MICRORAD

Percipere Aestimare et Inquirere

ELECTROMAGNETIC SAFETY INSTRUMENTS

NHT 3DL

The new reference meter for the European Directive 2013/35/EU

Wi-Fi

GPS

Temperature Humidity

Weighted Peak from 1 Hz to 1 MHz

WP10

650 gr

Touch Screen

Trigger

Zoom x2-x4

Virtually Infinite Memory

Over 24 Hours of Autonomy

Eight innovations that make NHT 3DL the most advanced instrument on the market

01

Remote Wi-Fi Connection

In addition to the optical fiber, Microrad offers Wi-Fi remote connection, so there are no cables between the instrument and the operator interface.
Freedom of movement, the instrument can be easily moved around to map the electromagnetic field in three dimensions, or simply fixed to a tripod.

03 WP10

WP10

Extension of the frequency bandwidth of the Weighted Peak from the current limit of 400 kHz to 1 MHz, with simultaneous display of the electric field and magnetic field indices directly on the instrument.

05

Trigger

The introduction of the Trigger function allows you to capture and identify complex signals in the time domain from 0 Hz to 60 GHz. This function is particularly useful in the analysis and identification of 5G signals and Radar signals up to 500 ns.

07

Zoom

Zoom function with selectable magnification factors of x1, x2, and x4 for detailed analysis of the measured field waveform plotted in the time or frequency domain.

02

Touch Screen

Touch Screen operator interface on the instrument and remotely on Windows pc OS and Android smartphone OS.
Color display, easy navigation of settings, and measurement functions. Call-up of the measurements in graphic and numerical formats.

04

Virtually Infinite Memory

Memory is no longer limited and it is removable. With the Memory Card it is possible to record large quantities of data with virtually no limits.

06

Over 24 Hours of Autonomy

The internal battery provides over 24 hours of continuous measurement autonomy; it is also possible to extend the operation further by using an external power bank.

08 E/B

Dual field display mode

Function that allows simultaneous viewing of electric and magnetic fields up to 1 MHz directly on the meter display.

Wireless


Magnetic field sensor
1 Hz - 1 MHz
Static magnetic
field sensor
Electric field sensor
1 Hz - 1 MHz
33S Probe
• 3 Integrated isotropic sensors
• Banda operativa 0 Hz - 1 MHz
Wi-Fi
Connect how you want
GPS
Precise and reliable positioning
Measurement and analysis software
Operator interface
for Android
Virtually infinite memory

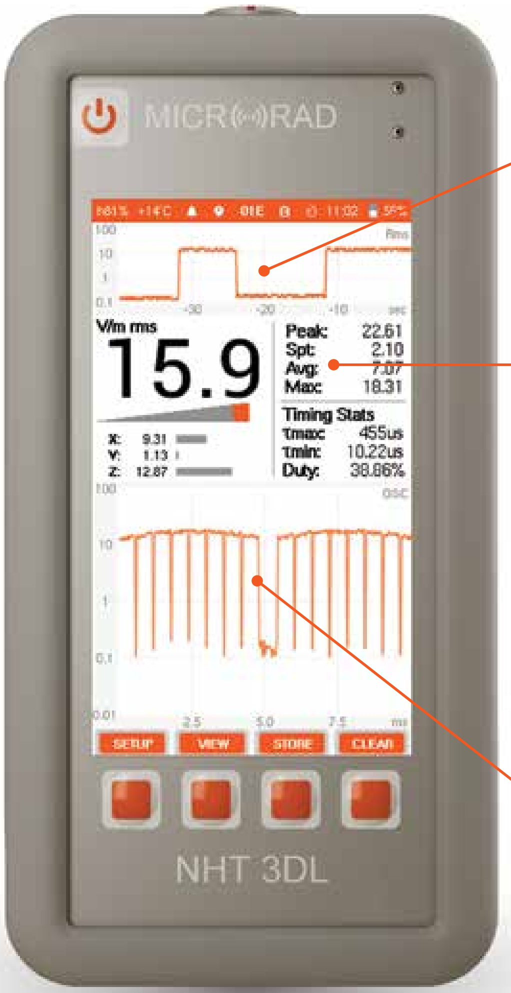
Spectrum Analyzer, Oscilloscope and Radar Pulse Detector

with the 33-series electric and magnetic field probes

with the B-series magnetic field probes

$$WP_{10} = \left| \sum_{i=1Hz}^{1MHz} \frac{A_i}{EL_i} \cos(2\pi f_i t + \theta_i + \varphi_i) \right| \leq 1$$

with the E-series RF electric field probes



Graphic data logger of the instantaneous RMS value

Peak value, spatial and time average, max hold

Oscilloscope mode (time domain)

with the ER-series Radar field probes

Graphic data logger of the instantaneous Peak value

Timing statistics

Oscilloscope mode (time domain)

