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|---------------------|-------------|
| For office use only | Project No. |
|---------------------|-------------|

### **EMC Customer Equipment Form (CEF)**

Thank you for your recent enquiry. This document should be used for equipment being submitted for EMC testing at our Donibristle test facility. Please contact YES should you require testing not covered by this CEF.

The purpose of the CEF is to help us to gather the necessary information about your equipment. It will help us to identify:

- relevant standards
- applicable tests
- required test equipment
- services required (e.g. compressed air)

#### **What we ask you to do**

- complete the CEF as fully as possible and return it to us *prior to the test date*
- include relevant product literature (where available)
- return the information by post to:

Laboratory Manager  
York EMC Services Ltd  
Fleming Building  
Donibristle Industrial Estate  
Dalgety Bay  
Dunfermline  
Fife, KY11 9HZ

or by fax to: +44 (0) 1383 825396

An accompanying sheet provides guidance on completing the CEF. Should you need further assistance, please do not hesitate to contact us on +44 (0) 1383 825057.

#### **What we will do**

- review the information you provide
- draw up a test plan
- provide a quotation based on the test plan
- agree test dates

Thank you for your assistance and we look forward to working with you shortly.

|                              |                                      |
|------------------------------|--------------------------------------|
| <b>1 Company Information</b> |                                      |
| <b>Company name</b>          | <b>Tel</b>                           |
| <b>Contact name</b>          | <b>Fax</b>                           |
| <b>Address</b>               | <b>E-mail</b>                        |
|                              | <b>Person accompanying equipment</b> |
|                              |                                      |
|                              |                                      |

I hereby certify on behalf of the company named above:

1. The information contained in this CEF is, to the best of my knowledge, true.
2. All electrical equipment to be supplied by the company for testing is safe for use and has been safety tested.
3. I acknowledge and accept that the nature of EMC testing is such that damage to the equipment under test (EUT) and/or exercising equipment may occur.

Signed:

Name:

|                                   |  |
|-----------------------------------|--|
| <b>2 General EUT Information</b>  |  |
| Name of EUT                       |  |
| Country of manufacture            |  |
| FCC ID Number (if applicable)     |  |
| Highest oscillator frequency      |  |
| Brief description of its function |  |
|                                   |  |
|                                   |  |
|                                   |  |

**3 Environments and standards**

**In which environments would the EUT normally be used? (Please tick as appropriate)**

|                  |  |                  |  |                        |
|------------------|--|------------------|--|------------------------|
| Residential      |  | Heavy industrial |  | Other (please specify) |
| Commercial       |  | Railway          |  |                        |
| Light industrial |  | Automotive       |  |                        |

**Please list the standards to which the EUT should be tested. (Leave this section blank if you wish YES to advise on the applicable standards and tests)**

| Emissions | Immunity |
|-----------|----------|
|           |          |
|           |          |
|           |          |
|           |          |
|           |          |
|           |          |
|           |          |
|           |          |
|           |          |
|           |          |

**4 Detailed EUT Information**

**What is the build state of the EUT? (Please tick as appropriate)**

|             |  |                |  |                        |
|-------------|--|----------------|--|------------------------|
| Development |  | Pre-production |  | Other (please specify) |
| Prototype   |  | Production     |  |                        |

**How many modes of operation does the EUT have? (Please tick as appropriate)**

|               |  |   |
|---------------|--|---|
| One           |  | Please give details                         |
|               |  |   |
|               |  |   |
| More than one |  | Please detail <i>all</i> modes of operation |
|               |  |   |
|               |  |   |
|               |  |   |
|               |  |   |
|               |  |   |

|   |  |
|---|--|
| <b>4 Detailed EUT Information (continued)</b>                           |  |
| <b>Is the operation of the EUT cyclic? (Please tick as appropriate)</b> |  |
| No  | <i>Please go to Section 5</i>  |
| Yes   | Please complete the information below                                |
| <b>Is the cycle time fixed? (Please tick as appropriate)</b>            |  |
| Yes   | Cycle time:  |
| No  | Max. cycle time: <span style="float: right;">Min. cycle time:</span> |

