

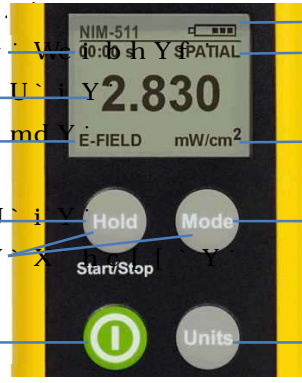


## Standard Compliance

## Operation

AU^cf`gUZyhmg`hUbXufXg`kcf`Xk]Xh\NYB=afY%B\UbXVchV`B=AY!Y%YWhYfW  
 UbX`h\Y`aU[bYh]W`Z]Y`X`WcadcbYbhgYUg9fUbXbhgzUYgXgd`VYdfVWYgYX\  
 Zcf`Yei]daYbh`cdYfUh]b[`VY`ck`'S\$aAc`b" aAgghU`Yg[h`cd`UdfYb" :  
 ]bXighf]U`Yei]daYbh`cdYfUhYg`Uh`cbY`cZ`h\Y`ZfYeiYbW]Yg`U``cWUHy  
 Zcf`=bXighf]U`z`GW]Ybh]Z]Wz`UbX`No changing probes`h`c`a`Y`U`g`i`f`Y`U`h`Y`W`h`f`]  
 ZfYeiYbW]Yg`E`&+"`%&`A<n`UbX`%`"H\YA<d`f`c`v`y`h`W`c`b`h`U`d`g`l`h`k`c`g`Y`h`g`c`Z`g`  
 H\Y`aU^cf]hm`cZ`\YUh`gYU`Yfg`UbX`h\Y`b`Z]W]X`b`G`l`g`d`y`m`g`d`f`c`g`U`h`Y`U`g`#`<  
 &+"`%&`A<n`k\]`Y`acgh`gYa]WcbXiWhcf`dfcWYgg]b[`Yei]daYb`a`Y`U`g`i`f`]b[`  
 cdYfUhYg`Uh`%`"`) \* `A<n`" `H\Y`B=A!`No range changes`h`Y`g`h`Z`Y`c`a`Y`h`S`f`A`U`h`h`a`U`h`]`W`U`  
 (\$`A<n`UbX`]g`UX^i`ghYX`hc`h\Y`f`Y`Z`Y`f`Y`b`W`Y`W`U`h`V`f`U`h`k`c`V`Y`D`Z`f`Y`c`h`Y`b`W`m`a`Y`h`  
 &+"`%&`A<n`" `H\U`g`B`U`A`h`]`W`%`V`f`c`U`X`Y`f`" `g`Y`b`g`c`f`h`U`h`  
 cdYfUhYg`S`Z`A`h`c`a`%`\$`\$`A<n`UbX`]g`UX^i`ghYX`hc`h\Y`f`Y`Z`Y`f`Y`b`W`Y`W`U`h`V`f`U`h`k`c`V`Y`D`Z`f`Y`c`h`Y`b`W`m`a`Y`h`  
 fYZYfYbWY`WU`]VfUh]cb`ZfYeiYbWm`U`h`%`b`]`h`\*`c`Z`<n`A`Y`U`g`i`f`Y`" :  
 F: `YbYf[m`WUb`WUi`gY`h\Y`VcXm`hc`No difficulty zeroing`X`!`V`V`h`h`X`N`Y`h`g`" `U`g`]`Y`]`Y`W`h`h`X`  
 h\YfaU``m`f`Y[i`UhY`]hgY`Z`" `G]bWY%)`%`a`]`b`i`h`Y`g`" `C`W`W`i`d`U`h`]`c`b`U`" `G`U`Z`Y`h`m` `U`h`  
 <YU`h`5`Xa]b]ghfUh]cb`CG<5`\Ug`UX`h\Y`Ui`h`cf]hm`]b`h\Y`I`G5`hc`  
 W]hY`Yad`cmYfg`Zcf`Yl`WYX]b[`h\Y`]`a]hg`gdYW]Z]YX`Vm`I`ghUhY!`cZ!`h`  
 Ufhz`gW]Ybh]Z]W`ghUbXufXg`I`CG<5`\Ug`W`c`g`Y`b`h`Y`=999`7`-)`%`  
 GhUbXufX`Zcf`YbZcfWYaYbh`cZ`bcb!]cb]n]b[`fUX]Uh]cb`gUZYhm`" `H\Y`  
 9l`d`c`g`i`f`Y`F`Y`Z`Y`f`Y`b`W`Y`@`Y`j`Y`g`f`9`F`@`g`L`Z`c`f`k`c`Y`!`V`c`X`m`Y`l`d`c`g`i`f`Y`c`Z`  
 dYfgcbg`]b`f`Y`g`h`f`]`W`h`Y`X`Y`b`j`]`f`c`b`a`Y`b`h`g`U`f`Y`

