Power Control
User Manual

INDEX

2011. 10. 04

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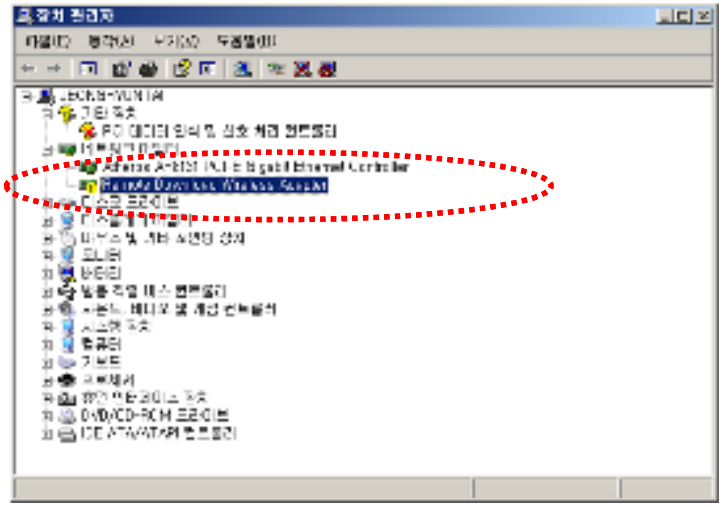
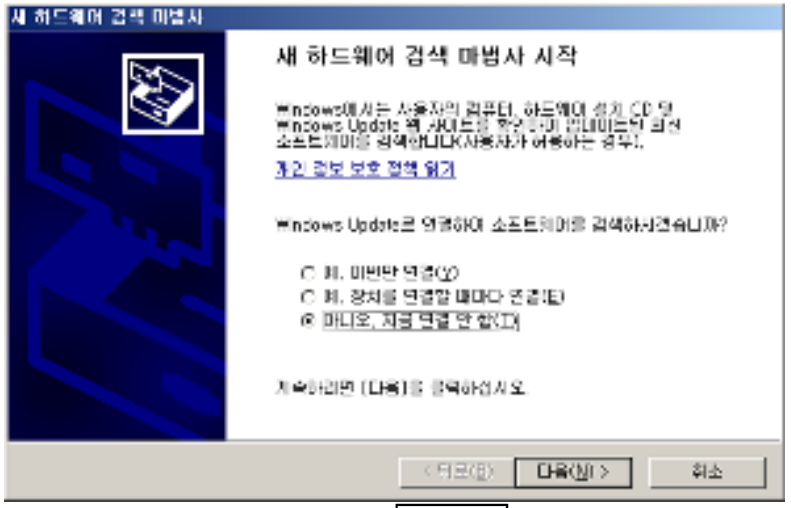
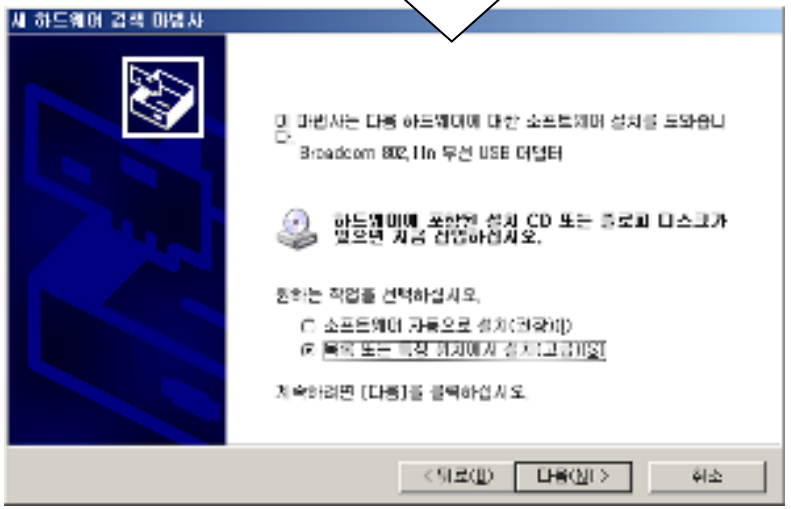
1. Driver Install