|   |  |
|---|--|
| <b>5 Exercising Equipment</b>   |  |
| <b>Is other equipment required to exercise the EUT during testing? (Please tick as appropriate)</b> |  |
| No  | <i>Please go to Section 6</i>  |
| Yes   | Please complete a section below for <i>each</i> item of exercising equipment |
| Equipment Name:   |  |
| Description:  |  |
| Model Number:   |  |
| Serial Number:  |  |
| Country of Manufacture:   |  |
| Cable Type and Length:  |  |
| Connected to Port:  |  |
| FCC ID Number (If applicable):  |  |

|                                |  |
|--------------------------------|--|
| Equipment Name:                |  |
| Description:                   |  |
| Model Number:                  |  |
| Serial Number:                 |  |
| Country of Manufacture:        |  |
| Cable Type and Length:         |  |
| Connected to Port:             |  |
| FCC ID Number (If applicable): |  |

**6 Test Configuration**

**What is the intended operating position for the EUT? (Please tick as appropriate)**

|           |                |                        |
|-----------|----------------|------------------------|
| Table top | Floor standing | Other (please specify) |
|-----------|----------------|------------------------|

Please sketch the EUT configuration. Include:

- peripherals and exercising equipment
- identification of EUT ports
- Cable types and representative lengths

**7 Operation of the EUT During Immunity Testing**

**How do you define the following with respect to the EUT?**

the EUT should "operate as intended":

an acceptable degradation of performance:

**How should the EUT be monitored during immunity testing? (Please tick as appropriate)**

|                          |                          |
|--------------------------|--------------------------|
| CCTV                     | Other (please specify)   |
| <input type="checkbox"/> | <input type="checkbox"/> |

**8 Services**

**What services are required to operate the EUT? (Please tick and enter the requirements as appropriate)**

|                |                        |              |                |
|----------------|------------------------|--------------|----------------|
| AC power       | Voltage (V):           | Current (A): | Frequency (Hz) |
| DC power       | Voltage (V):           | Current (A): |                |
| Compressed air | Other (please specify) |              |                |
| Water          |                        |              |                |

**9 Health & Safety**

**Please provide the following information:**

|                    |                 |
|--------------------|-----------------|
| EUT Dimensions (m) | EUT Weight (kg) |
|                    |                 |

**Does the EUT contain or use any hazardous substances? (Please tick as appropriate)**

|                          |   |
|--------------------------|---|
| No                       | <i>Please go to the health &amp; safety statement</i> |
| Yes                      | Please give details:                                  |
| <input type="checkbox"/> |   |
| <input type="checkbox"/> |   |

**9 Health & Safety (continued)**

**Health & safety statement - please read carefully**

**Lifting and handling**

It is a requirement that heavy and bulky equipment should be delivered to and collected from ground level. Where the equipment is bulky, difficult to handle or exceeds 250kg, it is the responsibility of the customer to notify YES of this prior to delivery.

In all cases equipment should be able to be moved safely and without unacceptable risk to either YES staff or the customer. YES reserves the right to refuse to take delivery of equipment or to suspend testing where it is considered that moving the equipment would present an unacceptable risk. YES also reserves the right to hire suitable lifting equipment where necessary for which the costs would be passed to the customer.

**10 Confidentiality**

YES will ensure that customer's equipment remains out of the view of other customers who may also be present at the test site, however, there may be times where customers will meet each other in the communal areas of the test facility. Please state below if additional confidentiality measures are required.

.....

.....

**11 Documentation**

**What level of documentation is required? (Please tick as appropriate)**

Copy of test results

Certificate

Full report

*Tabular summary of tests carried out & results*

*Full written report including tests carried out, results, all graphical results, colour photographs of test set-ups and test equipment used*

## **Guidance on completing the Customer Equipment Form (CEF)**

The instructions are designed to assist in the completion of the CEF. The CEF is an important document in determining the EMC test requirements, the necessary test equipment and the cost of the testing.

