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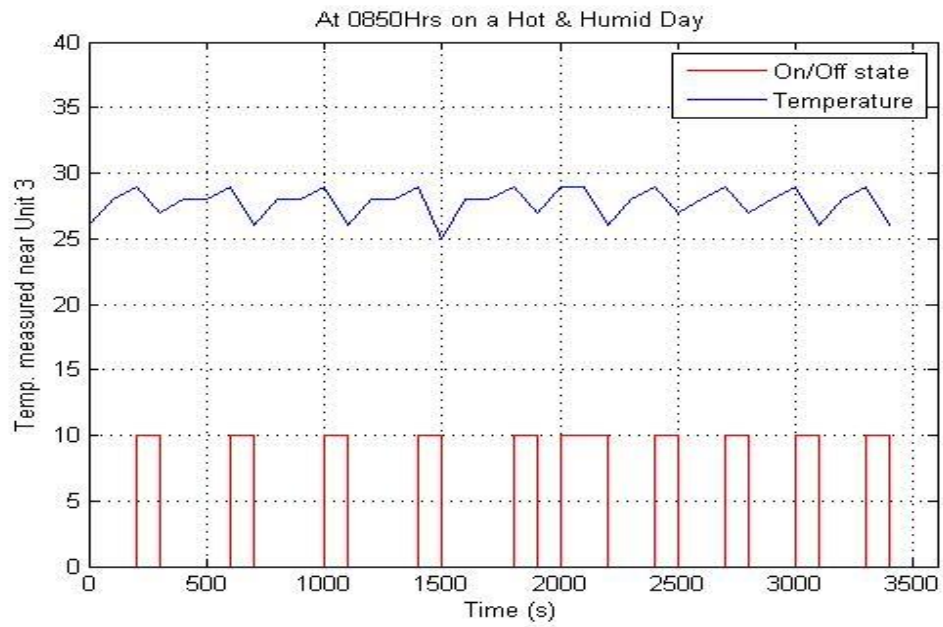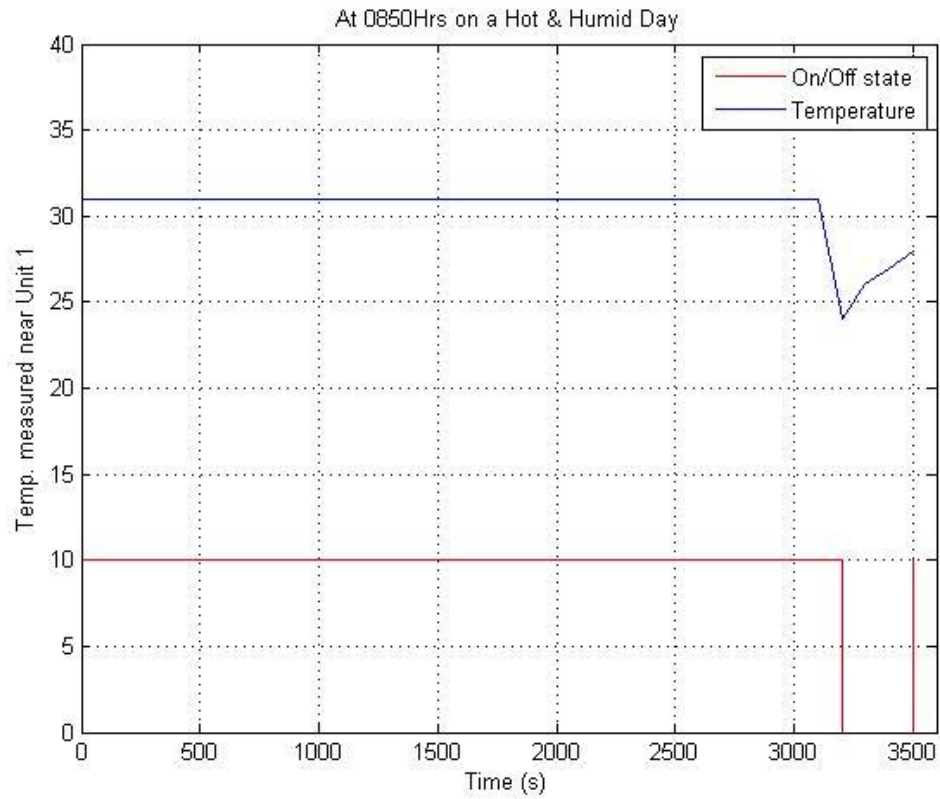
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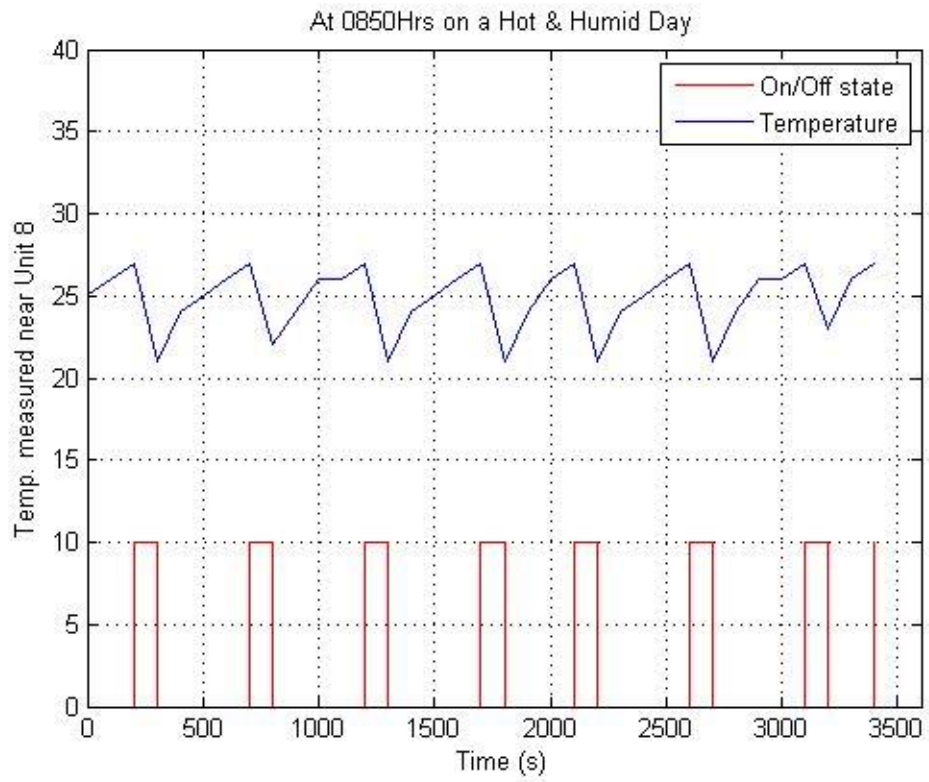[14] *LM324 Low Power Quad Operational Amplifier Datasheet*, Rev. D, Texas Instruments Inc., Dallas, TX, 2015.
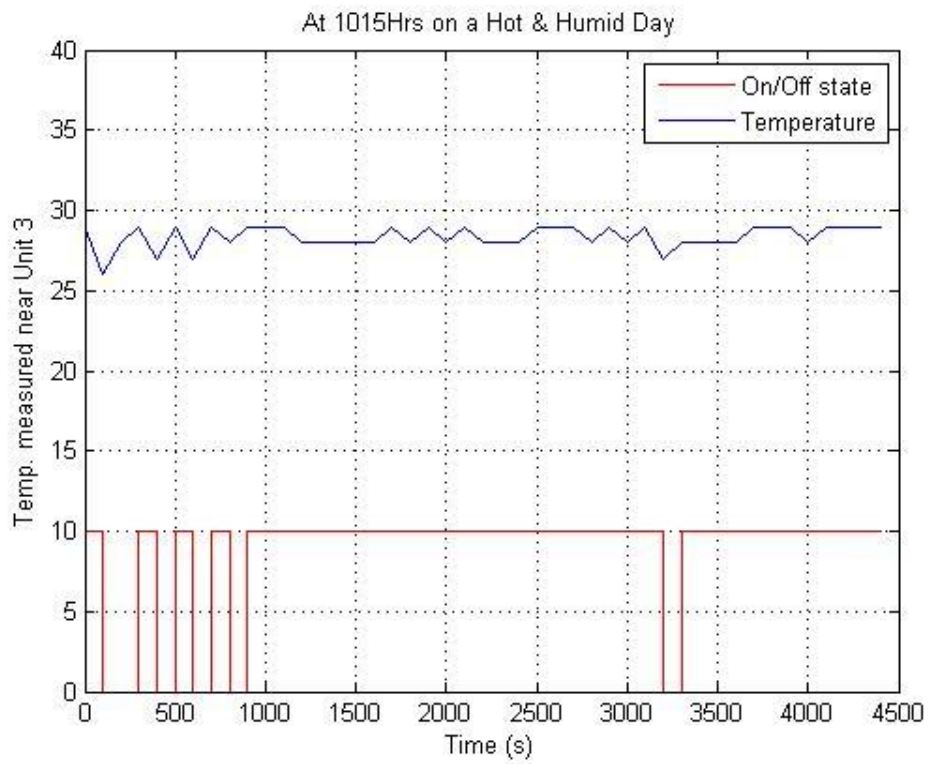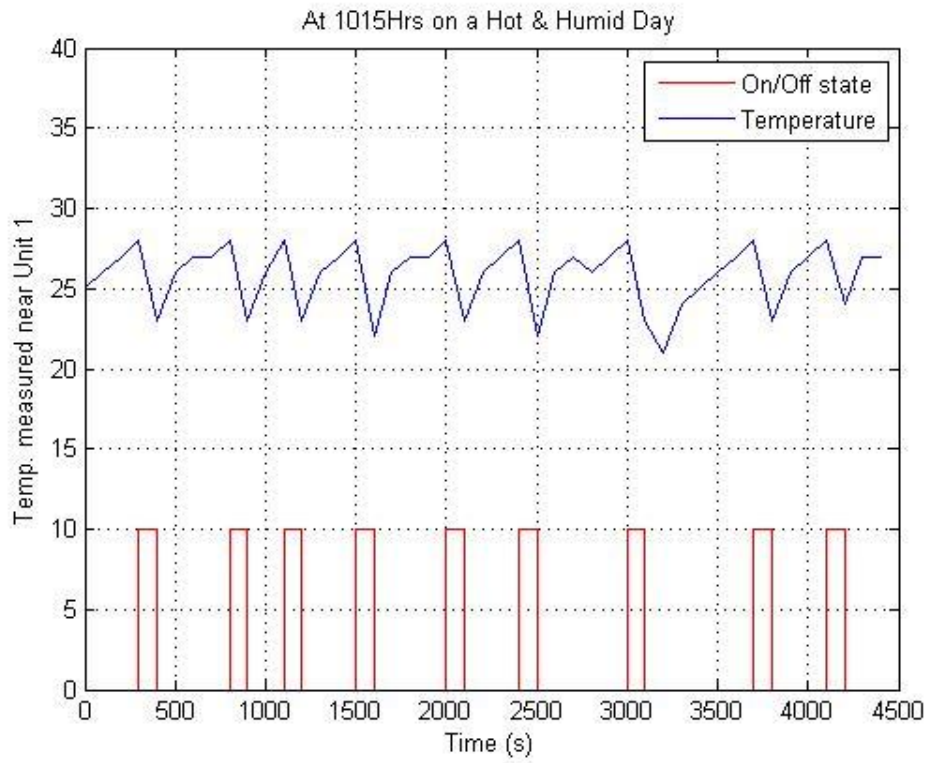
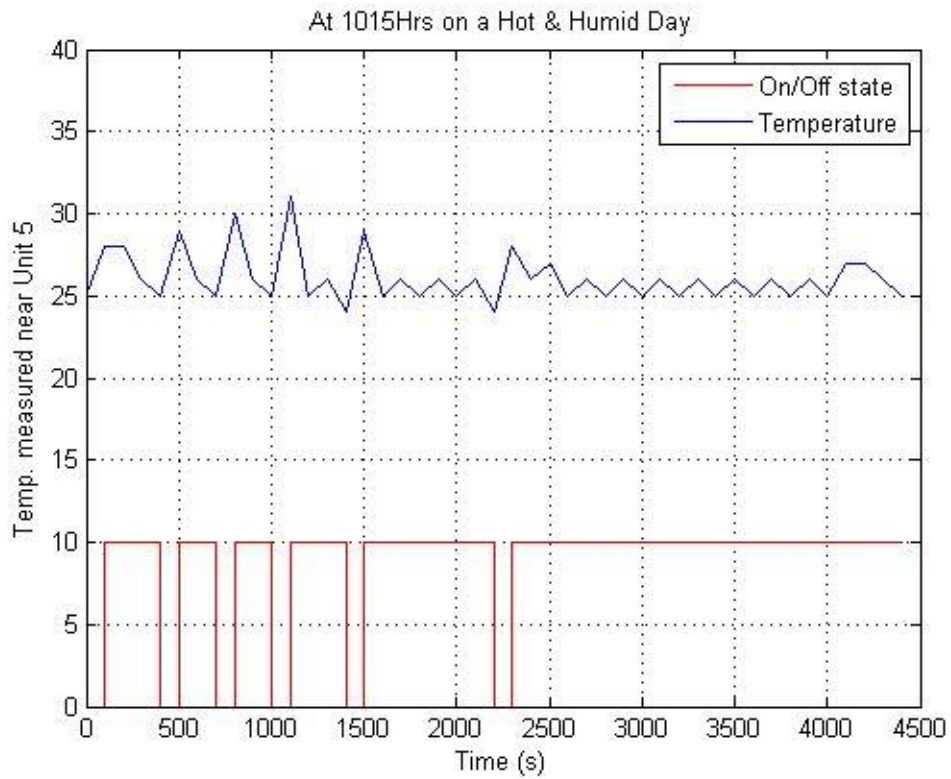# Appendix 01

