

# AN14465

## Wake on Wi-Fi

Rev. 2.0 — 29 September 2025

Application note

### Document information

Information	Content
Keywords	Wi-Fi, wake-up, configuration, host, sleep mode, in-band, out-of-band, wake-up reason, event
Abstract	Describes the wake on Wi-Fi feature.



## 1 About this document

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Wake on Wi-Fi is a power saving method, where the host is put in sleep while the Wi-Fi subsystem remains active. When the host is in sleep, Wi-Fi data traffic and functionality is not affected. The Wi-Fi subsystem is configured to wake up the host under certain wake-up conditions.

### 1.1 Supported products

The following products support the wake on Wi-Fi feature:

- 88W8987 [ref.\[1\]](#)
- 88W8997 [ref.\[2\]](#)
- 88W9098 [ref.\[3\]](#)
- IW416 [ref.\[4\]](#)
- IW610 [ref.\[5\]](#)
- AW611 [ref.\[6\]](#)
- IW611 [ref.\[7\]](#)
- IW612 [ref.\[8\]](#)
- AW692 [ref.\[9\]](#)
- AW693 [ref.\[10\]](#)
- IW693 [ref.\[11\]](#)
- IW623 [ref.\[12\]](#)

Refer to the release notes in the software release of the supported products for more information.

## 2 Wake-up conditions

The Wi-Fi device<sup>1</sup> is connected to the host system in STA or uAP mode. The host driver configures the wake-up conditions in the Wi-Fi device before the host goes to sleep. When receiving packets and if any wake-up condition is met, the Wi-Fi device triggers an interrupt to wake up the host. The interrupt cancels the host sleep mode.

Multiple conditions can be configured to wake up the host. For example:

- The Wi-Fi device receives broadcast data from the external AP/STA.
- The Wi-Fi device receives unicast data from the external AP/STA.
- MAC event on the Wi-Fi device:
  - ADDBA (Add Block ACK) request
  - DELBA (Delete Block ACK)
  - Group Rekeying
  - Disconnect
- The Wi-Fi device receives multicast data from the external AP/STA.
- The Wi-Fi device receives a management frame (for example association, authentication, or beacon) from the external AP/STA.

More complex conditions can also be configured. See [Section 3.2](#).

<sup>1</sup> The Wi-Fi device is one of the supported products listed in [Section 1.1](#).

2.1 Wake-up methods

Two methods are possible for the Wi-Fi radio to wake up the host CPU.

- **In-band** – wakes up the host via the Wi-Fi host interface.
- **Out-of-band (OOB)** – wakes up the host through a wake-up signal muxed on a GPIO pin of the Wi-Fi device. [Table 1](#) lists the GPIO pin number for the supported products. The wake-up signal is an active LOW signal. If the wake-up conditions are met, the wake-up signal is asserted for a configurable time duration (GAP time). When the host receives the signal, the host exits Sleep mode.

Table 1. Out-of-band GPIO pin numbers of the supported Wi-Fi devices

Supported product	Out-of-band GPIO
88W8987	GPIO[1]
88W8997	GPIO[14]
88W9098	GPIO[15]
AW611	GPIO[17]
IW416	GPIO[1]
IW610	GPIO[4]
IW611	GPIO[17]
IW612	GPIO[17]

[Figure 1](#) illustrates a wake-up signal (active low).

