

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name: Tamela Mueller
 Street: 232 SW Cedarwood Glen
 City, State, Zip: Lake City, FL, 32024
 Owner: Tamela Mueller
 Design Location: FL, Gainesville

Builder Name:
 Permit Office: Columbia County
 Permit Number:
 Jurisdiction:
 County: Columbia (Florida Climate Zone 2)

1. New construction or existing New (From Plans)
 2. Single family or multiple family Single-family
 3. Number of units, if multiple family 1
 4. Number of Bedrooms 4
 5. Is this a worst case? No
 6. Conditioned floor area above grade (ft²) 2436
 Conditioned floor area below grade (ft²) 0

7. Windows (408.0 sqft.) Description Area
 a. U-Factor: Dbl, U=0.36 408.00 ft²
 SHGC: SHGC=0.25
 b. U-Factor: N/A ft²
 SHGC:
 c. U-Factor: N/A ft²
 SHGC:
 d. U-Factor: N/A ft²
 SHGC:

Area Weighted Average Overhang Depth: 7.260 ft.
 Area Weighted Average SHGC: 0.250

8. Floor Types (2436.0 sqft.) Insulation Area
 a. Slab-On-Grade Edge Insulation R=0.0 2436.00 ft²
 b. N/A R= ft²
 c. N/A R= ft²

9. Wall Types (2523.7 sqft.) Insulation Area
 a. Frame - Wood, Exterior R=19.0 2140.30 ft²
 b. Frame - Wood, Adjacent R=19.0 383.33 ft²
 c. N/A R= ft²
 d. N/A R= ft²
 10. Ceiling Types (2558.0 sqft.) Insulation Area
 a. Under Attic (Vented) R=38.0 2558.00 ft²
 b. N/A R= ft²
 c. N/A R= ft²
 11. Ducts R ft²
 a. Sup: Attic, Ret: Attic, AH: Main 6 609

12. Cooling systems kBtu/hr Efficiency
 a. Central Unit 29.7 SEER:14.00

13. Heating systems kBtu/hr Efficiency
 a. Electric Heat Pump 38.5 HSPF:8.20

14. Hot water systems
 a. Electric Cap: 50 gallons
 b. Conservation features EF: 0.920
 None

15. Credits CV, Pstat

Glass/Floor Area: 0.167 Total Proposed Modified Loads: 63.30
 Total Baseline Loads: 69.31

PASS

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

PREPARED BY: _____
 DATE: _____

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

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Tamela Mueller	Bedrooms:	4	Address Type:	Street Address
Building Type:	User	Conditioned Area:	2436	Lot #	
Owner Name:	Tamela Mueller	Total Stories:	1	Block/Subdivision:	
# of Units:	1	Worst Case:	No	PlatBook:	
Builder Name:		Rotate Angle:	0	Street:	232 SW Cedarwood Gle
Permit Office:	Columbia County	Cross Ventilation:	Yes	County:	Columbia
Jurisdiction:		Whole House Fan:	No	City, State, Zip:	Lake City ,
Family Type:	Single-family				FL , 32024
New/Existing:	New (From Plans)				
Comment:					

CLIMATE

✓	Design Location	TMY Site	Design Temp		Int Design Temp		Heating	Design	Daily Temp
			97.5 %	2.5 %	Winter	Summer	Degree Days	Moisture	Range
_____	FL, Gainesville	FL_GAINESVILLE_REGI	32	92	70	75	1305.5	51	Medium

BLOCKS

Number	Name	Area	Volume
1	Block1	2436	24360

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	2436	24360	Yes	8	4	1	Yes	Yes	Yes

FLOORS

✓	#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet
_____	1	Slab-On-Grade Edge Insulation	Main	251.333 ft	0	2436 ft²	----	0	0	1

ROOF

✓	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
_____	1	Hip	Composition shingles	2928 ft²	0 ft²	Medium	Y	0.96	No	0.9	No	0	33.7

ATTIC

✓	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full attic	Vented	300	2436 ft²	Y	N

