




1.0 Reference and Address			
Report Number	100823571DAL-001A	Original Issued: 1-Oct-12	Revised: None
Standard(s)	ANSI/ASHRAE 37 Issue: 2005 Methods of Testing for Rating Electrically Driven Unitary Air-Conditioning and Heat Pump Equipment		
Test Location	<b>Intertek</b> <b>1809 10th Street Plano TX</b> <b>75074</b>		
Applicant	Mainstream Engineering Corp	Manufacturer	Goodman Company L.P.
Address	200 Yellow Place Pines Industrial Center Rockledge, FL 32955	Address	5151 San Felipe, STE 500 Houston, TX 77056
Country	USA	Country	USA
Contact		Contact	NA
Phone		Phone	NA
FAX	N/A	FAX	NA
Email		Email	NA

**5.0 Component List**

Photo #	Sample no. <sup>1</sup>	Name	Manufacturer/trademark <sup>2</sup>	Type / model <sup>2</sup>	Serial Number	Technical data and securement means
4,5,6,7	008	Air Handler	Goodman	ARUF374316CA	1204695348	208/230V, 1PH
8,9,10,11	003	Furnace Unit	Goodman	CAPF3642C6DB	1204564609	208/230V, 1PH
1,2,3	002	Outdoor Unit	Goodman	SSX140361BB	1203174536	208/230V, 1PH
---	---	Evaporator Coil	Goodman	CAPF3636A6	NA	NA

8.0 Test Summary				
Evaluation Period	8/17/2012		Project No.	G100823571
Sample Rec. Date	20-Jul-2012	Condition	Production	Sample ID. DAL1207200921-003 DAL1207200921-008 DAL1207200921-002
Test Location	Intertek, 1809 10th St Suite 400 Plano, TX 75074.			
Determination of the results includes consideration of measurement uncertainty from the test equipment and methods.				
Tests Performed: 82, 97 and 112 Air Handler and Furnace Test with and without WattSaver				

8.1 Signatures			
Completed by:	Weston Taubenfeld	Reviewed by:	Mike Stem
Title:	Project Engineer	Title:	Engineering Manager
Signature:		Signature:	

Customer	G100823571-Mainstream	Date	8/17/2012
Test Request ID	G100596614-146	Time	22:31:55
Psy Room	5Ton	Average time	0:30:00
Test Type	82°Baseline	Test Number	92
Conditions	80/67-112	Engineer	Ana Ruiz
ID Unit Model	ARUF374316CA	Tech	Solomon Johnson
ID Unit Serial	1204695348	ID Coil Model	NA
OD Unit Model	SSX140361BB	ID Coil Serial	NA
OD Unit Serial	1203174536	Unit capacity	3
Refrigerant type	R410A	ID Unit type	PSC Air Handler
Refrigerant charge	factory charge 6#2 oz-14 oz	Volt min/max/phs	208/230/1
	<b>Average Data without WattSaver</b>	<b>Average with WattSaver</b>	<b>% Delta</b>
ID Inlet Dry Air	80.00 F	80.00 F	0.00%
ID Inlet Wet Air	67.01 F	67.00 F	-0.01%
ID Outlet Dry Air	64.51 F	60.93 F	-5.55%
ID Outlet Wet Air	61.40 F	58.91 F	-4.06%
OD Inlet Dry Air	81.98 F	81.99 F	0.02%
Total Air Flow	1897.1 SCFM	1307.6 SCFM	-31.07%
Unit Total Static	0.236 "H2O	0.208 "H2O	-11.86%
<b>Total Power</b>	<b>2868 W</b>	<b>2511 W</b>	<b>-12.45%</b>
Net Sensible Capacity	32647 Btu/Hr	27800 Btu/Hr	-14.85%
Net Latent Enthalpy	3227 Btu/Hr	7030 Btu/Hr	117.85%
Air Side Only Cap	35877 Btu/Hr	34836 Btu/Hr	-2.90%
<b>Air Side Only EER</b>	<b>12.51 EER</b>	<b>13.87 EER</b>	<b>10.87%</b>
Compressor flow rate	409.14 lbs/hr	393.08 lbs/hr	-3.93%
Compressor discharge temp	143.45 F	138.57 F	-3.40%
OD Service Valve Liquid	301.16 PSIG	298.95 PSIG	-0.73%
OD Service Valve Liquid temp	96.07 F	95.53 F	-0.56%
Service Valve Sat Liquid	96.03 F	95.52 F	-0.53%
Service Valve SC Liquid	-0.04 ΔF	-0.01 ΔF	-75.00%
Evaporator Liq ID temp	94.58 F	93.99 F	-0.62%
Evaporator ID Gas temp	79.85 F	60.8 F	-23.86%
OD Service Valve Gas	157.53 PSIG	151.84 PSIG	-3.61%
OD Service Valve Gas temp	70.05 F	62.55 F	-10.71%
Service Valve Sat Gas	55.45 F	53.36 F	-3.77%
Service Valve SC Gas	14.6 ΔF	9.17 ΔF	-37.19%
Service Valve Suction temp	70.82 F	63.49 F	-10.35%

Comments: Baseline test completed with fan on the high speed tap setting per the clients request.

