

Ready-to-embed Wireless Modules



Selection guide

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Serial Port Adapter
OBS410



Serial Port Adapter
OBS411



Serial Port Adapter
OEMSPA331



Serial Port Adapter
OBS433



iPhone Accessory
OBS414 ^{Note 6}



I/O Module
OBI411

	Bluetooth	Bluetooth	Bluetooth	Bluetooth	Bluetooth	Bluetooth
WIRELESS STANDARD	Bluetooth	Bluetooth	Bluetooth	Bluetooth	Bluetooth	Bluetooth
STANDARD SPECIFICATION						
Bluetooth qualification	2.1 (3.0 ready)	2.1+EDR (3.0 ready)	2.0	2.1+EDR (3.0 ready)	2.1+EDR (3.0 ready)	2.1+EDR (3.0 ready)
Bluetooth profiles ^{Note 5}	SPP DUN FTP OPP	SPP DUN PAN FTP OPP	SPP DUN FTP OPP	SPP DUN PAN FTP OPP	SPP PAN	SPP
Wireless LAN version	-	-	-	-	-	-
RADIO						
Antenna	Internal External	Internal External	Internal External	Internal External	Internal External	Internal External
Max output power	5 dBm 6 dBm	5 dBm 6 dBm	17 dBm 17 dBm	17 dBm 17 dBm	5 dBm 6 dBm	5 dBm 6 dBm
Range Int./Ext. ^{Note 2}	75 m 150 m	75 m 150 m	200 m 300 m	800 m 1000 m	75 m 150 m	75 m 150 m
TYPE APPROVALS						
R&TTE (Europe)	Yes	Yes	Yes	Yes	Yes	Yes
FCC (US)	Yes	Yes	Yes	Yes	Yes	Yes
IC (Canada)	Yes	Yes	Yes	Yes	Yes	Yes
INTERFACE						
UART Logic-level	Yes	Yes	Yes	Yes	Yes	Yes
RS232	Option ^{Note 3}	Option ^{Note 3}	Option ^{Note 3}	Yes	Option ^{Note 3}	Option ^{Note 3}
RS422/485	Option ^{Note 3}	Option ^{Note 3}	Option ^{Note 3}	Option ^{Note 3}	-	Option ^{Note 3}
Max baudrate	460.8 k	1.36 M	921.6 k	1.8 M	1.36 M	1.36 M
Flow control on/off	Yes	Yes	Yes	Yes	Yes	Yes
SPI	-	-	-	-	-	-
SDIO	-	-	-	-	-	-
I/O pins	9 digital	9 digital	-	9 digital	9 digital	16 dig, 4 AD conv
SOFTWARE FEATURES						
AT command support	Yes	Yes	Yes	Yes	Yes	Yes
Max number of slaves	1	3	1 (3 or 7 ^{Note 4})	7	3	3
Extended Data Mode protocol	-	Yes	-	Yes	Yes	Yes
Security	Yes	Yes	Yes	Yes	Yes	Yes
Quality of Service (QoS)	Yes	Yes	Yes	Yes	Yes	Yes
Software features	Point-to-point OBEX (FTP/OPP) ^{Note 5}	Point-to-point Point-to-multipoint Repeater OBEX (FTP/OPP) ^{Note 5}	Point-to-point Point-to-multipoint Repeater OBEX (FTP/OPP) ^{Note 5}	Point-to-point Point-to-multipoint Repeater OBEX (FTP/OPP) ^{Note 5}	Point-to-point Point-to-multipoint Repeater iPhone/iPad connectivity support ^{Note 6}	Point-to-point Point-to-multipoint 18 Digital IOs 4 A/D converters
POWER						
Power supply voltage	3.0 - 6.0 VDC	3.0 - 6.0 VDC	3.3 - 6.0 VDC	3.3 - 6.0 VDC	3.0 - 6.0 VDC	3.0 - 6.0 VDC
Current cons. (min)	14 mA	0.8 mA	2.5 mA	0.4 mA @5VDC	TBA	0.8 mA
Current cons. (average Tx)	25 mA	25 mA	26 mA	35 mA @5VDC	TBA	25 mA
CONNECTORS						
Board-to-board	Yes	Yes	Yes	Yes	Yes	Yes
20 pin header	-	-	-	Option	-	-
JST (6-pol)	-	Option	Option	Option	-	-
Flexfilm	-	-	Option	-	-	-
Solder pads	Yes	Yes	Yes	Option	Yes	Yes
MECHANICAL						
Temperature range	-30 to +85° C	-30 to +85° C	-30 to +85° C	-40 to +85° C	-30 to +85° C	-30 to +85° C
Machine mountable	Yes	Yes	Yes	Yes	Yes	Yes
Mounting holes	Yes	Yes	Yes	Yes	Yes	Yes
Dimensions (mm)	16x36x3.0	16x36x3.0	16x36x2.4	23x36x4.4	23x36x4.0	16x36x3.0
Evaluation boards	cB-ACC-24 cB-ACC-34	cB-ACC-24 cB-ACC-34	cB-ACC-24 cB-ACC-34	cB-ACC-24 cB-ACC-34	cB-ACC-24 cB-ACC-34	cB-ACC-24 cB-ACC-34



