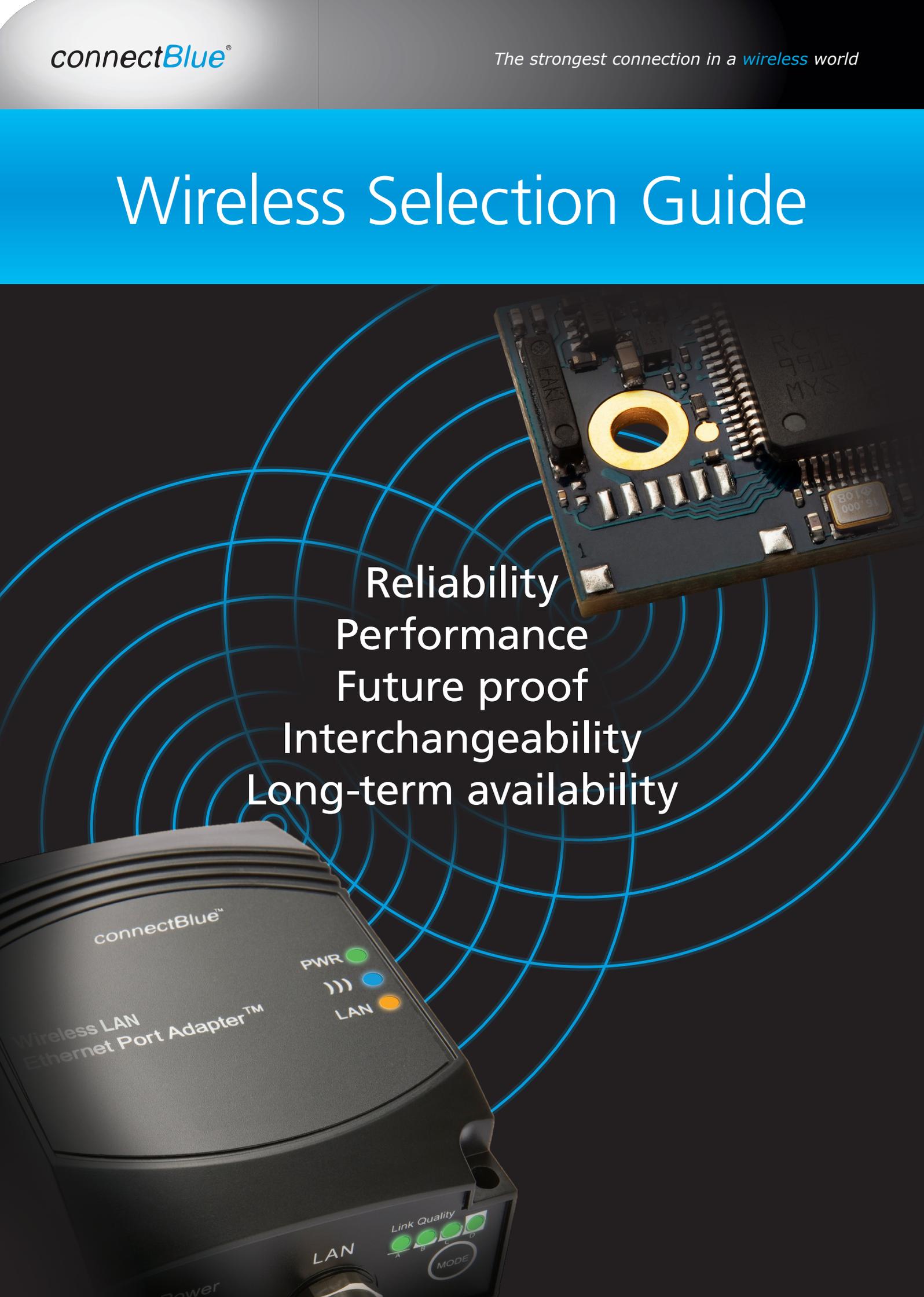


Wireless Selection Guide



Reliability
Performance
Future proof
Interchangeability
Long-term availability

connectBlue™

PWR 

))) 

LAN 

Wireless LAN
Ethernet Port Adapter™

Link Quality



LAN

MODE

Defining and leading wireless

With reliable and highly robust communication

“Wireless” is not a technology – it’s a commitment. It’s not about what works. It’s about how well it works. For over a decade, we have worked with state-of-the art Industrial and Medical Ready wireless solutions, designed and tested for demanding applications and environments. We drive the wireless technology evolution and thereby we define what will be the wireless future.

Our offering consist of ready-to-embed modules and ready-to-use products based on Classic Bluetooth technology, Bluetooth low energy technology and Wireless LAN (WLAN). We also offer custom design solutions based on these technologies and IEEE 802.15.4 / ZigBee.

Why choose connectBlue?

Fanciful sales talk is easy, but we stick to facts. And there are some clear facts that set us apart from any other wireless provider on the market.

Long-term Availability

Since the start in 2000, our offering has continuously evolved and yet our form factor has remained unchanged with consistent electrical, mechanical, software and antenna interfaces.

