Serial MODBUS & MODBUS/TCP performances over the WiFi radio network
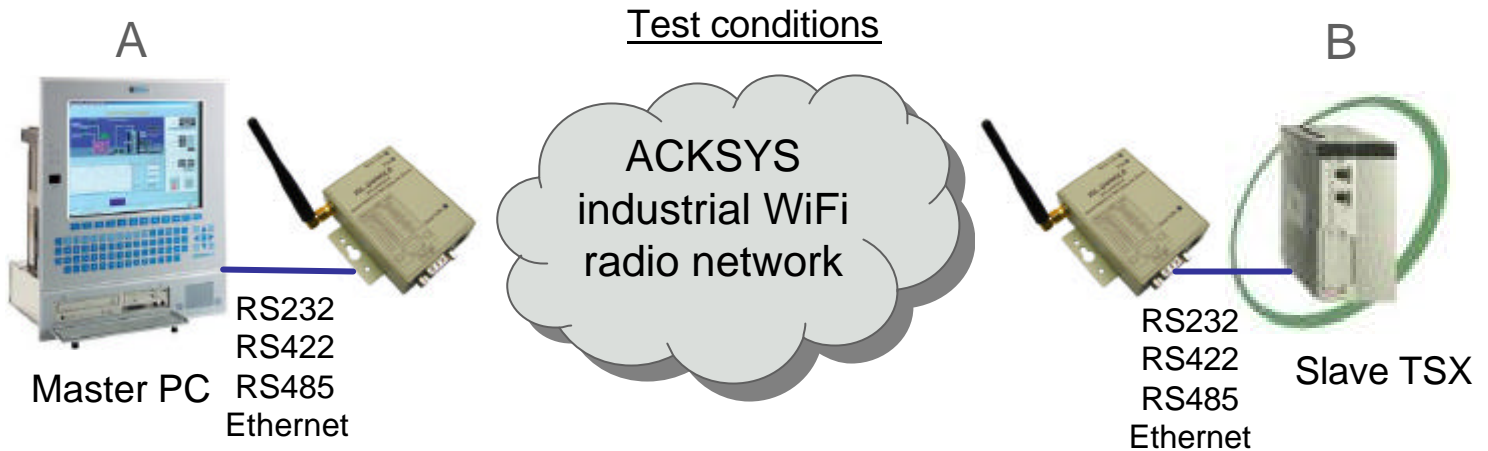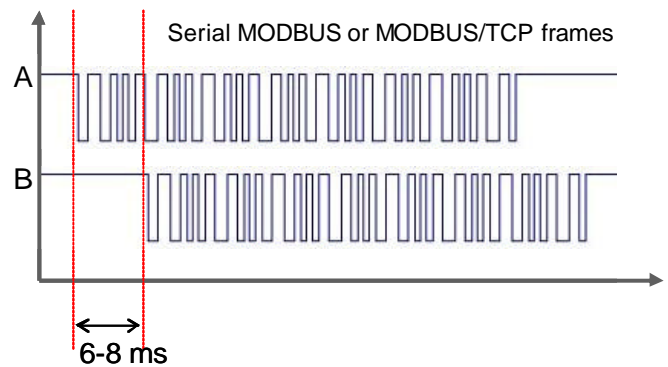
Test conditions

A — Master PC — RS232 RS422 RS485 Ethernet

ACKSYS industrial WiFi radio network

B — Slave TSX — RS232 RS422 RS485 Ethernet

Table of results

Protocol	Serial MODBUS	MODBUS/TCP
Recommended product	WL-COMETH WL-DONGLE	WL-ACCESS WL-LINK
Number of transactions (1) per second	1.020 (2)	22.330 (3)
Latency (4)	6 to 8 ms	6 to 8 ms

Serial MODBUS or MODBUS/TCP frames

A

B

6-8 ms

Note 1 : In this example, « transaction » means the reading or the writing of one register of the PLC, answer frame included.

Note 2 : This value is calculated for 11 bytes serial MODBUS frames and for a communication speed of 115.200 bps.

Note 3 : This value is calculated for 23 bytes MODBUS/TCP frames.

Note 4 : Latency is the time measured between the departure point (A) of the frame an its arrival at point (B) (see chronogram above).

Note 5 : Given performance values rely on a PLC response time to the read or write request equal to 20 ms, we also consider that radio receive conditions are optimal.

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