

AvL TECHNOLOGIES

Model 9066K iSNG Carry-On 90cm x 66cm Auto-Acquisition Case Based Antenna



Mechanical

Reflector	90cm x 66 cm Elliptical
Optics	Offset, Prime Focus
Reflector Construction	Segmented Carbon Fiber
Az/EI/Pol Drive System	Patented Roto-Lok® 3-Axis Positioner
Mount Geometry	Elevation over Azimuth
Polarization Alignment	Rotation of reflector/feed aligns major axis with orbital arc
Case Options	Carry-on Suitcase, Rugged Shipping, or Backpack
Controller	One-button Auto-Acquisition
Travel:	
Azimuth	180°
Elevation	True elevation readout from calibrated inclinometer
Mechanical	15° to 75° of Reflector Boresight
Polarization	Motorized $\pm 75^\circ$ with manual H/V selection
Speed: Slewing/Deploying	10°/second in azimuth, 5°/sec. elevation, 5°/sec polarization
Peaking	0.2°/second
Motors	24V DC variable speed with optical encoders
RF Interface	
RX	L-band with Type -N at rear of antenna
TX	Ku with Type-N at feed flange
Weight	40-50 lbs. (18-23 kg) depending on case option selected
Stowed Size	Carry-on suitcase/cabin baggage
Manual Operation	Handcranks on all axii

Environmental

Wind	
Operational	20 mph (32 kph),
Survival with Anchoring Weights	30 gusting to 45 mph (48 to 72 kph)
Pointing Loss in Wind	
10 mph (16 kmph)	0.1 dB, 0.1° Typical
20 mph (32 kmph)	0.2 dB, 0.2° Typical
Temperature	
Operational	+15° to 125°F (-10° to 52°C)
Survival	-40° to 140°F (-40° to 60°C)
Sand and Dust	Method 510.4 per MIL-STD-810F
Humidity	Method 507.4 per MIL-STD-810F
Shock and Drop in Shipping Case	Method 514.5 per MIL-STD-810F
Solar Radiation	Method 505.4 per MIL-STD-810F

Electrical RF

	<u>Receive</u>	<u>Transmit</u>	
Frequency	10.95-12.75 GHz	13.75 -14.5 GHz	
Gain (Midband)	37.8 dBi	39.3 dBi	
VSWR	1.30:1	1.30:1	
Beamwidth on Orbital Arc (degrees)			
-3 dB	1.8	1.6	
-10 dB	3.3	2.8	
First Sidelobe Level (Typical)	-18dB	-21 dB	
TX Radiation Pattern Compliance $\geq 1.73^\circ$	FCC §25.209, ITU-R S.528.5		
Antenna Noise Temperature	50° K at 30° Elevation		
Polarization	Linear Orthogonal		
Cross-Pol Isolation		<u>STD. FEED</u>	<u>OPT. FEED</u>
On-Axis	30 dB	35 dB	35 dB
Off-Axis (within 0.3°)	28 dB	28 dB	32 dB
Satellite System Compliance	FCC, PanAmSat, Intelsat, Eutelsat		
Satellite Approval	PanAmSat USA-8189		
BUC/HPA Capacity	≥ 25 W in separate case via power coax to feed		
Allowable Power	-14dBw/4kHz per FCC, -0dBw/4kHz per ITU		
Feed Port Isolation - TX to RX	70 dB		

Controller

Type	One-button deploy with fully-automatic satellite acquisition, peaking, and cross-pol adjustment using GPS, compass, and level sensors inputs, certified for auto-commissioning on certain satellite systems; one-button stow
Operator Interface	GUI Interface Program via CFE computer for manual/jog Operation or reprogramming user/data satellite
Auto Positioning Accuracy	$\leq \pm 0.1$ degree
Input Power Requirements	24VDC, 2 amps peak, optional 90-256V AC power supply
Optional	Power Supply with handheld operator interface
Standard	Two Cases 6 x 6 x 3.5 in (15 x 15 x 9 cm)
Rack Mounted	1 RU Chassis 8 in (20 cm) deep, Wt.3.75 lbs (1.7kg)
Input Power Requirements	90-256V AC, 5 amps peak