

Near field probe set incl. RF amplifier - 3 GHz

Features

- Wide frequency range from 1 MHz up to 3 GHz
- High quality rubber coated probes ensure the highest durability and isolation
- Push-pull SMB connectors for the fast probe change, no more cable twisting
- 20 dB USB powered RF amplifier ensure maximum sensitivity even for low power signals
- Downloadable compensation data for each probe



Product description

Each designer was facing the situation when its product was exceeding EMI regulatory limits and therefore entire qualification was delayed. Our near field probe set could help you quickly identify noise sources and find the right solution to suppress them.

EMCgear Near field probe set includes full range of the most versatile type of probes to cover all daily tasks of engineer. Supplied RF amplifier significantly increases resolution of probes and makes analysis of weak signals much easier.

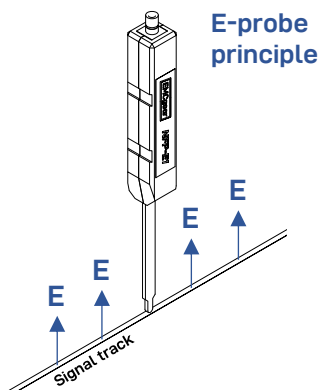
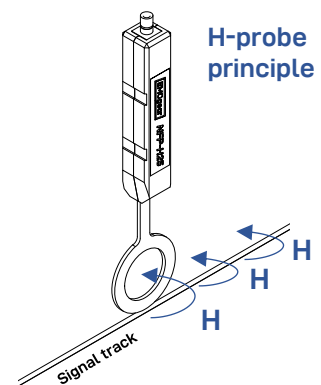
About near field probes

In general, there are two types of near field probes widely used.

Magnetic field probe (or H-probe) has circular head and simply say works like lasso for magnetic field in its proximity.

Probe is sensitive on change of magnetic field (dH/dt), therefore its output will correspond to change of current flowing thru scoped loop in time (di/dt).

From principle of operation maximum sensitivity of this probe is achieved while vector of measured magnetic field points perpendicular to the center of the probe head, like shown on the following picture.



Electric field probe (or E-probe) is equipped with pin head and sense change of electric field in its proximity (dE/dt). Output signal from this type of probe reflect change of voltage potential (dV/dt) around its pin.

During identification of noise sources, we suggest to start with the largest H-probe, i.e. **NFP-H25** and do some pre-scan around investigated PCB or assembly. Then we can proceed with the smaller one and focus on entire suspicious electronic components or PCB traces. The smaller types e.g. **NFP-H15 / H10** or **E-1** offer higher selectivity within reduced sensing area while still maintaining high sensitivity.

Technical parameters

Near field probes (NFP)

Impedance	50 Ohm
Output terminal	SMB male
Isolation voltage	50 VDC / AC
Operating frequency range	1 MHz to 3 GHz
Self-resonant frequency NFP-H25 *)	Approx. 1,2 GHz
Self-resonant frequency NFP-H15 *)	Approx. 1,8 GHz
Self-resonant frequency NFP-H10 *)	Approx. 2,0 GHz
Self-resonant frequency NFP-E1 *)	Approx. 1,5 GHz

*) Probes can be used beyond their self-resonant frequency.

Technical parameters

RF amplifier (RFA-30)

Input / output impedance	50 Ohm
Input / output terminal	SMA female
Operating frequency range	1 MHz to 3 GHz
Gain	Typ. 20 dB
Input power	Max. 16 dBm
Output power (1dB compression point)	Typ. 20 dBm
Noise figure	Typ. 3,4 dB
Power supply terminal	Mini USB socket
Current consumption	Typ. 70 mA

Scope of delivery

Near field probe, H-field, 10 mm	NFP-H10
Near field probe, H-field, 15 mm	NFP-H15
Near field probe, H-field, 25 mm	NFP-H25
Near field probe, E-field, 10 mm	NFP-E1
SMA to SMB cable, 1 m, RG174	C-SASB10174
SMB to BNC cable, 0,5 m, RG174 *)	C-SBBC05174
RF amplifier, 1 MHz to 3 GHz, 20 dB *)	RFA-30
USB cable, USB A to Mini USB, 1 m *)	-
Transport box 280x230x50 mm	-
Compensation data (downloadable)	-

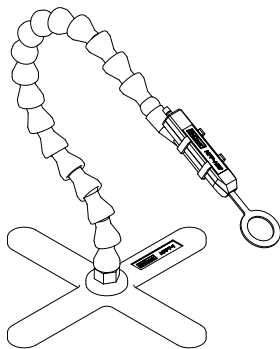
*) Supplied only with RF amplifier option.

