



**Universal Global Scientific Industrial Co., Ltd.**  
No. 141, Lane 351, Taiping Road, Sec. 1, Tsao-tuen,  
Nantou County 54261, Taiwan  
TEL +886-49-221-2700  
FAX +886-49-232-9561

## **WM-BN-BM-26\_A WiFi+BT Module User Manual**

PWN: 802.11b/g/n + BT Wireless LAN Module

FVIN: 7.10.324.2



**Universal Global Scientific Industrial Co., Ltd.**

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Nantou County 54261, Taiwan

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FAX +886-49-232-9561

The WM-BN-BM-26\_A module complies with the following features and standards;

| Features              | Description                                             |
|-----------------------|---------------------------------------------------------|
| <b>WLAN Standards</b> | IEEE 802 Part 11b/g/n (802.11b/g/n)                     |
| <b>Bluetooth</b>      | Bluetooth™ 4.1 compliance                               |
| <b>Antenna Port</b>   | Support Single-Band Antenna Shared between Wi-Fi and BT |
| <b>Frequency Band</b> | 2.4 to 2.497GHz (1 to 14 channels )                     |

Power supply for the WM-BN-BM-26\_A module will be provided by the host via the power pins

| Symbol | Parameter                         | Min  | Typ.       | Max  | Unit |
|--------|-----------------------------------|------|------------|------|------|
| VBAT   | DC supply voltage for VBAT        | 3.2  | 3.6        | 3.9  | V    |
| VDDIO  | DC supply voltage for digital I/O | 1.71 | 1.8<br>3.3 | 3.63 | V    |



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# WiFi User Guide

User SIDO interface in PC/NB to control WM-BN-BM-26\_A

- 1) power supply 3.7V
- 2) NB HP331
- 3) Linux OS (USB3.0 dongle)
- 4) Dmesg → check this device is recognized

```
root@enc:/home/enc#
enc@enc:~$ sudo su
[sudo] password for enc:
root@enc:/home/enc#
root@enc:/home/enc# dmesg
```

```
te 4
[ 1482.480500] psmouse serio1: TouchPad at isa0000/serio1/input0 lost sync at by
te 1
[ 1482.491712] psmouse serio1: TouchPad at isa0000/serio1/input0 - driver resync
ed.
[ 1787.022449] psmouse serio1: TouchPad at isa0000/serio1/input0 lost sync at by
te 4
[ 1787.023736] psmouse serio1: TouchPad at isa0000/serio1/input0 lost sync at by
te 1
[ 1787.032475] psmouse serio1: TouchPad at isa0000/serio1/input0 - driver resync
ed.
[ 1896.524580] mmc0: queuing unknown CIS tuple 0x80 (2 bytes)
[ 1896.527272] mmc0: queuing unknown CIS tuple 0x80 (3 bytes)
[ 1896.529713] mmc0: queuing unknown CIS tuple 0x80 (3 bytes)
[ 1896.534086] mmc0: queuing unknown CIS tuple 0x80 (7 bytes)
[ 1896.541356] mmc0: queuing unknown CIS tuple 0x80 (13 bytes)
[ 1896.695582] mmc0: error -110 whilst initialising SDIO card
[ 1922.064698] mmc0: queuing unknown CIS tuple 0x80 (2 bytes)
[ 1922.067391] mmc0: queuing unknown CIS tuple 0x80 (3 bytes)
[ 1922.069986] mmc0: queuing unknown CIS tuple 0x80 (3 bytes)
[ 1922.074917] mmc0: queuing unknown CIS tuple 0x80 (7 bytes)
[ 1922.082362] mmc0: queuing unknown CIS tuple 0x80 (13 bytes)
[ 1922.274362] mmc0: new SDIO card at address 0001
root@enc:/home/enc#
```

- 5) Ctrl+Alt+T → Call out terminal window
- 6) sudo su → password:enc
- 7) cd Desktop/bm26 → Enter this file →bm26

```
enc@enc:~$ sudo su
[sudo] password for enc:
root@enc:/home/enc#
root@enc:/home/enc# cd Desktop/bm26
```

- 8) ls -l → show each document in bm26

```
root@enc:/home/enc/Desktop/bm26#
enc@enc:~$ sudo su
[sudo] password for enc:
root@enc:/home/enc#
root@enc:/home/enc# cd Desktop/bm26
root@enc:/home/enc/Desktop/bm26#
root@enc:/home/enc/Desktop/bm26# ls -l
total 3028
-rw-r--r-- 1 enc enc 1243 Apr 28 2015 bcm94343bwlph_usl_bm26a_20150421.tx
t
-rw-r--r-- 1 enc enc 607077 Apr 26 2015 bcmdhd_wo_dbg_vp_en.1.08.64.ko
-rw-r--r-- 1 enc enc 310271 Apr 26 2015 BM-26_A1.bin
-rwxr-xr-x 1 root root 199 Nov 7 05:15 lns_mfg.sh
-rwxrwxrwx 1 enc enc 185 Nov 7 05:14 lns_user.sh
-rwxrwxrwx 1 enc enc 319 Nov 9 14:42 rx.sh
-rw-r--r-- 1 enc enc 318 Nov 9 14:41 rx.sh~
-rw-r--r-- 1 enc enc 326834 Apr 28 2015 sdio-g-nfgtest-seqcmds.bin
-rwxrwxrwx 1 enc enc 316 Nov 9 14:49 tx.sh
-rwxrwxrwx 1 enc enc 316 Nov 9 14:42 tx.sh~
-rwxrwxrwx 1 root root 1821033 Nov 7 05:19 wl
root@enc:/home/enc/Desktop/bm26#
```



