

校准证书
CALIBRATION CERTIFICATE

证书编号:

Certificate No.



J202606226443-0001-G1

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委托方

Client

QAV Technologies Sdn. Bhd.

联络信息

Contact Inf.

150-E, Jalan Kampung Jawa, Mk. 12, Plot 205, Bayan Lepas Free Industrial Zone, 11900 Bayan Lepas, Penang, Malaysia

仪器名称

Description

Power Amplifier

型号/规格

Model/Type

LS-PA80M1G-300W

制造厂

Manufacturer

LISUN GROUP

出厂编号

Serial No.

MPA2606159

管理号

Asset No.

接收日期

Receipt Date

2026年07月01日

Y M D

校准日期

Cal. Date

2026年07月03日

Y M D

发布日期

Issued Date

2026年07月03日

Y M D

批准

Approved by

赵大星

赵大星

审核

Inspected by

宋硕

宋硕

校准

Calibrated by

赵海峰

赵海峰

证书专用章

(Stamp)

总部地址(Headquarters Add.): 广东省广州市番禺区石碁镇创运路8号

No.8, Chuangyun Road, Shiqi Town, Panyu District, Guangzhou, Guangdong, China

实验室地址(Add.of the Lab): 江苏省无锡市新吴区宁韵路8号

No.8,Ningyun Road,,Xinwu District,Wuxi,Jiangsu,China

联系电话(Tel.):400-602-0999

邮政编码(Postcode):511450

网站(Website):http:// www.grgtest.com

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扫一扫验真伪

校验码: 180474

校准说明 DIRECTIONS OF CALIBRATION

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- 1.本实验室的质量管理体系符合ISO/IEC 17025:2017标准的要求,校准结果均可溯源至国际单位制(SI)单位。
(The quality system is in accordance with ISO/IEC 17025:2017,the calibration results are traceable to the International System of Units (SI).)
 - 2.本结果仅对本次校准样品有效。未经实验室批准,不得部分复制。如有疑问请在15个工作日内反馈。
(The result is only valid for the calibrated sample.The certificate shall not be reproduced except in full,without the written approval of our laboratory .please feedback to us within 15 days if you have any question.)
 - 3.本证书编号具有唯一性,后缀若带有“-Gx”的证书为替换证书,自发出后原证书即刻作废,修改后的证书以客户端内容为准。(Each certificate has a unique number. The suffix of "-Gx" will be added to the number as a replacement of the old version. The original certificate will be officially invalid once the new certificate number is issued.The modified certificate shall be based on the client content.)
 - 4.证书中最大允许误差、判定结果仅供参考,其中“P”代表“合格”,“F”代表“不合格”,“N/A”代表“不适用”。使用人员应结合实际测量需求,评估测量不确定度对符合性评定的影响。(MPE & judgement result in the datasheet is only for reference , "P" is "Pass" , "F" is "Fail" and "N/A" is "Not Applicable".Whereas users should evaluate the effects of MU of calibration results on conformance assessment by actual measurement.)
 - 5.该仪器的溯源日期为本证书的“校准日期”。(The traceability date of this instrument is the calibration date on this certificate.)
 - 6.校准地点、环境条件(Place and environmental conditions of the calibration):
地点: 无锡计量信号室
Place
温度: (21.5~22.3) °C
Temperature
相对湿度: (50~55) %
Relative Humidity
 - 7.建议复校时间间隔: 1年,送校单位也可按实际使用情况自主决定。
Suggested calibration interval is 1 year or it can be altered depending on the actual usage of the user.
 - 8.本次校准的技术依据及CNAS认可范围,超出范围的内容未被认可。详细认可范围请查看CNAS网站证书附件。(Reference document and accredited scope by CNAS for calibration, beyond which isn't accredited. Please see the attachment of certificate on CNAS website for details.)
- JJF 1678-2017 射频和微波功率放大器校准规范 (C.S.for RF & Microwave Power Amplifiers) 功率:
(0~67) dBm(4kHz~40GHz) 增益: (0~80)dB,(4kHz~40GHz) 谐波失真: (-100~5)dBc, (4kHz~18GHz) 电压驻波比: 1~3, (4kHz~40GHz)

校准说明
DIRECTIONS OF CALIBRATION

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9. 本次校准使用的主要测量标准(Main Standards of Measurement Used in the Calibration.):

名称	编 号	证书号/有效期	溯源机构	技术特征
Description	Serial No.	Certificate No./ Due Date	Traceability Institute	Technique Character
50GHz功率计探头	101357	J202601061189- 0045 2027-02-04	广电计量检测 (无锡)有限公司	校准因子: 9kHz-50GHz
大功率衰减器 High power attenuator	23070338	J202604031490A- 0010 2027-05-15	广电计量检测 (无锡)有限公司	0.009MHz~6000MHz
矢量信号发生器 Vector Signal Generator	MY53052294	J202605096529- 0020 2027-06-12	广电计量检测 (无锡)有限公司	Level: $\pm 0.24\text{dB}$; AM: $\pm 4\%$; FM: $\pm 2\%$
频谱分析仪 Spectrum analyzer	MY54430809	J202605096529- 0044 2027-06-14	广电计量检测 (无锡)有限公司	频率: 10Hz-26.5GHz, 1E-8; 幅度: $\pm 0.23\text{dB}$