CEILING

✓	#	Ceiling Type	Space	R-Value	Ins Type	Area	Framing Frac	Truss Type
_____	1	Under Attic (Vented)	Main	38	Double Batt	2558 ft²	0.11	Wood

INPUT SUMMARY CHECKLIST REPORT

WALLS

✓	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	In	Height Ft	In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
___	1	S	Exterior	Frame - Wood	Main	19	13	6	10		135.0 ft²		0.23	0.75	0
___	2	E	Exterior	Frame - Wood	Main	19	4		10		40.0 ft²		0.23	0.75	0
___	3	S	Exterior	Frame - Wood	Main	19	8		12		96.0 ft²		0.23	0.75	0
___	4	W	Exterior	Frame - Wood	Main	19	3		12		36.0 ft²		0.23	0.75	0
___	5	S	Exterior	Frame - Wood	Main	19	13	4	12		160.0 ft²		0.23	0.75	0
___	6	W	Exterior	Frame - Wood	Main	19	7		10		70.0 ft²		0.23	0.75	0
___	7	S	Exterior	Frame - Wood	Main	19	6		10		60.0 ft²		0.23	0.75	0
___	8	E	Garage	Frame - Wood	Main	19	20		10		200.0 ft²		0.23	0.75	0
___	9	S	Garage	Frame - Wood	Main	19	18	4	10		183.3 ft²		0.23	0.75	0
___	10	E	Exterior	Frame - Wood	Main	19	36	8	10		366.7 ft²		0.23	0.75	0
___	11	N	Exterior	Frame - Wood	Main	19	27	8	10		276.7 ft²		0.23	0.75	0
___	12	W	Exterior	Frame - Wood	Main	19	14		10		140.0 ft²		0.23	0.75	0
___	13	N	Exterior	Frame - Wood	Main	19	16		10		160.0 ft²		0.23	0.75	0
___	14	E	Exterior	Frame - Wood	Main	19	6		10		60.0 ft²		0.23	0.75	0
___	15	N	Exterior	Frame - Wood	Main	19	15	4	10		153.3 ft²		0.23	0.75	0
___	16	W	Exterior	Frame - Wood	Main	19	38	8	10		386.7 ft²		0.23	0.75	0

DOORS

✓	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area
___	1	S	Insulated	Main	None	.46	3		8		24 ft²
___	2	S	Insulated	Main	None	.46	3		8		24 ft²

WINDOWS

Orientation shown is the entered, Proposed orientation.

✓	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Area	Overhang Depth	Separation	Int Shade	Screening
___	1	S	1	Vinyl	Low-E Double	Yes	0.36	0.25	N	20.0 ft²	1 ft 0 in	2 ft 0 in	None	None
___	2	S	3	Vinyl	Low-E Double	Yes	0.36	0.25	N	8.0 ft²	7 ft 0 in	1 ft 0 in	None	None
___	3	S	5	Vinyl	Low-E Double	Yes	0.36	0.25	N	36.0 ft²	8 ft 6 in	1 ft 6 in	None	None
___	4	S	7	Vinyl	Low-E Double	Yes	0.36	0.25	N	4.0 ft²	1 ft 6 in	1 ft 0 in	None	None
___	5	E	10	Vinyl	Low-E Double	Yes	0.36	0.25	N	8.0 ft²	1 ft 6 in	1 ft 0 in	None	None
___	6	E	10	Vinyl	Low-E Double	Yes	0.36	0.25	N	36.0 ft²	1 ft 6 in	1 ft 0 in	None	None
___	7	E	10	Vinyl	Low-E Double	Yes	0.36	0.25	N	4.0 ft²	1 ft 6 in	1 ft 0 in	None	None
___	8	N	11	Vinyl	Low-E Double	Yes	0.36	0.25	N	36.0 ft²	1 ft 6 in	1 ft 0 in	None	None
___	9	W	12	Metal	Low-E Double	Yes	0.36	0.25	N	96.0 ft²	6 ft 0 in	1 ft 0 in	None	None
___	10	N	13	Metal	Low-E Double	Yes	0.36	0.25	N	96.0 ft²	15 ft 6 in	1 ft 0 in	None	None
___	11	N	15	Vinyl	Low-E Double	Yes	0.36	0.25	N	36.0 ft²	9 ft 6 in	1 ft 0 in	None	None
___	12	W	16	Vinyl	Low-E Double	Yes	0.36	0.25	N	20.0 ft²	1 ft 6 in	1 ft 0 in	None	None
___	13	W	16	Vinyl	Low-E Double	Yes	0.36	0.25	N	8.0 ft²	1 ft 6 in	1 ft 0 in	None	None

