FORM 405-10

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name	1307015	Builder Name	Erkinger Construction Group
Street		Permit Office	
City, State, Zip	Lake City , FL ,	Permit Number	
Owner	Williamson Res	Jurisdiction	
Design Location	FL, Gainesville		

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?	Yes
6	Conditioned floor area above grade (ft²)	2940
	Conditioned floor area below grade (ft²)	0

7 Windows (423 1 sqft)	Description	Area
a U-Factor: SHGC	Dbl, U=0 35 SHGC=0 35	423 11 ft²
b U-Factor: SHGC	N/A	ft²
c U-Factor SHGC	N/A	ft²
d U-Factor SHGC	N/A	ft²
Area Weighted Average Overhang Depth		3 837 ft
Area Weighted Average SHGC		0 350

8 Floor Types (2940 0 sqft)	Insulation	Area
a Slab-On-Grade Edge Insulation	R=0 0	2940 00 ft²
b N/A	R=	ft²
c N/A	R=	ft²

9 Wall Types (2124 0 sqft)	Insulation	Area
a Frame - Wood, Exterior	R=13 0	2124 00 ft²
b N/A	R=	ft²
c N/A	R=	ft²
d N/A	R=	ft²

10 Ceiling Types (2980 0 sqft)	Insulation	Area
a Under Attic (Vented)	R=30 0	2980 00 ft²
b N/A	R=	ft²
c N/A	R=	ft²

11 Ducts	R	ft²
a Sup Attic, Ret Attic, AH Main	6	588

12 Cooling systems	kBtu/hr	Efficiency
a Central Unit	70 0	SEER 13 00

13 Heating systems	kBtu/hr	Efficiency
a Electric Heat Pump	70 0	HSPF 7 70

14 Hot water systems	
a Electric	Cap 40 gallons EF 0 920
b Conservation features None	
15 Credits	Pstat

Glass/Floor Area 0 144

Total Proposed Modified Loads. 45 34

Total Standard Reference Loads. 57 38

PASS

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

PREPARED BY EVAN ERAMSLEY

DATE. 2013-08-09

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 _____

COLUMBIA COUNTY BUILDING DEPARTMENT Received FILE COPY Code Compliance PLANS EXAMINER

- **Compliance requires completion of a Florida Air Barrier and Insulation Inspection Checklist**

PROJECT

Title	1307015	Bedrooms	4	Address Type	Lot Information
Building Type	User	Conditioned Area	2940	Lot #	
Owner	Williamson Res	Total Stories	1	Block/SubDivision	
# of Units	1	Worst Case	Yes	PlatBook	23-5S-15-00466-000
Builder Name	Erkinger Construction Group	Rotate Angle	270	Street	
Permit Office		Cross Ventilation		County	Columbia
Jurisdiction		Whole House Fan		City, State, Zip	Lake City , FL ,
Family Type	Single-family				
New/Existing	New (From Plans)				
Comment.					

CLIMATE

√	Design Location	TMY Site	IECC Zone	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_REGI	2	32	92	70	75	1305 5	51	Medium

BLOCKS

Number	Name	Area	Volume
1	Block1	2940	26460

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	2940	26460	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	236 ft	0	2940 ft²	----	0 3	0 3	0 4

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor	SA Tested	Emitt	Emitt Tested	Deck Insul	Pitch (deg)
_____	1	Hip	Composition shingles	3288 ft²	0 ft²	Dark	0 96	No	0 9	No	0	26 6

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full attic	Vented	300	2940 ft²	N	N

CEILING

√	#	Ceiling Type	Space	R-Value	Area	Framing Frac	Truss Type
_____	1	Under Attic (Vented)	Main	30	2980 ft²	0 11	Wood