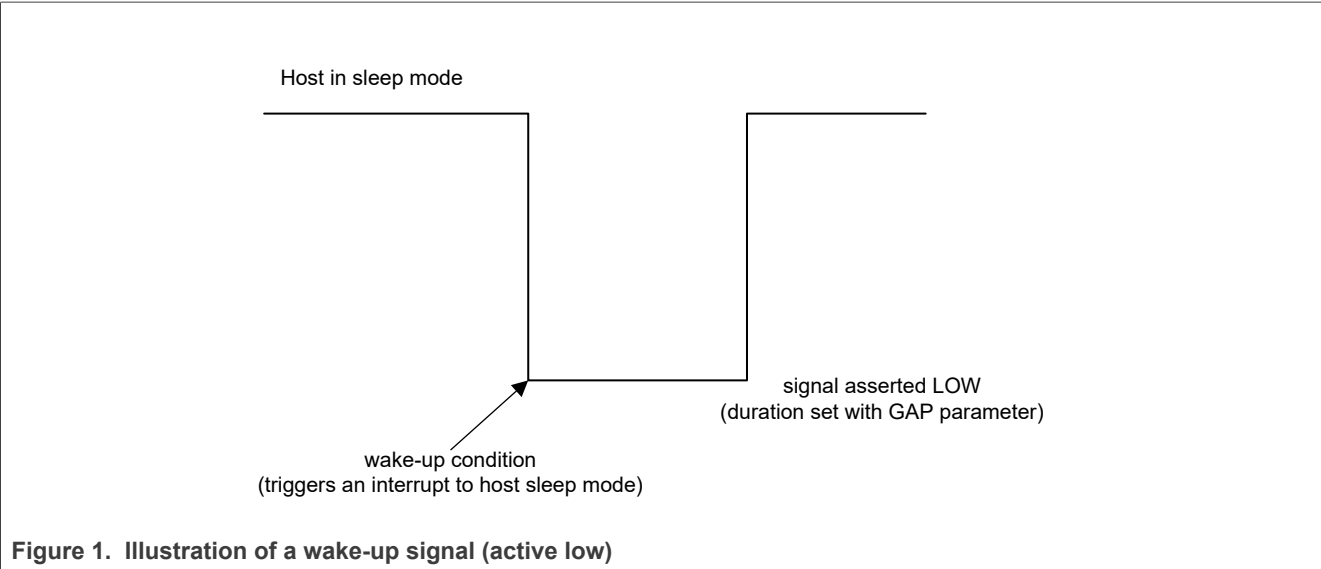


Figure 1. Illustration of a wake-up signal (active low)

### 3 Configuration

The wake-up conditions are configured via `hsetpara` command or using the MEF configuration file. The `hsetpara` command is used to set the wake-up method and the individual wake-up conditions. The MEF configuration file is used to set more complex or multiple wake-up conditions.

#### 3.1 hsetpara command

The `mланutl / proc` command `hsetpara`, is used to set the host sleep parameters, the wake-up condition, and the wake-up method. Find more information in the `README_MLAN` included in the software release package of the supported product.

Command syntax for `mланutl`:

```
./mланutl <interface> hsetpara <condition> <gpio> <gap> [extended configuration: <type> <parameter> ..]
```

Command syntax for `proc`:

```
echo "hsetpara=<condition> <gpio> <gap> [extended configuration: <type> <parameters> ..]" > /proc/m wlan/adapter0/config
```

Table 2. `hsetpara` command parameters

Parameter	Description
interface	Interface of the Wi-Fi device mлан0 = interface for STA mode uap0 = interface for AP mode
condition	Set to a bit to enable the wake-up condition -1 = cancel wake on Wi-Fi Bit 0 = 1 (receive Broadcast data) Bit 1 = 1 (receive Unicast data) Bit 2 = 1 (MAC event) Bit 3 = 1 (receive multicast data) Bit[4:5]: reserved Bit 6 = 1 (receive management frame) Bit 31 = 1 (Do not wake up when an IPv6 packet is received) Default is 0x7
gpio	Pin number of the GPIO used to wake up the host with the out-of-band method. 0x01 to 0x07 = GPIO pin number. Refer to <a href="#">Table 1</a> 0xff = The in-band method is used to wake up the host (default).
gap	Time duration between the wake-up signal assertion and the wake-up event in ms ( <a href="#">Figure 1</a> ). 0xff = default 0x01 to 0xFE = 1 ms to 254 ms Set to the desired GAP time.
type 1: ind_gpio_level	ind_gpio: GPIO number used to indicate the wake-up source. level = 0 – normal wake-up source (default) level = 1 – abnormal wake-up source

Table 2. `hssetpara` command parameters...continued

Parameter	Description
Group of parameters (optional) type 2: <code>event_force_ignore</code>	<code>event_force_ignore</code> bitmap, where each bit represents one wake-up reason event. The firmware ignores the wake-up reasons set in the bitmap. Wake-up reason event definition of each bit: Bit 0 = 1 – Disconnection from the AP Bit 1 = 1 – GTK/iGTK rekey failure (type of frame protection) Bit 2 = 1 – Extensible authentication protocol over LAN (Eapol) other bits – Reserved
Group of parameters (optional) type 3: <code>hs_wakeup_interval</code>	<code>hs_wakeup_interval</code> : time duration of the host sleep in ms.
Group of parameters (optional) type 4: <code>min_wake_holdoff</code>	<code>min_wake_holdoff</code> : minimum time duration of the wake holdoff in ms.

