

校准证书

CALIBRATION CERTIFICATE



证书编号: JL2402024831

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客户名称 : 信恒检测技术(深圳)有限公司
Name of Customer :
客户地址 : 广东省深圳市宝安区松岗街道潭头社区潭头工业 城二区 1 栋厂房 101、201、301
Address of Customer :
计量器具名称 : Conditioning Amplifier 调节放大器
Name of Instrument :
型号/规格 : Type-2690-030
Type/Specification :
出厂编号 : 2673666
Serial No :
资产编号 : BTF-EM-146
Asset No :
制造单位 : Brule&Kjaer
Manufacture :
校准依据 : JJF1157-2006 测量放大器校准规范
Calibrated in Accordance to :



校准日期 : 2024 年 01 月 30 日
Operation Date : Year Month Day
建议复校日期 : --- 年 -- 月 -- 日
Suggested Recal.Date : Year Month Day
签发日期 : 2024 年 01 月 30 日
Issue Date : Year Month Day

批准人 : 张瑞纹
Approved by :
签名 : 张瑞纹
Signature :
核验员 : 胡琴
Checked by :
校准员 : 龙晓峰
Calibrated by :

证书首页背面“重要声明”是证书的组成部分,任何未包含“重要声明”内容的复制均为不完整复制。

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To ensure that the calibrated object is properly used under given conditions in compliance with technical specifications or regulations, recalibrate before the suggested date (Applicable to calibration report only).
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The relevant content and effectiveness is subject to the electronic version of the original report which was only applied for. When an electronic report and a paper report are applied for at the same time, the electronic report is only a copy of the paper report, and the relevant content and effectiveness is subject to the paper report.
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获得的国家、省、市专业站 Establishment of Following Institutions

国家数字电子产品质量检验检测中心
National Digital Electronic Product Testing Center (NETC)
国家营养食品质量检验检测中心(广东)
National Nutrition Food Testing Center (Guangdong)
国家体育用品质量检验检测中心(广东)
National Sports Product Testing Center (Guangdong)
国家环保产品质量检验检测中心(广东)
National Environmental Product Testing Center (Guangdong)
国家分布式光伏发电系统质量检验检测中心(广东)
National Distributed Photovoltaic Power Generation System Testing Center (Guangdong)
国家电动汽车电池及充电系统产业计量测试中心
National Metrology Center for Electric Vehicle Battery and Charging System Industry
国家民用无人机产品质量检验检测中心(广东)
National Civil Unmanned Aerial Vehicle Product Testing Center (Guangdong)
国家高新技术计量站
National Hi-tech Metrology Station
国家医疗器械产业计量测试中心
National Metrology and Testing Center for Medical Device Industry
国家计量数据科学中心深圳分中心
National Metrology Data Science Center (Shenzhen)
国家城市能源计量中心(深圳)
National Urban Energy Measurement Center (Shenzhen)
中国轻工业联合会家具质量监督检测深圳站
Accredited Testing Station (Shenzhen) for Furniture by China National Light Industry Council (CNLIC)
广东省质量监督食品检验站(深圳)
Guangdong Quality Supervision and Inspection Institution for Food (Shenzhen)
广东省质量监督生态纺织服装产品检验站(深圳)
Guangdong Quality Supervision and Inspection Institution for Ecological Textile and Garment Products (Shenzhen)
广东省质量监督皮革制品检验站
Guangdong Quality Supervision and Inspection Institution for Leather Products
广东省质量监督家具检验站(深圳)
Guangdong Quality Supervision and Inspection Institution for Furniture Products (Shenzhen)
广东省质量监督学生用品检验站(深圳)
Guangdong Quality Supervision and Inspection Institution for Student's Articles (Shenzhen)
广东省质量监督自行车检验站
Guangdong Quality Supervision and Inspection Institution for Bicycle Quality
广东省质量监督钟表检验站(深圳)
Guangdong Quality Supervision and Inspection Institution for Horological Products (Shenzhen)
广东省质量监督节能环保产品(安全性能)检验站(深圳)
Guangdong Quality Supervision and Inspection Institution for Safety Performance of Environmental Protection and Energy Saving Products (Shenzhen)
广东省质量监督眼镜检验站(深圳)
Guangdong Quality Supervision and Inspection Institution for Eyewear Products (Shenzhen)
广东省质量监督电磁兼容检验站
Guangdong Quality Supervision and Inspection Institution for Electromagnetic Compatibility
广东省质量监督综合布线系统检验站
Guangdong Quality Supervision and Inspection Institution for Generic Cabling System
深圳市纤维纺织检验所
Shenzhen Quality Inspection Institution for Fiber and Textile
深圳市建材产品质量监督检验站
Shenzhen Quality Supervision and Inspection Institution for Building Materials
深圳市消防产品燃烧性能检测中心
Shenzhen Testing Center for Burning Behavior of Fire Protection Products

联系方式 Contact Information

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传真电话 Fax No.: 0755-27591716(宝安) 82408176(八卦岭) 28932840(龙岗) 0769-21684527(东莞)
投诉及证书/报告真伪查询电话 Complaint Tel.: 400-900-8999 按5 Email: complaint@smq.com.cn

