

UC-584S

Top Mount Transponder Antenna Coupler

Designed for the top L-Band “shark fin” transponder antenna that can be safely placed with a pole.

The UC-584S Top Mount Transponder Antenna Coupler solves the problem of reliable FAR Part 43 Appendix ‘F’ ERP (Effective Radiated Power) and transponder MTL (Minimum Trigger Level) testing in multi-path environments. The coupler is designed for use on the upper antenna and can be safely placed with a pole, eliminating the need to climb onto the fuselage and harness in for safety purposes. The UC-584S top mount coupler can easily be placed over the upper antenna from the ground or scaffolding, depending upon the size of the aircraft.

The UC-584 provides >20 dB of attenuation and minimizes the chance that airborne TCAS systems and air traffic controllers will see UUT transponder altitude replies under test conditions. The innovative design of the UC-584S includes an integral positioning slot, ensuring a high level of measurement repeatability is achieved, saving test time. The UC-584S can be connected to the VIAVI IFR6000, IFR6015, and APM-424 flight line test sets or to the VIAVI IFF-45TS bench test set, or to any suitable transponder test set.

Features

- Effective solution to FAR Part 43 Appendix ‘F’ ERP and MTL testing in multi-path environments
- Provides >20 dB of isolation
- Provides shielding for ADS-B performance testing UUT parametric tests
- Hook for easy top mount, pole placement
- Dual antenna kit configuration
- Rugged design for ramp use
- Fits most ‘Shark Fin’ L-Band antennas

Benefits

- Design eliminates the need to climb onto the aircraft for placement
- Reduces false intruders and interference with air traffic control tower¹
- High level of measurement repeatability is achieved, saving test time
- Universal design allows coupler to be used with any suitable transponder test set

¹ Effectiveness of the coupler is dependent on the distance of the ADS-B ground station to your test site and any shielding in your hanger.



General Specification

| Transponder Antenna Coupler | |
|-----------------------------|---|
| Frequencies | 1030 MHz, 1090 MHz |
| Return Loss | >7.71 dB at both the antenna under test input and coupler input |
| Insertion Loss | 0.6 dB ±0.5 dB typical |
| Repeatability | <1 dB |
| Isolation | >20 dB |
| Connector | TNC Female |

Physical Characteristics

| | |
|---------------------------------|--|
| Dimensions (UC-584 and UC-584S) | 8.2 in x 5.75 in x 5.25 in (20.9 cm x 14.6 cm 13.3 cm) |
| Weight (UC-584 and UC-584S) | 2 lbs (0.9 kg) |

Maximum aircraft antenna size accommodated

| UC-584 | |
|-----------|---------------------|
| Width | 3.9 in (9.9 cm) |
| Thickness | 0.325 in (0.825 cm) |
| Height | 2.9 in (7.37 cm) |
| UC-584S | |
| Width | 3.9 in (9.9 cm) |
| Thickness | 0.25 in (0.635 cm) |
| Height | 3.75 in (9.52 cm) |

Ordering Information

Versions and Options

| Order Number | Description |
|--------------|---|
| 142094 | UC-584S Top Mount Transp. Antenna Coupler |

This item can be ordered separately or is included with the UC-584 Coupler Kit. See kit options below.

Optional Accessories

| | |
|-------|--|
| 90106 | Kit, Antenna Coupler Pole, 8 ft. w/ D Ring |
|-------|--|

Kit Contents

| Item | Part No. | Single | Dual |
|--|----------------------------------|------------------------------|------------------------------|
| | | Antenna Coupler Kit (112350) | Antenna Coupler Kit (112349) |
|  UC-584 L-Band Coupler (w/ clamping) | 87431 | 1 | 1 |
|  UC-584s L-Band Coupler (top mount) | 142094 | 0 | 1 |
|  Coaxial Cable (25 ft) (TNC-TNC) | 62462 | 1 | 1 |
|  Coaxial Cable (25 ft) (TNC-TNC, right angle) | 141131 | 0 | 1 |
|  Soft Case | 142158 | 1 | 1 |
| ID Card | 139823 (single) 139824 (dual) | 1 | 1 |
| Application Notes | 89148 | 1 | 1 |
| Instruction Sheet | 92715 | 1 | 1 |



Contact Us: +1 800 835 2352 | avcomm.sales@viavisolutions.com.

© 2025 VIAVI Solutions Inc. Product specifications and descriptions in this document are subject to change without notice. Patented as described at [viavisolutions.com/patents](https://www.viavisolutions.com/patents)

[viavisolutions.com](https://www.viavisolutions.com)

UC-584S-br-avi-nse-ae
30187490 903 0525