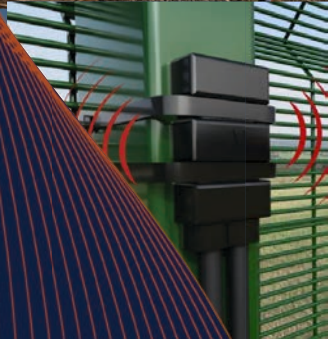
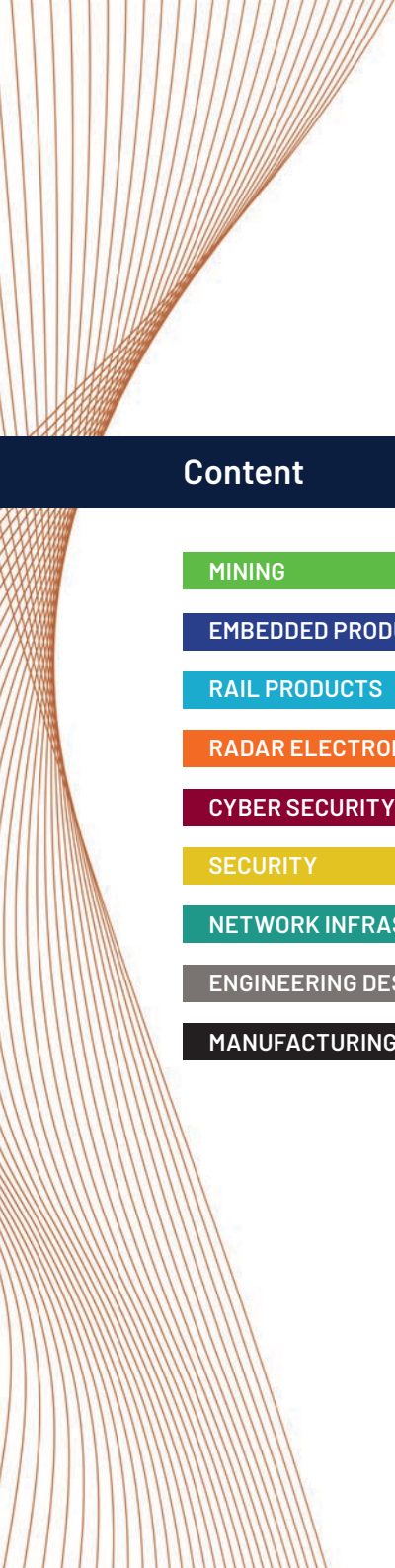


# Reunert

## Applied Electronics



# COMMERCIAL PRODUCTS CATALOGUE



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# Reunert

## Applied Electronics

### Reunert Applied Electronics

Reunert Limited is an industrial group with a diverse portfolio of businesses in Electrical Engineering, Information and Communications Technology (ICT), and Applied Electronics. Founded in 1888 and listed on the JSE in 1948, Reunert is a major player in the South African economy. The company employs nearly 6,500 individuals, including highly qualified engineers, technicians, research and development professionals, and field support staff.

The Reunert Applied Electronics (RAE) segment develops, manufactures, and supports high-technology equipment for various industries worldwide, with a primary focus on the defence sector. This South African group supplies customers with advanced Original Equipment Manufacturer (OEM) products and services in the defence, industrial and mining sectors. Notably, approximately half of the group's revenue comes from exports.

Business Units in the group are:

**Reutech Mining** offers a range of above-ground, underground and security management products and services for application in the mining and commercial industries.

**REUTECH**  
MINING

**Nanoteq** develops cryptographic products and solutions to meet cybersecurity and cyber defence requirements.

**EC Nanoteq**

**Omniq** is a precision electronic manufacturing firm that specialises in the population and assembly of printed circuit board assemblies.

 **OMNIGO**

**Reutech Radar Systems** develops and manufactures ground and naval search and tracking radar systems and subsystems for local and international clients in the defence and commercial radar market.

**REUTECH**  
RADAR SYSTEMS

**Reutech Solutions** provides telephony/VoIP, static and mobile ICT infrastructure, tactical mobile ICT command and control, communication on the move, and logistics services, such as through-life engineering, maintenance, repair, and operational support.

**REUTECH**  
SOLUTIONS

**Etion Create** is an Original Design Manufacturer (ODM) with a reputation for excellence in the design, development and manufacturing of an extensive range of electronic and digital products.