Internal Use Only







✓ **Remote Download Wireless Adaptor**

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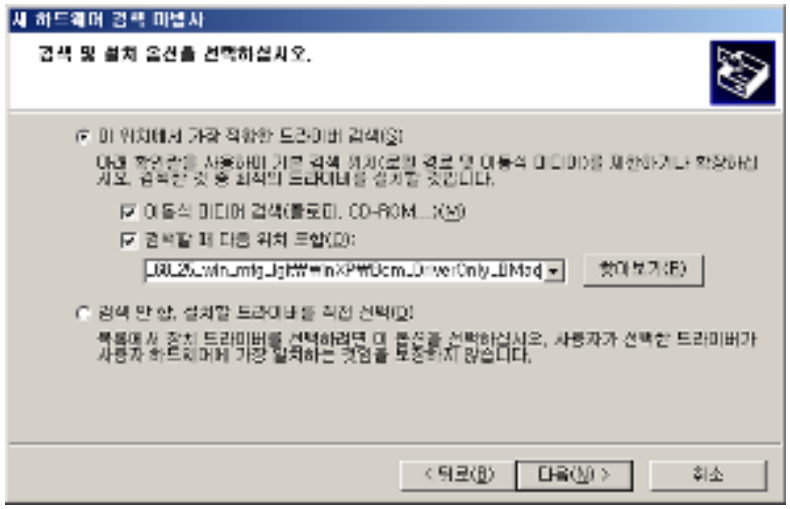
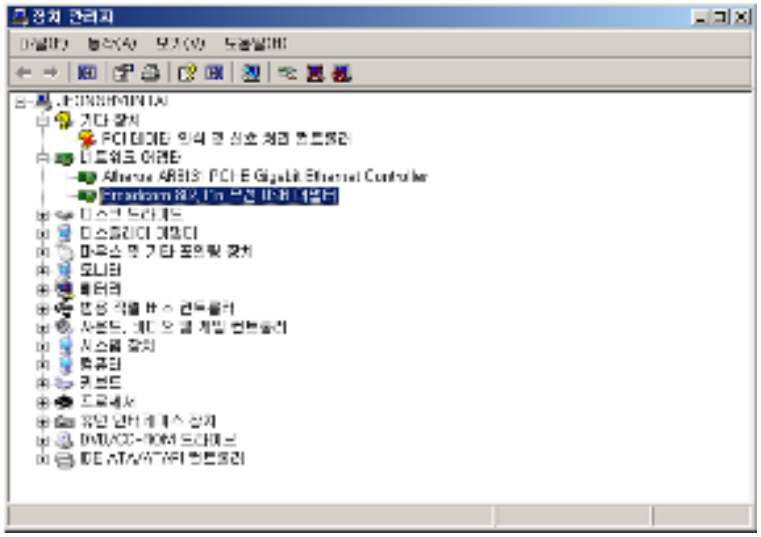
1. Driver Install

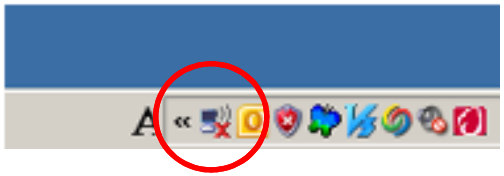
Internal Use Only





✓ **To install driver**
"Broadcom 802.11n Wireless USB Adaptor"

✓ **Start – Run – "services.msc"**
"Wireless Zero Configuration" function is stop.



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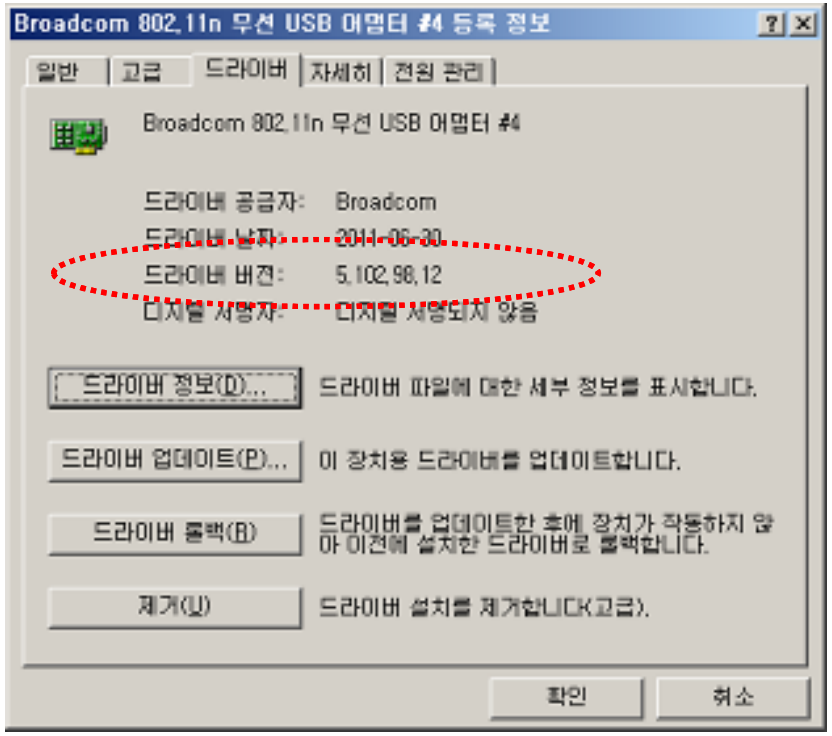
1. Driver Install



✓ **Driver Version : 5.102.98.12**

When the driver installed completely, please right-click the adaptor again and select "Properties" to setup following items;

- ✓ **40MHz Intolerant : Disabled**
- ✓ **Bandwidth Capability : 11a/b/g:20/40MHz**
- ✓ **Power Save mode : Disabled**
- ✓ **IBSS 54g(tm) Protection Mode : Disabled**
- ✓ **IBSS Link Indication : Legacy**
- ✓ **IBSS Mode : 802.11 a/b/g/n Auto**
- ✓ **IBSS Allowed : Enabled**

