

ER RADAR PROBES

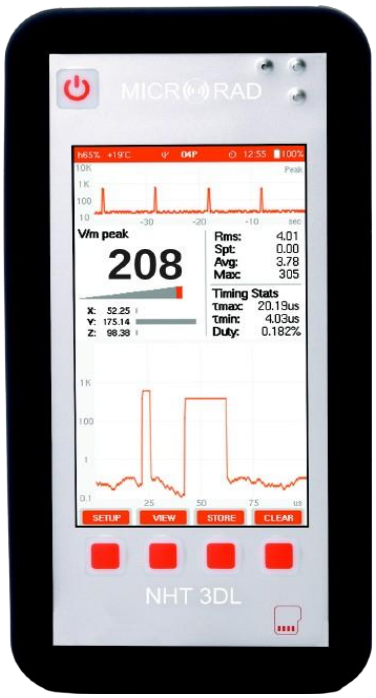
Pulsed Electric Field Measurement



Main Features:

- S, C, X Band probes
- Dynamic range: 50 dB
- Minimum pulse width: 0.5 us
- Isotropic response: 1 dB
- Maximum range > 200 V/m
- Sensitivity E_{rms} < 0.5 V/m

  E_{peak} < 1 V/m



Compatibility

- NHT3DL and NHT310F meters.
- Software *MicroLink* for Windows PC, app *Remoter* for Android devices.

Typical applications

- Assessment of human exposure to electromagnetic fields generated by radar and telecom systems.

Information subject to change without prior notice

MICRORAD

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The ER probes are part of the family of Microrad isotropic electric field sensors dedicated to radar systems; they represent a major breakthrough in the area of isotropic measurement of pulsed signals.

Each ER probe is based on three mutually orthogonal field sensors. This structure allows to obtain an isotropic field strength response, thereby minimising the errors due to the positioning and the orientation of the probe and speeding up the measurement session.

The signals received from the three sensors are sent to the NHT3DL (or NHT310F) meter, that simultaneously evaluates both the peak and average electric field values. This allows the operator to assess the safety requirements related to the peak and average power radiated by the source, and make the measurement system compliant with main regulatory safety standards, particularly with CEI 211-7/B standard for radar equipment.

The ER probes can detect both continuous (CW) and pulsed fields, provided that the signal carrier falls within their operating range of frequencies (S-band, C-band or X-band), therefore covering most radar and telecom applications.

A diagram of the field strength over time is shown on the display in real time, allowing the evaluation of the shape and main timing characteristics of the signal, thanks also to the trigger function and the measurement markers.

And furthermore, some timing parameters are automatically extracted, such as the pulse width, the duty cycle and the rotation period.

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Technical specifications			
Probe model	**ER2533 (S-Band)**	**ER4080 (C-Band)**	**ER8598 (X-Band)**
Frequency band	2.5 ÷ 3.3 GHz	4.0 ÷ 8.0 GHz	8.0 ÷ 9.8 GHz
Frequency flatness	± 2 dB	± 3.0 dB	± 1 dB
Isotropic response	1 dB @ 3 GHz	1.2 dB @ 5 GHz	1 dB @ 9 GHz
Linearity	± 0.5 dB (1÷150 V/m)	± 0.5 dB (1÷150 V/m)	± 0.5 dB (2.5÷250 V/m)
Measurement range	0.5÷ 200 V/m	0.7÷ 180 V/m	0.8 ÷ 300 V/m
Measurement range (rms)	0.2 ÷ 200 V/m	0.4 ÷ 180 V/m	0.5 ÷ 300 V/m
Dynamic range	50 dB	50 dB	50 dB
Minimum pulse width	0.5 µs	0.5 µs	0.5 µs
Pulse repetition frequency	100 Hz ÷ 100 kHz	100 Hz ÷ 100 kHz	100 Hz ÷ 100 kHz
Temperature error	0.01 dB/°C	0.02 dB/°C	0.02 dB/°C
Magnetic field rejection	>20 dB	>20 dB	>20 dB

General characteristics	
Sensor configuration	Isotropic triaxial
Recommended calibration interval	24 months
Operating temperature	0 °C ÷ 50 °C
Humidity	Up to 90% without condensation
Size	340 x 120 Ø (mm)
Weight	220 g
Country of origin	Italy
Certifications	ISO 9001:2008 (according to std IEEE 1309:2013)