**EC** | **ETION  
CREATE**

## MINING

### SUB SURFACE PROFILER (SSP)

The Sub Surface Profiler (SSP) assists by turning hidden underground geological features into visual information. Whether you are delineating structures to assess the stability of underground excavations, inspecting tunnels, or locating buried objects, the SSP delivers clear, actionable data in real time. Its ergonomic, lightweight design allows a single operator to scan efficiently, even in confined or challenging underground spaces, enabling faster decisions and safer operations.



### SLOPE VISION

Slope Vision is a high-definition, georeferenced camera system that delivers unmatched situational awareness in above-ground mining environments. Seamlessly integrating with Movement and Surveying Radar (MSR) technology, Slope Vision allows operators to direct the camera to precise georeferenced coordinates for real-time monitoring.

When instability is detected, Slope Vision enables targeted investigation of critical areas without disrupting radar operations. This capability enhances decision-making, risk management, and overall operational efficiency.



## DIGITAL COMPASS (RDC)

The Reutech Digital Compass (RDC) delivers precise Dip & Dip Direction or Dip & Strike measurements at any angle with a single button press. Designed for efficiency and accuracy, this handheld device streamlines geological mapping by eliminating tedious setup. Uniquely tagged measurements are stored on the device and can be seamlessly transferred via Bluetooth to a PC as required.



## MSR SOLO

MSR Solo is Reutech Mining's next-generation web-based interface, designed to make radar monitoring more intuitive, seamless, and accessible than ever. Built to run on the radar and in the office, MSR Solo introduces a clean, modern interface with wizards that guide users through setup, database management, and alarm configuration with ease. The result is a system that combines power with simplicity, whether deployed in the field or used for analysis in the office.



## MSR MODULAR

Building on the proven Movement and Surveying Radar (MSR) Standard platform, the MSR Modular delivers the same trusted performance while adding an extra layer of flexibility. Its modular design allows mines to configure the system to their specific operational and budgetary requirements, making it a long-term investment in safety and productivity.

At its core, the MSR Modular provides real-time slope stability data at ranges up to 4000 m. Optional power modules, including battery, generator and solar, together with multiple mounting configurations, give mines the freedom to deploy the MSR Modular in the way that best suits their site.



## MSR HALO™

MSR Halo is Reutech Mining's next-generation Synthetic Aperture Radar (SAR) system for slope stability monitoring. Delivering a complete 360° omnidirectional scan envelope at high speed and over extended ranges of up to 5000 m, Halo sets a new standard in radar monitoring.

Designed for both tactical and strategic campaigns, the system provides exceptional spatial resolution to detect micro-deformational ground movements across slopes, tailings storage facilities, and natural hazards. Paired with the cloud-based MSR Halo software, it ensures full accessibility, intuitive control, and advanced alarm capabilities. Critical insights are available anywhere, anytime – supporting faster, safer decisions for every operation.





## MSR ESPRIT

The MSR Esprit is the fastest-scanning slope monitoring radar available. Using Multiple-Input and Multiple-Output (MIMO) technology, it captures the entire  $90^{\circ} \times 60^{\circ}$  area in less than two seconds, delivering unmatched real-time data on slope stability, even in challenging weather and on fast-moving slopes.



## GEOTECHNICAL MONITORING CENTRE (GMC)

The Reutech Mining Geotechnical Monitoring Centre (GMC), based in Stellenbosch, South Africa, provides advanced, real-time geotechnical monitoring for mining operations worldwide.

Our expert geotechnical team continuously monitors MSR radar data and responds immediately to warnings, alarms, and slope-deformation risks. Our clients receive real-time, round-the-clock updates and expert insights, thereby enhancing mine safety and operational efficiency.

With our fully upgraded call centre, we deliver state-of-the-art, fully customisable monitoring services tailored to the specific needs of each mining operation. By managing the radar data stream on the client's behalf, we enable on-site teams to focus on other critical geotechnical tasks while ensuring risks are identified early and addressed decisively.



## BERM MONITORING SYSTEM (BMS)

The Berm Monitoring System (BMS) is the first automated solution to provide continuous, quantitative data on berm and dump compliance in real time. By replacing manual checks with automated scanning and alarm-based monitoring, the BMS sets a new benchmark for mine safety and operational efficiency in Waste Rock Dumps (WRD).

