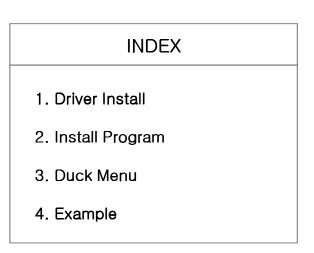
The First Partner



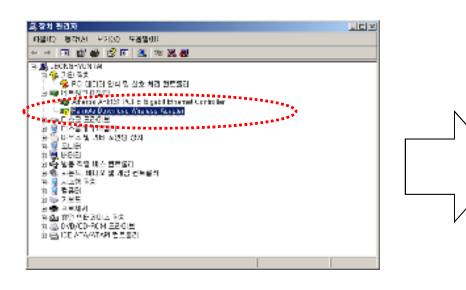
Power Control User Manual



2011. 10. 04







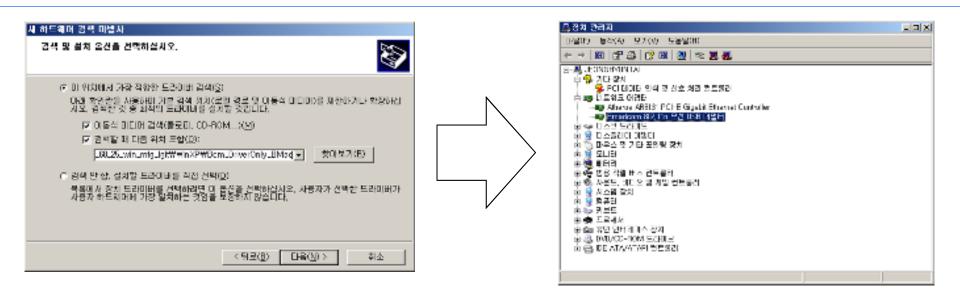
✓ Remote Download Wireless Adaptor

세 하드웨어 검색 미법사				
28	새 하드웨어 검색 마범사 시작			
	Windows에서는 사용자의 컴퓨터, 하드웨이 성치 (D 및 Windows Update 웹 사이트를 확인하게 입니미드한 최신 소프트웨어를 임약합니다(사용자가 허용하는 경우),			
	<u>개인 정보 보호 정책 위기</u>			
	Windows Update을 양렬하여 소프트웨어를 검색하시겠습니까?			
	C 제, 미번만 연결(X)			
	이 제, 장치를 연결할 때마다 연결(E)			
	이미니오, 지금 명결 한 합(I)			
	NAMES OF STREET, BRIDE & D.S.			
	계속하려면 (다음)을 방복하십시오.			
	< <u>티르(道)</u> 타용(<u>M</u>) > 취소			
세 하드웨어 검색 마법사				
	\sim			
20				
	U 마법사는 다음 하드웨다에 대한 소프트웨어 설치를 도와옵니 			
	Broadcom 802,11n 무선 USE 대행터			
	🥝 한들앱이에 포함할 성치 CD 또는 중로파 디스크가 한호텔 지방 전망하십시오.			
	통하는 작업을 선택하십시오.			
	이 소프트웨어 자동으로 성치(권장)(I)			
	C 모르크세이 사용으로 동차(Sen) & 몸쪽 또는 특징 어치에서 감치(고급)(<u>S</u>)			
	계속하려면 [다동]을 클릭하십시오.			
	(위로([]) 다음()[1> 취소			

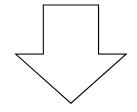


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- ✓ To install driver
 "Broadcom 802.11n Wireless USB Adaptor"
- Start Run "services.msc"
 "Wireless Zero Configuration" function is stop.









Broadcom 802,11n 무션 US	B 어렵티 #4 등록	· 정보	? ×
일반 고급 드라이버 ;	자세히 [전원 판리	1	
Broadcom 802,11	n 무선 USB 어멉터	#4	
드라이버 공급자: 드라이버 봉좌:			
드라이네 버젼: 디치별 사망자:	5, 102, 98, 12 디지털 사망되지	않음	
드라이버 정보(D)	드라이버 파일에 (H한 세부 정보를 :	표시합니다.
드라이버 업데이트(P)	이 장치용 드라이터	#를 업데이트합니	Cł.
드라이버 롤백(B)	드라이버를 업데이 마 이견에 설치한	l트한 후에 장치가 드라이버로 롤백합	· 작동하지 않 입니다.
<u>(U</u>)/CIR	드라이버 설치를 기	비거합니CK고급).	
		확인	취소

