

NSG 4070C APPLICATION FOR MIL-STD 461G CS 114

Test parameter

Standard:	MIL-STD 461G CS 114
Frequency range:	4 kHz to 200 MHz
Curve 1 to 5:	see diagrams
Modulation:	1 kHz pulse modulation, 50 % duty cycle
Verification method:	Measuring deviation max. 3 dB
Test method:	Substitution method with 6 dB current limitation
Monitoring probe:	Required for limiting the induced current

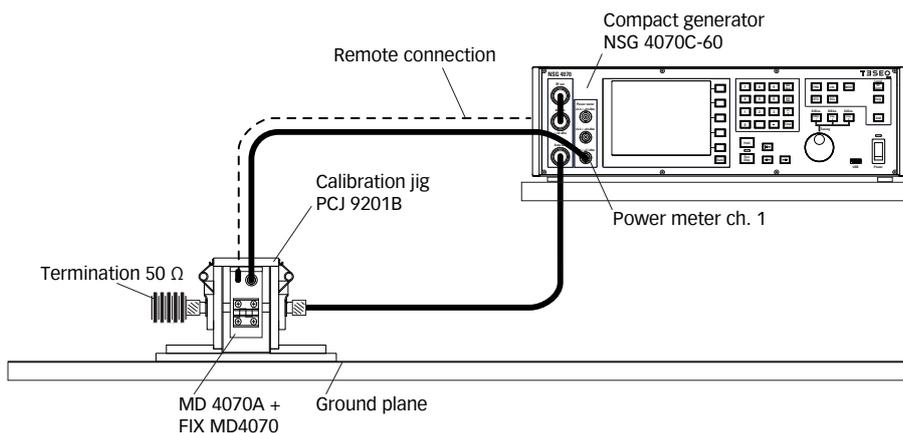
Equipment

Signal generation:	NSG 4070C-60
Modulator:	included in NSG 4070C-60
Power meter:	5x included in NSG 4070C-60
Power amplifier:	included in NSG 4070C-60
Directional coupler:	included in NSG 4070C-60
Current injection probe:	CIP 9136A
Monitoring probe:	MD 4070A
Calibration jig:	2x PCJ 9201B
Termination:	2x 50 Ω 10 W
Attenuation:	3 dB, 6 dB, 10 dB, 20 dB as shown in table 1
Device control:	incl. in NSG 4070 user interface
Software (optional):	icd.control version 6.1 or higher



WARNING: The power meter inputs are very sensitive. It is the user's responsibility to ensure that the selected test levels does not damage the equipment. Any hardware/setup changes should be calculated before starting the test.

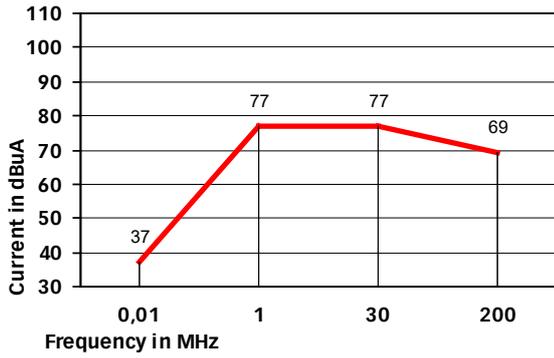
Calibration set-up for monitoring probe



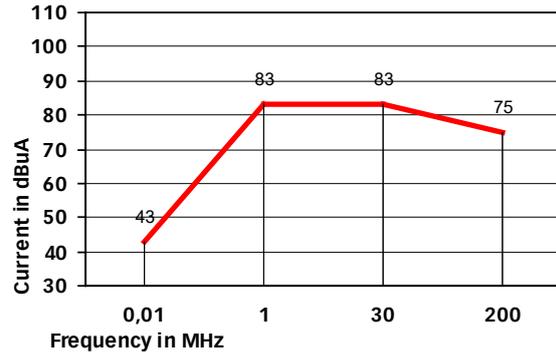
Remarks:

It is recommended to connect the MD 4070 remote port with the user port of NSG 4070 and select the function "MD 4070 adaptive probe" in the NSG 4070 firmware (version 2.23 or higher). The monitoring probe MD 4070 will be calibrated in passive and active mode automatically.

