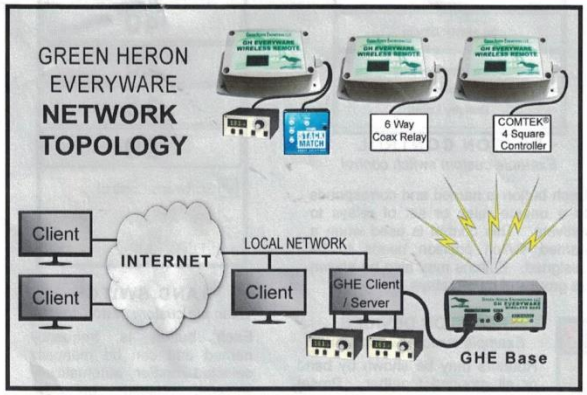
Antenna Switch

Switch Control Box

Human Interface
AKA, "A Computer"

GREEN HERON ENGINEERING LLC

Green Heron "Everyware" Wireless Cable



GH EVERYWARE WIRELESS CABLE

GH Everyware Wireless Cable is a distributed network solution to any station component that uses either serial (RS-232) connections or relays. The system eliminates the use of control cables and control boxes, replacing them with a robust wireless (802.15.4) network and on-screen controls that you may customize for whatever relay control system you utilize. In addition, the system allows shared access through the use of standard IP (Internet Protocol) techniques. Any number of operator positions on separate computers, may share any or all of the switch and rotor devices under GH Everyware Wireless control AND they may also be utilized over the Internet. The system components are flexible and expandable to meet any station complexity requirement, or can be utilized as a simple USB to serial port adapter and wireless extension for any serial device.

GH EVERYWARE WIRELESS CABLE -- BENEFITS

- Allows Shared Internet/LAN IP access to any relay device
- Eliminates cables, control boxes and other clutter
- Remote wireless control of relays, rotators and other serial devices
- Create your own custom on-Screen controls
- Uses your existing computer for user controls and Network Routing
- Imbedded USB eliminates need for computer RS-232 port
- "Wireless USB → RS-232" adapter mode

GH EVERYWARE BASE

- Allows Shared Internet/LAN IP access to any relay device
- Communicates with up to 32 GHE Remotes
- Expandable by adding additional Bases on same or different computers
- LEDs for TX/RX activity, Receive Signal Strength
- Optional 8 relay outputs

GH EVERYWARE REMOTE

- 8 relay switched +12 or GND can be shared among multiple user devices
- RS-232 Serial Port, DCE/DTE jumpers
- Requires nominal 12 VDC input.
- LEDs for Power, Received Signal Strength
- Sleep Modes for battery/solar powered requirements

The System Components are:

- The GH Everyware Server is a software program that runs on any computer(s) in your network. The Server manages shared access from the GHE Controller positions, and sends commands for desired actions to the remote devices. An integrated "Local Controller" is included that has on-screen operator controls for each remote device under control. On-screen controls can be configured and customized by the user to many different configurations.
- GH Everyware Client is an optional software application that communicates with GH Everyware Server(s) over any IP network to allow shared or remote access to each device through the servers. It has the same user on-screen controls as the "Local Controller" part of GH Everyware Server.
- The GH Everyware Base is a hardware device that includes an 802.15.4 radio operating at up to 63 mw on 2.4 GHz. Connects to Server via USB, sends and receives wireless commands to GH Everyware Remotes up to 1 mile away.
- The GH Everyware Remote is hardware device that includes an 802.15.4 radio that communicates with GHE Base. The Remote operates the end device relays and/or connects to a serial RS-232 device.

GH Everyware Remote in Weatherproof Enclosure

GH Everyware Remote with Radio Module and Connectors.

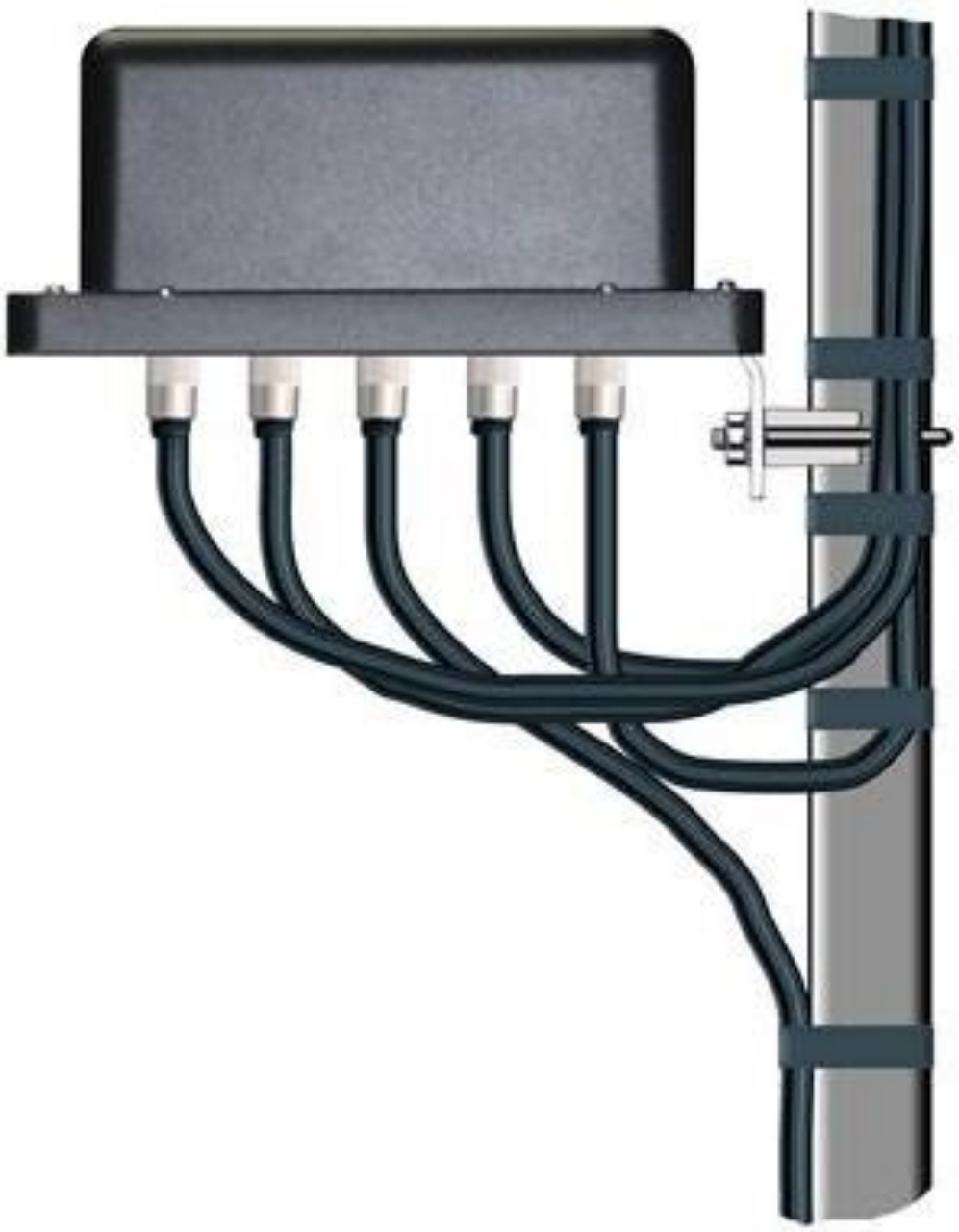
www.greenheronengineering.com (585) 217-9093

These devices are approved in most countries. Power levels may be different depending on country.

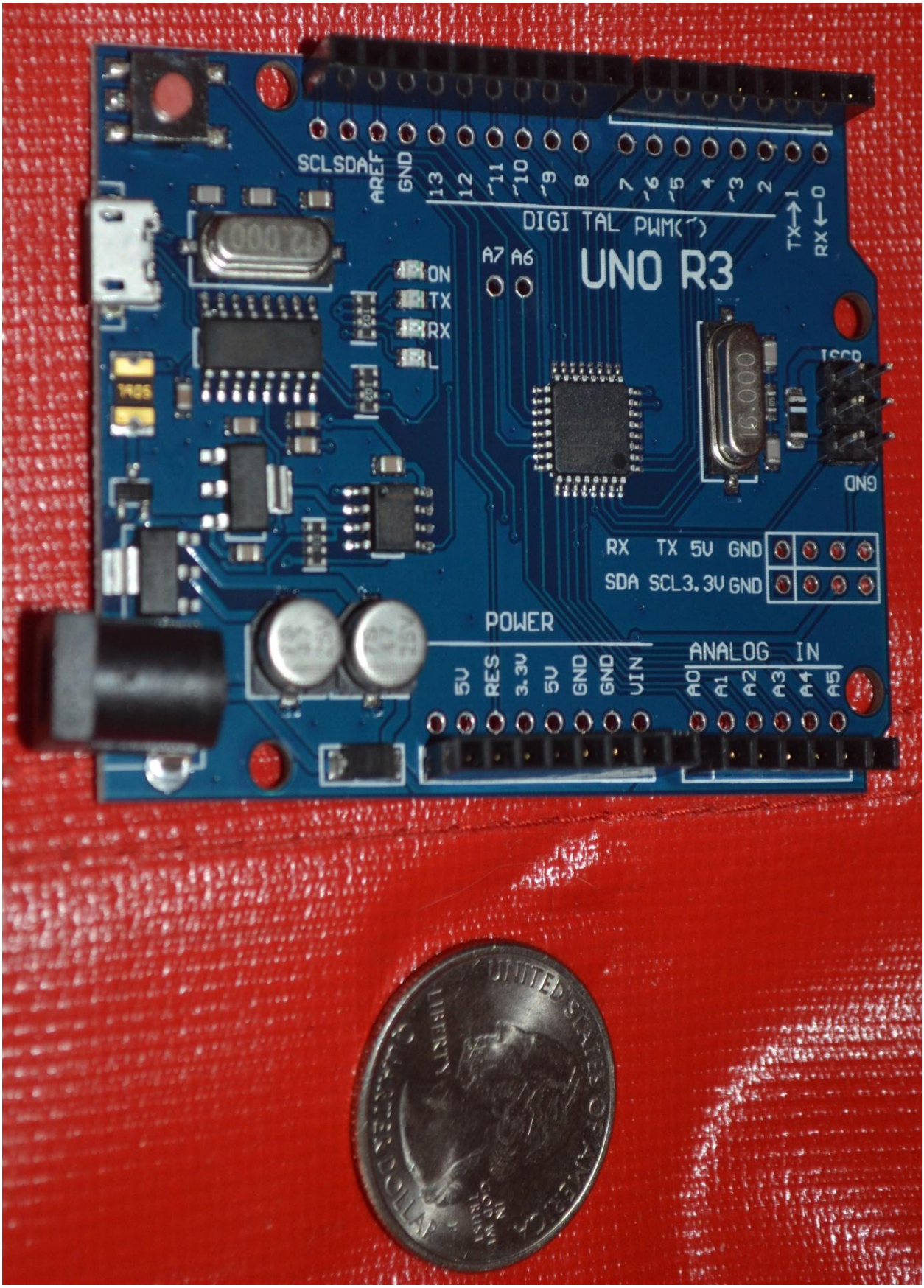
GH Everyware Remote with Radio Module and Connectors.