9) ./ins.user.sh → the module –user mode on

It will show version. FWID...if the module turn on successfully.

```
root@emc: /home/emc/Desktop/bm26
[ 809.464364] mmc0: card 0001 removed
[ 839.047457] mmc0: queuing unknown CIS tuple 0x80 (2 bytes)
[ 839.049902] mmc0: queuing unknown CIS tuple 0x80 (3 bytes)
[ 839.052307] mmc0: queuing unknown CIS tuple 0x80 (3 bytes)
[ 839.056635] mmc0: queuing unknown CIS tuple 0x80 (7 bytes)
[ 839.064288] mmc0: queuing unknown CIS tuple 0x80 (13 bytes)
[ 839.266277] mmc0: new SDIO card at address 0001
root@emc:/home/emc# cd Desktop/bm26
root@emc:/home/emc/Desktop/bm26# ls -l
total 3032
-rw-r--r-- 1 emc emc 1243 Apr 28 2015 bcm943438wlph_usi_bm26a_20150421.tx
t
-rw-r--r-- 1 emc emc 607077 Apr 26 2015 bcmhdh_wo_dbg_wo_en.1.88.64.ko
-rw-r--r-- 1 emc emc 310271 Apr 26 2015 BM-26_A1.bin
-rwxr-xr-x 1 root root 199 Nov 7 2015 ins_mfg.sh
-rwxrwxrwx 1 emc emc 184 Nov 18 2015 ins_user.sh
-rwxrwxrwx 1 emc emc 185 Nov 7 2015 ins_user.sh~
-rwxrwxrwx 1 emc emc 319 Nov 9 2015 rx.sh
-rw-rw-r-- 1 emc emc 318 Nov 9 2015 rx.sh~
-rw-r--r-- 1 emc emc 326834 Apr 28 2015 sdio-g-mfgtest-seqcmds.bin
-rwxrwxrwx 1 emc emc 316 Nov 9 2015 tx.sh
-rwxrwxrwx 1 emc emc 316 Nov 9 2015 tx.sh~
-rwxrwxrwx 1 root root 1821033 Nov 7 2015 wl
root@emc:/home/emc/Desktop/bm26# ./ins_user.sh
```

```
root@emc: /home/emc/Desktop/bm26
[ 839.052307] mmc0: queuing unknown CIS tuple 0x80 (3 bytes)
[ 839.056635] mmc0: queuing unknown CIS tuple 0x80 (7 bytes)
[ 839.064288] mmc0: queuing unknown CIS tuple 0x80 (13 bytes)
[ 839.266277] mmc0: new SDIO card at address 0001
root@emc:/home/emc# cd Desktop/bm26
root@emc:/home/emc/Desktop/bm26# ls -l
total 3032
-rw-r--r-- 1 emc emc 1243 Apr 28 2015 bcm943438wlph_usi_bm26a_20150421.tx
t
-rw-r--r-- 1 emc emc 607077 Apr 26 2015 bcmhdh_wo_dbg_wo_en.1.88.64.ko
-rw-r--r-- 1 emc emc 310271 Apr 26 2015 BM-26_A1.bin
-rwxr-xr-x 1 root root 199 Nov 7 2015 ins_mfg.sh
-rwxrwxrwx 1 emc emc 184 Nov 18 2015 ins_user.sh
-rwxrwxrwx 1 emc emc 185 Nov 7 2015 ins_user.sh~
-rwxrwxrwx 1 emc emc 319 Nov 9 2015 rx.sh
-rw-rw-r-- 1 emc emc 318 Nov 9 2015 rx.sh~
-rw-r--r-- 1 emc emc 326834 Apr 28 2015 sdio-g-mfgtest-seqcmds.bin
-rwxrwxrwx 1 emc emc 316 Nov 9 2015 tx.sh
-rwxrwxrwx 1 emc emc 316 Nov 9 2015 tx.sh~
-rwxrwxrwx 1 root root 1821033 Nov 7 2015 wl
root@emc:/home/emc/Desktop/bm26# ./ins_user.sh
.363 RC59.22
l0: Jan 13 2015 19:40:05 version 7.10.324.2 (r526366) FWID 01-33578c66
root@emc:/home/emc/Desktop/bm26#
```



