

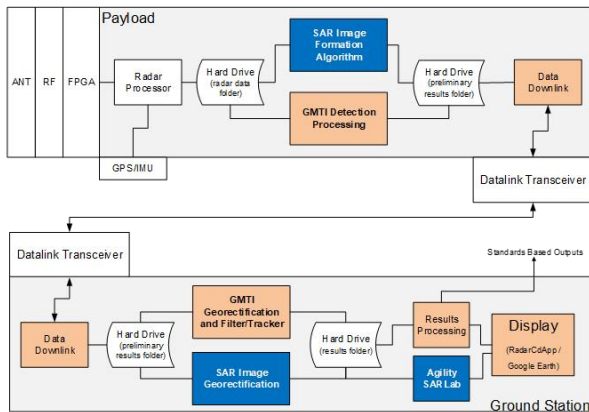
# SAR UAV / UAS System

RAPTOR wideband programmable UAV SAR: High performance, low size, weight, power and cost

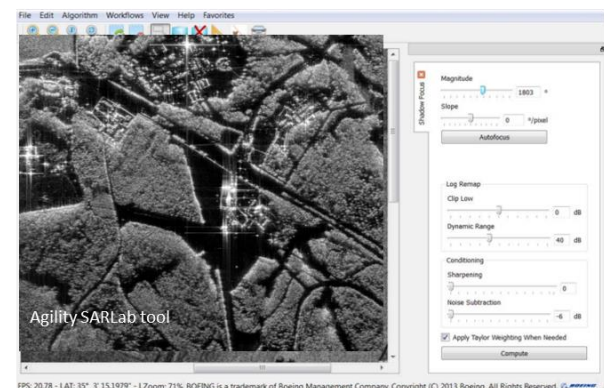
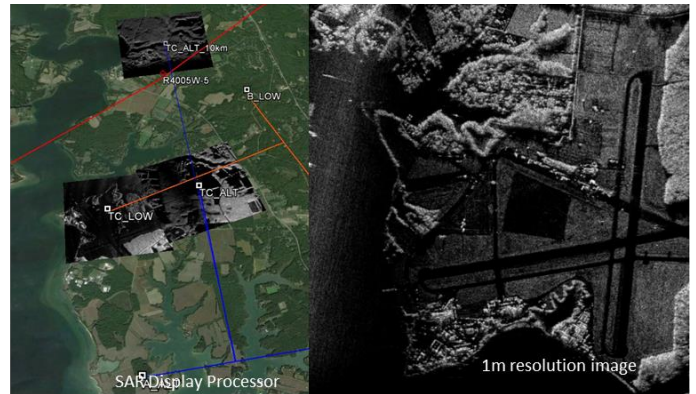
- Key digital RF building blocks in Gigasample data conversion, FPGA-based arbitrary waveform generation, receive data processing, and T/R system timing control
- Open architecture hardware/firmware/software enables rapid modifications and a wide range of applications
- Easily reconfigured for different applications with a variety of antennas



- Georeferenced SAR images in minutes
- FPGA and quad-core i7 expandable on-board signal processing
- Integrated ground exploitation workflows



SAR/GMTI Workflow



**DC INPUT:**

+12-32 VDC (+28 VDC TYP), 300W MAX (varies by configuration)

**RADAR OPERATING MODES:**

600 MHz L-Band (1025 – 1600 MHz) 1 – 2 selectable receive channels, fully synchronized, programmable waveforms, PRF, range gates, Operating envelope depends on BW/duty cycle/range swath

**INTERFACE AND CONTROL:**

**REMOTE:** 10/100/1000 Mbit Ethernet

**LOCAL:** HDMI/USB Interface (supports K/V/M), Push Button / Switch (SW) control

**CONTROL APPLICATION:**

Windows XP/7 GUI (remote or local)

Open API for custom command/control applications

**DATA STORAGE:**

Internal 1 TB (removable) 2.5" SSD via SATAII (included)

Optional SATAII breakout connection supports other 2.5" drives

**TRANSCIVER SPECIFICATIONS:**

**Exciter** – 14-bit DAC

900 – 1600 MHz, -15 dBm TYP, +6 dBm MAX (Full Scale)

**Receiver** – Two 8-bit ADC(s)

1 -2 simultaneous ADC channels

900 - 1600 MHz, NF = ADC NF + 3 dB

**RF SPECIFICATIONS:**

Reference Oscillator: 120 MHz OCXO included

RF Distribution: Four (4) selectable TX/RX groups (1 TX / 4 RX)

HPA: 250 Watts Peak (standard), 10% duty cycle

Customized HPA power/bandwidth options available

**SUPPORTED PERIPHERALS:**

INS: SDI SDN-500 / Advanced Navigation SPATIAL FOG

GPS: NovaTel OEM6 (TSI ASY-00242-01)

Other options available – Contact Trident for more information on integrating custom peripherals

