

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. 7GJY4DEXWI-01

Generated on 20 Jan 2022 using FirstRate5: 5.3.2a (3.21)

### Property

**Address** 48 Marina Drive, Moama, NSW, 2731  
**Lot/DP** 8  
**NCC Class\*** Class 1a  
**Type** New Home

### Plans

**Main plan** 21363  
**Prepared by** EZ/JL

### Construction and environment

<b>Assessed floor area (m<sup>2</sup>)*</b>	<b>Exposure type</b>
Conditioned* 222	suburban
Unconditioned* 55.2	<b>NatHERS climate zone</b>
Total 277.2	27 Mildura AMO
Garage 34.3	



### Accredited assessor

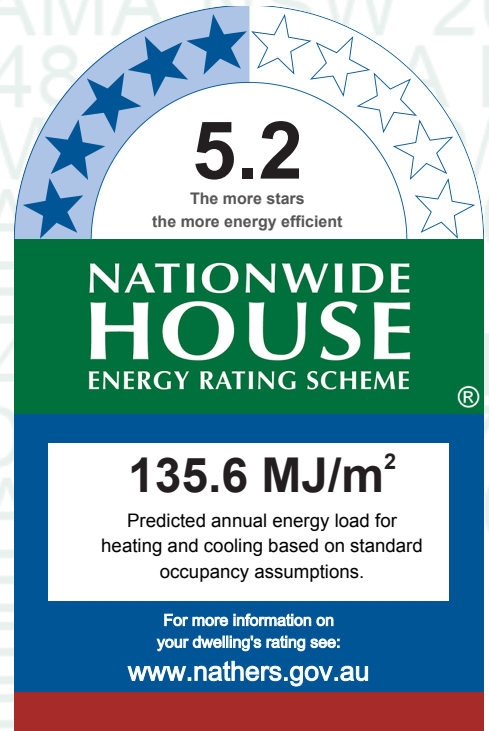
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**Accreditation No.** DMN/11/0538  
**Assessor Accrediting Organisation** Design Matters National  
**Declaration of interest** Declaration completed: no conflicts

### National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at [www.abcb.gov.au](http://www.abcb.gov.au).

State and territory variations and additions to the NCC may also apply.



### Thermal performance

<b>Heating</b>	<b>Cooling</b>
<b>76.4</b>	<b>59.2</b>
<b>MJ/m<sup>2</sup></b>	<b>MJ/m<sup>2</sup></b>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

### Verification

To verify this certificate, scan the QR code or visit <https://www.fr5.com.au/QRCodeLanding?PublicId=7GJY4DEXWI-01> When using either link, ensure you are visiting [www.FR5.com.au](http://www.FR5.com.au).



## Certificate Check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page?  
Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate?

### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

## Additional Notes

### Window and glazed door *type and performance*

#### Default\* windows

				Substitution tolerance ranges	
Window ID	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Available					

#### Custom\* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
DOW-006-04 A	Al Sliding Door SG 4Clr	6.17	0.72	0.68	0.76
DOW-014-01 A	Aluminium Fixed Light Window SG 4Clr	6.16	0.75	0.71	0.79
DOW-002-01 A	Elite Al Awning Window SG 3Clr	6.36	0.65	0.62	0.68

### Window and glazed door *Schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	DOW-006-04 A	Opening 1	2100	3600	sliding	45.0	SSE	No
Kitchen/Living	DOW-014-01 A	Opening 11	700	3600	fixed	0.0	NNW	No
Laundry	DOW-006-04 A	Opening 2	2100	1800	sliding	45.0	ENE	No

Family	DOW-002-01 A	Opening 5	2100	900	awning	60.0	SSE	No
Family	DOW-002-01 A	Opening 6	2100	900	awning	60.0	SSE	No
Family	DOW-002-01 A	Opening 3	2100	900	awning	60.0	ENE	No
Family	DOW-002-01 A	Opening 4	2100	900	awning	60.0	ENE	No
Theatre	DOW-002-01 A	Opening 9	2100	2400	awning	30.0	WSW	No
Theatre	DOW-002-01 A	Opening 10	2100	600	awning	60.0	WSW	No
Theatre	DOW-002-01 A	Opening 8	2100	900	awning	60.0	SSE	No
Theatre	DOW-002-01 A	Opening 7	2100	900	awning	60.0	SSE	No
Sitting	DOW-006-04 A	Opening 21	2100	2700	sliding	45.0	WSW	No
Sitting	DOW-002-01 A	Opening 22	600	2100	awning	45.0	NNW	No
Landing	DOW-002-01 A	Opening 23	1800	1800	awning	30.0	NNW	No
Bedroom 3	DOW-002-01 A	Opening 24	600	2100	awning	45.0	ENE	No
WC	DOW-002-01 A	Opening 25	600	600	awning	90.0	ENE	No
Bedroom 2	DOW-002-01 A	Opening 26	600	2100	awning	45.0	ENE	No
Bath	DOW-002-01 A	Opening 27	1000	600	awning	90.0	SSE	No
Ens	DOW-002-01 A	Opening 28	1000	900	awning	90.0	SSE	No
Bedroom 1	DOW-002-01 A	Opening 38	1800	600	awning	60.0	WSW	No
Bedroom 1	DOW-002-01 A	Opening 37	1800	2400	awning	30.0	WSW	No

