COMPANY SNAPSHOT

• Dominant technology provider of RF/microwave, microelectronics, and security products for critical and high-reliability applications
• Deliver high performance, innovative products and services for critical space, defense, aerospace and commercial applications
• 50% Defense / 50% Commercial
• Publicly traded (NASDAQ: ATNY)
• 2,000+ Employees
• Annual revenues of over $325 million
• Company behind some of the most well-known product brands in the industry
API Technologies Corp.

**1981: Founded**

**June 2011: NASDAQ Listed**

**Key Acquisitions:**
- Data Bus Products
- Analog Mixed Signal Products
- Components

**2007**
- TEMPEST & Emanation Security, Encryption & Ruggedized Systems
- 1553 Data Bus
- Sys & Subsys Solutions
- Build-to-Print Services

**2009-2010**
- Integrated & Multi-Function RF Assemblies
- Microwave Filters
- Oscillators
- Power Management
- Sensors
- Hybrids
- Active/Passive Compnts
- EMI Filters
- Class K (Space)
- Secure Communications
- EMS

**2011**
- Radar Subsystem Solutions
- RF Systems
- RF/Microwave Modules
- Integrated & Multi-function RF Assemblies
- RF Silicon & RF Components
- Power Amplifiers
- Microelectronics
- Custom Magnetics
- Specialty Connectors
- Rugged Power Rectifiers
- Power Distribution Units
- Secure Mobility Solutions

**2012-Present**
- New/Expanded Products & Capabilities

**Key Acquisitions:**
- National Hybrid Incorporated
- Indusries
- cryptek
- Spectrum Control, Inc.
- SenDEC Corporation
- CMAC MicroTechnology
- ATI/Electronics
• Domestic & International Footprint
• Trusted facilities & personnel
  - 12 Trusted facilities (US, UK, and Canada)
  *High barriers to entry*

• Certified facilities, including:
  - MIL-PRF-38534 (Class H and K)
  - AS9100 Rev C
  - ISO 13485:2003
  - ISO 9001:2008
  (All manufacturing facilities)

• International manufacturing locations are API companies and not subcontractors; same equipment and processes as U.S. facilities
• Global Sales Presence
API Technologies has outfitted a 45,000 ft² facility to support the combined manufacturing and engineering operations of our Worcester and Marlborough facilities. Located in Marlborough Massachusetts Technology Park, the facility is AS9100 registered and fully certified to MIL-PRF-38534 Class H and Class K standards.

API is a designer and manufacturer of RF/microwave and hybrid components, microwave, MMW, and microelectronic assemblies for defense, space systems, satellite, high-rel commercial, communications, avionics and ruggedized industrial applications.

**API Benefits**
- 30,000 square feet of Class 100,000 Clean Room
- Prototypes, Production and Qualification
- Reduce Size/Lower Weight
- Improve Performance and Reliability
- Full Temperature Testing
- Environmental Stress Screening
- MIL-PRF-38534 Class H / K
COMPLETE SOLUTION PROVIDER

Technologies
- Mixed Signal & Power
- RF, Microwave & MMW
- Optoelectronics
- Space
- Thin Film / SAW Wafer
- Power Conversion / Regulation

Markets
- Defense (MIL-PRF-38534 Class H)
- Space (MIL-PRF-38534 Class K)
- Avionics
- Hi-Rel Commercial
- Ruggedized Industrial
- Secure Communications

Capabilities
- Advanced Engineering
- High Density Manufacturing
- DC-50 GHz
- High Reliability
- Class K Certified Facility
- Thin Film / SAW Wafer Fab
CERTIFICATIONS & QUALIFICATIONS

- Manufacturing Facilities Certified to ISO 9001:2008
- EN/JISQ/AS9100:2009 certified
- 6 Certified AS9100 Facilities
- ANSI 20.20 Compliant Facilities
- Department of State ITAR Compliant
- Cleared Facilities & Personnel
- Six Sigma Greenbelts
- Certified Facilities to MIL-PRF-38534 (Class H and K)
  - Certified and Qualified by the Defense Logistics Agency
- QPL MIL-PRF-15733 & MIL-PRF-28861 (Selected Products)
- Solder/Assembly J-STD-001 Class 3 and IPC-A-610
- NEBS Approved (Selected Products)
- RoHS Compliant (Selected Products)
ENGINEERING CAPABILITIES

State-of-the-Art Engineering
Using state-of-the-art software and simulation tools, our experience engineering team is able to quickly take a requirement from concept to production.

