2015 PRODUCT SELECTOR GUIDE
MASS MARKET PRODUCTS

BROADCOM®

Connecting
everything®

BROADCOM®
MASS MARKET
PLATFORM

ETHERNET PHY & SWITCH: INDUSTRIAL APPLICATIONS

Surveillance

Switch

Gateway

Gateway

Human Machine Interface

Robotics

Temperature

Lights
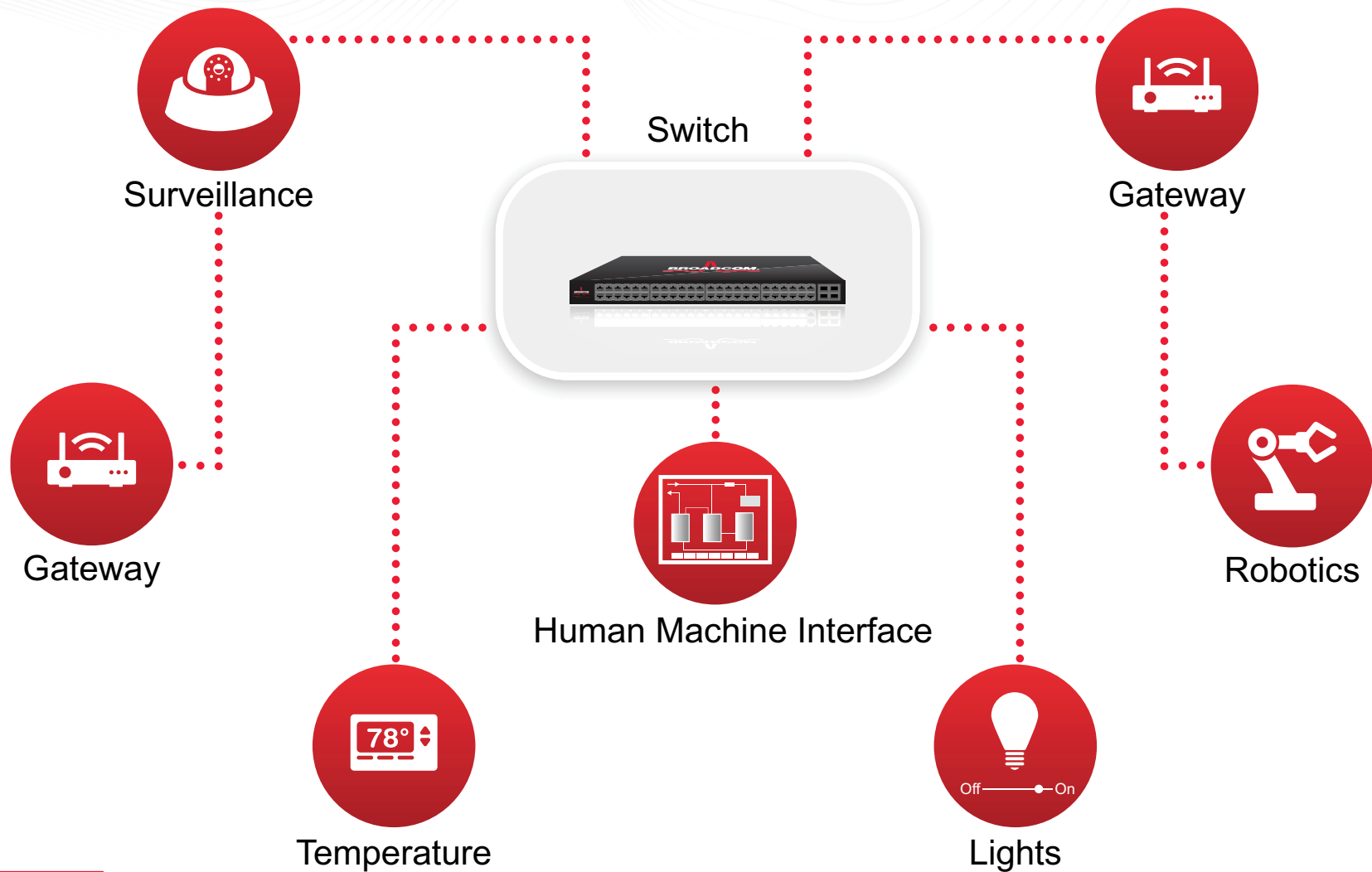
MASS MARKET PLATFORM
PHY SOLUTIONS