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校准用主要计量标准装置信息

Main Standard Devices Used

名称 Equipment Name	测量范围 Measuring Range	不确定度/准确度等级/ 最大允许误差 Uncertainty/Accuracy Class/ Maximum Permissible Error	计量标准考核证书号 Certificate No	有效期至 Due Date

校准用主要标准器信息

Main Standards of Measurement Used

名称 Equipment Name	测量范围 Measuring Range	不确定度/准确度等级/ 最大允许误差 Uncertainty/Accuracy Class/ Maximum Permissible Error	设备编号 Equipment No	有效期至 Due Date	溯源单位/ 证书号 Traceability to/ Certificate No
多功能声分析系统	0.1 Hz ~ 100 kHz	电压 $U_{rel} = 0.1\%$, $k = 2$	SB3979	2024-06-11	
数字万用表	1 MHz, 1 kV	$U_{rel} = 0.01\%$, $k = 2$	SB0425	2024-06-12	
函数发生器	80 MHz	平坦度优于 0.1dB	SB5260	2024-09-07	

附加说明

Appended Directions

委托日期:
Application Date

2024 年 01 月 26 日

环境条件:

Operation Environment

温度 22.9°C 相对湿度 60.1%

校准地点:

Operation Location

本院声学龙珠实验室

校准项目/参数说明:

Items Instructions

本次校准根据委托方要求实施, 校准项目/参数详见校准结果

符合性及限制使用说明:

Statement of Compliance and Limitation

参见校准结果使用(Use refering to the results of Calibration)

校准结果

RESULTS OF CALIBRATION

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1 外观检查: 符合要求
Appearance Check: Pass.

2 频率响应特性 (参考频率: 1000 Hz): 见表1
Frequency Response(Ref. 1000 Hz):See Table 1

表1 Table 1

频率 Frequency	频率响应 Frequency Response		最大允许范围 Limit
(Hz)	(dB)	(dB)	(dB)
	CH1	CH2	
20	-0.08	-0.08	±0.2
31.5	-0.01	-0.02	±0.2
63	0.00	-0.01	±0.2
125	0.00	0.00	±0.2
250	0.00	0.00	±0.2
500	0.00	0.00	±0.2
1000	0.0 (ref)	0.0 (ref)	±0.2
2000	0.00	0.00	±0.2
4000	0.00	0.00	±0.2
8000	0.00	-0.01	±0.2
12500	0.00	0.00	±0.2
16000	0.00	0.01	±0.2
20000	+0.01	+0.01	±0.2

质量
(1)
专

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3 总谐波失真: 见表2
THD: See Table 2

表2 Table 2

频率标称值 Freq. Nominal Value	总谐波失真 THD		最大允许范围 M.P.R.
(Hz)	(%)		(%)
	CH1	CH2	
63	0.054	0.068	≤0.3
125	0.045	0.038	≤0.3
250	0.049	0.032	≤0.3
500	0.041	0.048	≤0.3
1000	0.044	0.045	≤0.1
2000	0.051	0.055	≤0.3
4000	0.054	0.057	≤0.3
8000	0.051	0.052	≤0.3
12500	0.055	0.044	≤0.3
16000	0.044	0.047	≤0.3
20000	0.047	0.047	≤0.3

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4 增益控制偏差 (1 kHz): 见表3、表4

Gain Indication Error: See Table 3 and Table 4

CH1 表3 Table 3

增益档 Gain	增益标称值 Gain Indi.Value	增益实测值 Gain Meas. Value	误差 Error	最大允许误差 M.P.E.
(mV/Pa)	dB	dB	dB	dB
10	-20	-19.99	0.01	± 0.1
31.6	-10	-10.00	0.00	± 0.1
100	0	0.00	0.00	± 0.1
316	10	10.00	0.00	± 0.1
(V/Pa)	dB	dB	dB	dB
1	20	20.00	0.00	± 0.1
3.16	30	30.00	0.00	± 0.1
10	40	40.00	0.00	± 0.1
31.6	50	50.01	0.01	± 0.1

CH2 表4 Table 4

增益档 Gain	增益标称值 Gain Indi.Value	增益实测值 Gain Meas. Value	误差 Error	最大允许误差 M.P.E.
(mV/Pa)	dB	dB	dB	dB
10	-20	-19.99	0.01	± 0.1
31.6	-10	-10.00	0.00	± 0.1
100	0	0.00	0.00	± 0.1
316	10	10.00	0.00	± 0.1
(V/Pa)	dB	dB	dB	dB
1	20	20.00	0.00	± 0.1
3.16	30	30.00	0.00	± 0.1
10	40	40.00	0.00	± 0.1
31.6	50	50.01	0.01	± 0.1



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附注:

Notes:

1. 电压测量结果扩展不确定度: $U_{\text{rel}} = 0.1\%, k = 2$

Relative Expanded Uncertainty of Voltage: $U_{\text{rel}} = 0.1\%, k = 2$

2. 失真测量结果扩展不确定度: $U_{\text{rel}} = 1.8\%, k = 2$

Relative Expanded Uncertainty of Distortion: $U_{\text{rel}} = 1.8\%, k = 2$

3. 本证书中给出的测量不确定度依据 JJF 1059.1-2012 《测量不确定度评与表示》评定

The uncertainty given in this certificate is evaluated according to JJF 1059.1-2012 *Evaluation and Expression of Uncertainty in Measurement*.
