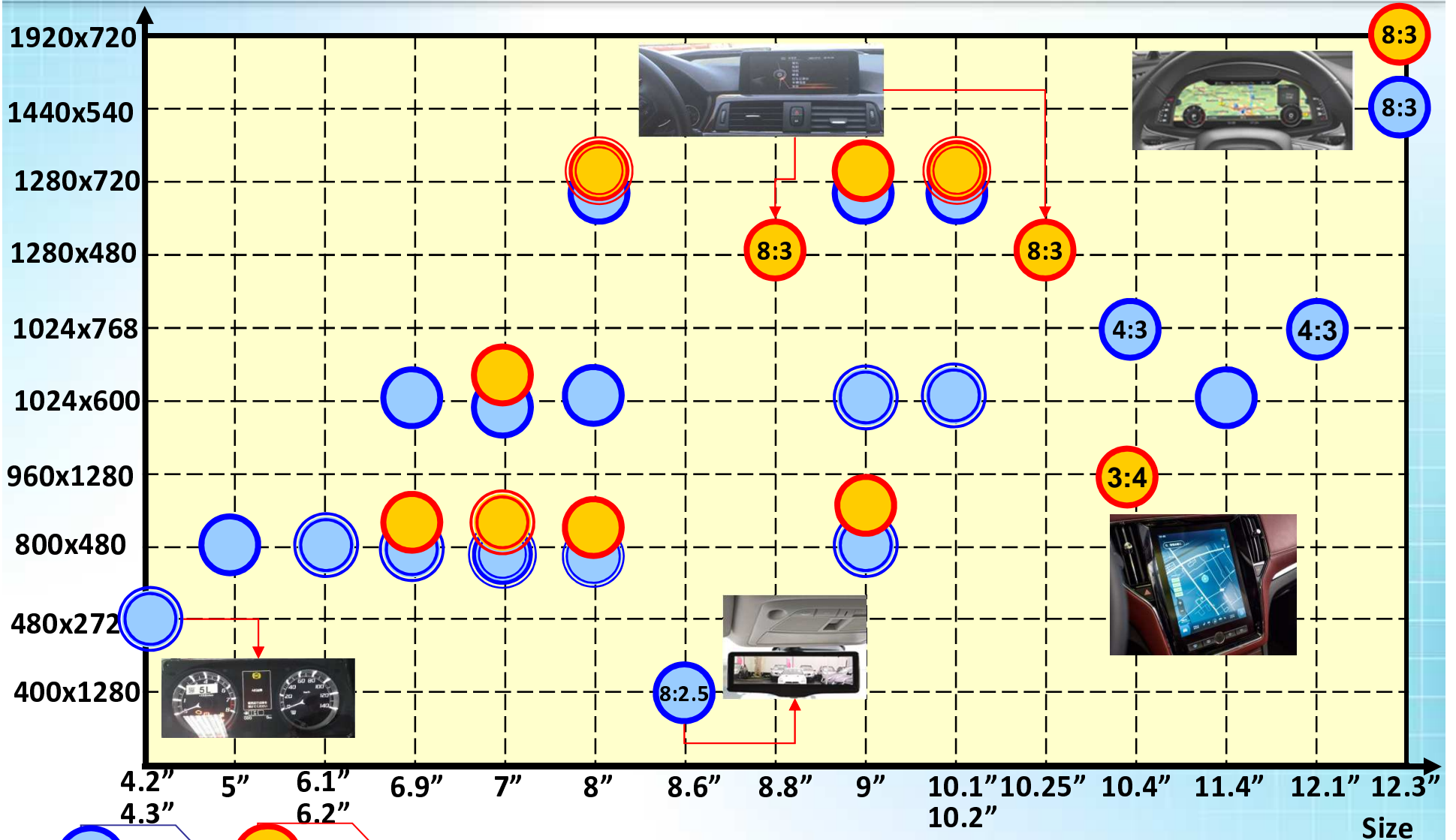
* PPI reference: 7" WVGA: 133 8" HD: 184 9" FHD: 245 12.3" FHD: 167

TFT LCD Automotive Application



Product Overview

Resolution



TN: HFFS == 29:17 → 46 mask

Automotive Product Matrix – Special aspect ratio

Size	Res.	Model	Type	NTSC	Tcon	I/F	Color depth	Lum.	Reliability	MP	Note
8.6"	400x1280	086WA01	TN	70%	O	LVDS	888	--	-20~70 °C/240hr	V	Aspect ratio: 8:2.5 FOG type
		086WA02	TN	70%	O	LVDS	888	1200	-30~85 °C/240hr	Q4	Sample: 9/M
8.8"	1280x480	088WA01	HFFS	70%	O	LVDS	888	500	-20~70 °C/240hr	V	Aspect ratio: 8:3
10.25"	1280x480	103WA01	HFFS	70%	O	LVDS	888	600	-20~70 °C/240hr	V	Aspect ratio: 8:3
		700						-30~85 °C/1000hr	Q4		
		700						-30~85 °C/240hr	Q4	Sample: 8/B	
10.4"	960x1280	104EA03	HFFS	70%	O	LVDS	888	765	-30~85 °C/1000hr	Q3	Aspect ratio: 3:4
	1024x768	104XA12	TN	47%	O	LVDS	666	400	-20~70 °C/240hr	V	Aspect ratio: 4:3 3 O'clock
12.1"	1024x768	121XA02	TN	70%	O	LVDS	6+2	600	-30~80 °C/240hr	Q4	Aspect ratio: 4:3 9 O'clock W/Circuit Board
12.3"	1440x540	123PA01	TN	70%	O	LVDS	888	800	-30~85 °C/240hr	Q4	Aspect ratio: 8:3 W/Circuit Board
	1920x720	123FBA1	HFFS	70%	O	LVDS	888	700	-30~85 °C/1000hr	2017	Aspect ratio: 8:3 W/Circuit Board