WALLS

√	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
____	1	N=>W	Exterior	Frame - Wood	Main	13	72	10	9		655 5 ft²		0 23	0 75	0
____	2	E=>N	Exterior	Frame - Wood	Main	13	45	2	9		406 5 ft²		0 23	0 75	0
____	3	S=>E	Exterior	Frame - Wood	Main	13	72	10	9		655 5 ft²		0 23	0 75	0
____	4	W=>S	Exterior	Frame - Wood	Main	13	45	2	9		406 5 ft²		0 23	0 75	0

DOORS

√	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
_____	1	N=>W	Insulated	Main	None	0 400000	2		6	8	13 33333
_____	2	N=>W	Insulated	Main	None	0 400000	2		6	8	13 33333
_____	3	E=>N	Insulated	Main	None	0 400000	2		6	8	2 666666
_____	4	N=>W	Insulated	Main	None	0 400000	2		6	8	20 ft²
_____	5	N=>W	Insulated	Main	None	0 400000	2		6	8	6 666666

WINDOWS

Orientation shown is the entered orientation (=>) changed to Worst Case

√	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Area	Overhang Depth	Overhang Separation	Int Shade	Screening
_____	1	N=>W	1	Metal	Low-E Double	Yes	0 35	0 35	162 ft²	6 ft 0 in	1 ft 0 in	None	None
_____	2	N=>W	1	Metal	Low-E Double	Yes	0 35	0 35	44 44444	6 ft 0 in	1 ft 0 in	None	None
_____	3	N=>W	1	Metal	Low-E Double	Yes	0 35	0 35	13 33333	6 ft 0 in	1 ft 0 in	None	None
_____	4	E=>N	2	Metal	Low-E Double	Yes	0 35	0 35	36 ft²	1 ft 6 in	1 ft 0 in	None	None
_____	5	S=>E	3	Metal	Low-E Double	Yes	0 35	0 35	108 ft²	1 ft 6 in	1 ft 0 in	None	None
_____	6	S=>E	3	Metal	Low-E Double	Yes	0 35	0 35	13 33333	1 ft 6 in	1 ft 0 in	None	None
_____	7	S=>E	3	Metal	Low-E Double	Yes	0 35	0 35	6 ft²	1 ft 6 in	1 ft 0 in	None	None
_____	8	W=>S	4	Metal	Low-E Double	Yes	0 35	0 35	4 ft²	1 ft 6 in	1 ft 0 in	None	None
_____	9	W=>S	4	Metal	Low-E Double	Yes	0 35	0 35	36 ft²	1 ft 6 in	1 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Best Guess	0 000699	5398 16	296 351	557 333	0 53899	12 2407

HEATING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts
_____	1	Electric Heat Pump	None	HSPF 7 7	70 kBtu/hr	1	sys#1

COOLING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
____	1	Central Unit	None	SEER 13	70 kBtu/hr	2100 cfm	0 75	1	sys#1

HOT WATER SYSTEM

√	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
____	1	Electric	None	Main	0 92	40 gal	70 gal	120 deg	None

SOLAR HOT WATER SYSTEM

√	FSEC Cert #	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
____	None	None			ft²		

DUCTS

√	#	Supply Location	Supply R-Value	Supply Area	Return Location	Return Area	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC # Heat	HVAC # Cool
____	1	Attic	6	588 ft²	Attic	147 ft²	Default Leakage	Main	(Default) c	(Default) %			1	1

TEMPERATURES

Programable Thermostat Y Ceiling Fans

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

Thermostat Schedule / Schedule Type	HERS 2006 Reference	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 405-10

Florida Code Compliance Checklist

Florida Department of Business and Professional Regulations
Residential Whole Building Performance Method

ADDRESS:	PERMIT #:
Lake City, FL,	

MANDATORY REQUIREMENTS SUMMARY - See individual code sections for full details.