Frequency	E-Field in mW/cm <sup>2</sup>	H-Field in mW/cm <sup>2</sup>
%`" `A`<`n`	(" , - `)	(" ( `
&+ "`A`<`n`	%`" `&&`	%`" `*`
( \$`" `A`<`n`	%`" `\$\$`	*`" `S`(`



HUV`Y. `9l`d`c`g`i`f`Y`f`Y`Z`Y`f`Y`b`W`Y`@`Y`j`Y`g`" `U`9`#`<`Z]Y`X`  
 :`c`f` `W`c`i`b`h`f`]`Y`g` `Z`c` ` `c`k`]`b`[ `h` \ `Y` `= `7`  
 Yl`d`c`g`i`f`Y` `]`a`]`h`g`c`U`f`h`%` `Z`k`#`W`a`Y`b`W` `C`b`#`C`Z`Z`  
 UV`c`j`Y`" :  
 :`c`f` `W`c`i`b`h`f`]`Y`g` `Z`c` ` `c`k`]`b`[ `h` \ `Y` `= `7`  
 Yl`d`c`g`i`f`Y` `]`a`]`h`g`c`U`f`h`%` `Z`k`#`W`a`Y`b`W` `C`b`#`C`Z`Z`  
 UV`c`j`Y`" :

## Definitions and Conditions

Conditions	Typical values (typ.)
I b`Ygg`ch\Yfk]gY`bchYXz`gdYW]Z]WU`h]aY`k]h\]b`h\Y`gdYW]Z]YX`Ybj]fcb`h\Y`f`Y`W`c`a`a`Y`b`X`Y`X`W`U`]`V`f`U`h`]`c`b`W`m`W`Y`	H\YgY`W`U`f`U`W`h`Y`f`]`n`Y`d`f`c`X`i`W`h`d`Y`f`Z`c`f`a`U`b`W`b`c`h`W`c`j`Y`f`Y`X`V`m`k`U`f`f`U`b`h`m`" `K`Y`b`g`h`U`h`Y`X`O`z` `@`z` `2`z` ` `z` ` -`z` `a`U`l`" `z` `a`]`b`" `L`z` `h` \ `Y`m`f`Y`d`f`U`d`d`f`c`l`]`a`U`h`Y`m`" `S`i` `c`Z` `h` \ `Y` `]`b`g`h`f`i`a`Y`b`h`g`" `a`Y`U`b`j`U`i`Y`" `H` \ `Y` `a`Y`U`g`i`f`Y`a`Y`b`h`i`b`W`Y`f`h`U`]`b`
Specifications with limits	Nominal values (nom.)
H\YgY`XYgWf]VY`dfcXiWh`dYfZcf`a`Ub`W`k`U`f`f`U`b`h`m`" `G`d`Y`W`]`Z`]`W`U`h`]`c`b`g`k`]`h` \ ` `]`a`U`d`d`m`i`b`X`Y`f` `h` \ `Y` `]`]`j`Y`b` `W`c`b`X`]`h`]`c`b`g`d`f`c`X`i`W`h`]`c`b`z` `W`c`b`g`]`X`Y`f`]`b`[ `a`Y`U`g`i`f`Y`a`Y`	H\YgY`W`U`f`U`W`h`Y`f`]`n`Y`Y`l`d`Y`W`h`Y`X`d`f`c`X`i`W`h`d`U`f`U`a`Y`h`Y`f` `h` \ `U`h` `]`g` `b`c`h` `W`c`j`Y`f`Y`X`V`m`k`U`f`f`X`i`f`]`b`[ `d`f`c`X`i`W`h` `X`Y`j`Y` `c`d`a`Y`b`h` `V`i`h` `U`f`Y` `b`c`
Specifications without limits	Uncertainties