### **1 Company Information**

This information will be used in correspondence with your company prior to testing, on test documentation and to ensure that your entry on our database is correct.

### **2 General EUT Information**

Please supply the general information about your equipment. The 'country of manufacture', 'FCC ID Number' and 'highest oscillator frequency' are particularly important if the EUT is being submitted for Federal Communications Commission (FCC) testing for the US market. *If testing is for the European EMC Directive, you do not need an FCC ID Number and this section should be left blank.*

### **3 Environments and standards**

The definition of the environment in which the EUT is intended to operate often defines the EMC standard to be used for testing. Please tick as many environments as are applicable. It is usually possible to define an EMC test plan which will cover more than one specific environment if required.

If you have specific test requirements or you wish to state which tests or standards you require, please list those in this section. If the section on standards is left blank, YES will advise on the most appropriate standards for your equipment.

### **4 Detailed EUT Information**

Please state the build state of the EUT. It is important to remember that YES, in common with all test laboratories, will provide a test certificate or test report that relates *only to the specific item tested*. In cases where the EUT is not a production sample, the customer should ensure that any changes made subsequent to the testing are not likely to invalidate the results obtained.

Please state the modes of operation. An example of an item of equipment having two modes of operation would be emergency lighting.

Mode 1 EUT operating from AC mains in 'normal' operation

Mode 2 EUT operating from DC battery back up during 'mains-fail' operation

It is important to test the EUT in the worst case mode of operation which may not always be able to confidently be predicted without testing.

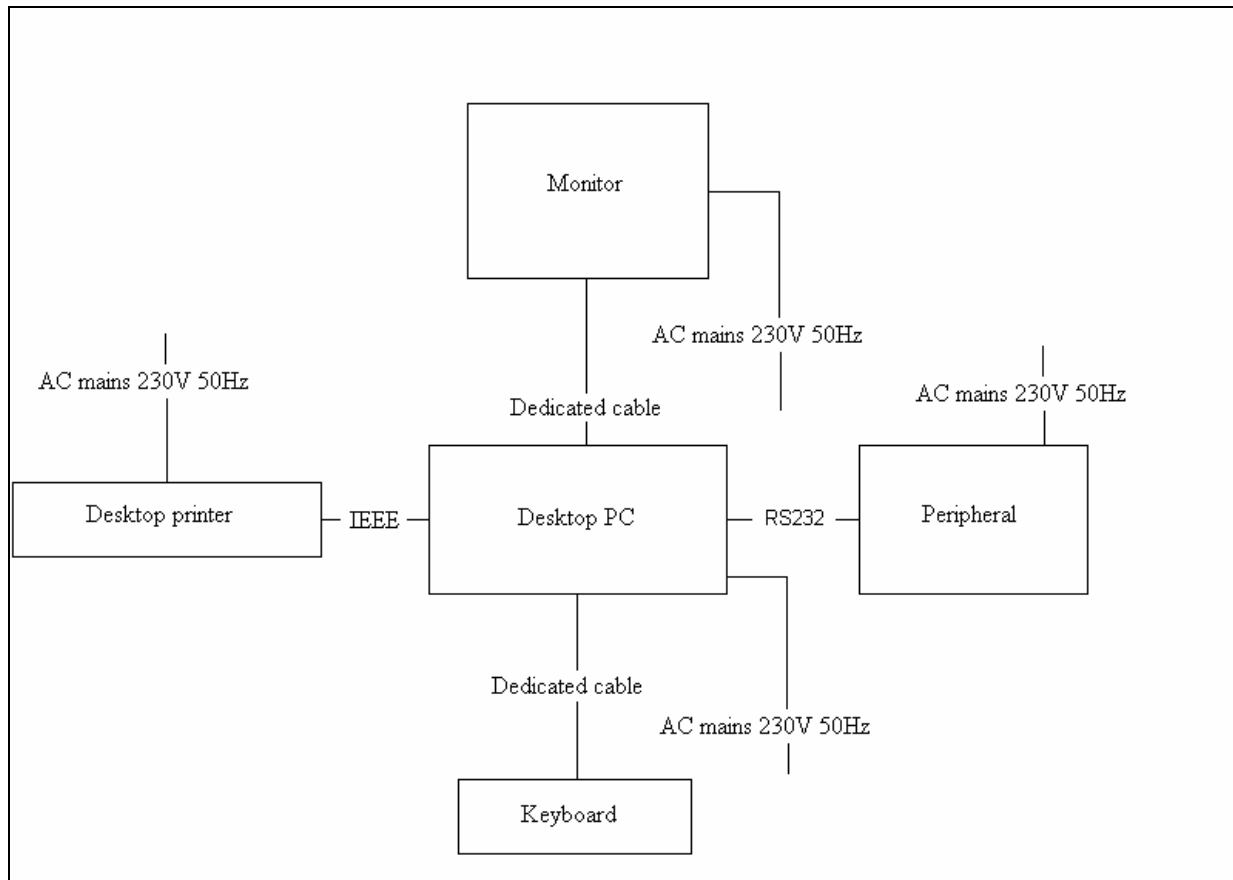
Some equipment operates in cycles, e.g. washing machines and photocopiers. A cycle is usually defined as the time the EUT takes to perform one normal operation. For test purposes, it is necessary to know the cycle time as the time to carry out a particular test may be considerably longer than the cycle time of the EUT.

