



Manual S Compliance Report

Entire House

Comfort Temp Company

Job:
Date: Dec 26, 2019
By:

4301 NW 6th ST, Gainesville, FL 32609 Phone: 352 275 4022 Fax: 352 376 0523 Email: jay@comforttemp.com Web: www.comforttemp.com

Project Information

For: Cook, Red Door Homes
353 SW Gideon PL, Ft. White, FL 32038

Cooling Equipment

Design Conditions

Outdoor design DB:	92.0°F	Sensible gain:	27003	Btuh	Entering coil DB:	75.6°F
Outdoor design WB:	76.0°F	Latent gain:	10948	Btuh	Entering coil WB:	62.7°F
Indoor design DB:	75.0°F	Total gain:	37952	Btuh		
Indoor RH:	50%	Estimated airflow:	1367	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Trane	Model:	4TWR4042G1+TEM4A0C61M51++TDR	
Actual airflow:	1367	cfm		
Sensible capacity:	28700	Btuh	106% of load	
Latent capacity:	12300	Btuh	112% of load	
Total capacity:	41000	Btuh	108% of load	SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	33.0°F	Heat loss:	22826	Btuh	Entering coil DB:	67.7°F
Indoor design DB:	68.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Trane	Model:	4TWR4042G1+TEM4A0C61M51++TDR	
Actual airflow:	1367	cfm		
Output capacity:	37600	Btuh	165% of load	Capacity balance: 19 °F
Supplemental heat required:	0	Btuh		Economic balance: -99 °F

Backup equipment type:	Elec strip			
Manufacturer:		Model:		
Actual airflow:	1367	cfm		
Output capacity:	4.6	kW	69% of load	Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.



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Project Information

For: Cook, Red Door Homes
353 SW Gideon PL, Ft. White, FL 32038

Notes:

Design Information

Weather: Gainesville Regional AP, FL, US

Winter Design Conditions

Outside db	33 °F
Inside db	68 °F
Design TD	35 °F

Summer Design Conditions

Outside db	92 °F
Inside db	75 °F
Design TD	17 °F
Daily range	M
Relative humidity	50 %
Moisture difference	45 gr/lb

Heating Summary

Structure	15631 Btuh
Ducts	7195 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	22826 Btuh

Sensible Cooling Equipment Load Sizing

Structure	19177 Btuh
Ducts	7827 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	26193 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	9538 Btuh
Ducts	1410 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Equipment latent load	10948 Btuh

	Heating	Cooling
Area (ft²)	2347	2347
Volume (ft³)	18777	18777
Air changes/hour	0.32	0.16
Equiv. AVF (cfm)	100	50

Equipment Total Load (Sen+Lat)	37142 Btuh
Req. total capacity at 0.70 SHR	3.1 ton

Heating Equipment Summary

Make	Trane
Trade	TRANE
Model	4TWR4042G1
AHRI ref	206963169
Efficiency	8.5 HSPF
Heating input	
Heating output	37600 Btuh @ 47°F
Temperature rise	25 °F
Actual air flow	1367 cfm
Air flow factor	0.060 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	
Capacity balance point = 19 °F	
Backup:	
Input = 5 kW, Output = 15738 Btuh, 100 AFUE	

Cooling Equipment Summary

Make	Trane
Trade	TRANE
Cond	4TWR4042G1
Coil	TEM4A0C61M51++TDR
AHRI ref	206963169
Efficiency	12.2 EER, 14.5 SEER
Sensible cooling	28700 Btuh
Latent cooling	12300 Btuh
Total cooling	41000 Btuh
Actual air flow	1367 cfm
Air flow factor	0.051 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.71

