

14 M HIGH-FIELD TEST SYSTEM

ZN5800-1

High-Power Electric Field Generator

14 m High-Field System for Large EUTs

10 kHz-30 MHz | Up to 10 kW

High-field radiated immunity testing for vehicles and other large equipment under test

KEY CAPABILITIES**10 kHz-30 MHz**

WIDEBAND COVERAGE

10 kW

MAX INPUT POWER

210.75 V/m

PEAK RECORDED FIELD

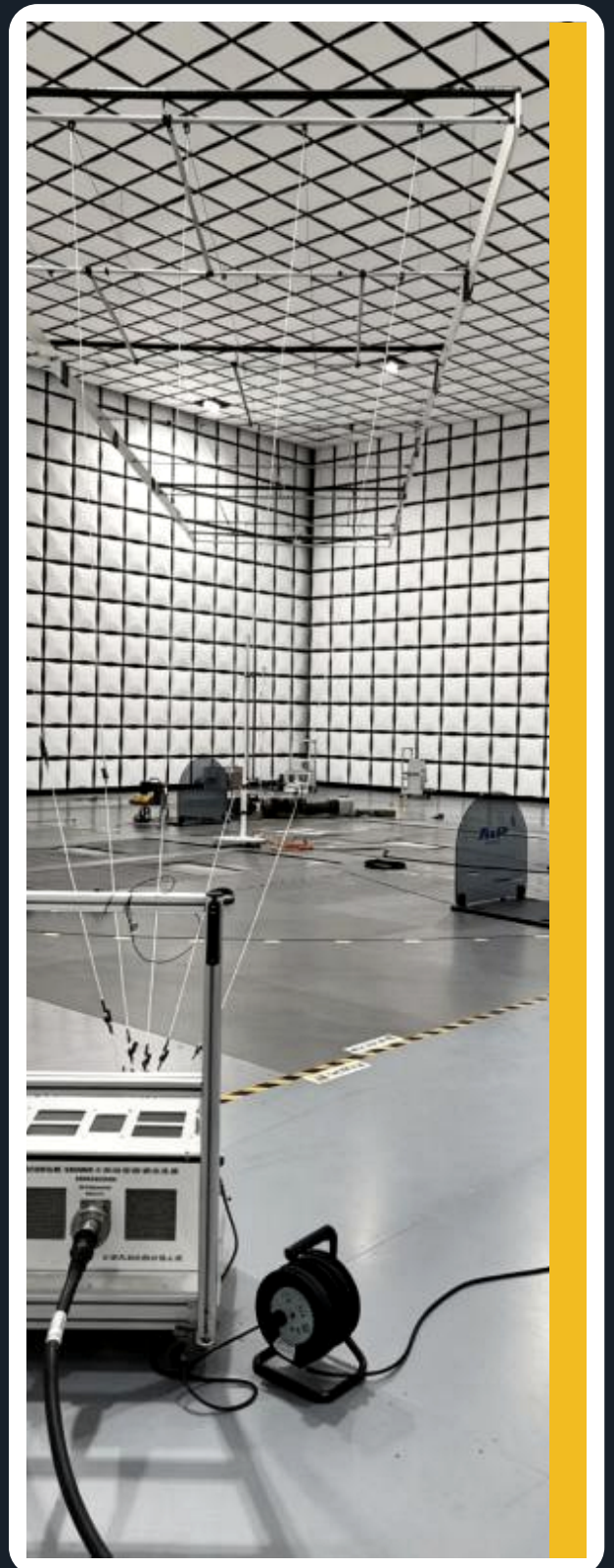
APPLICABLE TEST STANDARDS

GB/T 33014.5-2025

GB/T 33012.2-2016

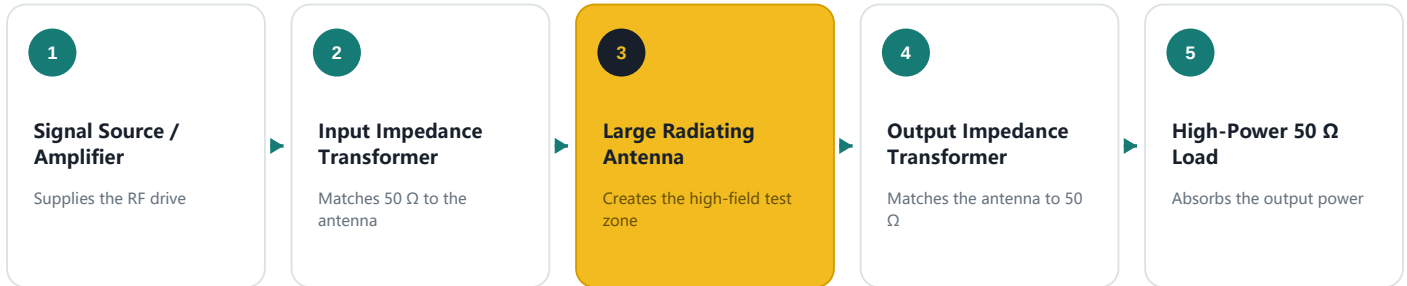
AN END-TO-END TEST CHAIN FOR LARGE EUTS

ZN5800-1 combines a radiating antenna, height-adjustable support frame, two high-power impedance transformers, and a 50 Ω high-power load into a complete RF test chain. It covers 10 kHz-30 MHz, accepts up to 10 kW, and is designed for high-field performance, low average VSWR, and practical assembly at large test sites.



