PRECISION ENGINEERING AND MANUFACTURING
turnkey electronics manufacturing solutions

WWW.REGULUSPEC.COM
Regulus is a precision engineering company with strong capabilities in design, engineering and manufacturing of electronics, PCBA, mechanical structures and components, serving rapidly growing electronics industry.

We are offering:
1. Selection of wide range of state-of-the-art manufacturing technologies.
4. From prototype to finished product solutions.
5. Cost economies through maximum localization and optimization.
6. Flexible approach for low volume and mass volume production.

We have an extensive expertise in engineering and manufacturing, our professional team provides one-stop solutions by integration of the design, pre-production analysis, molding, manufacturing, workshop and assembly production.

For new projects, we work closely with our customers reviewing requirements and specifications, then provide proper solutions through evaluation and simulation of all possible technical and/or technological difficulties that may occur during production process. When dealing with customized projects, we set up exclusive value-added servicing process for each customer and this is what makes us strong and competitive.

Aiming to be global value-added solutions provider and manufacturer, we devote ourselves to the precision and automated manufacturing, providing our customers the latest and the most competitive technologies.
02
OUR CORE COMPETENCIES

Engineering Design & Consultancy
- Engineering, production solutions and newest technologies for the mechanical design and structures

Metal Fabrication
- Die casting for aluminum, zinc alloys
- Multi-dimensional high-precision CNC machining
- Advanced MIM as well as conventional metallurgy for steel, copper and bronze
- Forging manufacturing technologies
- Precision stamping, sheet fabrication and extrusion manufacturing

Plating & Coating
- ROHS/WEEE-compliant plating
- EMI/EMS coatings
- Corrosion and oxidation protection
- Hardness enhancement coatings
- Coloring through painting or plating techniques
- Decorative treatments for metals, plastic and silicone/rubber

PCBA
- Electronic components sourcing
- Complete PCBA SMT/DIP Assembly
- BGA Assembly
- IC Programming
- Testing and tuning
**Mechanical parts manufacturing & testing**
- 2.5D/3D image measuring devices
- Rubber hardness testing
- Force gauge
- Metal hardness testing
- Dispensing machines

**Radio electronics manufacturing, programming & testing**
- Firmware Programming and Debugging
- RF Testing and Tuning
- Analog and Digital radio testing equipment
- Network analyzers, spectrum analyzers, site testers
- Oscilloscopes
- Aeroflex 3920 Digital Radio Test Platforms
  - Analog AM and FM, P25 and P25 Phase II
  - DMR (MOTOTRBO), dPMR, TETRA, TEDS

**Factory Assembly Line**
- 10 assembly lines
- High-skilled personnel
- Mechanical-Electrical Assembly
- Dispensing machines, Test jigs, Waterproof jigs, and others
COMPETITIVE EDGE
One-stop solutions

REGULUS STATS

- 20+ years of experience
- 24/7 year-around technical support
- 550+ multi-segment projects
- 92% of our work goes on to commercial success

REGULUS EXAMPLES
04
ENGINEERING
Great products need Reliable engineering

DFM
05
SUPPLY CHAIN

Mechanical
1. Rapid prototyping
2. CNC machining
3. Metal fabrication
4. Plastic mold & injection
5. Silicone & Rubber molding

Electronics
1. IC Programming
2. SMT, DIP, BGA
3. X-Ray machines for quality assurance
4. AOI, ICT equipment and instruments
5. Automated BGA rework stations

Plating & Coating
1. Chemical conversion
2. Electroplating
3. Electroless plating
4. Anodizing
5. Vacuum plating
6. Painting & Coating
7. Surface final finishing

Assembly
1. High-skilled personnel
2. Day and Night 2 shifts
3. Mechanical-Electrical assembly
4. 100% outgoing quality control
5. Wide range of production tools and jigs

Mech. Testing
1. Image Measurement devices
   2.5D/ 3D
2. Force gauge
3. Conductive coating resistance meter
4. Digital depth gage
5. Battery & Charger analyzer
6. Salt Spray testing equipment
7. Vibration testing equipment
8. Vacuum testing equipment
9. High/Low temperature environment

Radio Electronics Testing
1. Rohde & Schwarz Radiocomm
2. Tektronix Oscilloscope
3. HP 8921 test set
4. HP 8954E spectrum analyze
5. Aeroflex 3920 digital radio test platforms
6. Analog AM and FM
7. P25 and P25 Phase II
8. DMR (MOTOTRBO)
9. dPMR
10. TETRA
11. TEDS
OUR FACTORY LOCATION
INDUSTRIES SERVED

- Radio Electronics
- Industrial Electronics
- Mil-Specs Electronics
- Medical & Health Electronics

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**SENSOR MODULE**
FR4 High Tg IT180A (material
Layer counts 8~16
IMAU/ENIG (Immersion gold)
AOI, X-ray, PCB software programming

**AED COVER**
Plastic injection molding
RAL 3024 Luminous red

**FETAL MONITOR COVER**
Plastic injection molding
SABIC-C1200-HF
Silk screen printing

**LEG STAND**
Silicone injection molding
TSE221-5U material
RAL 7037 gray color

**BOTTOM COVER WITH INSERTS**
Double injection molding
Technical polish molding
Biocompatible ABS
Molded-In threaded insert

