

## User Manual

### MITSUMI WiFi Module

### MODEL DWM-W081

The purpose of this manual is to explain correct way how to integrate module DWM-W081 to the end product. It includes procedures that shall assist you to avoid unforeseen problems. This manual presents information that shows how module and OEM product, where module integrated, complies with regulations in certain regions. Any modifications, not expressly approved by the manufacturer could void the authority to operate in these regions.

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#### 1. General

This MITSUMI WLAN module, model DWM-W081 has to be installed and used in accordance with the technical description/installation instructions provided by the manufacturer.

For detail information concerning type approval of this module (e.g. where this module is already pre-approved) please contact the authorized local distributor or manufacturer.

The system may only be implemented in the configuration that was authorized. Note that any changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment.

## 2. Product Information

DWM-W081 is a wireless LAN module corresponding to single-band(5GHz). 1x1 SISO method is supported. The specification is shown in the following.

Frequency Band:	5.18 - 5.24GHz 5.745 - 5.825GHz
Network Standard:	IEEE 802.11n
Host Interface:	SDIO V2.0
Chipset:	Broadcom BCM4319
Antenna:	2 Antenna Connector (1x1 SISO)
Network:	Infrastructure Mode (no ad-hoc) / No AP Mode
Frequency Bandwidth:	20MHz
Operating Temperature:	0 to 65 degree C
Modulation Technology:	OFDM with BPSK, QPSK, 16 QAM, 64 QAM
Hardware Encryption:	AES, TKIP, WEP
Quality of Service:	IEEE 802.11e

## 3. USA-Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits, pursuant to Part 15 of 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. If not installed and used in accordance with the instructions, it 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 tuning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

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

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.

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

### Labelling

MITSUMI 802.11n WLAN module DWM-W081 labelled as below.

FCC ID: EW4DWMW081

The proposed with FCC ID label format is to be placed on the module. If FCC ID is not visible when the module is installed into the system, "Contains FCC ID: EW4DWMW081" shall be placed on the outside of final host system.

### Caution: Exposure to Radio Frequency Radiation

To comply with FCC RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

## Instructions to OEM Integrators

A User manual provided to the end user must indicate the operating requirements and conditions that must be observed to ensure compliance with the above-mentioned FCC RF Exposure guideline.

If this module is intended for use in a portable device, integrators are responsible for separate evaluation and/or approval to satisfy FCC RF Exposure requirements.

The antenna used this module is as follows;

**Antenna Type: PIFA**

**Antenna Gain: 2.55dBi**

If an antenna with higher gain or new antenna type is used with this module, integrators must contact Mitsumi for additional testing and submission to the FCC.

If other radio devices are to be integrated with this module, an additional evaluation and FCC submission may be required. Integrators are responsible for such additional evaluation and FCC submission.

## 4. Canada-Industry Canada (IC)

This device complies with RSS 210 of Industry Canada.

Operation is subject to the following two conditions:

- (1) This device may not cause interference, and
- (2) This device must accept any interference, including interference that may cause undesired operation of this device.

L' utilisation de ce dispositif est autorisée seulement aux conditions suivantes :

- (1) il ne doit pas produire de brouillage et
- (2) l' utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

### Labelling

MITSUMI 802.11n WLAN module DWM-W081 labelled as below.

IC: 4250A-DWMW081

The proposed with IC ID label format is to be placed on the module. If IC ID is not visible when the module is installed into the system, "Contains IC: 4250A-DWMW081" shall be placed on the outside of final host system.

### Caution

This 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.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication.

### Exposure to Radio Frequency Radiation

To comply with IC RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

### Instructions to OEM Integrators

A User manual provided to the end user must indicate the operating requirements and conditions that must be observed to ensure compliance with the above-mentioned IC RF Exposure guideline.

If this module is intended for use in a portable device, integrators are responsible for separate evaluation and/or approval to satisfy IC RF Exposure requirements.

The antenna used this module is as follows;

**Antenna Type: PIFA**

**Antenna Gain: 2.55dBi**

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If an antenna with higher gain or new antenna type is used with this module, integrators must contact Mitsumi for additional testing and submission to the IC.

If other radio devices are to be integrated with this module, an additional evaluation and IC submission may be required. Integrators are responsible for such additional evaluation and IC submission.

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## 5. Europe-EU Declaration of Conformity and Restrictions

Hereby, MITSUMI declares that this Mitsumi 802.11n WLAN module DWM-W081 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

This equipment is marked with the  symbol and can be used throughout the European community.

This indicates compliance with the R&TTE Directive 1999/5/EC and meets the relevant parts of following technical specifications:

**EN 301 893**, Broadband Radio Access Networks (BRAN) — 5 GHz high performance RLAN — Harmonized EN covering essential requirements of Article 3(2) of the R&TTE Directive

**EN 301 489-17**, Electromagnetic Compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific Conditions for Wideband Data and HYPERLAN Equipment.

**EN 60950-1**, Safety of Information Technology Equipment.

**EN 62311**, Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz-300 GHz).

Marking by the symbol  indicates that usage restrictions apply.

### Restrictions

- This product is for indoor use only when using channels 36, 40, 44, or 48 (5150–5250MHz).
- To ensure compliance with local regulations, be sure to select the country in which the access point is installed.

### Caution: Exposure to Radio Frequency Radiation

This device must not be co-located or operating in conjunction with any other antenna or transmitter, without further RF Exposure evaluation.

### Remark

This module is for a fixed application only. The OEM integrator will need to conduct full EMC testing in accordance with EN301 489-17 in the final use configuration.