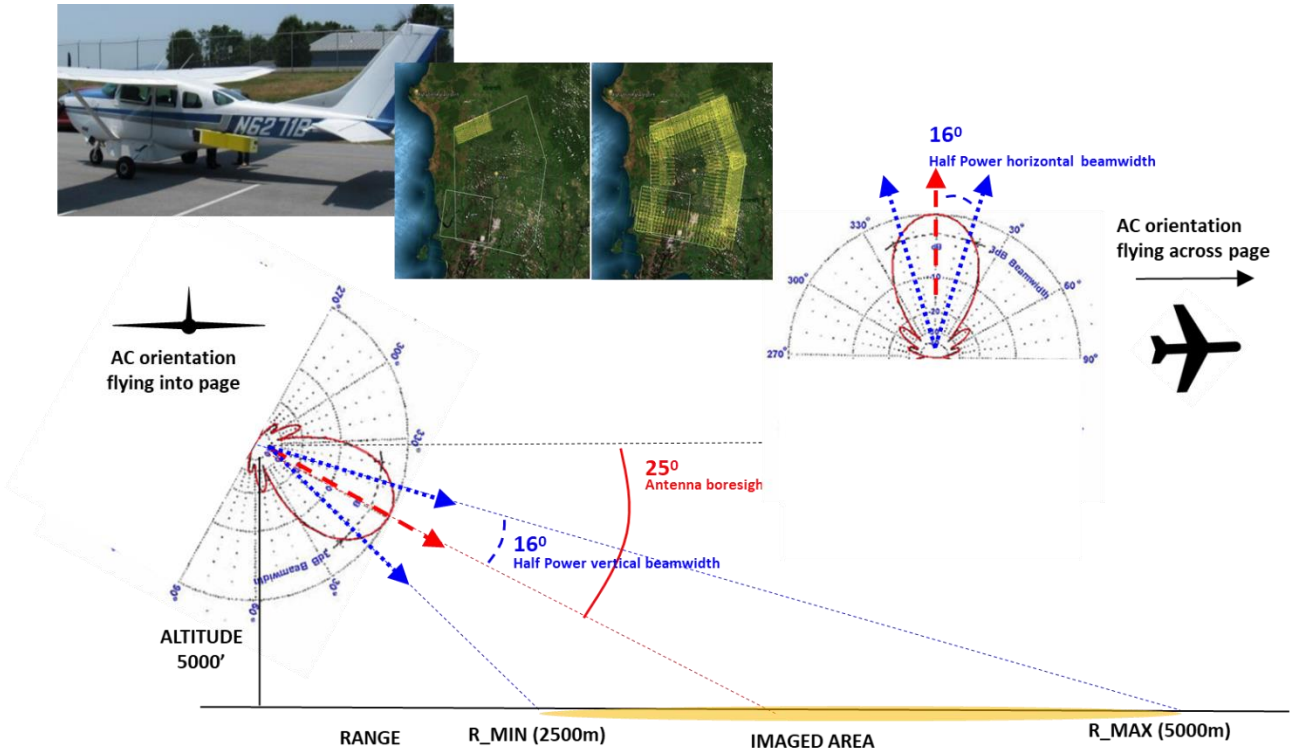


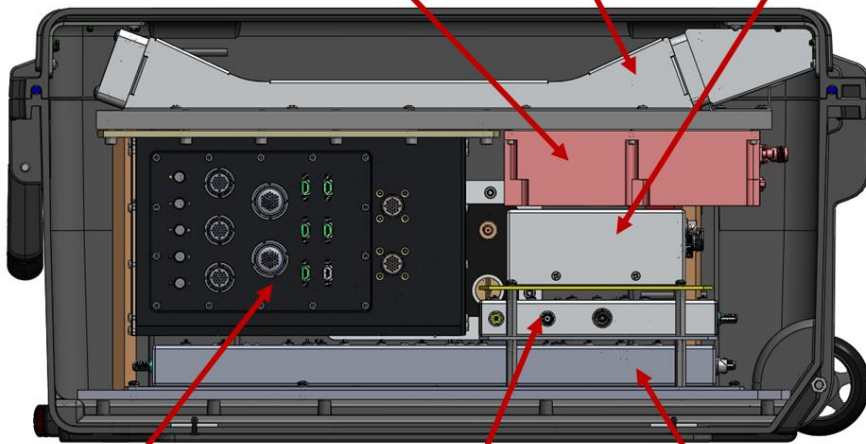
Airborne SAR System



COTS HIGH POWER AMPLIFIER (HPA)

POWER DISTRIBUTION AND CONTROL (PDCM)