- 10) ifconfig → it will show all available network connections in this computer  
(usi0 is bm26 module)

```
root@emc: /home/emc/Desktop/bm26
[ 839.052307] mmc0: queuing unknown CIS tuple 0x80 (3 bytes)
[ 839.056635] mmc0: queuing unknown CIS tuple 0x80 (7 bytes)
[ 839.064288] mmc0: queuing unknown CIS tuple 0x80 (13 bytes)
[ 839.266277] mmc0: new SDIO card at address 0001
root@emc:/home/emc# cd Desktop/bm26
root@emc:/home/emc/Desktop/bm26# ls -l
total 3032
-rw-r--r-- 1 emc emc 1243 Apr 28 2015 bcm943438wlpth_usi_bm26a_20150421.tx
t
-rw-r--r-- 1 emc emc 607077 Apr 26 2015 bcndhd_wo_dbg_wo_en.1.88.64.ko
-rw-r--r-- 1 emc emc 310271 Apr 26 2015 BM-26_A1.bin
-rwxr-xr-x 1 root root 199 Nov 7 2015 ins_mfg.sh
-rwxrwxrwx 1 emc emc 184 Nov 18 2015 ins_user.sh
-rwxrwxrwx 1 emc emc 185 Nov 7 2015 ins_user.sh~
-rwxrwxrwx 1 emc emc 319 Nov 9 2015 rx.sh
-rw-rw-r-- 1 emc emc 318 Nov 9 2015 rx.sh~
-rw-r--r-- 1 emc emc 326834 Apr 28 2015 sdio-g-mfgtest-seqcmds.bin
-rwxrwxrwx 1 emc emc 316 Nov 9 2015 tx.sh
-rwxrwxrwx 1 emc emc 316 Nov 9 2015 tx.sh~
-rwxrwxrwx 1 root root 1821033 Nov 7 2015 wl
root@emc:/home/emc/Desktop/bm26# ./ins_user.sh
1.363 RC59.22
wl0: Jan 13 2015 19:40:05 version 7.10.324.2 (r526366) FWID 01-33578c66
root@emc:/home/emc/Desktop/bm26# ifconfig
```

```
root@emc: /home/emc/Desktop/bm26
inet addr:127.0.0.1 Mask:255.0.0.0
inet6 addr: ::1/128 Scope:Host
UP LOOPBACK RUNNING MTU:16436 Metric:1
RX packets:4 errors:0 dropped:0 overruns:0 frame:0
TX packets:4 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:0
RX bytes:292 (292.0 B) TX bytes:292 (292.0 B)

usi0    Link encap:Ethernet HWaddr 44:39:c4:d9:e0:b3
        inet6 addr: fe80::4639:c4ff:fed9:e0b3/64 Scope:Link
        UP BROADCAST MULTICAST MTU:1500 Metric:1
        RX packets:68 errors:0 dropped:68 overruns:0 frame:0
        TX packets:19 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:26694 (26.6 KB) TX bytes:5365 (5.3 KB)

wlan1   Link encap:Ethernet HWaddr 00:19:d2:ac:7e:2e
        UP BROADCAST MULTICAST MTU:1500 Metric:1
        RX packets:0 errors:0 dropped:0 overruns:0 frame:0
        TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)

root@emc:/home/emc/Desktop/bm26#
```



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11) ifconfig usi0 192.168.0.200 (It depends on your IP)→give fixed IP to bm26 module

```
root@emc: /home/emc/Desktop/bm26
inet addr:127.0.0.1 Mask:255.0.0.0
inet6 addr: ::1/128 Scope:Host
UP LOOPBACK RUNNING MTU:16436 Metric:1
RX packets:4 errors:0 dropped:0 overruns:0 frame:0
TX packets:4 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:0
RX bytes:292 (292.0 B) TX bytes:292 (292.0 B)

usi0    Link encap:Ethernet HWaddr 44:39:c4:d9:e0:b3
        inet6 addr: fe80::4639:c4ff:fed9:e0b3/64 Scope:Link
        UP BROADCAST MULTICAST MTU:1500 Metric:1
        RX packets:68 errors:0 dropped:68 overruns:0 frame:0
        TX packets:19 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:26694 (26.6 KB) TX bytes:5365 (5.3 KB)

wlan1   Link encap:Ethernet HWaddr 00:19:d2:ac:7e:2e
        UP BROADCAST MULTICAST MTU:1500 Metric:1
        RX packets:0 errors:0 dropped:0 overruns:0 frame:0
        TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)

root@emc: /home/emc/Desktop/bm26# ifconfig usi0 192.168.0.200
```

```
root@emc: /home/emc/Desktop/bm26
inet6 addr: ::1/128 Scope:Host
UP LOOPBACK RUNNING MTU:16436 Metric:1
RX packets:6 errors:0 dropped:0 overruns:0 frame:0
TX packets:6 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:0
RX bytes:438 (438.0 B) TX bytes:438 (438.0 B)

usi0    Link encap:Ethernet HWaddr 44:39:c4:d9:e0:b3
        inet addr:192.168.0.200 Bcast:192.168.0.255 Mask:255.255.255.0
        inet6 addr: fe80::4639:c4ff:fed9:e0b3/64 Scope:Link
        UP BROADCAST MULTICAST MTU:1500 Metric:1
        RX packets:90 errors:0 dropped:90 overruns:0 frame:0
        TX packets:44 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:35498 (35.4 KB) TX bytes:10693 (10.6 KB)

wlan1   Link encap:Ethernet HWaddr 00:19:d2:ac:7e:2e
        UP BROADCAST MULTICAST MTU:1500 Metric:1
        RX packets:0 errors:0 dropped:0 overruns:0 frame:0
        TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)

root@emc: /home/emc/Desktop/bm26#
```