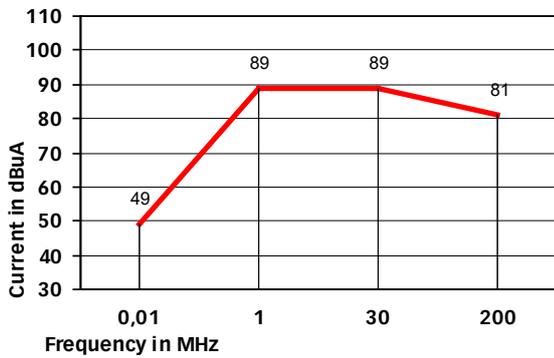
Test level — for MIL STD 461G CS114 curve #1



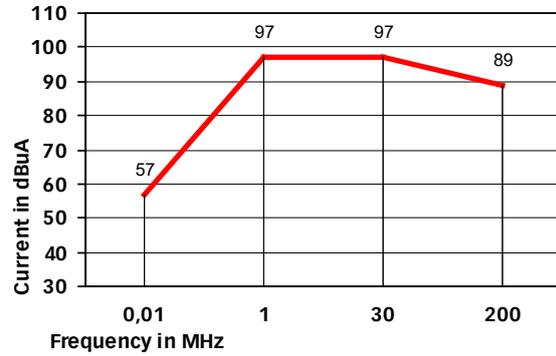
Test level — for MIL STD 461G CS114 curve #2



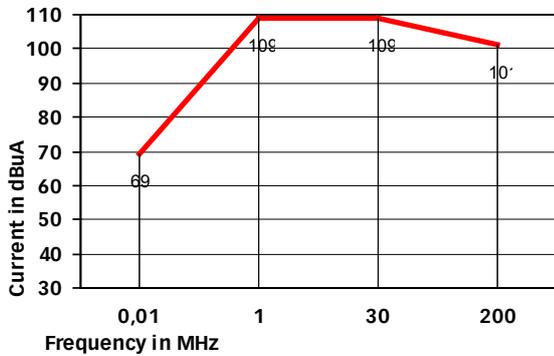
Test level — for MIL STD 461G CS114 curve #3



Test level — for MIL STD 461G CS114 curve #4



Test level — for MIL STD 461G CS114 curve #5



Use of the attenuators on the BCI probe and on the power meter channel 1 of NSG 4070C-60

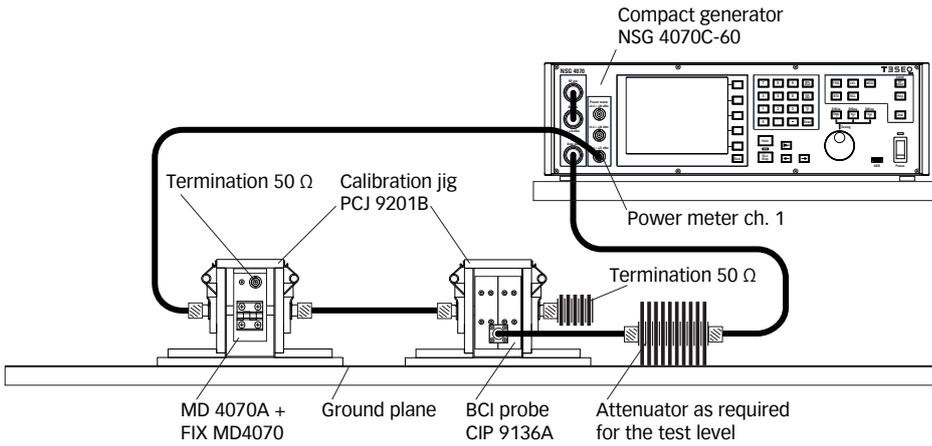
Test level of MIL-STD-461G CS114	Attenuator in dB on BCI probe CIP 9136A	Attenuator in dB on power meter 1 of NSG 4070C-60
Curve #1	33	0
Curve #2	26	0
Curve #3	20	0
Curve #4	13	0
Curve #5	0	20
77 dB μ A (4 kHz to 10 kHz)	0	0
77 dB μ A (10 kHz to 1 MHz)	33	0