Measurement functions	
Peak measurement of electric field	✓
Rms measurement of electric field	✓
Automatic pulse width measurement	✓
Automatic duty cycle evaluation	✓
Automatic rotation time detection	✓
Oscilloscope mode	✓
Acoustic alarm	✓
Single/continuous trigger	✓
Automatic and manual markers	✓
Graphic historical Data Log	✓

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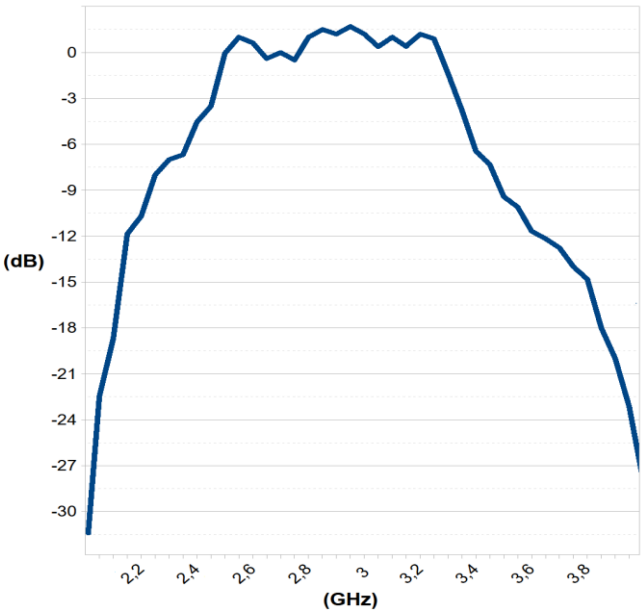
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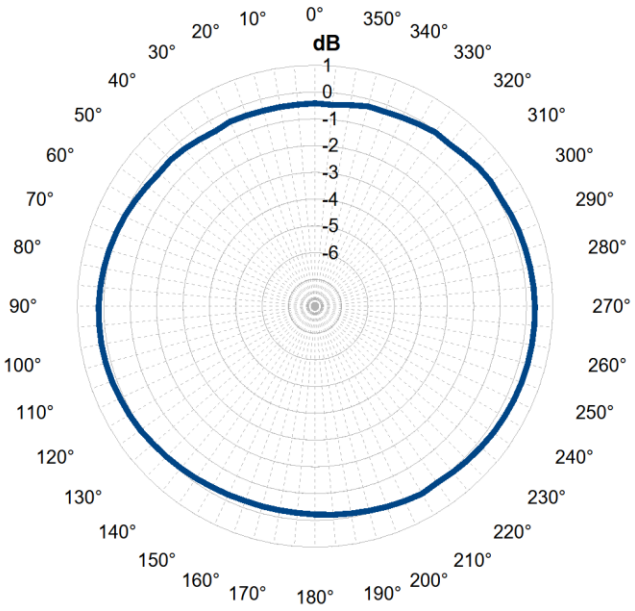
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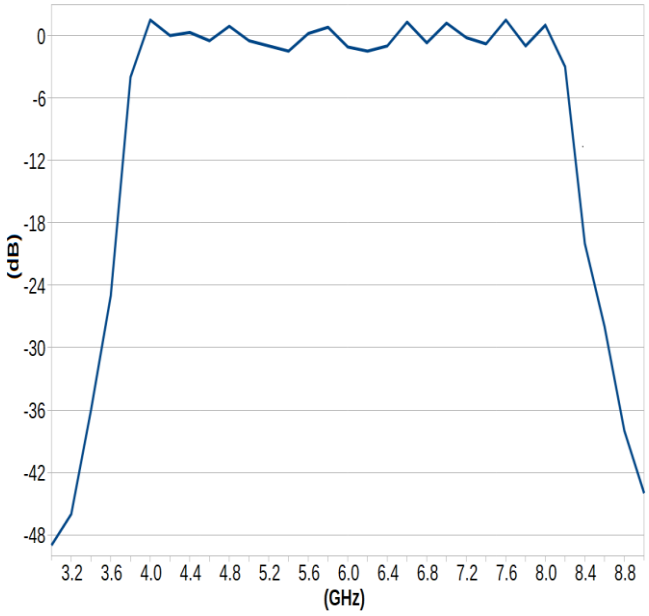
Typical frequency and isotropic responses



