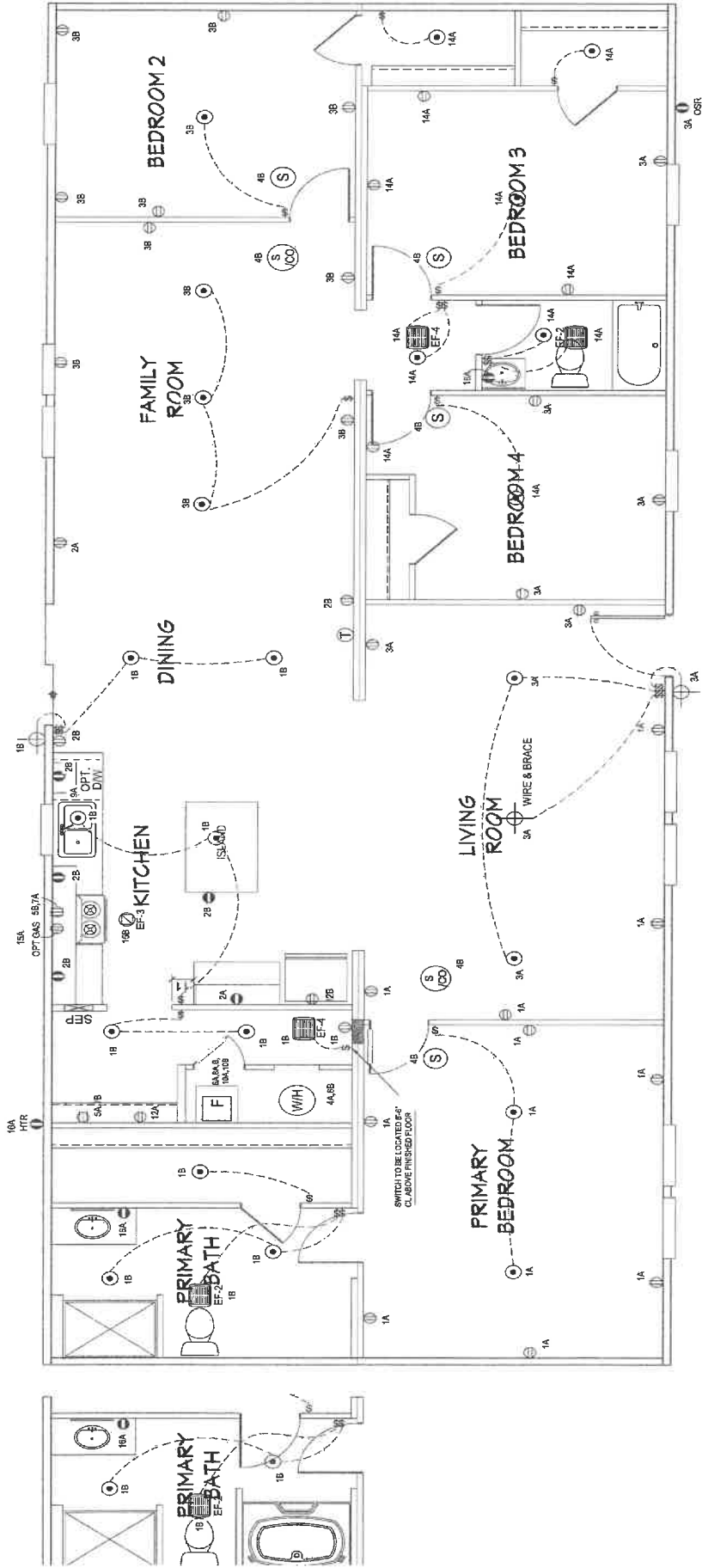