Start time - 0850 Hrs and measured for 3500 s

At 0850Hrs on a Hot & Humid Day

At 0850Hrs on a Hot & Humid Day

At 0850Hrs on a Hot & Humid Day

At 0850Hrs on a Hot & Humid Day

44

At 0850Hrs on a Hot & Humid Day

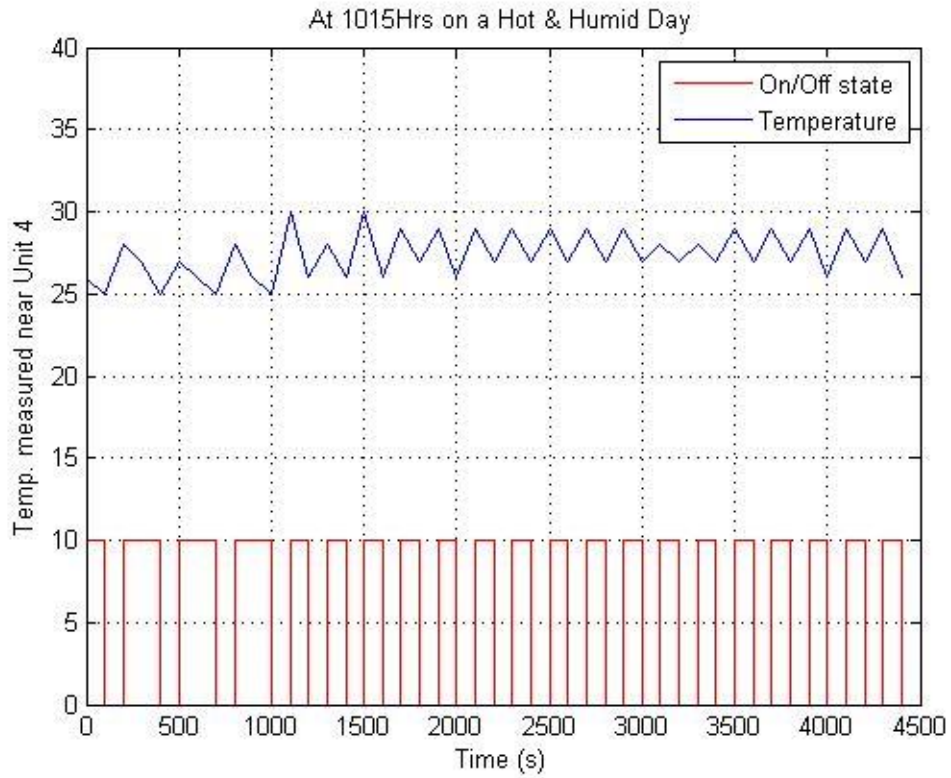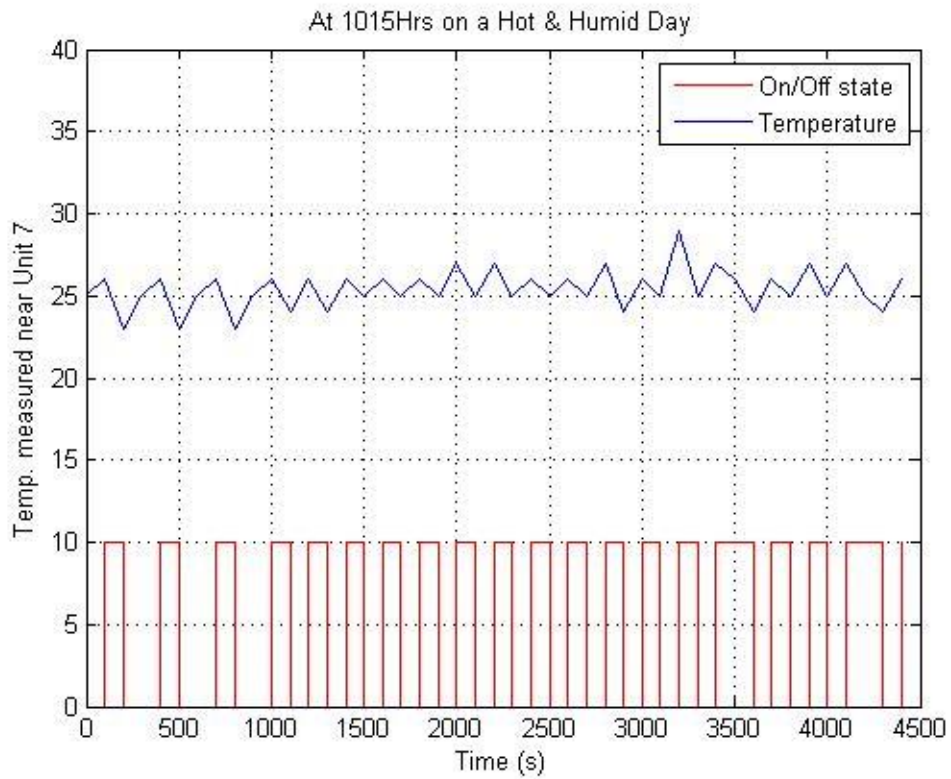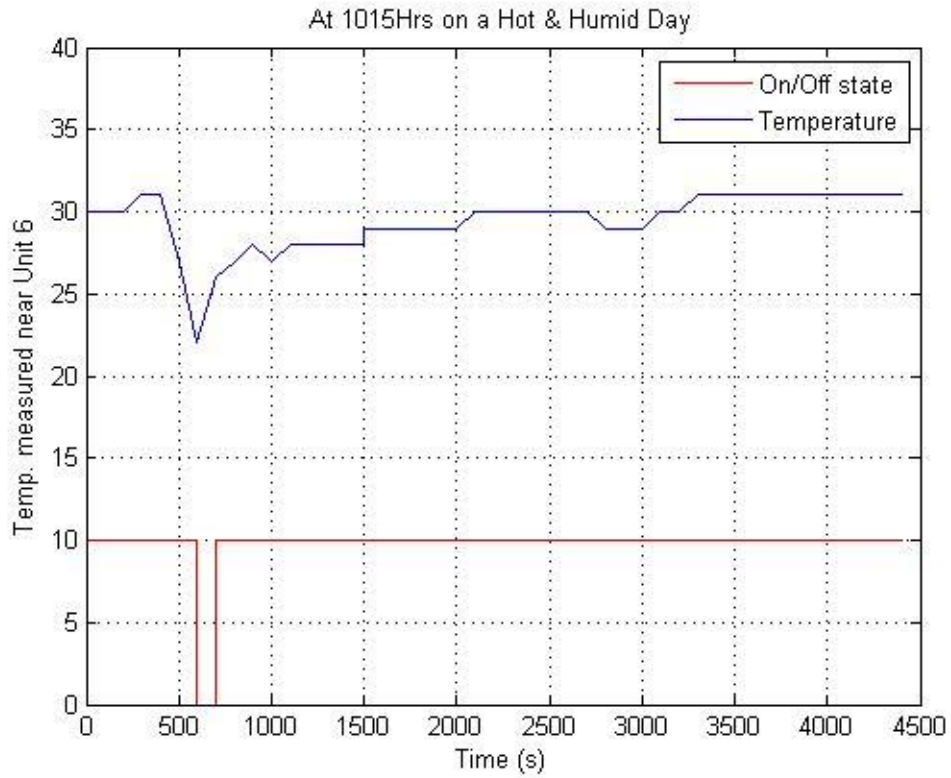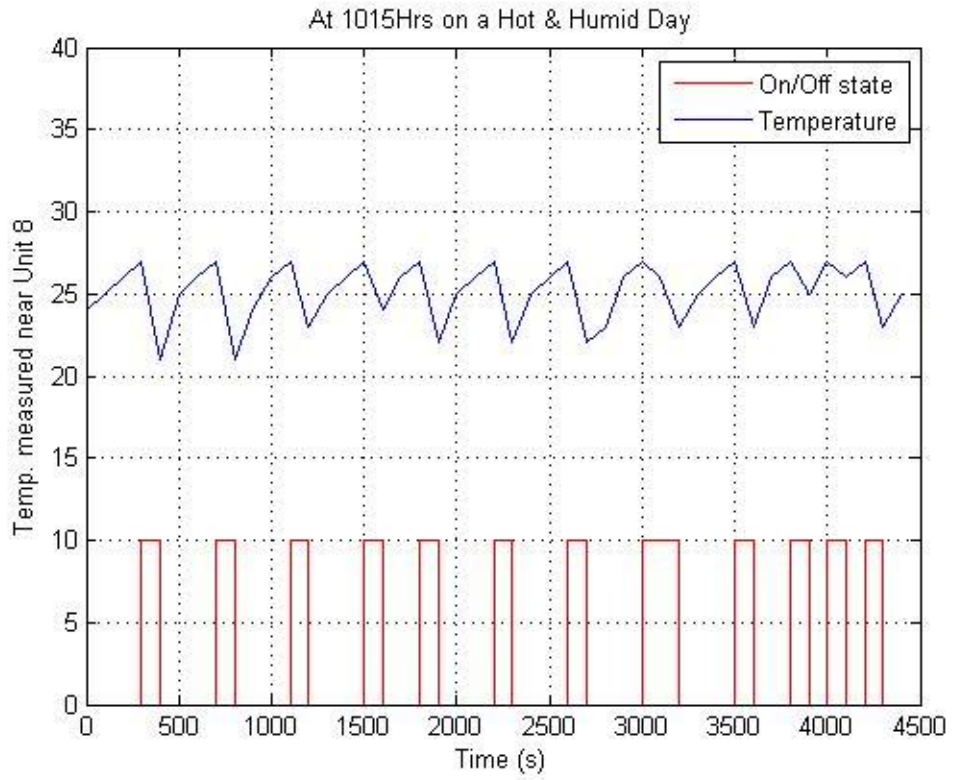At 0850Hrs on a Hot & Humid Day
