

OBS418 / OBS419

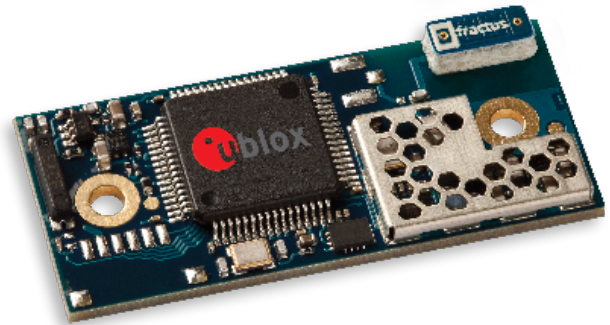
Standard Professional Automotive

SHORT RANGE

Stand-alone Classic Bluetooth module series

Highlights

- Bluetooth v2.1 / v2.1 + EDR
- Embedded Bluetooth stack
- Serial port application firmware for UART serial data
- Up to 1 Mbps throughput
- Advanced multipoint capability with up to three slaves
- u-blox Low Emission Mode®



OBS419:
16 x 36 x 3 mm

Product description

The OBS418 and OBS419 are stand-alone Classic Bluetooth modules with UART logic level interface for fast, secure, and transparent serial data transmissions up to 150 meters. With the embedded Bluetooth stack, you can be up and running quickly as there is no need for a driver or stack in your host.

The modules are easily configured via AT commands, offer Google Android connectivity and have implemented the u-blox Low Emission Mode® to make sure that Classic Bluetooth operates smoothly in parallel with other wireless technologies.

The OBS418 features Bluetooth v2.1 (SPP, DUN), 350 kbps throughput, and one-slave connectivity.

The OBS419 features Bluetooth v2.1+EDR (SPP, DUN, PAN), deep power save mode, 950 kbps throughput, and three-slave

multipoint connectivity. Further features implemented include Wireless Multidrop™ and Extended Data Mode™ for individually controlled multipoint data channels.

Options include internal antenna versions or versions with connector for external antenna. There is also a wide selection of certified external antennas to choose from.

The modules are fully Bluetooth qualified and provide modular radio type approvals for the US, Europe, Japan and Canada (FCC, R&TTE, MIC, IC). The modules are also compliant with EMC, Safety and Medical standards.

The operating temperature range is -30°C to +85°C.

Product selector

| Model | Standard Specs | | Radio | | | Interfaces | | Power | | Connectors | | Features | | | | Grade | | | |
|-------------------|-------------------------|--------------------|--------------|------------------------------------|-----------|------------|-----------|---------------------------|----------------------------|-------------|----------------|------------|--------------------|----------------------|-----------------------------|----------------------|----------|--------------|------------|
| | Bluetooth qualification | Bluetooth profiles | Antenna type | Max output power including antenna | Max range | UART | GPIO pins | Power supply: 3.0 - 6.0 V | Current consumption (idle) | Solder pads | Board-to-board | Throughput | AT command support | Max number of slaves | Extended Data Mode protocol | Android connectivity | Standard | Professional | Automotive |
| OBS418i-04 | v2.1 | SD | I | 6 dBm | 75 m | • | 9 | • | 12 mA | • | • | 350 kbps | • | 1 | • | | | | |
| OBS418x-04 | v2.1 | SD | E | 8 dBm | 150 m | • | 9 | • | 12 mA | • | • | 350 kbps | • | 1 | • | | | | |
| OBS419i-04 | v2.1+EDR | SDP | I | 6 dBm | 75 m | • | 9 | • | 0.6 mA | • | • | 950 kbps | • | 3 | • | • | | | |
| OBS419x-04 | v2.1+EDR | SDP | E | 8 dBm | 150 m | • | 9 | • | 0.6 mA | • | • | 950 kbps | • | 3 | • | • | | | |

