

K30306

***Wireless LAN* Module**

IEEE802.11b/g

K30306

Data Sheet

K30306

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Rev. record

19-Mar.-2008> Ver.0.5 Draft

08-Apr.-2008> Ver.0.6 Draft

17-Apr.-2008> Ver.0.7 Draft

22-May-2008> Ver.0.8 Draft

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Control No. HD-AG-A*****	(1/1)	Control name General Items
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Scope

This specification ("Specification") applies to the hybrid IC "K30306" for use *Wireless LAN* module ("Product").

1. Type: K30306
2. Function: Radio frequency transfer Module. (*IEEE802.11b/g* standard conformity)
3. Application: PC peripheral
4. Structure: Hybrid IC loaded with silicon monolithic and GaAs semiconductor
Ability of lead free mounting at customer's assembly (Heat resistance of this Product) : Yes
Containment of hazardous substance in this Product
*This product conforms to RoHS Directive (2002/95/EC).
5. Outline: 5-pin Connector
6. Marking: Type, MAC address, Lot number
7. Features:
 - IEEE802.11b/g* standard conformity
 - Transmit speed: 11g (54/48/36/24/18/12/9/6Mbps)
11b (11/5.5/2/1 Mbps)
 - Modulation: 11g (OFDM): BPSK, QPSK, 16QAM, 64QAM
11b (DSSS): BPSK, QPSK, CCK
 - Channel Number: 1 to 11 channels
 - Interface: USB
 - Embedded ARM MPU for reducing loads on host processor
 - Built-in EEPROM (128kbit), OSC (40MHz), Antenna (Vertical monopole pattern printing antenna),
Connector
8. Security: WEP (64/128bit), TKIP (WPA), AES (WPA2)
9. Packing:
 - Packaging method: Trey
10. Notes:
 - a. Any question arising from this Specification shall be solved through mutual discussion by the parties hereof.
 - b. This Product is not designed for radiation durable and should not be used under the circumstance of radiation.
 - c. The operating conditions of this Product are as shown in this Specification.
 - d. This Product mentioned in this Specification is manufactured for use in PC peripheral.
This Product shall not be used in any special equipment (such as medical equipment, space equipment, air craft, disaster prevention equipment), where higher safety and reliability are duly required. Also, evaluation of the safety function of this Product even for use in general electronics equipment shall be thoroughly made and when necessary, a protective circuit shall be added at design stage, all at the customer's sole risk.
 - e. Communication between this Product and others might not be established nor maintained depending upon radio environment or operating conditions of this Product and other *ISM band* at 2.4GHz products.
 - f. This Product operates in the unlicensed ISM band at 2.4GHz. In case this Product is used around the other wireless devices which operate in same frequency band of this Product, there is a possibility that interference occurs between this Product and such other devices. If such interference occurs, please stop the operation of other devices or relocate this Product before using this Product or do not use this Product around the other wireless devices.

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Control No. HD-AM-A*****	(1/1)	Control name Absolute maximum ratings
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Absolute maximum ratings

Item	Symbol	Rating				Remark
		Min.	Typ.	Max.	Unit	
Supply voltage	VDD	-0.3		4.0	V	
Storage temperature range	Tstg	-40		100	Degrees C	
Operation temperature range	Topr	-5	25	55	Degrees C	

Recommendation operating range

Item	Symbol	Rating				Remark
		Min.	Typ.	Max.	Unit	
Supply voltage	VDD	2.943	3.27	3.597	V	

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Control No. HD-AE-A***** (1/2)	Control name Electrical characteristics
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DC Specifications

The Specification applies for Topr.= 25 degrees C, Supply voltage=Typical voltage

No.	Parameter	Condition	Symbol	Min.	Typ.	Max.	Unit	Remark
1	Operating Voltage 1		VDD	-	3.27	-	V	
2	Peak Current1		Ip1	-	-	537	mA	
3	Power consumption1	Continuous (11g/6Mbps)	Pc1	-	1550	1756	mW	
4	Power consumption2	Burst Tx (11g/54Mbps)	Pc2	-	820	850	mW	Duty 17.8%
5	Power consumption3	Burst Rx (11g/54Mbps)	Pc3	-	804	847	mW	
6	Power consumption4	Burst Tx (11b/11Mbps)	Pc4	-	1035	1099	mW	Duty 46.8%
7	Power consumption5	Burst Rx (11b/11Mbps)	Pc5	-	731	753	mW	

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Control No. HD-AE-A***** (2/2)	Control name Electrical characteristics
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RF Specifications (WLAN 11g/54Mbps, OFDM)