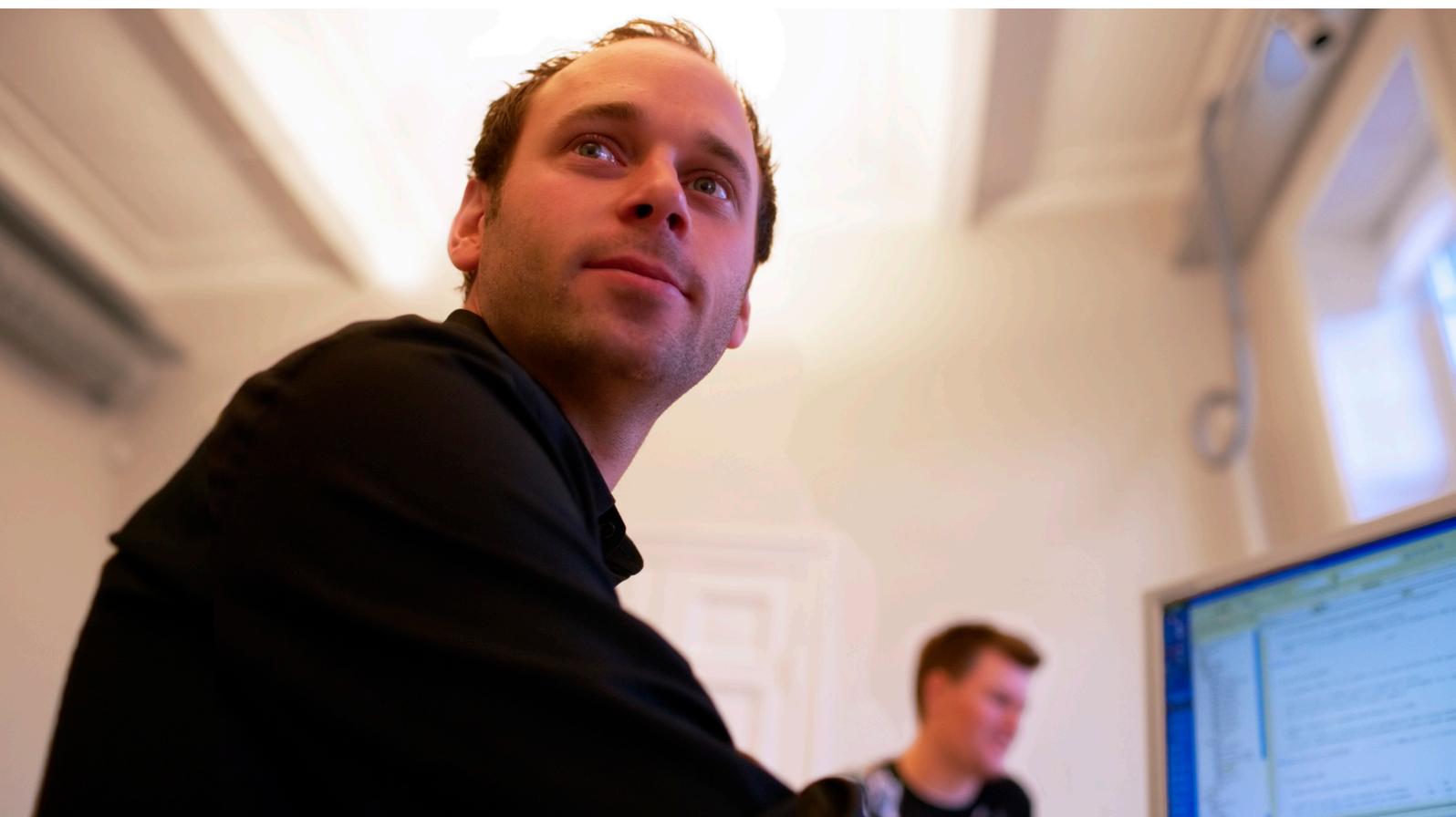
In fact, we have customers who have shipped products for 12 years with a minimum of software changes and no hardware changes on their Printed Circuit Board (PCB).

Outstanding Reliability

Our products are tailored to fit the toughest of situations; the products offer an extended temperature range (-40° to +85°C), have a built-in watchdog timer for secure system design, and operate faultless 24/7 regardless of EMC conditions, dust, humidity, temperature variations, and rapid movement changes.

Best Performance

We own, develop and maintain our Bluetooth stack and WLAN software drivers. Not only do we own these, over the years we have used them for several different chipset manufacturers and designs, tuning and expanding them to get the best performance and controlled latency, throughput and power consumption. The products have customizable configuration parameters and are radio type approved for US, European, Canadian, Japanese markets as well as are compliant with EMC, Safety and Medical standards, and the Bluetooth qualification program.



Wireless Technology Comparison

WIRELESS STANDARD	Classic Bluetooth technology	Bluetooth low energy technology	Wireless LAN (WLAN)	
Data throughput	+/-	-	++	
Robustness	++	++	+/-	
Range	10-300m	10-250m	50-300m	
Local system density	++	++	-	
Roaming	+	N/A	++	
Large scale network	-	+	+/-	+ = Good
Low latency	+++	++	+/-	++ = Strong
Connection set-up speed	-	++	+/-	+++ = Very strong
Power consumption	+	+++	-	+/- = Average
Cost	+	++	-	- = Weak

Interchangeability

The connectBlue standard form factor and connectors allow for interchangeability between Bluetooth technology and WLAN. But that is not all; you can also change products within a product family seamlessly. In other words, you get complete system design flexibility.

