

# SDR-OMNI

## ALL-IN-ONE Avionics Test Set



www.telinstrument.com

### SDR-OMNI Avionics Flight Line Test Set

The SDR-OMNI provides the avionics technician with a comprehensive suite of RF test capability in a single ruggedized, yet lightweight, package for demanding commercial and military customers.

The unit has a highly readable and responsive touchscreen for quick and convenient avionics testing – especially for performing FAA required transponder, ADS-B, and ELT tests. Professionally formatted reports can be downloaded via USB or wirelessly printed to a local wireless printer.

Test functionality:

- Transponder and FAA Part 43
- ADS-B 1090 and 978 UAT (IN and OUT)
- VOR and ILS (with combined LOC + GS + MB)
- HF / VHF / UHF COMM Radios (AM & FM)
- SELCAL
- ELT / EPIRB
- Aircraft Audio Systems (audio distortion)
- VSWR / Distance to Fault (DTF) / Cable Loss
- TCAS and DME (mid 2022)
- Spectrum Analyzer (early 2022)
- GPS Simulator (late 2022)

This is the most advanced test set ever made by TIC. The combination of hardware and software can test virtually any RF signal from 200 kHz to 2.0 GHz. As the lightest ruggedized tester on the market, the SDR-OMNI offers unmatched capability and ease of use.

Test functions are implemented using software-defined signal processes that generate, receive, and measure complex avionics signals covering narrow band analog or digital communications, complex navigation, and wide-band pulse or data protocols.



- Simple User Self-Calibration Verification reduces need to send unit to Cal Lab
- Class 1 MIL-SPEC ruggedness
- Color Display with Responsive Touchscreen
- Intuitive, Smartphone-style user interface
- Built in GPS for accurate ADS-B testing
- Self-guided Calibration Verification
- Long lasting Li-ion battery
- Transponder Antenna Coupler included
- Complete accessory kit for all applications

### “Mission Critical RF TESTING Solutions”

The SDR-OMNI uses the latest in RF technology to generate and receive signals over a broad frequency range – 200 kHz to 2.0 GHz.

## RELEASE 1 (December 2021)

- **TRANSPONDER 1030/1090 MHz:** Automated FAR Part 43 Appendix F transponder test for ATCRBS and Mode S Transponders; EHS, GICB BDS registers, Manual testing (power, freq., % reply, SLS, etc.) **NOTE: OMNI-TAP Antenna Coupler is included**
- **1090 MHz ADS-B OUT:** Decoded BDS registers and FAR 91.227 / AC60-165B required data
- **1090 MHz ADS-B IN:** 4 simulated traffic targets for cockpit display verification
- **978 MHz UAT OUT:** Decoded display of all required data
- **978 MHz UAT IN:** 4 simulated traffic targets, FIS-B weather test
- **VOR & ILS:** Tests VOR receivers & ILS landing systems (simultaneous GS + LOC + MB)
- **COMM Radios:** HF/VHF/UHF COMM AM/FM Transceivers: Transmit and receive RF power, sensitivity, modulation, voice test of aircraft radio using included headset
- **ELT (121.5/243 MHz EPIRB/PLB (406 MHz) testing**
- **SELCAL:** Test Selective Calling systems
- **RF CABLE & ANTENNA Test:** VSWR and DTF (Distance-to-Fault) for on-aircraft troubleshooting (VSWR calibration fixture included), Cable loss measurement
- **CALIBRATION VERIFICATION:** Guided calibration verification program

## RELEASE 2 (Spring 2022)

- **TCAS I & II, ACAS:** Up to 4 simulated targets
- **DME**
- **SPECTRUM ANALYZER:** Real-time signal analysis over selectable frequency range

## Release 3 (Late 2022)

- **GPS SIMULATOR:** Multi-satellite L1 GPS signal for position and aircraft movement simulation

SDR-OMNI AVAILABLE CONFIGURATIONS				
Apps (Capability) Included		SDR TRANSPONDER	SDR NAV/COMM	SDR ALL IN ONE
Transponder 1030/1090 APP		■		■
TCAS I/II*		■		■
UAT 978 IN/OUT APP		■		■
ADS-B IN/OUT GCIB APP		■		■
VSWR & DTF/Cable Loss		■	■	■
NAV VOR/ILS/GS/MB APP			■	■
DME APP*			■	■
COMM APP			■	■
ELT/EPIRB 121.2/243/406MHzAPP			■	■
SELCAL APP			■	■
<b>Future Optional Apps</b>				
GPS Simulator**		Separate Download available in any base configuration		
TACAN (ITAR)**				
MILITARY – Mode 5**				
<b>Accessories Included</b>				
Hard Transit Case		■	■	■
OMNI TAP Antenna Coupler		■		■
VSWR/DTF Calibration Bridge		■	■	■
Antenna 1 GHz		■		■
Antenna VOR/ILS			■	■
Antenna WiFi		■	■	■
ELT Antenna			■	■
Direct Connect Cable		■	■	■
AC/DC Charger Adapter and Power Cord		■	■	■
Kick Stand		■	■	■
Standard 2 Year Warranty		■	■	■
*Available Spring 2022				
** Available in Fall 2022				



## SDR-OMNI SPECIFICATIONS

### Power Specifications

<b>Battery</b>	Lithium Ion
	7.4 V; 7800 mAh
Duration – fully charged	> 3 Hours Continuous
	10 hrs @ 20% Duty Cycle
AC Input voltage	100 to 240VAC 50/60/400 Hz
DC Input voltage	12...28 VDC, 3.33 A (max)
Operating Temperature	-40°C to +55°C
Storage Temperature	-40°C to +70°C

