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4Q22_Quarterly AMOLED Materials and Components Market tracker

4Q, 2022

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Reference Guide

Application Covered

- Smartphone
- TV

Nation Covered

- Korea
- China

Purpose Covered

- Cover window: 2D, 3D, CPI, UTG
- Touch: Add-on, On-cell
- Polarizer
- OCA, OCR
- Encapsulation: Glass, Frit glass, TFE, Metal foil
- Substrate: Glass, Carrier glass, Polyimide
- PSPI
- Process Film
- Complex sheet
- Driver IC

Actual and Forecast

- Quarterly update
- History : 3-year, Forecast : 5-year

Unit

- Revenue : US\$ millions
- Volume : kg, ea, m²

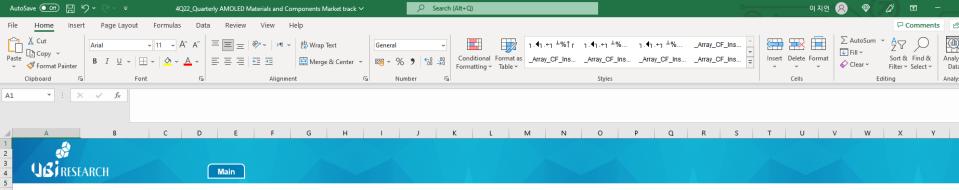
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Sales Performance

- Total
- By Nation
- By Company
- By Application
- By Substrate Type
- By Material



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6 Average Sales Price of Components & Materials

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8 > Average Sales Price of Components & Materials

