FORM R405-2020

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	Megan Cady Residence	Builder Name:	
Street:	433 SW Finley Little Lane	Permit Office:	Columbia County
City, State, Zip:	Lake City, FL, 32024	Permit Number:	
Owner:	Megan Cady	Jurisdiction:	
Design Location:	FL, Gainesville	County:	Columbia(Florida Climate Zone 2)

1. New construction or existing	New (From Plans)
2. Single family or multiple family	Detached
3. Number of units, if multiple family	1
4. Number of Bedrooms	3
5. Is this a worst case?	No
6. Conditioned floor area above grade (ft²)	2232
Conditioned floor area below grade (ft²)	0

7. Windows(394.0 sqft.)	Description	Area
a. U-Factor:	Dbl, U=0.36	394.00 ft²
SHGC:	SHGC=0.25	
b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		6.261 ft
Area Weighted Average SHGC:		0.250

8. Skylights	Description	Area
U-Factor:(AVG)	N/A	N/A ft²
SHGC(AVG):	N/A	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R= 0.0	2232.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

10. Wall Types(2433.7 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=13.0	2073.70 ft²
b. Frame - Wood, Adjacent	R=13.0	360.00 ft²
c. N/A		
d. N/A		

11. Ceiling Types(2455.0 sqft.)	Insulation	Area
a. Flat ceiling under att (Vented)	R=38.0	2455.00 ft²
b. N/A		
c. N/A		

12. Roof(Comp. Shingles, Vented)	Deck R=0.0	2906 ft²

13. Ducts, location & insulation level	R	ft²
a. Sup: Attic, Ret: Attic, AH: Garage	6	558
b.		
c.		

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	30.2	SEER:15.00

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	37.8	HSPF:8.80

16. Hot Water Systems	
a. Electric	Cap: 50 gallons
	EF: 0.920
b. Conservation features	
	None
17. Credits	CV, Pstat

Glass/Floor Area: 0.177

Total Proposed Modified Loads: 53.90

Total Baseline Loads: 55.64

PASS

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.

PREPARED BY: _____

DATE: 3 / 3 / 2023

I hereby certify that this building, as designed, is in compliance with the Florida Energy Code.

OWNER/AGENT: _____

DATE: _____

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.

BUILDING OFFICIAL: _____

DATE: _____

- Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with R403.3.2.1.

- Default duct leakage does not require a Duct Leakage Test Report.

- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires a PERFORMANCE envelope leakage test report with envelope leakage no greater than 5.00 ACH50 (R402.4.1.2).

FORM R405-2020

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Megan Cady Residence			Address type:	Street Address
Building Type:	User	Bedrooms:	3	Lot #:	---
Owner:	Megan Cady	Conditioned Area:	2232	Block/SubDivision:	---
		Total Stories:	1	PlatBook:	---
Builder Name:		Worst Case:	No	Street:	433 SW Finley Little Lane
Permit Office:	Columbia County	Rotate Angle:	0	County:	Columbia
Jurisdiction:		Cross Ventilation:	Yes	City, State, Zip:	Lake City,
Family Type:	Detached	Whole House Fan:	No		FL, 32024
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:	2023	Shielding:	Suburban		
Comment:					

CLIMATE

√	Design Location	Tmy Site	Design Temp 97.5%	Design Temp 2.5%	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily temp Range
___	FL, Gainesville	FL_GAINESVILLE_REGIONA	32	92	70	75	1305.5	51	Medium

BLOCKS

√	Number	Name	Area	Volume
___	1	Block1	2232	20088 cu ft

SPACES

√	Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
___	1	1st Floor	2232	20088	Yes	8	3	Yes	Yes	Yes

FLOORS (Total Exposed Area = 2232 sq.ft.)

√	#	Floor Type	Space	Exposed Perim	Perimeter R-Value	Area	U-Factor	Joist R-Value	Tile	Wood	Carpet
___	1	Slab-On-Grade Edge Ins	1st Floor	267.33	0	2232 ft	0.304	---	0.00	0.00	1.00

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
___	1	Gable or shed	Composition shingles	2906 ft²	520 ft²	Medium	Y	0.96	No	0.9	No	0	39.81

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
___	1	Partial cathedral ceiling	Vented	300	2232 ft²	Y	N

CEILING (Total Exposed Area = 2455 sq.ft.)

