

Test Report No. 492011236.011

Photovoltaic Module Qualification
according to IEC / EN 61215-1, IEC / EN 61215-1-1,
IEC / EN 61215-2, IEC / EN 61730-1, IEC / EN 61730-2

Applicant: **Anhui Daheng Energy Technology Co., Ltd.**

No.01, Yaoyuan Road, Luyang District,
Hefei City, Anhui Province, P.R. China

File No.: PVP07021/22P-01

Designed: *July. 18. 2022* by: *Buom Zhongy*
(Project Engineer)

Reviewed: *July. 18. 2022* by: *[Signature]*
(Technical Certifier)

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Test Report



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Applicant..... :	Anhui Daheng Energy Technology Co., Ltd. No.01, Yaoyuan Road, Luyang District, Hefei City, Anhui Province, P.R. China
Manufacturer :	Anhui Daheng Energy Technology Co., Ltd. No.01, Yaoyuan Road, Luyang District, Hefei City, Anhui Province, P.R. China
Order No. :	QT-PVP07021/22P
Date of Application :	07/04/2022
Product :	Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
Module type(s)..... :	<p>PV Modules with Mono-crystalline Silicon Solar Cells (156.75mm to 166mm):</p> <p>72 cells: DHM72-xxxW (xxx = 325 - 370, in increment of 5) 72 cells: DHM72/FS-xxxW (xxx = 325 - 370, in increment of 5) 60 cells: DHM60-xxxW (xxx = 275 - 310, in increment of 5) 60 cells: DHM60/FS-xxxW (xxx = 275 - 310, in increment of 5) 72 cells: DHM72X-xxxW (xxx= 370 - 390, in increment of 5) 72 cells: DHM72X/FS-xxxW (xxx= 370 - 390, in increment of 5) 60 cells: DHM60X-xxxW (xxx= 310 - 325, in increment of 5) 60 cells: DHM60X/FS-xxxW (xxx= 310 - 325, in increment of 5)</p> <p>PV Modules with Mono-crystalline Silicon Half-cut Solar Cells (156.75mm to 166mm):</p> <p>144 cells: HCM72-xxxW (xxx = 350 - 390, in increment of 5) 144 cells: HCM72/FS-xxxW (xxx = 350 - 390, in increment of 5) 120 cells: HCM60-xxxW (xxx = 290 - 325, in increment of 5) 120 cells: HCM60/FS-xxxW (xxx = 290 - 325, in increment of 5) 156 cells: HCM78X9-xxxW (xxx = 415 - 455, in increment of 5) 156 cells: HCM78X9/FS-xxxW (xxx = 415 - 455, in increment of 5) 144 cells: HCM72X9-xxxW (xxx = 385 - 420, in increment of 5) 144 cells: HCM72X9/FS-xxxW (xxx = 385 - 420, in increment of 5) 120 cells: HCM60X9-xxxW (xxx = 320 - 350, in increment of 5) 120 cells: HCM60X9/FS-xxxW (xxx = 320 - 350, in increment of 5) 144 cells: DHM-72L9-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9(BW)-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9(BB)-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/FS-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/FS(BW)-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/FS(BB)-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/BF-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/BF(BW)-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/BF(BB)-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/BF/FS -xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/BF/FS(BW)-xxxW (xxx = 430 - 465, in increment of 5)</p>

	<p>144 cells: DHM-72L9/BF/FS(BB)-xxxW (xxx = 430 - 465, in increment of 5)</p> <p>120 cells: DHM-60L9-xxxW (xxx = 360 - 385, in increment of 5)</p> <p>120 cells: DHM-60L9(BW)-xxxW (xxx = 360 - 385, in increment of 5)</p> <p>120 cells: DHM-60L9(BB)-xxxW (xxx = 360 - 385, in increment of 5)</p> <p>120 cells: DHM-60L9/FS-xxxW (xxx = 360 - 385, in increment of 5)</p> <p>120 cells: DHM-60L9/FS(BW)-xxxW (xxx = 360 - 385, in increment of 5)</p> <p>120 cells: DHM-60L9/FS(BB)-xxxW (xxx = 360 - 385, in increment of 5)</p> <p>120 cells: DHM-60L9/BF-xxxW (xxx = 360 - 385, in increment of 5)</p> <p>120 cells: DHM-60L9/BF(BW)-xxxW (xxx = 360 - 385, in increment of 5)</p> <p>120 cells: DHM-60L9/BF(BB)-xxxW (xxx = 360 - 385, in increment of 5)</p> <p>120 cells: DHM-60L9/BF/FS -xxxW (xxx = 360 - 385, in increment of 5)</p> <p>120 cells: DHM-60L9/BF/FS(BW)-xxxW (xxx = 360 - 385, in increment of 5)</p> <p>120 cells: DHM-60L9/BF/FS(BB)-xxxW (xxx = 360 - 385, in increment of 5)</p> <p>PV Modules with 182mm Mono-crystalline Silicon Half-cut Solar Cells:</p> <p>156 cells: DHM-78X10-xxxW (xxx = 570 - 590, in increment of 5)</p> <p>156 cells: DHM-78X10(BW)-xxxW (xxx = 570 - 590, in increment of 5)</p> <p>156 cells: DHM-78X10(BB)-xxxW (xxx = 570 - 590, in increment of 5)</p> <p>156 cells: DHM-78X10/FS-xxxW (xxx = 570 - 590, in increment of 5)</p> <p>156 cells: DHM-78X10/FS(BW)-xxxW (xxx = 570 - 590, in increment of 5)</p> <p>156 cells: DHM-78X10/FS(BB)-xxxW (xxx = 570 - 590, in increment of 5)</p> <p>156 cells: DHM-78X10/BF-xxxW (xxx = 570 - 590, in increment of 5)</p> <p>156 cells: DHM-78X10/BF(BW)-xxxW (xxx = 570 - 590, in increment of 5)</p> <p>156 cells: DHM-78X10/BF(BB)-xxxW (xxx = 570 - 590, in increment of 5)</p> <p>156 cells: DHM-78X10/BF/FS -xxxW (xxx = 570 - 590, in increment of 5)</p> <p>156 cells: DHM-78X10/BF/FS(BW)-xxxW (xxx = 570 - 590, in increment of 5)</p> <p>156 cells: DHM-78X10/BF/FS(BB)-xxxW (xxx = 570 - 590, in increment of 5)</p> <p>144 cells: DHM-72X10-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>144 cells: DHM-72X10(BW)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>144 cells: DHM-72X10(BB)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>144 cells: DHM-72X10/FS-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>144 cells: DHM-72X10/FS(BW)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>144 cells: DHM-72X10/FS(BB)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>144 cells: DHM-72X10/BF-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>144 cells: DHM-72X10/BF(BW)-xxxW (xxx = 525 - 555, in increment of 5)</p>
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5) 144 cells: DHM-72X10/BF(BB)-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF/FS -xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF/FS(BW)-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF/FS(BB)-xxxW (xxx = 525 - 555, in increment of 5) 132 cells: DHM-66X10-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10(BW)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10(BB)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/FS-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/FS(BW)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/FS(BB)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF(BW)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF(BB)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF/FS -xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF/FS(BW)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF/FS(BB)-xxxW (xxx = 485 - 505, in increment of 5) 120 cells: DHM-60X10-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10(BW)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10(BB)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/FS-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/FS(BW)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/FS(BB)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF(BW)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF(BB)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF/FS -xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF/FS(BW)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF/FS(BB)-xxxW (xxx = 440 - 460, in increment of 5) 108 cells: DHM-54X10-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10(BW)-xxxW (xxx = 395 - 415, in increment of 5)
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	<p>108 cells: DHM-54X10(BB)-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/FS-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/FS(BW)-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/FS(BB)-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/BF-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/BF(BW)-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/BF(BB)-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/BF/FS -xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/BF/FS(BW)-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/BF/FS(BB)-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>PV Modules with 182mm Mono-crystalline Silicon 1/3-cut Solar Cells:</p> <p>216 cells: DHT-M72X10-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10(BW)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10(BB)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/FS-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/FS(BW)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/FS(BB)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/BF-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/BF(BW)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/BF(BB)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/BF/FS -xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/BF/FS(BW)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/BF/FS(BB)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>180 cells: DHT-M60X10-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10(BW)-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10(BB)-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10/FS-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10/FS(BW)-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10/FS(BB)-xxxW (xxx = 440 - 460, in increment of 5)</p>
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	<p>180 cells: DHM-T60X10/BF-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10/BF(BW)-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10/BF(BB)-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10/BF/FS -xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10/BF/FS(BW)-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10/BF/FS(BB)-xxxW (xxx = 440 - 460, in increment of 5)</p>
<p>General Information</p> <ul style="list-style-type: none"> • Maximum System Voltage.... : DC 1500V • Electrical Protection Class.... : Class II • Fire Safety Class : Class C 	
Type of examination	Conformity testing with TÜV mark
Testing Period	N/A
Testing Laboratory.....	N/A

Test results listed in this test report refer exclusively to the mentioned test sample.

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The submitted test samples as described in the reports hereunder are in compliance with the requirements:
IEC / EN 61215-1:2016 "Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1: Test requirements"

IEC / EN 61215-1-1:2016 "Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-1: Special requirements for testing of crystalline silicon photovoltaic (PV) modules"

IEC 61215-2:2016 / EN 61215-2:2017 + AC:2017 + AC:2018 "Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 2: Test procedures"

IEC 61730-1:2016 / EN IEC 61730-1:2018 + AC:2018 "Photovoltaic (PV) module safety qualification - Part 1: Requirements for construction"

IEC 61730-2:2016 / EN IEC 61730-2:2018 + AC:2018 "Photovoltaic (PV) module safety qualification - Part 2: Requirements for testing"

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Test Report



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Test Report No.: 492011236.011

History of certification	
File no.:	N/A
Certificate no....:	50415065 0001
Date of issue:	09/18/2018
Report no.:	50119627.001
Module type(s) .:	PV Modules with 6" Mono-crystalline Silicon Solar Cells: 72 cells: DHM72-xxxW (xxx = 325 - 370, in increment of 5) 60 cells: DHM60-xxxW (xxx = 275 - 310, in increment of 5) PV Modules with 6" Poly-crystalline Silicon Solar Cells: 72 cells: DHP72-xxxW (xxx= 310 - 335, in increment of 5) 60 cells: DHP60-xxxW (xxx= 260 - 280, in increment of 5)
Description:	Basic qualification by TUV Rheinland
Supplementary information: N/A	
File no.:	SHV02033/19
Certificate no....:	44780 19 406749 - 170 & 44780 19 406749 - 171
Date of issue:	06/14/2019
Report no.:	492011236.001
Module type(s) .:	PV Modules with 6" Mono-crystalline Silicon Solar Cells: 72 cells: DHM72-xxxW (xxx = 325 - 370, in increment of 5) 60 cells: DHM60-xxxW (xxx = 275 - 310, in increment of 5) PV Modules with 6" Half-cut Mono-crystalline Silicon Solar Cells: 144 cells: HCM72-xxxW (xxx = 350 - 390, in increment of 5) 120 cells: HCM60-xxxW (xxx = 290 - 325, in increment of 5) PV Modules with 6" Poly-crystalline Silicon Solar Cells: 72 cells: DHP72-xxxW (xxx= 310 - 335, in increment of 5) 60 cells: DHP60-xxxW (xxx= 260 - 280, in increment of 5)
Description:	Based on certificate No. PV 50415065 issued by TUV Rheinland, extend to half-cut mono cell and a new set of junction box.
Supplementary information: N/A	
File no.:	SHV06008/19-01
Certificate no....:	44780 19 406749 - 173 replaced certificate no 44780 19 406749 - 170
Date of issue:	09/19/2019
Report no.:	492011236.002
Module type(s) .:	PV Modules with 6" Mono-crystalline Silicon Solar Cells: 72 cells: DHM72-xxxW (xxx = 325 - 370, in increment of 5) 60 cells: DHM60-xxxW (xxx = 275 - 310, in increment of 5) PV Modules with 6" Half-cut Mono-crystalline Silicon Solar Cells: 144 cells: HCM72-xxxW (xxx = 350 - 390, in increment of 5) 120 cells: HCM60-xxxW (xxx = 290 - 325, in increment of 5)

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	144 cells: HCM72X9-xxxW (xxx = 385 - 410, in increment of 5) 120 cells: HCM60X9-xxxW (xxx = 320 - 340, in increment of 5)
Description:	Based on certificate No. 44780 19 406749 - 170 extend to a mono cell.
Supplementary information: N/A	
File no.	SHV06008/19-02
Certificate no.	44780 19 406749 - 367 replaced certificate no 44780 19 406749 - 173 44780 19 406749 - 368 replaced certificate no 44780 19 406749 - 171
Date of issue	06/18/2019
Report no.	492011236.003
Module type(s) .:	<p>PV Modules with 6" Mono-crystalline Silicon Solar Cells: 72 cells: DHM72-xxxW (xxx = 325 - 370, in increment of 5) 60 cells: DHM60-xxxW (xxx = 275 - 310, in increment of 5) 72 cells: DHM72X-xxxW (xxx= 370 - 390, in increment of 5) 60 cells: DHM60X-xxxW (xxx= 310 - 325, in increment of 5)</p> <p>PV Modules with 6" Half-cut Mono-crystalline Silicon Solar Cells: 144 cells: HCM72-xxxW (xxx = 350 - 390, in increment of 5) 120 cells: HCM60-xxxW (xxx = 290 - 325, in increment of 5) 144 cells: HCM72X9-xxxW (xxx = 385 - 410, in increment of 5) 120 cells: HCM60X9-xxxW (xxx = 320 - 340, in increment of 5)</p> <p>PV Modules with 6" Poly-crystalline Silicon Solar Cells: 72 cells: DHP72-xxxW (xxx= 310 - 335, in increment of 5) 60 cells: DHP60-xxxW (xxx= 260 - 280, in increment of 5)</p> <p>PV Modules with 6" Half-cut Poly-crystalline Silicon Solar Cells: 144 cells: HCP72X9-xxxW (xxx = 340 - 375, in increment of 5) 120 cells: HCP60X9-xxxW (xxx = 285 - 300, in increment of 5)</p>
Description:	Based on certificate No. 44780 19 406749 - 171 & 44780 19 406749 - 173, and test report 492011236.002, extend to several new raw materials with 2 new module types
Supplementary information: N/A	
File no.	SHV02020/20-01
Certificate no.	44780 19 406749 - 367R1M1 replaced certificate no 44780 19 406749 - 367 44780 19 406749 - 368R1M1 replaced certificate no 44780 19 406749 - 368
Date of issue	06/02/2020
Report no.	492011236.004
Module type(s) .:	<p>PV Modules with 6" Mono-crystalline Silicon Solar Cells: 72 cells: DHM72-xxxW (xxx = 325 - 370, in increment of 5) 60 cells: DHM60-xxxW (xxx = 275 - 310, in increment of 5) 72 cells: DHM72X-xxxW (xxx= 370 - 390, in increment of 5) 60 cells: DHM60X-xxxW (xxx= 310 - 325, in increment of 5)</p> <p>PV Modules with 6" Half-cut Mono-crystalline Silicon Solar Cells:</p>

