

**CMC 356**  
**PC-controlled 4 Phase Voltage/6 Phase Current Test Set**  
**S/N AJ156A**

Manufacturer : Omicron electronics GmbH  
Oberes Ried 1  
A-6833 Klaus

Doc.-No : ZEB 152-2/08

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Head of the EMC-Centre

**The EMC-Centre of the EADS Company is accredited by DaTech with the**  
**Reg.No. TTI-P-G119/97-01**



TTI-P-G119/97-01v

## 1 Introduction and Assignment to the Standards

This test report describes the required EMC-tests with the test article CMC 356 to establish an EC-Declaration of Conformity and to verify the electromagnetic compatibility in industrial environment. The equipment was tested according to the standard EN 61326-1 (Electrical equipment for measurement, control and laboratory use – EMC requirements).

**The test article corresponds to the CE requirements and has met the listed standards.**

**The measurement results are valid only for the test article type represented in the EMC-test laboratory.**

**The manufacturer guarantees that all following test articles are identical with the measured test article**

### 1.1 *Applicable EU-Guidelines*

- |                                     |   |                        |
|-------------------------------------|---|------------------------|
| <input checked="" type="checkbox"/> | EMC - Directive                         | 89/336/EWG/2004/108/EG |
| <input type="checkbox"/>            | Low Voltage - Directive                 | 79/23/EWG              |
| <input type="checkbox"/>            | Machinery - Directive                   | 89/392/EWG             |
| <input type="checkbox"/>            | Telecommunication Equipment - Directive | 91/263/EWG             |

### 1.2 *Applikation*

- Residential and commercial Environment (Class B)
- Industrial Environment (Class A)

### 1.3 *Type of Test*

- Sample Test
- Routine Check Out
- Desk Top Device
- Footed Device

## 2 Applicable Standards

### 2.1 Radiated and conducted Emissions

- EN 50081-2 (61000-6-4)      Generic standard : Emission standard for industrial emissions
- EN 55011      Industrial, scientific and medical (ISM) radio-frequency equipment, limits and methods
- EN 61000-3-2      Limits for harmonics current emissions in public low voltage supply systems
- EN 61000-3-3      Limits of voltage changes, voltage fluctuations and flicker in public low voltage supply systems
- FCC Part 15 Subpart B      Conducted and radiated emissions

### 2.2 Susceptibility

- EN 61000-6-2      Generic standard: Immunity for industrial environments
- IEC/EN 61000-4- 2      Immunity to electric static discharges
- IEC/EN 61000-4-3      Immunity to radiated radio-frequency electromagnetic fields
- IEC/EN 61000-4-4      Immunity to fast transients/burst requirements
- IEC/EN 61000-4-5      Immunity to surges
- IEC/EN 61000-4-6      Immunity to conducted disturbances induced by radio frequency fields
- IEC/EN 61000-4-11      Immunity to voltage dips, short interruptions and voltage variations

### 3 Summary Test Results

#### 3.1 Radiated and Conducted Emission

Standard/Procedure	Test Severity	Pass	Remarks
<input checked="" type="checkbox"/> EN 55011 Emissions ISM-Devices and FCC Part 15	Limit <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> A <input type="checkbox"/> B radiated Emissions conducted Emissions	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> partial <input type="checkbox"/> No	Industrial Environment FCC Part 15 Subpart B
<input checked="" type="checkbox"/> EN 61000-3-2 Harmonics		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> partial <input type="checkbox"/> No	230VAC 110VAC
<input checked="" type="checkbox"/> EN 61000-3-3 Voltage Variations		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> partial <input type="checkbox"/> No	230VAC 110VAC