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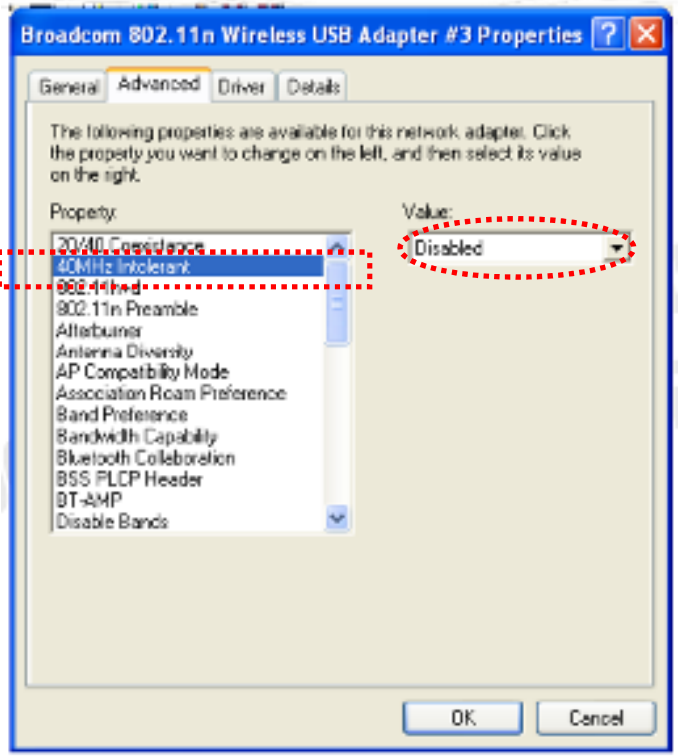
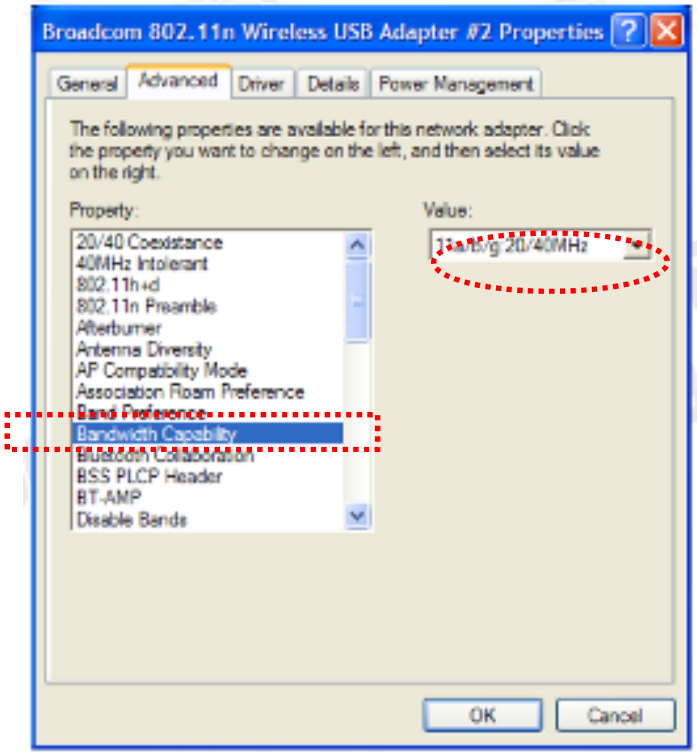
1. Driver Install





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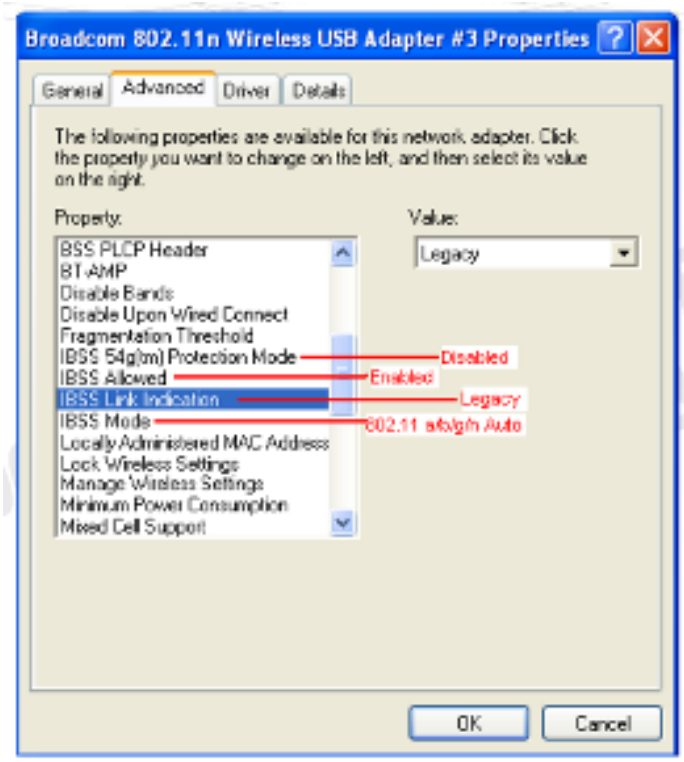
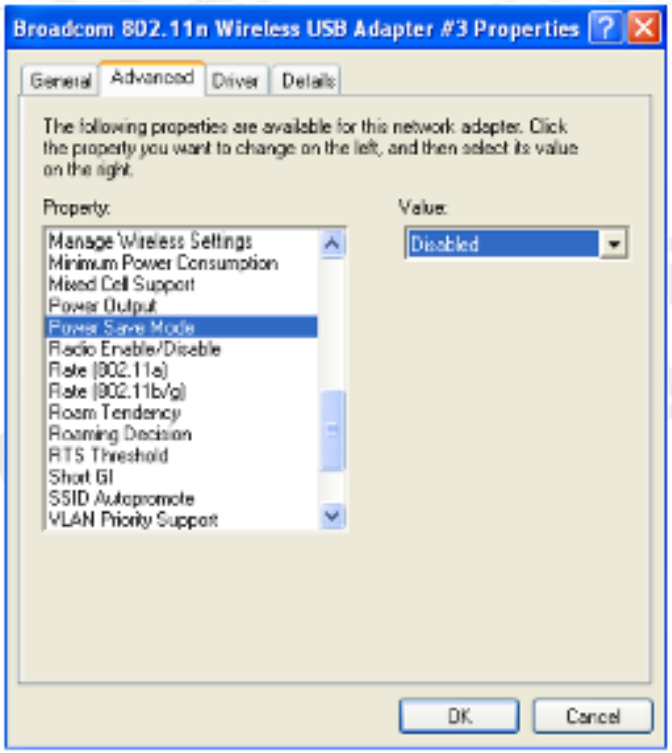
1. Driver Install