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	<p>144 cells: HCM72-xxxW (xxx = 350 - 390, in increment of 5) 120 cells: HCM60-xxxW (xxx = 290 - 325, in increment of 5) 156 cells: HCM78X9-xxxW (xxx = 415 - 455, in increment of 5) 144 cells: HCM72X9-xxxW (xxx = 385 - 420, in increment of 5) 120 cells: HCM60X9-xxxW (xxx = 320 - 350, in increment of 5) PV Modules with 6" Poly-crystalline Silicon Solar Cells: 72 cells: DHP72-xxxW (xxx= 310 - 335, in increment of 5) 60 cells: DHP60-xxxW (xxx= 260 - 280, in increment of 5) PV Modules with 6" Half-cut Poly-crystalline Silicon Solar Cells: 156 cells: HCP78X9-xxxW (xxx = 370 - 415, in increment of 5) 144 cells: HCP72X9-xxxW (xxx = 340 - 380, in increment of 5) 120 cells: HCP60X9-xxxW (xxx = 285 - 320, in increment of 5)</p>
Description:	<p>According to the enquiry of the applicant, based on certificate No. 44780 19 406749 - 367 & 44780 19 406749 - 368, and test report 492011236.003, enlarge the module size with new module type and increase the power range.</p>
Supplementary information: N/A	
File no.:	PVP08053/20P
Certificate no....:	44780 19 406749 - 367R2M2 replaced certificate no 44780 19 406749 - 367R1M1
Date of issue:	11/17/2020
Report no.:	492011236.005
Module type(s) .:	<p>PV Modules with 6" Mono-crystalline Silicon Solar Cells: 72 cells: DHM72-xxxW (xxx = 325 - 370, in increment of 5) 60 cells: DHM60-xxxW (xxx = 275 - 310, in increment of 5) 72 cells: DHM72X-xxxW (xxx= 370 - 390, in increment of 5) 60 cells: DHM60X-xxxW (xxx= 310 - 325, in increment of 5) PV Modules with 6" Half-cut Mono-crystalline Silicon Solar Cells: 144 cells: HCM72-xxxW (xxx = 350 - 390, in increment of 5) 120 cells: HCM60-xxxW (xxx = 290 - 325, in increment of 5) 156 cells: HCM78X9-xxxW (xxx = 415 - 455, in increment of 5) 144 cells: HCM72X9-xxxW (xxx = 385 - 420, in increment of 5) 120 cells: HCM60X9-xxxW (xxx = 320 - 350, in increment of 5) 144 cells: DHM-72L9-xxxW (xxx = 430 - 465, in increment of 5) 120 cells: DHM-60L9-xxxW (xxx = 360 - 385, in increment of 5) PV Modules with 6" Poly-crystalline Silicon Solar Cells: 72 cells: DHP72-xxxW (xxx= 310 - 335, in increment of 5) 60 cells: DHP60-xxxW (xxx= 260 - 280, in increment of 5) PV Modules with 6" Half-cut Poly-crystalline Silicon Solar Cells: 156 cells: HCP78X9-xxxW (xxx = 370 - 415, in increment of 5) 144 cells: HCP72X9-xxxW (xxx = 340 - 380, in increment of 5) 120 cells: HCP60X9-xxxW (xxx = 285 - 320, in increment of 5)</p>
Description:	<p>Based on certificate No. 44780 19 406749 - 367R1M1, and test report 492011236.004 extend to new raw materials and related new model types</p>
Supplementary information: N/A	

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File no.:	PVP11051/20P
Certificate no.:	44780 19 406749 - 367R2M3 replaced certificate no 44780 19 406749 - 367R2M2 44780 19 406749 - 368R1M2 replaced certificate no 44780 19 406749 - 368R1M1
Date of issue:	12/09/2020
Report no.:	492011236.006
Module type(s) .:	<p>PV Modules with 6" Mono-crystalline Silicon Solar Cells: 72 cells: DHM72-xxxW (xxx = 325 - 370, in increment of 5) 60 cells: DHM60-xxxW (xxx = 275 - 310, in increment of 5) 72 cells: DHM72X-xxxW (xxx= 370 - 390, in increment of 5) 60 cells: DHM60X-xxxW (xxx= 310 - 325, in increment of 5)</p> <p>PV Modules with 6" Half-cut Mono-crystalline Silicon Solar Cells: 144 cells: HCM72-xxxW (xxx = 350 - 390, in increment of 5) 120 cells: HCM60-xxxW (xxx = 290 - 325, in increment of 5) 156 cells: HCM78X9-xxxW (xxx = 415 - 455, in increment of 5) 144 cells: HCM72X9-xxxW (xxx = 385 - 420, in increment of 5) 120 cells: HCM60X9-xxxW (xxx = 320 - 350, in increment of 5) 144 cells: DHM-72L9-xxxW (xxx = 430 - 465, in increment of 5) 120 cells: DHM-60L9-xxxW (xxx = 360 - 385, in increment of 5)</p> <p>PV Modules with 6" Poly-crystalline Silicon Solar Cells: 72 cells: DHP72-xxxW (xxx= 310 - 335, in increment of 5) 60 cells: DHP60-xxxW (xxx= 260 - 280, in increment of 5)</p> <p>PV Modules with 6" Half-cut Poly-crystalline Silicon Solar Cells: 156 cells: HCP78X9-xxxW (xxx = 370 - 415, in increment of 5) 144 cells: HCP72X9-xxxW (xxx = 340 - 380, in increment of 5) 120 cells: HCP60X9-xxxW (xxx = 285 - 320, in increment of 5)</p>
Description:	Based on certificate No. 44780 19 406749 - 367R2M2 & 44780 19 406749 - 368R1M1, and test report 492011236.005, extend to 35mm/40mm thickness frame.
Supplementary information:	N/A
File no.:	PVP11092/20P
Certificate no.:	44780 19 406749 - 367R3M4 replaced certificate no 44780 19 406749 - 367R2M3
Date of issue:	03/01/2021
Report no.:	492011236.007
Module type(s) .:	<p>PV Modules with 6" Mono-crystalline Silicon Solar Cells: 72 cells: DHM72-xxxW (xxx = 325 - 370, in increment of 5) 60 cells: DHM60-xxxW (xxx = 275 - 310, in increment of 5) 72 cells: DHM72X-xxxW (xxx= 370 - 390, in increment of 5) 60 cells: DHM60X-xxxW (xxx= 310 - 325, in increment of 5)</p> <p>PV Modules with 6" Half-cut Mono-crystalline Silicon Solar Cells: 144 cells: HCM72-xxxW (xxx = 350 - 390, in increment of 5) 120 cells: HCM60-xxxW (xxx = 290 - 325, in increment of 5)</p>

Test Report



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	<p>156 cells: HCM78X9-xxxW (xxx = 415 - 455, in increment of 5) 144 cells: HCM72X9-xxxW (xxx = 385 - 420, in increment of 5) 120 cells: HCM60X9-xxxW (xxx = 320 - 350, in increment of 5) 144 cells: DHM-72L9-xxxW (xxx = 430 - 465, in increment of 5) 120 cells: DHM-60L9-xxxW (xxx = 360 - 385, in increment of 5) PV Modules with 7" Half-cut Mono-crystalline Silicon Solar Cells: 144 cells: DHM-72X10-xxxW (xxx = 525 - 555, in increment of 5) 132 cells: DHM-66X10-xxxW (xxx = 485 - 505, in increment of 5) 120 cells: DHM-60X10-xxxW (xxx = 440 - 460, in increment of 5) PV Modules with 6" Poly-crystalline Silicon Solar Cells: 72 cells: DHP72-xxxW (xxx= 310 - 335, in increment of 5) 60 cells: DHP60-xxxW (xxx= 260 - 280, in increment of 5) PV Modules with 6" Half-cut Poly-crystalline Silicon Solar Cells: 156 cells: HCP78X9-xxxW (xxx = 370 - 415, in increment of 5) 144 cells: HCP72X9-xxxW (xxx = 340 - 380, in increment of 5) 120 cells: HCP60X9-xxxW (xxx = 285 - 320, in increment of 5)</p>
Description:	Based on certificate No. 44780 19 406749 - 367R2M3, and test report 492011236.006 extend to new solar cell 182M-ten (half-cut) manufactured by Tongwei solar (Chendu) Co., Ltd and new junction box F20-01 002 manufactured by Changshu Friends Connector Technology Co., Ltd.
Supplementary information: N/A	
File no.:	PVP04006/21P-01
Certificate no.:	44780 19 406749 - 367R4M5 replaced certificate no 44780 19 406749 - 367R3M4
Date of issue:	09/02/2021
Report no.:	492011236.008
Module type(s) .:	<p>PV Modules with 6" Mono-crystalline Silicon Solar Cells: 72 cells: DHM72-xxxW (xxx = 325 - 370, in increment of 5) 72 cells: DHM72/FS-xxxW (xxx = 325 - 370, in increment of 5) 60 cells: DHM60-xxxW (xxx = 275 - 310, in increment of 5) 60 cells: DHM60/FS-xxxW (xxx = 275 - 310, in increment of 5) 72 cells: DHM72X-xxxW (xxx= 370 - 390, in increment of 5) 72 cells: DHM72X/FS-xxxW (xxx= 370 - 390, in increment of 5) 60 cells: DHM60X-xxxW (xxx= 310 - 325, in increment of 5) 60 cells: DHM60X/FS-xxxW (xxx= 310 - 325, in increment of 5) PV Modules with 6" Half-cut Mono-crystalline Silicon Solar Cells: 144 cells: HCM72-xxxW (xxx = 350 - 390, in increment of 5) 144 cells: HCM72/FS-xxxW (xxx = 350 - 390, in increment of 5) 120 cells: HCM60-xxxW (xxx = 290 - 325, in increment of 5) 120 cells: HCM60/FS-xxxW (xxx = 290 - 325, in increment of 5) 156 cells: HCM78X9-xxxW (xxx = 415 - 455, in increment of 5) 156 cells: HCM78X9/FS-xxxW (xxx = 415 - 455, in increment of 5) 144 cells: HCM72X9-xxxW (xxx = 385 - 420, in increment of 5)</p>

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File No.: PVP07021/22P-01

Test Report No.: 492011236.011

	<p>144 cells: HCM72X9/FS-xxxW (xxx = 385 - 420, in increment of 5) 120 cells: HCM60X9-xxxW (xxx = 320 - 350, in increment of 5) 120 cells: HCM60X9/FS-xxxW (xxx = 320 - 350, in increment of 5) 144 cells: DHM-72L9-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/FS-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/BF-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/FS/BF-xxxW (xxx = 430 - 465, in increment of 5) 120 cells: DHM-60L9-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/FS-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/BF-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/FS/BF-xxxW (xxx = 360 - 385, in increment of 5) PV Modules with 7" Half-cut Mono-crystalline Silicon Solar Cells: 144 cells: DHM-72X10-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/FS-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/FS/BF-xxxW (xxx = 525 - 555, in increment of 5) 132 cells: DHM-66X10-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/FS-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/FS/BF-xxxW (xxx = 485 - 505, in increment of 5) 120 cells: DHM-60X10-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/FS-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/FS/BF-xxxW (xxx = 440 - 460, in increment of 5) 108 cells: DHM-54X10-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/FS-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/BF-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/FS/BF-xxxW (xxx = 395 - 415, in increment of 5) PV Modules with 6" Poly-crystalline Silicon Solar Cells: 72 cells: DHP72-xxxW (xxx= 310 - 335, in increment of 5) 60 cells: DHP60-xxxW (xxx= 260 - 280, in increment of 5) PV Modules with 6" Half-cut Poly-crystalline Silicon Solar Cells: 156 cells: HCP78X9-xxxW (xxx = 370 - 415, in increment of 5) 144 cells: HCP72X9-xxxW (xxx = 340 - 380, in increment of 5) 120 cells: HCP60X9-xxxW (xxx = 285 - 320, in increment of 5)</p>
Description:	According to the enquiry of the applicant, based on certificate No. 44780 19 406749 - 367R3M4, and report no. 492011236.007 extend to new frame parts, 6005-T6, the thickness is 30mm, installation method is mounting holes, and manufactured by Anhui Xinbo Aluminium Industry Share Co., Ltd..
Supplementary information: N/A	
File no.	PVP04006/21P-02
Certificate no.	44780 19 406749 - 367R4M6 replaced certificate no 44780 19 406749 - 367R4M5