## Roof window type and performance value

### Default\* roof windows

				Substitution tolerance ranges	
Window ID	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC upper limit
				No Data Available	

### Custom\* roof windows

				Substitution tolerance ranges	
Window ID	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Available					

## Roof window schedule

Location	Window ID	Window no.	Opening %	Area (m <sup>2</sup> )	Orientation	Outdoor shade	Indoor shade
No Data Available							

## Skylight type and performance

Skylight ID	Skylight description
No Data Available	

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> )	Orient-ation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

## External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2040	920	100.0	WSW
Garage	2040	820	100.0	ENE
Garage	2100	4800	100.0	WSW

## External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
1	Generic - Generic BV2	0.4	Medium	Glass fibre batt: R2.0 (R2.0)	Yes
2	Generic - Generic BV2	0.5	Medium	Glass fibre batt: R2.0 (R2.0)	Yes
3	MAIN - EPS-50-2	0.47	Medium	Polystyrene expanded (k = 0.039) (R1.3); Glass fibre batt: R2.0 (R2.0)	No
4	MAIN - Shiplap2	0.3	Light	Glass fibre batt: R2.0 (R2.0)	Yes
5	Generic - Brick Veneer	0.4	Medium		No
6	Generic - Double Brick	0.4	Medium		No
7	MAIN - Stria FC2	0.3	Light	Glass fibre batt: R2.0 (R2.0)	No

## External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Pantry	1	2550	2196	NNW	0	Yes
Kitchen/Living	2	2550	121	NNW	0	Yes
Kitchen/Living	1	2550	1298	WSW	1049	Yes
Kitchen/Living	3	2550	9187	SSE	2787	Yes
Kitchen/Living	1	2550	5970	NNW	457	Yes
Laundry	1	2550	2710	ENE	450	Yes
Laundry	1	2550	4205	NNW	450	Yes
Family	1	2550	1290	WSW	9227	Yes
Family	1	2550	5288	SSE	450	Yes
Family	1	2550	6002	ENE	450	No
Theatre	4	2550	4294	WSW	0	No
Theatre	4	2550	995	SSE	0	No
Theatre	1	2550	4863	SSE	0	No
Theatre	1	2550	2247	ENE	9760	Yes
Theatre	4	2550	1166	NNW	5441	Yes
Garage	5	2640	604	NNW	0	Yes
Garage	5	2640	1510	ENE	0	Yes
Garage	5	2640	5988	NNW	0	Yes
Garage	6	2640	5494	WSW	1190	Yes
Sitting	3	2550	3984	WSW	453	Yes

\* Refer to glossary.

Sitting	1	2550	1593	NNW	450	No
Sitting	3	2550	4227	NNW	545	No
Landing	1	2550	2298	NNW	450	No
Bedroom 3	3	1650	3174	ENE	450	No
Bedroom 3	1	2550	3697	NNW	450	No
WC	3	1350	992	ENE	453	No
Bedroom 2	3	2250	3697	SSE	450	Yes
Bedroom 2	3	1650	3184	ENE	453	No
Bath	3	2250	3905	SSE	450	Yes
Ens	7	2550	1994	SSE	500	No
Ens	3	2550	2221	ENE	450	Yes
Bedroom 1	3	2550	1395	WSW	451	Yes
Bedroom 1	3	2550	3143	NNW	450	Yes
Bedroom 1	3	2550	1534	WSW	450	No
Bedroom 1	7	2550	2722	WSW	491	No
Bedroom 1	7	2550	5279	SSE	500	No

## Internal wall type

Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	120.5	
2	Generic - Internal Plasterboard Stud Wall R2	52.7	Glass fibre batt: R2.0 (R2.0)
3	Generic - Garage Int 2	27	Glass fibre batt: R2.0 (R2.0)
4	Generic - Roof Space 2	9.3	Glass fibre batt: R2.0 (R2.0)