✓ Driver Version : 5.102.98.12

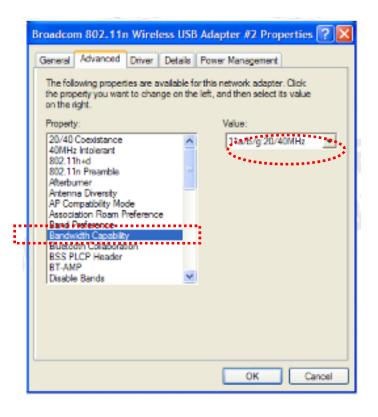
When the driver installed completely, please right-click the adaptor again and select "Properties" to setup following items;

- ✓ 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



Internal Use Only

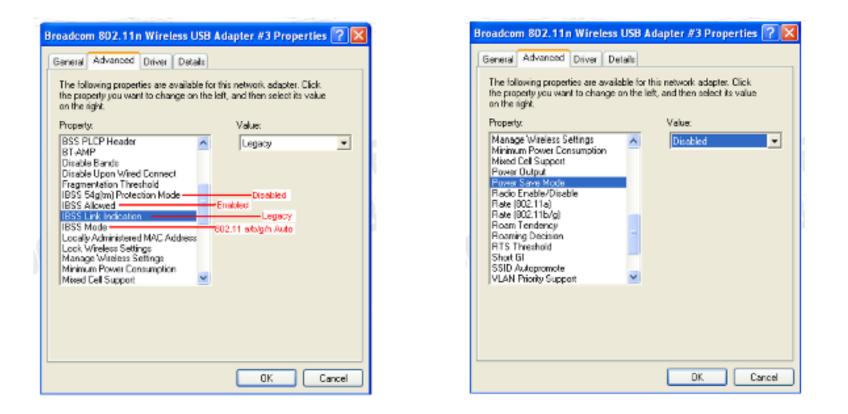
General Ad The followin the property on the right Property 20/40, Core 20/40,	vanced Driver ig properties are you want to ch victaoce cleant reamble fiversity tbility Mode n Roam Preferen eance Capability Collaboration 'Header	Details available for th ange on the lef	dapter #3 Prope is network adaptet I, and then select its Value: Disabled	Click
			OK	Cancel





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Keep all the other settings as default.

Unplug and Plug module once to make sure the initialization is done properly.

🕚 LG Innotek

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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

시스캡 등록 정보	7 ×	환경 변수	? X
일반 [컴퓨터 미를 하드웨어 고급] 시스템 색임 [자동 업데이트] 임격 미 배종과 변경하려면 관리자로 로그분했다 합니다. 영웅 - 시각 호과, 프로세서 일정, 메모리 사용 및 가상 메모리 		- 장현대에 대한 사용자 변수(U) 보수 값 PATH C:\#Program Files\#ESTsot\#ALZip\ TEMP C:\#Documents and Settings\#정현태\\ TMP C:\#Documents and Settings\#정현태\\	
- 사용자 프로핑 사용자 루그운데 관련된 비랑 최면 설정 설정(E)			
사학 및 북구 시스템 시작: 시스템 오류 및 디버린 적보 설명(I)		OS Windows_NT PADS_PROGRAMS_Programs PADS_STODI C:WMemorGraphicsW2UUPADSw580_U C:WMemorGraphicsW2UUPADSw580_U Pads	-
환경 분수(8) 오류 보고(8) 파인 취소 진동)	37	세로 만들기(말) 편집() 삭제(_) 확인 취소	



Internal Use Only

- \checkmark Copy the Duck folder.
- ✓ Perform "Duck1.1.9.exe"

Durk 1,1,8
wdr.wogr our vertrogs telepoor vertrog BROADCOM: Result type Intransmissionsenses Calander
Dod_11_0_af//Cat2017ex_work/25_bat_resist_for 125_a1_b0_or_jas.bt
TSE Societide HT 20 soldcool none Channel CP 202 rate CPDM 51 4423 440 publics PH265 51 32 ESE Standards (1-3) editand none Channel CP 240 mise CPDM 51 4423 440 publics PH268 51 52 TSE Societide HT 20 soldcoor none Channel CPC 257 510 2023 51 4421 4421 4421 4421 452 TSE Societide HT 20 soldcoor none Channel CPC 257 510 2023 51 4421 4421 4421 4521 452 TSE Societide HT 20 soldcoor none Channel CPC 257 510 2023 51 4421 4421 4521 452 455 51 52 TSE Societide HT 20 soldcoor none Channel CPC 257 510 2023 51 4421 4421 4521 452 51 51 52 TSE Societide HT 20 soldcoor none Channel CPC 257 510 2023 51 452 51 51 52 TSE Societide HT 20 soldcoor none CPC 257 510 2023 51 52 52 50 50 50 50 50 50 50 50 50 50 50 50 50
New York State
A society 1535 consplict 2556 molecular 2656 references historial and a society of the second society of the s
San Canor