Date of issue:	11/25/2021
Report no.:	492011236.009
Module type(s) .:	<p>PV Modules with 6" Mono-crystalline Silicon Solar Cells: 72 cells: DHM72-xxxW (xxx = 325 - 370, in increment of 5) 72 cells: DHM72/FS-xxxW (xxx = 325 - 370, in increment of 5) 60 cells: DHM60-xxxW (xxx = 275 - 310, in increment of 5) 60 cells: DHM60/FS-xxxW (xxx = 275 - 310, in increment of 5) 72 cells: DHM72X-xxxW (xxx= 370 - 390, in increment of 5) 72 cells: DHM72X/FS-xxxW (xxx= 370 - 390, in increment of 5) 60 cells: DHM60X-xxxW (xxx= 310 - 325, in increment of 5) 60 cells: DHM60X/FS-xxxW (xxx= 310 - 325, in increment of 5)</p> <p>PV Modules with 6" Half-cut Mono-crystalline Silicon Solar Cells: 144 cells: HCM72-xxxW (xxx = 350 - 390, in increment of 5) 144 cells: HCM72/FS-xxxW (xxx = 350 - 390, in increment of 5) 120 cells: HCM60-xxxW (xxx = 290 - 325, in increment of 5) 120 cells: HCM60/FS-xxxW (xxx = 290 - 325, in increment of 5) 156 cells: HCM78X9-xxxW (xxx = 415 - 455, in increment of 5) 156 cells: HCM78X9/FS-xxxW (xxx = 415 - 455, in increment of 5) 144 cells: HCM72X9-xxxW (xxx = 385 - 420, in increment of 5) 144 cells: HCM72X9/FS-xxxW (xxx = 385 - 420, in increment of 5) 120 cells: HCM60X9-xxxW (xxx = 320 - 350, in increment of 5) 120 cells: HCM60X9/FS-xxxW (xxx = 320 - 350, in increment of 5) 144 cells: DHM-72L9-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/FS-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/BF-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/FS/BF-xxxW (xxx = 430 - 465, in increment of 5) 120 cells: DHM-60L9-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/FS-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/BF-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/FS/BF-xxxW (xxx = 360 - 385, in increment of 5)</p> <p>PV Modules with 7" Half-cut Mono-crystalline Silicon Solar Cells: 144 cells: DHM-72X10-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/FS-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/FS/BF-xxxW (xxx = 525 - 555, in increment of 5) 132 cells: DHM-66X10-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/FS-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/FS/BF-xxxW (xxx = 485 - 505, in increment of 5) 120 cells: DHM-60X10-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/FS-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/FS/BF-xxxW (xxx = 440 - 460, in increment of 5)</p>

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	<p>108 cells: DHM-54X10-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/FS-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/BF-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/FS/BF-xxxW (xxx = 395 - 415, in increment of 5) PV Modules with 6" Poly-crystalline Silicon Solar Cells: 72 cells: DHP72-xxxW (xxx= 310 - 335, in increment of 5) 60 cells: DHP60-xxxW (xxx= 260 - 280, in increment of 5) PV Modules with 6" Half-cut Poly-crystalline Silicon Solar Cells: 156 cells: HCP78X9-xxxW (xxx = 370 - 415, in increment of 5) 144 cells: HCP72X9-xxxW (xxx = 340 - 380, in increment of 5) 120 cells: HCP60X9-xxxW (xxx = 285 - 320, in increment of 5)</p>
Description:	According to the enquiry of the applicant, based on certificate No. 44780 19 406749 - 367R4M5, and report no. 492011236.008 extend to new raw materials.
Supplementary information: N/A	
File no.:	PVP04006/21P-04
Certificate no.:	44780 19 406749 - 367R5A1M7 replaced certificate no 44780 19 406749 - 367R4M6
Date of issue:	03/15/2022
Report no.:	492011236.010
Module type(s) .:	<p>PV Modules with Mono-crystalline Silicon Solar Cells (156.75mm to 166mm): 72 cells: DHM72-xxxW (xxx = 325 - 370, in increment of 5) 72 cells: DHM72/FS-xxxW (xxx = 325 - 370, in increment of 5) 60 cells: DHM60-xxxW (xxx = 275 - 310, in increment of 5) 60 cells: DHM60/FS-xxxW (xxx = 275 - 310, in increment of 5) 72 cells: DHM72X-xxxW (xxx= 370 - 390, in increment of 5) 72 cells: DHM72X/FS-xxxW (xxx= 370 - 390, in increment of 5) 60 cells: DHM60X-xxxW (xxx= 310 - 325, in increment of 5) 60 cells: DHM60X/FS-xxxW (xxx= 310 - 325, in increment of 5) PV Modules with Mono-crystalline Silicon Half-cut Solar Cells (156.75mm to 166mm): 144 cells: HCM72-xxxW (xxx = 350 - 390, in increment of 5) 144 cells: HCM72/FS-xxxW (xxx = 350 - 390, in increment of 5) 120 cells: HCM60-xxxW (xxx = 290 - 325, in increment of 5) 120 cells: HCM60/FS-xxxW (xxx = 290 - 325, in increment of 5) 156 cells: HCM78X9-xxxW (xxx = 415 - 455, in increment of 5) 156 cells: HCM78X9/FS-xxxW (xxx = 415 - 455, in increment of 5) 144 cells: HCM72X9-xxxW (xxx = 385 - 420, in increment of 5) 144 cells: HCM72X9/FS-xxxW (xxx = 385 - 420, in increment of 5) 120 cells: HCM60X9-xxxW (xxx = 320 - 350, in increment of 5) 120 cells: HCM60X9/FS-xxxW (xxx = 320 - 350, in increment of 5) 144 cells: DHM-72L9-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/FS-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/BF-xxxW (xxx = 430 - 465, in increment of 5)</p>

	<p>144 cells: DHM-72L9/FS/BF-xxxW (xxx = 430 - 465, in increment of 5) 120 cells: DHM-60L9-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/FS-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/BF-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/FS/BF-xxxW (xxx = 360 - 385, in increment of 5) PV Modules with 182mm Mono-crystalline Silicon Half-cut Solar Cells: 156 cells: DHM-78X10-xxxW (xxx = 570 - 590, in increment of 5) 156 cells: DHM-78X10/FS-xxxW (xxx = 570 - 590, in increment of 5) 156 cells: DHM-78X10/BF-xxxW (xxx = 570 - 590, in increment of 5) 156 cells: DHM-78X10/FS/BF-xxxW (xxx = 570 - 590, in increment of 5) 144 cells: DHM-72X10-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/FS-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/FS/BF-xxxW (xxx = 525 - 555, in increment of 5) 132 cells: DHM-66X10-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/FS-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/FS/BF-xxxW (xxx = 485 - 505, in increment of 5) 120 cells: DHM-60X10-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/FS-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/FS/BF-xxxW (xxx = 440 - 460, in increment of 5) 108 cells: DHM-54X10-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/FS-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/BF-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/FS/BF-xxxW (xxx = 395 - 415, in increment of 5) PV Modules with 182mm Mono-crystalline Silicon 1/3-cut Solar Cells: 216 cells: DHT-M72X10-xxxW (xxx = 525 - 555, in increment of 5) 216 cells: DHT-M72X10/FS-xxxW (xxx = 525 - 555, in increment of 5) 216 cells: DHT-M72X10/BF-xxxW (xxx = 525 - 555, in increment of 5) 216 cells: DHT-M72X10/FS/BF-xxxW (xxx = 525 - 555, in increment of 5) 180 cells: DHT-M60X10-xxxW (xxx = 440 - 460, in increment of 5) 180 cells: DHT-M60X10/FS-xxxW (xxx = 440 - 460, in increment of 5) 180 cells: DHT-M60X10/BF-xxxW (xxx = 440 - 460, in increment of 5) 180 cells: DHT-M60X10/FS/BF-xxxW (xxx = 440 - 460, in increment of 5)</p>
<p>Description:</p>	<p>According to the enquiry of the applicant, based on certificate No. 44780 19 406749 - 367R4M6, and report no. 492011236.009 extend to new raw materials and related new module types.</p>
<p>Supplementary information: N/A</p>	

Summary of testing

According to the enquiry of the applicant, based on certificate No. 44780 19 406749 - 367R5A1M7, and report no. 492011236.010 extend to new module types and change of module types according to IEC / EN 61215-1:2016; IEC / EN 61215-1-1:2016; IEC 61215-2:2016 / EN 61215-2:2017 + AC:2017 + AC:2018; IEC 61730-1:2016 / EN IEC 61730-1:2018 + AC:2018; IEC 61730-2:2016 / EN IEC 61730-2:2018 + AC:2018.

According to certificate No. 44780 19 406749 - 367R5A1M7, extend to new module types and change of module types, no additional tests are required:

List of new module types:

PV Modules with Mono-crystalline Silicon Half-cut Solar Cells (156.75mm to 166mm):

144 cells: DHM-72L9(BW)-xxxW (xxx = 430 - 465, in increment of 5)

144 cells: DHM-72L9(BB)-xxxW (xxx = 430 - 465, in increment of 5)

144 cells: DHM-72L9/FS(BW)-xxxW (xxx = 430 - 465, in increment of 5)

144 cells: DHM-72L9/FS(BB)-xxxW (xxx = 430 - 465, in increment of 5)

144 cells: DHM-72L9/BF(BW)-xxxW (xxx = 430 - 465, in increment of 5)

144 cells: DHM-72L9/BF(BB)-xxxW (xxx = 430 - 465, in increment of 5)

144 cells: DHM-72L9/BF/FS(BW)-xxxW (xxx = 430 - 465, in increment of 5)

144 cells: DHM-72L9/BF/FS(BB)-xxxW (xxx = 430 - 465, in increment of 5)

120 cells: DHM-60L9(BW)-xxxW (xxx = 360 - 385, in increment of 5)

120 cells: DHM-60L9(BB)-xxxW (xxx = 360 - 385, in increment of 5)

120 cells: DHM-60L9/FS(BW)-xxxW (xxx = 360 - 385, in increment of 5)

120 cells: DHM-60L9/FS(BB)-xxxW (xxx = 360 - 385, in increment of 5)

120 cells: DHM-60L9/BF(BW)-xxxW (xxx = 360 - 385, in increment of 5)

120 cells: DHM-60L9/BF(BB)-xxxW (xxx = 360 - 385, in increment of 5)

120 cells: DHM-60L9/BF/FS(BW)-xxxW (xxx = 360 - 385, in increment of 5)

120 cells: DHM-60L9/BF/FS(BB)-xxxW (xxx = 360 - 385, in increment of 5)

PV Modules with 182mm Mono-crystalline Silicon Half-cut Solar Cells:

156 cells: DHM-78X10(BW)-xxxW (xxx = 570 - 590, in increment of 5)

156 cells: DHM-78X10(BB)-xxxW (xxx = 570 - 590, in increment of 5)

156 cells: DHM-78X10/FS(BW)-xxxW (xxx = 570 - 590, in increment of 5)

156 cells: DHM-78X10/FS(BB)-xxxW (xxx = 570 - 590, in increment of 5)

156 cells: DHM-78X10/BF(BW)-xxxW (xxx = 570 - 590, in increment of 5)

156 cells: DHM-78X10/BF(BB)-xxxW (xxx = 570 - 590, in increment of 5)

156 cells: DHM-78X10/BF/FS(BW)-xxxW (xxx = 570 - 590, in increment of 5)

156 cells: DHM-78X10/BF/FS(BB)-xxxW (xxx = 570 - 590, in increment of 5)

144 cells: DHM-72X10(BW)-xxxW (xxx = 525 - 555, in increment of 5)

144 cells: DHM-72X10(BB)-xxxW (xxx = 525 - 555, in increment of 5)

144 cells: DHM-72X10/FS(BW)-xxxW (xxx = 525 - 555, in increment of 5)

144 cells: DHM-72X10/FS(BB)-xxxW (xxx = 525 - 555, in increment of 5)

144 cells: DHM-72X10/BF(BW)-xxxW (xxx = 525 - 555, in increment of 5)

144 cells: DHM-72X10/BF(BB)-xxxW (xxx = 525 - 555, in increment of 5)

144 cells: DHM-72X10/BF/FS(BW)-xxxW (xxx = 525 - 555, in increment of 5)

144 cells: DHM-72X10/BF/FS(BB)-xxxW (xxx = 525 - 555, in increment of 5)

132 cells: DHM-66X10(BW)-xxxW (xxx = 485 - 505, in increment of 5)

- 132 cells: DHM-66X10(BB)-xxxW (xxx = 485 - 505, in increment of 5)
- 132 cells: DHM-66X10/FS(BW)-xxxW (xxx = 485 - 505, in increment of 5)
- 132 cells: DHM-66X10/FS(BB)-xxxW (xxx = 485 - 505, in increment of 5)
- 132 cells: DHM-66X10/BF(BW)-xxxW (xxx = 485 - 505, in increment of 5)
- 132 cells: DHM-66X10/BF(BB)-xxxW (xxx = 485 - 505, in increment of 5)
- 132 cells: DHM-66X10/BF/FS(BW)-xxxW (xxx = 485 - 505, in increment of 5)
- 132 cells: DHM-66X10/BF/FS(BB)-xxxW (xxx = 485 - 505, in increment of 5)
- 120 cells: DHM-60X10(BW)-xxxW (xxx = 440 - 460, in increment of 5)
- 120 cells: DHM-60X10(BB)-xxxW (xxx = 440 - 460, in increment of 5)
- 120 cells: DHM-60X10/FS(BW)-xxxW (xxx = 440 - 460, in increment of 5)
- 120 cells: DHM-60X10/FS(BB)-xxxW (xxx = 440 - 460, in increment of 5)
- 120 cells: DHM-60X10/BF(BW)-xxxW (xxx = 440 - 460, in increment of 5)
- 120 cells: DHM-60X10/BF(BB)-xxxW (xxx = 440 - 460, in increment of 5)
- 120 cells: DHM-60X10/BF/FS(BW)-xxxW (xxx = 440 - 460, in increment of 5)
- 120 cells: DHM-60X10/BF/FS(BB)-xxxW (xxx = 440 - 460, in increment of 5)
- 108 cells: DHM-54X10(BW)-xxxW (xxx = 395 - 415, in increment of 5)
- 108 cells: DHM-54X10(BB)-xxxW (xxx = 395 - 415, in increment of 5)
- 108 cells: DHM-54X10/FS(BW)-xxxW (xxx = 395 - 415, in increment of 5)
- 108 cells: DHM-54X10/FS(BB)-xxxW (xxx = 395 - 415, in increment of 5)
- 108 cells: DHM-54X10/BF(BW)-xxxW (xxx = 395 - 415, in increment of 5)
- 108 cells: DHM-54X10/BF(BB)-xxxW (xxx = 395 - 415, in increment of 5)
- 108 cells: DHM-54X10/BF/FS(BW)-xxxW (xxx = 395 - 415, in increment of 5)
- 108 cells: DHM-54X10/BF/FS(BB)-xxxW (xxx = 395 - 415, in increment of 5)

