EMC Test Antennas

202608

Shenzhen Lorentz EM Technology Co., Ltd.

Company profile

Shenzhen Lorentz EM Technology Co., Ltd. is dedicated to providing users with stable and reliable EMC test antennas. Our signature product—the **Electric Field Generator**, a critical device for electric field radiated susceptibility testing and holder of three invention patents—has been widely adopted by major research institutes, universities, and third-party laboratories in this field, and its reliable quality has received consistent acclaim from users.

Product Overview

Transmitting Antennas for Radiated Susceptibility Testing

Frequency range	Model & Features	Pictures
10 kHz ~ 100 MHz	**LRET-10K30M-1** 10 kHz ~ 30 MHz, 2000 W, 7/16 Female	 Polarization-H
	LRET-10K30M-F1 10 kHz ~ 30 MHz, 3000 W, 7/16 Female	 Polarization-V
	LRET-10K100M-1 10 kHz ~ 100 MHz, 3000 W, 7/16 Female	 Polarization-V  Polarization-H  Polarization-V
	LRET-10K100M-2 10 kHz ~ 100 MHz, 3500 W, 7/16 Female	 Polarization-V  Polarization-H  Polarization-V
	LRET-10K100M-S1 10 kHz ~ 100 MHz, 3000 W, 7/16 Female	 Polarization-V  Polarization-H

Product Overview

Transmitting Antennas for Radiated Susceptibility Testing

Frequency range	Model & Features	Pictures
80 MHz ~ 1 GHz	**LRET-80M1G-1** 80 MHz ~ 1 GHz, 2000 W, 7/16 Female	
1 ~ 40 GHz	**LRET-1G6G-1** 1 ~ 6 GHz, 300 W, N Female	
	LRET-6G18G-1 6 ~ 18 GHz, 200 W, N Female	
	LRET-18G26G-1 18 ~ 26.5 GHz, 400 W, WR-42	
	LRET-26G40G-1 26.5 ~ 40 GHz, 400 W, WR-28	

Product Overview

Receiving Antennas for Radiated Emissions Testing

Frequency range	Model & Features	Pictures
2000 MHz ~ 40 GHz	**ANTH03-002020N-8-111** 200 MHz ~ 2 GHz, N Female, Nominal gain 8 dBi.	
	ANTH03-010180N-10-112 1 ~ 18 GHz, N Female, Nominal gain 10 dBi.	
	ANTH03-180400K-20-211 18 ~ 40 GHz, 2.92mm Female, Nominal gain 15 dBi.	
	ANTH03-180400K-20-211 18 ~ 40 GHz, 2.92mm Female, Nominal gain 20 dBi.	

Contents

E-Field Generators

Electromagnetic compatibility (EMC) testing is essential for both civilian and military equipment, as it evaluates whether equipment can operate safely in complex electromagnetic environments and whether it may interfere with the normal operation of other devices.

Within EMC testing, the electric field generator serves as a transmitting antenna and is a core piece of equipment specifically used for electric field radiation susceptibility testing. Our series of electric field generators are fully proprietary products, with all intellectual property rights owned by our company. [1]

1. Patents：ZL 2021 1 0340959.X, ZL 2021 1 0921717.X, …

10 kHz ~ 100 MHz E-Field Generator Specifications

Model	LRET-10K100M-1	LRET-10K100M-2	LRET-10K100M-S1
Frequency range	10 kHz ~ 100 MHz	10 kHz ~ 100 MHz	10 kHz ~ 100 MHz
Max. power input	3000 W	3500 W	3000 W
Impedance	50 Ω	50 Ω	50 Ω
RF interface	7/16 Female	7/16 Female	7/16 Female
VSWR	≤ 2.0	≤ 2.0	≤ 2.0
Cooling method	Natural cooling	Active cooling	Natural cooling
Polariztion	Vertical only, with LRET-10K100M-1_P01 vertical and horizontal switchable, with LRET-10K100M-1_P02	Vertical only, with LRET-10K100M-2_P01 Vertical and horizontal switchable, with LRET-10K100M-2_P02	Vertical and Horizontal switchable
Dimensions (minimum)	**With LRET-10K100M-1_P01** (2662x1234x1942) mm **With LRET-10K100M-1_P02** a. Polariztion vertical: (2653x1608x1958) mm b. Polariztion horizontal: (2061x1608x2816) mm	**With LRET-10K100M-2_P01** (2662x1234x1942) mm **With LRET-10K100M-2_P02** a. Polariztion vertical: (2653x1608x1958) mm b. Polariztion horizontal: (2061x1608x2816) mm	a. Polarization vertical： (1500x908x1820) mm b. Polariztion horizontal: (1268x908x1911) mm

