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(54) **ORGANIC LIGHT EMITTING DIODE DISPLAY**

(57) A display device including a substrate comprising a free form active area having pixels defined by scan lines, data lines, and power supply lines, and a bezel area located outside the active area and having power supply routing lines to which a power supply voltage is applied and scan routing lines to which scan pulses are applied; and link lines that are disposed in the bezel area, and that connect the power supply routing lines to the

power supply lines and transmit the power supply voltage from the power supply routing lines to the power supply lines, the link lines comprising: a plurality of first link lines; and one or more second link lines that interconnect the first link lines, each of the first link lines comprising one end connected to the power supply routing lines and the other end connected to the power supply lines.

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EUROPEAN SEARCH REPORT

Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2014/022230 A1 (HASUMI TARO [KR] ET AL) 23 January 2014 (2014-01-23)	1,3	INV. G09G3/32
Y	* paragraphs [0027] - [0029], [0032] - [0033], [0037], [0039], [0043], [0047]; figures 1,2 *	4,5	
X	EP 2 889 864 A1 (LG DISPLAY CO LTD [KR]) 1 July 2015 (2015-07-01)	1-3	
Y	* paragraphs [0002], [0012] - [0013], [0030] - [0038], [0047], [0050], [0056], [0058]; figures 4,5,6 *	4,5	
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	* paragraphs [0021], [0028] - [0029], [0031], [0041], [0043], [0049], [0054] - [0055]; figures 1,3,5,6 *		
A	US 2010/141630 A1 (KIMURA HAJIME [JP]) 10 June 2010 (2010-06-10)	1-3	
	* paragraphs [0155] - [0157]; figures 10c,10d *		
Y	CN 104 977 740 A (BEIJING BOE OPTOELECTRONIC CO LTD) 14 October 2015 (2015-10-14)	4,5	
	* abstract *		
	& US 2017/033123 A1 (LV ZHENHUA [CN] ET AL) 2 February 2017 (2017-02-02)		
	* paragraphs [0007] - [0008], [0012] - [0013], [0017] - [0018], [0050] - [0051], [0057]; figures 2-3 *		
Y	CN 104 614 911 A (BOE TECHNOLOGY GROUP CO LTD) 13 May 2015 (2015-05-13)	4,5	
	* paragraphs [0010], [0012], [0039], [0040]; figures 2-5 *		
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 12 June 2017	Examiner Taron, Laurent
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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Application Number

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-3

display device having auxiliary link lines in a bezel area

2. claims: 4, 5

display device having scan routing lines formed on a
different layer than the lead-in part of the gate drive
circuit

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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专利名称(译)	有机发光二极管显示器		
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[标]申请(专利权)人(译)	乐金显示有限公司		
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当前申请(专利权)人(译)	LG DISPLAY CO. , LTD.		
[标]发明人	SHIN SANGIL SUK JUNGYOUP SHIN BYONGWOOK		
发明人	SHIN, SANGIL SUK, JUNGYOUP SHIN, BYONGWOOK		
IPC分类号	G09G3/32		
CPC分类号	G09F9/30 G09G3/20 G09G3/3225 G09G2300/0408 G09G2300/0426 G09G2310/0281 G09G2320/0223 G09G3/32 G09G3/3233 G09G3/3266 G09G3/3275 G09G2310/0297 G09G2330/02 H01L27/3276 H01L51/0097 H01L2251/5338 H01L2251/5392		
优先权	1020150169237 2015-11-30 KR		
其他公开文献	EP3174042B1 EP3174042A2		
外部链接	Espacenet		

摘要(译)

一种显示装置，包括：基板，包括具有由扫描线，数据线和电源线限定的像素的自由形式有源区;以及边框区，位于有源区外部并具有施加电源电压的电源布线扫描应用扫描脉冲的路由线;设置在边框区域中的连接线，将电源布线连接到电源线，并将电源电压从电源布线传输到电源线，连接线包括：多个第一个链接线;以及互连第一链路线的一个或多个第二链路线，每个第一链路线包括连接到电源路由线的一端和连接到电源线的另一端。

DOCUMENTS CONSIDERED TO BE RELEVANT		Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages		
X	US 2014/022230 A1 (HASUMI TARO [KR] ET AL) 23 January 2014 (2014-01-23) * paragraphs [0027], [0029], [0032] - [0033], [0037], [0039], [0043], [0047]; figures 1, 2	1, 3 4, 5	INV G09G3/32
X	EP 2 889 864 A1 (LG DISPLAY CO LTD [KR]) 1 July 2015 (2015-07-01) * paragraphs [0002], [0012], [0013], [0030], [0038], [0047], [0050], [0056], [0058]; figures 4, 5, 6	1-3 4, 5	
X, P	EP 2 988 854 A1 (LG DISPLAY CO LTD [KR]) 3 February 2016 (2016-02-03) * paragraphs [0021], [0028] - [0029], [0031], [0041], [0043], [0049], [0054] - [0055]; figures 1, 3, 5, 6	1, 3	
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Y	CN 104 614 911 A (BOE TECHNOLOGY GROUP CO LTD) 13 May 2015 (2015-05-13) * paragraphs [0010], [0012], [0039], [0040]; figures 2-5	4, 5	
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Munich		12 June 2017	Taron, Laurent
CATEGORY OF CITED DOCUMENTS			
X particularly relevant if taken alone Y particularly relevant if combined with another document of the same category P prior art document A intermediate document			
I theory or principle underlying the invention E earlier patent document, but published on, or after the filing date O document cited in the application L document cited for other reasons A: number of the same patent family, corresponding document			