COOLING MANIFOLD (REF)

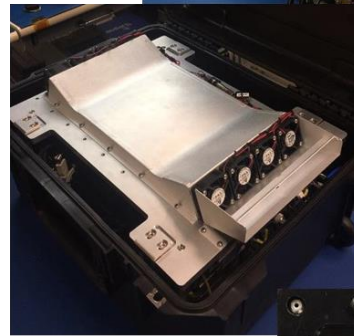
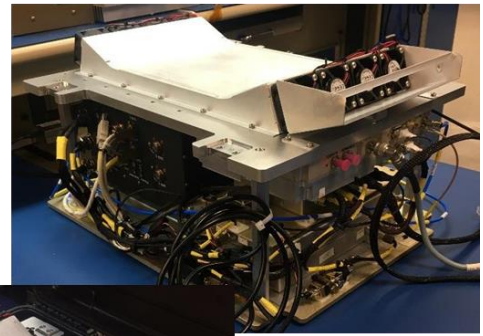


Local Oscillator (LO)

Multi-Function RF Electronics Unit

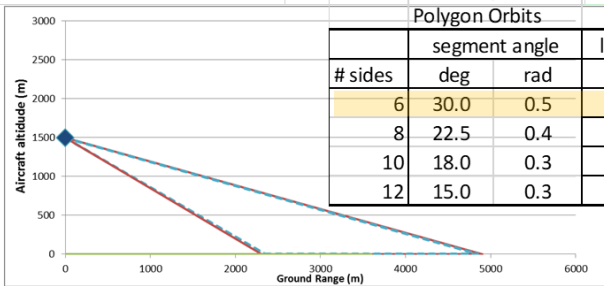
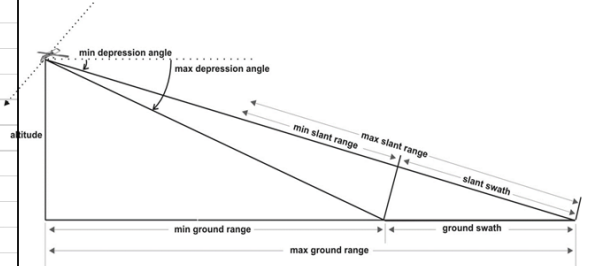
UP/DOWN CONVERTOR (UDC)

- Carry On Digital Open Radar (COndOR) is a self-contained X-Band SAR radar instrument packaged in SKB31-2015-10 pelican case (22.3" x 18.8" x 12")
- Enables rapid transport, integration and test of RAPTOR or MFREU radar performance as part of an X-band payload
- Interfaces
 - DC Power (12 – 32 VDC)
 - Ethernet C&DH Interface
 - X-Band antenna
 - Metrology (IMU)
 - GPS antenna
 - GPIO (optional expansion)
- Features (MFREU Configuration)
 - On-board storage (512 GB SSD)
 - Ruggedized, conduction and air cooled
 - Integrated metrology (IMU +GPS)
 - Multiple mounting options
 - Multiple antenna options