COMPONENT	SECTION	SUMMARY OF REQUIREMENT(S)	CHECK
Air leakage	402 4	To be caulked, gasketed, weatherstripped or otherwise sealed Recessed lighting IC-rated as meeting ASTM E 283 Windows and doors = 0.30 cfm/sq ft Testing or visual inspection required Fireplaces: gasketed doors & outdoor combustion air Must complete envelope leakage report or visually verify Table 402 4 2.	
Thermostat & controls	403 1	At least one thermostat shall be provided for each separate heating and cooling system. Where forced-air furnace is primary system, programmable thermostat is required Heat pumps with supplemental electric heat must prevent supplemental heat when compressor can meet the load	
Ducts	403.2 2 403 3 3	All ducts, air handlers, filter boxes and building cavities which form the primary air containment passageways for air distribution systems shall be considered ducts or plenum chambers, shall be constructed and sealed in accordance with Section 503 2.7 2 of this code Building framing cavities shall not be used as supply ducts	
Water heaters	403 4	Heat trap required for vertical pipe risers Comply with efficiencies in Table 403 4 3 2 Provide switch or clearly marked circuit breaker (electric) or shutoff (gas). Circulating system pipes insulated to = R-2 + accessible manual OFF switch.	
Mechanical ventilation	403.5	Homes designed to operate at positive pressure or with mechanical ventilation systems shall not exceed the minimum ASHRAE 62 level No make-up air from attics, crawlspaces, garages or outdoors adjacent to pools or spas	
Swimming Pools & Spas	403 9	Pool pumps and pool pump motors with a total horsepower (HP) of = 1 HP shall have the capability of operating at two or more speeds Spas and heated pools must have vapor-retardant covers or a liquid cover or other means proven to reduce heat loss except if 70% of heat from site-recovered energy. Off/timer switch required Gas heaters minimum thermal efficiency=78% (82% after 4/16/13). Heat pump pool heaters minimum COP= 4 0	
Cooling/heating equipment	403 6	Sizing calculation performed & attached Minimum efficiencies per Tables 503.2 3. Equipment efficiency verification required Special occasion cooling or heating capacity requires separate system or variable capacity system. Electric heat >10kW must be divided into two or more stages	
Ceilings/knee walls	405 2 1	R-19 space permitting	

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 79

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

, Lake City, FL,

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?	Yes
6	Conditioned floor area (ft²)	2940

7 Windows**	Description	Area
a U-Factor	Dbl, U=0 35	423 11 ft²
SHGC	SHGC=0 35	
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		3 837 ft
Area Weighted Average SHGC		0 350

8 Floor Types	Insulation	Area
a Slab-On-Grade Edge Insulation	R=0 0	2940 00 ft²
b N/A	R=	ft²
c N/A	R=	ft²

9 Wall Types	Insulation	Area
a Frame - Wood, Exterior	R=13 0	2124 00 ft²
b N/A	R=	ft²
c. N/A	R=	ft²
d N/A	R=	ft²

10 Ceiling Types	Insulation	Area
a Under Attic (Vented)	R=30 0	2980 00 ft²
b N/A	R=	ft²
c. N/A	R=	ft²

11 Ducts	R	ft²
a Sup Attic, Ret Attic, AH Main	6	588

12 Cooling systems	kBtu/hr	Efficiency
a Central Unit	70 0	SEER 13 00

13 Heating systems	kBtu/hr	Efficiency
a Electric Heat Pump	70 0	HSPF 7 70

14 Hot water systems	
a Electric	Cap 40 gallons
	EF 0 92
b Conservation features	
None	
15 Credits	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 _____ City/FL Zip _____

*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 EnergyGauge Rating Contact the EnergyGauge Hotline at (321) 638-1492 or see the EnergyGauge web site at energygauge.com for information and a list of certified Raters. For information about the Florida Building Code, Energy Conservation, contact the Florida Building Commission's support staff