**MECHANICAL AND ENVIRONMENTAL:**

Rugged (IP54), conduction cooled chassis

20" x 11" x 84" integrated chassis, < 50 lbs (including antenna)

0 to +35 C ambient operating (conduction cooled)

0 to +60 C ambient operating (with airflow/coldplate – consult Trident)

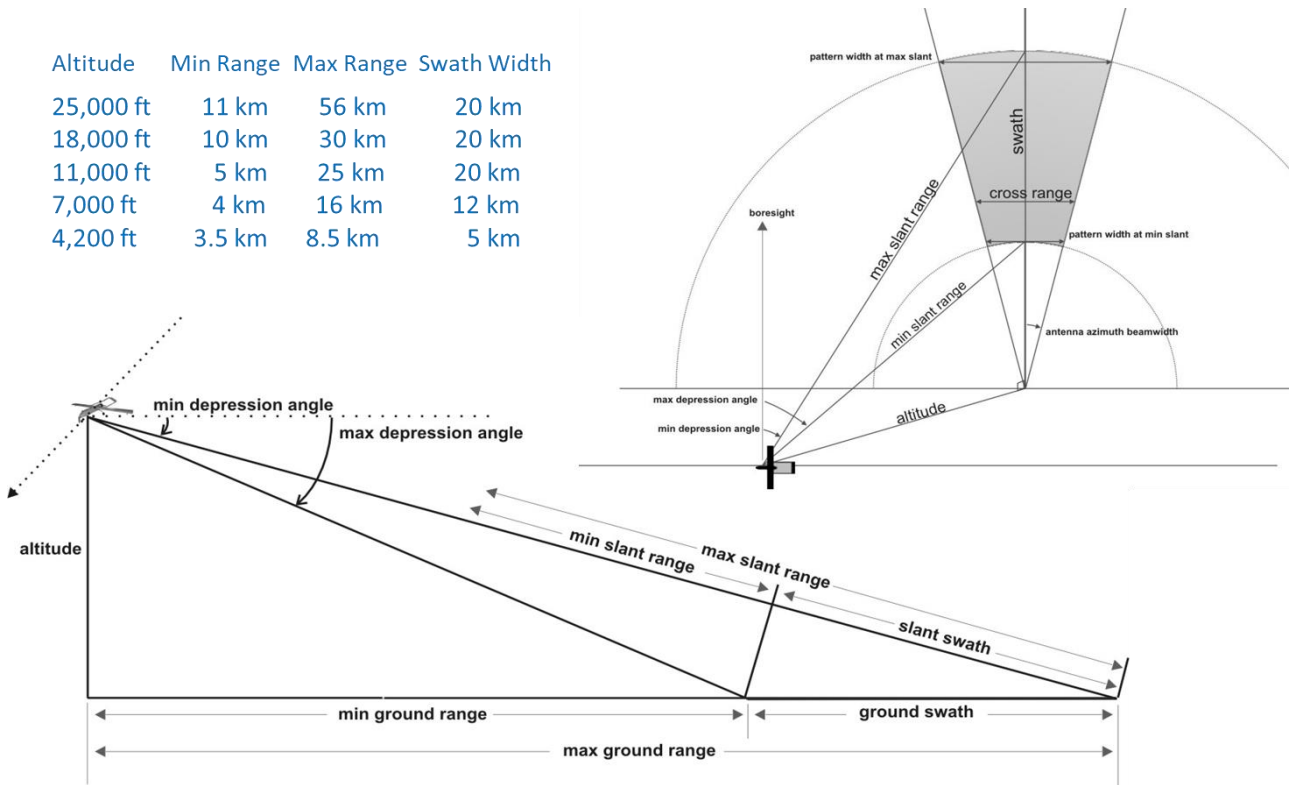
-40 to +85 C non-operating / storage



- Successfully integrated RQ-23A BLOCK 3A.1 Unmanned Air Vehicle (TigerShark)
- This integrated system included a triple aperture L-band antenna for GMTI
  - Wide Area Surveillance capabilities including SAR imaging, GMTI and change detection
  - Integrated workflow included Boeing Image Formation Algorithm and Agility SARLab
- Easily repackaged for other UAS platforms



Altitude	Min Range	Max Range	Swath Width
25,000 ft	11 km	56 km	20 km
18,000 ft	10 km	30 km	20 km
11,000 ft	5 km	25 km	20 km
7,000 ft	4 km	16 km	12 km
4,200 ft	3.5 km	8.5 km	5 km



For Trident Pacific service systems products regarding to:

- Remote Sensing Monitoring Service System
- Small Satellite SAR System
- Airborne SAR System
- SAR UAV / UAS System

5F, 5, Technology Rd., Science Park, Hsinchu Taiwan

30078 新竹科學園區科技路5號5樓

TW : + 886-03-668-7775 US +1-703-5371589

E-Mail: [info@tridpacific.com](mailto:info@tridpacific.com) [www.tridpacific.com](http://www.tridpacific.com)

Contact : Nick Yen