√	#	Ceiling Type	Space	R-Value	Ins. Type	Area	U-Factor	Framing Frac.	Truss Type
___	1	Flat ceiling under attic(Vented)	1st Floor	38.0	Double Batt	2455.0ft²	0.024	0.11	Wood

FORM R405-2020

INPUT SUMMARY CHECKLIST REPORT

WALLS (Total Exposed Area = 2434 sq.ft.)

√ #	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area sq.ft.	U-Factor	Sheath R-Value	Frm. Frac.	Solar Absor.	Below Grade
___ 1	S	Exterior	Frame - Wood	1st Floor	13.0	32.0	0	10.0	0	320.0	0.084		0.23	0.75	0 %
___ 2	E	Exterior	Frame - Wood	1st Floor	13.0	3.0	8	10.0	0	36.7	0.084		0.23	0.75	0 %
___ 3	S	Exterior	Frame - Wood	1st Floor	13.0	8.0	0	9.0	0	72.0	0.084		0.23	0.75	0 %
___ 4	E	Garage	Frame - Wood	1st Floor	13.0	15.0	4	9.0	0	138.0	0.084		0.23	0.75	0 %
___ 5	S	Garage	Frame - Wood	1st Floor	13.0	24.0	8	9.0	0	222.0	0.084		0.23	0.75	0 %
___ 6	E	Exterior	Frame - Wood	1st Floor	13.0	37.0	0	9.0	0	333.0	0.084		0.23	0.75	0 %
___ 7	N	Exterior	Frame - Wood	1st Floor	13.0	24.0	8	9.0	0	222.0	0.084		0.23	0.75	0 %
___ 8	W	Exterior	Frame - Wood	1st Floor	13.0	15.0	8	9.0	0	141.0	0.084		0.23	0.75	0 %
___ 9	W	Exterior	Frame - Wood	1st Floor	13.0	10.0	0	9.0	0	90.0	0.084		0.23	0.75	0 %
___ 10	N	Exterior	Frame - Wood	1st Floor	13.0	28.0	0	10.0	0	280.0	0.084		0.23	0.75	0 %
___ 11	E	Exterior	Frame - Wood	1st Floor	13.0	11.0	0	9.0	0	99.0	0.084		0.23	0.75	0 %
___ 12	N	Exterior	Frame - Wood	1st Floor	13.0	12.0	0	9.0	0	108.0	0.084		0.23	0.75	0 %
___ 13	W	Exterior	Frame - Wood	1st Floor	13.0	41.0	4	9.0	0	372.0	0.084		0.23	0.75	0 %

DOORS (Total Exposed Area = 48 sq.ft.)

√ #	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
___ 1	S	Exterior	Insulated	1st Floor	None	0.46	3.00	0	8.00	0	24.0ft²
___ 2	S	Garage	Insulated	1st Floor	None	0.46	3.00	0	8.00	0	24.0ft²

WINDOWS (Total Exposed Area = 394 sq.ft.)