**Label required by Section 303 1 3 of the Florida Building Code, Energy Conservation, if not DEFAULT.

Residential System Sizing Calculation

Summary

Williamson Res

Project Title:
1307015

Lake City, FL

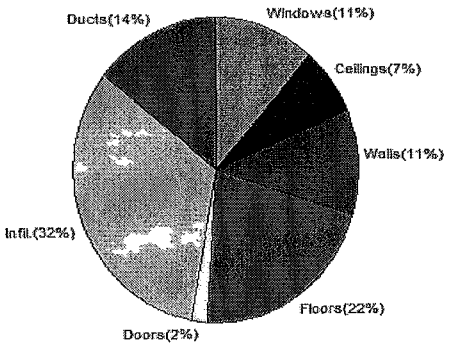
2013-08-09

Location for weather data: Gainesville, FL - Defaults: Latitude(29 7) Altitude(152 ft) Temp Range(M) Humidity data: Interior RH (50%) Outdoor wet bulb (79F) Humidity difference(54gr)					
Winter design temperature(MJ8 99%)	33	F	Summer design temperature(MJ8 99%)	99	F
Winter setpoint	70	F	Summer setpoint	75	F
Winter temperature difference	37	F	Summer temperature difference	24	F
Total heating load calculation	**47818**	**Btuh**	**Total cooling load calculation**	**59709**	**Btuh**
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	146 4	70000	Sensible (SHR = 0.75)	114.5	52500
Heat Pump + Auxiliary(0 0kW)	146.4	70000	Latent	126.4	17500
			Total (Electric Heat Pump)	117 2	70000

WINTER CALCULATIONS

Winter Heating Load (for 2940 sqft)

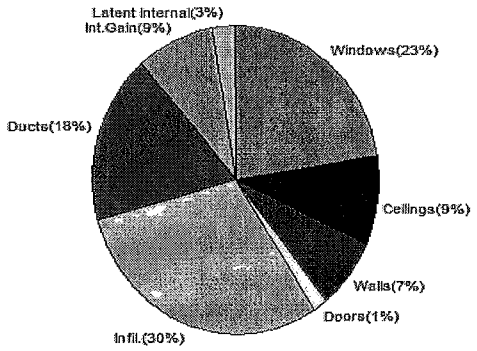
Load component			Load	
Window total	423	sqft	5479	Btuh
Wall total	1645	sqft	5402	Btuh
Door total	56	sqft	829	Btuh
Ceiling total	2980	sqft	3511	Btuh
Floor total	2940	sqft	10304	Btuh
Infiltration	380	cfm	15405	Btuh
Duct loss			6887	Btuh
Subtotal			**47818**	**Btuh**
Ventilation	0	cfm	0	Btuh
TOTAL HEAT LOSS			**47818**	**Btuh**



SUMMER CALCULATIONS

Summer Cooling Load (for 2940 sqft)

Load component			Load	
Window total	423	sqft	13465	Btuh
Wall total	1645	sqft	4453	Btuh
Door total	56	sqft	784	Btuh
Ceiling total	2980	sqft	5599	Btuh
Floor total			0	Btuh
Infiltration	285	cfm	7494	Btuh
Internal gain			5240	Btuh
Duct gain			8825	Btuh
Sens. Ventilation	0	cfm	0	Btuh
Blower Load			0	Btuh
Total sensible gain			**45860**	**Btuh**
Latent gain(ducts)			1825	Btuh
Latent gain(infiltration)			10424	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			1600	Btuh
Total latent gain			**13849**	**Btuh**
TOTAL HEAT GAIN			**59709**	**Btuh**



Energy Efficient Design of Manufactured Homes 8th Edition

EnergyGauge® System Sizing
PREPARED BY: GLAN Beams (ESI)
DATE: 2013-08-09

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Williamson Res
Lake City, FL

Project Title:
1307015
Building Type: User

2013-08-09

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference 37.0 F (MJ8 99%)
This calculation is for Worst Case. The house has been rotated 315 degrees.

