EMC PARTNER

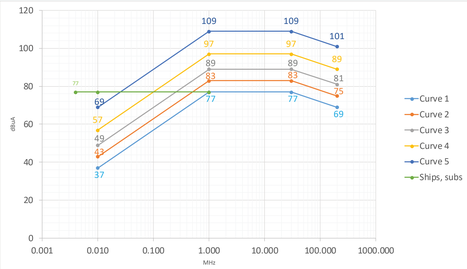
LIGHTNING INDUCED TRANSIENTS

CS114

Conducted Susceptibility, Bulk Cable Injection, 10 kHz to 200 MHzUp to curve 5 including 4 kHz – 1 MHz common mode requirements for ships & subs

Test levels

Freq MHz	Curve 1 dBµA	Curve 2 dBµA	Curve 3 dBµA	Curve 4 dBµA	Curve 5 dBµA	Ships, subs dBµA
0.001						
0.004						77
0.010	37	43	49	57	69	77
1.000	77	83	89	97	109	77
30.000	77	83	89	97	109	
200.000	69	75	81	89	101	



MIL-MG3 test generator and CN-BT6 coupler

Available Plugins for MIL-MG3

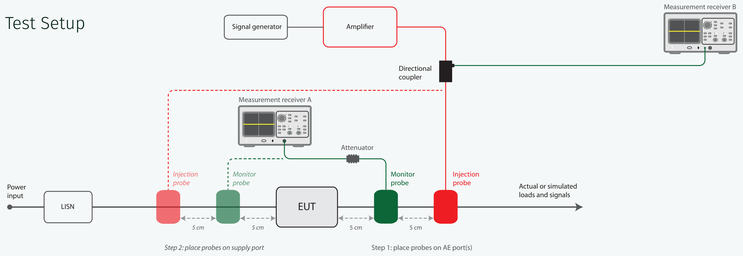
MIL-STD-461: CS06 / CS106 / CS115 / CS116
DO-160 Sections: 17 and 19

Best with TEMA 3000

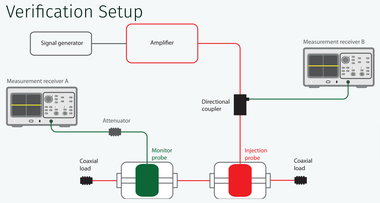
The comfortable test suite with system integration options

- Customizable Reports & EUT information
- Predefined Test Setups and Sequences
- Comfortable test managment
- Integrate DSO measurements

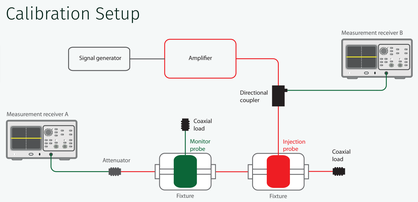
Test Setup



Verification Setup



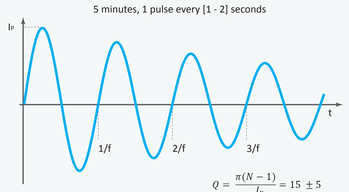
Calibration Setup



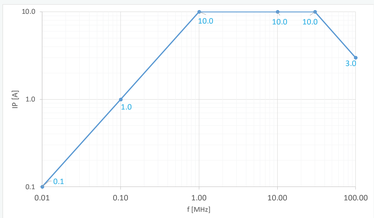
CS116

Conducted Susceptibility, damped sinusoidal transients, Cables and Power Leads, 10kHz to 100MHz

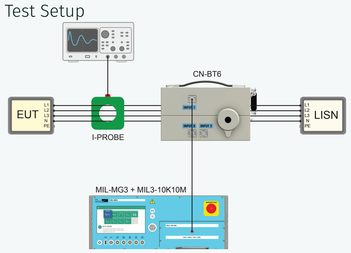
Impulse waveform



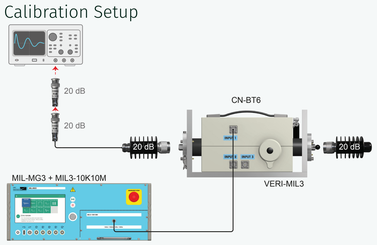
$$Q = \frac{\pi(N-1)}{\ln(\frac{I_P}{I_N})} = 15 \pm 5$$