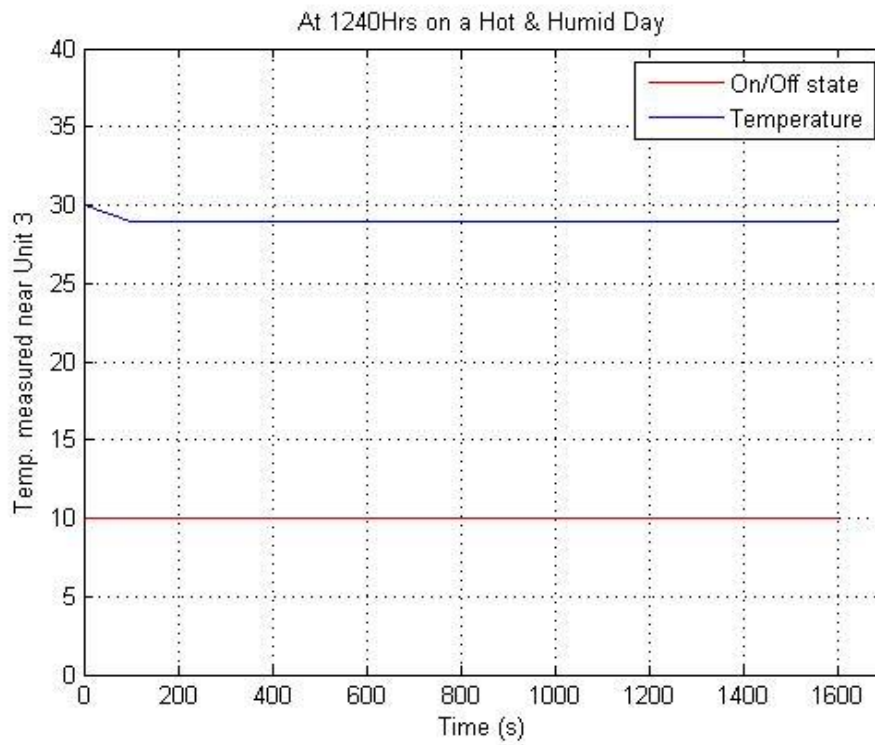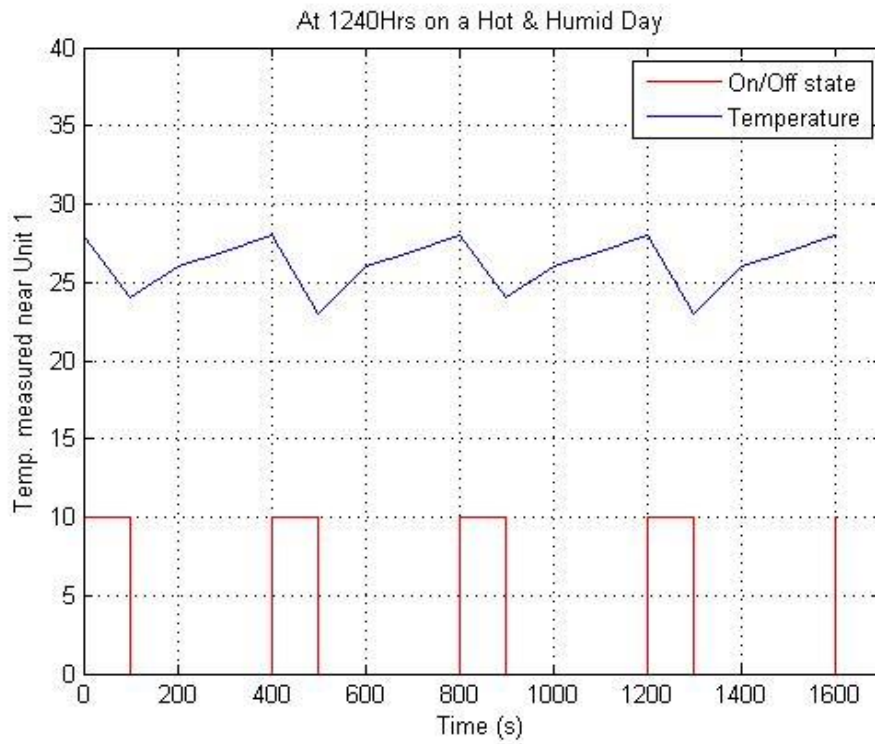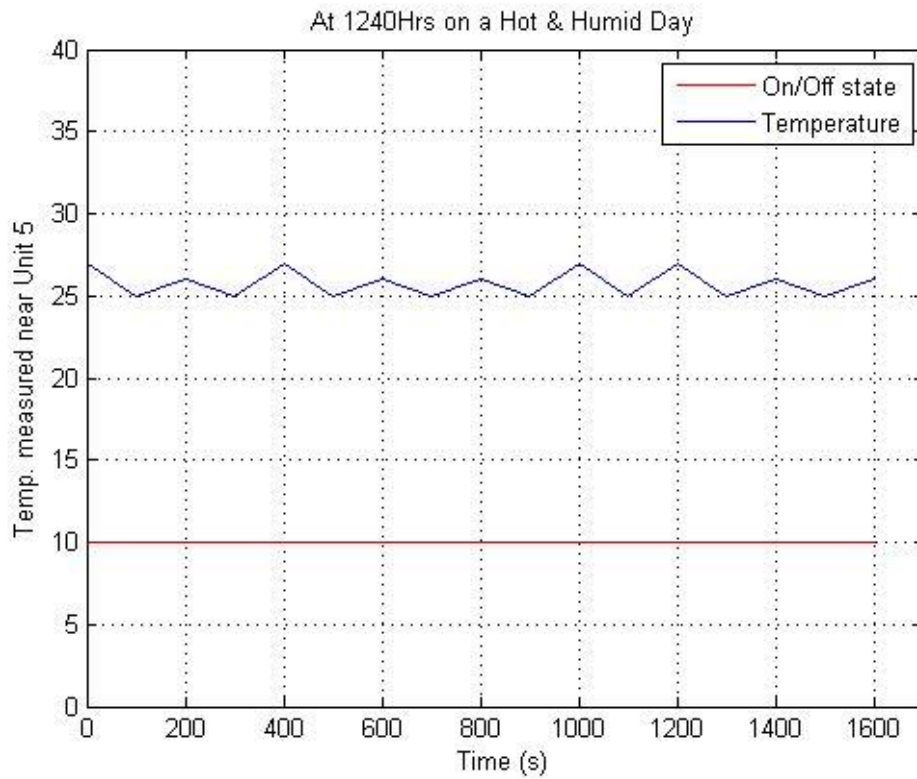
At 0850Hrs on a Hot & Humid Day
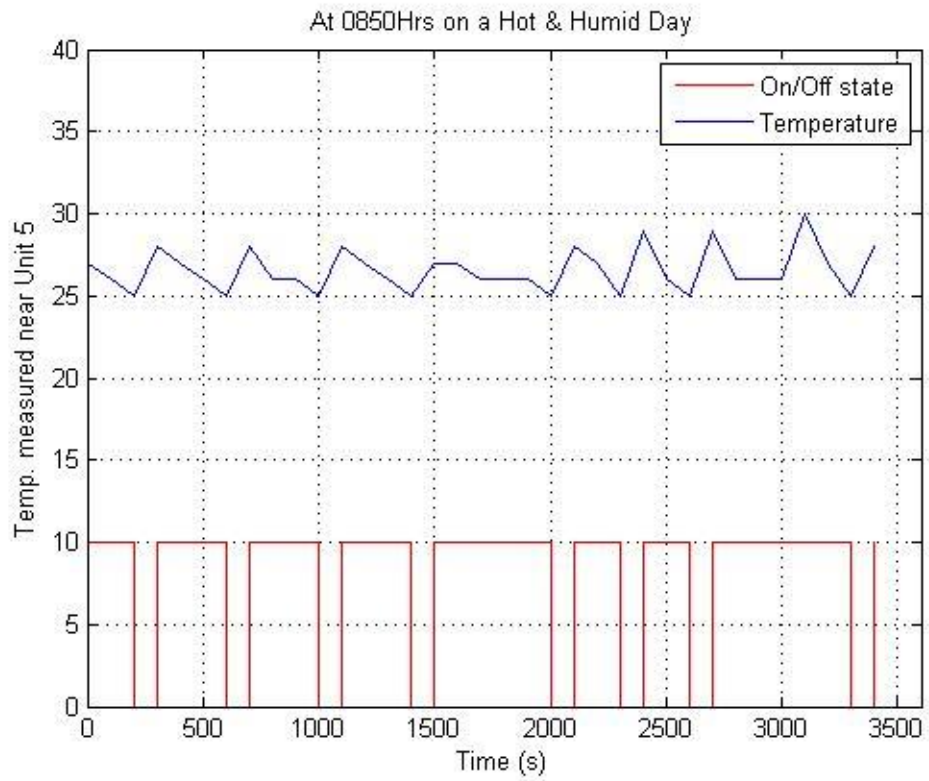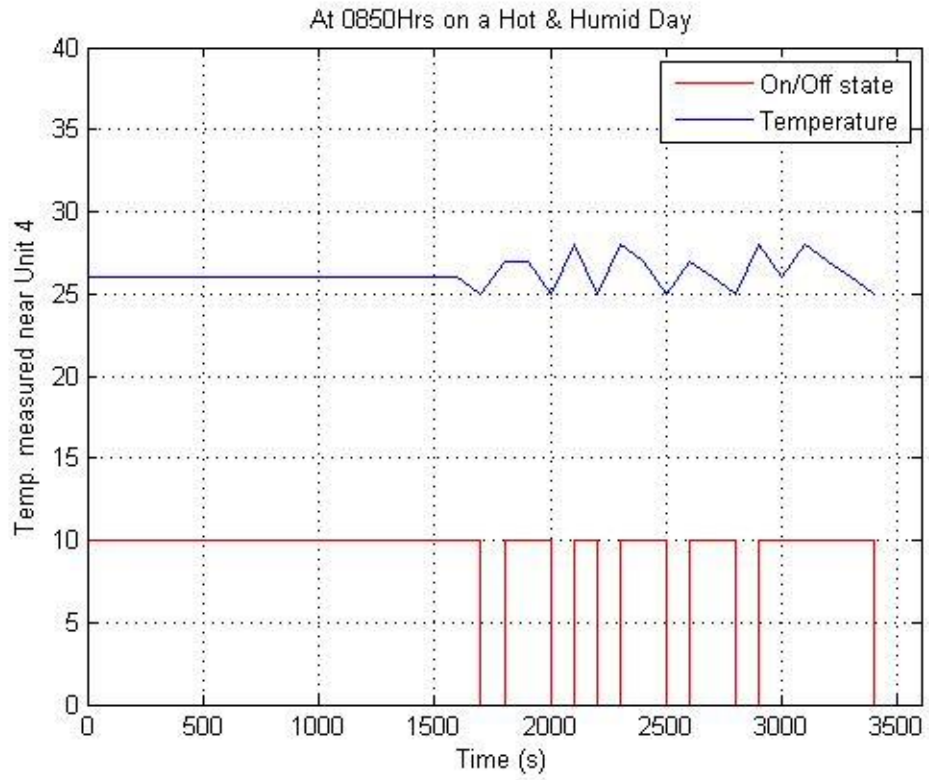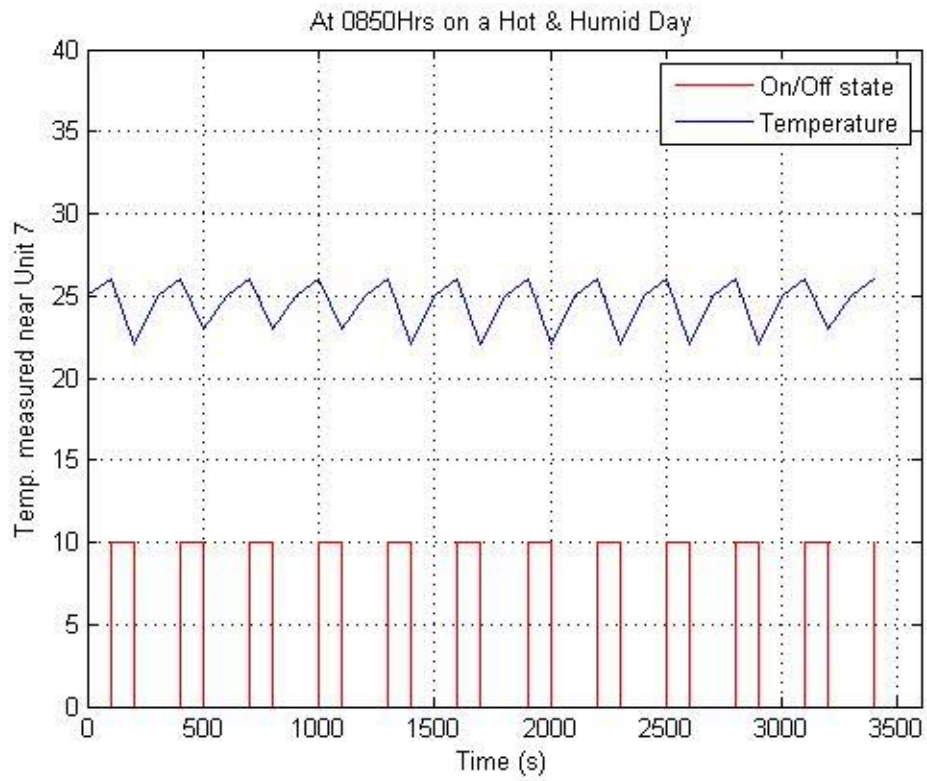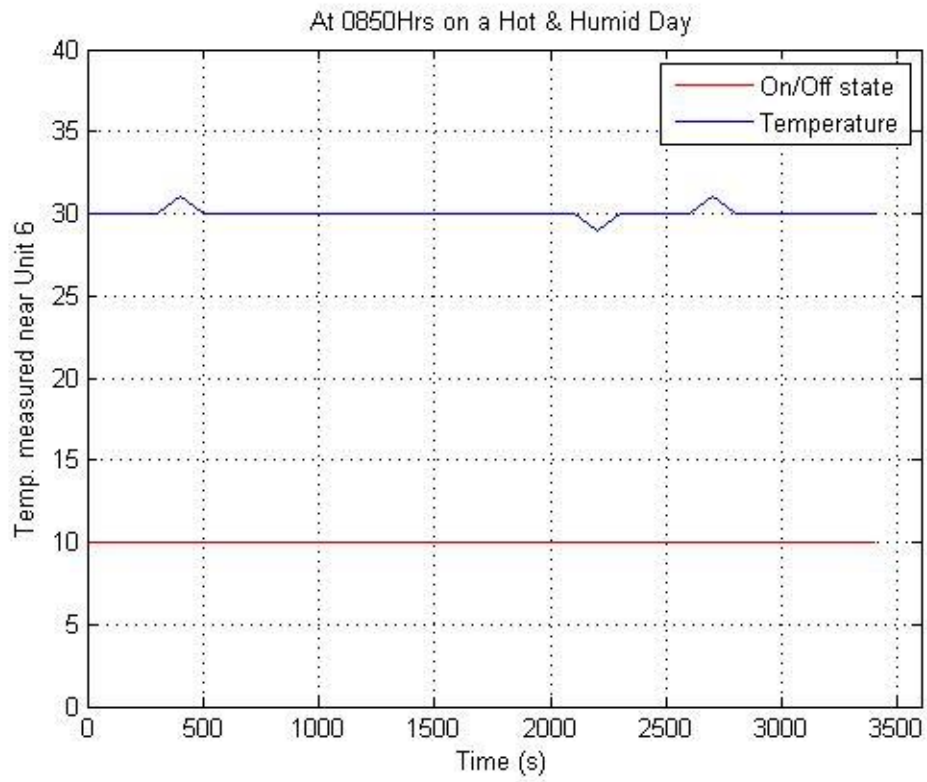
Start time - 1015 Hrs and measured for 4500 s

