

Device Modeling Report

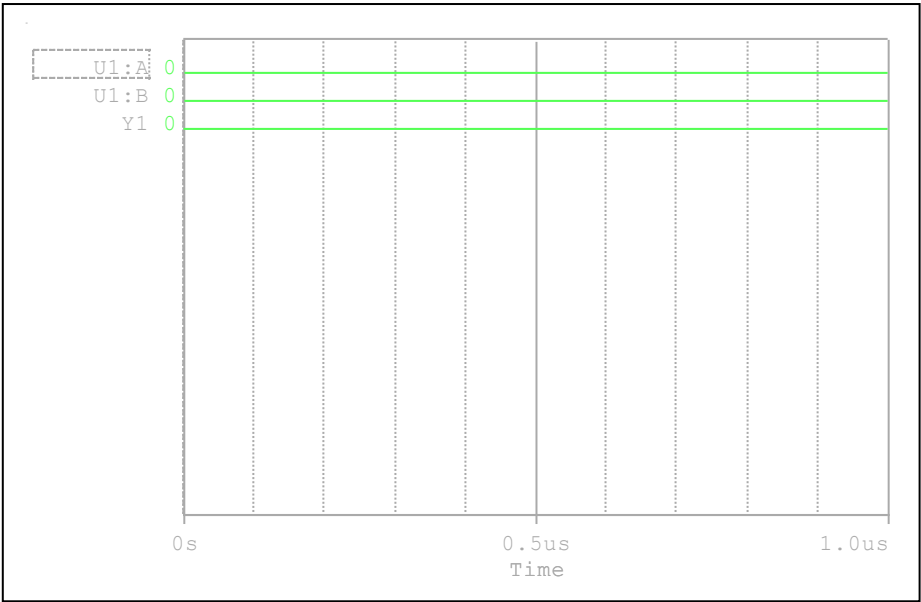
COMPONENTS : CMOS DIGITAL INTEGRATED CIRCUIT
PART NUMBER : TC7SET08FU
MANUFACTURER : TOSHIBA



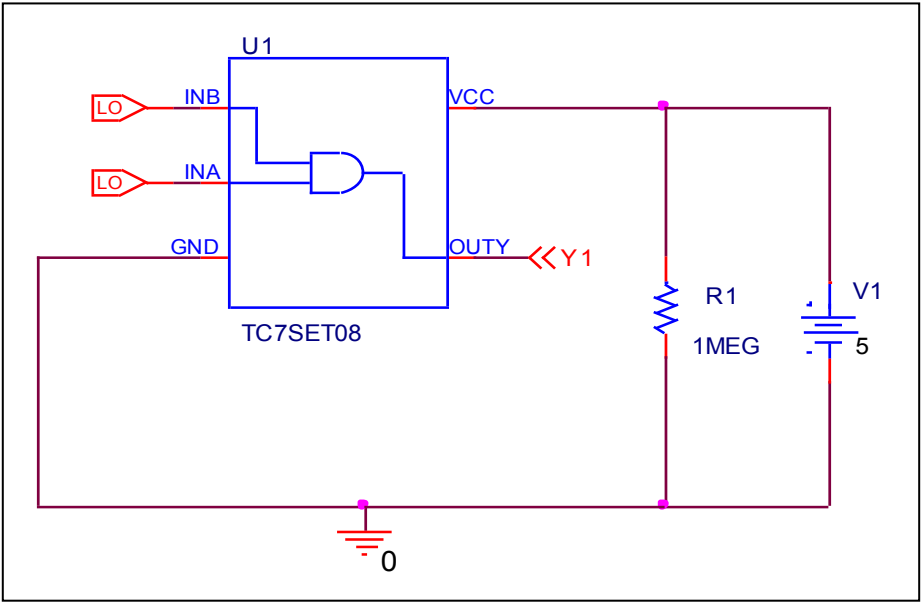
Bee Technologies Inc.

