DEFENSE LOGISTICS AGENCY
LAND AND MARITIME
POST OFFICE BOX 3990
COLUMBUS, OH 43218-3990

March 19, 2025

Chris Opoczynski, Senior Vice President & General Manager
Infineon Technologies
205 Crawford St
Leominster, MA 01453

Dear Mr. Opoczynski:

Re: Full Certification Classes Q/B & V/S Hermetic Packages with Radiation Hardness for MIL-PRF-38535; FSC 5962; VQC-25-393396; Tran

Infineon Technologies has demonstrated to the DLA Land and Maritime that it complies with MIL-PRF-38535, the performance specification used by the Department of Defense for monolithic integrated circuits that operate in severe environments.

In addition, the parts that are manufactured by Infineon Technologies using the certified technology flows will be listed on the Qualified Manufacturers List (QML) once qualification testing has been successfully completed and approved by the Qualifying Activity (DLA-VQC). This will allow Infineon Technologies to mark parts with "Q" or "QML". These designators have been authorized by the Department of Defense for parts that have been produced to a QML specification, (i.e., one which allows less government oversight), the use of world-wide commercial production lines, reduced finished product testing based on statistical process controls (SPC), and other cost advantages.

Testing must be performed using the facilities and methods listed in the Laboratory Suitability letter DLA Land and Maritime-VQC-25-393397, or at facilities approved by the Infineon Technologies' Technical Review Board (TRB) using its approved MIL-PRF-38535 Quality Management (QM) Plan, HBP-36, Revision 2. Any deviation or modification to MIL-PRF-38535 or MIL-STD-883 test methods requirement, must be approved in writing from the Qualifying Activity (QA) for MIL-PRF-38535, DLA-VQC. This certification letter is effective as of February 28, 2025.

This certification is subject to the conditions in DoD 4120.24-M, Defense Standardization Program and SD-6.

All the facilities mentioned on the enclosure are subject to an audit by the Qualifying Activity at any time. Offshore facilities are subject to all the conditions of MIL-PRF-38535.

QPL/QML manufacturers shall notify the qualifying activity immediately after learning of a potential issuance of a GIDEP alert, advisory problem or major quality/reliability problem on their QPL/QML products. Failure to provide prior notification may be grounds for removal from QML-38535.

Finally, it is requested that the following activities be reported promptly to DLA Land and Maritime:

1. Changes to certified facilities, process flows, or approved testing subcontractors
2. Problem evaluation and a corrective action when:
   a. A Technology Conformance Inspection (TCI) failure has been validated
   b. The reliability of shipped parts is questionable.
3. Test optimization, including:
   a. Implementation - paragraph J.3.12, Appendix J, MIL-PRF-38535
   b. Changing, suspending or canceling a prior test optimization
4. Additions or deletions of parts in the QML-38535 listing
5. Change of company QML contact, TRB Chair person, or other key QML personnel
6. Quality Conformance Inspection (QCI) failures that may affect the shipping of certified/qualified QML-38535 products.

This certification is valid until terminated by written notice from the qualifying activity. If warranted, it may be withdrawn by this Agency at any time.

If you have any questions, please contact Mr. Vinh V. Tran at 614-692-0606.

Sincerely,

ADAMS.MICHAEL.S.1230230427

Digitally signed by ADAMS.MICHAEL.S.1230230427
Date: 2025.03.19 15:10:09 -04'00'