Warranty

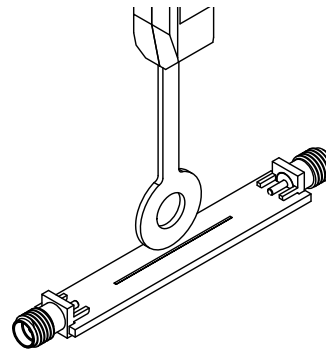
2-year manufacturer warranty

Optional accessories

Description	Order code
Near field probe measurement tripod	NFPT-1
50 Ohm calibration waveguide, SMA	RFW-50SS

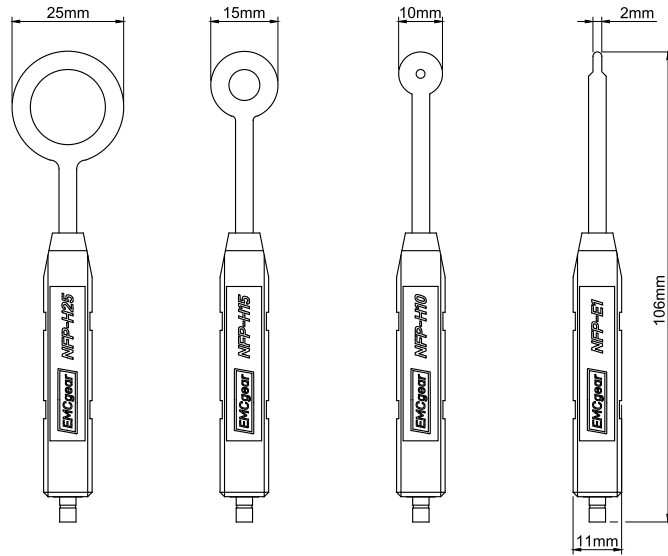


Near field probe measurement tripod
NFPT-1

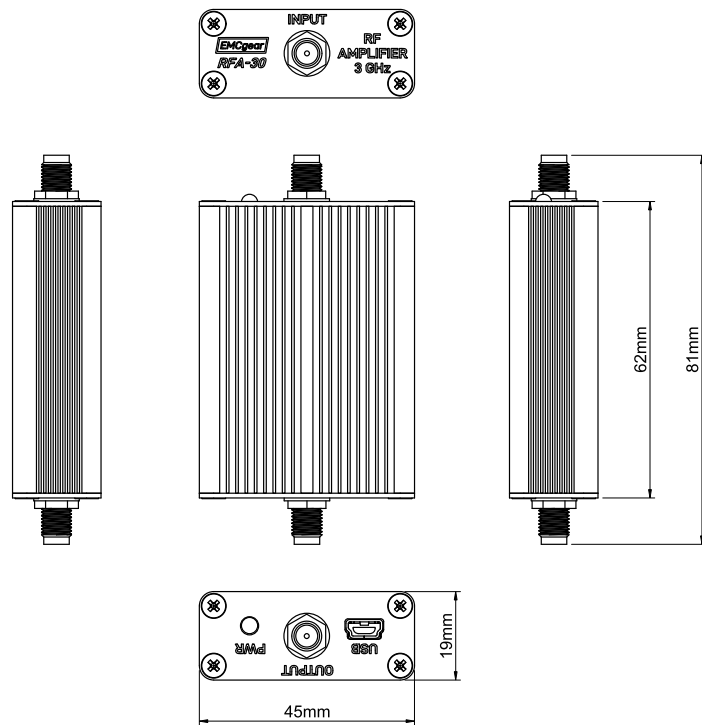


50 Ohm calibration waveguide, SMA
RFW-50SS

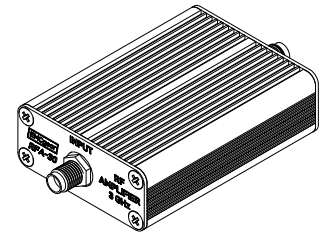
Mechanical dimensions
Near field probes (NFP)