3. Duck Menu

A Duck 1, 1, 9	
5 6 7 8 5 BandWidth sideband Band Freq Antenna Rate type Data rate stift HT-20 * hone * 25 band * CHI 2412 * Anto * OFOM * 6 * SIS nphy_AntSel Country Interferenc 0x01 * AL 0x01 * AL 0 * 3 4 packet type 2 power ctrl mode power index power step a Pacting dose_loop * 60 4 Pacting RX counters rxdfmocest = 29 rxdfmocest = 29 rxdfmocest = 0	
Insert DUT Re-Program DUT Remove D	UT
rxbadpicp 1835 rxxrsglitch 94549 rxstrt 26069 rxdfimucastmbss 0 rxmfimucastmbss 0 rxdfimucast 0 rxntsucast 0 rxdtsucast 0 rxstsucast 0 rxdfimucast 29 rxmfimucast 284 rxcfimucast 304 rxmtsucast 0 rxdformcast 29 rxmfimucast 2856 rxrsptmout 2052272 bentxcand 0 rxfforvf10 rxf1ovf10 rxf2ovf10 bxsfovf1 0 pmgovf10 pxdfimucastobss 0 rxbeaconobss 345 rxrsptmout 2052272 bentxcand 0 rxffovf10 rxf1ovf10 rxf2ovf10 bxsfovf1 0 pmgovf10 bxcgprsfal 0 bxcgprssuc 0 prs_timeout 0 rxprsqovf10 bxcgprsfal 0 bxcglitch_nadk.0 bxburst 0 bphyenor 0 txchanrej 0 rx10mbps 0 rx2mbps 0 rx5mbps 5 0 rx5mbps 0 rx18mbps 0 rx2mbps 0 rx12mbps 0 rx18mbps 0 rx5mbps 0 rx12mbps 0 rx18mbps 0 rx5mbps 0 rx5mbps 0 rx5mbps 0 rx5mbps 0	1
Run Stop Ca	ncel

- 1. Packet type : ttcp, PktEng
 - → PktEng
- 2. Power ctrl mode : open_loop, close_loop

\rightarrow 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
 - \rightarrow 2 or 4 step
- 5. Bandwidth
 - → HT20 : 802.11 a,b,g,n(HT20)
 - → HT40 : 802.11n(HT40)
- 6. Band
 - \rightarrow 2G Band
 - → 5G Band
- 7. Freq.
 - → Test Frequency
- 8. Antenna
 - → Ant0, Ant1



Internal

Use Only

3. Duck Menu

🏯 Duck 1,1,9		9 10	
HT-20 Phone	26 band CH1 2412 CH1 2412 S		ka rate stf mode
packet type powe	r stri mode power index po sloop 💌 60 4	werstep x Sart Tra	stop Transmit
RX counters rxdfmocest = 29 rxdfmmcest = 0	rxdadfcs = 0	Reset Cour	tes
Insert DUT	Re-Program	DUT	Remove DUT
Measuremeti <u>Tudkx</u> rxbadpicp 1835 rxorsgitch 94549 rxofmucastmbss 0 rxofmucast 0 rxadsucast 0 rxofmocast 29 rxm rxofsocast 0 rxofsocast 0 rxofmu rxofsocast 0 rxofsocast 0 rxofmo rxofprond 2362272 bonbxcend 0 rxopprofil 0 txsford 0 progovf 0 rxopprofil 0 txsford 0 rxoppr) rartsucast 0 radisucast 0 Innocast 284 radirmocast 304 roadi 0 radirmocast 2556 radirmocastobes 0 rabeaconobes 3 radiowill 0 radiowill 0 orsfall 0 teogpressue 0 0 broack 0 teglitch_nack 0 0 broack 0 teglitch_nack 0 0 s 0 s 0 s 0 t 0	¥15	*
Run	Stop		Cancel

