



Yokogawa performed Field Wireless System site tests compliant with ISA 100.11a, a standard with superior capabilities

Key Features of the Field Wireless System

- Long Range Communication
- Stable in Pipe Jungle
- Robustness in Wi-Fi Co-existence

Test Report

Reliable Wireless Test Report No.0007

Country: India Category of location : Downstream (Dense Obstacles)

Purpose:

Confirm the communication capability in the condition that wireless transmitter was continuously moving.

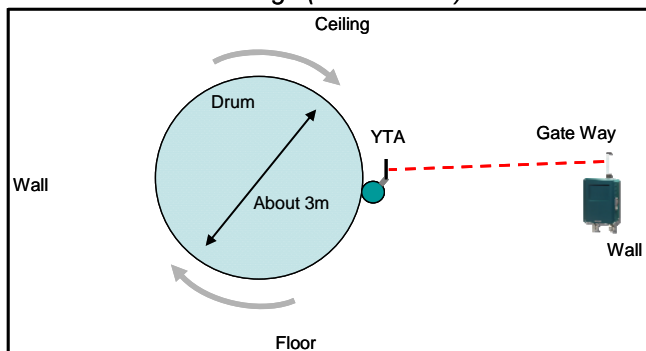
Test Environment:

- The wireless transmitter was installed on a rotary kiln in the room surrounded by wall. The diameter of kiln was 3m and the length was approx. 10m.
- The distance between the wireless transmitter and the gateway was minimum 3m.
- The period of rotation was 150 seconds. The customer's requirement of data update interval was 60 seconds.

Results

- **The ISA100.11a wireless system** could communicate successfully. The reflection of wall, ceiling, and floor in such narrow area enabled the communication, because the receiver function is superior to realize almost 0% of PER (packet error rate).
- The PER of communication path of the ISA100.11a wireless system was very low (Nearly equal 0%).

Field Image (Side of View)



Reliable Wireless Test Report No.0008

Country: India Category of location : Downstream (With Obstacles)

Purpose:

Confirm the communication capability in the condition that obstacles exist.

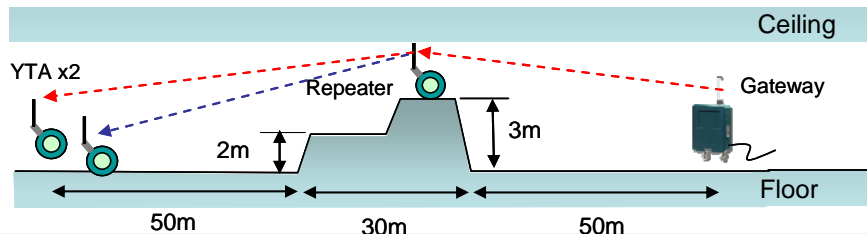
Test Environment:

- The distance between wireless transmitters and gateway was approx. 130m. A stepped stage existed between the wireless equipments.
- The wireless pass was got narrow by the stepped stage and ceiling and the communication was interfered.
- The customer's requirement of data update interval was 60 seconds or more.

Results

- **The ISA100.11a wireless system** could communicate successfully using only one router between them, because the receiver function is superior to realize almost 0% of PER (packet error rate).
- The PER's (packet error rate) of all communication paths of the ISA100.11a wireless system were very low (Nearly equal 0%).

Field Image



Reliable Wireless Test Report No.0009

Country: Malaysia Category of location : Downstream (Dense Obstacles)

Purpose:

Confirm the communication capability in the wide field area.

Test Environment:

- The wireless transmitters were installed instead of the temperature and pressure gage in the inside of several plants.
- The distance of between wireless equipments was maximum 300m.
- The customer's requirement of data update interval was 10 seconds or more.

Results

- **The ISA100.11a wireless system** could communicate successfully using only one router between them in both plants, because the communication range of the ISA100.11a wireless system is wider than our former system. Consequently, one gateway could communicate with all of the wireless transmitters.
- The PER's (packet error rate) of all communication paths of the ISA100.11a wireless system were very low (Nearly equal 0%).
- **Our previous wireless system** was estimated to need to deploy more routers (repeaters) between the gateway and wireless transmitters or to need to be divided to two wireless networks.

Field Image (Top of View)