Component Loads for Whole House

Window	Panes/Type	Frame	U	Orientation	Area(sqft) X	HTM=	Load
1	2, NFRC 0 35	Metal	0.35	NW	162.0	12.9	2098 Btuh
2	2, NFRC 0 35	Metal	0 35	NW	44 4	12.9	576 Btuh
3	2, NFRC 0.35	Metal	0.35	NW	13 3	12 9	173 Btuh
4	2, NFRC 0.35	Metal	0 35	NE	36.0	12.9	466 Btuh
5	2, NFRC 0.35	Metal	0.35	SE	108.0	12.9	1399 Btuh
6	2, NFRC 0 35	Metal	0 35	SE	13 3	12.9	173 Btuh
7	2, NFRC 0 35	Metal	0 35	SE	6 0	12.9	78 Btuh
8	2, NFRC 0.35	Metal	0 35	SW	4.0	12 9	52 Btuh
9	2, NFRC 0.35	Metal	0.35	SW	36 0	12 9	466 Btuh
	Window Total				423 1(sqft)		5479 Btuh

Walls	Type	Ornt	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
1	Frame - Wood	- Ext	(0 089)	13 0/0.0	382	3 28	1256 Btuh
2	Frame - Wood	- Ext	(0 089)	13 0/0 0	368	3.28	1208 Btuh
3	Frame - Wood	- Ext	(0 089)	13 0/0 0	528	3 28	1735 Btuh
4	Frame - Wood	- Ext	(0 089)	13 0/0.0	367	3.28	1204 Btuh
	Wall Total				1645(sqft)		5402 Btuh

Doors	Type	Storm	Ueff	Area X	HTM=	Load
1	Insulated - Exterior, n		(0 400)	13	14 8	197 Btuh
2	Insulated - Exterior, n		(0.400)	13	14 8	197 Btuh
3	Insulated - Exterior, n		(0.400)	3	14.8	39 Btuh
4	Insulated - Exterior, n		(0.400)	20	14.8	296 Btuh
5	Insulated - Exterior, n		(0.400)	7	14 8	99 Btuh
	Door Total			56(sqft)		829Btuh

Ceilings	Type/Color/Surface	Ueff	R-Value	Area X	HTM=	Load
1	Vented Attic/D/Shing	(0.032)	30 0/0 0	2980	1 2	3511 Btuh
	Ceiling Total			2980(sqft)		3511Btuh

Floors	Type	Ueff.	R-Value	Size X	HTM=	Load
1	Slab On Grade	(1.180)	0 0	236.0 ft(perim.)	43.7	10304 Btuh
	Floor Total			2940 sqft		10304 Btuh

	Envelope Subtotal:	25525 Btuh

Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	
	Natural	0.86	26460	1.00	380.3	15405 Btuh

Duct load	Average sealed, R6 0, Supply(Att), Return(Att) (DLM of 0 168)	6887 Btuh
All Zones	**Sensible Subtotal All Zones**	**47818 Btuh**

Manual J Winter Calculations

Residential Load - Component Details (continued)

Williamson Res
Lake City, FL

Project Title:
1307015
Building Type. User

2013-08-09

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	47818 Btuh
	Ventilation Sensible Heat Loss	0 Btuh
	Total Heat Loss	47818 Btuh

EQUIPMENT

1. Electric Heat Pump	#	70000 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)

Version 8

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Williamson Res

Project Title
1307015

Lake City, FL

2013-08-09

Reference City Gainesville, FL Temperature Difference: 24.0F(MJ8 99%) Humidity difference. 54gr

This calculation is for Worst Case. The house has been rotated 315 degrees.