Truth Table

Circuit simulation result



Evaluation circuit

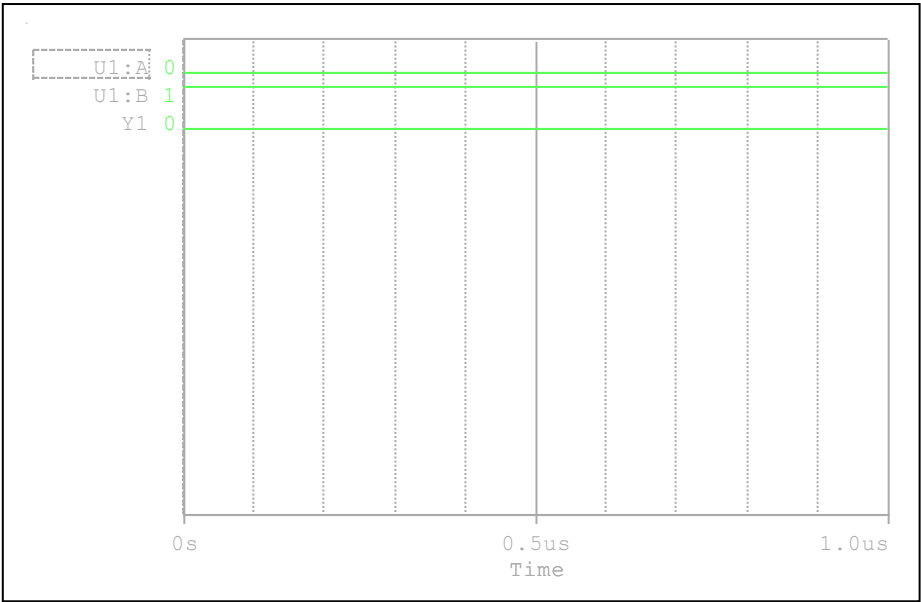


Comparison table

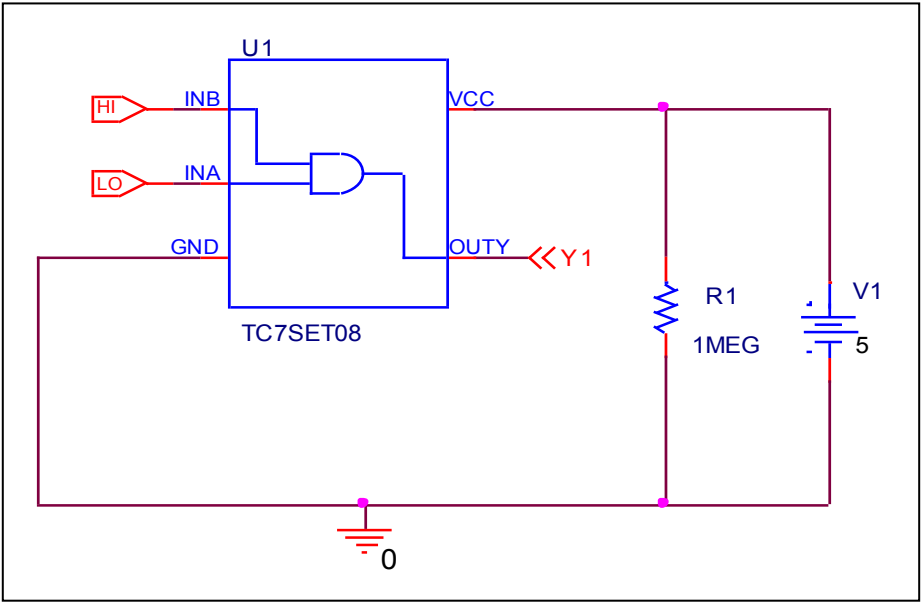
Input		Output		%Error
An	Bn	Yn (Measurement)	Yn (Simulation)	
L	L	L	L	0

