

**To: Mike Sampson
NASA Goddard**

Date: April 8, 1998

**From: Jay Brusse
Unisys Corporation at NASA Goddard**

**Subject: Trip Report for the EIA-G11 Meeting in Atlanta, GA
February 19-20, 1998**

The Electronics Industry Association's (EIA) passive EEE parts user committee, known as the EIA G-11 Committee, held one of its tri-annual meetings on February 19-20, 1998 in Atlanta, GA. The G-11 Committee recommends solutions to technical problems in the application, standardization and reliability of passive EEE parts. The G-11 achieves these objectives through evaluation and preparation of proposed advancements in specifications, standards and other documents, both government and industry, to assure that parts are suitable for their intended applications and for procurement.

Membership on this committee consists primarily of major Defense and Aerospace contractors. Additional routine participation includes guest membership from NASA GSFC, the Defense Supply Center Columbus (DSCC), US Air Force, US Army and the Aerospace Corporation. NASA GSFC has actively represented the NASA Parts, Packaging and Radiation Program on the G-11 committee for many years. Through its participation in the G-11, GSFC ensures that NASA interests and the interests of the general space community are considered and adopted during development of both military and non-government specifications and standards.

The highlights of the February 1998 meeting of the G-11 are outlined in the following summary trip report. If you need further information or if you wish to suggest a topic to be discussed at the next G-11 meeting in June, please contact Jay Brusse at (301) 286-2019.

Sincerely,

Jay Brusse
Component Engineer
Unisys Corp. at NASA GSFC

Distribution:

Bob Lebair/GSFC Code 562
Bob Savage/GSFC Code 562
George Kramer/GSFC Code 562
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Tom Orton/Boeing
Kusum Sahu/Unisys
Hugh Milteer/Unisys
Qutbuddin GhulamAli/Unisys
Jong Kadesch/Unisys
Terry King/Unisys

Summary Trip Report for Electronic Industries Association G-11 Passive Parts Meeting February 1998 (Atlanta, GA)

The following report summarizes the highlights of the February 1998 EIA G-11 Committee meeting. Contact Jay Brusse for further details, questions or comments.

The most interesting topic of the meeting involved the discussion over the EIA U-1 Committee activities discussed below:

EIA U-1 Committee Qualification Standards Development

Dave Richardson of Vishay (Georgia) addressed the G-11 committee regarding the efforts of the EIA U-1 Committee (a subcommittee of the EIA P-Panels). The U-1 Committee is a passive parts “users” committee comprised mainly of EEE parts manufacturers. Their primary function is to establish industry standards for passive parts (predominantly “commercial” parts) including development of standard part values (capacitance, resistance, etc.), ratings (power, voltage, temperature, etc.) and physical sizes.

The purpose of Dave’s presentation was to discuss the current U-1 Committee initiative to develop EIA standards for passive part qualification test flows for commercial products. The U-1 Committee is striving to establish “common baseline” tests for the various passive commodities which can be used by all of the manufacturers in the industry to “qualify” their commercial/industrial grade components. (At this time no EIA qualification flow standards have been finalized, although some drafts do exist). The suppliers are hopeful that if they can advertise to their customer base that their products have been baselined to an established “EIA flow”, then they can reduce the costly need to perform highly redundant customer specific qualification flows. In addition, an industry standard flow can be used as a baseline by which all suppliers can be benchmarked.

After further scrutiny it became apparent that the EIA currently has no “watchdog” mechanism which would oversee/audit the manufacturers to the proposed baseline flows. The existing plan would have the manufacturers “self qualify” one time (with no qualification maintenance proposal) and provide data packages to prospective customers as requested. Customers willing to accept the manufacturer’s baseline flow could then request specific qualification tests for their application, which were not covered by the EIA flow. During a “brainstorming” session some G-11 participants suggested that the EIA flows should be adopted into the equivalent military specifications for the component as an “EIA Quality Level” part (in addition to the already available levels within the military specifications, NOT as a replacement). Their hope is that such an adoption would enable DSCC to become the watchdog for the EIA baseline flow. This concept has numerous potential problems:

- Potential conflict of interest for DSCC whose charter is to assure the availability of “military” parts for the “military” marketplace, not to qualify “commercial” parts for “all” markets