LRET-10K100M-1

With LRET-10K100M-1_P02
Polariztion vertical

With LRET-10K100M-1_P02
Polariztion horizontal

With LRET-10K100M-1_P01
Polariztion vertical

LRET-10K100M-2

With LRET-10K100M-2_P02
Polariztion vertical

With LRET-10K100M-2_P02
Polariztion horizontal

With LRET-10K100M-2_P01
Polariztion vertical

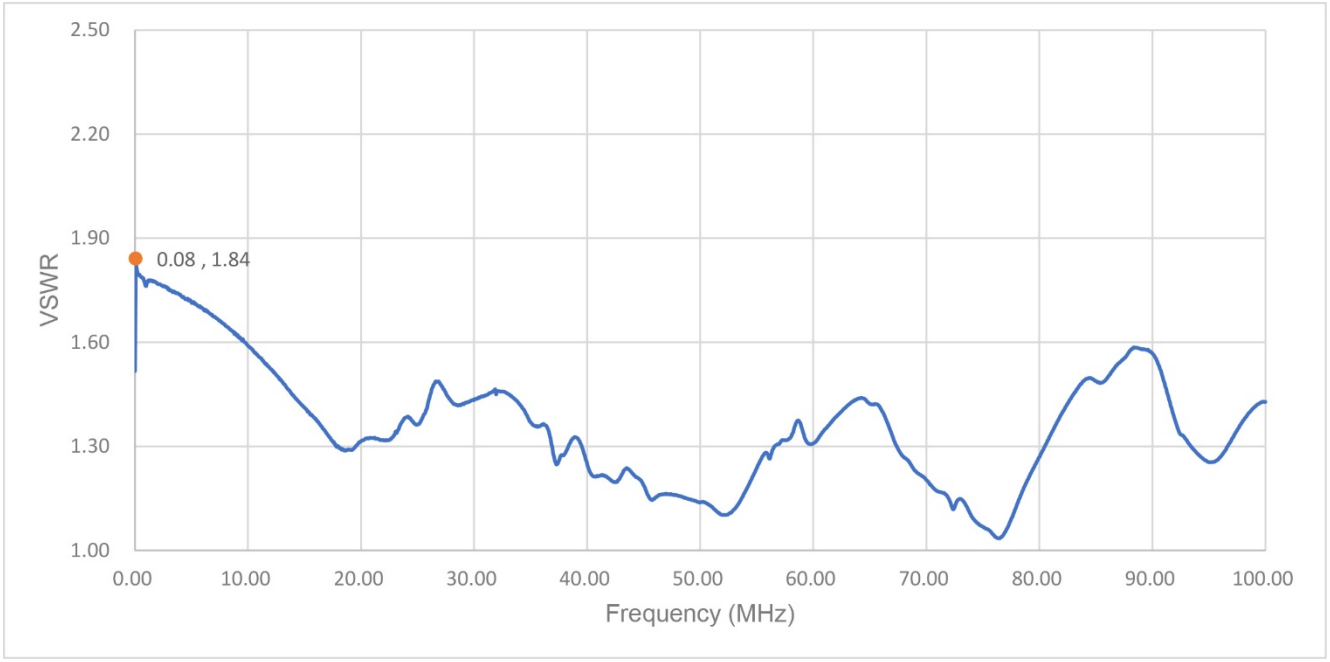
LRET-10K100M-S1

Polariztion vertical

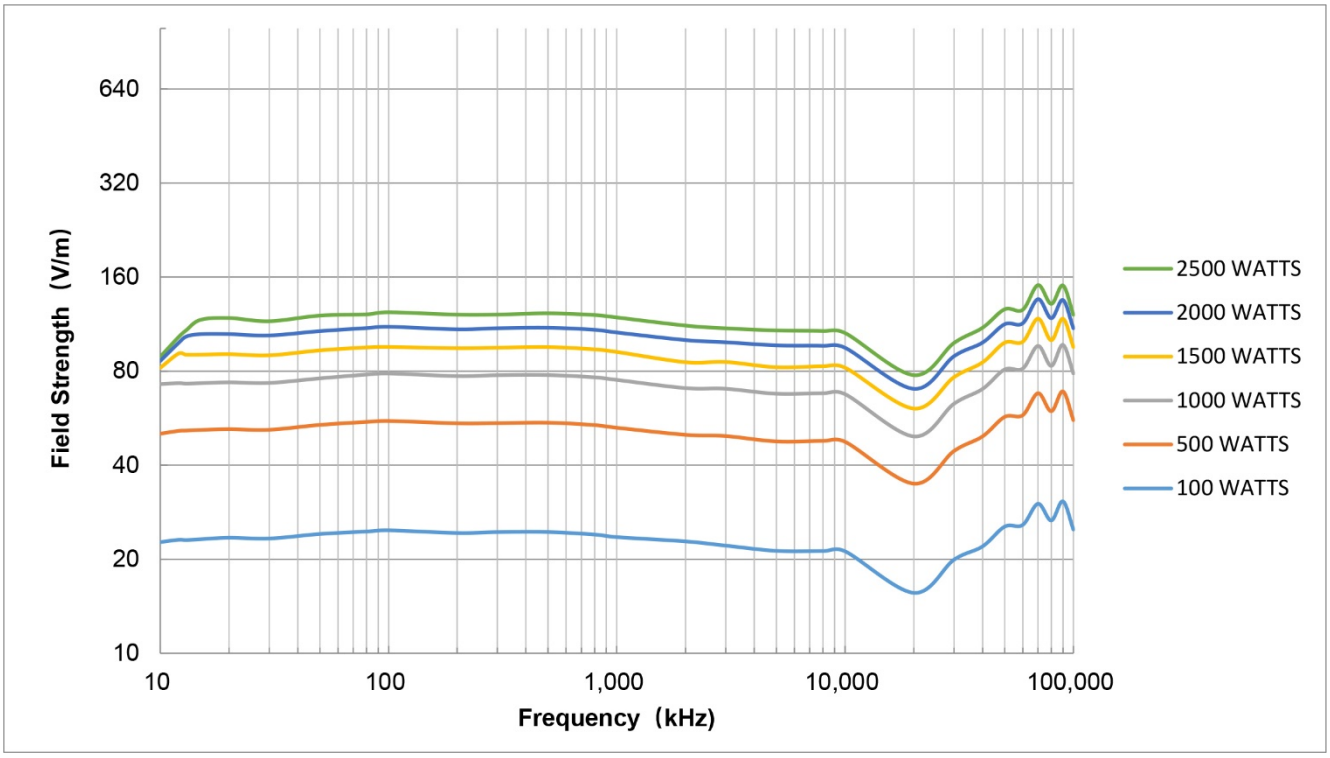
Polariztion horizontal

LRET-10K100M-1, LRET-10K100M-2 and LRET-10K100M-S1 comparison at the same scale

10 kHz ~ 100 MHz E-Field Generator Typical Product Test Data



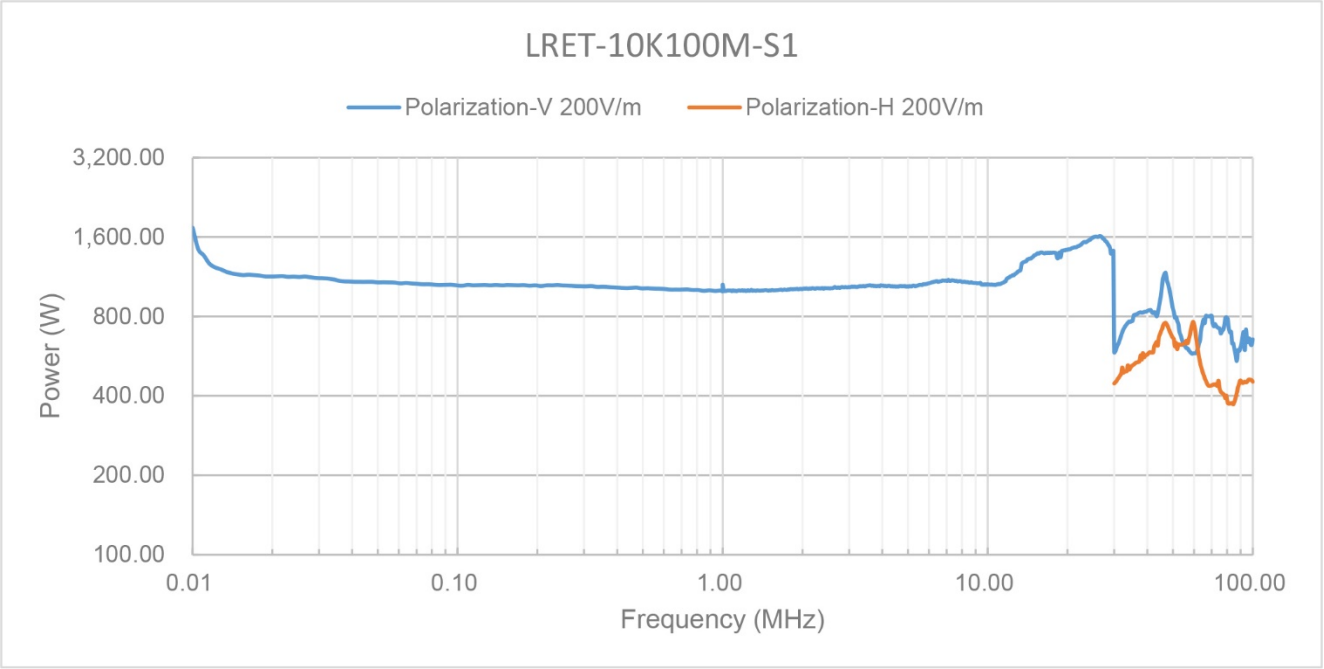
LRET-10K100M-1 VSWR curve [2]



