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(54) **ELECTROLUMINESCENCE DISPLAY DEVICE**

(57) Disclosed is an electroluminescent display device comprising a substrate, a circuit device layer provided on the substrate and including a first contact hole, a first electrode provided on the circuit device layer, a bank provided on the first electrode and configured to define a first emission area comprising a first sub emission area for exposing a first portion of the first electrode, and a second sub emission area for exposing a second portion of the first electrode, a first sub emission layer provided in the first sub emission area, and a second sub emission

layer provided in the second sub emission area, wherein an area between the first sub emission area and the second sub emission area is overlapped with the first contact hole of the circuit device layer.

According to one embodiment of the present invention, a step difference caused by the contact hole is not generated in the emission area so that it is possible to realize a desired profile in the emission layer of the emission area, thereby realizing a uniform light emission in the emission area.

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Y	* paragraph [0097] - paragraph [0102]; figures 10, 11 *	6, 7, 19, 20	G09G3/3225 H01L27/12
	* paragraph [0116] - paragraph [0117]; figure 14 *		
	* paragraph [0071]; figure 5a *		
	* paragraphs [0044], [0047] *		

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Y	* paragraph [0065] - paragraph [0067]; figure 5 *	6, 7	
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Y	* paragraph [0040] - paragraph [0051]; figures 2A-2C *	19, 20	TECHNICAL FIELDS SEARCHED (IPC)
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Y	* paragraph [0026] - paragraph [0034]; figures 2A, 2B *	6, 7	
	* paragraph [0025]; figure 1 *		

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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 20 September 2019	Examiner Pusch, Catharina
CATEGORY OF CITED DOCUMENTS		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	
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			

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The present search report has been drawn up for all claims				
Place of search Munich		Date of completion of the search 20 September 2019	Examiner Pusch, Catharina	
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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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
Place of search Munich		Date of completion of the search 20 September 2019	Examiner Pusch, Catharina
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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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: 1-10, 21

connection of first electrode to driving transistor

1.1. claim: 3

bank covering first electrode in contact hole

1.2. claims: 4, 5

same colour in sub emission areas/subpixels

1.3. claims: 6, 7

provision of two banks

1.4. claims: 8, 9

location of data line

1.5. claim: 10

same areas of sub pixels

1.6. claim: 21

height of electroluminescent layer in sub emission area

2. claims: 11-18

provision and layout of Vss and Vdd lines

3. claim: 19

dummy area surrounding active display area

4. claim: 20

metal oxide transistors

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

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ON EUROPEAN PATENT APPLICATION NO.**

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专利名称(译)	电致发光显示装置		
公开(公告)号	EP3514832A3	公开(公告)日	2019-10-30
申请号	EP2018214624	申请日	2018-12-20
[标]申请(专利权)人(译)	乐金显示有限公司		
申请(专利权)人(译)	LG DISPLAY CO. , LTD.		
当前申请(专利权)人(译)	LG DISPLAY CO. , LTD.		
[标]发明人	PAEK SEUNGHAN KO HYUNIL		
发明人	PAEK, SEUNGHAN KO, HYUNIL		
IPC分类号	H01L27/32 G09G3/3225 H01L27/12		
CPC分类号	H01L27/3276 H01L51/5012 G09G3/3225 H01L27/1225 H01L27/1255 H01L27/3218 H01L27/3223 H01L27/3246 H01L27/3248 H01L27/326 H01L29/78633		
审查员(译)	PUSCH, 凯萨琳娜		
优先权	1020170184076 2017-12-29 KR		
其他公开文献	EP3514832A2		
外部链接	Espacenet		

摘要(译)

公开了一种电致发光显示装置，其包括基板，设置在基板上并包括第一接触孔的电路装置层，设置在电路装置层上的第一电极，设置在第一电极上并限定第一发射区域的堤岸。包括：第一子发射区，用于暴露第一电极的第一部分；第二子发射区，用于暴露第一电极的第二部分；设置在第一子发射区中的第一子发射层；以及第二子发射在第二子发射区中提供的层，其中第一子发射区和第二子发射区之间的区域与电路器件层的第一接触孔重叠。根据本发明的一个实施例，在发射区域中不产生由接触孔引起的台阶差，从而可以在发射区域的发射层中实现期望的轮廓，从而实现均匀的发光。发射面积。

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