

T-49C/CA TCAS/TRANSPONDER RAMP TEST SET

TCAS MODE

The T-49 tests TCAS in hangar or on the ramp by simulating four OEM AIR FRAME recommended intrusion scenarios with three intruder aircraft transponder types:

SCENARIOS

- Constant altitude offset
 - above
 - below
- Co-altitude
- Closing altitude
 - from above
 - from below
- Range control
 - start/stop
- Displays flight status info (air/grnd/spi)
- Diversity test to automatic mode
- Displays xpdr pulse width & pulse spacing
- Displays xpdr power measurement in watts and dBm

TRANSPONDERS

- ATCRBS
- Mode-S

TCAS

- TCAS I
- TCAS II
- Skywatch



TRANSPONDER MODE

The T-49 tests both ATCRBS & Mode-S XPDRS:

- ATCRBS Mode A
- ATCRBS Mode C
- ATCRBS Mode A/Mode S
- ATCRBS Mode C/Mode S
- ATCRBS Mode A only
- ATCRBS Mode C only
- Surveillance ID
- Surveillance ALT
- Surveillance Short
- COMM AB ID
- COMM AB ALT
- COMM CD
- Undesired replies
- Squitter (detection of DF17 Extended Squitter)
- Elementary Surveillance

STANDARD ACCESSORIES

- Omni antenna
- Directional antenna
- (T-49C) Single TAP-135 diversity antenna coupler
- (T-49CA) Dual TAP-135 over/under anti-radiation diversity couplers

REGULATORY REQUIREMENTS

- Performs tests required by FAR Appendix F Part 43
- FCC Type Acceptance ID BY9T49

OPTIONAL ACCESSORIES

- TAP-141 direct connect coupler

WARRANTY

- 2 year limited warranty
- 5 and 10 year warranties available
- 1 yr calibration cycle



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• S P E C I F I C A T I O N S •

TEST SET⁽¹⁾

TRANSMIT	- Frequencies	1030 MHz & 1090 MHz
	- Frequency accuracy	± 1 KHz
	- Output power high/low	+ 10 dBm/-10 dBm nominal
	- Pulse amplitude on/off ratio	greater than 60 dB
	- DPSK accuracy	180 ± 22 degrees
	- DPSK amplitude modulation	less than 10%
RECEIVE	- Frequencies	1090 MHz & 1030 MHz
	- Sensitivity	-15 dBm nominal

UNIT UNDER TEST⁽¹⁾

Receiver Sensitivity ⁽²⁾	-65 to -80 dBm ± 2 dB
Radiated Power ⁽²⁾	47 to 60 dBm ± 2 dB
Frequency ⁽²⁾	1086.5 to 1093.5 MHz
Reply Efficiency	0 to 99% ± 1%

TCAS SCENARIOS⁽³⁾

	<u>Constant altitude</u>	<u>Constant altitude</u>	<u>Co- altitude</u>	<u>Closing altitude</u>
Start/end range	14 nmi	14 nmi	14 nmi	14 nmi
Min. Separation	0 nmi	0 nmi	0 nmi	0 nmi
Range Rate	300 kts	300 kts	300 kts	300 kts
Start Altitude	+200/-200 ft	+4000/-4000 ft	0 ft	+3500/-3500 ft
End Altitude	+200/-200 ft	+4000/-4000 ft	0 ft	0 ft

PHYSICAL

Packaging	MIL-PRF-28800F
Temperature, operating limits	-30° to 50° C
Size	14.5 x 9.4 x 6.5 inches
Weight	20 pounds
Battery life	8 hours min. at 50% duty cycle
Battery charger/power	Built-in, 115 or 230 VAC, 50 to 400 Hz
Antenna	Detachable

Notes:

- (1) Standard condition values
- (2) These measurements require the TAP-135 coupler installed on the UUT antenna(s) or the TAP-141 directly connected to the UUT
- (3) All scenarios can be stopped and restarted by the operator
- (4) Allows selection of Mode S altitude in 25ft. Increments for TCAS testing



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