S = SPP D = DUN P = PAN E = External antenna I = Internal antenna

Features

| | |
|--------------|--|
| Bluetooth | OBS418: v2.1 (Classic Bluetooth) OBS419: v2.1 + EDR (Classic Bluetooth) |
| Range | 75 m, internal antenna 150 m, external antenna |
| Output power | 6 dBm, internal antenna 8 dBm, external antenna |
| Throughput | OBS418: 350 kbps OBS419: 950 kbps |

Software features

| | |
|-------------------------------------|--|
| Embedded software | u-blox Bluetooth stack Serial port application |
| Bluetooth profiles | OBS418/419: Serial Port Profile (SPP) OBS418/419: Dial-up networking Profile (DUN GW, DUN DT) OBS419: Personal Area Networking Profile (PAN) roles: PANU & NAP |
| Max. number of slaves | OBS418: 1 OBS419: 3 |
| Configuration tools | AT commands via Bluetooth or serial port Serial Port Toolbox (Windows-based SW) |
| Low Emission Mode® | Prevent disrupting other 2.4GHz radios |
| Wireless Multidrop ¹ | Possible with simultaneous connections to several devices without adding software to the host system. |
| Extended Data Mode ¹ | Individually controlled multipoint data channels |
| Quality of Service (QoS) | Yes |
| Repeater functionality ¹ | Extended range |
| Security | Simple Pairing |
| Android connectivity | SPP Classic Bluetooth with Android devices |

¹ Applies to OBS419 only

Electrical data

| | |
|-------------------|---|
| RF power supply | 3.0 to 6.0 VDC |
| Power consumption | OBS418: 12 mA @ 3.0 V (min.) OBS419: 0.6 mA @ 3.0 V (min.) 20 mA @ 3.0 V (average Tx) |

Interfaces

| | |
|--|--|
| UART Logic level | |
| RS232 (option via external transceiver) | |
| RS422/485 (option via external transceiver) | |
| Baud rate | OBS418: 460.8 kbit/s (max.) OBS419: 1.25 Mbit/s (max.) Support for non-standard baud rates |
| Flow control | CTS/RTS (hardware) or none |
| GPIO pins | 9 |
| U.FL antenna connector (external antenna version only) | |

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Package

| | |
|------------|---|
| Dimensions | 16.0 x 36.0 x 3.2 mm (internal antenna) 16.0 x 36.0 x 2.6 mm (external antenna) |
| Weight | 2 g |
| Mounting | Mounting holes Machine mountable Board-to-board connector Solder land pads |

Environmental data, quality & reliability

Operating temperature –30°C to +85°C

Certifications and approvals

| | |
|------------------------------|--|
| Type approvals | Europe (ETSI R&TTE) US (FCC/CFR 47 part 15 unlicensed modular transmitter approval) Canada (IC RSS) Japan (MIC - formerly TELEC) |
| R&TTE Directive 1999/5/EC | Effective use of frequency spectrum: EN 300 328 EMC: EN 301 489-1, EN 301 489-17, EN 61000-6-2 Health and safety: EN 62479, EN 60950-1, IEC 60950-1 |
| Medical Electrical Equipment | IEC 60601-1-2 |
| Bluetooth Qualification | OBS418: v2.1 OBS419: v2.1 + EDR |



Support products

EVK-OBS419 Evaluation Kit

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|-----------------|--|
| cB-OBS419i-06-B | Includes the OBS419i-04 module with additional JST connector, USB module adapter (installs virtual COM-port), USB extension cable, JST to flying leads cable, and configuration software. To evaluate the OBS418, order the module separately. |
|-----------------|--|

Product variants

| | |
|---------------|---|
| cB-OBS418i-04 | OBS418 with internal antenna |
| cB-OBS418x-04 | OBS418 with U.FL connector for external antenna |
| cB-OBS419i-04 | OBS419 with internal antenna |
| cB-OBS419x-04 | OBS419 with U.FL connector for external antenna |

Further information

For contact information, see www.u-blox.com/contact-us.

For more product details and ordering information, see the product data sheet.