Devices	Media Interface			MAC Interface						Features										
	Port Speed	Copper Ports	Fiber Ports	GMII	QSGMII	SGMII	RGMII	MII	RMII	AutogrEEEn	Energy Efficient Ethernet (EEE)	IEEE 1588v2	Y.1731 DM	I-Temp	LED Pins and Ports	Synch Ethernet	Power Rails	Process	Package Size	Package Type
BCM5221	FE	1	1					1	1					✓	4		2.5V/3.3V	220 nm	12 x 12 mm, 8 x 8 mm, 7 x 7 mm	64 LQFP, 64 FBGA, 48 QFN
BCM5241	FE	1						1						✓	2		2.5V/3.3V	180 nm	5 x 5 mm	32 MLP
BCM5461	GE/FE	1		1			1							✓	8		2.5V/3.3V	130 nm	14 x 10 mm, 23 x 17 mm	117 BGA, 128 MQFP
BCM5461S	GE/FE	1	1	1		1	1							✓	8		2.5V/3.3V	130 nm	14 x 10 mm, 23 x 17 mm	117 BGA, 128 MQFP
BCM54610	GE/FE	1					1							✓	4		1.2V/3.3V	65 nm	7 x 7 mm, 9 x 9 mm	48 MLP, 100 BGA
BCM54616	GE/FE	1		1				1						✓	4	✓	1.2V/3.3V	65 nm	10 x 10 mm, 9 x 9 mm	68 MLP, 100 BGA
BCM54616S	GE/FE	1	1			1	1	1						✓	4	✓	1.2V/3.3V	65 nm	9 x 9 mm	100 BGA
BCM5482	GE/FE	2	2				1							✓	2		2.5V/3.3V	130 nm	12 x 12 mm	121 BGA
BCM5482S	GE/FE	2	2			1	1							✓	2		2.5V/3.3V	130 nm	12 x 12 mm	121 BGA
BCM5482SH	GE/FE	2	2			1	1							✓	4		2.5V/3.3V	130 nm	12 x 12 mm	121 BGA
BCM5464	GE/FE	4	4	1		1	1								4		2.5V/3.3V	130 nm	21 x 21 mm	354 BGA
BCM5464R	GE/FE	4	4			1	1								4		2.5V/3.3V	130 nm	17 x 17 mm	256 FBGA
BCM5464S	GE/FE	4	4	1		1	1							✓	4		2.5V/3.3V	130 nm	21 x 21 mm	354 BGA
BCM5464SR	GE/FE	4	4			1	1								4		2.5V/3.3V	130 nm	17 x 17 mm	256 FBGA
BCM54612E	GE/FE	1					1				✓			✓	4	✓	1.2V/3.3V	65 nm	7 x 7 mm, 9 x 9 mm	48 MLP, 100 BGA
BCM54282	GE/FE	8			2					✓	✓	✓	✓		4	✓	1.0V/3.3V	40 nm	17 x 17 mm	256 BGA
BCM54285	GE/FE	8	8		2					✓	✓	✓	✓	✓	4	✓	1.0V/3.3V	40 nm	21 x 21 mm	400 BGA

RoboSwitch™ SOLUTIONS

Offered in 5-24 port configurations supporting both Fast Ethernet and Gigabit Ethernet (GbE), Broadcom's RoboSwitch Ethernet Switching solutions are highly integrated, cost-effective, and smart-managed based on a field-proven, industry-leading architecture. These Fast Ethernet and Gigabit Ethernet solutions combine all of the functions of a high-speed switch system including packet buffers, PHY transceivers, media access controllers (MACs), address management, port-based rate control, and a nonblocking switch fabric into a single CMOS device. Designed to be fully compliant with the IEEE 802.3™ and IEEE 802.3x specifications, including the MAC-control PAUSE frame, RoboSwitch provides compatibility with all industry-standard Ethernet specifications.

