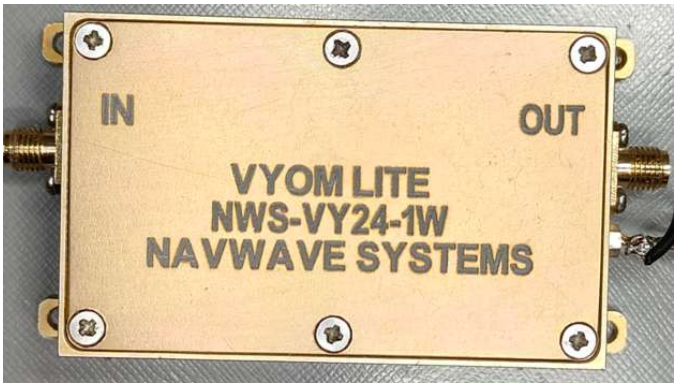
2.4GHz-2.5GHz Bi-Directional Amplifier



1.0 Introduction

The Navwave Systems Vyom-Lite, **NWS-VY24-1W,** is a compact, high-performance Bi-Directional Amplifier delivering one watt (30 dBm) of output power. Designed as an add-on module, it is fully compatible with Zigbee and Wi-Fi transceiver modules, operating seamlessly across the 2.4 GHz – 2.5 GHz frequency band.

The Vyom-Lite supports both transmit (Tx) and receive (Rx) operations autonomously, requiring no external control logic from the host Zigbee/Wi-Fi transceiver. In the transmit direction, the module delivers a robust 1W output to the antenna port, ensuring reliable signal transmission. In the receive direction, the module operates with minimal insertion loss to preserve signal integrity. Additionally, an optional low-noise gain path is available for the receive chain, which can be enabled based on specific customer requirements.

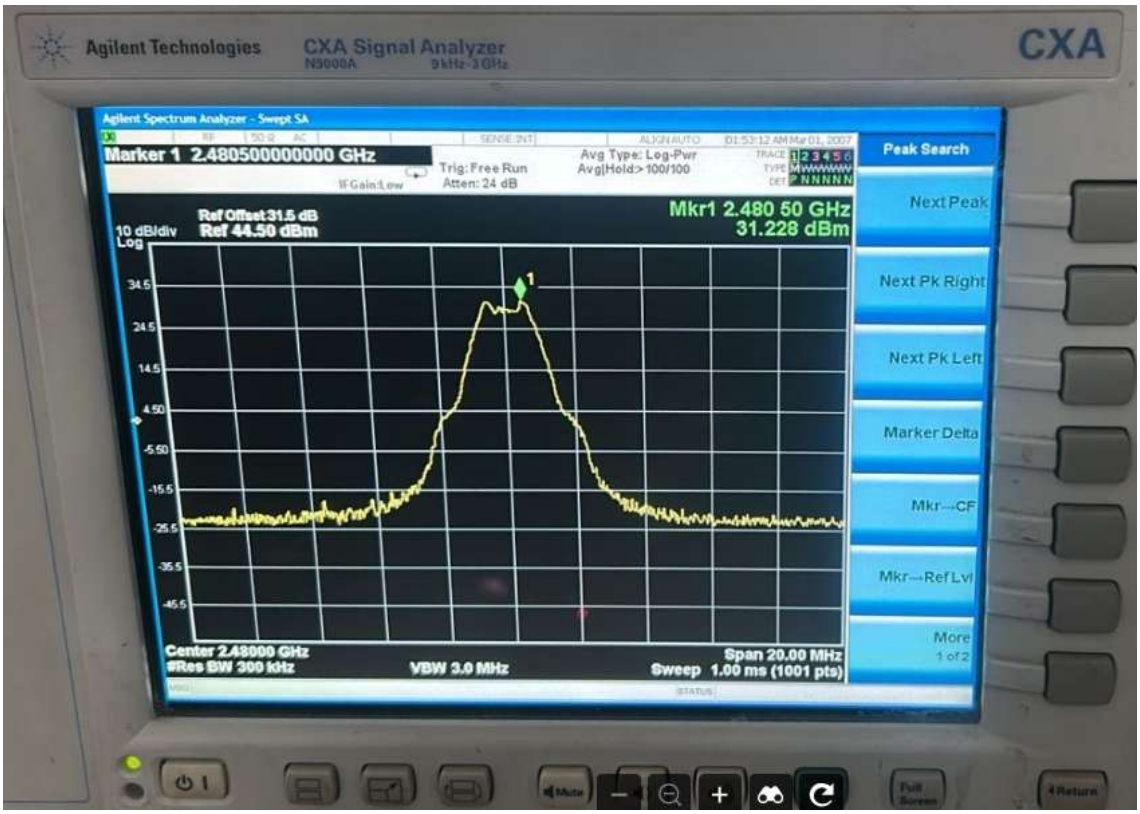
Technical specifications for the Vyom-Lite is provided in the following section.

2.0 Specifications

Sl.No	Parameter	Specifications	Remarks
1.	Operating Frequency	2.4 GHz- 2.5 GHz	
2.	Gain in Tx path	28 dB	
3.	Gain in Rx path (Bypass path)	15 dB -2 dB	Bypass LNA path is available with a gain of -2 dB
4.	1 dB GCP	31.5 dBm	
5.	Input power	5 dBm	For 1 W Output
6.	Damage Input power	8 dBm	Not more than 8 dBm
7.	In/Out Connectors	SMA(F)	
8.	Operating Voltage	5V	
9.	Current consumption	900mA (Max) Tx Less than 10mA Rx	Current Drawn 10 mA in Idle state
10.	In/Out Connectors	SMA(F)	
11.	Power ON Indication	Green LED	

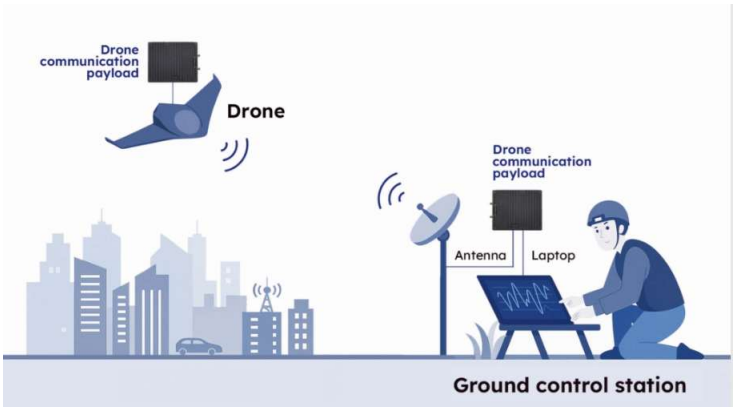
12.	Mechanical Dimensions	70mmx43mmx24mm	LXWXH
13.	In/Out Impedance	50 Ohms	
14.	Power supply interface	Through Feed through and Ground LUG	

Output Power Plot:



Applications:

Drone



Industrial Zigbee

