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WM-BN-BM-26_A WiFi Module User Manual

PWN: 802.11b/g/n Wireless LAN Module

FVIN: 7.10.324.2



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

Features	Description
WLAN Standards	IEEE 802 Part 11b/g/n (802.11b/g/n)
Frequency Band	1 to 11 channels
Antenna Port	Support Single-Band Antenna Shared

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 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)
[ 1922.082363] 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#
```



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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 bcm943438wlpth_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 bcm943438wlpth_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#
```



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
```

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.

FOR MOBILE DEVICE USAGE (>20cm/low power)

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.

This module is intended for OEM integrators only. Per FCC KDB 996369 D03 OEM Manual v01 guidance, the following conditions must be strictly followed when using this certified module:

KDB 996369 D03 OEM Manual v01 rule sections:

2.2 List of applicable FCC rules

This module has been tested for compliance to FCC Part 15.247.

2.3 Summarize the specific operational use conditions

The module is tested for standalone mobile RF exposure use condition. Any other usage conditions such as co-location with other transmitter(s) or being used in a portable condition will need a separate reassessment through a class II permissive change application or new certification.

2.4 Limited module procedures

Not applicable.

2.5 Trace antenna designs

Not applicable.

2.6 RF exposure considerations

This equipment complies with FCC mobile radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. If the module is installed in a portable host, a separate SAR evaluation is required to confirm compliance with relevant FCC portable RF exposure rules.

2.7 Antennas

The following antennas have been certified for use with this module; antennas of the same type with equal or lower gain may also be used with this module. The antenna must be installed such that 20 cm can be maintained between the antenna and users.

Antenna Type	CHIP
Antenna Gain	3.68dBi
Antenna connector	N/A

2.8 Label and compliance information

The final end product must be labeled in a visible area with the following: "Contains FCC ID: 2AOAOWMBNBM26A". The grantee's FCC ID can be used only when all FCC compliance requirements are met.

2.9 Information on test modes and additional testing requirements

This transmitter is tested in a standalone mobile RF exposure condition and any co-located or simultaneous transmission with other transmitter(s) or portable use will require a separate class II permissive change re-evaluation

or new certification.

2.10 Additional testing, Part 15 Subpart B disclaimer

This transmitter module is tested as a subsystem and its certification does not cover the FCC Part 15 Subpart B (unintentional radiator) rule requirement applicable to the final host. The final host will still need to be reassessed for compliance to this portion of rule requirements if applicable.

As long as all 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.

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.

OEM/Host manufacturer responsibilities

OEM/Host manufacturers are ultimately responsible for the compliance of the Host and Module. The final product must be reassessed against all the essential requirements of the FCC rule such as FCC Part 15 Subpart B before it can be placed on the US market. This includes reassessing the transmitter module for compliance with the Radio and EMF essential requirements of the FCC rules. This module must not be incorporated into any other device or system without retesting for compliance as multi-radio and combined equipment.



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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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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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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.