Switch	Description	FE	GbE	2.5G	Integrated PHYs	U/S/M	Integrated MCU	Interfaces	Packet Buffer	# of MAC Addresses	# of VLAN Addresses	# of QoS Queues/Ports	Package Type	Package Size
Robo Fast Ethernet Solutions														
BCM53101M	5-port 10/100 Switch + MII + 1 GMAC	5	1		5	M		GMII/RGMII/RvMII/RMII	64 KB	2k	4k	6	132-pin DRQFN	10 x 10 mm
BCM53107	7-port 10/100 Switch with Integrated EEE PHY	5	2		5	M/S	8051	GMII/RGMII/RvMII	128 KB	4k	4k	6	186-pin MML	12 x 12 mm
BCM53108	8-port FE Switch with Integrated PHY + 1GbE	8	1		8	U/S	8051	GMII/RGMII/RvMII	192 KB	4k	4k	6	256-pin eLQFP	28 x 28 mm
BCM53108V	7-port FE Switch with Integrated PHY + 2GbE	7	2		7	U/S	8051	GMII/RGMII/RvMII	192 KB	4k	4k	6	256-pin eLQFP	28 x 28 mm
BCM53202	8-port FE Switch with Integrated PHY + 2GbE	8	2		8	M/S		GMII/RGMII/RvMII	384 KB	8k	4k	4	400-pin PBGA	27 x 27 mm
BCM53212	16-port FE Switch with Integrated PHY + 2GbE (GMII/RGMII)	16	2		16	M/S		GMII/RGMII/RvMII	384 KB	8k	4k	4	400-pin PBGA	27 x 27 mm
BCM53242	24-port FE Switch with Integrated PHY + 2GbE (GMII/RGMII)	24	2		24	M/S		GMII/RGMII/RvMII	384 KB	8k	4k	4	400-pin PBGA	27 x 27 mm
BCM53262	24-port FE Switch with Integrated PHY + 4GbE (GMII/RGMII)	24	4		24	M/S		GMII/RGMII/RvMII	384 KB	8k	4k	4	676-pin PBGA	35 x 35 mm
BCM53282	Managed 8-port FE Switch with Integrated PHY + 2GbE	8	2		8	M/S		GMII/RGMII/RvMII	1.5 MB	16k	4k	8	400-pin PBGA	27 x 27 mm
BCM53283	Managed 16-port FE Switch with Integrated PHY + 2GbE	16	2		16	M/S		GMII/RGMII/RvMII	1.5 MB	16k	4k	8	400-pin PBGA	27 x 27 mm
BCM53284	Managed 24-port FE Switch with Integrated PHY + 2GbE	24	2		24	M/S		GMII/RGMII/RvMII	1.5 MB	16k	4k	8	400-pin PBGA	27 x 27 mm
BCM53285	Managed 16-port FE Switch with Integrated PHY + 4GbE	16	4		16	M		SerDes/SGMII/RGMII/RvMII	1.5 MB	16k	4k	8	676-pin PBGA	35 x 35 mm
BCM53286	Managed 24-port FE Switch with Integrated PHY + 4GbE	24	4		24	M/S		SerDes/SGMII/RGMII/RvMII	1.5 MB	16k	4k	8	676-pin PBGA	35 x 35 mm
BCM53288	Managed 24-port FE Switch with Integrated PHY + 2GbE + 2.5G SGMII	24	2	1	24	M		SerDes/SGMII/RGMII/RvMII	1.5 MB	16k	4k	8	676-pin PBGA	35 x 35 mm

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RoboSwitch™/StrataConnect™ SOLUTIONS