The BMS sets a new standard for safety compliance and operational efficiency in open-pit mining. Using LiDAR-based 360° laser scanning, the BMS gives mines a reliable way to manage berm safety by replacing periodic manual checks with continuous, automated monitoring, preventing haul trucks from reversing over dump edges. By detecting risks early, the BMS helps operations keep haul routes safe, reduce costly interruptions, and protect both people and equipment.



## EMBEDDED PRODUCTS

### VF365 3U VPX FPGA-DSP PROCESSOR

The VF365 is a 3U OpenVPX module that leverages Intel Arria® 10 SoC FPGAs and Texas Instruments KeyStone Multicore DSP technology to provide an ultra-high-bandwidth processing platform, ideally suited for computation- and bandwidth-intensive applications such as radar, SIGINT, EW, SDR, networking, and video.





## VF370 3U VPX SINGLE BOARD COMPUTER WITH INTEL ATOM E3900

The VF370 is a 3U OpenVPX Single Board Computer (SBC) module that utilises the Intel Atom® E3900 series of embedded processors, Intel Cyclone® V FPGA technology and an FMC mezzanine site to provide scalable processing power and flexible IO options for reduced Size, Weight and Power (SWaP) applications. It is available in standard air-cooled and rugged conduction-cooled versions.



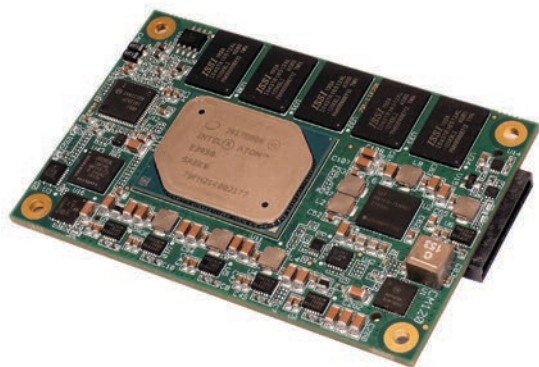
## VF360 3U VPX FPGA-DSP PROCESSOR

The VF360 is a 3U OpenVPX module that leverages Intel Stratix® V FPGA and Texas Instruments KeyStone multicore DSP technology to provide an ultra-high-bandwidth processing platform, ideally suited to compute- and bandwidth-intensive applications such as radar, networking, SIGINT, EW, SDR and video.



## CM120 COM EXPRESS WITH INTEL ATOM E3900

The CM120 is a COM Express® Mini Module (PICMG® COM.0 Rev 2.1) that utilises the Intel Atom® E3900 series of embedded processors, code-named Apollo Lake-I, to deliver scalable processing power in a compact form factor for reduced Size, Weight and Power (SWaP) applications. It is available in standard and extended temperature versions.



## RAIL PRODUCTS

### INTEGRATED SYSTEM DISPLAY (ISD)

The Integrated System Display (ISD) serves as a Human Machine Interface for subsystems in the train, enabling the operator to visualise their status. The ISD uses three protocols over the LAN to interface with other devices, any of which can be used by potential subsystems.



## IN-SLEEPER THDS-ES HOT AXLE BOX DETECTOR

The THDS-ES Hot Axle Box Detector (HABD) is a wayside system that operates independently to collect temperature data from all axle boxes on passing trains at line speeds.

The collected data is analysed using custom-developed algorithms to identify bearing temperatures that exceed the operator-set threshold.

In conjunction with wheel sensors, any hot bearing can be individually identified by its location within the train consist, down to the specific axle where the temperature anomaly is detected.



## VEHICLE IDENTIFICATION SYSTEM 2 (VIS 2)

The Vehicle Identification System enables rolling stock operators to have visibility of the location and movement of their fleet. When combined with trackside condition-monitoring equipment, unsafe conditions can be easily traced back to the offending vehicle.



## ONBOARD BROKEN RAIL DETECTION SYSTEM

The Broken Rail Detector System (BRDS) detects rail breaks. It promptly alerts Central Train Control (CTC), enabling assessment of the risk the break poses to rail traffic and the management of infrastructure maintenance personnel.

The system comprises two Magnetic Measurement Units (MMUs) mounted above each rail on any suitable rail-going vehicle.