At 1015Hrs on a Hot & Humid Day

At 1015Hrs on a Hot & Humid Day

At 1015Hrs on a Hot & Humid Day

At 1015Hrs on a Hot & Humid Day

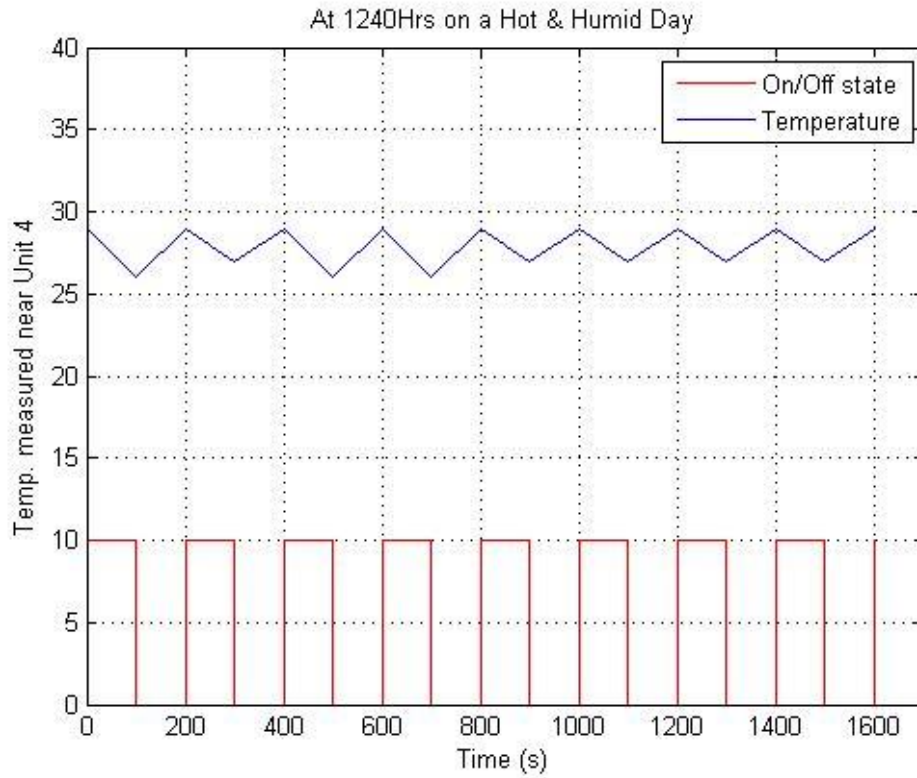At 1015Hrs on a Hot & Humid Day
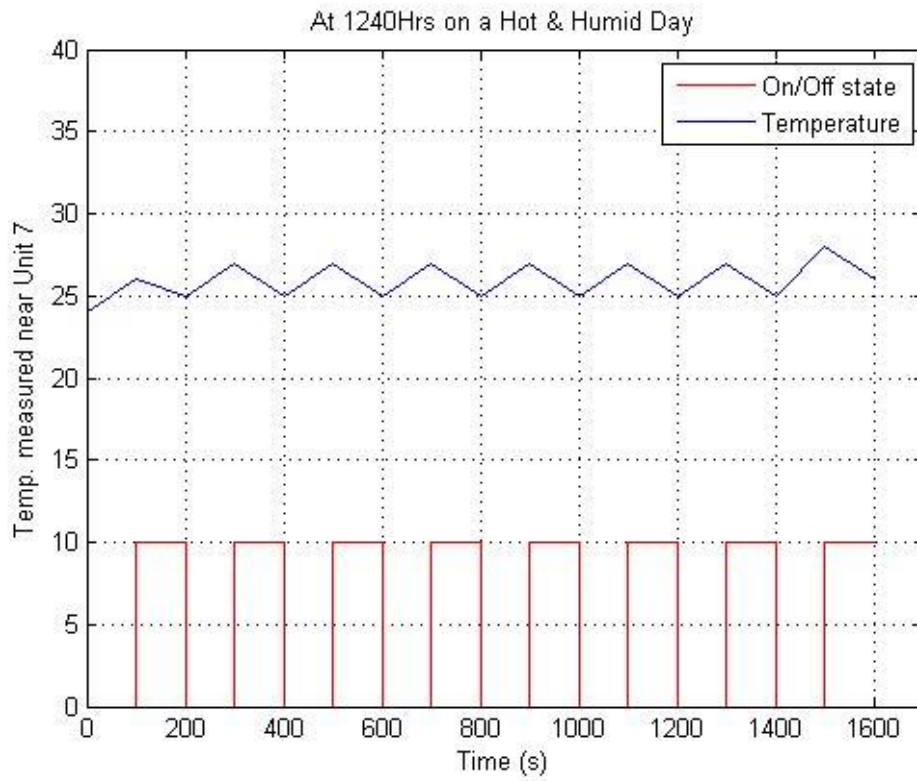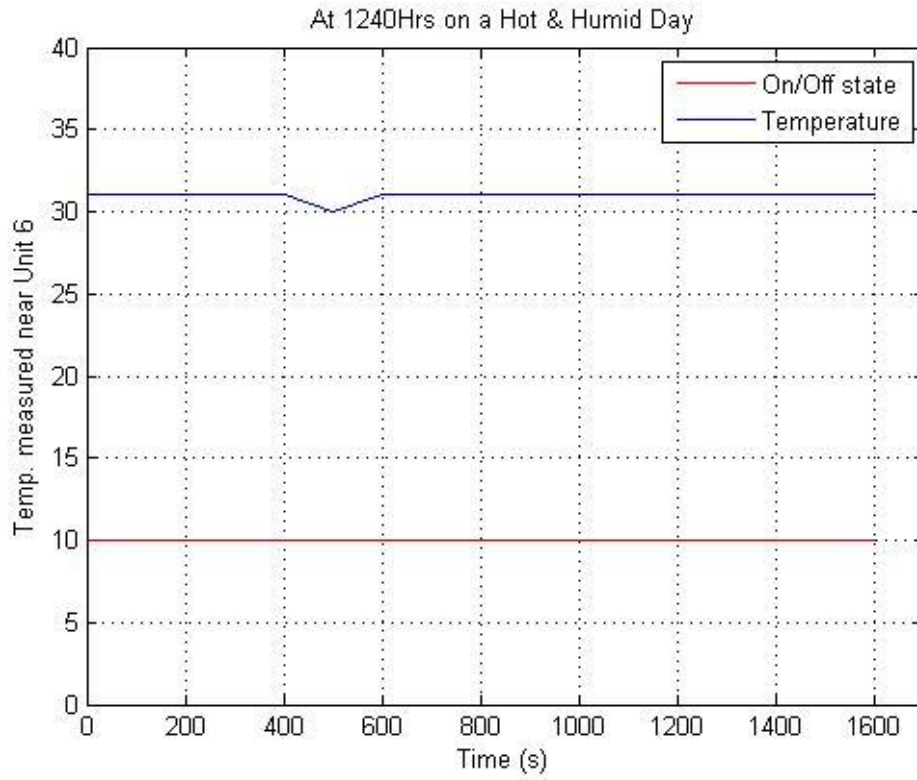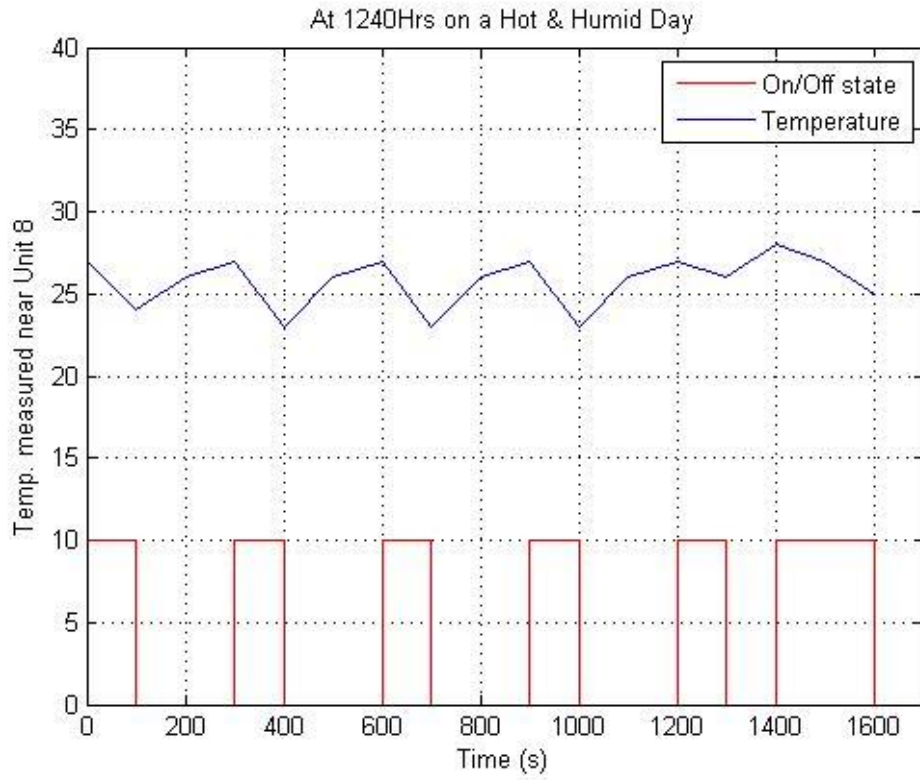

At 1015Hrs on a Hot & Humid Day
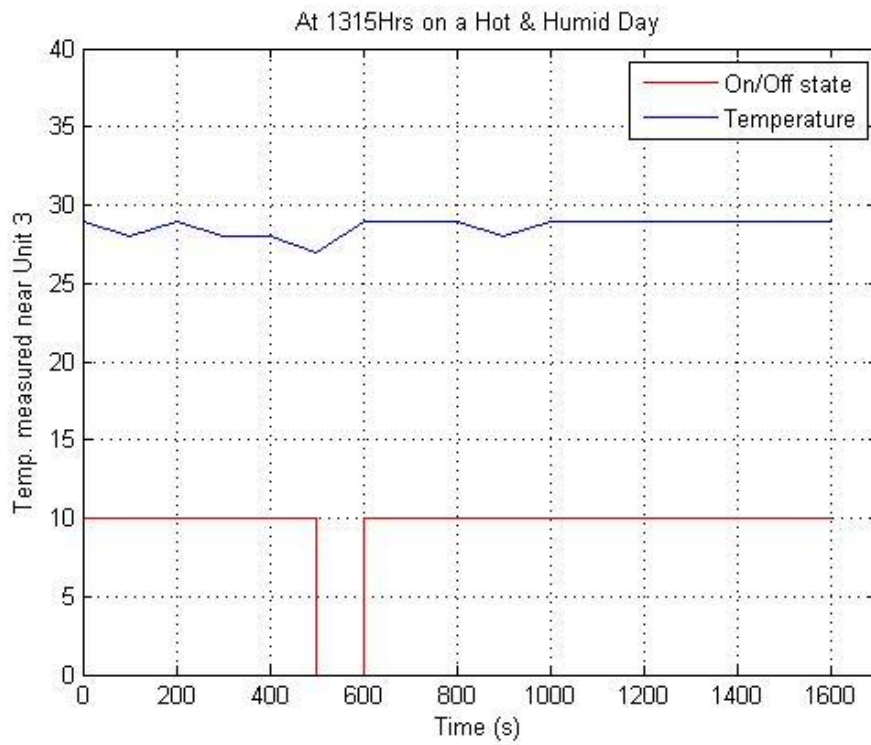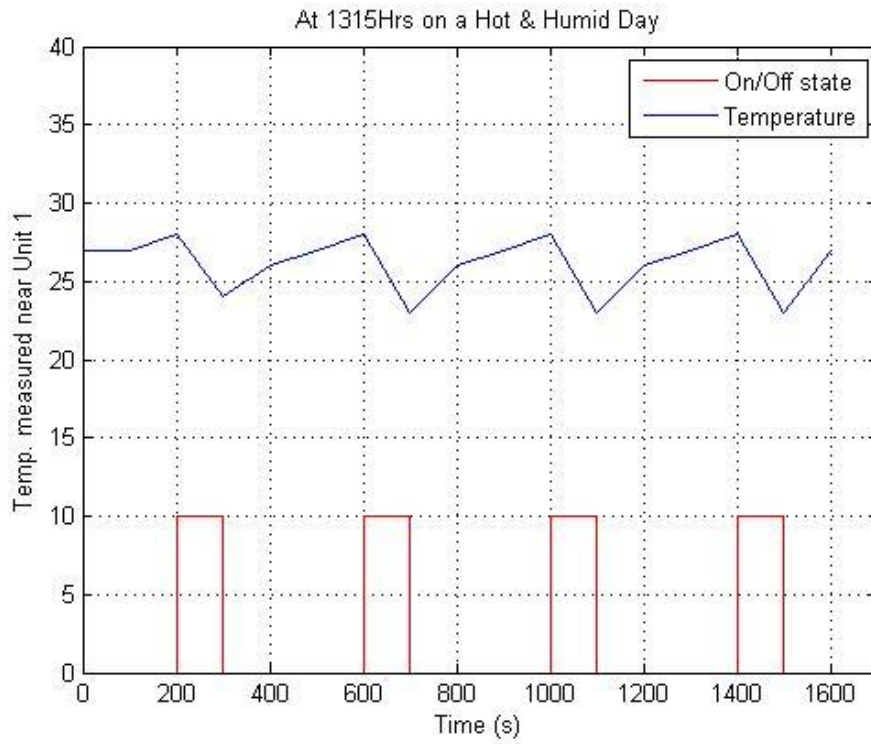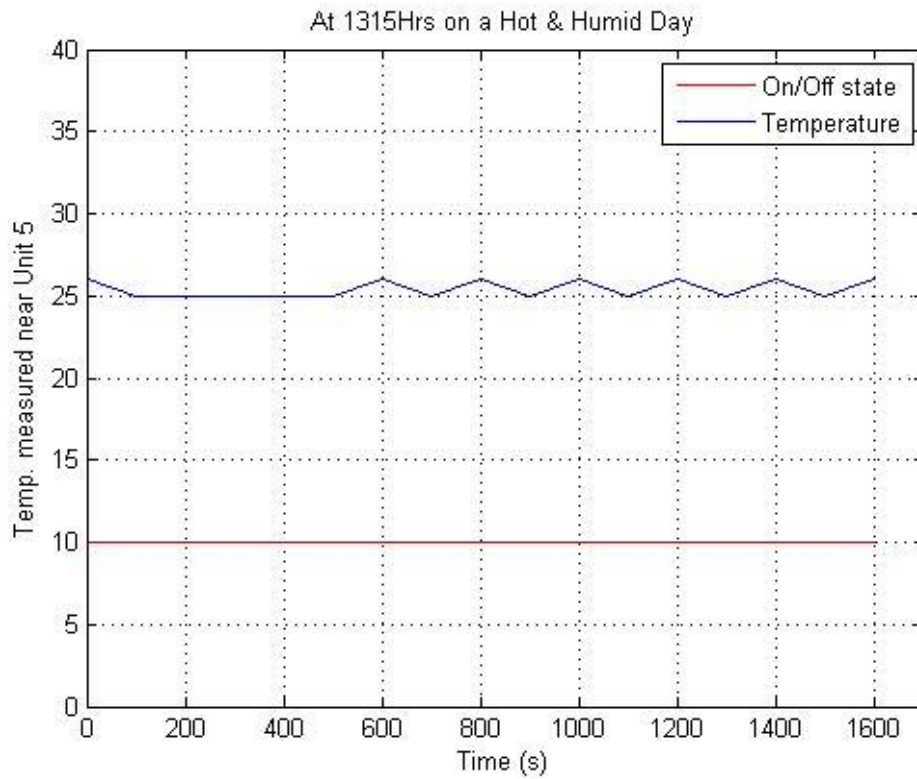
49