H\YgY`XYgWf]VY`dfcXiWh`dYfZcf`a`Ub`W`k`U`f`f`U`b`h`m`" `G`d`Y`W`]`Z`]`W`U`h`]`c`b`g`k`]`h` \ `c`i`h` `X`Y`j`]`U`h`]`c`b`g`z` `k`]`W` `U`f`Y` `Y`b`g`i`f`Y`X`V`m`c`Z` `U` `g`Y`h`h`]`b`[ `d`U`f`U`a`Y`h`Y`f`L`" :	H\YgY`W`U`f`U`W`h`Y`f`]`n`Y`h` \ `Y` `X`]`g`d`Y`f`g`]`c`b` `V`m`c`Z` `U` `g`Y`h`h`]`b`[ `d`U`f`U`a`Y`h`Y`f`L`" : a`Y`U`g`i`f`U`b`X`g`k`]`h` \ `U`b` `Y`g`h`]`a`U`h`Y`X` `W`c`b`Z`]`X`Y`b`]`b`]` I`b`W`Y`f`h`U`]`b`h`m`]`g` `g`h`U`h`Y`X` `U`g` `h` \ `Y` `g`h`U`b`X`U`f`X` W`c`j`Y`f`U`[ `Y` `Z`U`W`h`c`f`_`1`& `V`U`g`Y`X` `c`b` `h` \ `Y` `b`c`f`a` \ `U`g` `V`Y`Y`b` `W`U`f`f`]`Y`X` `c`i`h` `]`b` `U`W`W`c`f`X`U`b`W`Y` `k`]` 9`l`d`f`Y`g`g`]`c`b` `c`Z` `I`b`W`Y`f`h`U`]`b`h`m`]`b` `A`Y`U`g`i`f`Y`a`

## Specifications

Display and Functions	
Display type	Transflective LCD, monochrome, LED backlight
Display size	4 cm (1.5"), 128 x 64 dots
Refresh rate	400 ms
Result display	E-field or H-field value (selectable, 4 digits)
Units key	mW/cm <sup>2</sup> , W/m <sup>2</sup> , V/m or A/m
Mode key	ACT – displays the actual value MAX – holds the maximum of the measured values AVG – displays the 6 min time averaged result SPATIAL – displays a spatially averaged result
Hold key	Freeze the value that is currently displayed Start/Stop Spatial Averaging Hold + Mode: Toggle between E-field and H-field display
Zeroing	Automatic zeroing after power-on and repetitively every 15 min

Measurement Characteristics	NIM-511A	NIM-513
Field type	Electric (E-) field and magnetic (H-) field, switchable	
Frequency range	10 MHz to 100 MHz	10 MHz to 42 MHz
Measurement range (True RMS)	E-field	0.1 to 100 mW/cm <sup>2</sup> (20 to 614 V/m)
	H-field	0.2 to 200 mW/cm <sup>2</sup> (0.073 to 2.3 A/m)
CW damage level	50 W/cm <sup>2</sup>	
Sensor type	Two diode based systems for E-field and H-field	
Directivity	Isotropic (Tri-axial)	
Readout mode / spatial assessment	Combined 3-axes (RSS)	