INPUT SUMMARY CHECKLIST REPORT

GARAGE														
✓	#	Floor Area	Ceiling Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation								
_____	1	722.3326 ft²	722.3326 ft²	79.666 ft	10 ft	1								
INFILTRATION														
#	Scope	Method	SLA	CFM 50	ELA	EqlA	ACH	ACH 50						
1	Wholehouse	Proposed ACH(50)	.000318	2030	111.44	209.59	.1307	5						
HEATING SYSTEM														
✓	#	System Type	Subtype	Speed	Efficiency	Capacity	Block		Ducts					
_____	1	Electric Heat Pump/	None	Single	HSPF:8.2	38.48 kBtu/hr	1		sys#1					
COOLING SYSTEM														
✓	#	System Type	Subtype	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts				
_____	1	Central Unit/	None	Single	SEER: 14	29.69 kBtu/hr	900 cfm	0.7	1	sys#1				
HOT WATER SYSTEM														
✓	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation					
_____	1	Electric	None	Garage	0.92	50 gal	40 gal	120 deg	None					
SOLAR HOT WATER SYSTEM														
✓	FSEC Cert #	CompanyName	System Model#			Collector Model#		Collector Area	Storage Volume	FEF				
_____	None	None						ft²						
DUCTS														
✓	#	---- Supply ----			---- Return ----			Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC # Heat Cool	
_____	1	Attic	6	609 ft²	Attic	121.8 ft²	Default Leakage	Main	(Default)	c(Default)	c		1	1

INPUT SUMMARY CHECKLIST REPORT**TEMPERATURES**

Programable Thermostat: Y

Ceiling Fans:

Cooling	☐ Jan	☐ Feb	☐ Mar	☐ Apr	☐ May	☒ Jun	☒ Jul	☒ Aug	☒ Sep	☐ Oct	☐ Nov	☐ Dec
Heating	☒ Jan	☒ Feb	☒ Mar	☐ Apr	☐ May	☐ Jun	☐ Jul	☐ Aug	☐ Sep	☒ Oct	☒ Nov	☒ Dec
Venting	☐ Jan	☐ Feb	☒ Mar	☒ Apr	☐ May	☐ Jun	☐ Jul	☐ Aug	☐ Sep	☒ Oct	☒ Nov	☒ Dec

Thermostat Schedule: HERS 2006 Reference

Hours

Schedule Type		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

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.3	Main

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD**ESTIMATED ENERGY PERFORMANCE INDEX* =91****The lower the Energy Performance Index, the more efficient the home.**