Test Setup



Calibration Setup



- For 10KHz - 10MHz use Input 1 of CN-BT6 coupler
- For 30MHz - 100MHz use Input 2 of CN-BT6 coupler

CS117

Lightning Induced Transients, Cables and Power Leads

Multiple Stroke

WF1 Cable Bundle MS

Level	FS VLimit	FS ITest	SS VLimit	SS ITest
internal	300	600 (60*)	150	150 (30*)
external	750	1500 (150*)	375	375 (75*)

WF2 Cable Bundle MS

Level	FS VTest	FS ILimit	SS VTest	SS ILimit
internal	300	600	150	150
external	750	1500	375	375

WF3 Cable Bundle MS

Level	FS VTest	FS ILimit	SS VTest	SS ILimit
internal	600	120 (24*)	300	60(12*)
external	1500	300 (60*)	750	150 (30*)

WF4 Cable Bundle MS

Level	FS VTest	FS ILimit	SS VTest	SS ILimit
internal	300	1000 (300*)	75	200 (150*)
external	750	2000 (750*)	187.5	400 (375*)

WF5A Cable Bundle MS

Level	FS VLimit	FS ITest	SS VLimit	SS ITest
internal	300	1000 (300*)	75	200 (150*)
external	750	2000 (750*)	187.5	400 (375*)

* low count wire bundles

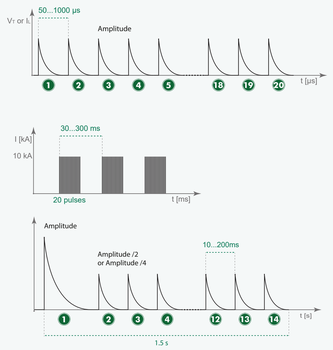
Multiple Burst

Cable Bundle MB (1 & 10 MHz)

Level	WF3 VTest	WF3 ILimit
internal	360	6
external	900	15

Cable Bundle MB

Level	WF6H VLimit	WF6H ITest
internal	600	30
external	1500	75



Contact us

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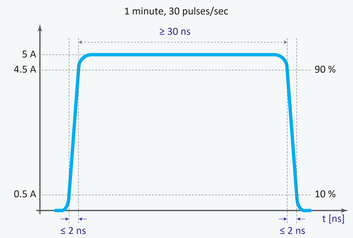
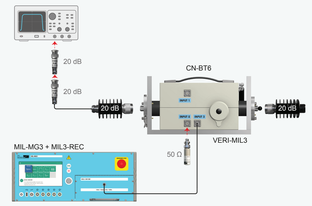
CS115

Conducted Susceptibility, Bulk Cable Injection, Impulse Excitation

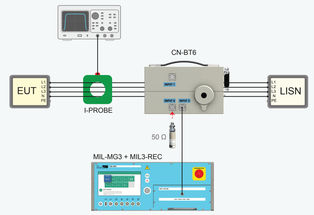
Impulse waveform



Calibration Setup



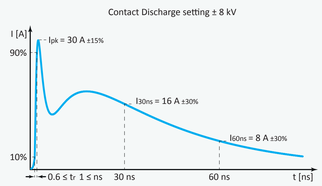
Verification Setup



CS118

Conducted Susceptibility, Personnel Borne ESD

Impulse waveform

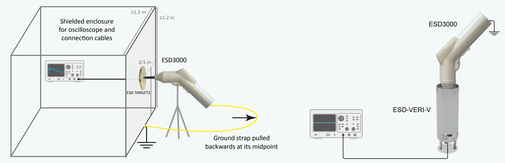


Level	Voltage [kV]	Method
1	± 2	Air
2	± 4	Air
3	± 8	Contact / Air
4	± 15	Air

ESD3000
Modular Handheld ESD generator

- Ready for CS118 requirements
- Covers IEC61000-4-2 requirements
- Modular architecture
- Wide range of discharge networks
- Light-weight
- Up to 8 hours operating time
- Worldwide known test solution

Voltage Calibration Setup



Test equipment and further solutions

www.emc-partner.ch

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