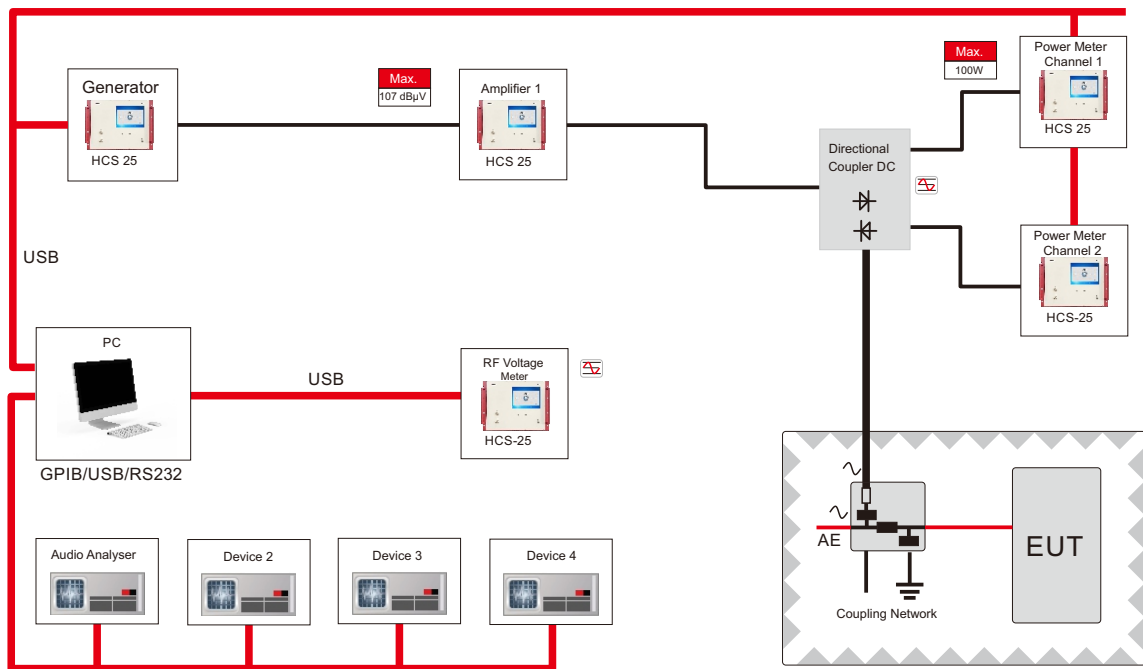




RF Field Induced Conducted Disturbance Immunity Test System

HCS series



- Integrated signal generator (modulation), power amplifier, power meter, and directional coupler
- Built-in power amplifier (25W and 75W optional), external compatible multi-standard power amplifier
- USB control, meet IEC, ISO, MIL-STD 461E
- A variety of power ports and signal line CDN, electromagnetic coupling clamp, current injection clamp and other coupling devices
- Meet EN 55035 audio test, edit variable test limits, and compatible with various audio analyzers
- 10-inch touch screen, Windows operating system, pre-installed IEC test software

RF Field Induced Conducted Disturbance Immunity Test System



HCS 25 HCS 75



IEC / EN61000-4-6
ISO 11452-4(BCI)
MIL-STD 461E (CS114)

- Frequency range: (9k)150kHz ~ 230MHz (1 GHz)
- Pc control software
 - unparalleled flexibility, easy operation, fully expandable to future standard requirements
 - very easy to integrate measurement and detection systems
- The system has a self-calibration function (generator and CDN)
- RF signal source, power amplifier, RF voltmeter/power meter, 3-in-1
- Various additional interfaces, such as DC measurement on EUT monitor, EUT fault input or interlock interface, General application has been improved. A special feature is the temperature measurement of the BCI fixture, which can be used to monitor the temperature during the test and thus protect the fixture from overload.
- Built-in direct coupling
- Fully automatic calibration of CDN, through 50/150 ohm impedance converter and short-circuit adapter corresponding to CDN
- Extensible test accessories, such as CDN, electromagnetic coupling clamp, current injection clamp, attenuator, calibration kit, etc.
 - The directional coupler is used to measure the forward power value when recording the output of the power amplifier. This test method is in IEC 61000-4-6 Ed4.0 recommended