Quality Manufacturing & Support

Our head office lies in the wireless epicenter of Southern Sweden. There, we also utilize the resources from external, high quality manufacturing facilities (ISO9001, ISO13485, etc.) where each product is individually tested and tuned for consistent performance. We have local German and US sales offices and first-line support backed by the US and European technical teams allowing for a virtually 24 hour coverage.

Future-proof Dependability

We drive the technology development in the wireless standard forums. We track and even promote the new standards within our product portfolio.

Which wireless technology fits best?

One wireless technology cannot offer all the features and strengths that fit the various application requirements. We help you find the solution that best fits your needs.

- Choose Classic Bluetooth technology for robust communication in rough environments. Robust features include Adaptive Frequency

Hopping (AFV), Forward Error Correction (FEC), automatic power control and high system density (several connections in the same radio space).

- Choose Bluetooth low energy technology when you want to connect to battery-operated small devices, smartphones, tablets, gateways, etc.
- Choose WLAN 802.11 a, b, g, n (commonly referred to as Wi-Fi) if you want to connect to an existing LAN / WLAN infrastructure or create high throughput ad-hoc networks.

Bluetooth Single-mode & Dual-mode

Classic Bluetooth implementations are single-mode implementations. But with the addition of Bluetooth low energy there are also single-mode Bluetooth low energy devices known as Bluetooth Smart devices.

Dual-mode devices, also known as Bluetooth Smart Ready devices, include both Bluetooth low energy and Classic Bluetooth technologies. That means that you can, for instance, in parallel connect a number of Classic Bluetooth single-mode modules (OBS418/419/etc.) as well a number of Bluetooth low energy single-mode modules (OLS425/426) to a Bluetooth dual-mode module (OBS421).

Interchangeable and future safe

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

Where does “wireless” fit you?

Wireless Serial Communication

Developed to meet tough demands, connectBlue products handle robust serial communication (UART, RS232/422/485) with point-to-point, multi-point cable replacement or multi-drop functionality.

Wireless Ethernet Communication

The connectBlue Rugged Ethernet Port Adapters are especially well-suited for replacing Ethernet cables either in point-to-point applications or in a wireless infrastructure where seamless roaming is important. For those that prefer to embed modules in host devices, the connectBlue Wireless LAN SPI / SDIO modules provide fully radio type approved dual-band solutions.

Wireless Signal Acquisition and I/O

Digital or analog signals can be wirelessly mirrored or controlled from a Bluetooth equipped device using a connectBlue low energy module OLP425.

Wireless Customer Specific Software Development Platforms

The connectBlue platforms offer a possibility to embed customer specific software in the modules to save development cost, time to market, and product cost.

Wireless Custom Design Development

Often, our custom design development is based on available connectBlue software and hardware solutions but it could also be a completely new design if so required.

WIRELESS ADVANTAGES

- Greater mobility and possibility to move devices and connect to smartphones and tablets freely without constraining cables
- Bypassing long distances and areas where cables cannot physically fit
- Fast and easy installation and commissioning
- High flexibility if there is a need to modify an installation
- Increased personal safety by not having to be physically close to a device during configuration and/or maintenance
- Easy integration of devices into the network

What “wireless” solution should you buy?

Based on your particular use case, connectBlue has a solution that fits you. Choose between ready-to-embed wireless modules or ready-to-use wireless products – all developed to satisfy industrial and medical needs on robustness, time-to-market and performance.

Ready-to-Use Products

If you wish to implement a complete wireless product, we offer a wide range of ready-to-use industrial products that all improve production, economy and safety. With these products, you can be up and running quickly and as they have an IP65-classed housing, they operate flawlessly 24/7 under the harshest of conditions.



Ready-to-Embed Modules

By embedding our modules, you save on cost and time compared to if you develop the wireless solution on your own. Developing your own solution takes 6-18 months and costs 150-500kEUR / 200-650kUSD depending on technology, frequencies / channels, test system, radio type approvals, etc. And 3-5 years later when the chipset reaches its last time buy, you have to do it all over again. connectBlue offers a wide range of modules, fully certified and pre-tested as well as a full range of accessories.



Ready-to-Customize Platforms

You can use the Bluetooth platform modules to reduce your hardware costs by implementing your application on top of the integrated stack. For instance, customer applications can be run in the OLP425 and OBS421. Possible applications include protocol converter, filtering and signal processing, and gateway using multiple UARTs.



Useful connectBlue features

This guide covers all the features of the connectBlue product range, but there are some of these that we want to cover in depth.

Seamless Roaming & Redundancy

With a variety of wireless technologies operating in the same radio space, the performance on the existing wireless connections can be affected or even terminated during the necessary scanning for new wireless networks.

With the connectBlue seamless roaming, the actual switch-over takes place in just a few milliseconds using standard access points. Another advantage is the opportunity to combine roaming with redundancy.

Further, since we offer solutions across various technologies, we can offer the most robust solution for a particular use case scenario.