√ #	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Storm	Total Area (ft²)	Same Units	Width (ft)	Height (ft)	--Overhang-- Depth (ft)	Sep. (ft)	Interior Shade	Screen
___ 1	S	1	Vinyl	Low-E Double	Y	0.36	0.25	N	N	60.0	4	2.50	6.00	9.5	1.0	None	None
___ 2	S	1	TIM	Low-E Double	Y	0.36	0.25	N	N	16.0	2	1.00	8.00	9.5	1.0	None	None
___ 3	S	3	Vinyl	Low-E Double	Y	0.36	0.25	N	N	8.0	1	2.00	4.00	1.5	1.0	None	None
___ 4	E	6	Vinyl	Low-E Double	Y	0.36	0.25	N	N	12.0	3	2.00	2.00	1.5	3.0	None	None
___ 5	E	6	Vinyl	Low-E Double	Y	0.36	0.25	N	N	20.0	2	2.50	4.00	1.5	3.0	None	None
___ 6	E	6	Vinyl	Low-E Double	Y	0.36	0.25	N	N	8.0	1	4.00	2.00	1.5	3.0	None	None
___ 7	N	7	Vinyl	Low-E Double	Y	0.36	0.25	N	N	24.0	2	2.00	6.00	1.0	4.0	None	None
___ 8	W	8	Vinyl	Low-E Double	Y	0.36	0.25	N	N	36.0	2	3.00	6.00	1.5	3.0	None	None
___ 9	W	9	TIM	Low-E Double	Y	0.36	0.25	N	N	24.0	1	3.00	8.00	7.5	1.0	None	None
___ 10	N	10	Vinyl	Low-E Double	Y	0.36	0.25	N	N	20.0	2	2.50	4.00	11.5	1.0	None	None
___ 11	N	10	TIM	Low-E Double	Y	0.36	0.25	N	N	96.0	4	3.00	8.00	11.5	1.0	None	None
___ 12	N	12	Vinyl	Low-E Double	Y	0.36	0.25	N	N	48.0	2	3.00	8.00	1.0	2.0	None	None
___ 13	W	13	Vinyl	Low-E Double	Y	0.36	0.25	N	N	4.0	1	2.00	2.00	1.5	1.0	None	None
___ 14	W	13	Vinyl	Low-E Double	Y	0.36	0.25	N	N	18.0	1	3.00	6.00	1.5	1.0	None	None

INFILTRATION

√ #	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)	Infiltration Test Volume
___ 1	Wholehouse	Proposed ACH(50)	0.00029	1674	91.84	172.42	0.1027	5.0	All	20088 cu ft

GARAGE

√ #	Floor Area	Roof Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
___ 1	584 ft²	584 ft²	57 ft	9 ft	1

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INPUT SUMMARY CHECKLIST REPORT

MASS

✓	#	Mass Type	Area	Thickness	Furniture Fraction	Space
___	1	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	1st Floor

HEATING SYSTEM

✓	#	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	----Geothermal HeatPump---- Entry	Power	Volt	Current	Ducts	Block
___	1	Electric Heat Pump	None/Single		HSPF: 8.80	37.8		0.00	0.00	0.00	sys#1	1

COOLING SYSTEM

✓	#	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	Air Flow cfm	SHR	Duct	Block
___	1	Central Unit	None/Single		SEER:15.0	30.2	900	0.70	sys#1	1

HOT WATER SYSTEM

✓	#	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixture Flow	Pipe Ins.	Pipe length
___	1	Electric	None	Garage	0.92 (0.92)	50.00 gal	40 gal	120 deg	Standard	None	12

		Recirculation System	Recirc Control Type	Loop length	Branch length	Pump power	DWHR	Facilities Connected	Equal Flow	DWHR Eff	Other Credits
___	1	No		NA	NA	NA	No	NA	NA	NA	None

DUCTS

✓	Duct #	---------Supply--------- Location	R-Value	Area	---------Return--------- Location	R-Value	Area	Leakage Type	Air Handler	CFM 25 TOT	CFM 25 OUT	QN	RLF	HVAC # Heat	Cool
___	1	Attic	6.0	558 ft²	Attic	6.0	112 ft²	Default Leakage	Garage	(Default)	(Default)			1	1

TEMPERATURES

Programable Thermostat: Y Ceiling Fans: N

Cooling	[ ] Jan	[ ] Feb	[ ] Mar	[ ] Apr	[ ] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[ ] Oct	[ ] Nov	[ ] Dec
Heating	[X] Jan	[X] Feb	[X] Mar	[ ] Apr	[ ] May	[ ] Jun	[ ] Jul	[ ] Aug	[ ] Sep	[ ] Oct	[X] Nov	[X] Dec
Venting	[ ] Jan	[ ] Feb	[X] Mar	[X] Apr	[ ] May	[ ] Jun	[ ] Jul	[ ] Aug	[ ] Sep	[X] Oct	[X] Nov	[ ] Dec

✓	Thermostat Schedule: HERS 2006 Reference Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
___	Cooling (WD)	AM	78	78	78	78	78	78	78	78	80	80	80	80
		PM	80	80	78	78	78	78	78	78	78	78	78	78
___	Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
		PM	78	78	78	78	78	78	78	78	78	78	78	78
___	Heating (WD)	AM	66	66	66	66	66	68	68	68	68	68	68	68
		PM	68	68	68	68	68	68	68	68	68	68	66	66
___	Heating (WEH)	AM	66	66	66	66	66	68	68	68	68	68	68	68
		PM	68	68	68	68	68	68	68	68	68	68	66	66

FORM R405-2020

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 97

The lower the EnergyPerformance Index, the more efficient the home.