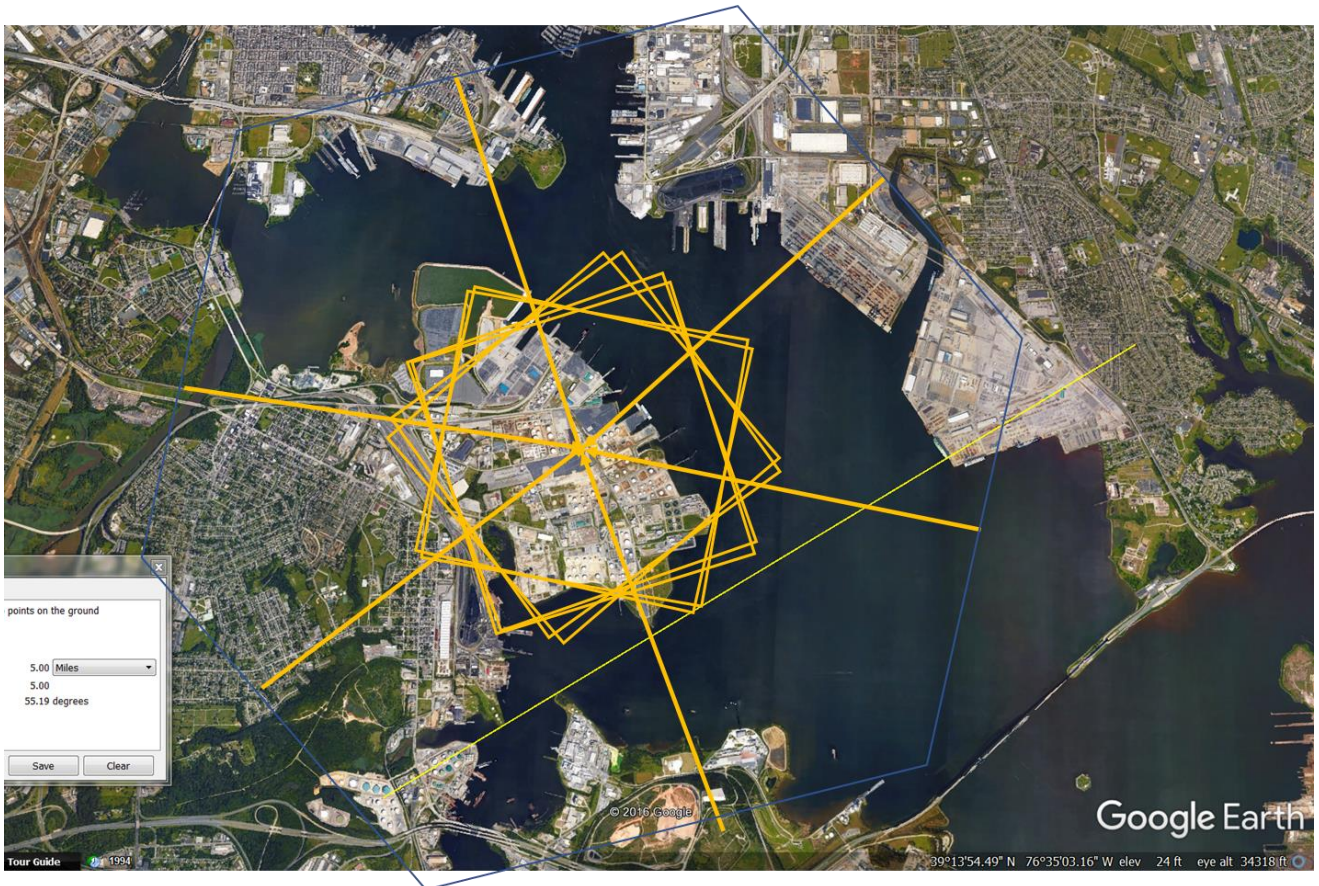


Small SAR Instrument (Rear Mount) using High Resolution Optical Instrument (Forward Mount) onboard a Cessna C206 aircraft for Image verification.

OUTPUT: Flight Geometry	Variable	Value	Units
Illuminated Swath	ill_swath	2374	m
smaller of the VHPBW (tx or rx)	VHPBW_s	16.0	deg
smaller of the HHPBW (tx or rx)	HHPBW_s	16.0	deg
VHPBW Min Depression Angle	θ_1	17.0	deg
VHPBW Max Depression Angle	θ_2	33.0	deg
ATAN(H/Max_Ground_Range)	θ_3	17.2	deg
ATAN(H/Min_Ground_Range)	θ_4	32.5	deg
Max Ground Range	Max_Ground_Range	4850	m
Min Ground Range	Min_Ground_Range	2350	m
Max illuminated Ground Range	Max_ill_Ground_Range	4901	m
Min illuminated Ground Range	Min_ill_Ground_Range	2308	m
Farside Roll Tolerance Angle	Farside_Roll_Tolerance_Angle	0.2	deg
Nearside Roll Tolerance Angle	Nearside_Roll_Tolerance_Angle	0.5	deg
Max Slant Range	Max_Slant_Range	5076	m
Min Slant Range	Min_Slant_Range	2787	m
Max illuminated Slant Range	Max_ill_Slant_Range	5125	m
Min illuminated Slant Range	Min_ill_Slant_Range	2751	m
Altitude	h	1499	m

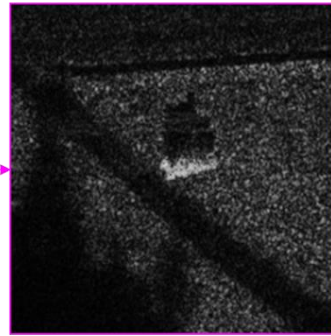


Polygon Orbits									
# sides	segment angle		leg length m	total orbit m	orbit time sec	Rounded orbit time		leg time	
	deg	rad				min	sec	min	sec
6	30.0	0.5	4157	24942	624	10	24	1	43.92
8	22.5	0.4	2982	23859	596	9	56	1	14.56
10	18.0	0.3	2339	23394	585	9	45	0	58.49
12	15.0	0.3	1929	23151	579	9	39	0	48.23





6100 px



30 cm
Resolution
Image