PV Modules with 182mm Mono-crystalline Silicon 1/3-cut Solar Cells:

- 216 cells: DHM-T72X10-xxxW (xxx = 525 - 555, in increment of 5)
- 216 cells: DHM-T72X10(BW)-xxxW (xxx = 525 - 555, in increment of 5)
- 216 cells: DHM-T72X10(BB)-xxxW (xxx = 525 - 555, in increment of 5)
- 216 cells: DHM-T72X10/FS(BW)-xxxW (xxx = 525 - 555, in increment of 5)
- 216 cells: DHM-T72X10/FS(BB)-xxxW (xxx = 525 - 555, in increment of 5)
- 216 cells: DHM-T72X10/BF(BW)-xxxW (xxx = 525 - 555, in increment of 5)
- 216 cells: DHM-T72X10/BF(BB)-xxxW (xxx = 525 - 555, in increment of 5)
- 216 cells: DHM-T72X10/BF/FS(BW)-xxxW (xxx = 525 - 555, in increment of 5)
- 216 cells: DHM-T72X10/BF/FS(BB)-xxxW (xxx = 525 - 555, in increment of 5)
- 180 cells: DHM-T60X10-xxxW (xxx = 440 - 460, in increment of 5)
- 180 cells: DHM-T60X10(BW)-xxxW (xxx = 440 - 460, in increment of 5)
- 180 cells: DHM-T60X10(BB)-xxxW (xxx = 440 - 460, in increment of 5)
- 180 cells: DHM-T60X10/FS(BW)-xxxW (xxx = 440 - 460, in increment of 5)
- 180 cells: DHM-T60X10/FS(BB)-xxxW (xxx = 440 - 460, in increment of 5)
- 180 cells: DHM-T60X10/BF(BW)-xxxW (xxx = 440 - 460, in increment of 5)
- 180 cells: DHM-T60X10/BF(BB)-xxxW (xxx = 440 - 460, in increment of 5)
- 180 cells: DHM-T60X10/BF/FS(BW)-xxxW (xxx = 440 - 460, in increment of 5)
- 180 cells: DHM-T60X10/BF/FS(BB)-xxxW (xxx = 440 - 460, in increment of 5)

List of module types changes:

PV Modules with Mono-crystalline Silicon Half-cut Solar Cells (156.75mm to 166mm):

144 cells: DHM-72L9/BF/FS -xxxW (xxx = 430 - 465, in increment of 5) replaced 144 cells: DHM-72L9/FS/BF-xxxW (xxx = 430 - 465, in increment of 5)

120 cells: DHM-60L9/BF/FS -xxxW (xxx = 360 - 385, in increment of 5) replaced 120 cells: DHM-60L9/FS/BF-xxxW (xxx = 360 - 385, in increment of 5)

PV Modules with 182mm Mono-crystalline Silicon Half-cut Solar Cells:

156 cells: DHM-78X10/BF/FS -xxxW (xxx = 570 - 590, in increment of 5) replaced 156 cells: DHM-78X10/FS/BF-xxxW (xxx = 570 - 590, in increment of 5)

144 cells: DHM-72X10/BF/FS -xxxW (xxx = 525 - 555, in increment of 5) replaced 144 cells: DHM-72X10/FS/BF-xxxW (xxx = 525 - 555, in increment of 5)

132 cells: DHM-66X10/BF/FS -xxxW (xxx = 485 - 505, in increment of 5) replaced 132 cells: DHM-66X10/FS/BF-xxxW (xxx = 485 - 505, in increment of 5)

120 cells: DHM-60X10/BF/FS -xxxW (xxx = 440 - 460, in increment of 5) replaced 120 cells: DHM-60X10/FS/BF-xxxW (xxx = 440 - 460, in increment of 5)

108 cells: DHM-54X10/BF/FS -xxxW (xxx = 395 - 415, in increment of 5) replaced 108 cells: DHM-54X10/FS/BF-xxxW (xxx = 395 - 415, in increment of 5)

PV Modules with 182mm Mono-crystalline Silicon 1/3-cut Solar Cells:

216 cells: DHM-T72X10/FS-xxxW (xxx = 525 - 555, in increment of 5) replaced 216 cells: DHT-M72X10/FS-xxxW (xxx = 525 - 555, in increment of 5)

216 cells: DHM-T72X10/BF-xxxW (xxx = 525 - 555, in increment of 5) replaced 216 cells: DHT-M72X10/BF-xxxW (xxx = 525 - 555, in increment of 5)

216 cells: DHM-T72X10/BF/FS -xxxW (xxx = 525 - 555, in increment of 5) replaced 216 cells: DHT-M72X10/FS/BF-xxxW (xxx = 525 - 555, in increment of 5)

180 cells: DHM-T60X10/FS-xxxW (xxx = 440 - 460, in increment of 5) replaced 180 cells: DHT-M60X10/FS-xxxW (xxx = 440 - 460, in increment of 5)

180 cells: DHM-T60X10/BF-xxxW (xxx = 440 - 460, in increment of 5) replaced 180 cells: DHT-M60X10/BF-xxxW (xxx = 440 - 460, in increment of 5)

180 cells: DHM-T60X10/BF/FS -xxxW (xxx = 440 - 460, in increment of 5) replaced 180 cells: DHT-M60X10/FS/BF-xxxW (xxx = 440 - 460, in increment of 5)

From the result of document reviewing. And factory inspection was performed, therefore, from the result of factory inspection, it is recommended that certification should be granted.

Detailed product information are to be found in the CDF (constructional data form) in Annex 1 of this report.

Test Report



File No.: PVP07021/22P-01

Test Report No.: 492011236.011

General remarks

Test item particulars:	
Accessories and detachable parts included in the evaluation	N/A
Options included.....	N/A
Abbreviations used in the report:	
HF - Humidity Freeze	TC - Temperature Cycling
DH - Damp Heat	Vmpp - Maximum power voltage
Imp - Maximum power current	Voc - Open circuit voltage
Isc - Short circuit current	FF - Fill Factor
Pmpp - Maximum power	α - Current temperature coefficient
NMOT - Nominal Module Operating Temperature	β - Voltage temperature coefficient
STC - Standard Test Conditions	γ - Power temperature coefficient
CTI - Comparative Tracking Index	PTI - Proof Tracking Index
RTI - Relative Temperature Index	RTE - Relative Thermal Endurance index
TI - Temperature Index	DTI - Distance through insulation
CI - Clearances	Cr - Creepage distances
PD - Pollution Degree	MG - Material Groups
Possible test case verdicts:	
Test case does not apply to the test object	Not Applicable (N/A)
Test object does meet the requirement.....	Pass (P)
Test object does not meet the requirement.....	Fail (F)
Other remarks:	
<p>The test verdicts presented in this report relate only to the object tested. This report shall not be reproduced except in full, without the written approval of the issuing testing laboratory.</p> <p>“(see Annex #)” refers to additional information appended to the report. “(see Table #)” refers to a table appended to the report.</p> <p>Power degradation data expressed in negative value indicates a reduction of maximum power output. Power degradation data expressed in positive value indicates an increment of maximum power output.</p> <p>Throughout this report, a point is used as the decimal separator.</p>	

Test Report



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Annex 1: Constructional Data Form (CDF)



File No.: PVP07021/22P-01

Attached to Test Report No.: 492011236.011

CDF (Constructional Data Form) for Electrical Products

Applicant.....	Anhui Daheng Energy Technology Co., Ltd. No.01, Yaoyuan Road, Luyang District, Hefei City, Anhui Province, P.R. China
Manufacturer.....	Anhui Daheng Energy Technology Co., Ltd. No.01, Yaoyuan Road, Luyang District, Hefei City, Anhui Province, P.R. China
Product.....	Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
Standard(s).....	IEC / EN 61215-1:2016; IEC / EN 61215-1-1:2016; IEC 61215-2:2016 / EN 61215-2:2017 + AC:2017 + AC:2018; IEC 61730-1:2016 / EN IEC 61730-1:2018 + AC:2018; IEC 61730-2:2016 / EN IEC 61730-2:2018 + AC:2018.
Trade mark.....	
Module type(s).....	PV Modules with Mono-crystalline Silicon Solar Cells (156.75mm to 166mm): 72 cells: DHM72-xxxW (xxx = 325 - 370, in increment of 5) 72 cells: DHM72/FS-xxxW (xxx = 325 - 370, in increment of 5) 60 cells: DHM60-xxxW (xxx = 275 - 310, in increment of 5) 60 cells: DHM60/FS-xxxW (xxx = 275 - 310, in increment of 5) 72 cells: DHM72X-xxxW (xxx= 370 - 390, in increment of 5) 72 cells: DHM72X/FS-xxxW (xxx= 370 - 390, in increment of 5) 60 cells: DHM60X-xxxW (xxx= 310 - 325, in increment of 5) 60 cells: DHM60X/FS-xxxW (xxx= 310 - 325, in increment of 5) PV Modules with Mono-crystalline Silicon Half-cut Solar Cells (156.75mm to 166mm): 144 cells: HCM72-xxxW (xxx = 350 - 390, in increment of 5) 144 cells: HCM72/FS-xxxW (xxx = 350 - 390, in increment of 5) 120 cells: HCM60-xxxW (xxx = 290 - 325, in increment of 5) 120 cells: HCM60/FS-xxxW (xxx = 290 - 325, in increment of 5) 156 cells: HCM78X9-xxxW (xxx = 415 - 455, in increment of 5) 156 cells: HCM78X9/FS-xxxW (xxx = 415 - 455, in increment of 5) 144 cells: HCM72X9-xxxW (xxx = 385 - 420, in increment of 5) 144 cells: HCM72X9/FS-xxxW (xxx = 385 - 420, in increment of 5) 120 cells: HCM60X9-xxxW (xxx = 320 - 350, in increment of 5) 120 cells: HCM60X9/FS-xxxW (xxx = 320 - 350, in increment of 5) 144 cells: DHM-72L9-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9(BW)-xxxW (xxx = 430 - 465, in increment of 5)

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144 cells: DHM-72L9(BB)-xxxW (xxx = 430 - 465, in increment of 5)
144 cells: DHM-72L9/FS-xxxW (xxx = 430 - 465, in increment of 5)
144 cells: DHM-72L9/FS(BW)-xxxW (xxx = 430 - 465, in increment of 5)
144 cells: DHM-72L9/FS(BB)-xxxW (xxx = 430 - 465, in increment of 5)
144 cells: DHM-72L9/BF-xxxW (xxx = 430 - 465, in increment of 5)
144 cells: DHM-72L9/BF(BW)-xxxW (xxx = 430 - 465, in increment of 5)
144 cells: DHM-72L9/BF(BB)-xxxW (xxx = 430 - 465, in increment of 5)
144 cells: DHM-72L9/BF/FS-xxxW (xxx = 430 - 465, in increment of 5)
144 cells: DHM-72L9/BF/FS(BW)-xxxW (xxx = 430 - 465, in increment of 5)
144 cells: DHM-72L9/BF/FS(BB)-xxxW (xxx = 430 - 465, in increment of 5)
120 cells: DHM-60L9-xxxW (xxx = 360 - 385, in increment of 5)
120 cells: DHM-60L9(BW)-xxxW (xxx = 360 - 385, in increment of 5)
120 cells: DHM-60L9(BB)-xxxW (xxx = 360 - 385, in increment of 5)
120 cells: DHM-60L9/FS-xxxW (xxx = 360 - 385, in increment of 5)
120 cells: DHM-60L9/FS(BW)-xxxW (xxx = 360 - 385, in increment of 5)
120 cells: DHM-60L9/FS(BB)-xxxW (xxx = 360 - 385, in increment of 5)
120 cells: DHM-60L9/BF-xxxW (xxx = 360 - 385, in increment of 5)
120 cells: DHM-60L9/BF(BW)-xxxW (xxx = 360 - 385, in increment of 5)
120 cells: DHM-60L9/BF(BB)-xxxW (xxx = 360 - 385, in increment of 5)
120 cells: DHM-60L9/BF/FS-xxxW (xxx = 360 - 385, in increment of 5)
120 cells: DHM-60L9/BF/FS(BW)-xxxW (xxx = 360 - 385, in increment of 5)
120 cells: DHM-60L9/BF/FS(BB)-xxxW (xxx = 360 - 385, in increment of 5)
PV Modules with 182mm Mono-crystalline Silicon Half-cut Solar Cells:
156 cells: DHM-78X10-xxxW (xxx = 570 - 590, in increment of 5)
156 cells: DHM-78X10(BW)-xxxW (xxx = 570 - 590, in increment of 5)
156 cells: DHM-78X10(BB)-xxxW (xxx = 570 - 590, in increment of 5)
156 cells: DHM-78X10/FS-xxxW (xxx = 570 - 590, in increment of 5)
156 cells: DHM-78X10/FS(BW)-xxxW (xxx = 570 - 590, in increment of 5)
156 cells: DHM-78X10/FS(BB)-xxxW (xxx = 570 - 590, in increment of 5)
156 cells: DHM-78X10/BF-xxxW (xxx = 570 - 590, in increment of 5)
156 cells: DHM-78X10/BF(BW)-xxxW (xxx = 570 - 590, in increment of 5)
156 cells: DHM-78X10/BF(BB)-xxxW (xxx = 570 - 590, in increment of 5)
156 cells: DHM-78X10/BF/FS-xxxW (xxx = 570 - 590, in increment of 5)
156 cells: DHM-78X10/BF/FS(BW)-xxxW (xxx = 570 - 590, in increment of 5)
156 cells: DHM-78X10/BF/FS(BB)-xxxW (xxx = 570 - 590, in increment of 5)
144 cells: DHM-72X10-xxxW (xxx = 525 - 555, in increment of 5)