Automotive Product Matrix

Size	Res.	Model	Type	NTSC	Tcon	I/F	Color depth	Lum.	Reliability	MP	Note
4.2"	480 x 272	042JB01	TN	55%	O	TTL	666	--	-30~85 °C/1000hr	V	FOG
4.3"	480 x 272	043JD02	TN	50%	O	TTL	6+2	600	-20~70°C/240hr	V	
5"	800 x 480	050LA0A	TN	50%	O	TTL	6+2	500	-20~70 °C/240hr	V	
6.1"	800 x 480	061LA0Q	TN	70%	X	TTL	666	500	-30~85 °C/1000hr	V	
		061LA0M						500	-20~70 °C/240hr	V	
6.2"	800 x 480	062LA01	TN	50%	O	TTL	6+2	500	-20~70 °C/240hr	V	
		062LA11		70%				500	-20~70 °C/240hr	V	
6.94"	840x480	069LR01	TN	70%	O	LVDS	888	550	-20~70 °C/240hr	V	
6.95"	800 x 480	069LA0A	TN	70%	X	TTL	666	500	-30~85 °C/1000hr	V	- The Same Active Area
		069LA0T						500	-20~70 °C/240hr	V	
	1024 x 600	069NA01	TN	50%	O	LVDS	666	500	-20~70 °C/240hr	V	
7"	800x480	070LD0D	TN	45%	O	TTL	6+2	500	-30~85 °C/240hr	V	
		070LF0B	TN	50%	O	TTL	6+2	450	-20~70 °C/240hr	V	
		070LFA1						450	-30~85 °C/240hr	V	
		070LM01	HFFS	70%	O	TTL	888	600	-30~85 °C/1000hr	V	
	070LQ01	HFFS	70%	O	LVDS	6+2	760	-30~85 °C/1000hr	Q4		
	1024x600	070NJ05	TN	50%	O	LVDS	6+2	500	-20~70 °C/240hr	V	- The Same AA and OD
		070NJ07						600	-20~70 °C/240hr	V	
070NQ08		HFFS	50%	O	LVDS	6+2	600	-20~70 °C/240hr	V		

Automotive Product Matrix

Size	Res.	Model	Type	NTSC	Tcon	I/F	Color depth	Lum.	Reliability	MP	Note
8"	800x480	080LG02	TN	70%	X	TTL	666	550	-30~85 °C/1000hr	V	
		080LJ01	TN	50%	O	TTL	6+2	450	-20~70 °C/240hr	V	
		080LJA1						600	-30~85 °C/240hr	V	
		080LQ01	HFFS	70%	O	TTL	888	1000	-30~85 °C/1000hr	Q4	
	1024x600	080NA13	TN	50%	O	LVDS	6+2	600	-20~70 °C/240hr	V	
		080NA32	TN					600	-20~70 °C/240hr	V	12 O'Clock
		080NA23	TN					670	-30~85 °C/240hr	V	
	1280x720	080WK01	HFFS	70%	O	LVDS	6+2	600	-30~85 °C/1000hr	V	
		080WK05						500	-20~70 °C/240hr	Q4	
		080WK07						600	-30~85 °C/240hr	Q4	
		080WM01	HFFS	70%	O	LVDS	888	765	-30~85 °C/1000hr	Q4	
		080WN01	TN	70%	O	LVDS	888	550	-20~70 °C/240hr	V	

Automotive Product Matrix

Size	Res.	Model	Type	NTSC	Tcon	I/F	Color depth	Lum.	Reliability	MP	Note
9"	800x480	090LC41	TN	70%	O	TTL	666	450	-30~85 °C/1000hr	V	12 O'clock
		090LC51	TN	70%	O	TTL	666	450	-30~85 °C/1000hr	V	
	1024x600	090NA06	TN	50%	O	LVDS	6+2	500	-20~70 °C/240hr	V	
		090NB16	TN	50%	O	LVDS	6+2	500	-30~85 °C/240hr	Q4	
	1280x720	090WB01	HFFS	70%	O	LVDS	6+2	600	-30~85 °C/1000hr	V	
		090WK05						500	-20~70 °C/240hr	V	
10.1"	1024x600	101ND06	TN	50%	O	LVDS	6+2	500	-20~70 °C/240hr	V	
	1280x720	101WL01	TN	50%	O	LVDS	6+2	500	-20~70 °C/240hr	Q4	
		101WK01	HFFS	70%	O	LVDS	6+2	600	-30~85 °C/1000hr	Q4	
		101WK05						500	-20~70 °C/240hr	Q4	
		101WM01	HFFS	70%	O	LVDS	888	550	-20~70 °C/240hr	Q4	
10.2"	1024x600	102NDA1	TN	70%	O	LVDS	6+2	600	-30~85 °C/240hr	Q4	
11.4"	1024x600	114NA13	TN	50%	O	LVDS	6+2	500	-20~70 °C/240hr	V	

