

100-6000MHz Digital Signal Source

Product Introduction

It is an innovative and practical software-defined radio (SDR) multi-channel RF tuner solution that supports various modulated signals such as LORA, FM, AM, and FSK. It supports swept frequency signals from 100MHz to 6GHz, with up to 8 selectable segments of swept frequency signals. Each segment has a maximum bandwidth of 50MHz, and the total bandwidth of the 8 segments is 400MHz. Within each 50MHz range, 10 sub-segments can be custom configured, with a minimum step size of 1MHz.

It can achieve full-band interference from 100MHz to 6GHz, basically covering common wireless communication frequency bands, including civilian communications (such as 2.4GHz, 5.8GHz, Wi-Fi), Bluetooth, drone remote control links, some 4G/5G frequency bands, walkie-talkie frequency bands, etc. This is equivalent to an "all-purpose" signal jammer, capable of handling almost all common wireless communication frequencies, thus avoiding the limitation of traditional devices that can only target specific frequency bands.

Product Features

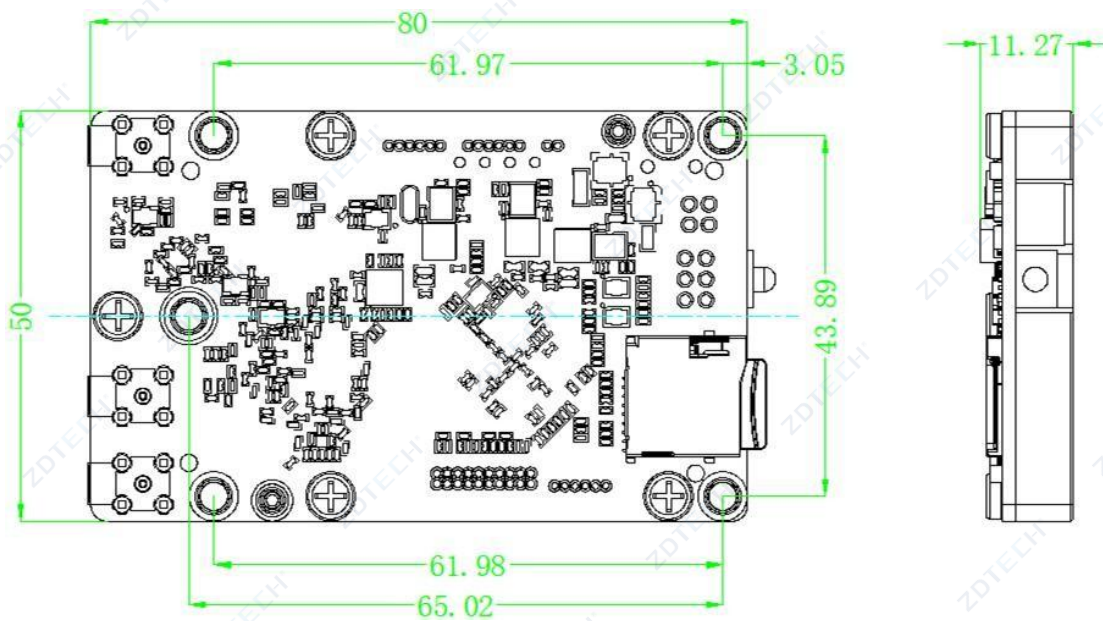
Signal source performance: It features extremely high output power uniformity (with fluctuations controlled within 0.5dB), high signal flatness, excellent out-of-band rejection capability, and clean performance of harmonic and spurious signals.

Signal Source Advantages: The swept frequency signals support a maximum bandwidth of 400MHz and a minimum step size of 1MHz. They also support frequency hopping and segmented use, and do not require a continuous 400MHz bandwidth.