## RADAR ELECTRONIC SURVEILLANCE

### RIS 100X NAVIGATION RADAR INTERCEPT SENSOR (NRIS)

The NRIS is a lightweight Navigation Radar Intercept Sensor that augments coastal surveillance by:

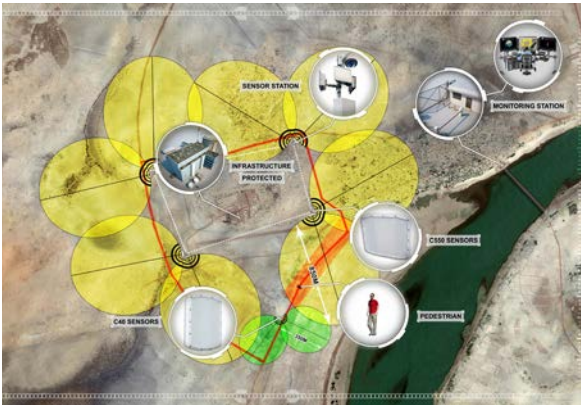
- Detecting the presence of vessels operating navigation radar in the maritime ITU X-band
- Accepting AIS reports from an AIS receiver
- Correlating high-accuracy bearings to vessels with AIS reports to confirm active AIS
- Identifying the presence of a vessel not operating AIS through bearing lines without associated AIS
- Triangulating vessel positions by linking two or more NRIS receivers
- Shore-based or constabulary shipborne (Patrol Vessel) applications



## INTRUSION DETECTION SYSTEM (IDS)

The Intrusion Detection System (IDS) integrates ground surveillance radar with traditional asset-protection technologies, such as cameras. The addition of radar not only enables persistent surveillance of large areas but also delivers all-weather and day/night performance. The IDS solution provides geo-referenced intruder position reporting and tracking, enabling automatic alarming, PTZ camera queuing, and deterrent activation, thereby enhancing security personnel's ability to respond promptly to threats.

- Application in perimeter, area or portal protection
- Persistent monitoring of intruder movement
- Reduction in the number of CCTV cameras required compared with a non-IDS solution
- Ability to interface with legacy security systems
- Scalable application through overlapped daisy-chaining of multiple sensors



## RSR 102-1000 X-BAND LAND/PERIMETER SURVEILLANCE

The RSR 102-1000 is a lightweight staring radar optimised for detecting human activity up to 1000 m. The radar has several unique features that enable the automatic detection and recognition of moving targets, such as personnel, vehicles and other moving objects. Its small size, low weight, low battery power consumption and ease of operation make the unit ideally suited for use as part of an Intruder Detection System tailored for asset and area monitoring and protection.

The RSR 102-1000 is a compact, Low Probability of Intercept (LPI) product, making it ideal for covert operations. Its low transmitted power inherently increases reliability and reduces component costs, providing a cost-effective solution for short-range and intrusion-monitoring radars.





## RSR 903 LIGHTWEIGHT MULTI-MODE GROUND SURVEILLANCE RADAR

The RSR 903 is a robust ground surveillance radar designed for flexible deployment in fixed, transportable, or mobile configurations.

### Features:

- Panoramic, sector-scan, or staring modes
- Target classification using track and micro-Doppler analysis of pedestrians and vehicles
- Suppression of wind-blown vegetation clutter
- Low probability of false alarms
- Radome enclosure providing enhanced protection in harsh environments
- Low probability of intercept, supporting covert operations
- Automatic data recording and playback
- Wired or wireless link between radar and display
- Display optimised for ease of use

### Applications:

- Game and livestock protection
- Border surveillance
- Ports and waterways protection
- Local or remote operation