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	<p>144 cells: DHM-72X10(BW)-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10(BB)-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/FS-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/FS(BW)-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/FS(BB)-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF(BW)-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF(BB)-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF/FS-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF/FS(BW)-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF/FS(BB)-xxxW (xxx = 525 - 555, in increment of 5) 132 cells: DHM-66X10-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10(BW)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10(BB)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/FS-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/FS(BW)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/FS(BB)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF(BW)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF(BB)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF/FS-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF/FS(BW)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF/FS(BB)-xxxW (xxx = 485 - 505, in increment of 5) 120 cells: DHM-60X10-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10(BW)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10(BB)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/FS-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/FS(BW)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/FS(BB)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF(BW)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF(BB)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF/FS-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF/FS(BW)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF/FS(BB)-xxxW (xxx = 440 - 460, in increment of 5)</p>
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	<p>108 cells: DHM-54X10-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10(BW)-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10(BB)-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/FS-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/FS(BW)-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/FS(BB)-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/BF-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/BF(BW)-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/BF(BB)-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/BF/FS-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/BF/FS(BW)-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>108 cells: DHM-54X10/BF/FS(BB)-xxxW (xxx = 395 - 415, in increment of 5)</p> <p>PV Modules with 182mm Mono-crystalline Silicon 1/3-cut Solar Cells:</p> <p>216 cells: DHT-M72X10-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10(BW)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10(BB)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/FS-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/FS(BW)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/FS(BB)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/BF-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/BF(BW)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/BF(BB)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/BF/FS-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/BF/FS(BW)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>216 cells: DHM-T72X10/BF/FS(BB)-xxxW (xxx = 525 - 555, in increment of 5)</p> <p>180 cells: DHT-M60X10-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10(BW)-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10(BB)-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10/FS-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10/FS(BW)-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10/FS(BB)-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10/BF-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10/BF(BW)-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10/BF(BB)-xxxW (xxx = 440 - 460, in increment of 5)</p> <p>180 cells: DHM-T60X10/BF/FS-xxxW (xxx = 440 - 460, in increment of 5)</p>
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Test Report



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	180 cells: DHM-T60X10/BF/FS(BW)-xxxW (xxx = 440 - 460, in increment of 5) 180 cells: DHM-T60X10/BF/FS(BB)-xxxW (xxx = 440 - 460, in increment of 5)
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Electrical ratings:

PV Modules with Mono-crystalline Silicon Solar Cells (156.75mm to 166mm):

Module type	72 cells: DHM72-xxxW (xxx = 325 - 370, in increment of 5) 72 cells: DHM72/FS-xxxW (xxx = 325 - 370, in increment of 5) With solar cell 156M-210five.		
Dimensions [mm] / l x w x h	1956 x 991 x 30/32/35/40		
Rated Pmpp [W]	325; 330; 335; 340; 345; 350; 355; 360; 365; 370	Tolerance of rated Pmpp [%]	±3
Rated Voc [V]	45.9; 46.1; 46.3; 46.5; 46.7; 46.9; 47.0; 47.2; 47.4; 47.6	Tolerance of rated Voc [%]	±3
Rated Isc [A]	9.19; 9.26; 9.36; 9.45; 9.50; 9.60; 9.69; 9.76; 9.82; 9.91	Tolerance of rated Isc [%]	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140	Class II
Min-creepage distance [mm]	14.75	Fuse rating [A]	16
Design load (positive) [Pa]	3600	Safety factor (positive)	1.5
Design load (negative) [Pa]	1600	Safety factor (negative)	1.5

Module type	60 cells: DHM60-xxxW (xxx = 275 - 310, in increment of 5) 60 cells: DHM60/FS-xxxW (xxx = 275 - 310, in increment of 5) With solar cell 156M-210five.		
Dimensions [mm] / l x w x h	1650 x 991 x 30/32/35/40		
Rated Pmpp [W]	275; 280; 285; 290; 295; 300; 305; 310	Tolerance of rated Pmpp [%]	±3
Rated Voc [V]	38.8; 39.0; 39.2; 39.5; 39.7; 39.9; 40.2; 40.4	Tolerance of rated Voc [%]	±3
Rated Isc [A]	9.25; 9.35; 9.44; 9.50; 9.55; 9.64; 9.72; 9.81	Tolerance of rated Isc [%]	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140	Class II
Min-creepage distance [mm]	14.75	Fuse rating [A]	16
Design load [Pa] / front	3600	Safety factor / front	1.5
Design load [Pa] / back	1600	Safety factor / back	1.5

Module type	72 cells: DHM72X-xxxW (xxx= 370 - 390, in increment of 5) 72 cells: DHM72X/FS-xxxW (xxx= 370 - 390, in increment of 5) With solar cell 158M-five.		
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Dimensions [mm] / l x w x h	1979 x 1002 x 30/32/35/40		
Rated Pmpp [W].....	370; 375; 380; 385; 390	Tolerance of rated Pmpp [%]	±3
Rated Voc [V].....	47.9; 48.1; 48.3; 48.6; 48.8	Tolerance of rated Voc [%]	±3
Rated Isc [A]	9.99; 10.08; 10.16; 10.21; 10.28	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	13.75	Fuse rating [A]	16
Design load [Pa] / front	3600	Safety factor / front	1.5
Design load [Pa] / back.....	1600	Safety factor / back.....	1.5

Module type	60 cells: DHM60X-xxxW (xxx= 310 - 325, in increment of 5) 60 cells: DHM60X/FS-xxxW (xxx= 310 - 325, in increment of 5) With solar cell 158M-five.		
Dimensions [mm] / l x w x h	1665 x 1002 x 30/32/35/40		
Rated Pmpp [W].....	310; 315; 320; 325	Tolerance of rated Pmpp [%]	±3
Rated Voc [V].....	40.0; 40.2; 40.4; 40.6	Tolerance of rated Voc [%].....	±3
Rated Isc [A]	10.01; 10.10; 10.20; 10.29	Tolerance of rated Isc [%]	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140	Class II
Min-creepage distance [mm]	13.75	Fuse rating [A].....	16
Design load [Pa] / front	3600	Safety factor / front.....	1.5
Design load [Pa] / back.....	1600	Safety factor / back	1.5

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PV Modules with Mono-crystalline Silicon Half-cut Solar Cells (156.75mm to 166mm):

Module type	144 cells: HCM72-xxxW (xxx = 350 - 390, in increment of 5) 144 cells: HCM72/FS-xxxW (xxx = 350 - 390, in increment of 5) With solar cell 156M-210five (half-cut).		
Dimensions [mm] / l x w x h	2000 x 991 x 30/32/35/40		
Rated Pmpp [W]	350; 355; 360; 365; 370; 375; 380; 385; 390	Tolerance of rated Pmpp [%]	±3
Rated Voc [V]	46.5; 46.8; 47.0; 47.3; 47.5; 47.8; 48.2; 48.5; 48.9	Tolerance of rated Voc [%]	±3
Rated Isc [A]	9.73; 9.80; 9.86; 9.91; 9.97; 10.03; 10.06; 10.09; 10.12	Tolerance of rated Isc [%]	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140	Class II
Min-creepage distance [mm]	15.5	Fuse rating [A]	20
Design load [Pa] / front	3600	Safety factor / front	1.5
Design load [Pa] / back	1600	Safety factor / back	1.5

Module type	120 cells: HCM60-xxxW (xxx = 290 - 325, in increment of 5) 120 cells: HCM60/FS-xxxW (xxx = 290 - 325, in increment of 5) With solar cell 156M-210five (half-cut).		
Dimensions [mm] / l x w x h	1678 x 991 x 30/32/35/40		
Rated Pmpp [W]	295; 300; 305; 310; 315; 320; 325	Tolerance of rated Pmpp [%]	±3
Rated Voc [V]	38.7; 39.0; 39.3; 39.6; 39.9; 40.2; 40.4	Tolerance of rated Voc [%]	±3
Rated Isc [A]	9.84; 9.91; 9.96; 10.03; 10.10; 10.15; 10.21	Tolerance of rated Isc [%]	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140	Class II
Min-creepage distance [mm]	15.5	Fuse rating [A]	20
Design load [Pa] / front	3600	Safety factor / front	1.5
Design load [Pa] / back	1600	Safety factor / back	1.5

Module type	156 cells: HCM78X9-xxxW (xxx = 415 - 455, in increment of 5) 156 cells: HCM78X9/FS-xxxW (xxx = 415 - 455, in increment of 5) With solar cell 158M-nine (half-cut).		
Dimensions [mm] / l x w x h	2172 x 1002 x 30/32/35/40		

Confirmation of the applicant
Hefei, 07/11/2022 (Place and date)

Confirmation of TÜV NORD CERT
Shanghai, 07/11/2022 (Place and date)

(Applicant's legally authorized signature and stamp)

(Signature of authorized TÜV NORD CERT engineer)

Test Report



File No.: PVP07021/22P-01

Test Report No.: 492011236.011



File No.: PVP07021/22P-01

Attached to Test Report No.: 492011236.011

Rated Pmpp [W]	415; 420; 425; 430; 435; 440; 445; 450; 455	Tolerance of rated Pmpp [%]	±3
Rated Voc [V]	52.1; 52.3; 52.5; 52.7; 52.9; 53.1; 53.3; 53.5; 53.7	Tolerance of rated Voc [%]	±3
Rated Isc [A]	10.06; 10.12; 10.18; 10.24; 10.30; 10.37; 10.42; 10.47; 10.54	Tolerance of rated Isc [%]	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140	Class II
Min-creepage distance [mm]	14,88	Fuse rating [A]	20
Design load [Pa] / front	3600	Safety factor / front	1.5
Design load [Pa] / back	1600	Safety factor / back	1.5

Module type	144 cells: HCM72X9-xxxW (xxx = 385 - 420, in increment of 5) 144 cells: HCM72X9/FS-xxxW (xxx = 385 - 420, in increment of 5) With solar cell 158M-nine (half-cut).		
Dimensions [mm] / l x w x h	2010 x 1002 x 30/32/35/40		
Rated Pmpp [W]	385; 390; 395; 400; 405; 410; 415; 420	Tolerance of rated Pmpp [%]	±3
Rated Voc [V]	48.4; 48.6; 48.8; 49.0; 49.2; 49.4; 49.6; 49.8	Tolerance of rated Voc [%]	±3
Rated Isc [A]	10.21; 10.24; 10.27; 10.32; 10.35; 10.40; 10.43; 10.47	Tolerance of rated Isc [%]	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140	Class II
Min-creepage distance [mm]	14.88	Fuse rating [A]	20
Design load [Pa] / front	3600	Safety factor / front	1.5
Design load [Pa] / back	1600	Safety factor / back	1.5

Module type	120 cells: HCM60X9-xxxW (xxx = 320 - 350, in increment of 5) 120 cells: HCM60X9/FS-xxxW (xxx = 320 - 350, in increment of 5) With solar cell 158M-nine (half-cut).		
Dimensions [mm] / l x w x h	1686 x 1002 x 30/32/35/40		
Rated Pmpp [W]	320; 325; 330; 335; 340; 345; 350	Tolerance of rated Pmpp [%]	±3

Confirmation of the applicant
Hefei, 07/11/2022 (Place and date)

(Applicant's legally authorized signature and stamp)

PV-F-026 CDP

Confirmation of TÜV NORD CERT
Shanghai, 07/11/2022 (Place and date)

(Signature of authorized TÜV NORD CERT engineer)

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Version 1.2

Test Report



File No.: PVP07021/22P-01

Test Report No.: 492011236.011



File No.: PVP07021/22P-01

Attached to Test Report No.: 492011236.011

Rated Voc [V]..... :	40.2; 40.4; 40.6; 40.8; 41.0; 41.2; 41.4	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	10.20; 10.27; 10.33; 10.39; 10.46; 10.53; 10.59	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	14.88	Fuse rating [A]	20
Design load [Pa] / front	3600	Safety factor / front	1.5
Design load [Pa] / back..... :	1600	Safety factor / back	1.5

Module type	144 cells: DHM-72L9-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9(BW)-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9(BB)-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/FS-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/FS(BW)-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/FS(BB)-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/BF-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/BF(BW)-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/BF(BB)-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/BF/FS-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/BF/FS(BW)-xxxW (xxx = 430 - 465, in increment of 5) 144 cells: DHM-72L9/BF/FS(BB)-xxxW (xxx = 430 - 465, in increment of 5) With solar cell 166M-nine (half-cut).		
Dimensions [mm] / l x w x h..... :	(1) 2108 x 1048 x 30/32/35/40 (2) 2094 x 1038 x 30/32/35/40 (3) 2115 x 1052 x 30/32/35/40		
Rated Pmpp [W]	430; 435; 440; 445; 450; 455; 460; 465	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	48.70; 48.85; 49.00; 49.15; 49.30; 49.45; 49.60; 49.75	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	11.23; 11.26; 11.29; 11.32; 11.35; 11.38; 11.41; 11.44	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	(1) 14.75 (2) 13.75	Fuse rating [A]	20

