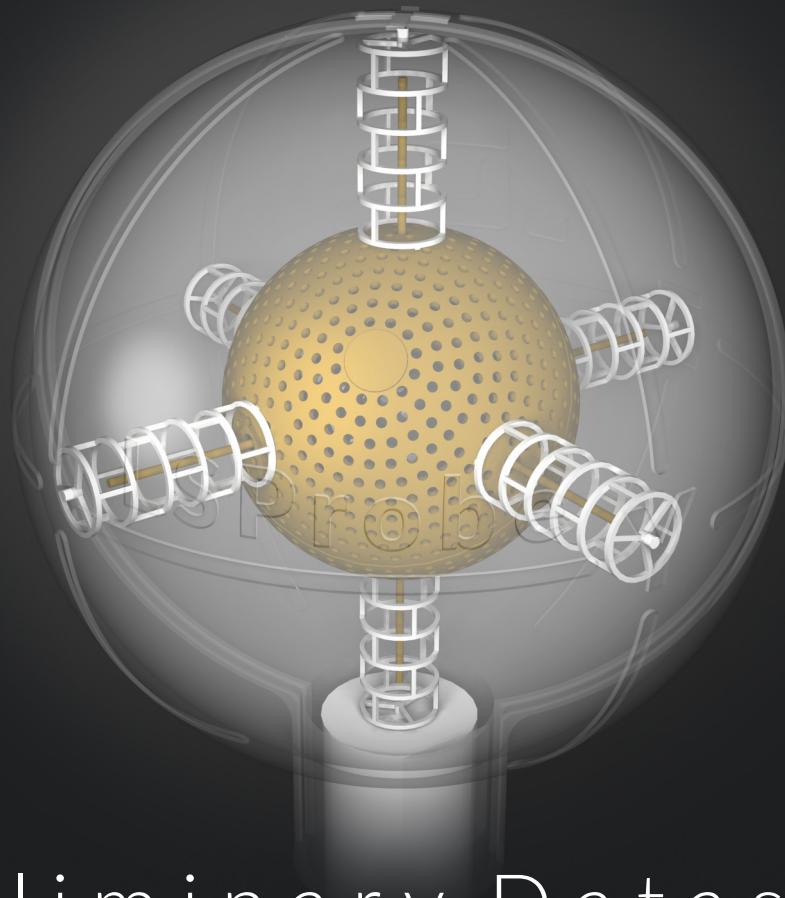




LUMILOOP

LASER-POWERED SENSOR SYSTEMS



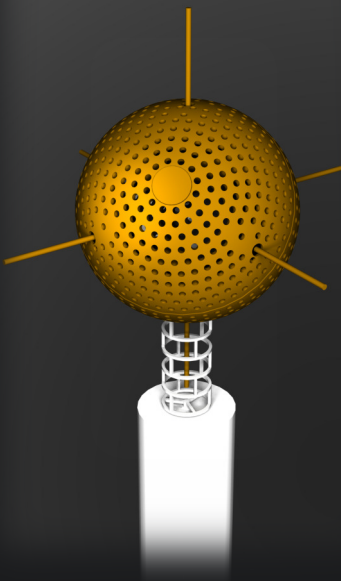
Preliminary Datasheet

—— LSProbe 2.0 ——

Electric-Field Probe
9 kHz - 18 GHz

The LSProbe 2.0 Field Probe is a next-generation, high speed, high accuracy and high dynamic range electric-field probe. Its frequency range is 9 kHz to 18 GHz. The Field Probe's six-monopole antenna design ensures isotropic operation at all frequencies.

LSProbe 2.0 employs fine-grained compensation of linearity, frequency and temperature, guaranteeing accurate measurements from less than 1 V/m to at least 1 kV/m. A dynamic range of 60 dB is achieved for all frequencies. Please contact LUMILOOP support for detailed information.



LSProbe 2.0 contains a low-frequency and high-frequency detector for each of the six monopoles. The detectors can be operated continuously at 500 kSamples/s or in burst mode at 2 MS/s. This enables direct radar pulse measurements and accelerated, frequency sweep-based measurements.

A single axis, continuously sampling mode, operating at 2 MS/s, can be used for Equivalent Isotropically Radiated Power (EIRP) measurements of IoT products without antenna connectors in accordance with EN 300 328 and EN 301 893.

Laser-powered operation eliminates battery recharging and replacement. Extensive in-house calibration data are provided with each field probe and is handled automatically by the LSProbe TCP Server Software.

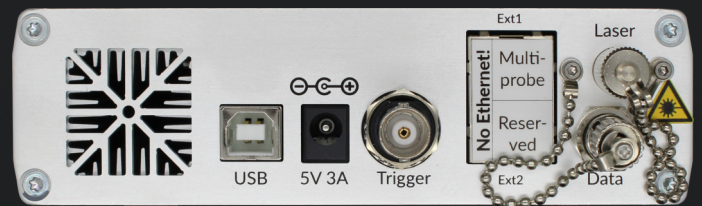
LSProbe 2.0 is backward compatible with LSProbe 1.2, supporting the same SCPI commands. Consequently, it inherits third-party EMC-software support for R&S EMC32, R&S ELEKTRA, emcware, BAT-EMC, Tepto, Tile, Win6000, Compliance5 and Radimation.

