Draft



# EMC TEST REPORT

## No. 711327-2

## Electromagnetic disturbances

### EQUIPMENT UNDER TEST

| | |
|---|---|
| Equipment : | Cylinder |
| Type / model : | Cliq 3.0 |
| Manufacturer : | ASSA AB |
| Tested by request of : | ASSA AB |

### SUMMARY

Referring to the performance criteria and the operating mode during the tests specified in this report the equipment complies with the requirements according to the following standards.

EN 61 000-6-2 (2001)
EN 61 000-6-3 (2001) and A11 (2003)

Date of issue: August 31, 2007

Tested by: Farzad Farzaneh

Approved by: Hans Kohlén

**CONTENTS**

**Page**

## 1. CLIENT INFORMATION

The EUT has been tested by request of

| | |
|---|---|
| Company: | ASSA AB<br>Box 371<br>631 05 Eskilstuna<br>SWEDEN |
| Name of contact: | Gert Norstedt |

## 2. EQUIPMENT UNDER TEST (EUT)

### 2.1 Identification of the EUT

| | |
|---|---|
| Equipment: | Cylinder |
| Type/Model: | Cliq 3.0 |
| Brand name: | ASSA |
| Manufacturer: | ASSA AB |
| Rating: | 3 V DC |

### 2.2 Additional information about the EUT

The EUT was tested in table top configuration.

## 3. TEST SPECIFICATIONS

### 3.1 Standards

EN 61000-6-2 (2001): Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments

EN 61000-6-3 (2001) and A11 (2003): Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standard for residential, commercial and light-industrial environments

The standards above refer to basic standards. These are found in section 4, Test Summary, by name and edition.

### 3.2 Additions, deviations and exclusions from standards and accreditation

No additions, deviations or exclusions have been made from standard and accreditation.

Measurements on electromagnetic radiation power in the frequency band 1 GHz-18 GHz have not been performed.

No other additions, deviations or exclusions have been made from standards and accreditation.

### 3.3 Mode of operation during the test

The EUT was supplied with 3 V DC

The EUT was tested in normal operation.

### 3.4 Compliance

The performance criteria are based on the general criteria in the standard,

Criterion A:
The apparatus shall continue to operate as intended during the test. No degradations of performance characteristics are allowed. During the test the electronic blocking element shall not move from closed to open position.

Criterion B:
The apparatus shall continue to operate as intended after the test. During testing, degradations of performance characteristics are allowed. During the test the electronic blocking element shall move from closed to open position but it must be self-recoverable and return to close position after the test.

Criterion C:
Temporary loss of function is allowed during test, provided the function is self-recoverable or can be restored by the operation of the controls.

### 3.5 Performance verification

**Verification equipment**

The test engineer monitored the performance of the EUT directly or via video cameras.

## 4. TEST SUMMARY

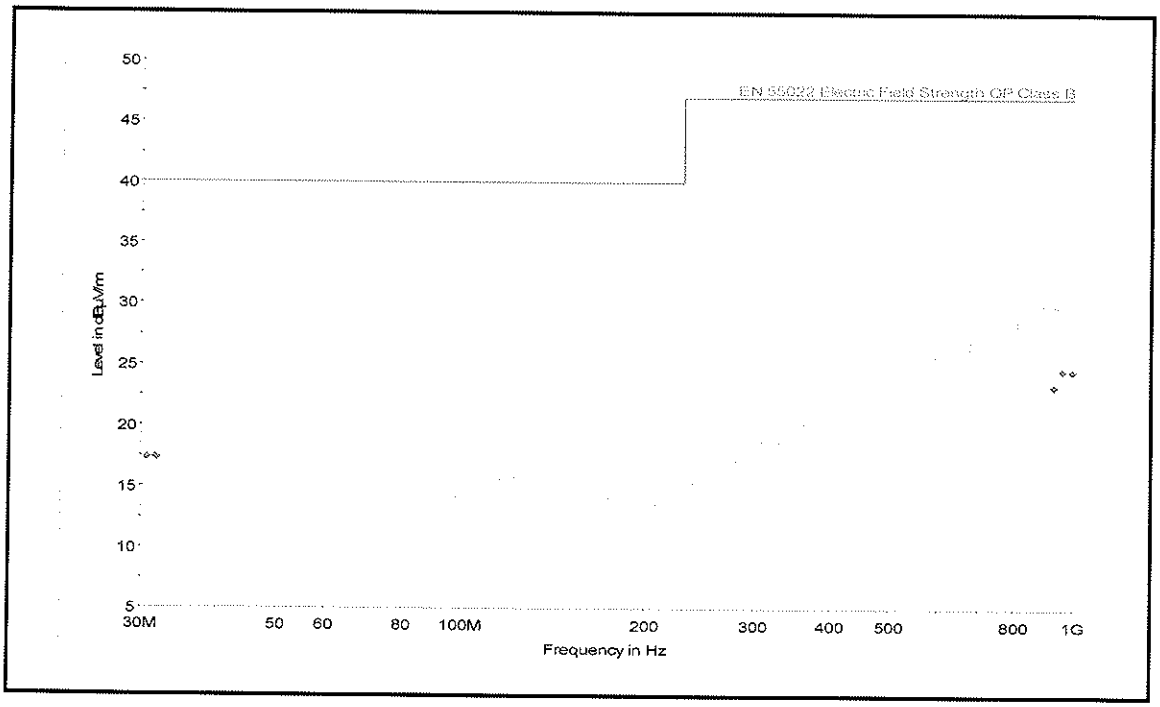
The test has been carried out at the Intertek Semko AB premises in Kista, Sweden.
The results in this report apply only to sample tested:

| Basic standard | Description | Result |
|---|---|---|
| **Emission** | | |
| **EN 55 022 (1998)&A1&A2** | **Radiated electromagnetic field in the frequency range 30 MHz to 1000 MHz**<br><br>The EUT complies with the Class B limits.<br>No quasi peak measurement above the noise floor was found.<br>See diagram 1. | **PASS** |
| **Immunity** | | |
| **EN 61 000-4-2 (1995)&A1&A2** | **Electrostatic discharge**<br><br>Test level ±2 and ±4 kV contact discharges and ±4.<br>The EUT operated without any degradation during the test<br>The EUT complies with the performance criterion A. | **PASS** |
| **EN 61 000-4-3 (2002)&A1** | **Radiated electromagnetic fields in the frequency range 80 – 1000 MHz**<br><br>Test level 10 V/m with 80% AM @ 1 kHz.<br>The EUT operated without any degradation during the test<br>The EUT complies with the performance criterion A. | **PASS** |

## 5. TABLES AND DIAGRAMS

### Diagram 1, Radiated emission, Peak overview sweep

Date of test 2007-08-27 By: Farzad Farzaneh




No quasi peak measurement above the noise floor was found.

## 6. PHOTOS

Photo of the EUT

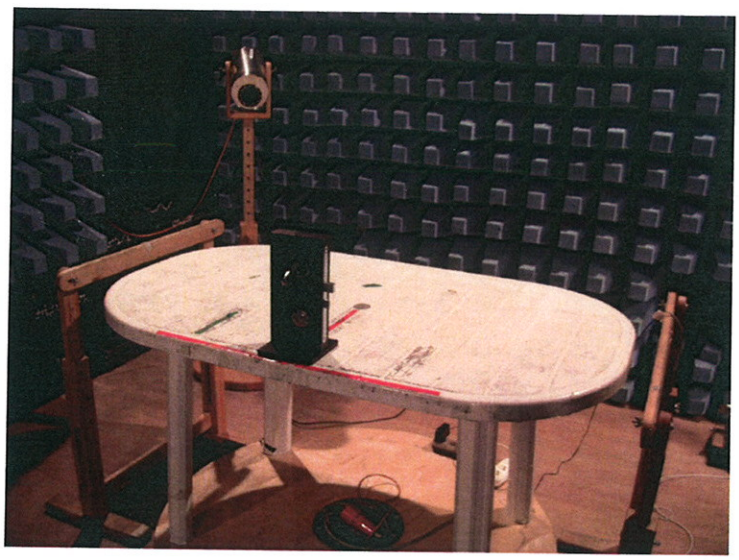


Photo of the test set-up during the radiated electromagnetic field immunity test.


Photo of test set-up during the radiated emission test

## 7. INTERTEK SEMKO EMC CENTER MEASUREMENT UNCERTAINTIES

All uncertainties are given with a level of confidence of approximately 95% (k=2) and are the maximum values within the complete range. Measurement uncertainties are calculated in accordance with EA-4/02:1997.

Measurement uncertainty for radiated disturbance

| | |
|---|---|
| Uncertainty for the frequency range 30 to 1000 MHz at 3 m | ± 4,8 dB |

Measurement uncertainty for ESD immunity test

| | |
|---|---|
| Air discharge | |
| Voltage | ± 26 % |
| First peak current | ± 27 % |
| Rise time | ± 37 % |
| Current at 30 and 60 ns | ± 43 % |
| Contact discharge | |
| Voltage | ± 57 % |
| First peak current | ± 23 % |
| Rise time | ± 38 % |
| Current at 30 and 60 ns | ± 42 % |

Measurement uncertainty for radiated immunity, EN 61 000-4-3

| | |
|---|---|
| 10 V/m 26 MHz to 1 GHz | ± 2,5 V/m / ± 2,2 dB |
| 10 V/m 1,0 GHz to 2,5 GHz | ± 2,9 V/m / ± 2,5 dB |