Customer	G100823571-Mainstream	Date	8/17/2012
Test Request ID	G100596614-146	Time	13:21:09
Psy Room	5Ton	Average time	0:30:00
Test Type	82°Baseline	Test Number	83
Conditions	80/67-112	Engineer	Ana Ruiz
ID Unit Model	CAPF3642C6DB	Tech	Solomon Johnson
ID Unit Serial	1204564609	ID Coil Model	CAPF3636A6
OD Unit Model	SSX140361BB	ID Coil Serial	NA
OD Unit Serial	1203174536	Unit capacity	3
Refrigerant type	R410A	ID Unit type	PSC Air Handler
Refrigerant charge	factory charge 98 oz-23 oz	Volt min/max/phs	208/230/1
	<b>Average Data without WattSaver</b>	<b>Average with WattSaver</b>	<b>% Delta</b>
ID Inlet Dry Air	80.00 F	80.00 F	0.00%
ID Inlet Wet Air	67.00 F	67.00 F	-0.01%
ID Outlet Dry Air	62.74 F	58.59 F	-6.61%
ID Outlet Wet Air	60.21 F	57.36 F	-4.73%
OD Inlet Dry Air	81.98 F	81.97 F	-0.02%
Total Air Flow	1503.8 SCFM	1078.2 SCFM	-28.30%
Unit Total Static	0.24 "H2O	0.236 "H2O	-1.67%
<b>Total Power</b>	<b>2845 W</b>	<b>2491 W</b>	<b>-12.44%</b>
Net Sensible Capacity	28867 Btu/Hr	25761 Btu/Hr	-10.76%
Net Latent Enthalpy	5214 Btu/Hr	7914 Btu/Hr	51.78%
Air Side Only Cap	34085 Btu/Hr	33682 Btu/Hr	-1.18%
<b>Air Side Only EER</b>	<b>11.98 EER</b>	<b>13.52 EER</b>	<b>12.89%</b>
Compressor flow rate	491.29 lbs/hr	482.97 lbs/hr	-1.69%
Compressor discharge temp	146.53 F	141.64 F	-3.34%
OD Service Valve Liquid	304.5 PSIG	302.64 PSIG	-0.61%
OD Service Valve Liquid temp	96.98 F	96.57 F	-0.42%
Service Valve Sat Liquid	96.78 F	96.37 F	-0.42%
Service Valve SC Liquid	-0.19 ΔF	-0.21 ΔF	10.53%
Evaporator Liq ID temp	95.9 F	95.48 F	-0.44%
Evaporator ID Gas temp	66.03 F	58.8 F	-10.95%
OD Service Valve Gas	145.83 PSIG	140.98 PSIG	-3.33%
OD Service Valve Gas temp	65.93 F	58.77 F	-10.86%
Service Valve Sat Gas	51.1 F	49.22 F	-3.68%
Service Valve SC Gas	14.8 ΔF	9.53 ΔF	-35.61%
Service Valve Suction temp	67.22 F	60.31 F	-10.28%



Comments: Baseline test completed with fan on the high speed tap setting per the clients request.