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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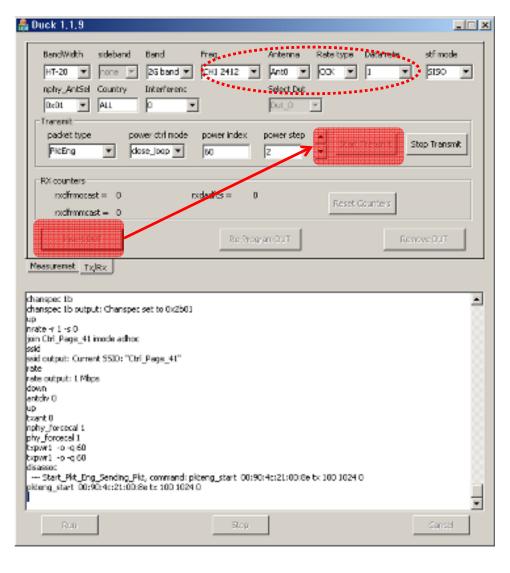
Internal

Use Only

4. Example

Internal Use Only

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

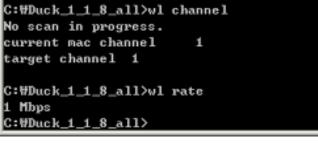


TX Test

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

Insert DUT → Start Transmit

WL Command wl channel wl rate



→ Check current Channel & Datarate



4. Example

Internal Use Only

11g, 2462MHz ,6Mbps ANT0 11dBm

🏯 Duck 1,1,9	1
BendWidth sideband Bend Frequencies Antenne Rate type Beix rate stf mode HT-20 Inone 25 band CH11 2462 Anto OFDM 6 5190 5190 nphy_AntSel Country Interference Select Dut 0 0 0 0	
Transmit packet type power ctri node power index power step PicEng V dose_loop V 44 2 V V Stop Transmit Stop Transmit	2 step (0.5dB)
RX counters rxdfmotest = 0 rxdfmmtest = 0 Insert DUT Restrogram DUT	
country topwr1 -0-q60 tspwr1 -0-q60 dsesse: Start_PAt_Eng_Sending_PAt, command: pitting_start_00:90:40:21:00:86 to 100:1024.0 pitting_start_00:90:40:21:00:86 to 100:1024.0 tspwr1 -0-q56 tspwr1 -0-q56 tspwr1 -0-q56 tspwr1 -0-q50 tspwr1 -0-q50 tspwr1 -0-q48 tspwr1 -0-q48 tspwr	
Run Bop Gansd	



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4. Example

Internal Use Only

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

🏯 Duck 1,1,9	×
BendWitth sideband Bend Freq. Antenna Rate type Stimule HT-40 upper 25 band CH5 2432 Anto MCS MCS MCS Stipo nphy_AntSel Country Interferenc Select Dut Dx01 ALL 0 P Dut_0 P Transmit power drif node power index power step Image: state step	
PicEng V GO # Zert Trensmit Stop Trensmit	
RX counters nxdfmocast = 0 nxdfmmcast = 0 Reset Counters	
Insert BUT Re-Program DUT Remove DUT	
Measurement Tx/Rx chanspec Sbu chanspec Sbu output: Chanepec set to Dx2e00 up mate m D < 0 pin Cbf Page 41 inode adhoc Skd skid output: Current SSD: "Cbf Page 41" tobe rete output: 13.5 Mbps down entor 0 up trant 0 nphy_forecal 1 phy_forecal 1	
Run Bop Gansd	,

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:WDuck_1_1_8_all>wl rate 13.5 Mbps



User Information

The satisfy FCC exterior labeling requirements, the following test must be placed on the exterior of the end product. Contains Transmitter module FCC ID: **YZP-TWFMKB304D**

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. This device should be installed and operated with minimum distance 20cm between the radiating element of this device and the user. This device must not be co-located or operating in conjunction with any other antenna or transmitter. This device is intended only for OEM integrators and following statements shall be included to host user manual

1) The antenna must be installed such that 20cm is maintained between the antenna and users.

2) This module may not be co-located with any other transmitters or antennas.

As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements with this module installed. In the event that these conditions cannot be met, then the FCC authorizations are no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product including this module and obtaining separate FCC authorizations.

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 are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency 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 is encouraged to try to correct the interference by one or more of the following measures:

- 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 technical for help.
- 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 technical for help.

This device complies with Part 15 of the FCC's Rules. Operation is subject to the following two Conditions:

- 1. This device may not cause harmful interference, and
- 2. This device must accept any interference received, including interference that may cause undesirable operation.

LG Innotek declares that this TWFM-KB304D is compliance with the essential requirements and other relevant provisions of directive 1999/5/EC.

<€1177①

This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

Restrictions of use of TWFM-KB304D This device must not be used outdoors in France.