Truth Table

Circuit simulation result



Evaluation circuit

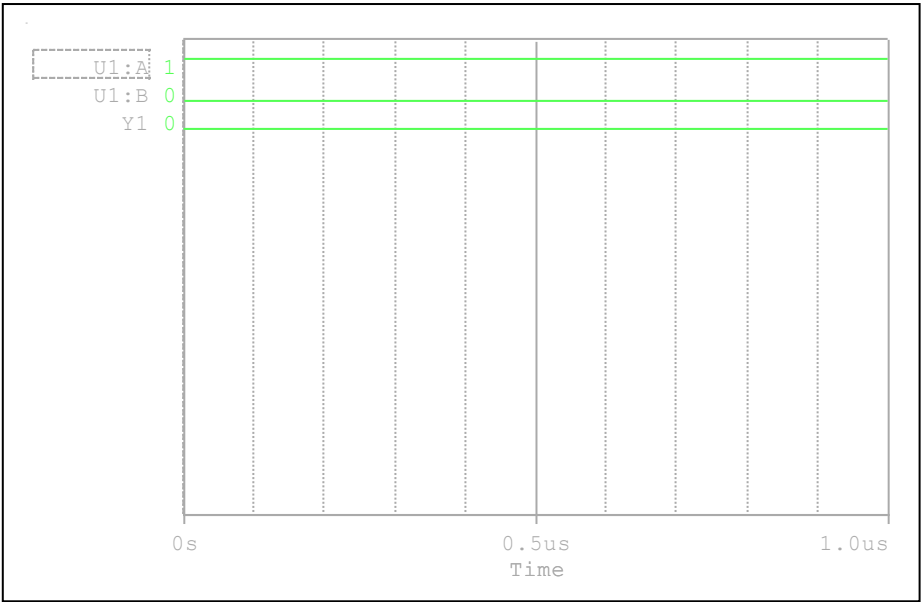


Comparison table

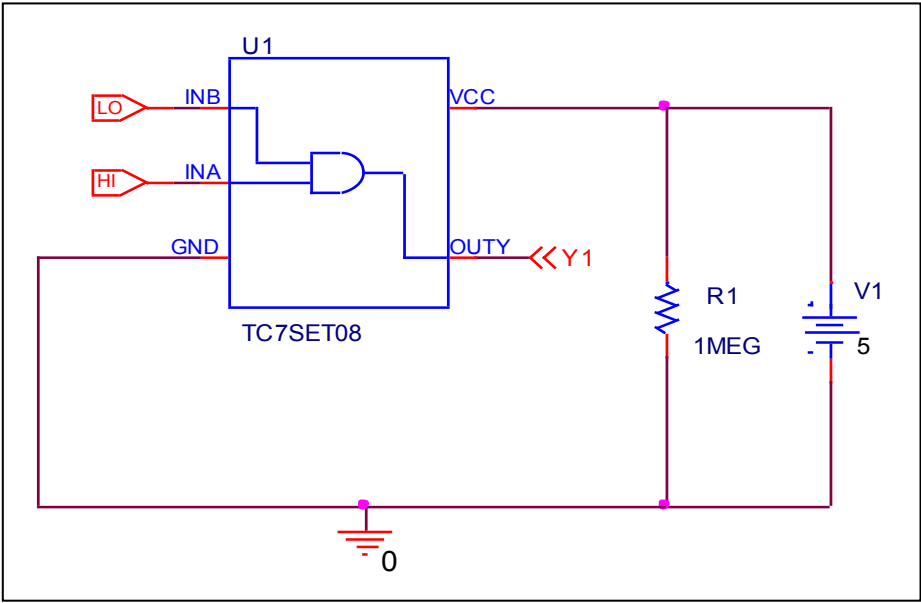
Input		Output		%Error
An	Bn	Yn (Measurement)	Yn (Simulation)	
L	H	L	L	0