The Specification applies for Ta=25 degrees C, Supply voltage =Typical voltage

No.	Parameter	Condition	Symbol	Min	Typ	Max	Unit	Remark
1	RF frequency range		FREQ	2412		2462	MHz	
2	TX Power		Po	10	12	14	dBm	
3	Spectrum Mask	1 st Side Lobe	M1	-		-20	dBc	
		2 nd Side Lobe	M2	-		-28	dBc	
		3 rd Side Lobe	M3	-		-40	dBc	
4	Symbol clock tolerance		Ft	-25		25	ppm	
5	Frequency tolerance		Ft	-25		25	ppm	
6	EVM	RMS	EVM	-		5.6	%	
7	TX Out of band spurious1	f<2387MHz, 2496.5MHz<f	TOS1	-		2.5	uW	
8	TX Out of band spurious2	2387MHz<f<2400MHz, 2483.5MHz<f<2496.5M Hz	TOS2	-		25	uW	
9	Rx sensitivity	PER<10%	SEN	-	-71	-65	dBm	
10	Maximum Input Level	PER<10%	MIL	-20		-	dBm	
11	RX Out of band spurious1	f<1GHz	ROS1	-		4	nW	
12	RX Out of band spurious2	f>1GHz	ROS2	-		20	nW	

RF Specifications (WLAN 11b/11Mbps, CCK)

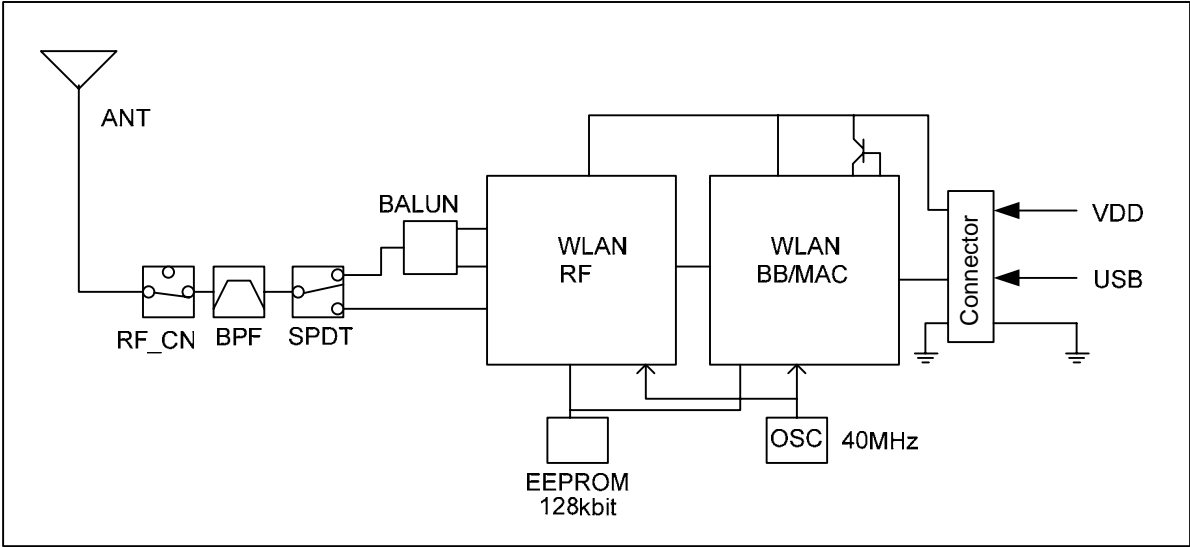
The Specification applies for Ta=25 degrees C, Supply voltage=Typical voltage

No.	Parameter	Condition	Symbol	Min	Typ	Max	Unit	Remark
1	RF frequency range		FREQ	2412		2462	MHz	
2	TX Power		Po	11	13	15	dBm	
3	Spectrum Mask	1 st Side Lobe	M1	-		-30	dBc	
		2 nd Side Lobe	M2	-		-50	dBc	
4	Power up-down rump	Power up	TU	-		2	us	
		Power down	TD	-		2	us	
5	Frequency tolerance		Ft	-25		25	ppm	
6	EVM	Peak	EVM	-		35	%	
7	TX Out of band spurious1	f<2387MHz, 2496.5MHz<f	TOS1	-		2.5	uW	
8	TX Out of band spurious2	2387MHz<f<2400MHz, 2483.5MHz<f<2496.5M Hz	TOS2	-		25	uW	
9	Rx sensitivity	PER<8%	SEN		-85	-76	dBm	
10	Maximum Input Level	PER<8%	MIL	-10			dBm	
11	RX Out of band spurious1	f<1GHz	ROS1	-		4	nW	
12	RX Out of band spurious2	f>1GHz	ROS2	-		20	nW	

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Control No. HD-MC-A*****	(1/1)	Control name Circuit Schematic
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Block Diagram