End-to-End High-Power Test Chain RF SYSTEM ARCHITECTURE

One integrated system covers the critical stages from RF drive and impedance matching to high-field generation and power absorption.



SITE DEPLOYMENT / 14 m SYSTEM

WHY CHOOSE ZN5800-1

High-Field Capability

Four measured configurations cover target field strengths of 50 V/m, 100 V/m, and 200 V/m.

Large Test Volume

A 14 m-class support frame and 21.5 m radiating antenna accommodate vehicles and other large EUTs.

Complete Power Chain

Two impedance transformers and a 50 Ω high-power load form a complete RF path.

Practical Site Deployment

Adjustable antenna height and extension sections support different test heights and layouts.

In-House System Design

Core components and the system architecture are developed in house for easier integration, service, and upgrades.

STANDARD CONFIGURATION

Radiating Antenna and Support Frame

1 set

High-Power Impedance Transformer

2 units

Antenna Extension Section

10 pcs

High-Power 50 Ω Load

1 unit

High-Power RF Cable

1 pc

User Manual / Certificate

1 copy each

Measured Performance

FOUR TEST CONFIGURATIONS

The four combined plots use all 517 valid points from the manual. Field strength uses the left axis; forward and reverse power share the right axis. Reverse power remains close to the zero line because it is much lower than forward power.



Measurement Summary

TEST RESULTS

TEST CONFIGURATION	TARGET	MEASURED FIELD	FORWARD POWER	VSWR
2.5 m / 1.0 m / 100 V/m	100 V/m	99.32-105.01 V/m	743.50-3273.80 W	1.00-1.03
2.5 m / 1.0 m / 200 V/m	200 V/m	151.78-210.75 V/m	2959.22-9848.96 W	1.00-1.03
4.5 m / 1.8 m / 50 V/m	50 V/m	49.70-52.64 V/m	658.38-8177.75 W	1.00-1.03
4.5 m / 1.8 m / 100 V/m	100 V/m	52.99-105.39 V/m	2728.09-9875.29 W	1.00-1.03

DATA NOTES

The final chart title in the manual states 4.8 m, while the product overview and corresponding data-table heading both state 4.5 m. This brochure uses the verified 4.5 m value.

Source: ZN5800-1 High-Power Electric Field Generator (14 m) user manual and its four original measured-data tables. All valid measured points are plotted; no interpolated points are used.

Specifications & Delivery

SYSTEM DETAILS

Dimensions, interfaces, power ratings, and supplied items are taken from the user manual for this model.

TECHNICAL SPECIFICATIONS

Frequency Range	10 kHz-30 MHz
Input Impedance	50 Ω
Input Connector	EIA 1 5/8 (13-30)
Polarization	Vertical
Input VSWR	≤ 2 (average)
Input Power	≤ 10,000 W
Operating Temperature	0 °C-40 °C
Radiating Antenna Dimensions	21.5 m × 3 m (L × W)
Support Frame Dimensions	14.55 m × 3.42 m (L × W)
Impedance Transformer Dimensions	700 × 580 × 1100 mm
Impedance Transformer Weight	Approx. 58.5 kg per unit
50 Ω Load	900 × 400 × 1030 mm; 133 kg

SUPPLIED ITEMS

Radiating Antenna and Support Frame	1 set
High-Power Impedance Transformer	2 units
Antenna Extension Section	10 pcs
High-Power 50 Ω Load	1 unit
High-Power RF Cable	1 pc
User Manual / Certificate	1 copy each

APPLICABLE STANDARDS

- GB/T 33014.5-2025
- GB/T 33012.2-2016

OPERATION & MAINTENANCE

- 1

Before testing, confirm that every connection and grounding point is secure.
- 2

Begin testing only after the impedance-transformer and 50 Ω load fans are operating normally.
- 3

After testing, keep the fans running for at least 15 minutes to dissipate heat before shutdown.
- 4

Periodically check the input impedance and VSWR of the 50 Ω load.

Controlled High-Field Testing for Large EUTs

Equipment, matching, antenna, load, and measured data delivered as one complete system.

Warranty: 18 months from the date of shipment

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See the ZN5800-1 monochrome datasheet for all 517 original test-data rows.