Switch	Description	FE	GbE	2.5G	Integrated PHYs	U/S/M	Integrated MCU	Interfaces	Packet Buffer	# of MAC Addresses	# of VLAN Addresses	# of QoS Queues/Ports	Package Type	Package Size
RoboSwitch Gigabit Ethernet Solutions														
BCM53124	6-port GbE Switch with Integrated EEE PHY		6		4	M/S	8051	GMII/RGMII/MII/RvMII	128 KB	4k	4k	6	186-pin MML	
BCM53125	7-port GbE Switch with Integrated EEE PHY		7		5	U/M/S	8051	GMII/RGMII/MII/RvMII	128 KB	4k	4k	6	186-pin MML	
BCM53128	8-port GbE Switch with Integrated EEE PHY + 1GbE		9		8	U/M/S	8051	GMII/RGMII/MII/RvMII	192 KB	4k	4k	6	256-pin eLQFP	
BCM53128V	7-port GbE Switch with Integrated EEE PHY + 2GbE		9		7	U/M/S	8051	GMII/RGMII/MII/RvMII	192 KB	4k	4k	6	256-pin eLQFP	
BCM5387	5-port Switch SGMII		5		SerDes	M		GMII/RGMII/MII/RvMII/SerDes	128 KB	4k	4k	4	256-pin FBGA	
BCM5389	8-port Switch SGMII		8		SerDes	M		GMII/RGMII/MII/RvMII/SerDes	128 KB	4k	4k	4	256-pin FBGA	
BCM5396	16-port Switch SGMII		16		SerDes	M		GMII/RGMII/MII/RvMII/SerDes	256 KB	4k	4k	4	256-pin FBGA	

StrataConnect switches deliver the industry's most powerful and cost-effective connectivity solutions for all markets served. StrataConnect provides highly integrated and scalable silicon and software solutions while offering advanced features and unified architecture that provide customers with strategic time-to-market advantages.

Switch	Description	U/S/M	1GbE Ports	10GbE Ports	HiGig[13]	# of Integrated GPHYs	QSGMII	Integrated CPU	CPU Interface	Packet Buffer	# of MAC Addresses	# of VLANs	IFP Rules/Slices	# of QoS Queues/Ports	Package Type	Package Size
StrataConnect Gigabit Ethernet Solutions																
BCM53333	16-port GE Switch w/ Integrated EEE PHY & CPU - UM	U	16			16		ARM	SPI, BSC	512 KB	8k	4k	512/4	8	648-pin FCGBA	23 x 23 mm
BCM53334	24-port GE Switch w/ Integrated EEE PHY & CPU	U	24			16	2	ARM	SPI, BSC	512 KB	8k	4k	512/4	8	648-pin FCBGA	23 x 23 mm

WIRELESS CONNECTIVITY

Internet of Things

Connectivity

WiFi

Bluetooth®

GPS

N™

Wearables

**Everything
Connected
to the Network**

Smart Devices
Control and Analyze

**Body-borne
Computing
and Sensors**
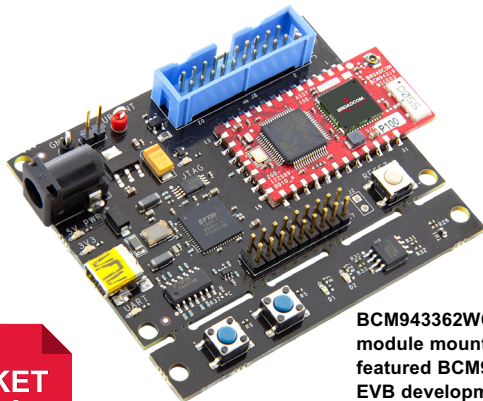
WICED™

WICED Wi-Fi: Broadcom provides a full-featured WICED Development Kit and is working with partners to deliver turnkey hardware solutions of various form factors to readily enable Wi-Fi connectivity in system designs. The following reference WICED boards are available for development and device prototyping:

- BCM943362WCD4_EVB: BCM943362WCD4 SIP module is mounted on a full-featured USB-based evaluation and development board that is fully compatible with the WICED Wi-Fi Software Development Kit (SDK). The onboard SIP module leverages the BCM43362 802.11n 2.4 GHz Wi-Fi controller with integrated antennas and diversity to improve the quality and reliability of a wireless link, plus the STM32F205 32-bit ARM microcontroller.
- BCM943341WCD1_EVB: BCM943341WCD1 SIP module is mounted on a full-featured USB-based evaluation and development board that is fully compatible with the WICED Wi-Fi SDK. The onboard SIP module leverages the BCM43341 single-chip integrated quad-radio (802.11a/b/g/n Dual-band WLAN/BT/BLE 4.1/FM) and near-field communications (NFC) with integrated low-noise amplifiers (LNAs) and transmit/receive (TX/RX) switches. Powered by the STM32F407 32-bit ARM microcontroller, the board is also provisioned to support the authentication chip utilized by Apple's HomeKit offering.
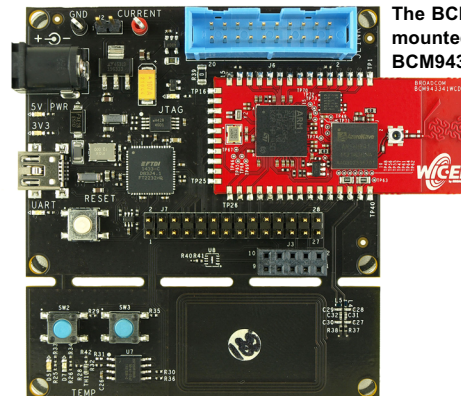
WICED Wi-Fi Software Development Kit: The WICED Wi-Fi SDK includes the following:

- An open-source build system and toolchain based on GNU 'make'.
- A GUI development environment based on Eclipse CDT that seamlessly integrates with a JTAG programmer and single-step, thread-aware debugger based on OpenOCD and gdb.
- A comprehensive software stack with a choice of several RTOS/TCP stack options including ThreadX/NetX, ThreadX/NetX Duo, and FreeRTOS/LwIP.
- Advanced security and networking features, incorporating SSL/TLS, IPv4/IPv6 networking, and mDNS (Bonjour) device discovery.
- WICED Application Framework incorporating production-ready features, including bootloader, flash storage API, over-the-air (OTA) upgrades, factory reset, and system monitor.
- Production-ready sample applications and application snippets that demonstrate how to use the WICED API feature set, including examples of Wi-Fi to Bluetooth (BT/BLE) bridging and Apple HomeKit (requires MFi license).
- Various test applications to aid manufacturing and certification.
- Full documentation included in the SDK.

For additional information on WICED modules currently in production, go to http://community.broadcom.com/community/wiced-wifi.

BCM943362WCD4 WICED module mounted on a full-featured BCM943362WCD4_EVB development board.

The BCM943341WCD1 SIP module mounted on a full-featured BCM943341WCD1_EVB evaluation board.
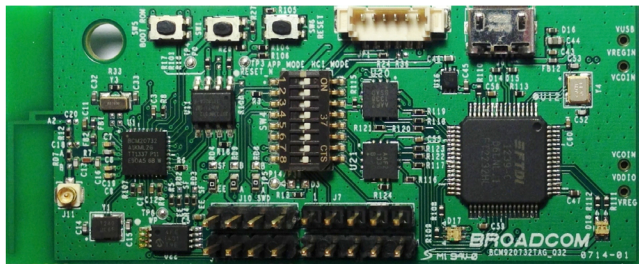
WICED™ SMART

WICED™ SMART (Embedded Bluetooth Low Energy): WICED SMART is a very low-power family of pin-compatible modules that, when paired with the included SDK, vastly reduces the effort required to add "Bluetooth Smart" wireless connectivity and cable replacement capabilities to a range of embedded applications.

- Pin-Compatible Family: BCM20732, BCM20736 (Wireless Charging), and BCM20737 (NFC/RSA)
- BCM92073X_LE_KIT: A complete evaluation and development kit that includes the BCM20737, a fully integrated Bluetooth Smart SoC, and is configured for easy evaluation and software development.
- BCM20732S/BCM20736S/BCM20737S: A production module providing cable replacement functionality via an integrated Bluetooth Smart solution that includes onboard stack, crystal, antenna, and regulatory approvals. Support for these products is available within the Broadcom Support Community forums at:
  http://community.broadcom.com/welcome

WICED SMART Software Development Kit: Broadcom provides a WICED SMART SDK and is working with partners to deliver turnkey hardware solutions to enable Bluetooth Smart connectivity. Broadcom's WICED SMART Development Kit eases development effort and simplifies the implementation of wireless connectivity in an array of consumer, medical, fitness, and home automation devices—especially those without existing networking support.