Keep all the other settings as default.
Unplug and Plug module once to make sure the initialization is done properly.

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- ✓ **vcredist_x86.exe for VC++ run time library**

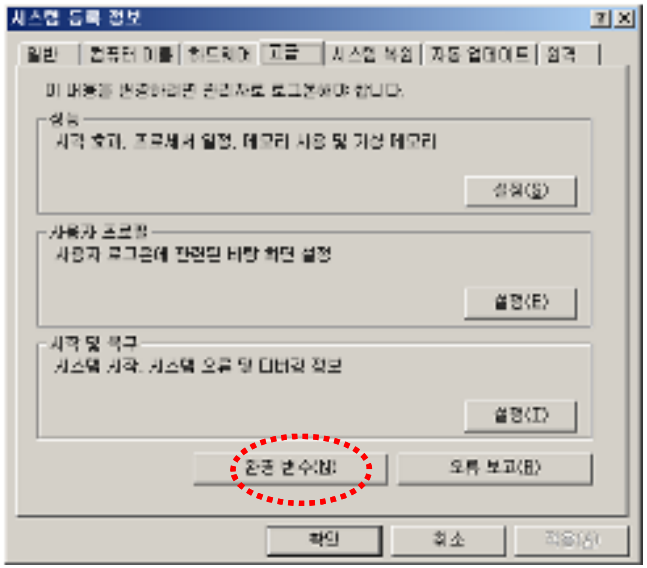
- ✓ **IQfact v1.1.exe for Matlab Runtime Library**

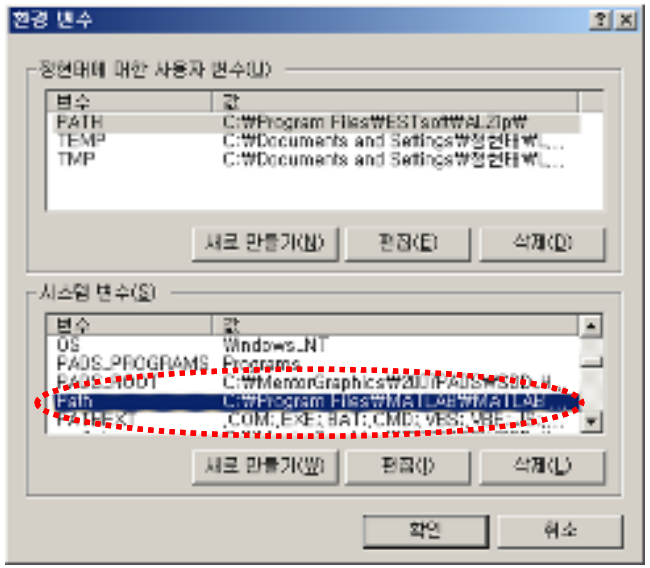
- ✓ **Start ->Control Panel -> System ->Advanced->Environment Variables**

To select Path from System Variable and edit it (push Edit button) To add two directories for Matlab runti me library

C:₩Program Files₩MATLAB₩MATLAB Component Runtime₩v76₩runtime₩win32

C:₩Program Files₩MATLAB₩MATLAB Component Runtime₩v76₩bin₩win32





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2. Install Program

- ✓ Copy the Duck folder.
- ✓ Perform “Duck1.1.9.exe”