9 * Market of Key 20 components for OLED

10 * No process cost on colorless polyimide's cost based on 8 inch

11 * Cost of ultra thin glass includes process cost based on 7.6 inch

13 > Average Sales Price of Components & Materials

15																						
14	Componen	ts & Material	Unit	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19	1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22
15 16 17		Substrate glass	\$/m	10.0			18.7	10.0	194 F	19.7	1911	19.7	10.0	10.1	0.4	11.0	10.0	10.0	10.0	-		10.0
16	Substrate	Carrier glass	S/m	10.0							87	10.1	81	81	81.0	10.1	81	1.0	811	10.0		
17		Polyimide	\$/kg		10.0	10.0	91.7	10.4	10.0	8.1	411	46.0	41.1	- etc.			46.0	41.1	10.1	48.4		
18	TFT	PSPI	\$/kg	100.0		100.0	1087	100.1	100.0	108.1		100.1		100.1	100-1	101.0	100.1	100.7	100.0	100.1	- 1011	10.0
19		Frit glass	S/kg	1.000.1	1,000.1	1,001.0	1,0017	1,007-0	1,000.0	1,000.0	1,0011	1,000.0	1,001.0	1,000.0	1,000-0		1.000	1,084.7		1,000.0		1,000.2
20	Encapsulation	Encapsulation glass	S/m	10.0				11.8	10.0		10.4	81.1	8.5	8.0	8.0	8.5	8.1	6.0	6.0	10.0		10.0
19 20 21 22 23 24 25	Encopsulation	Thin film encapsulation	S/kg	100.1	100.1	0.00.0	1001	000.0	401.1		100.1	100.0		101.1	100.1		10.4	100.0	100.1	100.1	100.0	481.1
22		Metal Foil & FSA	S/mi	0.0		8.0	10.0	10.0	10.0	8.4	10.0	10.0	6.0	10.0	8.4	11.0	21.0	8.0	10.0	10.0		100
23		On-cell touch	S/mi	10010	100.0		101.4	1001	100.0	100.0	100.1	1014	101.4	10.4				101.0	101.0	100.0		100.1
24	Touch sensor	Add-on Touch	\$/ea	1.0	1.0	8.0	8.0		81	8.0	87			1.0	1.0	81	8.1	8.1	8.0	1.0		1.0
25		Over coat(on-cell touch)	S/kg	10-0	10.0	10.0	10.4	10.1	81.5	11.4	10.4	11.0	10.0	10.1	91.5	11.0	10.4	10.1	10.1	10.0		
26	Polarizer	Polarizer	\$/ea		1.0	1.0	1.0	1.0	1.0	1.0	8.0	1.0	8.0	8.7	1.0	1.0	8.7	87	87	8.7	8.0	1.0
27 28 29 30 31 32 33	Adhesive	OCR	\$/kg	1910		16.7			10.0	46.4	68.1	87.4	61.0	6.4	61.7	61.4	81.1	61.0	49.1	48.1		10.0
28	Adhesive	OCA	\$/ea	1.0							8.8	8.4	6.4	2.4	1.4	1.4	0.4		6.4			100
29		2D & 3D glass	\$/ea			4.4		4.0	4.0		1.0				1.0	1.8	1.8	6.0	6.7	6.7		84
30	Cover window	Colorless Polyimide	\$/ea							81		10.0	11.0		18.0					8.0		80
31		Ultra thin glass	\$/ea											10.0				10.0	10.0	10.0		10.0
32		Driver IC & COF	\$/ea	1.0			4.1	1.0				8.1	1.8		4.0	8.1				8.1		
33	Module	Complex sheet	\$/mi	10-0	411	8.1	8.7		41.2	417	8.1	46.1	87	41.7	41.1	81	8.1	8.4	10.1	41.7		16.7
34		Process Film	S/mi	10-1	10.4	10.0	16.2	10.5	10.1	8.0	6.0	64	81	8.0	8.0	61	81	81	67	8.0	8.0	
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15 2D glass	100.0	1000.0	1000.0	108.4	100.5	1000.0	2798-1	275.0	100	17 10	8.9	100.2	10.0	100.0	195.8	3895.43	086.7	175.4	100.0	100.0			
16 3D glass	185.7	1005-1	1990.0	454.5	104.0	100.0	446.7	400.0	-				190.7	999,7	798.7	1000.2	1,038.7	942.1		1,040.7			
17 Add-on Touch	114	16.5	206.7	251.5	100.4	100.0	200.4	100.0					-	201.7	201.0	106.0	100.0	100.1		45.8			
18 Carrier glass 19 Colorless polyimide		8.0		19.2	10.2	1.0	10.0				6.0	4.5	2.2	1.4	100	10.2		10.7		10.0			
20 Complex sheet	10.0	11.4	100.2	-		-	-		- 2		8.0			1.4			100.0						
21 Driver IC&COF	40.7	407.0	1004.0	1983.7	100.0	499.0	101.0	100.0					-	1.000.0	1.000.0	1.000.0	1.004.0	1,000,0		1.000.2			
22 Encapsulation glass		100.1	10.8	8.0	8.0	10.7	10.2	10.7		10.00	1.0	8.8	10.0	8.7	1.0	101.0	10.4	1.4	1.0	3.8			
23 Frit glass	1.8	2.2	1.6	1.0	1.0	2.6	2.7	2.4			1.8	1.4	2.2		2.2		2.0	1.4	1.8	1.1			
24 Metal Foil & FSA	100.0	26.0	26.0	10.0	10.4	10.4	10.4	40.4			6.0		46.2	70.8	11.0	18.0		76.4		16.0			