**PROTOSCOPE HOUSING**
Plastic injection molding
Biocompatible Lexan HPS1
Transparent
ISO 13485 certification

**KEYBOARD UNIT**
Plastic injection molding
SABIC-C1200-HF
RAL 7024 gray

**RAL 7024 gray**
Industrial Electronics

**ASSEMBLY WITH TESTING**
- Intrinsic safety
- Fire-retardant
- IP65 waterproof test
- -50°C~+80°C storage temp.

**TNC CONNECTOR**
- Stainless steel 316
- Waterproof IP6* test
- Torque test 43 N.m

**RE-CHARGERABLE BATTERY**
- Lithium battery 2500mAh
- Discharge temperature -40~+60°C

**CARAFE RUBBER**
- Silicone injection molding
- Technical polish
- General polish

**NAVI. MODULE**
- FR4 High Tg 170
- IMAU/ENIG (Immersion gold)
- 8 layers count

**FRONT PANEL**
- Die casting
- Aluminum Alloy ADC12
- Nickel electroplating
- High temperature powder coating

**EMI GLASS**
- Plastic injection molding
- Silkscreen
- 8 ohm EMI shielding film
- Conductive copper foil tape

**POWER CABLE**
- Temperature -40~+200°C
- ODU connector

**CLAMP**
- Stamping
- Stainless steel 43.5~52 Rockwell scale hardness
**CONTACT MODULE**
FR4 High Tg 170 / Rogers material
Layer counts 2~16
AOI, X-ray, Function test pass
PCB software programming

**ANTENNA BASE**
MIM (Sintering)
Stainless steel 316L

**EMI SHIELD**
Die casting with CNC machining
Aluminum Alloy ADC12
Cu-Ni-SnBi electroplating

**SIDE PLATE**
Stamping
Stainless steel 304

**BATTERY CONTACT**
CNC machining
Brass material
Ni + Rh electroplating

**ANTENNA COVER**
Plastic injection
PC/ABS material
Powder coating
Shagreen

**WATERPROOF GASKET**
Silicone rubber injection
Hardness 40A~90A

**CHASSIS**
Aluminum alloy die casting
Cr III (Trivalent chromium)
High temperature powder coating

**KEYPAD BOARD PCBA**
Mechanical assembly
Metal Dome press
Conduction testing pass

**ASSEMBLY WITH TESTING**
Waterproof sealing
Match IP67 requirements
Vacuum testing pass
Vibration testing pass
Adhesion testing pass

**RADIO CASE**
Die casting
Aluminum alloy die casting
Cu-Ni-SnBi electroplating
Soft-touch coating
**BATTERY CRADLE**
NCT punching (Sheet Metal Fabrication)
SECC (Galvanized sheet)
Technical polish surface

**POWER BASE**
Extrusion
Aluminum AL6063
Cr III (Trivalent chromium)
Technical polish
Matte spray surface

**FRONT COVER**
Plastic injection molding
ABS material
Technical polish
Shagreen surface

**DIGITAL COMMUNICATION DEVICE**
1. FR4 High Tg 170 / Rogers material
2. Layer counts 16
3. SMT, DIP and BGA
4. Via coverage (via in pad)
5. IMAU/ENIG(Immersion gold) finishing
MECHANICAL PARTS MANUFACTURING

HIGH QUALIFIED TECHNICAL STAFF

CERTIFIED MATERIALS

HIGH DURABILITY HIGH FLATNESS

NUMERICALLY CONTROLLED MACHINES PRECISION
09
PCB ASSEMBLY
IC PROGRAMMING

ISO9001

RoHS COMPLIANCE &
LEAD-FREE SOLDERING

HIGH-END
8~18 LAYERS

FR4 HIGH TG
ROGERS
AL BASE
CU BASE
CERAMIC BASE
HALOGEN FREE
POLYMER
OTHERS

HIGH-PERFORMANCE BGA TECHNOLOGY
10
EQUIPMENT FOR PRODUCTION & TESTING

ROHDE & SCHWARZ
RADIODIAGNOSTIC SERVICE MONITOR

AEROFLEX 3920
ANALOG & DIGITAL RADIO TEST SET

RF COMMUNICATIONS
TEST SETS & SPECTRUM ANALYZERS

TEKTRONIX
OSCILLOSCOPES
FACTORY ASSEMBLY LINE

QA: MILITARY STANDARD
(Quality Assurance)

HIGH-SKILLED PERSONNEL

ERP SYSTEM MANAGEMENT
(Enterprise Resource Planning)

MULTIPLE ASSEMBLY LINES

SAFE & FRIENDLY WORKING ENVIRONMENT
PRODUCT SHOW

Cover, Chassis, PCBA
Control Console

Top Cover
Proctoscope Device

Secure Voice &
Data Encrypted System

Cover, Chassis, PCBA
Digital Data Transmitter

Cover, Chassis, PCBA
Mobile Wireless Transceiver

Ultra-low Temp., High-capacity
Li-Ion Battery Pack

Cover Chassis with EMI
Data Transmission System

Front Panel
Compact Industrial Computer
PROCESS DESCRIPTION

1. Design for Moulding
   - DFM analysis

2. Pressure Die casting
   - Aluminum Alloy, Zinc Alloy, Tin Alloy... etc.

3. Secondary Machining
   - CNC, Vibrating Finishing, Sand Blast, Polishing... etc.

4. Plating & Coating
   - Ni / Cu / Sn / Rh / Cr3 / Cr6... etc.

5. Decorative Treatment
   - UV Painting, Soft-touch Painting, ED... etc.

6. Inspection
   - 3D Image Measurement, IP5x & IP6x Test... etc.
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