# APPENDIX EQUIPMENT SPECIFICATIONS

# File name: direct detection on-axis electron camera system for installation into a JEOL NeoARM microscope

### APPENDIX J: SECS/GEM Compliance Statement

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| **Contractor** |  |
| **Ref. of quotation** |  |

# CUSTOMER ANSWER ON SEMI COMPLIANCE FOR MANDATORY STANDARDS

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| --- | --- | --- | --- |
| SUPPORT  *ANSWER YES OR NO* | SEMI  STANDARD | REVISION | DESCRIPTION |
|  | E5 |  | SECS-II Message Content (SECS-II) |
|  | E30 |  | Generic Equipment Model (GEM) |
|  | E37 |  | HSMS Transfer Protocol (HSMS) |
|  | E37.1 |  | HSMS Single-Session (HSMS-SS) |
|  | E37.2 |  | HSMS General Session (HSMS-GS) |
|  | E39 |  | Object Services Standard (OSS) |
|  | E39.1 |  |  |
|  | E40 |  | Processing Management (PM) |
|  | E40.1 |  |  |
|  | E84 |  | Carrier Handoff Parallel I/O Interface (EPIO) |
|  | E87 |  | Carrier Management Specification (CMS) In-line with track |
|  | E87.1 |  |  |
|  | E90 |  | Substrate Tracking Specification (STS) |
|  | E90.1 |  |  |
|  | E94 |  | Control Job Management Specification (CJM) In-line with track |
|  | E94.1 |  |  |

# CUSTOMER ANSWER ON SEMI COMPLIANCE FOR OPTIONAL STANDARDS

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| SUPPORT  *ANSWER YES OR NO* | SEMI  STANDARD | REVISION | DESCRIPTION |
|  | E41 |  | Exception Management (EM) |
|  | E41.1 |  |  |
|  | E42 |  | Recipe Management Standard (RMS) |
|  | E42.1 |  |  |
|  | E53 |  | Event Reporting |
|  | E53.1 |  |  |
|  | E54 |  | Sensor/Actuator Network Standard (SAN) |
|  | E58 |  | Availability, Reliability And Maintenability (ARAMS) |
|  | E58.1 |  |  |
|  | E95 |  | Human Interface Specification (HCI) |
|  | E98 |  | Object Based Equipment Model (OBEM) |
|  | E98.1 |  |  |
|  | E99 |  | 0303 Carrier ID Reader/Writer (CIDRW) Only for Reticle Pods |
|  | E109 |  | Reticle and Pod Management (RPMS) |
|  | E109.1 |  |  |
|  | E116 |  | Equipment Performance Tracking (EPT) |
|  | E116.1 |  |  |
|  | E120 |  | Common Equipment Model (CEM) |
|  | E120.1 |  |  |
|  | E121 |  | XML Style and Usage for Semiconductor |
|  | E125 |  | Equipment Self Description (EqSD) |
|  | E125.1 |  |  |
|  | E126 |  | Equipment Quality Information Parameters (EQIP) |
|  | E128 |  | XML Message Structure |
|  | E132 |  | Equipment Client Authentication and Authorization (ECA) |
|  | E132.1 |  |  |
|  | E134 |  | Data Collection Management (DCM) |
|  | E134.1 |  |  |
|  | E138 |  | XML Semiconductor Common Components |
|  | E139 |  | Recipe and Parameter Management (RaP) |
|  | E139.1 |  |  |

# GEM COMPLIANCE STATEMENT

Answer yes or no in support and compliant column

GEM compliance statement (SEMI E30)

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| --- | --- | --- | --- |
| FUNDAMENTAL REQUIREMENTS (titles are in italic) | SxFy | Support | Compliant |
| *State Models* |  |  |  |
| Communications State Model |  |  |  |
| Control State Model |  |  |  |
| Process Queue State Model |  |  |  |
| System State Model |  |  |  |
| System Service Status |  |  |  |
| System Reservation Status |  |  |  |
| Equipment Processing States |  |  |  |
| Process State Model - Processing Status |  |  |  |
| Process State Model - Halting Status |  |  |  |
| Host Initiated | S1F13/F14 Scenario |  |  |
| Establish Communications Request (CR) | S1F13 |  |  |
| *Event identification* |  |  |  |
| Discrete Variable Data Send (DVS) | S6F3 |  |  |
| Multi-block Data Send Inquire (MBI) | S6F5 |  |  |
| Formatted Variable Send (FVS) | S6F9 |  |  |
| Event Report Send (EVS) | S6F11 |  |  |
| Annotated Event Report Send (AERS) | S6F13 |  |  |
| *On-Line Identification* |  |  |  |
| Are You There Request (R) | S1F1 |  |  |
| Loop Back Diagnostic Request (LDR) | S2F25 |  |  |
| *Error Messages* |  |  |  |
| Unrecognized Device ID (UDN) | S9F1 |  |  |
| Unrecognized Stream Type (USN) | S9F3 |  |  |
| Unrecognized Function Type (UFN) | S9F5 |  |  |
| Illegal Data (IDN) | S9F7 |  |  |
| Transaction Timer Timeout (TTN) | S9F9 |  |  |
| Data Too Long (DLN) | S9F11 |  |  |
| Conversation Timeout (CTN) | S9F13 |  |  |
| *Control (Operator Initiated)* |  |  |  |
| Are You There Request (R) (Attempt On-Line) | S1F1 |  |  |