2.4 and 5GHz Dual-band Support

Besides WLAN IEEE 802.11 b, g, n other wireless technologies like Bluetooth technology, IEEE 802.15.4 / ZigBee / Wireless HART and several proprietary technologies operate in the 2.4GHz band. To make sure that the WLAN solution is robust, one can focus on IEEE 802.11 a (5GHz) for the manufacturing and M2M communication. connectBlue offers dual-band functionality and an expanded frequency channel range in the 5GHz ISM band. See support details in the tables.

iPhone/Android Support

connectBlue offers WLAN and Bluetooth module support for Android / Apple iPhone / iPod touch / iPad connectivity which makes data handling easier in industrial and medical applications. The modules are tested and approved by Apple. See support details in the tables.

USEFUL HOW-TO-DO'S

connectBlue's website features 15+ in depth articles and white papers that detail the possibilities as well as best practices in different wireless technologies in tough industrial and medical environments.

Visit www.connectblue.com/about-us for more information.



Ready-to-use products for the robust need

Products that improve production, economy and safety. IP65 classed housing, fully certified and tested.



Rugged Serial Port Adapter RBS421s



Access Point RBE221s



Rugged Ethernet Port Adapter RBE221i



Rugged Ethernet Port Adapter RWE231i



Rugged Ethernet Port Adapter RWE241i

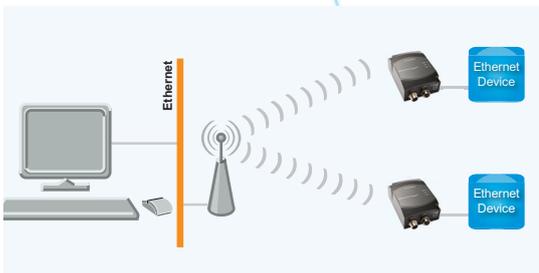


Rugged Ethernet Port Adapter RWE251s

	ClassicBluetooth & Bluetooth low energy (Smart Ready)	Classic Bluetooth technology	Classic Bluetooth technology	Wireless LAN (WLAN)	Wireless LAN (WLAN)	Wireless LAN (WLAN)
WIRELESS STANDARD	ClassicBluetooth & Bluetooth low energy (Smart Ready)	Classic Bluetooth technology	Classic Bluetooth technology	Wireless LAN (WLAN)	Wireless LAN (WLAN)	Wireless LAN (WLAN)
STANDARD SPECIFICATION						
Bluetooth qualification	v4.0	v2.1+EDR	v2.1+EDR	-	-	-
Bluetooth profiles	SPP DUN PAN	PAN	PAN	-	-	-
Wireless LAN version	-	-	-	802.11 b, g, n (2.4 GHz)	802.11 a, n (5 GHz)	802.11 a, b, g, n (dual-band)
RADIO						
Antenna	External	External	Internal	Internal	Internal	External
Max output power	13 dBm	13 dBm	13 dBm	20 dBm	11 dBm	20 dBm
Range ^{Note 2}	300 m	300 m	300 m	400 m	200 m	400 m
2.4 GHz channels	1-79	1-79	1-79	1-13	-	1-13
5 GHz channels	-	-	-	-	36-48, 52-140 (U-NII Band 1, 2, 2e)	36-48, 52-140 (U-NII Band 1, 2, 2e)
TYPE APPROVALS						
US (FCC)	Yes	Yes	Yes	Yes	Yes	Yes
Europe (ETSI R&TTE)	Yes	Yes	Yes	Yes	Yes	Yes
Canada (IC RSS)	Yes	Yes	Yes	Yes	Yes	Yes
Japan (MIC - formerly TELECOM)	-	Yes	Yes	Yes	-	Yes (2.4 GHz only)
Hazardous location UL/CSA Class 1 Div 2	-	Yes	Yes	Yes	Yes	Yes
INTERFACE						
RS232	Yes	-	-	-	-	-
RS422/485	Yes	-	-	-	-	-
Max baudrate	460.8 k	-	-	-	-	-
Flow control on/off	Yes	-	-	-	-	-
Ethernet	-	Yes	Yes	Yes	Yes	Yes
SOFTWARE FEATURES						
AT command support	Yes	Yes	Yes	Yes	Yes	Yes
Web configuration	-	Yes	Yes	Yes	Yes	Yes
Max number of slaves	7	7	1	1	1	1
Extended Data Mode protocol	Yes	-	-	-	-	-
Security	Simple Pairing	Simple Pairing	Simple Pairing	WPA2, Enterprise, PEAP, LEAP	WPA2, Enterprise, PEAP, LEAP	WPA2, Enterprise, PEAP, LEAP
Quality of Service (QoS)	Yes	Yes	Yes	-	-	-
Additional features	Repeater, connectBlue Bluetooth Low Energy Serial Port Service	Wireless Access Point (NAP)	Wireless Ethernet Bridge, Personal Area Network User (PANU)	Wireless Ethernet Bridge, Wireless LAN Client, Seamless Roaming, Redundancy	Wireless Ethernet Bridge, Wireless LAN Client, Seamless Roaming, Redundancy	Wireless Ethernet Bridge, Wireless LAN Client, Seamless Roaming, Redundancy
POWER						
Power supply voltage	8 - 30 VDC	9 - 30 VDC	9-30 VDC	9 - 30 VDC	9 - 30 VDC	9 - 30 VDC
Current cons. (min)	13 mA @30V	35 mA @30V	35 mA @30V	47 mA @30V	47 mA @30V	47 mA @30V
Current cons. (average Tx)	24 mA @30V	43 mA @30V	43 mA @30V	59 mA @30V	59 mA @30V	59 mA @30V
CONNECTORS						
9-pin D-SUB	Yes	-	-	-	-	-
M12	-	Yes	Yes	Yes	Yes	Yes
MECHANICAL						
Operating temperature	-30 to +85° C	-30 to +65° C	-30 to +65° C	-40 to +65° C	-40 to +65° C	-30 to +65° C
Mounting holes	Yes	Yes	Yes	Yes	Yes	Yes
Housing	Metal, IP 65	Plastic, IP 65	Plastic, IP 65	Plastic, IP 65	Plastic, IP 65	Plastic, IP 65
Dimensions (mm)	76x85x35	91x66x36	91x66x36	91x66x36	91x66x36	91x66x36