Confirmation of the applicant
Hefei, 07/11/2022 (Place and date)

Confirmation of TÜV NORD CERT
Shanghai, 07/11/2022 (Place and date)

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(Signature of authorized TÜV NORD CERT engineer)

PV-F-026 CDF

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Test Report No.: 492011236.011




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Attached to Test Report No.: 492011236.011

Design load [Pa] / front	3600	Safety factor / front	1.5
Design load [Pa] / back	1600	Safety factor / back	1.5

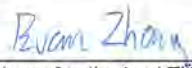
Module type	120 cells: DHM-60L9-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9(BW)-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9(BB)-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/FS-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/FS(BW)-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/FS(BB)-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/BF-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/BF(BW)-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/BF(BB)-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/BF/FS-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/BF/FS(BW)-xxxW (xxx = 360 - 385, in increment of 5) 120 cells: DHM-60L9/BF/FS(BB)-xxxW (xxx = 360 - 385, in increment of 5) With solar cell 166M-nine (half-cut).		
Dimensions [mm] / l x w x h	(1) 1765 x 1048 x 30/32/35/40 (2) 1755 x 1038 x 30/32/35/40		
Rated Pmpp [W]	360; 365; 370; 375; 380; 385	Tolerance of rated Pmpp [%]	±3
Rated Voc [V]	40.6; 40.8; 41.0; 41.2; 41.4; 41.6	Tolerance of rated Voc [%]	±3
Rated Isc [A]	11.24; 11.30; 11.36; 11.42; 11.48; 11.54	Tolerance of rated Isc [%]	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140	Class II
Min-creepage distance [mm]	(1) 14.75 (2) 13.8	Fuse rating [A]	20
Design load [Pa] / front	3600	Safety factor / front	1.5
Design load [Pa] / back	1600	Safety factor / back	1.5

Confirmation of the applicant
Hefei, 07/11/2022 (Place and date)


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PV-F-026.GDF

Confirmation of TÜV NORD CERT
Shanghai, 07/11/2022 (Place and date)


(Signature of authorized TÜV NORD CERT engineer)

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Test Report



File No.: PVP07021/22P-01

Test Report No.: 492011236.011



File No.: PVP07021/22P-01


Attached to Test Report No.: 492011236.011

PV Modules with 182mm Mono-crystalline Silicon Half-cut Solar Cells:

Module type	156 cells: DHM-78X10-xxxW (xxx = 570 - 590, in increment of 5) 156 cells: DHM-78X10(BW)-xxxW (xxx = 570 - 590, in increment of 5) 156 cells: DHM-78X10(BB)-xxxW (xxx = 570 - 590, in increment of 5) 156 cells: DHM-78X10/FS-xxxW (xxx = 570 - 590, in increment of 5) 156 cells: DHM-78X10/FS(BW)-xxxW (xxx = 570 - 590, in increment of 5) 156 cells: DHM-78X10/FS(BB)-xxxW (xxx = 570 - 590, in increment of 5) 156 cells: DHM-78X10/BF-xxxW (xxx = 570 - 590, in increment of 5) 156 cells: DHM-78X10/BF(BW)-xxxW (xxx = 570 - 590, in increment of 5) 156 cells: DHM-78X10/BF(BB)-xxxW (xxx = 570 - 590, in increment of 5) 156 cells: DHM-78X10/BF/FS-xxxW (xxx = 570 - 590, in increment of 5) 156 cells: DHM-78X10/BF/FS(BW)-xxxW (xxx = 570 - 590, in increment of 5) 156 cells: DHM-78X10/BF/FS(BB)-xxxW (xxx = 570 - 590, in increment of 5) With solar cell 182M-ten (half-cut).		
Dimensions [mm] / l x w x h	2465 x 1134 x 30/32/35/40		
Rated Pmpp [W]	570; 575; 580; 585; 590	Tolerance of rated Pmpp [%]	±3
Rated Voc [V]	54.4; 54.2; 54.0; 53.8; 53.6	Tolerance of rated Voc [%]	±3
Rated Isc [A]	13.49; 13.54; 13.60; 13.66; 13.72	Tolerance of rated Isc [%]	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140	Class II
Min-creepage distance [mm]	13.75	Fuse rating [A]	25
Design load [Pa] / front	3600	Safety factor / front	1.5
Design load [Pa] / back	1600	Safety factor / back	1.5


Module type	144 cells: DHM-72X10-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10(BW)-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10(BB)-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/FS-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/FS(BW)-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/FS(BB)-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF(BW)-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF(BB)-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF/FS-xxxW (xxx = 525 - 555, in increment of 5)		
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Confirmation of the applicant
Hefei, 07/11/2022 (Place and date)


(Applicant's legally authorized signature and stamp)

PV-F-076 CDF

Confirmation of TÜV NORD CERT
Shanghai, 07/11/2022 (Place and date)


(Signature of authorized TÜV NORD CERT engineer)

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Test Report



File No.: PVP07021/22P-01

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	144 cells: DHM-72X10/BF/FS(BW)-xxxW (xxx = 525 - 555, in increment of 5) 144 cells: DHM-72X10/BF/FS(BB)-xxxW (xxx = 525 - 555, in increment of 5) With solar cell 182M-ten (half-cut).		
Dimensions [mm] / l x w x h	(1) 2279 x 1134 x 30/32/35/40 (2) 2256 x 1134 x 30/32/35/40 (3) 2274 x 1134 x 30/32/35/40 (4) 2256 x 1133 x 30/32/35/40 (5) 2278 x 1134 x 30/32/35/40		
Rated Pmpp [W]	525; 530; 535; 540; 545; 550; 555	Tolerance of rated Pmpp [%]	±3
Rated Voc [V]	49.2; 49.4; 49.6; 49.8; 50.0; 50.2; 50.4	Tolerance of rated Voc [%]	±3
Rated Isc [A]	13.48; 13.54; 13.60; 13.66; 13.72; 13.78; 13.84	Tolerance of rated Isc [%]	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140	Class II
Min-creepage distance [mm]	13.75	Fuse rating [A]	25
Design load [Pa] / front	3600	Safety factor / front	1.5
Design load [Pa] / back	1600	Safety factor / back	1.5

Module type	132 cells: DHM-66X10-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10(BW)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10(BB)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/FS-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/FS(BW)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/FS(BB)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF(BW)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF(BB)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF/FS-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF/FS(BW)-xxxW (xxx = 485 - 505, in increment of 5) 132 cells: DHM-66X10/BF/FS(BB)-xxxW (xxx = 485 - 505, in increment of 5) With solar cell 182M-ten (half-cut).		
Dimensions [mm] / l x w x h	(1) 2094 x 1134 x 30/32/35/40 (2) 2074 x 1134 x 30/32/35/40		

Confirmation of the applicant
Hefei, 07/11/2022 (Place and date)

Confirmation of TÜV NORD CERT
Shanghai, 07/11/2022 (Place and date)

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(Signature of authorized TÜV NORD CERT engineer)

Test Report



File No.: PVP07021/22P-01

Test Report No.: 492011236.011



File No.: PVP07021/22P-01

Attached to Test Report No.: 492011236.011

Rated P _{mp} [W]	485; 490; 495; 500; 505	Tolerance of rated P _{mp} [%]	±3
Rated Voc [V]	45.2; 45.4; 45.6; 45.8; 46.0	Tolerance of rated Voc [%]	±3
Rated I _{sc} [A]	13.60; 13.66; 13.72; 13.78; 13.84	Tolerance of rated I _{sc} [%]	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140	Class II
Min-creepage distance [mm]	13.75	Fuse rating [A]	25
Design load [Pa] / front	3600	Safety factor / front	1.5
Design load [Pa] / back	1600	Safety factor / back	1.5

Module type	120 cells: DHM-60X10-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10(BW)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10(BB)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/FS-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/FS(BW)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/FS(BB)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF(BW)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF(BB)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF/FS-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF/FS(BW)-xxxW (xxx = 440 - 460, in increment of 5) 120 cells: DHM-60X10/BF/FS(BB)-xxxW (xxx = 440 - 460, in increment of 5) With solar cell 182M-ten (half-cut).		
Dimensions [mm] / l x w x h	(1) 1910 x 1134 x 30/32/35/40 (2) 1891 x 1134 x 30/32/35/40 (3) 1903 x 1134 x 30/32/35/40		
Rated P _{mp} [W]	440; 445; 450; 455; 460	Tolerance of rated P _{mp} [%]	±3
Rated Voc [V]	41.2; 41.4; 41.6; 41.8; 42.0	Tolerance of rated Voc [%]	±3
Rated I _{sc} [A]	13.54; 13.60; 13.66; 13.72; 13.78	Tolerance of rated I _{sc} [%]	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140	Class II
Min-creepage distance [mm]	13.75	Fuse rating [A]	25
Design load [Pa] / front	3600	Safety factor / front	1.5

Confirmation of the applicant
 Hefei, 07/11/2022 (Place and date)

(Applicant's legally authorized signature and stamp)

Confirmation of TÜV NORD CERT
 Shanghai, 07/11/2022 (Place and date)

(Signature of authorized TÜV NORD CERT engineer)

Test Report



File No.: PVP07021/22P-01

Test Report No.: 492011236.011



File No.: PVP07021/22P-01

Attached to Test Report No.: 492011236.011

Design load [Pa] / back..... :	1600	Safety factor / back..... :	1.5
Module type	108 cells: DHM-54X10-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10(BW)-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10(BB)-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/FS-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/FS(BW)-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/FS(BB)-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/BF-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/BF(BW)-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/BF(BB)-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/BF/FS-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/BF/FS(BW)-xxxW (xxx = 395 - 415, in increment of 5) 108 cells: DHM-54X10/BF/FS(BB)-xxxW (xxx = 395 - 415, in increment of 5) With solar cell 182M-ten (half-cut).		
Dimensions [mm] / l x w x h..... :	(1) 1722 x 1134 x 30/32/35/40 (2) 1710 x 1134 x 30/32/35/40		
Rated Pmpp [W]	395; 400; 405; 410; 415	Tolerance of rated Pmpp [%]..... :	±3
Rated Voc [V]..... :	36.6; 36.8; 37.0; 37.2; 37.4	Tolerance of rated Voc [%]..... :	±3
Rated Isc [A]	13.42; 13.48; 13.54; 13.60; 13.66	Tolerance of rated Isc [%]..... :	±3
Maximum system voltage [V]..... :	1500	Safety class acc. to IEC 61140..... :	Class II
Min-creepage distance [mm]	13.75	Fuse rating [A]	25
Design load [Pa] / front..... :	3600	Safety factor / front..... :	1.5
Design load [Pa] / back..... :	1600	Safety factor / back..... :	1.5

Confirmation of the applicant
Hefei, 07/11/2022 (Place and date)



(Applicant's legally authorized signature and stamp)

PV-F-026 CDE

Confirmation of TÜV NORD CERT
Shanghai, 07/11/2022 (Place and date)

Bvum Zheng
(Signature of authorized TÜV NORD CERT engineer)

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Version 1.2

Test Report



File No.: PVP07021/22P-01

Test Report No.: 492011236.011



File No.: PVP07021/22P-01

Attached to Test Report No.: 492011236.011


PV Modules with 182mm Mono-crystalline Silicon 1/3-cut Solar Cells:


Module type	216 cells: DHT-M72X10-xxxW (xxx = 525 - 555, in increment of 5) 216 cells: DHM-T72X10-xxxW (xxx = 525 - 555, in increment of 5) 216 cells: DHM-T72X10(BW)-xxxW (xxx = 525 - 555, in increment of 5) 216 cells: DHM-T72X10(BB)-xxxW (xxx = 525 - 555, in increment of 5) 216 cells: DHM-T72X10/FS-xxxW (xxx = 525 - 555, in increment of 5) 216 cells: DHM-T72X10/FS(BW)-xxxW (xxx = 525 - 555, in increment of 5) 216 cells: DHM-T72X10/FS(BB)-xxxW (xxx = 525 - 555, in increment of 5) 216 cells: DHM-T72X10/BF-xxxW (xxx = 525 - 555, in increment of 5) 216 cells: DHM-T72X10/BF(BW)-xxxW (xxx = 525 - 555, in increment of 5) 216 cells: DHM-T72X10/BF(BB)-xxxW (xxx = 525 - 555, in increment of 5) 216 cells: DHM-T72X10/BF/FS-xxxW (xxx = 525 - 555, in increment of 5) 216 cells: DHM-T72X10/BF/FS(BW)-xxxW (xxx = 525 - 555, in increment of 5) 216 cells: DHM-T72X10/BF/FS(BB)-xxxW (xxx = 525 - 555, in increment of 5) With solar cell 182M-ten (1/3-cut).		
Dimensions [mm] / l x w x h	(1) 2279 x 1134 x 30/32/35/40 (2) 2274 x 1134 x 30/32/35/40 (3) 2278 x 1134 x 30/32/35/40 (4) 2280 x 1134 x 30/32/35/40		
Rated Pmpp [W]	525; 530; 535; 540; 545; 550; 555	Tolerance of rated Pmpp [%]	±3
Rated Voc [V]	73.7; 73.9; 74.1; 74.3; 74.5; 74.7; 74.9	Tolerance of rated Voc [%]	±3
Rated Isc [A]	9.01; 9.07; 9.13; 9.19; 9.25; 9.31; 9.37	Tolerance of rated Isc [%]	±3
Maximum system voltage [V]	1500	Safety class acc. to IEC 61140	Class II
Min-creepage distance [mm]	13.5	Fuse rating [A]	25
Design load [Pa] / front	3600	Safety factor / front	1.5
Design load [Pa] / back	1600	Safety factor / back	1.5