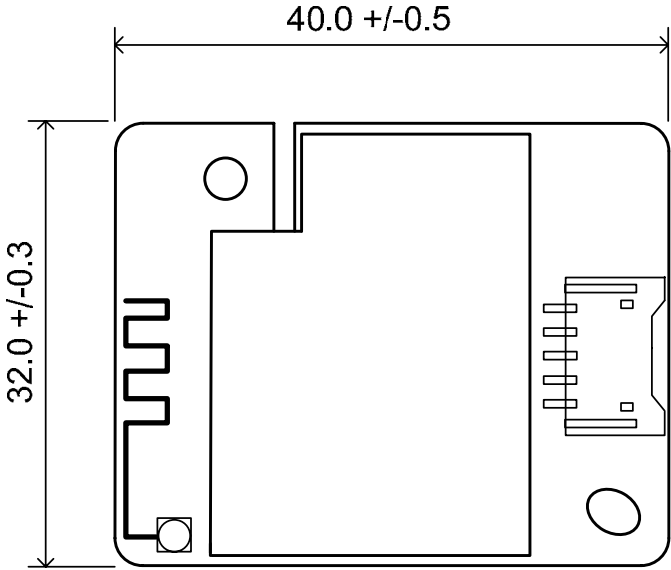


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Control No. HD-AD-A*****	(1/1)	Control name Outline/Appearance
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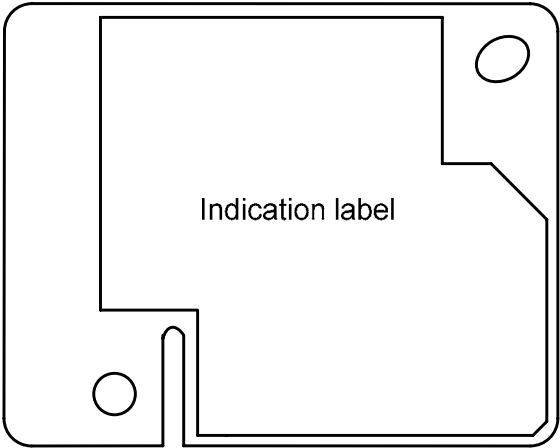
OUTLINE

Unit: mm



Pin Description	
1	GND
2	USB_D+
3	USB_D-
4	VDD
5	GND

1pin

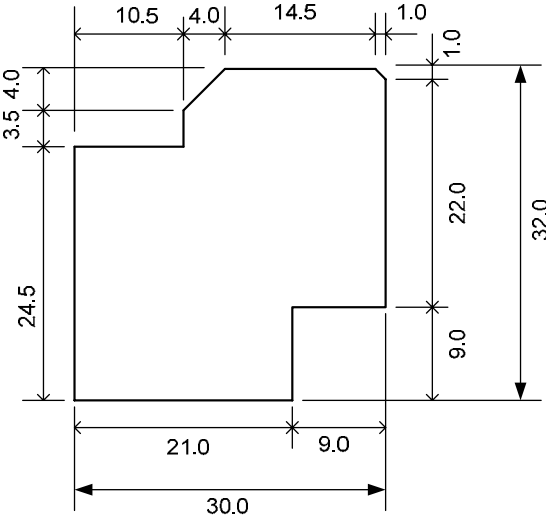


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Control No. HD-AD-B*****	(1/1)	Control name Outline/Appearance
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Indication label

Size



Material: PET (UL969)/ Label color: White

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FCC Regulatory Information

CAUTION: This device should be used in separation distance of at least 20 centimeters maintained between transmitter's radiating structure and the body of the user or nearby persons.

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.
- (2) This device must accept any interference received, including interference that may Cause undesired operation.

Canada Regulatory Information

CAUTION: This device should be used in separation distance of at least 20 centimeters maintained between transmitter's radiating structure and the body of the user or nearby persons.

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 the 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.

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R&TTE Directive Information

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

For Italy and France, this device may be limited to **USE INDOOR** only.



Hereby CANON INC. declares that this Wireless LAN Module (Model No.: K30306) is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

The declaration of Conformity may be obtained at:

CANON INC. 451, Tsukagoshi 3-chome, Saiwai-ku, Kawasaki-shi,
Kanagawa 212-8530, Japan
Telephone No.) 81-44-542-0164; Fax No.) 81-44-548-7524

CAUTION

- Please note that this users manual should not be provided to end-users. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the requirement.

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Notice

- At the installation of our Wireless LAN Module (Model No.: K30306) into the device, following information should be provided with end-user under the responsibility of the manufacture who integrates it into their device.

The following sentence has to be displayed on the outside of the device in which the module is installed:

"Contains Transmitter Module FCC ID: AZDK30306 / IC ID: 498C-K30306", or "Contains FCC ID: AZDK30306 / IC ID: 498C-K30306 "

FCC Regulatory information

CAUTION: This device should be used in separation distance of at least 20 centimeters maintained between transmitter's radiating structure and the body of the user or nearby persons.

To maintain compliance with FCC's RF exposure guidelines, use only the supplied antenna. Unauthorized antenna, modification, or attachments could damage the transmitter and may violate FCC regulations.

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.
- (2) This device must accept any interference received, including interference that may Cause undesired operation.

Canada Regulatory information

Operation is subject to the following two conditions:

- (3) this device may not cause interference, and
- (4) this device must accept any interference, including interference that may cause undesired operation of the device.

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

- (3) il ne doit pas produire de brouillage et
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.

CAUTION: This device should be used in separation distance of at least 20 centimeters maintained between transmitter's radiating structure and the body of the user or nearby persons.

R&TTE Directive information

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

For Italy and France, this device may be limited to **USE INDOOR** only.



Hereby [Name of manufacture(*)], declares that this [type of equipment(*)] is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC

(*) Note: Please write in your company name and type of equipment into [].