WNA699P5G.7 Product Specifications

V1.0

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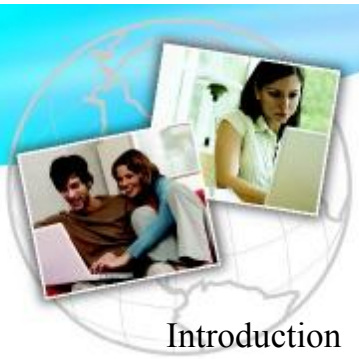


Introduction

The WNA699P5G.7, a Wireless Local Area Network(WLAN)11b/g and Bluetooth mini-PCIE Network Adapter, is a high-performance wireless assess tool. It supports 802.11 b/g and Bluetooth 2.1+EDR Standards, works at 2.4G frequency band.

The WNA699P5G.7, a utilizes Broadcom's technologies to improving both 802.11b/g and Bluetooth performance and link stability in real environment. It enhances user experience in a totally wireless environment, where all devices are connected wirelessly through either Bluetooth link or 802.11b/g link. It is suitable for using in a wide range of both residential (at-home) and commercial (offices, apartments, hotels, warehouses) network applications.

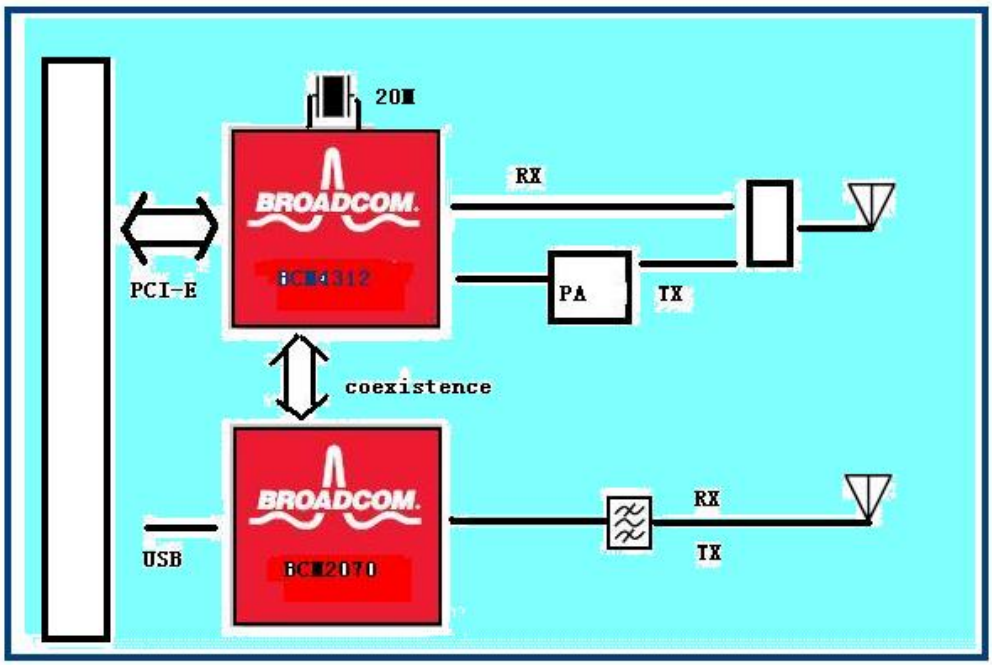
Features

- Single-band 2.4GHz 802.11b/g with up to 54Mbps data rate
- Fully supports the Bluetooth 1.1, 1.2, 2.0, and 2.1 standards including 1-, 2-, and 3-Mbps EDR operation
- PCI express Base Specification compliance: Rev 1.1
- Security: WEP,WPA Personal,WPA2 Personal,WMM,WMM-PS(UA-PSE),TKIP,and AES hardware acceleration
- Programmable output power control meets Class 1,Class 2 or Class 3 requirements
- Support Broadcom SmartAudio™, wide-band speech,SBC codec,packet loss concealment,and DSP rata match
- On-chip voltage regulator lowers BOM requirements and provides additional power savings capability
- Minimized power dissipation over other solutions

