

Supplementary Quality Assurance Provisions to the Purchase Order applicable where indicated.

Part No.:

Purchase Order No.:

The following clause is applicable to this Purchase Order No.:



- 1. **CERTIFICATE OF COMPLIANCE:** External provider's shipments must be accompanied by a Certificate of Conformance (C of C) that MUST identify the Teledyne Relays Drawing Number and revision to which the parts were fabricated to. The C of C must clearly state the manufacturer or distributor's name and address, the Teledyne Relays Purchase Order number, the part number(s) and revision(s) when applicable, traceability information including serial numbers, lot date codes, or date codes as appropriate, shelf-life expiration dates if applicable, and the signature of the external providers quality representative.
- 2. **Product or service Verification Acceptable Quality System:** External provider shall maintain a quality management system with the requirements of MIL-I-45208, ISO 10012, ANSI/NCSLZ540.3, ISO 17025, AS9100/ISO9001 registration, or equivalent acceptable to Teledyne Relays. When required, the external provider shall be prepared to demonstrate the system through:
 - 1) submission of quality manual and supporting documentation,
 - 2) responding to questionnaire,
 - 3) on-site surveys and audits by Teledyne Relays representative, etc. If Teledyne Relays has accepted an external provider's AS9100/ ISO 9000 registration and the external provider subsequently changes registrars, loses its registration status, or is put on notice of losing its registration status, it shall notify Teledyne's Quality Assurance Department within three (3) days of receiving such notice from its registrar.
- 3. **Change of Facility, Ownership, or Quality System Status:** External provider shall notify Teledyne Relays (in writing) within three (3) business days if any of the following changes occur: Change in location of external provider and their external providers or location of manufacture, Change in ownership, Change in Senior Management personnel, Change in Quality System status, e.g. Award/Removal of ISO 9001 registration and obtain the organization's approval.
- 4. **Change of Design, Product or service , Process, or Material:** External provider shall not implement changes in materials, processes, procedures, design interfaces or software which might effect the fit, form function, safety, weight, maintainability, service life and or reliability, without prior written approval from Teledyne Relays. The external provider shall provide, in writing using Teledyne Relays TR1106 form, advance notification to Teledyne of any change(s) at the external provider, or the external provider's sub-tier divisions during the execution of the contract.
- 5. **Right of Access:** Representatives of Teledyne Relays, its customers, Government/NASA, and /or regulatory agencies reserve the right to visit the external provider and it's external providers with the intent of performing surveillance activities, including inspections and audits with the intention of verifying conformance to Purchase Order requirements, as well as all applicable documented information, at any level of the supply chain.
- 6. **Compliance with Requirements:** External provider shall fully comply with all instructions specified on the Purchase Order. Lack of written approval shall not relieve the external provider of the responsibility to fully comply with all of the requirements of the Purchase Order. The external provider shall not receive compensation in any form from Teledyne Relays for unauthorized activity.
- 7. **Teledyne Relays Property:** All specifications, drawings, data/software, tools, or materials and other items supplied by Teledyne Relays to the external provider shall be maintain as proprietary to Teledyne Relays and shall not be disclosed in part or its entirety by the external provider unless authorized by Teledyne Relays. The items shall remain the property of Teledyne Relays or customers being represented by Teledyne Relays. All such items shall be used only in the performance of this Purchase Order unless Teledyne Relays consents otherwise in writing. The external provider agrees to safeguard and remain responsible for said property until returned to Teledyne Relays.