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12) wl scan

wl scanresults

→ It will show all available wireless connections, and assume that there is an AP,  
SSID:dlink\_11bgn, IP: 192.168.0.1

```
root@emc: /home/emc/Desktop/bm26
inet6 addr: ::1/128 Scope:Host
UP LOOPBACK RUNNING MTU:16436 Metric:1
RX packets:6 errors:0 dropped:0 overruns:0 frame:0
TX packets:6 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:0
RX bytes:438 (438.0 B) TX bytes:438 (438.0 B)

usi0 Link encap:Ethernet HWaddr 44:39:c4:d9:e0:b3
inet addr:192.168.0.200 Bcast:192.168.0.255 Mask:255.255.255.0
inet6 addr: fe80::4639:c4ff:fed9:e0b3/64 Scope:Link
UP BROADCAST MULTICAST MTU:1500 Metric:1
RX packets:90 errors:0 dropped:90 overruns:0 frame:0
TX packets:44 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:35498 (35.4 KB) TX bytes:10693 (10.6 KB)

wlan1 Link encap:Ethernet HWaddr 00:19:d2:ac:7e:2e
UP BROADCAST MULTICAST MTU:1500 Metric:1
RX packets:0 errors:0 dropped:0 overruns:0 frame:0
TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)

root@emc: /home/emc/Desktop/bm26# wl scan
```

```
root@emc: /home/emc/Desktop/bm26
UP LOOPBACK RUNNING MTU:16436 Metric:1
RX packets:6 errors:0 dropped:0 overruns:0 frame:0
TX packets:6 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:0
RX bytes:438 (438.0 B) TX bytes:438 (438.0 B)

usi0 Link encap:Ethernet HWaddr 44:39:c4:d9:e0:b3
inet addr:192.168.0.200 Bcast:192.168.0.255 Mask:255.255.255.0
inet6 addr: fe80::4639:c4ff:fed9:e0b3/64 Scope:Link
UP BROADCAST MULTICAST MTU:1500 Metric:1
RX packets:90 errors:0 dropped:90 overruns:0 frame:0
TX packets:44 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:35498 (35.4 KB) TX bytes:10693 (10.6 KB)

wlan1 Link encap:Ethernet HWaddr 00:19:d2:ac:7e:2e
UP BROADCAST MULTICAST MTU:1500 Metric:1
RX packets:0 errors:0 dropped:0 overruns:0 frame:0
TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)

root@emc: /home/emc/Desktop/bm26# wl scan
root@emc: /home/emc/Desktop/bm26# wl scanresults
```



```
root@emc: /home/emc/Desktop/bm26
RSN (WPA2):
  multicast cipher: AES-CCMP
  unicast ciphers(1): AES-CCMP
  AKM Suites(1): WPA2-PSK
  Capabilities(0x0000): No Pre-Auth, Pairwise, 1 PTK Replay Ctr1 GTK Repla
y Ctr
HT Capable:
  Chanspec: 2.4GHz channel 6 20MHz (0x1006)
  Primary channel: 6
  HT Capabilities: SGI20
  Supported HT MCS : 0-15 100

SSID: "dlink_11bgn"
Mode: Managed  RSSI: -28 dBm  SNR: 0 dB  noise: 0 dBm  Flags: RSSI on-c
hannel Channel: 11
BSSID: C8:D3:A3:51:E1:F6  Capabilities: ESS ShortSlot
Supported Rates: [ 1(b) 2(b) 5.5(b) 6 9 11(b) 12 18 24 36 48 54 ]
HT Capable:
  Chanspec: 2.4GHz channel 11 20MHz (0x100b)
  Primary channel: 11
  HT Capabilities: SGI20 SGI40
  Supported HT MCS : 0-15 32
WPS: V2.0 Configured
```

- 13) wl join "dlink\_11bgn" → join this wireless connection

```
root@emc: /home/emc/Desktop/bm26
WPA:
  multicast cipher: AES-CCMP
  unicast ciphers(1): AES-CCMP
  AKM Suites(1): WPA-PSK
  No WPA Capabilities advertised
HT Capable:
  Chanspec: 2.4GHz channel 11 20MHz (0x100b)
  Primary channel: 11
  HT Capabilities: SGI20
  Supported HT MCS : 0-15 100

root@emc:/home/emc/Desktop/bm26#
root@emc:/home/emc/Desktop/bm26#
root@emc:/home/emc/Desktop/bm26# wl join
join Join a specified network SSID.
Usage: join <ssid> [key <0-3>:xxxxx] [mode bss|ibss] [mode open|shared
|openshared|wpa|wpapsk|wpa2|wpa2psk|wpanone|ftpsk] [options]
Options:
  -b MAC, --bssid=MAC  BSSID (xx:xx:xx:xx:xx:xx) to scan and join
  -c CL, --chanspecs=CL  chanspecs (comma or space separated list)
  prescanned  uses channel and bssid list from scanresults
  -p, -passive: force passive assoc scan (useful for P2P)

root@emc:/home/emc/Desktop/bm26# wl join "dlink_11bgn"
```



14) How to make sure the connection is successful?