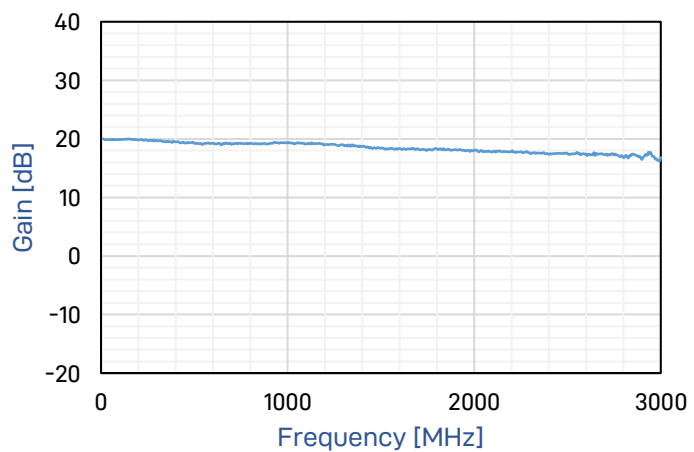
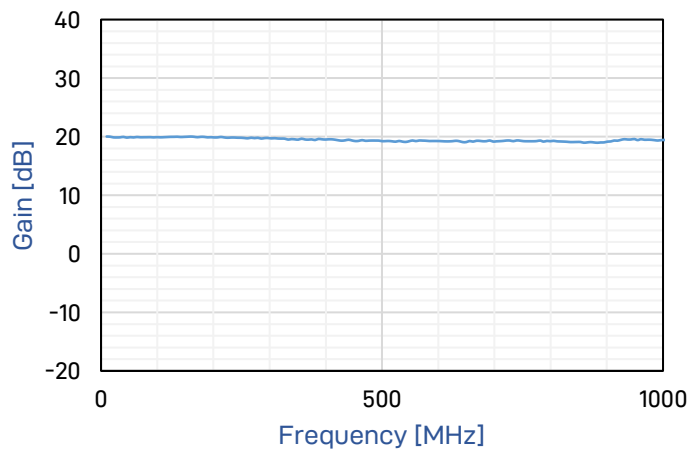
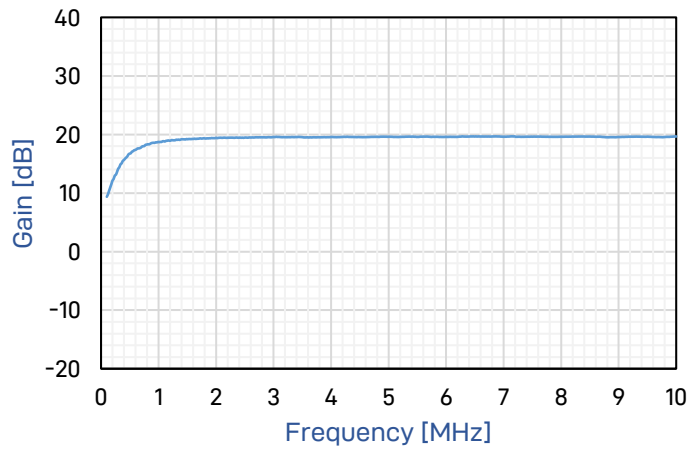
Mechanical dimensions
RF amplifier (RFA-30)



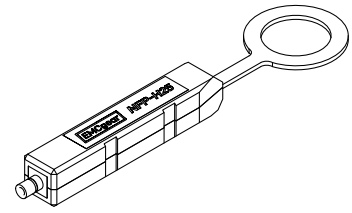
RFA-30 – RF amplifier (3 GHz)



