5.8GHz SpiroNET 13dBi flat patch antenna

Instruction manual - International edition

Rev 1.0 - Date

Overview

The ImmersionRC 5.8GHz SpiroNET 13dBi patch antenna was developed to offer a high gain alternative to its popular SpiroNET omni directional antennas. Using the ImmersionRC 5.8GHz SpiroNET 13dBi patch antenna directly on a pair of video goggles with built in 5.8GHz receiver, or mounted on a tripod, will easily triple to quadruple the range versus the SpiroNET omni directional antennas. On top of that it offers the same excellent multi-path rejection* not found in any other conventional patch antennas.

The principle behind this hinges on the use of circular polarization rather than linear polarization. Circular polarization has the benefit that reflections change polarization and see a natural attenuation of up to >20dB due to the polarization mismatch. This is an effective means of canceling the negative effects of multi-path interference*.

ImmersionRC offers the same 5.8GHz SpiroNET 13dBi patch antenna in different configurations, which from a specification point of view only differ from one another in terms of Left- or Right-hand circular polarization.

White radome > No Print > SMA male connector : Right-hand circular (RHCP)
White radome > Pinted circle with a L > SMA male connector : Left-hand circular (LHCP)

Package Content

The ImmersionRC SpiroNET 13dBi patch antenna is shipped with the following items:

1pcs - ImmersionRC 5.8GHz SpiroNET 13dBi patch antenna.
2pcs - ImmersionRC logo stickers 10cm

Specifications

Typical impedance at 5.8GHz	50 Ohm
SWR	<1.35 at 5.8GHz
Gain	13dBic
Polarization	Left- or Right-hand circular (LHCP, RHCP)
Radiation pattern	35-degrees vertical and horizontal
Configuration	Multi-element, phased, patch antennas
Dimensions (LxWxH	95x95x10mm
Weight (Grams)	52 grams
Connector	SMA male

Instructions on use

In order to gain the most benefit from using ImmersionRC's 5.8GHz SpiroNET 13dBi patch antenna the antennas on the transmitter and the receiver need to be of the same polarization i.e. either both need to Right-hand or both need to be Left-hand polarized and for the best results they should both be SpiroNET antennas.

The antenna on the model needs to be a SpiroNET omni directional antenna and should be mounted as much vertical as possible whilst making sure that the antenna has free 'view' all around. Make sure that the antenna is not blocked by parts of your model, for example the battery or parts of a carbon fiber frame, etc. In practice this means mounting the antenna high up off of the center of your model, or from the tail or front, alternatively the antenna can be mounted pointing down, as long as it is mounted vertically.

On the ground the ImmersionRC 5.8GHz SpiroNET 13dBi patch antenna can be mounted to the video goggles directly, using the built-in 5.8GHz receiver. Take note however that the bulk of the gain is distributed in front of the antenna which has a beam width, much like a flashlight, of about 35-degrees. It is essential to stay within this beam to guarantee maximum range, or when flying through trees and bushes, maximum penetration.

If your aim is to both be flying around yourself as well as far out, you either need to keep turning your head towards the model, or opt for a ImmersionRC Duo5800 which will allow you to use a SpiroNET omnidirectional antenna on one antenna input and the SpiroNET 13dBi patch antenna on the other, where the receiver will always switch to the one with the best signal.

Support

First line of support is done by the reseller. If you encounter any problems with your ImmersionRC product contact them first.

For support on issues involving equipment from other brands and also general support for ImmersionRC products, the best place to go is the ImmersionRC section of FPVlab.com.
We actively monitor this forum and provide support here.

Regulatory notice

The use of this product may be prohibited in your country/region/state, please verify that the RF output power and frequencies used by this transmitter comply with local rules and regulations, this product may require a license to operate.

Directions on safety

ImmersionRC advocates the safe use of their products, always make sure you equipment is in proper working order, is checked prior to every flight and that your are familiar with and respect the equipment's capabilities and limitations. Do NOT fly recklessly, do NOT fly near airports, freeways, towns, people, etc, basically anywhere where a equipment failure or pilot error can result in injury or damage to people and/or property.

Warranty

For warranty claims or repair requests please consult the retailer that you purchased this product from, they will be able to help you with your warranty claim or repair request.

Like Us

We would like thank you for purchasing this ImmersionRC product.

Like ImmersionRC's Facebook page and be kept up-to-date with news, product releases, firmware updates, tips and tricks, and other information relevant to the FPV hobbyist.

http://www.facebook.com/ImmersionRC

You can also follow us on Google Plus
google.com/+immersionrc

We have even been known to Tweet on occasion
https://twitter.com/@immersionrc

Manual rev1.0, ImmersionRC Limited - July 9th 2014