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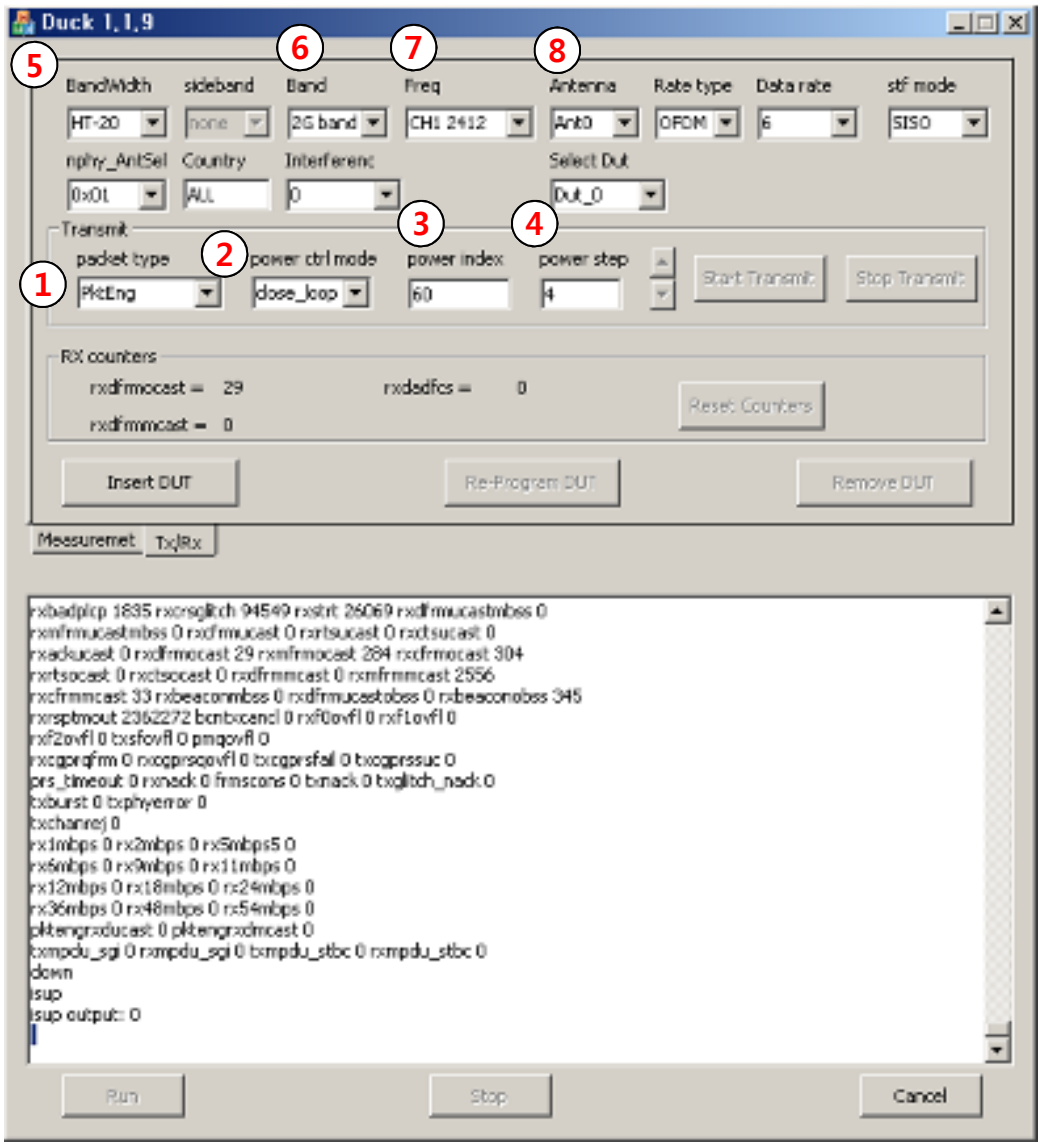
3. Duck Menu



1. Packet type : ttcp, PktEng
   → **PktEng**
2. Power ctrl mode : open_loop, close_loop
   → **close_loop**
3. Power index
   → 2 step =0.5dB, 4 step =1.0dB
   ex) 60/4=15dB, 52/4=13dB
   2 step (0.5dB)
4. Power step
   → 2 or 4 step
5. Bandwidth
   → HT20 : 802.11 a,b,g,n(HT20)
   → HT40 : 802.11n(HT40)
6. Band
   → 2G Band
   → 5G Band
7. Freq.
   → Test Frequency
8. Antenna
   → Ant0, Ant1