Table 1: Use of the attenuators



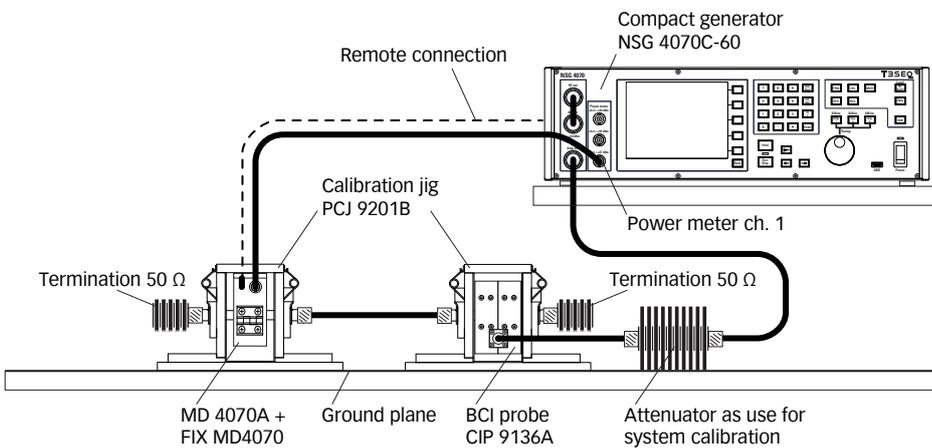
Advanced Test Solutions for EMC

Calibration set-up for curve #1 to curve #4 and 77 dBμA (for 77 dBμA in the range 10 kHz to 1 MHz)



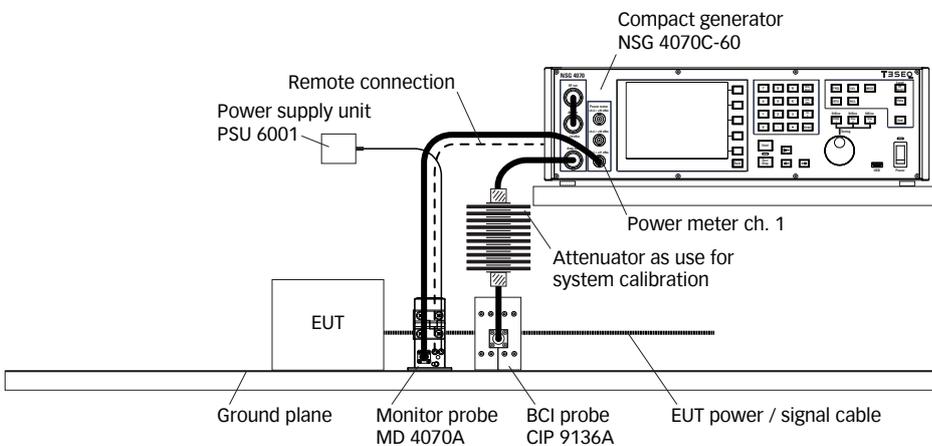
Please use the attenuator with values as given in Table 1 to allow level setting above the amplifier noise.