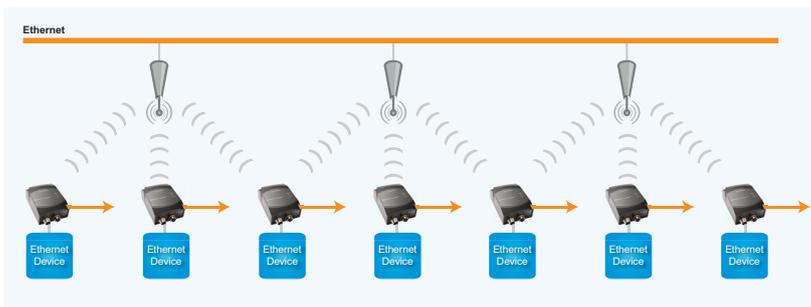
Serial Port Adapters (SPA) replacing the serial cables with wireless connections in point-to-point and multidrop setups.



WLAN Ethernet Port Adapters (EPA) for connecting Ethernet devices to an Ethernet infrastructure via a WLAN Access Point.



Ethernet Port Adapters (EPA) replacing the Ethernet cable with wireless connection. The connection between the EPAs is point-to-point in Bluetooth technology and ad-hoc in WLAN.



WLAN / Bluetooth Ethernet Port Adapter (EPA) connecting to an Ethernet infrastructure via multiple Access Points. The Ethernet Port Adapter supports several modes of superior roaming between available Access Points, including seamless roaming.

Ready-to-embed modules that are certified and fully tested

Benefit from the advantages of low-power modules that are fully certified and tested



SerialPortModule
OBS418

SerialPortModule
OBS419

SerialPortModule
OBS421

iOS Serial Port
Module OBS424*^{Note4}

LowEnergyPlatform
Module OLP425

SerialPortModule
OLS425 / OLS426

	SerialPortModule OBS418		SerialPortModule OBS419		SerialPortModule OBS421		iOS Serial Port Module OBS424* ^{Note4}		LowEnergyPlatform Module OLP425		SerialPortModule OLS425 / OLS426	
WIRELESS STANDARD	Classic Bluetooth technology		Classic Bluetooth technology		Classic Bluetooth & Bluetooth low energy (Smart Ready)		Classic Bluetooth & Bluetooth low energy (Smart Ready)		Bluetooth low energy technology (Bluetooth Smart)		Bluetooth low energy technology (Bluetooth Smart)	
STANDARD SPECIFICATION												
Bluetooth qualification	v2.1		v2.1+EDR		v4.0		v4.0		v4.0		v4.0	
Bluetooth profiles ^{Note 4}	SPP DUN		SPP DUN PAN		SPP DUN PAN		SPP PAN		-		-	
Wireless LAN version	-		-		-		-		-		-	
RADIO												
Antenna type	Internal	External	Internal	External	Internal	External	Internal	External	Internal	External	Internal	External
Max output power incl. antenna	6 dBm	8 dBm	6 dBm	8 dBm	11 dBm	13 dBm	11 dBm	13 dBm	3 dBm	6 dBm	3 dBm	6 dBm
Range	75 m	150 m	75 m	150 m	300 m	300 m	300 m	300 m	50 m	200 m	50 m	200 m
2.4 GHz channels	1-79		1-79		1-79		1-79		1-39		1-39	
5 GHz channels	-		-		-		-		-		-	
TYPE APPROVALS												
US (FCC)	Yes		Yes		Yes		Yes		Yes		Yes	
Europe (ETSI R&TTE)	Yes		Yes		Yes		Yes		Yes		Yes	
Canada (IC RSS)	Yes		Yes		Yes		Yes		Yes		Yes	
Japan (MIC - formerly TELEC)	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}		Option ^{Note 3}		-		-	
RS422/485	Option ^{Note 3}		Option ^{Note 3}		Option ^{Note 3}		-		-		-	
Max baudrate	460.8 k		1.25 M		1.5 M		1.5 M		115.2 k		115.2 k	
Flow control on/off	Yes		Yes		Yes		Yes		Yes		Yes	
SPI	-		-		-		-		Yes		-	
SDIO	-		-		-		-		-		-	
I/O pins	9 digital		9 digital		9 digital		9 digital		18 dig, 4 AD conv		11 digital	
FEATURES												
Throughput	350 kbps		950 kbps		1.3 Mbps		1.3 Mbps		-		TBD	
AT command support	Yes		Yes		Yes		Yes		-		Yes	
Max number of slaves	1		3		7		7		3		1	
Extended Data Mode protocol	-		Yes		Yes		Yes		-		-	
Security	Simple Pairing		Simple Pairing		Simple Pairing		Simple Pairing		Simple Pairing		Simple Pairing	
Quality of Service (QoS)	Yes		Yes		Yes		Yes		-		-	
Customer application platform	-		-		Yes		-		Yes		-	
Android support	Yes		Yes		Yes		Yes		Yes		Yes	
iPhone/iPad support ^{Note 4}	-		Yes (via host)		Yes (via host)		Yes (on board)		Yes		Yes	
Additional features			Repeater		Repeater, connectBlue Bluetooth Low Energy Serial Port Service		Repeater connectBlue Bluetooth Low Energy Serial Port Service		Options: battery holder, temperature sensor, accelerometers, etc.		connectBlue Low Energy Serial Port Service	
POWER												
Power supply voltage	3.0 - 6.0 VDC		3.0 - 6.0 VDC		3.0 - 6.0 VDC		3.0 - 6.0 VDC		2.0 - 3.6 VDC		2-3.6 VDC / 3-6 VDC	
Current cons. (min)	12 mA @3.0V		0.6 mA @3.0V		0.6 mA @3.0V		2 mA @3.0V		0.4 µA @2.0V		0.4 µA / 6.7 µA	
Current cons. (average Tx)	20 mA @3.0V		20 mA @3.0V		44 mA @3.0V		46 mA @3.0V		-		10 mA @ 3.0V	
CONNECTORS												
Board-to-board	Yes		Yes		Yes		Yes		-		- / Yes	
20 pin header	-		-		-		-		-		-	
JST (6-pol)	-		Option		Option		Option		Option		-	
Solder pads	Yes		Yes		Yes		Yes		Yes		Yes	
MECHANICAL												
Operating temperature	-30 to +85° C		-30 to +85° C		-30 to +85° C		-30 to +85° C		-40 to +85° C		-40 to +85° C	
Machine mountable	Yes		Yes		Yes		Yes		Yes		Yes	
Mounting holes	Yes		Yes		Yes		Yes		Yes		Yes	
Dimensions (mm)	16x36x3		16x36x3		16x36x3		23x36x4		15x22x3		15x22x3 / 16x36x5	