HCS models

Model	Power	Frequency Range	Power Meter	Maximum Test Level (80% AM) with 6dB att. w/t 6dB att		Internal Direct Coupling
				10V	15V	
HCS 25	25W(built-in)	150kHz ~ 230MHz	1 or 3 channels optional	10V	15V	optional
HCS 75	75W (built-in)	150kHz ~ 230MHz	1 or 3 channels optional	30V	40V	optional
HCS-W	external	150kHz ~ 230MHz	1 or 3 channels optional			optional

*This table is only applicable to IEC61000-4-6

HCDN M1	Ground cable
HCDN M2 HCDN M2+M3 HCDN M3 HCDN M4 HCDN M5	Power port CDN 150k~230MHz/300MHz 250Vac/500Vdc Max. 32A IEC61000-4-6 CISPR 15/CISPR 22
HCDN M3-100 HV HCDN M4- N100 HV HCDN M5-100 HV	150kHz ~ 80MHz 600Vac/1000Vdc Max. 100A IEC61000-4-6
HCDN M4-200 VHV HCDN M5-100 VHV	150kHz ~ 80MHz 1000Vac/2000Vdc Max. 200A
HCDN S1-75 HCDN S1/S2/S3/S4 HCDN S8/S9/S15/S25	Shielded 150kHz ~ 230MHz 1Pin ~ 25Pin
HCDN AF2/AF3 HCDN AF4/8/12	Unshielded wire asymmetrical control wire 1 wire-12 wire
HCDN T2/T4/T8 HCDN RJ 11/RJ 45	Unshielded line symmetrical communication line 2 pairs - 4 pairs
HCDN USB-C/-P/-3.0 HCDN HDMI HCDN Firewire HCDN CAN-BUS	other communication lines
CDG 3110 CDG A50 CDG A 3100 CDG A 3101 CDG A 3107 CDG A 3126 CDG A 3116 CDG A 3108 CDG A 3103 CDG A 3112 CDG A 3118 CDG A 3121 CDG A 3123 CDG A 3131 CDG A 3190 KAL SET EMCL	Calibration parts BNC 100Ω Adapter BNC 50Ω/1W L-type reference board with 100Ω and 50Ω For CDN M3/M2/M1 For CDN M5/M4_32A For CDN M3/M2_100A For CDN M5/M4_100A For CDN AF3/AF4 For CDN S1 For CDN T4 For CDN T8 For CDN USB-C For CDN HDMI For CDN CAN-BUS L-shaped reference board For electromagnetic injection clamp
CDG 7050 CDG 7050-100W CDG 7050-50W	6dB attenuator,20W 6dB attenuator,100W 3dB attenuator,50W

CDN M2+M3



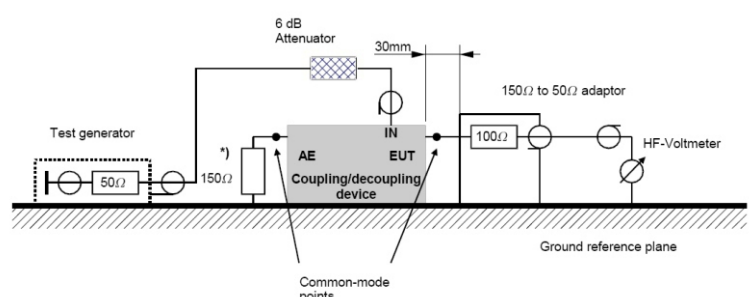
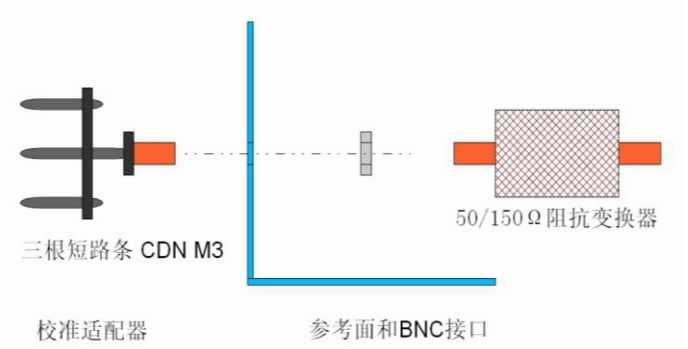
CDN calibration set