GH Everyware Remote in Weatherproof Enclosure

N4ZY Cheap Switch Control Project




G12345678G
3
4
RR8B-HP
2
C
5
1
DX
ENGINEERING
DXENGINEERING.COM
MADE IN USA
6
8
7
1338 REV.0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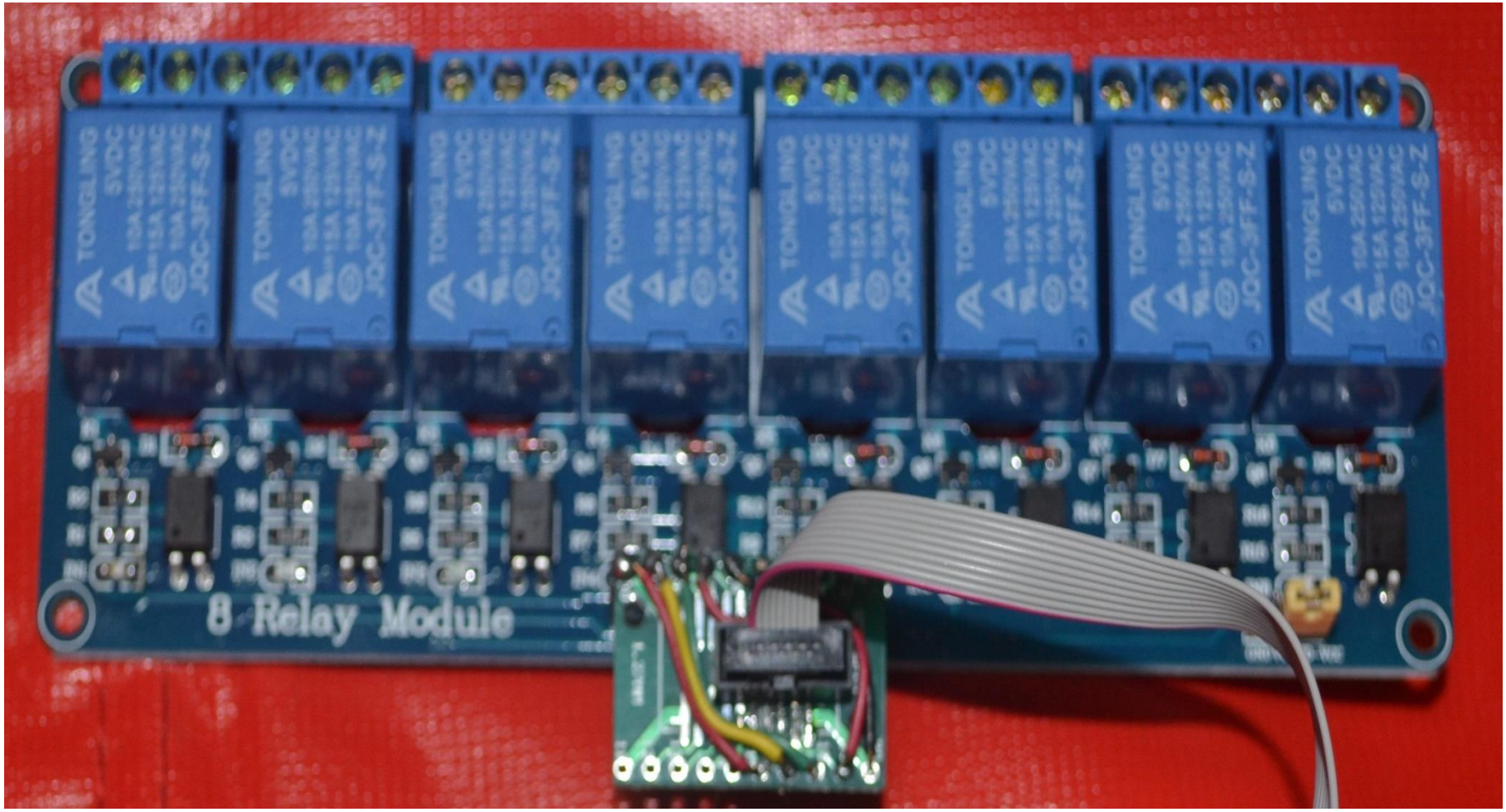
SDA
AREF
GND
13
12
~11
~10
~9
8
7
~6
~5
4
~3
2
TX→1
RX←0
DIGITAL PWM(~)
A7 A6
UNO R3
ON
TX
RX
ICSP
GND
RX TX 5V GND
SDA SCL 3.3V GND
POWER
5V
RES
3.3V
5V
GND
GND
VIN
ANALOG IN
A0
A1
A2
A3
A4
A5
UNITED STATES OF AMERICA
LIBERTY
QUARTER DOLLAR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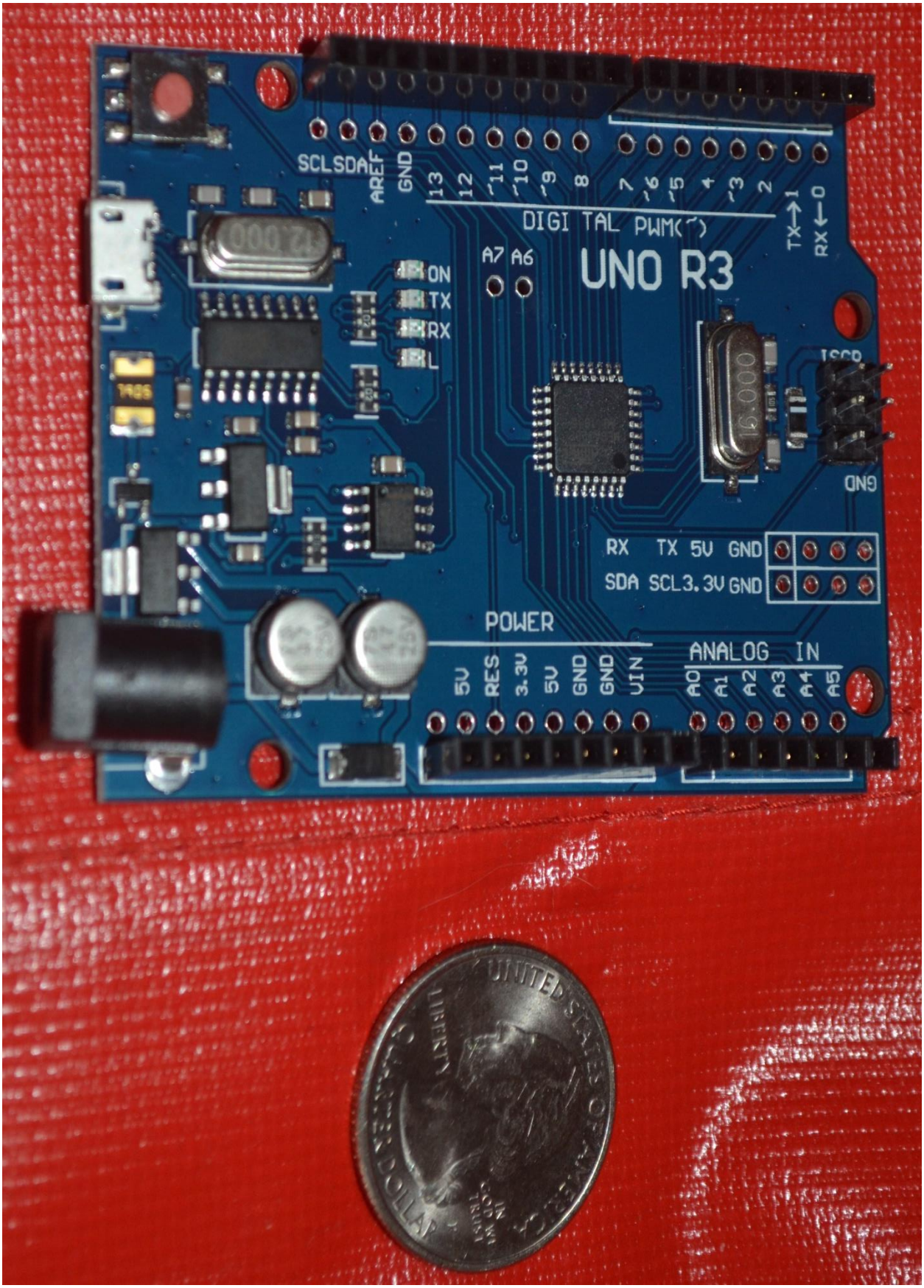
5VDC
10A 250VAC
10A 125VAC
JQC-3FF-S-Z
8 Relay Module


SCL
SDA
AREF
GND
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12
~11
~10
~9
8
7
~6
~5
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~3
2
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5V
RES
3.3V
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GND
GND
VIN
ANALOG IN
A0
A1
A2
A3
A4
A5
UNITED STATES OF AMERICA
LIBERTY
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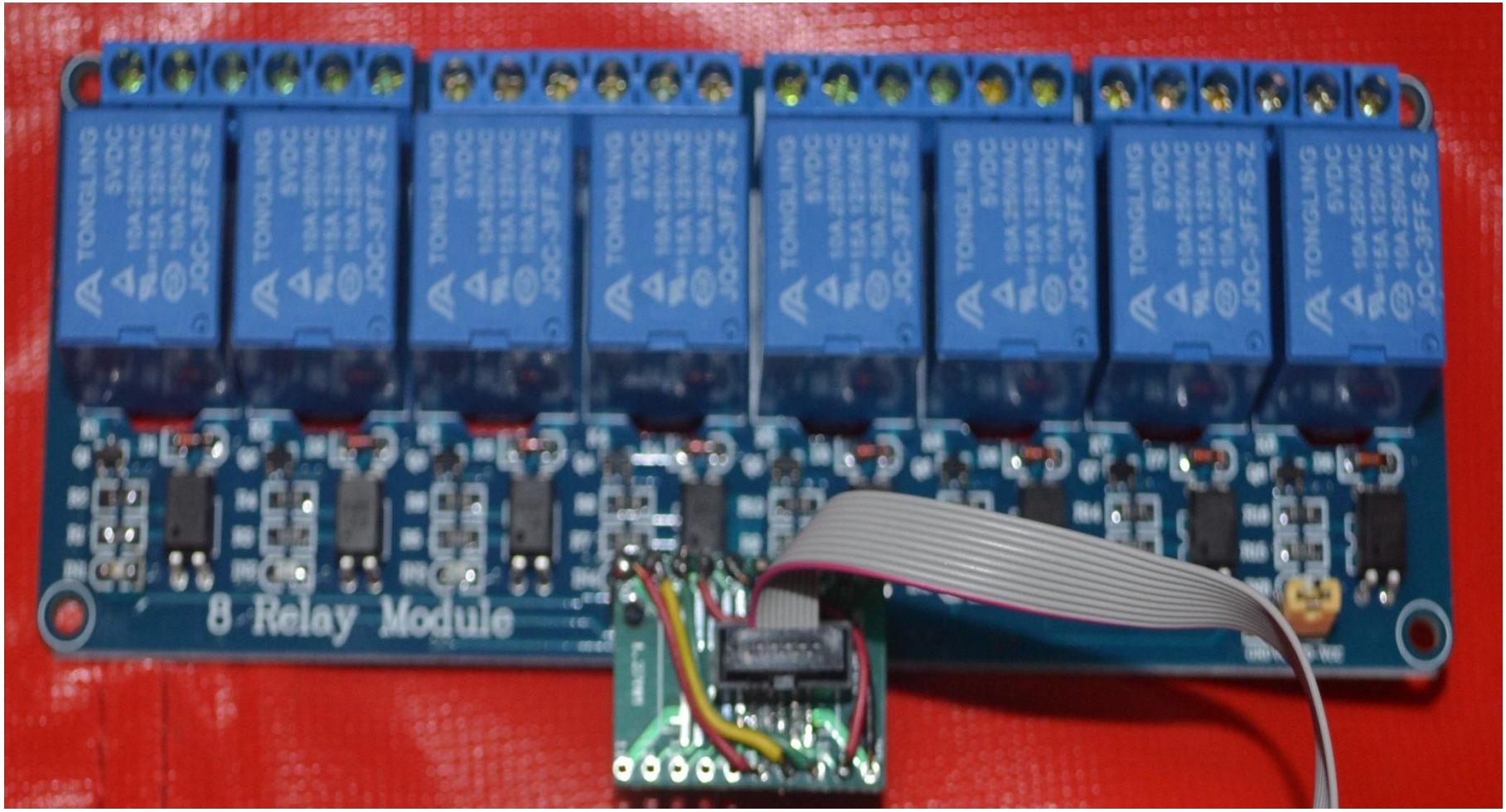
TONGLING
5VDC
10A 250VAC
10A 125VAC
JQC-3FF-S-Z
8 Relay Module

Cost Analysis:

Arduino Uno R3…….5.40

8-Relay Board…….4.91

Total……$10.31


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Arduino
Switch Controller


XBee
ZB
www.digi.com


Antenna Switch
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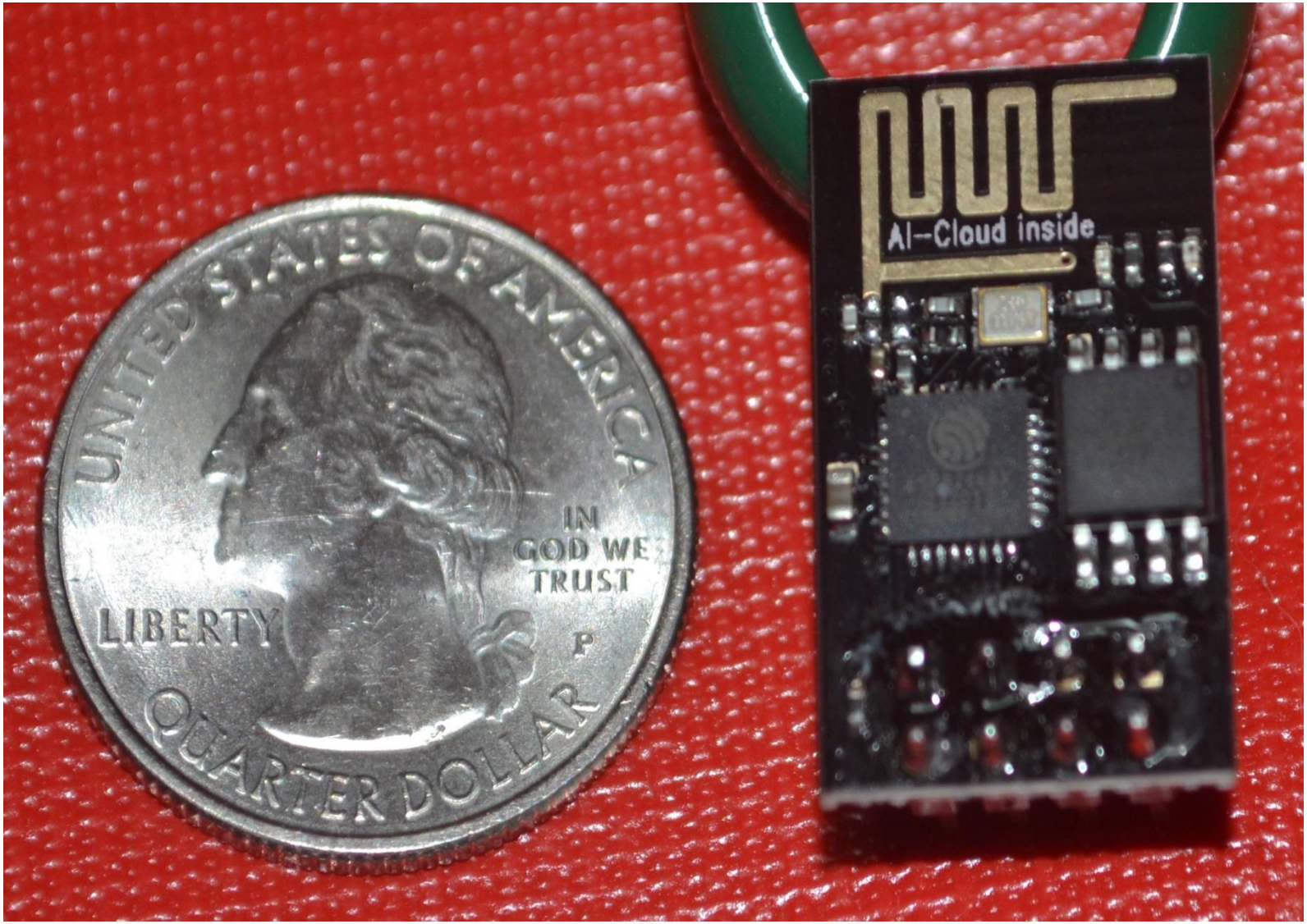
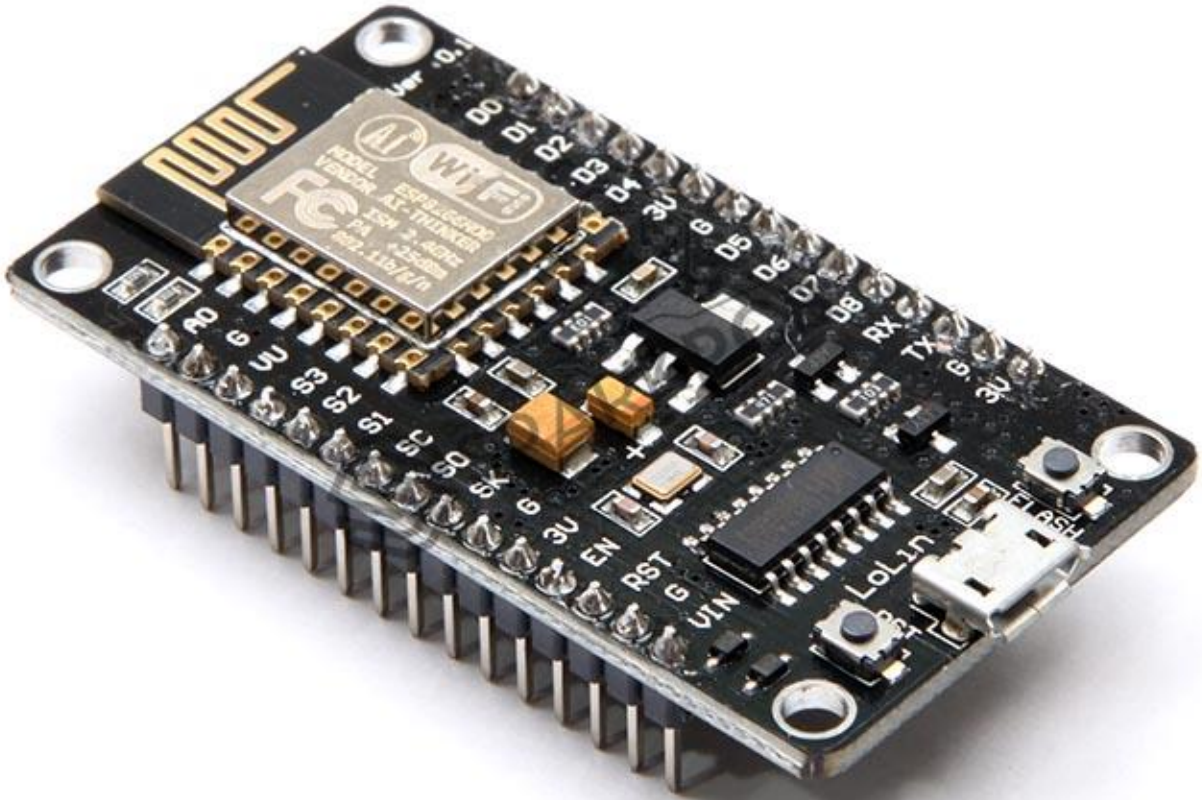
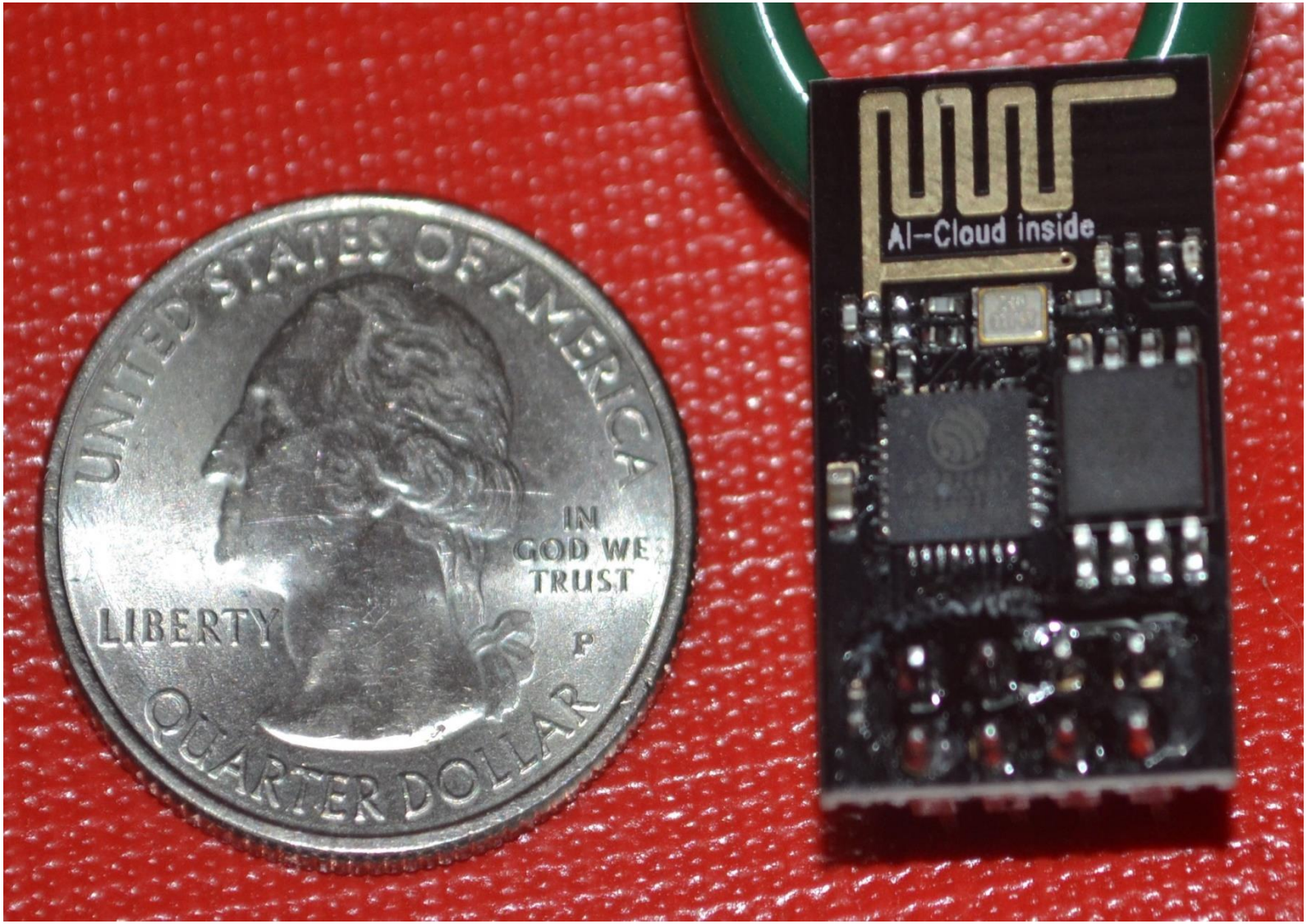
AKA, "A Computer"
XBEE XCEIVE
XBEE XCEIVE
Arduino
Switch Controller