- 8. **Export classification:** External provider shall clearly identify ITAR controlled commodities so that they are not inadvertently incorporated into Teledyne Commercial Product or service, which would result in making the commercial product or service ITAR controlled.
- 9. **Country of origin required:** External provider shall supply information stating the country of origin of the completed material / article. Failure to comply may result in the rejection of the material(s).
- 10. **Requirements flow down:** External provider shall flow down all relevant Purchase Order requirements to their external sub-tier providers. External providers' sub-tier shall comply with the same specifications and requirements specified on Teledyne Relays Purchase Order.
- 11. **Pure Tin (Sn) Finish Prohibition Certification:** All items covered by this Purchase Order shall be certified as being free of pure Tin (Sn) finishes on both external and internal structures. As referred to in MIL-PRF-38534, Tin (Sn) is considered to be pure if it contains less than 3% alloy material.
- 12. **Prohibited Metals:** All items covered by this Purchase Order shall be certified as being free of Mercury (Hg), Cadmium (Cd), and Zinc (Zn), or their metallic compounds and contamination. The External Provider shall furnish a sign statement of conformance to this requirement using Teledyne Relays form TR1273.
- 13. **Lot Number /Date Code Identification:** External provider shall list the manufacturing lot number / date code and serial numbers (when applicable) of the product or service or service shipped, on the packing slip and on the certificate of compliance and on the actual product or service or service, product or service or service box, container, or spool label as applicable.
- 14. **Record Retention:** External providers and special processors, as well their external sub-tier providers (subcontractors), shall maintain quality records to substantiate product or service or service compliance to the Teledyne Relays purchase order requirements and must be capable of furnishing copies of these records immediately upon request of Teledyne Relays, it's customers, and government / regulatory representatives as applicable. Records shall be maintained and retrievable for the minimum retention periods specified below:
 - 30 years for Manned Space Program Hardware and flight safety.
 - 10 years for all other parts except off-the-shelf industry standard parts.
 - 5 years for Off-The-Shelf / industry standard parts (e.g., AN, AS, MS, JAN, etc.) and commercial program.
 - Records shall not be destroyed without thirty (30) days of written notice to Teledyne Relays.
- 15. **Corrective Action:** When requested by Teledyne Relays, the External provider shall investigate nonconformities to determine the root cause(s) of failure and take effective action(s) as appropriate to correct the items and prevent future failures include the human factors considerations in the root causes analysis of nonconformities.
- 16. **Nonconforming Material:** External provider shall notify Teledyne Relays within three (3) business days of discovery of any nonconforming issues affecting form, fit or function of parts and arrange for Teledyne Relays to review the disposition of the nonconforming material. Items not in conformance with the requirements of Purchase Order, Teledyne drawings, specifications, and industry standards referenced therein, shall not be submitted to Teledyne Relays without prior written approval from Teledyne Relays.
- 17. **Traceability:** External provider and sub-tier external providers shall maintain verifiable objective evidence of all inspections, tests performed, results obtained and dispositions of non-conforming articles. These records shall be identified to associated articles, including heat and lot number of materials, unit or lot serialization. **a) Raw Material** shall be identified by lot number. **b) Multiple Lot Tracability** - all material fabricated by the external provider in one lot shall be identifiable to that lot. When the external provider combines materials fabricated in two or more different lots to fulfill Purchase Order requirements, these materials shall be segregated and identifiable to the lots from which they were fabricated. **c) Class K of Mil-PRF-38534** - all material fabricated shall be homogenous subassemblies or chemical batches, and of the same manufacture lot. **d) Semiconductor dice** - shall be identified by wafer lot number. A "wafer lot" is defined as a homogenous lot of device(s) which have been processed through all phases of wafer manufacturing together.
- 18. **Use of Silicone Based Materials:** The use of any Silicone based lubricant or potting compound during the manufacture or assembly of product or service or services to be delivered to Teledyne Relays is prohibited.