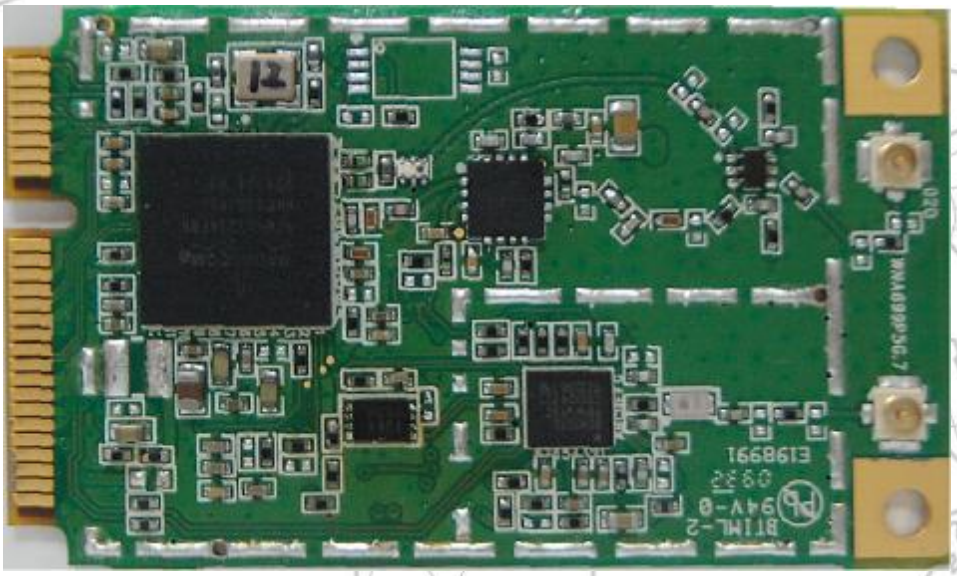
Application

- Personnel computer
- Laptop computer
- TV over IP(IPTV)
- Voice over IP(VoIP)
- Higher data rate wireless broadband access
- Network and online gaming
- Audio and Video streaming and transfer
- PC file and application sharing

Hardware Architecture

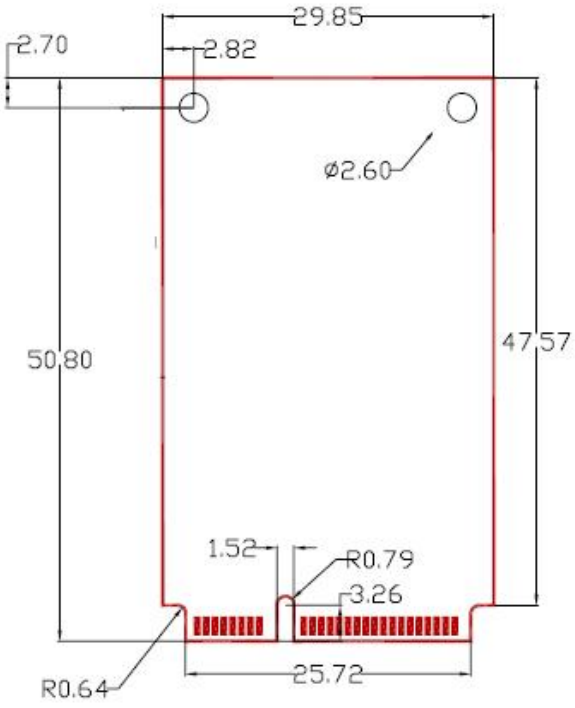


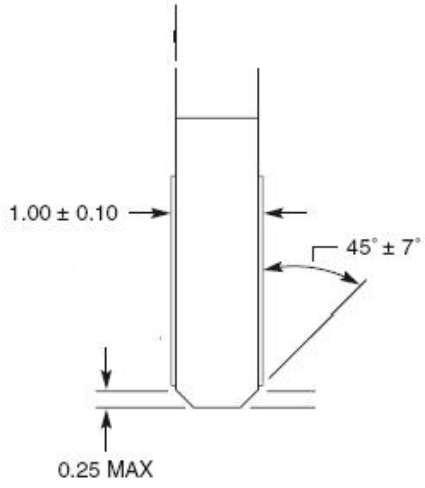
Product Photo



Mechanic Drawing

Full Size





Software & OS Support

Driver

OS	Driver
Windows XP	Available
Windows 2000	Available
Windows Vista	Available
Linux	Available

Operating conditions

Voltage Range	3.3V±0.3V
Operating Temperature Range	0℃---65℃
Storage Temperature Range	-20℃---85℃
Relative Humidity During Operating	95% (Non-Condensing)
Relative Humidity During Storage	95% (Non-Condensing)

Antenna Connector

Connector	Vendor	Number
Antenna	I-PEX	WIFI*1;Bluetooth*1

802.11 Wireless LAN

- Modulation Methods

Data Bit Rate	Modulation and Encoding Rate
802.11b CCK Modes	
1Mbps	BPSK
2Mbps	QPSK
5.5Mbps	QPSK
11Mbps	QPSK
802.11g OFDM Modes	
6Mbps	BPSK
9Mbps	BPSK
12Mbps	QPSK
18Mps	QPSK
24Mbps	16QAM
36Mbps	16QAM
48Mbps	64QAM
54Mbps	64QAM