1. New home or, addition	1. <u>New (From Plans)</u>	12. Ducts, location & insulation level	
2. Single-family or multiple-family	2. <u>Single-family</u>	a) Supply ducts	R <u>6.0</u>
3. No. of units (if multiple-family)	3. <u>1</u>	b) Return ducts	R <u>6.0</u>
4. Number of bedrooms	4. <u>4</u>	c) AHU location	Main
5. Is this a worst case? (yes/no)	5. <u>No</u>	13. Cooling system:	Capacity <u>29.7</u>
6. Conditioned floor area (sq. ft.)	6. <u>2436</u>	a) Split system	SEER <u> </u>
7. Windows, type and area		b) Single package	SEER <u> </u>
a) U-factor:(weighted average)	7a. <u>0.360</u>	c) Ground/water source	SEER/COP <u> </u>
b) Solar Heat Gain Coefficient (SHGC)	7b. <u>0.250</u>	d) Room unit/PTAC	EER <u> </u>
c) Area	7c. <u>408.0</u>	e) Other	<u>14.0</u>
8. Skylights		14. Heating system:	Capacity <u>38.5</u>
a) U-factor:(weighted average)	8a. <u>NA</u>	a) Split system heat pump	HSPF <u> </u>
b) Solar Heat Gain Coefficient (SHGC)	8b. <u>NA</u>	b) Single package heat pump	HSPF <u> </u>
9. Floor type, insulation level:		c) Electric resistance	COP <u> </u>
a) Slab-on-grade (R-value)	9a. <u>0.0</u>	d) Gas furnace, natural gas	AFUE <u> </u>
b) Wood, raised (R-value)	9b. <u> </u>	e) Gas furnace, LPG	AFUE <u> </u>
c) Concrete, raised (R-value)	9c. <u> </u>	f) Other	<u>8.20</u>
10. Wall type and insulation:		15. Water heating system	
A. Exterior:		a) Electric resistance	EF <u>0.92</u>
1. Wood frame (Insulation R-value)	10A1. <u>19.0</u>	b) Gas fired, natural gas	EF <u> </u>
2. Masonry (Insulation R-value)	10A2. <u> </u>	c) Gas fired, LPG	EF <u> </u>
B. Adjacent:		d) Solar system with tank	EF <u> </u>
1. Wood frame (Insulation R-value)	10B1. <u>19.0</u>	e) Dedicated heat pump with tank	EF <u> </u>
2. Masonry (Insulation R-value)	10B2. <u> </u>	f) Heat recovery unit	HeatRec% <u> </u>
11. Ceiling type and insulation level		g) Other	
a) Under attic	11a. <u>38.0</u>	16. HVAC credits claimed (Performance Method)	
b) Single assembly	11b. <u> </u>	a) Ceiling fans	<u> </u>
c) Knee walls/skylight walls	11c. <u> </u>	b) Cross ventilation	<u>Yes</u>
d) Radiant barrier installed	11d. <u>Yes</u>	c) Whole house fan	<u>No</u>
		d) Multizone cooling credit	<u> </u>
		e) Multizone heating credit	<u> </u>
		f) Programmable thermostat	<u>Yes</u>

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

I certify that this home has complied with the Florida Building Code, Energy Conservation, 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: 232 SW Cedarwood Glen City/FL Zip: Lake City, FL 32024

Envelope Leakage Test Report (Blower Door Test)
Residential Prescriptive, Performance or ERI Method Compliance
2017 Florida Building Code, Energy Conservation, 6th Edition

Jurisdiction:

Permit #:

Job Information

Builder:

Community:

Lot:

NA

Address: 232 SW Cedarwood Glen

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 R405-2017 (Performance) or R406-2017 (ERI), section labeled as infiltration, sub-section ACH50.
ACH(50) specified on Form R405-2017-Energy Calc (Performance) or R406-2017 (ERI):

5.000

$$\frac{\text{CFM}(50)}{\text{Building Volume}} \times 60 \div 24360 = \text{ACH}(50)$$



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 2017 6th 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

Tamela Mueller
232 SW Cedarwood Glen
Lake City, FL 32024

Project Title:
Tamela Mueller

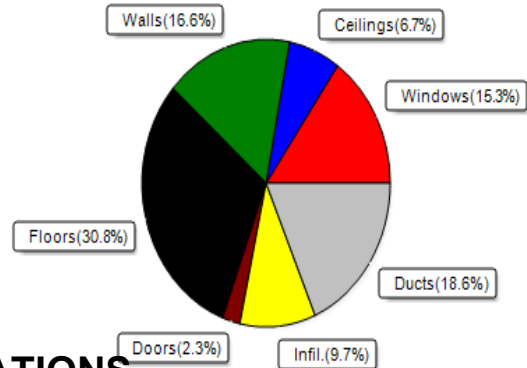
7/9/2020

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	38476 Btuh	Total cooling load calculation	30945 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	100.0 38476	Sensible (SHR = 0.70)	81.7 20785
Heat Pump + Auxiliary(0.0kW)	100.0 38476	Latent	162.0 8908
		Total (Electric Heat Pump)	96.0 29694

WINTER CALCULATIONS

Winter Heating Load (for 2436 sqft)