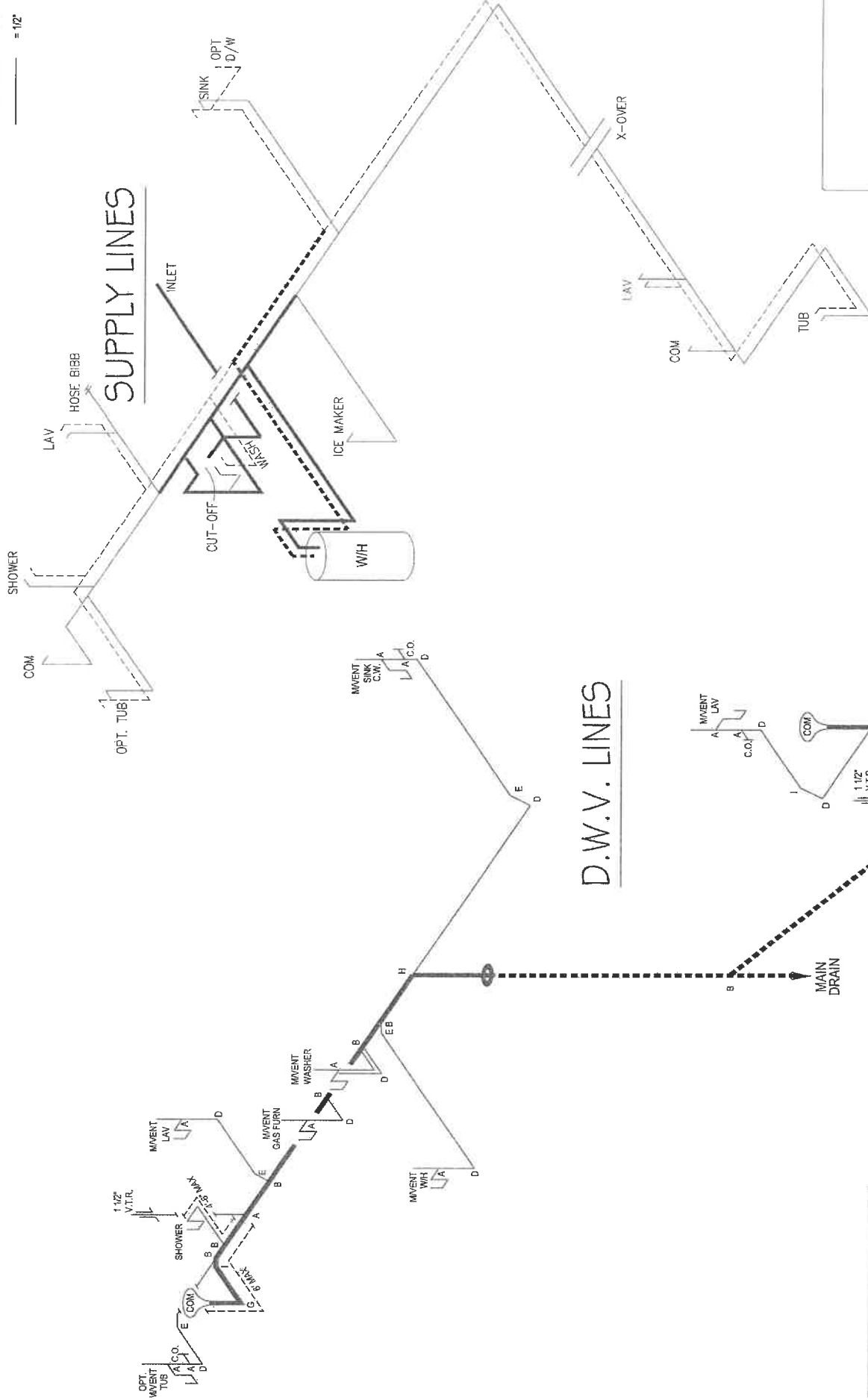