If this command is executed with no parameters, a get action is performed.

3.2 MEF configuration file

For more complex wake-up conditions, a memory efficient filtering (MEF) configuration file (*mef.conf*) is used. The location of the *mef.conf* file in the software release is:

*mapp/mlanconfig/config/mef.conf*.

The *mef.conf* file includes the data structure *mefcfg*.

Example of *mefcfg*:

```
mefcfg={
  Criteria=2      # Unicast frames are received during host sleep mode
  NumEntries=1   # Number of activated MEF entries
  mef_entry_0={
    mode= 1      # HostSleep mode
    action=1     # Discard Packet and Wake host
    filter_num=1  # Number of filters
    RPN=Filter_0  # only one filter is used
    Filter_0={
      type=0x41  # Byte comparison filter
      repeat=16  # Num of times to repeat Byte pattern
      byte=00:50:43:00:01:02 # Byte Pattern which is DUT MAC address
      offset=14  # offset in bytes into the received packet
    }
  }
}
```

In the example above, the host wakes up upon receiving a Magic Packet comprised of 16 repetitions of the DUT MAC address.

For a more detailed description of the parameters, refer to the README\_MLAN file available in the software release of the supported product.

[Table 3](#) describes the parameters in *mefcfg* structure.

Table 3. mefcfg parameters

Parameter	Description
criteria	1 = Broadcast 2 = Unicast 8 = Multicast
mode	1 = Host Sleep 2 = Not in Host Sleep
action	0 = Discard packet, do not wake-up the host 1 = Discard packet, wake-up the host 3 = Allow packet, wake-up the host
type	0x41 = byte comparison 0x42 = decimal comparison 0x43 = bit comparison
RPN	Allows filters to be combined using logical AND (&&) and logical OR (    )
filter_num	Number of filters
Filter_n	Definition of each filter 0, 1, 2
repeat	Number of times the pattern is repeated
byte	Decimal value, hex value, or string of hexadecimal values separated by ":" as selected by Type

Table 3. mefcfg parameters...continued

Parameter	Description
offset	Number of bytes into the packet to start the comparison

Command to set *mef.conf*:

```
./mlanutl <interface> mefcfg <mef.conf>
```

**Note:**

- *hssetpara must be used to configure the wake-up method.*
- *The value of interface parameter is mlan0 for the Wi-Fi device in STA mode, and uap0 for the Wi-Fi device in uAP mode.*



3.3 wakeupreason command

The mlanutl command wakeupreason is used to check the reason to interrupt the host sleep mode.

Command syntax:

```
./mlanutl <interface> wakeupreason
```

Table 4. Command parameters

Parameter	Description
interface	Interface of the Wi-Fi device mlan0 = interface for STA mode uap0 = interface for AP mode

[Table 5](#) describes the command return parameters.

Table 5. wakeupreason command return parameters

Parameter	Description
reason	0 = unknown 1 = Broadcast data matched 2 = Multicast data matched 3 = Unicast data matched 4 = Maskable event matched 5 = Non-maskable event matched 6 = Non-maskable condition matched (EAPOL rekey) 7 = Magic pattern matched 8 = Control frame matched 9 = Management frame matched

## 4 Examples

This section contains examples of host wake-up configured by `hssetpara` command and MEF configuration.

### 4.1 `hssetpara` command examples

Command to receive multicast data using in-band method:

```
./mланutl mлан0 hssetpara 8
```

Where:

- `mлан0` is the interface for the Wi-Fi radio in STA mode.
- `8` is the value of `condition` parameter to receive multicast data.