**REUTECH**  
RADAR SYSTEMS

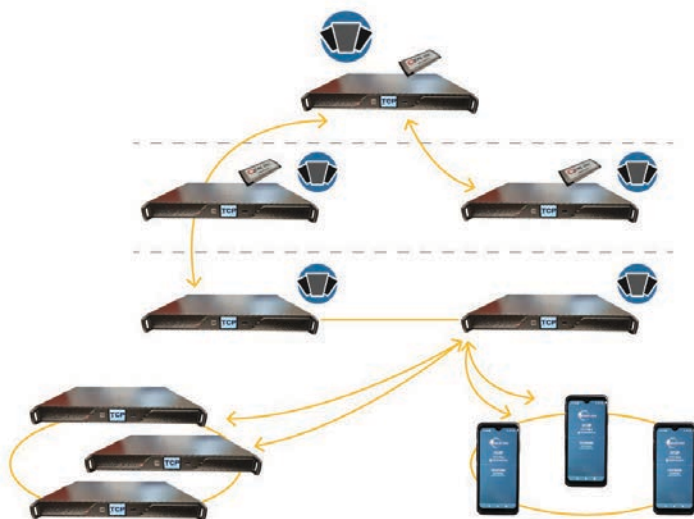
## CYBER SECURITY

### KEYSTONE PUBLIC KEY INFRASTRUCTURE

#### *Private Enterprise-grade Public Key Infrastructure*

The primary functions of a PKI are to handle certificate signing requests, authorise certificate signing, sign certificates, publish signed certificates, revoke certificates, publish lists of revoked certificates, and handle certificate renewal.

Certificates, in turn, are used to provide authentication and confidentiality during encryption, thereby allowing an organisation to place greater trust in the source of information shared internally.



EC **Nanoteq**

## QNET - LAYER 2 NETWORK SECURITY

### High-speed Layer 2 Network Link Encryption

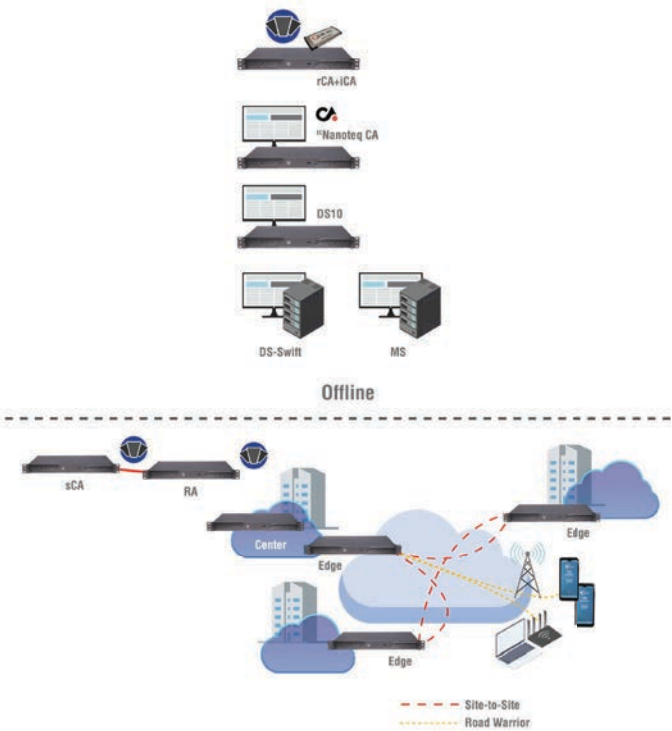
Non-intrusive layer-2 encryption is typically used to encrypt backbone/Ethernet networks without changing the network configuration. It utilises one of the EC Nanoteq crypto autonomy range of products, the QCM-L, allowing the customer to fully develop and implement their own cryptographic solution.



## IP-GRANITE - LAYER 3 NETWORK SECURITY

### IP-based Communication Network Encryption

Typically used to provide encryption and tunnelling between various branch offices. Also capable of serving as a VPN gateway, further securing data between mobile end users roaming over public networks and the main VPN. It is combined with other EC Nanoteq products to further enhance the secure product solutions on offer from EC Nanoteq.



## THORAX T5

The Thorax T5 provides users with a mobile application for Android and iOS.

The application can be installed from a private store on the Thorax TS100 server infrastructure or from the App Store, and it offers secure voice, video, messaging, file transfer and storage on the mobile device. The T5 is designed with security in mind to protect your data, which remains encrypted and is available only after authentication to the application.

The Thorax T5 is shipped with AES 256 encryption as standard. The solution works out of the box without complex management.



## SECURITY

### INTEGRATED ACCESS CONTROL SOLUTIONS

Reutech Solutions provides integrated access control systems for commercial buildings, campuses, and industrial facilities. These solutions enhance physical security while enabling efficient, controlled movement of staff, contractors, and visitors. Systems can operate as standalone installations or integrate with broader security and building management platforms.