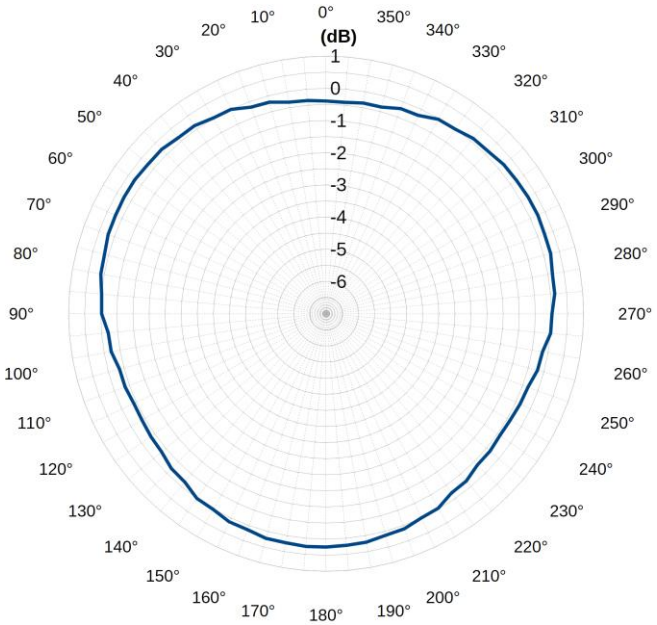
ER2533 – Frequency response @ 20 V/m



ER2533 – Isotropic response @ 3 GHz



ER4080 – Frequency response @ 20 V/m



ER4080 – Isotropic response @ 5 GHz

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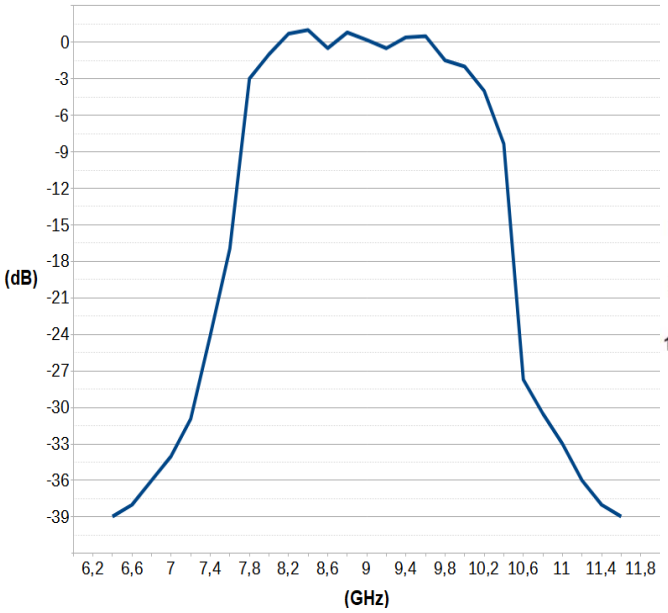
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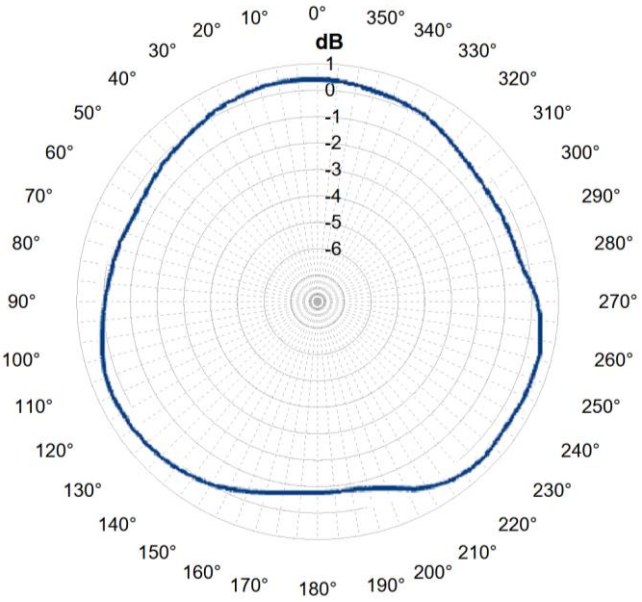


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ER8598 – Frequency response @ 20 V/m



ER8598 – Isotropic response @ 9 GHz

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