Verification set-up for curve #1 to curve #4 and 77 dBμA (for 77 dBμA in the range 10 kHz to 1 MHz)



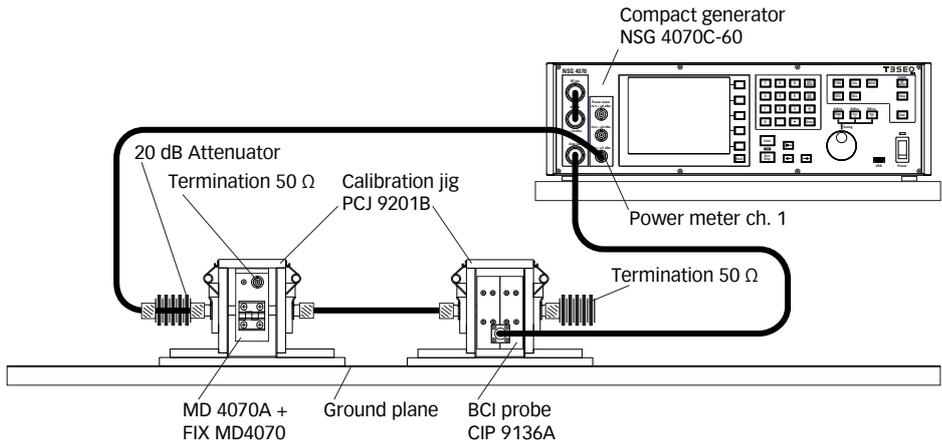
Please use the same attenuators and the same cables as used for system and probe calibration.

Test set-up for curve #1 to curve #4 and 77 dBμA (for 77 dBμA in the range 10 kHz to 1 MHz)



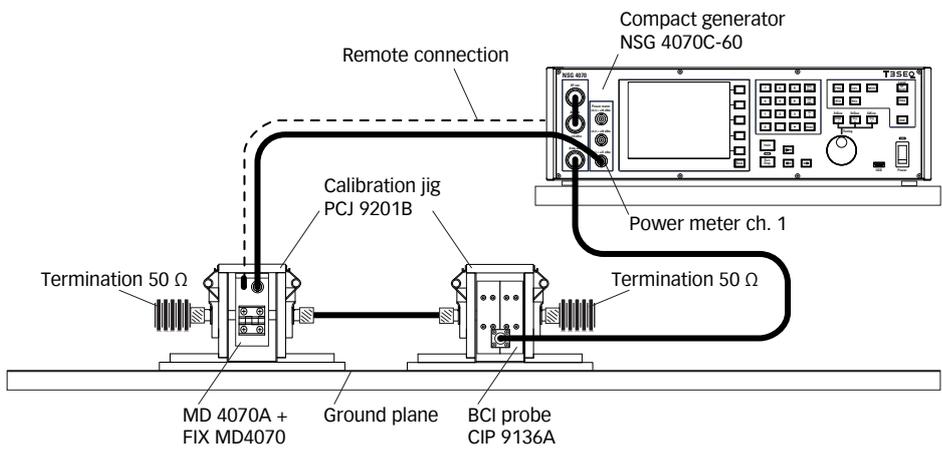
Please use the same attenuators and the same cables as used for system and probe calibration.

Calibration set-up for curve #5



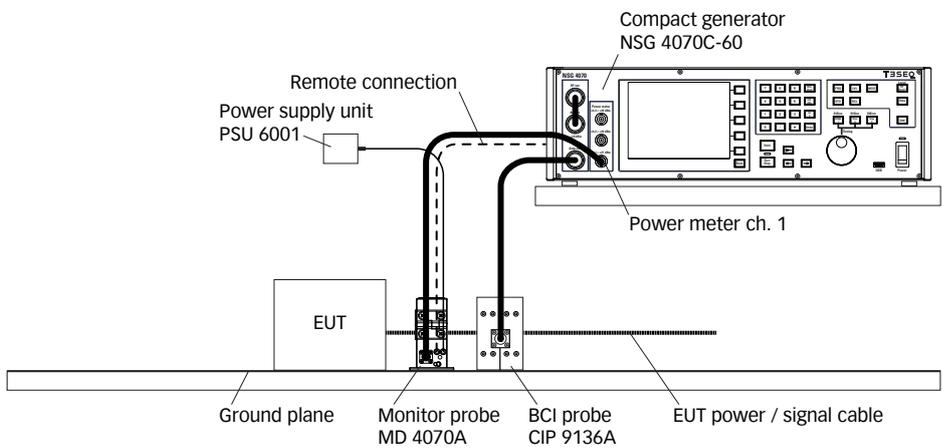
Please use a 20 dB attenuator to protect power meter channel 1. Remove the attenuator on the BCI probe.