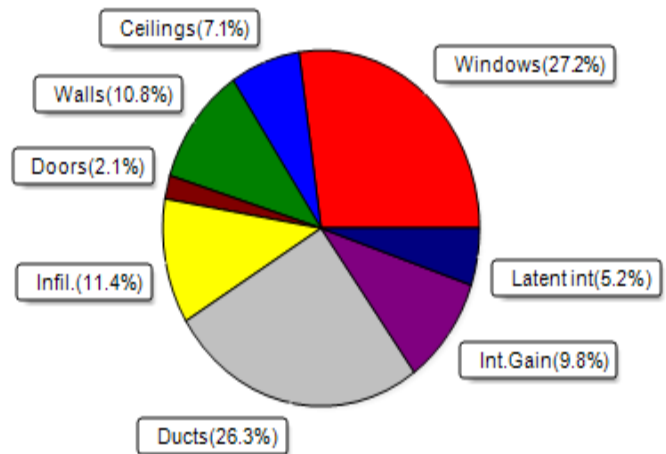
Load component		Load	
Window total	408 sqft	5875	Btuh
Wall total	2068 sqft	6391	Btuh
Door total	48 sqft	883	Btuh
Ceiling total	2558 sqft	2597	Btuh
Floor total	2436 sqft	11863	Btuh
Infiltration	85 cfm	3718	Btuh
Duct loss		7149	Btuh
Subtotal		38476	Btuh
Ventilation	0 cfm	0	Btuh
TOTAL HEAT LOSS		38476	Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 2436 sqft)

Load component		Load	
Window total	408 sqft	8430	Btuh
Wall total	2068 sqft	3353	Btuh
Door total	48 sqft	662	Btuh
Ceiling total	2558 sqft	2207	Btuh
Floor total		0	Btuh
Infiltration	64 cfm	1324	Btuh
Internal gain		3040	Btuh
Duct gain		6428	Btuh
Sens. Ventilation	0 cfm	0	Btuh
Blower Load		0	Btuh
Total sensible gain		25444	Btuh
Latent gain(ducts)		1703	Btuh
Latent gain(infiltration)		2198	Btuh
Latent gain(ventilation)		0	Btuh
Latent gain(internal/occupants/other)		1600	Btuh
Total latent gain		5500	Btuh
TOTAL HEAT GAIN		30945	Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: _____

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Tamela Mueller
232 SW Cedarwood Glen
Lake City, FL 32024

Project Title:
Tamela Mueller
Building Type: User

7/9/2020

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 40.0 F (TMY3 99%)

