

Antenna

Revision 2

FCC ID: 2APZQ- ZYGO2T
IC: 23961-ZYGO2T

Description: Zygo Underwater Communication Radio Transmitter
Model Name: Zygo
Model Number: ZY600

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By

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The Zygo Transmitter has two antennas. One is for its VHF radio. The second is for its BLE radio.

The VHF antenna is a “Meandered Dipole.” See Figure 1 and Figure 2.

The Bluetooth LE (BLE) is a “PIFA” trace on the main PCBA. See Figure 3.

The peak gain by tested channel for the Zygo Transmitter VHF antenna is in Table 1.

The peak gain for the Zygo Transmitter BLE antenna is + 3.07 dBi. See Table 2.

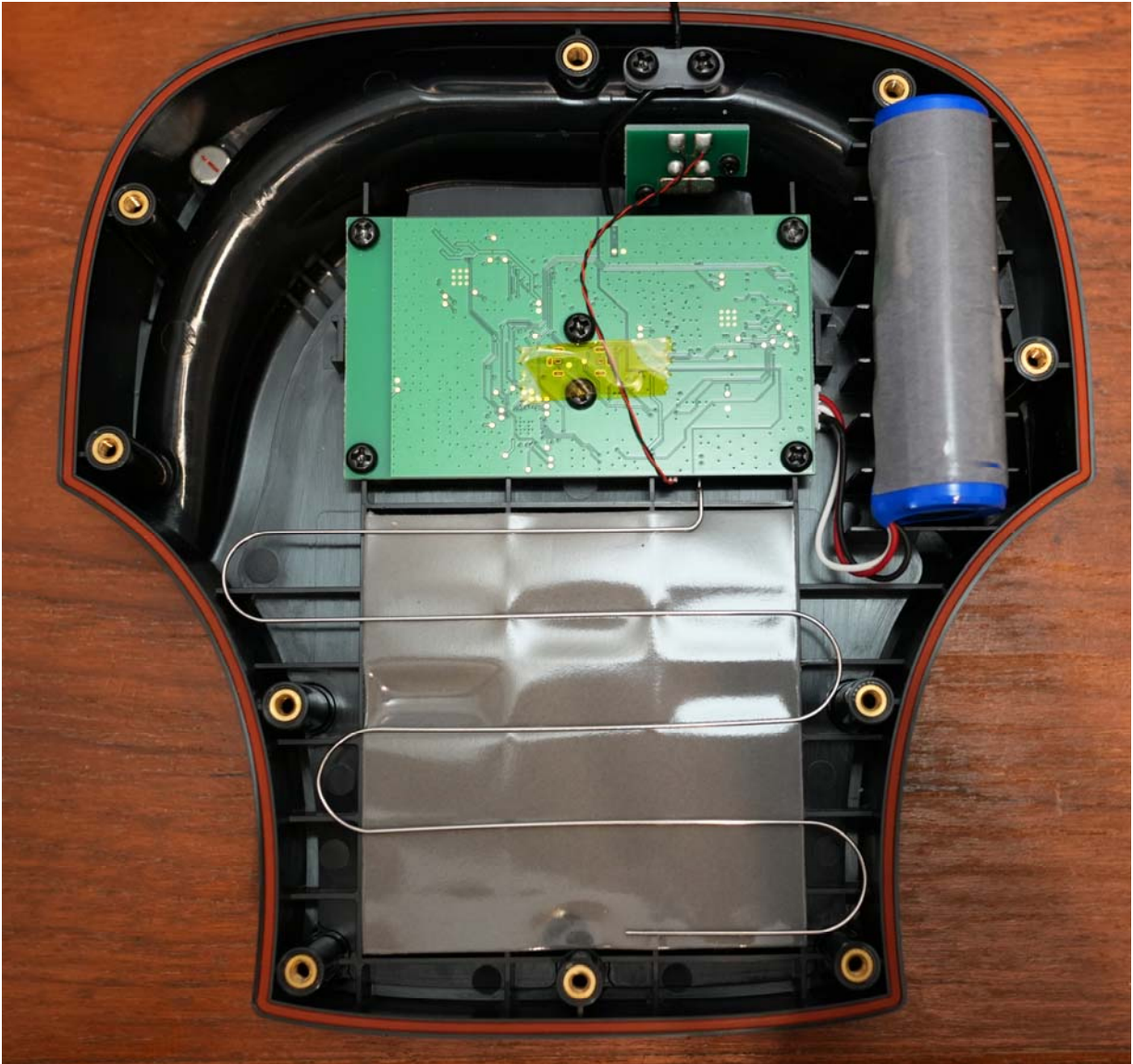


Figure 1 – Interior of Zygo2 Transmitter with its portion of the VHF antenna

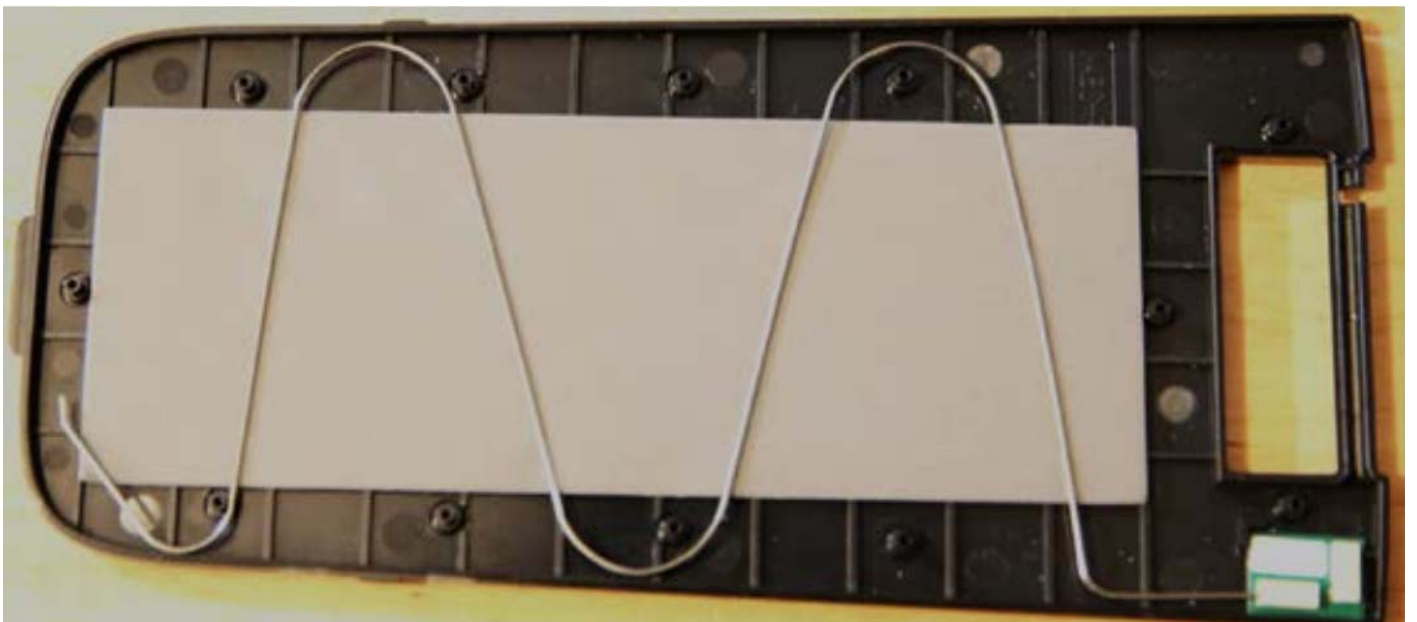


Figure 2- Zygo2 Transmitter extension with its portion of the VHF antenna

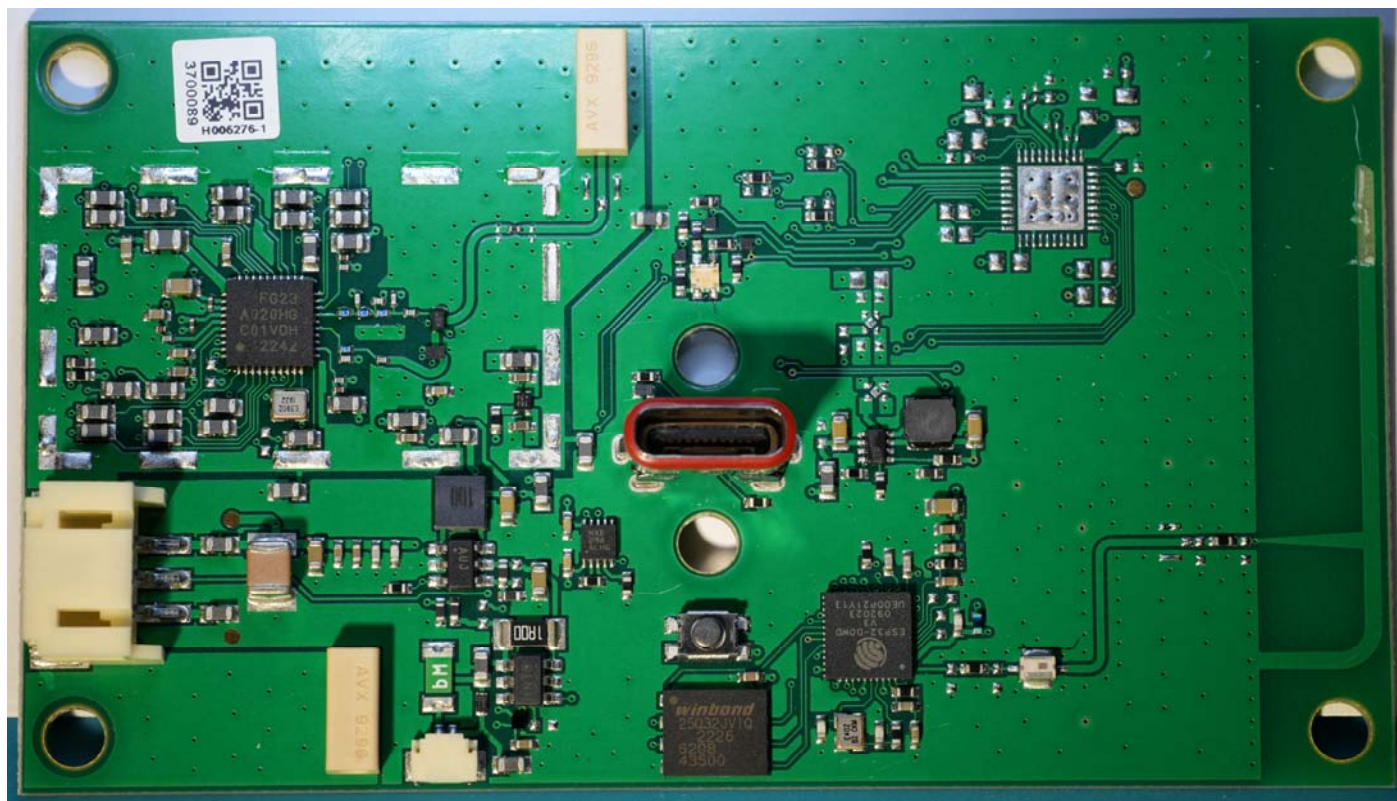


Figure 3 – Bluetooth RF Section of Zygo2 Transmitter with “PIFA” antenna

Table 1 – VHF antenna gain by frequency tested

Gain Per Channel Tested		
Channel	Frequency (MHz)	Gain
Low	175.0	-4.99
Middle	194.5	3.50
High	209.5	3.48

Table 2- BLE antenna gain by frequency

Average Gain Comparison: All data points averaged for each frequency and all angles (dBi)							Avg Gain (dBi)	Max Gain (dBi)
Frequency (MHz)	2452	2457	2462	2467	2472	2484	2.4 GHz ISM Band	Peak Gain highlighted
ZYGO-2 TX BLE DVT Antenna V-Pol Az (02/27/2024)	-3.55	-3.49	-3.47	-3.46	-3.43	-3.47	-3.65	-1.08
ZYGO-2 TX BLE DVT Antenna H-Pol Az (02/27/2024)	-10.55	-10.54	-10.61	-10.63	-10.60	-10.82	-10.51	-3.27
ZYGO-2 TX BLE DVT V-Pol El F/B (02/27/2024)	-3.61	-3.61	-3.66	-3.72	-3.75	-3.97	-3.61	2.73
ZYGO-2 TX BLE DVT H-Pol El F/B (02/27/2024)	-4.85	-4.80	-4.68	-4.60	-4.62	-4.78	-4.80	0.04
ZYGO-2 TX BLE DVT V-Pol El L/R (02/27/2024)	-12.10	-12.11	-12.17	-12.23	-12.23	-12.39	-12.12	-6.95
ZYGO-2 TX BLE DVT H-Pol El L/R (02/27/2024)	-1.84	-1.86	-1.83	-1.82	-1.87	-2.07	-1.78	3.07