19. **Foreign Object Debris/damage (FOD):** External provider shall maintain a Foreign Object Debris/damage (FOD) prevention program using NAS412 as a guideline. The FOD prevention program shall include:
- a) the review of design and manufacturing process to identify and eliminate foreign object entrapment areas and paths through which foreign objects can migrate,
 - b) external provider shall employ appropriate housekeeping practices to ensure timely removal of residue/debris, if any, generated during manufacturing operations or tasks,
 - c) External provider shall determine if sensitive areas that may have a high probability for introduction of objects should have special emphasis controls in place appropriate for manufacturing environment,
 - d) by delivering items to Teledyne Relays, external provider shall be deemed to have certified to Teledyne Relays that such items are free from any foreign material that could result in FOD.
20. **Parts Obsolescence:** Teledyne Relays may desire to place additional orders for items purchased hereunder. External Provider shall provide with a "Last Time Buy Notice" at least twelve (12) months prior to any action to discontinue any item purchased under this Contract.
21. **Packaging, Preservation and Product or service Identification:** External provider shall package material delivered under the Purchase Order in accordance with best commercial packaging practices, and when applicable in full compliance with ESD (Electro-Static Discharge) and Moisture Sensitive Materials packaging requirements. Military packaging and preservation shall be in accordance with MIL-STD-2073. External provider part number (and revision if applicable) and Teledyne Relays part number and revision must be listed on the invoice, packaging slip Certificate of Conformance (C of C) and box, container, bag or spoon label.
22. **Counterfeit Prevention Plan:** External provider shall implement and maintain a counterfeit electronic parts management process to comply with "Counterfeit Electronic Parts; Avoidance, Detection, Mitigation, and Disposition," in accordance with SAE- AS5553. External Provider shall only deliver authentic components, devices, pieces, material, modules, assemblies, subassemblies, goods, or the like (hereafter "parts") that are manufactured by or obtained from original equipment manufacturers (OEMs), original component manufacturers (OCMs), or authorized distributors. External Provider shall make available to buyer, upon request, OEM or OCM documentation that authenticates and provides traceability of the parts to the applicable OEM or OCM. Purchase of parts from independent or unauthorized sources is not permitted under this purchase order without the prior written approval of the buyer. External Provider shall maintain policies, procedures, processes or other such measures to ensure that any parts sold or delivered by external provider to buyer are authentic and not counterfeit.
- Note: In addition external provider shall segregate and control suspected or known counterfeit products to ensure these products are not re-introduced into the supply chain.
23. **Inspection Activity:** The supplier shall use statistical techniques or related instructions for **acceptance of product.**
- Procedures shall be implemented to ensure that eye examination, including visual acuity and color vision, as applicable, are administered by a medical qualified person (optometrist) to all individuals performing visual inspection and /or other product or service or service acceptance activities that require visual acuity. Visual inspection, near vision requirements of Snellen 14/18 (20/25) and Jaeger 2 at no less than 12 inches. Interval shall not exceed one year. Color perception testing is required; individuals shall be capable of adequately distinguishing and differentiating colors used in the inspection activity. Records shall be retained for each individual.
24. **Distributor:** The Distributor shall provide, along with their Certificate of Conformance (C of C), all copies of C of C's that show a clear and traceable path of procurement back to the OEM/OCM and flow down all the Teledyne Relays requirements to their sub-tier divisions. The distributor shall state on their packing slip and/or on their Certificate of Conformance (C of C) the name of the original product or service or service manufacturer and the date code and/or lot number of the specific part(s) in each shipment. A copy of the manufacturers' Certificate of Conformance is also required with the shipment.
25. **Teledyne and/ or Government Source Inspection:** Teledyne Relays Source Inspection is a requirement of this Purchase Order at external provider's plant. Upon receipt of this P.O and prior to commencing work, the external provider shall notify Teledyne Relays at a minimum of five (5) working

days in advance of the time the articles or materials are ready for inspection or test. A Government source inspection is also required of this order at external provider's plant.

