SEMI E130.1-1104 (Reapproved 0618)
SPECIFICATION FOR SECS-II PROTOCOL FOR PROBER SPECIFIC EQUIPMENT MODEL FOR 300 mm ENVIRONMENT (PSEM300)

This Standard was technically approved by the Information & Control Global Technical Committee. This edition was approved for publication by the global Audits and Reviews Subcommittee on December 13, 2017. Available at www.semiviews.org and www.semi.org in June 2018; originally published November 2004; previously published July 2010.

SUPERSEDED

1 Purpose

1.1 This Document maps the services and data of SEMI E130 to SECS-II streams and functions, and data definitions.

2 Scope

2.1 This is a specification covering equipment supporting automated communication of the prober equipment.

2.2 This Document applies to all implementations of SEMI E130 that use the SECS-II message protocol (SEMI E5). Compliance to this Standard requires compliance to both SEMI E130 and SEMI E5.

NOTICE: SEMI Standards and Safety Guidelines do not purport to address all safety issues associated with their use. It is the responsibility of the users of the Documents to establish appropriate safety and health practices, and determine the applicability of regulatory or other limitations prior to use.

3 Limitations

3.1 This Specification applies to semiconductor equipment that also use SEMI E30 GEM Standard.

3.2 PSEM300-compliant equipment must support High Speed Messaging Service (SEMI E37) Communication Standard for sending SEMI E5 messages over TCP/IP.

4 Referenced Standards and Documents

4.1 *SEMI Standards and Safety Guidelines*

SEMI E5 — Specification for SEMI Equipment Communications Standard 2 Message Content (SECS-II)

SEMI E30 — Specification for the Generic Model for Communications and Control of Manufacturing Equipment (GEM)

SEMI E37 — High Speed SECS Message Services (HSMS) Generic Services

SEMI E130 — Specification for Prober Specific Equipment Model for 300 mm Environment (PSEM300)

NOTICE: Unless otherwise indicated, all documents cited shall be the latest published versions.

5 Service Message Mapping

5.1 This section shows the specific SECS-II streams and functions that shall be used for SECS-II implementation of the services or remote commands defined in SEMI E130, as well as the parameter mapping for data attached to services.

5.2 *Services Message Mapping*

5.2.1 Table 1 defines the relationships between SEMI E130 services and SECS-II messages. Mapping of service parameters to the SECS-II data items is provided in a separate table. Conventions and definitions of table fields are as described below.

5.2.2 *Service Name* — Name of the service or remote command defined in SEMI E130.

5.2.3 *Stream, Function* — Specifies the SECS-II stream and function (SxFx) mapped to the service messages. Following convention of SECS-II, request and notification messages are mapped to the odd-numbered functions and response or acknowledgement messages are mapped to the corresponding even-numbered functions.

5.2.4 *SECS-II Message Name* — Name of the SECS-II message.

Documents Document Sharing Hub

Full document details: SEMI E130.1-1104-0618R

Table 1 Services Message Mapping Table

Service Name	*Stream, Function*	*SECS-II Message Name*
CLEAN-PROBES	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
INDEX	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
INK-DEVICE	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
INK-DIE	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
INSPECT-INK-MARKS	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
INSPECT-PROBES	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
INSPECT-PTP-ALIGN	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
LOCKOUT-CONTROL	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
LOAD-TEST-SUBST	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
LOAD-SUBSTRATE	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
MOVE	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
MOVE-ABS	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
MOVE-SUB-STEPS	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
MOVE-TO-REF-DIE	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
UNLOAD-TEST-SUBST	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
RESET-CONTACT-CNT	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
RESET-CONTROL-MAP	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
SET-CONTROL	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
SET-PROBE-CARD-ID	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
SET-CONTROL-MAP	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
UNLOAD-SUBSTRATE	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
UNLOAD-ALLSUBSTRATES	S2,F49/F50	Enhanced Remote Command Send/Acknowledge
ONLINE-LOCAL	S2,F49/F50	Enhanced Remote Command Send/Acknowledge

5.3 *Event Message Mapping*

5.3.1 Table 2 defines the relationships between SEMI E130 collection events and SECS-II messages. Conventions and table field definitions similar to mapping table for the services, here Event Name specifies the event defined in SEMI E130. This Specification follows SEMI E30 Dynamic Report Configuration to define and attach reports to collection events.

Table 2 Event Message Mapping Table

Event Name	*Stream, Function*	*SECS-II Message Name*
All events defined in SEMI E130.	S6F11/12	Event Report Send/Acknowledge

5.4 *Service Parameter Mapping*

5.4.1 Table 3 defines the relationships between SEMI E130 service parameters and SECS-II data definitions or parameter fields in the mapped streams and functions. Parameters for acknowledgements or responses will follow SECS-II Specification for that stream and function, no service specific error codes are defined in this Specification. Descriptions of each table column are described below.

5.4.2 *Service* — Specifies the service whose parameters are described.

SUPERSEDED

Documents
Document Sharing Hub
Full document details: SEMI E130.1-1104-0618R