Mounting angle: CDG A 3100
(includes 50/150Ω adapter, 50Ω Termination)

Calibration adapter: CDG A 31xx

A short-circuit adapter is recommended

Calibration example



Electromagnetic Coupling Clamp/Decoupling Clamp

EN 61000-4-6/IEC 61000-4-6



- Electromagnetic clamps can accommodate 20mm and 35mm diameter test cables
- Excellent coupling coefficient: 15W output power can reach 10V test voltage
- Independent calibration accessories and test data

Considering the advantages of test repeatability and auxiliary equipment immunity from interference, the recommended coupling network is CDN, but when CDN is not suitable, electromagnetic coupling clamp can be used instead. Usually, electromagnetic coupling clamps are applied to multi-strand symmetrical data lines, and CDN is not suitable at this time.

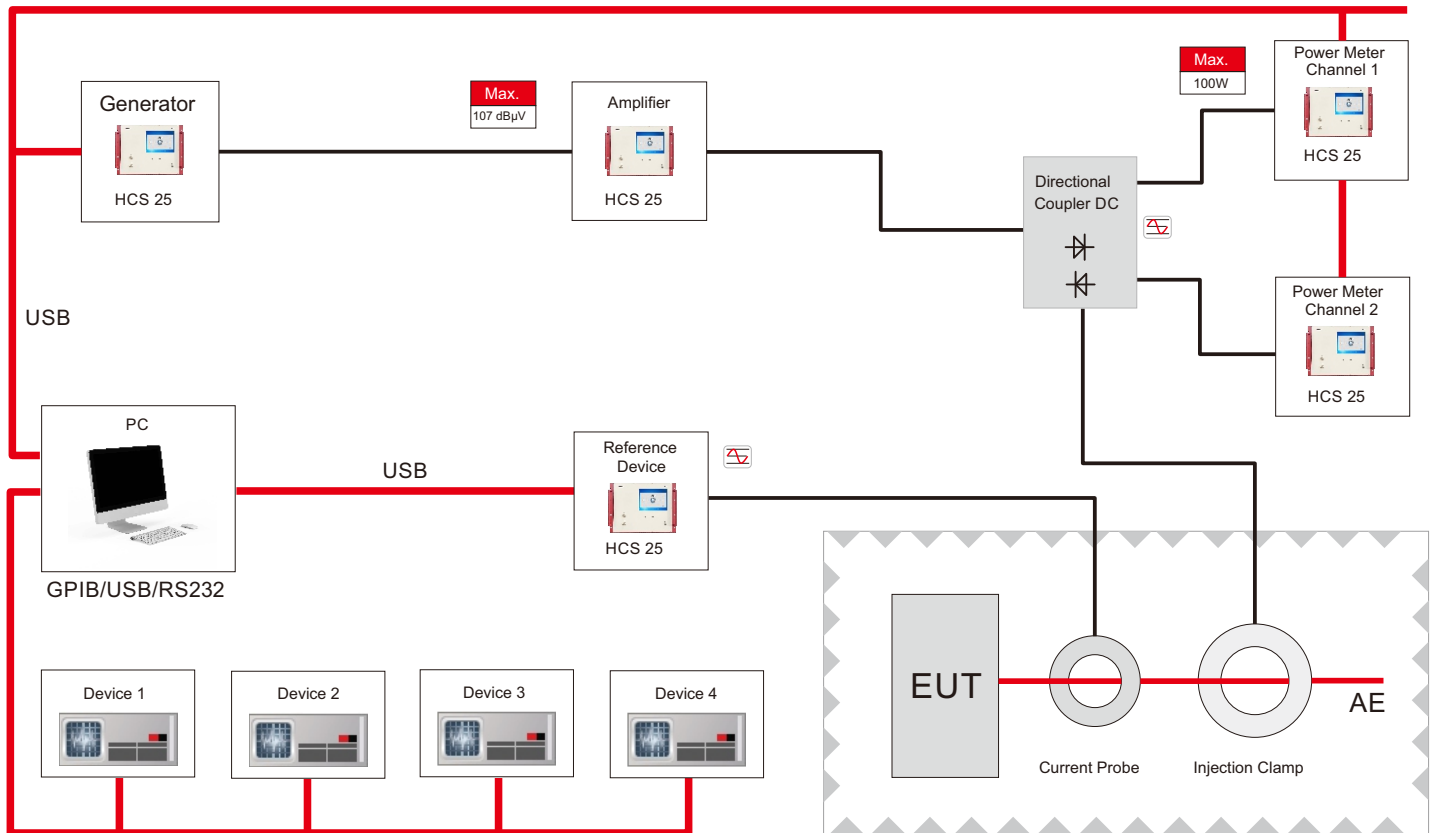
Electromagnetic coupling clamps couple RF energy to the EUT through capacitive and inductive coupling paths. Electromagnetic coupling clamps (compared to traditional current injection clamps) have more than 10dB directivity (>10MHz), so there is no requirement for a stable common-mode impedance between the auxiliary equipment terminal and the reference ground. Above 10MHz, the characteristics of electromagnetic coupling clamp tend to be consistent with the performance of CDN.