Serial Port Adapter
OWS451



LAN Module
OWL221a



LAN Module
OWL222a



Serial Port Adapter
OZS311



Wireless LAN		Wireless LAN		Wireless LAN		IEEE 802.15.4	
-	-	-	-	-	-	-	-
802.11 a/b/g/n (dual band, 65 Mbit/s)		802.11 a/b/g/n (dual band, 65 Mbit/s)		802.11 a/b/g/n (dual band, 65 Mbit/s)		-	
Int.	Ext. ^{Note 1}	Int.	Ext. ^{Note 1}	Int.	Ext. ^{Note 1}	Internal	External
20 dBm	20 dBm	20 dBm	20 dBm	20 dBm	20 dBm	2.5 dBm	4 dBm
400 m	400 m (preliminary)	400 m	400 m	400 m	400 m	200 m	200 m
Yes		Yes		Yes		Yes	
Yes		Yes		Yes		Yes	
Yes		Yes		Yes		Yes	
Yes		-		-		Yes	
Option ^{Note 3}		-		-		-	
-		-		-		-	
1.8 M		-		-		57.6 k	
Yes		-		-		Yes	
-		Max 80 MHz		-		-	
-		-		Max 50 MHz		-	
Yes		-		-		Yes	
7		-		-		1	
-		-		-		-	
WPA2, Enterprise 802.11e		WPA2, Enterprise 802.11e		WPA2, Enterprise 802.11e		Yes	
Point-to-point		Infrastructure		Infrastructure		-	
Point-to-multipoint		Ad-hoc		Ad-hoc		Point-to-point	
Embedded TCP/IP stack		Driver support: Linux 2.6		Driver support: Linux 2.6		Optional ZigBee stack available	
DHCP server/client DNS resolver		WinCE 5/6 Embedded systems		WinCE 5/6		Platform for custom designs	
3.3 - 5.5 VDC		3.3 - 5.5 VDC		3.1 - 3.6 VDC		3.3 - 5.5 VDC	
TBA		4.9 mA		4.9 mA		27 mA	
TBA		150 mA		150 mA		27 mA	
Yes		Yes		Yes		Yes	
-		Option		Option		-	
Option		-		-		Option	
-		-		-		-	
Yes		Option*		-		Yes	
-40 to +85° C		-30 to +85° C		-30 to +85° C		-40 to +85° C	
Yes		-		-		Yes	
Yes		Yes		Yes		Yes	
23x36x3.2		23x36x3.1		23x36x3.1		23x36x3.1	
cB-ACC-34		cB-WDK-03-A cB-WDK-04-A		cB-WDK-01-A cB-WDK-03-A		cB-ACC-24 cB-ACC-34	

WIRELESS SNIFFERS & PROTOCOL ANALYZERS

connectBlue offers Wireless Sniffers & Analyzers by Frontline Test Equipment. The Bluetooth sniffer is a Multi-mode Bluetooth Protocol Analyzer that sniffs both radio traffic and high speed UART HCI packages. It is the only product on the market to handle Bluetooth up to v2.1+EDR.

connectBlue also offers the MeshDecoder which is a real-time debugging, verification and network display analyzer, that simplifies the understanding of IEEE 802.15.4 / ZigBee networks by simultaneously capturing, decoding, displaying and filtering data, and also detecting errors. The product range of Sniffers and Protocol Analyzers also includes Wireless LAN solutions.