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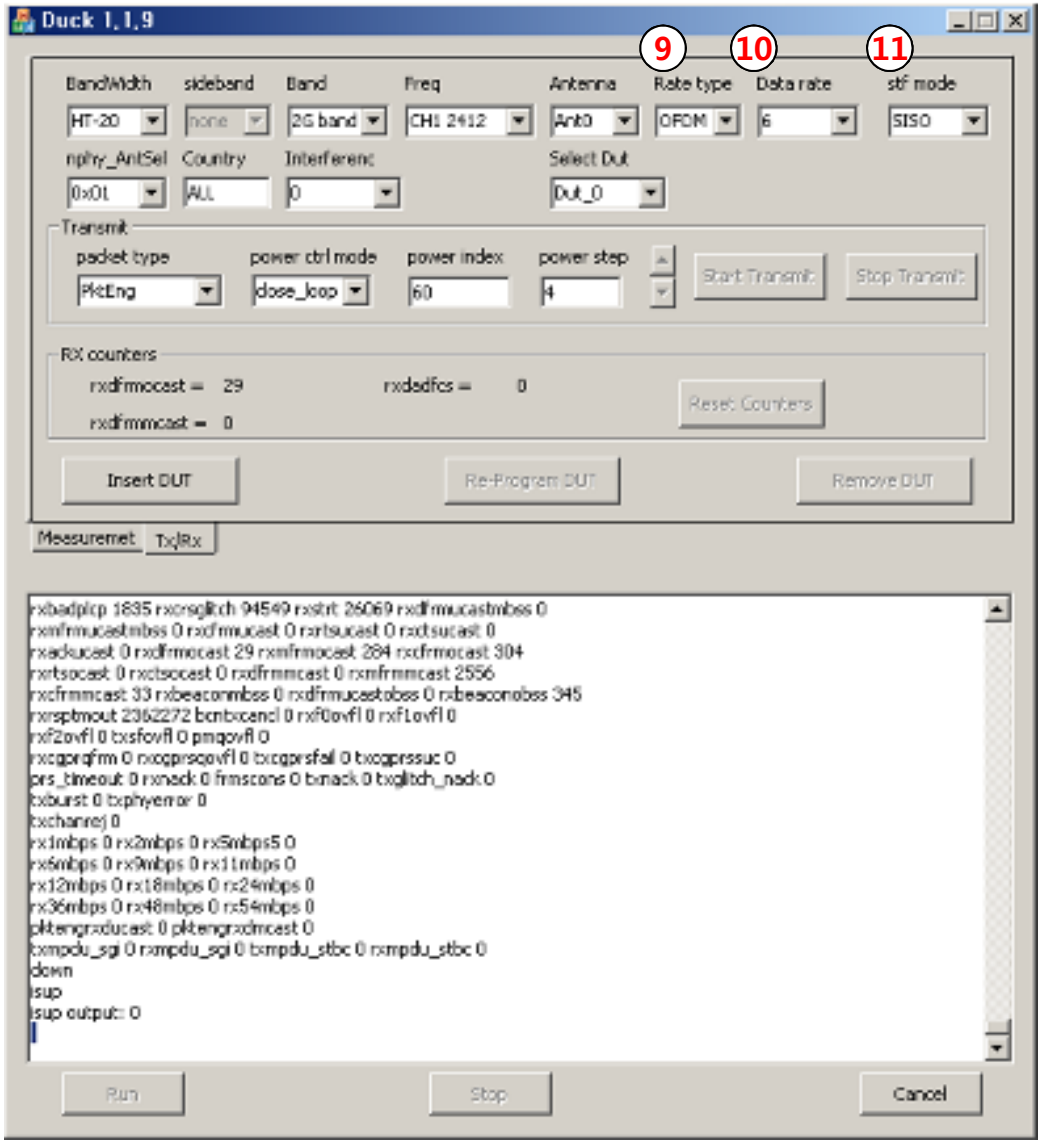
3. Duck Menu



9. Rate type & 10. Datarate

(mode Datarate)

→ CCK : 11b (1, 2, 5.5, 11Mbps)

→ OFDM : 11g, 11a

(6, 9, 12, 18, 24, 36, 48, 54Mbps)

→ MCS : 11n (MCS0, 1, 2, 3, 4, 5, 6, 7)

Index	HT20	HT40
MCS0	6.5	13.5
MCS1	13	27
MCS2	19.5	40.5
MCS3	26	54
MCS4	39	81
MCS5	52	108
MCS6	58.5	121.5
MCS7	65	135

11. Stf mode : SISO, CDD

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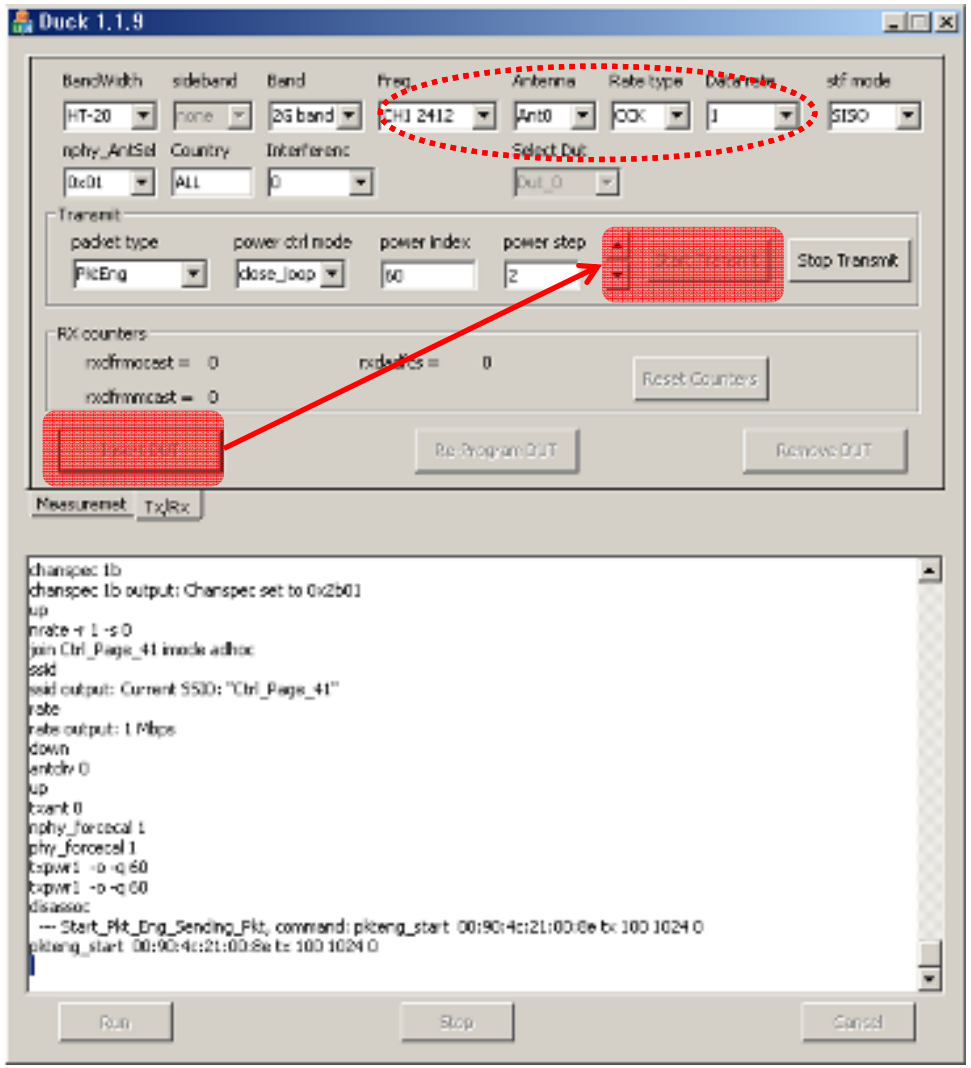
4. Example