Method1: wl status → It will show connection status

Method2: ping 192.168.0.1

```
root@emc: /home/emc/Desktop/bm26
multicast cipher: AES-CCMP
unicast ciphers(1): AES-CCMP
AKM Suites(1): WPA-PSK
No WPA Capabilities advertised
HT Capable:
  Chanspec: 2.4GHz channel 11 20MHz (0x100b)
  Primary channel: 11
  HT Capabilities: SGI20
  Supported HT MCS : 0-15 100

root@emc: /home/emc/Desktop/bm26#
root@emc: /home/emc/Desktop/bm26#
root@emc: /home/emc/Desktop/bm26# wl join
join Join a specified network SSID.
Usage: join <ssid> [key <0-3>:xxxxx] [imode bss|ibss] [amode open|shared
|openshared|wpa|wpapsk|wpa2|wpa2psk|wpanone|ftpsk] [options]
Options:
  -b MAC, --bssid=MAC      BSSID (xx:xx:xx:xx:xx:xx) to scan and join
  -c CL, --chanspecs=CL    chanspecs (comma or space separated list)
                           prescanned uses channel and bssid list from scanresults
  -p, -passive: force passive assoc scan (useful for P2P)

root@emc: /home/emc/Desktop/bm26# wl join "dlink 11bgn"
root@emc: /home/emc/Desktop/bm26# ping 192.168.0.1
```

```
root@emc: /home/emc/Desktop/bm26
Primary channel: 11
HT Capabilities: SGI20
Supported HT MCS : 0-15 100

root@emc: /home/emc/Desktop/bm26#
root@emc: /home/emc/Desktop/bm26#
root@emc: /home/emc/Desktop/bm26# wl join
join Join a specified network SSID.
Usage: join <ssid> [key <0-3>:xxxxx] [imode bss|ibss] [amode open|shared
|openshared|wpa|wpapsk|wpa2|wpa2psk|wpanone|ftpsk] [options]
Options:
  -b MAC, --bssid=MAC      BSSID (xx:xx:xx:xx:xx:xx) to scan and join
  -c CL, --chanspecs=CL    chanspecs (comma or space separated list)
                           prescanned uses channel and bssid list from scanresults
  -p, -passive: force passive assoc scan (useful for P2P)

root@emc: /home/emc/Desktop/bm26# wl join "dlink 11bgn"
root@emc: /home/emc/Desktop/bm26# ping 192.168.0.1
PING 192.168.0.1 (192.168.0.1) 56(84) bytes of data.
64 bytes from 192.168.0.1: icmp_req=1 ttl=64 time=137 ms
64 bytes from 192.168.0.1: icmp_req=4 ttl=64 time=16.3 ms
64 bytes from 192.168.0.1: icmp_req=5 ttl=64 time=10.3 ms
64 bytes from 192.168.0.1: icmp_req=6 ttl=64 time=16.1 ms
```



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15) How to remove the module?

`rmmod bcmhdh`

```
root@emc: /home/emc/Desktop/bm26
root@emc:/home/emc/Desktop/bm26# wl status
SSID: "dlink_11bgn"
Mode: Managed  RSSI: -29 dBm  SNR: 0 dB      noise: -91 dBm  Flags: RSSI on-c
hannel  Channel: 11
BSSID: C8:D3:A3:51:E1:F6      Capability: ESS ShortSlot
Supported Rates: [ 1(b) 2(b) 5.5(b) 6 9 11(b) 12 18 24 36 48 54 ]
HT Capable:
    Chanspec: 2.4GHz channel 11 20MHz (0x100b)
    Primary channel: 11
    HT Capabilities: SGI20 SGI40
    Supported HT MCS : 0-7
WPS: V2.0 Configured

root@emc:/home/emc/Desktop/bm26# ping 192.168.0.1
PING 192.168.0.1 (192.168.0.1) 56(84) bytes of data.
64 bytes from 192.168.0.1: icmp_req=1 ttl=64 time=16.2 ms
64 bytes from 192.168.0.1: icmp_req=3 ttl=64 time=7.84 ms
^C
--- 192.168.0.1 ping statistics ---
3 packets transmitted, 2 received, 33% packet loss, time 2001ms
rtt min/avg/max/mdev = 7.848/12.057/16.267/4.210 ms
root@emc:/home/emc/Desktop/bm26#
root@emc:/home/emc/Desktop/bm26#
root@emc:/home/emc/Desktop/bm26# rmmod bcmhdh
```

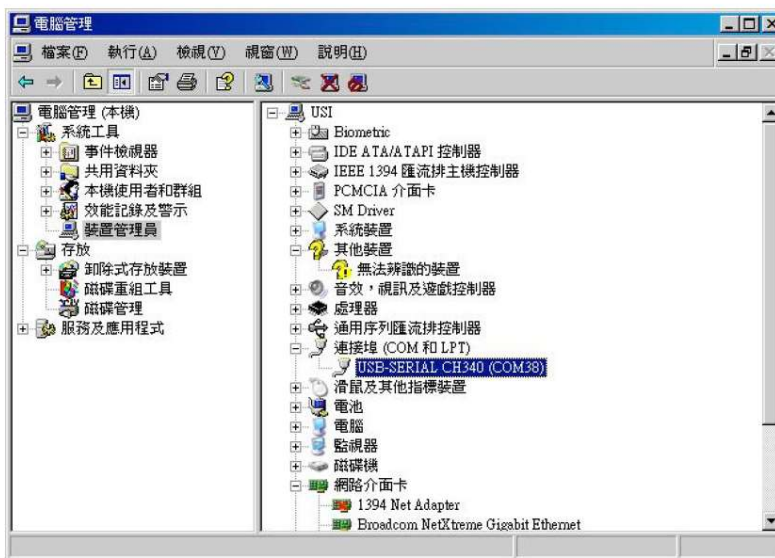


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No. 141, Lane 351, Taiping Road, Sec. 1, Tsao-tuen,  
Nantou County 54261, Taiwan  
TEL +886-49-221-2700  
FAX +886-49-232-9561

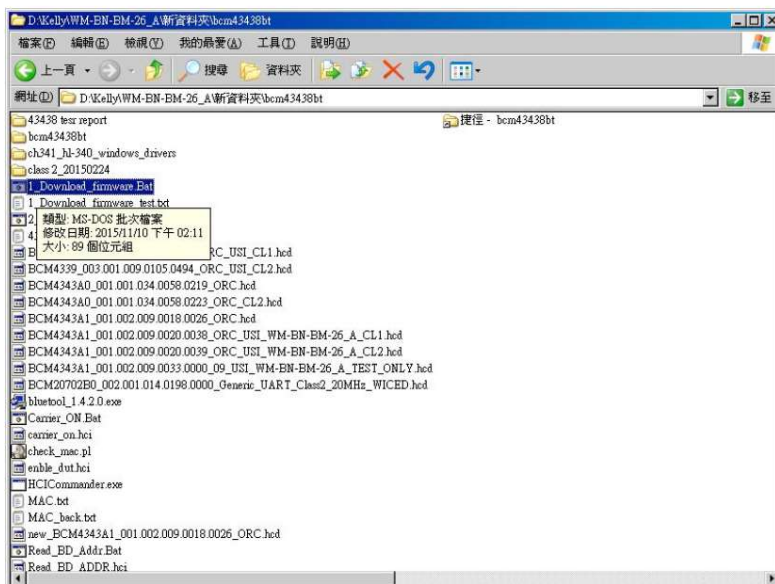
# Bluetooth User Guide

Install Bluetool on PC firstly. User UART in PC to control Bluetooth.

