

The **RDB9-2.4G** radio module is a cable replacement device used in ATB communication networks. It will transparently convert ATB frames between the radio side and the RS485 port of master and slave ATB devices. The **RDB9-2.4G** module can be combined with the **USBRF-2.4G** variant which replaces the RS485 port with a USB interface. The module is typically connected to the RS485 port of a slave 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 the [RDB9-2.4G Radio test report, #21030385TO-111](#).

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.

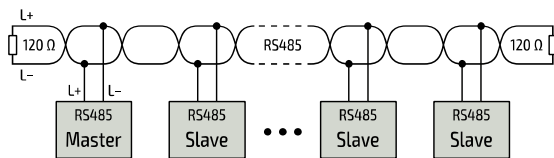


Figure 1 – Typical RS485 ATB network.

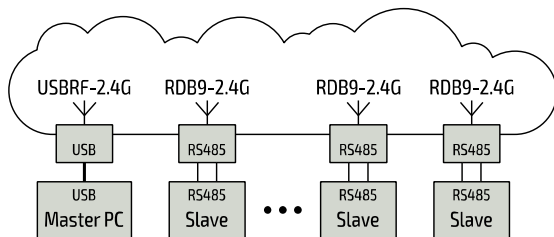


Figure 2 – Pure radio ATB network.

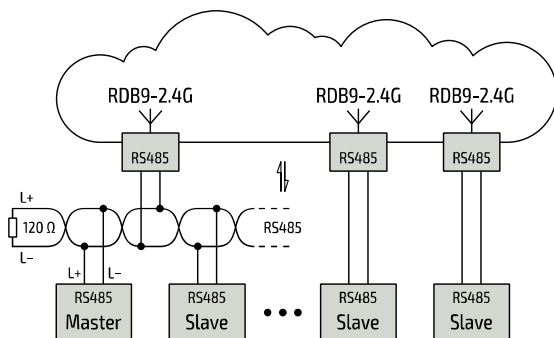


Figure 3 – Hybrid ATB network.



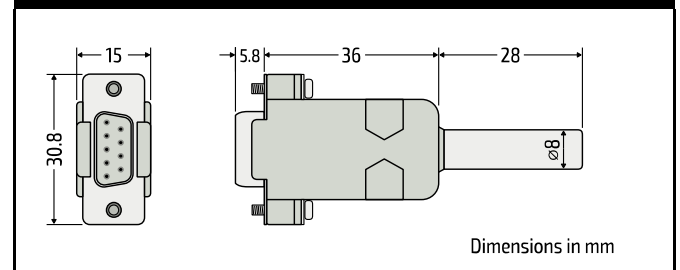
Technical specifications

Power supply	5 V _{DC} ±10% / 20 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)
Operating temperature	-10 ÷ 50 °C
Weight	15 g

External connections

DB9 connector	Function
1	+5 V _{DC} power supply
5	Ground
8	L+ (high for logic 1, low for logic 0)
9	L- (low for logic 1, high for logic 0)

Mechanical data



Ordering code

RDB9-2.4G	Standard module
------------------	-----------------

NCC statement

「取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前述合法通信，指依電信管理法規定作業之無線電通信。

低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。」