UNITED STATES OF AMERICA
IN GOD WE TRUST
LIBERTY
P
QUARTER DOLLAR
AI-Cloud inside


D0
D1
D2
D3
D4
3V
G
D5
D6
D7
D8
RX
TX
G
3V
A0
G
VU
S3
S2
S1
SC
SD
SK
G
3V
EN
RST
G
VIN
FLASH
LOLIN


UNITED STATES OF AMERICA
IN GOD WE TRUST
LIBERTY
P
QUARTER DOLLAR
AI-Cloud inside

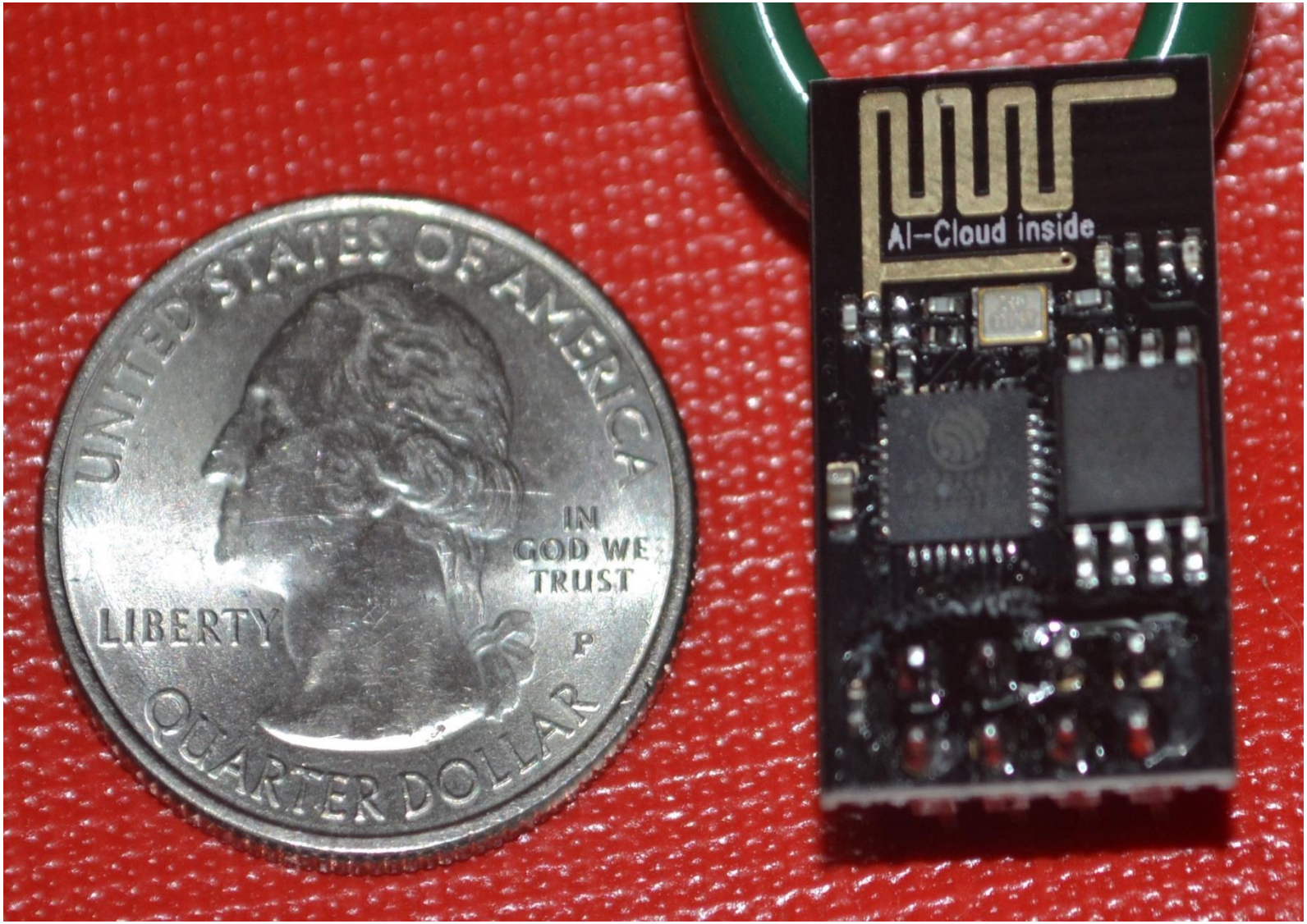
Cost Analysis:

Arduino Uno R3…….5.40

8-Relay Board……..4.91

ESP8266-01……..……3.25

Total……$13.56


UNITED STATES OF AMERICA
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Human Interface
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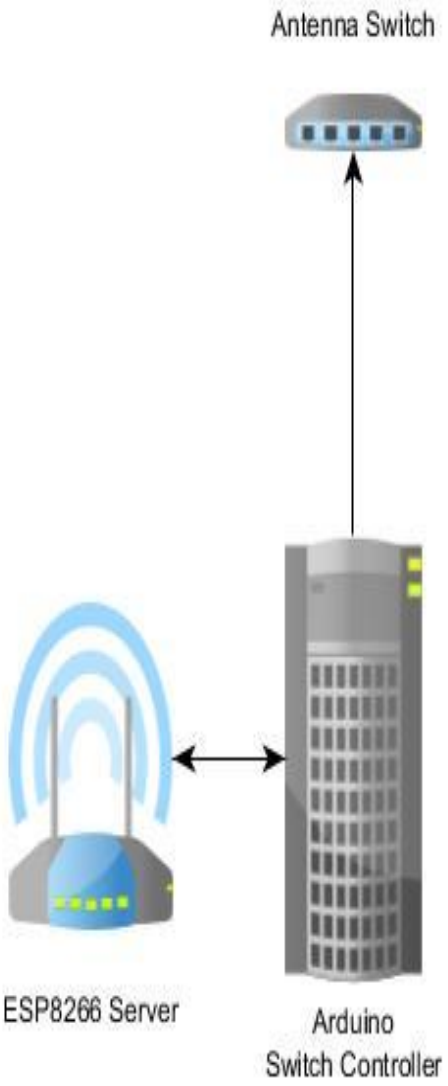

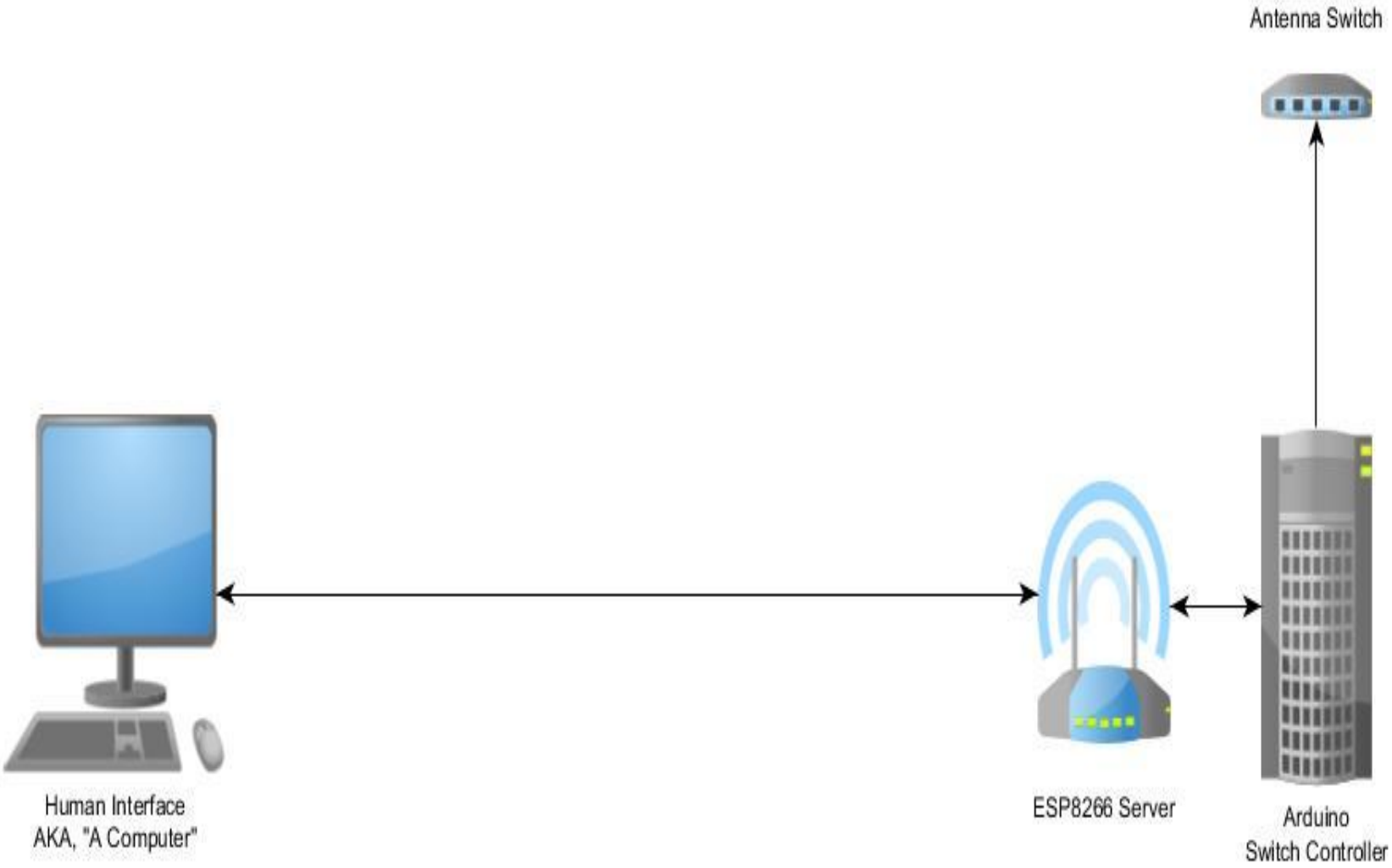
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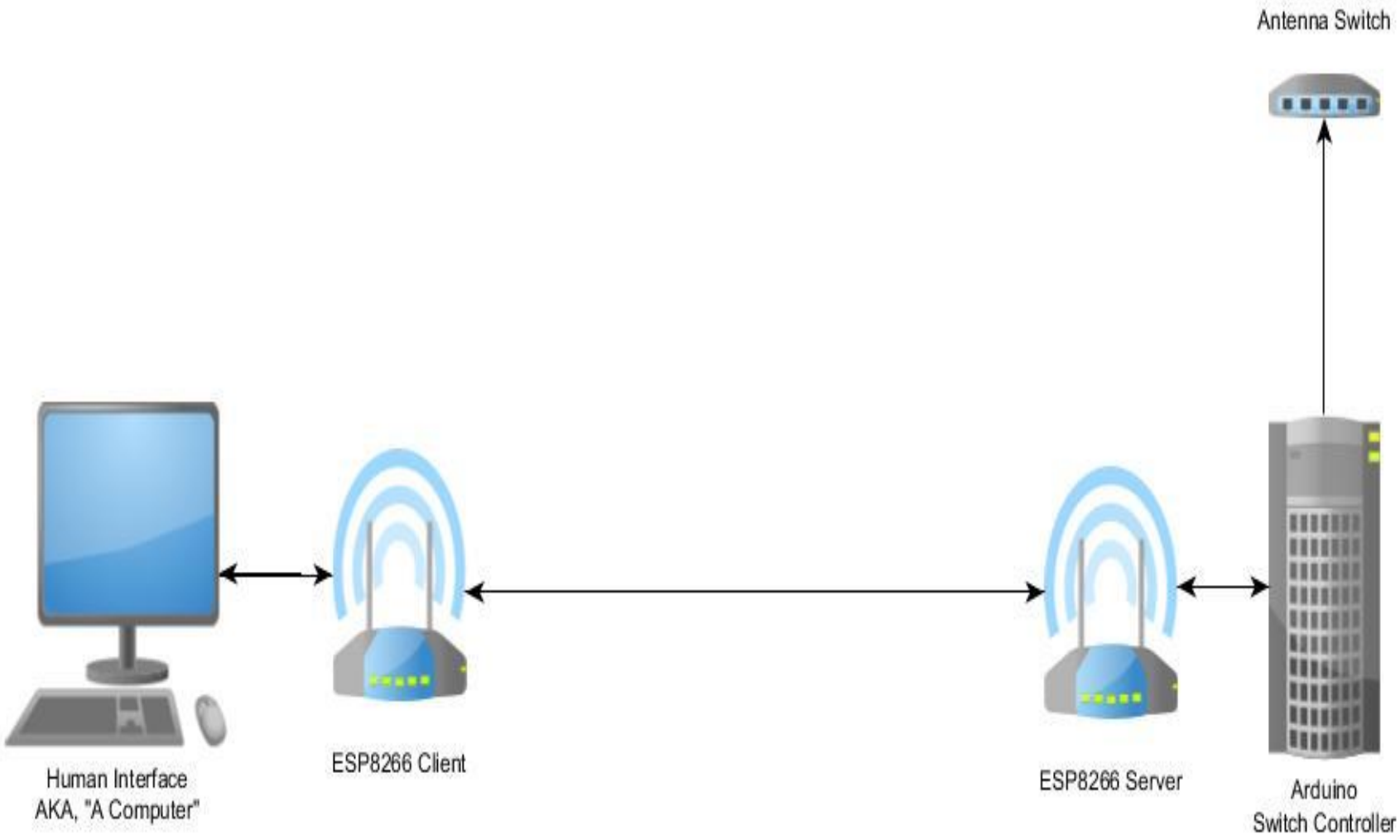
Arduino
Switch Controller


Antenna Switch
Human Interface
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ESP8266 Client
ESP8266 Server
Arduino
Switch Controller

Cost Analysis:

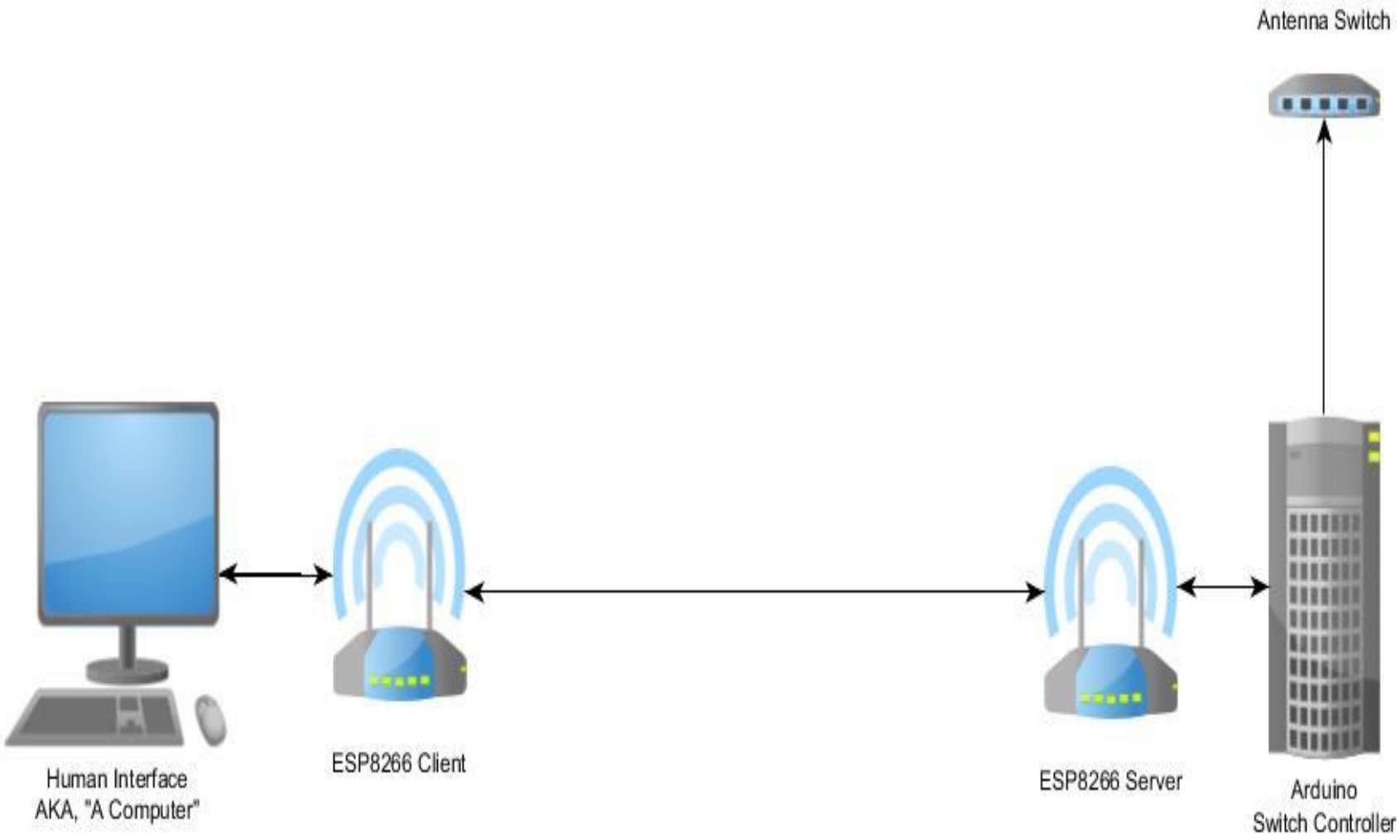
Arduino Uno R3…….5.40

8-Relay Board……..4.91

ESP8266-01……..……3.25

ESP8266-01……..……3.25

Total……..……$16.81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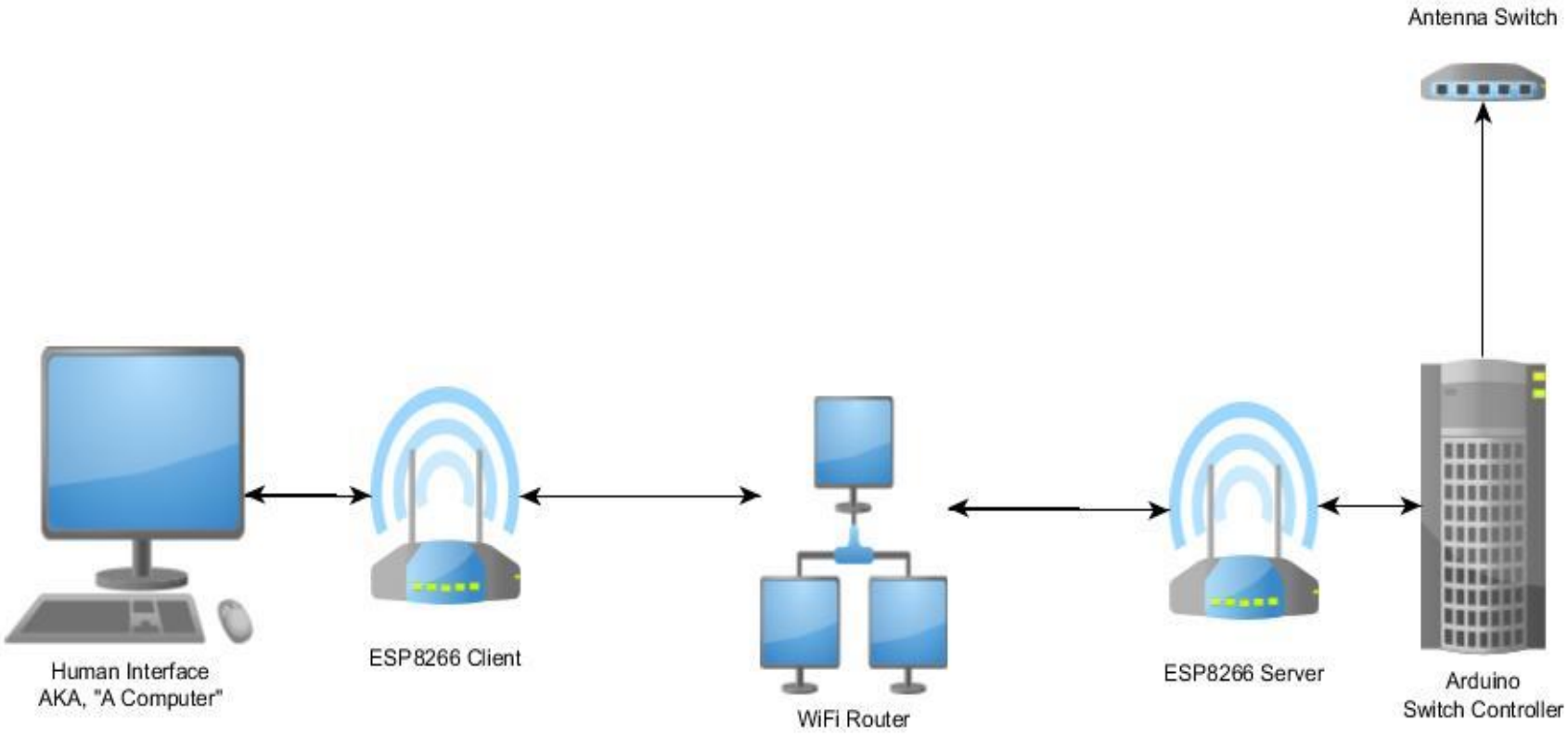
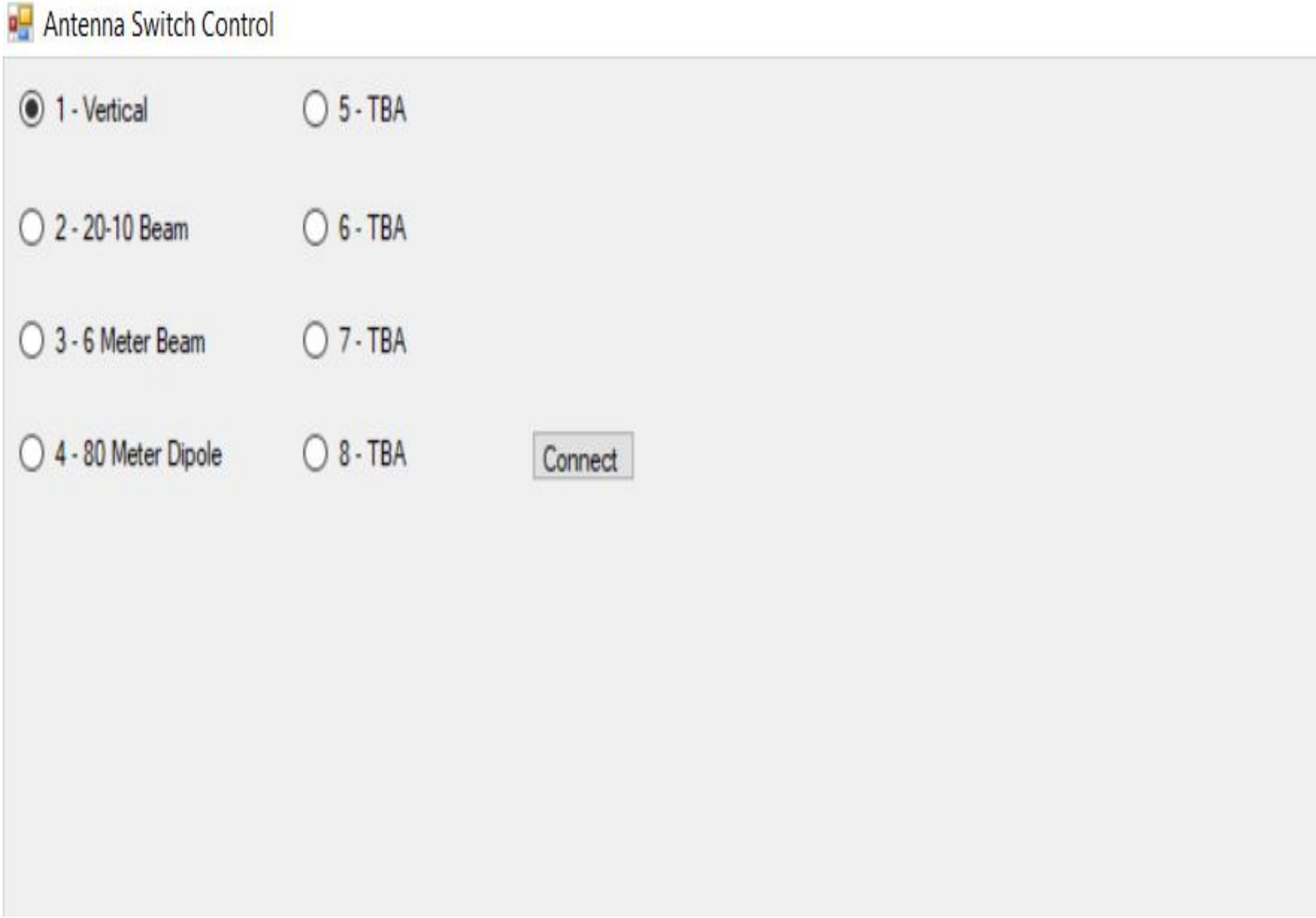
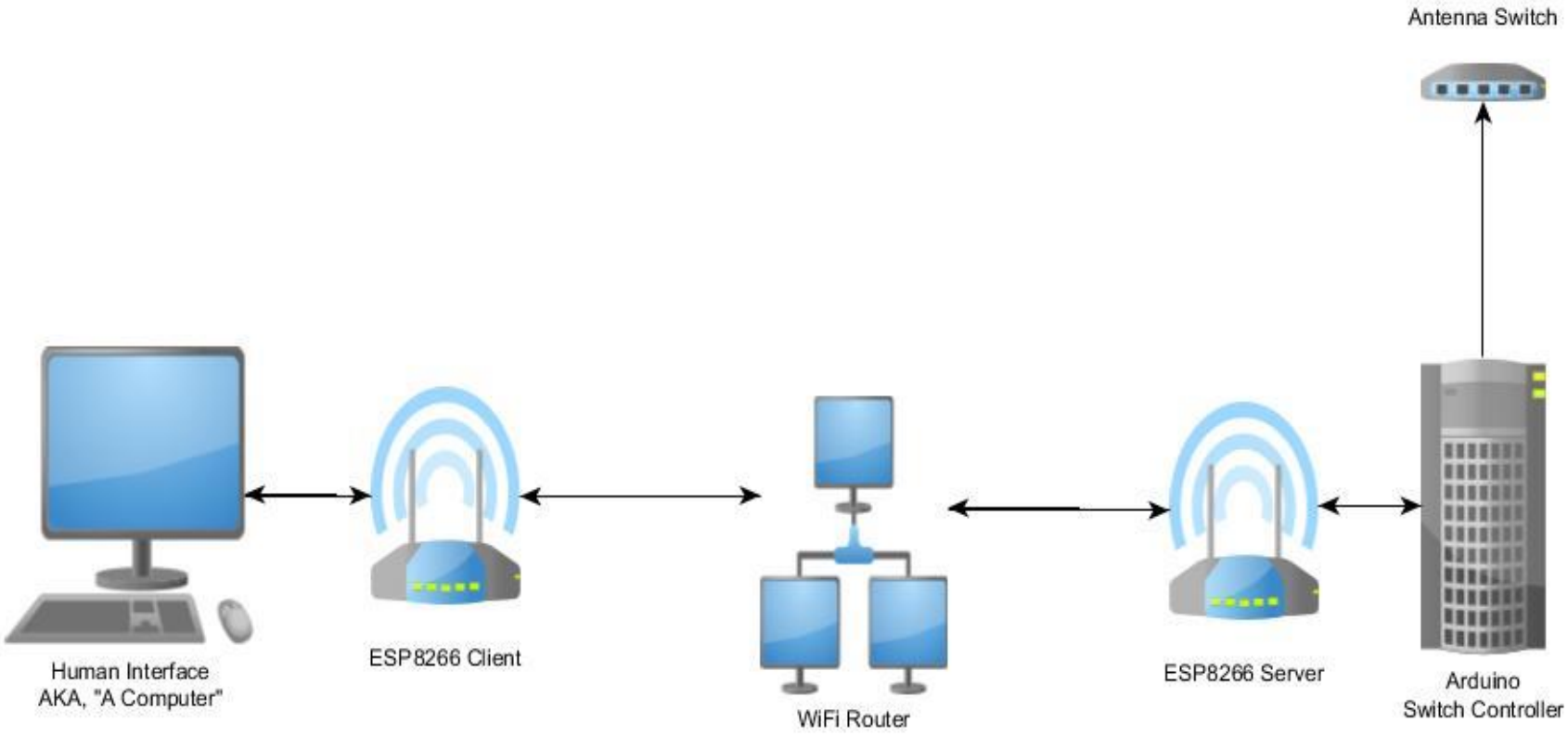