26. **First Article Inspection (FAI) Requirement:** External provider shall perform a First Article Inspection (FAI) on one (1) piece chosen at random from the first lot presented for Teledyne Relays acceptance. A copy of the FAI report shall be submitted to Teledyne Relays with the first delivery of the item from this external provider.
- The full or partial FAI shall be also performed for affected characteristics when change occurs in design, process(s), manufacturing source(s), inspection method(s), location of manufacture, tooling or materials, change in numerical control program or translation to another media, natural or man-made event, which may adversely affect a manufacturing process, lapse in product or service or serviceion for two years or as specified by the customer. A replication of product or service or service part marking (via photograph or sample) that represents product or service or serviceion marking must be included within the FAI Report. The External Provider holding the purchase order is responsible for assuring completion of the FAI Report for all finished part characteristics generated by sub-tier external providers. A FAI shall be performed and documented per requirements of SAE AS9102, latest revision in effect at time of order placement. If discrepancies are noted during the FAI, the External Provider shall promptly notify the Teledyne Relays Buyer/Planner for directions.
27. **Raw Material Test Reports:** External provider shall provide raw material test reports containing detailed physical and chemical analysis and data for the raw materials. For additional shipments of the same materials, the external provider shall provide additional copies or shall clearly note in their shipment documentation that the test reports have been provided with previous shipment (provide identification information). The external provider shall insure that sufficient traceability information to the raw material level is supplied.
28. **Limited Shelf Life Materials:** External provider shall identify all age sensitive parts/items, package(s) or container(s) having characteristics susceptible to quality degradation with age, or with a limited calendar shelf-life, with the manufacture date, manufacturer's recommended shelf life (or Teledyne Relays specified shelf life). Cure date and unopened shelf life of materials shall be recorded on the certification or shipper. Limited-life materials shall be identified by the date of expiration. In addition, appropriate environmental conditions for storage and usage shall be clearly labeled on the item(s) as applicable. Material(s) with less than 75% of the useful life remaining shall not be delivered to Teledyne Relays without written approval.
29. **Material Safety Data Sheet:** All materials that are volatile, toxic or which emit fumes that are harmful to human health shall be properly contained in accordance with applicable health and safety requirements. The containers shall be plainly marked as to contents with appropriate warnings, precautions, instructions and storage conditions. Material Safety Data Sheets (MSDS) shall be provided with each shipment.
30. **Certified External Provider (DOCK TO STOCK SHIPMENT):** Certified Manufacturer's material will only be verified for correct P.O and quantity at Teledyne Relays and will be routed directly to Stock. All items covered under this Purchase Order are to be processed by the External Provider in accordance with the external Provider Certification Agreement on file.
31. **Multilayer/two-sided Printed Circuit Boards, High Reliability:** The external provider shall provide certification of compliance to all applicable specification requirements and shall supply test coupons or tabs (fabricated simultaneously with the boards) with each lot of multilayer boards supplied. For two-sided printed circuit boards, the external provider shall provide certification of compliance to all applicable specification requirements and shall supply test tabs, coupons and one extra circuit board (fabricated simultaneously with the lot) with each lot supplied for the purpose of performing acceptance test at Teledyne Relays. Final acceptance of the lot will be contingent upon test results.
32. **Use of National Aerospace and Defense Contractors Accreditation Program (NADCAP) Approved Special Processors:** External provider shall always utilize Nadcap-approved special processors such as:
- a) Coatings, Cleaning, Painting finishes and treatments, Anodize, Hardcoat, Chem Film, Paint / Powder Coat / Dry coat, Chromate, Plating, Passivation, Heat treating,
 - b) Non Destructive Testing, such as: Magnetic Particle, Dye Penetrant, Welding,
 - c) Nonconventional machining methods, such as: Wire EDM, ECG grinding, LBM laser cutting etc. or as noted in the applicable Teledyne Relays drawing(s) and reference specifications if

any of these processes are required. Certification Process records shall be shipped with each shipment. The Nadcap website is located at <https://www.eauditnet.com/eauditnet/eau/user/login.htm>.