### Physical Characteristics

<b>Case Style</b>	MIL-PRF-28800F, Class 2
Height	9.45" (24 cm)
Width	7.1" (18.03 cm)
Depth	2.25" (5.7 cm)
Weight Static	4.2Lbs. (1.9 kg)
Touch Screen	Capacitive



### TAP-OMNI Transponder Antenna Coupler INCLUDED (SDR-TRANSPONDER & ALL in ONE)

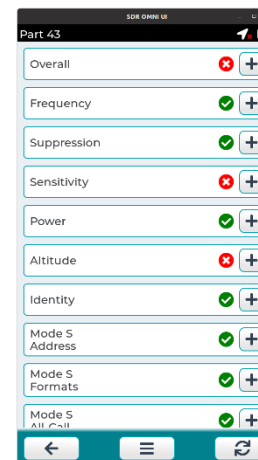
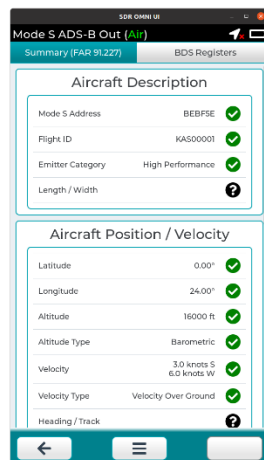
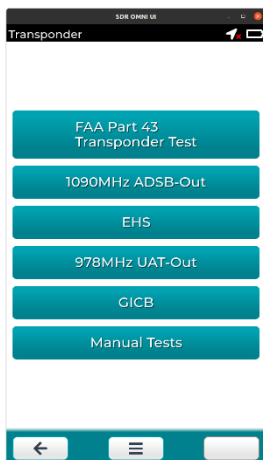
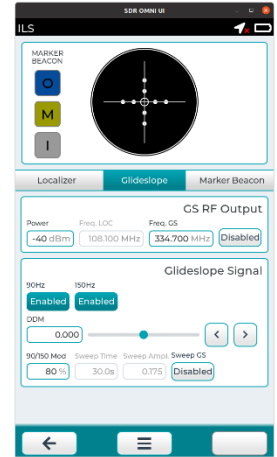
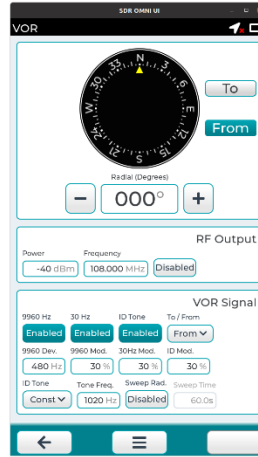
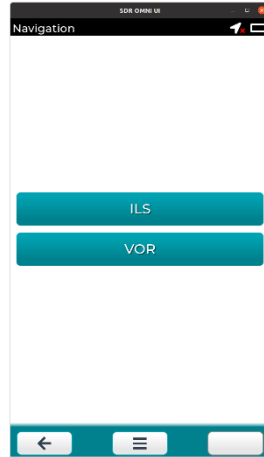
The Antenna Coupler is included with the SDR-OMNI Transponder Test package. It can be hung on the top antenna or securely clamped to the bottom antenna.

- > 20dB shielding
- Ensures FAA compliance
- Solves multi-path issues in congested hangars
- Light weight and easy to use
- Ensures repeatable results
- Fits both "L" Type and Post antennas



## NAVIGATION VOR/ILS/GS/MB

Easy to use and graphic interface to simulate the anticipated aircraft displays. All graphics are touch screen adjustable.



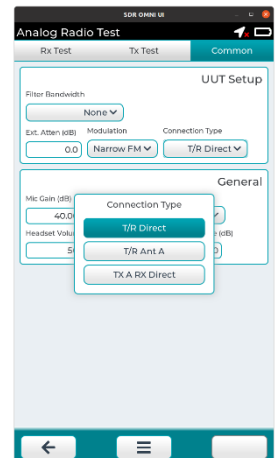
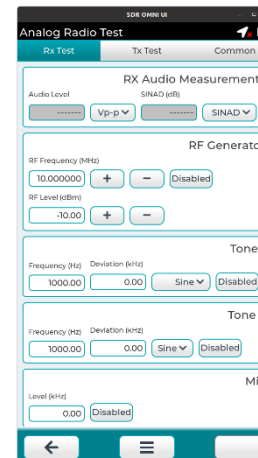
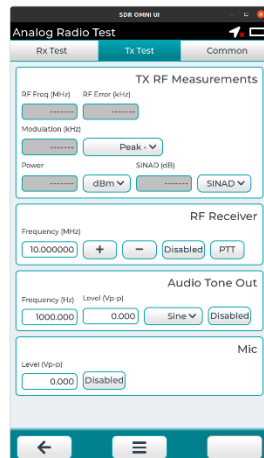
## 1030/1090 MHz Transponder

Scroll through the results quickly or select detailed results of each parameter. Manually retest any parameter and download to save them as needed.

## COMMUNICATIONS

Complete control of all aspects of the audio, modulation, RF output.

Detailed results of received signal (power, frequency, modulation).



# Mission Critical RF TEST Solutions

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Product specifications and descriptions in this document are subject to change without notice.