- 1) power supply 3.7V
- 2) Uart cable to NB(R60) usb
- 3) Computer → device manager → COM38( it depends on your port)



- 4) Open the bcm4343bt files(D:/Kelly/WM-BN-BM-26\_A)→1\_Download\_firmware  
(hcd file:BCM4343A1\_001.002.009.0018.0026\_ORC.hcd)





The screenshot displays a Windows XP desktop environment. A file explorer window is open, showing the directory path `D:\kelly\WM-BN-EM-26_A新資料夾\bcm43438bt`. The file list includes:

- `Read_BD_ADDR.hci`
- `RESET.Bat`
- `RESET.hci`
- `Sleep_mode_wake_active_high.bat`
- `sleep_mode_wake_active_high.hci`
- `Sleep_mode_wake_active_low.bat`
- `sleep_mode_wake_active_low.hci`
- `Tx_Test.Bat`
- `Tx_Test.hci`
- `捷徑 - bcm43438bt`

In the background, the Start menu is open, highlighting the application `BlueTool`. The address bar of the Start menu shows the location: `C:\Program Files\Eroadcom\BlueTool`.

The screenshot shows the 'Broadcom Elite Tool' application window. The 'File' menu is open, displaying the following options:

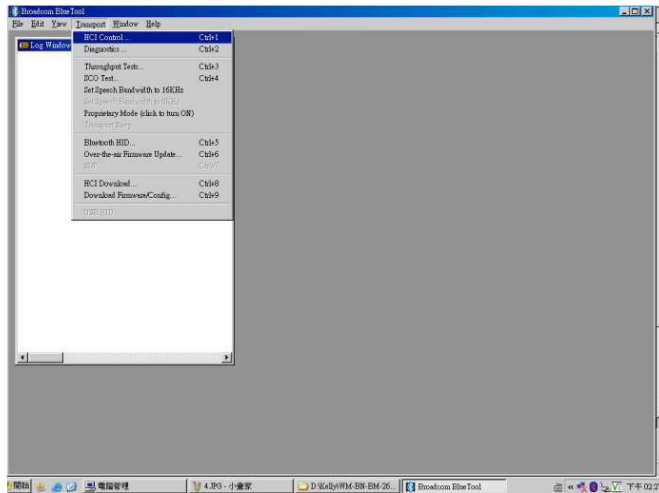
- Log Window (Ctrl+O)
- Log Window Details (Alt+D)
- Clear Log Window (Alt+C)
- Ignore Current Inquiry Results

The taskbar at the bottom includes the Start button, several application icons, and the system clock showing 2:27 PM on 11/11/2011.

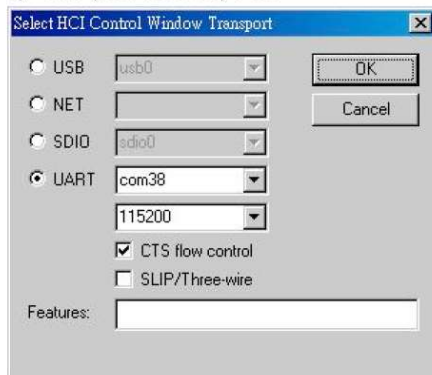


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 No. 141, Lane 351, Taiping Road, Sec. 1, Tsao-tuen,  
 Nantou County 54261, Taiwan  
 TEL +886-49-221-2700  
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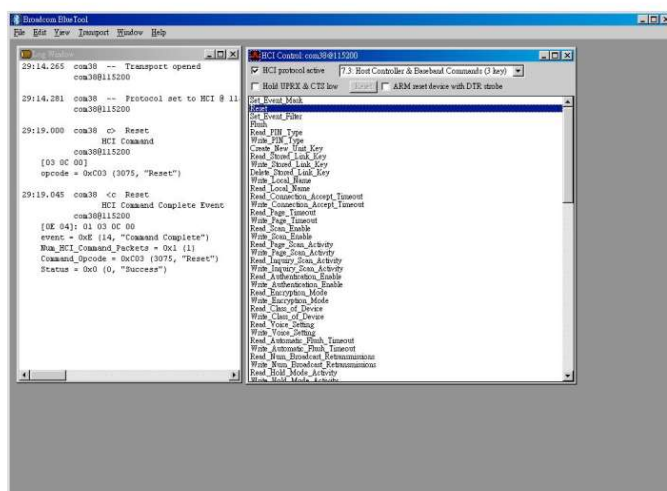
## 7) Transport→HCI control



## 8) Uart (com2/115200)→ok



## 9) 3 key→reset





The screenshot displays the BlueSoleil HCI Control application with two windows open:

- Log Window:** Shows a log of HCI commands. The first command is a "Transport opened" event at 29:14.265. The second command, at 29:14.281, is an "HCI Command" (com38) to "Reset" the device (com388115200). The log shows the device's response, including the opcode (0xC03) and the command name ("Reset").
- HCI Control, com38@115200:** This window shows the HCI protocol settings and a list of supported commands. The "HCI protocol active" checkbox is checked. The "Read Local Supported Commands" command is selected in the list.