11b, 2412MHz ,1Mbps ANT0 15dBm setting.



➢ TX Test

Insert WiFi module
WL Command "wl phy_watchdog 0"
Mode. ANT, Datarate

Insert DUT → Start Transmit

WL Command
wl channel
wl rate

```
C:#Duck_1_1_8_all>wl channel
No scan in progress.
current mac channel     1
target channel  1

C:#Duck_1_1_8_all>wl rate
1 Mbps
C:#Duck_1_1_8_all>
```

→ Check current Channel & Datarate

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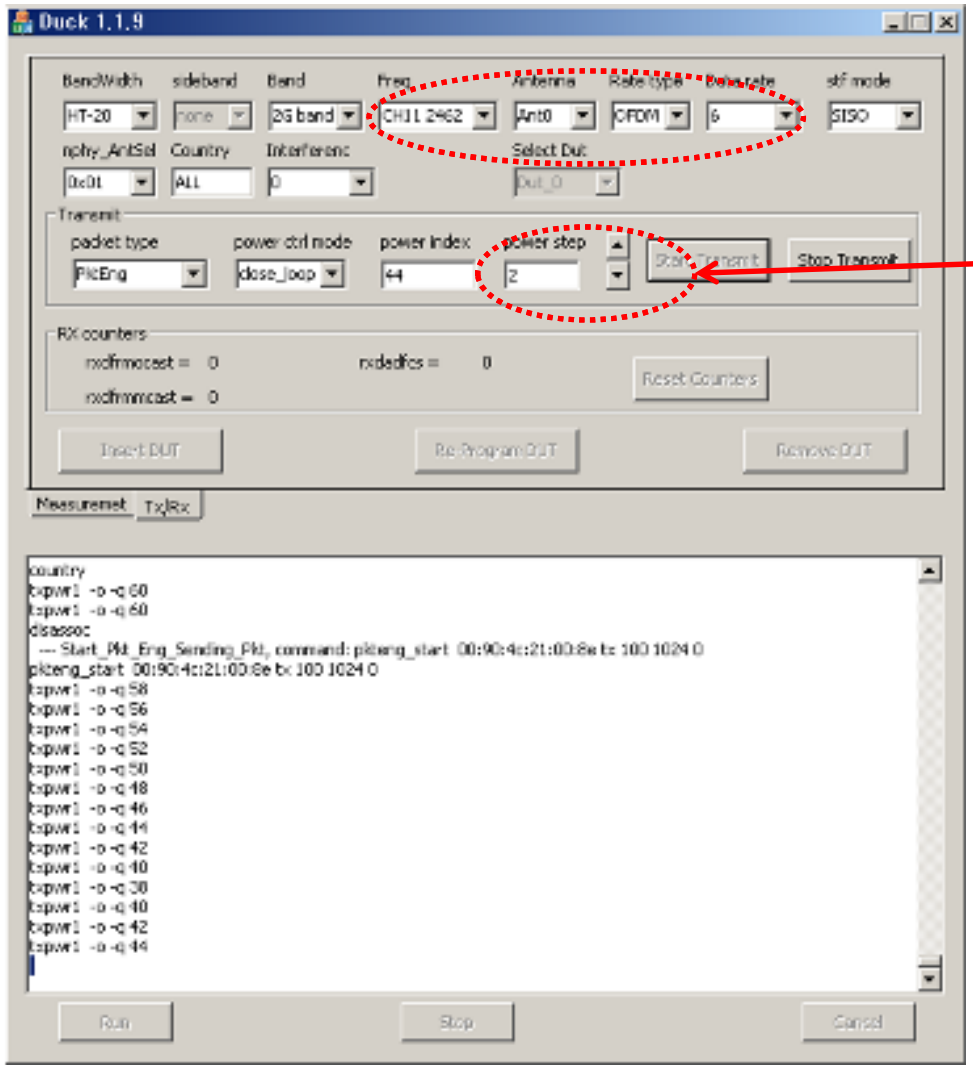
4. Example