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 35, 0 35		No	No	NW	6 0ft	1 0ft	162 0	0 0	162 0	16	32	5171 Btuh
2	2 NFRC	0 35, 0 35		No	No	NW	6 0ft	1 0ft	44 4	0 0	44 4	16	32	1419 Btuh
3	2 NFRC	0 35, 0 35		No	No	NW	6 0ft	1 0ft	13 3	0 0	13 3	16	32	426 Btuh
4	2 NFRC	0 35, 0 35		No	No	NE	1 5ft	1 0ft	36 0	0 0	36 0	16	32	1149 Btuh
5	2 NFRC	0 35, 0 35		No	No	SE	1 5ft	1 0ft	108 0	26 4	81 6	16	33	3147 Btuh
6	2 NFRC	0 35, 0 35		No	No	SE	1 5ft	1 0ft	13 3	2 9	10 4	16	33	394 Btuh
7	2 NFRC	0 35, 0 35		No	No	SE	1 5ft	1 0ft	6 0	2 9	3 1	16	33	149 Btuh
8	2 NFRC	0 35, 0 35		No	No	SW	1 5ft	1 0ft	4 0	4 0	0 0	16	33	63 Btuh
9	2 NFRC	0 35, 0 35		No	No	SW	1 5ft	1 0ft	36 0	8 8	27 2	16	33	1049 Btuh
	Excursion													498 Btuh
	Window Total								423 (sqft)					13465 Btuh

Walls	Type	U-Value	R-Value Cav/Sheath	Area(sqft)	HTM	Load
1	Frame - Wood - Ext	0 09	13 0/0 0	382.4	2 7	1035 Btuh
2	Frame - Wood - Ext	0 09	13 0/0 0	367 8	2 7	996 Btuh
3	Frame - Wood - Ext	0 09	13 0/0 0	528 2	2 7	1430 Btuh
4	Frame - Wood - Ext	0 09	13 0/0 0	366 5	2 7	992 Btuh
	Wall Total			1645 (sqft)		4453 Btuh

Doors	Type	Area (sqft)	HTM	Load
1	Insulated - Exterior	13 3	14 0	187 Btuh
2	Insulated - Exterior	13 3	14 0	187 Btuh
3	Insulated - Exterior	2 7	14 0	37 Btuh
4	Insulated - Exterior	20 0	14 0	280 Btuh
5	Insulated - Exterior	6 7	14 0	93 Btuh
	Door Total	56 (sqft)		784 Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
1	Vented Attic/DarkShingle	0 032	30 0/0 0	2980 0	1 88	5599 Btuh
	Ceiling Total			2980 (sqft)		5599 Btuh

Floors	Type	R-Value	Size	HTM	Load
1	Slab On Grade	0 0	2940 (ft-perimeter)	0 0	0 Btuh
	Floor Total		2940 0 (sqft)		0 Btuh

			Envelope Subtotal		24301 Btuh

Infiltration	Type	Average ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0 65	26460	1	285 2	7494 Btuh
Internal gain		Occupants	Btuh/occupant		Appliance	Load
		8	X 230	+	3400	5240 Btuh
			Sensible Envelope Load			37036 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Williamson Res.

Project Title: 1307015

Climate: FL_GAINESVILLE_REGIONAL_A

Lake City, FL

2013-08-09

Duct load	Average sealed,Supply(R6 0-Attic), Return(R6 0-Attic)	(DGM of 0 238)	8825 Btuh
		Sensible Load All Zones	**45860 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Williamson Res.

Project Title: 1307015

Climate:FL_GAINESVILLE_REGIONAL_A

Lake City, FL

2013-08-09

WHOLE HOUSE TOTALS

	Sensible Envelope Load All Zones	**37036 Btuh**
	Sensible Duct Load	8825 Btuh
	Total Sensible Zone Loads	**45860 Btuh**
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
Whole House	**Total sensible gain**	**45860 Btuh**
Totals for Cooling	Latent infiltration gain (for 54 gr. humidity difference)	10424 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1825 Btuh
	Latent occupant gain (8 0 people @ 200 Btuh per person)	1600 Btuh
	Latent other gain	0 Btuh
	Latent total gain	**13849 Btuh**
	TOTAL GAIN	**59709 Btuh**

EQUIPMENT

1 Central Unit	#	70000 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)

Version 8