Antenna Switch
Human Interface
AKA, "A Computer"
ESP8266 Client
WiFi Router
ESP8266 Server
Arduino
Switch Controller


Control Char
Switch Number
Null


Antenna Switch Control
1 - Vertical
2 - 20-10 Beam
3 - 6 Meter Beam
4 - 80 Meter Dipole
5 - TBA
6 - TBA
7 - TBA
8 - TBA
Connect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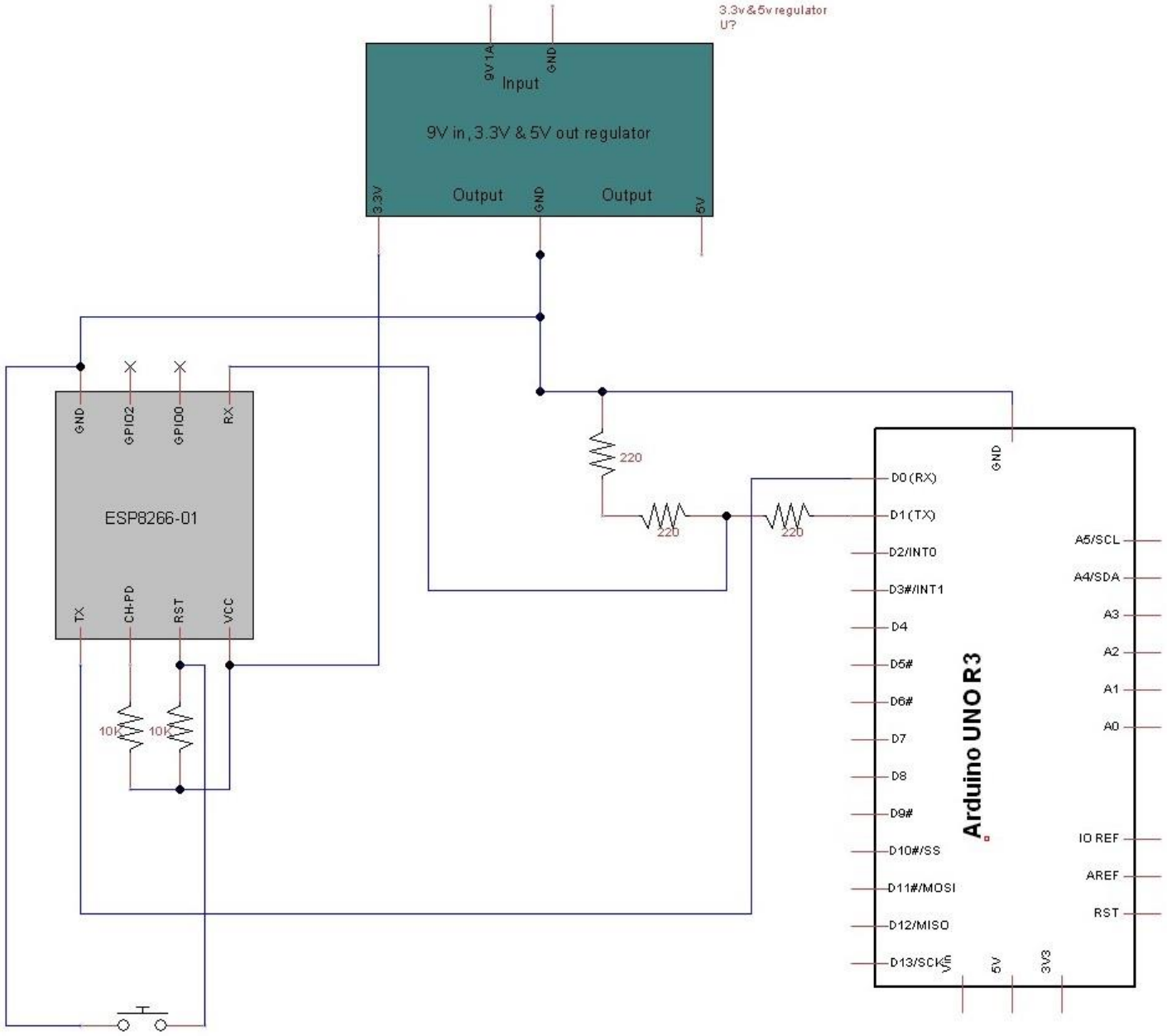
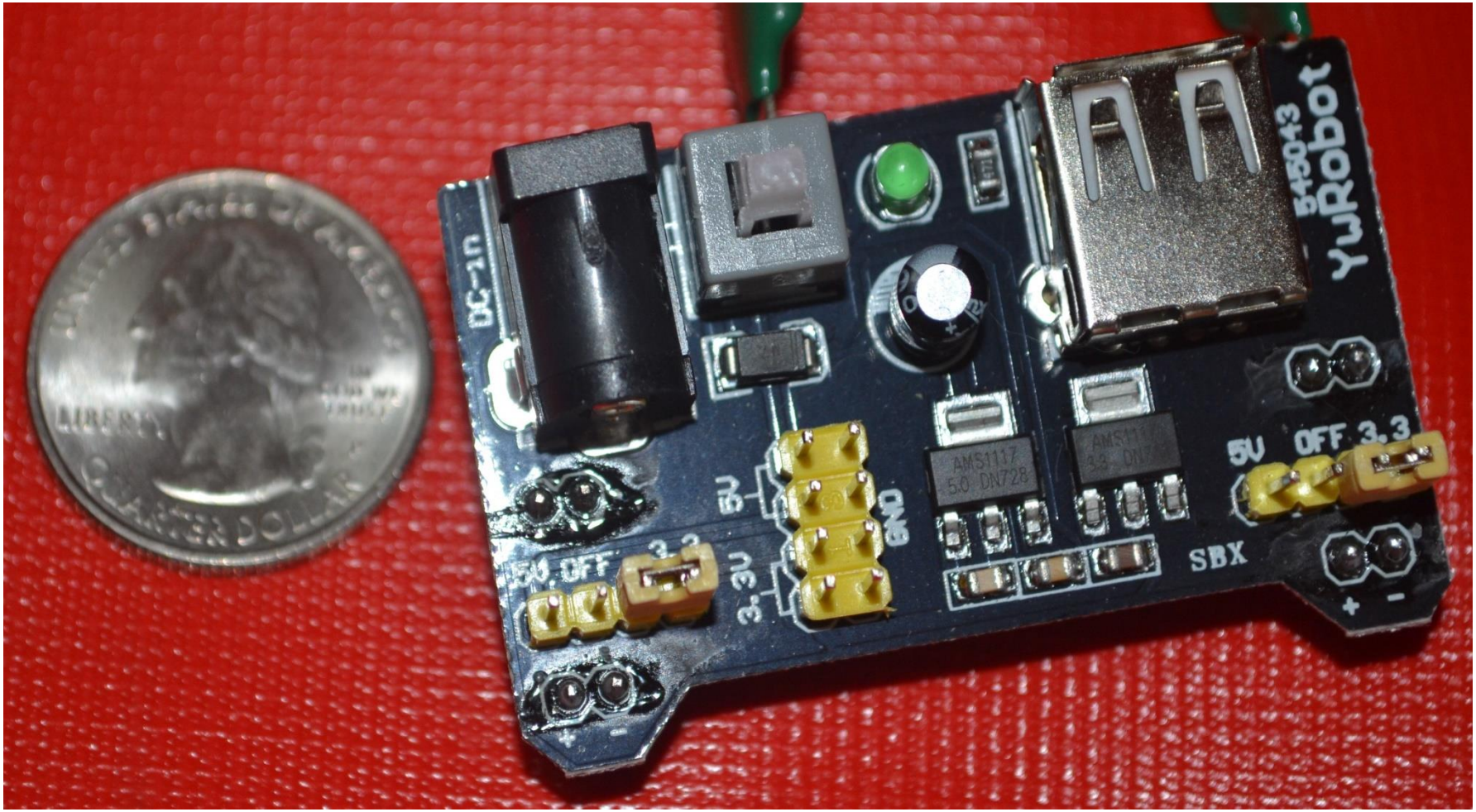

3.3v&5v regulator
U?
9V 1A
GND
Input
9V in, 3.3V & 5V out regulator
3.3V
Output
GND
Output
5V
GND
GPIO2
GPIO0
RX
ESP8266-01
TX
CH-PD
RST
VCC
10K
10K
220
220
220
GND
D0 (RX)
D1 (TX)
D2/INT0
D3#/INT1
D4
D5#
D6#
D7
D8
D9#
D10#/SS
D11#/MOSI
D12/MISO
D13/SCK
Arduino UNO R3
A5/SCL
A4/SDA
A3
A2
A1
A0
IO REF
AREF
RST
Vin
5V
3V3


DC-IN
5V
GND
3.3V
5V OFF 3.3
AMS1117
5.0 DN728
AMS1117
3.3 DN728
5V OFF 3.3
SBX
+ -
545043
YwRobot

Cost Analysis:

Arduino Uno R3…….5.40

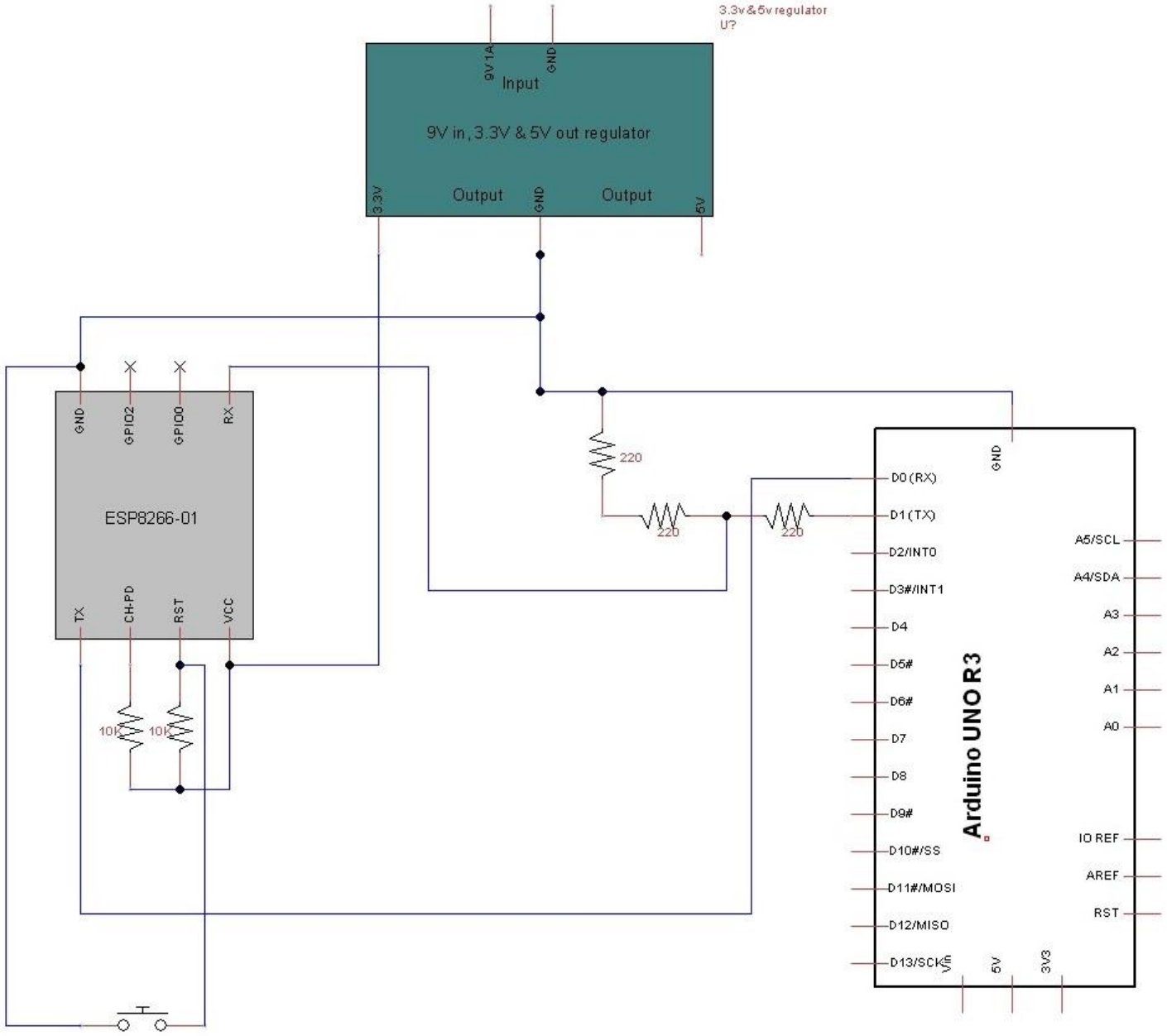
8-Relay Board……..4.91

ESP8266-01……..3.25

ESP8266-01……..3.25

Regulator Board……1.67

Total……$18.48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GPIO0
RX
ESP8266-01
TX
CH-PD
RST
VCC
10K
10K
220
220
220
GND
D0 (RX)
D1 (TX)
D2/INT0
D3#/INT1
D4
D5#
D6#
D7
D8
D9#
D10#/SS
D11#/MOSI
D12/MISO
D13/SCK
Arduino UNO R3
A5/SCL
A4/SDA
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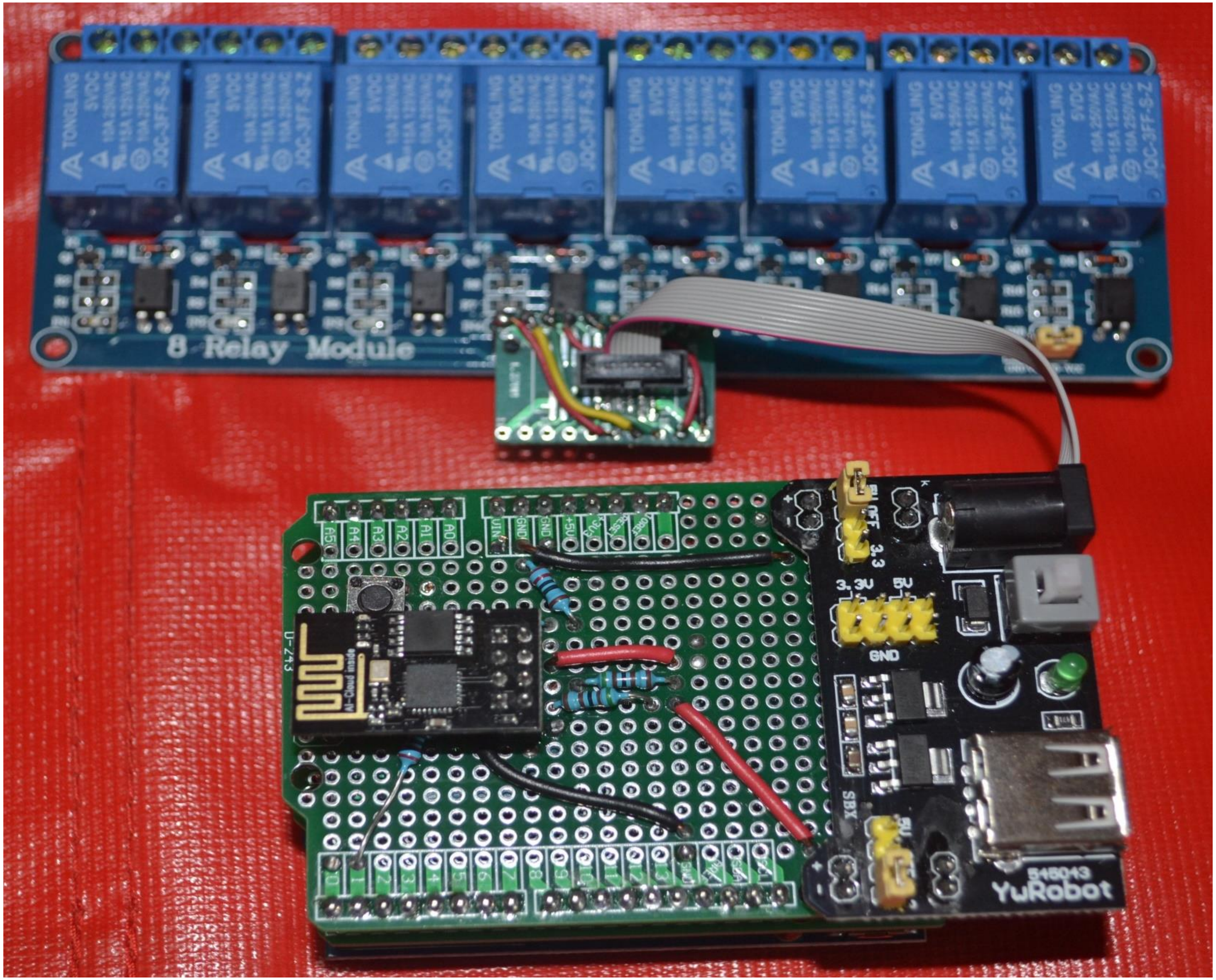
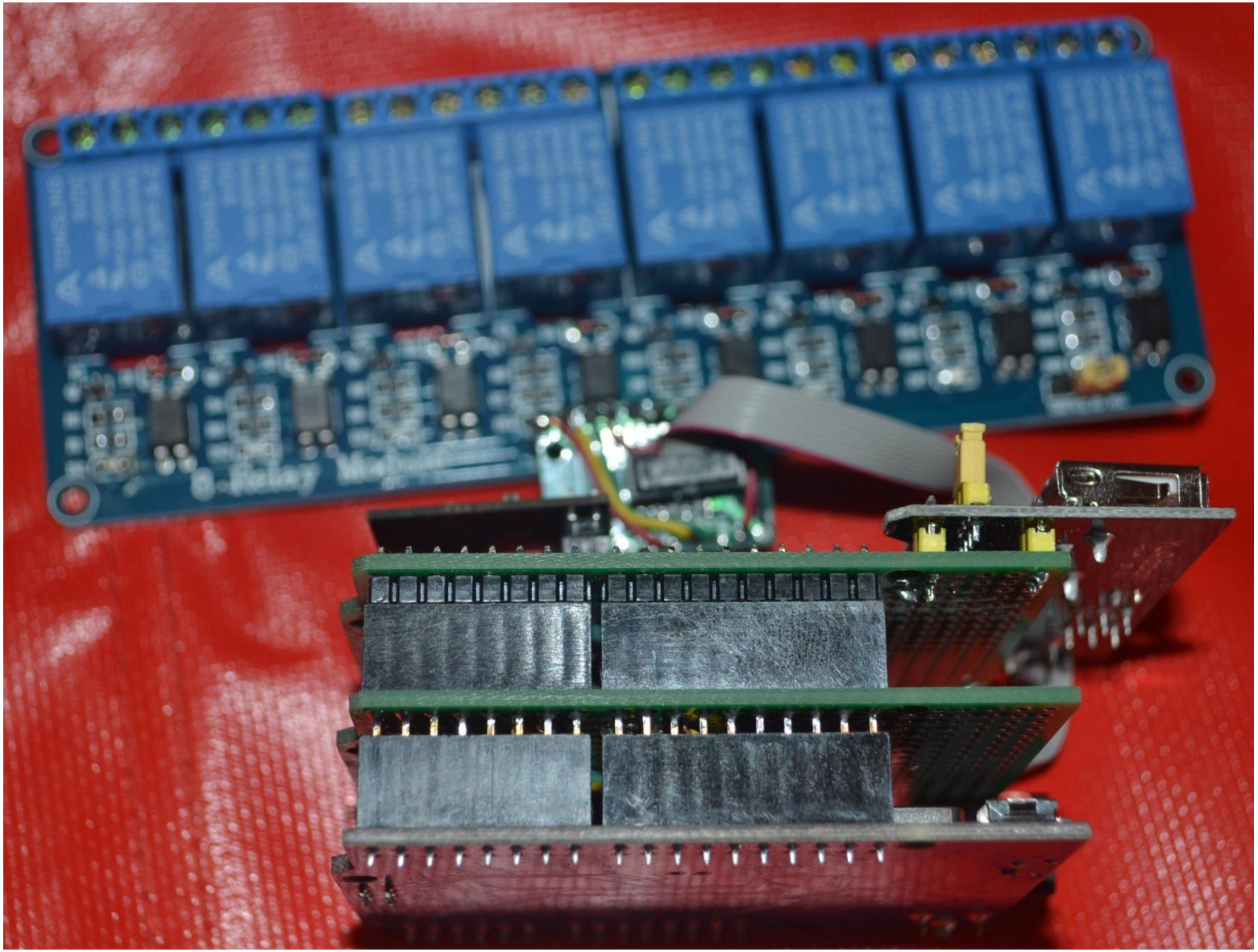
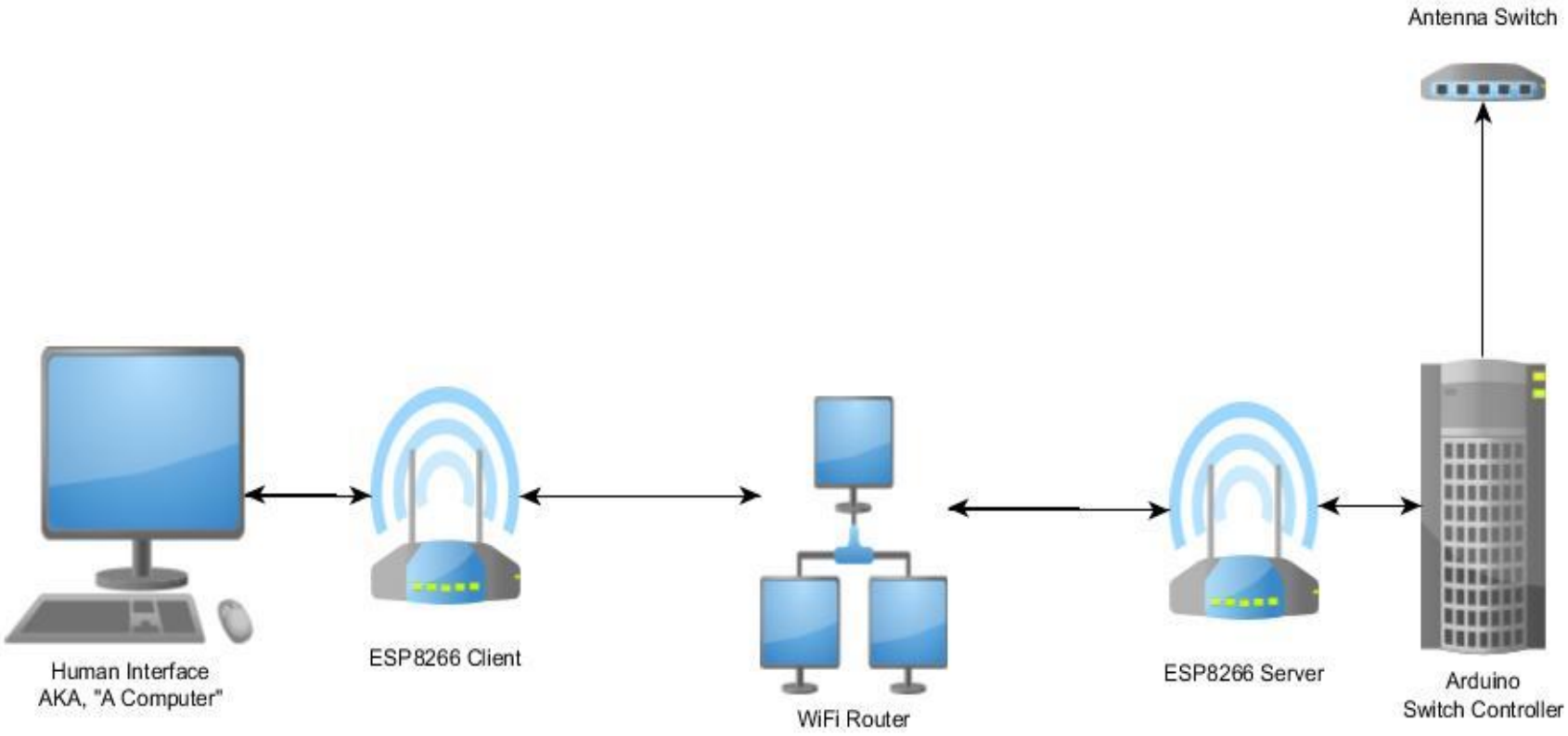
A2
A1
A0
IO REF
AREF
RST
Vin
5V
3V3


