



Product Quality Audit Report

|                  |                             |             |             |                |                       |
|------------------|-----------------------------|-------------|-------------|----------------|-----------------------|
| Date             | Customer                    |             |             |                |                       |
| 11/06/2015       | (UNI09) Universitat zu Kiel |             |             |                |                       |
| Invotec Details  | Tool Number                 | Works Order | Sales Order | Layer Type     | Release               |
|                  | 168640                      | 274030      | 271876      | MULTILAYER (6) | ECSS-Q-ST-70-11C      |
| Customer Details | Part Number                 |             | Part Issue  |                | Purchase Order Number |
|                  | HET Preamps                 |             | -           |                | 179                   |

PCB MARKINGS

|  |        |
|--|--------|
| Part number & Issue / revision level correct | Accept |
| Manufacturers mark & date code correct       | Accept |
| Release coding (UL mark etc) correct         | Accept |

GENERAL

|   |        |
|---|--------|
| Profiled edges free from loose fibres, pip marks etc    | Accept |
| Bow and Twist within specification                      | Accept |
| Materials / surface finish correct                      | Accept |
| General appreance / workmanship                         | Accept |
| Electrical Test complete                                | Accept |
| Laboratory Test complete (Report available if required) | Accept |
| Sample board included                                   | Accept |

OUTER LAYER PATTERN

|   |        |
|---|--------|
| Annular Ring meets min requirements                             | Accept |
| Track width   | Accept |
| Track spacing   | Accept |
| Conductor pattern (Spurious copper etc within acceptable limits | Accept |

SOLDERMASK / ANNOTATION / PEELABLE MASK

|  |        |
|--|--------|
| Solder Resist colour / type                            | N/A    |
| Annotation colour                                      | N/A    |
| No encroachment onto pads (other than by design)       | N/A    |
| Solder Resist free from skips, inclusions etc          | N/A    |
| Legend clear and legible                               | N/A    |
| Adhesion   | N/A    |
| No contamination of component holes                    | Accept |
| Peelable mask - correct type / registration / coverage | N/A    |

DIMENSIONS / SCORE / BOARD THICKNESS

|   |        |                          |              |
|---|--------|--------------------------|--------------|
| Outline dimensions correct                    | Accept |                          |              |
| Hole sizes correct                            | Accept |                          |              |
| Score lines - correct position / web thicknes | N/A    |                          |              |
| Board thickness - MM                          | Accept | Spec: 1.60 +0.16 / -0.16 | Actual: 1.62 |



## Product Quality Audit Report

### Hole size summary

| Hole<br>Ref | Nominal | Tolerance |       | Actual | Type | Unit |
|-------------|---------|-----------|-------|--------|------|------|
|             |         | +         | -     |        |      |      |
|             | 0.087   | 0.003     | 0.000 | 0.087  | PTH  | Inch |
|             | 0.028   | 0.003     | 0.000 | 0.028  | PTH  | Inch |
|             | 0.024   | 0.003     | 0.000 | 0.025  | PTH  | Inch |
|             | 0.016   | 0.003     | 0.000 | 0.016  | PTH  | Inch |

### DIMENSIONAL SUMMARY

See dimensional report  
attached to FAIR

FAIR NOTES

COMPLETED BY

Julie Lakin

# Invotec Circuits Tamworth



Dosthill  
Tamworth  
Staffordshire  
B77 5HH

|             |             |           |        |           |                 |
|-------------|-------------|-----------|--------|-----------|-----------------|
| Drawing No. | HET PREAMPS | Batch No. | AX 3   | Date      | 10-Jun-15 15:53 |
| Tool Number | 168640      | W/O No    | 274030 | Inspector | S.WOODFORD      |
| Customer    | UNIVERSITAT | Material  |        | Notes     |                 |

| Identifier | Dimension |        | Dim.  | Limit  |       | Pass/Fail | Geometric Tolerance |       |           |
|------------|-----------|--------|-------|--------|-------|-----------|---------------------|-------|-----------|
|            | Nominal   | Actual | Error | Upper  | Lower |           | Actual              | Limit | Pass/Fail |
| 2mm        | 2.00      | 1.97   | -0.03 | 2.10   | 1.90  | PASS      |                     |       |           |
| 2mm        | 2.00      | 1.98   | -0.03 | 2.10   | 1.90  | PASS      |                     |       |           |
| 55mm       | 55.00     | 54.96  | -0.04 | 55.10  | 54.90 | PASS      |                     |       |           |
| 100mm      | 100.00    | 99.98  | -0.02 | 100.10 | 99.90 | PASS      |                     |       |           |