MICHAEL ADAMS
Chief
Custom Devices Branch

Enclosure

Enclosure to DLA Land and Maritime-VQC-25-393396

Operation	Location	Line/Flow
Design & Mask Design	Infineon Technologies (Andover, MA)	Infineon Technologies, Andover, MA
Mask (Photomasks)	Toppan (Round Rock, TX)	Toppan, Round Rock, TX
Wafer Fab	Infineon Technologies (Dresden Germany) (internal steps) Infineon Technologies (Regensburg, Germany) (external steps)	200mm (8 inch) wafer. 130nm CMOS Technology node with modified commercial and automotive power design layout to meet RHA requirements (by design). Create a new product line focused on RH power management ICs. Backside grind and metal (TiNiVAg)
Wafer Probe	Infineon Technologies (Leominster, MA)	Infineon (Leominster, MA)
Wafer Lot Acceptance (TM 5007)	Infineon Technologies (Leominster, MA)	Infineon (Leominster, MA)
Assembly	Infineon Technologies (Leominster, MA)	Metal with solder seal. 95Pb5Sn solder die attach material, 1.25 Aluminum wire, solder and Gold lead finish.
Environmental & Screening	Infineon Technologies (Leominster, MA)	Infineon (Leominster, MA)
Marking (Top & Bottom)	Infineon Technologies (Leominster, MA)	Infineon (Leominster, MA)
Electrical Test	Infineon Technologies (Leominster, MA)	Infineon (Leominster, MA)
QCI Coverage, Tracking, and Shipping System/ Records	Infineon Technologies (Leominster, MA)	Infineon (Leominster, MA)
Radiation Assurance Hardness (App C) Group E	VPT Rad (Chelmsford, MA) TAMU (College Station, TX)	VPT Rad (Chelmsford, MA) TAMU (College Station, TX)
End point Electrical Group B, C, D	Infineon Technologies (Leominster, MA)	Infineon (Leominster, MA)

Package Family and Lead Finish Matrix (Hermetic)

Package Family	Description	Die attach Material	Wire Bond	Lead Range	Lead Finish
CFP	Ceramic Flat Package	95Pb5Sn Solder	Al	24	Gold or (Solder Dip)
CLCC	Ceramic LCC Package	95Pb5Sn Solder	Al	16	Gold or (Solder Dip)

NOTE:

1. List of customer interest in purchasing Certified/qualified QML-38535 Space qualified, MIL-PRF-38535, Class V, RHA, IC:
   Honeywell, L3Harris, Ball Aerospace, Raytheon, SEAKR Engineering, NGC, Airbus Space and Defense, and Thales Alenia Space.

2. Technologies/processes and products are offered under the QML-38535 certification/qualification program:
   130nm CMOS Technology node with modified commercial and automotive power design layout to meet RHA requirements (by design):

   a. C11N is a CMOS 130nm generation foundry technology, designed for SRAM, logic, mixed signal and mixed-voltage I/O applications.
   b. C11HV is embedded-power technology for general consumer and industry applications. It provides high voltage LDMOS devices within the 130nm CMOS platform of IFX in two voltage classes: 12, 16 and 24V. C11HV keeps backward compatibility with the C11N platform to enable reuse of existing low voltage IP.

   Create a new product line focused on RH power management ICs:

   1. Radiation hardened 3-12V buck controller with internal driver IC (PN RIC70847) for medium to high power point-of-load applications such as the core rails of FPGAs and ASICs.
      Radiation tolerance:
      High Dose Rate (50-300 rad(Si)/s) of 100 krad(Si), characterized to 150 krad(Si).
      Low Dose Rate (0.01 rad(Si)/s) of 50 krad(Si), characterized to 100 krad(Si).
      Single event effect (SEE) hardness
      No SEB or SEL up to LET of 86 MeV·cm2/mg
      No SET > 2% ΔVOUT up to LET of 86 MeV·cm2/mg

   2. A monolithic integrated FET 3-12V, 3A buck regulator IC (PN RIC70013). This device monolithically integrates a PWM controller, MOSFET driver, power MOSFETs and compensation to create a space efficient and accurate power delivery solution. The controller's main application is for low current power point-of-load applications such as the peripheral rails of FPGAs or ASICs, MCUs and other digital loads.

   3. Radiation hardened gate driver IC (PN RIC70115). This device is intended for use with rad hard GaN Schottky gate (SG) HEMT or rad hard logic level gate drive FET. It features high gate drive strength and fast propagation delay to enable high frequency, low loss switching. It integrates an optional LDO, which allows a wide bias supply to be used while providing an ideal and tightly regulated drive voltage. It additionally includes a miller clamp, which helps to prevent against induced turn on from high slew rates on the drain of the power switch.