Customer	G100823571-Mainstream	Date	8/18/2012
Test Request ID	G100596614-146	Time	2:03:03
Psy Room	5Ton	Average time	0:30:00
Test Type	97°Baseline	Test Number	96
Conditions	80/67-112	Engineer	Ana Ruiz
ID Unit Model	ARUF374316CA	Tech	Solomon Johnson
ID Unit Serial	1204695348	ID Coil Model	NA
OD Unit Model	SSX140361BB	ID Coil Serial	NA
OD Unit Serial	1203174536	Unit capacity	3
Refrigerant type	R410A	ID Unit type	PSC Air Handler
Refrigerant charge	factory charge 6#2 oz-14 oz	Volt min/max/phs	208/230/1
	<b>Average Data without WattSaver</b>	<b>Average with WattSaver</b>	<b>% Delta</b>
ID Inlet Dry Air	80.00 F	80.00 F	0.00%
ID Inlet Wet Air	67.00 F	67.00 F	0.00%
ID Outlet Dry Air	64.80 F	61.51 F	-5.07%
ID Outlet Wet Air	62.06 F	59.93 F	-3.43%
OD Inlet Dry Air	97.03 F	97.01 F	-0.02%
Total Air Flow	1905.9 SCFM	1314 SCFM	-31.06%
Unit Total Static	0.233 "H2O	0.224 "H2O	-3.86%
<b>Total Power</b>	<b>3229 W</b>	<b>2878 W</b>	<b>-10.87%</b>
Net Sensible Capacity	32096 Btu/Hr	26948 Btu/Hr	-16.04%
Net Latent Enthalpy	27 Btu/Hr	3759 Btu/Hr	13822.22%
Air Side Only Cap	32098 Btu/Hr	30710 Btu/Hr	-4.32%
<b>Air Side Only EER</b>	<b>9.94 EER</b>	<b>10.67 EER</b>	<b>7.40%</b>
Compressor flow rate	525.32 lbs/hr	511.02 lbs/hr	-2.72%
Compressor discharge temp	149.11 F	143.93 F	-3.47%
OD Service Valve Liquid	368.19 PSIG	364.71 PSIG	-0.95%
OD Service Valve Liquid temp	110.52 F	109.84 F	-0.62%
Service Valve Sat Liquid	110.29 F	109.6 F	-0.63%
Service Valve SC Liquid	-0.23 ΔF	-0.24 ΔF	4.35%
Evaporator Liq ID temp	108.65 F	107.92 F	-0.67%
Evaporator ID Gas temp	61.65 F	57.66 F	-6.47%
OD Service Valve Gas	164.2 PSIG	157.94 PSIG	-3.81%
OD Service Valve Gas temp	63.14 F	58.12 F	-7.95%
Service Valve Sat Gas	57.84 F	55.61 F	-3.86%
Service Valve SC Gas	5.3 ΔF	2.51 ΔF	-52.64%
Service Valve Suction temp	63.73 F	57.92 F	-9.12%

Comments: Baseline test completed with fan on the high speed tap setting per the clients request.

Customer	G100823571-Mainstream	Date	8/17/2012
Test Request ID	G100596614-146	Time	11:25:12
Psy Room	5Ton	Average time	0:30:00
Test Type	97°Baseline	Test Number	81
Conditions	80/67-112	Engineer	Ana Ruiz
ID Unit Model	CAPF3642C6DB	Tech	Solomon Johnson
ID Unit Serial	1204564609	ID Coil Model	CAPF3636A6
OD Unit Model	SSX140361BB	ID Coil Serial	NA
OD Unit Serial	1203174536	Unit capacity	3
Refrigerant type	R410A	ID Unit type	PSC Air Handler
Refrigerant charge	factory charge 98 oz-23 oz	Volt min/max/phs	208/230/1
	<b>Average Data without WattSaver</b>	<b>Average with WattSaver</b>	<b>% Delta</b>
ID Inlet Dry Air	80.00 F	79.99 F	-0.01%
ID Inlet Wet Air	67.01 F	67.00 F	-0.01%
ID Outlet Dry Air	62.64 F	59.12 F	-5.61%
ID Outlet Wet Air	60.78 F	58.10 F	-4.41%
OD Inlet Dry Air	97.02 F	96.98 F	-0.05%
Total Air Flow	1534.9 SCFM	1075.4 SCFM	-29.94%
Unit Total Static	0.238 "H2O	0.211 "H2O	-11.34%
<b>Total Power</b>	<b>3254 W</b>	<b>2873 W</b>	<b>-11.71%</b>
Net Sensible Capacity	29566 Btu/Hr	25015 Btu/Hr	-15.39%
Net Latent Enthalpy	2403 Btu/Hr	6170 Btu/Hr	156.76%
Air Side Only Cap	31971 Btu/Hr	31190 Btu/Hr	-2.44%
<b>Air Side Only EER</b>	<b>9.82 EER</b>	<b>10.86 EER</b>	<b>10.49%</b>
Compressor flow rate	527.76 lbs/hr	509 lbs/hr	-3.55%
Compressor discharge temp	156.17 F	152.4 F	-2.41%
OD Service Valve Liquid	377.09 PSIG	373.08 PSIG	-1.06%
OD Service Valve Liquid temp	112.06 F	111.35 F	-0.63%
Service Valve Sat Liquid	112.04 F	111.26 F	-0.70%
Service Valve SC Liquid	-0.02 ΔF	-0.09 ΔF	350.00%
Evaporator Liq ID temp	110.98 F	110.08 F	-0.81%
Evaporator ID Gas temp	59.03 F	54.2 F	-8.18%
OD Service Valve Gas	154.09 PSIG	147.2 PSIG	-4.47%
OD Service Valve Gas temp	59.42 F	54.32 F	-8.58%
Service Valve Sat Gas	54.21 F	51.64 F	-4.74%
Service Valve SC Gas	5.22 ΔF	2.67 ΔF	-48.85%
Service Valve Suction temp	60.97 F	55.27 F	-9.35%



Comments: Baseline test completed with fan on the high speed tap setting per the clients request.