25 OCA	10.0	10.7	28.5	36.5	10.0	100.1	20.0	10.4			8.6		441.2	46.7	100.00	76.7	10.4	30.7		10.0			
26 OCR		18	5.0	8.0	10	8.2	5.6	8.0			5.0		18	1.7	7.8	8.0		1.0		4.0			
27 On-cell touch 28 Over coat(on-cell touch)	10	1.0	100.0		1.0	1.1	10	100.2			1.2	10	1.1	100.0	100.0		100						
29 Polarizer	-	-	100.0	10.2	-	-	-	-						-	10.0	100.0	100.0	100.0		100.0			
30 Polyimide		2.0	4.0	5.5		4.2	2.4	2.7			6.7	14	8.7				10.0			6.7			
31 Process Film	100.00	28.7	-	10.0	100.2	100.0	-	10.0			1.0		10.0	10.0	-	10.4	10.0	10.1		10.0			
32 PSPI	100.0	10.0	25.3	20.1	28.2	17.0	10.5	10.2			6.0	16.1	10.0	101.46	100.0	100.2	10.4	18.7		28.0			
33 Substrate glass	10.4	20.0	25.2	25.7	25.4	2014	10.0	10.4		12 2	B-2	10.1	10.1	100.0	46.2	45.3	10.4	40.4	46.2	46.7			
34 Thin film encapsulation	1.0	1.0	2.5	1.0	2.0	2.0	2.6	1.0		18 1	1.0	4.0		4.0	5.0	6.0	1.0	6.1					
35 Ultra thin glass											6.7	m.e.	196.2	3.4	10.7	10.4	10.4	18.4	10.4	46.2			
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12 13 14 M 15 =	&C 2D glass	▼ Unit million e	Value Value Value	18.4	40.5	11.2 10.4	96.0	97.5	18.4	MLI 96	8. 35.5	10.0	10.0	75.2	10.0	16.7	68.3	46.1	00.4	
12 13 14 M 15 = 16 =	&C 2D glass 3D glass	▼ Unit million e million e	Value value 1Q18 20 20 20 20 20 20 20 2	18.4 27.4	40.0 40.0	17.2 MAR 18.1 MAR	34.0	97.5 36.7	18.4 (8.2	86.3 56 56.3 60	8 16.0 8 76.6	100.0	10.4	75.3	10.0	10.7	100.7	46.7	10.4	
12 13 14 M 15 = 16 = 17 =	&C 2D glass 3D glass Add-on Touch	▼ Unit million e million e	Value Value IQ18	10.4 27.4 10.6	40.5 40.5 10.5	17.2 30.8 36.1 36.8 36.9 36.3	94.3 25.5 36.7	97.5 56.7 37.2	181.4 491.0 381.0	81.3 N 31.3 40 81.4 10	5 36.3 5 76.6 3 46.3	81.8 105.8 45.5	10.0 100.4 10.0	75.3 90.3 80.9	10.8 105.8 25.1	16,7 106,2 80,8	100.7 200.7 20.8	46.3 96.7 36.2	25.4 112.8 8.0	
12 13 14 M 15 = 16 = 17 = 18 =	&C 2D glass 3D glass Add-on Touch Carrier glass	Unit million e million e million e 1,000,000	Value value 1Q18 a a a 0 m2	18.4 27.4	40.0 40.0	17.2 HAR 98.1 HAR 98.9 JR3 1.2 L.9	98.0 25.0 36.1 3.0	87.5 36.7 37.2 5.2	98.4 (46.2 (36.5 (5.0 (81.3 38 36.3 40 81.4 30 31.1 3	9 36.3 9 76.8 9 46.3 9 5.3	40.0 40.0 1.0	10.0 100.0 10.0 1.0	76.5 161.5 16.0 1.0	76.8 105.8 25.4 25.4 2.5	16,7 108,3 86.6 2.5	86.5 101.7 21.8 2.8	41.1 18.7 19.3 1.7	20.4 102.8 8.0 1.8	
12 13 14 M 15 = 16 = 17 = 18 = 19 =	&C 2D glass 3D glass Add-on Touch	▼ Unit million e million e	Value	10.4 27.4 10.6	40.5 40.5 30.5 5.5	172 184 185 185 189 185 1.2 1.0	94.3 25.5 36.7	97.5 56.7 37.2	181.4 491.0 381.0	81.3 N 31.3 40 81.4 10	9 313 9 754 8 453 1 53 9 53	81.8 105.8 45.5	10.0 100.4 10.0	75.3 90.3 80.9	10.8 105.8 25.1	16,7 106,2 80,8	100.7 200.7 20.8	46.3 96.7 36.2	25.4 112.8 8.0	
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12 13 14 15 16 17 18 19 20 21 22 23 9	&C 2D glass 3D glass Add-on Touch Carrier glass Colorless polyimide Complex sheet Driver IC&COF Encapsulation glass Frit glass	Unit million e million e million e 1,000,000 million e 1,000,000 ton	Value Value JQ18 aa aa a a a a a a a a a a a a a a a	688. 0828	10 C C C C C C C C C C C C C C C C C C C	112 984 983 988 889 983 12 58 13 58 13 58 14 58 15 57 15 58	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	25 2 2 2 2 2 3	88.4 1 88.0 1 89.0 1 89.0 1 80.0 10000000000000000000000000000000000	8.3 8 8.3 4 8.4 8 1.1 1 1.2 1 1.3 11 1.3 1 1.3 1		5 C 2 C 2 C 2 C 2	ustresta	111111		urfeerber	e e e e e e e e	2 C 2 2 2 2 2 2 2 2	2 <u>2</u> c c c <u>c</u> <u>2</u>	
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