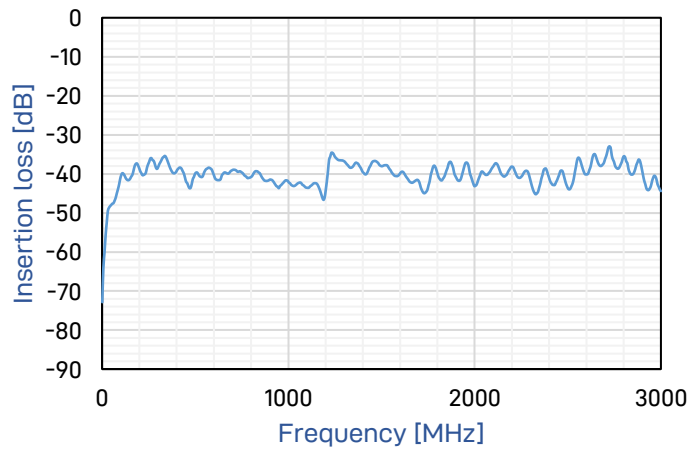
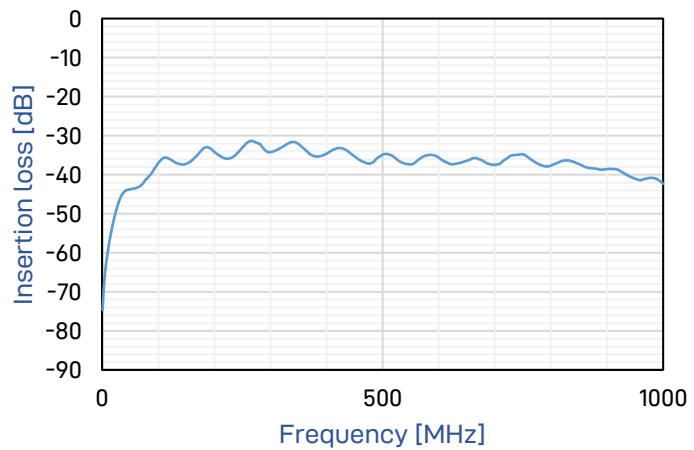
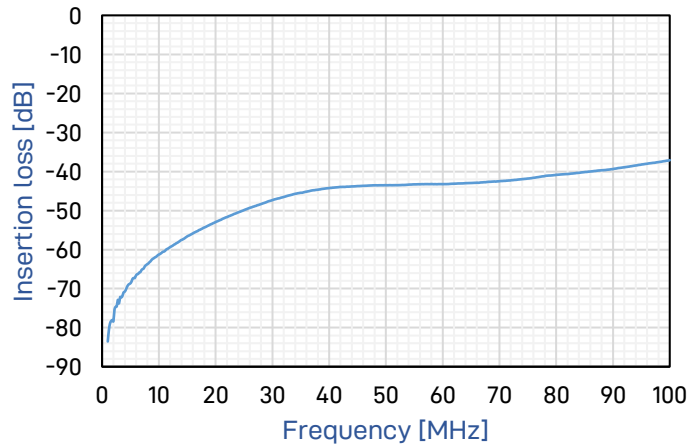
Frequency characteristics



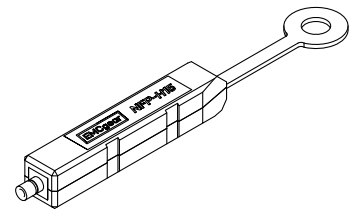
NFP-H25 - magnetic field probe



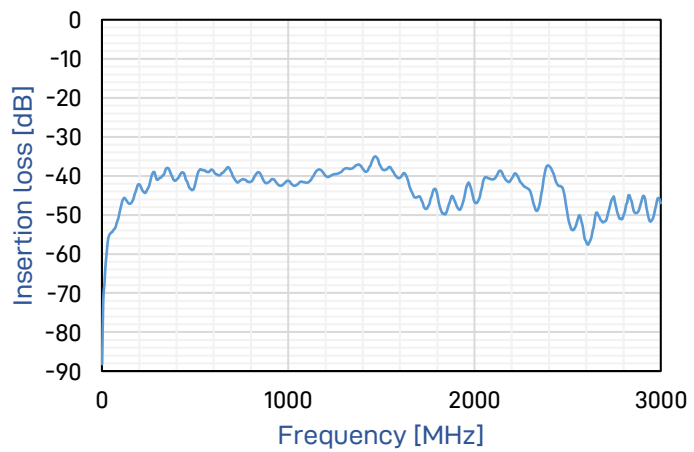
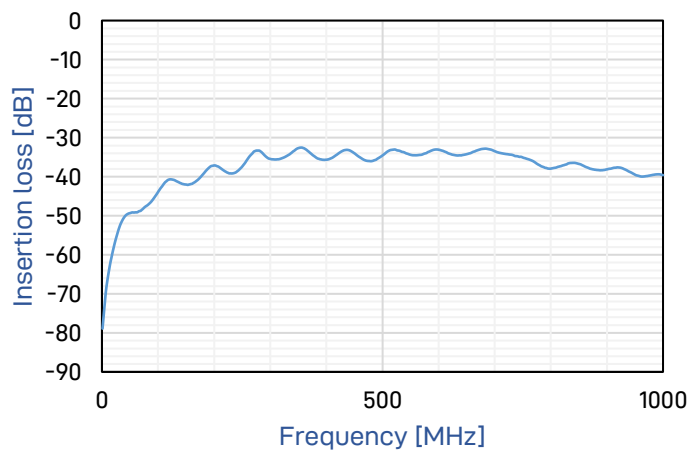
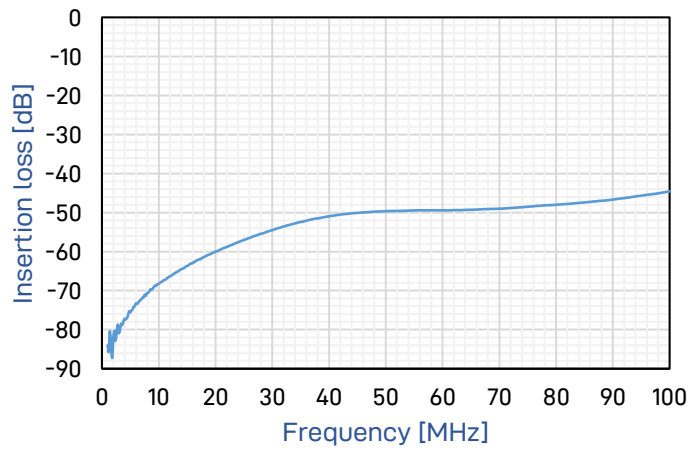
Frequency characteristics