433 SW Finley Little Lane,Lake City,FL,32024

1. New construction or existing		New (From Plans)
2. Single family or multiple family		Detached
3. Number of units, if multiple family		1
4. Number of Bedrooms		3
5. Is this a worst case?		No
6. Conditioned floor area above grade (ft²)		2232
Conditioned floor area below grade (ft²)		0

7. Windows**	Description	Area
a. U-Factor:	Dbl, U=0.36	394.00 ft²
SHGC:	SHGC=0.25	
b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		6.261 ft
Area Weighted Average SHGC:		0.250

8. Skylights	Description	Area
U-Factor:(AVG)	N/A	N/A ft²
SHGC(AVG):	N/A	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R= 0.0	2232.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

10. Wall Types(2433.7 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=13.0	2073.70 ft²
b. Frame - Wood, Adjacent	R=13.0	360.00 ft²
c. N/A		
d. N/A		

11. Ceiling Types(2455.0 sqft.)	Insulation	Area
a. Flat ceiling under att (Vented)	R=38.0	2455.00 ft²
b. N/A		
c. N/A		

12. Roof(Comp. Shingles, Vented)	Deck R=0.0	2906 ft²

13. Ducts, location & insulation level	R	ft²
a. Sup: Attic, Ret: Attic, AH: Garage	6	558
b.		
c.		

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	30.2	SEER:15.00

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	37.8	HSPF:8.80

16. Hot Water Systems	
a. Electric	Cap: 50 gallons
	EF: 0.920
b. Conservation features	
	None
17. Credits	CV, Pstat

I certify that this home has complied with the Florida Energy Efficiency Code for Building Construction through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL Display Card will be completed based on installed Code compliant features.

Builder Signature: _____ Date: _____

Address of New Home: 433 SW Finley Little Lane City/FL Zip: Lake City,FL,32024

*Note: This is not a Building Energy Rating. If your Index is below 70, your home may qualify for energy efficient mortgage (EEM) incentives if you obtain a Florida Energy Rating. For information about the Florida Building Code, Energy Conservation, contact the Florida Building Commission's support staff.

**Label required by Section R303.1.3 of the Florida Building Code, Energy Conservation, if not DEFAULT.

Envelope Leakage Test Report (Blower Door Test)
Residential Prescriptive, Performance or ERI Method Compliance
2020 Florida Building Code, Energy Conservation, 7th Edition

Jurisdiction:	Permit #:

Job Information

Builder: Community: Lot: NA

Address: 433 SW Finley Little Lane

City: Lake City State: FL Zip: 32024

Air Leakage Test Results *Passing results must meet either the Performance, Prescriptive, or ERI Method*

○ **PRESCRIPTIVE METHOD-**The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 7 air changes per hour at a pressure of 0.2 inch w.g. (50 Pascals) in Climate Zones 1 and 2.

● **PERFORMANCE or ERI METHOD-**The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding the selected ACH(50) value, as shown on Form R405-2020 (Performance) or R406-2020 (ERI), section labeled as infiltration, sub-section ACH50.

ACH(50) specified on Form R405-2020-Energy Calc (Performance) or R406-2020 (ERI): 5.000

_____ x 60 ÷ 20088 = _____
CFM(50) Building Volume ACH(50)

☐ **PASS**

☐ When ACH(50) is less than 3, Mechanical Ventilation installation must be verified by building department.