Module type	180 cells: DHT-M60X10-xxxW (xxx = 440 - 460, in increment of 5) 180 cells: DHM-T60X10-xxxW (xxx = 440 - 460, in increment of 5) 180 cells: DHM-T60X10(BW)-xxxW (xxx = 440 - 460, in increment of 5) 180 cells: DHM-T60X10(BB)-xxxW (xxx = 440 - 460, in increment of 5) 180 cells: DHM-T60X10/FS-xxxW (xxx = 440 - 460, in increment of 5)		
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Confirmation of the applicant
Hefei, 07/11/2022 (Place and date)

Confirmation of TÜV NORD CERT
Shanghai, 07/11/2022 (Place and date)


(Applicant's legally authorized signature and stamp)


(Signature of authorized TÜV NORD CERT engineer)

Test Report



File No.: PVP07021/22P-01

Test Report No.: 492011236.011



File No.: PVP07021/22P-01

Attached to Test Report No.: 492011236.011

	180 cells: DHM-T60X10/FS(BW)-xxxW (xxx = 440 - 460, in increment of 5) 180 cells: DHM-T60X10/FS(BB)-xxxW (xxx = 440 - 460, in increment of 5) 180 cells: DHM-T60X10/BF-xxxW (xxx = 440 - 460, in increment of 5) 180 cells: DHM-T60X10/BF(BW)-xxxW (xxx = 440 - 460, in increment of 5) 180 cells: DHM-T60X10/BF(BB)-xxxW (xxx = 440 - 460, in increment of 5) 180 cells: DHM-T60X10/BF/FS-xxxW (xxx = 440 - 460, in increment of 5) 180 cells: DHM-T60X10/BF/FS(BW)-xxxW (xxx = 440 - 460, in increment of 5) 180 cells: DHM-T60X10/BF/FS(BB)-xxxW (xxx = 440 - 460, in increment of 5) With solar cell 182M-ten (1/3-cut).		
Dimensions [mm] / l x w x h..... :	(1) 1910 x 1134 x 30/32/35/40 (2) 1891 x 1134 x 30/32/35/40 (3) 1903 x 1134 x 30/32/35/40		
Rated Pmpp [W]	440; 445; 450; 455; 460	Tolerance of rated Pmpp [%].....	±3
Rated Voc [V].....	61.6; 61.8; 62.0; 62.2; 62.4	Tolerance of rated Voc [%]	±3
Rated Isc [A]	9.07; 9.13; 9.19; 9.25; 9.31	Tolerance of rated Isc [%].....	±3
Maximum system voltage [V].....	1500	Safety class acc. to IEC 61140.....	Class II
Min-creepage distance [mm]	13.5	Fuse rating [A]	25
Design load [Pa] / front	3600	Safety factor / front	1.5
Design load [Pa] / back.....	1600	Safety factor / back	1.5

Confirmation of the applicant
 Hefei, 07/11/2022 (Place and date)



(Applicant's legally authorized signature and stamp)

PV-F-026 GDF

Confirmation of TÜV NORD CERT
 Shanghai, 07/11/2022 (Place and date)

Brian Zhang
 (Signature of authorized TÜV NORD CERT engineer)

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Test Report



File No.: PVP07021/22P-01

Test Report No.: 492011236.011



File No.: PVP07021/22P-01

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Copy of marking plate:

<p>DAH Solar Anhui Daheng Energy Technology Co., Ltd. No.1 Yaoyuan Road, Luyang District, Hefei City, Anhui, China www.dahsolarpv.com</p>		<p>XXXX-XXXX-XXXX</p> <p>Maximum Power (P_{max}) Open Circuit Voltage (V_{oc}) Maximum Power Voltage (V_{mp}) Short Circuit Current (I_{sc}) Maximum Power Current (I_{mp}) Module Dimension Fuse Rating Maximum System Voltage Operating Temperature Nominal Operating Cell Temperature Application Level STC: 1000W/m², AM1.5, 25°C</p>		<p>2000/30W 1000/30W V A A A 1000×1000×30mm A VDC °C °C Class A</p>		<p>WARNING Hazardous electricity can shock burn, or cause death. Don't touch terminals.</p> <p>Made in China</p>											
<p>DAH Solar More Reliable Modules, More Reasonable Prices</p> <p>Solar Module Type: W</p> <p>Maximum Power (P_{max}): ±3%</p> <p>Open Circuit Voltage (V_{oc}): ±3%</p> <p>Short Circuit Current (I_{sc}): ±3%</p> <p>Maximum Power Voltage (V_{mp}): V</p> <p>Maximum Power Current (I_{mp}): A</p> <p>Fuse Rating: A</p> <p>Maximum System Voltage: VDC</p> <p>Module Dimension: XXXX*XXXX*XX</p> <p>Standard Test Condition (STC): AM1.5, 1000W/m², 25°C</p>		<p>WARNING Hazardous Electricity Can Shock Burn, or Cause Death. Do Not Touch Terminals.</p>		<p>DAH Solar</p> <p>Solar Module Type:</p> <table border="1"> <tr> <td>P_{max}</td> <td>V_{oc}</td> <td>V_{mp}</td> <td>I_{sc}</td> <td>I_{mp}</td> </tr> <tr> <td>±3%</td> <td>±3%</td> <td></td> <td>±3%</td> <td></td> </tr> </table> <p>Module Dimension: XXX*XXX*XXX mm</p> <p>Fuse Rating: A</p> <p>Maximum System Voltage: V DC</p> <p>Standard Test Condition: AM1.5, 1000W/m², 25°C</p>		P _{max}	V _{oc}	V _{mp}	I _{sc}	I _{mp}	±3%	±3%		±3%		<p>WARNING Hazardous electricity can shock burn, or cause death. Don't touch terminals.</p>	
P _{max}	V _{oc}	V _{mp}	I _{sc}	I _{mp}													
±3%	±3%		±3%														
<p>TÜVRheinland Precisely Right.</p>		<p>Address: No. 358, Tianhe Road, Luyang Industrial Park, Hefei City, Anhui Province, China Tel: (0086)0551-62957814 Fax: (0086)0551-65655842 E-mail: dahsolar@dh-solar.cn http://www.dahsolarpv.com</p> <p>Anhui Daheng Energy Technology Co., Ltd.</p>		<p>Anhui Daheng Energy Technology Co., Ltd. Add: No.1 Yaoyuan Road, Luyang District, Hefei City, Anhui, China Tel: +86 551 65655842 E-mail: info@dh-solar.cn www.dahsolarpv.com</p>		<p>WARNING Hazardous electricity can shock burn, or cause death. Don't touch terminals.</p>											

Confirmation of the applicant
Hefei, 07/11/2022 (Place and date)

(Applicant's legally authorized signature and stamp)

Confirmation of TÜV NORD CERT
Shanghai, 07/11/2022 (Place and date)

(Signature of authorized TÜV NORD CERT engineer)

Test Report



File No.: PVP07021/22P-01

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File No.: PVP07021/22P-01

Attached to Test Report No.: 492011236.011

List of critical materials and components:

Object	Manufacturer	Type	Technical Data	Remark
Components				
156.75mm mono cell 1	Zhejiang Jinko Solar Co., Ltd	156M-210five	Dimension (w x l) = 156.75mm x 156.75mm Cell area = 24570.56mm ² Thickness = 200 ± 20µm PERC Cell 5 busbars	Tested with PV modules
156.75mm mono cell 2	Zhejiang Jinko Solar Co., Ltd	156M-210five (half-cut)	Dimension (w x l) = 156.75 mm x 78.375 mm Cell area = 12285.28mm ² Thickness = 200 ± 20µm PERC Cell 5 busbars	Tested with PV modules
158.75mm mono cell 3	Zhejiang Jinko Solar Co., Ltd	158M-nine (half-cut)	Dimension (w x l) = 158.75 mm x 79.375 mm Cell area = 12600.78mm ² Thickness = 200 ± 20µm PERC Cell 9 busbars	Tested with PV modules
158.75mm mono cell 4	Zhejiang Jinko Solar Co., Ltd	158M-five	Dimension (w x l) = 158.75 mm x 158.75 mm Cell area = 25201.56mm ² Thickness = 200 ± 20µm PERC Cell 5 busbars	Tested with PV modules
166mm mono cell 5	Tongwei solar (Chengdu) Co., Ltd.	166M-nine (half-cut)	Dimension (w x l) = 166 mm x 83mm Cell area = 13708.85mm ² Thickness = 190 ± 30µm PERC Cell 9 busbars	Tested with PV modules
182mm mono cell 6	Ahui Daheng Energy Technology Co., Ltd.	182M-ten (half-cut)	Dimension (w x l) = 182 mm x 91mm Cell area = 16507.5mm ² Thickness = 185 ± 18.5µm PERC Cell 10 busbars	Tested with PV modules
182mm mono cell 7	Ahui Daheng Energy Technology Co., Ltd.	182M-ten (1/3-cut)	Dimension (w x l) = 182mm x 60.67mm Cell area = 11041.33mm ² or 10986.33mm ² Thickness = 170 ± 17µm PERC Cell 10 busbars	Tested with PV modules
Front cover	CAIHONG (HEFEI) PHOTOVOLTAIC Co., Ltd.	AR coating tempered glass	Thickness = 3.2 mm	Tested with PV modules
	XINYI PV PRODUCTS (ANHUI) Co., Ltd.	AR coating tempered glass	Thickness = 3.2 mm	Tested with PV modules

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Object	Manufacturer	Type	Technical Data	Remark
	FLAT GLASS GROUP CO., LTD.	AR coating tempered glass	Thickness = 3.2 mm	Tested with PV modules
Rear cover 1 (Combine with Encapsulation material 1)	Crown Advanced Material Co., Ltd	Crown BE-xn	Material: PVDF/PU/PET/PU/PO Thickness: 20µm / 12.5µm / 275µm / 12.5µm / 50µm CTI: 600V	Tested with PV modules CTI report no.: 15042005037 Issued by TÜV Rheinland
Rear cover 2 (Combine with Encapsulation material 2, 3, 6)	Crown Advanced Material Co., Ltd	Crown BO-Ln	Material: PET/PU/PO Thickness: 165µm / 10µm / 185µm CTI: 600V	Tested with PV modules CTI report no.: 15042005032 Issued by TÜV Rheinland
Rear cover 3 (Combine with Encapsulation material 4)	Endurance Sunshine Solar Technology (Suzhou) Co., Ltd.	Endurans™ Solar HP D15	Material: PO/PO/PO Thickness: 30µm / 290µm / 30µm CTI: 600V	Tested with PV modules CTI report no.: 704071912805-01 Issued by TÜV SUD
Rear cover 4 (Combine with Encapsulation material 5)	Jollywood (Suzhou) Sunwatt Co., Ltd.	FFC-JW3010plus	Material: FFC/PET/FFC Thickness: 12µm / 285µm / 13µm CTI: 600V	Tested with PV modules Certificate no R 50302127 Issued by TÜV Rheinland
Rear cover 5 (Combine with Encapsulation material 7)	Suzhou Inshine optical material Co., Ltd	Inshine201H	Material: YSF/PET/FC Thickness: 10µm / 288µm / 5µm CTI: 600V	Tested with PV modules Certificate no B 109994 0003 Issued by TÜV SUD
Encapsulation material 1	Shanghai HIUV new material Limited by Share Ltd	S201MT1 (closed to glass) / S201MT2 (closed to backsheet)	Thickness: 0.60 ± 0.10mm CTI: 600V	Tested with PV modules CTI report no.: GZIN1605022185PS Issued by SGS
Encapsulation material 2 (Combine with 182mm mono cell 6)	Changshu TEGU new material technology CO., LTD	T2014 (closed to glass) / T2053W (closed to backsheet)	Thickness: 0.6 ± 0.10mm CTI: 600V	Tested with PV modules CTI report no.: 206521-ET2-1 Issued by VDE
Encapsulation material 3 (Combine with 182mm mono cell 6)	Hangzhou First PV Material Co., Ltd	F406P (closed to glass) / EP304 (closed to backsheet)	Thickness: 0.60 ± 0.10mm CTI: 600V	Tested with PV modules CTI report no.: 15101259002 Issued by TÜV Rheinland

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Object	Manufacturer	Type	Technical Data	Remark
Encapsulation material 4 (Combine with 182mm mono cell 6)	Changshu TEGU new material technology CO., LTD	T2014 (closed to glass) / T2019P (closed to backsheet)	Thickness: 0.60 ± 0.10mm CTI: 600V	Tested with PV modules CTI report no.: 206521-ET2-1 Issued by VDE
Encapsulation material 5 (Combine with 182mm mono cell 7)	Hangzhou First PV Material Co., Ltd	F406P (closed to glass) / F806W (closed to backsheet)	Thickness: 0.60 ± 0.10mm CTI: 600V	Tested with PV modules CTI report no.: 15101259002 and 15101259004 Issued by TÜV Rheinland
Encapsulation material 6 (Combine with 182mm mono cell 6)	Changshu Friends Connector Technology Co., Ltd	L9001 (closed to glass) / F8093 (closed to backsheet)	Thickness: 0.60 ± 0.10mm CTI: 600V	Tested with PV modules CTI report no.: 70.407.21.186.01-00A Issued by TÜV SUD
Encapsulation material 7 (Combine with 182mm mono cell 6)	Cybrid Technologies Inc.	T11 (closed to glass) / W11 (closed to backsheet)	Thickness: 0.60 ± 0.10mm CTI: 600V	Tested with PV modules CTI report no.: 15043899 037 and 15043899 064 Issued by TÜV Rheinland
Frame parts	Hefei Hongtang PV Technology Co., Ltd.	6063-T5	Thickness = 30/35/40mm (35mm thickness is only for 60 cell series.) Installation method: clamping	Tested with PV modules
	Anhui Xinbo Aluminium Industry Share Co., Ltd.	6005-T6	Thickness = 35/40mm Installation method: clamping	Tested with PV modules
	Anhui Xinbo Aluminium Industry Share Co., Ltd.	6005-T6	Thickness = 30/32mm Installation method: mounting holes	Tested with PV modules
	Suzhou Sentong Photovoltaic Co., Ltd.	6005-T6	Thickness = 35/40mm Installation method: clamping	Tested with PV modules
	Anhui Hanrui Energy Saving Technology Co., Ltd	6005-T6	Thickness = 35/40mm Installation method: clamping	Tested with PV modules
	Jiangxi Jinko PV Material Co., Ltd.	6005-T6	Thickness = 35/40mm Installation method: mounting holes	Tested with PV modules
Adhesive (frame)	SUZHOU TONSAN ADHESIVE CO., LTD.	1527	Color: white	Tested with PV modules
	Shanghai Huitian New material CO., LTD.	HT906Z	Color: Black	Tested with PV modules
	Jiangxi fen fa ke ji CO., LTD.	FS996	Color: white	Tested with PV modules
	Hangzhou Zhijiang Silicone Chemicals CO., LTD	JS-606	Color: white	Tested with PV modules