UART Serial Port
Module OWS451



SPI Module
OWL221a



SDIO Module
OWL222a



SPI Module
OWL253



Multiradio Module
OWL355

	UART Serial Port Module OWS451	SPI Module OWL221a	SDIO Module OWL222a	SPI Module OWL253	Multiradio Module OWL355
WIRELESS STANDARD	Wireless LAN (WLAN)	Wireless LAN (WLAN)	Wireless LAN (WLAN)	Wireless LAN (WLAN)	Wireless LAN (WLAN) Classic Bluetooth Bluetooth low energy
STANDARD SPECIFICATION					
Bluetooth qualification	-	-	-	-	v4.0 (subsystem)
Bluetooth profiles ^{Note 4}	-	-	-	-	HCI
Wireless LAN version	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)	802.11 a, b, g, n (dual band, 65 Mbit/s)	802.11 a, b, g, n (dual band, 65 Mbit/s)
RADIO					
Antenna type	Int. Ext. ^{Note 1}	Int. Ext. ^{Note 1}	Int. Ext. ^{Note 1}	Int. Ext. ^{Note 1}	External ^{Note 1}
Max output power incl. antenna	20 dBm 20 dBm	20 dBm 20 dBm	20 dBm 20 dBm	20 dBm 20 dBm	TBD
Range	400 m 400 m	400 m 400 m	400 m 400 m	400 m 400 m	TBD
2.4 GHz channels	1-13	1-13	1-13	1-13	1-13
5 GHz channels	36-165 (U-NII Band 1, 2, 2e, 3)	36-165 (U-NII Band 1, 2, 2e, 3)	36-165 (U-NII Band 1, 2, 2e, 3)	36-165 (U-NII Band 1, 2, 2e, 3)	36-165 (U-NII Band 1, 2, 2e, 3)
TYPE APPROVALS					
US (FCC)	Yes	Yes	Yes	Yes	Yes
Europe (ETSI R&TTE)	Yes	Yes	Yes	Yes	Yes
Canada (IC RSS)	Yes	Yes	Yes	Yes	Yes
Japan (MIC - formerly TELEC)	Yes (2.4 GHz only)	Yes (2.4 GHz only)	Yes (2.4 GHz only)	Yes (2.4 GHz only)	In progress
INTERFACE					
UART Logic-level	Yes	-	-	-	Yes (Bluetooth)
RS232	Option ^{Note 3}	-	-	-	-
RS422/485	Option ^{Note 3}	-	-	-	-
Max baudrate	1.5 M	-	-	-	-
Flow control on/off	Yes	-	-	-	-
SPI	-	Max 75 MHz	-	Max 75 MHz	Yes (WLAN)
SDIO	-	-	Max 50 MHz	-	Yes (WLAN)
I/O pins	-	-	-	-	-
FEATURES					
Throughput	500 kbps	20 Mbps	25 Mbps	20 Mbps	TBD
AT command support	Yes	-	-	-	-
Max number of slaves	7	-	-	-	-
Extended Data Mode protocol	-	-	-	-	-
Security	WPA2, Enterprise, EAP-TLS	WPA2, Enterprise, EAP-TLS*	WPA2, Enterprise, EAP-TLS*	WPA2, Enterprise, EAP-TLS*	WPA2, Enterprise, EAP-TLS
Quality of Service (QoS)	Yes	Yes	Yes	Yes	Yes
Customer application platform	-	-	-	-	-
Android support	Yes	Yes	Yes	Yes	Yes
iPhone/iPad support	Yes	Yes	Yes	Yes	Yes
Additional features	Embedded TCP/IP stack DHCP server/client DNS resolver	Infrastructure Ad-hoc Driver support: Linux WinCE Embedded systems	Infrastructure Ad-hoc Driver support: Linux WinCE Embedded systems	Infrastructure Ad-hoc Driver support: Linux WinCE Embedded systems	Infrastructure Ad-hoc Software AP Driver support: Linux (open source)
POWER					
Power supply voltage	3.3 - 5.5 VDC	3.3 - 5.5 VDC	3.1 - 3.6 VDC	3.3 - 5.5 VDC	3.1-3.5V & 1.7-1.9V
Current cons. (min)	7 mA @3.3V	5 mA @3.3V	5 mA @3.1V	11 mA @3.3V	TBD
Current cons. (average Tx)	180 mA @3.3V	150 mA @3.3V	150 mA @3.1V	230 mA @3.3V	TBD
CONNECTORS					
Board-to-board	Yes	Yes	Yes	Yes	-
20 pin header	-	Option	Option	-	-
JST (6-pol)	Option	-	-	-	-
Solder pads	Yes	-	-	Yes	Yes
MECHANICAL					
Operating temperature	-40 to +85° C	-30 to +85° C	-30 to +85° C	-40 to +85° C	-40 to +85° C
Machine mountable	Yes	-	-	-	-
Mounting holes	Yes	Yes	Yes	Yes	Yes
Dimensions (mm)	23x36x3	23x36x3	23x36x3	23x36x3	15x22x3