With these tools, you get faster commissioning and development times, and thus also reduced engineering costs. The sniffers and analyzers can be used in combination with the following:

- Industrial communication network analyzer
- Serial, async-only protocol analyzer
- Serial, sync/async protocol analyzer

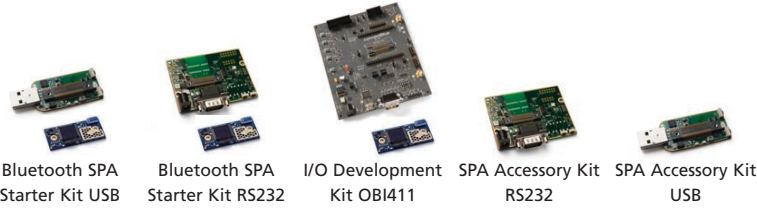


READY-TO-USE WIRELESS PRODUCTS

connectBlue also offers a wide range of Bluetooth, Wireless LAN and IEEE 802.15.4 / ZigBee ready-to-use products in industrial housings. For more information, see www.connectblue.com or request data sheets.

☑ Certified and pre-tested

Benefit from the advantages of low-power modules, fully certified and pre-tested



WIRELESS STANDARD	Bluetooth	Bluetooth	Bluetooth	-	-
CONTENTS					
Wireless module	OBS411i	OBS411i	OBI411i	-	-
Development/adapter board	USB adapter	RS232 adapter	Platform dev board	RS232 adapter	USB adapter
Others	USB extension cable, documentation and configuration tools	9-pin serial cable, USB Power cable, documentation and configuration tools	9-pin serial cable, USB Power cable, documentation and configuration tools	9-pin serial cable, USB Power cable, documentation and configuration tools	USB extension cable, documentation and configuration tools
COMPATIBLE MODULES					
Bluetooth, OBS410i/x	Yes	Yes	-	Yes	Yes
Bluetooth, OBS411i/x	Yes (included)	Yes (included)	-	Yes	Yes
Bluetooth, OEMSPA331i/x	Yes	Yes	-	Yes	Yes
Bluetooth, OBS433i/x	Yes	Yes	-	Yes	Yes
Bluetooth, OBS414i/x	Yes	Yes	-	Yes	Yes
Bluetooth, OBI411i/x	-	-	Yes	-	-
Wireless LAN, OWS451i/x	Yes	-	-	Yes*	Yes
Wireless LAN, OWL221ai/x	-	-	-	-	-
Wireless LAN, OWL222ai/x	-	-	-	-	-
802.15.4, OZS311i/x	Yes	Yes	-	Yes	Yes
ORDER NUMBER	cB-OBS411i-04-B	cB-OBS411i-04-A	cB-OBI411i-04-A	cB-ACC-26	cB-ACC-41



WIRELESS STANDARD	Wireless LAN	Wireless LAN	Wireless LAN	Wireless LAN	
CONTENTS					Explanations on Table Notes 1 Diversity supported 2 Approximate maximum range 3 Via external transceiver 4 Special multipoint firmware for 3 or 7 slaves available 5 The modules are fully Bluetooth qualified for the profiles listed. FTP/OPP is however not included by default. 6 Special licensing & production requirements applies 7 SDIO drivers for WinCE 5.0/6.0 (ARM). SPI drivers for WinCE 5.0/6.0 (ARM) and Linux 2.6 (ARM). * In progress
Wireless module	OWS451i	OWS451i	OWL222ai	OWL221ai / 222ai	
Development/adapter board	USB adapter	RS232 adapter	SDIO adapter	Keith&Koep μConXS	
Others	USB extension cable, documentation and configuration tools	9-pin serial cable, USB Power cable, documentation and configuration tools	WinCE 5/6 (ARM) drivers in binary code	Trizeps IV board, μConXS adapter, SDIO adapter, drivers in binary code ^{Note 7}	
COMPATIBLE MODULES					
Bluetooth, OBS410i/x	Yes	Yes	-	-	
Bluetooth, OBS411i/x	Yes	Yes	-	-	
Bluetooth, OEMSPA331i/x	Yes	Yes	-	-	
Bluetooth, OBS433i/x	Yes	Yes	-	-	
Bluetooth, OBS414i/x	Yes	Yes	-	-	
Bluetooth, OBI411i/x	-	-	-	-	
Wireless LAN, OWS451i/x	Yes (included)	Yes (included)	-	-	
Wireless LAN, OWL221ai/x	-	-	-	Yes (included)	
Wireless LAN, OWL222ai/x	-	-	Yes (included)	Yes (included)	
802.15.4, OZS311i/x	Yes	Yes	-	-	
ORDER NUMBER	cB-OWS451i-04-B	cB-OWS451i-04-A	cB-WDK-01-A	cB-WDK-03-A / 04-A	