LSProbe 2.0 Field Sensor, PRELIMINARY

Supported Frequency Ranges	
Low Band Detector	9 kHz ... 1.5 GHz
High Band Detector	700 MHz ... 18 GHz
Field Strength Range	
9 kHz ... 1 GHz	<1 V/m ... >5 kV/m
1 GHz ... 18 GHz	<1 V/m ... >1 kV/m
Damage Level	
9 kHz ... 1 GHz	>25 kV/m
1 GHz ... 18 GHz	>5 kV/m
Sampling Rate, Minimum Pulse Width	
Burst Mode	2 MSamples/s, 500 ns
Continuous Mode	500 kSamples/s, 2 μ s
Single Axis Continuous Mode	2 MSamples/s, 500 ns
Analog Rise Time	
Low Band, low bandwidth	2 ms
Low Band, high bandwidth	<300 ns
High Band	<300 ns
Resolution	
	<0.05 dB
Typical Worst-Case Isotropy Error	
@ 1 GHz	tbd
@ 6 GHz	tbd
@ 18 GHz	tbd
Amplitude Accuracy	
10 kHz ... 30 MHz	Accredited Cal. at PTB, Germany ± 0.6 dB
30 MHz ... 1 GHz	± 1.0 dB
1 GHz ... 18 GHz	± 1.4 dB
Linearity Error	
	± 0.2 dB relating to 10 V/m
Temperature Stability	
	tbd
Fiber Optic Connectors	
	ST/FC
Standard Fiber Optic Cables	
	5 m permanently attached, 15 m ST/FC extension, two E2000 Sacrificial Cable Kits
Max. Fiber Optic Cable Length	
	500 m
Fiber Optic Cable Bending Radius	
	>30 mm
Ambient Temperature	
	10 °C ... 40 °C
Dimensions (W x D x H)	
	46 x 46 x 114 mm ³

LSProbe 2.0 Computer Interface

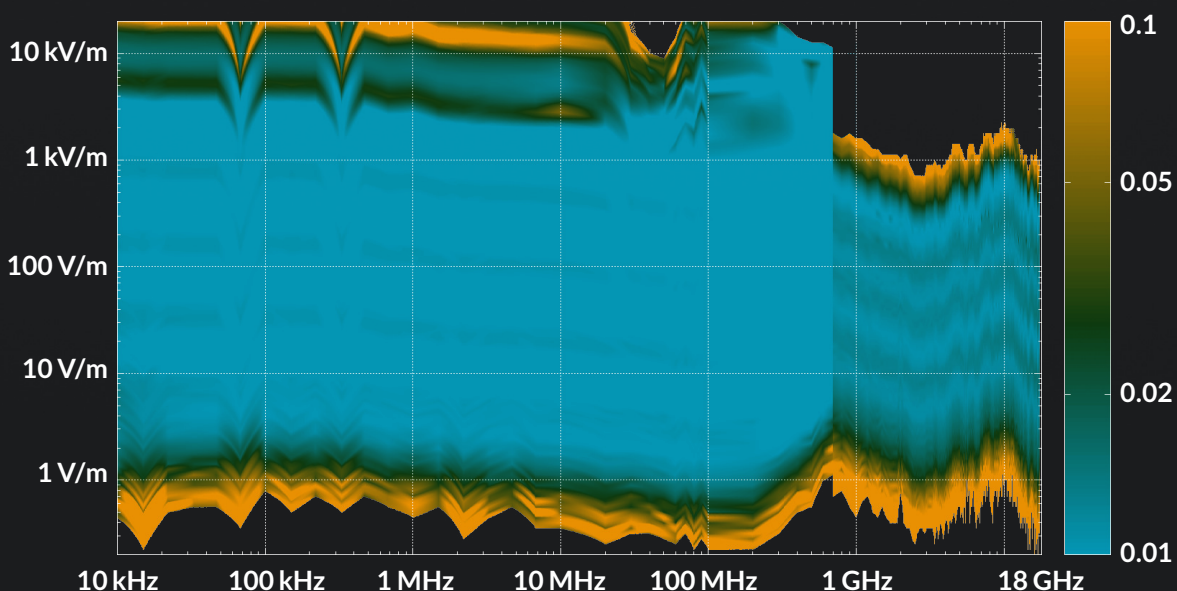
PC Interface	USB 2.0
Application Software	LSProbe 2.0 TCP Server, LSProbe 2.0 GUI
Trigger Voltage	5 V
Trigger Connector	BNC
Laser Wavelength	830 nm
Laser, Max. Output Power	1,000 mW
Laser Class	1M
Laser Shutdown Time	1 ms
Fiber Optic Connectors	ST/FC
Number of Fiber Optic Couplers	>6
Input Voltage	5 V ± 5 %
Input Current	<3 A
Ambient Temperature	10 °C ... 40 °C
Dimensions (W x D x H)	135 x 120 x 38 mm ³
Certifications	CE, IEC 60825-1:2014



Computer Interface Rear Side View

Selected International Standards

ISO	11451-2, WD 11451-5, 11452-2, 11452-11
IEC	61000-4-3, 61000-4-21
EN	300 328, 301 893
Other	RTCA/DO-160





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