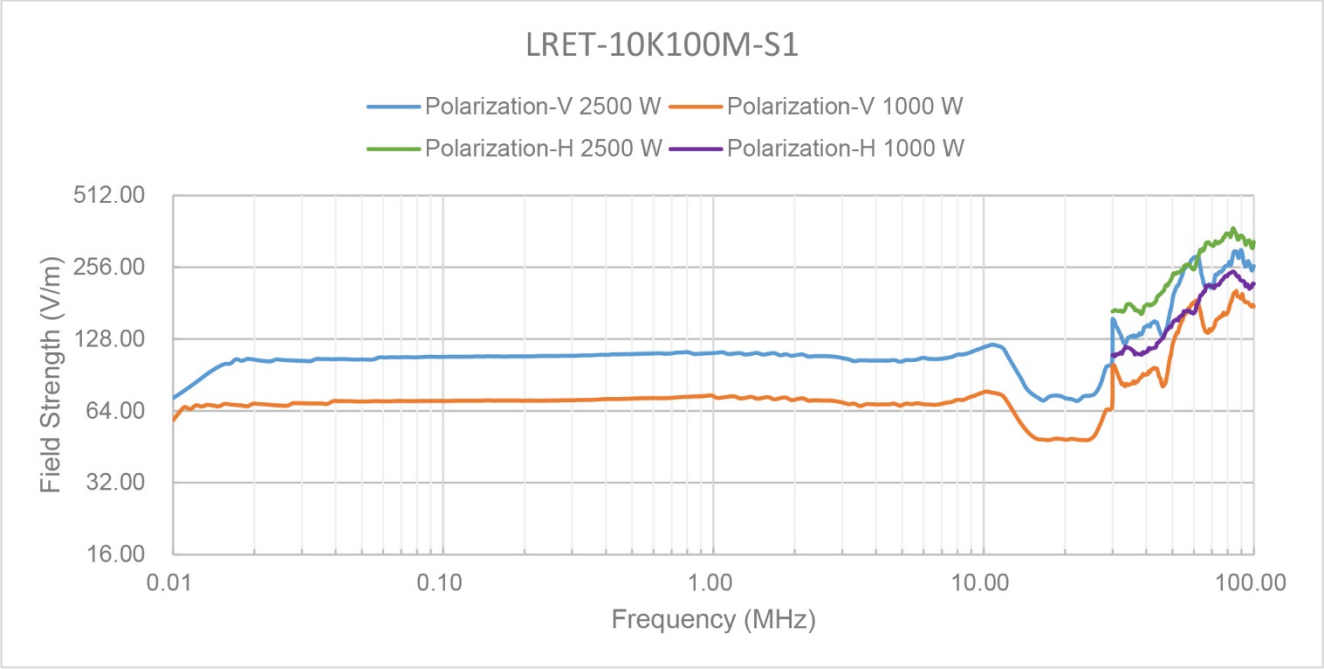
LRET-10K100M-1 Field Strength Curve (Testing distance: 1m) [2]

2. Test results may vary across different anechoic chamber environments.

10 kHz ~ 100 MHz E-Field Generator Typical Product Test Data



LRET-10K100M-S1 Power Curve at Field Strength of 200 V/m (Testing distance: 0.5m) [2]



LRET-10K100M-S1 Field Strength Curve (Testing distance: 1m) [2]