Command to set a MAC event using out-of-band method and the default GAP time:

```
./mланutl mлан0 hssetpara 4 16
```

Where:

- `mлан0` is the interface for the Wi-Fi radio in STA mode.
- `4` is the value of `condition` parameter for MAC event.
- `16` is the value of `gpio` parameter for out-of-band.

Command to set a MAC event using out-of-band method and 160 ms GAP time:

```
./mланutl mлан0 hssetpara 4 16 0xa0
```

Where:

- `mлан0` is the interface for the Wi-Fi radio in STA mode.
- `4` is the value of `condition` parameter for MAC event.
- `16` is the value of `gpio` parameter for out-of-band.
- `0xa0` is the value of `gap` parameter for 160 ms.

Command to cancel the host wake-up condition:

```
./mланutl mлан0 hssetpara -1
```

Where:

- `mлан0` is the interface for the Wi-Fi radio in STA mode.
- `-1` is the value of `condition` parameter to cancel the host wake-up.

## 4.2 MEF configuration examples

This section shows examples of host wake-up for single and multiple conditions using MEF configuration.

### 4.2.1 Single condition example

In this example, the wake-up condition is the reception of a Magic Packet that contains 16 repetitions of the DUT MAC address.

**Step 1** – Set in-band wake-up method using `hssetpara`. The condition will be defined later in `mef.conf`.

```
./mланutl <interface> hssetpara 0 0xff
```

The value of `interface` parameter is `mlan0` for the Wi-Fi device in STA mode, and `uap0` for the Wi-Fi device in uAP mode.

**Step 2** – Edit `mef.conf` with parameters. One condition is defined. [comment: not clear – are we doing something or is the condition already set? The example below is the same as in section MEF configuration file]

```
mefcfg={
  Criteria=2    # Unicast frames are received during host sleep mode
  NumEntries=1 # Number of activated MEF entries
  mef_entry_0={
    mode= 1    # HostSleep mode
    action=1   # Discard Packet and Wake host
    filter_num=1 # Number of filters
    RPN=Filter_0 # only one filter is used
    Filter_0={
      type=0x41 # Byte comparison filter
      repeat=16 # Num of times to repeat Byte pattern
      byte=00:50:43:00:01:02 # Byte Pattern which is DUT MAC address
      offset=14 # offset in bytes into the received packet
    }
  }
}
```

**Step 3** – Set the host sleep configuration defined in `mef.conf`.

```
./mланutl <interface> mefcfg config/mef.conf
```

The value of `interface` parameter is `mlan0` for the Wi-Fi device in STA mode, and `uap0` for the Wi-Fi device in uAP mode.

### 4.2.2 Example with multiple conditions

In this example, all three conditions listed below must be met for the host to wake up:

1. The Wi-Fi device received an ARP packet.
2. The source IP address is 192.168.0.104.
3. Destination Broadcast MAC address

**Step 1** – Set out-of-band wake-up with 100 ms GAP time.

```
./mланutl mлан0 hsetpara 0 16 0x64
```

Where:

- mлан0 is the interface for the Wi-Fi radio in STA mode.
- 0 is the value of condition parameter.
- 16 is the value of gpio parameter for out-of-band.
- 0x64 is the value of gap parameter for 100 ms.

**Step 2** – Edit *mef.conf* to set the parameters.

```
mefcfg={
    mef_entry_0={
        mode=1      # HostSleep mode
        action=3    # Allow packet and Wake host
        filter_num=3 # Number of filters
        RPN=Filter_0 && Filter_1 && Filter_2 # Filters 0, 1 and 2 are required
        #Filter_0 looking for rx pkt with broadcast as the destination address
        Filter_0={
            type=0x41 # byte comparison
            repeat=6
            byte=ff # 6 x ff
            offset=0 # start of the packet
        }
        #Filter_1 looking for rx pkt with EtherType is 0x0806 (ARP)
        Filter_1={
            type=0x41 # byte comparison
            repeat=1
            byte=08:06 # ARP packet
            offset=20
        }
        #Filter_2 looking for rx pkt with ARP protocol IP address 192.168.0.104
        Filter_2={
            type=0x41 # byte comparison
            repeat=1
            byte=c0:a8:00:68 # 192.168.0.104 in hexadecimal
            offset=46
        }
    }
}
```

**Step 3** – Set the host sleep configuration defined in *mef.conf*.

```
./mланutl <interface> mefcfg config/mef.conf
```

The value of *interface* parameter is mлан0 for the Wi-Fi device in STA mode, and uap0 for the Wi-Fi device in uAP mode.