OPT. BATH



NOTE:
DASHED LINES INDICATE HOT WATER
SOLID LINES INDICATE COLD WATER

— = 3/4"
— = 1/2"



APPROVED BY
NIA INC.
7/29/2025
FEDERAL MANUFACTURED HOME
CONSTRUCTION AND SAFETY STANDARDS

LEGEND	
A	SHORT TURN T-Y
B	LONG TURN T-Y
C	1/4 BEND
D	LONG SWEEP 1/4 BEND
E	45 ELL
F	DBL. SANITARY TEE
G	4x3 CLOSET ELL
H	DOUBLE ELL
I	22 1/2° ELL
J	45° Y
K	LONG TURN STREET ELBOW

DWV LINE SIZE CHART	
—	= 3"
—	= 2"
—	= 1 1/2"

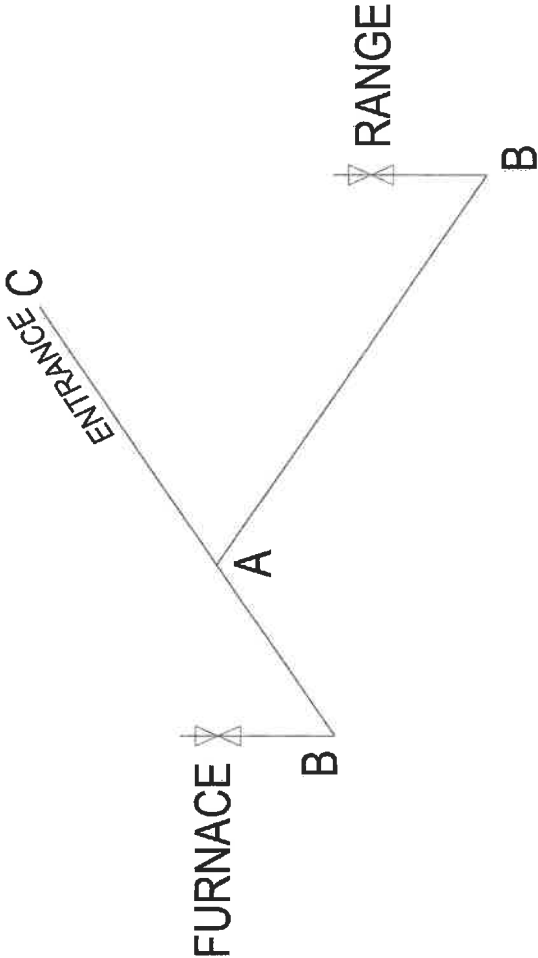
Clayton Built

MODEL NAME	SYCAMORE
MODEL NO.	TRT28684S
MODEL SQ. FT.	1,971
BOX SIZE	28' x 68'
DATE	
REVISION	

DRAWN BY	Alex Whaley
DATE DRAWN	7/25/2025
DATE PRINTED	7/28/2025
SCALE	3/16"=1'
PLAN NO.	TRU-2868-42-1
SHEET NAME	D.W.V. & SUPPLY
SHEET NO.	PI -1

LEGEND		APPLIANCE BTU's RATINGS MAX. INPUT				GAS LINE SIZE CHART	
SYM	FITTINGS						
A	TEE	FURNACE	60,000	BTU'S			= 1"
B	90 ELL	W/H RANGE DRYER	N/A	BTU'S			= 3/4"
X	VALVE						
C	CAP						

MDL = 15'



- NOTES:
- 1) ALL PIPE IS 3/4" I.D. CAST (EXCEPT WHERE NOTED OTHERWISE)
 - 2) MDL=MAX. DETERMINED LENGTH OF PIPE
 - 3) FITTING MAY BE ADDED OR SUBTRACTED TO TRAVERSE VARIATIONS IN AXLE QUANTITY, PLACEMENT, AND FRAME TYPE.
 - 4) INLET LOCATION MAY VARY TO STAY WITHIN MAX. DETERMINED LENGTH



MODEL NAME SYCAMORE	MODEL NO. TRT28684S	MODEL SQ. FT. 1,971	BOX SIZE 28' x 68'
DATE PRINTED 7/28/2025	DATE DRAWN 7/25/2025	DRAWN BY Alex Whaley	DATE 7/28/2025
SHEET NAME GAS LINES	PLAN NO. TRU-2868-42-1	SCALE 3/16"=1'	SHEET NO. PI -4
Clayton Built			



Manual S Compliance Report

Entire House

Clayton Homes

Job: TRU-2868-42-1-FDJ,TRU

Date:

By:

5000 Clayton Road, Maryville, TN 37804 Phone: 865-380-3000

Project Information

For: TRU-2868-42-1-FDJ,TRU

Cooling Equipment

Design Conditions

Outdoor design DB:	90.4°F	Sensible gain:	18686	Btuh	Entering coil DB:	77.5°F
Outdoor design WB:	73.3°F	Latent gain:	5107	Btuh	Entering coil WB:	64.4°F
Indoor design DB:	75.0°F	Total gain:	23793	Btuh		
Indoor RH:	50%	Estimated airflow:	813	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Smart Comfort	Model:	R4H5S24*K*AAA*+FEVA0036**+NAVA43601CK		
Actual airflow:	813	cfm			
Sensible capacity:	19204	Btuh	103% of load		
Latent capacity:	5128	Btuh	100% of load		
Total capacity:	24332	Btuh	102% of load	SHR:	79%

Heating Equipment

Design Conditions

Outdoor design DB:	21.0°F	Heat loss:	27785	Btuh	Entering coil DB:	62.0°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Smart Comfort	Model:	R4H5S24*K*AAA*+FEVA0036**+NAVA43601CK		
Actual airflow:	813	cfm			
Output capacity:	23000	Btuh	83% of load	Capacity balance:	30 °F
Supplemental heat required:	4785	Btuh		Economic balance:	-99 °F

Backup equipment type:	Elec strip				
Manufacturer:	Smart Comfort	Model:	FEVA003610		
Actual airflow:	813	cfm			
Output capacity:	10.0	kW	123% of load	Temp. rise:	40 °F

Meets all requirements of ACCA Manual S.





Project Summary

Entire House

Clayton Homes

Job: TRU-2868-42-1-FDJ,TRU
Date:
By:

5000 Clayton Road, Maryville, TN 37804 Phone: 865-380-3000

Project Information

For: TRU-2868-42-1-FDJ,TRU

Notes: Dut Capacity: 27,100 Btuhs

APPROVED BY

NIA INC. 7/29/2025
FEDERAL MANUFACTURED HOME
CONSTRUCTION AND SAFETY STANDARDS

Design Information

Weather: TN 25

Winter Design Conditions

Outside db	21 °F
Inside db	70 °F
Design TD	49 °F

Ventilation Method MJ8

Heating Summary

Structure	19508 Btuh
Ducts (R-8.0)	1510 Btuh
Central vent (130 cfm)	6767 Btuh
Outside air	
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	27785 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft²)	1789	1789
Volume (ft³)	14310	14310
Air changes/hour	0.38	0.20
Equiv. AVF (cfm)	91	48

Heating Equipment Summary

Make	Smart Comfort
Trade	15 SEER2 R SERIES R410A HP
Model	R4H5S24*K*AAA*
AHRI ref	210537933

Efficiency	7.5 HSPF2
Heating input	
Heating output	23000 Btuh @ 47°F
Temperature rise	27 °F
Actual air flow	813 cfm
Air flow factor	0.039 cfm/Btuh
Static pressure	0.30 in H2O
Space thermostat	
Capacity balance point = 30 °F	

Backup: Smart Comfort FEVA003610
Input = 10 kW, Output = 34121 Btuh, 100 AFUE

Summer Design Conditions

Outside db	90 °F
Inside db	75 °F
Design TD	15 °F
Daily range	M
Relative humidity	50 %
Moisture difference	34 gr/lb

Sensible Cooling Equipment Load Sizing

Structure	15836 Btuh
Ducts (R-8.0)	724 Btuh
Central vent (130 cfm)	2127 Btuh
Outside air	
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.95
Equipment sensible load	17827 Btuh

Latent Cooling Equipment Load Sizing

Structure	2053 Btuh
Ducts	184 Btuh
Central vent (130 cfm)	2870 Btuh
Outside air	
Equipment latent load	5107 Btuh
Equipment Total Load (Sen+Lat)	22934 Btuh
Req. total capacity at 0.70 SHR	2.1 ton

Cooling Equipment Summary

Make	Smart Comfort
Trade	15 SEER2 R SERIES R410A HP
Cond	R4H5S24*K*AAA*
Coil	FEVA0036**+NAVA43601CK
AHRI ref	210537933
Efficiency	12.0 EER2, 15.2 SEER2
Sensible cooling	17080 Btuh
Latent cooling	7320 Btuh
Total cooling	24400 Btuh
Actual air flow	813 cfm
Air flow factor	0.049 cfm/Btuh
Static pressure	0.30 in H2O
Load sensible heat ratio	0.79