The screenshot shows the Broodcom BlueTool interface. The top menu bar includes File, Edit, View, Transport, Window, and Help. Below the menu is a toolbar with icons for file operations and a search bar. The main area is divided into two panes. The left pane, titled 'Log Window', displays a log of HCI commands and responses. The right pane, titled 'HCI Control', shows a list of HCI commands, with 'LE Test\_End' selected. The log window shows the following content:

```

04:10.016 com2 <c LE_Test_End
HCI Command Complete Event
com2@115200
[OE 06]: 01 1F 20 00 00 00
event = 0x0E (14, "Command Complete")
Num_HCI_Command_Packets = 0x01 (1)
Command_Opcode = 0x201F (8223, "LE_Test_Status")
Status = 0x00 (0, "Success")
Num_Of_Packets_Received = 0x00 (0)

05:28.437 com2 >c LE_Transmitter_Test
HCI Command
com2@115200
[IE 20 03]: 00 25 00
opcode = 0x201E (8222, "LE_Transmitter_Test_Channel = 0x00 (0, (F = 2402 + [k * 2
Length_Of_Test_Data = 0x25 (37)
Packet_Payload = 0x00 (0, "Pseudo-Random

05:28.438 com2 <c LE_Transmitter_Test
HCI Command Complete Event
com2@115200
[OE 04]: 01 1E 20 00
event = 0x0E (14, "Command Complete")
Num_HCI_Command_Packets = 0x01 (1)
Command_Opcode = 0x201E (8222, "LE_Trans_Status")
Status = 0x00 (0, "Success")

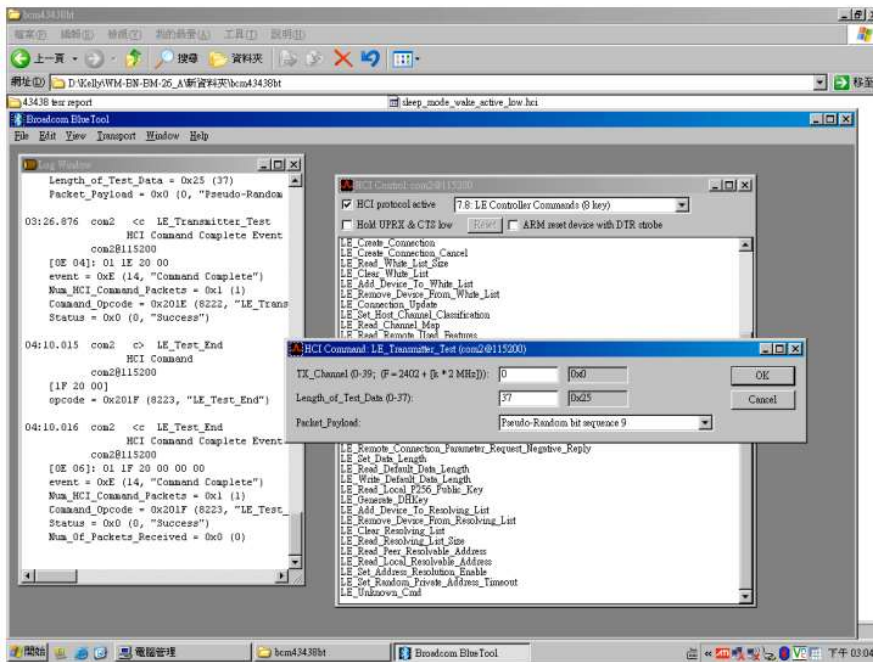
```

The HCI Control window shows a list of HCI commands, with 'LE Test\_End' selected. The list includes:

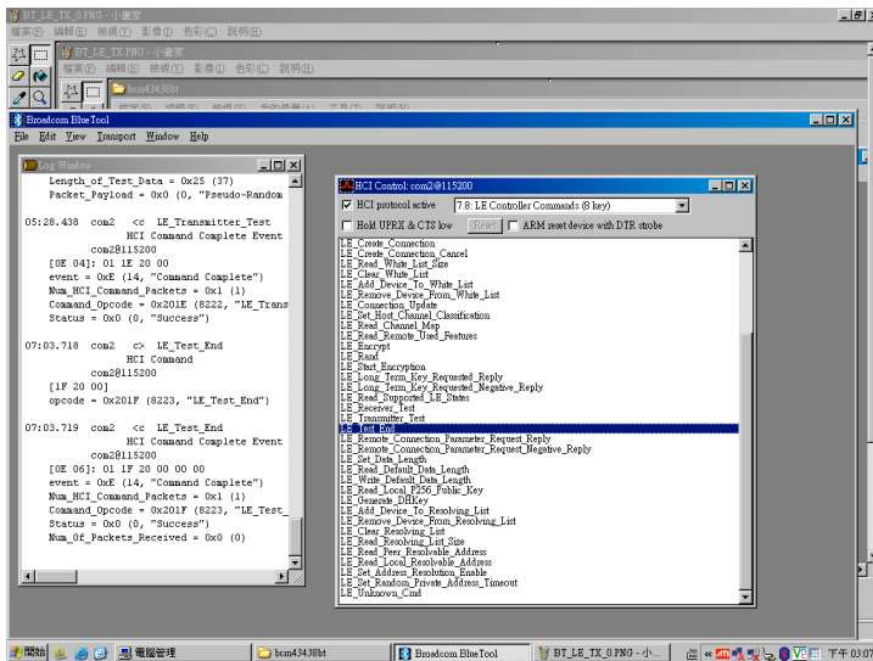
- LE Test\_End
- Remote\_Connection\_Parameter\_Request
- Remote\_Connection\_Parameter\_Request\_Negative Reply
- Set\_Data\_Length
- Set\_Default\_Data\_Length
- Write\_Default\_Data\_Length
- Read\_Local\_P256\_Public\_Key
- Generate\_HIDkey
- Add\_Device\_To\_Resolving\_List
- Remove\_Device\_From\_Resolving\_List
- Clear\_Resolving\_List
- Read\_Resolving\_List\_Size
- Read\_Fee\_Resolvable\_Address
- Read\_Local\_Resolvable\_Address
- Set\_Address\_Resolvable\_Enable
- Set\_Random\_Private\_Address\_Transmit
- LE\_Unknown\_Cmd