**Step 4** – Get the wake-up reason once the Wi-Fi device wakes up the host.

Example of command output for `reason = 7` (magic pattern matched):

```
Get wakeup reason response: 7
```

### 4.3 Host wake-up with unicast data

This example details how IW416 wakes up the host with unicast data.

#### Step 1 – Load the Wi-Fi driver in the kernel.

```
modprobe moal mod_para=nxp/wifi_mod_para.conf
```

#### Example of command output:

```
m1an: loading out-of-tree module taints kernel.
wlan: Loading MWLAN driver
wlan: Register to Bus Driver...
vendor=0x02DF device=0x9159 class=0 function=1
Attach moal handle ops, card interface type: 0x108
rps set to 0 from module param
SDIW416: init module param from usr cfg
card_type: SDIW416, config block: 0
cfg80211_wext=0xf
max_vir_bss=1
cal_data_cfg=none
ps_mode = 1
auto_ds = 1
host_mlme=enable
fw_name=nxp/sdiouartiw416_combo_v0.bin
SDIO: max_segs=128 max_seg_size=65535
rx_work=1 cpu_num=4
Enable moal_rcv_amsdu_packet
Attach m1an adapter operations.card_type is 0x108.
wlan: Enable TX SG mode
wlan: Enable RX SG mode
Request firmware: nxp/sdiouartiw416_combo_v0.bin
Wlan: FW download over, firmwarelen=591920 downloaded 583236
WLAN FW is active
on time is 61875645706
VDLL image: len=8684
FW country code WW does not match with US
fw_cap_info=0x187ccf03, dev_cap_mask=0xffffffff
max_p2p_conn = 8, max_sta_conn = 8
Register NXP 802.11 Adapter m1an0
Register NXP 802.11 Adapter uap0
Register NXP 802.11 Adapter wfd0
wlan: version = SDIW416--16.92.21.p137.4-MM6X16437.p31-(FP92)
wlan: Register to Bus Driver Done
wlan: Driver loaded successfully
```

**Step 2** – Connect the Wi-Fi device to the external access point.

- Use `wpa_supplicant` to connect the Wi-Fi device in STA mode (client).

```
wpa_supplicant -i wlan0 -Dnl80211 -c /etc/wpa_supplicant.conf
```

Example of command output:

```
Successfully initialized wpa_supplicant
rfkill: Cannot open RFKILL control device
wlan: wlan0 START SCAN
wlan: SCAN COMPLETED: scanned AP count=38
wlan: HostMlme wlan0 send auth to bssid bc:XX:XX:XX:b3:4d
wlan0:
wlan: HostMlme Auth received from bc:XX:XX:XX:b3:4d
wlan: HostMlme wlan0 Connected to bssid bc:XX:XX:XX:b3:4d successfully
wlan0:
wlan: Send EAPOL pkt to bc:XX:XX:XX:b3:4d
wlan0:
wlan: Send EAPOL pkt to bc:XX:XX:XX:b3:4d
woal_cfg80211_set_rekey_data return: gtk_rekey_offload is DISABLE
```

- Use `hostapd` to connect the Wi-Fi device in uAP mode.

```
hostapd hostapd.conf
```

Command output example

```
uap0: interface state UNINITIALIZED->COUNTRY_UPDATE
uap0: interface state COUNTRY_UPDATE->ENABLED
uap0: AP-ENABLED
uap0: STA 6c:c7:ec:90:5f:e5 IEEE 802.11: authenticated
uap0: STA 6c:c7:ec:90:5f:e5 IEEE 802.11: associated (aid 1)
uap0: AP-STA-CONNECTED 6c:c7:ec:90:5f:e5
uap0: STA 6c:c7:ec:90:5f:e5 RADIUS: starting accounting session 24899EF3AAE18D45
uap0: STA 6c:c7:ec:90:5f:e5 WPA: pairwise key handshake completed (RSN)
uap0: EAPOL-4WAY-HS-COMPLETED 6c:c7:ec:90:5f:e5
```

**Step 3** – Verify the connectivity by running the ping command from the Wi-Fi device (STA or uAP mode) connected to the external AP.