2. Test results may vary across different anechoic chamber environments.

10 kHz ~ 30 MHz E-Filed Generator Specifications

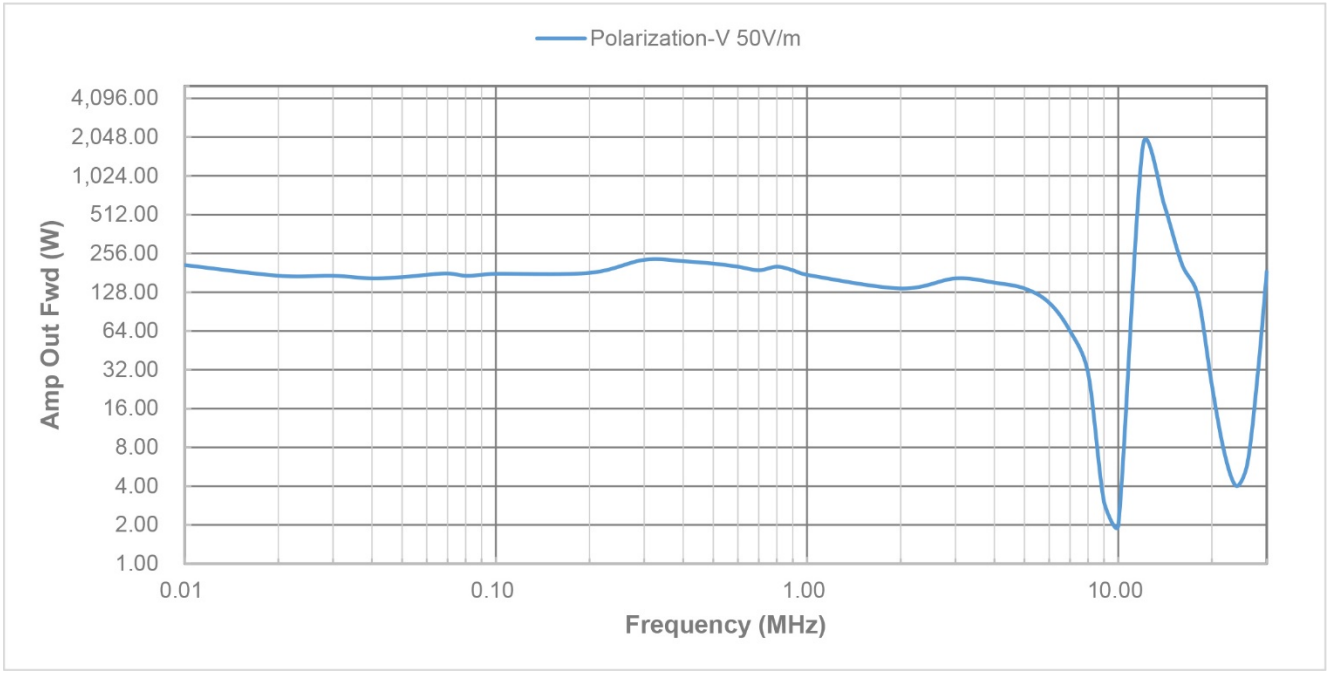
Model	LRET-10K30M-1	LRET-10K30M-F1	
Frequency range	10 kHz ~ 30 MHz	10 kHz ~ 30 MHz	
Max. power input	2000 W	3000 W	
Impedance	50 Ω	50 Ω	
RF interface	7/16 Female	7/16 Female	
VSWR	≤ 3.0	≤ 3.0	
Field strength	See field strength curve	See field strength curve	
Cooling method	Natural cooling	Active cooling	
Dimensions[3]	(1886×66×712) mm	(1886×201×712) mm	

3. Dimensions exclude bracket.

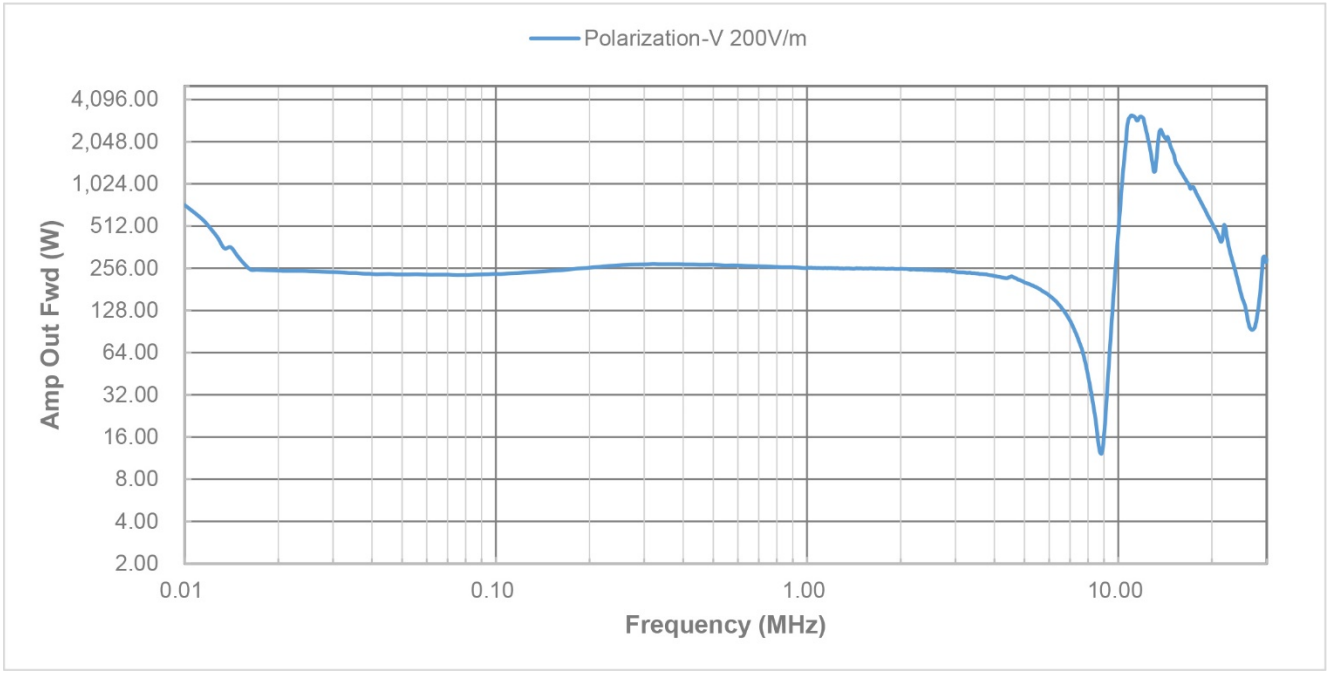
physical diagram

LRET-10K30M-1 with universal wheel bracket LRET-EFG-C01

10 kHz ~ 30 MHz E-Field Generator Typical Product Test Data



LRET-10K30M-1 Power Curve at Field Strength of 50 V/m (Testing distance: 1m) [2]



LRET-10K30M-F1 Power Curve at Field Strength of 200 V/m (Testing distance: 0.5m) [2]