Truth Table

Circuit simulation result



Evaluation circuit

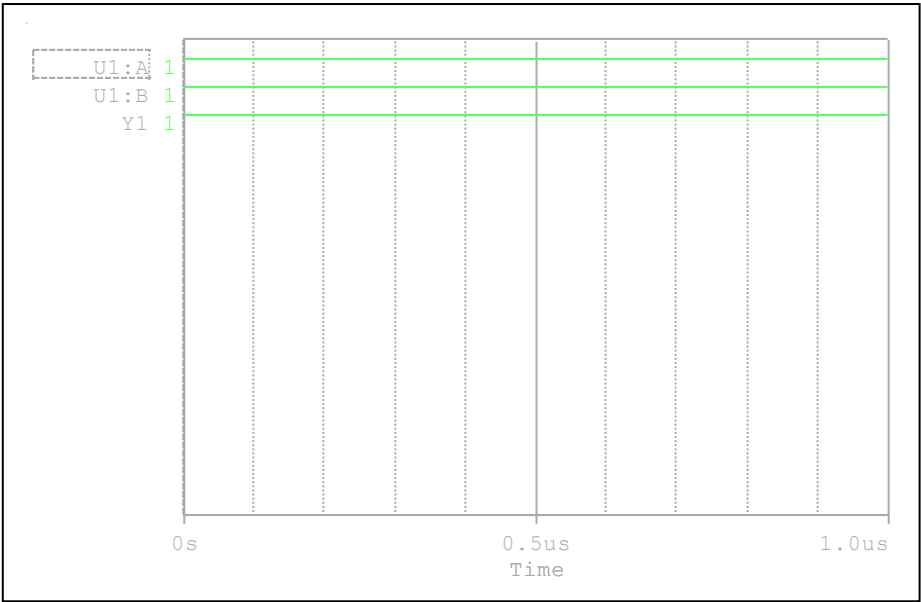


Comparison table

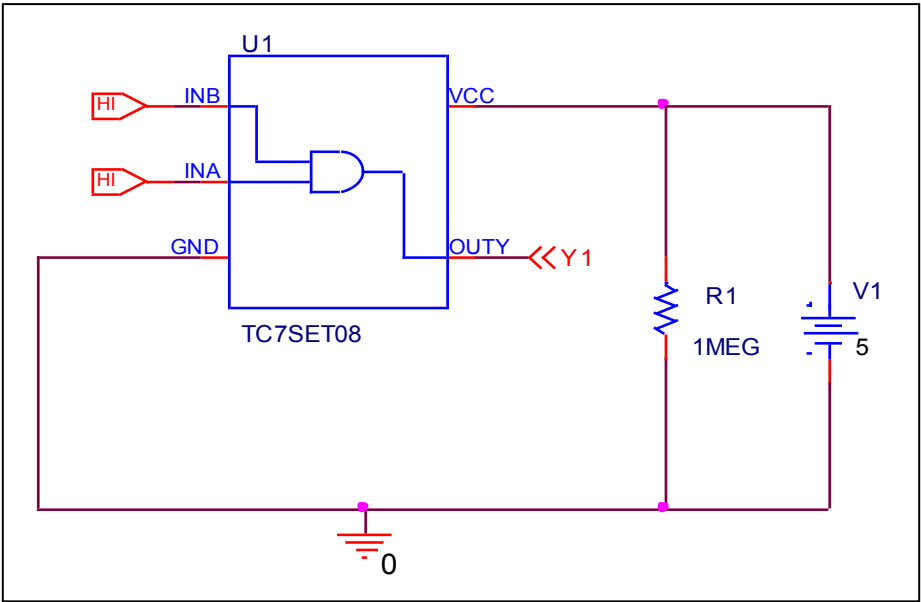
Input		Output		%Error
An	Bn	Yn (Measurement)	Yn (Simulation)	
H	L	L	L	0