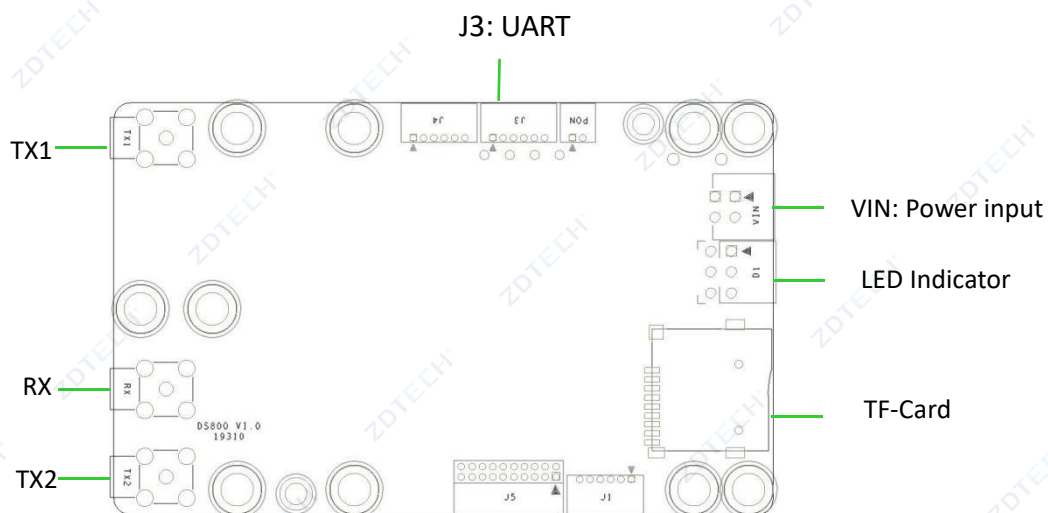
Environmental Adaptability: It can withstand a temperature range of -40°C to 85°C, as well as humidity conditions of 10%-90% RH (without condensation).

Power Consumption Advantages: It features low power consumption, with a maximum operating power of only 8W, and is powered by DC12V to DC28V.

Upgrade without worries: It supports one-click upgrade of board software via TF card.



Interface Diagram



Interface Description

	VIN	Power input DC 12V-28V
	Pin 1	V+positive electrode
	Pin 2	GND
	J3	3.3V UART Serial port
	Pin 1	3.3V Output
	Pin 2	Reserved GPO output
	Pin 3	Reserved PPS input
	Pin 4	UART Tx Output
	Pin 5	UART Rx Input
	Pin 6	GND
	RF output port	MCX TX1 (Currently only the TX1 interface is available)

Introduction to Signal Functions

1、Full-Band Jamming Signal (100MHz-6GHz)

The signal source board supports signal transmission in the range of 100MHz to 6GHz, with a maximum bandwidth of 400MHz and a minimum step size of 1MHz. It basically covers common wireless communication frequency bands, such as 2.4GHz and 5.8GHz of communication networks, Wi-Fi, drone remote control links, walkie-talkie frequency bands, etc. The working principle of this signal is similar to a "scanner" — it rapidly cyclically transmits jamming signals across the entire 100MHz to 6GHz range, enabling more efficient, effortless, and rapid signal suppression.



400MHz and 50MHz spectrum diagram

2、LoRa Modulated Signal

The signal source board's capability in interfering with LoRa modulated signals is another highlight of its targeting modern wireless communication technologies. LoRa is a modulation method specifically designed for low power consumption and long-distance transmission. It is commonly used in the field of drone flight control, easily enabling kilometer-level communication. The signal source board can generate signal waveforms compliant with the LoRa protocol; these waveforms can conflict with real communication links, causing the receiving end to fail in correct decoding, thereby achieving the goal of precise interference.



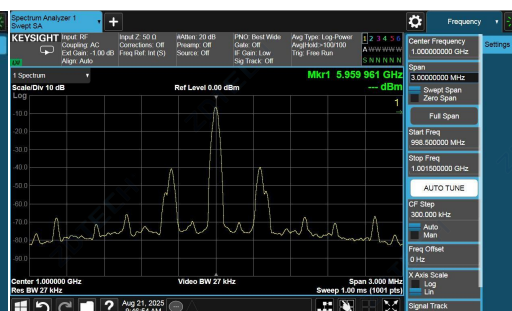
Lora signal spectrum diagram

3、Other Modulated Signals (FM/AM/FSK, etc.)

Other modulated signals are simply the carriers used to "encode" information in wireless communications, such as by "modulating" voice or data onto radio waves for transmission. The signal source board can generate interference signals in these formats to directly suppress the target system's communication protocols. Similar to LoRa, these interference signals are generated based on communication protocols. Common AM/FM modulated signals can be used to suppress walkie-talkies during security incidents, for example. In other applications, they can also block external broadcast signals to prevent information leakage.



FM Signal



AM Signal



FSK Signal



ASK Signal



QPSK Signal