At 1015Hrs on a Hot & Humid Day

Start time - 1240 Hrs and measured for 1600 s

At 1240Hrs on a Hot & Humid Day

At 1240Hrs on a Hot & Humid Day

At 1240Hrs on a Hot & Humid Day

At 1240Hrs on a Hot & Humid Day

At 1240Hrs on a Hot & Humid Day
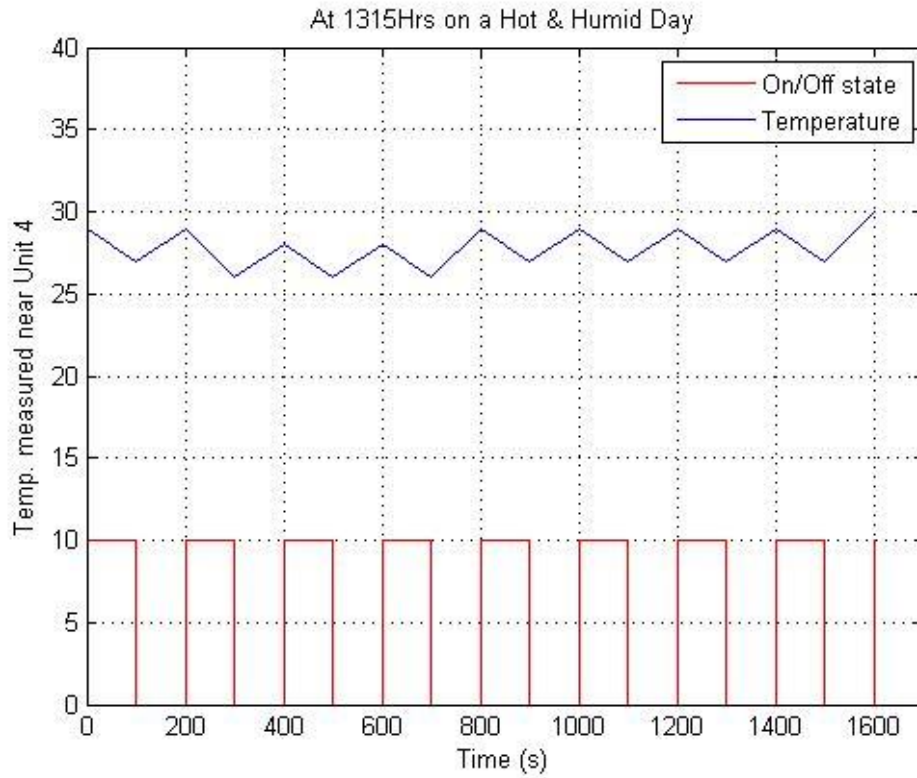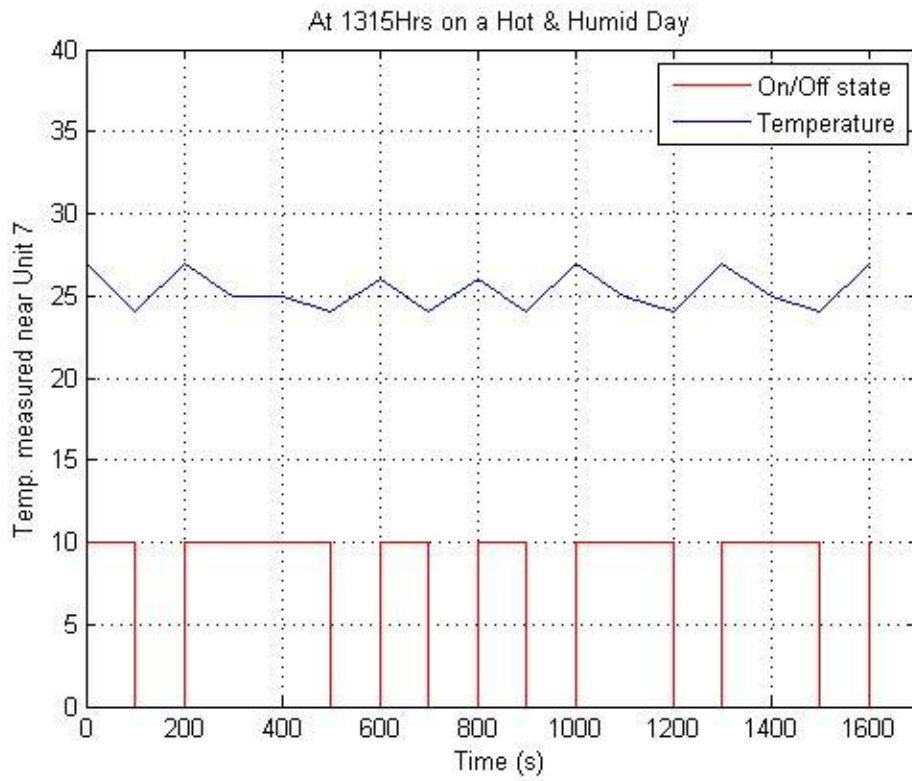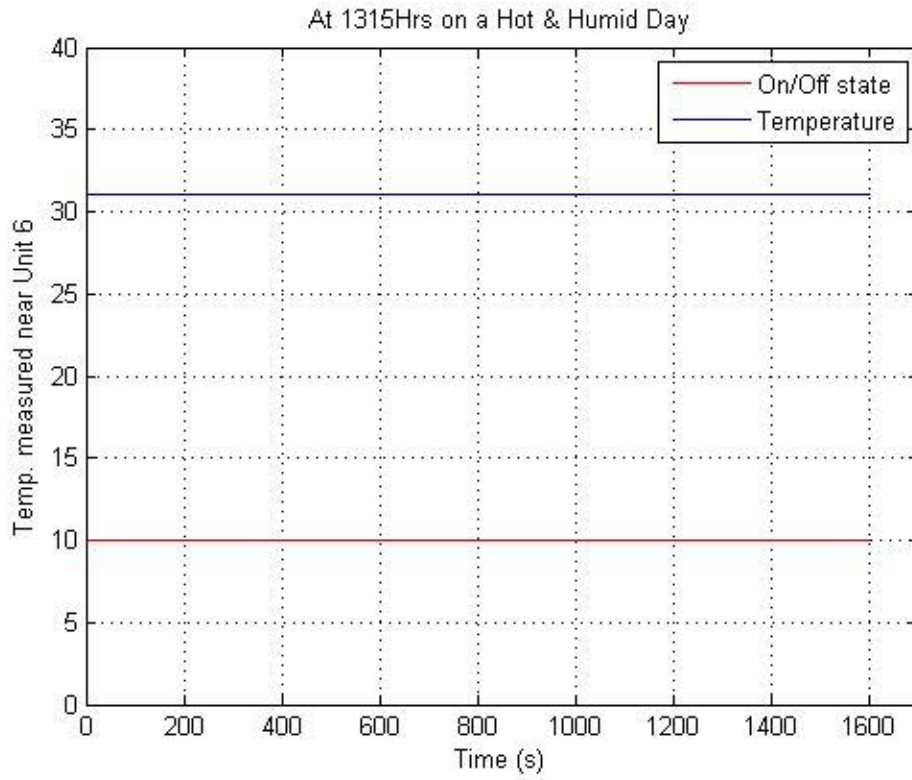
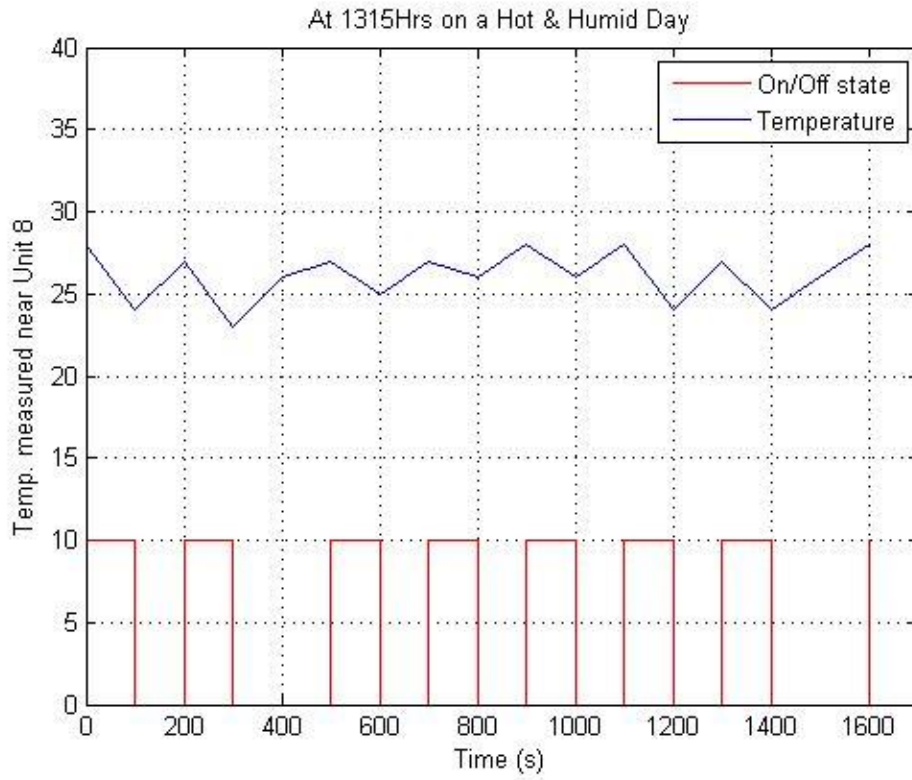At 1240Hrs on a Hot & Humid Day

At 1240Hrs on a Hot & Humid Day

Start time - 1315 Hrs and measured for 1600 s

At 1315Hrs on a Hot & Humid Day

At 1315Hrs on a Hot & Humid Day

At 1315Hrs on a Hot & Humid Day

At 1315Hrs on a Hot & Humid Day

At 1315Hrs on a Hot & Humid Day

At 1315Hrs on a Hot & Humid Day

At 1315Hrs on a Hot & Humid Day

Start time - 1400 Hrs and measured for 3500 s

At 1400Hrs on a Hot & Humid Day

At 1400Hrs on a Hot & Humid Day

At 1400Hrs on a Hot & Humid Day

At 1400Hrs on a Hot & Humid Day

60

At 1400Hrs on a Hot & Humid Day

At 1400Hrs on a Hot & Humid Day

At 1400Hrs on a Hot & Humid Day

Start time - 1515 Hrs and measured for 2000 s

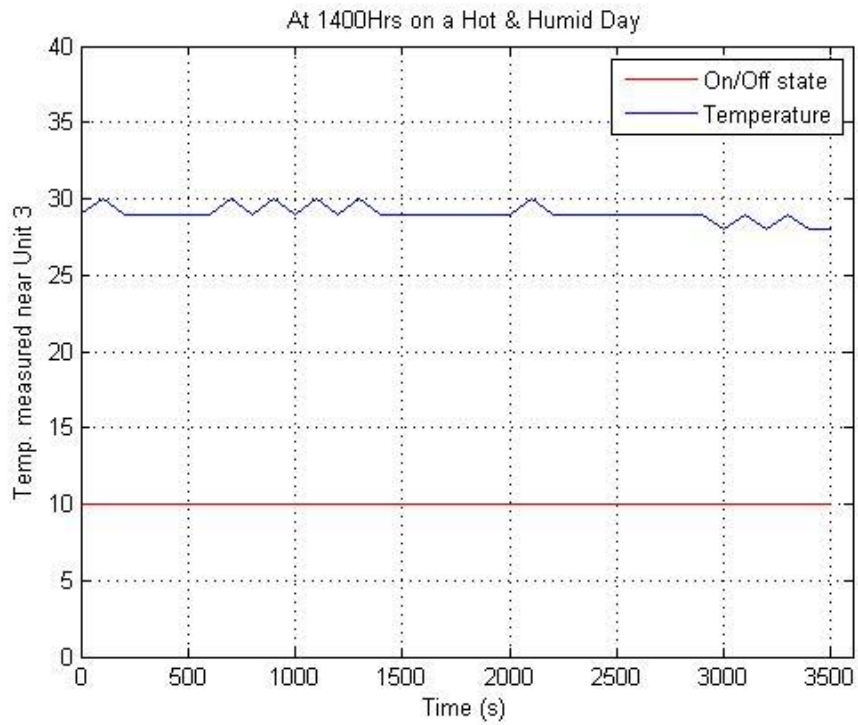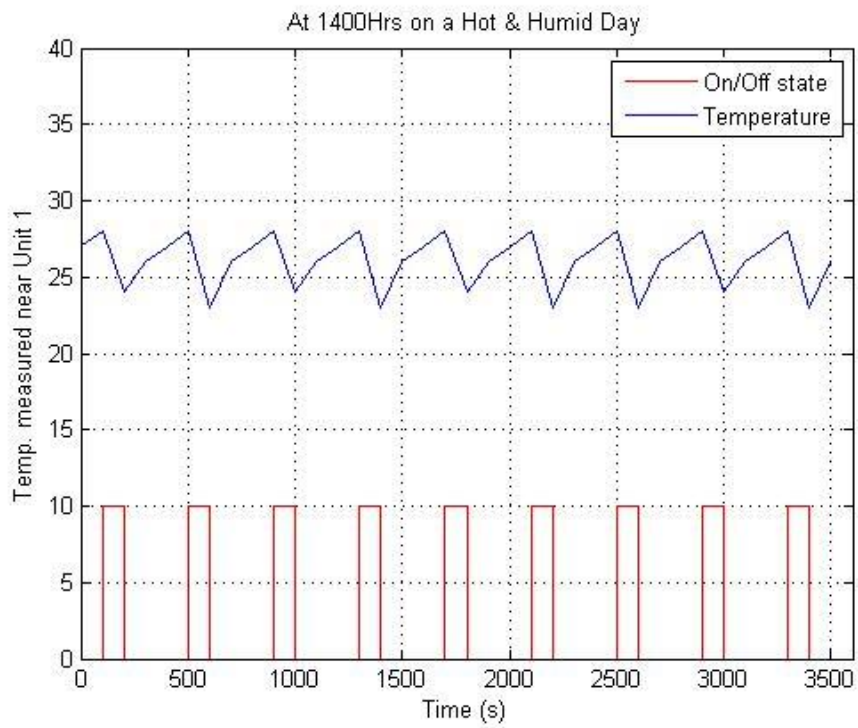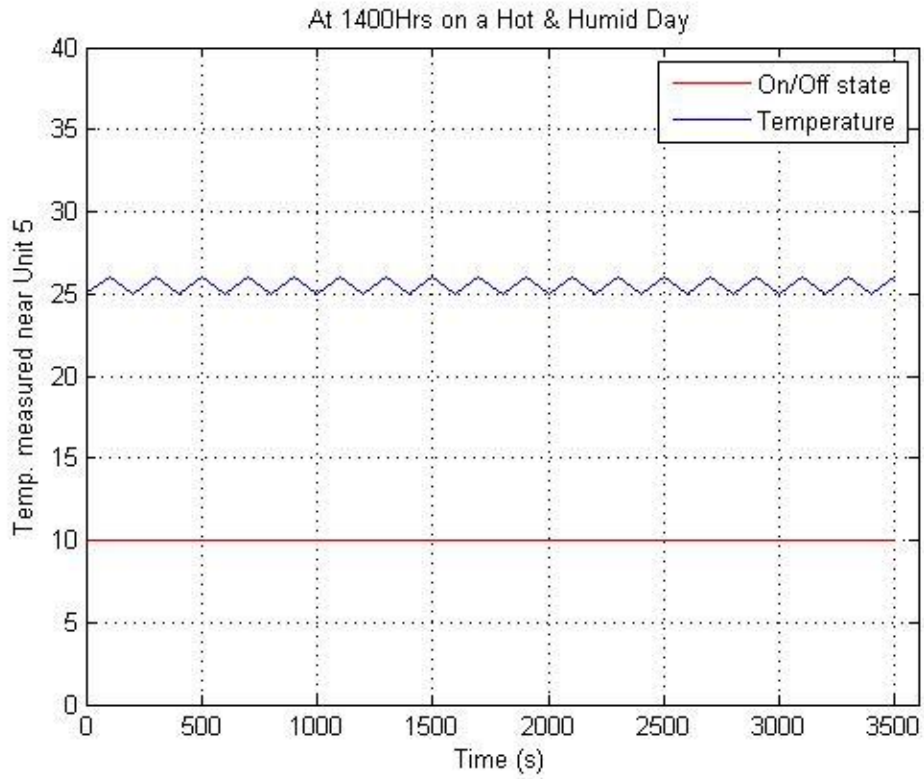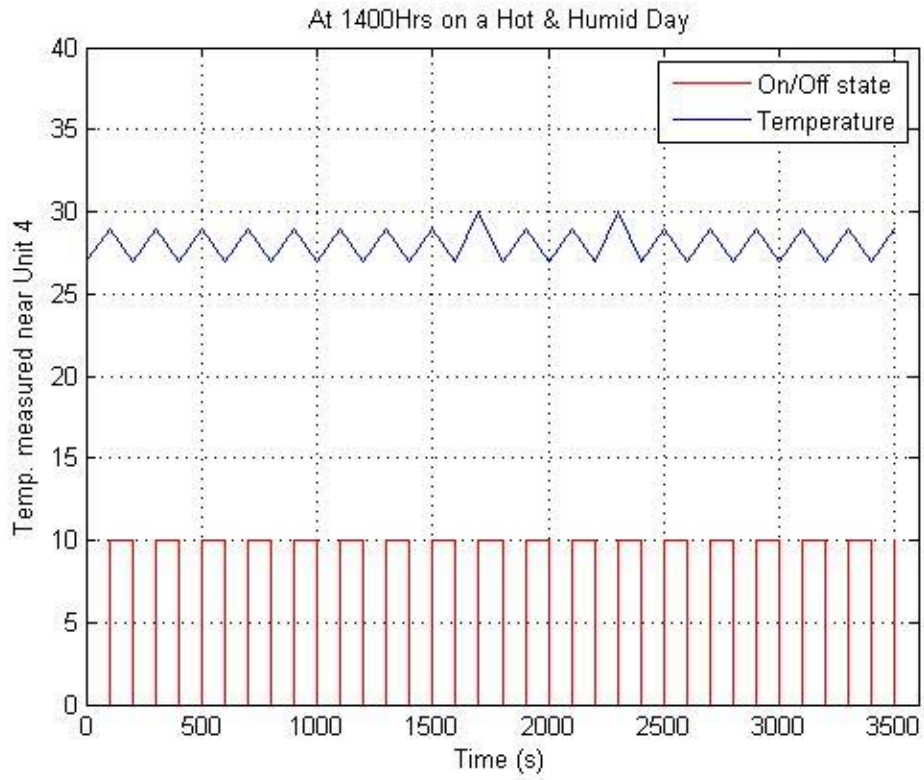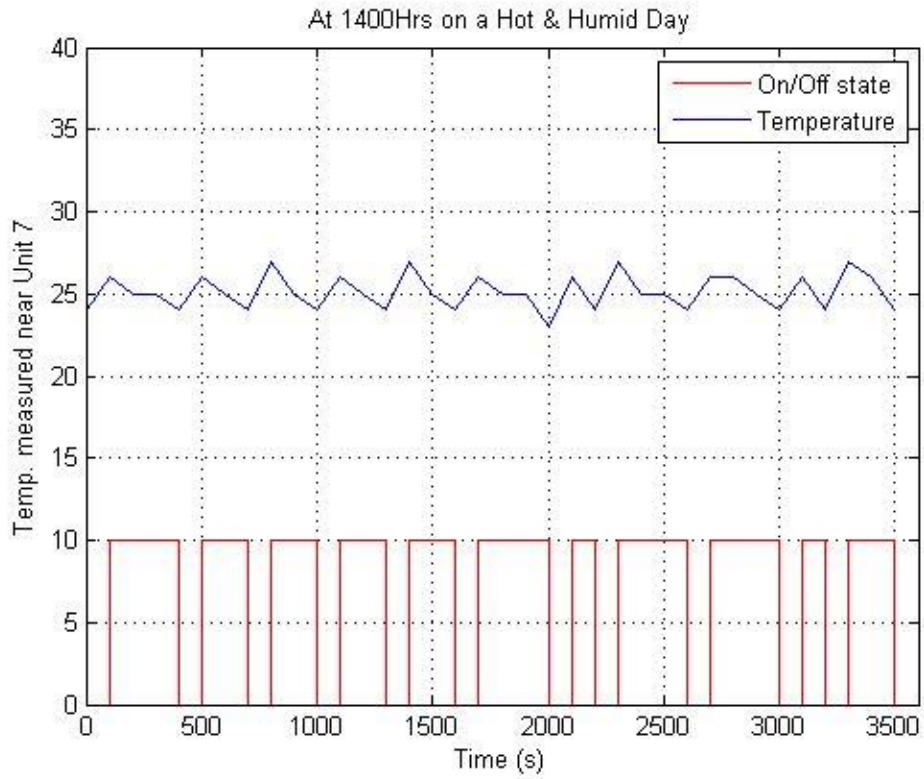
At 1515Hrs on a Hot & Humid Day

