



April 17, 2012

Florida Building Commission  
Building Codes and Standards Office  
2555 Shumard Oak Blvd.  
Tallahassee, Florida 32399-2100

RE: Submission of EnergyGauge USA 3.0 for approval for the 2010 Florida Energy Code for Residential Buildings for Total UA alternative method.

The Florida Solar Energy Center is pleased to submit EnergyGauge USA 3.0 for approval for the 2010 Florida Energy Code for Residential Buildings.

### **Certification**

To the best of our knowledge, judgment and interpretation, we certify that the software submitted meets the requirements to demonstrate compliance of the 2010 Florida Energy Code for residential buildings by the Total UA alternative method.”

### **Disclaimer**

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### **Contents of submission:**

- 1) Copy of this letter
- 2) Copy of a 5-page sample report from EnergyGauge USA



# FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Total UA Method

Project Name:	2010_Florida_Code_Jacksonville TotalUA exam	Builder Name:	John Q. Hammer
Street:	Anyplace	Permit Office:	
City, State, Zip:	Jacksonville, FL	Permit Number:	
Owner:	Energy Gauge	Jurisdiction:	
Design Location:	FL, Jacksonville		

1. New construction or existing	New (From Plans)	4. Number of Bedrooms	3
2. Single family or multiple family	Single-family	5. Conditioned floor area above grade (ft2)	2000
3. Number of units, if multiple family		6. Conditioned floor area below grade (ft2)	0

Windows	195.0
Doors	26.0
Walls	96.7
Floor	0.0
Ceiling	62.3
<b>Overall UA</b>	<b>380.0</b>

Windows	195.0
Doors	26.0
Walls	96.8
Floor	0.0
Ceiling	70.0
<b>Overall UA</b>	<b>387.8</b>

### Compliance Criteria

Overall UA	380.00	PASS	
Window-to-Floor Area	15.0%	PASS	
Window SHGC	0.300	PASS	
Roof Reflectance	0.25	PASS	
Wall Area (ft2)	1180.0		
Ceiling Area (ft2)	2000.0	PASS	
Floor Area (ft2)	2000.0	PASS	
Common Wall Mass R		N/A	There are no common mass walls in this building
Common Wall Frame R		N/A	There are no common frame walls in this building
Common Floor Low R		N/A	There are no common floors in this building
Common Ceiling Low R		PASS	
Window Area (ft2)	300.0		
Door Area (ft2)	40.0		

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: \_\_\_\_\_



# Building Input Summary Report

PROJECT											
Title:	2010_Florida_Code_Jacksonv	Bedrooms:	3	Address Type:	Street Address						
Building Type:	User	Bathrooms:	0	Lot #							
Owner:	Energy Gauge	Conditioned Area:	2000 sq.ft.	Block/SubDivision:							
# of Units:	1	Total Stories:	1	PlatBook:							
Builder Name:	John Q. Hammer	Worst Case:	No	Street:	Anyplace						
Permit Office:		Rotate Angle:	0	County:	Duval						
Jurisdiction:		Cross Ventilation:	No	City, State, Zip:	Jacksonville , FL ,						
Family Type:	Single-family	Whole House Fan:	No								
New/Existing:	New (From Plans)	Terrain:	Suburban								
Year Construct:	2012	Shielding:	Suburban								
Comment:	Florida Code Example										
CLIMATE											
Design Location	Tmy Site	Design Temp	97.5 %	2.5 %	Int Design Temp	Winter	Summer	Heating Degree Days	Design Moisture	Daily Temp Range	
FL, Jacksonville	FL JACKSONVILLE INTL ARPT	32	93	70	75	1281	49	Medium			
UTILITY RATES											
Fuel	Unit	Utility Name						Monthly Fixed Cost		\$/Unit	
Electricity	kWh	MyFloridaAverage						0		0.12	
Natural Gas	Therm	MyFloridaAverage						0		1.72	
Fuel Oil	Gallon	Florida Default						0		1.1	
Propane	Gallon	Florida Default						0		1.4	
SURROUNDINGS											
Ornt	Type	Shade Trees	Height	Width	Distance	Exist	Adjacent Buildings	Height	Width	Distance	
N	None	0 ft	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft		
NE	None	0 ft	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft		
E	None	0 ft	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft		
SE	None	0 ft	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft		
S	None	0 ft	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft		
SW	None	0 ft	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft		
W	None	0 ft	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft		
NW	None	0 ft	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft		
FLOORS											
#	Floor Type	Space	Perimeter	R-Value	Area			Tile	Wood	Carpet	
1	Slab-On-Grade Edge Insulation	Main	190 ft	0	2000 ft²			----	0.2	0	0.8
ROOF											
#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	2108 ft²	332 ft²	Medium	0.75	No	0.9	No	0	18.4