Fiber optic option

GPS option

Wi-Fi option

Key Features

FREQUENCIES	
Frequency range	Selective Mode: DC – 1 MHz Wide Band mode: 100 kHz – 60GHz
OPERATOR INTERFACE	
Graphic display	4.3-inch TFT color display, 272 × 480 pixels
Backlight	Dimmable LED, sunlight-readable
Input devices	Resistive touch screen and membrane buttons
Alarm	Audible signal with configurable threshold
MEASUREMENT FUNCTIONS	
Measurement units	V/m, kV/m, A/m, W/m2, mW/cm2, uW/cm2, uT, mT, G, % (probe-dependent)
Display measurement range	From 0.00001 to 999’999 (depending on the probe and selected unit)
Refresh period	4 readings per second
Result types	Instantaneous RMS and peak, isotropic and individual cartesian components
Time average	RMS moving average with adjustable window from 1 second to 100 hours
Spatial average	Average of stored points from single acquisitions
Max hold	Retains the highest RMS and WP value detected
Weighted standards	Weighted peak according to the exposure limit levels set by the ICNIRP guidelines 1998 and 2010 for the general public, ICNIRP 2010 for occupational, and Directive 2013/35/EU for lower, higher, and localized exposure levels, and main international standards
Dual Field Mode	Simultaneous display of electric and magnetic field values (series 33 probes)
Time measurement	Measurement of minimum and maximum pulse widths and calculation of duty cycle
Digital filter	Third-order high-pass filter with cutoff frequencies at 1 Hz / 10 Hz / 100 Hz / 1 kHz / 10 kHz / 100 kHz, or 50 Hz band-pass filter
GRAPHIC FUNCTIONS	
Data logger	Graphical trace of historical trends of the measured values, selectable among RMS instantaneous value, peak value, time-averaged value and value of the FFT component at a selectable frequency. The time scale of the trace is configurable from 1 minute to 48 hours
Spectrum analyzer	FFT with 1000 points over the selected span (1/10/100/1000 kHz), available only when used with selective probes
Oscilloscope	High resolution diagram of the signal in the time domain
Marker	Cursors for highlighting and measuring values within charts
Trigger	Updating the time-domain diagram when the instantaneous RMS field exceeds a predefined threshold
INTERFACES	
USB Port	USB Type-C connector for PC connection and battery charging
Probe input	Plug-and-play connector with automatic probe recognition

DATA ACQUISITION	
Recording	Single or continuous acquisition, with adjustable interval between recordings from 0.25 to 60 seconds
Timer	Setting the start time and/or duration of acquisitions
Annotations	Capability to enter text notes for each recording
Acquisition memory	Removable memory card with the capacity to store over 2 million measurement points
GENERAL SPECIFICATIONS	
Battery	Internal rechargeable LiPo battery, non-removable
Operating time	Exceeding 24 hours, depending on operating conditions
Charging time	6 hours
Battery level indication	Remaining charge percentage indicator
Built-in sensors	Humidity sensor (±2% accuracy) and temperature sensor (±0.2°C accuracy)
Operating temperature	From -10 °C to +50 °C
Relative Humidity	From 5 to 95% RH, non-condensing
Tripod attachment	1/4-inch threaded hole
Dimensions (H x W x D)	170 x 85 x 31 mm
Weight	650 g (including batteries, without probe)
Country of origin	Italy
ACCESSORIES	
Included accessories	Battery charger, silicone protective case, USB cable, memory card reader, hard case, application software, user manual, ISO 9001:2015 certificate according to the IEEE 1309-2013 standard
Optional accessories	GPS module, Wi-Fi module, Fiber Optic module, Power Bank, wooden tripod and ISO 17025 certificate

Technical information may be subject to change without notice

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Quality management system
ISO 9001
• Customer focus
• Customer satisfaction
• Continuous improvement
• System/process effectiveness
ID 15 100 96294