Uncertainty <sup>1</sup>	NIM-511A	NIM-513
Flatness of frequency response Calibration uncertainty not included	E-field	±0 dB @ 13.56 MHz ±1.5 dB (10 MHz to 100 MHz)
	H-field	±0 dB @ 13.56 MHz +0.6/-1 dB (10 MHz to 100 MHz)
Linearity Referred to 10 mW/cm <sup>2</sup>		±0 dB @ 27.12 MHz ±1.0 dB (10 MHz to 42 MHz)
		±0 dB @ 27.12 MHz +0.6/-1 dB (10 MHz to 30 MHz) +0.6/-1 dB @ 40.68 MHz
Isotropic response	±1 dB	
Temperature response	+0.8 dB (10 °C to 40 °C)	

Calibration	NIM-511A	NIM-513
Calibration frequencies	10/13.56/ 27.12/ 90/ 100 MHz	10/ 13.56/ 27.12/ 40.68/ 42 MHz
Recommended calibration interval	24 months, for the first time 24 months after initial startup	

<sup>1</sup> Specifications are valid for NIM-511A probe 2402/15D and NIM-513 probe 2402/13D. Unless otherwise noted specifications apply at reference condition: device in far-field of source, ambient temperature (23 ± 3) °C, relative air humidity 40% to 60%, sinusoidal signal, probe handle oriented perpendicular to both, the direction of propagation and the direction of the E-field vector.

General Specifications		
Battery		NiMH rechargeable batteries, 2 x AA size (Mignon), 2700 mAh, included
Operation time		22 hours (nom.)
Charging time		2 hours (nom.)
Battery level display		100%, 80%, 60%, 40%, 20%, 10%, low level (< 5%)
Temperature range	Operating	-10 °C to +50 °C (14 °F to 122 °F)
	Transport	-30 °C to +70 °C (-22 °F to 158 °F)
Humidity		5 to 95% RH @ ≤28 °C, non-condensing ≤26 g/m <sup>3</sup> absolute humidity (IEC 60721-3-2 class 7K2)
Immunity to radiated electromagnetic fields		200 V/m for the basic unit
Dimensions	Basic unit	38 x 52 x 205 mm (1.5" x 2.0" x 8.1")
	Probe length	410 mm (16 inches)
	Cable length	1.1 m (44 inches)
Weight	Basic unit	300 g (0.66 lbs)
	Probe	310 g (0.68 lbs)
Accessories (included)		Hard case, power supply, shoulder strap, operating manual, certificate of calibration
Country of origin		Germany
Patents pending		United States Patent US6084551

## Ordering Information

Model	Part number
NIM-511A Industrial Field Meter 10 MHz to 100 MHz)	<b>2400/511A</b>
NIM-513 Industrial Field Meter (10 to 42 MHz)	<b>2400/513</b>
NIM-511A and NIM-513 include: <ul style="list-style-type: none"> <li>› NIM-510 Basic unit</li> <li>› NIM-511A or NIM-513 E/H Field Probe</li> <li>› Hard case</li> <li>› Power supply, 9VDC, 100V-240VAC</li> <li>› Shoulder strap, 1 m</li> <li>› Operating manual</li> <li>› Certificate of calibration</li> </ul>	

Accessories	Part number
Test generator, 27 MHz, hand-held	2244/90.38

**Narda Safety Test Solutions GmbH**  
Sandwiesenstrasse 7  
72793 Pfullingen, Germany  
Phone +49 7121 97 32 0  
info@narda-sts.com

**Narda Safety Test Solutions**  
North America Representative Office  
435 Moreland Road  
Hauppauge, NY11788, USA  
Phone +1 631 231 1700  
info@narda-sts.com

**Narda Safety Test Solutions S.r.l.**  
Via Rimini, 22  
20142 Milano, Italy  
Phone +39 0258188 1  
nardait.support@narda-sts.it

**Narda Safety Test Solutions GmbH**  
Beijing Representative Office  
Xiyuan Hotel, No. 1 Sanlihe Road, Haidian  
100044 Beijing, China  
Phone +86 10 6830 5870  
support@narda-sts.cn

www.narda-sts.com

® Names and Logo are registered trademarks of Narda Safety Test Solutions GmbH - Trade names are trademarks of the owners.