TBS Triumph Pro (SMA)

5.8 GHz FPV video antenna
RHCP circular polarization · SMA connector



Never power on a video transmitter without an antenna connected. Connect and disconnect the antenna only with the power switched off.

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1. Product description

1.1 Intended use

The **TBS Triumph Pro (SMA)** is a small, lightweight omnidirectional antenna with circular polarization for FPV video transmission in the 5.8 GHz band. It was designed by antenna designer IBCrazy and is manufactured by Team BlackSheep (TBS). It connects via an SMA connector to the video transmitter (VTX) on the drone or to a video receiver, for example in FPV goggles.

According to the manufacturer, the antenna elements create a precise circular radiation pattern that is not distorted by proximity to the aircraft or other objects, and, like the original Triumph, reject noise and signal reflections. The microstrip design in a rigid, ultrasonically welded, foam-filled enclosure and the double-jacket semi-rigid cable allow mounting even in exposed places on the drone, where the signal propagates better.



TBS Triumph Pro with SMA connector

1.2 Specifications and package contents

Product designation	TBS Triumph Pro (SMA)
Manufacturer	TBS Avionics Limited (Team BlackSheep), Hong Kong, www.team-blacksheep.com
Type	passive antenna – no electronics, no battery
Frequency range	5500–6000 MHz
Polarization	RHCP (right-hand circular)
Gain	1.6 dBic
Axial ratio	0.99
Weight	6 g
Height	95 mm
Connector	SMA
Package contents	1× TBS Triumph Pro SMA antenna
Not included	video transmitter or receiver, connector adapters, antenna mount, fastening material

2. Use

2.1 Connecting the antenna

① Switch off the power of the device you are connecting the antenna to – on a drone, disconnect the battery; switch off the goggles or receiver.

② Check that the device has an **SMA** connector. SMA and RP-SMA connectors look the same but do not mate correctly – they differ in the centre pin and socket. For a different connector type, use a suitable adapter (not included).

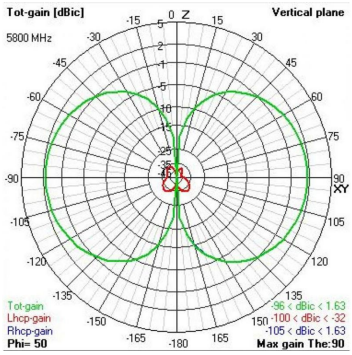
③ Fit the connector straight on and screw the coupling nut on **by hand**, without cross-threading. Tighten finger-tight only – do not use pliers or a wrench; excessive force damages the connector of both the antenna and the device.

④ Only switch on the power once the antenna is connected.

Never power on a video transmitter without an antenna connected – the transmitter may be permanently damaged.

2.2 Positioning and mounting on the drone

- Position the antenna so that its head protrudes beyond the frame and is not covered by carbon parts, the battery, cables or metal parts – these strongly attenuate the 5.8 GHz signal.
- The radiation pattern shows that the antenna radiates most strongly to the sides, perpendicular to its axis, and least along its axis (above and below the head). Orient it so that the antenna axis does not point towards where you will be with the receiver.
- Secure the antenna to the frame (with a mount, cable tie or heat-shrink tubing) so that it does not wobble in flight and cannot touch the propellers.
- Do not bend the cable sharply or repeatedly, especially right next to the connector, and do not lever the connector – it could break off in a crash.



Radiation pattern in the vertical plane at 5800 MHz according to the manufacturer (Z axis = antenna axis).

2.3 Polarization

The antenna has right-hand circular polarization **RHCP**. Both ends of the link – the video transmitter and the receiver (goggles) – must use antennas with the **same polarization**, i.e. RHCP with RHCP. Combining RHCP and LHCP considerably reduces range and image quality. Avoid combining linearly polarized antennas with circularly polarized ones unless necessary.

2.4 Care, inspection and safety

- After every crash, check the head enclosure, cable and connector. A cracked enclosure, a kinked or cut cable or a loose connector reduce range – replace a damaged antenna.
- Keep the connector thread and contacts clean and dry; when storing, fit a protective cap on the connector if you have one. Do not use solvents for cleaning.
- Do not shorten the antenna, bend its head or modify it in any way – this changes its properties.
- The product contains small parts and is not a toy. Keep it out of the reach of children.
- The radiated power (e.i.r.p.) depends on the output power set on the video transmitter and on the antenna gain. The user is responsible for selecting the channel and power in accordance with regulations. In the Czech Republic, a maximum of 25 mW e.i.r.p. is permitted for general use in the 5725–5875 MHz band (ČTÚ general authorization VO-R/10). **The law of the country in which you operate the equipment always applies** – other countries have their own bands and limits.

3. Information for the EU and Czech Market

3.1 Importer and responsible person in the EU

The product is placed on the European Union market by the importer stated below, who is at the same time the responsible person within the meaning of Article 16 of Regulation (EU) 2023/988 of the European Parliament and of the Council on general product safety (GPSR).

Importer / responsible person in the EU	Rotorama, s.r.o.
Company ID (IČO)	051 57 692
VAT ID (DIČ)	CZ05157692
Registered office	Okrajová 1351, 674 01 Třebíč, Czech Republic
E-mail	info@rotorama.cz
Phone	+420 252 252 098
Website	www.rotorama.com

3.2 Disposal of electrical equipment



- The crossed-out wheeled bin symbol on the product, its packaging or in the documentation means that at the end of its service life the product **must not be disposed of together with mixed municipal waste**.
- Hand it over at a take-back point for electrical equipment – at a collection yard, at a take-back point of a collective system, or at the retailer when purchasing a new equivalent product. Take-back is free of charge for the end user.
- The obligations under Act No. 542/2020 Coll., on end-of-life products, are fulfilled by the importer through a collective take-back system.
- Proper disposal helps prevent negative impacts on the environment and human health and contributes to the reuse of secondary raw materials.

Through its contractual partner **ASEKOL a.s.**, the company ensures the take-back of waste electrical equipment from households and the separate collection of waste electrical equipment, batteries and accumulators in accordance with the applicable legislation. The customer is entitled to hand over old electrical equipment or a battery or accumulator at any collection point of the above contractual partner. The addresses of these take-back points are listed at www.asekol.cz, www.ecobat.cz and also https://visoh2.mzp.cz/RegistrMistZO/RegistrMistZOPublic/MapaMistZpetOdberu.

4. Warranty and rights arising from defective performance

The rights and obligations of the contracting parties are governed by Czech law, in particular by Act No. 89/2012 Coll., the Civil Code, and Act No. 634/1992 Coll., on consumer protection.

- The seller is liable to the buyer for the product being free of defects on receipt. If the buyer is a consumer, a defect may be notified **within two years of receipt** of the product (Section 2165 of the Civil Code).
- If a defect appears within **one year** of receipt, the product is deemed to have been defective already at the time of receipt (Section 2161(5) of the Civil Code).
- When purchasing online, a consumer has the right to **withdraw from the contract within 14 days** of receiving the goods without giving a reason (Section 1829 of the Civil Code).
- Claims should be made with the retailer from whom you purchased the product. The importer's contact details are given in Chapter 3.1.
- The competent body for out-of-court settlement of consumer disputes is the **Czech Trade Inspection Authority**, Štěpánská 796/44, 110 00 Prague 1, www.coi.cz.