Key Capabilities:

- Biometric, card, and PIN based access control
- Visitor and contractor management
- Centralised access monitoring and reporting
- Integration with CCTV and alarm systems



## INTELLIGENT VIDEO SURVEILLANCE

Intelligent video surveillance solutions provide real-time visibility and situational awareness across commercial and industrial environments. Advanced analytics enable proactive threat detection, operational monitoring, and incident investigation while reducing false alarms.

### Key Capabilities:

- High definition and thermal camera systems
- Video analytics for intrusion, loitering, and object detection
- Centralised video management platforms
- Remote monitoring and command capability



## PERIMETER INTRUSION DETECTION SYSTEMS (PIDS)

Perimeter Intrusion Detection Systems are designed to detect, locate, and alert security personnel to unauthorised access attempts at site boundaries. These solutions provide an early-warning layer that integrates seamlessly with surveillance and access control systems.

### Key Capabilities:

- Fence mounted and ground based detection technologies
- Radar and microwave sensing solutions
- Integration with CCTV for visual verification
- Scalable solutions for small and large sites



*Fence-mounted and ground-based detection technologies*

## NETWORK INFRASTRUCTURE

### ENTERPRISE AND INDUSTRIAL NETWORKING(PIDS)

Reutech Solutions designs and implements secure, resilient network infrastructure to support mission-critical business and industrial operations. Solutions focus on high availability, cybersecurity, and performance across wired and wireless environments.

#### Key Capabilities:

- Enterprise grade switching and routing
- Fibre and wireless backbone networks
- Network security and segmentation
- Monitoring and lifecycle support



## MICROWAVE AND WIRELESS COMMUNICATION SOLUTIONS

Wireless and microwave communication systems provide high-capacity connectivity where fibre is not feasible.

#### Key Features:

- Point-to-point microwave links
- Rapid deployment of wireless networks
- Reliable long-distance connectivity

#### Applicable Markets:

- Utilities
- Transport
- Mining
- Remote industrial sites





## LOGISTICS AND SUPPORT CAPABILITY

Reutech Solutions provides logistics support, including requirements analysis, system design, integration, installation, commissioning, training, and ongoing maintenance, ensuring reliable, long-term availability for commercial clients.



## ENGINEERING DESIGN CAPABILITIES

### ORIGINAL DESIGN MANUFACTURING (ODM)

Etion Create specialises in the design, manufacturing, integration and support of advanced technology products and solutions through its ODM services business model.

What sets the Company apart is our capability and expertise in creating customised electronic products and subsystems for clients across a range of sectors, including mining, industrial, defence and aerospace, cyber security and rail.

With time-to-market being key in today's competitive world, the Company provide rapid prototyping and accelerated downstream manufacturing, whilst integrating the new product into our industrialisation processes.



## MANUFACTURING

### ELECTRONIC CONTRACT MANUFACTURING

Omnigo offers a customised, precision electronic manufacturing solution, focusing on high-quality PCB assembly for the defence and mining industries. Omnigo is a one-stop manufacturing solution with a well-equipped 4,600 m2 facility and a workforce of approximately 150.

By continuously investing in new technology, Omnigo strives to lead innovation in the electronic contract manufacturing market and deliver high-quality solutions. Flexibility and adaptability are key drivers of change and innovation in this industry.



In addition to PCB production, Omnigo can provide the following services to supply the customer with a complete electronic manufacturing solution:

- Dedicated project management
- Industrialisation
- Materials procurement
- Automated SMT assembly
- Automated optical inspection
- Automated and manual through-hole production
- Looms, cables and wiring
- Automated conformal coating
- Potting and mechanical packaging
- X-Ray
- Automated testing
- Environmental stress screening
- Higher-assembly (system) integration
- Quality assurance
- Advanced rework and repair
- BGA re-ball and rework specialists

## ELECTRONIC MANUFACTURING SERVICE (EMS)

Etion Create offers the following services:

- Component procurement
- Component storage
- SMT assembly
- X-Ray inspection and process verification
- Conventional component assembly
- Conformal coating
- Potting
- Testing
- Environmental stress screening (ESS)
- Next-level assembly and integration
- Quality assurance
- Configuration management
- Project management

Quality standards:

- ISO 9001:2015-certified Quality Management System
- IPC-J-STD-001, Classes 2 and 3 (Workmanship)
- IPC-A-610, Classes 2 and 3 (Inspection)
- IPC-7711/7721 (Rework, Modification and Repair)





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