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## 12) Test End





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No. 141, Lane 351, Taiping Road, Sec. 1, Tsaotuen,  
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### **Federal Communication Commission Interference Statement**

This device complies with Part 15 of the FCC 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 undesired operation.

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 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 technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

### **Radiation Exposure Statement:**

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



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No. 141, Lane 351, Taiping Road, Sec. 1, Tsaotuen,  
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**This device is intended only for OEM integrators under the following conditions:**

- 1) The antenna must be installed such that 20 cm is maintained between the antenna and users, and
- 2) The transmitter module may not be co-located with any other transmitter or antenna.

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 required with this module installed

**IMPORTANT NOTE:** In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

#### **End Product Labeling**

This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains FCC ID: COF-WMBNBM26A". The grantee's FCC ID can be used only when all FCC compliance requirements are met.

#### **Manual Information To the End User**

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.



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No. 141, Lane 351, Taiping Road, Sec. 1, Tsao-tuen,  
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**This device is intended only for OEM integrators under the following conditions:**

- 1) The antenna must be installed with 20 cm is maintained between the antenna and users **in mobile or fixed applications.**
- 2) The allowed antenna is chip antenna type and max. allowed gain value is 3.68dBi.
- 3) The transmitter module may not be co-located with any other transmitter or antenna.

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 required with this module installed.

**OEM integrators Must demonstrate Part 15B test and meet compliance before end-product with module ( COF-WMBNBM26A) marketed.**



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No. 141, Lane 351, Taiping Road, Sec. 1, Tsao-tuen,  
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**Industry Canada statement:**

This device complies with ISED's licence-exempt RSSs. 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 undesired operation.

Le présent appareil est conforme aux CNR d'ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

**Radiation Exposure Statement:**

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

**Déclaration d'exposition aux radiations:**

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.



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No. 141, Lane 351, Taiping Road, Sec. 1, Tsao-tuen,  
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TEL +886-49-221-2700  
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**This device is intended only for OEM integrators under the following conditions: (For module device use)**

- 1) The antenna must be installed such that 20 cm is maintained between the antenna and users, and
- 2) The transmitter module may not be co-located with any other transmitter or antenna.

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 required with this module installed.

**Cet appareil est conçu uniquement pour les intégrateurs OEM dans les conditions suivantes: (Pour utilisation de dispositif module)**

- 1) L'antenne doit être installée de telle sorte qu'une distance de 20 cm est respectée entre l'antenne et les utilisateurs, et
- 2) Le module émetteur peut ne pas être coïmplanté avec un autre émetteur ou antenne.

Tant que les 2 conditions ci-dessus sont remplies, des essais supplémentaires sur l'émetteur ne seront pas nécessaires. Toutefois, l'intégrateur OEM est toujours responsable des essais sur son produit final pour toutes exigences de conformité supplémentaires requis pour ce module installé.



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No. 141, Lane 351, Taiping Road, Sec. 1, Tsao-tuen,  
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TEL +886-49-221-2700  
FAX +886-49-232-9561

#### **IMPORTANT NOTE:**

In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the Canada authorization is no longer considered valid and the IC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate Canada authorization.

#### **End Product Labeling**

This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains IC:10293A-WMBNBM26A".

#### **Plaque signalétique du produit final**

Ce module émetteur est autorisé uniquement pour une utilisation dans un dispositif où l'antenne peut être installée de telle sorte qu'une distance de 20cm peut être maintenue entre l'antenne et les utilisateurs. Le produit final doit être étiqueté dans un endroit visible avec l'inscription suivante: "Contient des IC: 10293A-WMBNBM26A ".

#### **Manual Information To the End User**

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

#### **Manual Information To the End User**

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

#### **Manuel d'information à l'utilisateur final**

L'intégrateur OEM doit être conscient de ne pas fournir des informations à l'utilisateur final quant à la façon d'installer ou de supprimer ce module RF dans le manuel de l'utilisateur du produit final qui



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intègre ce module.

Le manuel de l'utilisateur final doit inclure toutes les informations réglementaires requises et avertissements comme indiqué dans ce manuel.

**Caution :**

- (i) the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;
- (ii) the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate; and
- (iii) Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

**Avertissement:**

- (i) les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;
- (ii) le gain maximal d'antenne permis (pour les dispositifs utilisant la bande de 5725 à 5 850 MHz) doit être conforme à la limite de la p.i.r.e. spécifiée pour l'exploitation point à point et l'exploitation non point à point, selon le cas;
- (iii) De plus, les utilisateurs devraient aussi être avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.