### **5 Exercising Equipment**

Often the EUT requires other equipment to enable it to operate as intended, but the exercising equipment does not form part of the equipment to be tested. Please provide the information requested for *each item of exercising equipment*. In particular, the cable types and lengths should be used which are representative of normal use. If a number of different cable types and/or lengths can be used, please state them all.

### **6 Test Configuration**

Please provide a clear block diagram showing how the EUT connects to peripherals and exercising equipment. Clearly label each EUT port and identify each element in the diagram including the cables. An example is provided for guidance.



## 7 Operation of the EUT During Immunity Testing

The term 'operate as intended' is taken to mean how the manufacturer would normally expect the EUT to operate given the technical specification. For example a manufacturer of a thermometer would normally expect it to read approximately 20°C when the temperature was 20°C. Therefore when the thermometer is operating as intended, it is providing an output or function which can be quantified.

Immunity tests require the manufacturer to determine 'an acceptable level of degradation of performance' which may occur during testing. If during immunity testing, the thermometer gave readings of 19°C, 22°C, 27°C and 15°C when the actual temperature was 20°C, would this be an acceptable degradation of performance?

The radiated immunity test is carried out with the EUT in an anechoic chamber. No one is allowed in the chamber during the test and consequently some means of determining the performance of the EUT is required. This is often carried out by use of a CCTV camera linked to a monitor outside the chamber by an optical fibre. Sometimes it is necessary to bring signals out of the anechoic chamber from the EUT to be measured, e.g. a voltage. If any method of monitoring other than via the CCTV camera is requirement, please detail this under the 'other' section.

## 8 Services

It is important that all services required to operate the EUT as intended are available when required. To ensure this, please list all the services required. We normally require the customer to provide DC power supplies unless otherwise arranged beforehand.

YES can supply up to 32A 230V single phase. Some individual tests have lower current capabilities, however, any problems will be notified to you when the information provided by you in the CEF is reviewed.

## 9 Health & Safety

YES operates a health and safety policy which is available for inspection upon request. One of the areas of greatest concern is the movement of large and heavy EUTs. A statement on this matter is included in Section 9 of the CEF and you are urged to read it carefully. Please detail any hazardous substances such as chemicals which are used in the EUT and may require special handling or special precautions to be taken.

It is also our policy to protect employees against the hazard of electric shock from unsafe equipment. We request that equipment for testing is safety tested prior to delivery and we reserve the right to safety test equipment where there is doubt about its electrical safety.

Should you need further assistance in the completion of the CEF, please do not hesitate to contact us on +44 (0) 1383 825057.