At 1515Hrs on a Hot & Humid Day

At 1515Hrs on a Hot & Humid Day

At 1515Hrs on a Hot & Humid Day

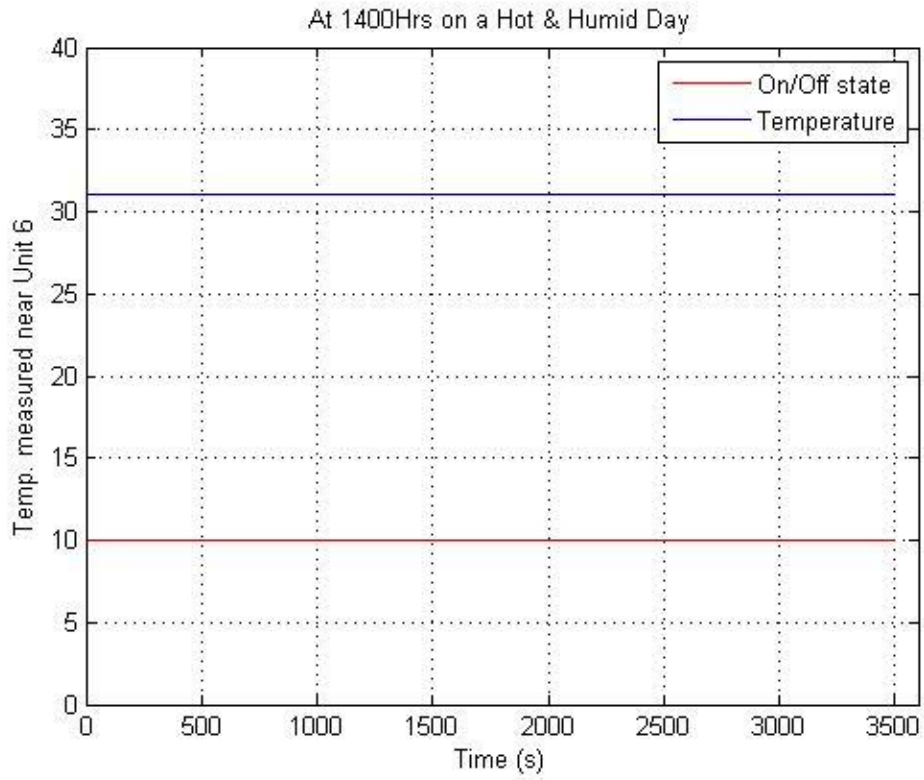At 1515Hrs on a Hot & Humid Day
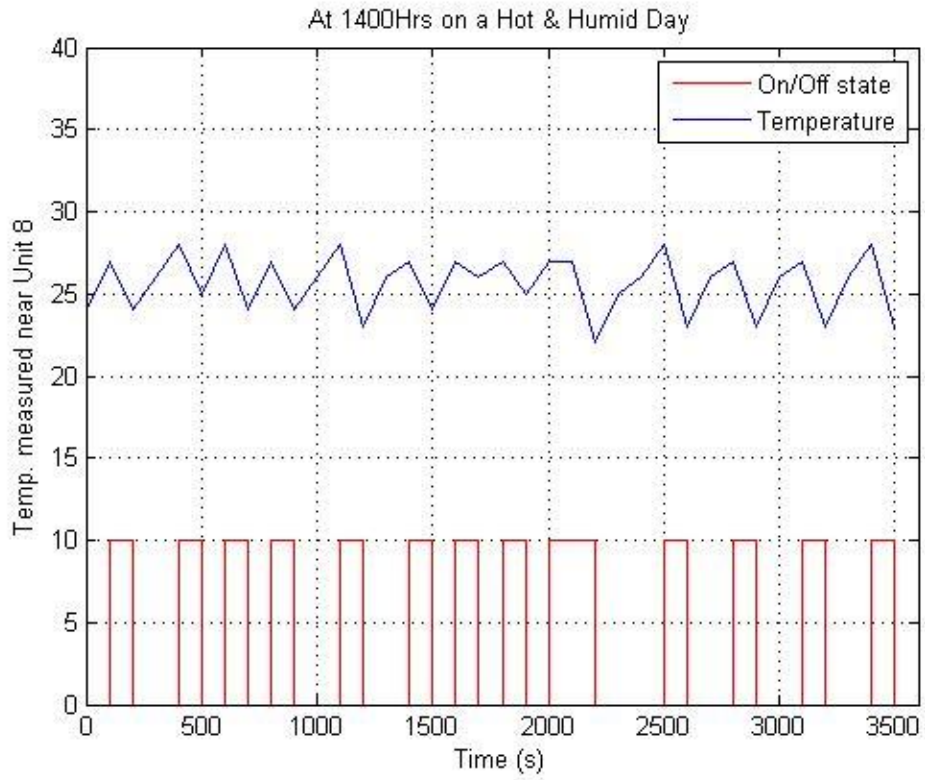