2. Test results may vary across different anechoic chamber environments.

Log-Periodic Antenna

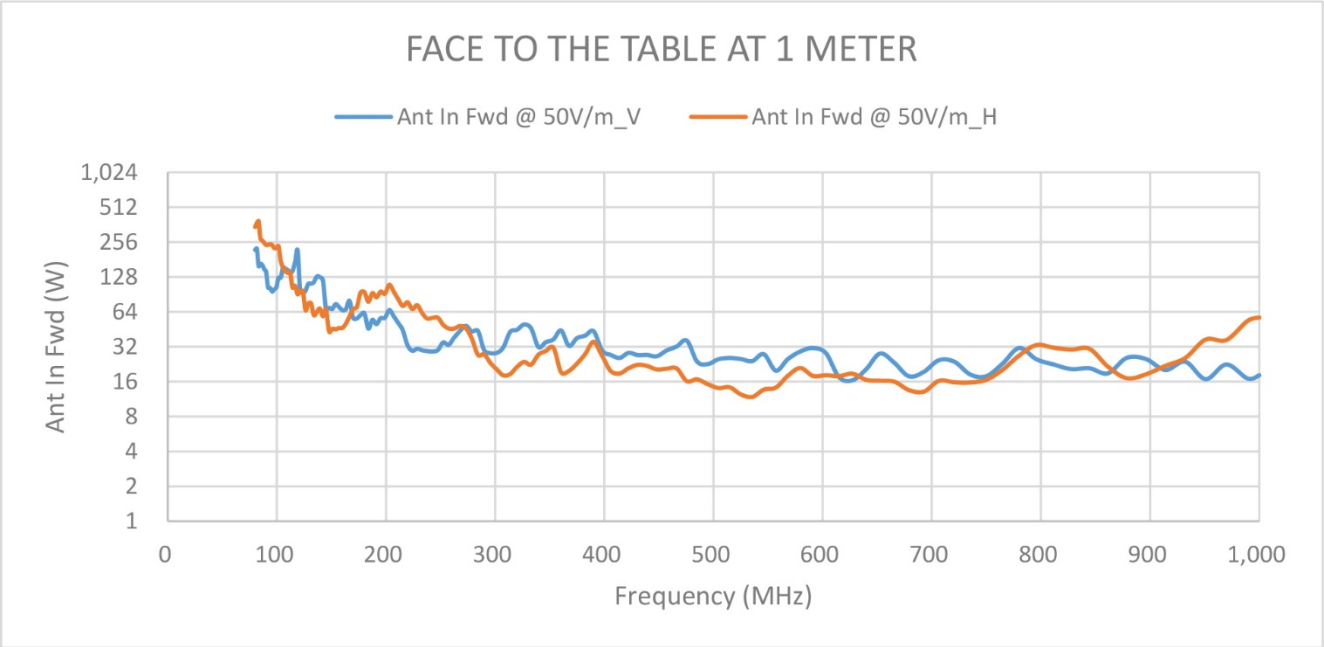
Model	LRET-80M1G-1		
Freq. range	80 MHz ~ 1 GHz		
Max. power input	3000 W (≤ 300 MHz) 2000 W (> 300 MHz)		
Impedance	50 Ω		
RF interface	7/16-K (7/16 Female)		
VSWR	≤ 2.5		
Dimensions[3]	(1663×1972×115) mm		
Bracket	optional		

3. Dimensions exclude bracket.

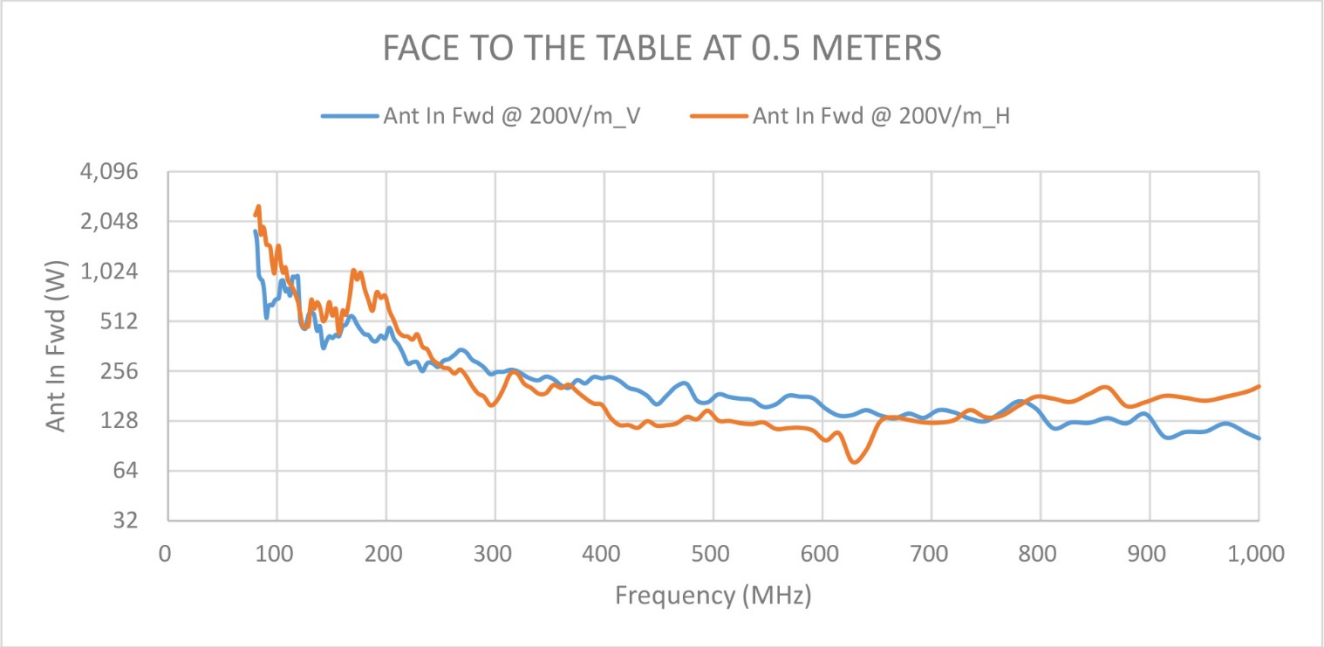
Physical diagram

LRET-80M1G-1 with universal wheel bracket LR-LPAB-C01

Typical Product Test Data



The power curve of LRET-80M1G-1 at field strength 50V/m (Testing distance: 1.0m) [2]



The power curve of LRET-80M1G-1 at field strength 200 V/m (Testing distance: 0.5m) [2]

2. Test results may vary across different anechoic chamber environments.

Horn Antennas

Model	LRET-1G6G-1	LRET-6G18G-1	LRET-18G26G-1	LRET-26G40G-1
Freq. range	1.0 ~ 6.0 GHz	6.0 ~ 18.0 GHz	18.0 ~ 26.5 GHz	26.5 ~ 40.0 GHz
Impedance	50 Ω	50 Ω	50 Ω	50 Ω
VSWR	≤ 2.5	≤ 2.5	≤ 1.25	≤ 1.25
Gain	≥ 10 dBi	≥ 18 dBi	≥ 20 dBi	≥ 20 dBi
3 dB beamwidth (E-Plane)	9.6 ~ 51.7 °	7 ~ 19 °	9 ~ 13 °	8.7 ~ 12.6 °
3 dB beamwidth (H-Plane)	7 ~ 46.1 °	10 ~ 20 °	10 ~ 14 °	10.3 ~ 14.7 °
Max. power input	300 W	200 W	400 W	400 W
RF interface	N Female	N Female	WR-42	WR-28
Bracket	Optional	Optional	Optional	Optional