Method for calculating building volume:

○ Retrieved from architectural plans

● Code software calculated

○ Field measured and calculated

R402.4.1.2 Testing. Testing shall be conducted in accordance with ANSI/RESNET/ICC 380 and reported at a pressure of 0.2 inch w.g. (50 Pascals). Testing shall be conducted by either individuals as defined in Section 553.993(5) or (7), *Florida Statutes*, or individuals licensed as set forth in Section 489.105(3)(f), (g), or (i) or an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the *code official*. Testing shall be performed at any time after creation of all penetrations of the *building thermal envelope*.

During testing:
1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures.
2. Dampers including exhaust, intake, makeup air, back draft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
3. Interior doors, if installed at the time of the test, shall be open.
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.

Testing Company

Company Name: _____ Phone: _____

I hereby verify that the above Air Leakage results are in accordance with the 2020 7th Edition Florida Building Code Energy Conservation requirements according to the compliance method selected above.

Signature of Tester: _____ Date of Test: _____

Printed Name of Tester: _____

License/Certification #: _____ Issuing Authority: _____

Residential System Sizing Calculation

Summary

Megan Cady
433 SW Finley Little Lane
Lake City, FL 32024

Project Title:
Megan Cady Residence

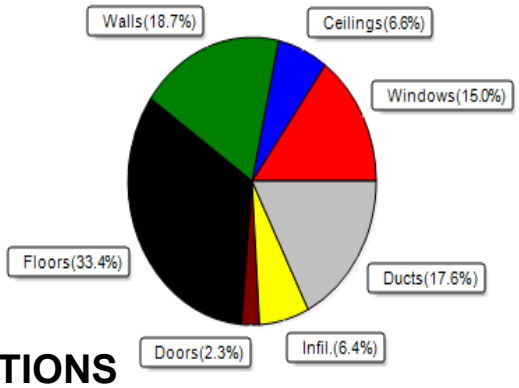
3/3/2023

Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(152 ft.) Temp Range(M) Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(51gr.)					
Winter design temperature(TMY3 99%)	30	F	Summer design temperature(TMY3 99%)	94	F
Winter setpoint	70	F	Summer setpoint	75	F
Winter temperature difference	40	F	Summer temperature difference	19	F
Total heating load calculation	**37783**	**Btuh**	**Total cooling load calculation**	**30168**	**Btuh**
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	100.0	37783	Sensible (SHR = 0.70)	82.8	21118
Heat Pump + Auxiliary(0.0kW)	100.0	37783	Latent	193.6	9050
			Total (Electric Heat Pump)	100.0	30168

WINTER CALCULATIONS

Winter Heating Load (for 2232 sqft)

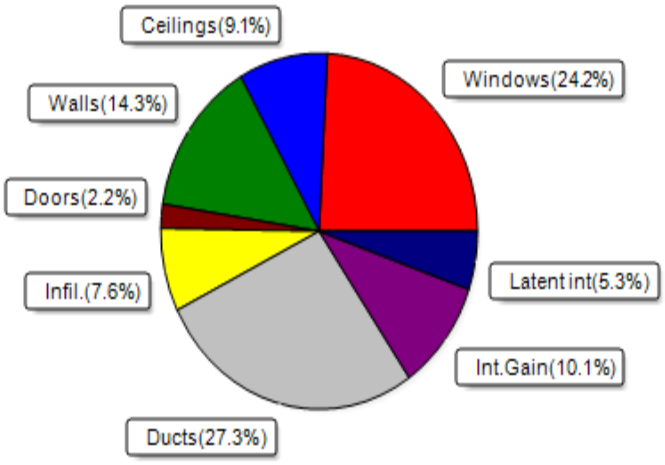
Load component			Load	
Window total	394	sqft	5674	Btuh
Wall total	1992	sqft	7071	Btuh
Door total	48	sqft	883	Btuh
Ceiling total	2455	sqft	2492	Btuh
Floor total	2232	sqft	12618	Btuh
Infiltration	55	cfm	2409	Btuh
Duct loss			6635	Btuh
Subtotal			**37783**	**Btuh**
Ventilation	Ex:0 cfm; Sup:0 cfm		0	Btuh
TOTAL HEAT LOSS			**37783**	**Btuh**



SUMMER CALCULATIONS

Summer Cooling Load (for 2232 sqft)

