

CIT-10 Radiated Frequency Conductive Immunity Test System

Datasheet

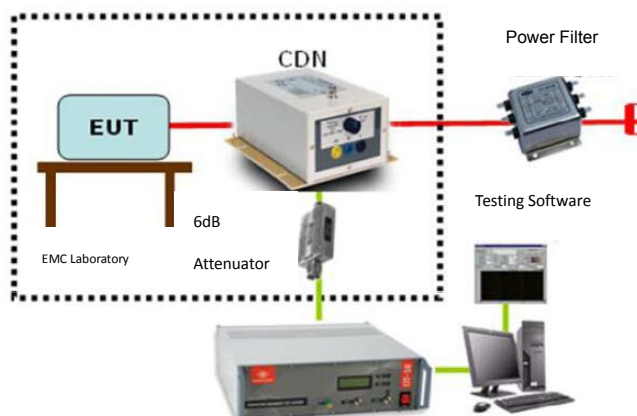


Introduction

FRANKONIA CIT-10 radiated frequency conductive immunity test system is an all-in-one conductive susceptibility test system, designed as per Standard IEC61000-4-6 and in compliance with GB T17626.6/ Automotive Electronic BCI/ GJB CS114.

Main features:

- Frequency range: 100 kHz-400 MHz, frequency resolution: 1 Hz;
- All-in-one design, built-in: signal generator, RF power amplifier, function signal generator, directional coupler and RF wattmeter. Each device can be used independently;
- Computer control; fully automatic calibration and test; output power monitoring during the tests.
- All indexes are in compliance with IEC 61000-4-6, ISO 11452-4 and GJB152A-CS114 etc.
- Test can be conducted in the stage of research and development and help users to precisely find out frequency point and electrical level with problems in products.
- Interior modulation: AM: 1 Hz-100 kHz, 0-100%; PM: 1 Hz-100 kHz, 10-90% duty ratio.
- Complete accessories, such as coupling/decoupling network (CDN) etc.; support bulk current injection method and direct injection method; current monitoring probe is optionally available; support closed loop test method.

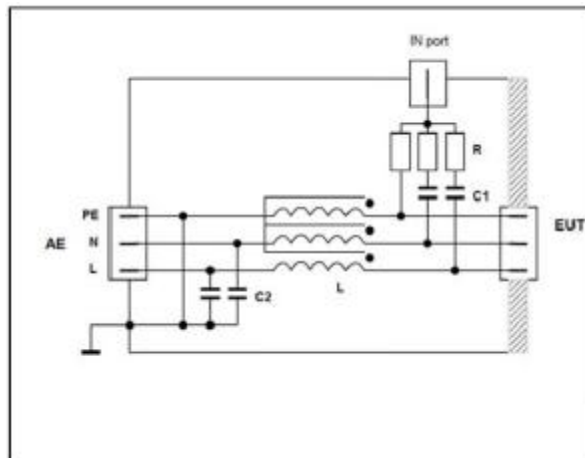


Detailed Indices	
Frequency Range	10 kHz-400 MHz
Testing Electrical Level	+30 dBm~-40 dBm
Accuracy	± 0.5 dB
VSWR	<1.1:1
Input	BNC, 50 Ω
RF Signal Generator	
Output	BNC, 50 Ω
Frequency Range	10 kHz-400 MHz
Frequency Resolution	1 Hz
Output Electrical Range	0 dBm ~-60 dBm
Level Resolution	0.1 dB
Output Level Accuracy	± 0.5 dB(± 1 dB max)
Accuracy (Frequency)	± 5 ppm(TCXO)
Harmonic	<-30 dBc
Non-Harmonic	<-45 dBc
AM (Interior)	0~100%, resolution 0.5% (interior AF, signal generator)
AM (Exterior)	1 Hz-100 kHz, 0-100%, input impedance>100 k Ω , BNC
Impulse Modulation	Duty ratio:10-90%, resolution1%(interior AF, signal generator)
VSWR	<1.5:1
AF Signal Generator	
Output Interface	BNC
Frequency Range	1 Hz-100 kHz
Frequency Resolution	0.1 Hz
Output Voltage	0-1V: resolution 5 mV
Accuracy (Frequency)	± 50 ppm
Signal	Sinusoidal wave, square wave, triangle wave
RF Voltmeter (Interior, 2 Channel)	
Frequency Range	10 kHz-400 MHz
Measurement Range	+53 dBm-0 dBm
Accuracy	± 0.5 dB
Directional Coupler (Optional)	
Frequency Range	10 kHz-400 MHz
Power Consumption	200 W continuous