Table 1.5 Additional GEM compliance statement

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| *Establish Communications* |  |  |  |
| Establish Communications Request (CR) | S1F13 |  |  |
| Are You There Request (R) (Heartbeat) | S1F1 |  |  |
| *Dynamic Event Report Configuration* |  |  |  |
| Define Report (DR) | S2F33 |  |  |
| Link Event Report (LER) | S2F35 |  |  |
| Enable/Disable Event Report (EDER) | S2F37 |  |  |
| Multi-block Inquire (DMBI) | S2F39 |  |  |
| *Variable Data Collection* |  |  |  |
| Event Report Request (ERR) | S6F15 |  |  |
| Annotated Event Report Request (AERR) | S6F17 |  |  |
| Individual Report Request (IRR) | S6F19 |  |  |
| Annotated Individual Report Request (AIRR) | S6F21 |  |  |
| *Trace Data Collection* |  |  |  |
| Trace Initialize Send (TIS) | S2F23 |  |  |
| Trace Data Send (TDS) S6F1 | S6F1 |  |  |
| *Status Data Collection* |  |  |  |
| Selected Equipment Status Report (SSR) | S1F3 |  |  |
| Status Variable namelist Request (SVNR) | S1F11 |  |  |
| *Alarm Management* |  |  |  |
| Alarm Report Send (ARS) | S5F1 |  |  |
| Enable.Disable Alarm Send (EAS) | S5F3 |  |  |
| List Alarm Request (LAR) | S5F5 |  |  |
| List Enabled Alarm Request (LEAR) | S5F7 |  |  |
| *Remote Control* |  |  |  |
| Host Command Sent (HCS) | S2F41 |  |  |
| Wafer Table Cleaning Request (WTCR) | S3F67 |  |  |
| Inline Immersion Cleaning Request (IICR) | S3F69 |  |  |
| *Equipment Constants* |  |  |  |
| Equipment Constant Request (ECR) | S2F13 |  |  |
| New Equipment Constant Send (ECS) | S2F15 |  |  |
| Equipment Constant metalist Request (ECNR) | S2F29 |  |  |
| *Process Program Management* |  |  |  |
| Process Program Load Inquire (PPI) | S7F1 |  |  |
| Process Program Load Send (PPS) | S7F3 |  |  |
| Process Program Load Request (PPR) | S7F5 |  |  |
| Delete Process Program Send (DPS) | S7F17 |  |  |
| Current EPPD Request (RER) | S7F19 |  |  |
| Process Program Information Request (PPIR) | S7F65 |  |  |
| Formatted Process Program Send (FPS) | S7F23 |  |  |
| Formatted Process Program Request (FPR) | S7F25 |  |  |
| Process Program Verification Send (PVS) | S7F27 |  |  |
| Verification Request Send (VRS) | S7F31 |  |  |
| Compressed Document Send Special (CDSS) | S7F73 |  |  |
| Compressed Document Request Special (CDRS) | S7F75 |  |  |
| Compressed Documentation Verification Send Special (CDVSS) | S7F77 |  |  |
| Compressed Verification Request Send Special (CVRSS) | S7F81 |  |  |
| Document Send Special (DSS) | S7F83 |  |  |
| Document Request Special (DRS) | S7F85 |  |  |
| Document Verification Send Special (DVSS) | S7F87 |  |  |
| Verification Request Send Special (VRSS) | S7F91 |  |  |
| Delete Document Send Special (DDSS) | S7F93 |  |  |
| List Document Send Special (LDSS) | S7F95 |  |  |
| *Equipment Terminal Services* |  |  |  |
| Terminal Request (TRN) | S10F1 |  |  |
| Terminal Display, Single (VTN) | S10F3 |  |  |
| Terminal Display, Multi-Block (VTN) | S10F5 |  |  |
| Broadcast (BCN) | S10F9 |  |  |
| *Clock* |  |  |  |
| Date and Time Request (DTR) | S2F17 |  |  |
| Date and Time Set Request (DTS) | S2F31 |  |  |
| *Limits Monitoring* |  |  |  |
| Spooling |  |  |  |
| *Spooling State Model* |  |  |  |
| Reset Spooling Stream and Function (RSSF) | S2F43 |  |  |
| Request Spooled Data (RSD) | S6F23 |  |  |
| *Control (Host Initiated)* |  |  |  |
| Request Offline (ROFL) | S1F15 |  |  |
| Request Online (RONL) | S1F17 |  |  |

# Add tables of other available compliance statements

Object Services Standard compliance statement (SEMI E39)

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Processing Management compliance statement (SEMI E40)

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Exception Management (SEMI E41)

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Carrier Management compliance statement (SEMI E87)

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Substrate tracking compliance statement (SEMI E90)

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Control Job compliance statement (SEMI E94)

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Reticle and Pod Management compliance Statement (SEMI E109)

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