At 1515Hrs on a Hot & Humid Day
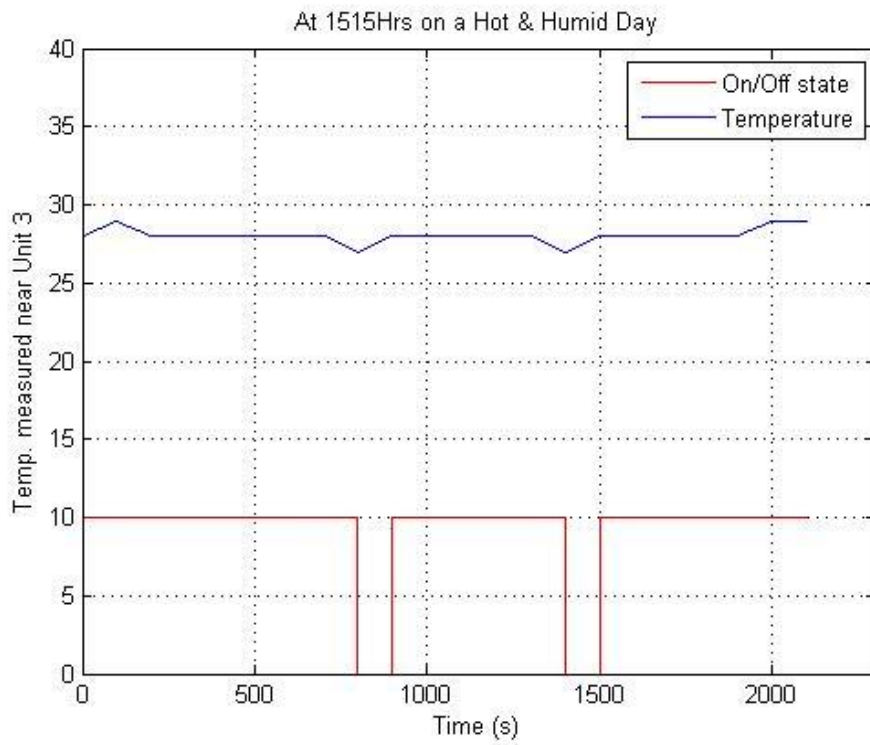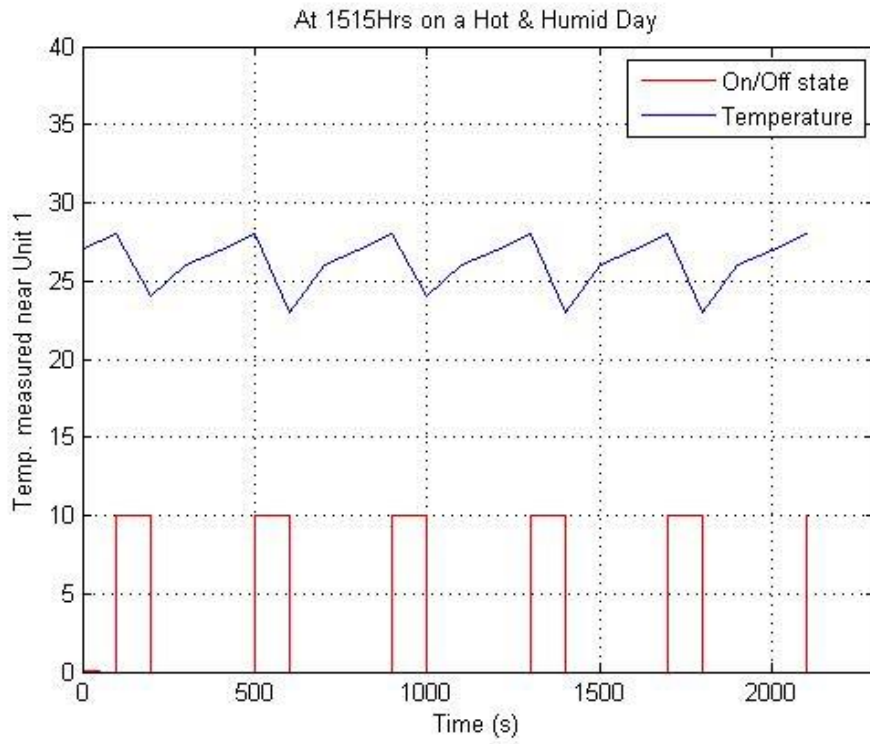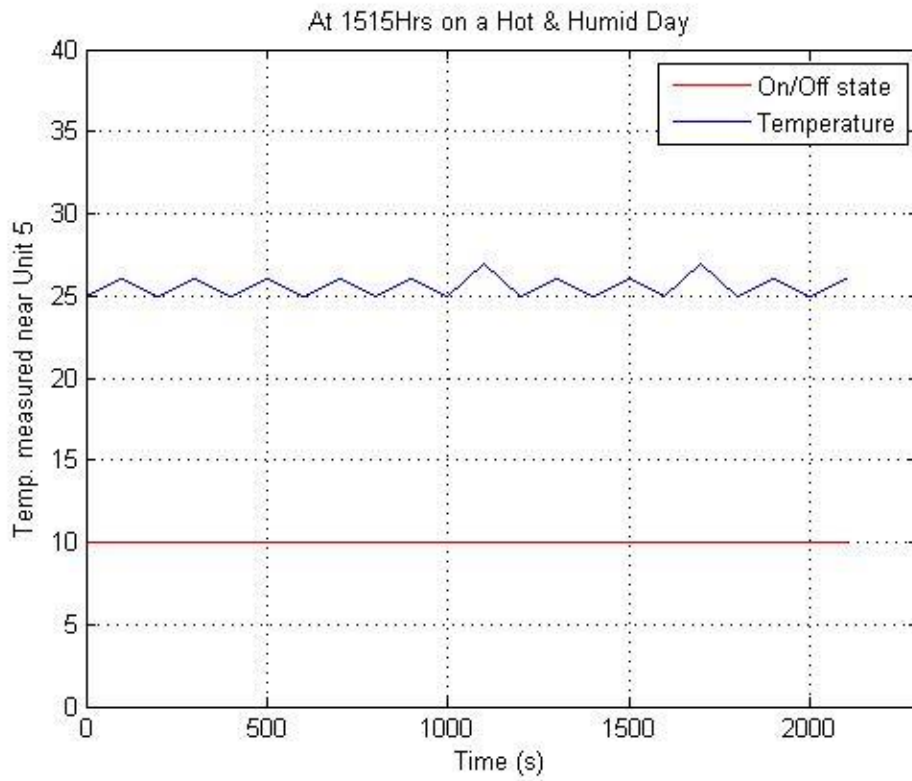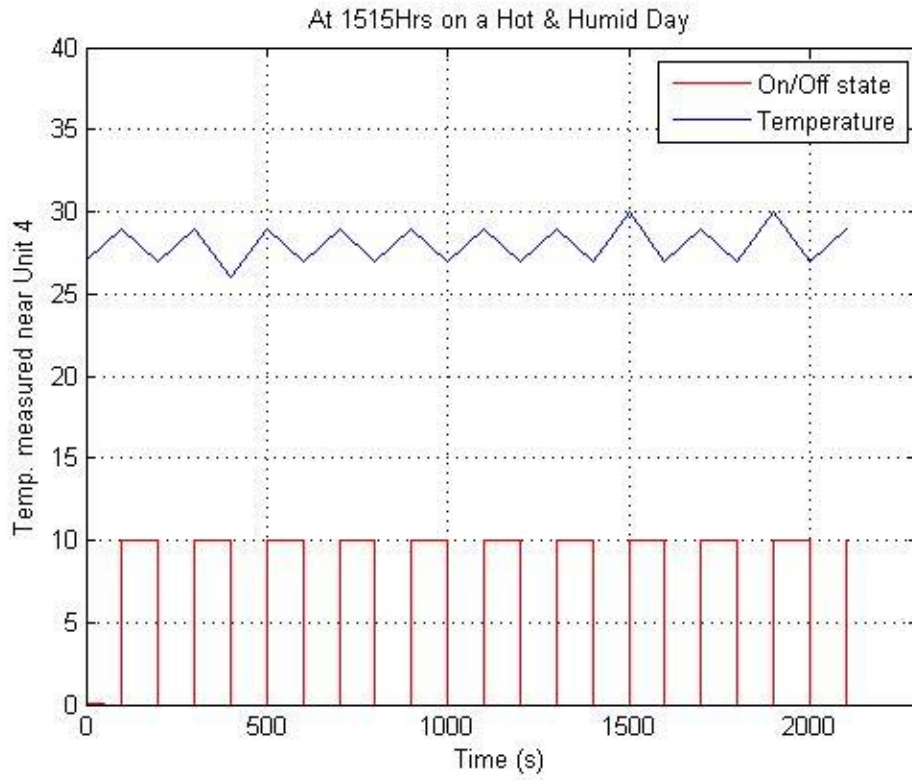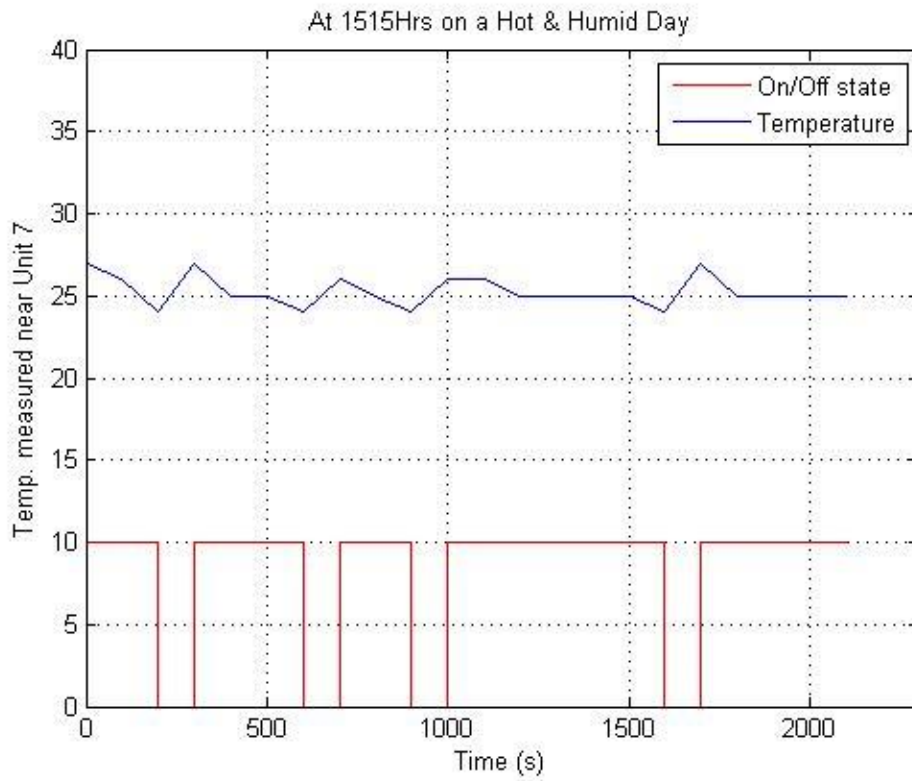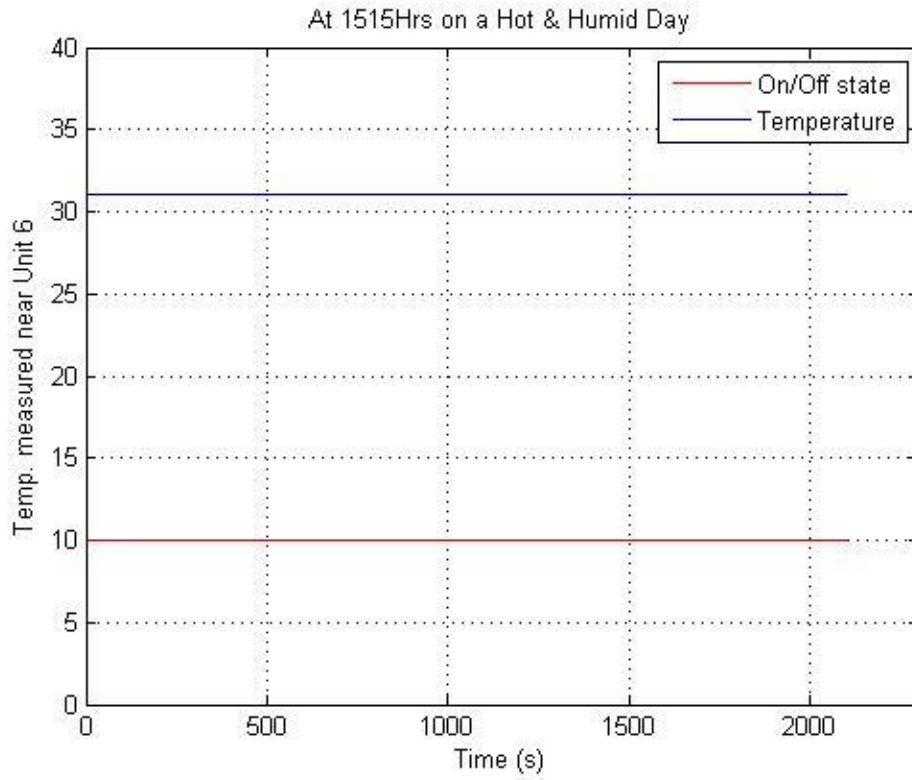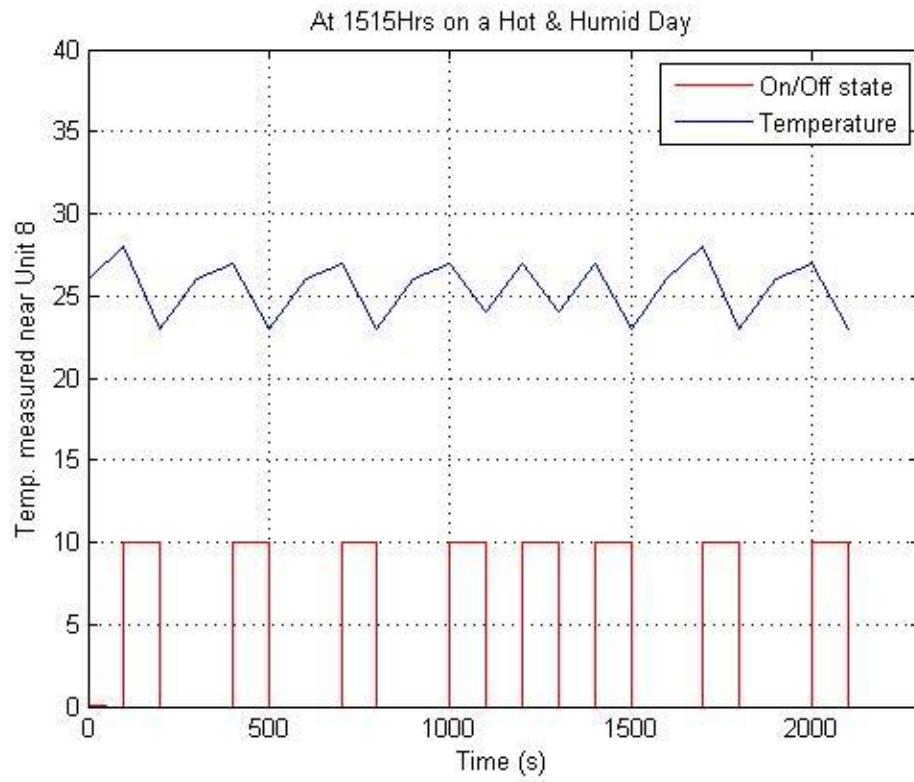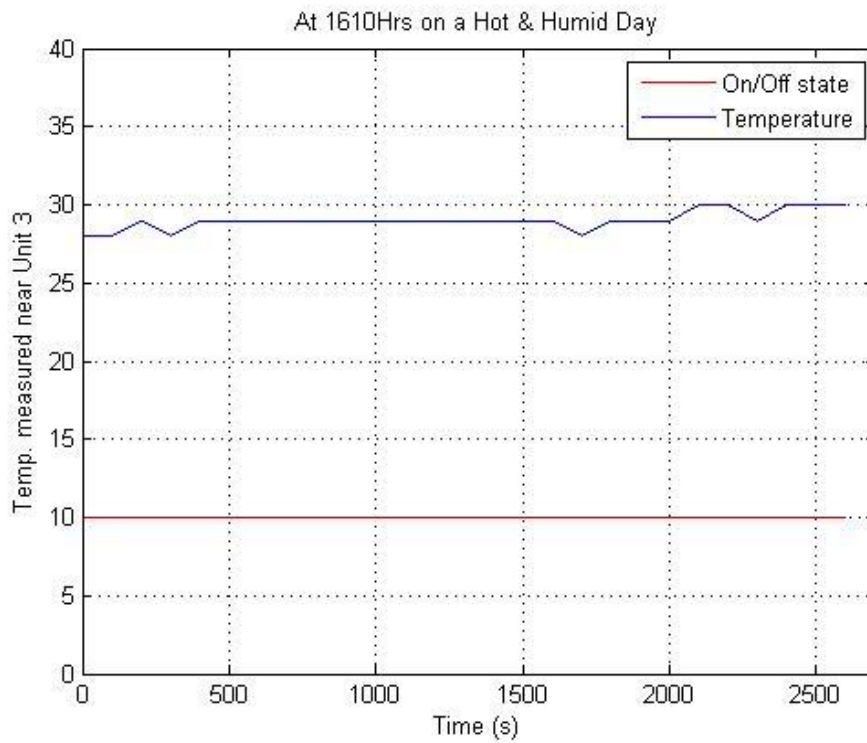
At 1515Hrs on a Hot & Humid Day

