



TFN CK1840D Dual-Ridged Horn Antenna (18GHz-40GHz)

Ultra-Wideband Millimeter-Wave Antenna, Covering Test Solutions up to 40GHz



Product Overview

The TFN CK1840D double-ridged horn antenna represents a breakthrough in broadband antenna technology, pushing the boundaries of superior frequency coverage, spanning an astonishing 18GHz to 40GHz . This antenna not only achieves seamless coverage from conventional microwave to millimeter-wave bands , but also maintains high gain (14-18 dBi) at ultra-high frequencies in a compact and lightweight design (only 0.5 kg) . It is an ideal tool for cutting-edge electronic countermeasures (ECM), ultra-wideband EMC testing, and millimeter-wave research , providing engineers and researchers with unprecedented full-band testing capabilities.

Core Features

- Ultimate broadband coverage : Covering 18 GHz to 40 GHz across multiple bands, significantly simplifying test system complexity and reducing the number of antennas.
- High-frequency high gain : In the frequency band up to 40GHz, it still provides excellent gain of 14dBi to 18dBi , ensuring the effective reception and transmission of millimeter wave signals.
- Extremely compact and lightweight : Measuring only 68.4mm * 40mm * 33mm and weighing approximately 0.5kg , it is the perfect choice for integration into automated test systems, darkrooms, and portable devices.
- High power carrying capacity : Maximum input power reaches 100W , meeting the needs of high-power transmission applications, strong and reliable.
- Precision interface and customization : Standard 2.92mm precision connector (customizable) ensures excellent RF performance in the millimeter wave band.

Customer pain points & Product selling points

Customer pain points	CK1840D Solution
Testing below 40GHz requires multiple antennas, resulting in a	Single antenna covers 18G-40GHz : One set of antennas replaces multiple solutions, greatly reducing equipment



Customer pain points

complex and costly system.

The millimeter wave antenna gain is insufficient and the test signal is weak

High-frequency antennas are bulky and difficult to integrate

Millimeter wave test equipment connections are complex and interfaces are easily damaged

Finding a test platform that can cover future technologies

CK1840D Solution

costs and switching time, and achieving true "one-stop" testing.

Up to 18dBi millimeter wave gain : Provides strong signal amplification capabilities in high-frequency bands, effectively copes with path loss, and improves the signal-to-noise ratio.

Industry-leading compact design : Extremely small and lightweight, it opens up new possibilities for compact test benches, OTA chambers, and portable systems.

2.92mm precision interface : Designed specifically for millimeter waves, it offers stable performance and is customizable to ensure optimal and reliable system connectivity.

Future-proof ultra-wideband design : Covers cutting-edge frequency bands such as 5G millimeter wave, satellite communications, and advanced radar, protecting your investment.

Detailed technical parameters

Parameter Category	Specifications
Frequency range	18 GHz ~ 40 GHz
Standing Wave Ratio (VSWR)	≤ 2.5
Gain	14 dBi ~ 18 dBi
Polarization	Linear polarization
Directional pattern	Directional



Parameter Category	Specifications
impedance	50 ohms
Antenna interface	2.92mm (customizable)
Maximum input power	100 W
size	68.4mm × 40mm × 33mm
weight	About 0.5 kg
Operating temperature	-40℃ ~ +40℃
Storage temperature	-35℃ ~ +70℃

Typical application scenarios

1. Advanced EMC/EMI testing : Perform radiated emissions and immunity testing across an ultra-wideband to meet the most stringent international standards.
2. Electronic countermeasures (ECM) and signals intelligence (SIGINT) : used for wide-band signal detection, analysis, positioning and interference.
3. 5G/6G and millimeter wave communication research : Covering all Sub-6GHz and millimeter wave key frequency bands, it is a powerful tool for communication R&D.
4. Radar system testing and verification : Applicable to performance testing of various radar systems such as automotive radar and military radar.
5. Satellite communication test : covering multiple satellite communication frequency bands.
6. Aerospace and Defense : For system integration, platform testing, and battlefield environment simulation.

Why choose the CK1840D double-ridged horn antenna?

1. Unparalleled bandwidth : The coverage range of 18GHz to 40GHz is leading the industry and is your ultimate broadband solution.
2. The perfect combination of performance and size : While providing high gain in millimeter waves, it is extremely lightweight and redefines the standard for high-performance antennas.
3. Born for millimeter waves : The precise 2.92mm interface and optimized design ensure excellent performance at 40GHz, not just "coverage".
4. High-power and durable design : The power capacity of 100W proves its excellent internal structure and reliability, and is suitable for long-term high-power operation.
5. Future-oriented investment : A one-time investment can meet the vast majority of high-frequency testing needs now and in the foreseeable future, with great long-term value.