Load component			Load	
Window total	394	sqft	7290	Btuh
Wall total	1992	sqft	4314	Btuh
Door total	48	sqft	662	Btuh
Ceiling total	2455	sqft	2742	Btuh
Floor total			0	Btuh
Infiltration	41	cfm	858	Btuh
Internal gain			3040	Btuh
Duct gain			6587	Btuh
Sens.Ventilation	Ex:0 cfm; Sup:0 cfm		0	Btuh
Blower Load			0	Btuh
Total sensible gain			**25493**	**Btuh**
Latent gain(ducts)			1651	Btuh
Latent gain(infiltration)			1424	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			1600	Btuh
Total latent gain			**4675**	**Btuh**
TOTAL HEAT GAIN			**30168**	**Btuh**



Powered by ACCA MANUAL J 8th Edition

EnergyGauge® System Sizing
PREPARED BY: _____
DATE: 3 / 3 / 2023

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Megan Cady
433 SW Finley Little Lane
Lake City, FL 32024

Project Title:
Megan Cady Residence
Building Type: User

3/3/2023

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 40.0 °F (TMY3 99%)
Winter Setpoint: 70 °F (Required Manual J default)

Component Loads for Whole House

Window	Panes/Type	Frame	U	Orientation	Area(sqft) X	HTM=	Load
1	2, NFRC 0.25	Vinyl	0.36	S	60.0	14.4	864 Btuh
2	2, NFRC 0.25	TIM	0.36	S	16.0	14.4	230 Btuh
3	2, NFRC 0.25	Vinyl	0.36	S	8.0	14.4	115 Btuh
4	2, NFRC 0.25	Vinyl	0.36	E	12.0	14.4	173 Btuh
5	2, NFRC 0.25	Vinyl	0.36	E	20.0	14.4	288 Btuh
6	2, NFRC 0.25	Vinyl	0.36	E	8.0	14.4	115 Btuh
7	2, NFRC 0.25	Vinyl	0.36	N	24.0	14.4	346 Btuh
8	2, NFRC 0.25	Vinyl	0.36	W	36.0	14.4	518 Btuh
9	2, NFRC 0.25	TIM	0.36	W	24.0	14.4	346 Btuh
10	2, NFRC 0.25	Vinyl	0.36	N	20.0	14.4	288 Btuh
11	2, NFRC 0.25	TIM	0.36	N	96.0	14.4	1382 Btuh
12	2, NFRC 0.25	Vinyl	0.36	N	48.0	14.4	691 Btuh
13	2, NFRC 0.25	Vinyl	0.36	W	4.0	14.4	58 Btuh
14	2, NFRC 0.25	Vinyl	0.36	W	18.0	14.4	259 Btuh
	Window Total				394.0(sqft)		5674 Btuh

Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	220	3.55	781 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	37	3.55	130 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	64	3.55	227 Btuh
4	Frame - Wood	- Adj	(0.089)	13.0/0.0	138	3.55	490 Btuh
5	Frame - Wood	- Adj	(0.089)	13.0/0.0	198	3.55	703 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	293	3.55	1040 Btuh
7	Frame - Wood	- Ext	(0.089)	13.0/0.0	198	3.55	703 Btuh
8	Frame - Wood	- Ext	(0.089)	13.0/0.0	105	3.55	373 Btuh
9	Frame - Wood	- Ext	(0.089)	13.0/0.0	66	3.55	234 Btuh
10	Frame - Wood	- Ext	(0.089)	13.0/0.0	164	3.55	582 Btuh
11	Frame - Wood	- Ext	(0.089)	13.0/0.0	99	3.55	351 Btuh
12	Frame - Wood	- Ext	(0.089)	13.0/0.0	60	3.55	213 Btuh
13	Frame - Wood	- Ext	(0.089)	13.0/0.0	350	3.55	1243 Btuh
	Wall Total				1992(sqft)		7071 Btuh

Doors	Type	Storm	Ueff.	Area X	HTM=	Load
1	Insulated - Exterior,	n	(0.460)	24	18.4	442 Btuh
2	Insulated - Garage,	n	(0.460)	24	18.4	442 Btuh
	Door Total			48(sqft)		883Btuh