- Channel Assignment

Channel	Frequency	FGC(US)	IC(CA)	ETSI(EU)	Japan(JP)
1	2412MHz	×	×	×	×
2	2417MHz	×	×	×	×
3	2422MHz	×	×	×	×
4	2427MHz	×	×	×	×
5	2432MHz	×	×	×	×
6	2437MHz	×	×	×	×
7	2442MHz	×	×	×	×
8	2447MHz	×	×	×	×
9	2452MHz	×	×	×	×
10	2457MHz	×	×	×	×
11	2462MHz	×	×	×	×
12	2467MHz			×	×
13	2472MHz			×	×
14	2484MHz				×

Note:
US=United States, CA=Canada, EU=European Countries(except France and Spain), JP=Japan
×=Supported

- RF Characteristics

RF Characteristic	Minimum	Typical	Maximum	Units
PC Interface		PCI-E		
Plug and Play Compatible		Yes		
Internal Antenna Impedance		50		ohms
Operating Temperature Range	0		+ 65	℃
Storage Temperature Range	-10		+85	℃
Supply Voltage	3.0	3.3	3.6	V
RX Sensitivity, 11Mbps(CCK)		-88		dBm
RX Sensitivity, 54Mbps(OFDM)		-74		dBm
TX Power(CCK)		18		dBm
TX Power/EVM @54Mbps		16/-30		dBm/dB
TX Carrier Suppression		PASS		
TX Spectral Mask		PASS		
Frequency Error		PASS		

Bluetooth

- Modulation Methods

FHSS(Frequency Hopping Spread Spectrum)defined in Bluetooth Specification

	Data Rate	Modulation Scheme
Basic Data Rate	1Mbps	GFSK
Enhanced Data Rate	2Mbps	π/4-DQPSK
	3Mbps	8DPSK

- Channel Assignment

Country	Freq. Range	RF Channel
Europe* & USA	2400-2483.5 MHZ	Freq. = 2042 + k MHz k = 0-78
Japan	2400-2483.5 MHz	Freq. = 2042 + k MHz k = 0-78

- RF Characteristics

RF Characteristic	Minimum	Typical	Maximum	Unit
Antenna I/F Impedance		50		ohms
Operating Temperature Rage	0		70	℃
Storage Temperature Rage	0		85	℃
Supply Voltage	3.0	3.3	3.6	V
Frequency Range	2402		2480	MHz
RX Sensitivity@GFSK,1Mbps		-78		dBm
RX Sensitivity@πGFSK,2Mbps		-78		dBm
RX Sensitivity@8-DPSK,3Mbps		-72		dBm
Maximum input			-20	dBm
TX Output Power	0	3		dBm
Frequency error		-15.4		KHz

Pin Definition

Pin#	name	Pin#	name
51	NC	52	3.3V
49	NC	50	GND
47	NC	48	1.5V
45	NC	46	LED_BT
43	GND	44	LED_WLAN
41	3.3V	42	NC
39	3.3V	40	GND
37	GND	38	USB_DP
35	GND	36	USB_DN
33	PCIE_RDP	34	GND
31	PCIE_RDN	32	NC
29	GND	30	NC
27	GND	28	1.5V
25	PCIE_TDP	26	GND
23	PCIE_TDN	24	3.3V
21	GND	22	PCIE_PRST_L
19	NC	20	RF_DISABLE_L
17	NC	18	GND
15	GND	16	NC
13	PCIE_REFCLK_P	14	NC
11	PCIE_REFCLK_N	12	NC
9	GND	10	NC
7	PCIE_CLKREQ_L	8	NC
5	BT_RFCTRL	6	1.5V
3	NC	4	GND
1	PCIE_WAKE_EL	2	3.3V

Safety Information

In order to maintain compliance with the FCC RF exposure guidelines, this equipment should be installed and operated with minimum distance 20cm between the radiator and your body. Use only with supplied antenna. Unauthorized antenna, modification, or attachments could damage the transmitter and may violate FCC regulations.

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

IEEE 802.11b/g operation of this product in the U.S.A. is firmware -limited to channels 1 through 11.

This device is intended only for OEM integrators under the following conditions:

The antenna must be installed such that 20 cm is maintained between the antenna and users, and

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 (for example, digital device emissions, PC peripheral requirements, etc.).

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.