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Project Information

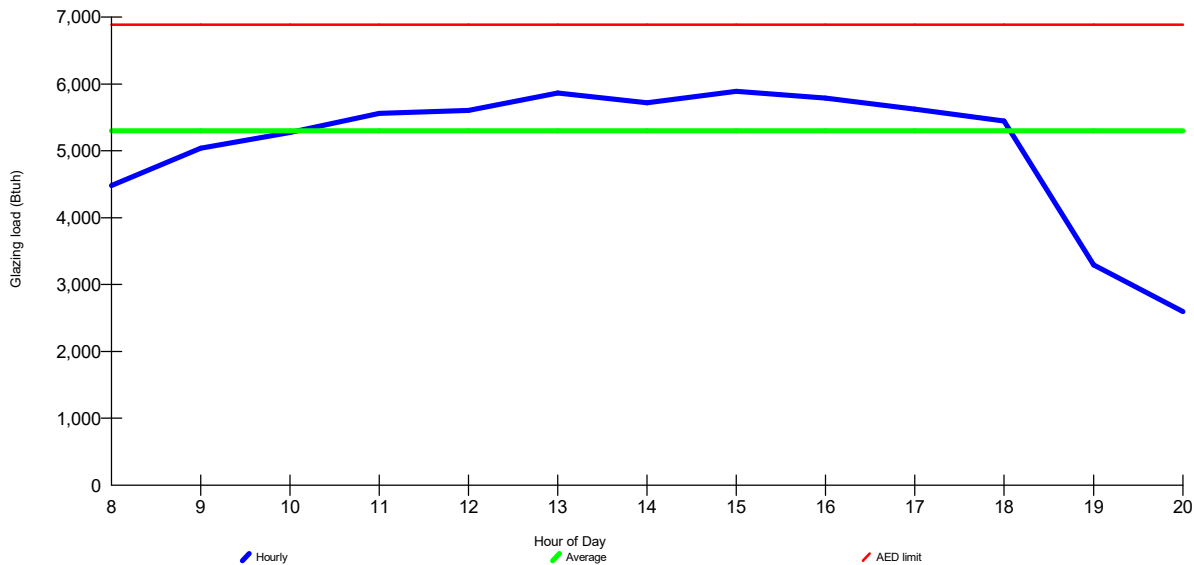
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 353 SW Gideon PL, Ft. White, FL 32038

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation:	164 ft	Design TD (°F)		35	17
Latitude:	30°N	Relative humidity (%)		50	50
		Moisture difference (gr/lb)		29.0	45.4
Outdoor:		Heating	Cooling	Infiltration:	
Dry bulb (°F)		33	92		
Daily range (°F)		-	20 (M)		
Wet bulb (°F)		-	76		
Wind speed (mph)		15.0	7.5		

Test for Adequate Exposure Diversity

Hourly Glazing Load



Maximum hourly glazing load exceeds average by 11.1%.

House has adequate exposure diversity (AED), based on AED limit of 30%.

AED excursion: 0 Btuh

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Right-J® Worksheet

Entire House

Comfort Temp Company

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1	Room name					Bedroom 2					Family Room				
2	Exposed wall					14.0 ft					15.0 ft				
3	Room height					8.0 ft					8.0 ft				
4	Room dimensions					1.0 x 249.0 ft					1.0 x 364.7 ft				
5	Room area					249.0 ft²					364.7 ft²				
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)		
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12C-0sw	0.091	n	3.18	2.14	0	0	0	0	0	0	0	0	
11	G	1D-c2ow	0.570	n	19.95	17.48	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	e	3.18	2.14	112	82	261	175	0	0	0	0	
	G	1D-c2ow	0.570	e	19.95	51.01	30	0	598	1530	0	0	0	0	
	W	12C-0sw	0.091	s	3.18	2.14	0	0	0	0	120	120	382	257	
	G	1D-c2ow	0.570	s	19.95	17.48	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	w	3.18	2.14	0	0	0	0	0	0	0	0	
	G	1D-c2ow	0.570	w	19.95	51.01	0	0	0	0	0	0	0	0	
	C	16B-38ad	0.026	-	0.91	1.35	249	249	227	337	365	365	332	493	
	F	19C-19cscp	0.049	-	0.59	0.29	249	249	148	72	365	365	217	105	
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1	Room name					Hall Bath					Breakfast				
2	Exposed wall					0 ft					19.0 ft				
3	Room height					8.0 ft					8.0 ft				
4	Room dimensions					9.0 x 6.0 ft					13.0 x 14.0 ft				
5	Room area					54.0 ft²					182.0 ft²				
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)		
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12C-0sw	0.091	n	3.18	2.14	0	0	0	0	0	0	0	0	
11	G	1D-c2ow	0.570	n	19.95	17.48	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	e	3.18	2.14	0	0	0	0	48	48	153	103	
	G	1D-c2ow	0.570	e	19.95	51.01	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	s	3.18	2.14	0	0	0	0	104	74	236	158	
	G	1D-c2ow	0.570	s	19.95	17.48	0	0	0	0	30	30	598	524	
	W	12C-0sw	0.091	w	3.18	2.14	0	0	0	0	0	0	0	0	
	G	1D-c2ow	0.570	w	19.95	51.01	0	0	0	0	0	0	0	0	
	C	16B-38ad	0.026	-	0.91	1.35	54	54	49	73	182	182	166	246	
F	19C-19csqp	0.049	-	0.59	0.29	54	54	32	16	182	182	108	53		