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	20.0		14.4	288 Btuh
2	2, NFRC 0.25	Vinyl	0.36	S	8.0		14.4	115 Btuh
3	2, NFRC 0.25	Vinyl	0.36	S	36.0		14.4	518 Btuh
4	2, NFRC 0.25	Vinyl	0.36	S	4.0		14.4	58 Btuh
5	2, NFRC 0.25	Vinyl	0.36	E	8.0		14.4	115 Btuh
6	2, NFRC 0.25	Vinyl	0.36	E	36.0		14.4	518 Btuh
7	2, NFRC 0.25	Vinyl	0.36	E	4.0		14.4	58 Btuh
8	2, NFRC 0.25	Vinyl	0.36	N	36.0		14.4	518 Btuh
9	2, NFRC 0.25	Metal	0.36	W	96.0		14.4	1382 Btuh
10	2, NFRC 0.25	Metal	0.36	N	96.0		14.4	1382 Btuh
11	2, NFRC 0.25	Vinyl	0.36	N	36.0		14.4	518 Btuh
12	2, NFRC 0.25	Vinyl	0.36	W	20.0		14.4	288 Btuh
13	2, NFRC 0.25	Vinyl	0.36	W	8.0		14.4	115 Btuh
Window Total					408.0(sqft)			5875 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.077)	19.0/0.0	115		3.09	355 Btuh
2	Frame - Wood	- Ext	(0.077)	19.0/0.0	40		3.09	124 Btuh
3	Frame - Wood	- Ext	(0.077)	19.0/0.0	64		3.09	198 Btuh
4	Frame - Wood	- Ext	(0.077)	19.0/0.0	36		3.09	111 Btuh
5	Frame - Wood	- Ext	(0.077)	19.0/0.0	124		3.09	383 Btuh
6	Frame - Wood	- Ext	(0.077)	19.0/0.0	70		3.09	216 Btuh
7	Frame - Wood	- Ext	(0.077)	19.0/0.0	56		3.09	173 Btuh
8	Frame - Wood	- Adj	(0.077)	19.0/0.0	200		3.09	618 Btuh
9	Frame - Wood	- Adj	(0.077)	19.0/0.0	159		3.09	492 Btuh
10	Frame - Wood	- Ext	(0.077)	19.0/0.0	319		3.09	985 Btuh
11	Frame - Wood	- Ext	(0.077)	19.0/0.0	241		3.09	744 Btuh
12	Frame - Wood	- Ext	(0.077)	19.0/0.0	44		3.09	136 Btuh
13	Frame - Wood	- Ext	(0.077)	19.0/0.0	64		3.09	198 Btuh
14	Frame - Wood	- Ext	(0.077)	19.0/0.0	60		3.09	185 Btuh
15	Frame - Wood	- Ext	(0.077)	19.0/0.0	117		3.09	363 Btuh
16	Frame - Wood	- Ext	(0.077)	19.0/0.0	359		3.09	1109 Btuh
Wall Total					2068(sqft)			6391 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	Vented Attic/L/Shing		(0.025)	38.0/0.0	2558		1.0	2597 Btuh
Ceiling Total					2558(sqft)			2597Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	251.3 ft(perim.)		47.2	11863 Btuh
Floor Total					2436 sqft			11863 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Tamela Mueller
232 SW Cedarwood Glen
Lake City, FL 32024

Project Title:
Tamela Mueller
Building Type: User

7/9/2020

	Envelope Subtotal:						27609 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=	
	Natural		0.21	24360	1.00	84.9	3718 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.228)						7149 Btuh
All Zones	Sensible Subtotal All Zones						38476 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	38476 Btuh
	Ventilation Sensible Heat Loss	0 Btuh
	Total Heat Loss	38476 Btuh

EQUIPMENT

1. Electric Heat Pump	#	38476 Btuh
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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)



Version 8

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Tamela Mueller
232 SW Cedarwood Glen
Lake City, FL 32024

Project Title:
Tamela Mueller

7/9/2020

Reference City: Gainesville, FL

Temperature Difference: 19.0F(TMY3 99%) Humidity difference: 51gr.