- 33. **Solder Certification:** External provider shall provide certification stating that solder composition supplied under this Purchase Order conform to the requirements of ANSI/J-STD-006.
- 34. **Soldering Workmanship & Solderability:** Soldering workmanship shall be in accordance with the requirements of IPC/EIA J-STD-001, Class3. **Solderability** – Component leads, termination, lugs, terminals, and wires shall be capable of meeting the solderability requirements of IPC/EIA J-STD-002. **Printed wiring boards** shall be capable of meeting the solderability requirements of IPC/EIA J-STD-003.
- 35. **Flux Certification:** External provider shall provide certification stating that solder composition supplied under this Purchase Order conform to the requirements of ANSI/J-STD-004.
- 36. **Heat Treat Certification:** External provider shall provide heat treat certifications and reports issued by the external provider or external providers' sub-tier source(s) that actually performed the heat treat process to the product or service or service delivered on this Purchase Order. The certification and reports shall state the specification to which heat treating was performed and the condition achieved. Certifications shall contain the signature and title of the authorized external provider's representative.
- 37. **Plating / Finish Certification:** External provider shall provide plating or finish certifications issued by the external provider or external providers' sub-tier source(s) that actually performed the plating of the product or service or service delivered on this Purchase Order. The certification shall state the plating specification, the color, type and class, with corresponding thicknesses and lot number. Certifications shall contain the signature and title of the authorized External Provider representative.
- 38. **Calibration Services:** External provider shall provide calibration services that are traceable to the National Institute of Standards (NIST). A certificate of calibration that conforms to either ISO/EIC 17025 or ANSI/NCSL Z540 (External Provider's option) shall be provided. Calibration shall be performed to the original equipment manufacturer's specification. When an "Out of Tolerance" indication is discovered the information concerning the out of tolerance condition shall be provided in writing to Teledyne Relays Quality Director, and the affected item shall be properly tagged and segregated from the items found within tolerance at the time of calibration service completion or delivery.
- 39. RoHS Compliance - As stated in the European Union's **Restriction on Hazardous Substances (RoHS) Directive 2002/95/EC**, materials provided to Teledyne Relays must not contain more than 0.1% weight lead, mercury (or compounds thereof), hexavalent chromium, polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE); and 0.01% weight cadmium (or compounds thereof). If materials do not comply with the restrictions noted, the External Provider shall notify TRI Purchasing for direction prior to acceptance of order or shipment.
- 40. **Defense Federal Acquisition Regulation Supplement (DFARS) 252.225-7014 - Preference for Domestic Specialty Metals Certificate of Compliance:** In order for a US company to use Specialty Metals, the metals must be melted in the United States or a qualifying country. It requires that the material used in the manufacture of the fasteners in the United States be melted in the United States or a qualifying country. The qualifying countries listed under DFARS are Australia, Belgium, Canada, Denmark, Egypt, Germany, France, Greece, Israel, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom and Northern Ireland. The **Specialty Metals according to DFARS are:**
 - a) Steel with a maximum alloy content exceeding one or more of the following limits. Manganese, 1.65%, Silicon, 0.60%, or Copper, 0.60%, or containing more than 0.25% of any of the following elements. Aluminum, Chromium, Cobalt, Columbium, Molybdenum, Nickel, Titanium, Tungsten, or Vanadium,
 - b) Metal alloys consisting of Nickel, Iron-Nickel, and Cobalt base alloys containing a total of other alloying metals except Iron in excess of ten percent, or Titanium and titanium alloys or zirconium and zirconium base alloys.
- 41. **Conflict Mineral Provision:** Product or service and or materials procured under this purchase order must comply with the Security and Exchange Commission (SEC) rules and regulations, adopted in connection with amendments to the Securities Exchange Act of 1934 made by the Dodd-Frank Wall Street Reform and Consumer Protection Act relating to the use of conflict minerals. The term "Conflict

Minerals” is defined to include **cassiterite, columbite-tantalite, gold, wolframite, or their derivatives** or any material / or **tin, tantalum and tungsten**, unless the Secretary of State determines that additional derivatives are financing conflict in the covered countries, in which case they are also considered “Conflict Minerals”.

The External Provider must conduct a Reasonable Country of Origin Inquiry (RCOI) to determine if the minerals utilized to manufacture the product or service or services and or materials procured under this Purchase Order originated from the covered countries or are from recycled or scrap materials as described by the stipulated Act. The SEC uses the term “Covered Countries” when referring to the **Democratic Republic of the Congo (DRC)** and adjoining countries, currently **Angola, Burundi, Central African Republic, Republic of the Congo, Malawi, Rwanda, South Sudan, Tanzania, Uganda, and Zambia**. The external provider must include on their Certificate of Compliance the certification stating that the procured items are certified as DRC “Conflict Free”, along with a Certificate of Origin stating the country or region of origin for the material covered under this QAP. If the External Providers’ RCOI process determines either that External Provider (1) knows that the minerals did originate in the covered countries or are NOT from scrap or recycled sources, or (2) has reason to believe that the minerals may have originated in the covered countries and **are NOT or may NOT be** from scrap or recycled sources, or (3) is uncertain whether or not the minerals originated in the covered countries or are from scrap or recycled sources, then the External Provider must contact Teledyne Relays **immediately and prior to accepting or procuring** this order to determine the course of action.

