PervasID RFID DAS 9200 4-port variant

Document Number: v1.0

1 Introduction

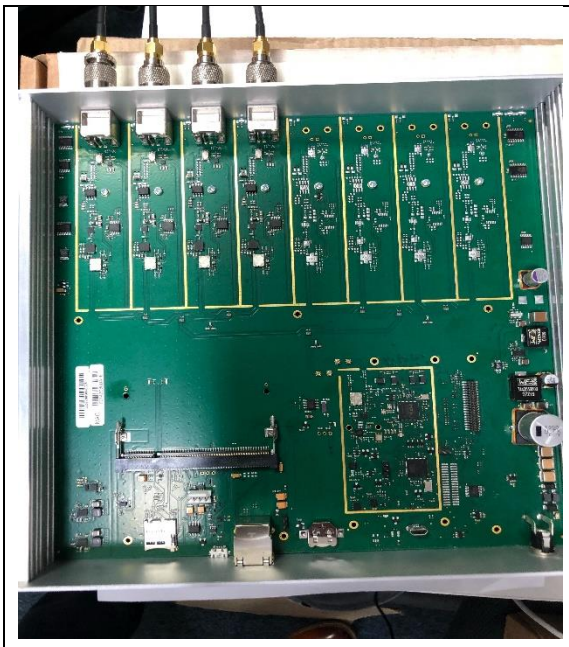
This document sets out how results obtained for the 8-port Space Ranger 9200 RFID reader can be used to demonstrate that the 4-port variant complies with FCC 47 CFR Part 15C

Description	Manufacturer	Part number
8-port RFID reader	PervasID	9200_R_FCC_8P
4-port RFID reader	PervasID	9200_R_FCC_4P

Table 1: System(s) covered by this risk assessment

2 Compliance rationale

2.1 Photographs



4-port PCB assembly

8-port PCB assembly

4-port enclosure front panel

8-port enclosure front panel

2.2 Product similarities and acceptance of results

As can be seen from the photographs submitted, the 4-port variant is a de-populated version of the 8-port PCB assembly.

Where components are fitted, they are identical to those on the 8-port variant.

As per FCC KDB 484596 D01, the two product variants:

- Use identical internal printed circuit board layouts
- Have a common design and components
- Differ only in the population or depopulation of components for the purposes of reducing the number of antenna ports from 8 to 4
- Compliance testing in report **Test report 75943122-02 Issue 01** was performed on a fully populated 8-port variant:
    - The 8 antenna ports are identical so a measurements result from any one port on the 8-port variant, which has been accepted as being representative of any of the 8-ports, must therefore also be representative of measurements obtained from any one port of the 4-port variant
- The two units share the same mechanical enclosure
- Radiated Spurious Emissions from a fully loaded 8-port unit represents worst-case for any device:
    - Populated with less than 8 RF ports
    - Operating with less than 8 RF ports transmitting
- All 8-port and 4-port devices are put through the same factory calibration procedure so that the antenna port transmit powers of each unit produced, whether 4-port or 8-port, is identical subject to reasonable tolerances.

2.3 Emissions bandwidths, channels and emissions designators

The 8-port and 4-port units both:

- Transmit at the same powers
- Transmit on the same frequencies
- Use the same frequency hopping algorithm
- Use the same, single modulation scheme, which is PR-ASK

Unit	Lower Frequency (MHz)	Upper Frequency (MHz)	Power output (W)	Modulation	Rule part
8-port	902.75	927.25	2.4	PR-ASK	15C (15.247)
4-port	902.75	927.25	2.4	PR-ASK	15C (15.247)

2.4 EMF and SAR

The existing assessment considers both single port and aggregated powers

When considering the 4-port system:

- The single port calculations remain unchanged
- The 8-port calculation will overestimate the total field that can be generated

Therefore the existing SAR exemption and EM field calculations can be also be used for the 4-port variant

The RFID 9000 system has been assessed against the requirements of EN 60950-1:2006 + A2:2013.

Furthermore:

- The system is installed by trained personnel.
- The system is designed to be installed in large warehouses and similar building and these are generally found at altitudes of less than 1000m above sea level.

Full details of all test reports are listed in the CE marking Technical File.

2.5 Grantee and other considerations

- The manufacturer and Grantee for both devices is the same, PervasID
- The device does not support, nor require, DFS
- The

3 Conclusion

For the reasons set out above, PervasID consider that **Test report 75943122-02 Issue 01** is suitable to demonstrate compliance of the 4-port unit, model number RFID DAS 9200 with FCC rules

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Signed on behalf of PervasID