11g, 2462MHz ,6Mbps ANT0 11dBm



2 step (0.5dB)

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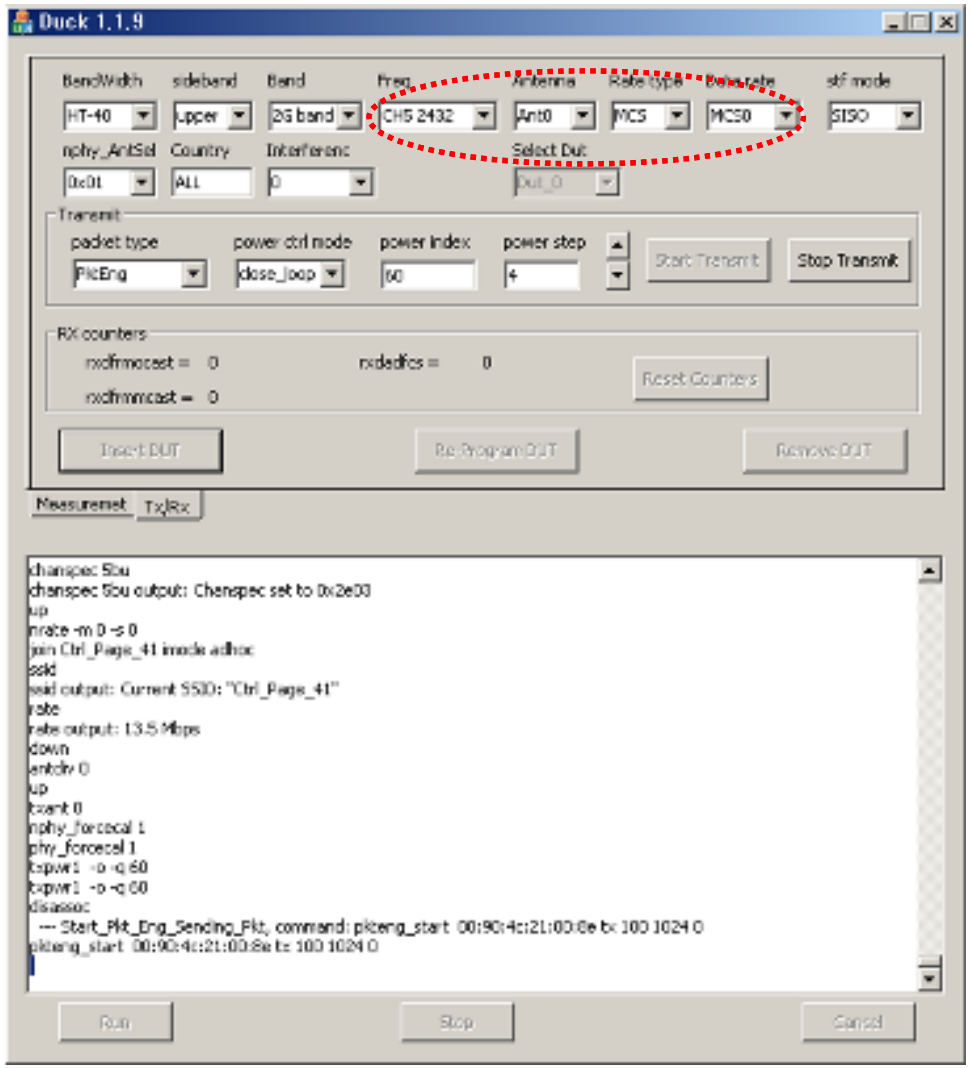
4. Example

11n(2G), HT40, 2422MHz, MCS0 ANT0 15dBm



HT40 setting
Sideband : upper, CH5 2432MHz Minus 10MHz
2422MHz is center frequency.

```
C:\Duck_1_1_8_all>wl channel
No scan in progress.
current mac channel     3
target channel  3

C:\Duck_1_1_8_all>wl rate
13.5 Mbps
```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This equipment has been tested and found to comply with the limits for a Class B digital device,
pursuant to Part 15 of the FCC Rules. These limits aredesigned to
provide reasonable protection against harmful interference in aresidential installation.
This equipment generates, uses and can radiate radiofrequency energy and,
if not installed and used in accordance with the instructions,
may cause harmful interference to radio communications. However,
there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception,
which can be determined by turning the equipment off and on,
the user isencouraged to try to correct the interference by one or more of the following

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) This device may notcause harmful interference, and
(2) this device must accept any interference received,
including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
This equipment should be installed and operated with minimum 20 cm
between the radiator and your body.

IC Warning This device complies with Industry Canada licence-exempt RSS standard(s).
Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio
exempts de licence.L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi,
même si le brouillage est susceptible d'en compromettre le fonctionnement.

Remark

■This radio can not be installed in host where co-located or operating in conjunction with any other antenna or transmitter.

■This radio must be restricted to install in host that is intended for indoor use only for 5150-5250MHZ band,

■Wi-Fi label is written at the end of the TV.

For label requirement when transmitter module is installed in a host,
the host shall have an additional permanent label referring to the enclosed module
“Contains Transmitter Module FCC ID: BEJTWFMB003D”

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