- Resource limitations of DSCC to audit the “commercial” product lines many of which are not the same as (or even in the same location as) the military product lines which DSCC audits
- EIA standards are intended for the entire electronics industry which means many non-military qualified sources would want to be qualified and DSCC currently has no mechanism (nor the charter) to audit the vast commercial supplier base
- Risk of watering down the military specifications and the availability of Established Reliability (or high reliability) parts

Despite the potential problems, this concept warrants further investigation as it proposes a vehicle whereby “commercial” products from a multitude of different sources may be qualified to a known baseline set of requirements. The U-1 Committee has invited G-11 representatives to participate in their April meeting to evaluate the details of the EIA developed qualification flows and to further discuss plans for implementation and oversight. In addition, both G-11 and the P-Panels will try to coordinate their autumn meetings so that some overlap/interaction between the groups would be possible.

Highlights of NASA Parts Activity

- NASA Parts Selection List (NPSL) Homepage is available on-line at:
<http://misspiggy.gsfc.nasa.gov/npsl>
This homepage is filling the parts selection and application needs of the spaceflight community in lieu of MIL-STD-975 which is to be canceled and GSFC PPL-21 which is not funded for future updates.
- NASA is encouraging a revitalization effort for MIL-STD-981 (Design, Manufacturing and Quality Standards for Custom Electromagnetic Components for Space Applications). DSCC is currently the preparing activity for MIL-STD-981. NASA plans to begin working with DSCC and others to update this document in FY98.
- GSFC has updated the GSFC procurement specification S-311-P-813 for precision metal foil resistors (similar to RNC90Y). This specification is available on-line at:
<http://arioch.gsfc.nasa.gov/311/html/specs.htm>

Highlights of Military Specification Activity

Capacitors

- MIL-PRF-55365 for tantalum chip capacitors will circulate a proposal to change the part number scheme to allow the case size to be encoded in the part number. This option would free the manufacturers to offer a discrete capacitance value in multiple case sizes depending on their processing capabilities (i.e., more capacitance in a smaller case).
- DSCC will develop draft slash sheets for MIL-PRF-55681 ceramic chip capacitors that will cover chip sizes 0402, 0504 and 0603. Drafts are anticipated by June 1998.
- MIL-PRF-49470 for stacked ceramic Switch Mode Power Supply (SMPS) capacitors has been released. When sources begin to qualify, this specification will replace DSCC-DWG-87106. AVX Olean, Presidio, Johanson and UTC have expressed interest in qualifying. Space level slash sheets may be added in the future.

Connectors

- The Navy has proposed (and is pursuing) transfer of several Military Specification Sheets (MS Drawings) for connectors from the Navy preparing activity to the Society of Automotive Engineers (SAE). The G-11 issued a recommendation that responsibility for these drawings should be transferred to DSCC (DSCC is willing to take over) instead of SAE. This recommendation was made for several reasons including lack of influence G-11 and other military/space users have with SAE and the potential cost of renaming drawings with SAE identifiers (cost to purchase drawings from SAE, cost to change existing parts lists to reflect SAE numbers). It appears that the Navy is insistent upon converting their specifications into Non-Government Standards (NGS) as part of their role in Acquisition Reform. The other military agencies (Army, Air Force) have taken the general approach of transferring their specifications to DSCC.

Filters

- Maxwell/Sierra has proposed modifications to the Class S requirements for MIL-PRF-28861/12 filters. Their proposal would allow Group B test results for one dash number to cover the Group B requirement for three other dash numbers provided the discoidal capacitors used are all from the same lot and the testing is performed on the "most complex" filter design ("L" circuit in this case). In addition, Maxwell is recommending allowing the pin ("lead") length to be "as specified" by the customer (special part marking designation may be proposed). Most end-users end up cutting the pin to a specific length (for high frequency effects) leaving exposed copper which presents a solderability problem.

Resistors

- MIL-PRF-914/1 and /2 (Surface Mount Resistor Networks) have been cancelled because there are no sources qualified to these styles.

Transformers

- 1553 transformers in accordance with MIL-T-21038/27-27 may have compatibility problem with some transceivers (impedance mismatch) causing 1553 bus test errors. Ken Beymer of DSCC (614-692-0557) is a point of contact for information.
- MIL-T-21038 has been converted to a performance specification. MIL-T-21038/27 is being converted to "PRF". A new slash sheet (/28) covering dual units of 1553 data bus transformers is in draft.
- MIL-T-27 is undergoing performance conversion. A draft is expected during FY98.

Oscillators

- MIL-C-55310 is in the process of being coordinated as a performance specification.