Get started smoothly

Acquire valuable understanding of the wireless module's functionality, configuration options, performance etc.

	 SPA Accessory Kit USB	 SPA Accessory Kit RS232	 Bluetooth SPA Starter Kit USB OBS419	 Bluetooth SPA Starter Kit RS232 OBS419	 iOS Bluetooth SPA Starter Kit OBS424*	 Bluetooth SPA Starter Kit USB OBS421	 Bluetooth SPA Starter Kit RS232 OBS421
WIRELESS STANDARD	-	-	Classic Bluetooth technology	Classic Bluetooth technology	Classic Bluetooth & Bluetooth low energy	Classic Bluetooth & Bluetooth low energy	Classic Bluetooth & Bluetooth low energy
CONTENTS	-	-	Classic Bluetooth technology	Classic Bluetooth technology	Classic Bluetooth & Bluetooth low energy	Classic Bluetooth & Bluetooth low energy	Classic Bluetooth & Bluetooth low energy
Wireless module	-	-	OBS419i	OBS419i	OBS424i*	OBS421i	OBS421i
Adapter board	USB adapter	RS232 adapter	USB adapter	RS232 adapter	USB adapter	USB adapter	RS232 adapter
Others	USB extension cable, documentation and configuration tools	9-pin serial cable, USB Power cable, documentation and configuration tools	USB extension cable, JST cable, documentation and configuration tools	9-pin serial cable, USB Power cable, JST cable, documentation and configuration tools	USB extension cable, JST cable, documentation and configuration tools	USB extension cable, documentation and configuration tools	9-pin serial cable, USB Power cable, documentation and configuration tools
COMPATIBLE MODULES	OBS418 OBS419 OBS421 OBS424 OLS426 OWS451	OBS418 OBS419 OBS421 OBS424 OLS426	OBS418 OBS419 (included) OBS421 OBS424	OBS418 OBS419 (included) OBS421 OBS424	OBS424* (included)	OBS421 (included) OBS424	OBS421 (included) OBS424
ORDER NUMBER	cB-ACC-41	cB-ACC-26	cB-OBS419i-06-B	cB-OBS419i-06-A	cB-OBS424i-06-B	cB-OBS421i-16-B	cB-OBS421i-16-A
	 Bluetooth SPA Starter Kit USB OLS426	 Bluetooth SPA Starter Kit RS232 OLS426	 Bluetooth Low Energy Platform Starter Kit OLP425	 WLAN SPA Starter Kit USB OWS451	 WLAN SPI / SDIO Evaluation system		
WIRELESS STANDARD	Bluetooth low energy technology	Bluetooth low energy technology	Bluetooth low energy technology	Wireless LAN (WLAN)	Wireless LAN (WLAN)		
CONTENTS	Bluetooth low energy technology	Bluetooth low energy technology	Bluetooth low energy technology	Wireless LAN (WLAN)	Wireless LAN (WLAN)		
Wireless module	OLS426	OLS426	OLP425	OWS451i	OWL253i / 222ai		
Adapter board	USB adapter	RS232 adapter	CC Debugger adapter	USB adapter	Keith&Koep µConXS		
Others	USB extension cable, documentation and configuration tools	9-pin serial cable, USB Power cable, documentation and configuration tools	JST/JST crossover cable, documentation	USB extension cable, documentation and configuration tools	Trizeps IV board, µConXS adapter, SDIO adapter, Linux drivers in binary code		
COMPATIBLE MODULES	OBS421 OLS426 (included)	OBS421 OLS426 (included)	OLP425 ⁵ (included)	OWS451 (included)	OWL221 OWL222 (included) OWL253 (included)		
ORDER NUMBER	cB-OLS426i-04-B	cB-OLS426i-04-A	cB-OLP425i-26-A	cB-OWS451i-04-B	cB-WDK-04-A		

Explanations on Table Notes

- 1 Diversity supported
- 2 Approximate maximum range
- 3 Via external transceiver
- 4 Special licensing & production requirements applies for the Classic Bluetooth products
- 5 JST connector required

* In progress

Your business. Our total wireless expertise. One wireless product.