8 Relay Module
TONGLING
5VDC
JQC-3FF-S-Z
3.3V
5V
GND
YuRobot

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Switch Number
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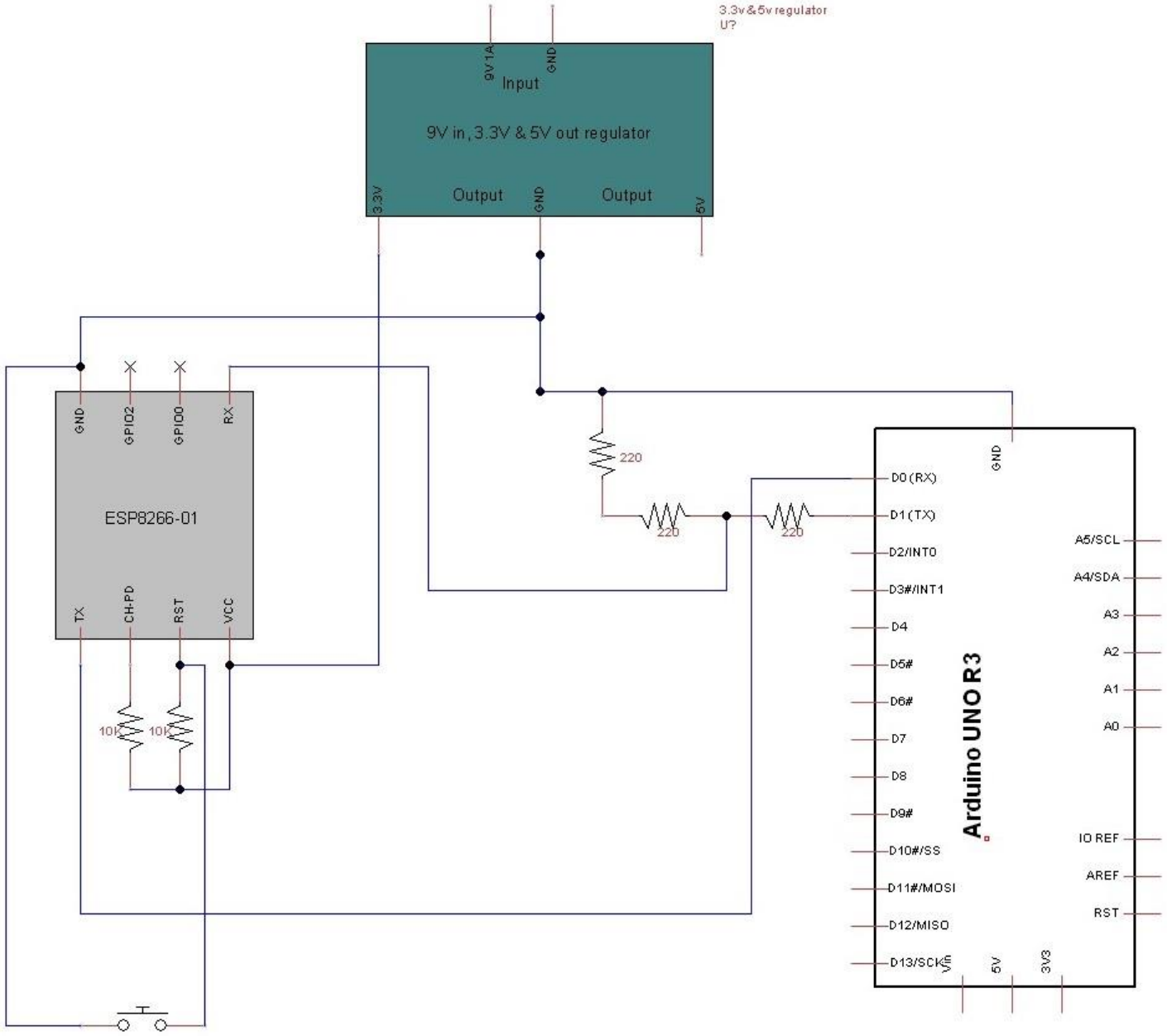
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ESP8266-01
TX
CH-PD
RST
VCC
10K
10K
220
220
220
GND
D0 (RX)
D1 (TX)
D2/INT0
D3#/INT1
D4
D5#
D6#
D7
D8
D9#
D10#/SS
D11#/MOSI
D12/MISO
D13/SCK
Arduino UNO R3
A5/SCL
A4/SDA
A3
A2
A1
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IO REF
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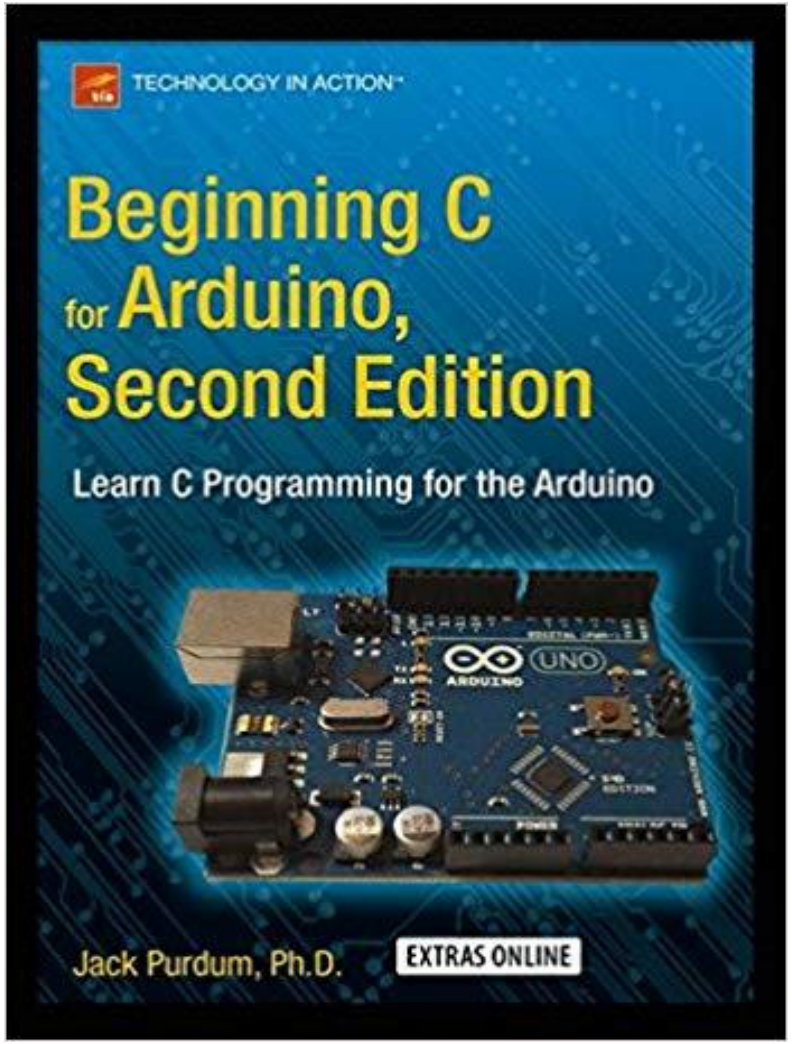
TECHNOLOGY IN ACTION
Beginning C for Arduino, Second Edition
Learn C Programming for the Arduino
ARDUINO UNO
Jack Purdum, Ph.D.
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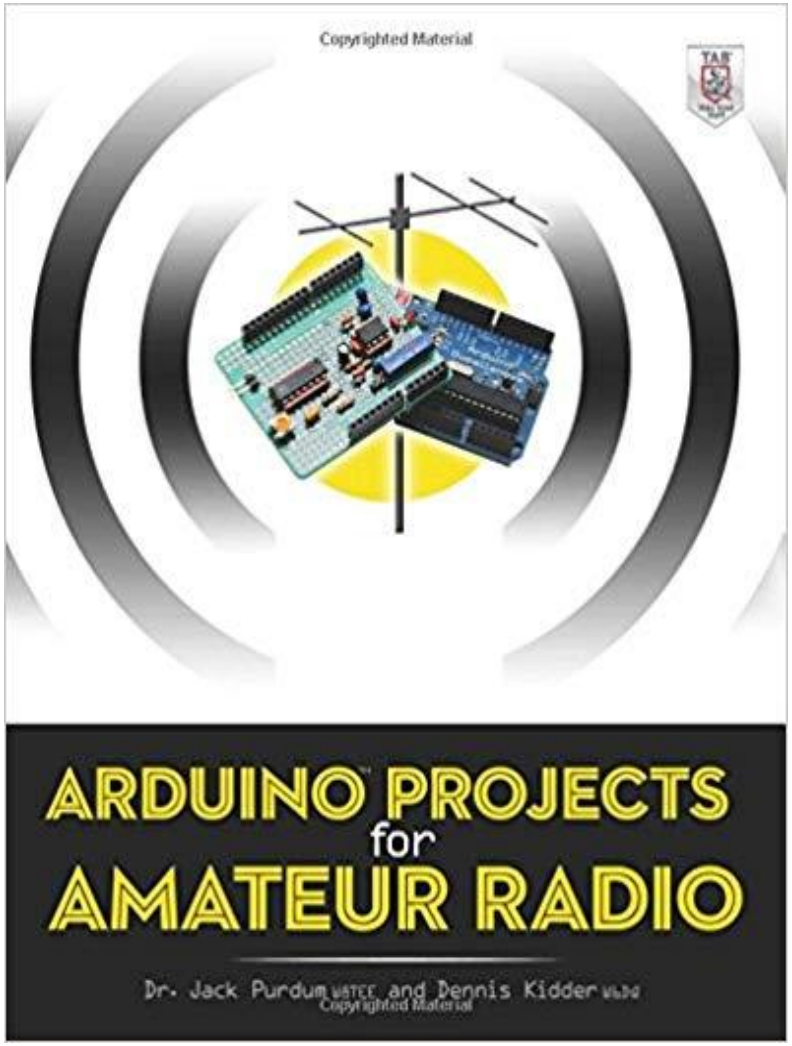
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