Truth Table

Circuit simulation result



Evaluation circuit

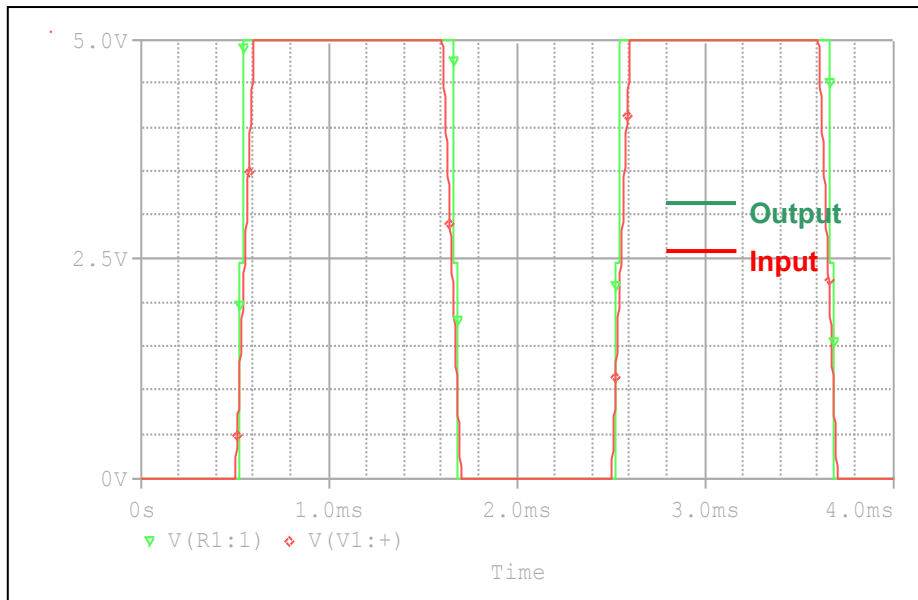


Comparison table

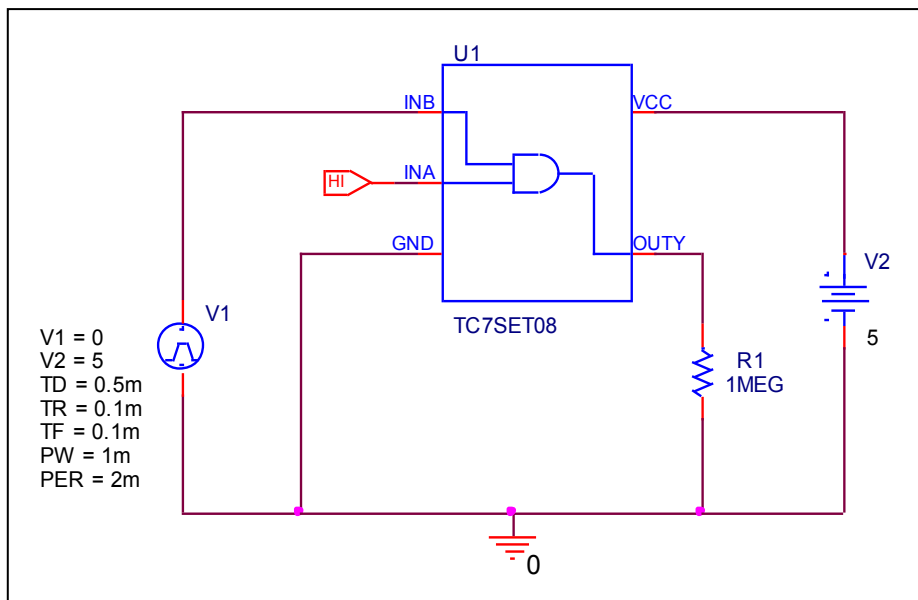
Input		Output		%Error
An	Bn	Yn (Measurement)	Yn (Simulation)	
H	H	H	H	0

High Level and Low Level Input Voltage

Circuit simulation result



Evaluation circuit



Comparison table

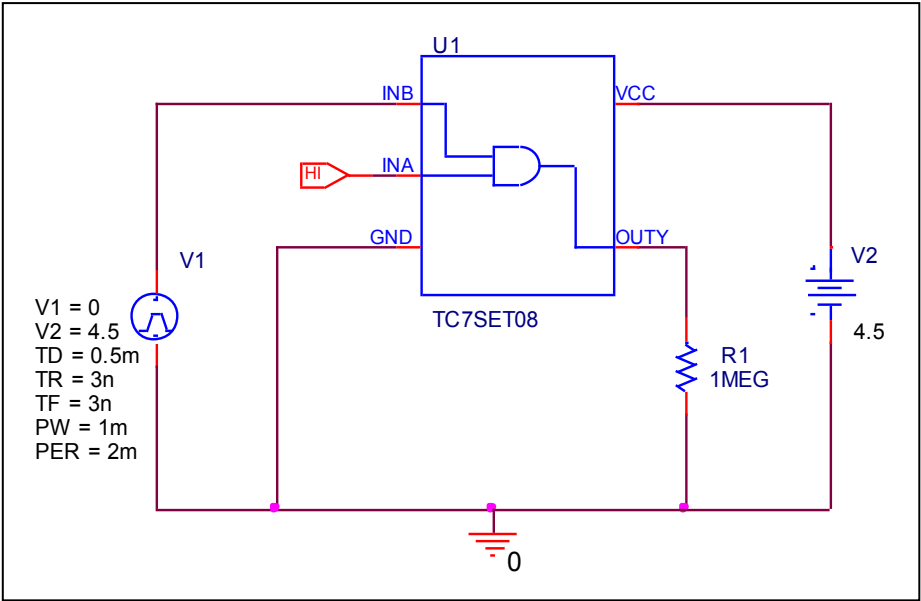
$V_{CC} = 5V$	Measurement	Simulation	%Error
$V_{IH} (V)$	2	2	0
$V_{IL} (V)$	0.8	0.799245	-0.094