This is what we do. We provide a safe step into the wireless future.

Imagine equipment that is in constant rapid motion at -30° C; it is monitored, maintained, updated and operated wirelessly from a distance, massively increasing up-time and personal safety. Or, imagine a sensitive gene duplication sequence where the whole gene process is performed in a 100% sterile environment due to high-speed reliable wireless solutions. This is the essence of connectBlue - wireless solutions based on tough industrial and medical demands on robustness, lead-times and performance.

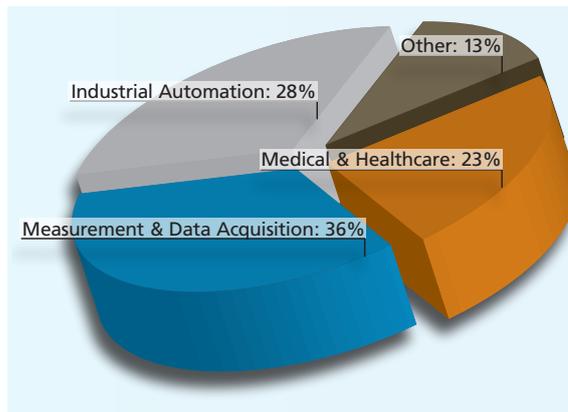
Together with our clients, we create solutions that improve, not only production economy and safety, sometimes we help push the limits of science as well. And all this using a seamless nerve-system that cuts through walls, floors and ceilings.

Working with connectBlue isn't just about buying a wireless product. It's combining forces to find the best wireless solution. The mix of combined expertise is filtered through a toolbox of software, hardware and industry-specific specialists and poured into a wireless product that is provoked, tested, stressed, certified, and then tested over and over again.

connectBlue was founded in 2000. From years of experience within industries with tough demands, connectBlue focused on a few key requirements: compatibility, extended life cycles and performance. Still today, these requirements are the focus of the connectBlue delivery.

Today, we employ 35 experts where 20+ are wireless engineers with deep know-how from key segments. Our head office lies in Sweden and our top-notch external production facilities are also in Sweden. We have local sales and support from the offices in Germany and the USA. And, on top of that, connectBlue has distributors in 50+ countries.

Working at connectBlue means working with some of the world's most demanding



WIRELESS SEGMENTS

connectBlue is a leading wireless provider for demanding applications in the segments industrial automation, medical & healthcare, measurement & data acquisition, diagnostics, infrastructure, professional vehicles and point of sales.

brands and industries (look at our list of clients). They in themselves represent the highest standard of innovation in their industry segments. This is why we have to excel at what we do. We employ and develop staff with great experience from tough demands on lead-times, performance and technical documentation as well as young and innovative brains that can define the future of wireless technology.

Together we solve issues of today using the technology of tomorrow.



Wireless is not a technology. It's a commitment.

We have been in wireless since back in 2000 when we launched the world's first wireless serial port adapter. Based on Classic Bluetooth technology, Bluetooth low energy technology, Wireless LAN (WLAN) and IEEE 802.15.4 / ZigBee, we provide ready-to-use products and modules as well as custom design solutions.

Our head office lies in the wireless epicenter of Southern Sweden. There, we also utilize the resources from external, high quality manufacturing facilities where each product is individually tested and tuned for consistent performance. We have local German and US sales offices and first-line support backed by the European technical team allowing for a virtually 24 hour coverage.

For more than a decade, we have helped some of the world's most demanding brands to exploit new possibilities of wireless technologies. Our wireless solutions are designed and tested for the most demanding applications and environments in industrial automation, medical & healthcare, measurement & data acquisition, professional vehicles, and point of sales.

**Our product strategy is simple.
State-of-the-art solutions. Nothing less.**

connectBlue[®]
The strongest connection in a wireless world



HEAD OFFICE: connectBlue AB | Norra Vallgatan 64 3V | SE-211 22 Malmö | Sweden | Phone +46 40 630 7100 | Fax +46 40 23 7137
US OFFICE: connectBlue Inc. | 8201 164th Ave NE, Suite 200 | Redmond, WA 98052 | USA | Phone +1 312 450 4135 | Fax +1 312 277 3209
GERMAN OFFICE: connectBlue GmbH | Raiffeisenstrasse 19 | DE-85276 Pfaffenhofen | Germany | Phone +49 8441 786 4160 | Fax +49 8441 786 4161
info@connectblue.com | us-info@connectblue.com | www.connectblue.com

Printed in Sweden. ©2014 connectBlue AB. All rights reserved. All specifications are subject to change without notice. The connectBlue word mark and logo are owned by connectBlue AB. The Bluetooth word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by connectBlue is under license.