Verification set-up for curve #5



Please use the same cables as used for system and probe calibration.

Test set-up for curve #5

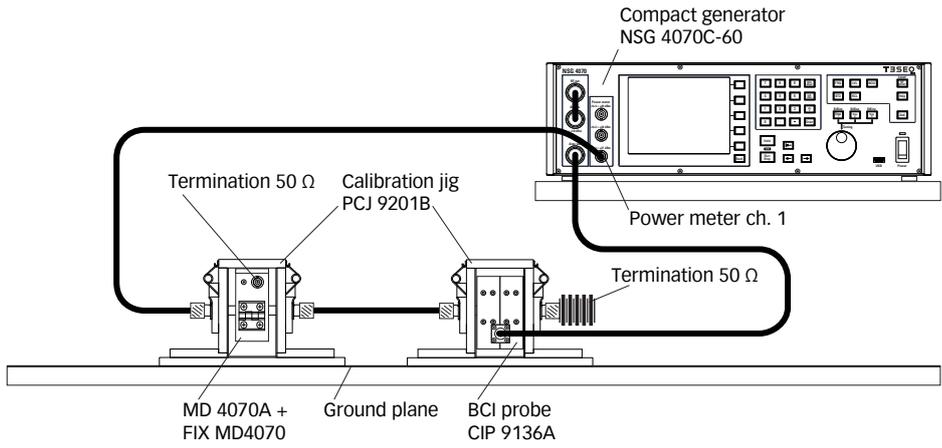


Please use the same cables as used for system and probe calibration.



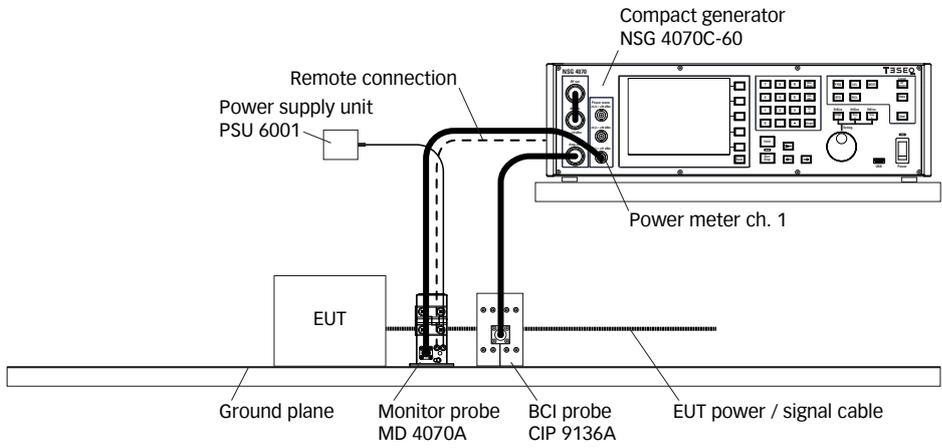
Advanced Test Solutions for EMC

Calibration set-up for 77 dB μ A in the range 4 kHz to 10 kHz



Please remove the 20 dB attenuator to protect power meter and the attenuator on the BCI probe.

Test set-up for for 77 dB μ A in the range 4 kHz to 10 kHz



Please use the same cables as used for system and probe calibration.

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