42. **Cyber Security Verification Defense Federal Acquisition Regulation Supplement (DFARS) 252.204-7012**; All contractors that provide goods and/or services in connection with U.S. Department of Defense (DoD) programs are required by law to comply with Defense Federal Acquisition Regulation Supplement (DFARS) 252.204-7012, which mandates the protection of all Covered Defense Information (CDI) that are "collected, developed, received, transmitted, used, or stored by or on behalf of the contractor in support of the performance" of a DoD contract. This obligation is required to be flowed down to all subcontractors (including commercial items suppliers) at every tier. In addition to protecting controlled technical information, the DFARS clause expansively relies upon the National Archives' Controlled Unclassified Information (CUI) Registry to broadly include (for example) most export controlled data, cost and pricing data, law enforcement information, and personally identifiable information. The DFARS clause also specifically mandates that companies meet the 110 IT security standards detailed in the National Institute of Standards and Technology (NIST) Special Publication (SP) 800-171, and imposes various prompt reporting obligations in the event of a cyber incident.
43. **Electrostatic Discharge Control (ESD)**: The External provider shall provide and maintain an Electro-Static Discharge (ESD) Protection Program and Packaging. The External provider shall document and implement an ESD control program where parts must be properly handled, packaged and identified. As a minimum, MIL-STD-1686 or ANSI/ESD-S20.20 shall be complied with. Packaging techniques Type I, or Type II barrier material or equivalent shall be used in device shipment. All goods will be placed in shielded or static-dissipative packages, tubes, carriers, conductive bags, etc., for shipment. The packaging must be clearly labeled to indicate that it contains electrostatic sensitive goods.
44. **Element Evaluation Class “H”**: The external provider shall perform element evaluation in accordance with MIL-PRF-38534 (Class “H” requirements only).

NOTE: The Element Evaluation must be performed to the latest revision of MIL-PRF-38534 at the time of the testing.

The external provider shall submit one (1) legible and reproducible copy of the element evaluation results which shall include (as applicable):

- Element Evaluation traveler or similar document indicating that all required steps have been completed and accepted,
- Actual read and record electrical test results,
- Actual bond pull results,
- Actual die shear results, and
- C of C with statement indication 100% electrical test and visual inspection has been performed.

NOTE: 100% electrical test may be performed at the wafer level.

For active devices - Sample will consist of at least ten die from each wafer lot.

- 45. **Wire Bond Pull Test:** The material procured to this purchase order shall be capable of meeting the requirements of MIL-STD-883 method 2011.

- 46. **Awareness, Ensure persons are aware of:**
 - Their contribution to product or service conformity e.g. individual accountability, understanding requirements, compliance to process, the need to control changes, reporting of nonconformance,
 - Their contribution to product or service safety e.g. individual accountability, compliance to process, attention to detail, knowledge of product or service end usage, potential impact relating to product or service issues,
 - The importance of ethical behavior e.g. code of conduct, management/employee working relationships, fair treatment, employee work recognition, confidential reporting mechanisms, protecting anonymity, no blame culture.

 - The Supplier shall ensure training, competence, including any required qualification of persons

- 47. **Organizational knowledge:**
 - To safeguard the organization from loss of knowledge, (e.g., through staff turnover; failure to capture and share information)
 - To encourage the organization to acquire (e.g., learning from experience, benchmarking) and share knowledge (e.g. mentoring of newcomers).

- 48. **Teledyne Relays responsibility to** control and monitoring of the external providers' performance.

Special Clause (when specified)	
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