High Level and Low Level Output Voltage

Circuit simulation result



Evaluation circuit

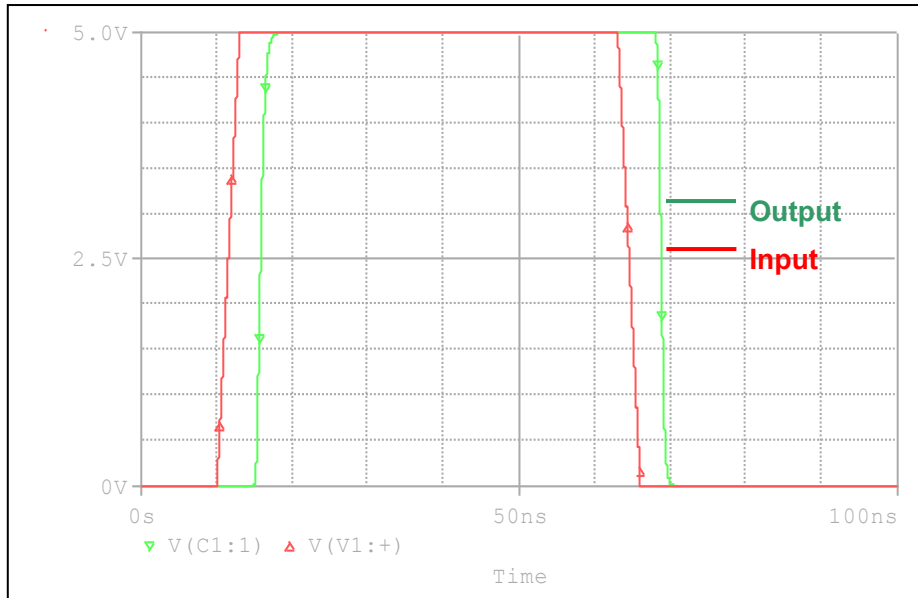


Comparison table

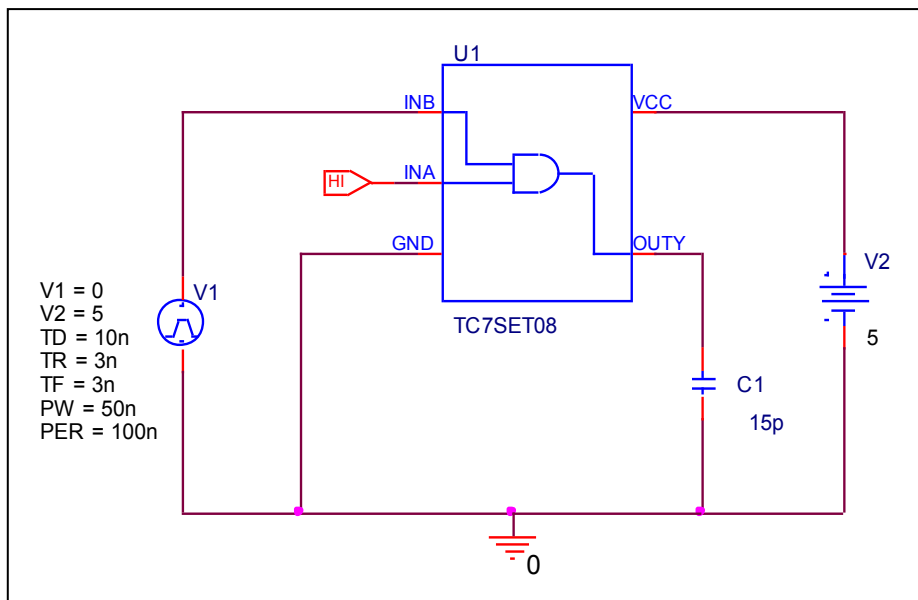
V _{CC} = 4.5V	Measurement	Simulation	%Error
V _{OH} (V)	4.5	4.4988	-0.027
V _{OL} (V)	0	0	0

Propagation Delay Time

Circuit simulation result



Evaluation circuit



Comparison table

$C_L=15\text{pF}, V_{CC}=5\text{ V}, T_r=T_f=3\text{ns}$	Measurement	Simulation	%Error
$t_{pLH} \text{ (ns)}$	4.2	4.2747	1.779
$t_{pHL} \text{ (ns)}$	4.2	4.2438	1.043