Compatible and futuresafe

All modules share the connectBlue standard for form factor and fitting, connectors, antennas as well as configuration and control software tools



SPECIFICATIONS		Adapter Cable U.FL - RPSMA	2.4GHz 3cm RPSMA antenna	2.4GHz 8cm RPSMA antenna	Dual-band 11cm RPSMA antenna	2.4GHz 5cm SMA dome antenna
Type		Adapter cable	¼ wave dipole	½ wave dipole	½ wave dipole	Dome antenna
Connector		U.FL and RPSMA	RPSMA	RPSMA	RPSMA	SMA
Polarization		-	Linear	Linear	Linear	Linear
Gain		-	+3 dBi	+3 dBi	+3 dBi	+3 dBi
Frequency		2.4 GHz + 5 GHz	2.4 GHz	2.4 GHz	2.4 GHz + 5 GHz	2.4 GHz
Dimensions (mm)		-	Ø12 x 28	Ø10 x 83	Ø10 x 107	Ø50 x 30
IP classification		-	-	-	-	-
Mounting		Thread and nut	RPSMA connector	RPSMA connector	RPSMA connector	SMA connector
Cable Length		12 cm	-	-	-	-
Cable Loss		Less than 0,5 dB	-	-	-	-
Suitable adapter cable		-	ACC-38	ACC-38	ACC-38	ACC-18 or ACC-48
Order number		ACC-38	ACC-61	ACC-64	ACC-53	ACC-66



SPECIFICATIONS		2.4GHz Rectangle u.fl. antenna	2.4GHz 3cm u.fl. antenna	2.4GHz 7cm u.fl. antenna	Dual-band PCB u.fl. antenna	2.4 GHz PCB u.fl. antenna
Type		Rectangular base	¼ wave dipole	½ wave dipole	Patch antenna	Patch antenna
Connector		U.FL.	U.FL.	U.FL.	U.FL.	U.FL.
Polarization		Linear	Linear	Linear	Linear	Linear
Gain		+3 dBi	+2 dBi	+3 dBi	+3 dBi	+3 dBi
Frequency		2.4 GHz	2.4 GHz	2.4 GHz	2.4 GHz + 5 GHz	2.4 GHz
Dimensions (mm)		36 x 18 x 16	Ø9.5 x 28	Ø9.5 x 70	27 x 12	27 x 12
IP classification		-	-	-	-	-
Mounting		2 x 3 mm screws	Thread and nut	Thread and nut	Adhesive	Adhesive
Cable Length		7 cm	9 cm	9 cm	10 cm	10 cm
Cable Loss		-	-	-	-	-
Suitable adapter cable		Not required	Not required	Not required	Not required	Not required
Order number		ACC-67	ACC-63	ACC-60	ACC-55	ACC-57

Maximum throughput and robustness ready to embed

For nearly a decade, connectBlue has helped some of the world's most demanding brands to exploit the new possibilities of wireless technology. By applying a connectBlue wireless mindset, and by adapting that to their specific environment, companies achieve improved productivity, logistics and safety. Now comes the next phase in the wireless revolution: the demand for greater data throughput and reliability. All modules presented in this folder comply with connectBlue quality standards with outstanding performance in range, data capacity and field proven robustness.

connectBlueTM

*The strongest connection in a **wireless** world*

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