Ceilings	Type/Color/Surface	Ueff.	R-Value	Area X	HTM=	Load
1	Flat ceil/M/Shing	(0.025)	38.0/0.0	2455	1.0	2492 Btuh
	Ceiling Total			2455(sqft)		2492Btuh

Floors	Type	Ueff.	R-Value	Size X	HTM=	Load
1	Slab On Grade	(1.180)	0.0	267.3 ft(perim.)	47.2	12618 Btuh
	Floor Total			2232 sqft		12618 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Megan Cady
433 SW Finley Little Lane
Lake City, FL 32024

Project Title:
Megan Cady Residence
Building Type: User

3/3/2023

	Envelope Subtotal:	28738 Btuh
Infiltration	Type Wholehouse ACH Volume(cuft) Wall Ratio CFM= Natural 0.16 20088 1.00 55.0	2409 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.213)	6635 Btuh
All Zones	**Sensible Subtotal All Zones**	**37783 Btuh**

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm) Total Heat Loss	37783 Btuh 0 Btuh 37783 Btuh

EQUIPMENT

1. Electric Heat Pump	#	37783 Btuh

Key: Window types - NFRC (Requires U-Factor and Shading coefficient(SHGC) of glass as numerical values)
or - Glass as 'Clear' or 'Tint' (Uses U-Factor and SHGC defaults)
U - (Window U-Factor)
HTM - (ManualJ Heat Transfer Multiplier)

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Version 8

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Megan Cady
433 SW Finley Little Lane
Lake City, FL 32024

Project Title:
Megan Cady Residence

3/3/2023

Reference City: Gainesville, FL (Defaults)
Humidity difference: 51gr.

Temperature Difference: 19.0F(TMY3 99%)
Summer Setpoint: 75 °F (Required Manual J default)

Component Loads for Whole House

Window	Type* Panes	SHGC	U	InSh	IS	Ornt	Overhang Len	Hgt	Window Area(sqft) Gross	Shaded	Unshaded	HTM Shaded	Unshaded	Load
1	2 NFRC	0.25, 0.36		No	No	S	9.5ft.	1.0ft.	60.0	60.0	0.0	12	14	726 Btuh
2	2 NFRC	0.25, 0.36		No	No	S	9.5ft.	1.0ft.	16.0	16.0	0.0	12	14	194 Btuh
3	2 NFRC	0.25, 0.36		No	No	S	1.5ft.	1.0ft.	8.0	8.0	0.0	12	14	97 Btuh
4	2 NFRC	0.25, 0.36		No	No	E	1.5ft.	3.0ft.	12.0	0.0	12.0	12	31	371 Btuh
5	2 NFRC	0.25, 0.36		No	No	E	1.5ft.	3.0ft.	20.0	0.0	20.0	12	31	619 Btuh
6	2 NFRC	0.25, 0.36		No	No	E	1.5ft.	3.0ft.	8.0	0.0	8.0	12	31	248 Btuh
7	2 NFRC	0.25, 0.36		No	No	N	1.0ft.	4.0ft.	24.0	0.0	24.0	12	12	290 Btuh
8	2 NFRC	0.25, 0.36		No	No	W	1.5ft.	3.0ft.	36.0	0.0	36.0	12	31	1114 Btuh
9	2 NFRC	0.25, 0.36		No	No	W	7.5ft.	1.0ft.	24.0	15.7	8.3	12	31	447 Btuh
10	2 NFRC	0.25, 0.36		No	No	N	11.5f	1.0ft.	20.0	0.0	20.0	12	12	242 Btuh
11	2 NFRC	0.25, 0.36		No	No	N	11.5f	1.0ft.	96.0	0.0	96.0	12	12	1161 Btuh
12	2 NFRC	0.25, 0.36		No	No	N	1.0ft.	2.0ft.	48.0	0.0	48.0	12	12	581 Btuh
13	2 NFRC	0.25, 0.36		No	No	W	1.5ft.	1.0ft.	4.0	0.5	3.5	12	31	115 Btuh
14	2 NFRC	0.25, 0.36		No	No	W	1.5ft.	1.0ft.	18.0	0.7	17.3	12	31	543 Btuh
	Excursion													543 Btuh
	Window Total								394 (sqft)					7290 Btuh