Developers use the WICED SMART Development Kit to create secure Bluetooth SMART wireless applications. The development kit contains the following:

- WICED SMART BCM92073X_LE_KIT small form factor development board (with coin cell holder)
- A Bluetooth low energy dongle for PC-based platforms
- SDK
- A full suite of documentation (data sheet, hardware user's guide, quick start guide, etc.)
- Integrated Eclipse-based IDE allowing access to peripherals, timers, stack, and profiles
- Support for ARM RealView RVDS and CodeSourcery G++ Lite toolchains
- Linux or Windows development support
- Sample profiles included in ROM: proximity, heart rate monitor, health thermometer, and blood pressure monitor

WICED™ SmartBridge: A multiple-connection Bluetooth SmartBridge with the following features: whitelist, bond storage, attribute caching, GATT procedures, configurable maximum concurrent connections, directed advertisements, and device address initialization for seamless bridging between Wi-Fi and Bluetooth low energy products.

WICED™ Sense: The best out-of-box development experience for WICED SMART. Includes a gyroscope, accelerometer, eCompass, pressure, humidity, and temperature sensors.

BCM20737 mounted on a BCM92073X_LE_KIT full-featured WICED SMART development board.

BCM9WICED_SENSE: A WICED Bluetooth low-energy board housed in a sturdy plastic case.

MASS MARKET PLATFORM
WICED™ SMART PRODUCT SELECTOR

	Devices	Description	Key Features	Software	Status
Value/Price	BCM20732	5 x 5 QFN	On-chip stack, ARM Cortex M3, 1.2V operation	Base device with embedded stack and key Bluetooth profiles preloaded in ROM. Supported by SDK 1.x.	Available
	BCM20732S	6.5 x 6.5 SIP Module (includes BT SMART, Crystal, EEPROM, BPF, Antenna, Passives, and Regulatory)			
Value/Features	BCM20736	QFN	On-chip stack, ARM Cortex M3, 1.2V operation, wireless charging, simultaneous central and peripheral operation	Adds Wireless Charging, Simultaneous Central, and Peripheral Operation to BCM20732-based products. Supported by SDK 2.x.	Available
	BCM20736S	SIP Module (includes BT SMART, Crystal, EEPROM, BPF, Antenna, Passives, and Regulatory)			
Performance	BCM20737	QFN	On-chip stack, ARM Cortex M3, 1.2V operation, wireless charging, simultaneous central and peripheral operation, NFC pairing, RSA security library, LE audio	Adds NFC Pairing, RSA Security Library, LE Audio, and Mesh Capabilities to BCM20736-based products. Supported by SDK 2.x.	Available
	BCM2073S	SIP Module (includes BT SMART, Crystal, EEPROM, BPF, Antenna, Passives, and Regulatory)			
Evaluation	BCM920732_BLE_KIT	Full-featured development board for the BCM20732	USB support for PC dev. Integrated Eclipse-based IDE	Supported by SDK 1.x.	Available
	BCM92073X_LE_KIT	Full-featured development board for the BCM20737	USB support for PC dev. Integrated Eclipse-based IDE	Supported by SDK 2.x.	Available
	WICED Sense	Experience kit for the BCM20737S	Fast and Easy Setup USB support for PC dev.	Supported by SDK 2.x.	Available

ABOUT
BROADCOM

Broadcom Corporation (NASDAQ: BRCM), a FORTUNE 500® company, is a global leader and innovator in semiconductor solutions for wired and wireless communications. Broadcom products seamlessly deliver voice, video, data and multimedia connectivity in the home, office and mobile environments. With the industry's broadest portfolio of state-of-the-art system-on-a-chip and embedded software solutions, Broadcom is changing the world by Connecting everything®.

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