#### 3.2 Susceptibility

Standard/Procedure	Test Severity	Pass	Remarks
<input checked="" type="checkbox"/> EN 61000-4-2 Immunity to Electro Static Discharge	<input checked="" type="checkbox"/> Metal Housing <input type="checkbox"/> Plastic Housing  <input checked="" type="checkbox"/> Contact Discharge <input checked="" type="checkbox"/> Air Discharge <input type="checkbox"/> 1. <input checked="" type="checkbox"/> ±2 kV <input checked="" type="checkbox"/> ±2 kV <input type="checkbox"/> ±2kV 2. <input checked="" type="checkbox"/> ±4 kV <input checked="" type="checkbox"/> ±4 kV <input type="checkbox"/> ±4kV 3. <input type="checkbox"/> ±6 kV <input checked="" type="checkbox"/> ±8 kV <input type="checkbox"/> ±8 kV 4. <input type="checkbox"/> ±8 kV <input type="checkbox"/> ±15 kV <input type="checkbox"/> ±15kV X <input type="checkbox"/> ± kV <input type="checkbox"/> ± kV <input type="checkbox"/>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> partial <input type="checkbox"/> No	
<input checked="" type="checkbox"/> EN 61000-4-3 Immunity to Electromagnetic Fields	1. <input type="checkbox"/> 1 V/m <input checked="" type="checkbox"/> 80% AM, 1 kHz-Sinus 2. <input type="checkbox"/> 3 V/m <input checked="" type="checkbox"/> horizontal Polarisation 3. <input checked="" type="checkbox"/> 10V/m <input checked="" type="checkbox"/> vertical Polarisation X <input type="checkbox"/> 20V/m	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> partial <input type="checkbox"/> No	Freq.-Range 80MHz – 6 GHz with 10V/m and
<input checked="" type="checkbox"/> EN 61000-4-4 Immunity to Bursts	<input checked="" type="checkbox"/> Power Supply Lines <input checked="" type="checkbox"/> Signal-Lines 1. <input checked="" type="checkbox"/> ±0,5 kV <input checked="" type="checkbox"/> ±0,25 kV 2. <input checked="" type="checkbox"/> ±1 kV <input checked="" type="checkbox"/> ±0,5 kV 3. <input checked="" type="checkbox"/> ± 2 kV <input checked="" type="checkbox"/> ±1,0 kV 4. <input type="checkbox"/> ±4 kV <input type="checkbox"/> 2 kV X <input type="checkbox"/> kV <input type="checkbox"/> 4 kV  1. <input checked="" type="checkbox"/> 5 kHz <input checked="" type="checkbox"/> 5 kHz 2. <input type="checkbox"/> 2,5 kHz <input type="checkbox"/> 2,5 kHz X. <input type="checkbox"/> kHz <input type="checkbox"/> kHz	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> partial <input type="checkbox"/> No	

<input checked="" type="checkbox"/> EN 61000-4-5 Immunity to Surges	<input checked="" type="checkbox"/> Power Supply Lines <input type="checkbox"/> Signal-Lines 1. <input checked="" type="checkbox"/> ±0,5 kV <input type="checkbox"/> 0,25 kV 2. <input checked="" type="checkbox"/> ±1 kV <input type="checkbox"/> 0,5 kV 3. <input checked="" type="checkbox"/> ±2 kV <input type="checkbox"/> 1 kV 4. <input type="checkbox"/> 4 kV <input type="checkbox"/> 2 kV X <input type="checkbox"/> kV <input type="checkbox"/> kV  Type of Coupling <input checked="" type="checkbox"/> sym./unsym. <input checked="" type="checkbox"/> pos. Surge <input type="checkbox"/> sym. Data Lines <input checked="" type="checkbox"/> neg. Surge	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> partial <input type="checkbox"/> No	± 1kV sym. ± 2kV unsym.
<input checked="" type="checkbox"/> EN 61000-4-6 Conducted Susceptibility	<input checked="" type="checkbox"/> Power Supply Lines <input checked="" type="checkbox"/> Signal Lines 1. <input type="checkbox"/> 1V <input type="checkbox"/> 1V 2. <input type="checkbox"/> 3V <input type="checkbox"/> 3V 3. <input checked="" type="checkbox"/> 10V <input checked="" type="checkbox"/> 10V X <input type="checkbox"/> 30 V <input type="checkbox"/> V  <input checked="" type="checkbox"/> 80 % AM <input checked="" type="checkbox"/> 80 % AM	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> partial <input type="checkbox"/> No	<u>Power Supply Lines</u> 150kHz – 80MHz 10V  <u>Signal Lines</u> 150kHz – 80MHz 10V
<input checked="" type="checkbox"/> EN 61000-4-11 Voltage Dips and short Interruptions		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> partial <input type="checkbox"/> No	230VAC

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