Insertion Loss	Max.0.5 dB
VSWR	Max.1.25:1
Directionality	Min.20 dB
Power Amplifier	
Frequency Range	100 kHz (10 kHz) to 400 MHz (75 W, 150 W) 100 kHz to 230 MHz (20W)
Gain	51 dB $\pm$ 1,5 dB
Output Power	75 W/150 W (optional) 20 W (100 kHz to 230 MHz)
Distortion	<20 dBc at 75W
Input Impedance	50 Ω , VSWR < 1.5:1
Output Impedance	50 Ω
EUT-Fail Input	
Input Impedance	2.2 k Ω
Level	TTL/CMOS compatible
EUT Monitor Input	
Input Voltage	0 V ~ 10 V
Input Impedance	100 k Ω
Amplifier Monitor	
Output	BNC, 50 Ω
Level	- 40 dB (amplifier output), $\pm$ 3 dB
Interface	
USB-A	Multifunction meter(for EUT control)
USB-A	Electrical relay switching unit
USB-B	Connected to computer
General Data	
Ambient Temperature	0°C to 40°C
Time To Warm Up	15 min
Installation	19" cabinet or table-type box
Dimension	449 mm x 133 mm x 435.5 mm
Power Supply	100 V - 240 V AC; 50 Hz /60 Hz
Delivery	CIT-10 , cables, system software
Product Model No.	CIT-10/20 integrated 20 W, power amplifier
	CIT-10/75 integrated 75 W, power amplifier
	CIT-10/150 integrated 150 W, power amplifier
	CIT-10/W no power amplifier

Coupling/Decoupling Network (CDN Mx)

CDN Mx is M -type and used for unshielded cables as per Standard IEC61000-4-6.



Technical Parameters

RF Input	CDN M1/2/3/4/5	CDN-M2/3/4/5/-HV	CDN-M2/3/4/5/-80
Frequency Range (Rfin)	150 kHz ~ 230(300) MHz		
Rated Power (Rfin)	6 W continuous		
Decoupling Attenuation (Rfin - AE)	> 30 dB (150 kHz – 80 MHz) > 20 dB (80 MHz – 230 MHz)		
Insertion Loss (Rfin - EUT)	10 dB ± 1 dB (150 kHz – 80 MHz) 10 dB + 2 dB (80 MHz – 230 MHz)		
Connector	BNC		

EUT/AE

AC Operating Voltage	250 V	600 V	250 V
DC Operating Voltage	400 V	1000 V	400 V
Rated Current (AE - EUT)	16 A/32 A/80 A; (M1 / M2+3 IPE <0.5 A)		
Insertion Loss (AE - EUT)	< 1dB (DC – 100 kHz)		

Connector	4 mm safe Banana plug	6 mm Round connector (>32 A)
Other		
Dimension	160 mm x 84.5 mm x 190 mm	

Electromagnetic Clamp EMCL

It is necessary to use electromagnetic clamp to perform on the tests of IEC61000-4-6 when the CDN cannot be used.

Electromagnetic clamp applies to immunity test on multi-pair

symmetrical cables, and it produces capacitive coupling and inductive coupling simultaneously to the cables of EUT.



Characteristic:

Interior diameter ≤ 22 mm;

High coupling factor, test power requirement under 10 V is less than 15 W;

Supply apparatus and data for calibration;

Technical Parameter	
Frequency Range	100 kHz-1000 MHz
Nominal Impedance	50 Ω
Connector	N(f)
Max. Input Level	
0.15-100 MHz	100 W, 15 min
100-230 MHz	100 W, 5 min
230-1000 MHz	50 W, 3 min
Cables Diameter	22 mm
Weight	7 kg