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



Right-Suite® Universal 2024 24.0.03 RSU55703

MP-28.TRU-2868-42-1.5.1

2025-Jul-25 07:42:40

Page 1

...Desktop\WRIGHTSOFTS\TRU-2868-42-1-FDJ-ZERH.rup Calc = MJ8 Front Door faces: N

CLAYTON HOME BUILDING GROUP**Sycamore**

Model Number	TRT28684S	Drawing Number	TRU-2868-42-1	Version 24
---------------------	------------------	-----------------------	----------------------	-------------------

BOX SIZE: 26.33 ft. x 68 ft.

AVG. SIDEWALL HEIGHT = 8 FEET

PERCENTAGE OF CEILING THAT IS VAULTED = 0%

12 INCH DIAMETER XOVER DUCT AREA = 78.5 SQ.FT. MAX. WITH R-8 INSULATION

IN-FLOOR DUCT SYSTEM

	UNHEATED FLOOR	WALL	FLAT ROOF
INSULATION VALUES	R-11 OR / R-11 FW / R-11 BIB	R-13	R-33
DAPIA PAGE	THP-335	THP-515	THP-1286
U VALUE (BTUH/SQ.FT.-F)	0.0436	0.0853	0.0298

	Area	U Value	UA
--	------	---------	----

Doors:

Front	20.30	0.189	3.84
Rear	38.52	0.360	13.87
Other Door	0.00	0.300	0.00
Other Door	0.00	0.330	0.00
OSB	0.00	0.000	0.00
Skylights	0.00	0.330	0.00
Standard	126.00	0.300	37.80
Option	0.00	0.300	0.00
Net: Floor	1790.67	0.044	78.07
Wall	1324.51	0.085	112.98
Ceiling	1790.67	0.0298	53.36
Ext. Duct	78.50	0.242	18.98
Ext. Duct	78.50	0.223	17.48
Ext. Duct	78.50	0.206	16.14
Supply	0.00	0.000	0.00
Supply	0.00	0.000	0.00
Supply	0.00	0.00	0.00

APPROVED BY



Window Glass Area:

Net:

Th. Zone 1:

Th. Zone 2:

Th. Zone 3:

Overhead TZ 1:

Overhead TZ 2:

Overhead TZ 3:

Overhead Duct	
Diameter	Length
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
15	0
Exterior Supply	Length
14	0
16	0
Exterior Return	Length
14	0
16	0

Energy Star v3 & ZERH Max Glass (sq ft)	
Th. Zone 1	336.6
Th. Zone 2	175.1
Th. Zone 3	0.0

Thermal Zone	Outdoor Design Temp (F)	UA	Uo	EStar v3 & ZERH Compliant	Heatloss BTUH/F
1	11	318.90	0.062	OK	451.00
2	0	317.40	0.061	OK	449.50
3	-14	316.06	0.061	NG	448.10

Design Temperatures

Furnace Heating Temp (F)	Economy Outdoor Temp (F)	
-6	17	10kW
-21	6	12kW
-43	-9	15kW
-19	8	40k Gas
-63	-23	60k Gas
-107	-54	80k Gas

Thermal Zone	U-Value	Thermal Zone	U-Value	Thermal Zone	U-Value
Energy Star Version 2					
1-EHP-S	0.080	2-EHP-S	0.080	3-EHP-S	0.079
1-GAS-S	0.080	2-GAS-S	0.080	3-GAS-S	0.071
1-ENV-S	0.076	2-ENV-S	0.067	3-ENV-S	0.059
1-EHP-M	0.074	2-EHP-M	0.074	3-EHP-M	0.074
1-GAS-M	0.074	2-GAS-M	0.074	3-GAS-M	0.065
1-ENV-M	0.071	2-ENV-M	0.064	3-ENV-M	0.056

Energy Star Version 3 & ZERH

1 Single	0.076	2 Single	0.065	3 Single	0.057
1 Double	0.070	2 Double	0.063	3 Double	0.054