Technical data	HCDN EMCL-20	HCDN EMCL-35
Frequency Range	100 kHz – 1000 MHz	
impedance	50 Ω	
Connector	N-type female	
Maximum input power	0,15-100MHz 100-230MHz 230-1000MHz	100W,15min 100W,5min 50W,3min
Wire diameter	20 mm	35 mm
Dimensions (L x W x D)	655 x 120 x 80 mm	666 x 135 x 120mm
weight	7 kg	14kg
decoupling network	HCDN ABCL-20	
Frequency Range	100 kHz – 1000 MHz	
Cable diameter	20 mm	

Current Injection Clamp

EN61000-4-6 / IEC61000-4-6
ISO 11452-4 / MIL-STD 461E*

BCI



Current Injection Probe F-120-9A	10kHz ~ 250MHz diameter: 40mm IEC 61000-4-6
Current Injection Probe BCI-P1	(10kHz) 1MHz ~ 400MHz diameter: 40mm(can be opened and closed) IEC 61000-4-6 ISO 11452-4
Current clamp CDG CMP-46 CDG CMP-45	10kHz ~ 400MHz Inner diameter: 46mm Inner diameter: 46mm(can be opened and closed)
Calibration fixture FCC BCICF-4 CDG A CMP-46 CDG A CMP-45	For F-120-9A For CDG CMP-46 For CDG CMP-45
Test accessories Solid wood table metal reference plate (coppe)	2000×1500×900mm 2000×1500×2mm



*Cs114 starts at 4kHz minimum

HCS detailed technical parameters



RF Field Induced Conducted Disturbance Immunity Test System

RF generator	
Two accessible outputs (only one used simultaneously)	2XSMA
Frequency Range	100kHz ~ 1GHz
Frequency resolution	1Hz
Output level range	0 to -110 dBm
output resolution	0.1dB
Harmonic	< -30 dBc
Fake	< -45 dBc
Amplitude modulation (internal)	0 to 100%, resolution 1%
Amplitude modulation (external)	0 to 100% ,max Amplitude 1V = 100%, BNC
Pulse modulation (internal)	5 to 95%, resolution 1%
Pulse modulation (external)	DC...1MHz,3,3/5V CMOS/TTL,BNC jack

LF generator (modulation)	
Interface	BNC
Frequency Range	1 Hz to 100kHz
Frequency resolution	0.1Hz
Waveform	Sine/Square/Triangle
Amplitude	0...1V
RF Voltmeter (Test Level)	
Interface	N
Frequency Range	9kHz ~ 4GHz
Measuring range	-40dBm ~ +30dBm
RF Voltmeter 2+3 (forward/reverse)	
Interface	N
Frequency Range	9kHz ~ 4GHz
Measuring range	-40 ~ + 30 dBm Directional coupling (typ. 40dB)

Module	
EUT input monitoring	
Input voltage	0 至 10 VDC
Resolution	2.5mV
Input resistance	100kΩ
EUT-fail input	
Input signal	3,3/5V CMOS/TTL level
Detection method	Status or edge control

General data	
Temperature range	0 to 40°C
Case/weight	19" enclosure (84 TE; 3 HE) / pprox 23 kg
width/height/depth	About 560/482/365mm
AC input	100-240 VAC;50/60Hz
Touch screen	10-inch touch screen, including Windows test system



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