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Object	Manufacturer	Type	Technical Data	Remark
Internal wiring (for interconnection cell-to-cell bus bar)	TaiCang JuRen PV Material CO.,Ltd.	Copper belt with tin plated	Width: 0.9mm Thickness: 0.25mm Sn63Pb37	Tested with PV modules
	TaiCang JuRen PV Material CO., Ltd.	Copper belt with tin plated	Diameter: 0.35mm / 0.32mm Sn63Pb37	Tested with PV modules
	Changzhou benjieming PV Material CO., Ltd	Copper belt with tin plated	Diameter: 0.35mm / 0.32mm / 0.30mm Sn63Pb37	Tested with PV modules
	ShangHai SANY Solar Material Technology Co., LTD	Copper belt with tin plated	Diameter: 0.35mm/ 0.32mm / 0.30mm Sn63Pb37	Tested with PV modules
	Jiangsu Weton New Material Technology Co., LTD	Copper belt with tin plated	Diameter: 0.35mm/ 0.32mm / 0.30mm Sn63Pb37	Tested with PV modules
	Xinyu JOINSUNTECH Co., Ltd	Copper belt with tin plated	Diameter: 0.35mm/ 0.32mm / 0.30mm Sn63Pb37	Tested with PV modules
Internal wiring (for inter-string connection)	TaiCang JuRen PV Material CO., Ltd.	Copper belt with tin plated	Width: 6.0mm Thickness: 0.4mm Sn63Pb37	Tested with PV modules
			Width: 4.0mm Thickness: 0.35mm Sn63Pb37	Tested with PV modules
			Width: 5.0mm Thickness: 0.4mm Sn63Pb37	Tested with PV modules
	Changzhou benjieming PV Material CO., Ltd	Copper belt with tin plated	Width: 6.0mm Thickness: 0.4mm Sn63Pb37	Tested with PV modules
			Width: 4.0mm Thickness: 0.35mm Sn63Pb37	Tested with PV modules
			Width: 5.0mm Thickness: 0.4mm Sn63Pb37	Tested with PV modules
	ShangHai SANY Solar Material Technology Co., LTD	Copper belt with tin plated	Width: 6.0mm Thickness: 0.4mm Sn63Pb37	Tested with PV modules
			Width: 4.0mm Thickness: 0.35mm Sn63Pb37	Tested with PV modules
			Width: 5.0mm Thickness: 0.4mm Sn63Pb37	Tested with PV modules

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PV-F-026 CDF

Confirmation of TÜV NORD CERT
Shanghai, 07/11/2022 (Place and date)

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Test Report



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Object	Manufacturer	Type	Technical Data	Remark
	Jiangsu Weton New Material Technology Co., LTD	Copper belt with tin plated	Width: 6.0mm Thickness: 0.4mm Sn63Pb37	Tested with PV modules
			Width: 4.0mm Thickness: 0.35mm Sn63Pb37	Tested with PV modules
			Width: 5.0mm Thickness: 0.4mm Sn63Pb37	Tested with PV modules
	Xinyu JOINSUNTECH Co., Ltd	Copper belt with tin plated	Width: 6.0mm Thickness: 0.4mm Sn63Pb37	Tested with PV modules
			Width: 4.0mm Thickness: 0.35mm Sn63Pb37	Tested with PV modules
			Width: 5.0mm Thickness: 0.4mm Sn63Pb37	Tested with PV modules
Fluxing agent	Singapore Asahi Chemical and Solder Industries Pte Ltd.	SF56	-	Tested with PV modules
		SF105	-	Tested with PV modules
	Shenzhen Tongfang Electronic New Materials Co., Ltd	TFHF9200		Tested with PV modules
	Shenzhen Vital New Materials Co., Ltd	PV112F		Tested with PV modules
Additional materials (fixing tape)	DONGGUAN XIONGFEI ELECTRONIC MATERIALS Co., Ltd	XF0530	Width = 5 mm	Tested with PV modules
	Hangzhou First PV Material Co., Ltd	BEC-201	Thickness = 245µm	Tested with PV modules
	3M	UV-1	Thickness = 85µm±20µm	Tested with PV modules
	CHANGZHOU BBETTER FILM TECHNOLOGIES CO., LTD	BIF 603	Thickness = 275µm±15µm	Tested with PV modules
	Shanghai Hyperion Adhesive Material Co., Ltd	9966D	Thickness = 85µm±20µm	Tested with PV modules
	Suzhou Temosun Co., Ltd	F5065	Thickness = 87µm±10µm	Tested with PV modules
	Yantai Darbond Co., Ltd	DT-9609	Thickness = 64µm±10µm	Tested with PV modules
Junction box set 1				
Junction box	QC Solar (Suzhou) Corporation	QC0816431	Rated voltage = 1500VDC Rated current = 16A Number of diodes: 3	Certificate no R.50353457

Confirmation of the applicant
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Test Report



File No.: PVP07021/22P-01

Test Report No.: 492011236.011




File No.: PVP07021/22P-01

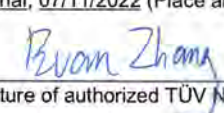
Attached to Test Report No.: 492011236.011

Object	Manufacturer	Type	Technical Data	Remark
Adhesive (junction box)	SUZHOU TONSAN ADHESIVE CO., LTD.	TS1527	Color: white	-
Potting material	SUZHOU TONSAN ADHESIVE CO., LTD.	TS1521	Color: white	-
Bypass diodes	QC Solar (Suzhou) Corporation	SB3050DY	Tj max = 200°C Rated current = 30A	-
Cable	QC Solar (Suzhou) Corporation	H1Z2Z2-K 1x4.0mm ²	Rated voltage = 1500VDC	Certificate no R 50348872
Connectors	QC Solar (Suzhou) Corporation	QC4.10-35	Rated voltage = 1500VDC Rated current = 41A	Certificate no R 50353779
Junction box set 2				
Junction box	QC Solar (Suzhou) Corporation	QC171721	Rated voltage = 1500VDC Rated current = 20A Number of diodes: 3	Certificate no R 50378787
Adhesive (junction box)	SUZHOU TONSAN ADHESIVE CO., LTD.	TS1527	Color: white	-
Potting material	SUZHOU TONSAN ADHESIVE CO., LTD.	TS1521	Color: white	-
Bypass diodes	QC Solar (Suzhou) Corporation	SB3050DY	Tj max = 200°C Rated current = 30A	-
Cable	QC Solar (Suzhou) Corporation	H1Z2Z2-K 1x4.0mm ²	Rated voltage = 1500VDC	Certificate no R 50348872
Connectors	QC Solar (Suzhou) Corporation	QC4.10-35	Rated voltage = 1500VDC Rated current = 41A	Certificate no R 50353779
Junction box set 3				
Junction box	Changshu Friends Connector Technology Co., Ltd	F20-01	Rated voltage = 1500VDC Rated current = 20A Number of diodes: 3	Certificate no B 099272 0009 Rev.05
Adhesive (junction box)	SUZHOU TONSAN ADHESIVE CO.,LTD.	TS1527	Color: white	-
Potting material	SUZHOU TONSAN ADHESIVE CO.,LTD.	TS1521	Color: white	-
Bypass diodes	Changshu Friends Connector Technology Co., Ltd	FRD3045	Tj max = 200 °C Rated current = 30A	-
Cable	Changshu Friends Connector Technology Co.,Ltd	H1Z2Z2-K 1x4.0mm ²	Rated voltage = 1500VDC	Certificate no R 50421153
Connectors	Changshu Friends Connector Technology Co.,Ltd	PV5e	Rated voltage = 1500VDC Rated current = 30A	Certificate no B 170899272006
Junction box set 4				
Junction box	Jiangxi Jinko PV Material Co., Ltd.	PV-JK09Exy (x=M2 or L, y=1)	Rated voltage = 1500VDC Rated current = 20A Number of diodes: 3	Certificate no R 50354415

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Object	Manufacturer	Type	Technical Data	Remark
Adhesive (junction box)	SUZHOU TONSAN ADHESIVE CO.,LTD.	TS1527	Color: white	-
	Shanghai Huitian New Material Co., Ltd.	HT906Z	Color: Black	-
Potting material	SUZHOU TONSAN ADHESIVE CO.,LTD.	TS1521	Color: white	-
	Shanghai Huitian New Material Co., Ltd.	5299W	Color: Black	-
Bypass diodes	Jiangxi Jinko PV Material Co., Ltd.	TPA3045A	Tj max = 200°C Rated current= 30A	-
Cable	Jiangxi Jinko PV Material Co., Ltd.	H1Z2Z2-K 1x4.0mm ²	Rated voltage = 1500VDC	Certificate no R 50319823
Connectors	Jiangxi Jinko PV Material Co., Ltd.	PV-JK03M/2B / PV-JK03M2/2B	Rated voltage = 1500VDC Rated current = 45A	Certificate no R 50318165
Junction box set 5				
Junction box	Changshu Friends Connector Technology Co., Ltd.	F20-01 002	Rated voltage = 1500VDC Rated current = 25A Number of diodes: 3	Certificate no B 099272 0009 Rev.05
Adhesive (junction box)	SUZHOU TONSAN ADHESIVE CO.,LTD.	TS1527	Color: white	-
	Shanghai Huitian New Material Co., Ltd.	HT906Z	Color: Black	-
Potting material	SUZHOU TONSAN ADHESIVE CO.,LTD.	TS1521	Color: white	+
	Shanghai Huitian New Material Co., Ltd.	5299W	Color: Black	-
Bypass diodes	Yangzhou Yangjie Electronic Technology Co., Ltd.	GFMK6045C	Tj max = 200 °C Rated current =60A	-
Cable	Changshu Friends Connector Technology Co., Ltd.	H1Z2Z2-K 1x4.0mm ²	Rated voltage = 1500VDC	Certificate no R 50421153
Connectors	Changshu Friends Connector Technology Co., Ltd.	PV5e	Rated voltage = 1500VDC Rated current = 30A	Certificate no B 170899272006
Junction box set 6				
Junction box	QC Solar (Suzhou) Corporation	3Qxy	Rated voltage = 1500VDC Rated current = 25A Number of diodes: 3	Certificate no R 50510013
Adhesive (junction box)	Shanghai Huitian New Material Co., Ltd.	HT906Z	Color: Black	+
Potting material	Shanghai Huitian New Material Co., Ltd.	5299W	Color: Black	-
Bypass diodes	QC Solar (Suzhou) Corporation	QCM3045	Tj max = 200°C Rated current= 30A	-

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Object	Manufacturer	Type	Technical Data	Remark
Cable	QC Solar (Suzhou) Corporation	62930 IEC 131 1 x 2,5mm ² 1 x 4,0mm ² 1 x 6,0mm ² 1 x 10,0mm ² HALOGEN FREE LOW SMOKE	Rated voltage = 1500VDC	Certificate no.: R 50447239
Connectors	QC Solar (Suzhou) Corporation	QC4.10-cd	Rated voltage = 1500VDC Rated current = 41A	Certificate no.: R 50353779
Junction box set 7				
Junction box	Jiangxi Jinko PV Material Co., Ltd.	PV-JK09Lxy (x=M2 or L, y=1)	Rated voltage = 1500VDC Rated current = 25A Number of diodes: 3	Certificate no R 50354415
Adhesive (junction box)	SUZHOU TONSAN ADHESIVE CO.,LTD.	TS1527	Color: white	-
	Shanghai Huitian New Material Co., Ltd.	HT906Z	Color: Black	+
Potting material	SUZHOU TONSAN ADHESIVE CO.,LTD.	TS1521	Color: white	-
	Shanghai Huitian New Material Co., Ltd.	5299W	Color: Black	-
Bypass diodes	Jiangxi Jinko PV Material Co., Ltd.	JKTPD-ASSY-R 3045	TJ max = 200°C Rated current= 30A	-
Cable	Jiangxi Jinko PV Material Co., Ltd.	H1Z2Z2-K 1x4,0mm ²	Rated voltage = 1500VDC	Certificate no R 50319823
Connectors	Jiangxi Jinko PV Material Co., Ltd.	PV-JK03M/2B / PV-JK03M2/2B	Rated voltage = 1500VDC Rated current = 45A	Certificate no R 50318165

Remark:

- (1) Fire test Class C (MST 23 of IEC 61730-2: 2016) has been evaluated on all the raw materials listed above.
- (2) Pollution degree I (Sequence B1 of IEC 61730-2:2016) has been evaluated on all the raw materials listed above.
- (3) Those materials marked in blue are added in most recent project.

----- End of CDF -----

Confirmation of the applicant
Hefei, 07/11/2022 (Place and date)

(Applicant's legally authorized signature and stamp)

PV-F-026 CDF

Confirmation of TÜV NORD CERT
Shanghai, 07/11/2022 (Place and date)

(Signature of authorized TÜV NORD CERT engineer)

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----- End of test report -----