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Level 2

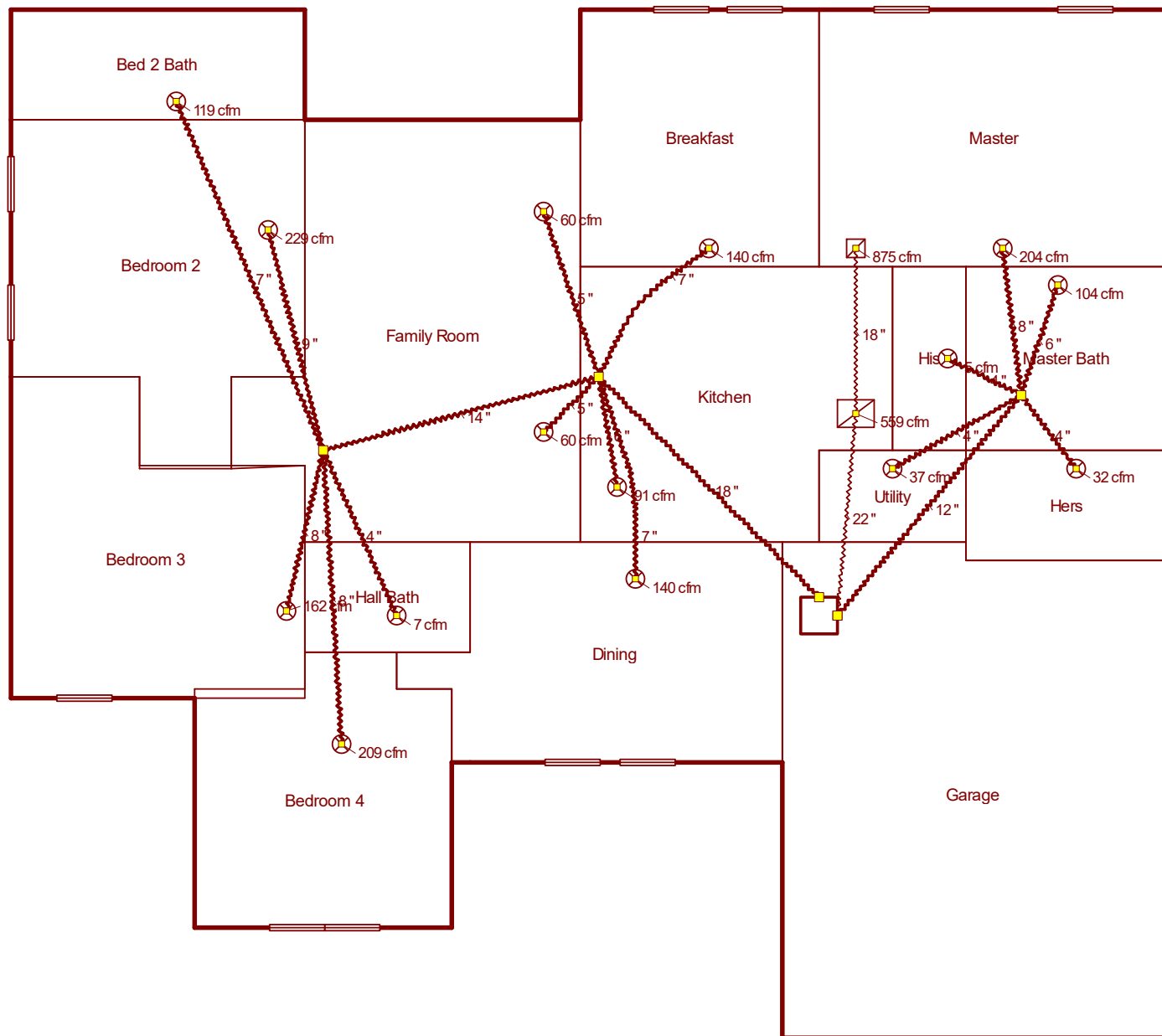
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Level 1