Component Loads for Whole House

Window	Type*						Overhang		Window Area(sqft)			HTM		Load	
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
1	2 NFRC	0.25, 0.36	No	No	S		1.0ft.	2.0ft.	20.0	18.4	1.6	12	14	245	Btuh
2	2 NFRC	0.25, 0.36	No	No	S		7.0ft.	1.0ft.	8.0	8.0	0.0	12	14	97	Btuh
3	2 NFRC	0.25, 0.36	No	No	S		8.5ft.	1.5ft.	36.0	36.0	0.0	12	14	436	Btuh
4	2 NFRC	0.25, 0.36	No	No	S		1.5ft.	1.0ft.	4.0	4.0	0.0	12	14	48	Btuh
5	2 NFRC	0.25, 0.36	No	No	E		1.5ft.	1.0ft.	8.0	1.0	7.0	12	31	229	Btuh
6	2 NFRC	0.25, 0.36	No	No	E		1.5ft.	1.0ft.	36.0	1.5	34.5	12	31	1086	Btuh
7	2 NFRC	0.25, 0.36	No	No	E		1.5ft.	1.0ft.	4.0	1.0	3.0	12	31	105	Btuh
8	2 NFRC	0.25, 0.36	No	No	N		1.5ft.	1.0ft.	36.0	0.0	36.0	12	12	436	Btuh
9	2 NFRC	0.25, 0.36	No	No	W		6.0ft.	1.0ft.	96.0	47.8	48.2	12	31	2070	Btuh
10	2 NFRC	0.25, 0.36	No	No	N		15.5f	1.0ft.	96.0	0.0	96.0	12	12	1161	Btuh
11	2 NFRC	0.25, 0.36	No	No	N		9.5ft.	1.0ft.	36.0	0.0	36.0	12	12	436	Btuh
12	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	1.0ft.	20.0	1.0	19.0	12	31	600	Btuh
13	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	1.0ft.	8.0	1.0	7.0	12	31	229	Btuh
	Excursion													1251	Btuh
	Window Total								408 (sqft)					8430 Btuh	
Walls	Type	U-Value			R-Value			Area(sqft)			HTM		Load		
					Cav/Sheath										
1	Frame - Wood - Ext				0.08	19.0/0.0			115.0			1.7		190	Btuh
2	Frame - Wood - Ext				0.08	19.0/0.0			40.0			1.7		66	Btuh
3	Frame - Wood - Ext				0.08	19.0/0.0			64.0			1.7		106	Btuh
4	Frame - Wood - Ext				0.08	19.0/0.0			36.0			1.7		60	Btuh
5	Frame - Wood - Ext				0.08	19.0/0.0			124.0			1.7		205	Btuh
6	Frame - Wood - Ext				0.08	19.0/0.0			70.0			1.7		116	Btuh
7	Frame - Wood - Ext				0.08	19.0/0.0			56.0			1.7		93	Btuh
8	Frame - Wood - Adj				0.08	19.0/0.0			200.0			1.5		294	Btuh
9	Frame - Wood - Adj				0.08	19.0/0.0			159.3			1.5		234	Btuh
10	Frame - Wood - Ext				0.08	19.0/0.0			318.7			1.7		527	Btuh
11	Frame - Wood - Ext				0.08	19.0/0.0			240.7			1.7		398	Btuh
12	Frame - Wood - Ext				0.08	19.0/0.0			44.0			1.7		73	Btuh
13	Frame - Wood - Ext				0.08	19.0/0.0			64.0			1.7		106	Btuh
14	Frame - Wood - Ext				0.08	19.0/0.0			60.0			1.7		99	Btuh
15	Frame - Wood - Ext				0.08	19.0/0.0			117.3			1.7		194	Btuh
16	Frame - Wood - Ext				0.08	19.0/0.0			358.7			1.7		593	Btuh
	Wall Total								2068 (sqft)					3353 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/Light/Shingle/RB				0.025	38.0/0.0			2558.0			0.86		2207	Btuh
	Ceiling Total								2558 (sqft)					2207 Btuh	
Floors	Type				R-Value			Size			HTM		Load		
1	Slab On Grade							0.0	2436 (ft-perimeter)			0.0		0	Btuh
	Floor Total								2436.0 (sqft)					0 Btuh	
	Envelope Subtotal:													14652 Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

Tamela Mueller
232 SW Cedarwood Glen
Lake City, FL 32024

Project Title:
Tamela Mueller

Climate:FL_GAINESVILLE_REGIONAL_A

7/9/2020

Infiltration	Type Natural	Average ACH 0.16	Volume(cuft) 24360	Wall Ratio 1	CFM= 63.7	Load 1324 Btuh
Internal gain		Occupants 8	Btuh/occupant X 230	Appliance +	1200	Load 3040 Btuh
	Sensible Envelope Load:					19017 Btuh
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.338)					6428 Btuh
	Sensible Load All Zones					25444 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Tamela Mueller
232 SW Cedarwood Glen
Lake City, FL 32024

Project Title:
Tamela Mueller

Climate:FL_GAINESVILLE_REGIONAL_A

7/9/2020

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	19017 Btuh
	Sensible Duct Load	6428 Btuh
	Total Sensible Zone Loads	25444 Btuh
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	25444 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	2198 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1703 Btuh
	Latent occupant gain (8.0 people @ 200 Btuh per person)	1600 Btuh
	Latent other gain	0 Btuh
	Latent total gain	5500 Btuh
	TOTAL GAIN	30945 Btuh

EQUIPMENT

1. Central Unit	#	29694 Btuh
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*Key: Window types (Panels - 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)



Version 8