VIAVI Solutions

Data Sheet

VIAVI

ALT-9000

Universal Radio Altimeter Flight Line Test Solution

User Interface	
Display	12" color LCD, sun light readable w/back light
Controls	Touch-screen
TX/RX Direct Connection Ports	
Impedance	50 Ω
SWR	
TX	2.0:1
RX	1.5:1
Connector	TNC x 2 (single TX/RX channel)

Receiver	
RF Input Frequency	
Range	4.20 GHz to 4.40 GHz
FMCW/CDF FMCW	
Frequency Measurement	
Range	4.20 GHz to 4.40 GHz
Accuracy	±5 MHz
TX Power Measurement	
Range	4 mW (+6 dBm) to 2 W (+33 dBm)
Accuracy	+2 dB
FM Sweep Rate Measurement	
Range	50 Hz to 400 Hz
Accuracy	±5 Hz
FM Deviation	
Range	±20 MHz to 100 MHz
Accuracy	±5 MHz
Pulse	
Frequency Measurement	
Range	4.20 GHz to 4.40 GHz
Accuracy	±10 MHz
TX Power Measurement	
Range	1 mW (0 dBm) to 300 W (+54 dBm) peak
Accuracy >50 ns	±2 dB
Accuracy <50 ns	±3 dB
TX Pulse Width Measurement	
Range	20 ns to 5 µs
Accuracy	±10 ns
TX Pulse PRF Measurement	
Range	2 KHz to 30 KHz
Accuracy	±5%

Linear Altitude Rate	
Range	1 to 120,000 fpm
Altitude Update Rate	10 Hz max
RF Sample Port (at carrier frequency)	
Attenuation	-46 dBc typical
Test Cable (automatic compensation)	
Test Cable Length	1 to 25 ft
Test Cable Loss	0 to 9.9 dB
Antenna Couplers	TX and RX
Coupler Loss Compensation	0 to 19.9 dB
External Attenuation (automatic compensation)	
Attenuation Range	0 to 20 dB (UUT:TX) 0 to 50 dB (UUT:RX)
Altitude Simulation	
Range	5 to 10,000 ft[1] (at test set connectors, plus interconnecting cables)
Optional Range	16,000 and 25,000 ft as discrete altitude selections
Resolution	5 ft (standard range only)
Accuracy	±1ft. ±1% of simulated altitude
Altitude Switching Time	5ms max (Typically < 3ms)
Altitude Offset	
-100 to 100 ft[1]	
Loop Loss	
Manual Mode	
Range	-35 to -135 dB (0 to 50 ft²) -55 to -135 dB (55 to 5000 ft²) -60 to -135 dB (>5000 ft²) (dependent upon cable loss, coupler loss and external attenuation)
Accuracy	±2 dB -35 to -95 dB @ 4.30 GHz ±3 dB -95 to -135 dB @ 4.30 GHz
Flatness	±2 dB typical (4.20 to 4.40 GHz, referenced to 4.30 GHz)
Auto Mode	Computed path loss based on altitude, scattering, cables, couplers and offset
RF Level Offset (auto)	-20 to +20 dB

Frequency Stability	
±1 ppm	
DC Input	
Input Voltage	11-32 VDC
Input Power	75 w max
Input Current	5 A max

Environmental

Test Set	
Operating Temperature	-10° to 55°C (14° to 131°F)
Storage Temperature	-51° to 71°C (-59.8° to 159.8°F) w/battery removed
Supplied External AC to DC Converter (indoor use)	
Operating Temperature	5° to 40°C (41° to 104°F)
Storage Temperature	-20° to 71°C (-4° to 159.8°F)
Altitude	<10,000 feet

Physical Characteristics

Size	
Test set case	8.5 in H x 18.7 in W x 16.4 in D
	21.6 cm x 47.5 cm x 41.7 cm
w/standard transit case, or accessory case	16.25 in H x 33.75 in W x 28.5 in D
	41.3 cm x 85.8 cm x 72.4 cm
Weight	
Test set only	32 lbs, 14.52 kg
Kit	88 lbs, 39.92 kg

1. Minimum simulated altitude will be 5ft + test cable delay + Altitude Offset setting
2. Actual simulated altitude with 0 ft Altitude Offset. If Altitude offset is used, subtract the altitude offset from the actual simulated altitude to determine break points.

Certifications

Test Set	
Operating Temperature	MIL-PRF-28800, Class 2
Storage Temperature	MIL-PRF-28800F, Class 2
Operational Humidity	MIL-PRF-28800F, Class 2
Storage Humidity	MIL-PRF-28800F, Class 2
Vibration Limits	MIL-PRF-28800F, Class 2
Shock, Functional	MIL-PRF-28800F, Class 2
Shock, Resistance	MIL-PRF-28800F, Class 2
Transit Drop[3]	MIL-PRF-28800F, Class 2
Bench Handling	MIL-PRF-28800F, Class 2
Watertight[3]	MIL-PRF-28800F, Class 2
Drip Proof	MIL-PRF-28800F, Class 2
Sand Dust[3]	MIL-PRF-28800F, Class 2
Salt Atmosphere[3]	MIL-PRF-28800F, Class 2
Explosive Atmosphere	MIL-STD-810F, Method 511.4
Solar Radiation	MIL-PRF-28800F, Class 2
Fungus Resistance	
Safety Compliance	EN/UL-61010-1, 3rd Edition
WEEE	
ROHS	
EMC	EN/IEC 61326-1: 2013
External AC-DC Converter	
Safety Compliance	UL 1950 DS
	CSA 22.2 No. 234
	VDE EN 60 950
EMI/RFI Compliance	FCC Docket 20780 Curve "B"
	EMC EN 61326

3. Tests to be performed with unit in transit case and lid closed.

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