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Pantry	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	3.4	Enclosed	R0.0	none
Kitchen/Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	63.4	Enclosed	R0.0	none
Pdr	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	3.3	Enclosed	R0.0	Tiles
Laundry	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	11.4	Enclosed	R0.0	Tiles
Family	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	31.7	Enclosed	R0.0	none
Theatre	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	25.1	Enclosed	R0.0	Carpet
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	34.3	Enclosed	R0.0	none
Sitting	Gen - Timber 300 Lined	5.4	Enclosed	R0.0	Timber
Sitting	Gen - Timber 300 Lined R2.0	17.8	Enclosed	R2.0	Timber
Landing	Gen - Timber 300 Lined	17.8	Enclosed	R0.0	Timber
Bedroom 3	Gen - Timber 300 Lined	11.7	Enclosed	R0.0	Carpet
WC	Gen - Timber 300 Lined	2.1	Enclosed	R0.0	Tiles
Bedroom 2	Gen - Timber 300 Lined	11.7	Enclosed	R0.0	Carpet
Bath	Gen - Timber 300 Lined	7.4	Enclosed	R0.0	Tiles
Ens	Gen - Timber 300 Lined R2.0	2.7	Elevated	R2.0	Tiles

Ens	Gen - Timber 300 Lined	2.7	Enclosed	R0.0	Tiles
WIR	Gen - Timber 300 Lined	3.6	Enclosed	R0.0	Carpet
Bedroom 1	Gen - Timber 300 Lined	26.2	Enclosed	R0.0	Carpet

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Pantry	Gen - Timber 300 Lined	R0.0	No
Kitchen/Living	Gen - Timber 300 Lined	R0.0	No
Kitchen/Living	Plasterboard	R4.0	Yes
Pdr	Gen - Timber 300 Lined	R0.0	No
Laundry	Plasterboard	R4.0	Yes
Family	Plasterboard	R4.0	Yes
Theatre	Gen - Timber 300 Lined	R0.0	No
Garage	Gen - Timber 300 Lined	R0.0	No
Garage	Gen - Timber 300 Lined R2.0	R2.0	No
Garage	Plasterboard	R0.0	No
Sitting	Plasterboard	R4.0	Yes
Sitting	Plasterboard	R4.0	Yes
Landing	Plasterboard	R4.0	Yes
Bedroom 3	Plasterboard	R4.0	Yes
WC	Plasterboard	R4.0	Yes
Bedroom 2	Plasterboard	R4.0	Yes
Bath	Plasterboard	R4.0	Yes
Ens	Plasterboard	R4.0	Yes
Ens	Plasterboard	R4.0	Yes
WIR	Plasterboard	R4.0	Yes
Bedroom 1	Plasterboard	R4.0	Yes

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Pantry	1	Downlights	50	Sealed
Kitchen/Living	1	Exhaust Fans	100	Sealed
Kitchen/Living	15	Downlights	50	Sealed
Pdr	1	Exhaust Fans	300	Sealed
Pdr	1	Downlights	50	Sealed
Laundry	2	Downlights	50	Sealed
Family	1	Heater Flues	150	Unsealed
Family	6	Downlights	50	Sealed
Theatre	4	Downlights	50	Sealed
Garage	1	Downlights	50	Sealed
Sitting	6	Downlights	50	Sealed



Landing	5	Downlights	50	Sealed
Bedroom 3	2	Downlights	50	Sealed
WC	1	Exhaust Fans	300	Sealed
WC	1	Downlights	50	Sealed
Bedroom 2	2	Downlights	50	Sealed
Bath	1	Downlights	50	Sealed
Ens	1	Exhaust Fans	300	Sealed
Ens	1	Downlights	50	Sealed
WIR	1	Downlights	50	Sealed
Bedroom 1	5	Downlights	50	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Cont:Attic-Continuous	0.0	0.32	Light
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.32	Light

## Explanatory Notes

### About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

### Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

### Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way. Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

## Glossary

<b>Annual energy load</b>	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
<b>Assessed floor area</b>	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
<b>Ceiling penetrations</b>	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
<b>Conditioned</b>	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
<b>Custom windows</b>	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
<b>Default windows</b>	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
<b>Entrance door</b>	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
<b>Exposure category - exposed</b>	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
<b>Exposure category - open</b>	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
<b>Exposure category - suburban</b>	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
<b>Exposure category - protected</b>	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
<b>Horizontal shading feature</b>	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.



<b>National Construction Code (NCC) Class</b>	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .
<b>Opening Percentage</b>	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
<b>Provisional value</b>	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at <a href="http://www.nathers.gov.au">www.nathers.gov.au</a>
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
<b>Roof window</b>	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
<b>Shading device</b>	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
<b>Shading features</b>	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
<b>Solar heat gain coefficient (SHGC)</b>	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
<b>Skylight</b> (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
<b>U-value</b>	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
<b>Unconditioned</b>	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
<b>Vertical shading features</b>	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).