Walls	Type	U-Value	R-Value Cav/Sheath	Area(sqft)	HTM	Load
1	Frame - Wood - Ext	0.09	13.0/0.0	220.0	2.3	498 Btuh
2	Frame - Wood - Ext	0.09	13.0/0.0	36.7	2.3	83 Btuh
3	Frame - Wood - Ext	0.09	13.0/0.0	64.0	2.3	145 Btuh
4	Frame - Wood - Adj	0.09	13.0/0.0	138.0	1.7	233 Btuh
5	Frame - Wood - Adj	0.09	13.0/0.0	198.0	1.7	334 Btuh
6	Frame - Wood - Ext	0.09	13.0/0.0	293.0	2.3	663 Btuh
7	Frame - Wood - Ext	0.09	13.0/0.0	198.0	2.3	448 Btuh
8	Frame - Wood - Ext	0.09	13.0/0.0	105.0	2.3	238 Btuh
9	Frame - Wood - Ext	0.09	13.0/0.0	66.0	2.3	149 Btuh
10	Frame - Wood - Ext	0.09	13.0/0.0	164.0	2.3	371 Btuh
11	Frame - Wood - Ext	0.09	13.0/0.0	99.0	2.3	224 Btuh
12	Frame - Wood - Ext	0.09	13.0/0.0	60.0	2.3	136 Btuh
13	Frame - Wood - Ext	0.09	13.0/0.0	350.0	2.3	792 Btuh
	Wall Total			1992 (sqft)		4314 Btuh

Doors	Type	Area (sqft)	HTM	Load
1	Insulated - Exterior	24.0	13.8	331 Btuh
2	Insulated - Garage	24.0	13.8	331 Btuh
	Door Total	48 (sqft)		662 Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
1	Vented Attic/Med/Shingle/RB	0.025	38.0/0.0	2455.0	1.12	2742 Btuh
	Ceiling Total			2455 (sqft)		2742 Btuh

Floors	Type	R-Value	Size	HTM	Load
1	Slab On Grade	0.0	2232 (ft-perimeter)	0.0	0 Btuh
	Floor Total		2232.0 (sqft)		0 Btuh
			Envelope Subtotal:		15008 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Megan Cady
433 SW Finley Little Lane
Lake City, FL 32024

Project Title: Megan Cady Residence

Climate:FL_GAINESVILLE_REGIONAL_A

3/3/2023

Infiltration	Type	Average ACH	Volume(cuft)		Wall Ratio		CFM=	Load	
	Natural	0.12	20088		1		41.3	858	Btuh
Internal gain		Occupants	Btuh/occupant				Appliance	Load	
		8	X	230	+		1200	3040	Btuh
						Sensible Envelope Load:		18906	Btuh
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic)					(DGM of 0.348)		6587	Btuh
						Sensible Load All Zones		**25493**	**Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Megan Cady
433 SW Finley Little Lane
Lake City, FL 32024

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
Megan Cady Residence

3/3/2023

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**18906 Btuh**
	Sensible Duct Load	6587 Btuh
	Total Sensible Zone Loads	**25493 Btuh**
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	**25493 Btuh**
	Latent infiltration gain (for 51 gr. humidity difference)	1424 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1651 Btuh
	Latent occupant gain (8.0 people @ 200 Btuh per person)	1600 Btuh
	Latent other gain	0 Btuh
	Latent total gain	**4675 Btuh**
	TOTAL GAIN	**30168 Btuh**

EQUIPMENT

1. Central Unit	#	30168 Btuh

*Key: Window types (Panes - Number and type of panes of glass)
(SHGC - Shading coefficient of glass as SHGC numerical value)
(U - Window U-Factor)
(InSh - Interior shading device: none(No), Blinds(B), Draperies(D) or Roller Shades(R))
- For Blinds: Assume medium color, half closed
For Draperies: Assume medium weave, half closed
For Roller shades: Assume translucent, half closed
(IS - Insect screen: none(N), Full(F) or Half(½))
(Ornt - compass orientation)

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