

Radio Frequency

Standard LSI products: 902 to 928 MHz

LSI products for the European Community: 868-869 MHz

FCC

FCC (Federal Communications Commission – USA) test report 82729-3TRFWL available on request.

FCC ID: QVBGS000, QVBGS050, QVBGS550

In accordance with FCC part 15 Subpart C, 15.247

FHSS System and digitally modulated radiators, 902-928MHz

Test made in accordance with ISO/IEC 17025 at Nemko labs.

Peak output power: 12.47 dBm, FSK modulation

CE

CE (European Community) test report 82729-9TRFWL available on request.

Test made in accordance with ISO/IEC 17025 at Nemko labs.

Products were assessed against following specifications:

ETSI 300-220-1 v1.3.1 Radio equipment: Pass

ETSI 300-220-3 v1.1.1 Radio equipment: Pass

EMI / EMC

EMI/EMC (Electro-Magnetic Immunity & Electro-Magnetic Compatibility):

EN 301 489-3 V1.4.1 (2002-08)

Clause 8.2: Limits for radiated emissions from ancillary equipment, measured on a standalone basis (measuring distance of 10m): Pass

Clause 8.3: Limits for conducted emissions DC power input/output ports: Pass

Test method used: CISPR 22, EN 61000-3-2: 2000 and EN 61000-3-3:1995+ A1:2001

All tests were performed using measurement apparatus defined in CISPR 16-1. Radiated emissions measurements conformed to requirements of CISPR 16-1.

Clause 8: immunity tests

Enclosure-radio frequency electromagnetic field, EN 61000-4-3: Pass

Signal – RF common mode, EN 61000-4-6: Pass

DC Power input ports, RF common mode, EN 61000-4-6: Pass

Clause 9.2, radio frequency electromagnetic field: Pass

Clause 9.5, radio frequency common mode: Pass

Class 1 Division 1 and Division 2

Class 1, Division 1 certification (intrinsically safe) is available for most LSI sensors. Class 1, Division 2 certification (non-incendive) is available for the GS550 display.

Certificate CSA #1332949 on master contract 215780 is available on request

Applicable requirements certified by CSA include:


- CSA Standard C22.2 No.0.4-M2004: Bonding and grounding of electrical equipment (protective grounding)
- CSA Standard C22.2 No.0-M1991: General requirements Canadian electrical code part II.
- CSA Standard C22.2 No.0142-M1987: Process control equipment
- CSA Standard C22.2 No.157-M1992: Intrinsically safe and non-incendive equipment for use in hazardous locations
- CSA Standard C22.2 No.213-M1987: Non-incendive electrical equipment for use in class I, division 2 hazardous locations
- UL Standard 508, seventeenth edition: industrial control equipment
- UL Standard 913, sixth edition: intrinsically safe apparatus and associated apparatus for use in class I, II, III, division 1, hazardous 9classified) locations (LS Series)
- UL Standard 913, seventh edition: intrinsically safe apparatus and associated apparatus for use in class I, II, III, division 1, hazardous 9classified) locations (GS Series)
- UL Standard 1604, third edition: electrical equipment for use in class I and II, division 2, and class III hazardous (classified) locations.

ESD (Electro-Static Discharges)

LSI products are tested against norm EN 61000-4.

ATEX certifications

Sensors: GCxxx-ATEX-CE series sensors, GS001-ATEX-CE, GS002-ATEX-CE, GS010-ATEX-CE, GS011-ATEX-CE, GS020-ATEX-CE, GS005-ATEX-CE, GS050-ATEX-CE (all

intrinsically safe):  **II 1 G Ex ia IIC T4 or T150** (Test Report: KEMA No. 211369200)

- EN 60079-0 : 2004 - Electrical apparatus for explosive atmospheres - General requirements
- EN 60079-11: 2007 - Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i”
- EN 60079-26 Explosive atmospheres – Part 26: Equipment with equipment protection level (EPL) Ga

Other Compliances

- SAE J159 and SAE J987
- ASME B30.5-2000
- Franklin laboratory: LSI products are safe to use in proximity to blasting caps
- New-York City: MEA 110-05-E, in compliance with 19.1.1(a).1 requirements of Reference Standard RS 19-2 of the Building Code
- ABS (American Bureau of Shipping)
- API Spec 2C