LRET-1G6G -1

LRET-6G18G-1

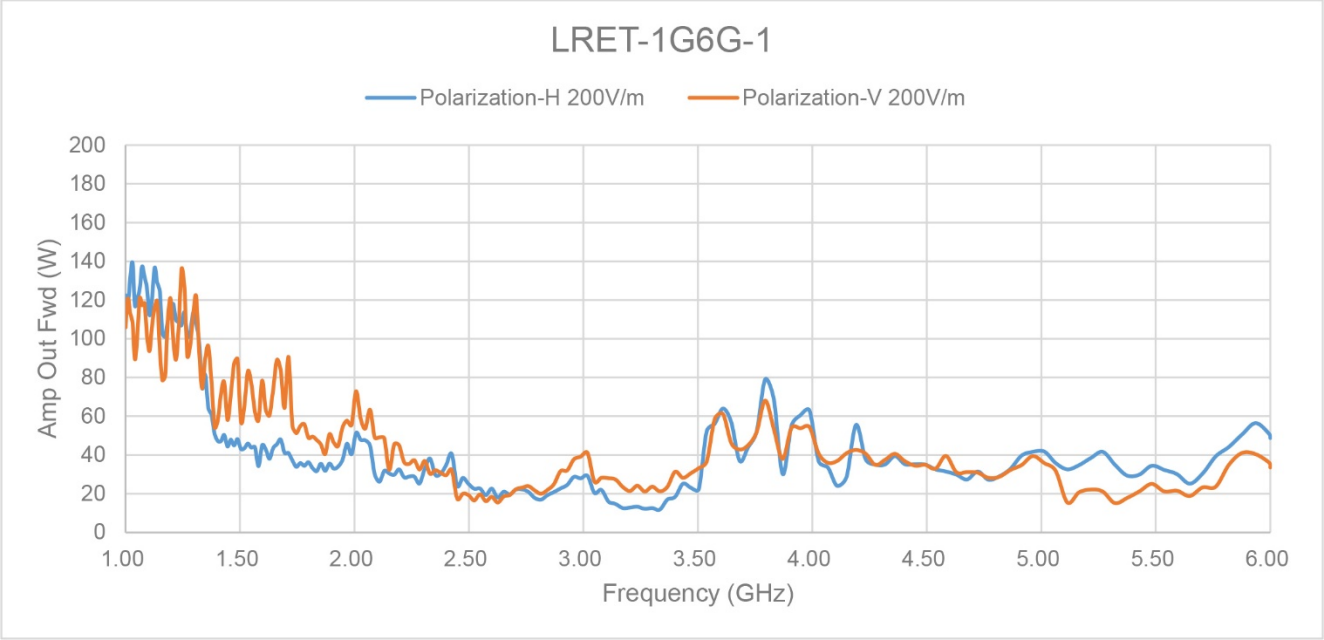
LRET-18G26G-1

LRET-26G40G-1

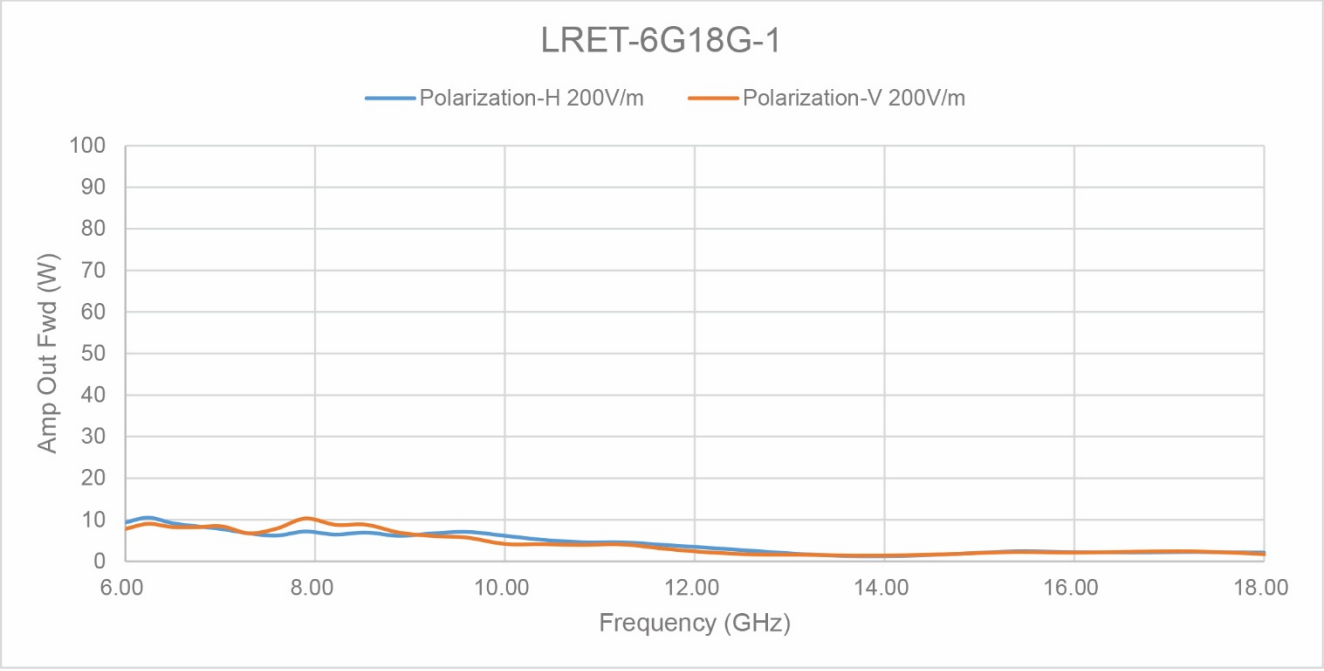
Physical diagram

1 ~ 40 GHz horn antenna, horn antenna with bracket

Typical Product Test Data



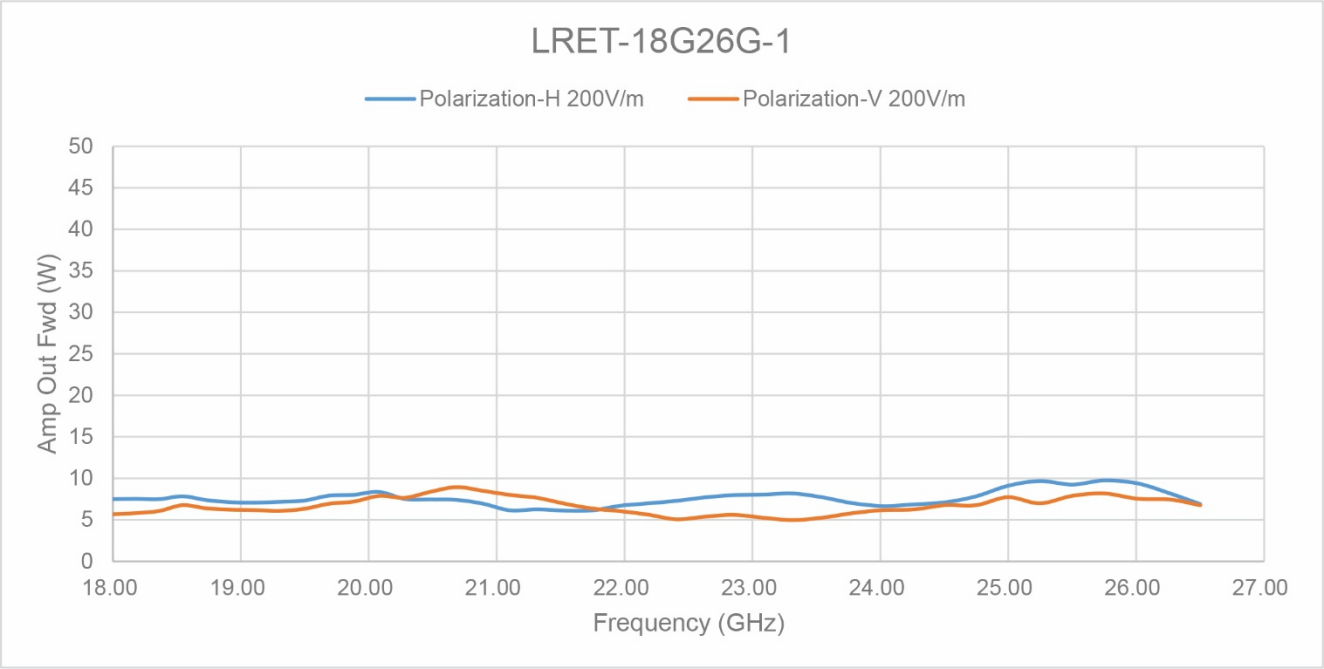
LRET-1G6G-1 Power Curve at Field Strength of 200V/m (testing distance: 1m) [2]



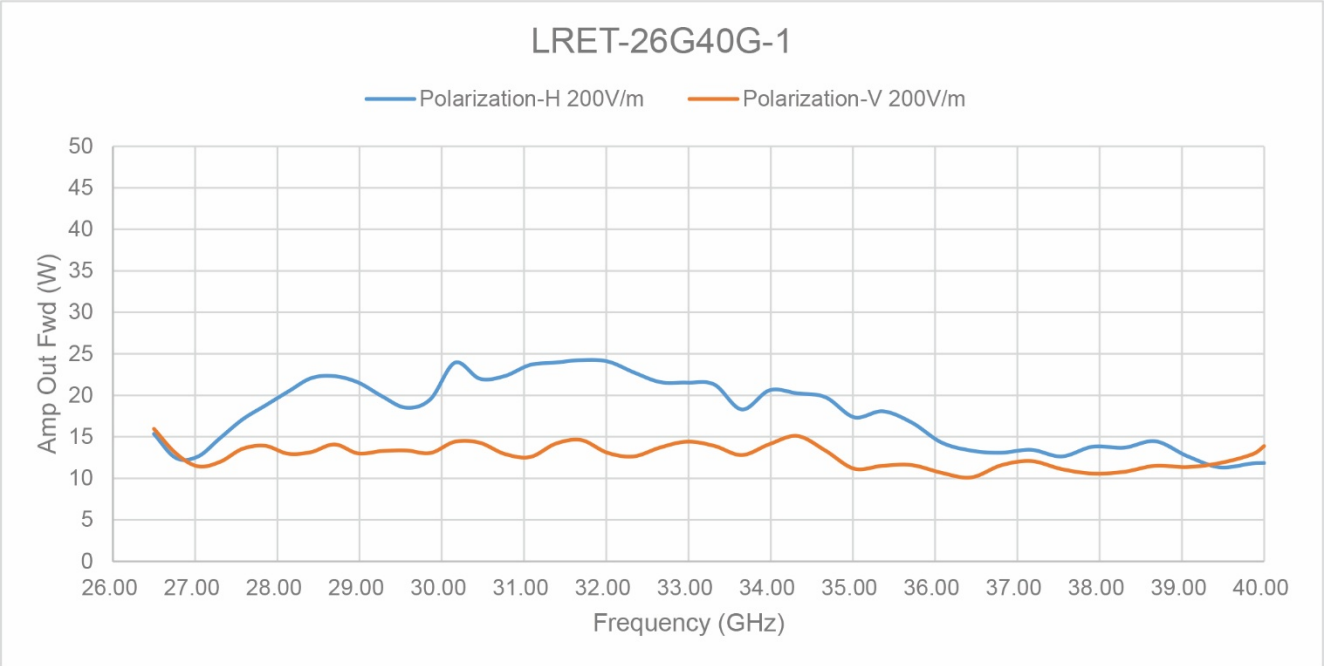
LRET-6G18G-1 Power Curve at Field Strength of 200V/m (testing distance: 1m) [2]

2. Test results may vary across different anechoic chamber environments.

Typical Product Test Data



LRET-18G26G-1 Power Curve at Field Strength of 200V/m (testing distance: 1m) [2]



LRET-26G40G-1 Power Curve at Field Strength of 200V/m (testing distance: 1m) [2]

2. Test results may vary across different anechoic chamber environments.

Horn Antennas

This series of horn antennas is a high-performance receiving antenna designed specifically to meet the Radiated Emission (RE) testing requirements of Electromagnetic Compatibility (EMC) standards. As a core sensor for Electromagnetic Interference (EMI) diagnosis and compliance assessment, it leverages wide frequency band coverage and reliable performance to ensure the precise and reliable capture of every weak electromagnetic signal emitted by the Equipment Under Test (EUT).