Start time - 1610 Hrs and measured for 2500 s

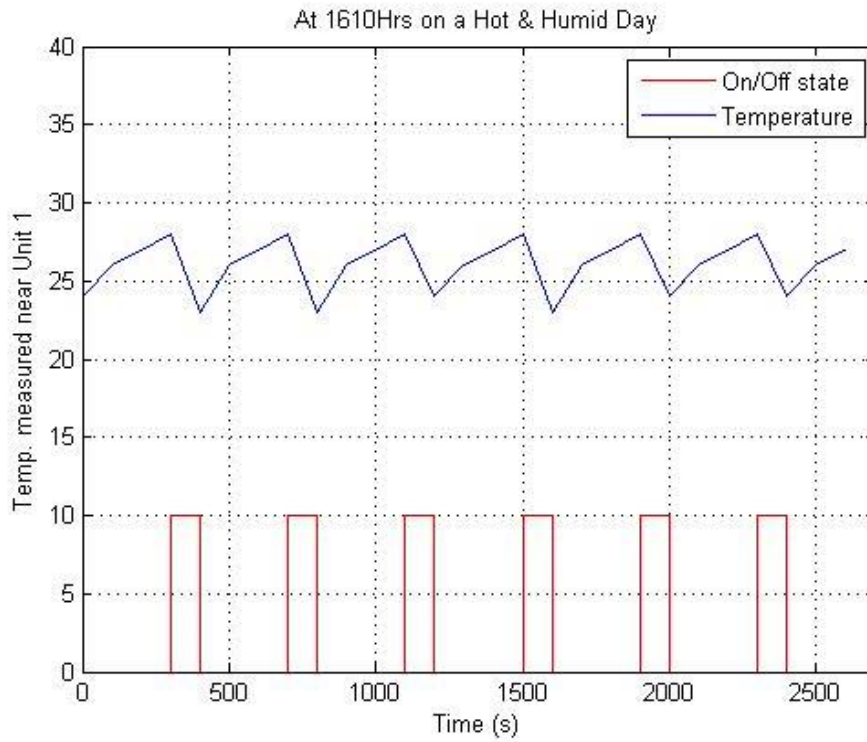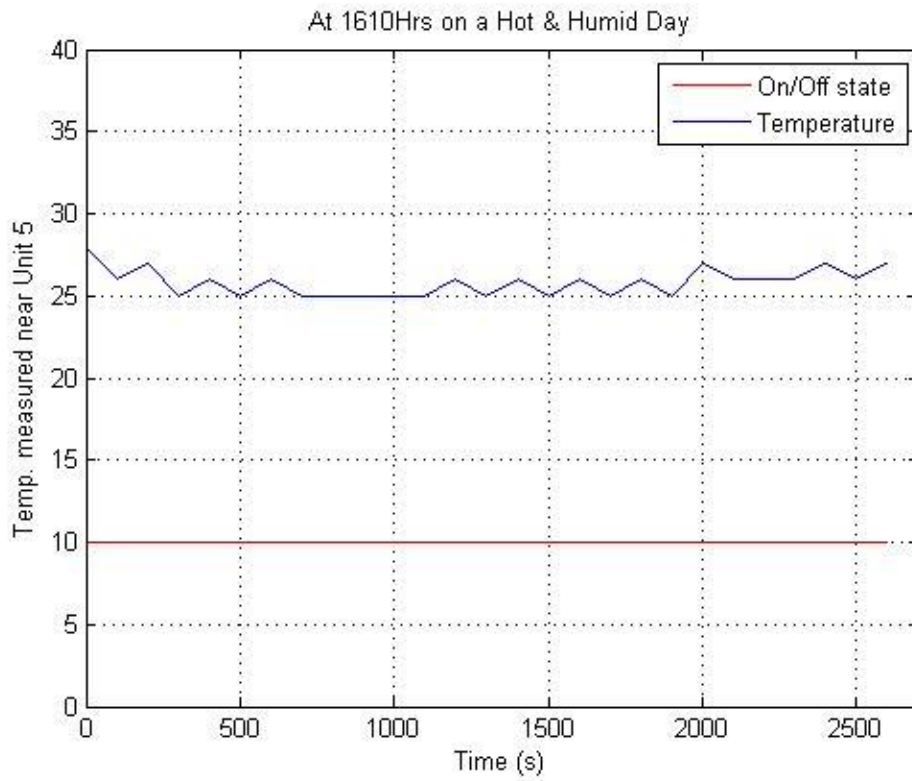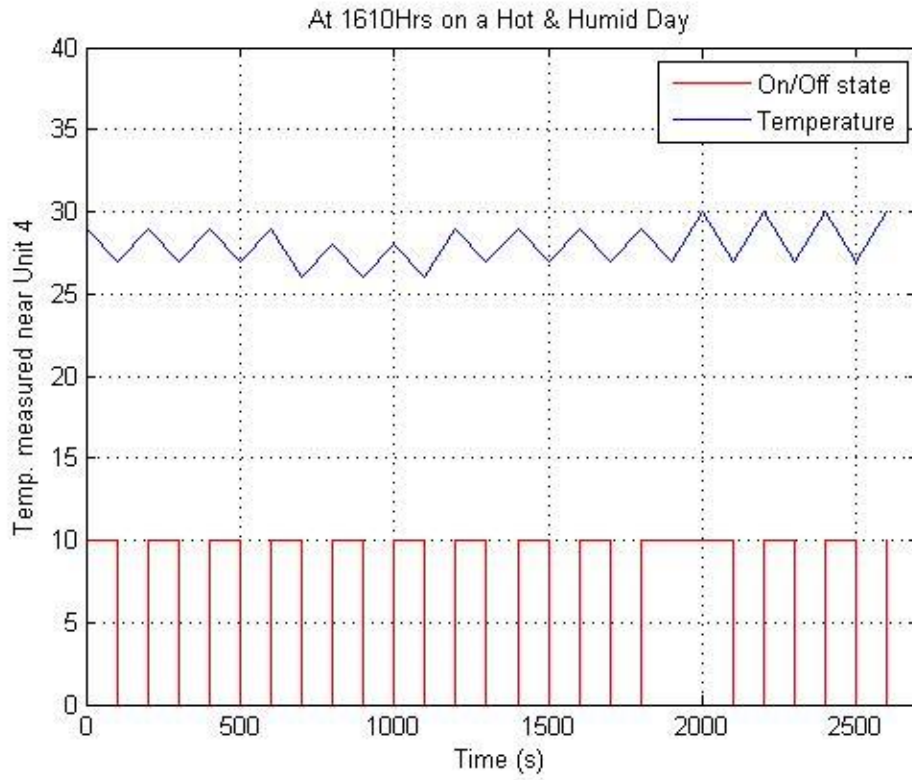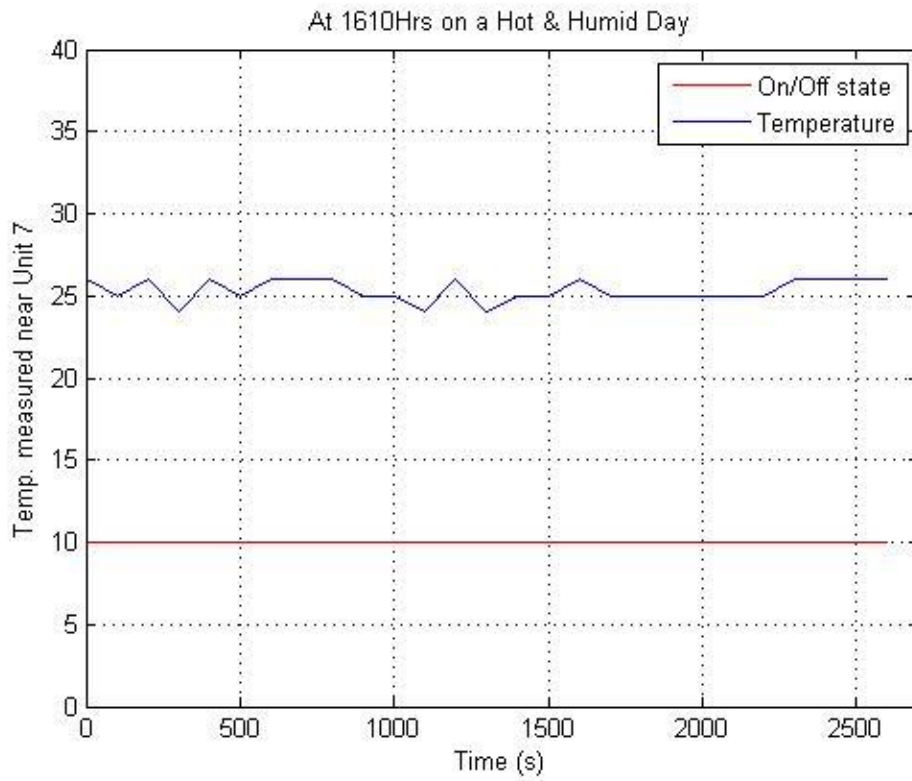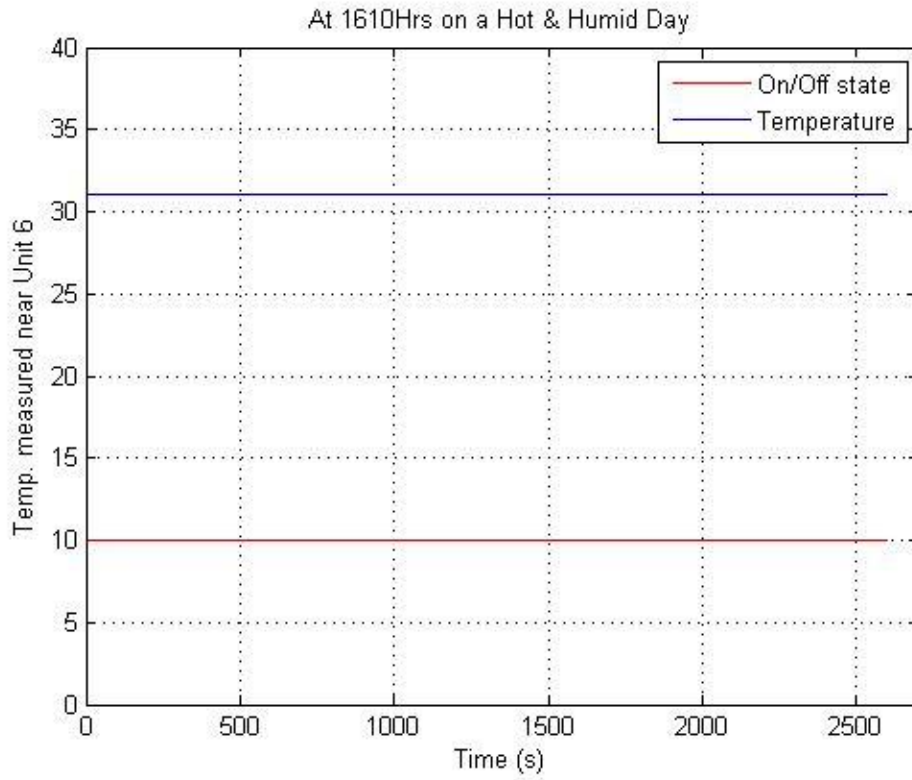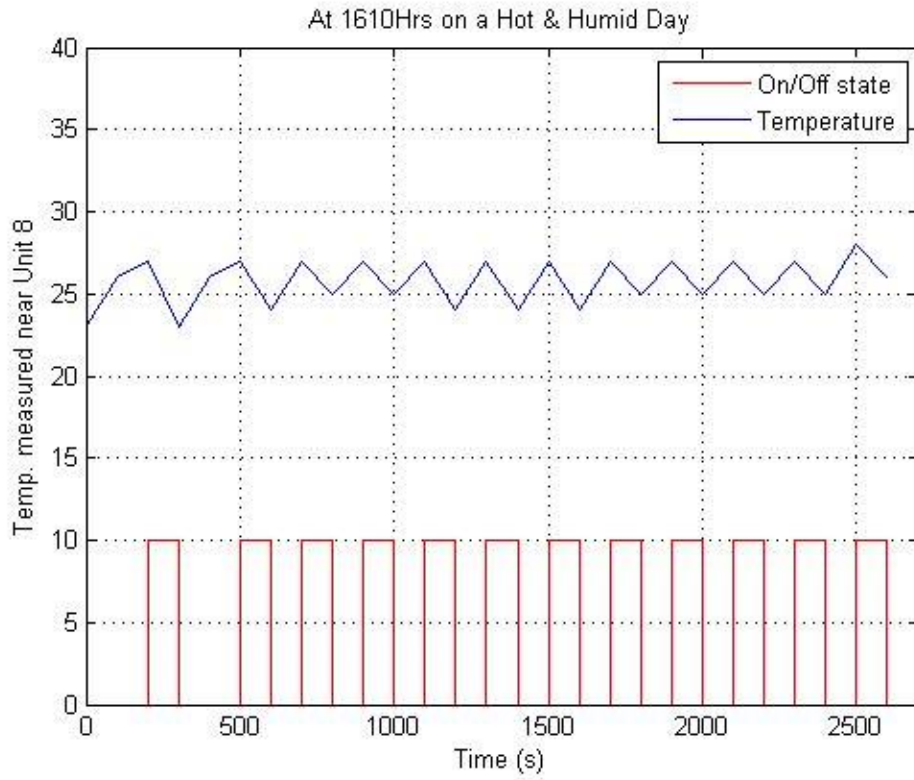

At 1610Hrs on a Hot & Humid Day

At 1610Hrs on a Hot & Humid Day

At 1610Hrs on a Hot & Humid Day

At 1610Hrs on a Hot & Humid Day

At 1610Hrs on a Hot & Humid Day

At 1610Hrs on a Hot & Humid Day

At 1610Hrs on a Hot & Humid Day

Appendix 02

LED
LED
LED

HEADER
1 ☐ 10
100 RESISTOR
100 RESISTOR
100 RESISTOR
HEADER
1 ☐ 10

CONNECTOR DB9

[R

2N3904
CAP POL
MAX232
JUMPER
JUMPER
JUMPER
JUMPER

RESISTOR
100
RESISTOR
1K

CAP POL
1U
CAP POL CAP POL CAP POL
1U 1U 1U

RESISTOR
330 220

LM317/TO220
CAP POL
2.2K RESISTOR
1K RESISTOR
JUMPER

RESISTOR
JUMPER

LED
RESISTOR
100
RESISTOR
100
100
100
100
100
100
100

74HC595
RESISTOR
1K
JUMPER
JUMPER

2DIGIT7SEGMENT

RESISTOR
100
100
100
100
100
100
100

74HC595
JUMPER
JUMPER
JUMPER

1
8

LED
RESISTOR
100
JUMPER
JUMPER

CRYSTAL
JUMPER

DS1307

BATTERY

JUMPER
JUMPER
JUMPER

HEADER
JUMPER

JUMPER
JUMPER 0.1U

CAPACITOR POL

LM7805C/TO220
100U CAP POL

RESISTOR
1K

CAP NP
13P CRYSTAL 16FBB
13P
CAP NP
JUMPER

SW PUSHBUTTON

RESISTOR
10K
JUMPER

CAPACITOR POL
1000U
LED

1N4007 1N4007 1N4007 1N4007

LM324
RESISTOR
1K
10K
RESISTOR
JUMPER

RESISTOR
1K
10K
RESISTOR
JUMPER

JUMPER
JUMPER
JUMPER

10K RESISTOR
1K3 RESISTOR

RJ45   RJ45   DC   RJ11