**Step 4** – Disable auto address resolution protocol (ARP) for the host sleep mode.

```
./mланutl <interface> auto_arp 0
```

The value of `interface` parameter is `wlan0` for the Wi-Fi device in STA mode, and `uap0` for the Wi-Fi device in uAP mode.

**Step 5** – Verify that auto ARP is disabled.

Command for the Wi-Fi device in STA mode:

```
./mlanutl <interface> auto_arp
```

The value of `interface` parameter is `mlan0` for the Wi-Fi device in STA mode, and `uap0` for the Wi-Fi device in uAP mode.

Example of command output:

```
Auto ARP is Disabled
```

**Step 6** – Get the PHY number for Wi-Fi radio interface.

```
iw dev
```

Example of command output:

```
phy#0
  Interface wfd0
    ifindex 5
    wdev 0x3
    addr 9e:50:d1:45:37:09
    type managed
    txpower 24.00 dBm
  Interface uap0
    ifindex 4
    wdev 0x2
    addr 9e:50:d1:45:38:09
    type AP
    txpower 24.00 dBm
  Interface mlan0
    ifindex 3
    wdev 0x1
    addr 9c:50:d1:45:37:09
    ssid Netgear_2G
    type managed
    channel 6 (2437 MHz), width: 20 MHz, center1: 2437 MHz
    txpower 24.00 dBm
```

**Step 7** – Enable wake on Wi-Fi on the PHY number. The PHY number (`phy#`) is taken from **Step 4**.

Command syntax:

```
iw phy#0 wowlan enable any
```

**Step 8** – Verify that wake on Wi-Fi is enabled.

```
iw phy#0 wowlan show
```

Example of command output:

```
WoWLAN is enabled:
* wake up on special any trigger
```

**Step 9** – Enable SDIO wake-up. This step is not needed for PCIe interface.

```
echo enabled > /sys/bus/platform/devices/30b50000.mmc/power/wakeup
```



**Step 10** – Set the host sleep parameters. Refer to [Section 3.1](#).

```
echo "hssetpara=2 0xff" > /proc/mwlan/adapter0/config
```

OR

```
./mланutl <interface> hssetpara 2 0xff
```

The value of interface parameter is `mлан0` for the Wi-Fi device in STA mode, and `uap0` for the Wi-Fi device in uAP mode.

**Step 11** – Set the host in sleep mode.

```
echo mem >> /sys/power/state
```

Example of command output:

```
PM: suspend entry (deep)
Filesystems sync: 0.002 seconds
Freezing user space processes
Freezing user space processes completed (elapsed 0.001 seconds)
OOM killer disabled.
Freezing remaining freezable tasks
Freezing remaining freezable tasks completed (elapsed 0.001 seconds)
printk: Suspending console(s) (use no_console_suspend to debug)
PM: suspend devices took 0.236 seconds
Disabling non-boot CPUs ...
psci: CPU1 killed (polled 4 ms)
psci: CPU2 killed (polled 0 ms)
psci: CPU3 killed (polled 0 ms)
```

**Step 12** – From the external AP, send unicast ping data to the wireless SoC. This step will trigger the host to wake up.

```
ping <DUT IP> -c 1
```

