

The **USBRF-2.4G** radio module is a cable replacement device used in ATB communication networks. It will transparently convert ATB frames between the radio side and the USB port of master ATB devices. The **USBRF-2.4G** module can be combined with the **RDB9-2.4G** variant which replaces the USB port with a RS485 interface. The module is typically connected to the USB port of a PC acting as a master device.

The converter uses a fixed radio channel which is user configurable and must be used by all modules in the same network.

The module complies with the operating requirements of EN 300 328 V2.2.2 and AS/NZS 4268:2017 as demonstrated in [EXT-211129-001-02 USBRF-2.4G Radio test report, 2103038STO-109](#).

Features

- 2.4 GHz ISM band
- Radio activity signaling
- Half-duplex, master-slave architecture

Applications

- Cable replacement in ATB networks

Principles of operation

A typical ATB network uses a RS485 differential bus topology. When cabling is difficult or undesirable the whole or part of the network can be replaced with an equivalent radio link.

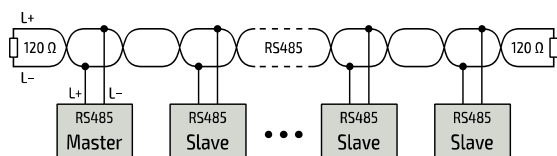


Figure 1 — Typical RS485 ATB network.

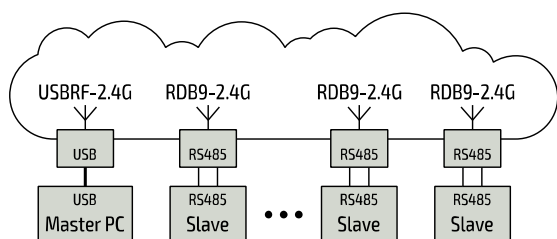


Figure 2 — Pure radio ATB network.

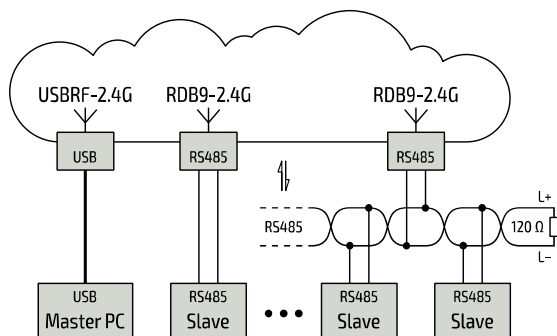


Figure 3 — Hybrid ATB network.



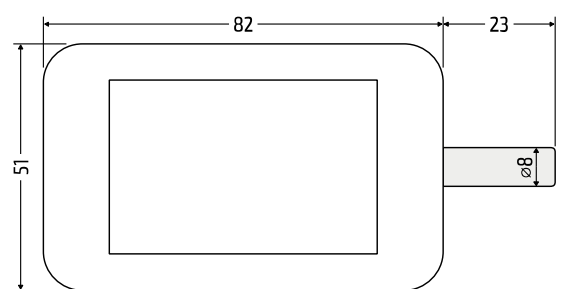
Technical specifications

Power supply	5 V _{DC} ±10% / 50 mA max.
Modulation	GFSK
Operating frequency	2402 MHz ÷ 2480 MHz
Channel bandwidth	1 MHz
Channel separation	1 MHz
Number of channels	79
First channel	2 (2402 MHz)
USB compatibility	USB 2.0 Full Speed
Operating temperature	-10 — 50 °C
Weight	41 g

External connections

The **USBRF-2.4G** module embeds a standard USB Mini-B receptacle.

Mechanical data



Dimensions in mm

Ordering code

USBRF-2.4G	Standard module
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NCC statement

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