10. 计量溯源性声明(Measurement traceability declaration.):

50GHz功率计探头(101357)→功率计/Power meter(101272)→功率传递标准(中国计量科学研究院/NIM)(中国计量科学研究院/NIM);
大功率衰减器/High power attenuator(23070338)→网络分析仪/Network analyzer(MY47002992)→3.5mm校准件(MY53402229)→3.5mm校准件(MY53402408)→网络分析仪/ Network Analyzer(MY46213793)→检验件(2815A00996)→S参数标准装置(中国计量科学研究院/NIM);
矢量信号发生器/Vector Signal Generator (MY53052294)→频谱分析仪/Spectrum Analyzer(MY51283403)→功率计探头/Power Sensor(MY58170010)→小功率座检定装置/Power Verification Device(1889)→源表SourceMeter(中国计量科学研究院/NIM);
频谱分析仪/Spectrum analyzer(MY54430809)→功率计/Power meter(101272)→功率传递标准(中国计量科学研究院/NIM)(中国计量科学研究院/NIM);

校准结果 RESULTS OF CALIBRATION

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1、外观以及一般性检查: 正常

In view of External and Generality check : Pass

2、增益的校准(Calibration of Gain)

频率 Frequency (MHz)	输入电平 Input Level (dBm)	实测值 Measured (dB)	不确定度 U (k=2) (dB)	允许值 Limit (dB)	结 论 Conclusion (Pass/Fail)
80	-40.0	65.3	0.5	≥ 54.0	P
100	-40.0	65.0	0.5	≥ 54.0	P
200	-40.0	64.0	0.5	≥ 54.0	P
300	-40.0	63.0	0.5	≥ 54.0	P
400	-40.0	60.9	0.5	≥ 54.0	P
500	-40.0	65.5	0.5	≥ 54.0	P
600	-40.0	66.3	0.5	≥ 54.0	P
700	-40.0	64.1	0.5	≥ 54.0	P
800	-40.0	65.2	0.5	≥ 54.0	P
900	-40.0	63.9	0.5	≥ 54.0	P
1000	-40.0	59.4	0.5	≥ 54.0	P

3、谐波失真的校准 (额定输出功率下测试)

Calibration of Harmonic Distortion (Tested at rated output power)

频率 Frequency (MHz)	谐波失真 Harmonic Distortion (dBc)		不确定度 U (k=2) (dB)
	2nd	3rd	
80	-42.4	-45.3	1.0
100	-42.8	-48.6	1.0
200	-44.6	-50.2	1.0
300	-49.2	-49.4	1.0
400	-53.1	-58.5	1.0
500	-58.2	-62.3	1.0
600	-55.3	-66.4	1.0
800	-59.2	-68.1	1.0
1000	-68.8	-73.3	1.0

4、增益平坦度的校准

Calibration of Rated Output Power

最小增益 MIN. Gain (dB)	最大增益 MAX. Gain (dB)	实测值 Measured (dB)	不确定度 U (k=2) (dB)	允许值 Limit (dB)	结 论 Conclusion (Pass/Fail)
59.4	66.3	3.5	0.5	≤ 5.0	P

校准结果
RESULTS OF CALIBRATION

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5、额定输出功率的校准

Calibration of Rated Output Power

频率 Frequency (MHz)	输入电平 Input Level (dBm)	额定输出功率 Rated Output Power (dBm)	不确定度 U (k=2) (dB)	允许值 Limit (dBm)	结论 Conclusion (Pass/Fail)
80	-9.7	54.8	1.0	≥ 54.8	P
100	-9.4	54.8	1.0	≥ 54.8	P
200	-8.6	54.8	1.0	≥ 54.8	P
300	-7.6	54.8	1.0	≥ 54.8	P
400	-4.8	54.8	1.0	≥ 54.8	P
500	-9.8	54.8	1.0	≥ 54.8	P
600	-10.1	54.8	1.0	≥ 54.8	P
700	-7.8	54.8	1.0	≥ 54.8	P
800	-8.8	54.8	1.0	≥ 54.8	P
900	-7.5	54.8	1.0	≥ 54.8	P
1000	-4.1	54.8	1.0	≥ 54.8	P

备注:

Notes:

结论 (Conclusion): 所校项目符合技术要求

1.本报告中的扩展不确定度是由标准不确定度乘以包含概率约为95%时的包含因子 k 。

The expanded uncertainty is given in the report by the standard uncertainty multiplied by the probability of about 95% when the factor k .

2.依据(Reference document)

JJF 1059.1-2012 测量不确定度评定与表示

(JJF 1059.1-2012 Evaluation and Expression of Uncertainty in Measurement)

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