Job #:
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Duct System Summary

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	Heating	Cooling
External static pressure	0.50 in H ₂ O	0.50 in H ₂ O
Pressure losses	0 in H ₂ O	0 in H ₂ O
Available static pressure	0.50 in H ₂ O	0.50 in H ₂ O
Supply / return available pressure	0.334 / 0.166 in H ₂ O	0.334 / 0.166 in H ₂ O
Lowest friction rate	0.205 in/100ft	0.205 in/100ft
Actual air flow	1367 cfm	1367 cfm
Total effective length (TEL)	244 ft	

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
Bed 2 Bath	h 1995	119	50	0.205	7.0	0x0	VIFx	53.1	110.0	st3
Bedroom 2	c 4532	133	229	0.216	9.0	0x0	VIFx	44.9	110.0	st3
Bedroom 3	h 2701	162	120	0.221	8.0	0x0	VIFx	41.5	110.0	st3
Bedroom 4	h 3498	209	143	0.211	8.0	0x0	VIFx	48.5	110.0	st3
Breakfast	c 2771	140	140	0.275	7.0	0x0	VIFx	26.4	95.0	st1
Dining	h 2346	140	139	0.271	7.0	0x0	VIFx	28.3	95.0	st1
Family Room	c 1177	52	60	0.300	5.0	0x0	VIFx	21.2	90.0	st1
Family Room-A	c 1177	52	60	0.287	5.0	0x0	VIFx	26.5	90.0	st1
Hall Bath	h 118	7	6	0.219	4.0	0x0	VIFx	42.3	110.0	st3
Hers	h 526	32	16	0.302	4.0	0x0	VIFx	20.6	90.0	st2
His	h 87	5	4	0.303	4.0	0x0	VIFx	20.1	90.0	st2
Kitchen	c 1789	31	91	0.295	6.0	0x0	VIFx	23.1	90.0	st1
Master	h 3411	204	169	0.294	8.0	0x0	VIFx	23.7	90.0	st2
Master Bath	c 2057	74	104	0.298	6.0	0x0	VIFx	21.9	90.0	st2
Utility	c 731	5	37	0.294	4.0	0x0	VIFx	23.7	90.0	st2

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st3	Peak AVF	630	548	0.205	590	14.0	0 x 0	VinIFlx	st1
st1	Peak AVF	1046	1037	0.205	592	18.0	0 x 0	VinIFlx	
st2	Peak AVF	320	330	0.294	420	12.0	0 x 0	VinIFlx	



Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x 0	875	807	50.0	0.332	495	18.0	0x 0		VIFx	rt1
rb2	0x 0	492	559	81.0	0.205	523	14.0	0x 0		VIFx	rt1

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt1	Peak AVF	1367	1367	0.205	518	22.0	0 x 0	VinIFix	