ANTH03-002020N-8-111

Freq. range: 200 MHz ~ 2 GHz
VSWR: ≤ 2.5
Nominal gain: 8 dBi
RF interface: N Female

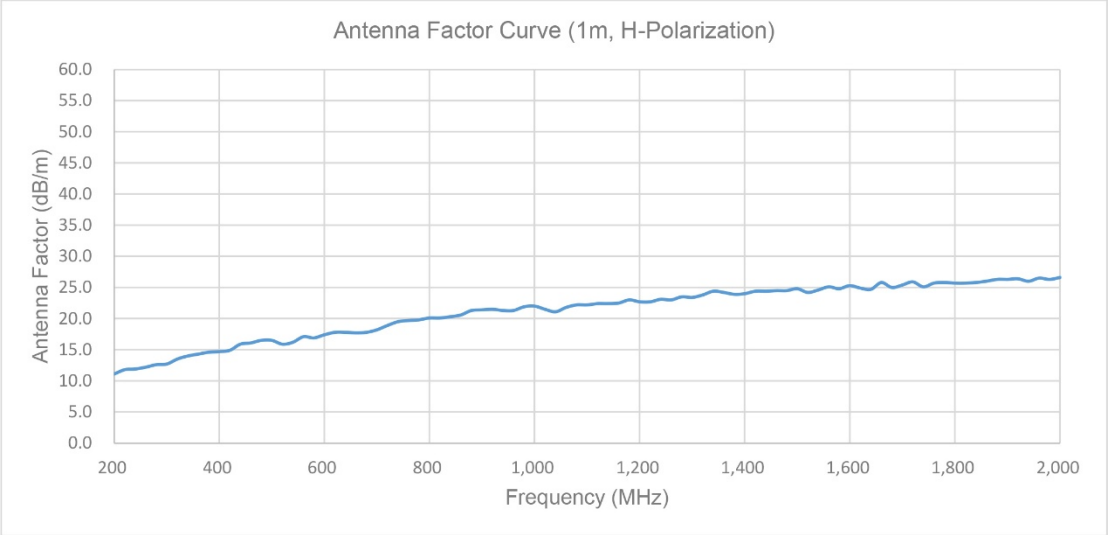
ANTH03-010180N-10-112

Freq. range: 1 ~ 18 GHz
VSWR: ≤ 2.5
Nominal gain: 10 dBi
RF interface: N Female

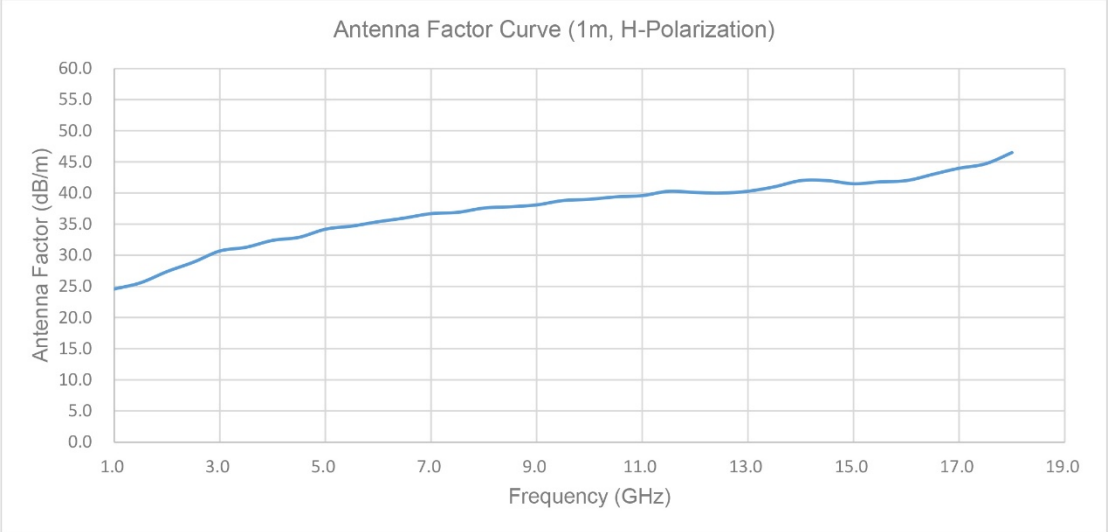
ANTH03-180400K-20-211

Freq. range: 18 ~ 40 GHz
VSWR: ≤ 2.5
Nominal gain: 20 dBi
RF interface: 2.92mm Female

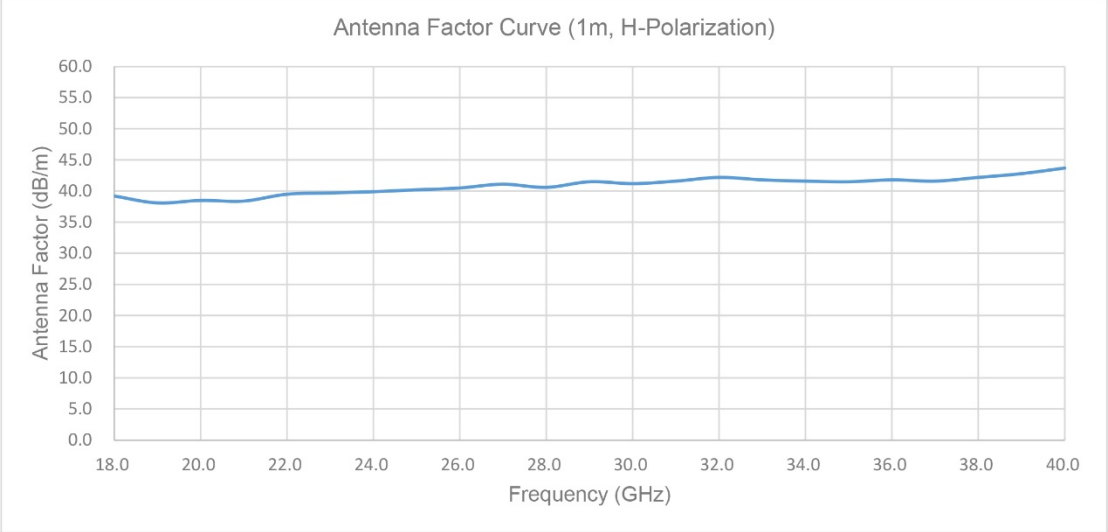
Typical Product Test Data



ANTH03-002020N-8-111 Antenna Factor Curve (1m, horizontal polarization) [2]



ANTH03-010180N-10-112 Antenna Factor Curve (1m, horizontal polarization) [2]



ANTH03-180400K-20-211 Antenna Factor Curve (1m, horizontal polarization) [2]

2. Test results may vary across different anechoic chamber environments.

Representative User Cases

	Beihang University
CEPREI	**China Electronic Product Reliability and Environmental Testing Research Institute (China Ceprei Laboratory)**
CSSC	**China State Shipbuilding Corporation Limited**
CETC	**China Electronics Technology Group Corporation**
AVIC	**Aviation Industry Corporation of China, Ltd.**
CASIC 中国航天	**China Aerospace Science and Industry Corporation Limited**
CASC 中国航天	**China Aerospace Science and Technology Corporation**

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