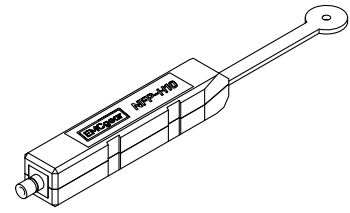
NFP-H15 - magnetic field probe



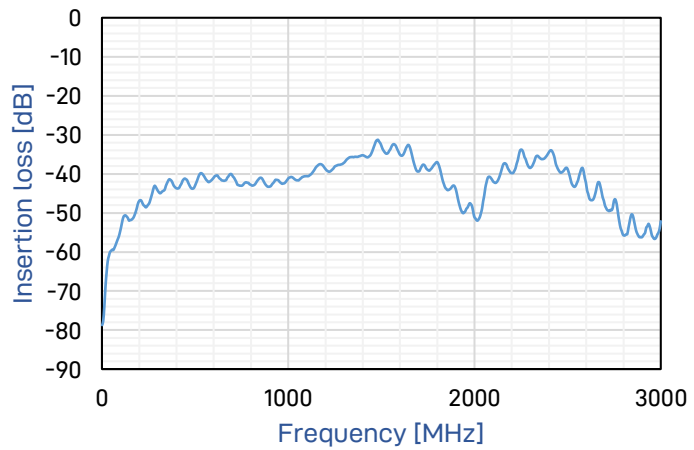
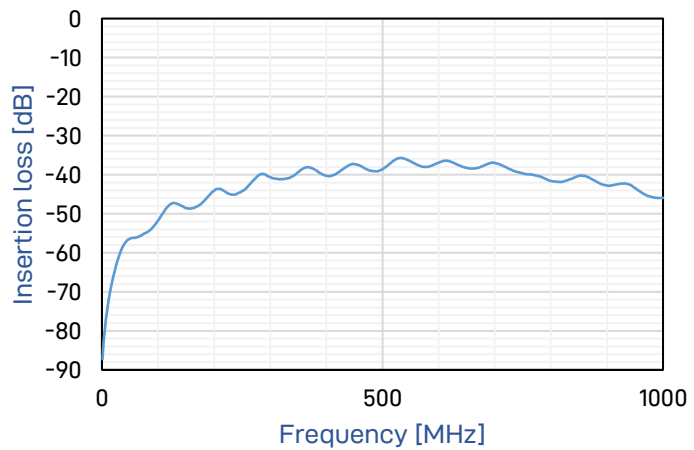
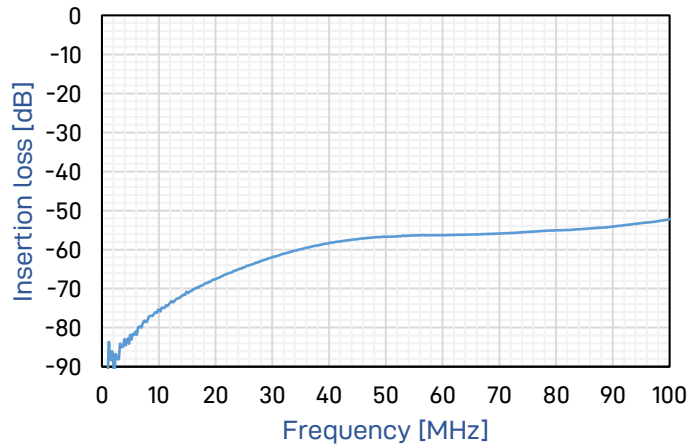
Frequency characteristics



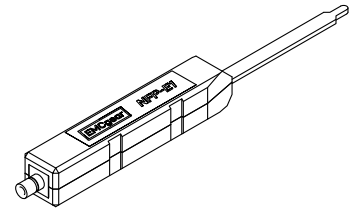
NFP-H10 - magnetic field probe



Frequency characteristics



NFP-E1 - electric field probe



Frequency characteristics