Expected output:

```
Enabling non-boot CPUs ...
Detected VIPT I-cache on CPU1
GICv3: CPU1: found redistributor 1 region 0:0x00000000388a0000
CPU1: Booted secondary processor 0x0000000001 [0x410fd034]
CPU1 is up
Detected VIPT I-cache on CPU2
GICv3: CPU2: found redistributor 2 region 0:0x00000000388c0000
CPU2: Booted secondary processor 0x0000000002 [0x410fd034]
CPU2 is up
Detected VIPT I-cache on CPU3
GICv3: CPU3: found redistributor 3 region 0:0x00000000388e0000
CPU3: Booted secondary processor 0x0000000003 [0x410fd034]
CPU3 is up
[drm] Pixel clock: 0 KHz, character clock: 0, bpc is 0-bit, fmt 0
[drm] Pixel clk (0 KHz) not supported, color depth (0-bit)
[drm:cdns_hdmi_phy_set_imx8mq] *ERROR* failed to set phy pclock
caam 30900000.crypto: registering rng-caam
PM: resume devices took 0.028 seconds
OOM killer enabled.
Restarting tasks ... done.
random: crng reseeded on system resumption
Hot alarm is canceled. GPU3D clock will return to 64/64
PM: suspend exit
```

**Step 13** – Check the host wake-up reason.

```
./mlanutl <interface> wakeupreason
```

The value of `interface` parameter is `mlan0` for the Wi-Fi device in STA mode, and `uap0` for the Wi-Fi device in uAP mode.

## Command output

```
Get wakeup reason response: 3
```

## 5 Note about the source code in the document

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## 6 References

- [1] Webpage – 88W8987: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 5 (802.11ac) + Bluetooth® Solution ([link](#))
- [2] Webpage – 88W8997: 2.4/5 GHz Dual-Band 2x2 Wi-Fi® 5 (802.11ac) + Bluetooth® Solution ([link](#))
- [3] Webpage – 88W9098: 2.4/5 GHz Dual-Band 2x2 Wi-Fi® 6 (802.11ax) + Bluetooth® ([link](#))
- [4] Webpage – IW416: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 4 (802.11n) + Bluetooth® Solution ([link](#))
- [5] Webpage – IW610: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 6 + Bluetooth Low Energy + 802.15.4 Tri-Radio Solution ([link](#))
- [6] Webpage – AW611: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 6 (802.11ax) + Bluetooth® Automotive Solution ([link](#))
- [7] Webpage – IW611: 2.4/5 GHz Dual-band 1x1 Wi-Fi® 6 (802.11ax) + Bluetooth® Solution ([link](#))
- [8] Webpage – IW612: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 6 (802.11ax) + Bluetooth® + 802.15.4 Tri-Radio Solution ([link](#))
- [9] Webpage – AW692: 2x2 single-band (5 GHz) Concurrent Dual Wi-Fi® 6, 1x1 (2.4 GHz) Wi-Fi 6, and Bluetooth® Combo Solution ([link](#))
- [10] Webpage – AW693: 2x2 dual-band (5-7 GHz), 1x1 (2.4 GHz) Concurrent Dual Wi-Fi 6/6E, and Bluetooth Combo Solution ([link](#))
- [11] Webpage – IW693: 2x2 dual-band (5-7 GHz), 1x1 (2.4 GHz) Concurrent Dual Wi-Fi 6/6E, and Bluetooth Combo Solution ([link](#))
- [12] Webpage – IW623: 2x2 Tri-band (2.4G/5/6 GHz) Wi-Fi® 6E and Bluetooth Combo Solution ([link](#))

7 Revision history

Table 6. Revision history

Document ID	Release date	Description
AN14465 v.2.0	29 September 2025	<ul style="list-style-type: none"><li>• <a href="#">Section 1.1 "Supported products"</a>: updated.</li><li>• <a href="#">Section 2 "Wake-up conditions"</a>: replaced "external AP" with "external AP/STA".</li><li>• <a href="#">Section 3.1 "hssetpara command"</a>: updated the command syntax for mlanutl.</li><li>• <a href="#">Section 3.2 "MEF configuration file"</a>: updated.</li><li>• <a href="#">Section 4.1 "hssetpara command examples"</a>: updated.</li><li>• <a href="#">Section 4.2.1 "Single condition example"</a>: updated.</li><li>• <a href="#">Section 4.2.2 "Example with multiple conditions"</a>: updated.</li><li>• <a href="#">Section 4.3 "Host wake-up with unicast data"</a>: updated.</li><li>• <a href="#">Section 6 "References"</a>: updated.</li></ul>
AN14465 v.1.0	27 May 2025	<ul style="list-style-type: none"><li>• Initial version</li></ul>

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