UL-EU CERTIFICATE

Certificate No.	UL-EU-01673-M1
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Date of Issue	2021-06-30
Certificate Holder	Flex Electronics (Shanghai) Co., Ltd 33 Fuhua Road, Jiading District, Shanghai, 201818 China
Manufacturer	Flex Electronics (Shanghai) Co., Ltd 33 Fuhua Road, Jiading District, Shanghai, 201818 China
Production site	Flex Electronics (Shanghai) Co., Ltd 33 Fuhua Road, Jiading District, Shanghai, 201818 China
Certified Product	DC-DC Converter
Model	BMR481 0021/002 (MAIN), BMR481 0022 (SATELLITE), BMR481X1X2X3X4/X5X6X7, BMR482 0001/004 (MAIN) BMR482 0002 (SATELLITE), BMR482X1X2X3X4/X5X6X7 See Page 2-4 for Details.
Trademark	flex
Rated Voltage / Frequency	(optional) BMR481: Vin=40-60Vdc, Iin=2.36A; Vout=0.5-1.35Vdc, Iout=0-70A, See Page 5 for Details.
Rated Current / Power	See Rated Voltage / Frequency
Insulation Class	-
Degree of protection (IP)	X0
Tested acc. to	EN 62368-1:2014, EN 62368-1:2014/A11:2017
Test Report No.	OFF-4788662006-A-1-M-1 issued on 2021-06-30
Additional	See Page 5
Expire date	2023-01-06

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Additional Model(s):

Series: BMR481X1X2X3X4/X5X6X7 is the generic series model number, it represents:

X1: Mechanical pin option

0: LGA(main); Box pin (satellite), LGA (base board), LGA (controller)

1~9: TBD

X2X3: additional variants

00: For internal use

01: Optimized for Vout 1.8V, Iout 60A, Vadjust range can be set from 1.2 – 2.1V, Trafo 6:1, 40-60Vin, VR13/SVID, 1500Vdc functional isolation without digital isolator

02: Optimized for Vout 1.0V, Iout 70A, Vadjust range can be set from 0.5 – 1.35V, Trafo 9:1, 40-60Vin, PMBus only (but SVID configured), 1500Vdc functional isolation without digital isolator

04-99: TBD

X4: Function option

0: For internal use only

1: open frame (for Main)

2: open frame (for satellite)

3: open frame (for controller product)

4~8: TBD

9: for internal use only

X5X6X7: sequence number for CDA files

X5, X6, X7 can be a number between 000 and 999. Both general numbers specified in the datasheet and customer unique numbers exists.

Standard CDA should be used start from /001

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BMR482X1X2X3X4/X5X6X7：

X1 defines the Mechanical pin option

Option	X1	Comment
Standard, Open frame	0	Main: LGA Satellite: Box pin Base board: LGA Controller: LGA
TBD	1-9	

For Main and Satellite products, and Cell components (X2, X3)

X2X3 is used as sequence number for additional variants

X2X3 can be a number between 00 and 99

Additional product set variants	X2X3
Optimized for Vout 0.75V, Iout 100A, Vadjust range can be set from 0.5 – 1.35V, Trafo 10:1, 40-60Vin, 1500Vdc functional isolation without digital isolator	00
Optimized for Vout 1.8V, Iout 100A, 40-60Vin, 8:1 transformer ratio, VR13/SVID, 110 W Test Plan, 1500Vdc functional isolation without digital isolator	50
Optimized for Vout 1.8V, Iout 100A, 54V +/- 10%, 6:1 transformer ratio, VR13/SVID, 110 W Test Plan, 1500Vdc functional isolation without digital isolator	51
TBD	01-49 53-99

For Base board components and Controller products (X2, X3)

X2X3 is used as sequence number for additional variants

X2X3 can be a number between 00 and 99

Additional product set variants	X2X3
For internal use	00
Compatible with the following Cell components: BMR 482 0000 BMR 482 0500 and BMR 482 0510	01
TBD	02-99

Function (X4)

X4 defines the Functionality option

Option	X4	Comment
Component	0	For internal use only. Example: Used for a Cell component used as a part of a Main product
Main product	1	Open Frame
Satellite product	2	Open Frame
Controller product	3	Open Frame
TBD	4-8	
Base board component	9	For internal use only. Example: Used for a Base board component used as a part of a Main product

X5, X6, X7 can be a number between 000 and 999. Both general numbers specified in the datasheet and customer unique numbers exists.

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Rating :
(optional)
BMR481:
Vin=40-60Vdc, Iin=2.36A; Vout=0.5-1.35Vdc, Iout=0-70A
BMR482:
Vin=40-60Vdc, Iin=3.38A; Vout=0.5-1.35Vdc, Iout=0-110A
See test report for details

Additional Information:

for building-in. The report was revised to include technical modifications.
This is to replace UL-EU-01673 issued 2019-01-31 due to add new models and upgrade CTF stage.

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Certification Mark UL-EU Mark

The UL-EU Mark, as displayed below, shall appear on certified products only. Minimum size is not specified, as long as the Mark is legible. The following is suggested.

The minimum height of the registered trademark symbol ® shall be 1 mm. When the overall diameter of the UL-EU Mark is less than 9.5 mm, the trademark symbol may be omitted if it is not legible to the naked eye.

The UL-EU Mark may appear on a label, nameplate, or may be cast, stamped or molded into the product. When appearing on a label or nameplate, the Manufacturer's name or trademark along with a model number are also required on that same label or nameplate. If cast, stamped or molded, the Certificate Manufacturer's name or trademark and model number shall also appear elsewhere on the product.

All content shall be in accordance with the details provided on this UL-EU Certificate.

PROCUREMENT

The Production site may reproduce the Mark or obtain it from a UL authorized supplier. The list of UL authorized suppliers can be found on UL's online directory at www.ul.com

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Alternate certification Mark for cables

As an alternative to the UL-EU Mark specified above the alternate UL-EU Mark, displayed below, can appear on certified cables only. Minimum size is not specified, as long as the mark is legible. The following is suggested:

(UL)-EU

The alternate UL-EU Mark may be cast, stamped or molded into the cable and continue throughout the length of the cable as specified in the applicable cable standard.

All content shall be in accordance with the details provided on this UL-EU Certificate.