- Ansoft HFSS
- Ansoft Designer
- Microwave Office
- Agilent ADS Design Suite
- SolidWorks
- Labview
- Agilent Genesys
- AutoCAD
- Cadence Allegro
- Sonnet EM Simulator
- PSpice
- PCad
- Or Cad
- Finite Element Analysis for Thermals
Microelectronics in Space
SPACE ASSEMBLY CAPABILITIES

• Surface Mount Assembly
• Void Free Solder Die Attach
• Epoxy Die Attach
• Auto Die Attach
• Flip Chip
• 0.7 - 2 mil Gold Wire Bonding
• 1 - 20 mil Alum Wire Bonding
• Manual Ribbon Bonding
• Testing to 50 GHz
• Active or Passive Laser Trim
• Hermetic Construction
• -55 °C to +125 °C Electrical Test
• Burn-in Capability (Dynamic & Static)
• In-house Thin Film & SAW Capabilities
• Multiple Substrate Construction: Thick & Thin Film
• Environmental Stress Screening (ESS)
SPACE QUALIFIED PRODUCTS OVERVIEW

Space-Qualified Components

- DC/DC
- Power Dividers
- Couplers
- Attenuators
- Switches
- Mixers
- Amplifiers
- Limiters
- VCO
- Filters

RF2M Microwave Offers

- 30+ Year Space Heritage
- Focused Space Product Team
- Technology Breadth
- GaAs, Si & GaN Devices
CLASS K MICROELECTRONICS SOLUTION
ASSURANCE/DEVELOPMENT PLAN

Development Plan

– PDR (Preliminary Design Review)
– Build and Evaluate EMU Units
– CDR (Critical Design Review)
– Process Identification Document (Baselined)
– MRR (Manufacturing Readiness Review)
– Elements/Devices Screened
  • Active Devices – Class K LAT (Lot Acceptance Test) per MIL-PRF-38534
  • Active Devices are Procured as Rad-hard or Tested for Tolerance
  • Passives Class K LAT (Where Applicable)
  • Package Evaluation per MIL-PRF-38534
– 100% Pre-cap and Final Inspection
– 100% Burn-in (320 hours) with 2% PDA
– API will Perform Groups A, B, C and D Conformance Testing and Periodic Inspection per MIL-PRF-38534
CERTIFICATIONS AND QUALIFICATIONS

• MIL-PRF-38534 General Specification for Hybrid Microcircuits
  • Facility and Manufacturing Process Certified and Qualified by DSCC for Class “H” and “K” Devices

• AS 9100, Quality Management System

• IPC 610 Certified Operator
Deep Space Launch
• Galileo
• Cassini
• USERS (2 sats)
• Selene & Okina
• Mars Phoenix
• Lunar Reconnaissance Orbiter

Scientific Missions
• SAOCOM
• Hershel Plank
• AMS-02
• Aquarius (SAC-D)
• Lisa Pathfinder
• Juno

Launch & Reentry
• Vehicles
• Taurus
• Minuteman
• H-II

Communications
• GPS-2F
• Prima
• O3B
• Inmarsat
• Intelsat
• Sirius Radio
• Direct TV
• Optus 10
• Amazonas 3
• Grail (2 sats)
• EnMap
• Vegetation
• Cassini
• Meteosat

• Thor 7
• MUOS
• Hot Bird
• MARECS
• Olympus
• SkyNet
• Eutelsat
• Koreasat
• OCO
• LEOSS
• Mars Science Lab
• ISS Kibo EF
POWER CONVERSION

Isolated DC-DC (Triple)

+28V Bus

-12V

+5V

+12V

Linear Regulators

AP117A
+1.5V
FPGA

AP8601-2.5
+2.5V
FPGA

AP8601- ADJ
+3.3V to +2.5V, 5A
Logic

Switching Regulators

AP8565-2A
+1.5V
FPGA

AP8565-6A
+2.5V
ASIC

AP127- ADJ
+ADJ -ADJ
Log-Amp
Rad Hard Power References

- Fixed and Adjustable Devices Available
- Up to 1.5 Amp Output Current
- Stabilities as low as +/-25 mV over the full Temp Range
- Standard TO-257 Package Outline

Rad Hard Linear Regulator

- Ultra Low Drop Out Voltage
- Outputs up to 5 Amps
- Voltage range up to 5 Volts
- Standard MO-078 Package
**Rad Hard POL Regulator**

- >90% Efficient @ 5 V input
- Ultra Stable across Temperature and Aging
- 2 Amps Output Current (6 Amp coming soon)
- Standard MO-078 Package Outline

**Rad Hard Solid State Relay**

- First Normally Closed SSR on the Market
- 10 Amp Capability
- Singles and Duals Available
- Standard SSR Package Outline
MICROELECTRONICS - POINTS OF CONTACT

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