# Building Input Summary Report

ATTIC														
#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC								
1	Full attic	Vented	300	2000 ft²	Y	N								
CEILING														
#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type								
1	Under Attic ()	Main	30	2000 ft²	0.11	Wood								
WALLS														
Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.														
#	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	N	Exterior	Frame - Wood	Main	13	47.5		8		380 ft²	0	0.2	0.6	0
2	E	Exterior	Frame - Wood	Main	13	47.5		8		380 ft²	0	0.2	0.6	0
3	S	Exterior	Frame - Wood	Main	13	47.5		8		380 ft²	0	0.2	0.6	0
4	W	Exterior	Frame - Wood	Main	13	30.5		8		244 ft²	0	0.2	0.6	0
5	W	Garage	Frame - Wood	Main	13	17		8		136 ft²	0	0.2	0.01	0
DOORS														
#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area				
1	N	Insulated	Main	None	0.65	6		6	8	40 ft²				
WINDOWS														
#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Separation	Interior Shade	Screening	
1	N	1	Vinyl	Low-E Double	Yes	0.65	0.3	N	75 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None	
2	E	2	Vinyl	Low-E Double	Yes	0.65	0.3	N	75 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None	
3	S	3	Vinyl	Low-E Double	Yes	0.65	0.3	N	75 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None	
4	W	4	Vinyl	Low-E Double	Yes	0.65	0.3	N	75 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None	
INFILTRATION														
#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)					
1	Wholehouse	Best Guess	0.000300	1573.8	86.400	162.48	0.2310	5.9017	All					
GARAGE														
#	Floor Area	Roof Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation									
1	384 ft²	384 ft²	64 ft	8 ft	(invalid)									
MASS														
Mass Type	Area	Thickness	Furniture Fraction	Space										
No Added Mass	0 ft²	0 ft	0.3	Main										

# Building Input Summary Report

HEATING SYSTEM														
#	System Type	Subtype			Efficiency	Capacity	Ductless			Block				
1	Natural Gas Furnace	None			AFUE: 0.78	30 kBtu/hr	False			1				
COOLING SYSTEM														
#	System Type	Subtype			Efficiency	Capacity	Air Flow	SHR	Ductless		Block			
1	Central Unit	None			SEER: 13	24 kBtu/hr	720 cfm	0.75	False		1			
HOT WATER SYSTEM														
#	System Type	SubType	Location		EF	Cap	Use	SetPnt			Credits			
1	Natural Gas	None	Main		0.59	40 gal	60 gal	120 deg			None			
SOLAR HOT WATER														
Collector Type	Collector Tilt	Surface Azimuth		Area	Absorp. Loss Coef.	Trans. Corr.	Tank Volume	Tank U-Value	Tank Surf Area	Heat Exch Eff	PV Pumped	Pump Energy		
DUCTS														
DUCT #	Location	Supply		Return		Number	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC #	
1	Main	6	400 ft <sup>2</sup>	Main	100 ft <sup>2</sup>	2	Prop. Leak Free	Main	60.0 cfm	8.33 %	0.03	0.60	1	1
TEMPERATURES														
Programable Thermostat: N						Ceiling Fans: N								
Cooling	<input checked="" type="checkbox"/> Jan	<input checked="" type="checkbox"/> Feb	<input checked="" type="checkbox"/> Mar	<input checked="" type="checkbox"/> Apr	<input checked="" type="checkbox"/> May	<input checked="" type="checkbox"/> Jun	<input checked="" type="checkbox"/> Jul	<input checked="" type="checkbox"/> Aug	<input checked="" type="checkbox"/> Sep	<input checked="" type="checkbox"/> Oct	<input checked="" type="checkbox"/> Nov	<input checked="" type="checkbox"/> Dec		
Heating	<input checked="" type="checkbox"/> Jan	<input checked="" type="checkbox"/> Feb	<input checked="" type="checkbox"/> Mar	<input checked="" type="checkbox"/> Apr	<input checked="" type="checkbox"/> May	<input checked="" type="checkbox"/> Jun	<input checked="" type="checkbox"/> Jul	<input checked="" type="checkbox"/> Aug	<input checked="" type="checkbox"/> Sep	<input checked="" type="checkbox"/> Oct	<input checked="" type="checkbox"/> Nov	<input checked="" type="checkbox"/> Dec		
Venting	<input checked="" type="checkbox"/> Jan	<input checked="" type="checkbox"/> Feb	<input checked="" type="checkbox"/> Mar	<input checked="" type="checkbox"/> Apr	<input checked="" type="checkbox"/> May	<input checked="" type="checkbox"/> Jun	<input checked="" type="checkbox"/> Jul	<input checked="" type="checkbox"/> Aug	<input checked="" type="checkbox"/> Sep	<input checked="" type="checkbox"/> Oct	<input checked="" type="checkbox"/> Nov	<input checked="" type="checkbox"/> 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	78	78	78	78	78
	PM	78	78	78	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	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68	68

# Building Input Summary Report

APPLIANCES & LIGHTING													
Appliance Schedule: HERS 2006 Reference		Hours											
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.33	0.33	0.33	0.33	0.33
% Released: 100	PM	0.33	0.33	0.33	0.33	0.33	1	0.9	0.9	0.9	0.9	0.9	0.65
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											
Clothes Washer	AM	0.105	0.081	0.047	0.047	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 10	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 44 Therms/Yr		Peak Value: 1 kBTU/Hr											
Lighting	AM	0.16	0.15	0.16	0.18	0.23	0.45	0.4	0.26	0.19	0.16	0.12	0.11
% Released: 90	PM	0.16	0.17	0.25	0.27	0.34	0.55	0.55	0.88	1	0.86	0.51	0.28
Annual Use: 2055 kWh/Yr		Peak Value: 671 Watts											
Miscellaneous	AM	0.48	0.47	0.47	0.47	0.47	0.47	0.64	0.71	0.67	0.61	0.55	0.53
% Released: 90	PM	0.52	0.5	0.5	0.5	0.59	0.73	0.79	0.99	1	0.96	0.77	0.55
Annual Use: 2439 kWh/Yr		Peak Value: 447 Watts											
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 100	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 24 Therms/Yr		Peak Value: 1 kBTU/Hr											
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 100	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 775 kWh/Yr		Peak Value: 106 Watts											
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											
BLOCKS													
Number	Name	Area	Volume										
1	Block1	2000	16000	16000									
SPACES													
Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated				
1	Main	2000	16000	Yes	4	3	Yes	Yes	Yes				